

**CHAPTER**

**23**

**COMMUNICATIONS**





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**AIRCRAFT MAINTENANCE MANUAL**

**CHAPTER 23**  
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| 1 thru 6           | Sep 15/2023 |     | 916             | BLANK       |     | 503             | Sep 15/2021 |     |
| 23-CONTENTS        |             |     | 23-11-00        |             |     | 504             | Sep 15/2021 |     |
| O 1                | Sep 15/2023 |     | 501             | Sep 15/2021 |     | 505             | Sep 15/2021 |     |
| 2                  | Sep 15/2022 |     | 502             | Sep 15/2022 |     | 506             | BLANK       |     |
| 3                  | May 15/2022 |     | 503             | May 15/2023 |     | 23-12-11        |             |     |
| 4                  | May 15/2022 |     | 504             | May 15/2023 |     | 401             | May 15/2023 |     |
| O 5                | Sep 15/2023 |     | 505             | May 15/2023 |     | 402             | Jan 15/2023 |     |
| 6                  | Jan 15/2022 |     | 506             | May 15/2023 |     | 403             | Sep 15/2021 |     |
| 7                  | Jan 15/2022 |     | 23-11-21        |             |     | 404             | Sep 15/2021 |     |
| 8                  | Jan 15/2022 |     | 401             | Sep 15/2021 |     | 405             | May 15/2023 |     |
| 9                  | Sep 15/2021 |     | 402             | Sep 15/2021 |     | 406             | May 15/2023 |     |
| 10                 | Sep 15/2021 |     | 403             | Sep 15/2021 |     | 407             | Jan 15/2023 |     |
| O 11               | Sep 15/2023 |     | 404             | Sep 15/2021 |     | 408             | Sep 15/2022 |     |
| 12                 | Sep 15/2021 |     | 405             | Sep 15/2021 |     | 409             | Sep 15/2022 |     |
| 13                 | Sep 15/2021 |     | 406             | Sep 15/2021 |     | 410             | BLANK       |     |
| 14                 | May 15/2023 |     | 23-11-51        |             |     | 23-12-21        |             |     |
| 15                 | Sep 15/2022 |     | 401             | Sep 15/2021 |     | 401             | Sep 15/2021 |     |
| 16                 | Jan 15/2023 |     | 402             | Sep 15/2021 |     | 402             | Sep 15/2021 |     |
| 17                 | Sep 15/2022 |     | 23-11-51        |             |     | 403             | Sep 15/2021 |     |
| 18                 | Jan 15/2023 |     | 601             | May 15/2023 |     | 404             | Sep 15/2021 |     |
| 23-00-00           |             |     | 602             | Sep 15/2021 |     | 405             | Sep 15/2021 |     |
| R 901              | Sep 15/2023 |     | 603             | Sep 15/2021 |     | 406             | Sep 15/2021 |     |
| R 902              | Sep 15/2023 |     | 604             | BLANK       |     | 23-12-41        |             |     |
| R 903              | Sep 15/2023 |     | 23-11-61        |             |     | 201             | Sep 15/2021 |     |
| R 904              | Sep 15/2023 |     | 401             | Sep 15/2021 |     | 202             | Sep 15/2021 |     |
| O 905              | Sep 15/2023 |     | 402             | Sep 15/2021 |     | 23-12-41        |             |     |
| O 906              | Sep 15/2023 |     | 403             | Sep 15/2021 |     | 401             | Sep 15/2021 |     |
| O 907              | Sep 15/2023 |     | 404             | Sep 15/2021 |     | 402             | Sep 15/2021 |     |
| O 908              | Sep 15/2023 |     | 405             | Sep 15/2021 |     | 403             | Sep 15/2021 |     |
| O 909              | Sep 15/2023 |     | 406             | Sep 15/2021 |     | 404             | Sep 15/2022 |     |
| O 910              | Sep 15/2023 |     | 407             | Sep 15/2021 |     | 405             | Sep 15/2021 |     |
| O 911              | Sep 15/2023 |     | 408             | Sep 15/2021 |     | 406             | Sep 15/2021 |     |
| 912                | Sep 15/2021 |     | 409             | Sep 15/2021 |     | 407             | Sep 15/2021 |     |
| 913                | Sep 15/2021 |     | 410             | BLANK       |     | 408             | BLANK       |     |
| 914                | Sep 15/2022 |     | 23-12-00        |             |     | 23-15-00        |             |     |
| 915                | Sep 15/2021 |     | 501             | Sep 15/2021 |     | 201             | Jan 15/2022 |     |
|                    |             |     | 502             | Sep 15/2021 |     | 202             | May 15/2022 |     |

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| 23-15-00 (cont) |             |     | 23-24-00     |             |     | 23-25-00     |             |     |
| 203             | Jan 15/2023 |     | R 201        | Sep 15/2023 |     | 201          | Sep 15/2021 |     |
| 204             | Jan 15/2022 |     | R 202        | Sep 15/2023 |     | 202          | Sep 15/2021 |     |
| 205             | Jan 15/2022 |     | D 203        | Sep 15/2023 |     | 203          | Sep 15/2021 |     |
| 206             | Jan 15/2022 |     | D 204        | BLANK       |     | 204          | BLANK       |     |
| 207             | Jan 15/2022 |     | 23-24-00     |             |     | 23-25-00     |             |     |
| 208             | BLANK       |     | R 401        | Sep 15/2023 |     | 401          | Sep 15/2021 |     |
| 23-15-00        |             |     | R 402        | Sep 15/2023 |     | 402          | Sep 15/2021 |     |
| 501             | May 15/2022 |     | 403          | Sep 15/2021 |     | 403          | Sep 15/2021 |     |
| 502             | May 15/2022 |     | R 404        | Sep 15/2023 |     | 404          | Sep 15/2022 |     |
| 503             | Jan 15/2022 |     | R 405        | Sep 15/2023 |     | 23-25-00     |             |     |
| 504             | May 15/2022 |     | 406          | BLANK       |     | 501          | Sep 15/2021 |     |
| 505             | Sep 15/2022 |     | 23-24-00     |             |     | 502          | Sep 15/2021 |     |
| 506             | Sep 15/2022 |     | R 501        | Sep 15/2023 |     | 503          | Sep 15/2021 |     |
| 507             | Jan 15/2022 |     | R 502        | Sep 15/2023 |     | 504          | Sep 15/2021 |     |
| 508             | BLANK       |     | R 503        | Sep 15/2023 |     | 505          | Sep 15/2021 |     |
| 23-15-01        |             |     | R 504        | Sep 15/2023 |     | 506          | Sep 15/2021 |     |
| 401             | Jan 15/2022 |     | R 505        | Sep 15/2023 |     | 507          | Sep 15/2021 |     |
| 402             | Jan 15/2022 |     | R 506        | Sep 15/2023 |     | 508          | Sep 15/2021 |     |
| 403             | Jan 15/2022 |     | R 507        | Sep 15/2023 |     | 509          | Sep 15/2021 |     |
| 404             | May 15/2022 |     | 508          | BLANK       |     | 510          | BLANK       |     |
| 405             | Jan 15/2022 |     | 23-24-02     |             |     | 23-27-00     |             |     |
| 406             | BLANK       |     | 401          | May 15/2023 |     | 201          | Sep 15/2021 |     |
| 23-15-12        |             |     | 402          | Sep 15/2021 |     | 202          | Sep 15/2021 |     |
| 401             | Jan 15/2022 |     | 403          | Sep 15/2021 |     | 203          | Sep 15/2021 |     |
| 402             | Jan 15/2022 |     | 404          | May 15/2023 |     | 204          | Sep 15/2021 |     |
| 403             | Jan 15/2022 |     | 405          | May 15/2023 |     | 23-27-00     |             |     |
| 404             | Jan 15/2022 |     | 406          | May 15/2022 |     | 501          | Sep 15/2021 |     |
| 405             | Jan 15/2022 |     | 407          | May 15/2022 |     | 502          | May 15/2022 |     |
| 406             | BLANK       |     | 408          | BLANK       |     | 503          | Jan 15/2022 |     |
| 23-15-25        |             |     | 23-24-03     |             |     | 504          | May 15/2022 |     |
| 401             | Jan 15/2022 |     | 401          | Sep 15/2022 |     | 505          | Jan 15/2022 |     |
| R 402           | Sep 15/2023 |     | 402          | Sep 15/2021 |     | 506          | May 15/2022 |     |
| 403             | Jan 15/2022 |     | 403          | Sep 15/2021 |     | 507          | May 15/2022 |     |
| R 404           | Sep 15/2023 |     | 404          | Sep 15/2022 |     | 508          | Jan 15/2022 |     |
| R 405           | Sep 15/2023 |     | 405          | Sep 15/2021 |     | 509          | May 15/2022 |     |
| R 406           | Sep 15/2023 |     | 406          | BLANK       |     | 510          | BLANK       |     |

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| 23-27-33     |             |     | 23-28-11     |             |     | 23-31-03     |             |     |
| 201          | May 15/2022 |     | 401          | Sep 15/2021 |     | 201          | Sep 15/2021 |     |
| 202          | Jan 15/2023 |     | 402          | Sep 15/2021 |     | 202          | Sep 15/2021 |     |
| 203          | Jan 15/2023 |     | 403          | Sep 15/2021 |     | 203          | Sep 15/2021 |     |
| 204          | BLANK       |     | 404          | May 15/2023 |     | 204          | BLANK       |     |
| 23-27-33     |             |     | 405          | May 15/2023 |     | 23-31-03     |             |     |
| R 401        | Sep 15/2023 |     | 406          | BLANK       |     | 401          | Sep 15/2021 |     |
| R 402        | Sep 15/2023 |     | 23-31-00     |             |     | 402          | Sep 15/2021 |     |
| 403          | Sep 15/2021 |     | R 501        | Sep 15/2023 |     | 403          | Sep 15/2021 |     |
| R 404        | Sep 15/2023 |     | R 502        | Sep 15/2023 |     | 404          | Sep 15/2021 |     |
| R 405        | Sep 15/2023 |     | R 503        | Sep 15/2023 |     | 405          | Sep 15/2021 |     |
| 406          | BLANK       |     | 504          | Sep 15/2021 |     | 406          | BLANK       |     |
| 23-27-35     |             |     | 505          | Sep 15/2021 |     | 23-31-05     |             |     |
| 201          | May 15/2023 |     | 506          | Sep 15/2021 |     | 201          | Sep 15/2021 |     |
| 202          | May 15/2023 |     | 507          | Sep 15/2021 |     | 202          | Sep 15/2021 |     |
| 203          | May 15/2023 |     | 508          | Sep 15/2021 |     | 203          | Sep 15/2021 |     |
| 204          | May 15/2023 |     | 23-31-01     |             |     | 204          | BLANK       |     |
| 23-27-35     |             |     | 201          | Sep 15/2021 |     | 23-31-05     |             |     |
| 401          | Sep 15/2021 |     | 202          | Sep 15/2021 |     | 401          | Sep 15/2021 |     |
| 402          | Sep 15/2021 |     | 203          | Sep 15/2021 |     | 402          | Sep 15/2021 |     |
| 403          | Sep 15/2021 |     | 204          | BLANK       |     | 403          | Sep 15/2021 |     |
| 404          | Sep 15/2021 |     | 23-31-01     |             |     | 404          | Sep 15/2021 |     |
| 405          | Sep 15/2021 |     | 401          | Sep 15/2021 |     | 405          | Sep 15/2021 |     |
| 406          | Sep 15/2021 |     | 402          | Sep 15/2021 |     | 406          | Sep 15/2021 |     |
| 407          | Sep 15/2021 |     | 403          | Sep 15/2021 |     | R 407        | Sep 15/2023 |     |
| 408          | BLANK       |     | 404          | BLANK       |     | 408          | BLANK       |     |
| 23-28-00     |             |     | 23-31-02     |             |     | 23-41-00     |             |     |
| 201          | Sep 15/2021 |     | 201          | Sep 15/2021 |     | 501          | Sep 15/2021 |     |
| 202          | Sep 15/2021 |     | 202          | Sep 15/2021 |     | 502          | Sep 15/2021 |     |
| 203          | Sep 15/2021 |     | 203          | Sep 15/2021 |     | 503          | May 15/2023 |     |
| 204          | Sep 15/2022 |     | 204          | BLANK       |     | 504          | BLANK       |     |
| 205          | Sep 15/2022 |     | 23-31-02     |             |     | 23-42-00     |             |     |
| 206          | Sep 15/2021 |     | 401          | Sep 15/2021 |     | 501          | Sep 15/2021 |     |
| 23-28-00     |             |     | 402          | Sep 15/2021 |     | 502          | Sep 15/2021 |     |
| 501          | May 15/2023 |     | 403          | Sep 15/2021 |     | 503          | Sep 15/2021 |     |
| 502          | May 15/2023 |     | 404          | Sep 15/2021 |     | 504          | BLANK       |     |
| 503          | May 15/2023 |     | 405          | Jan 15/2022 |     |              |             |     |
| 504          | BLANK       |     | 406          | Sep 15/2021 |     |              |             |     |

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| 23-42-01     |             |     | 23-42-04     |             |     | 23-51-01 (cont) |             |     |
| 401          | Sep 15/2021 |     | 401          | Sep 15/2021 |     | 403             | Sep 15/2021 |     |
| 402          | Sep 15/2021 |     | 402          | Sep 15/2021 |     | 404             | Sep 15/2021 |     |
| 403          | Sep 15/2021 |     | 403          | Sep 15/2021 |     | 405             | Sep 15/2021 |     |
| 404          | Sep 15/2021 |     | 404          | Sep 15/2021 |     | 406             | BLANK       |     |
| 405          | Sep 15/2021 |     | 405          | Sep 15/2021 |     | 23-51-02        |             |     |
| 406          | Sep 15/2021 |     | 406          | BLANK       |     | 201             | Jan 15/2022 |     |
| 407          | Jan 15/2022 |     | 23-43-00     |             |     | 202             | Jan 15/2022 |     |
| 408          | BLANK       |     | 501          | Sep 15/2021 |     | 203             | Sep 15/2021 |     |
| 23-42-01     |             |     | 502          | Sep 15/2021 |     | 204             | BLANK       |     |
| 501          | Sep 15/2021 |     | 503          | Sep 15/2021 |     | 23-51-02        |             |     |
| 502          | BLANK       |     | 504          | BLANK       |     | 401             | Sep 15/2021 |     |
| 23-42-03     |             |     | 23-43-02     |             |     | 402             | Sep 15/2021 |     |
| 201          | Jan 15/2023 |     | 401          | Sep 15/2022 |     | 403             | Sep 15/2021 |     |
| 202          | May 15/2022 |     | 402          | Sep 15/2021 |     | 404             | Sep 15/2022 |     |
| 203          | Jan 15/2023 |     | 403          | Sep 15/2021 |     | 405             | Sep 15/2022 |     |
| 204          | May 15/2022 |     | 404          | Sep 15/2022 |     | 406             | BLANK       |     |
| 205          | May 15/2022 |     | 405          | Sep 15/2022 |     | 23-51-03        |             |     |
| 206          | May 15/2022 |     | 406          | BLANK       |     | 401             | Sep 15/2021 |     |
| 207          | May 15/2022 |     | 23-43-03     |             |     | 402             | Sep 15/2021 |     |
| 208          | May 15/2022 |     | 401          | Sep 15/2021 |     | 403             | Sep 15/2021 |     |
| 23-42-03     |             |     | 402          | Sep 15/2021 |     | 404             | Sep 15/2021 |     |
| R 401        | Sep 15/2023 |     | 403          | Sep 15/2021 |     | 23-51-04        |             |     |
| R 402        | Sep 15/2023 |     | 404          | Jan 15/2022 |     | 401             | Sep 15/2021 |     |
| R 403        | Sep 15/2023 |     | 405          | Sep 15/2021 |     | 402             | Sep 15/2021 |     |
| R 404        | Sep 15/2023 |     | 406          | BLANK       |     | 403             | Sep 15/2021 |     |
| R 405        | Sep 15/2023 |     | 23-51-00     |             |     | 404             | Sep 15/2022 |     |
| R 406        | Sep 15/2023 |     | 501          | Sep 15/2021 |     | 405             | Jan 15/2022 |     |
| R 407        | Sep 15/2023 |     | 502          | Sep 15/2021 |     | 406             | Sep 15/2022 |     |
| R 408        | Sep 15/2023 |     | 503          | Sep 15/2021 |     | 23-51-04        |             |     |
| D 409        | Sep 15/2023 |     | 504          | Sep 15/2021 |     | 501             | May 15/2023 |     |
| D 410        | BLANK       |     | 505          | Sep 15/2021 |     | 502             | May 15/2023 |     |
| 23-42-03     |             |     | 506          | Sep 15/2021 |     | 503             | Sep 15/2021 |     |
| 501          | Sep 15/2021 |     | 507          | Sep 15/2021 |     | 504             | BLANK       |     |
| 502          | Sep 15/2021 |     | 508          | Sep 15/2021 |     | 23-51-05        |             |     |
| 23-42-03     |             |     | 23-51-01     |             |     | 401             | May 15/2023 |     |
| 701          | Sep 15/2021 |     | 401          | Sep 15/2021 |     | 402             | Sep 15/2021 |     |
| 702          | BLANK       |     | 402          | Sep 15/2021 |     | 403             | Sep 15/2021 |     |

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| 23-51-05 (cont) |             |     | 23-61-00     |             |     | 23-71-11 (cont) |             |     |
| 404             | Sep 15/2021 |     | 601          | Sep 15/2021 |     | 405             | Jan 15/2022 |     |
| 405             | Sep 15/2021 |     | R 602        | Sep 15/2023 |     | 406             | BLANK       |     |
| 406             | Sep 15/2021 |     | 603          | Sep 15/2021 |     | 23-71-12        |             |     |
| 23-61-00        |             |     | 604          | Sep 15/2021 |     | 401             | Sep 15/2022 |     |
| 401             | Sep 15/2021 |     | 605          | Sep 15/2021 |     | 402             | Sep 15/2022 |     |
| 402             | Sep 15/2021 |     | 606          | May 15/2023 |     | 403             | Sep 15/2022 |     |
| 403             | Sep 15/2021 |     | 607          | Sep 15/2022 |     | 404             | Sep 15/2022 |     |
| 404             | Sep 15/2021 |     | 608          | Jan 15/2023 |     | 405             | Sep 15/2022 |     |
| 405             | Sep 15/2021 |     | 609          | Jan 15/2023 |     | 406             | Sep 15/2022 |     |
| 406             | May 15/2023 |     | 610          | Sep 15/2021 |     | 407             | Jan 15/2023 |     |
| 407             | May 15/2023 |     | 611          | Sep 15/2021 |     | 408             | Sep 15/2022 |     |
| 408             | May 15/2023 |     | 612          | Sep 15/2021 |     | 23-71-13        |             |     |
| 409             | May 15/2023 |     | 613          | Sep 15/2021 |     | 401             | Sep 15/2021 |     |
| 410             | May 15/2023 |     | 614          | Sep 15/2021 |     | 402             | Sep 15/2021 |     |
| 411             | May 15/2023 |     | 23-71-00     |             |     | 403             | Sep 15/2021 |     |
| 412             | May 15/2023 |     | 201          | May 15/2023 |     | 404             | Sep 15/2021 |     |
| 413             | May 15/2023 |     | 202          | May 15/2023 |     | 405             | Sep 15/2021 |     |
| 414             | May 15/2023 |     | 203          | May 15/2022 |     | 406             | BLANK       |     |
| 415             | May 15/2023 |     | 204          | May 15/2022 |     | 23-71-21        |             |     |
| 416             | May 15/2023 |     | R 205        | Sep 15/2023 |     | 201             | Jan 15/2023 |     |
| 417             | May 15/2023 |     | 206          | May 15/2023 |     | 202             | Jan 15/2022 |     |
| 418             | May 15/2023 |     | 207          | May 15/2023 |     | 203             | Jan 15/2022 |     |
| 419             | May 15/2023 |     | 208          | May 15/2023 |     | 204             | Jan 15/2022 |     |
| 420             | May 15/2023 |     | 23-71-00     |             |     | 205             | Sep 15/2021 |     |
| 421             | May 15/2023 |     | 501          | Sep 15/2021 |     | 206             | Sep 15/2021 |     |
| 422             | May 15/2023 |     | 502          | Sep 15/2021 |     | 207             | Jan 15/2022 |     |
| 423             | May 15/2023 |     | 503          | Sep 15/2021 |     | 208             | Jan 15/2022 |     |
| 424             | May 15/2023 |     | 504          | Sep 15/2021 |     | 209             | Jan 15/2022 |     |
| 425             | May 15/2023 |     | R 505        | Sep 15/2023 |     | 210             | Jan 15/2022 |     |
| 426             | May 15/2023 |     | 506          | Sep 15/2021 |     | 23-71-21        |             |     |
| 427             | May 15/2023 |     | 507          | Sep 15/2021 |     | 401             | May 15/2023 |     |
| 428             | May 15/2023 |     | 508          | Sep 15/2021 |     | 402             | Sep 15/2021 |     |
| 429             | May 15/2023 |     | 23-71-11     |             |     | 403             | May 15/2022 |     |
| 430             | May 15/2023 |     | 401          | Sep 15/2021 |     | 404             | May 15/2022 |     |
| 431             | May 15/2023 |     | 402          | Jan 15/2022 |     | 405             | Jan 15/2023 |     |
| 432             | May 15/2023 |     | 403          | Jan 15/2022 |     | 406             | May 15/2023 |     |
|                 |             |     | 404          | May 15/2022 |     |                 |             |     |

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| 501          | Jan 15/2023 |     | 506             | May 15/2023 |     | 405             | Jan 15/2022 |     |
| 502          | Jan 15/2023 |     | 507             | May 15/2023 |     | 406             | Jan 15/2022 |     |
| 503          | Sep 15/2022 |     | 508             | May 15/2023 |     | 407             | Jan 15/2022 |     |
| R 504        | Sep 15/2023 |     | 509             | May 15/2023 |     | 408             | Jan 15/2022 |     |
| R 505        | Sep 15/2023 |     | 510             | May 15/2023 |     | 409             | Jan 15/2022 |     |
| R 506        | Sep 15/2023 |     | 23-75-00        |             |     | 410             | BLANK       |     |
| 507          | Sep 15/2022 |     | 201             | Sep 15/2021 |     | 23-75-05        |             |     |
| 508          | Sep 15/2022 |     | 202             | Sep 15/2021 |     | 401             | Jan 15/2022 |     |
| 23-71-21     |             |     | 23-75-00        |             |     | 402             | Jan 15/2022 |     |
| 701          | Sep 15/2021 |     | 501             | Sep 15/2021 |     | 403             | Jan 15/2022 |     |
| 702          | BLANK       |     | 502             | Sep 15/2021 |     | 404             | Jan 15/2022 |     |
| 23-71-22     |             |     | 23-75-01        |             |     | 405             | Jan 15/2022 |     |
| 201          | Sep 15/2022 |     | 401             | Jan 15/2022 |     | 406             | Jan 15/2022 |     |
| 202          | Sep 15/2022 |     | 402             | Jan 15/2022 |     |                 |             |     |
| 203          | Sep 15/2022 |     | 403             | Jan 15/2022 |     |                 |             |     |
| 204          | Sep 15/2022 |     | 404             | Jan 15/2022 |     |                 |             |     |
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### 1. General

- A. This procedure has maintenance tasks for the Master Minimum Equipment List (MMEL) maintenance requirements as shown in the Dispatch Deviations Guide (DDG). These tasks are used to prepare the airplane for flight with certain systems/components inoperative.
- B. This procedure also has the tasks that put the airplane back to its usual condition.
- C. These are the tasks for the components in the communication system:
  - (1) DDG 23-24-01 Fixed Emergency Locator Transmitter (ELT) Inoperative - Preparation
  - (2) DDG 23-24-01 Fixed Emergency Locator Transmitter (ELT) Inoperative - Restoration
  - (3) DDG 23-24-01-01 Remote Emergency Locator Transmitter (ELT) Switch Inoperative - Preparation
  - (4) DDG 23-24-01-01 Remote Emergency Locator Transmitter (ELT) Switch Inoperative - Restoration
  - (5) DDG 23-51-04-01 Control Wheel Push-To-Talk (PTT) Switches Inoperative - Preparation
  - (6) DDG 23-51-04-01 Control Wheel Push-To-Talk (PTT) Switches Inoperative - Restoration
  - (7) DDG 23-51-04-02 Audio Control Panel (ACP) Push-To-Talk (PTT) Switches Inoperative - Preparation
  - (8) DDG 23-51-04-03 Glareshield Panel Push-To-Talk (PTT) Switches Inoperative - Preparation
  - (9) DDG 23-51-04-03 Glareshield Panel Push-To-Talk (PTT) Switches Inoperative - Restoration
  - (10) DDG 23-71-01 Cockpit Voice Recorder System Inoperative - Preparation
  - (11) DDG 23-71-01 Cockpit Voice Recorder System Inoperative - Restoration
  - (12) DDG 23-71-01-01 Recorder Independent Power Supply (RIPS) Inoperative - Preparation
  - (13) DDG 23-71-01-01 Recorder Independent Power Supply (RIPS) Inoperative - Restoration

### **TASK 23-00-00-040-807**

### 2. DDG 23-24-01 Fixed Emergency Locator Transmitter (ELT) Inoperative - Preparation

#### A. **General**

- (1) This task gives the maintenance steps which prepare the airplane for flight with the Emergency Locator Transmitter (ELT) inoperative.

#### B. **Location Zones**

| Zone | Area                                                                        |
|------|-----------------------------------------------------------------------------|
| 211  | Flight Compartment - Left                                                   |
| 212  | Flight Compartment - Right                                                  |
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left  |
| 242  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right |

#### C. **ELT System Deactivation**

##### SUBTASK 23-00-00-010-003

- (1) Open the ceiling panel for access to the ELT unit (station 794).

##### SUBTASK 23-00-00-040-009

- (2) Set the switch on the front panel of the ELT unit to the OFF position.

##### SUBTASK 23-00-00-410-003

- (3) Close the ceiling panel for access to the ELT unit.

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SUBTASK 23-00-00-040-006

- (4) Install an INOP placard adjacent to the switch of the ELT control panel in the flight compartment.

————— END OF TASK —————

**TASK 23-00-00-440-807**

**3. DDG 23-24-01 Fixed Emergency Locator Transmitter (ELT) Inoperative - Restoration**

**A. General**

- (1) This task puts the airplane back to its usual condition after operation with the Emergency Locator Transmitter (ELT) inoperative.

**B. References**

| Reference        | Title                                                    |
|------------------|----------------------------------------------------------|
| 23-24-00-710-803 | Emergency Locator Transmitter Operational Test (P/B 501) |

**C. Location Zones**

| Zone | Area                                                                        |
|------|-----------------------------------------------------------------------------|
| 211  | Flight Compartment - Left                                                   |
| 212  | Flight Compartment - Right                                                  |
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left  |
| 242  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right |

**D. ELT System Restoration**

SUBTASK 23-00-00-010-004

- (1) Open the ceiling panel for access to the ELT unit (station 794).

SUBTASK 23-00-00-440-013

- (2) Set the switch on the front panel of the ELT unit to the ARMED position.

SUBTASK 23-00-00-710-002

- (3) Do this task: Emergency Locator Transmitter Operational Test, TASK 23-24-00-710-803

SUBTASK 23-00-00-410-004

- (4) Close the ceiling panel for access to the ELT unit (station 794).

SUBTASK 23-00-00-020-009

- (5) Remove the INOP placard from the ELT control panel in the flight compartment.

————— END OF TASK —————

**TASK 23-00-00-040-813**

**4. DDG 23-24-01-01 Remote Emergency Locator Transmitter (ELT) Switch Inoperative - Preparation**

**A. General**

- (1) This task gives the maintenance steps that prepare the airplane for flight with the Emergency Locator Transmitter (ELT) switch inoperative.

**B. Location Zones**

| Zone | Area                                                                        |
|------|-----------------------------------------------------------------------------|
| 211  | Flight Compartment - Left                                                   |
| 212  | Flight Compartment - Right                                                  |
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left  |
| 242  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right |

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**C. ELT Control Panel Deactivation**

SUBTASK 23-00-00-040-010

- (1) If the remote ELT switch is failed and the ELT system is activated, do this task: DDG 23-24-01 Fixed Emergency Locator Transmitter (ELT) Inoperative - Preparation, TASK 23-00-00-040-807.

SUBTASK 23-00-00-010-006

- (2) Open the ceiling panel for access to the ELT (station 794).

SUBTASK 23-00-00-440-014

- (3) On the front of the ELT, do these steps:  
(a) Set the ARMED/OFF/ON switch to the ARMED position.

SUBTASK 23-00-00-410-007

- (4) Close the ceiling panel for access to the ELT.

SUBTASK 23-00-00-440-009

- (5) On the ELT control panel, do these steps:  
(a) Set the RESET/ARMED/ON switch to the ARMED position.  
(b) Install the INOP placard adjacent to the RESET/ARMED/ON switch.

— END OF TASK —

**TASK 23-00-00-440-813**

**5. DDG 23-24-01-01 Remote Emergency Locator Transmitter (ELT) Switch Inoperative - Restoration**

**A. General**

- (1) This task puts the airplane back to its usual condition after operation with the Emergency Locator Transmitter (ELT) switch inoperative.

**B. References**

| Reference        | Title                                                    |
|------------------|----------------------------------------------------------|
| 23-24-00-710-803 | Emergency Locator Transmitter Operational Test (P/B 501) |

**C. Location Zones**

| Zone | Area                                                                        |
|------|-----------------------------------------------------------------------------|
| 211  | Flight Compartment - Left                                                   |
| 212  | Flight Compartment - Right                                                  |
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left  |
| 242  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right |

**D. ELT Control Panel Activation**

SUBTASK 23-00-00-010-007

- (1) Open the ceiling panel for access to the ELT (station 794).

SUBTASK 23-00-00-440-015

- (2) On the front of the ELT, do these steps:  
(a) Set the ARMED/OFF/ON switch to the ARMED position.

SUBTASK 23-00-00-410-008

- (3) Close the ceiling panel for access to the ELT.

SUBTASK 23-00-00-440-012

- (4) On the ELT control panel, do these steps:

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- (a) Remove the INOP placard from the RESET/ARMED/ON switch.
- (b) Set the RESET/ARMED/ON switch to the ARMED position.

SUBTASK 23-00-00-710-003

- (5) Do this task: Emergency Locator Transmitter Operational Test, TASK 23-24-00-710-803.

————— END OF TASK —————

**TASK 23-00-00-040-808**

**6. DDG 23-51-04-01 Control Wheel Push-To-Talk (PTT) Switches Inoperative - Preparation**

**A. General**

- (1) This task gives the maintenance steps which prepare the airplane for flight with the Control Wheel Push-To-Talk (PTT) switches inoperative.

**B. References**

| Reference        | Title                                                          |
|------------------|----------------------------------------------------------------|
| 23-51-04-000-801 | Push-To-Talk (PTT) Control Wheel Switch Removal (P/B 401)      |
| 23-51-04-400-801 | Push To Talk (PTT) Control Wheel Switch Installation (P/B 401) |

**C. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

**D. PTT Switches Deactivation**

SUBTASK 23-00-00-010-005

- (1) Remove the PTT switch on the control wheel to get access to the GROUND wire (TASK 23-51-04-000-801).

SUBTASK 23-00-00-020-003

- (2) Disconnect, cap, and stow the GROUND (BLK/BRN) wire from the PTT switch.

SUBTASK 23-00-00-420-003

- (3) Install the deactivated PTT switch (TASK 23-51-04-400-801).

SUBTASK 23-00-00-930-001

- (4) Install an INOP placard adjacent to the Control Wheel PTT switch.

**E. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-00-00-860-006

- (1) Remove the safety tags and close these circuit breakers:

**F/O Electrical System Panel, P6-2**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT   |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 22  | C00086 | AUDIO F/O                  |
| D   | 23  | C00083 | AUDIO CAPT                 |

————— END OF TASK —————

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TASK 23-00-00-440-808

7. **DDG 23-51-04-01 Control Wheel Push-To-Talk (PTT) Switches Inoperative - Restoration**

**A. General**

- (1) This task puts the airplane back to its usual condition after operation with the Control Wheel Push-To-Talk (PTT) switches inoperative.

**B. References**

| Reference        | Title                                                          |
|------------------|----------------------------------------------------------------|
| 23-51-04-000-801 | Push-To-Talk (PTT) Control Wheel Switch Removal (P/B 401)      |
| 23-51-04-400-801 | Push To Talk (PTT) Control Wheel Switch Installation (P/B 401) |

**C. Prepare for Restoration**

SUBTASK 23-00-00-860-003

- (1) Open these circuit breakers and install safety tags:

**F/O Electrical System Panel, P6-2**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT   |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 22  | C00086 | AUDIO F/O                  |
| D   | 23  | C00083 | AUDIO CAPT                 |

**D. PTT Switches Restoration**

SUBTASK 23-00-00-020-004

- (1) Remove the INOP placard from the PTT switch.

SUBTASK 23-00-00-020-005

- (2) Remove the PTT switch on the control wheel (TASK 23-51-04-000-801).

SUBTASK 23-00-00-020-006

- (3) Remove the cap from the GROUND (BLK/BRN) wire for the PTT switch.  
(a) Reconnect the GROUND (BLK/BRN) wire.

SUBTASK 23-00-00-420-004

- (4) Install the PTT switch back onto the control wheel (TASK 23-51-04-400-801).

**E. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-00-00-860-004

- (1) Make sure that these circuit breakers are closed:

**F/O Electrical System Panel, P6-2**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT   |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 22  | C00086 | AUDIO F/O                  |
| D   | 23  | C00083 | AUDIO CAPT                 |

————— **END OF TASK** —————

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**TASK 23-00-00-040-809**

**8. DDG 23-51-04-02 Audio Control Panel (ACP) Push-To-Talk (PTT) Switches Inoperative - Preparation**

**A. General**

- (1) This task gives the maintenance steps which prepare the airplane for flight with the Audio Control Panel (ACP) Push-To-Talk (PTT) switches inoperative.

**B. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

**C. Verify the Inoperative Flight Crew Audio Control Panel (ACP) PTT Switch is Failed Open**

**SUBTASK 23-00-00-700-001**

- (1) Do the steps that follow to confirm that the ACP PTT switch is inoperative open and the related Control Wheel PTT switch operates normally:
  - (a) Push the PA microphone selector switch on the related ACP.
    - 1) Make sure that the PA MIC light comes on.
  - (b) Speak into the related microphone without pushing any PTT switch.
    - 1) Make sure that you hear no voice on the PA system.
  - (c) Push the inoperative PTT switch and speak into the related microphone.
    - 1) Make sure that you hear no voice at the other pilot's headset.
  - (d) Push the related pilot's Control Wheel PTT switch and speak into the related microphone.
    - 1) Make sure that you hear your voice clearly at the other pilot's headset.

————— **END OF TASK** —————

**TASK 23-00-00-040-810**

**9. DDG 23-51-04-03 Glareshield Panel Push-To-Talk (PTT) Switches Inoperative - Preparation**

**A. General**

- (1) This task gives the maintenance steps which prepare the airplane for flight with the Glareshield Panel Push-To-Talk (PTT) switches inoperative.

**B. References**

| Reference        | Title                                                        |
|------------------|--------------------------------------------------------------|
| 23-51-05-000-801 | Glareshield Push To Talk (PTT) Switch Removal (P/B 401)      |
| 23-51-05-400-801 | Glareshield Push To Talk (PTT) Switch Installation (P/B 401) |

**C. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

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**D. Prepare for the PTT Deactivation**

SUBTASK 23-00-00-860-007

- (1) Open these circuit breakers and install safety tags:

**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| C          | 21         | C00560        | INTERPHONE POWER F/O DC 2  |
| C          | 22         | C00561        | INTERPHONE POWER F/O BAT   |
| C          | 23         | C00239        | INTERPHONE POWER CAPT DC 2 |
| C          | 24         | C00240        | INTERPHONE POWER CAPT BAT  |
| D          | 21         | C00084        | INTPH AND WARN             |
| D          | 22         | C00086        | AUDIO F/O                  |
| D          | 23         | C00083        | AUDIO CAPT                 |
| D          | 24         | C00085        | AUDIO OBS                  |

**E. PTT Switches Deactivation**

SUBTASK 23-00-00-020-007

- (1) Remove the PTT switch on the glareshield panel to get access to the wire (TASK 23-51-05-000-801).

SUBTASK 23-00-00-040-007

- (2) Disconnect, cap, and stow the GROUND wire from the PTT switch.

SUBTASK 23-00-00-410-005

- (3) Install the deactivated PTT switch (TASK 23-51-05-400-801).

SUBTASK 23-00-00-860-008

- (4) Install an INOP placard adjacent to the Glareshield Panel PTT switch.

**F. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-00-00-860-009

- (1) Remove the safety tags and close these circuit breakers:

**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| C          | 21         | C00560        | INTERPHONE POWER F/O DC 2  |
| C          | 22         | C00561        | INTERPHONE POWER F/O BAT   |
| C          | 23         | C00239        | INTERPHONE POWER CAPT DC 2 |
| C          | 24         | C00240        | INTERPHONE POWER CAPT BAT  |
| D          | 21         | C00084        | INTPH AND WARN             |
| D          | 22         | C00086        | AUDIO F/O                  |
| D          | 23         | C00083        | AUDIO CAPT                 |
| D          | 24         | C00085        | AUDIO OBS                  |

————— END OF TASK —————

**TASK 23-00-00-440-810**

**10. DDG 23-51-04-03 Glareshield Panel Push-To-Talk (PTT) Switches Inoperative - Restoration**

**A. General**

- (1) This task puts the airplane back to its usual condition after operation with the Glareshield Panel Push-To-Talk (PTT) switches inoperative.

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### B. References

| Reference        | Title                                                        |
|------------------|--------------------------------------------------------------|
| 23-51-05-000-801 | Glareshield Push To Talk (PTT) Switch Removal (P/B 401)      |
| 23-51-05-400-801 | Glareshield Push To Talk (PTT) Switch Installation (P/B 401) |

### C. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

### D. Prepare for the PTT Restoration

SUBTASK 23-00-00-860-010

- (1) Open these circuit breakers and install safety tags:

#### F/O Electrical System Panel, P6-2

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT   |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 21  | C00084 | INTPH AND WARN             |
| D   | 22  | C00086 | AUDIO F/O                  |
| D   | 23  | C00083 | AUDIO CAPT                 |
| D   | 24  | C00085 | AUDIO OBS                  |

### E. PTT Switches Restoration

SUBTASK 23-00-00-860-011

- (1) Remove the INOP placard from the PTT switch.

SUBTASK 23-00-00-020-008

- (2) Remove the PTT switch on the glareshield panel to get access to the wire (TASK 23-51-05-000-801).

SUBTASK 23-00-00-420-005

- (3) Remove the cap from the GROUND wire for the PTT switch.
  - (a) Reconnect the GROUND wire.

SUBTASK 23-00-00-410-006

- (4) Install the restored PTT switch back onto the glareshield panel (TASK 23-51-05-400-801).

### F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-00-00-860-012

- (1) Remove the safety tags and close these circuit breakers:

#### F/O Electrical System Panel, P6-2

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT   |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 21  | C00084 | INTPH AND WARN             |
| D   | 22  | C00086 | AUDIO F/O                  |

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**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| D          | 23         | C00083        | AUDIO CAPT  |
| D          | 24         | C00085        | AUDIO OBS   |

————— **END OF TASK** —————

**TASK 23-00-00-040-811**

**11. DDG 23-71-01 Cockpit Voice Recorder (CVR) System Inoperative - Preparation**

**A. General**

- (1) This task gives the maintenance steps which prepare the airplane for flight with the Cockpit Voice Recorder (CVR) System inoperative.

**B. Location Zones**

| <u>Zone</u> | <u>Area</u>                                                                |
|-------------|----------------------------------------------------------------------------|
| 210         | Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50 |
| 211         | Flight Compartment - Left                                                  |
| 212         | Flight Compartment - Right                                                 |

**C. Cockpit Voice Recorder (CVR) System Deactivation**

**SUBTASK 23-00-00-040-001**

- (1) Do this step a minimum of 15 minutes before departure:
- (a) Open this circuit breaker and install safety lock:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| D          | 6          | C01948        | VOICE RCDR/RIPS |

**SUBTASK 23-00-00-910-001**

- (2) Install the INOP placards adjacent to these components:
- Cockpit Voice Recorder's control panel (Pilot's overhead panel, P5).
  - VOICE RCDR/RIPS (C01948) circuit breaker (P18-2).

————— **END OF TASK** —————

**TASK 23-00-00-440-811**

**12. DDG 23-71-01 Cockpit Voice Recorder (CVR) System Inoperative - Restoration**

**A. General**

- (1) This task puts the airplane back to its usual condition after operation with the Cockpit Voice Recorder (CVR) System inoperative.

**B. Location Zones**

| <u>Zone</u> | <u>Area</u>                                                                |
|-------------|----------------------------------------------------------------------------|
| 210         | Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50 |
| 211         | Flight Compartment - Left                                                  |
| 212         | Flight Compartment - Right                                                 |

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C. Cockpit Voice Recorder (CVR) System Activation

SUBTASK 23-00-00-440-001

- (1) Remove the safety lock and close this circuit breaker:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| D          | 6          | C01948        | VOICE RCDR/RIPS |

SUBTASK 23-00-00-910-002

- (2) Remove the INOP placards from these components:
- Cockpit Voice Recorder's control panel (Pilot's overhead panel, P5).
  - VOICE RCDR/RIPS (C01948) circuit breaker (P18-2).

————— **END OF TASK** —————

**TASK 23-00-00-040-812**

13. **DDG 23-71-01-02 Recorder Independent Power Supply (RIPS) Inoperative - Preparation**

(Figure 901 or Figure 902)

**A. General**

- (1) This task gives the maintenance steps which prepare the airplane for flight with the Recorder Independent Power Supply (RIPS) inoperative.
- (2) The RIPS battery pack is attached to the RIPS charger assembly.
- (3) The RIPS (M02862) is in the aft passenger compartment (STA 940, WL 294, LBL 6). The unit is adjacent to the Flight Data Recorder (FDR).

**B. References**

| <u>Reference</u> | <u>Title</u>                                                   |
|------------------|----------------------------------------------------------------|
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201)         |
| 20-40-12-400-803 | Conductive Dust Cap and Connector Cover Installation (P/B 201) |

**C. Location Zones**

| <u>Zone</u> | <u>Area</u>                                                                   |
|-------------|-------------------------------------------------------------------------------|
| 210         | Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50    |
| 240         | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00 |

**D. Prepare for Deactivation**

SUBTASK 23-00-00-040-002

- (1) Open this circuit breaker and install safety tag:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| D          | 6          | C01948        | VOICE RCDR/RIPS |

SUBTASK 23-00-00-010-001

- (2) Open the lowered ceiling panel in the aft passenger compartment to get access to the RIPS.

NOTE: The RIPS is next to the FDR.

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### E. RIPS Deactivation

SUBTASK 23-00-00-020-001



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (1) Disconnect the J1 connector from the RIPS.

SUBTASK 23-00-00-020-002

- (2) Do these steps to remove the battery pack from the RIPS:
  - (a) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802 for removal of the battery pack from the RIPS.
  - (b) Loosen the two captive screws from the RIPS battery pack.
  - (c) Pull the RIPS battery pack forward to disengage the rear electrical connector.

SUBTASK 23-00-00-910-003

- (3) Do this task to install an electrical connector cap on the RIPS charger assembly's battery pack connector: TASK 20-40-12-400-803.
  - (a) Secure electrical connector cap to charger assembly with tape.

SUBTASK 23-00-00-420-001

- (4) Connect the J1 connector to the RIPS.

SUBTASK 23-00-00-910-004

- (5) Install the INOP placard adjacent to the RIPS unit.

### F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-00-00-410-001

- (1) Close the lowered ceiling panel in the aft passenger compartment for the RIPS.

SUBTASK 23-00-00-860-017

- (2) Remove the safety tag and close this circuit breaker:

#### CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| D          | 6          | C01948        | VOICE RCDR/RIPS |

————— END OF TASK —————

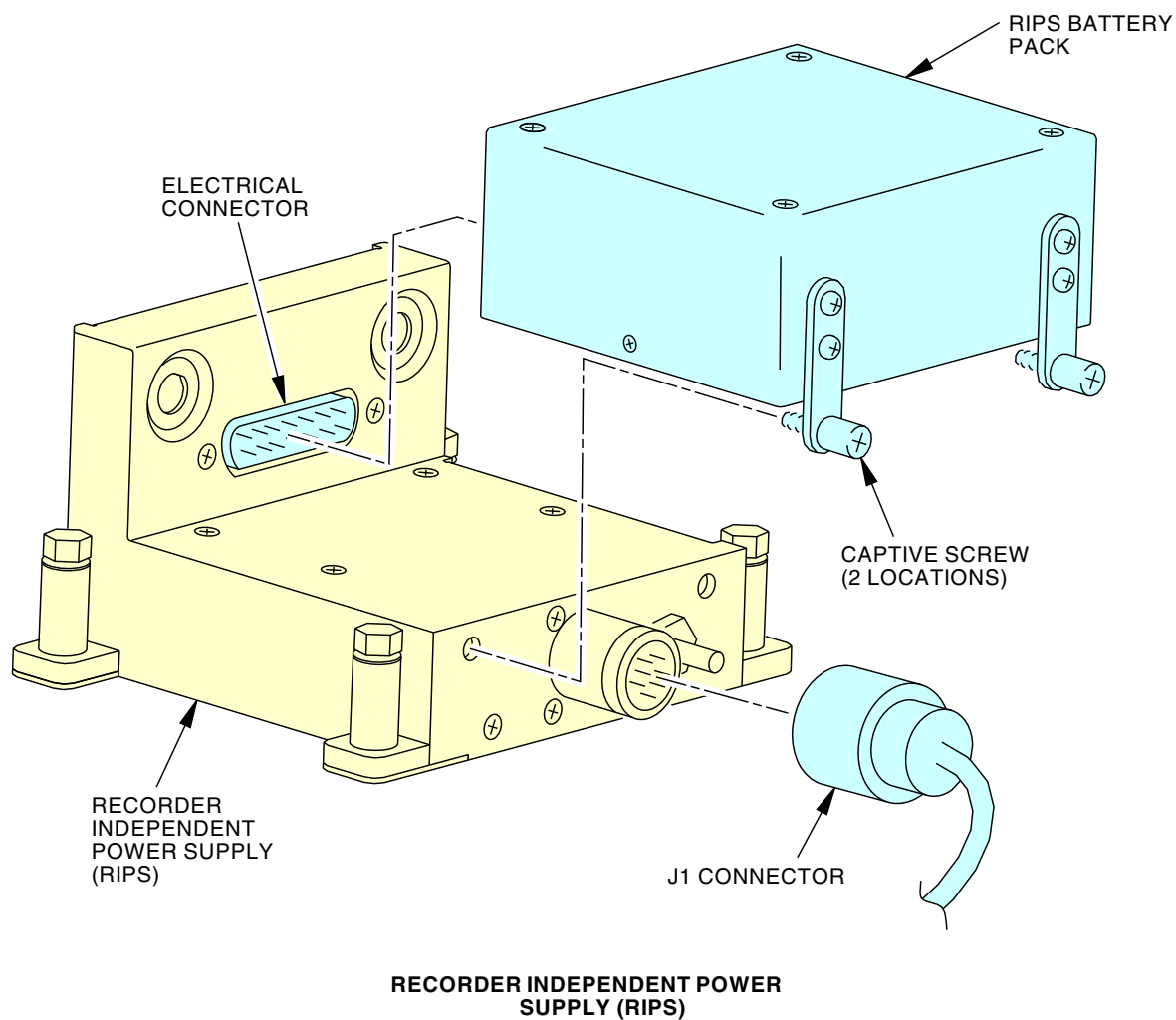
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**Recorder Independent Power Supply Battery - Replacement**  
**Figure 901/23-00-00-990-801**

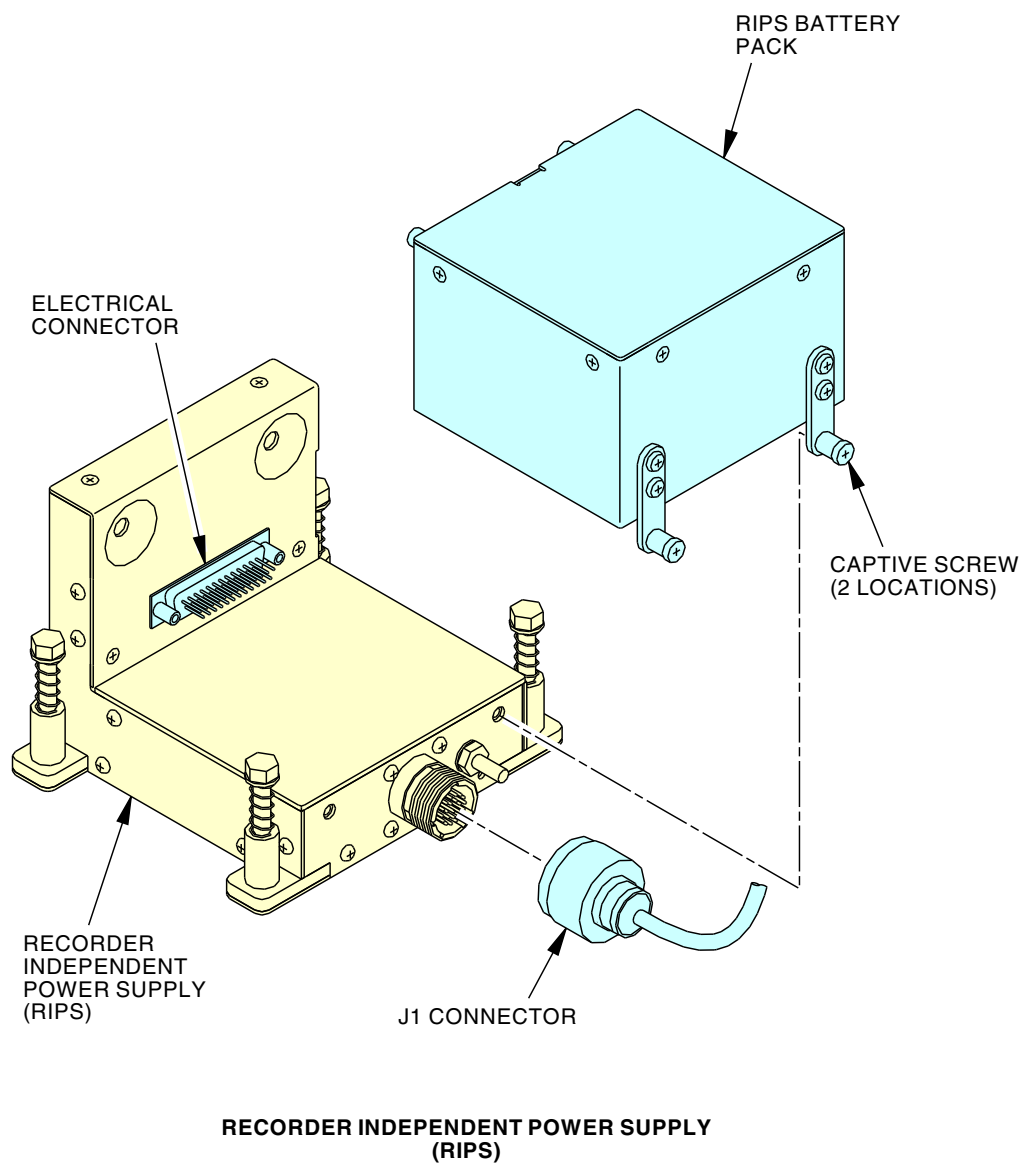
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**Recorder Independent Power Supply Battery - Replacement**  
**Figure 902/23-00-00-990-802**

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**TASK 23-00-00-440-812**

**14. DDG 23-71-01-02 Recorder Independent Power Supply (RIPS) Inoperative - Restoration**

(Figure 901 or Figure 902)

**A. General**

- (1) This task puts the airplane back to its usual condition after operation with a Recorder Independent Power Supply (RIPS) inoperative.
- (2) The RIPS battery pack is attached to the RIPS charger assembly.
- (3) The RIPS (M02862) is in the aft passenger compartment (STA 940, WL 294, LBL 6). The unit is adjacent to the Flight Data Recorder (FDR).

**B. References**

| Reference        | Title                                                       |
|------------------|-------------------------------------------------------------|
| 20-40-12-000-803 | Conductive Dust Cap and Connector Cover Removal (P/B 201)   |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201) |

**C. Location Zones**

| Zone | Area                                                                          |
|------|-------------------------------------------------------------------------------|
| 210  | Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50    |
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00 |

**D. Prepare for Activation**

SUBTASK 23-00-00-040-003

- (1) Open this circuit breaker and install safety tag:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name            |
|-----|-----|--------|-----------------|
| D   | 6   | C01948 | VOICE RCDR/RIPS |

SUBTASK 23-00-00-010-002

- (2) Open the lowered ceiling panel in the aft passenger compartment to get access to the RIPS.

NOTE: The RIPS is next to the FDR.

**E. RIPS Activation**



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

SUBTASK 23-00-00-420-007

- (1) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-00-00-910-005

- (2) Do this task to remove the electrical connector cap from the RIPS charger assembly's battery pack connector: TASK 20-40-12-000-803.

SUBTASK 23-00-00-420-002

- (3) Do these steps to install the RIPS battery pack:
  - (a) Push slightly to engage the rear electrical connector.
  - (b) Tighten the two captive screws to 13.0 ±1.0 in-lb (1.5 ±0.1 N·m).

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SUBTASK 23-00-00-910-006

- (4) Remove the INOP placard from the RIPS unit.

**F. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-00-00-410-002

- (1) Close the lowered ceiling panel in the aft passenger compartment for the RIPS.

SUBTASK 23-00-00-860-016

- (2) Remove the safety tag and close this circuit breaker:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| D          | 6          | C01948        | VOICE RCDR/RIPS |

————— **END OF TASK** —————

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**HIGH FREQUENCY (HF) COMMUNICATION SYSTEM - ADJUSTMENT/TEST**

**1. General**

- A. This procedure has these tasks:
  - (1) HF Communication System - Operational Test
  - (2) HF Communication System - System Test.
- B. There are two HF communication systems installed on the airplane.
- C. The No. 1 and No. 2 HF transceivers are located in the aft cargo compartment on the electronic equipment rack E6.
- D. The No. 1, No. 2, and No. 3 radio tuning panels (RTPs) are located on the aft electronic panel, P8, in the flight compartment.

**TASK 23-11-00-710-801**

**2. HF Communication System - Operational Test**

**A. General**

- (1) The operational test is a BITE test of the HF transceiver.
  - (a) The BITE test does a check of the internal functions of the HF transceiver. The BITE test also does a check of the ARINC 429/719 frequency tuning input data to the HF transceiver.
- (2) The operational test for the HFS-900D transceivers is a BITE test which does a check of the internal functions of the HF transceiver. The BITE test also does a check of the ARINC 429/719 frequency tuning input data to the HF transceiver. The BITE test does not include a check of the HF antenna couplers, coaxial cables, or the HF antenna. The HF communication system does not transmit during the BITE test.
- (3) The same sequence of steps is used for the No. 1 or No. 2 HF communication system.
- (4) HF Antenna Coupler Tuning
  - (a) A tune tone is generated while the HF antenna coupler tunes to a new frequency. The tune tone can be continuous or pulsed (determined by the coupler/transceiver configuration). Some couplers save previously tuned frequencies in memory. If a coupler is set to a frequency in memory, then the tune time can be very short and you may not hear the tune tone. If you hear the tune tone for more than 7 seconds (15 seconds maximum), then it is an indication of a tuning failure.
  - (b) Rockwell Collins Digital HF Antenna Coupler (Model CPL-920D, Part Number 822-0987-XXX):
    - 1) The tune time for a frequency not in memory is 2 to 4 seconds typical, 7 seconds maximum.
    - 2) If HFS-700 or HFS-900 transceiver is installed:
      - a) The tune time for a frequency saved in memory is 1 second typical.
      - b) Up to 100 frequencies can be saved in memory.
      - c) The tune tone is pulsed. Basically, the tuning tone is audible, but if using a previously tuned channel, the tune tone may not be audible.
    - 3) If HFS-900D transceiver is installed:
      - a) The tune time for a frequency saved in memory is 200 milliseconds typical.
      - b) The tune tone is continuous.

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- 4) At the first tuning after a cold start, the tune tone is always audible regardless of whether this frequency is stored (average 2 to 4 seconds, 7 seconds maximum).
- 5) When either HF antenna or HF transceiver is replaced, the frequency memory is reset.

### B. Location Zones

| Zone | Area                          |
|------|-------------------------------|
| 142  | Aft Cargo Compartment - Right |
| 211  | Flight Compartment - Left     |
| 212  | Flight Compartment - Right    |

### C. Access Panels

| Number | Name/Location  |
|--------|----------------|
| 822    | Aft Cargo Door |

### D. HF Communication System Operational Test

SUBTASK 23-11-00-800-002



DO NOT OPERATE THE HF SYSTEM WHILE YOU REFUEL OR DEFUEL THE AIRPLANE. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.



MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FT (3 M) AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

- (1) Do not operate the HF system while a fuel operation is done on the airplane.

SUBTASK 23-11-00-860-013

- (2) Push the applicable HF switch light (HF 1 or HF 2), on the No. 1 radio tuning panel (RTP-1), on the aft electronic panel, P8.
  - (a) Make sure that the switch light comes on.
  - (b) If the AM lamp is on, push the AM switch once to select the USB mode.

SUBTASK 23-11-00-010-001

- (3) To gain access to the HF transceivers, do this step:  
Open this access panel:

| <u>Number</u> | <u>Name/Location</u> |
|---------------|----------------------|
| 822           | Aft Cargo Door       |

SUBTASK 23-11-00-010-002

- (4) Open the access panel to the equipment rack.

SUBTASK 23-11-00-860-014

- (5) Make sure that the internal blower fan on the HF transceiver operates when you transmit.

### E. HF Transceiver BITE Test

SUBTASK 23-11-00-740-001

- (1) Push the TEST switch on the front panel.
  - (a) Release the TEST switch on the front panel.
  - (b) Make sure that these conditions occur:

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- 1) The LRU STATUS and CONTROL INPUT LEDs turn red for 1 to 3 seconds.  
NOTE: The KEY INTERLOCK LED flashes red and then off.
- 2) The LRU STATUS LED turns green and the other LEDs turn red for 1 to 3 seconds.
- 3) All LEDs go off for 1 to 7 seconds.
- 4) The LRU STATUS LED turns green and the other LEDs stay off. After 30 seconds, all LEDs go off.

NOTE: The three LEDs that come on red after the self-test is completed shows a defective condition.

### F. Put the Airplane Back to Its Initial Condition

SUBTASK 23-11-00-410-001

- (1) Close the access panel to the equipment rack.

SUBTASK 23-11-00-410-002

- (2) Close this access panel:

| <u>Number</u> | <u>Name/Location</u> |
|---------------|----------------------|
| 822           | Aft Cargo Door       |

————— END OF TASK —————

### TASK 23-11-00-730-801

## 3. HF Communication System - System Test

### A. General

- (1) This task includes these tests:
  - (a) An Operational Test
  - (b) A HF Communication Test.
- (2) Make sure that the flight interphone system operates. The communication test uses these flight interphone system components: audio control panels (ACPs), headsets, microphones, and push-to-talk (PTT) switches.
- (3) Make sure that the airplane is not in or near any large metal structures. HF communication while the airplane is on the ground can be degraded by airplane position or blocked by RF signal attenuation due to ground equipment and structures. If the quality of the transmitted and received voice signals is not satisfactory, move the airplane to a better position.
- (4) Make sure that you use approved test frequencies when you speak with the radio tower operator.

### B. Location Zones

| <u>Zone</u> | <u>Area</u>                   |
|-------------|-------------------------------|
| 142         | Aft Cargo Compartment - Right |
| 211         | Flight Compartment - Left     |
| 212         | Flight Compartment - Right    |

### C. Prepare for the Test

SUBTASK 23-11-00-800-001



DO NOT OPERATE THE HF SYSTEM WHILE YOU REFUEL OR DEFUEL THE AIRPLANE. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.

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(WARNING PRECEDES)



**WARNING**

MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FT (3 M) AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

- (1) Do not operate the HF system while a fuel operation is done on the airplane.

**D. Operational Test**

SUBTASK 23-11-00-710-001

- (1) Do this task: HF Communication System - Operational Test, TASK 23-11-00-710-801.

**E. HF Communication Test**

SUBTASK 23-11-00-730-001

- (1) Do a test of the HF-1 communication system:
- (a) Connect a headset/boom microphone to the captain's jack panel.
  - (b) Do these steps to prepare the captain's audio control panel (ACP) for HF-1 system operation:
    - 1) Push and release the HF-1 switch.
      - a) Make sure that the switch light comes on.
    - 2) Push and release the HF-1 volume control.
      - a) Make sure that the volume control indicator light comes on.
    - 3) Set the volume control to the middle position.
    - 4) Set the MASK/BOOM switch (if installed) to the BOOM position.
  - (c) Do these steps at the No. 1 radio tuning panel (RTP-1):
    - 1) Push the HF 1 switch light.
      - a) Make sure that the switch light comes on.
    - 2) Push the AM switch light for AM or USB mode of operation.
      - a) Make sure that the switch light is on for AM, or off for USB.
    - 3) Turn the SENS control clockwise for maximum gain.
    - 4) Set the STANDBY frequency window to an approved test frequency.
    - 5) Push the display transfer switch.
      - a) Make sure that the STANDBY frequency moves to the ACTIVE frequency window.
  - (d) Push and release the captain's push-to-talk (PTT) switch.
    - 1) Make sure that you hear a 1 kHz tune-in-progress tone in the headset.

**NOTE:** A continuous or pulsed tone indicates that the coupler is tuning to a new frequency. The coupler tune tone will sound no longer than 15 seconds. The average coupler tune time is approximately 1 to 7 seconds.

**NOTE:** Some coupler types are able to tune quickly when previously used frequencies are selected, in which case the tune tone may be only a momentary beep.
  - (e) Do these steps to do a voice communication test with a radio tower operator:
    - 1) Push and hold the PTT switch while you speak.

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- a) Make sure that you hear the sidetone in the headset while you speak.
- b) Make sure that the LRU STATUS, KEY INTERLOCK, and CONTROL FAIL lights on the front panel of the HF transceiver are not on.
- 2) Release the PTT switch while you listen.
  - a) Make sure that the quality of the transmitted and received voice is satisfactory.
  - b) Make sure that the sound of the received voice decreases and increases when you turn the SENS control counterclockwise and clockwise on the RTP.
  - c) Make sure that the sound of the received voice changes when you turn the HF-1 volume control on the captain's ACP with no change in voice quality.
- (f) If more than one mode of operation (AM and USB) is available at your location, do this step:
  - 1) Push the AM switch light to the other mode of operation and make a voice transmission.

**SUBTASK 23-11-00-730-002**

- (2) Do a test of the HF-2 communication system:
  - (a) Connect a headset/boom microphone to the first officer's jack panel.
  - (b) Do these steps to prepare the first officer's ACP for HF-2 system operation:
    - 1) Push and release the HF-2 switch.
      - a) Make sure that the switch light comes on.
    - 2) Push and release the HF-2 volume control.
      - a) Make sure that the volume control indicator light comes on.
    - 3) Set the volume control to the middle position.
    - 4) Set the MASK/BOOM switch (if installed) to the BOOM position.
  - (c) Do these steps at RTP-2:
    - 1) Push the HF 2 switch light.
      - a) Make sure that the switch light comes on.
    - 2) Push the AM switch light for AM or USB mode of operation.
      - a) Make sure that the switch light is on for AM, or off for USB.
    - 3) Turn the SENS control clockwise for maximum gain.
    - 4) Set the STANDBY frequency window to an approved test frequency.
    - 5) Push the display transfer switch.
      - a) Make sure that the STANDBY frequency moves to the ACTIVE frequency window.
  - (d) Push and release the first officer's PTT switch.
    - 1) Make sure that you hear a 1 kHz tune-in-progress tone in the headset.

**NOTE:** A continuous or pulsed tone indicates that the coupler is tuning to a new frequency. The coupler tune tone will sound no longer than 15 seconds. The average coupler tune time is approximately 1 to 7 seconds.

**NOTE:** Some coupler types are able to tune quickly when previously used frequencies are selected, in which case the tune tone may be only a momentary beep.
  - (e) Do these steps to do a voice communication test with a radio tower operator:

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- 1) Push and hold the PTT switch while you speak.
  - a) Make sure that you hear the sidetone in the headset while you speak.
  - b) Make sure that the LRU STATUS, KEY INTERLOCK, and CONTROL FAIL lights on the front panel of the HF transceiver are not on.
- 2) Release the PTT switch while you listen.
  - a) Make sure that the quality of the transmitted and received voice is satisfactory.
  - b) Make sure that the sound of the received voice decreases and increases when you turn the SENS control counterclockwise and clockwise on the RTP.
  - c) Make sure that the sound of the received voice changes when you turn the HF-2 volume control on the first officer's ACP with no change in voice quality.
- (f) If more than one mode of operation (AM and USB) is available at your location, do this step:
  - 1) Push the AM switch light to the other mode of operation and make a voice transmission.

**F. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-11-00-860-008

- (1) Do these steps at the P8 panel:
  - (a) Push and release the HF-1 switch on the captain's ACP.
    - 1) Make sure that the switch light goes off.
  - (b) Push and release the HF-2 switch on the first officer's ACP.
    - 1) Make sure that the switch light goes off.
  - (c) Push and release the HF-1 volume control on the captain's ACP.
    - 1) Make sure that the volume control indicator light goes off.
  - (d) Push and release the HF-2 volume control on the first officer's ACP.
    - 1) Make sure that the volume control indicator light goes off.

———— **END OF TASK** ————

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**HF TRANSCEIVER - REMOVAL/INSTALLATION**

**1. General**

- A. This procedure has these tasks:
- (1) HF Transceiver Removal
  - (2) HF Transceiver Installation.
- B. The No. 1 and No. 2 HF transceivers are located in the aft cargo compartment on the electronic equipment rack E6.

**TASK 23-11-21-000-801**

**2. HF Transceiver Removal**

(Figure 401)

**A. General**

- (1) This task has instructions to remove the HF transceiver from the equipment rack.

**B. References**

| <u>Reference</u> | <u>Title</u>                                           |
|------------------|--------------------------------------------------------|
| 20-10-07-000-801 | E/E Box Removal (P/B 401)                              |
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201) |

**C. Location Zones**

| <u>Zone</u> | <u>Area</u>                   |
|-------------|-------------------------------|
| 142         | Aft Cargo Compartment - Right |
| 211         | Flight Compartment - Left     |
| 212         | Flight Compartment - Right    |

**D. Access Panels**

| <u>Number</u> | <u>Name/Location</u> |
|---------------|----------------------|
| 822           | Aft Cargo Door       |

**E. Prepare for the Removal**

**SUBTASK 23-11-21-860-001**

- (1) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| E          | 11         | C00839        | COMMUNICATIONS HF 1 |

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| D          | 2          | C00857        | COMMUNICATIONS HF 2 |

**SUBTASK 23-11-21-010-002**

- (2) Open this access panel:

| <u>Number</u> | <u>Name/Location</u> |
|---------------|----------------------|
| 822           | Aft Cargo Door       |

**SUBTASK 23-11-21-010-003**

- (3) Open the applicable access panel to the equipment rack.

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SUBTASK 23-11-21-910-001



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (4) Before you touch the HF transceiver [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

**F. HF Transceiver Removal**

SUBTASK 23-11-21-020-002

- (1) Remove the HF transceiver [1] (TASK 20-10-07-000-801).

———— **END OF TASK** ————

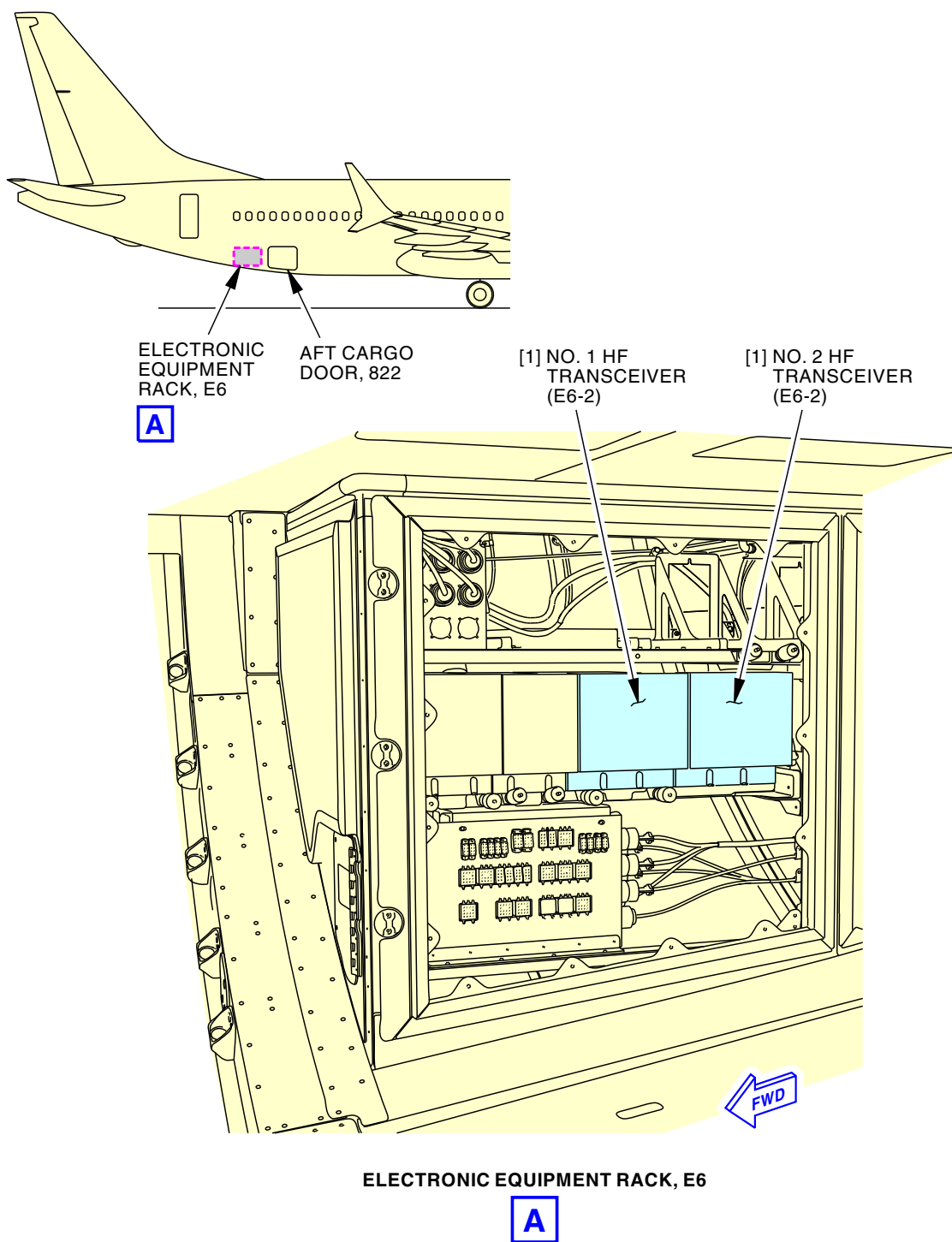
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**HF Transceiver Installation**  
**Figure 401/23-11-21-990-802**

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TASK 23-11-21-400-801

3. HF Transceiver Installation

(Figure 401)

A. General

- (1) This task has instructions to install the HF transceiver to the equipment rack.

B. References

| Reference        | Title                                                       |
|------------------|-------------------------------------------------------------|
| 20-10-07-400-801 | E/E Box Installation (P/B 401)                              |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201) |

C. Expendables/Parts

| AMM Item | Description    | AIPC Reference  | AIPC Effectivity |
|----------|----------------|-----------------|------------------|
| 1        | HF transceiver | 23-11-21-01-310 | SIA ALL          |

D. Location Zones

| Zone | Area                          |
|------|-------------------------------|
| 142  | Aft Cargo Compartment - Right |
| 211  | Flight Compartment - Left     |
| 212  | Flight Compartment - Right    |

E. Access Panels

| Number | Name/Location  |
|--------|----------------|
| 822    | Aft Cargo Door |

F. HF Transceiver Installation

SUBTASK 23-11-21-910-002



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (1) Before you touch the HF transceiver [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-11-21-420-002

- (2) Install the HF transceiver [1] (TASK 20-10-07-400-801).

G. HF Transceiver Installation Test

SUBTASK 23-11-21-910-003



DO NOT OPERATE THE HF SYSTEM WHILE YOU REFUEL OR DEFUEL THE AIRPLANE. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.



MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 8 FEET AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

- (1) Do not operate the HF system while a fuel operation is done on the airplane.

EFFECTIVITY  
SIA ALL

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SUBTASK 23-11-21-860-004

- (2) Close these circuit breakers:

## CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| E          | 11         | C00839        | COMMUNICATIONS HF 1 |

## F/O Electrical System Panel, P6-1

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| D          | 2          | C00857        | COMMUNICATIONS HF 2 |

SUBTASK 23-11-21-850-002

- (3) Push the applicable HF switch light (HF 1 or HF 2), on the No. 1 radio tuning panel (RTP-1), on the aft electronic panel, P8.

- (a) Make sure that the switch light comes on.

SUBTASK 23-11-21-730-001

- (4) Make sure the internal blower fan on the HF transceiver operates.

SUBTASK 23-11-21-740-001

- (5) Push and release the TEST switch on the HF transceiver front panel to do the BITE test of the HF communication system:

- (a) Make sure that these conditions occur:

- 1) The LRU STATUS and CONTROL INPUT LEDs turn red for 1 to 3 seconds.
- 2) The KEY INTERLOCK LED flashes red for 45 milliseconds and then turns off for 2 seconds.
- 3) The LRU STATUS LED turns green and the other LEDs turn red for 1 to 3 seconds.
- 4) All LEDs go off for 1 to 7 seconds.
- 5) The LRU STATUS LED turns green and the other LEDs stay off. After 30 seconds, all LEDs are off.

NOTE: Any of the three LEDs that come on red after the self-test is completed indicates a defective condition.

SUBTASK 23-11-21-740-002

- (6) At the front panel of the transceiver for the applicable HF communication system (HF-1 or HF-2), push and release the TEST switch to do the BITE test of that system:

NOTE: This test is for HF transceiver, P/N 822-0990-00X.

- (a) Make sure that these conditions occur:

- 1) All three LEDs on the HF transceiver front panel come on red for one to three seconds.
- 2) The LRU STATUS LED changes to green.
- 3) The KEY INTERLOCK and CONTROL FAIL LEDs stay red for one to three seconds.
- 4) All three LEDs go off for one to seven seconds.
- 5) The LRU STATUS LED comes on green for about 30 seconds.

NOTE: Any of the three LEDs that come on red after the self-test is completed indicates a defective condition.

- 6) The KEY INTERLOCK and CONTROL FAIL LEDs stay off.

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H. Put the Airplane Back to Its Initial Condition

SUBTASK 23-11-21-410-002

- (1) Close the applicable access panel to the equipment rack.

SUBTASK 23-11-21-410-003

- (2) Close this access panel:

| <u>Number</u> | <u>Name/Location</u> |
|---------------|----------------------|
| 822           | Aft Cargo Door       |

————— END OF TASK —————

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HF ANTENNA - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) HF Antenna Removal
  - (2) HF Antenna Installation.
- B. The HF antenna is part of the leading edge of the vertical stabilizer.

**TASK 23-11-51-000-801**

2. HF Antenna Removal

A. **General**

- (1) This task has instructions to remove the HF antenna.

B. **References**

| Reference        | Title                                                    |
|------------------|----------------------------------------------------------|
| 55-33-11-000-801 | Vertical Stabilizer (Fin) Leading Edge Removal (P/B 401) |

C. **Location Zones**

| Zone | Area                                      |
|------|-------------------------------------------|
| 211  | Flight Compartment - Left                 |
| 212  | Flight Compartment - Right                |
| 322  | Vertical Fin - Removable Fin Leading Edge |

D. **Prepare for the Removal**

SUBTASK 23-11-51-860-001



REMOVE THE ELECTRICAL POWER FOR THE HF COMMUNICATION SYSTEM BEFORE YOU REMOVE THE HF COMMUNICATION ANTENNA. HF SIGNALS CAN CAUSE ELECTRICAL SHOCK AND INJURIES TO PERSONS.

- (1) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name                |
|-----|-----|--------|---------------------|
| E   | 11  | C00839 | COMMUNICATIONS HF 1 |

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                |
|-----|-----|--------|---------------------|
| D   | 2   | C00857 | COMMUNICATIONS HF 2 |

E. **HF Antenna Removal**

SUBTASK 23-11-51-020-001

- (1) Remove the part of the leading edge of the vertical stabilizer that contains the HF antenna (TASK 55-33-11-000-801).

————— **END OF TASK** —————

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TASK 23-11-51-400-801

3. HF Antenna Installation

A. General

- (1) This task has instructions to install the HF Antenna.

B. References

| Reference        | Title                                                         |
|------------------|---------------------------------------------------------------|
| 23-11-00-730-801 | HF Communication System - System Test (P/B 501)               |
| 55-33-11-400-801 | Vertical Stabilizer (Fin) Leading Edge Installation (P/B 401) |

C. Location Zones

| Zone | Area                                      |
|------|-------------------------------------------|
| 211  | Flight Compartment - Left                 |
| 212  | Flight Compartment - Right                |
| 322  | Vertical Fin - Removable Fin Leading Edge |

D. HF Antenna Installation

SUBTASK 23-11-51-420-001

- (1) Install the part of the leading edge of the vertical stabilizer that contains the HF antenna (TASK 55-33-11-400-801).

E. HF Antenna Installation Test

SUBTASK 23-11-51-860-003



**WARNING**

REMOVE THE ELECTRICAL POWER FOR THE HF COMMUNICATION SYSTEM BEFORE YOU REMOVE THE HF COMMUNICATION ANTENNA. HF SIGNALS CAN CAUSE ELECTRICAL SHOCK AND INJURIES TO PERSONS.

- (1) Remove the safety tags and close these circuit breakers:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name                |
|-----|-----|--------|---------------------|
| E   | 11  | C00839 | COMMUNICATIONS HF 1 |

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                |
|-----|-----|--------|---------------------|
| D   | 2   | C00857 | COMMUNICATIONS HF 2 |

SUBTASK 23-11-51-730-001

- (2) Do this task: HF Communication System - System Test, TASK 23-11-00-730-801.

———— **END OF TASK** ————

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## HF ANTENNA - INSPECTION/CHECK

### 1. General

- A. This procedure has this task:
  - (1) HF Antenna Electrical Bond Check.
- B. The HF antenna is part of the leading edge of the vertical stabilizer.
- C. You must remove the HF antenna coupler(s) before you do the electrical bond check.
  - (1) The HF antenna coupler(s) are installed adjacent to the HF antenna in the vertical stabilizer.

### **TASK 23-11-51-760-801**

### 2. HF Antenna Electrical Bond Check

(Figure 601)

#### A. **General**

- (1) This task has instructions to do a HF antenna electrical bond check.

#### B. **References**

| Reference        | Title                                     |
|------------------|-------------------------------------------|
| 23-11-61-000-801 | HF Antenna Coupler Removal (P/B 401)      |
| 23-11-61-400-801 | HF Antenna Coupler Installation (P/B 401) |
| SWPM 20-20-00    | ELECTRICAL BONDING PROCESSES              |

#### C. **Tools/Equipment**

**NOTE:** When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1550  | Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550).<br>Part #: 620LK Supplier: 1CRL2<br>Part #: M1 Supplier: 3AD17<br>Part #: M1B Supplier: 3AD17<br>Part #: T477W (C15292) Supplier: 06659 |

#### D. **Location Zones**

| Zone | Area                                      |
|------|-------------------------------------------|
| 211  | Flight Compartment - Left                 |
| 212  | Flight Compartment - Right                |
| 322  | Vertical Fin - Removable Fin Leading Edge |

#### E. **HF Antenna Electrical Bond Check**

SUBTASK 23-11-51-010-001



**CAUTION**

YOU MUST PREPARE EACH HF ANTENNA COUPLER FOR THE REMOVAL. IF YOU DO NOT PREPARE FOR THE REMOVAL, YOU CAN CAUSE DAMAGE TO INTERNAL PARTS OF THE HF ANTENNA COUPLER.

- (1) Remove the HF antenna coupler (TASK 23-11-61-000-801).

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**SUBTASK 23-11-51-760-001**

- (2) Use an intrinsically safe approved bonding meter, COM-1550 to measure the resistance at the HF antenna coupler mount and the airplane structure (SWPM 20-20-00, Paragraph 21).
  - (a) Make sure that the resistance is 10 milliohms or less.

**SUBTASK 23-11-51-410-001**

- (3) Install the HF antenna coupler (TASK 23-11-61-400-801).

———— **END OF TASK** ————

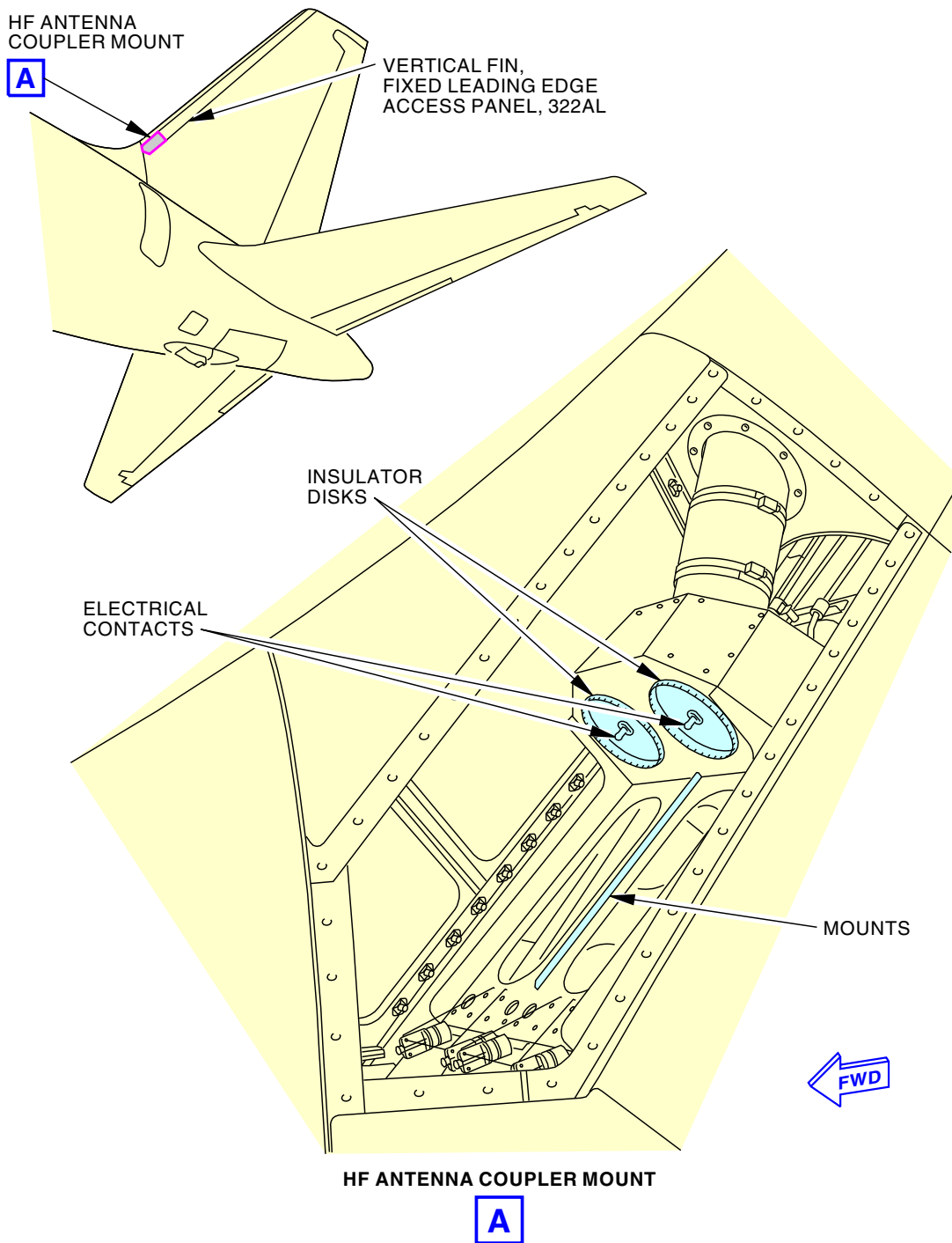
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**HF Antenna Electrical Bond Check**  
**Figure 601/23-11-51-990-801**

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HF ANTENNA COUPLER - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) HF Antenna Coupler Removal
  - (2) HF Antenna Coupler Installation.
- B. The No. 1 and No. 2 HF antenna couplers are located in the antenna coupler mount in the lower leading edge of the vertical stabilizer.

**TASK 23-11-61-000-801**

2. HF Antenna Coupler Removal

(Figure 401)

A. **General**

- (1) This task has instructions to remove the HF antenna coupler.

B. **References**

| Reference        | Title                                                          |
|------------------|----------------------------------------------------------------|
| 20-10-44-000-801 | Lockwire, Cotter Pins, and Lockrings - Removal (P/B 401)       |
| 20-10-44-400-801 | Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401)  |
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201)         |
| 20-40-12-400-803 | Conductive Dust Cap and Connector Cover Installation (P/B 201) |

C. **Consumable Materials**

| Reference | Description                                                                        | Specification |
|-----------|------------------------------------------------------------------------------------|---------------|
| G01048    | Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter | NASM20995     |

D. **Location Zones**

| Zone | Area                                      |
|------|-------------------------------------------|
| 211  | Flight Compartment - Left                 |
| 212  | Flight Compartment - Right                |
| 322  | Vertical Fin - Removable Fin Leading Edge |

E. **Access Panels**

| Number | Name/Location                    |
|--------|----------------------------------|
| 322AL  | Vertical Fin, Fixed Leading Edge |
| 322AR  | Vertical Fin, Fixed Leading Edge |

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### F. Prepare for the Removal

SUBTASK 23-11-61-860-001



BEFORE YOU OPEN THE COUPLER ACCESS PANEL, REMOVE ELECTRICAL POWER FROM EACH HF COMMUNICATION SYSTEM. HF SIGNALS CAN CAUSE A SHOCK, CAN BURN YOU, AND CAN CAUSE INJURIES TO PERSONNEL.

- (1) Open these circuit breakers and install safety tags:

#### CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| E          | 11         | C00839        | COMMUNICATIONS HF 1 |

#### F/O Electrical System Panel, P6-1

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| D          | 2          | C00857        | COMMUNICATIONS HF 2 |

SUBTASK 23-11-61-010-002

- (2) Remove the applicable access panels:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 322AL         | Vertical Fin, Fixed Leading Edge |
| 322AR         | Vertical Fin, Fixed Leading Edge |

NOTE: The HF-1 antenna coupler is installed on the left side of the vertical stabilizer. The HF-2 antenna coupler is installed on the right side of the vertical stabilizer.

SUBTASK 23-11-61-020-001



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (3) Before you touch the HF antenna coupler [2], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

### G. HF Antenna Coupler Removal

SUBTASK 23-11-61-020-002

- (1) Remove the lockwire [3] from the electrical connector [5] (TASK 20-10-44-000-801).

SUBTASK 23-11-61-020-003

- (2) Disconnect the coaxial connector [4] and the electrical connector [5] from the HF antenna coupler [2].

SUBTASK 23-11-61-020-004

- (3) Loosen and disengage the hold-down nuts.

SUBTASK 23-11-61-020-005



OBEY THESE STEPS WHEN YOU REMOVE THE HF ANTENNA COUPLER. IF YOU IGNORE THESE STEPS, DAMAGE TO THE HF ANTENNA COUPLER CAN OCCUR.

- (4) Remove the HF antenna coupler [2]:  
(a) Always keep the bottom side of the coupler in the down position.

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- (b) Do not set the coupler on its end (with the handle up).
- (c) If you rotate or invert the coupler, this can cause damage to the internal parts.

**SUBTASK 23-11-61-420-001**

- (5) Install protective dust caps on the HF antenna coupler [2], coaxial connector [4], and electrical connector [5] (TASK 20-40-12-400-803).

**SUBTASK 23-11-61-420-002**

- (6) If the airplane will return-to-service with one or more HF trays empty, install the MS20995C32 lockwire, G01048, on each unused hold-down fitting as follows:

NOTE: The HF tray is located in a high vibration area.

- (a) Rotate the hold-down fitting upward, and hold in place.
- (b) Tighten down the wing nut until it contacts with the HF tray.
- (c) Install the MS20995C32 lockwire, G01048, using the pre-drilled holes in the hold-down fitting, and the holes in the HF tray (TASK 20-10-44-400-801).

———— **END OF TASK** ————

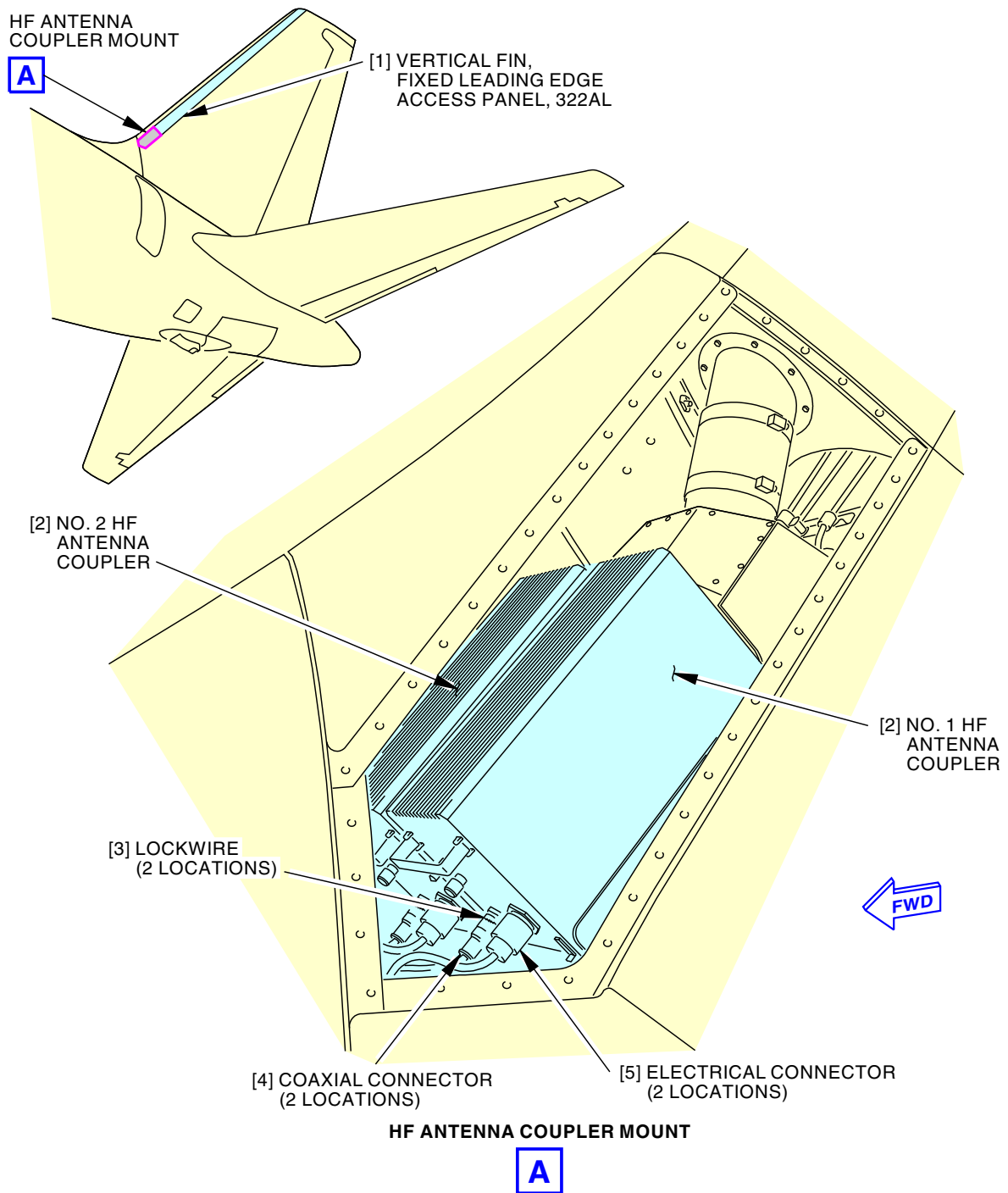
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HF Antenna Coupler Installation  
Figure 401/23-11-61-990-802

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TASK 23-11-61-400-801

3. **HF Antenna Coupler Installation**

(Figure 401)

**A. General**

(1) This task has instructions to install the HF antenna coupler.

**B. References**

| Reference        | Title                                                         |
|------------------|---------------------------------------------------------------|
| 20-10-44-400-801 | Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401) |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201)   |

**C. Consumable Materials**

| Reference | Description                                                                        | Specification |
|-----------|------------------------------------------------------------------------------------|---------------|
| A00247    | Sealant - Pressure And Environmental - Chromate Type                               | BMS5-95       |
| B50135    | Solvent - 1,1,1 Trichloroethane                                                    |               |
| G01048    | Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter | NASM20995     |

**D. Expendables/Parts**

| AMM Item | Description        | AIPC Reference  | AIPC Effectivity |
|----------|--------------------|-----------------|------------------|
| 2        | HF antenna coupler | 23-11-61-05-015 | SIA ALL          |
|          |                    | 23-11-61-05-110 | SIA ALL          |

**E. Location Zones**

| Zone | Area                                      |
|------|-------------------------------------------|
| 211  | Flight Compartment - Left                 |
| 212  | Flight Compartment - Right                |
| 322  | Vertical Fin - Removable Fin Leading Edge |

**F. Access Panels**

| Number | Name/Location                    |
|--------|----------------------------------|
| 322AL  | Vertical Fin, Fixed Leading Edge |
| 322AR  | Vertical Fin, Fixed Leading Edge |

**G. HF Antenna Coupler Installation**

SUBTASK 23-11-61-420-003



BEFORE YOU OPEN THE COUPLER ACCESS PANEL, REMOVE ELECTRICAL POWER FROM EACH HF COMMUNICATION SYSTEM. HF SIGNALS CAN CAUSE A SHOCK, CAN BURN YOU, AND CAN CAUSE INJURIES TO PERSONNEL.

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SIA ALL

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(WARNING PRECEDES)



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (1) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| E          | 11         | C00839        | COMMUNICATIONS HF 1 |

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| D          | 2          | C00857        | COMMUNICATIONS HF 2 |

SUBTASK 23-11-61-420-008

- (2) Before you touch the HF antenna coupler [2], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-11-61-710-001

- (3) Examine the coupler mount.
- (a) Make sure that there is no corrosion or damage from electrical arcing at the rear connection.

SUBTASK 23-11-61-420-004

- (4) Install the HF antenna coupler [2].
- (a) Engage and hand tighten the hold down nuts.

SUBTASK 23-11-61-710-002

- (5) Examine the connectors for bent or broken pins, and for dirt or foreign objects.
- (a) If you find a problem, do the repair of the damage you found.

SUBTASK 23-11-61-420-005

- (6) Connect the coaxial connector [4] and the electrical connector [5] to the HF antenna coupler [2].

SUBTASK 23-11-61-420-006

- (7) Install the lockwire [3] on the coaxial connector [4] (TASK 20-10-44-400-801).

SUBTASK 23-11-61-420-007

- (8) If the airplane will return-to-service with one or more HF trays empty, install the MS20995C32 lockwire, G01048, on each unused hold-down fitting as follows.

**NOTE:** The HF tray is located in a high vibration area.

- (a) Rotate the hold-down fitting upward, and hold in place.
- (b) Tighten down the wing nut until it contacts with the HF tray.
- (c) Install the MS20995C32 lockwire, G01048 using the pre-drilled holes in the hold-down fittings, and the holes in the HF tray (TASK 20-10-44-400-801).

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SUBTASK 23-11-61-100-001

- (9) Remove remaining sealant from access panels and mating surfaces before installing.

NOTE: Use plastic or hardwood tools that do not scratch surfaces and that do not prevent paint or sealant bond.

NOTE: Scrapers can be sharpened with 220-grit or finer aluminum oxide paper. Before you use a sharpened scraper, rub it with a BMS 15–5 Class A wiper to remove loose sanding particles.

SUBTASK 23-11-61-100-002

- (10) Clean and prepare surfaces to be sealed with solvent, B50135, or equivalent.

SUBTASK 23-11-61-410-004

- (11) Install the applicable access panels:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 322AL         | Vertical Fin, Fixed Leading Edge |
| 322AR         | Vertical Fin, Fixed Leading Edge |

SUBTASK 23-11-61-390-001

- (12) Apply aerodynamic sealant, A00247, at the panel joints.
- (a) Make sure that the cured sealant is aligned within the tolerance of 0.000 inch at the surface to 0.010 inch (0.254 mm) below the surface.
- (b) Do not cover fasteners with aerodynamic sealant.

SUBTASK 23-11-61-440-002

- (13) Remove the safety tags and close these circuit breakers:

### **CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| E          | 11         | C00839        | COMMUNICATIONS HF 1 |

### **F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| D          | 2          | C00857        | COMMUNICATIONS HF 2 |

## **H. HF Antenna Coupler Installation Test**

SUBTASK 23-11-61-800-001



**WARNING**

DO NOT OPERATE THE HF SYSTEM WHILE YOU REFUEL OR DEFUEL THE AIRPLANE. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.



**WARNING**

MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 8 FEET AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

- (1) Do not operate the HF system while a fuel operation is done on the airplane.

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SUBTASK 23-11-61-860-009

- (2) Make sure that these circuit breakers are closed:

### CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| E          | 11         | C00839        | COMMUNICATIONS HF 1 |

### F/O Electrical System Panel, P6-1

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| D          | 2          | C00857        | COMMUNICATIONS HF 2 |

SUBTASK 23-11-61-720-001

- (3) Do these steps at the P8 panel:

- (a) Connect a headset/boom microphone to the captain's jack panel.
- (b) Do these steps to prepare the captain's audio control panel (ACP) for HF system operation:
  - 1) Push and release the applicable HF-1 or HF-2 switch.
    - a) Make sure that the switch light comes on.
  - 2) Push and release the applicable HF-1 or HF-2 volume control.
    - a) Make sure that the volume control indicator light comes on.
  - 3) Set the volume control to the middle position.
  - 4) Set the MASK/BOOM switch (if installed) to the BOOM position.
- (c) Do these steps at the No. 1 radio tuning panel (RTP-1):
  - 1) Push the applicable HF switch light (HF 1 or HF 2).
    - a) Make sure that the switch light comes on.
  - 2) Push the AM switch light for AM or USB mode of operation.
    - a) Make sure that the switch light is on for AM, or off for USB.
  - 3) Turn the SENS control fully clockwise.
  - 4) Set the STANDBY frequency window to an approved test frequency.
  - 5) Push the display transfer switch.
    - a) Make sure that the STANDBY frequency moves to the ACTIVE frequency window.
- (d) Push and release the captain's push-to-talk (PTT) switch.
  - 1) Make sure that you hear a 1 kHz tune-in-progress tone in the headset.

NOTE: A continuous or pulsed tone indicates that the coupler is tuning to a new frequency. The coupler tune tone will sound no longer than 15 seconds. The average coupler tune time is approximately 1 to 7 seconds.

NOTE: Some coupler types are able to tune quickly when previously used frequencies are selected, in which case the tune tone may be only a momentary beep.
- (e) Do these steps to do a voice communication test with a radio tower operator:
  - 1) Push and hold the PTT switch while you speak.
    - a) Make sure that you hear the sidetone in the headset while you speak.
  - 2) Release the PTT switch while you listen.

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- a) Make sure that the quality of the transmitted and received voice is satisfactory.
- b) Make sure that the sound of the received voice changes when you turn the applicable HF-1 or HF-2 volume control on the captain's ACP with no change in voice quality.

**I. Put the Airplane Back to Its Usual Condition**

**SUBTASK 23-11-61-860-008**

- (1) Do these steps at the P8 panel:
  - (a) Push and release the applicable HF-1 or HF-2 switch on the captain's ACP.
    - 1) Make sure that the switch light goes off.
  - (b) Push and release the applicable HF-1 or HF-2 volume control on the captain's ACP.
    - 1) Make sure that the volume control indicator light goes off.

———— **END OF TASK** ————

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VERY HIGH FREQUENCY (VHF) COMMUNICATION SYSTEM - ADJUSTMENT/TEST

1. General

- A. This procedure has these tasks:
- (1) An Operational Test of the VHF communication transceiver.
  - (2) A System Test of the VHF communication system.
- B. There are three VHF communication systems installed on the airplane. These are: VHF-1, VHF-2, and VHF-3.
- C. The No. 1, No. 2 and No. 3 radio tuning panels are located on the aft electronic panel, P8, in the flight compartment.

**TASK 23-12-00-710-801**

2. VHF Communication System - Operational Test

A. **Location Zones**

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |
| 211  | Flight Compartment - Left                      |
| 212  | Flight Compartment - Right                     |

B. **Access Panels**

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

C. **Procedure**

**SUBTASK 23-12-00-010-001**

- (1) Open this access panel:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

**SUBTASK 23-12-00-720-002**

- (2) Do the steps that follow for the BITE test:
- (a) Push and release the TEST switch on the applicable VHF communication transceiver front panel to do the BITE test for each VHF communication system (VHF-1, VHF-2, or VHF-3).
    - 1) Make sure that these conditions occur:
      - a) All three LEDs on the VHF transceiver front panel will turn on red for about two seconds.
      - b) The LRU STATUS LED turns green and the CONTROL FAIL and ANTENNA FAIL LEDs will stay red for about two seconds.
      - c) All three LEDs will go off for about two seconds.
      - d) The LRU STATUS LED comes on green and the CONTROL FAIL and ANTENNA FAIL LEDs remain off.
- NOTE: Any of the three LEDs that come on red after the self-test is completed indicates a defective condition.

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### D. Put the Airplane Back to Its Initial Condition

SUBTASK 23-12-00-410-001

- (1) Close this access panel:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

————— END OF TASK —————

### TASK 23-12-00-730-801

## 3. VHF Communication System - System Test

### A. General

- (1) Make sure that the flight interphone system operates. The communication test uses these flight interphone system components: audio control panels (ACPs), headsets, microphones, and push-to-talk (PTT) switches.
- (2) Make sure that the airplane is not in or near any large metal structures. VHF communication while the airplane is on the ground can be degraded by airplane position or blocked by RF signal attenuation due to ground equipment and structures. If the quality of the transmitted and received voice signals is not satisfactory, move the airplane to a better position.
- (3) Make sure you use approved test frequencies when you speak with the radio tower operator.

### B. References

| <u>Reference</u> | <u>Title</u>                  |
|------------------|-------------------------------|
| 23-27-00-700-802 | ACARS - System Test (P/B 501) |

### C. Location Zones

| <u>Zone</u> | <u>Area</u>                                    |
|-------------|------------------------------------------------|
| 117         | Electrical and Electronics Compartment - Left  |
| 118         | Electrical and Electronics Compartment - Right |
| 211         | Flight Compartment - Left                      |
| 212         | Flight Compartment - Right                     |

### D. BITE Test

SUBTASK 23-12-00-710-001

- (1) Do the BITE test of the VHF communication system, do this task: VHF Communication System - Operational Test, TASK 23-12-00-710-801.

### E. RTP to RTP Interface Test

SUBTASK 23-12-00-730-006

- (1) Do these steps at the radio tuning panels (RTPs):
- (a) Push the VHF-1 switch on each RTP.
    - 1) Make sure that three RTPs show the same ACTIVE and STANDBY frequencies.
  - (b) Set RTP-1 to a new frequency.
    - 1) Make sure that RTP-2 and RTP-3 show the new frequency.
  - (c) Set RTP-2 to a new frequency.
    - 1) Make sure that RTP-1 and RTP-3 show the new frequency.
  - (d) Set RTP-3 to a new frequency.
    - 1) Make sure that RTP-1 and RTP-2 show the new frequency.

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- (e) Make sure that the crosstuning lights are on, in three RTPs.

NOTE: The crosstuning light is above the display transfer switch, between the frequency displays.

- (f) Push the VHF-2 switch on RTP-2.
- (g) Make sure that the crosstuning lights are off, in three RTPs.
- (h) Push the VHF-3 switch on RTP-3.
- (i) Make sure that the crosstuning lights are off, in three RTPs.

**F. VHF Communication Test**

**SUBTASK 23-12-00-730-002**

- (1) Do a test of the VHF-1 communication system:

- (a) Connect a headset/boom microphone to the captain's jack panel.
- (b) Do these steps to prepare the captain's audio control panel (ACP) for VHF-1 system operation:
  - 1) Push and release the VHF-1 switch.
    - a) Make sure that the switch light comes on.
  - 2) Push and release the VHF-1 volume control.
    - a) Make sure that the volume control indicator light comes on.
  - 3) Set the volume control to the middle position.
  - 4) Set the MASK/BOOM switch (if installed) to the BOOM position.
- (c) Set the RTP-1 to an approved test frequency for VHF-1.
- (d) Do these steps to do a voice communication test with a radio tower operator:
  - 1) Push and hold a push-to-talk (PTT) switch while you speak.
    - a) Make sure that the sidetone in the headset is present while you speak.
  - 2) Release the PTT switch while you listen.
    - a) Make sure that the quality of the transmitted and received voice is satisfactory.
    - b) Make sure that the sound of the received voice changes when you turn the VHF-1 volume control on the captain's ACP with no change in voice quality.
- (e) Do these steps to do a 35 second keyline timer test:
  - 1) Make sure you have clearance from the tower operator to transmit for 40 seconds.
  - 2) Push and hold the PTT switch for a minimum of 40 seconds.
    - a) Make sure that after 35 seconds, the sidetone is not present in the headset.
  - 3) Release the PTT switch.

**SUBTASK 23-12-00-730-003**

- (2) Do a test of the VHF-2 communication system:

- (a) Connect a headset/boom microphone to the first officer's jack panel.
- (b) Do these steps to prepare the first officer's ACP for VHF-2 system operation:
  - 1) Push and release the VHF-2 switch.
    - a) Make sure that the switch light comes on.
  - 2) Push and release the VHF-2 volume control.
    - a) Make sure that the volume control indicator light comes on.

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- 3) Set the volume control to the middle position.
- 4) Set the MASK/BOOM switch (if installed) to the BOOM position.
- (c) Set the RTP-2 to an approved test frequency for VHF-2.
- (d) Do these steps to do a voice communication test with a radio tower operator:
  - 1) Push and hold a PTT switch while you speak.
    - a) Make sure you hear the sidetone in the headset while you speak.
  - 2) Release the PTT switch while you listen.
    - a) Make sure that the quality of the transmitted and received voice is satisfactory.
    - b) Make sure that the sound of the received voice changes when you turn the VHF-2 volume control on the first officer's ACP with no change in voice quality.
- (e) Do these steps to do a 35 second keyline timer test:
  - 1) Make sure you have clearance from the tower operator to transmit for 40 seconds.
  - 2) Push and hold the PTT switch for a minimum of 40 seconds.
    - a) Make sure, that after about 35 seconds, the sidetone is not present in the headset.
  - 3) Release the PTT switch.

**SUBTASK 23-12-00-730-004**

- (3) Do a test of the VHF-3 communication system:
  - (a) Connect a headset/boom microphone to the captain's jack panel.
  - (b) Do these steps to prepare the captain's ACP for VHF-3 system operation:
    - 1) Push and release the VHF-3 switch.
      - a) Make sure that the switch light comes on.
    - 2) Push and release the VHF-3 volume control.
      - a) Make sure that the volume control indicator light comes on.
    - 3) Set the volume control to the middle position.
    - 4) Set the MASK/BOOM switch (if installed) to the BOOM position.
  - (c) Set the RTP-2 to an approved test frequency for VHF-3.
  - (d) Do these steps to do a voice communication test with a radio tower operator:
    - 1) Push and hold a PTT switch while you speak.
      - a) Make sure you hear the sidetone in the headset while you speak.
    - 2) Release the PTT switch while you listen.
      - a) Make sure that the quality of the transmitted and received voice is satisfactory.
      - b) Make sure that the sound of the received voice changes when you turn the VHF-3 volume control on the captain's ACP with no change in voice quality.
  - (e) Do these steps to do a 35 second keyline timer test:
    - 1) Make sure you have clearance from the tower operator to transmit for 40 seconds.
    - 2) Push and hold the PTT switch for a minimum of 40 seconds.
      - a) Make sure, that after about 35 seconds, the sidetone is not present in the headset.
    - 3) Release the PTT switch.

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SUBTASK 23-12-00-730-005

- (4) Do the data test of the VHF-3 communication system, do this task: ACARS - System Test, TASK 23-27-00-700-802

NOTE: If the VHF Link Test passes, the VHF-3 communication system is operational.

**SIA ALL**

**G. Put the Airplane Back to Its Initial Condition**

SUBTASK 23-12-00-860-008

- (1) At each ACP, push and release the applicable VHF switches.  
(a) Make sure all the switch lights go off.

SUBTASK 23-12-00-860-009

- (2) At each ACP, push and release the applicable VHF volume controls.  
(a) Make sure all the volume control indicator lights go off.

———— **END OF TASK** ————

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VHF COMMUNICATION ANTENNA - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) VHF Communication Antenna Removal
- (2) VHF Communication Antenna Installation

B. The VHF communications antennas are installed at centerline on top and bottom of the airplane.

**TASK 23-12-11-000-801**

2. VHF Communication Antenna Removal

(Figure 401)

A. General

- (1) This procedure has steps to remove a VHF Communication Antenna [1].

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-2481  | Sealant Removal Tool (meets BSS7384 requirements)<br>Part #: 1-6390-A Supplier: 63318<br>Part #: 10810 Supplier: \$0855<br>Part #: 10811 Supplier: \$0855<br>Part #: 10812 Supplier: \$0855<br>Part #: 234350 Supplier: 5HCF1<br>Part #: 235072 Supplier: 5HCF1<br>Part #: 235073 Supplier: 5HCF1<br>Part #: 235074 Supplier: 5HCF1<br>Part #: 235075 Supplier: 5HCF1<br>Part #: 235076 Supplier: 5HCF1<br>Part #: 311/03 Supplier: F6892<br>Part #: 311/14 Supplier: F6892<br>Part #: 311/25 Supplier: F6892<br>Part #: 311/37 Supplier: F6892<br>Part #: AS1 Supplier: \$1351<br>Part #: AS2 Supplier: \$1351<br>Part #: AS3 Supplier: \$1351<br>Part #: DAD5013 Supplier: 7RKH2<br>Part #: DFD5019 Supplier: 7RKH2<br>Part #: JNT411B60 Supplier: 3DN12<br>Part #: JNT411B90 Supplier: 3DN12<br>Part #: SCD5019 Supplier: 7RKH2<br>Part #: ST982LF-9 Supplier: 81205<br>Part #: TS1275-4 Supplier: 22975 |

C. Location Zones

| Zone | Area                                    |
|------|-----------------------------------------|
| 123  | Forward Cargo Compartment - Left        |
| 143  | Area Below Aft Cargo Compartment - Left |
| 211  | Flight Compartment - Left               |
| 212  | Flight Compartment - Right              |

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(Continued)

| Zone | Area                                                                    |
|------|-------------------------------------------------------------------------|
| 231  | Forward Passenger Compartment - Forward Entry Door to STA 663.75 - Left |

**D. Prepare for the VHF Communication Antenna Removal**

SUBTASK 23-12-11-860-001

- (1) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name                 |
|-----|-----|--------|----------------------|
| D   | 11  | C00165 | COMMUNICATIONS VHF 1 |
| D   | 12  | C00471 | COMMUNICATIONS VHF 3 |

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                 |
|-----|-----|--------|----------------------|
| C   | 3   | C00166 | COMMUNICATIONS VHF 2 |

**E. VHF Communication Antenna Removal**

SUBTASK 23-12-11-020-001

- (1) Remove the VHF Communication Antenna [1]:
- (a) Remove the 10 bolts [2] that attach the VHF Communication Antenna [1] to the airplane.



**CAUTION**

REMOVE THE AERODYNAMIC FILLET SEAL CAREFULLY WITH THE SEALANT REMOVAL TOOL. DAMAGE TO THE AIRPLANE SKIN OR THE COAXIAL CABLE CAN OCCUR.

- (b) Hold the VHF Communication Antenna [1], use a sealant removal tool, COM-2481 to break the fillet seal around the base of the antenna.



**CAUTION**

DO NOT PULL ON THE COAXIAL CABLE. CAREFULLY MOVE THE ANTENNA. DISCONNECT THE COAXIAL CONNECTOR. THIS WILL PREVENT DAMAGE TO THE COAXIAL CABLE.

- (c) Move the VHF Communication Antenna [1] away from the airplane to get access to the coaxial connector [4] on the coaxial cable.
- (d) Disconnect the coaxial connector [4] and o-ring [3] from the VHF Communication Antenna [1].
- 1) For the top VHF Communication Antenna [1], make sure that the coaxial connector [4] does not go back through the hole in the fuselage. Make sure that you attach the coaxial connector [4] to something to prevent this.
- (e) Remove the VHF Communication Antenna [1].

————— **END OF TASK** —————

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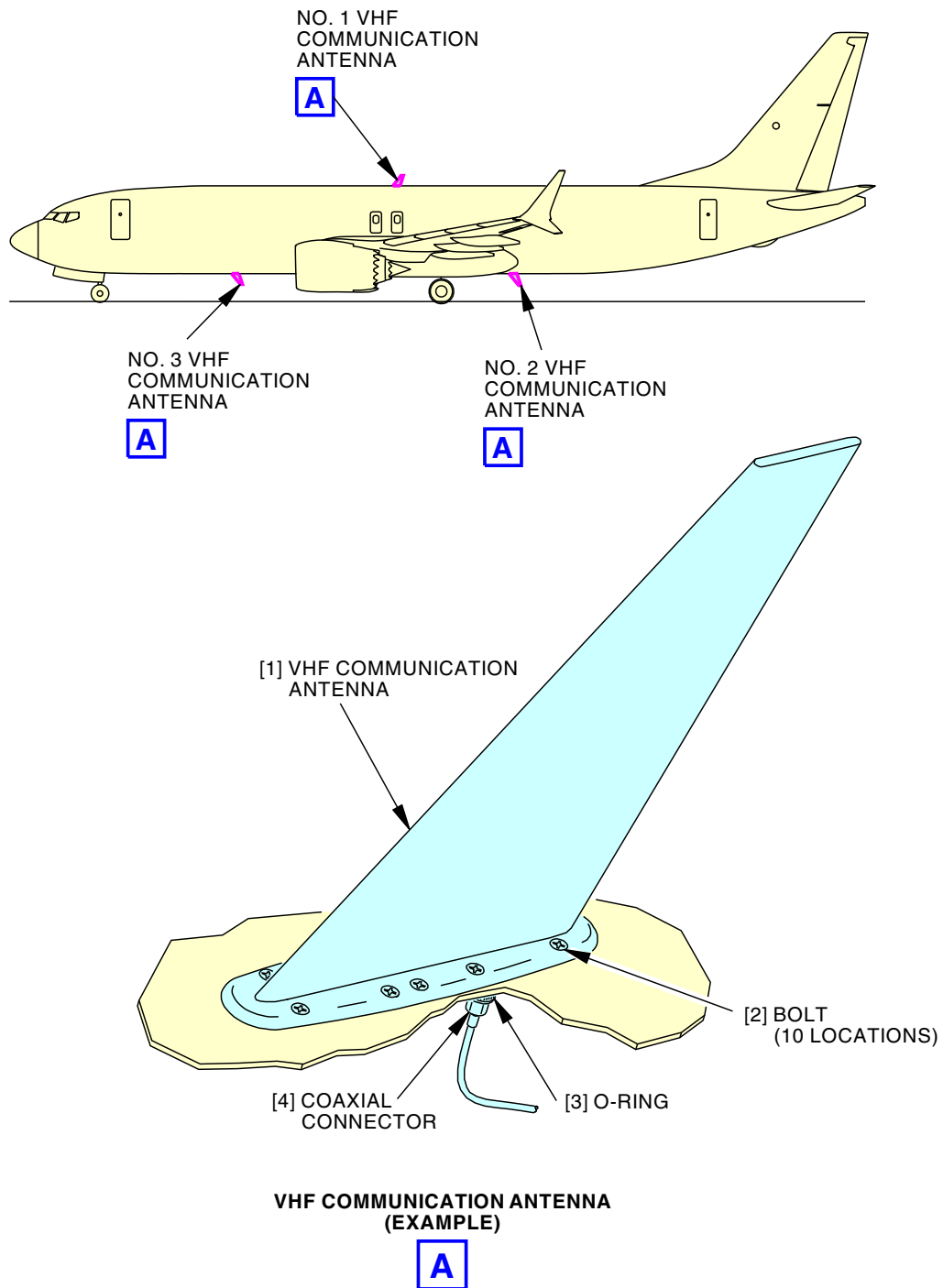
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2411668 S00061528570\_V1

VHF Communication Antenna Installation  
Figure 401/23-12-11-990-801 (Sheet 1 of 2)

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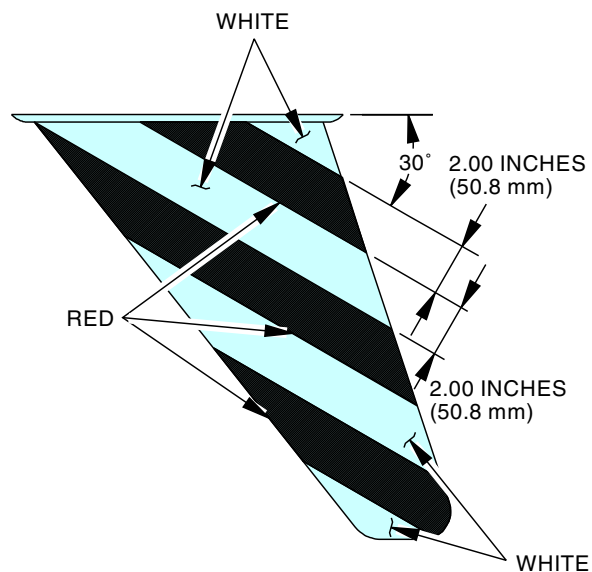
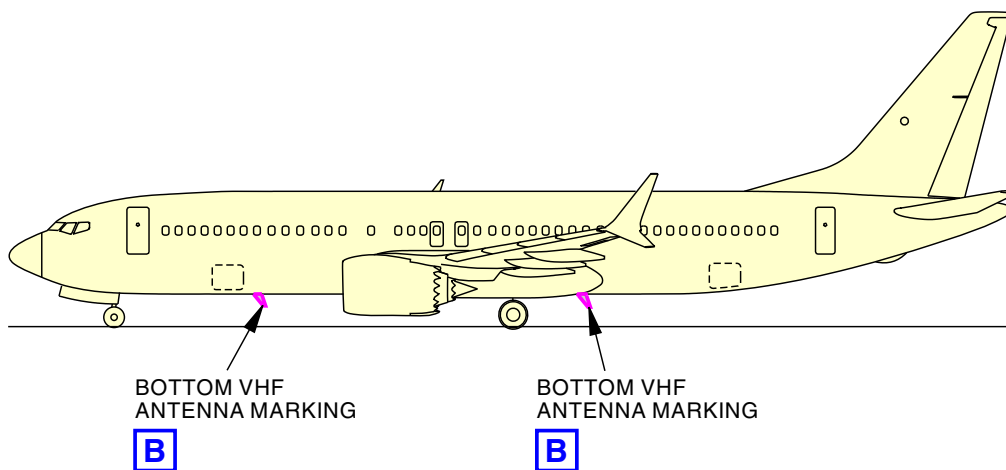
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BOTTOM VHF ANTENNA MARKING  
(PAINT STRIPES, EXAMPLE)

B

2411669 S00061528571\_V1

VHF Communication Antenna Installation  
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TASK 23-12-11-400-801

3. VHF Communication Antenna Installation

(Figure 401)

A. General

(1) This task is the installation of the VHF Communication Antenna [1].

B. References

| Reference        | Title                                                                                                            |
|------------------|------------------------------------------------------------------------------------------------------------------|
| 20-10-17-400-801 | O-Rings Installation (P/B 401)                                                                                   |
| 23-12-00-730-801 | VHF Communication System - System Test (P/B 501)                                                                 |
| 51-21-31-350-801 | Removal and Control of Corrosion for Aluminum and Aluminum Alloys (P/B 701)                                      |
| 51-21-41-370-802 | Apply Bonderite M-CR 600, Bonderite M-CR 1200, Bonderite M-CR 600RTU, or Bonderite M-CR 1200S Solution (P/B 701) |
| 51-22-00-390-806 | Fillet Seal Application (P/B 201)                                                                                |
| SWPM 20-20-00    | ELECTRICAL BONDING PROCESSES                                                                                     |
| SL 20-043        | Deferred Application of Aero-Sealant in Antenna Installations                                                    |

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt.", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1550  | Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550).<br>Part #: 620LK Supplier: 1CRL2<br>Part #: M1 Supplier: 3AD17<br>Part #: M1B Supplier: 3AD17<br>Part #: T477W (C15292) Supplier: 06659 |

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(Continued)

| Reference | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-2481  | Sealant Removal Tool (meets BSS7384 requirements)<br>Part #: 1-6390-A Supplier: 63318<br>Part #: 10810 Supplier: \$0855<br>Part #: 10811 Supplier: \$0855<br>Part #: 10812 Supplier: \$0855<br>Part #: 234350 Supplier: 5HCF1<br>Part #: 235072 Supplier: 5HCF1<br>Part #: 235073 Supplier: 5HCF1<br>Part #: 235074 Supplier: 5HCF1<br>Part #: 235075 Supplier: 5HCF1<br>Part #: 235076 Supplier: 5HCF1<br>Part #: 311/03 Supplier: F6892<br>Part #: 311/14 Supplier: F6892<br>Part #: 311/25 Supplier: F6892<br>Part #: 311/37 Supplier: F6892<br>Part #: AS1 Supplier: \$1351<br>Part #: AS2 Supplier: \$1351<br>Part #: AS3 Supplier: \$1351<br>Part #: DAD5013 Supplier: 7RKH2<br>Part #: DFD5019 Supplier: 7RKH2<br>Part #: JNT411B60 Supplier: 3DN12<br>Part #: JNT411B90 Supplier: 3DN12<br>Part #: SCD5019 Supplier: 7RKH2<br>Part #: ST982LF-9 Supplier: 81205<br>Part #: TS1275-4 Supplier: 22975 |

**D. Consumable Materials**

| Reference | Description                                                                                        | Specification                                                |
|-----------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| A00247    | Sealant - Pressure And Environmental - Chromate Type                                               | BMS5-95                                                      |
| A50250    | Sealant - P/S 870 Class B-1/2 Corrosion Inhibitive Sealant                                         | BMS5-95 Class B-1/2                                          |
| A50479    | Sealant - P/S 870 Class B-2 Corrosion Inhibitive Sealant                                           | BMS5-95 Class B-2                                            |
| B00148    | Solvent - Methyl Ethyl Ketone (MEK)                                                                | ASTM D740                                                    |
| B00184    | Solvent - Presealing, Cleaning Solvent                                                             | BMS11-7                                                      |
| B00666    | Solvent - Methyl Propyl Ketone                                                                     | BMS11-9                                                      |
| B01026    | Solvent - FCC-55                                                                                   |                                                              |
| B01054    | Solvent - Methyl Ethyl Ketone and sec-Butyl Alcohol Blend - (MEK:secButyl Alcohol - 42:58 Percent) | BAC5750, ASTM D740/ASTM D1007                                |
| C00033    | Coating - Protective Enamel, Flexibility Use                                                       | BMS10-60 Type II                                             |
| C50005    | Coating - Chemical Conversion - Bonderite M-CR 1200S Aero (Formerly Alodine 1200S)                 | BAC5719 Class A, C or D, MIL-DTL-81706 Type I Class 1A or 3  |
| G00009    | Compound - Organic Corrosion Inhibiting                                                            | BMS3-23                                                      |
| G00034    | Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)                               | AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A) |

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(Continued)

| Reference | Description                                  | Specification |
|-----------|----------------------------------------------|---------------|
| G50316    | Cloth - Clean, Dry, Lint-free, White, Cotton |               |

**E. Expendables/Parts**

| AMM Item | Description               | AIPC Reference  | AIPC Effectivity |
|----------|---------------------------|-----------------|------------------|
| 1        | VHF Communication Antenna | 23-12-11-01-010 | SIA ALL          |
|          |                           | 23-12-11-01-035 | SIA ALL          |
|          |                           | 23-12-11-01-165 | SIA ALL          |
| 3        | O-ring                    | 23-12-11-01-015 | SIA ALL          |
|          |                           | 23-12-11-01-040 | SIA ALL          |
|          |                           | 23-12-11-01-170 | SIA ALL          |

**F. Location Zones**

| Zone | Area                                                                    |
|------|-------------------------------------------------------------------------|
| 123  | Forward Cargo Compartment - Left                                        |
| 143  | Area Below Aft Cargo Compartment - Left                                 |
| 211  | Flight Compartment - Left                                               |
| 212  | Flight Compartment - Right                                              |
| 231  | Forward Passenger Compartment - Forward Entry Door to STA 663.75 - Left |

**G. Prepare for the VHF Antenna Communication Installation**

SUBTASK 23-12-11-100-001

- (1) Clean the airplane mating surface.
  - (a) Remove sealant with a sealant removal tool, COM-2481.



DO NOT GET SOLVENTS IN YOUR MOUTH, YOUR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM SOLVENTS. SOLVENTS ARE DANGEROUS MATERIALS. SOLVENTS CAN BE FLAMMABLE. OBEY THE MATERIAL SAFETY DATA SHEETS (MSDS) FOR SOLVENTS. OBEY LOCAL REGULATIONS FOR THE CORRECT PROCEDURES TO USE OR DISCARD SOLVENTS. SOLVENTS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (b) Clean the airplane mating surface with a cotton wiper, G00034, that is moist with solvent, B00148, solvent, B00666, solvent, B00184, FCC-55 solvent, B01026, or solvent, B01054.
- (c) Use a clean cotton wiper, G00034, to clean the airplane mating surface.
  - 1) Make sure that the airplane mating surface is dry.

SUBTASK 23-12-11-100-002

- (2) If the mating surface has corrosion or other damage, or if the airplane mating surface has no alodine, then do these steps to prepare the airplane mating surface:

**NOTE:** An alternative installation procedure is to apply corrosion inhibiting compound, G00009, on an airplane mating surface that has no alodine.

- (a) If there is corrosion, do this task: Removal and Control of Corrosion for Aluminum and Aluminum Alloys, TASK 51-21-31-350-801.
- (b) Apply a layer of Bonderite M-CR 1200S Aero coating, C50005, to the airplane mating surface (TASK 51-21-41-370-802).

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### SUBTASK 23-12-11-420-001

- (3) Install a new o-ring [3] (TASK 20-10-17-400-801).
  - (a) Align the o-ring [3] in the groove.

## H. VHF Antenna Communication Installation

### SUBTASK 23-12-11-420-002

- (1) Install the VHF Communication Antenna [1].
  - (a) Connect the coaxial connector [4] to the VHF Communication Antenna [1].
  - (b) Apply a layer of sealant, A00247, to the shank and threads of 9 of the 10 bolts [2].
  - (c) Put the VHF Communication Antenna [1] in its position. Then install 9 of the 10 bolts [2].
    - 1) Tighten the bolts [2] to 80 in-lb (9.0 N·m).

NOTE: Keep one of the ten bolts [2] out to do an electrical bond check.

### SUBTASK 23-12-11-700-001

- (2) Measure the resistance between the VHF Communication Antenna [1] base and the airplane skin with a intrinsically safe approved bonding meter, COM-1550 (SWPM 20-20-00, Paragraph 21).

NOTE: Use the empty bolt hole to get access to the VHF Communication Antenna [1] base.

- (a) Make sure that the resistance is 0.001 ohm or less.

### SUBTASK 23-12-11-420-003

- (3) Apply a layer of sealant, A00247, to the shank and threads of the last bolt [2].
  - (a) Install the last bolt [2].
    - 1) Tighten the bolt [2] to 80 in-lb (9.0 N·m).

### SUBTASK 23-12-11-390-001

- (4) Apply a fillet seal with P/S 870 Class B-1/2 sealant, A50250, or P/S 870 Class B-2 sealant, A50479, around the base of the VHF Communication Antenna [1] to make a corrosion fillet seal (TASK 51-22-00-390-806).

NOTE: Operators can defer the application of the aero-sealant in the antenna installation until next "A" check or overnight maintenance stop to prevent a flight delay. The deferral of the application of sealant must not exceed of eight weeks (SL 20-043).

- (a) Let the sealant dry for the correct cure time.

NOTE: The cure time of the P/S 870 Class B-1/2 sealant, A50250, is 20 hours.

NOTE: The cure time of the P/S 870 Class B-2 sealant, A50479, is 48 hours.

## I. VHF Communication Antenna Markings (Optional)

NOTE: Figure 401 shows an example of caution markings for the bottom VHF antenna. Caution markings for the upper VHF antenna are the same. Follow airline requirements for VHF antenna marking. Color and pattern can be different.

### SUBTASK 23-12-11-100-003

- (1) Clean the surface of the VHF antenna with solvent, B00148, and a clean, dry cotton cloth, G50316.

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SUBTASK 23-12-11-370-001



### CAUTION

DO NOT USE METAL-BASED PAINT, OR METALLIC TAPE ON THE VHF ANTENNA. A HIGH VSWR WILL OCCUR. THIS CAN CAUSE DAMAGE TO THE VHF COMM TRANSCEIVER.

- (2) If applicable, apply paint stripes on the bottom or top VHF antenna.
- (a) Use the coating, C00033, Enamel or equivalent to apply paint stripes as shown in Figure 401.
- NOTE:** You can repaint the VHF antenna, if there are no indications of delamination, wear, or cracking in the antenna or antenna base. Paint erosion due to wind and rain is considered normal. If you find any indications of cracking or delamination, replace the VHF antenna.

### J. VHF Communication Antenna Installation Test

SUBTASK 23-12-11-860-002

- (1) Remove the safety tags and close these circuit breakers:

#### CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| D          | 11         | C00165        | COMMUNICATIONS VHF 1 |
| D          | 12         | C00471        | COMMUNICATIONS VHF 3 |

#### F/O Electrical System Panel, P6-1

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| C          | 3          | C00166        | COMMUNICATIONS VHF 2 |

SUBTASK 23-12-11-730-001

- (2) Do this task: VHF Communication System - System Test, TASK 23-12-00-730-801.

————— **END OF TASK** —————

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VHF COMMUNICATION TRANSCEIVER - REMOVAL/INSTALLATION

1. **General**

- A. This procedure has these tasks:
- (1) VHF Communication Transceiver Removal
  - (2) VHF Communication Transceiver Installation
- B. The VHF Communication Transceivers are located in the main equipment center.

**TASK 23-12-21-000-801**

2. **VHF Communication Transceiver Removal**

(Figure 401)

A. **General**

- (1) This procedure has steps to remove the VHF Communication Transceivers [1].

B. **References**

| Reference        | Title                                                  |
|------------------|--------------------------------------------------------|
| 20-10-07-000-801 | E/E Box Removal (P/B 401)                              |
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201) |

C. **Location Zones**

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |

D. **Access Panels**

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

E. **Prepare for the VHF Communication Transceiver Removal**

SUBTASK 23-12-21-860-001

- (1) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name                 |
|-----|-----|--------|----------------------|
| D   | 11  | C00165 | COMMUNICATIONS VHF 1 |
| D   | 12  | C00471 | COMMUNICATIONS VHF 3 |

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                 |
|-----|-----|--------|----------------------|
| C   | 3   | C00166 | COMMUNICATIONS VHF 2 |

SUBTASK 23-12-21-010-001

- (2) Open this access panel:

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

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SUBTASK 23-12-21-020-001



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(3) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

**F. VHF Communication Transceiver Removal**

SUBTASK 23-12-21-020-002

(1) Remove the VHF Communication Transceiver [1], do this task: E/E Box Removal, TASK 20-10-07-000-801.

———— **END OF TASK** ————

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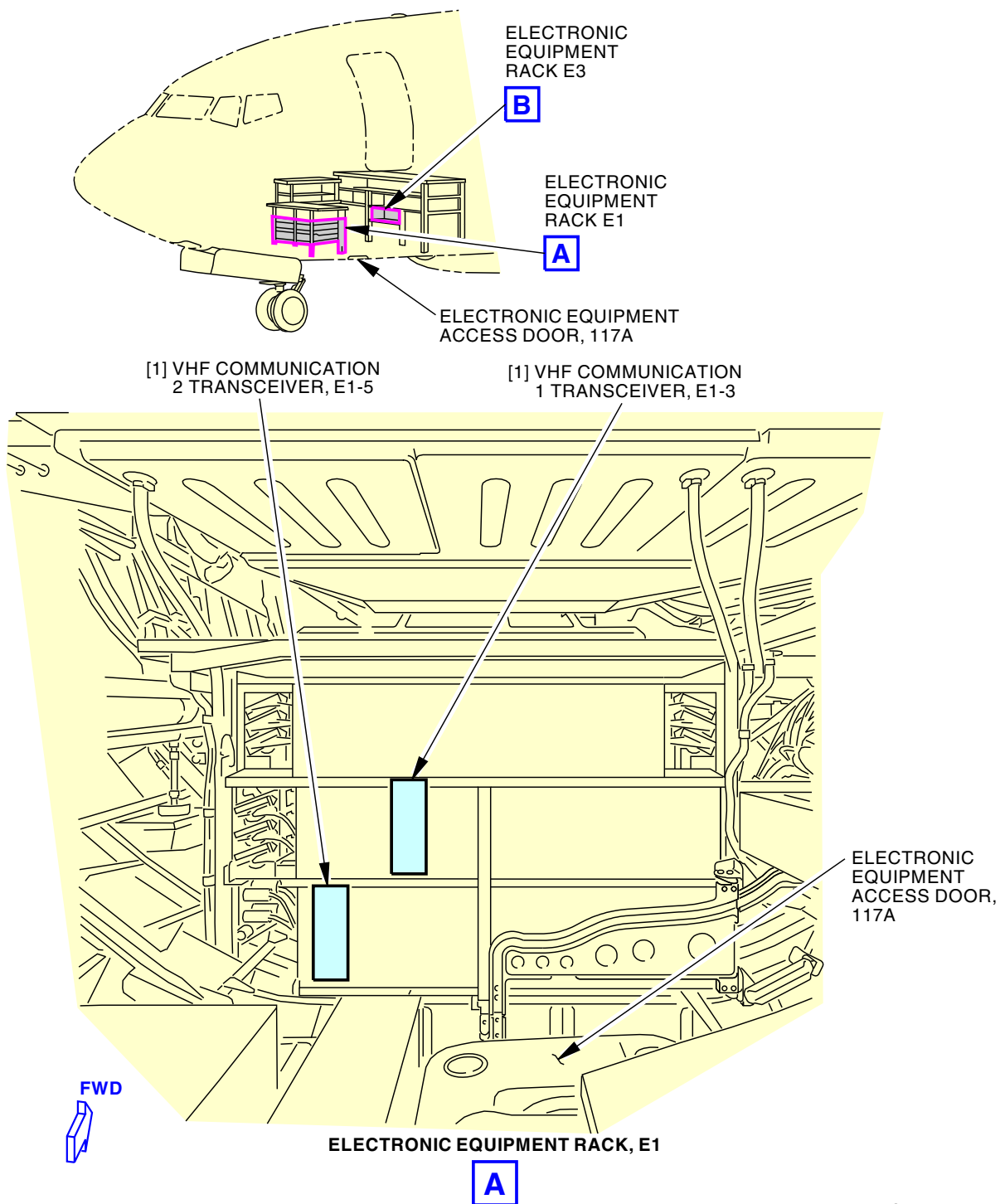
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**VHF Communication Transceiver Installation  
Figure 401/23-12-21-990-801 (Sheet 1 of 2)**

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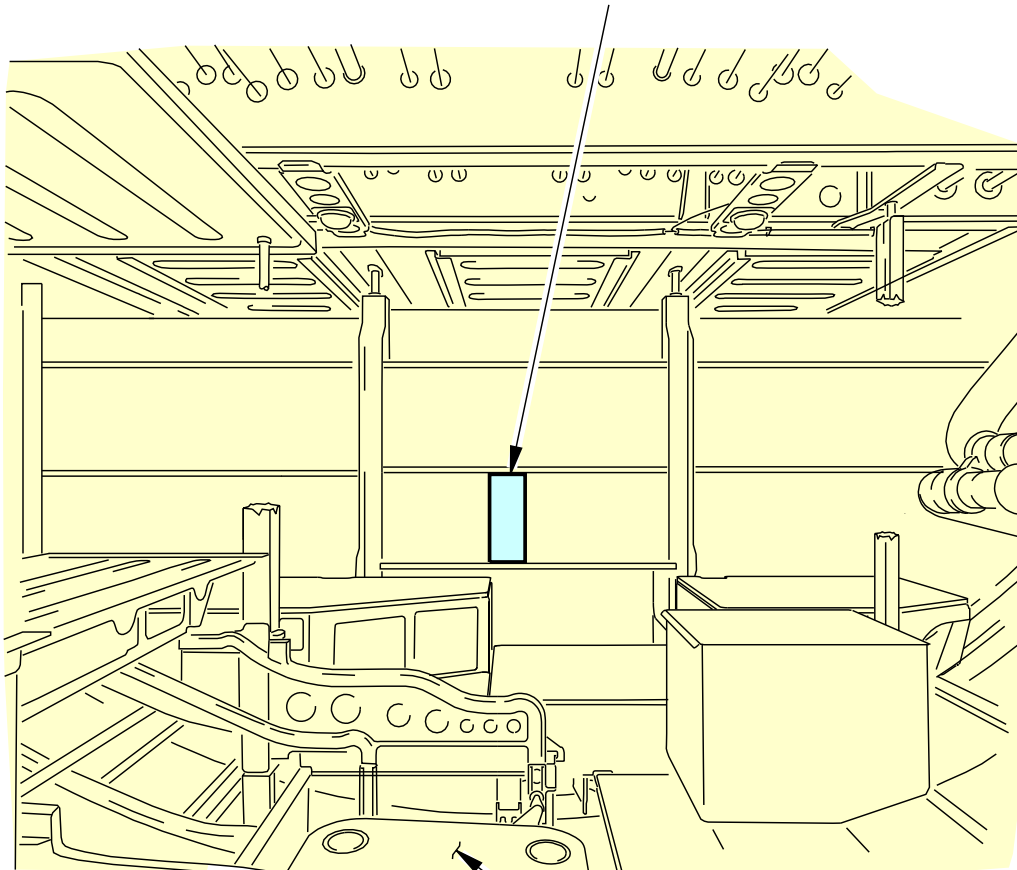
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[1] VHF COMMUNICATION 3  
TRANSCEIVER, E3-3



ELECTRONIC  
EQUIPMENT  
ACCESS DOOR,  
117A



ELECTRONIC EQUIPMENT RACK, E3



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VHF Communication Transceiver Installation  
Figure 401/23-12-21-990-801 (Sheet 2 of 2)

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TASK 23-12-21-400-801

3. **VHF Communication Transceiver Installation**

(Figure 401)

**A. General**

- (1) This procedure has steps to install the VHF Communication Transceivers [1].

**B. References**

| Reference        | Title                                                       |
|------------------|-------------------------------------------------------------|
| 20-10-07-400-801 | E/E Box Installation (P/B 401)                              |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201) |
| 23-12-00-710-801 | VHF Communication System - Operational Test (P/B 501)       |

**C. Expendables/Parts**

| AMM Item | Description                   | AIPC Reference  | AIPC Effectivity |
|----------|-------------------------------|-----------------|------------------|
| 1        | VHF Communication Transceiver | 23-12-21-04-005 | SIA ALL          |
|          |                               | 23-12-21-05-005 | SIA ALL          |

**D. Location Zones**

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |

**E. Access Panels**

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

**F. VHF Communication Transceiver Installation**

SUBTASK 23-12-21-420-001



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (1) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-12-21-420-002

- (2) Install the VHF Communication Transceiver [1], do this task: E/E Box Installation, TASK 20-10-07-400-801.

SUBTASK 23-12-21-860-002

- (3) Remove the safety tags and close these circuit breakers:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name                 |
|-----|-----|--------|----------------------|
| D   | 11  | C00165 | COMMUNICATIONS VHF 1 |
| D   | 12  | C00471 | COMMUNICATIONS VHF 3 |

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                 |
|-----|-----|--------|----------------------|
| C   | 3   | C00166 | COMMUNICATIONS VHF 2 |

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**G. VHF Communication Transceiver Installation Test**

SUBTASK 23-12-21-860-003

(1) Do this task: VHF Communication System - Operational Test, TASK 23-12-00-710-801.

**H. Put the Airplane Back to Its Initial Condition**

SUBTASK 23-12-21-410-001

(1) Close this access panel:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

————— **END OF TASK** —————

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RADIO TUNING PANEL - MAINTENANCE PRACTICES

1. General

A. This procedure has this task:

- (1) Radio Tuning Panel (RTP) INOP Display Toggle

**TASK 23-12-41-860-801**

2. Radio Tuning Panel - INOP Display Toggle

A. **General**

- (1) The Radio Tuning Panel (RTP) [1] will show INOP in active and standby displays.

B. **Location Zones**

| <b>Zone</b> | <b>Area</b>                |
|-------------|----------------------------|
| 211         | Flight Compartment - Left  |
| 212         | Flight Compartment - Right |

C. **Radio Tuning Panel - INOP Display Toggle**

SUBTASK 23-12-41-860-001

- (1) Make sure that these circuit breakers are closed:

**CAPT Electrical System Panel, P18-2**

| <b>Row</b> | <b>Col</b> | <b>Number</b> | <b>Name</b>          |
|------------|------------|---------------|----------------------|
| D          | 11         | C00165        | COMMUNICATIONS VHF 1 |
| D          | 12         | C00471        | COMMUNICATIONS VHF 3 |

**F/O Electrical System Panel, P6-1**

| <b>Row</b> | <b>Col</b> | <b>Number</b> | <b>Name</b>          |
|------------|------------|---------------|----------------------|
| C          | 3          | C00166        | COMMUNICATIONS VHF 2 |

SUBTASK 23-12-41-850-001

- (2) Push the Radio Tuning Panel (RTP) [1] VHF1 switch.  
(a) Make sure that a frequency is shown in ACTIVE and STANDBY displays.

SUBTASK 23-12-41-850-002

- (3) Push the Radio Tuning Panel (RTP) [1] VHF 2 switch.  
(a) Make sure that a frequency is shown in ACTIVE and STANDBY displays.

SUBTASK 23-12-41-850-003

- (4) Push the Radio Tuning Panel (RTP) [1] VHF 3 switch.  
(a) Make sure that INOP is shown in ACTIVE and STANDBY displays.

**NOTE:** INOP is shown in 10 seconds after power is ON.

SUBTASK 23-12-41-860-002

- (5) Open this circuit breaker and install safety tag:

**CAPT Electrical System Panel, P18-2**

| <b>Row</b> | <b>Col</b> | <b>Number</b> | <b>Name</b>          |
|------------|------------|---------------|----------------------|
| D          | 12         | C00471        | COMMUNICATIONS VHF 3 |

SUBTASK 23-12-41-850-004

- (6) Push the Radio Tuning Panel (RTP) [1] VHF 3 switch.

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- (a) Make sure that the switch is held.

**SUBTASK 23-12-41-850-005**

- (7) Push the Radio Tuning Panel (RTP) [1] Transfer switch.

- (a) Make sure that the switch is held.

**SUBTASK 23-12-41-860-003**

- (8) Remove the safety tag and close this circuit breaker:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| D          | 12         | C00471        | COMMUNICATIONS VHF 3 |

**SUBTASK 23-12-41-860-004**

- (9) Make sure that the ACTIVE and STANDBY displays show a frequency.

- (a) Release the Radio Tuning Panel (RTP) [1] Transfer switch.  
(b) Release the Radio Tuning Panel (RTP) [1] VHF 3 switch.

———— **END OF TASK** ————

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RADIO TUNING PANEL - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Radio Tuning Panel (RTP) Removal
  - (2) Radio Tuning Panel (RTP) Installation
- B. The No. 1 and No. 2 Radio Tuning Panels (RTPs) are located in the aft electronic panel, P8, in the flight compartment.
- C. The No. 3 Radio Tuning Panel (RTP) is located in the aft electronic panel, P8, in the flight compartment.

**TASK 23-12-41-000-801**

2. Radio Tuning Panel (RTP) Removal

(Figure 401)

A. **General**

- (1) This procedure has steps to remove the Radio Tuning Panel (RTP) [1].

B. **References**

| Reference        | Title                                                          |
|------------------|----------------------------------------------------------------|
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201)         |
| 20-40-12-400-803 | Conductive Dust Cap and Connector Cover Installation (P/B 201) |

C. **Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

D. **Prepare for the Radio Tuning Panel (RTP) Removal**

SUBTASK 23-12-41-860-005

- (1) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name                 |
|-----|-----|--------|----------------------|
| D   | 11  | C00165 | COMMUNICATIONS VHF 1 |
| D   | 12  | C00471 | COMMUNICATIONS VHF 3 |
| E   | 11  | C00839 | COMMUNICATIONS HF 1  |

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                 |
|-----|-----|--------|----------------------|
| C   | 3   | C00166 | COMMUNICATIONS VHF 2 |
| D   | 2   | C00857 | COMMUNICATIONS HF 2  |

SUBTASK 23-12-41-860-006

- (2) Turn the PANEL BRIGHT control on the aft electronic panel, P8, to the OFF position.

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SUBTASK 23-12-41-020-001



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(3) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

**E. Radio Tuning Panel (RTP) Removal**

SUBTASK 23-12-41-020-002

- (1) Remove the Radio Tuning Panel (RTP) [1]:
  - (a) Loosen the four quarter-turn fasteners [2].
  - (b) Lift the Radio Tuning Panel (RTP) [1] from the P8 panel to get access to the two electrical connectors [3].
  - (c) Disconnect the two electrical connectors [3].
  - (d) Install protective covers on the two electrical connectors [3], do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-803.

———— **END OF TASK** ————

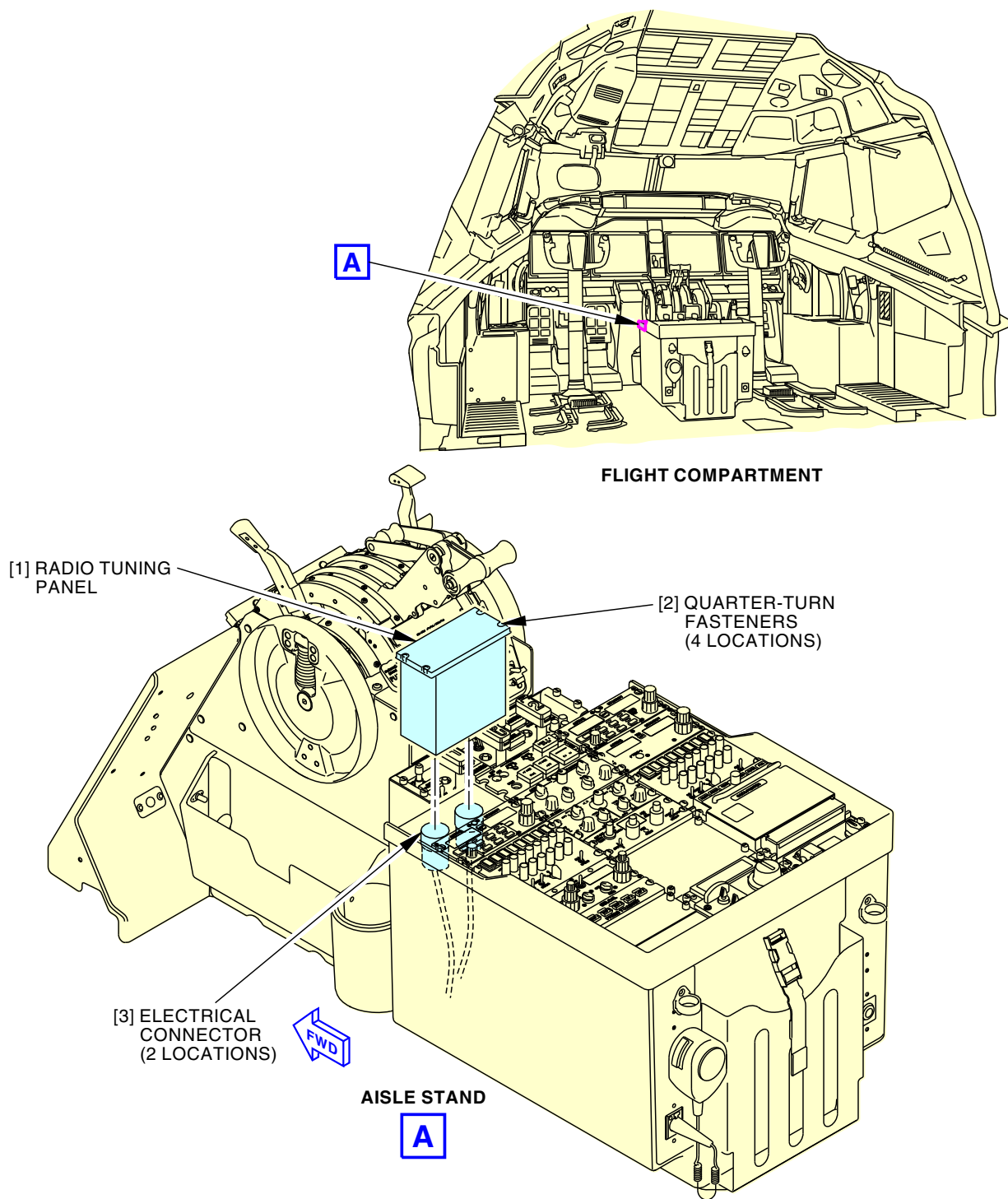
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Radio Tuning Panel (RTP) Installation  
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TASK 23-12-41-400-801

3. Radio Tuning Panel (RTP) Installation

(Figure 401)

A. General

- (1) This procedure has steps to install the Radio Tuning Panel (RTP) [1].

B. References

| Reference        | Title                                                       |
|------------------|-------------------------------------------------------------|
| 20-40-12-000-803 | Conductive Dust Cap and Connector Cover Removal (P/B 201)   |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201) |

C. Expendables/Parts

| AMM Item | Description              | AIPC Reference  | AIPC Effectivity |
|----------|--------------------------|-----------------|------------------|
| 1        | Radio Tuning Panel (RTP) | 23-12-41-05-010 | SIA ALL          |

D. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

E. Radio Tuning Panel (RTP) Installation

SUBTASK 23-12-41-420-001



CAUTION

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (1) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-12-41-420-002

- (2) Install the Radio Tuning Panel (RTP) [1]:
- (a) Remove the protective covers from the two electrical connectors [3], do this task: Conductive Dust Cap and Connector Cover Removal, TASK 20-40-12-000-803.
  - (b) Examine the two electrical connectors [3] for bent or broken pins, dirt, and damage.
  - (c) Connect the two electrical connectors [3].
  - (d) Put the Radio Tuning Panel (RTP) [1] in its position on the P8 panel.
  - (e) Tighten the four quarter-turn fasteners [2].

F. Radio Tuning Panel (RTP) Installation Test

SUBTASK 23-12-41-860-008

- (1) Remove the safety tags and close these circuit breakers:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name                 |
|-----|-----|--------|----------------------|
| D   | 11  | C00165 | COMMUNICATIONS VHF 1 |
| E   | 11  | C00839 | COMMUNICATIONS HF 1  |

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SUBTASK 23-12-41-860-009

- (2) Open these circuit breakers and install safety tags:

### CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| D          | 12         | C00471        | COMMUNICATIONS VHF 3 |

### F/O Electrical System Panel, P6-1

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| C          | 3          | C00166        | COMMUNICATIONS VHF 2 |
| D          | 2          | C00857        | COMMUNICATIONS HF 2  |

SUBTASK 23-12-41-860-010

- (3) Turn the PANEL BRIGHT control on the P8 panel to the midrange position.  
(a) Make sure that the light changes on the Radio Tuning Panel (RTP) [1].

SUBTASK 23-12-41-860-011



DO NOT OPERATE THE COMMUNICATION SYSTEM DURING A REFUEL OPERATION. AN EXPLOSION CAN OCCUR AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.



MAKE SURE PERSONNEL STAY A MINIMUM OF 6 FEET (1.8288 METERS) AWAY FROM THE COMMUNICATION ANTENNA WHEN THE SYSTEM TRANSMITS. RADIO FREQUENCY ENERGY FROM THE COMMUNICATION ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

- (4) Set the Radio Tuning Panel (RTP) [1] to a test frequency.  
(a) Make sure the VHF COMM 1 TRANSCEIVER operates.

SUBTASK 23-12-41-860-012

- (5) Open these circuit breakers and install safety tags:

### CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| D          | 11         | C00165        | COMMUNICATIONS VHF 1 |
| E          | 11         | C00839        | COMMUNICATIONS HF 1  |

SUBTASK 23-12-41-860-013

- (6) Remove the safety tags and close these circuit breakers:

### F/O Electrical System Panel, P6-1

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| C          | 3          | C00166        | COMMUNICATIONS VHF 2 |
| D          | 2          | C00857        | COMMUNICATIONS HF 2  |

SUBTASK 23-12-41-850-006

- (7) Turn the PANEL BRIGHT control on the P8 panel to the midrange position.  
(a) Make sure that the light changes on the Radio Tuning Panel (RTP) [1].

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SUBTASK 23-12-41-850-007



**WARNING**

DO NOT OPERATE THE COMMUNICATION SYSTEM DURING A REFUEL OPERATION. AN EXPLOSION CAN OCCUR AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.



**WARNING**

MAKE SURE PERSONNEL STAY A MINIMUM OF 6 FEET (1.8288 METERS) AWAY FROM THE COMMUNICATION ANTENNA WHEN THE SYSTEM TRANSMITS. RADIO FREQUENCY ENERGY FROM THE COMMUNICATION ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

- (8) Set the Radio Tuning Panel (RTP) [1] to a test frequency.
- (a) Make sure the VHF COMM 2 TRANSCEIVER operates.

SUBTASK 23-12-41-860-014

- (9) Open these circuit breakers and install safety tags:

### F/O Electrical System Panel, P6-1

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| C          | 3          | C00166        | COMMUNICATIONS VHF 2 |
| D          | 2          | C00857        | COMMUNICATIONS HF 2  |

SUBTASK 23-12-41-860-015

- (10) Remove the safety tag and close this circuit breaker:

### CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| D          | 12         | C00471        | COMMUNICATIONS VHF 3 |

SUBTASK 23-12-41-850-008

- (11) Turn the PANEL BRIGHT control on the P8 panel to the midrange position.
- (a) Make sure that the light changes on the Radio Tuning Panel (RTP) [1].

SUBTASK 23-12-41-850-009



**WARNING**

DO NOT OPERATE THE COMMUNICATION SYSTEM DURING A REFUEL OPERATION. AN EXPLOSION CAN OCCUR AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.



**WARNING**

MAKE SURE PERSONNEL STAY A MINIMUM OF 6 FEET (1.8288 METERS) AWAY FROM THE COMMUNICATION ANTENNA WHEN THE SYSTEM TRANSMITS. RADIO FREQUENCY ENERGY FROM THE COMMUNICATION ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

- (12) Set the Radio Tuning Panel (RTP) [1] to a test frequency.
- (a) Make sure the VHF COMM 3 TRANSCEIVER operates.

SUBTASK 23-12-41-860-016

- (13) Remove the safety tags and close these circuit breakers:

### CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| D          | 11         | C00165        | COMMUNICATIONS VHF 1 |

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**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| E          | 11         | C00839        | COMMUNICATIONS HF 1 |

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| C          | 3          | C00166        | COMMUNICATIONS VHF 2 |
| D          | 2          | C00857        | COMMUNICATIONS HF 2  |

———— **END OF TASK** ————

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SATCOM SYSTEM - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

- (1) Satcom System Deactivation
- (2) Satcom System Activation
- (3) Satcom System SDU Software Installation with Onboard Network System (ONS)
- (4) Satcom System SDU Configuration Check
- (5) Satcom System Satellite Data Unit Configuration Module (SCM) Configuration Check.

B. The tasks that follow have moved from ATA 23-15-4X:

- Iridium SATCOM System Operational Test, TASK 23-15-40-710-801 to Satellite Communications (SATCOM) System - Operational Test, TASK 23-15-00-710-801
- Satellite Data Unit Removal, TASK 23-15-41-000-801 to Satellite Data Unit Removal, TASK 23-15-01-000-801
- Satellite Data Unit Installation, TASK 23-15-41-400-801 to Satellite Data Unit Installation, TASK 23-15-01-400-801
- User Configuration Verifications and Changes, TASK 23-15-42-860-801 to Satcom System - SCM Configuration Check, TASK 23-15-00-700-802
- SDU Configuration Module Removal, TASK 23-15-42-000-801 to SDU Configuration Module Removal, TASK 23-15-12-000-801
- SDU Configuration Module Installation, TASK 23-15-42-400-801 to SDU Configuration Module Installation, TASK 23-15-12-400-801
- Iridium SATCOM Antenna - Removal, TASK 23-15-43-000-801 to SATCOM Antenna Removal, TASK 23-15-25-000-802
- Iridium SATCOM Antenna Installation, TASK 23-15-43-400-801 to SATCOM Antenna Installation, TASK 23-15-25-400-802

**TASK 23-15-00-040-801**

2. Satcom System - Deactivation

A. **General**

- (1) This procedure removes electrical power to the SATCOM system.

B. **Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

C. **Procedure**

SUBTASK 23-15-00-860-013

- (1) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| E          | 13         | C04060        | SATCOM SDU  |

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F/O Electrical System Panel, P6-5

| <u>Row</u>  | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|-------------|------------|---------------|-------------|
| SIA 015-999 |            |               |             |
| C           | 18         | C04087        | SATCOM SDU  |
| C           | 19         | C04088        | SATCOM HIGH |

SIA ALL

D. Satcom System - Tryout

NOTE: This tryout is to make sure that the Satcom System is in a zero energy state.

SUBTASK 23-15-00-710-018

- (1) Do these steps on the Control Display Unit (CDU):
  - (a) Push the MENU key.
  - (b) Make sure that <SAT does not show on the MENU.

————— END OF TASK —————

TASK 23-15-00-440-801

3. Satcom System - Activation

A. General

- (1) This procedure adds electrical power to the Satcom System.

B. Location Zones

| <u>Zone</u> | <u>Area</u>                |
|-------------|----------------------------|
| 211         | Flight Compartment - Left  |
| 212         | Flight Compartment - Right |

C. Procedure



**WARNING**

MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 10 FEET (3M) FROM THE SATCOM ANTENNA DURING THE TEST. RF ENERGY CAN CAUSE INJURIES TO PERSONNEL.

SUBTASK 23-15-00-860-015

- (1) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| E          | 13         | C04060        | SATCOM SDU  |

F/O Electrical System Panel, P6-5

| <u>Row</u>  | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|-------------|------------|---------------|-------------|
| SIA 015-999 |            |               |             |
| C           | 18         | C04087        | SATCOM SDU  |
| C           | 19         | C04088        | SATCOM HIGH |

————— END OF TASK —————

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**TASK 23-15-00-470-801**

**4. Satcom System - SDU Software Installation with ONS**

**A. General**

- (1) This procedure has steps to install software to the Satellite Data Unit (SDU) with the Onboard Network System (ONS).
  - (a) The SDU must contain these pieces of software:
    - 1) Operational Program Software (OPS)
    - 2) SECURE Owner Requirements Table (ORT) software
    - 3) USER Owner Requirements Table (ORT) software.
  - (b) Use this procedure for an approved installation of software for the SDU, which includes the OPS, USER ORT and the SECURE ORT software.
- (2) A Control Display Unit (CDU) is necessary for this procedure.
- (3) The Satellite Data Unit Configuration Module (SCM) must be installed.
- (4) The airplane must be on the ground with the engines shutdown before you can install software.
- (5) You must know the correct software part numbers for the SDU. For the SDU to be an approved installation, the correct software part numbers must be installed.

**B. References**

| Reference        | Title                                     |
|------------------|-------------------------------------------|
| 46-13-00-470-801 | LRU Software Parts Installation (P/B 201) |

**C. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 212  | Flight Compartment - Right |

**D. Procedure**

**SUBTASK 23-15-00-860-016**

- (1) Do these steps at the P61 data loader control panel:
  - (a) Set the DATA LOAD SELECTOR switch to L CAPT UPR position.
  - (b) Set the SYSTEM SELECT switch to the SATCOM position.

**SUBTASK 23-15-00-470-001**

- (2) Do this task: LRU Software Parts Installation, TASK 46-13-00-470-801.
  - (a) Install the software in this order:

NOTE: One part number is installed at a time.

    - 1) OPS
    - 2) SECURE ORT
    - 3) USER ORT.

**SUBTASK 23-15-00-860-017**

- (3) Set the SYSTEM SELECT switch on the P61 panel to NORMAL.

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SUBTASK 23-15-00-860-023

- (4) Open and close this circuit breaker:

## CAPT Electrical System Panel, P18-2

| Row | Col | Number | Name       |
|-----|-----|--------|------------|
| E   | 13  | C04060 | SATCOM SDU |

SUBTASK 23-15-00-700-001

- (5) Do this task: Satcom System - SDU Configuration Check, TASK 23-15-00-700-801.

————— END OF TASK —————

## TASK 23-15-00-700-801

### 5. Satcom System - SDU Configuration Check

#### A. General

- (1) The configuration check makes sure that the Satellite Data Unit (SDU) has the correct software installed.
  - (a) The SDU must contain these pieces of software:
    - 1) Operational Program Software (OPS)
    - 2) SECURE Owner Requirements Table (ORT) software
    - 3) USER ORT software.
- (2) A Control Display Unit (CDU) is necessary for this procedure.
- (3) The Satellite Data Unit Configuration Module (SCM) must be installed.
- (4) The airplane must be on the ground with the engines shutdown before you do the check.
- (5) You must know the correct software part numbers for the SDU. For the SDU to be an approved installation, the correct software part numbers must be installed.

#### B. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

#### C. Software Configuration Check

SUBTASK 23-15-00-700-003

- (1) Do these steps at a CDU to do a configuration check of the OPS, the SECURE ORT and the USER ORT software for the ICS-300 SDU:
  - (a) Push the MENU key.
  - (b) Push the Line Select Key (LSK) adjacent to <SAT.
  - (c) Push the NEXT PAGE key on the CDU.
  - (d) Push the LSK adjacent to <PART NUM.
  - (e) Push the NEXT PAGE key on the CDU twice to access page 3 of 7.
  - (f) Make sure that the SECURE ORT and USER ORT software part numbers shown match the load list or installation plan.
  - (g) Push the PREV PAGE key on the CDU three times to access page 7 of 7.
  - (h) Make sure that the OPS software part number shown matches the load list or installation plan.

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SUBTASK 23-15-00-470-003

- (2) If the software part numbers are not correct, do this task: Satcom System - SDU Software Installation with ONS, TASK 23-15-00-470-801.
  - (a) If the software part numbers are correct, then continue.

### D. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-00-860-022

- (1) Push the LSK adjacent to <RETURN.
- (2) Push the MENU key on the CDU.

————— END OF TASK —————

## TASK 23-15-00-700-802

### 6. Satcom System - SCM Configuration Check

#### A. General

- (1) The configuration check makes sure that the Satellite Data Unit Configuration Module (SCM) has the correct customer configuration.

#### B. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

#### C. Procedure

SUBTASK 23-15-00-860-025

- (1) Read the procedure carefully before you make changes to the SAT USER ORT CONFIG page.

NOTE: You can cause a malfunction of the SATCOM system if you install the incorrect configuration.

SUBTASK 23-15-00-860-026

- (2) Use the Control Display Unit (CDU) to get access to the SAT USER ORT CONFIG page:
  - (a) Push the MENU key to show the MENU page.
  - (b) Select the Line Select Key (LSK) adjacent to <SAT to show the SAT-PHONE 1/2 page.
  - (c) Push the NEXT PAGE key to show the SAT-PHONE 2/2 page.
  - (d) Select the LSK adjacent to CONFIG> to show the SAT CONFIG 1/2 page.
  - (e) Enter the USER ORT password "ICG1234".

NOTE: This is a password protected page. It is the responsibility of the operator to record and to keep the password if it is changed. The SATCOM supplier may charge a fee for recovery of a lost password.
  - (f) Select the LSK adjacent to USER ORT> to show the SAT USER ORT CONFIG page.
    - 1) Make sure that the CDU scratch-pad does not show one of these messages:
      - NOT ALLOWED
      - INVALID PASSWORD
      - a) If NOT ALLOWED shows, make sure that the LG ALT DIS + CONT circuit breaker is closed, and the airplane is in ground mode.
      - b) If INVALID PASSWORD shows, make sure that the password is correct.

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### SUBTASK 23-15-00-210-001

- (3) Make sure that the SAT USER ORT configuration agrees with the airline operational requirements.
- (a) If the SAT USER ORT configuration is different from the airline operational requirements, follow the applicable steps in this procedure to change the SAT USER ORT configuration.

NOTE: The LSK adjacent to <DEFAULT can be selected to return the SAT USER ORT configuration to supplier defaults.

### SUBTASK 23-15-00-730-001

- (4) If there are fault indicators, select the LSK adjacent to CLEAR FAULTS> to remove the indicators.

### SUBTASK 23-15-00-730-002

- (5) If it is necessary to change the default USER ORT password, then do the steps that follow:

NOTE: These steps let the user change the default USER ORT password to a customized password. A customized password must be pre-approved by the airlines engineering with a valid airplane engineering order.

- (a) On the SAT USER ORT CONFIG page, enter the new password (up to 8 digits with 0-9 and A-Z) on the CDU scratch-pad.

NOTE: It is the responsibility of the operator to record and to keep the password if it is changed. The SATCOM supplier may charge a fee for recovery of a lost password.

- (b) Select the LSK adjacent to <SET USER PW.

- (c) Select the LSK adjacent to SAVE>.

NOTE: The CDU shows SAVE IN PROG on the left side of the scratch-pad. SAVE COMPLETE shows when the save is done.

- (d) Select the LSK adjacent to <RESTART then <CONFIRM to reboot the CDU with the changed configuration.

### SUBTASK 23-15-00-730-003

- (6) If it is necessary to change the Aircraft Communications Addressing And Reporting System (ACARS) service provider, then do the steps that follow:

- (a) On the SAT USER ORT CONFIG page, select the LSK adjacent to <ACARS SRV to toggle through the five available options:

- GLOBALINK
- ARINC DIRECT
- HONEYWELL GDC
- SITA
- OTHER

- (b) Select the LSK adjacent to SAVE> to save changes.

NOTE: The CDU shows SAVE IN PROG on the left side of the scratch-pad. SAVE COMPLETE shows when the save is done.

- (c) Select the LSK adjacent to <RESTART then <CONFIRM to reboot the CDU with the changed configuration.



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### SUBTASK 23-15-00-730-004

- (7) If it is necessary to change the CALL DISPLAY, then do the steps that follow:

NOTE: The CALL DISPLAY type shows either the name or number of the caller. When the CALL DISPLAY is set BY NAME, the CDU will display the call recipient name if located in the directory for ATG calls. The caller user ID is displayed for GTA calls. When the CALL DISPLAY is set BY NUMBER, the CDU displays the number, which may be a phone number or short code. Speed dial numbers are not displayed on the CDU.

- (a) On the SAT USER ORT CONFIG page, select the LSK adjacent to <CALL DISPLAY to toggle between BY NUMBER and BY NAME.
- (b) Select the LSK adjacent to SAVE> to save changes.

NOTE: The CDU shows SAVE IN PROG on the left side of the scratch-pad. SAVE COMPLETE shows when the save is done.

- (c) Select the LSK adjacent to <RESTART then <CONFIRM to reboot the CDU with the changed configuration.

### SUBTASK 23-15-00-730-005

- (8) If it is necessary to change the Entry Control, then do the steps that follow:

NOTE: The scratch-pad number entry control type has two configurations, ALL NUMBERS and SHORT CODES. When ENTRY CONTROL is set to ALL NUMBERS, the scratch-pad accepts long numbers, short codes, speed dial numbers and station extensions. When ENTRY CONTROL is set to SHORT CODES, the scratch-pad accepts short codes, speed dial numbers and station extensions only.

- (a) On the SAT USER ORT CONFIG page, select the LSK adjacent to <ENTRY CONTROL to toggle between ALL NUMBERS and SHORT CODE.
- (b) Select the LSK adjacent to SAVE> to save changes.

NOTE: The CDU shows SAVE IN PROG on the left side of the scratch-pad. SAVE COMPLETE shows when the save is done.

- (c) Select the LSK adjacent to <RESTART then <CONFIRM to reboot the CDU with the changed configuration.

————— **END OF TASK** —————

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SATELLITE COMMUNICATIONS (SATCOM) SYSTEM - ADJUSTMENT/TEST

1. **General**

A. This procedure has these tasks for the satellite communications (SATCOM) system:

- (1) A BITE test at the flight management computer control display unit
- (2) A BITE test at the satellite data unit
- (3) An operational test
- (4) A system test.

**TASK 23-15-00-740-801**

2. **Satellite Communications (SATCOM) System - BITE Test at the Flight Management Computer Control Display Unit**

A. **General**

- (1) The BITE test at the flight management computer Control Display Unit (CDU) does the same test as the BITE test at the Satellite Data Unit (SDU).
- (2) The BITE test does a check of these components and functions:
  - (a) SDU
  - (b) Satellite Data Unit Configuration Module (SCM)
- (3) The SATCOM system does a power-up sequence during the BITE test. If the SATCOM system is logged-on, it will log-off. When the BITE test is complete, the SATCOM system will log-on again (automatic mode).

B. **Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

C. **Procedure**

SUBTASK 23-15-00-740-006

- (1) Do these steps to do the BITE test at a CDU:
  - (a) Open these circuit breakers:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| E          | 13         | C04060        | SATCOM SDU  |

**F/O Electrical System Panel, P6-5**

| <u>Row</u>         | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|--------------------|------------|---------------|-------------|
| <b>SIA 015-999</b> |            |               |             |
| C                  | 18         | C04087        | SATCOM SDU  |

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- (b) Wait for a minimum of 20 seconds.
- (c) Make sure that <SAT does not show on the CDU.

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- (d) Remove the safety tags and close these circuit breakers:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| E          | 13         | C04060        | SATCOM SDU  |

**F/O Electrical System Panel, P6-5**

| <u>Row</u>         | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|--------------------|------------|---------------|-------------|
| <b>SIA 015-999</b> |            |               |             |
| C                  | 18         | C04087        | SATCOM SDU  |

**SIA ALL**

- (e) Wait for the SDU to power-up.  
NOTE: It can take approximately up to 90 seconds for the SDU to power up.
- (f) Make sure that <SAT shows on the CDU.
- (g) Push the Line Select Key (LSK) adjacent to <SAT to go into the SAT-PHONE page.
- (h) Push the NEXT PAGE key to go to the SAT-PHONE page 2/2.
- (i) Make sure that PASS shows adjacent to BITE> on the SAT-PHONE page 2/2.

————— **END OF TASK** —————

**TASK 23-15-00-740-802**

**3. Satellite Communications (SATCOM) System - BITE Test at the Satellite Data Unit**

**A. General**

- (1) The BITE test at the Satellite Data Unit (SDU) does the same test as the BITE test at the flight management computer Control Display Unit (CDU).
- (2) The BITE test does a check of these components and functions:
  - (a) SDU
  - (b) Satellite Data Unit Configuration Module (SCM)
- (3) The SATCOM system does a power-up sequence during the BITE test. If the SATCOM system is logged-on, it will log-off. When the BITE test is complete, the SATCOM system will log-on again (automatic mode).

**B. Location Zones**

| <u>Zone</u> | <u>Area</u>                                    |
|-------------|------------------------------------------------|
| 118         | Electrical and Electronics Compartment - Right |

**C. Procedure**

**SUBTASK 23-15-00-740-008**

- (1) Do a BITE test at the front panel of the SDU:
- (a) Open and close this circuit breaker:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| E          | 13         | C04060        | SATCOM SDU  |

- (b) Monitor the LED while the SDU starts.

NOTE: It can take approximately up to 90 seconds for the SDU to start.

- 1) Make sure that the POWER light comes on in Green.

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- 2) Make sure that the FAULT light comes on in Green for five seconds, then goes off.

————— END OF TASK —————

**TASK 23-15-00-710-801**

**4. Satellite Communications (SATCOM) System - Operational Test**

**A. General**

- (1) The operational test includes these tests:
- (a) A BITE test.
  - (b) A RF link test.
  - (c) A Voice Communication Test.

**SIA 001-014**

- (d) A SATCOM link test with ACARS

**SIA ALL**

- (2) When you do this test, make sure that the airplane is not in or near a large metal structure. The SATCOM antenna must have a clear view to the applicable satellite. Buildings and other large objects can prevent a clear view.
- (3) This voice communication test uses the captain's audio control panel, headset, and push-to-talk switch, but you can do the test with equipment at one of the other flight crew positions.

**B. References**

| Reference        | Title                         |
|------------------|-------------------------------|
| 23-27-00-700-802 | ACARS - System Test (P/B 501) |

**C. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

**D. Prepare Procedure**

**SUBTASK 23-15-00-860-006**

- (1) Connect a headset with built in microphone to the Captain's mic/audio jack panel.

**SUBTASK 23-15-00-860-007**

- (2) Push all the volume control switches to the OFF position on all the ACPs.
- (a) Make sure that the related LED for the volume controls are OFF.

**SUBTASK 23-15-00-860-008**

- (3) Make sure that the SAT-1 and SAT-2 volume controls of the Captain's ACP are at the approximate midrange position.

**E. BITE Test**

**SUBTASK 23-15-00-740-003**

- (1) Do this task: Satellite Communications (SATCOM) System - BITE Test at the Flight Management Computer Control Display Unit, TASK 23-15-00-740-801.

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F. RF Link Test

SUBTASK 23-15-00-710-001



MAKE SURE PERSONS STAY A MINIMUM OF 10 FEET AWAY FROM THE ANTENNA DURING THE VOICE COMMUNICATION TEST. RF ENERGY CAN CAUSE INJURIES TO PERSONS.

- (1) Do these steps to connect to the SATCOM system:
  - (a) Push the MENU key on the Left and Right Control Display Unit (CDU).
    - 1) Make sure that <SAT shows on the two CDU.
  - (b) Push the Line Select Key (LSK) adjacent to <SAT on the Left and Right CDU.
    - 1) Make sure that the SAT-PHONE page 1/2 page shows on the two CDU.
  - (c) Do these steps at one CDU:
    - 1) Push the NEXT PAGE key to show SAT-PHONE page 2/2.
    - 2) Push the LSK adjacent to <LOG.
    - 3) Wait for the log-on status to show LOGGED ON.

NOTE: It can take up to 10 minutes for the SATCOM system to log-on automatically to the GES.

      - a) If not logged on, push the LSK adjacent to LOGON>.
    - 4) Continue the procedure after the SATCOM system LOGGED ON.
    - 5) Push the NEXT PAGE key on the CDU to show the SAT LOGON 2/2 page.
      - a) Make sure that the MODEM status shows as follows:

<1> LBT-1 AVAILABLE  
<2> LBT-2 AVAILABLE  
<3> LBT-3 AVAILABLE

        - b) Make sure that the SIGNAL level of LBT-1, LBT-2, and LBT-3 stays above 3.

G. Voice Communication Test

SUBTASK 23-15-00-710-002

- (1) Do these steps to enter the approved test telephone numbers to the SAT-1 and SAT-2 channels:
  - (a) Push the MENU key on the CDU.
  - (b) Push the LSK adjacent to <SAT to go into the SAT-PHONE page 1/2.
  - (c) Push the LSK adjacent to DIRECTORY to go into the SAT DIRECTORY INDEX page.
  - (d) Push the LSK adjacent to AOC> to go into the AOC DIR page.
  - (e) Push the LSK adjacent to an applicable category.
  - (f) Find the name for an approved test telephone number.
  - (g) Push the LSK adjacent to that telephone number.

NOTE: The left LSK will set the number on SAT-1. The right LSK will set the number on SAT-2.

    - 1) Make sure that a name or a telephone number shows below the <MAKE CALL of SAT-1 and SAT-2 on SAT-PHONE page 1/2.

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### SUBTASK 23-15-00-710-003

- (2) If you can not find an approved test telephone number from the SAT DIRECTORY pages, do these steps:
- (a) Make sure that the CDU shows SAT-PHONE page 1/2.
  - (b) Enter a short code or use the prefix 001 followed by an approved test telephone number to the scratchpad.  
NOTE: If you do not know a short code or an approved test telephone number for this test, speak with your engineering department.
  - (c) Push the LSK for the SAT-1 channel and SAT-2 channel to prepare the call.
  - (d) Make sure that the short code or telephone number shows below the <MAKE CALL of SAT-1 and SAT-2 channel.

### SUBTASK 23-15-00-710-004

- (3) Set the SATCOM call priority for SAT-1 and SAT-2 channels.
- NOTE: The values for priority are PUB (public), LOW (low), HGH (high), SBB (Swift BB) and EME (emergency). Do not use priority EME (emergency) for test, because the priority EME is reserved for emergency and distress calls only, it will set the alarms to the ground earth stations (GES) and notifies the airline operators that an airplane is in an emergency or distress condition.

### SUBTASK 23-15-00-710-005

- (4) Make a call on the SAT-1 channel:
- (a) Make sure that a telephone number shows for SAT-1 (SAT-PHONE page 1/2).
  - (b) Push the LSK adjacent to <MAKE CALL on the SAT-1 channel.  
NOTE: The status of SAT-1 changes from READY - DIALING - RINGING - ANSWERED.
  - (c) When SAT-1 call is connected:
    - 1) Make sure the SAT-1 status changes on the CDU (SAT PHONE page 1/2).
    - 2) Make sure that the CALL lights for SAT1 come on at all the Audio Control Panel (ACP).
  - (d) Do these steps at the captain's ACP for SAT-1 call:
    - 1) Push the SAT1 MIC switch to the ON position.
    - 2) Push the SAT1 receiver volume control switch to the ON position.
    - 3) Adjust the receiver volume control switch for the SAT1.
  - (e) Use the captain's headset to speak with the person on the other end of the call for the SAT-1 channel.
    - 1) Push the Push-To-Talk (PTT) to use the microphone.
    - 2) Tell the person at the other end to hold this line while you make a call on the SAT-2 channel.

### SUBTASK 23-15-00-710-010

- (5) Make a SATCOM call on the SAT-2 channel while the SAT-1 call is connected:
- (a) Make sure that a telephone number shows for SAT-2 (SAT-PHONE page 1/2).
  - (b) Push the LSK adjacent to <MAKE CALL on the SAT-2 channel.  
NOTE: The status of SAT-2 changes from READY - DIALING - RINGING - ANSWERED.
  - (c) When SAT-2 call is connected:

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- 1) Make sure the SAT-1 status changes on the CDU (SAT PHONE page 1/2).
  - 2) Make sure that the CALL lights for SAT2 come on at all the ACP.
  - 3) Make sure that the two SATCOM channels (SAT-1 and SAT-2 ) stay connected at the same time.
- (d) Do these steps at the captain's ACP for the SAT-2 call:
- 1) Push the SAT2 MIC switch.
  - 2) Push the SAT2 receiver volume control switch to the ON position.
  - 3) Adjust the receiver volume control switch for the SAT2.

**SUBTASK 23-15-00-710-014**

- (6) Do a voice quality check on both SAT-1 and SAT-2 channels:
- (a) Make sure that transmitted voice and received voice qualities are loud and clear.
  - (b) While you listen to the received voice. Slowly turn the applicable receiver volume control on the captain's ACP.
  - (c) Make sure that the sound level changes smoothly without a voice quality change.

**SUBTASK 23-15-00-710-019**

- (7) Tell the person at the other end to call the SATCOM for this airplane after you complete the SAT-1 and SAT-2 calls.

**SUBTASK 23-15-00-710-016**

- (8) To complete the SATCOM calls:
- (a) Push the LSK adjacent to <END CALL for the SAT-1 channel.
  - (b) Push the LSK adjacent to <END CALL for the SAT-2 channel.
  - (c) Make sure that the CALL lights for the SAT1 and SAT2 go off when the call is completed.

**SUBTASK 23-15-00-710-020**

- (9) Do a check of the following when the Ground to Air call is received:
- (a) Make sure that a single tone is heard.
  - (b) Make sure that the applicable SAT call lights on the ACPs come on.
  - (c) Push the LSK adjacent to <ANSWER to answer the call on the CDU.
  - (d) Make sure that the applicable SAT status on the CDU shows ANSWERED.
  - (e) Make sure that transmitted voice and received voice qualities are loud and clear.
  - (f) Push the LSK adjacent to <END CALL to complete the call.

**SIA 001-014**

**SUBTASK 23-15-00-710-021**

- (10) Make sure that ACARS passes the SATCOM link test (TASK 23-27-00-700-802).

**SIA ALL**

**H. Put the Airplane Back to Its Usual Condition**

**SUBTASK 23-15-00-860-009**

- (1) Push the MENU key on the CDUs.

**SUBTASK 23-15-00-860-010**

- (2) If the air data inertial reference system is not necessary, set the mode select switches on the mode select unit (P5) to the OFF position.

———— **END OF TASK** ————

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TASK 23-15-00-710-802

5. Satellite Communications (SATCOM) System - System Test

A. General

- (1) The system test includes these tests:
  - (a) A software configuration check
  - (b) An operational test.
- (2) The software configuration check makes sure that the Satellite Data Unit (SDU) has correct software.
- (3) When you do the system test, make sure that the airplane is not in or near a large metal structure. The SATCOM antenna must have a clear view to the applicable satellite. Buildings and other large objects can prevent a clear view.
- (4) This system test uses the captain's audio control panel, headset, and push-to-talk switch, but you can do the test with equipment at one of the other flight crew positions.

B. References

| Reference        | Title                                             |
|------------------|---------------------------------------------------|
| 23-15-00-700-801 | Satcom System - SDU Configuration Check (P/B 201) |

C. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

D. Software Configuration Check

SUBTASK 23-15-00-740-005

- (1) Do this task: Satcom System - SDU Configuration Check, TASK 23-15-00-700-801.

NOTE: You must know the correct software part numbers for the SDU. For the SDU to be an approved installation, the correct software part numbers must be installed.

E. Operational Test

SUBTASK 23-15-00-710-017

- (1) Do this task: Satellite Communications (SATCOM) System - Operational Test, TASK 23-15-00-710-801.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-00-860-011

- (1) Push the MENU key on the CDUs.

————— END OF TASK —————

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SATELLITE DATA UNIT - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the Satellite Data Unit (SDU).
  - (2) An installation of the SDU.
- B. The SDU is installed in the E4-2 equipment rack. The E4-2 rack is in the Electrical and Electronics Compartment (EEC) on the right side.

**TASK 23-15-01-000-801**

2. Satellite Data Unit Removal

(Figure 401)

A. General

- (1) This task includes the steps to remove the Satellite Data Unit (SDU).
- (2) It is the responsibility of the airlines to contact their SATCOM Service Provider to deactivate the Short Bust Data (SBD) and Voice services for the SDU when it is removed from the aircraft.

B. References

| Reference        | Title                                                  |
|------------------|--------------------------------------------------------|
| 20-10-07-000-801 | E/E Box Removal (P/B 401)                              |
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201) |

C. Location Zones

| Zone | Area                                           |
|------|------------------------------------------------|
| 118  | Electrical and Electronics Compartment - Right |

D. Access Panels

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

E. Prepare for the Removal

SUBTASK 23-15-01-860-005

- (1) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name       |
|-----|-----|--------|------------|
| E   | 13  | C04060 | SATCOM SDU |

**F/O Electrical System Panel, P6-5**

| Row         | Col | Number | Name        |
|-------------|-----|--------|-------------|
| SIA 015-999 |     |        |             |
| C           | 18  | C04087 | SATCOM SDU  |
| C           | 19  | C04088 | SATCOM HIGH |

**SIA ALL**

SUBTASK 23-15-01-010-003

- (2) Open this access panel:

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

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**F. Removal Procedure**

SUBTASK 23-15-01-020-002



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE SATELLITE DATA UNIT [1]. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE SATELLITE DATA UNIT [1].

- (1) Before you touch the satellite data unit [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-15-01-020-003

- (2) To remove the satellite data unit [1], do this task: E/E Box Removal, TASK 20-10-07-000-801.  
(a) Put the ESDS protective cover on the electrical connector of the removed SDU.

SUBTASK 23-15-01-040-002

- (3) If applicable, contact your designated SATCOM Service Provider to deactivate the Short Bust Data (SBD) and Voice services for the removed Satellite Data Unit Configuration Module (SCM).

————— **END OF TASK** —————

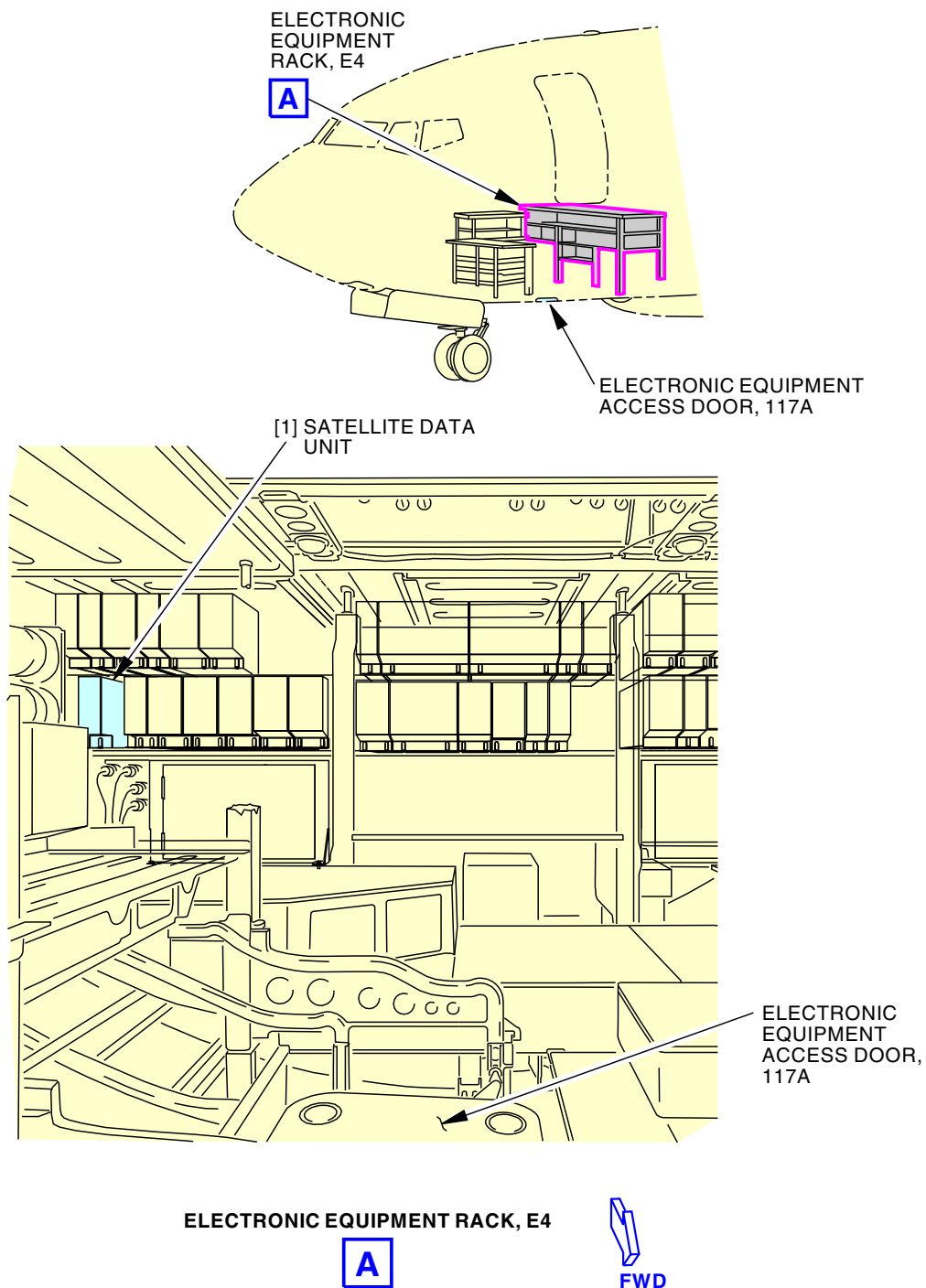
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Satellite Data Unit Installation  
Figure 401/23-15-01-990-801

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TASK 23-15-01-400-801

3. Satellite Data Unit Installation

(Figure 401)

A. General

- (1) This task includes the steps to install the Satellite Data Unit (SDU).
- (2) After the SDU installation, verify the software to make sure that the correct software parts are installed to the SDU.
- (3) It is the responsibility of the airlines to contact their SATCOM Service Provider to activate the Short Bust Data (SBD) and Voice services for the SDU prior to installation on the aircraft.

B. References

| Reference        | Title                                                            |
|------------------|------------------------------------------------------------------|
| 20-10-07-400-801 | E/E Box Installation (P/B 401)                                   |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201)      |
| 23-15-00-710-802 | Satellite Communications (SATCOM) System - System Test (P/B 501) |

C. Expendables/Parts

| AMM Item | Description         | AIPC Reference  | AIPC Effectivity |
|----------|---------------------|-----------------|------------------|
| 1        | Satellite data unit | 23-15-51-50-010 | SIA ALL          |

D. Location Zones

| Zone | Area                                           |
|------|------------------------------------------------|
| 118  | Electrical and Electronics Compartment - Right |

E. Access Panels

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

F. Installation Procedure

SUBTASK 23-15-01-440-002

- (1) If applicable, contact your designated SATCOM Service Provider to activate the Short Bust Data (SBD) and Voice services for the Satellite Data Unit Configuration Module (SCM).

SUBTASK 23-15-01-020-001

|                                                                                                       |                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>CAUTION</b> | DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE SATELLITE DATA UNIT [1]. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE SATELLITE DATA UNIT [1]. |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- (2) Before you touch the satellite data unit [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-15-01-420-001

- (3) To install the satellite data unit [1], do this task: E/E Box Installation, TASK 20-10-07-400-801.

SUBTASK 23-15-01-860-002

- (4) Remove the safety tags and close these circuit breakers:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name       |
|-----|-----|--------|------------|
| E   | 13  | C04060 | SATCOM SDU |

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F/O Electrical System Panel, P6-5

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
|------------|------------|---------------|-------------|

SIA 015-999

|   |    |        |             |
|---|----|--------|-------------|
| C | 18 | C04087 | SATCOM SDU  |
| C | 19 | C04088 | SATCOM HIGH |

SIA ALL

G. Installation Test

SUBTASK 23-15-01-730-001

- (1) Do this task: Satellite Communications (SATCOM) System - System Test, TASK 23-15-00-710-802.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-15-01-410-005

- (1) Close this access panel:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

————— END OF TASK —————

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SDU CONFIGURATION MODULE - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the SCM
  - (2) An installation of the SCM.
- B. The SCM is installed on the E5 equipment rack right aft stanchion. The E5 rack is in the Electrical and Electronics Compartment (ECC) on the right side.

**TASK 23-15-12-000-801**

2. SDU Configuration Module Removal

(Figure 401)

A. General

- (1) This task includes the steps to remove the Satellite Data Unit Configuration Module (SCM).
- (2) It is the responsibility of the airlines to contact their SATCOM Service Provider to deactivate the Short Bust Data (SBD) and Voice services for the SCM when it is removed from the aircraft.

B. References

| <u>Reference</u> | <u>Title</u>                                           |
|------------------|--------------------------------------------------------|
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201) |

C. Location Zones

| <u>Zone</u> | <u>Area</u>                                    |
|-------------|------------------------------------------------|
| 118         | Electrical and Electronics Compartment - Right |

D. Access Panels

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

E. Prepare for the Removal

SUBTASK 23-15-12-860-001

- (1) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| E          | 13         | C04060        | SATCOM SDU  |

**F/O Electrical System Panel, P6-5**

| <u>Row</u>         | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|--------------------|------------|---------------|-------------|
| <b>SIA 015-999</b> |            |               |             |
| C                  | 18         | C04087        | SATCOM SDU  |

**SIA ALL**

SUBTASK 23-15-12-020-005

- (2) Open this access panel:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

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**F. Removal Procedure**

SUBTASK 23-15-12-020-006



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (1) Before you touch the SDU Configuration Module [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-15-12-020-003

- (2) Do these steps to remove the SDU Configuration Module [1]:
  - (a) Loosen the screws [2] that attach the electrical connector [3] to the SDU Configuration Module [1].
  - (b) Disconnect the electrical connector [3] from the SDU Configuration Module [1].
  - (c) Remove the four mounting bolts [5] and washers [4].
  - (d) Remove the SDU Configuration Module [1] from its mounting bracket.

SUBTASK 23-15-12-910-001

- (3) Put the ESDS protective covers on the connectors.

SUBTASK 23-15-12-040-002

- (4) If applicable, contact your designated SATCOM Service Provider to deactivate the Short Bust Data (SBD) and Voice services for the removed SCM.

———— **END OF TASK** ————

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SIA ALL

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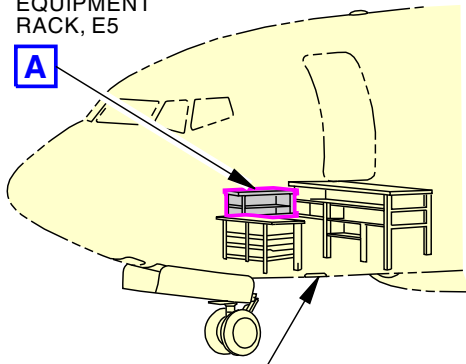
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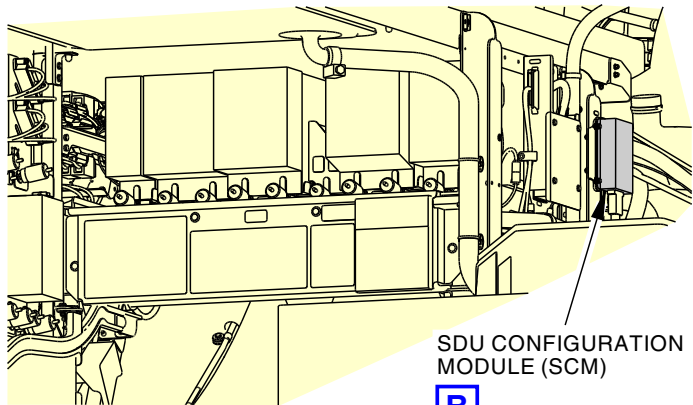
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ELECTRONIC  
EQUIPMENT  
RACK, E5

**A**



ELECTRONIC EQUIPMENT  
ACCESS DOOR, 117A



SDU CONFIGURATION  
MODULE (SCM)

**B**

ELECTRONIC EQUIPMENT RACK, E5

**A**

[4] WASHER  
(4 LOCATIONS)

[5] BOLT  
(4 LOCATIONS)

[1] SDU CONFIGURATION  
MODULE (SCM)



[3] ELECTRICAL  
CONNECTOR

[2] SCREW  
(2 LOCATIONS)

SDU CONFIGURATION MODULE (SCM)  
(EXAMPLE)

**B**

2565297 S0000613346\_V3

SDU Configuration Module Installation  
Figure 401/23-15-12-990-801

EFFECTIVITY  
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TASK 23-15-12-400-801

3. **SDU Configuration Module Installation**

(Figure 401)

**A. General**

- (1) This task includes the steps to install the Satellite Data Unit Configuration Module (SCM).
- (2) It is the responsibility of the airlines to contact their SATCOM Service Provider to activate the Short Bust Data (SBD) and Voice services for the SCM prior to installing it on the aircraft.

**B. References**

| Reference        | Title                                                            |
|------------------|------------------------------------------------------------------|
| 23-15-00-710-802 | Satellite Communications (SATCOM) System - System Test (P/B 501) |

**C. Expendables/Parts**

| AMM Item | Description              | AIPC Reference  | AIPC Effectivity |
|----------|--------------------------|-----------------|------------------|
| 1        | SDU Configuration Module | 23-15-51-60-020 | SIA ALL          |

**D. Location Zones**

| Zone | Area                                           |
|------|------------------------------------------------|
| 118  | Electrical and Electronics Compartment - Right |

**E. Access Panels**

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

**F. Installation Procedure**

**SUBTASK 23-15-12-440-002**

- (1) Contact your designated SATCOM Service Provider to activate the Short Bust Data (SBD) and Voice services for the new SCM.

**SUBTASK 23-15-12-420-001**

- (2) Install the SDU Configuration Module [1] as follows:
  - (a) Remove the ESDS protective covers from the electrical connectors.
  - (b) Examine the electrical connectors for broken or bent pins, dirt and damage.
  - (c) Put the SDU Configuration Module [1] in position on the mounting bracket.
  - (d) Install and tighten the four mounting bolts [5] and washers [4] to attach the SDU Configuration Module [1].
  - (e) Connect the electrical connector [3] to the SDU Configuration Module [1].
  - (f) Tighten the screws [2] to attach the electrical connector.

**SUBTASK 23-15-12-860-002**

- (3) Remove the safety tags and close these circuit breakers:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name       |
|-----|-----|--------|------------|
| E   | 13  | C04060 | SATCOM SDU |

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F/O Electrical System Panel, P6-5

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
|------------|------------|---------------|-------------|

SIA 015-999

|   |    |        |            |
|---|----|--------|------------|
| C | 18 | C04087 | SATCOM SDU |
|---|----|--------|------------|

SIA ALL

**G. Installation Test**

SUBTASK 23-15-12-470-001

- (1) Do this task: Satellite Communications (SATCOM) System - System Test, TASK 23-15-00-710-802.

**H. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-15-12-410-001

- (1) Close this access panel:

| <u>Number</u> | <u>Name/Location</u> |
|---------------|----------------------|
|---------------|----------------------|

|      |                                  |
|------|----------------------------------|
| 117A | Electronic Equipment Access Door |
|------|----------------------------------|

————— END OF TASK —————

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SATCOM ANTENNA - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the SATCOM antenna
  - (2) An installation of the SATCOM antenna
- B. The dual iridium antenna, M3189, is installed on top of the fuselage at approximately station 450.
- (1) There are two coaxial connectors on the dual iridium antenna.

**TASK 23-15-25-000-802**

2. SATCOM Antenna Removal

(Figure 401)

A. **General**

- (1) This task includes the steps to remove the SATCOM antenna.

B. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                         |
|-----------|-------------------------------------|
| SPL-768   | Sealant Removal Tool, Non-Metallic  |
|           | Part #: ST982L-9 Supplier: 81205    |
|           | Part #: ST982LF-9 Supplier: 81205   |
|           | Part #: ST982LH-A-1 Supplier: 81205 |

C. **Location Zones**

| Zone | Area                   |
|------|------------------------|
| 200  | Upper Half of Fuselage |

D. **Prepare for the Removal**

SUBTASK 23-15-25-860-005

- (1) Open this circuit breaker and install safety tag:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name       |
|-----|-----|--------|------------|
| E   | 13  | C04060 | SATCOM SDU |

E. **SATCOM Antenna Removal**

SUBTASK 23-15-25-100-001

- (1) Remove the sealant from the heads of the bolts [13] with the sealant removal tool, SPL-768.

SUBTASK 23-15-25-020-007

- (2) Remove the bolts [13] that attach the antenna [12] to the airplane.

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SUBTASK 23-15-25-100-002



**CAUTION**

REMOVE THE AERODYNAMIC FILLET SEAL CAREFULLY WITH THE SEALANT REMOVAL TOOL. DAMAGE TO THE AIRPLANE SKIN OR THE COAXIAL CABLE CAN OCCUR.

- (3) Remove the aerodynamic fillet seal around the base of the antenna [12] with the sealant removal tool, SPL-768.

SUBTASK 23-15-25-020-008

- (4) Lift the antenna [12] to get access to the coaxial cables [14].

SUBTASK 23-15-25-020-009

- (5) Disconnect the coaxial cables [14] from the antenna [12].
- (a) Make sure that the coaxial cables [14] do not fall back through the hole.
  - (b) Temporarily attach the coaxial cables [14] to the airplane structure with tape.

SUBTASK 23-15-25-480-001

- (6) Put protective covers on the coaxial cables [14] and antenna [12] electrical connector.

SUBTASK 23-15-25-020-012

- (7) Remove the antenna [12] from the airplane.

SUBTASK 23-15-25-020-013

- (8) Remove the discard the gasket [15].

————— **END OF TASK** —————

EFFECTIVITY  
SIA ALL

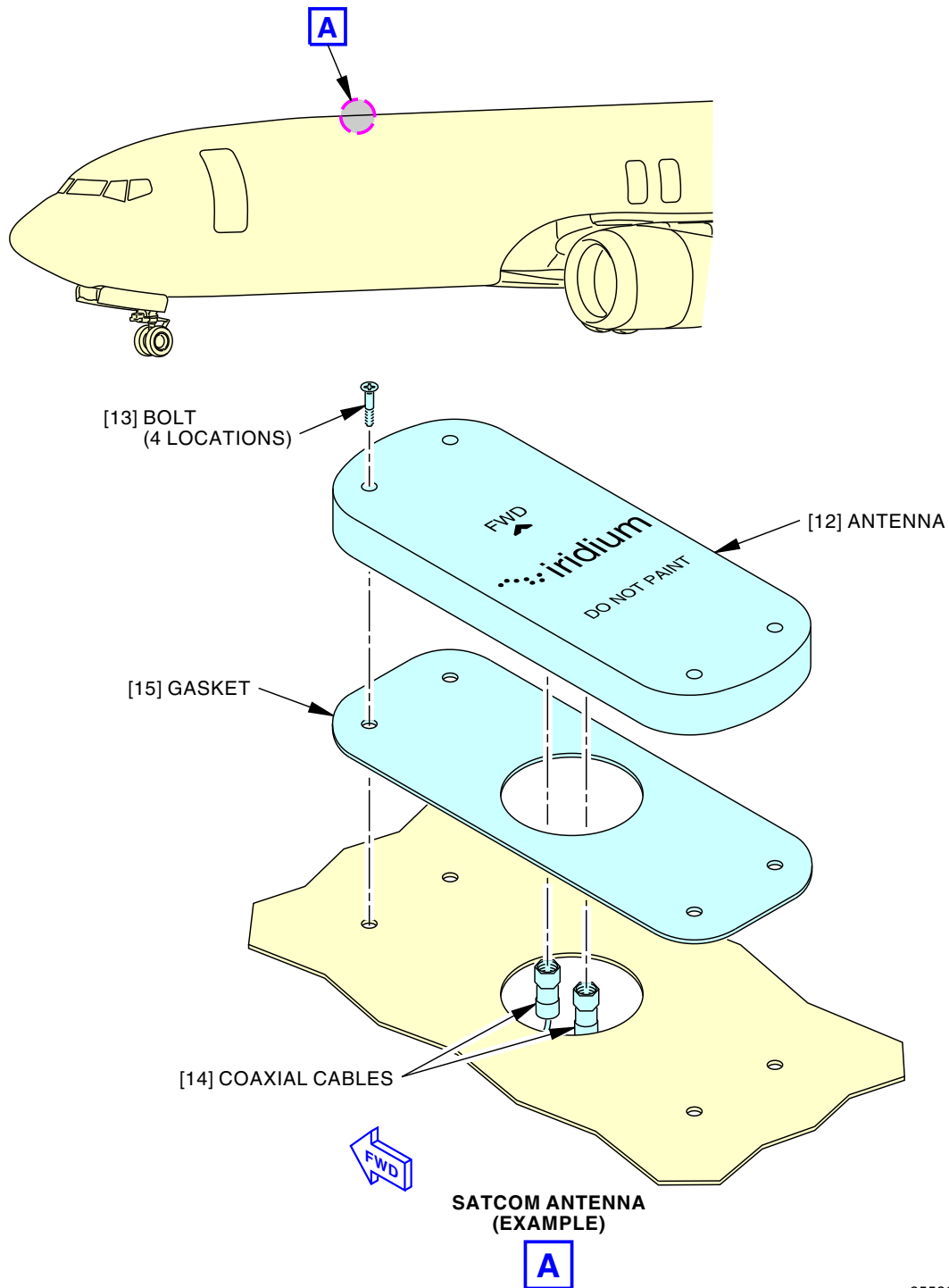
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**BOEING**  
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**SATCOM Antenna Installation**  
**Figure 401/23-15-25-990-802**

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TASK 23-15-25-400-802

3. **SATCOM Antenna Installation**

(Figure 401)

**A. General**

(1) This task includes the steps to install the SATCOM antenna to the aircraft fuselage.

**B. References**

| Reference        | Title                                                            |
|------------------|------------------------------------------------------------------|
| 20-10-34-110-802 | Clean Bare, Clad, or Plated Metal with Solvent (P/B 701)         |
| 23-15-00-710-802 | Satellite Communications (SATCOM) System - System Test (P/B 501) |
| 51-22-00-390-809 | Aerodynamic Smoother Application (P/B 201)                       |

**C. Tools/Equipment**

**NOTE:** When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-614   | Bonding Meters - Non-Intrinsically Safe (For use in outside Class I, Divisions I & II non-hazardous locations. For hazardous locations, use COM-1550).<br>Part #: 247000 Supplier: 00426<br>Part #: 620LK Supplier: 1CRL2<br>Part #: BLR-0003-XX Supplier: KC432<br>Part #: BT51 Supplier: 00426<br>Part #: M1 Supplier: 3AD17<br>Part #: M1B Supplier: 3AD17<br>Part #: T477W (C15292) Supplier: 06659<br>Opt Part #: 247001 Supplier: 00426 |
| SPL-768   | Sealant Removal Tool, Non-Metallic<br>Part #: ST982L-9 Supplier: 81205<br>Part #: ST982LF-9 Supplier: 81205<br>Part #: ST982LH-A-1 Supplier: 81205                                                                                                                                                                                                                                                                                            |
| STD-765   | Scraper - Plastic                                                                                                                                                                                                                                                                                                                                                                                                                             |

**D. Consumable Materials**

| Reference | Description                                                          | Specification                                                     |
|-----------|----------------------------------------------------------------------|-------------------------------------------------------------------|
| A00247    | Sealant - Pressure And Environmental - Chromate Type                 | BMS5-95                                                           |
| B00130    | Alcohol - Isopropyl                                                  | TT-I-735                                                          |
| G00034    | Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze) | AMS3819 Class 1<br>Grade A or B Form 1<br>(Supersede BMS15-5 CLA) |

**E. Expendables/Parts**

| AMM Item | Description | AIPC Reference  | AIPC Effectivity |
|----------|-------------|-----------------|------------------|
| 12       | Antenna     | 23-15-51-01-020 | SIA ALL          |
| 15       | Gasket      | 23-15-51-01-015 | SIA ALL          |

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### F. Location Zones

| Zone | Area                   |
|------|------------------------|
| 200  | Upper Half of Fuselage |

### G. Prepare for the Installation

SUBTASK 23-15-25-860-006

- (1) Make sure that this circuit breaker is open and has safety tag:

#### CAPT Electrical System Panel, P18-2

| Row | Col | Number | Name       |
|-----|-----|--------|------------|
| E   | 13  | C04060 | SATCOM SDU |

### H. SATCOM Antenna Installation

SUBTASK 23-15-25-100-003

- (1) Remove the sealant from the mating surfaces of the airplane skin and antenna [12] with the sealant removal tool, SPL-768.

SUBTASK 23-15-25-110-001



DO NOT GET SOLVENTS IN YOUR MOUTH, EYES, OR SKIN. DO NOT BREATHE FUMES FROM SOLVENTS. REFER TO PRODUCT MATERIAL SAFETY DATA SHEETS (MSDS) AND LOCAL REQUIREMENTS FOR PROPER HANDLING. SOLVENTS ARE HAZARDOUS MATERIALS AND MAY BE FLAMMABLE OR HARMFUL TO THE ENVIRONMENT.

- (2) Solvent clean the mating surfaces between the base of the antenna [12] and the airplane skin (TASK 20-10-34-110-802).

SUBTASK 23-15-25-020-014

- (3) If a new antenna [12] will be installed, discard the O-ring supplied with the antenna [12].

SUBTASK 23-15-25-420-009

- (4) Do these steps to install the gasket [15]:
- Remove protective film from the antenna [12] side of the gasket [15].
  - Align the gasket [15] to the fastener and the connector holes of the antenna [12].
  - Press the gasket [15] firmly onto the antenna [12] base.
  - Remove protective film from the airplane side of the gasket [15].

SUBTASK 23-15-25-420-010

- (5) Do these steps to connect the coaxial cables [14]:
- Remove the protective caps from the coaxial cables [14] and antenna [12].
  - If it is necessary, remove the tape from the coaxial cables [14].
  - Connect the coaxial cables [14] to the antenna [12].

SUBTASK 23-15-25-420-012

- (6) Do these steps to install the antenna [12]:
- Put the antenna [12] in position on the airplane skin.
    - Make sure that the bolt holes on the antenna [12] align with the bolt holes on the airplane skin.
  - Do these steps to install three of the four bolts [13]:

**NOTE:** The last bolt hole is used for the electrical bonding check.

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- 1) Apply sealant, A00247, to the threads and shank of the three bolts [13].
- 2) Install the antenna [12] with the three bolts [13].
- 3) Tighten the three bolts [13] to 25.0 in-lb (2.8 N·m).
- 4) Wait 15 minutes.

NOTE: The gasket gel material can compress during this time.

- 5) Tighten the three bolts [13] to 30.0 in-lb (3.4 N·m).
- (c) Use a non-intrinsically safe bonding meter, COM-614 to measure the resistance between the base of the antenna [12] and the airplane skin.

NOTE: The empty bolt hole may be used to get access to the base of the antenna [12].

- 1) Make sure that the electrical bonding resistance is 0.001 ohms (1.0 milliohms) or less.
- (d) Apply sealant, A00247, to the threads and shank of the last bolt [13].
- (e) Install the last bolt [13].
- (f) Tighten the bolts [13] to 30.0 in-lb (3.4 N·m).
- (g) Remove the unwanted sealant, A00247 from the bolts [13].
- (h) Remove the unwanted gel squeeze out from the gasket [15] with a plastic scraper, STD-765.
- 1) If it is necessary, use a clean cotton wiper, G00034, moist (not soaked) with alcohol, B00130, to help remove the unwanted gel.
- (i) Apply an aerodynamic fillet seal around the base of the antenna [12] with sealant, A00247 (TASK 51-22-00-390-809).
- 1) Make sure that there are no gaps between the antenna [12] base and the aircraft skin.

SUBTASK 23-15-25-860-007

- (7) Remove the safety tag and close this circuit breaker:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| E          | 13         | C04060        | SATCOM SDU  |

**I. Installation Test**

SUBTASK 23-15-25-730-001

- (1) Do this task: Satellite Communications (SATCOM) System - System Test, TASK 23-15-00-710-802.

————— **END OF TASK** —————

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EMERGENCY LOCATOR TRANSMITTER SYSTEM - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

- (1) Emergency locator transmitter deactivation
- (2) Emergency locator transmitter activation
- (3) Emergency locator transmitter battery replacement.

**TASK 23-24-00-040-802**

2. Emergency Locator Transmitter Deactivation

A. **General**

- (1) This task removes electrical power to the Emergency Locator Transmitter (ELT).

B. **References**

| Reference        | Title                                  |
|------------------|----------------------------------------|
| 25-21-45-000-801 | Main Ceiling Panel - Removal (P/B 401) |

C. **Location Zones**

| Zone | Area                                                                        |
|------|-----------------------------------------------------------------------------|
| 211  | Flight Compartment - Left                                                   |
| 212  | Flight Compartment - Right                                                  |
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left  |
| 242  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right |

D. **Emergency Locator Transmitter Deactivation**

NOTE: Circuit breaker C01278 can stay closed, if Master Caution Warning functionality is necessary for other systems such as Auxiliary Power Unit (APU) or thrust reversers.

SUBTASK 23-24-00-860-004-001

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-3**

| Row | Col | Number | Name                              |
|-----|-----|--------|-----------------------------------|
| C   | 14  | C01278 | MASTER CAUTION ANNUNCIATOR CONT 4 |

E. **Emergency Locator Transmitter Tryout**

NOTE: This tryout is to make sure that the ELT is in a zero energy state.

SUBTASK 23-24-00-860-025

- (1) Do this task: Main Ceiling Panel - Removal, TASK 25-21-45-000-801.

SUBTASK 23-24-00-700-002

- (2) Place the switch on the front of the ELT to the OFF position.
  - (a) Make sure that none of the LED lights come on.

I

————— **END OF TASK** —————

**TASK 23-24-00-440-802**

3. Emergency Locator Transmitter Activation

A. **General**

- (1) This task adds electrical power to the Emergency Locator Transmitter (ELT).

|             |
|-------------|
| EFFECTIVITY |
| SIA ALL     |

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**B. References**

| Reference        | Title                                               |
|------------------|-----------------------------------------------------|
| 23-24-00-730-803 | Emergency Locator Transmitter System Test (P/B 501) |
| 25-21-45-400-801 | Main Ceiling Panel - Installation (P/B 401)         |

**C. Location Zones**

| Zone | Area                                                                        |
|------|-----------------------------------------------------------------------------|
| 211  | Flight Compartment - Left                                                   |
| 212  | Flight Compartment - Right                                                  |
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left  |
| 242  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right |

**D. Emergency Locator Transmitter Activation**

SUBTASK 23-24-00-440-003

- (1) Place the switch on the transmitter to the ARMED position.

SUBTASK 23-24-00-860-006-001

- (2) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-3**

| Row | Col | Number | Name                              |
|-----|-----|--------|-----------------------------------|
| C   | 14  | C01278 | MASTER CAUTION ANNUNCIATOR CONT 4 |

SUBTASK 23-24-00-730-007

- (3) Do this task: Emergency Locator Transmitter System Test, TASK 23-24-00-730-803

SUBTASK 23-24-00-860-026

- (4) Do this task: Main Ceiling Panel - Installation, TASK 25-21-45-400-801.

————— **END OF TASK** —————

**TASK 23-24-00-960-803**

**4. Emergency Locator Transmitter Battery - Replacement**

**NOTE:** Battery replacement for the ELTA P/N 01N65900 Emergency Locator Transmitter should be performed by ELTA or an approved repair facility. The internal timer of ELT activation time needs to be reset. An ELTA ELT test bench is used to reset ELT activation time.

**NOTE:** Transmitter disassembly is required to access the batteries.

Reassembly includes vendor recommended inspections and replacement of parts in addition to new batteries.

————— **END OF TASK** —————

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EMERGENCY LOCATOR TRANSMITTER - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Emergency Locator Transmitter Removal
  - (2) Emergency Locator Transmitter Installation.

**TASK 23-24-00-000-804**

2. Emergency Locator Transmitter - Removal

Figure 401

A. **References**

| Reference        | Title                                                          |
|------------------|----------------------------------------------------------------|
| 20-40-12-400-803 | Conductive Dust Cap and Connector Cover Installation (P/B 201) |
| 25-21-45-000-801 | Main Ceiling Panel - Removal (P/B 401)                         |

B. **Location Zones**

| Zone | Area                                                                        |
|------|-----------------------------------------------------------------------------|
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left  |
| 242  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right |

C. **Removal Procedure**

SUBTASK 23-24-00-010-007

- (1) Do this task: Main Ceiling Panel - Removal, TASK 25-21-45-000-801.

SUBTASK 23-24-00-000-001

- (2) Set the switch on the front panel of the ELT [1] to the OFF position.
- (3) If necessary, remove the backup antenna [5] and retain for installation on the replacement ELT [1].

NOTE: It is not necessary to remove the backup antenna if the replacement ELT is supplied with a backup antenna.

SUBTASK 23-24-00-020-005

- (4) Do these steps to remove the ELT [1]:
- (a) Set the switch on the front panel of the ELT [1] to the OFF position.
  - (b) Disconnect the external antenna connector [2].
  - (c) Disconnect the remote control connector [3].
  - (d) Put protective covers on the electrical connectors (Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-803).
  - (e) Remove the four bolts [4] that attach the ELT [1] to the airplane structure.
  - (f) Save the four bolts [4] and washers.

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- (g) Remove the ELT [1].

NOTE: The next step is necessary **ONLY** if the activation/identification module on the ELT is programmed with airplane registry (tail ID) or the airplane 24 BIT address. If this is correct, the activation/identification module stays with the airplane. However, on some configurations, the activation/identification module is programmed with ELT information (not airplane identification) so that it stays with the removed ELT. If you do not know the activation/identification module programmed configuration, ask your engineering department.

- (h) Remove the activation/identification module from the ELT [1] and keep it to install on the new ELT [1].

———— **END OF TASK** ————

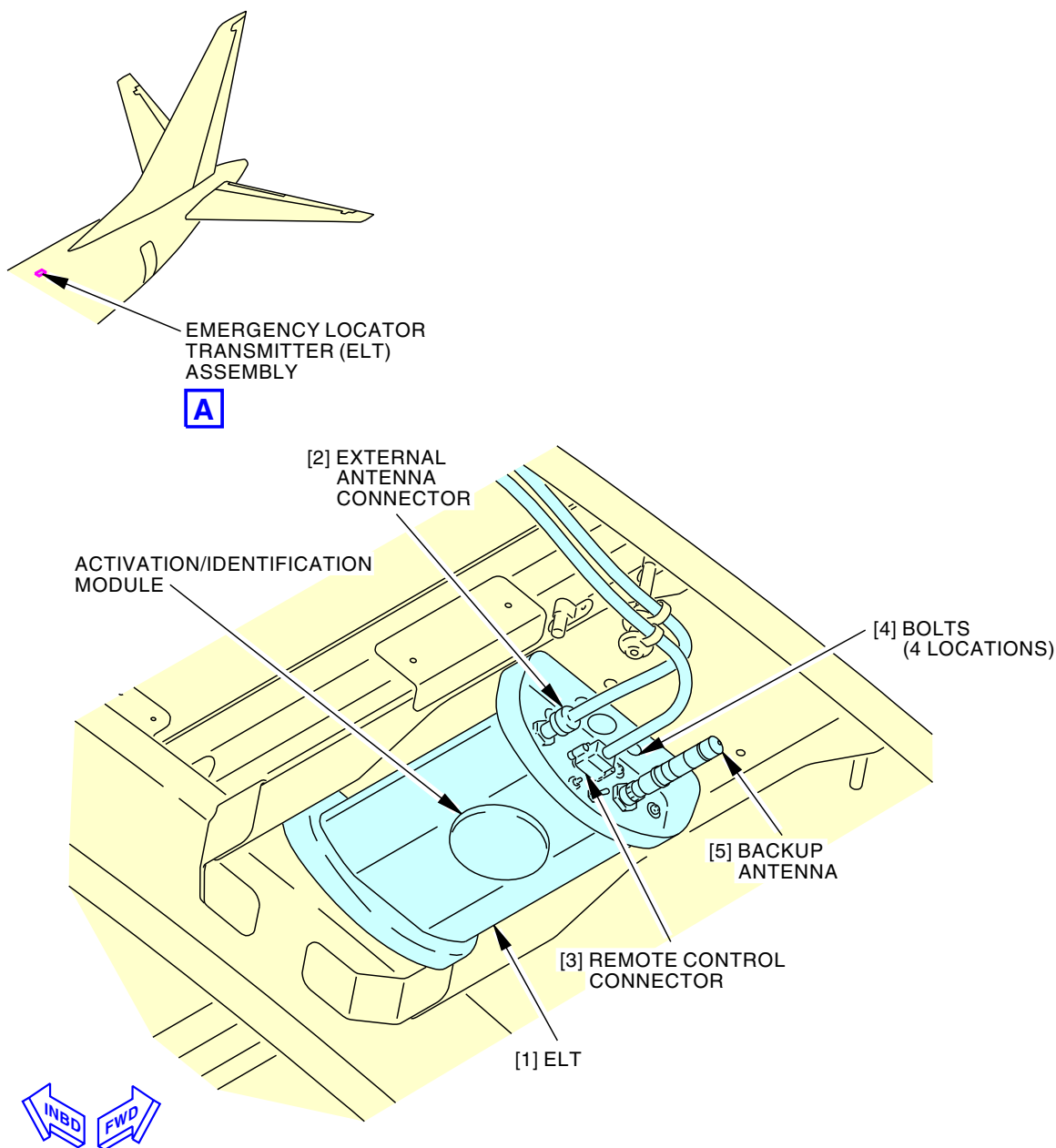
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EMERGENCY LOCATOR TRANSMITTER (ELT) ASSEMBLY

**A**

2534508 S0000600905\_V1

Emergency Locator Transmitter (ELT) Assembly  
Figure 401/23-24-00-990-807

EFFECTIVITY  
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TASK 23-24-00-400-804

3. Emergency Locator Transmitter - Installation

Figure 401

A. References

| Reference        | Title                                                     |
|------------------|-----------------------------------------------------------|
| 20-40-12-000-803 | Conductive Dust Cap and Connector Cover Removal (P/B 201) |
| 23-24-00-730-803 | Emergency Locator Transmitter System Test (P/B 501)       |

B. Consumable Materials

| Reference | Description                                                           | Specification  |
|-----------|-----------------------------------------------------------------------|----------------|
| G50411    | Torque Stripe - EC-1252 [pink or yellow (as required per BAC5001-10)] | BMS8-45 Type I |

C. Expendables/Parts

| AMM Item | Description | AIPC Reference  | AIPC Effectivity |
|----------|-------------|-----------------|------------------|
| 1        | ELT         | 23-24-00-02-030 | SIA ALL          |

D. Location Zones

| Zone | Area                                                                        |
|------|-----------------------------------------------------------------------------|
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left  |
| 242  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right |

E. Installation Procedure

SUBTASK 23-24-00-400-001

- (1) If necessary, do these steps to install the backup antenna [5] to the ELT [1].
- Make sure that the switch on the front of the ELT [1] is in the OFF position.
  - Install the backup antenna [5] to the ELT [1].
  - Tighten the connector with your fingers, plus 1/8 turn.
  - Apply the torque stripe, G50411 at the connection between the backup antenna [5] and the ELT [1] after the torque is complete.
- NOTE:** Installation of the torque stripe is necessary. It shows the antenna is securely attached after the ELT is installed. There is a procedure to examine the torque stripe after the ELT installation procedure.

SUBTASK 23-24-00-420-005

- (2) Do these steps to install the ELT [1]:
- Make sure that the switch on the front panel of the ELT [1] is in the OFF position.
  - Put the ELT [1] in its position.
- NOTE:** The front panel of the ELT must be in the forward position to operate correctly.
- Install four bolts [4] and four washers to attach the ELT [1] to the airplane structure.
  - Remove the protective covers from the electrical connectors (Conductive Dust Cap and Connector Cover Removal, TASK 20-40-12-000-803).
  - Examine the electrical connectors for bent or broken pins, dirt, and damage.
  - Connect the remote control connector [3].

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- (g) Connect the external antenna connector [2].

NOTE: The next step is necessary ONLY if the activation/identification module is programmed with airplane registry (tail ID) or airplane 24 BIT address ID. If you do not know the airplane/identification module programmed configuration, ask your engineering department.

- (h) Install on the new ELT [1] the activation/identification module (AIM) kept from the ELT [1] removal task.

- 1) Make sure that the DIRECTION OF FLIGHT airplane symbol on the AIM's identification label points to the front of the airplane.

NOTE: The DIRECTION OF FLIGHT airplane symbol must be pointed to the front of the airplane to ensure correct acceleration sensor (G switch) operation.

- 2) Install the activation/identification module to the ELT [1].

- (i) Set the switch on the front panel of the ELT [1] to the ARMED position.

**SUBTASK 23-24-00-420-006**

- (3) Do an inspection of the torque stripe after the ELT [1] is installed.

- (a) Make sure that the torque stripe on the backup antenna connector is not broken or damaged.
- (b) If the torque stripe is broken or damaged, then you must do the backup antenna [5] installation procedure again.

**F. ELT Installation Test**

**SUBTASK 23-24-00-730-003**

- (1) Do this task: Emergency Locator Transmitter System Test, TASK 23-24-00-730-803.

———— **END OF TASK** ————

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EMERGENCY LOCATOR TRANSMITTER - ADJUSTMENT/TEST

1. **General**

A. This procedure has these tasks:

- (1) An operational test of the emergency locator transmitter
- (2) A system test of the emergency locator transmitter.

**TASK 23-24-00-710-803**

2. **Emergency Locator Transmitter Operational Test**

**A. General**

- (1) This task provides a procedure to do an operational test of the Emergency Locator Transmitter (ELT) system from the ELT control panel in the flight compartment.

**B. References**

| Reference        | Title                                                  |
|------------------|--------------------------------------------------------|
| 23-12-00-730-801 | VHF Communication System - System Test (P/B 501)       |
| 23-24-00-000-804 | Emergency Locator Transmitter - Removal (P/B 401)      |
| 23-24-00-400-804 | Emergency Locator Transmitter - Installation (P/B 401) |

**C. Location Zones**

| Zone | Area                                                                        |
|------|-----------------------------------------------------------------------------|
| 211  | Flight Compartment - Left                                                   |
| 212  | Flight Compartment - Right                                                  |
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left  |
| 242  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right |

**D. Prepare for the Test**

**SUBTASK 23-24-00-860-021**

- (1) Set the No. 2 Very High Frequency (VHF) communication system (VHF COMM 2) to a frequency of 121.5 MHz (VHF Communication System - System Test, TASK 23-12-00-730-801).

**SUBTASK 23-24-00-860-022**

- (2) Prepare one of the Audio Control Panels (ACP) in the flight compartment to listen for No. 2 VHF communication system:
  - (a) Push all audio monitor switches to the OFF position.
  - (b) Push the volume control for the VHF-2 selector switch.
    - 1) Make sure that its light comes on.
  - (c) Turn the volume control for the VHF-2 selector switch clockwise to the middle position.
  - (d) Push the SPKR volume control switch to the ON position.
    - 1) Make sure that its light comes on.
  - (e) Turn the SPKR volume control switch clockwise to the middle position.

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SUBTASK 23-24-00-910-014

- (3) Make sure that you do the ELT test in the first five minutes of the hour (Universal Time Coordinated (UTC)).

**NOTE:** Free Space Transmission Tests from the aircraft on 121.5/243 MHz are generally allowed any time within five minutes after each hour. Check your local regulations. THERE IS NO ALLOWANCE FOR TRANSMITTING A VALID 406 MHZ MESSAGE AT ANY TIME.

The ELT will begin transmitting on 121.5/243 MHz immediately following activation and 406 MHz distress signals approximately 50 seconds after activation. If the ELT is inadvertently kept in the ON position for longer than approximately 50 seconds, you will hear a brief interruption of the 121.5 MHz signal while the 406 MHz message is transmitted. If this occurs, then you must reset the ELT immediately and tell the local emergency authorities. This will prevent emergency search and rescue operations that are not necessary.

- (a) If you do the ELT test outside of the first five minutes of the hour (UTC), do this step:
- 1) Speak with the local emergency authority (Air Traffic Control Tower or Flight Service Station) to let them know there will be an ELT Test Transmission on the Emergency Frequencies 121.5/243 MHz.

SUBTASK 23-24-00-910-015



MAKE SURE THAT YOU FOLLOW THE LOCAL ELT OPERATION REGULATIONS. IF YOU MAKE AN ACCIDENTAL TRANSMISSION, TELL THE AUTHORITIES. THIS WILL PREVENT EMERGENCY SEARCH OPERATIONS THAT ARE NOT NECESSARY.

- (4) Follow the local ELT operation requirements.

### E. ELT Operational Test (at the ELT Remote Control Panel)

SUBTASK 23-24-00-710-015



READ ALL THE STEPS THAT FOLLOW BEFORE YOU START THE ELT TEST PROCEDURE. YOU MUST BECOME FAMILIAR WITH THE INSTRUCTIONS. MAKE SURE THAT YOU USE A TIMING DEVICE TO MONITOR THE TIME DURING THE ELT TEST. YOU MUST COMPLETE THE ELT TEST PROCEDURE IN LESS THAN 50 SECONDS. THIS WILL HELP PREVENT ACCIDENTAL ACTIVATION OF THE ELT.

- (1) Read all the steps that follow before you continue to do the subsequent steps.

SUBTASK 23-24-00-710-010

- (2) Do these steps for the ELT operational test on the ELT remote control panel:
- (a) Push and hold the ELT annunciator.
    - 1) Make sure that the annunciator comes on.
  - (b) Release the ELT annunciator.
    - 1) Make sure that the annunciator goes off.
  - (c) Push and release the MASTER CAUTION Reset Button, on the P7 glareshield.
    - 1) Make sure that the MASTER CAUTION and OVERHEAD annunciators, on the P7 glareshield, are off.

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- (d) Make sure that the ELT control switch on the front panel of the ELT unit is in the ARMED position (Emergency Locator Transmitter - Removal, TASK 23-24-00-000-804, Emergency Locator Transmitter - Installation, TASK 23-24-00-400-804).



MAKE SURE THAT YOU DO THE ELT LIVE TRANSMISSION TEST IN THE FIRST FIVE MINUTES OF THE HOURS (UTC). COORDINATE WITH THE APPLICABLE LOCAL EMERGENCY AUTHORITY (AIR TRAFFIC CONTROL TOWER OR FLIGHT SERVICE STATION) FOR THE APPROVAL OF THIS TEST IF YOU DO THIS TEST OUTSIDE OF THE FIRST FIVE MINUTES OF THE HOURS (UTC).



DO NOT OPERATE THE ELT FOR MORE THAN 50 SECONDS. IF YOU OPERATE THE ELT CONTINUOUSLY FOR MORE THAN 50 SECONDS, IT WILL TRANSMIT A 406-MHZ EMERGENCY SIGNAL. THE SIGNAL TELLS EMERGENCY PERSONNEL TO DO A SEARCH FOR A MISSING AIRCRAFT. IF THE EMERGENCY SIGNAL OCCURS DURING THIS TEST, IMMEDIATELY TELL THE APPLICABLE EMERGENCY PERSONNEL.

- (e) On the ELT remote control panel, at the P5 pilot overhead panel, open the guard on the ELT RESET/ARMED/ON switch.

NOTE: It is necessary to reset the ELT if the ELT is activated accidentally. The ELT is in a self-test for 10 seconds and then the ELT control panel annunciates the test results for 10 seconds. After the self-test sequence is complete, the ELT must be reset within 30 seconds to prevent the ELT from activation.

NOTE: To reset the ELT, push and hold the RESET/ARMED/ON switch on the ELT control panel to the RESET position until the ELT annunciator goes off, then release the RESET/ARMED/ON switch to the ARMED position. If the RESET/ARMED/ON switch is in the RESET position for more than 3 seconds, the ELT will re-activate.

- (f) Set the ELT RESET/ARMED/ON switch to the ON position for less than 50 seconds.

- 1) Monitor the ELT test sequence as follows:

NOTE: All times are approximate.

- a) In 0–10 seconds:

<1> The ELT annunciator flashes three times and stays off for approximately six seconds.

<a> You hear the 121.5 MHz ELT test transmission on the VHF communication system.

NOTE: The duration of the transmission of 121.5 MHz during the self-test depends on the revision index that shows on the ELT.

- ELT with REV (H) and before is approximately five seconds.
- ELT with REV (J) and after is approximately one second.

<2> The MASTER CAUTION and OVERHEAD annunciators, on the P7 glareshield, come on.

- b) In 10–20 seconds:

NOTE: The ELT control panel annunciates the test results for 10 seconds.

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<1> Make sure that the ELT annunciator comes on continuously for 10 seconds.

<a> If the ELT annunciator stays off or flashes for these 10 seconds, record the flashing rates of the ELT annunciator.

NOTE: The flashing rate of the ELT annunciator shows the maintenance message of the fault as follows:

- 125 ms ON, 125 ms OFF (4 Hz) is an ELT Check Sum failure (software problem).
- 250 ms ON, 250 ms OFF (2 Hz) is an ELT power failure (UHF and/of VHF).
- 500 ms ON, 500 ms OFF (1 Hz) is an external antenna connection failure or a signal identification missing failure.

c) In 20–50 seconds:

<1> Push and hold the RESET/ARMED/ON switch to the RESET position until the ELT annunciator goes off, then release the RESET/ARMED/ON switch to the ARMED position.

NOTE: If the RESET/ARMED/ON switch is in the RESET position for more than 3 seconds, the ELT will re-activate.

<a> Make sure that the ELT annunciator on the ELT Control Panel goes off.

<b> Make sure that you do not hear the ELT test signal on the VHF communication system.

<c> Make sure that the ELT RESET/ARMED/ON switch is in the ARMED position.

<2> Close the guard on the ELT RESET/ARMED/ON switch.

<3> Push and release the MASTER CAUTION annunciator, on the P7 glareshield.

<a> Make sure that the MASTER CAUTION and OVERHEAD annunciators, on the P7 glareshield, are off.

### F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-24-00-910-016

(1) Tell the local emergency authority that the ELT test is completed (if applicable).

————— END OF TASK —————

### TASK 23-24-00-730-803

#### 3. Emergency Locator Transmitter System Test

NOTE: This procedure is a scheduled maintenance task.

##### A. General

- (1) This task provides a procedure to do a system test of the Emergency Locator Transmitter (ELT) system. The system test includes the ELT operational test and the ELT control panel in the flight deck and the ELT self-test at the ELT front panel.

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### B. References

| Reference        | Title                                       |
|------------------|---------------------------------------------|
| 25-21-45-000-801 | Main Ceiling Panel - Removal (P/B 401)      |
| 25-21-45-400-801 | Main Ceiling Panel - Installation (P/B 401) |

### C. Location Zones

| Zone | Area                                                                        |
|------|-----------------------------------------------------------------------------|
| 211  | Flight Compartment - Left                                                   |
| 212  | Flight Compartment - Right                                                  |
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left  |
| 242  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right |

### D. Prepare for the System Test

SUBTASK 23-24-00-910-017

- (1) Make sure that you do the ELT test in the first five minutes of the hour (Universal Time Coordinated (UTC)).

**NOTE:** Free Space Transmission Tests from the aircraft on 121.5/243 MHz are generally allowed any time within five minutes after each hour. Check your local regulations. THERE IS NO ALLOWANCE FOR TRANSMITTING A VALID 406 MHZ MESSAGE AT ANY TIME.

The ELT will begin transmitting on 121.5/243 MHz immediately following activation and 406 MHz distress signals approximately 50 seconds after activation. If the ELT is inadvertently kept in the ON position for longer than approximately 50 seconds, you will hear a brief interruption of the 121.5 MHz signal while the 406 MHz message is transmitted. If this occurs, then you must reset the ELT immediately and tell the local emergency authorities. This will prevent emergency search and rescue operations that are not necessary.

- (a) If you do the ELT test outside of the first five minutes of the hour (UTC), do this step:
  - 1) Speak with the local emergency authority (Air Traffic Control Tower or Flight Service Station) to let them know there will be an ELT Test Transmission on the Emergency Frequencies 121.5/243 MHz.

SUBTASK 23-24-00-910-018



MAKE SURE THAT YOU FOLLOW THE LOCAL ELT OPERATION REGULATIONS. IF YOU MAKE AN ACCIDENTAL TRANSMISSION, TELL THE AUTHORITIES. THIS WILL PREVENT EMERGENCY SEARCH OPERATIONS THAT ARE NOT NECESSARY.

- (2) Follow the local ELT operation requirements.

### E. ELT Operational Test at the ELT Control Panel (P5 Pilot's Overhead Panel)

SUBTASK 23-24-00-710-012

- (1) Do this task: Emergency Locator Transmitter Operational Test, TASK 23-24-00-710-803

### F. ELT Self-Test at the Front Panel of the ELT Unit

SUBTASK 23-24-00-010-009

- (1) Remove the ceiling panel to get access to the ELT (Main Ceiling Panel - Removal, TASK 25-21-45-000-801).

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SUBTASK 23-24-00-730-006

- (2) Do these steps to do the self-test at the ELT front panel:

NOTE: The self-test includes a 406 MHz test transmission. This test transmission does not cause a search operation.



READ ALL THE STEPS THAT FOLLOW BEFORE YOU START THE ELT TEST PROCEDURE. YOU MUST BECOME FAMILIAR WITH THE INSTRUCTIONS. MAKE SURE THAT YOU USE A TIMING DEVICE TO MONITOR THE TIME DURING THE ELT TEST. YOU MUST COMPLETE THE ELT TEST PROCEDURE IN LESS THAN 50 SECONDS. THIS WILL HELP PREVENT ACCIDENTAL ACTIVATION OF THE ELT.

- (a) Read all of the instructions below before you do the next step.



MAKE SURE THAT YOU DO THE ELT LIVE TRANSMISSION TEST IN THE FIRST FIVE MINUTES OF THE HOURS (UTC). COORDINATE WITH THE APPLICABLE LOCAL EMERGENCY AUTHORITY (AIR TRAFFIC CONTROL TOWER OR FLIGHT SERVICE STATION) FOR THE APPROVAL OF THIS TEST IF YOU DO THIS TEST OUTSIDE OF THE FIRST FIVE MINUTES OF THE HOURS (UTC).



IF THE EMERGENCY SIGNAL OCCURS DURING THIS TEST, IMMEDIATELY TELL THE APPLICABLE EMERGENCY PERSONNEL. THE SIGNAL TELLS EMERGENCY PERSONNEL TO DO A SEARCH FOR A MISSING AIRCRAFT.



PULL THE SWITCH BEFORE YOU MOVE IT TO A DIFFERENT POSITION. IF YOU MOVE THE SWITCH BEFORE YOU PULL IT, YOU WILL CAUSE DAMAGE TO THE SWITCH.

- (b) Pull and move the ELT ARMED/OFF/ON switch to the ON position (on the ELT front panel).

NOTE: The lever lock toggle switch on the ELT front panel is locked into the position in which it is placed. Pull out on the toggle to allow movement before attempting to move switch to another position. The toggle will lock into the new position when released.

NOTE: It is necessary to reset the ELT if the ELT is activated accidentally. The ELT is in a self-test for 10 seconds and then annunciates the test results for 10 seconds. After the self-test sequence is complete, the ELT must be reset within 30 seconds to prevent the ELT from activation.

NOTE: To reset the ELT, set the ARMED/OFF/ON switch on the front panel of the ELT unit to the OFF position. Then set the ARMED/OFF/ON switch to the ARMED position.

- 1) Make sure that the red TX light flashes twice and then after approximately 3 seconds the red TX light turns on and stays on for approximately 6 seconds.
- 2) Make sure that the ELT buzzer sounds for approximately 6 seconds during the TX light indication.
- 3) After the 6 seconds, make sure that the red TX light flashes and then stays on steady for 10 seconds.

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- a) If the LED flashes one time, this indicates a G-switch loop open failure.
- b) If the red TX light stays off or flashes for 10 seconds, this shows that the BITE test did not pass.

NOTE: The flashing rate of the TX light shows the maintenance message of the fault as follows:

- 125 ms ON, 125 ms OFF (4 Hz) is an ELT Check Sum failure (software problem).
- 250 ms ON, 250 ms OFF (2 Hz) is an ELT power failure (UHF and/or VHF).
- 500 ms ON, 500 ms OFF (1 Hz) is an external antenna connection failure or a signal identification missing failure.

- 4) When the 10 second test is complete, the red TX light will change from steady on to flashing slowly for 30 seconds (1.75 s ON, 0.25 s OFF)(0.5 Hz).

- (c) When the red TX light flashes slowly, pull and move the ARMED/OFF/ON switch to the OFF position within 30 seconds.
- (d) Wait until all sounds and indications stop, then put the ARMED/OFF/ON switch to the ARMED position.

### G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-24-00-910-019

- (1) Tell the local emergency authority that the ELT test is completed (if applicable).

SUBTASK 23-24-00-410-010

- (2) Install the ceiling panel that was removed to gain access to the ELT (Main Ceiling Panel - Installation, TASK 25-21-45-400-801).

————— END OF TASK —————

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### EMERGENCY LOCATOR TRANSMITTER ANTENNA - REMOVAL/INSTALLATION

#### 1. General

A. This procedure has these tasks:

- (1) Emergency Locator Transmitter Antenna Removal
- (2) Emergency Locator Transmitter Antenna Installation

#### **TASK 23-24-02-000-801**

#### 2. ELT Antenna - Removal

(Figure 401)

##### A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt.", which stands for Optional.

| Reference | Description                                       |
|-----------|---------------------------------------------------|
| COM-2481  | Sealant Removal Tool (meets BSS7384 requirements) |
|           | Part #: 1-6390-A Supplier: 63318                  |
|           | Part #: 10810 Supplier: \$0855                    |
|           | Part #: 10811 Supplier: \$0855                    |
|           | Part #: 10812 Supplier: \$0855                    |
|           | Part #: 234350 Supplier: 5HCF1                    |
|           | Part #: 235072 Supplier: 5HCF1                    |
|           | Part #: 235073 Supplier: 5HCF1                    |
|           | Part #: 235074 Supplier: 5HCF1                    |
|           | Part #: 235075 Supplier: 5HCF1                    |
|           | Part #: 235076 Supplier: 5HCF1                    |
|           | Part #: 311/03 Supplier: F6892                    |
|           | Part #: 311/14 Supplier: F6892                    |
|           | Part #: 311/25 Supplier: F6892                    |
|           | Part #: 311/37 Supplier: F6892                    |
|           | Part #: AS1 Supplier: \$1351                      |
|           | Part #: AS2 Supplier: \$1351                      |
|           | Part #: AS3 Supplier: \$1351                      |
|           | Part #: DAD5013 Supplier: 7RKH2                   |
|           | Part #: DFD5019 Supplier: 7RKH2                   |
|           | Part #: JNT411B60 Supplier: 3DN12                 |
|           | Part #: JNT411B90 Supplier: 3DN12                 |
|           | Part #: SCD5019 Supplier: 7RKH2                   |
|           | Part #: ST982LF-9 Supplier: 81205                 |
|           | Part #: TS1275-4 Supplier: 22975                  |

##### B. Location Zones

| Zone | Area                                                                        |
|------|-----------------------------------------------------------------------------|
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left  |
| 242  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right |

##### C. Removal Procedure

SUBTASK 23-24-02-020-001

- (1) Do these steps to remove the ELT antenna [1]:
  - (a) Remove the six bolts [2] that attach the ELT antenna [1] to the airplane.

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**CAUTION**

BE CAREFUL WHEN YOU REMOVE THE FILLET SEAL WITH THE SEALANT REMOVAL TOOL. DAMAGE TO THE AIRPLANE SKIN CAN OCCUR.

- (b) While you hold the ELT antenna [1], use a sealant removal tool, COM-2481 to break the fillet seal around the base of the antenna.



**CAUTION**

DO NOT PULL ON THE COAXIAL CABLE. CAREFULLY MOVE THE ANTENNA. DISCONNECT THE COAXIAL CONNECTOR. THIS WILL PREVENT DAMAGE TO THE COAXIAL CABLE.

- (c) Move the ELT antenna [1] away from the airplane to get access to the coaxial connectors [3] on the coaxial cables.
- (d) Disconnect the coaxial connectors [3] from the ELT antenna [1]. Remove the ELT antenna [1].

NOTE: Make sure that the coaxial connectors do not fall down through the opening.

———— **END OF TASK** ————

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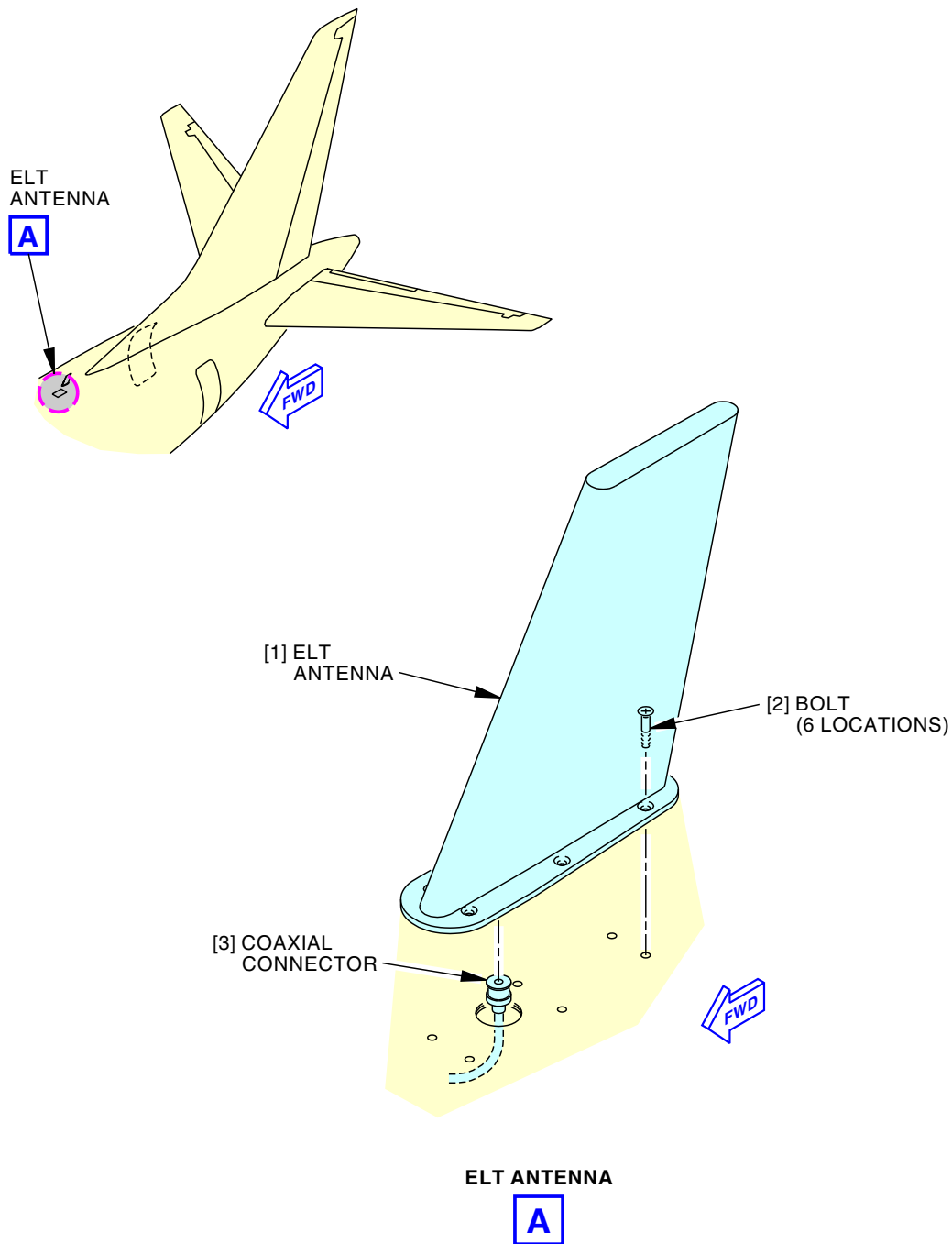
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**Emergency Locator Transmitter (ELT) Antenna Installation**  
Figure 401/23-24-02-990-801

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**TASK 23-24-02-400-801**

**3. ELT Antenna - Installation**

(Figure 401)

**A. References**

| <b>Reference</b> | <b>Title</b>                                                                                                     |
|------------------|------------------------------------------------------------------------------------------------------------------|
| 23-24-00-710-803 | Emergency Locator Transmitter Operational Test (P/B 501)                                                         |
| 51-21-31-350-801 | Removal and Control of Corrosion for Aluminum and Aluminum Alloys (P/B 701)                                      |
| 51-21-41-370-802 | Apply Bonderite M-CR 600, Bonderite M-CR 1200, Bonderite M-CR 600RTU, or Bonderite M-CR 1200S Solution (P/B 701) |
| 51-22-00-390-806 | Fillet Seal Application (P/B 201)                                                                                |
| SWPM 20-20-00    | ELECTRICAL BONDING PROCESSES                                                                                     |
| SL 20-043        | Deferred Application of Aero-Sealant in Antenna Installations                                                    |

**B. Tools/Equipment**

**NOTE:** When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| <b>Reference</b> | <b>Description</b>                                                                                                                                                                                                                                                                                                                                 |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1550         | Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550).<br>Part #: 620LK Supplier: 1CRL2<br>Part #: M1 Supplier: 3AD17<br>Part #: M1B Supplier: 3AD17<br>Part #: T477W (C15292) Supplier: 06659 |

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(Continued)

| Reference | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-2481  | Sealant Removal Tool (meets BSS7384 requirements)<br>Part #: 1-6390-A Supplier: 63318<br>Part #: 10810 Supplier: \$0855<br>Part #: 10811 Supplier: \$0855<br>Part #: 10812 Supplier: \$0855<br>Part #: 234350 Supplier: 5HCF1<br>Part #: 235072 Supplier: 5HCF1<br>Part #: 235073 Supplier: 5HCF1<br>Part #: 235074 Supplier: 5HCF1<br>Part #: 235075 Supplier: 5HCF1<br>Part #: 235076 Supplier: 5HCF1<br>Part #: 311/03 Supplier: F6892<br>Part #: 311/14 Supplier: F6892<br>Part #: 311/25 Supplier: F6892<br>Part #: 311/37 Supplier: F6892<br>Part #: AS1 Supplier: \$1351<br>Part #: AS2 Supplier: \$1351<br>Part #: AS3 Supplier: \$1351<br>Part #: DAD5013 Supplier: 7RKH2<br>Part #: DFD5019 Supplier: 7RKH2<br>Part #: JNT411B60 Supplier: 3DN12<br>Part #: JNT411B90 Supplier: 3DN12<br>Part #: SCD5019 Supplier: 7RKH2<br>Part #: ST982LF-9 Supplier: 81205<br>Part #: TS1275-4 Supplier: 22975 |

C. Consumable Materials

| Reference | Description                                                                                        | Specification                                                |
|-----------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| A00247    | Sealant - Pressure And Environmental - Chromate Type                                               | BMS5-95                                                      |
| B00148    | Solvent - Methyl Ethyl Ketone (MEK)                                                                | ASTM D740                                                    |
| B00184    | Solvent - Presealing, Cleaning Solvent                                                             | BMS11-7                                                      |
| B00666    | Solvent - Methyl Propyl Ketone                                                                     | BMS11-9                                                      |
| B01026    | Solvent - FCC-55                                                                                   |                                                              |
| B01054    | Solvent - Methyl Ethyl Ketone and sec-Butyl Alcohol Blend - (MEK:secButyl Alcohol - 42:58 Percent) | BAC5750, ASTM D740/ASTM D1007                                |
| C50005    | Coating - Chemical Conversion - Bonderite M-CR 1200S Aero (Formerly Alodine 1200S)                 | BAC5719 Class A, C or D, MIL-DTL-81706 Type I Class 1A or 3  |
| G00009    | Compound - Organic Corrosion Inhibiting                                                            | BMS3-23                                                      |
| G00034    | Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)                               | AMS3819 Class 1 Grade A or B Form 1 (Supersede BMS15-5 CL A) |

D. Expendables/Parts

| AMM Item | Description | AIPC Reference  | AIPC Effectivity |
|----------|-------------|-----------------|------------------|
| 1        | ELT antenna | 23-24-02-01-030 | SIA ALL          |

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## E. Location Zones

| Zone | Area                                                                        |
|------|-----------------------------------------------------------------------------|
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left  |
| 242  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Right |

## F. ELT Antenna Installation

SUBTASK 23-24-02-100-001

- (1) Clean the airplane mating surface.
  - (a) Remove sealant with a sealant removal tool, COM-2481.



DO NOT GET SOLVENTS IN YOUR MOUTH, OR YOUR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM SOLVENTS. SOLVENTS ARE HAZARDOUS MATERIALS. SOLVENTS CAN BE FLAMMABLE OR DANGEROUS TO THE ENVIRONMENT. REFER TO MATERIAL-SAFETY-DATA SHEETS (MSDS) AND LOCAL REQUIREMENTS FOR CORRECT HANDLING PROCEDURES.

- (b) Clean the airplane mating surface with a cotton wiper, G00034 that is moist with one of the solvents that follow:
  - 1) solvent, B00148
  - 2) solvent, B00666
  - 3) solvent, B00184
  - 4) FCC-55 solvent, B01026
  - 5) solvent, B01054.
- (c) Use a clean cotton wiper, G00034, and clean the airplane mating surface again.
- (d) Do these two steps above until the airplane mating surface is clean and dry.

SUBTASK 23-24-02-100-002

- (2) If the mating surface has corrosion or other damage, or if the airplane mating surface has no alodine, do these steps to prepare the airplane mating surface:

NOTE: An alternative installation procedure is to apply corrosion inhibiting compound, G00009, on an airplane mating surface that has no alodine.

- (a) If there is corrosion, do this task: Removal and Control of Corrosion for Aluminum and Aluminum Alloys, TASK 51-21-31-350-801.
- (b) Apply a layer of Bonderite M-CR 1200S Aero coating, C50005, to the airplane mating surface (TASK 51-21-41-370-802).

SUBTASK 23-24-02-420-001

- (3) Do these steps to install the ELT antenna [1]:
  - (a) Examine the coaxial connectors [3] for dirt and damage.
  - (b) Connect the coaxial connectors [3] to the ELT antenna [1].
  - (c) Apply a layer of sealant, A00247, to the shank and threads of 5 of the 6 bolts [2].
  - (d) Put the ELT antenna [1] in its position.
  - (e) Install the 5 bolts [2].

NOTE: Keep one of the 6 bolts [2] out to do an electrical bond check.

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- (f) Use intrinsically safe approved bonding meter, COM-1550, to measure the resistance between the antenna base and the airplane skin (SWPM 20-20-00, Paragraph 21).

NOTE: Use the empty bolt hole to get access to the antenna base.

- 1) Make sure that the resistance is less than or equal to 0.005 ohm (5 milliohm).
- (g) Apply a layer of sealant, A00247, to the shank and threads of the last bolt [2].
- (h) Install the last bolt [2].

**G. ELT antenna Sealing**

SUBTASK 23-24-02-390-001

- (1) Apply sealant, A00247, around the base of the ELT antenna [1] to make a corrosion fillet seal (TASK 51-22-00-390-806).

NOTE: Operators can defer the application of the aero-sealant in the antenna installation to avoid a flight delay (SL 20-043).

- (a) Let sealant, A00247, dry for the correct cure time.

**H. ELT Antenna Installation Test**

SUBTASK 23-24-02-710-001

- (1) Do this task: Emergency Locator Transmitter Operational Test, TASK 23-24-00-710-803.

———— **END OF TASK** ————

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**EMERGENCY LOCATOR TRANSMITTER CONTROL PANEL - REMOVAL/INSTALLATION**

**1. General**

- A. This procedure has these tasks:
- (1) Emergency Locator Transmitter Control Panel Removal
  - (2) Emergency Locator Transmitter Control Panel Installation
- B. The ELT control panel is installed on the forward overhead panel, P5, in the flight compartment.

**TASK 23-24-03-000-801**

**2. Emergency Locator Transmitter (ELT) Control Panel Removal**

(Figure 401)

**A. References**

| Reference        | Title                                                          |
|------------------|----------------------------------------------------------------|
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201)         |
| 20-40-12-400-803 | Conductive Dust Cap and Connector Cover Installation (P/B 201) |
| 23-24-00-000-804 | Emergency Locator Transmitter - Removal (P/B 401)              |

**B. Expendables/Parts**

| AMM Item | Description       | AIPC Reference  | AIPC Effectivity |
|----------|-------------------|-----------------|------------------|
| 1        | ELT Control Panel | 23-24-03-01-050 | SIA ALL          |

**C. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

**D. Procedure**

**SUBTASK 23-24-03-860-001**

- (1) Open these circuit breakers and install safety tags:

**F/O Electrical System Panel, P6-3**

| Row | Col | Number | Name                              |
|-----|-----|--------|-----------------------------------|
| C   | 14  | C01278 | MASTER CAUTION ANNUNCIATOR CONT 4 |
| F   | 14  | C01180 | INDICATOR MASTER DIM SECT 8       |

**SUBTASK 23-24-03-940-001**

- (2) Get access to the Emergency Locator Transmitter (ELT) (Emergency Locator Transmitter - Removal, TASK 23-24-00-000-804).

**SUBTASK 23-24-03-020-001**

- (3) On the ELT front panel, do the steps that follow:

**NOTE:** These steps will prevent accidental activation of the ELT when the ELT control panel is removed.

- (a) Set the toggle switch to the OFF position.
- (b) Disconnect the Electrical Connector.

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SUBTASK 23-24-03-020-002



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (4) Before you touch the ELT Control Panel [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-24-03-020-003

- (5) Do these steps to remove the ELT Control Panel [1]:
- (a) Loosen the four Quarter turn fasteners [2].
  - (b) Remove the ELT Control Panel [1] from the P5 overhead panel to get access to the Electrical Connector [3].
  - (c) Disconnect the Electrical Connector [3] from the rear of the ELT Control Panel [1].
  - (d) To install a protective cover on the Electrical Connector [3], do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-803.

———— **END OF TASK** ————

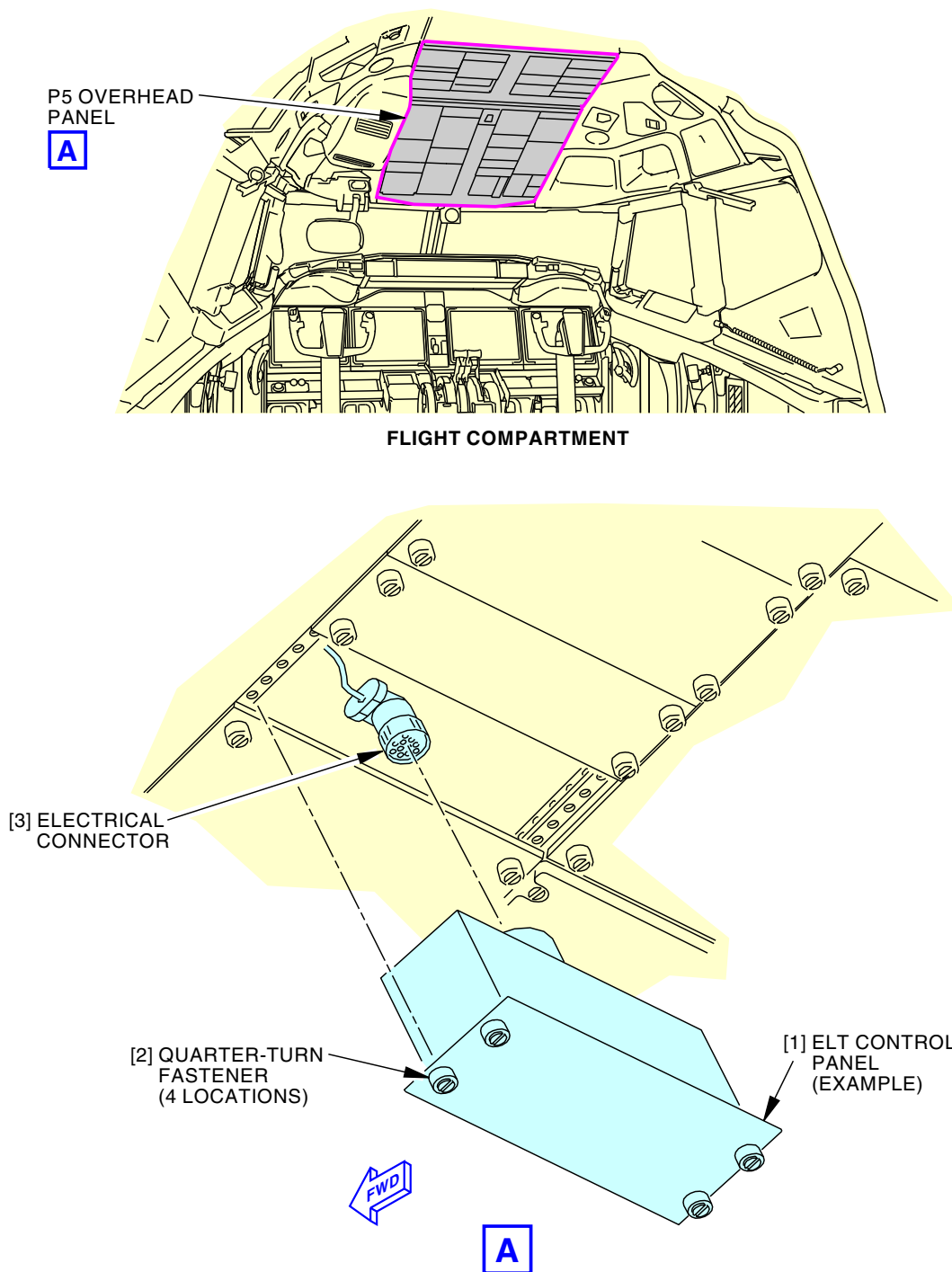
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**Emergency Locator Transmitter (ELT) Control Panel Installation**  
Figure 401/23-24-03-990-801

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TASK 23-24-03-400-801

3. **Emergency Locator Transmitter (ELT) Control Panel Installation**

(Figure 401)

A. References

| Reference        | Title                                                       |
|------------------|-------------------------------------------------------------|
| 20-40-12-000-803 | Conductive Dust Cap and Connector Cover Removal (P/B 201)   |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201) |
| 23-24-00-000-804 | Emergency Locator Transmitter - Removal (P/B 401)           |
| 23-24-00-710-803 | Emergency Locator Transmitter Operational Test (P/B 501)    |

B. Expendables/Parts

| AMM Item | Description       | AIPC Reference  | AIPC Effectivity |
|----------|-------------------|-----------------|------------------|
| 1        | ELT Control Panel | 23-24-03-01-050 | SIA ALL          |

C. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

D. Procedure

SUBTASK 23-24-03-860-002

- (1) Make sure that these circuit breakers are open:

**F/O Electrical System Panel, P6-3**

| Row | Col | Number | Name                              |
|-----|-----|--------|-----------------------------------|
| C   | 14  | C01278 | MASTER CAUTION ANNUNCIATOR CONT 4 |
| F   | 14  | C01180 | INDICATOR MASTER DIM SECT 8       |

SUBTASK 23-24-03-420-001



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (2) Before you touch the ELT Control Panel [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-24-03-420-002

- (3) Do these steps to install the ELT Control Panel [1]:
- (a) To remove the protective cover from the Electrical Connector [3], do this task: Conductive Dust Cap and Connector Cover Removal, TASK 20-40-12-000-803.
  - (b) Examine the Electrical Connector [3] for bent or broken pins, dirt, and damage.
  - (c) Connect the Electrical Connector [3].
  - (d) Install the ELT Control Panel [1] in its position on the P5 panel.
  - (e) Tighten the four Quarter turn fasteners [2].

SUBTASK 23-24-03-940-002

- (4) Get access to the Emergency Locator Transmitter (ELT) (Emergency Locator Transmitter - Removal, TASK 23-24-00-000-804).

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SUBTASK 23-24-03-420-003

- (5) On the ELT front panel, do these steps:
- (a) Connect the Electrical Connector.

SUBTASK 23-24-03-860-003

- (6) Remove the safety tags and close these circuit breakers:

**F/O Electrical System Panel, P6-3**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                       |
|------------|------------|---------------|-----------------------------------|
| C          | 14         | C01278        | MASTER CAUTION ANNUNCIATOR CONT 4 |
| F          | 14         | C01180        | INDICATOR MASTER DIM SECT 8       |

**E. Installation Test**

SUBTASK 23-24-03-860-004

- (1) Do this task: Emergency Locator Transmitter Operational Test, TASK 23-24-00-710-803.

————— **END OF TASK** —————

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**LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - MAINTENANCE PRACTICES**

1. **General**

A. This procedure has this task:

- (1) Low frequency Underwater Locating Device (ULD) battery replacement.

**TASK 23-25-00-300-801**

2. **Low Frequency Underwater Locating Device (LF-ULD) - Battery Replacement**

(Figure 201)

A. **General**

- (1) This task includes the steps to replace the low frequency Underwater Locating Device (ULD) battery.

B. **References**

| Reference        | Title                                                                    |
|------------------|--------------------------------------------------------------------------|
| 23-25-00-000-801 | Low Frequency Underwater Locating Device (LF-ULD) Removal (P/B 401)      |
| 23-25-00-400-801 | Low Frequency Underwater Locating Device (LF-ULD) Installation (P/B 401) |
| 53-52-00-010-801 | Nose Radome Open (P/B 201)                                               |
| 53-52-00-410-801 | Nose Radome Close (P/B 201)                                              |

C. **Location Zones**

| Zone | Area   |
|------|--------|
| 111  | Radome |

D. **Prepare for the Battery Replacement**

SUBTASK 23-25-00-010-005



USE CAUTION WHEN YOU OPEN THE NOSE RADOME COMPARTMENT. IF THERE IS A BATTERY FAILURE, A DANGEROUS GAS CAN EMIT. DO THE CORRECT EMERGENCY PROCEDURES IF YOU SMELL AN UNUSUAL ODOR AT THE RADOME AREA.



DO NOT OPEN THE NOSE RADOME IF THE WIND IS MORE THAN 15 KNOTS. IF YOU OPEN THE NOSE RADOME IN A WIND, THE RADOME CAN MOVE QUICKLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.



DO NOT LET THE WORKSTANDS OR EQUIPMENT HIT OR TOUCH THE WEATHER RADAR ANTENNA. THIS CAN CAUSE DAMAGE TO THE WEATHER RADAR ANTENNA.

- (1) Open the nose radome (TASK 53-52-00-010-801).

**NOTE:** Keep the radome closed when it is raining. Wipe water completely from the flat plate before you close the radome.

E. **Battery Replacement Procedure**

SUBTASK 23-25-00-210-001

- (1) Check the expiration date of the battery on the ULD label.

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- (a) If the battery life reaches or exceeds the date of expiration, replace the ULD (Low Frequency Underwater Locating Device (LF-ULD) Removal, TASK 23-25-00-000-801, Low Frequency Underwater Locating Device (LF-ULD) Installation, TASK 23-25-00-400-801).

SUBTASK 23-25-00-410-008



DO NOT LET THE WORKSTANDS OR EQUIPMENT HIT OR TOUCH THE WEATHER RADAR ANTENNA. THIS CAN CAUSE DAMAGE TO THE WEATHER RADAR ANTENNA.

- (2) Close the nose radome (TASK 53-52-00-410-801).

———— **END OF TASK** ————

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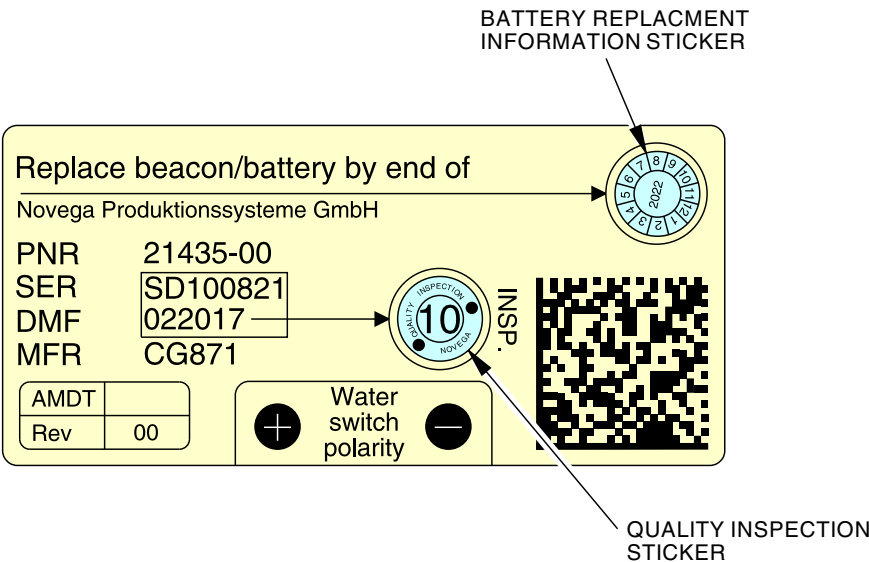
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**LEGEND:**  
**SER** = SERIAL NUMBER SID88  
**DMF** = DATE OF INSPECTION AFTER COMPLETION OF MANUFACTURE

**UNDERWATER LOCATING DEVICE PRODUCT LABEL**

2787925 S0000633656\_V1

**Low Frequency Underwater Locating Device - Battery Replacement**  
**Figure 201/23-25-00-990-801**

|                                                        |
|--------------------------------------------------------|
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**LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - REMOVAL/INSTALLATION**

**1. General**

A. This procedure has these tasks:

- (1) Low frequency ULD removal.
- (2) Low Frequency ULD installation.

**TASK 23-25-00-000-801**

**2. Low Frequency Underwater Locating Device (LF-ULD) Removal**

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

**A. General**

- (1) This task has instructions to remove the low frequency Underwater Locating Device (ULD).

**B. References**

| Reference        | Title                      |
|------------------|----------------------------|
| 53-52-00-010-801 | Nose Radome Open (P/B 201) |

**C. Location Zones**

| Zone | Area   |
|------|--------|
| 111  | Radome |

**D. Removal Procedure**

SUBTASK 23-25-00-010-006



USE CAUTION WHEN YOU OPEN THE NOSE RADOME COMPARTMENT. IF THERE IS A BATTERY FAILURE, A DANGEROUS GAS CAN EMIT. DO THE CORRECT EMERGENCY PROCEDURES IF YOU SMELL AN UNUSUAL ODOR AT THE RADOME AREA.



DO NOT OPEN THE NOSE RADOME IF THE WIND IS MORE THAN 15 KNOTS. IF YOU OPEN THE NOSE RADOME IN A WIND, THE RADOME CAN MOVE QUICKLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.



DO NOT LET THE WORKSTANDS OR EQUIPMENT HIT OR TOUCH THE WEATHER RADAR ANTENNA. THIS CAN CAUSE DAMAGE TO THE WEATHER RADAR ANTENNA.

- (1) Open the nose radome (TASK 53-52-00-010-801).

NOTE: Keep the radome closed when it is raining. Wipe water completely from the flat plate before you close the radome.

SUBTASK 23-25-00-000-001

- (2) Remove four bolts [2] and four washers [3] from the underwater locating device [1].

SUBTASK 23-25-00-020-001

- (3) Remove the underwater locating device [1].

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SUBTASK 23-25-00-010-010

- (4) Make sure to retain the arrestor extender [4] for installation.

———— **END OF TASK** ————

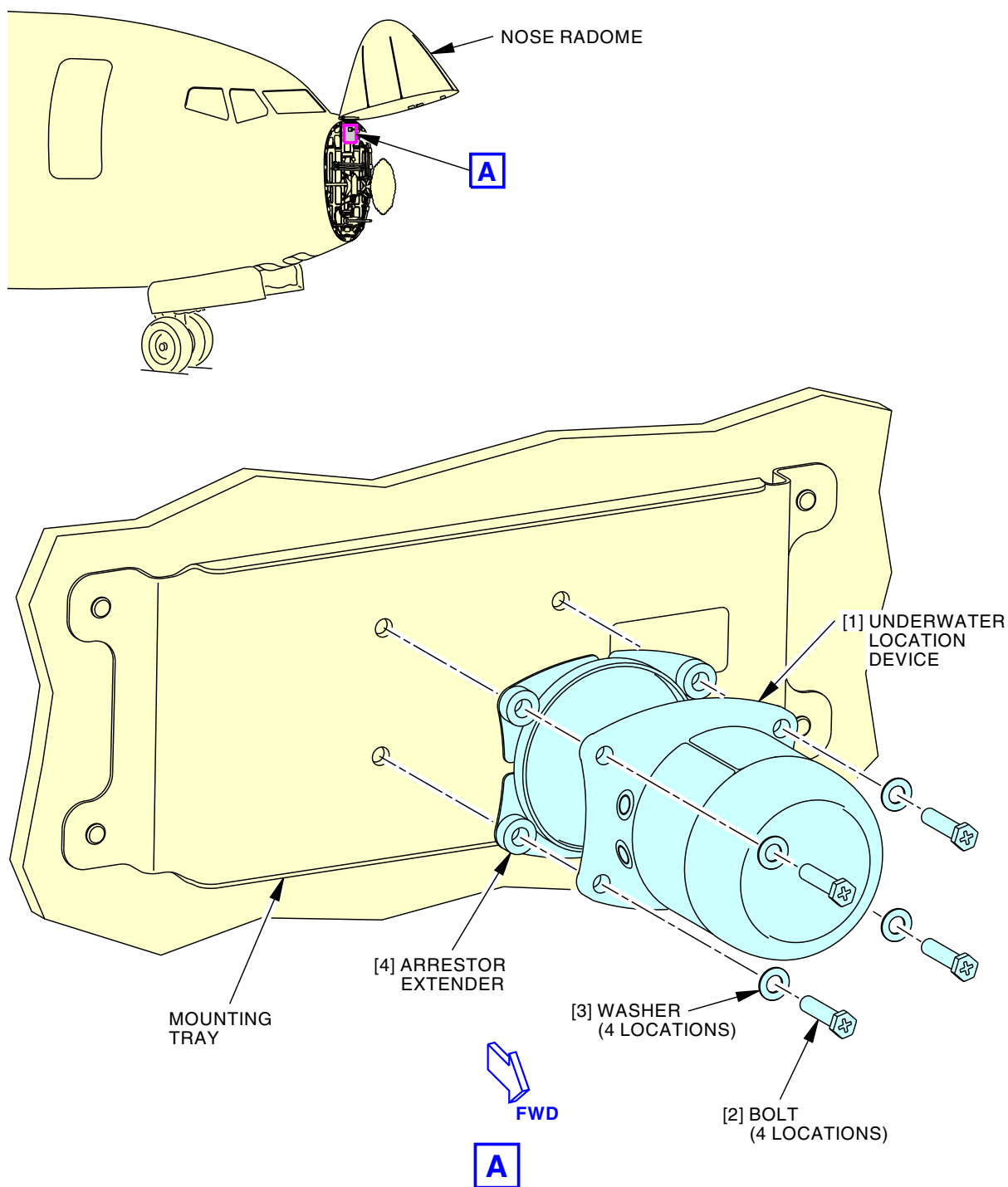
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Low Frequency Underwater Locating Device Installation  
Figure 401/23-25-00-990-802

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TASK 23-25-00-400-801

3. Low Frequency Underwater Locating Device (LF-ULD) Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. General

- (1) This task includes the steps to install the low frequency Underwater Locating Device (ULD).

B. References

| Reference        | Title                                                                                                      |
|------------------|------------------------------------------------------------------------------------------------------------|
| 23-25-00-720-801 | Low Frequency Underwater (LF-ULD) - Functional and Battery Test Using ULD Tester (P/B 501)                 |
| 23-25-00-720-802 | Low Frequency Underwater Locating Device (LF-ULD) - Functional and Battery Test Using Multimeter (P/B 501) |
| 53-52-00-410-801 | Nose Radome Close (P/B 201)                                                                                |

C. Consumable Materials

| Reference | Description                                       | Specification |
|-----------|---------------------------------------------------|---------------|
| G50136    | Compound - Corrosion Inhibiting, Non-drying Paste | BMS3-38       |

D. Location Zones

| Zone | Area   |
|------|--------|
| 111  | Radome |

E. Installation Procedure

SUBTASK 23-25-00-720-007

- (1) Do one of these tasks: Low Frequency Underwater (LF-ULD) - Functional and Battery Test Using ULD Tester, TASK 23-25-00-720-801 or Low Frequency Underwater Locating Device (LF-ULD) - Functional and Battery Test Using Multimeter, TASK 23-25-00-720-802.

SUBTASK 23-25-00-400-001

- (2) Position arrestor extender [4] and underwater locating device [1] on the mounting tray.

SUBTASK 23-25-00-420-001

- (3) Install the four washers [3] and the four bolts [2].
- (a) Apply corrosion inhibiting material, G50136 to all areas of the fastener holes and countersunk holes.
- (b) Immediately install the bolts [2].
- (c) Tighten the bolts [2] to 78 in-lb (9 N·m) to 82 in-lb (9 N·m).

SUBTASK 23-25-00-410-009

|                                                                                                       |                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>CAUTION</b> | DO NOT LET THE WORKSTANDS OR EQUIPMENT HIT OR TOUCH THE WEATHER RADAR ANTENNA. THIS CAN CAUSE DAMAGE TO THE WEATHER RADAR ANTENNA. |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|

- (4) Close the nose radome (TASK 53-52-00-410-801).

————— **END OF TASK** —————

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**LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - ADJUSTMENT/TEST**

**1. General**

A. This procedure has this task:

- (1) Low frequency ULD functional and battery test using ULD tester.
- (2) Low frequency ULD functional and battery test using multimeter.

**TASK 23-25-00-720-801**

**2. Low Frequency Underwater (LF-ULD) - Functional and Battery Test Using ULD Tester**

(Figure 501)

**NOTE:** This procedure is a scheduled maintenance task.

**A. General**

- (1) This task includes the procedure to do a function test of the low frequency Underwater Locating Device (ULD) and battery using ultrasonic test set, COM-15616.

**B. References**

| Reference        | Title                                                                    |
|------------------|--------------------------------------------------------------------------|
| 23-25-00 P/B 401 | LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - REMOVAL/INSTALLATION |
| 53-52-00-010-801 | Nose Radome Open (P/B 201)                                               |
| 53-52-00-410-801 | Nose Radome Close (P/B 201)                                              |

**C. Tools/Equipment**

**NOTE:** When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt.", which stands for Optional.

| Reference | Description                                               |
|-----------|-----------------------------------------------------------|
| COM-15616 | Test Set - Ultrasonic<br>Part #: 20538-00 Supplier: CG871 |

**D. Consumable Materials**

| Reference | Description         | Specification |
|-----------|---------------------|---------------|
| B50117    | Detergent - General |               |
| G50256    | Water, Regular      |               |

**E. Location Zones**

| Zone | Area   |
|------|--------|
| 111  | Radome |

**F. Prepare for the Functional and Battery Test**

SUBTASK 23-25-00-010-007

|                                                                                                       |                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>WARNING</b> | USE CAUTION WHEN YOU OPEN THE NOSE RADOME COMPARTMENT. IF THERE IS A BATTERY FAILURE, A DANGEROUS GAS CAN EMIT. DO THE CORRECT EMERGENCY PROCEDURES IF YOU SMELL AN UNUSUAL ODOR AT THE RADOME AREA. |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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(WARNING PRECEDES)



**WARNING**

DO NOT OPEN THE NOSE RADOME IF THE WIND IS MORE THAN 15 KNOTS. IF YOU OPEN THE NOSE RADOME IN A WIND, THE RADOME CAN MOVE QUICKLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.



**CAUTION**

DO NOT LET THE WORKSTANDS OR EQUIPMENT HIT OR TOUCH THE WEATHER RADAR ANTENNA. THIS CAN CAUSE DAMAGE TO THE WEATHER RADAR ANTENNA.

- (1) Open the nose radome (TASK 53-52-00-010-801).

NOTE: Keep the radome closed when it is raining. Wipe water completely from the flat plate before you close the radome.

**G. Underwater Locating Device (ULD) Functional Test Using ULD Tester**

SUBTASK 23-25-00-720-003

- (1) Turn on the ultrasonic test set, COM-15616.

SUBTASK 23-25-00-720-005

- (2) Connect the activation cord to the Universal Serial Bus (USB) receptacle of the ultrasonic test set, COM-15616.

SUBTASK 23-25-00-720-006

- (3) Select the measurement button (triangle with a circle) on the ultrasonic test set, COM-15616 screen.

- (a) The connecting screen will appear on the ultrasonic test set, COM-15616 screen.

NOTE: "Reading incomplete retry in 66 sec." error is displayed on the ULD tester screen if contact is lost during the measurement.

"Check polarity retry in 66 sec." error is displayed on the ULD tester screen if activation cord plug is not touching the proper polarity of the ULD.

SUBTASK 23-25-00-720-004

- (4) Touch the activation cord plug to the correct poles of the ULD and wait 3 minutes.

- (a) Make sure that the acoustic signal confirms successful completion and the data is displayed on ultrasonic test set, COM-15616 screen.
  - (b) Make sure that on the right top of ultrasonic test set, COM-15616 screen that the Pulse symbol blinks simultaneously to transmitted pulse.
  - (c) Make sure the battery voltage is not below 3.2 VDC.

- 1) If the voltage falls below 3.2 VDC, do this task: LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - REMOVAL/INSTALLATION, PAGEBLOCK 23-25-00/401.

SUBTASK 23-25-00-210-002

- (5) Make sure that the water switch pins on the ULD has no grease or dirt.

- (a) If necessary, clean the switch pins with water, G50256 and general detergent, B50117.

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SUBTASK 23-25-00-410-010



**CAUTION**

DO NOT LET THE WORKSTANDS OR EQUIPMENT HIT OR TOUCH THE WEATHER RADAR ANTENNA. THIS CAN CAUSE DAMAGE TO THE WEATHER RADAR ANTENNA.

- (6) Close the nose radome (TASK 53-52-00-410-801).

———— **END OF TASK** ————

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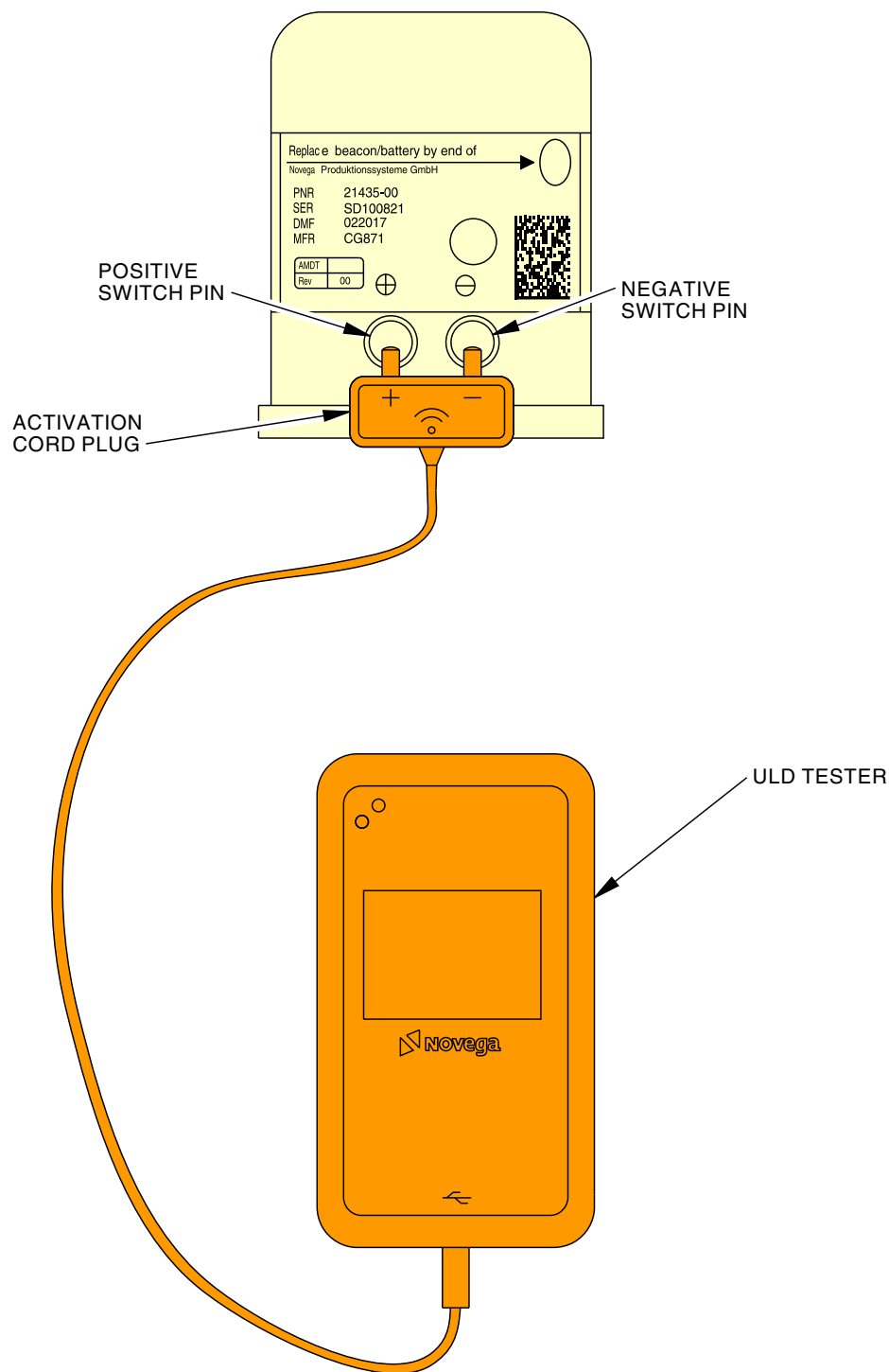
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Low Frequency Underwater Locating Device - Functional Test  
Figure 501/23-25-00-990-805

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TASK 23-25-00-720-802

3. **Low Frequency Underwater Locating Device (LF-ULD) - Functional and Battery Test Using Multimeter**

(Figure 502, Figure 503)

**NOTE:** This procedure is a scheduled maintenance task.

**A. General**

- (1) This task includes the procedure to do an function test of the low frequency Underwater Locating Device (ULD) and battery.

**B. References**

| Reference        | Title                                                                    |
|------------------|--------------------------------------------------------------------------|
| 23-25-00 P/B 401 | LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - REMOVAL/INSTALLATION |
| 53-52-00-010-801 | Nose Radome Open (P/B 201)                                               |
| 53-52-00-410-801 | Nose Radome Close (P/B 201)                                              |

**C. Tools/Equipment**

**NOTE:** When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1793  | Multimeter - Digital/Analog (or equivalent meter meets task requirements)<br>Part #: 117 Supplier: 89536<br>Part #: 260-8XPI Supplier: 55026<br>Part #: 287 Supplier: 89536<br>Part #: 289 Supplier: 89536<br>Part #: 87V Supplier: 89536<br>Part #: FLUKE 27 II Supplier: 89536<br>Part #: FLUKE-77-4 Supplier: 89536<br>Opt Part #: 187 Supplier: 89536<br>Opt Part #: 189 Supplier: 89536<br>Opt Part #: 21 Supplier: 89536<br>Opt Part #: 27 Supplier: 89536<br>Opt Part #: 77 SERIES III Supplier: 89536<br>Opt Part #: 87 Supplier: 89536<br>Opt Part #: FLUKE 27 Supplier: 89536<br>Opt Part #: MODEL 27 Supplier: 89536 |
| STD-4931  | Jumper - Electrical                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

**D. Consumable Materials**

| Reference | Description         | Specification |
|-----------|---------------------|---------------|
| B50117    | Detergent - General |               |
| G50256    | Water, Regular      |               |

**E. Location Zones**

| Zone | Area   |
|------|--------|
| 111  | Radome |

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F. Prepare for the Functional and Battery Test

SUBTASK 23-25-00-010-008



USE CAUTION WHEN YOU OPEN THE NOSE RADOME COMPARTMENT. IF THERE IS A BATTERY FAILURE, A DANGEROUS GAS CAN EMIT. DO THE CORRECT EMERGENCY PROCEDURES IF YOU SMELL AN UNUSUAL ODOR AT THE RADOME AREA.



DO NOT OPEN THE NOSE RADOME IF THE WIND IS MORE THAN 15 KNOTS. IF YOU OPEN THE NOSE RADOME IN A WIND, THE RADOME CAN MOVE QUICKLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.



DO NOT LET THE WORKSTANDS OR EQUIPMENT HIT OR TOUCH THE WEATHER RADAR ANTENNA. THIS CAN CAUSE DAMAGE TO THE WEATHER RADAR ANTENNA.

- (1) Open the nose radome (TASK 53-52-00-010-801).
  - (a) Keep the radome closed when it is raining.
  - (b) Wipe water completely from the flat plate before you close the radome.

G. Underwater Locating Device (ULD) Functional Test

SUBTASK 23-25-00-720-001

- (1) Do these steps to test the ULD in operation mode:
  - (a) Put the ULD into a service operation mode. Connect the electrical jumper, STD-4931 wire ends to the ULD water switch pins for approximately three seconds.

NOTE: The ULD contains an intelligent activation feature which avoids unintentional activation, whereby the durability of the battery could be impaired.
  - (b) After three seconds, listen for the acoustical signal.
  - (c) Remove the electrical jumper, STD-4931 and the acoustical signal will continue to pulse every ten seconds for 60 seconds.

NOTE: The ULD is in the service operation mode for 60 seconds. The battery voltage is circulating to the water switch pins and the ULD is pulsating the ultrasonic signal. After 60 seconds, the ULD drops back into the sleep mode.

SUBTASK 23-25-00-720-002

- (2) Do these steps to check the ULD battery:
  - (a) Adjust a digital/analog multimeter, COM-1793 to the 20 VDC range.
  - (b) Within 60 seconds while the ULD is in operation mode, connect both probes of the digital/analog multimeter, COM-1793 to the ULD water switch pins.
  - (c) Make sure that the digital/analog multimeter, COM-1793 displays a minimum of 3.2 VDC.

NOTE: It is normal for the voltage fluctuate in the decimal range. The pulsing of the ultrasonic signal from the ULD causes a minor drop in voltage. The minimum value must not fall below 3.2 VDC.

    - 1) If the voltage falls below 3.2 VDC, do this task: LOW FREQUENCY UNDERWATER LOCATING DEVICE (LF-ULD) - REMOVAL/INSTALLATION, PAGEBLOCK 23-25-00/401.
  - (d) Remove the digital/analog multimeter, COM-1793.

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- (e) Make sure that the water switch pins on the ULD has no grease or dirt.
  - 1) If necessary, clean the switch pins with water, G50256 and general detergent, B50117.

SUBTASK 23-25-00-410-011



DO NOT LET THE WORKSTANDS OR EQUIPMENT HIT OR TOUCH THE WEATHER RADAR ANTENNA. THIS CAN CAUSE DAMAGE TO THE WEATHER RADAR ANTENNA.

- (3) Close the nose radome (TASK 53-52-00-410-801).

———— **END OF TASK** ————

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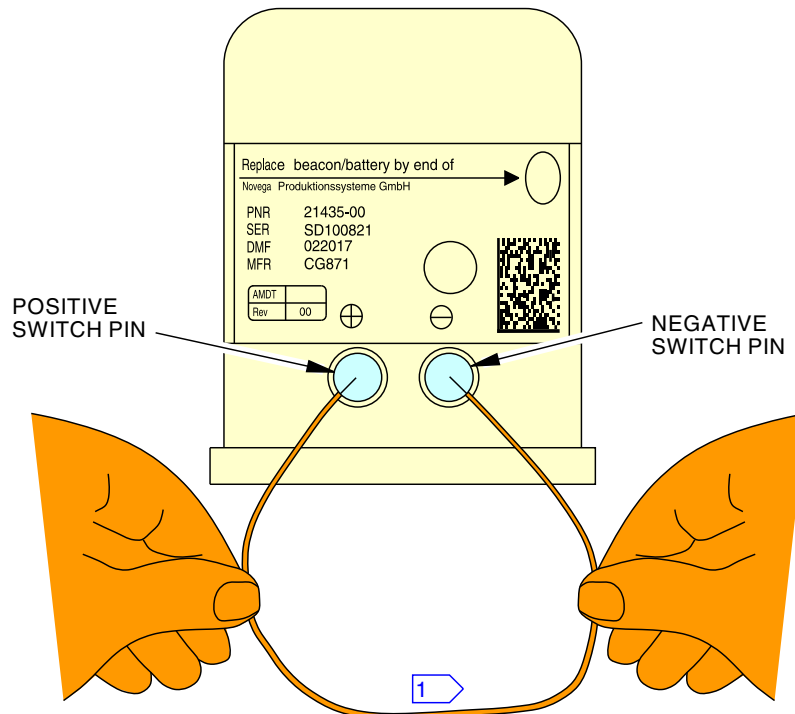
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**NOTE:**

**1** SHORT THE WATER SWITCH PINS FOR 3 SECONDS.

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**Low Frequency Underwater Locating Device - Functional Test**  
**Figure 502/23-25-00-990-803**

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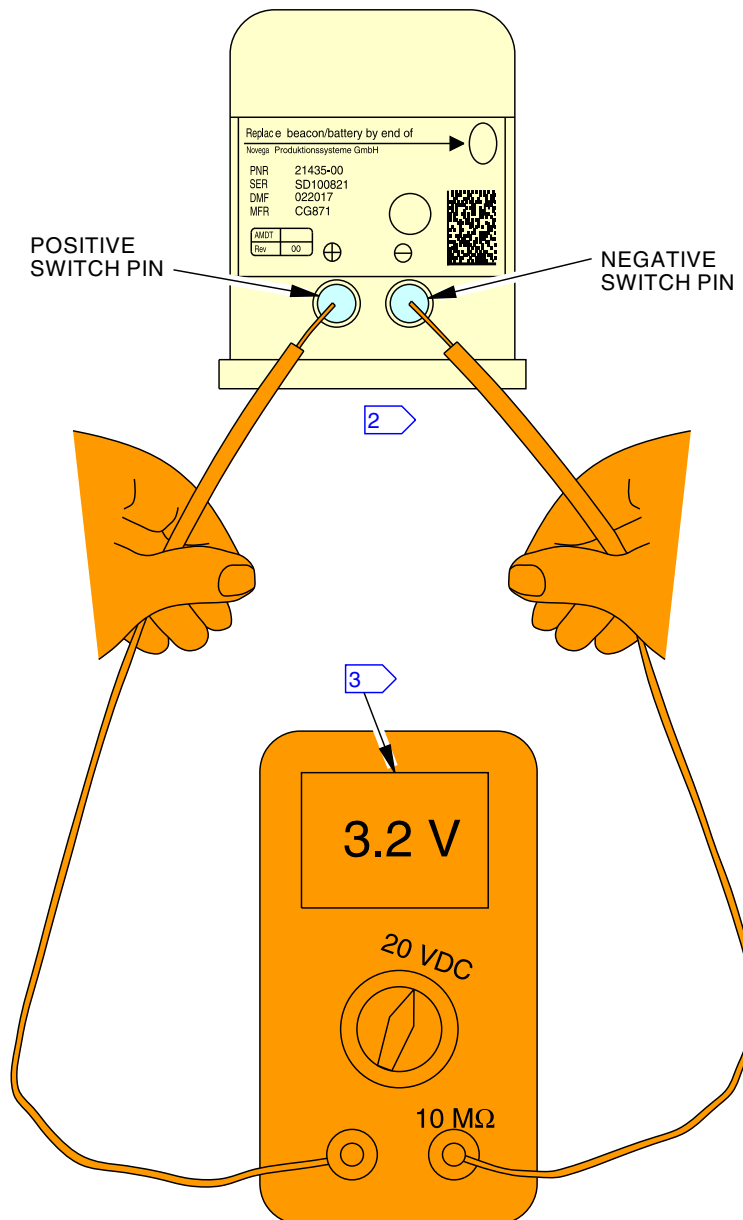
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- 2 MEASURE WITHIN 60 SECONDS
- 3 MUST BE A MINIMUM OF 3.2 VDC

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**Low Frequency Underwater Locating Device - Battery Test**  
**Figure 503/23-25-00-990-804**

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**AIRCRAFT COMMUNICATION AND REPORTING SYSTEM (ACARS) - MAINTENANCE PRACTICES**

1. **General**

A. This procedure has these tasks:

- (1) Aircraft Communication and Reporting System (ACARS) Deactivation
- (2) Aircraft Communication and Reporting System (ACARS) Activation

**TASK 23-27-00-040-801**

2. **Aircraft Communication and Reporting System - Deactivation**

(Figure 201)

A. **General**

- (1) This procedure removes electrical power to the ACARS system.

B. **Location Zones**

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |
| 211  | Flight Compartment - Left                      |
| 212  | Flight Compartment - Right                     |

C. **Access Panels**

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

D. **Procedure**

**NOTE:** The aircraft will have either a CMU or AMU installed. Reference the aircraft wire diagram to determine the system installed.

**SUBTASK 23-27-00-860-019**

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name     |
|-----|-----|--------|----------|
| E   | 8   | C01483 | CMU-1 AC |

This circuit breaker is inoperative and should remain open:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                |
|-----|-----|--------|---------------------|
| E   | 9   | C01500 | CMU/ACARS DC (INOP) |

E. **ACARS - Tryout**

**NOTE:** This tryout is to make sure that the ACARS system is in a zero energy state.

**SUBTASK 23-27-00-860-020**

- (1) Make sure that this circuit breaker is open and has safety tag:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name     |
|-----|-----|--------|----------|
| E   | 8   | C01483 | CMU-1 AC |

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This circuit breaker is inoperative and should remain open:

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| E          | 9          | C01500        | CMU/ACARS DC (INOP) |

SUBTASK 23-27-00-010-002

- (2) Open this access panel:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

SUBTASK 23-27-00-710-006

- (3) Do the following steps at the ACARS CMU:
- (a) Push and hold the TEST switch on the front panel.
    - 1) Make sure that all the lights on the front of the CMU do not come on.
  - (b) Release the switch and wait at least one minute.
    - 1) Make sure that none of the lights momentarily come on.

———— **END OF TASK** ————

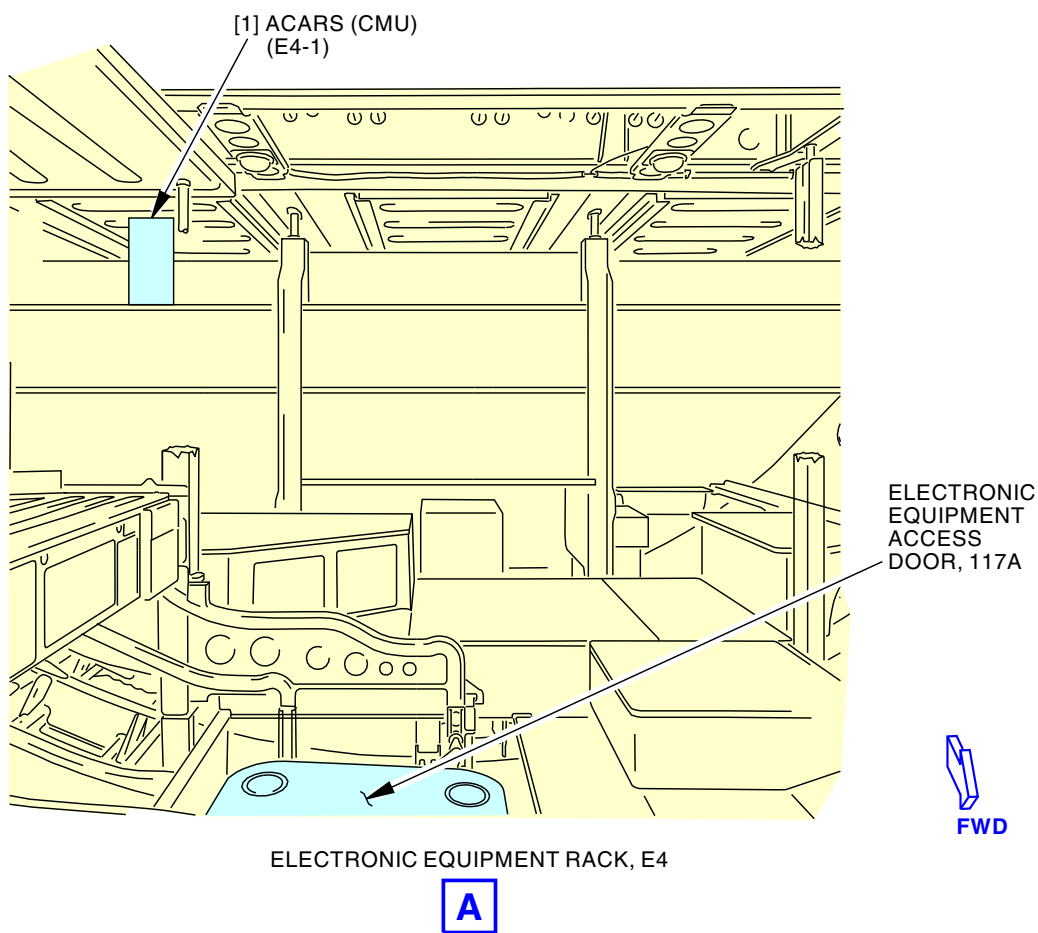
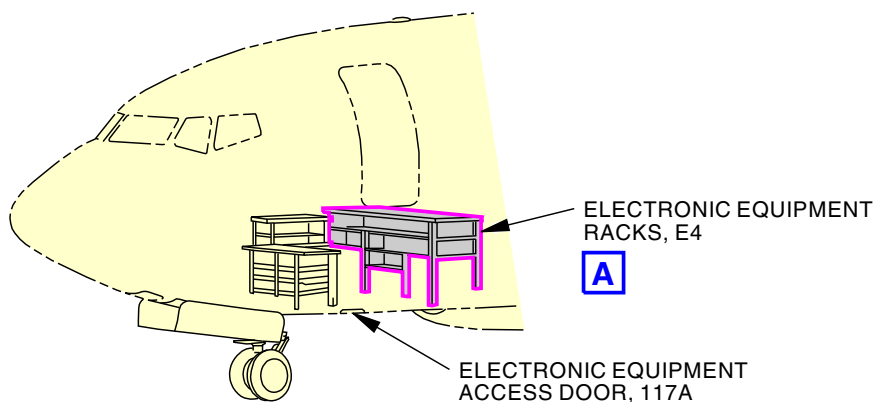
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**Aircraft Communications Addressing and Reporting System (ACARS)**  
**Figure 201/23-27-00-990-803**

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TASK 23-27-00-400-801

3. Aircraft Communication and Reporting System - Activation

(Figure 201)

A. General

- (1) This procedure adds electrical power to the ACARS system.

B. Location Zones

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |
| 211  | Flight Compartment - Left                      |
| 212  | Flight Compartment - Right                     |

C. Access Panels

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

D. Procedure

SUBTASK 23-27-00-860-021

- (1) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| E          | 8          | C01483        | CMU-1 AC    |

This circuit breaker is inoperative and should remain open:

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| E          | 9          | C01500        | CMU/ACARS DC (INOP) |

SUBTASK 23-27-00-410-001

- (2) Close this access panel:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

————— **END OF TASK** —————

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ACARS SYSTEM - ADJUSTMENT/TEST

1. General

- A. This procedure has these tasks:

**SIA 001-014**

- (1) An operational test of the Aircraft Communications Addressing and Reporting System (ACARS)
- (2) A system test of the ACARS

**TASK 23-27-00-740-802**

2. ACARS - Operational Test

A. References

| Reference        | Title                                                                             |
|------------------|-----------------------------------------------------------------------------------|
| 23-27-33-700-801 | ACARS Communications Management Unit (CMU) Software Configuration Check (P/B 201) |

B. Location Zones

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |

C. Procedure

**SUBTASK 23-27-00-700-003**

- (1) Do this task: ACARS Communications Management Unit (CMU) Software Configuration Check, TASK 23-27-33-700-801.

**SUBTASK 23-27-00-710-005**

- (2) Do these steps to do the ACARS Operational test
  - (a) Push and release the TEST switch on the ACARS Communications Management Unit (CMU) on shelf E4-1 in the E/E compartment.
  - (b) Make sure the SYSTEM FAIL indicator stays off.
  - (c) Make sure the LRU PASS/FAIL indicator is red for 2 seconds, then is green for 2 seconds, then is off for at least 2 seconds and no more than 5 seconds.
  - (d) If the test passes, the LRU PASS/FAIL indicator is green for 30 seconds, then is off.
  - (e) If the test fails, the LRU PASS/FAIL indicator is red for 30 seconds, then is off.

————— **END OF TASK** —————

**TASK 23-27-00-700-802**

3. ACARS - System Test

A. General

- (1) The system test contains checks of all of the primary ACARS functions. The checks in the operational test are also in the system test.
- (2) For the ACARS system to operate correctly, it must be linked to a remote ground station.
- (3) For ACARS to link to the ground station through the VHF communication system, the airplane must be within range of the ground station. Also, the VHF antenna must have a clear view to the station tower.
- (4) The ACARS ground station and network must also be operational.

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### SIA 001-014 (Continued)

- (5) Make sure that the airplane is not in or near large metal structures. HF communication while the airplane is on the ground can be degraded by airplane position or blocked by RF signal attenuation because of ground equipment and structures.
- (6) The system test is based on the default Boeing AOC software. If airline customized AOC software is loaded, there can be differences in CDU screen formats and screen prompts.

#### B. References

| Reference        | Title                                                                          |
|------------------|--------------------------------------------------------------------------------|
| 23-27-33-020-801 | ACARS Communications Management Unit (CMU) Removal (P/B 401)                   |
| 23-27-33-470-802 | ACARS Software Installation with Onboard Network System (ONS) (P/B 201)        |
| 23-27-35-700-801 | ACARS Airplane Personality Module (APM) Data Verification Check (P/B 201)      |
| 31-65-00-970-801 | System Maintenance Data Pages Function (P/B 201)                               |
| 32-09-00-840-801 | Prepare to Put the Airplane in the Air Mode (P/B 201)                          |
| 32-09-00-840-802 | Return the Airplane Systems Back to Their Normal on Ground Condition (P/B 201) |
| 32-09-00-860-801 | Put the Airplane in the Air Mode (P/B 201)                                     |
| 32-09-00-860-802 | Return the Airplane to the Ground Mode (P/B 201)                               |

#### C. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

#### D. Procedure

##### SUBTASK 23-27-00-860-018

- (1) Set the Captain's clock to the current Greenwich Mean Time (GMT).

##### SUBTASK 23-27-00-710-004

- (2) Do this task: ACARS - Operational Test, TASK 23-27-00-740-802.

##### SUBTASK 23-27-00-700-002

- (3) Do this task: ACARS Airplane Personality Module (APM) Data Verification Check, TASK 23-27-35-700-801.

##### SUBTASK 23-27-00-730-006

- (4) Do the Initialization and Print test:

- (a) Push the MENU function key on both CDUs.
- (b) Push the LSK adjacent to the <ACARS prompt on both CDUs.

NOTE: DLNK can be displayed instead of ACARS. This depends on CMU core software.

- 1) Make sure that the ACARS-APPLICATION MENU shows on both displays.

NOTE: Use CDU-1 when it is necessary to use the ACARS menu functions during the system test. You can use CDU-2 when it is necessary to use the FMC functions.

- (c) Push the LSK adjacent to the TECHNICAL> prompt.

- 1) Make sure that the ACARS-TECHNICAL MENU shows on the display.

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**SIA 001-014 (Continued)**

- (d) Push the LSK adjacent to the <SYSTEM CONFIG prompt.
  - 1) Make sure that the ACARS-SYSTEM CONFIG page 1 shows on the display.
  - 2) Make sure that the correct ACARS hardware and software part numbers show on the display.
  - 3) If the correct software part numbers do not show on the display, do this task: ACARS Software Installation with Onboard Network System (ONS), TASK 23-27-33-470-802 or replace the CMU with a unit that has the correct software loaded (TASK 23-27-33-020-801).
- (e) Push the LSK adjacent to the \*PRINT prompt.
  - 1) Make sure that the printer prints the data that shows on the display.  
NOTE: The print format is not the same as the display format.
- (f) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-TECHNICAL MENU page.

**SUBTASK 23-27-00-730-007**

- (5) Do the VHF-Link Test:
  - (a) Push the VHF-3 key on RTP-1, RTP-2 and RTP-3.
    - 1) Make sure that ACARS or DATA shows in the RTP-1 ACTIVE display.  
NOTE: If ACARS or DATA does not show in the ACTIVE display, then turn the RTP-1 frequency select knob until "ACARS" or "DATA" shows in the STANDBY display. Push the transfer switch on RTP-1 to move "ACARS" or "DATA" to the ACTIVE window of RTP-1.
  - (b) Push the LSK adjacent to the <LINK STATUS prompt.
    - 1) Make sure that the ACARS-LINK STATUS page shows on the display.
    - 2) Make sure that the FREQ shown adjacent to the VHF prompt below the MEDIA line is correct for the geographic area where the airplane is currently located.
    - 3) Make sure that AOA COMM shows adjacent to the \*VHF prompt on the display.  
NOTE: If the airplane is located in an area where AOA VDL Mode 2 is not available, POA COMM shows instead of AOA COMM.  
NOTE: If SCAN or NO-COMM shows, wait approximately 2 minutes before you do the next step.
  - (c) Push the LSK adjacent to the \*VHF prompt on the line under the TEST prompt.
    - 1) Make sure that the "\*" adjacent to the VHF prompt goes away, then shows again after the link test is successful.
    - 2) Make sure that "VHF IN PROG" shows on the line above the <RETURN prompt.
    - 3) Make sure that "LINK TEST SUCCESSFUL" shows on the line above the <RETURN prompt.
  - (d) Push the transfer switch on RTP-1 to move ACARS or DATA to the STANDBY display and a voice frequency to the ACTIVE display.
    - 1) Make sure that VOICE shows adjacent to the \*VHF prompt on the display.
  - (e) Push the transfer switch on RTP-2 to move ACARS or DATA to the ACTIVE display and a voice frequency to the STANDBY display.  
NOTE: Wait for the displays to change in approximately 2 minutes.

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- 1) Make sure that AOA COMM shows adjacent to the \*VHF prompt on the display.

NOTE: If the airplane is located in an area where AOA VDL Mode 2 is not available, POA COMM shows instead of AOA COMM.

- (f) Push the transfer switch on RTP-2 to move ACARS or DATA to the STANDBY display and a voice frequency to the ACTIVE display.

- 1) Make sure that VOICE shows adjacent to the \*VHF prompt on the display.

- (g) Push the transfer switch on RTP-3 to move ACARS or DATA to the ACTIVE display and a voice frequency to the STANDBY display.

NOTE: Wait for the displays to change in approximately 2 minutes.

- 1) Make sure that AOA COMM shows adjacent to the \*VHF prompt on the display.

NOTE: If the airplane is located in an area where AOA VDL Mode 2 is not available, POA COMM shows instead of AOA COMM.

- (h) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-TECHNICAL MENU page.

SUBTASK 23-27-00-730-018

- (6) Do the SATCOM Link Test:

NOTE: This test verifies the interface between the SDU and ACARS CMU.

- (a) Select the LSK adjacent to the <LINK STATUS to show the LINK STATUS page.
- (b) Select the LSK adjacent to the <\*SAT to initiate the SATCOM link test.
- (c) Make sure that the SATCOM status changes from SAT IN PROGRESS to LINK TEST SUCCESSFUL and then clears (no text displayed).
- (d) Select the LSK adjacent to the <RETURN prompt until the ACARS-APPLICATION MENU page is displayed.
- (e) Push the MENU key on the CDU keypad to show the CDU "MENU" page.

SUBTASK 23-27-00-730-008

- (7) Do the HF Link Test (optional):



**WARNING**

DO NOT OPERATE THE HF SYSTEM WHILE YOU REFUEL OR DEFUEL THE AIRPLANE. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.



**WARNING**

MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 8 FEET AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.



**CAUTION**

LEAVE THE HF-SYSTEM IN THE DATA MODE DURING THE HF-LINK-TEST ONLY. IF THE HF-SYSTEM IS IN THE DATA MODE, THEN IT CAN TRANSMIT INDEPENDENTLY OF PERSONNEL CONTROL (PUSH-TO-TALK SWITCH).

- (a) Do this task: Prepare to Put the Airplane in the Air Mode, TASK 32-09-00-840-801.
- (b) Do this task: Put the Airplane in the Air Mode, TASK 32-09-00-860-801.

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- (c) Set the radio tuning panels (RTP) as follows:
- 1) On the captain's RTP, push the HF-1 switch.
    - a) If the active display on RTP-1 shows DATA, continue with the test.
    - b) If the active display shows a HF voice frequency, do these steps:
      - <1> Turn the standby frequency knob on RTP-1 clockwise or counterclockwise until DATA shows in the standby (right) display.
      - <2> Push the transfer button to transfer DATA to the active display.

NOTE: It can take seven minutes for the selected HF transceiver to establish a link to an ACARS HF ground station. Wait until the \*HF prompt appears on the line under the TEST prompt before continuing with the next step.
  - 2) On the first officers RTP, select one of the VHF radios.
  - 3) On RTP-3, select one of the VHF radios.
- (d) Push the LSK adjacent to the \*HF prompt on the line under the TEST prompt.
- 1) Make sure that the "\*" adjacent to the HF prompt goes away, then shows again after the link test is successful.
  - 2) Make sure that "HF IN PROG" shows on the line above the <RETURN prompt.
  - 3) Make sure that "LINK TEST SUCCESSFUL" shows on the line above the <RETURN prompt.
- NOTE: This step can take seven minutes to seven hours to complete. The distance to an ACARS ground station, atmospheric conditions, or sunspots can cause the HF link test to fail.
- (e) Set the RTPs as follows:
- 1) On the captain's RTP, do these steps:
    - a) Turn the standby frequency knob on RTP-1 clockwise or counterclockwise until a valid voice frequency shows in the standby (right) display.
    - b) Push the transfer button.
  - 2) On the first officer's RTP, push the HF-2 switch.
    - a) If the active display on RTP-2 shows DATA, continue with the test.
    - b) If the active display shows a HF voice frequency, do these steps:
      - <1> Turn the standby frequency knob on RTP-2 clockwise or counterclockwise until DATA shows in the standby (right) display.
      - <2> Push the transfer button to transfer DATA to the active display.

NOTE: It can take seven minutes for the selected HF transceiver to establish a link to an ACARS HF ground station. Wait until the \*HF prompt appears on the line under the TEST prompt before continuing with the next step.
- (f) Push the LSK adjacent to the \*HF prompt on the line under the TEST prompt.
- 1) Make sure that the "\*" adjacent to the HF prompt goes away, then shows again after the link test is successful.
  - 2) Make sure that "HF IN PROG" shows on the line above the >RETURN prompt.

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- 3) Make sure that "LINK TEST SUCCESSFUL" shows on the line above the >RETURN prompt.

NOTE: This step can take seven minutes to seven hours to complete. The distance to an ACARS ground station, atmospheric conditions, or sunspots can cause the HF link test to fail.

- 4) On the first officer's RTP, do these steps:
  - a) Turn the standby frequency knob clockwise or counterclockwise until a valid voice frequency shows in the standby (right) display.
  - b) Push the transfer button.

- (g) On the RTP-3, push the HF-1 switch.

- 1) If the active display on RTP-3 shows DATA, continue with the test.
- 2) If the active display shows a HF voice frequency, do these steps:
  - a) Turn the standby frequency knob on RTP-3 clockwise or counterclockwise until DATA shows in the standby (right) display.
  - b) Push the transfer button to transfer DATA to the active display.

NOTE: It can take seven minutes for the selected HF transceiver to establish a link to an ACARS HF ground station. Wait until the \*HF prompt appears on the line under the TEST prompt before continuing with the next step.

- (h) Push the LSK adjacent to the \*HF prompt on the line under the TEST prompt.
  - 1) Make sure that the "\*" adjacent to the HF prompt goes away, then shows again after the link test is successful.
  - 2) Make sure that "HF IN PROG" shows on the line above the >RETURN prompt.
  - 3) Make sure that "LINK TEST SUCCESSFUL" shows on the line above the >RETURN prompt.

NOTE: This step can take seven minutes to seven hours to complete. The distance to an ACARS ground station, atmospheric conditions, or sunspots can cause the HF link test to fail.

- 4) On the RTP-3, do these steps:
  - a) Turn the standby frequency knob clockwise or counterclockwise until a valid voice frequency shows in the standby (right) display.
  - b) Push the transfer button.

- (i) Do this task: Return the Airplane to the Ground Mode, TASK 32-09-00-860-802.
- (j) Do this task: Return the Airplane Systems Back to Their Normal on Ground Condition, TASK 32-09-00-840-802.
- (k) On CDU-1, push the LSK adjacent to the <RETURN prompt to go back to the ACARS-TECHNICAL MENU page.

**SUBTASK 23-27-00-730-009**

- (8) Do the Peripherals Test:

- (a) Push the LSK adjacent to the <PERIPHERALS prompt.
  - 1) Make sure that the ACARS-PERIPHERALS page 1 shows on the display.

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- 2) Make sure that CDU L, CDU R, FMC, FMC BCST, ACMS and PRINTER show PRESENT under the CONNECT line and OK under the STAT line.
- (b) Push the NEXT PAGE function key.
  - 1) Make sure that the ACARS-PERIPHERALS page 2 shows on the display.
  - 2) If the system is installed (and ACARS communication is enabled), make sure that CABIN 1, CABIN 2, SDU 1, SDU 2, HFDR 1 or HFDR 2 shows PRESENT below the CONNECT line and OK below the STAT line.

NOTE: If a system is not installed, or if ACARS communication with that system is not enabled, ABSENT shows below the CONNECT line.
- (c) Push the NEXT PAGE function key.
  - 1) Make sure that the ACARS-PERIPHERALS page 3 shows on the display.
  - 2) Make sure that XPDR 1, XPDR 2 and VDR 3 show PRESENT below the CONNECT line and OK below the STAT line.
  - 3) Make sure that VDR 1 and VDR 2 show ABSENT below the CONNECT line.
- (d) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-TECHNICAL MENU page.
- (e) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-APPLICATION MENU page.

**SUBTASK 23-27-00-730-010**

- (9) Do these steps to do the Out-Off-On-In (OOOI) sensor test:
  - (a) Make sure that the ACARS-AOC MENU page shows on the display.
  - (b) Push the LSK adjacent to the FLT LOG> prompt.
    - 1) Make sure that the ACARS-FLG LOG-CURR page 1 shows on the display.
  - (c) Push the LSK adjacent to the SENSORS> prompt.
    - 1) Make sure that the ACARS-SENSORS page shows on the display.
  - (d) Close all the cabin doors, cargo doors, EE and Section 41 bay doors.
    - 1) Make sure that the FWD DOOR, AFT DOOR, CARGO/EE DOORS, and SERVICE DOORS show CLOSED on the display.

NOTE: The following steps test each OOOI parameter. If the OOOI parameters have been working correctly and the ACARS Communications Management Unit (CMU) was not removed or replaced, these steps are optional.
  - (e) Open the left forward door.
    - 1) Make sure that the FWD DOOR shows OPEN.
  - (f) Close the left forward door.
    - 1) Make sure that the FWD DOOR shows CLOSED.
  - (g) Open the right forward door.
    - 1) Make sure that the SERVICE DOORS show OPEN.
  - (h) Close the right forward door.
    - 1) Make sure that the SERVICE DOORS show CLOSED.
  - (i) Open the left aft door.

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- 1) Make sure that the AFT DOOR shows OPEN.
- (j) Close the left aft door.
  - 1) Make sure that the AFT DOOR shows CLOSED.
- (k) Open the right aft door.
  - 1) Make sure that the SERVICE DOORS show OPEN.
- (l) Close the right aft door.
  - 1) Make sure that the SERVICE DOORS show CLOSED.
- (m) Open the forward cargo compartment door.
  - 1) Make sure that the CARGO/EE DOORS shows OPEN.
- (n) Close the forward cargo compartment door.
  - 1) Make sure that the CARGO/EE DOORS shows CLOSED.
- (o) Make sure that the PARK BRAKE state is SET.



**WARNING**

MAKE SURE THAT THE AIRPLANE WILL NOT MOVE BEFORE YOU RELEASE THE PARKING BRAKE. IF THE AIRPLANE MOVES, IT CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (p) Release the parking brake.
  - 1) Make sure that the PARK BRAKE state changes from SET to RELEASED.
- (q) Set the parking brake.
  - 1) Make sure that the PARK BRAKE state changes from RELEASED to SET.
- (r) Do this task: Prepare to Put the Airplane in the Air Mode, TASK 32-09-00-840-801.
- (s) Do this task: Put the Airplane in the Air Mode, TASK 32-09-00-860-801.
  - 1) Make sure that the STRUT state changes from ON GND to AIRBORNE.
- (t) Do this task: Return the Airplane to the Ground Mode, TASK 32-09-00-860-802.
  - 1) Make sure that the STRUT state changes from AIRBORNE to ON GND.
- (u) Do this task: Return the Airplane Systems Back to Their Normal on Ground Condition, TASK 32-09-00-840-802.
- (v) Push the LSK adjacent to the <RETURN prompt to go back to the FLT LOG page.
- (w) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-AOC MENU page.

**SUBTASK 23-27-00-730-015**

- (10) Do these steps to do the MAX Display System (MDS) interface test:
  - (a) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| E          | 8          | C01483        | CMU-1 AC    |

- (b) On the MDS, go to the 31 MDS DISPLAY in the MAINT DATA PGS (TASK 31-65-00-970-801).
- (c) Push the NEXT PAGE selection until the DPC DIGITAL INPUTS page shows.

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- (d) Make sure that the CMU Amber INACTIVE status message shows on the Insert A, pins G01/G02.
- (e) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| E          | 8          | C01483        | CMU-1 AC    |

- (f) After the CMU energizes, make sure that the CMU White ACTIVE status message shows on the Insert A, pins G01/G02.

**SUBTASK 23-27-00-730-011**

- (11) Do these steps to change the ACARS fuel units of weight from pounds (LBS) to kilograms (KGS):
  - (a) Push LSK 6L on the CDU until the ACARS-APPLICATION MENU page shows.
  - (b) Set LSK 2R (AOC STD) on the CDU.
  - (c) Set LSK 5R (MISC MENU) on the CDU.
  - (d) Set LSK 4L (PASSWORD) on the CDU.
  - (e) Put the time that shows on the bottom of the CDU into the scratchpad of the CDU.
  - (f) Set LSK 1L (\*PASSWORD) on the CDU to show on the ACARS-PARAMETERS page.  
**NOTE:** If "INVALID" shows at LSK 1L, then do the last two steps again.
  - (g) Set LSK 1L (FUEL UNITS) on the CDU until "KGS" shows (the button toggles between LBS and KGS).
  - (h) Set LSK 6L until the ACARS-APPLICATION MENU shows.
  - (i) Set LSK 4R (TECHNICAL) to go back to the ACARS TECHNICAL MENU.

———— **END OF TASK** ————

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### ACARS COMMUNICATIONS MANAGEMENT UNIT (CMU) - MAINTENANCE PRACTICES

#### 1. General

A. This procedure has these tasks:

- (1) A software configuration check for the ACARS Communications Management Unit (CMU).
- (2) An installation of the ACARS Communications Management Unit (CMU) software with the Onboard Network System (ONS).

#### **TASK 23-27-33-700-801**

#### 2. ACARS Communications Management Unit (CMU) Software Configuration Check

##### A. General

- (1) This software configuration check makes sure that ACARS has the correct software loaded.
- (2) A Flight Management Control and Display Unit (CDU) is necessary for this procedure.

##### B. References

| Reference        | Title                                                        |
|------------------|--------------------------------------------------------------|
| 23-27-33-020-801 | ACARS Communications Management Unit (CMU) Removal (P/B 401) |

##### C. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

##### D. ACARS CMU Software Configuration Check

###### **SUBTASK 23-27-33-840-002**

- (1) Make sure that you know the correct software part numbers for the ACARS Communications Management Unit (CMU).

NOTE: For ACARS to be an approved installation, the correct software part numbers must be installed.

NOTE: These are the software parts:

| Name on CDU | Name of Software Part |
|-------------|-----------------------|
| AOC DB      | 23 CMU ARINC DATABASE |
| CORE SW     | 23 CMU CORE SW        |
| APP SW      | 23 CMU AOC SW         |

#### **SIA 001-014**

###### **SUBTASK 23-27-33-700-003**

- (2) Do these steps to verify the software installation for the ACARS Communications Management Unit:
  - (a) Push the MENU function key on the CDU.
    - 1) Make sure that the MENU page shows on the CDU.
  - (b) Push the line-select-key (LSK) adjacent to the <ACARS prompt.
    - 1) Make sure that the ACARS-APPLICATION MENU page shows on the CDU.
  - (c) Push the LSK adjacent to the TECHNICAL> prompt.
    - 1) Make sure that the ACARS-TECHNICAL MENU page shows on the CDU.

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- (d) Push the LSK adjacent to the <SYSTEM CONFIG prompt.
  - 1) Make sure the ACARS-SYSTEM CONFIG page 1 of 2 shows on the CDU.
  - 2) Make sure that the ACARS CMU hardware and software part numbers are correct.
    - a) If the ACARS software part numbers are not correct, do this task: ACARS Software Installation with Onboard Network System (ONS), TASK 23-27-33-470-802or replace the ACARS CMU with one that has the correct software loaded (ACARS Communications Management Unit (CMU) Removal, TASK 23-27-33-020-801).
- (e) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-TECHNICAL MENU page.
- (f) Push the LSK adjacent to the <RETURN prompt to go back to the ACARS-APPLICATION MENU page.

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**E. Return The Airplane To Its Usual Condition**

SUBTASK 23-27-33-860-002

- (1) Push the MENU key on the CDU.

———— END OF TASK ————

**TASK 23-27-33-470-802**

**3. ACARS Software Installation with Onboard Network System (ONS)**

**A. General**

- (1) This procedure tells you how to install software in the Aircraft Communications Addressing And Reporting System (ACARS) with the Onboard Network System (ONS).
  - (a) The ACARS CMU must contain these pieces of software:
    - 1) Core software
    - 2) Operational software.
    - 3) Customer Unique Database software.
  - (b) The ACARS Core software must be installed first.
  - (c) The ACARS Operational software must be installed before the Customer Unique Database software. If the Operational software is already installed, then you can install only the Customer Unique Database software.
- (2) The airplane must be on the ground with the engines shutdown and parking brake set before you can install software.
- (3) To read about software installation times and data loaders, do this task: On-Airplane Software Installation, TASK 20-15-11-470-801.

**B. References**

| Reference        | Title                                       |
|------------------|---------------------------------------------|
| 20-15-11-470-801 | On-Airplane Software Installation (P/B 201) |
| 46-13-00-470-801 | LRU Software Parts Installation (P/B 201)   |

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### C. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

### D. ACARS Software Installation with ONS

#### SUBTASK 23-27-33-410-006

- (1) Make sure that you know the correct software part numbers for the ACARS Communications Management Unit (CMU).

NOTE: For ACARS to be an approved installation, the correct software must be installed.

#### SUBTASK 23-27-33-410-004

- (2) Do these steps to prepare for the software installation:
  - (a) Make sure that the SYSTEM SELECT switch on the data loader control panel, P61, is set to NORMAL.
  - (b) Do these steps at the data loader control panel, P61:
    - 1) Set the DATA LOAD SELECTOR switch to L CAPT UPR.
    - 2) Set the SYSTEM SELECT switch to ACARS/CMU.

#### SUBTASK 23-27-33-470-004

- (3) Do this task: LRU Software Parts Installation, TASK 46-13-00-470-801.

NOTE: Load CORE SW first. Then load AOC SW or DATABASE.

### SIA 001-014

NOTE: After selecting START LOAD on the MDS or PMD, the data load will not start until you perform the next step (2)(a).

- (a) Do these steps to start the data load:
  - 1) Push the LSK adjacent to the "DATALOAD\*" prompt on the CDU.
  - 2) Push the LSK adjacent to the "PROCEED WITH DATALOAD" prompt on the CDU.
  - 3) Make sure that the message "SCREEN WILL BLANK WHILE DATALOAD IS IN PROGRESS" appears on the CDU, and then the "MENU" appears without the "ACARS" prompt.

NOTE: While the data load is in progress, status will be displayed on the MDS or PMD.

- 4) Make sure that the status message "Success" shows on the MDS or PDM.

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#### SUBTASK 23-27-33-410-005

- (4) Set the SYSTEM SELECT switch on the data loader control panel, P61, to NORMAL.
- (5) Make sure that the <ACARS or <DLNK prompt shows on the CDU.

NOTE: The <ACARS or <DLNK prompt appears on the CDU in 2-4 minutes.

#### SUBTASK 23-27-33-470-005

- (6) Do this task to verify the software was loaded: ACARS Communications Management Unit (CMU) Software Configuration Check, TASK 23-27-33-700-801.

————— END OF TASK —————

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ACARS COMMUNICATIONS MANAGEMENT UNIT - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the ARINC ACARS Communications Management Unit (CMU)
- (2) An installation of the ACARS CMU.

B. The ACARS CMU is located on the E4-1 shelf in the main equipment center.

**TASK 23-27-33-020-801**

2. ACARS Communications Management Unit (CMU) Removal

(Figure 401)

A. **References**

| Reference        | Title                                                  |
|------------------|--------------------------------------------------------|
| 20-10-07-000-801 | E/E Box Removal (P/B 401)                              |
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201) |

B. **Location Zones**

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |
| 211  | Flight Compartment - Left                      |
| 212  | Flight Compartment - Right                     |

C. **Access Panels**

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

D. ACARS Communications Management Unit (CMU) Removal

SUBTASK 23-27-33-860-006

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name     |
|-----|-----|--------|----------|
| E   | 8   | C01483 | CMU-1 AC |

This circuit breaker is inoperative and should remain open:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                |
|-----|-----|--------|---------------------|
| E   | 9   | C01500 | CMU/ACARS DC (INOP) |

SUBTASK 23-27-33-010-001

- (2) Open this access panel:

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

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SUBTASK 23-27-33-020-003



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE CMU. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE CMU.

- I (3) Before touch the ACARS CMU [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-27-33-020-004

- I (4) Remove the ACARS CMU [1] from the shelf, do this task: E/E Box Removal, TASK 20-10-07-000-801.

————— **END OF TASK** —————

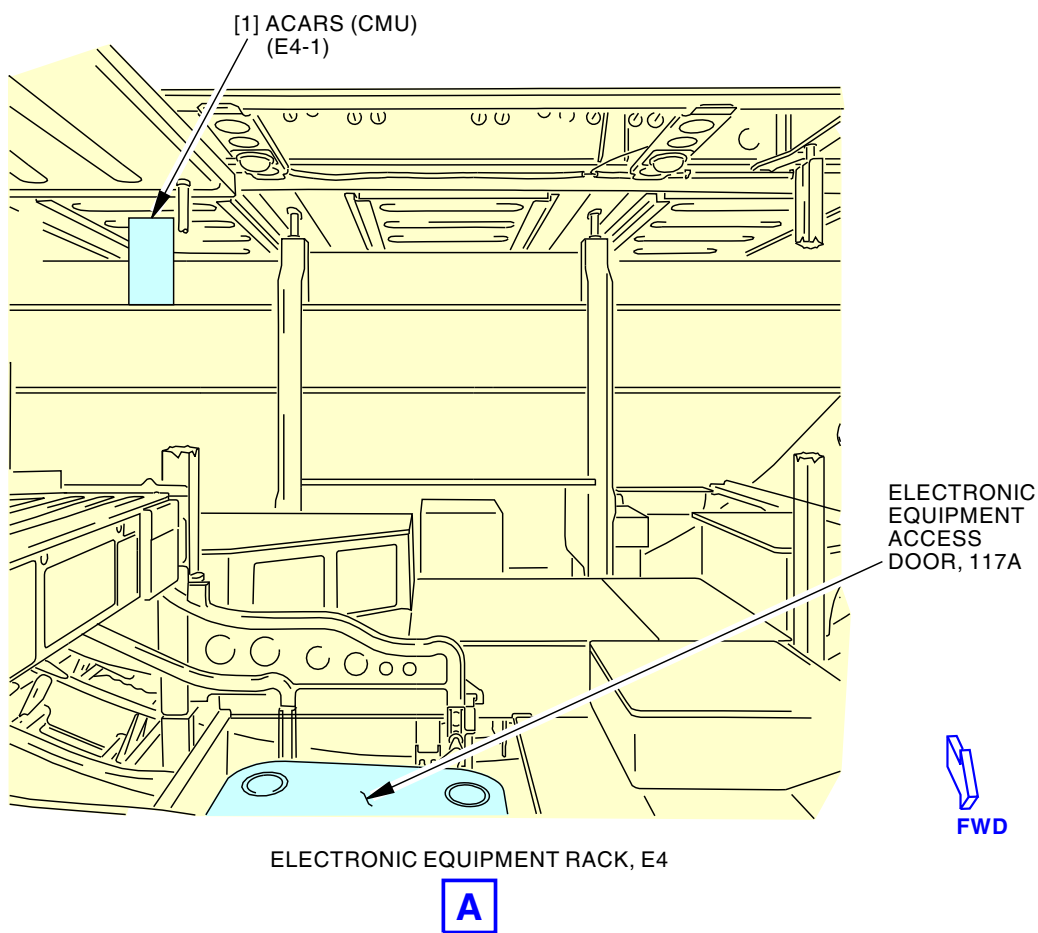
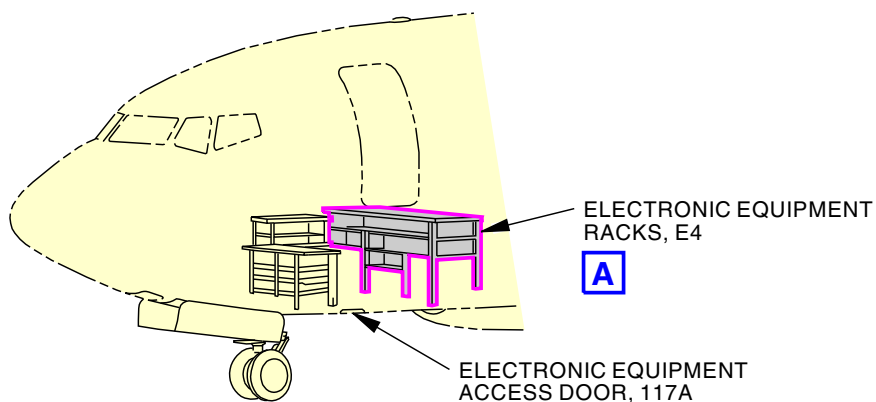
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**Aircraft Communications Addressing and Reporting System (ACARS) Communications Management Unit (CMU) Installation**  
**Figure 401/23-27-33-990-801**

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TASK 23-27-33-420-801

3. **ACARS Communications Management Unit (CMU) Installation**

(Figure 401)

A. **References**

| Reference        | Title                                                                             |
|------------------|-----------------------------------------------------------------------------------|
| 20-10-07-400-801 | E/E Box Installation (P/B 401)                                                    |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201)                       |
| 23-27-00-740-802 | ACARS - Operational Test (P/B 501)                                                |
| 23-27-33-700-801 | ACARS Communications Management Unit (CMU) Software Configuration Check (P/B 201) |
| 23-27-35-700-801 | ACARS Airplane Personality Module (APM) Data Verification Check (P/B 201)         |

B. **Expendables/Parts**

| AMM Item | Description | AIPC Reference  | AIPC Effectivity |
|----------|-------------|-----------------|------------------|
| 1        | ACARS CMU   | 23-27-33-01-100 | SIA ALL          |

C. **Location Zones**

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |
| 211  | Flight Compartment - Left                      |
| 212  | Flight Compartment - Right                     |

D. **Access Panels**

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

E. **ACARS Communications Management Unit (CMU) Installation**

SUBTASK 23-27-33-860-007

- (1) Make sure that this circuit breaker is open and has safety tag:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name     |
|-----|-----|--------|----------|
| E   | 8   | C01483 | CMU-1 AC |

This circuit breaker is inoperative and should remain open:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                |
|-----|-----|--------|---------------------|
| E   | 9   | C01500 | CMU/ACARS DC (INOP) |

SUBTASK 23-27-33-420-001



DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE CMU. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE CMU.

- (2) Before touch the ACARS CMU [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-27-33-410-002

- (3) Install the ACARS CMU [1], do this task: E/E Box Installation, TASK 20-10-07-400-801.

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SUBTASK 23-27-33-860-008

- (4) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| E          | 8          | C01483        | CMU-1 AC    |

This circuit breaker is inoperative and should remain open:

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| E          | 9          | C01500        | CMU/ACARS DC (INOP) |

**F. Installation Test**

SUBTASK 23-27-33-470-006

- (1) Do this task: ACARS Communications Management Unit (CMU) Software Configuration Check, TASK 23-27-33-700-801.

SUBTASK 23-27-33-740-001

- (2) Do this task: ACARS - Operational Test, TASK 23-27-00-740-802.

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SUBTASK 23-27-33-700-002

- (3) Do this task: ACARS Airplane Personality Module (APM) Data Verification Check, TASK 23-27-35-700-801.

**SIA ALL**

**G. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-27-33-410-003

- (1) Close this access panel:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

————— **END OF TASK** —————

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AIRPLANE PERSONALITY MODULE (APM) - MAINTENANCE PRACTICES

1. **General**

- A. This procedure has these tasks:
- (1) ACARS APM software configuration check.
  - (2) ACARS APM software installation.

**TASK 23-27-35-700-801**

2. **ACARS Airplane Personality Module (APM) Data Verification Check**

**A. General**

- (1) This data verification check makes sure that the ACARS Airplane Personality Module (APM) contains the correct data values.
- (2) A Control Display Unit (CDU) is necessary for this procedure.

**B. References**

| Reference        | Title                                                          |
|------------------|----------------------------------------------------------------|
| 23-27-35 P/B 401 | ACARS AIRPLANE PERSONALITY MODULE - REMOVAL/INSTALLATION       |
| 34-61-00-710-801 | Flight Management Computer System - Operational Test (P/B 501) |

**C. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

**D. Procedure**

**SUBTASK 23-27-35-840-001**

- (1) Make sure that the Flight Management Computer System (FMCS) is serviceable (TASK 34-61-00-710-801).

**SUBTASK 23-27-35-730-006**

- (2) Do these steps on the CDU to check the data in the APM:
  - (a) Push the MENU button.
  - (b) Select ACARS.
    - 1) If the ACARS-AOC menu shows, select TECH MENU.
    - 2) If the ACARS-APPLICATION menu shows, select TECHNICAL.
  - (c) Select PASSWORD.
  - (d) Enter the UTC time that shows at the bottom of the CDU in the scratchpad.
  - (e) Select \*PASSWORD.

**NOTE:** The UTC can change while typing it into the scratchpad and cause an INVALID message adjacent to \*PASSWORD. If this happens, repeat the last two steps.
  - (f) Select APM MENU.
    - 1) Make sure that the ACARS-APM MENU shows.
  - (g) Select IDENT BLK PGM.
    - 1) Make sure that the ACARS-IDENT BLK PGM page 1 shows.



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- (h) Make sure that the aircraft type adjacent to AC TYPE is correct.
- (i) Make sure that the airplane registration number adjacent to REG NUM is correct.
- (j) Make sure that the two letter airline identification code adjacent to AIRLINE ID is correct.
- (k) Make sure that the three letter ICAO airline identification code adjacent to ICAO AIRLINE ID is correct.
- (l) Push the NEXT PAGE button.
  - 1) Make sure that the ACARS-IDENT BLK PGM page 2 shows.
- (m) Make sure that the ICAO address adjacent to ICAO ADDR is correct.
- (n) Push the NEXT PAGE button.
  - 1) Make sure that the ACARS-IDENT BLK PGM page 3 shows.
- (o) Make sure that NO shows adjacent to HFDR 1 INSTALLED and HFDR 2 INSTALLED.
- (p) Make sure that YES shows adjacent to VDR INSTALLED.
- (q) If one or more of the above parameters are not correct, do this task: ACARS Airplane Personality Module (APM) Software Installation, TASK 23-27-35-700-802 or replace the ACARS APM (PAGEBLOCK 23-27-35/401).
- (r) Select RETURN until TECH MENU or TECHNICAL page shows.

———— **END OF TASK** ————

**TASK 23-27-35-700-802**

**3. ACARS Airplane Personality Module (APM) Software Installation**

**A. General**

- (1) This software installation writes data values into the Aircraft Communications Addressing And Reporting System (ACARS) Airplane Personality Module (APM).
- (2) A Control Display Unit (CDU) is necessary for this procedure.

**B. References**

| Reference        | Title                                                          |
|------------------|----------------------------------------------------------------|
| 34-61-00-710-801 | Flight Management Computer System - Operational Test (P/B 501) |

**C. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

**D. Procedure**

**SUBTASK 23-27-35-840-002**

- (1) Make sure that the Flight Management Computer System (FMCS) is serviceable (TASK 34-61-00-710-801).

**SUBTASK 23-27-35-730-005**

- (2) Do these steps on the CDU to write data into the APM:
  - (a) Push the MENU button.
  - (b) Select ACARS.
    - 1) If the ACARS-AOC menu shows, select TECH MENU.
    - 2) If the ACARS-APPLICATION menu shows, select TECHNICAL.

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- (c) Select PASSWORD.
- (d) Enter the UTC time that shows at the bottom of the CDU into the scratchpad.
- (e) Select \*PASSWORD.  
NOTE: The UTC can change while typing it into the scratchpad and cause an INVALID message adjacent to \*PASSWORD. If this happens, repeat the last two steps.
- (f) Select PARAMETERS.
- (g) Record the six character transponder address (XPDR ADDR), shown at Line Select Key (LSK) 1R, for later use.
  - XPDR ADDR: \_\_\_\_\_.
- (h) Select RETURN.
- (i) Select APM MENU.
- (j) Select IDENT BLK PGM.
- (k) Select AC TYPE.
- (l) Select BOEING.
- (m) Select \*737.
  - 1) Make sure that the ACARS-IDENT BLK PGM page 1 shows B737 adjacent to AC TYPE.  
NOTE: WRITE\* shows at LSK 5R. This will be used later to write the data to the Airplane Personality Module.
- (n) Enter the registration number of the airplane as shown on the captain or first officer main instrument panel placard in the scratchpad.  
NOTE: If the registration number is less than 7 characters, enter leading decimal points.

**Examples of aircraft registration number**

| DISPLAYED ON PLACARD | ENTER IN SCRATCHPAD |
|----------------------|---------------------|
| N1239                | ..N1239             |
| A-2345               | .A-2345             |
| N123456              | N123456             |

- (o) Select REG NUM.
  - 1) Make sure that the airplane registration number shown adjacent to REG NUM agrees with the registration number on the captain or first officer main instrument panel placard.
- (p) Enter the two letter airline ID into the scratchpad.
- (q) Select AIRLINE ID.
  - 1) Make sure that the airline ID shown adjacent to AIRLINE ID is correct.
- (r) Enter the three letter ICAO code into the scratchpad.
- (s) Select ICAO AIRLINE ID.
  - 1) Make sure that the ICAO airline ID shown adjacent to ICAO AIRLINE ID is correct.
- (t) Push the NEXT PAGE button.
  - 1) Make sure that the ACARS-IDENT BLK PGM page 2 shows.



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- (u) Enter the six character transponder address (XPDR ADDR) of the airplane into the scratchpad.  
NOTE: The XPDR ADDR was recorded at an earlier step.
- (v) Select ICAO ADDR.  
1) Make sure that the ICAO address shown adjacent to ICAO ADDR is correct.
- (w) Push the NEXT PAGE button.  
1) Make sure that the ACARS-IDENT BLK PGM page 3 shows.
- (x) Select HFDR 1 INSTALLED until NO shows.
- (y) Select HFDR 2 INSTALLED until NO shows.
- (z) Select VDR INSTALLED until YES shows.
- (aa) Select WRITE\*.
- (ab) Select \*WRITE.  
NOTE: PROGRAMMING shows when the CMU writes to the APM. This may take up to one minute.
- (ac) Wait for the CMU to reset or until CONFIRMED shows on the CDU.
- (ad) Open this circuit breaker:
- F/O Electrical System Panel, P6-1**
- | <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| E          | 8          | C01483        | CMU-1 AC    |
- (ae) Wait 5 seconds.
- (af) Close this circuit breaker:
- F/O Electrical System Panel, P6-1**
- | <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| E          | 8          | C01483        | CMU-1 AC    |
- (ag) Wait for ACARS to show on the CDU.
- (ah) Do this task: ACARS Airplane Personality Module (APM) Data Verification Check, TASK 23-27-35-700-801.

———— **END OF TASK** ————



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ACARS AIRPLANE PERSONALITY MODULE - REMOVAL/INSTALLATION

1. **General**

- A. This procedure has these tasks:
- (1) A removal of the ARINC Communications Addressing and Reporting System (ACARS) airplane personality module (APM).
  - (2) An installation of the ACARS airplane personality module (APM).
- B. The airplane personality module (APM) [1] is located behind the ACARS communications management unit (CMU) , M02127, on the E4-1 shelf in the main equipment center.

**TASK 23-27-35-020-801**

2. **ACARS Airplane Personality Module (APM) Removal**

(Figure 401)

A. **References**

| Reference        | Title                                                              |
|------------------|--------------------------------------------------------------------|
| 20-40-12-000-801 | ESDS Handling for Printed Circuit Board Removal (P/B 201)          |
| 50-11-01-000-801 | Forward Cargo Compartment Forward Bulkhead Liner Removal (P/B 401) |

B. **Location Zones**

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |
| 121  | Forward Cargo Compartment - Left               |
| 122  | Forward Cargo Compartment - Right              |
| 211  | Flight Compartment - Left                      |
| 212  | Flight Compartment - Right                     |

C. **Access Panels**

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |
| 821    | Forward Cargo Door               |

D. **Removal Procedure**

SUBTASK 23-27-35-860-003

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name     |
|-----|-----|--------|----------|
| E   | 8   | C01483 | CMU-1 AC |

This circuit breaker is inoperative and should remain open:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                |
|-----|-----|--------|---------------------|
| E   | 9   | C01500 | CMU/ACARS DC (INOP) |

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SUBTASK 23-27-35-010-001

- (2) Open this access panel:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

SUBTASK 23-27-35-010-002

- (3) Open this access panel:

| <u>Number</u> | <u>Name/Location</u> |
|---------------|----------------------|
| 821           | Forward Cargo Door   |

SUBTASK 23-27-35-020-001



DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE APM. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE APM.

- (4) Before you touch the airplane personality module (APM) [1], do this task: ESDS Handling for Printed Circuit Board Removal, TASK 20-40-12-000-801.

SUBTASK 23-27-35-020-002

- (5) Do these steps to remove the airplane personality module (APM) [1]:

NOTE: Access the airplane personality module (APM) [1] from the forward cargo area, through the right pressure relief panel [5] and the wire bundle disconnect bracket [4] on the back of the E4-1 shelf.

- (a) Remove the right pressure relief panel [5] (Forward Cargo Compartment Forward Bulkhead Liner Removal, TASK 50-11-01-000-801).
- (b) From behind the E4-1 shelf, loosen the four fasteners that hold the E4-1 shelf wire bundle disconnect bracket [4].
- (c) Lower the E4-1 shelf wire bundle disconnect bracket [4] for access to the airplane personality module (APM) [1].
- (d) Remove the two screws [2] that hold the airplane personality module (APM) [1] to the APM support bracket [6].
- (e) Loosen the two fasteners that hold the connector [3] to the airplane personality module (APM) [1].
- (f) Disconnect the connector [3] and remove the airplane personality module (APM) [1].

————— **END OF TASK** —————

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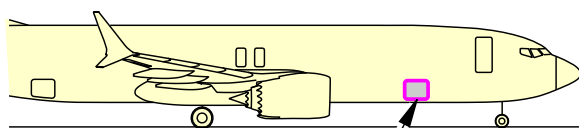
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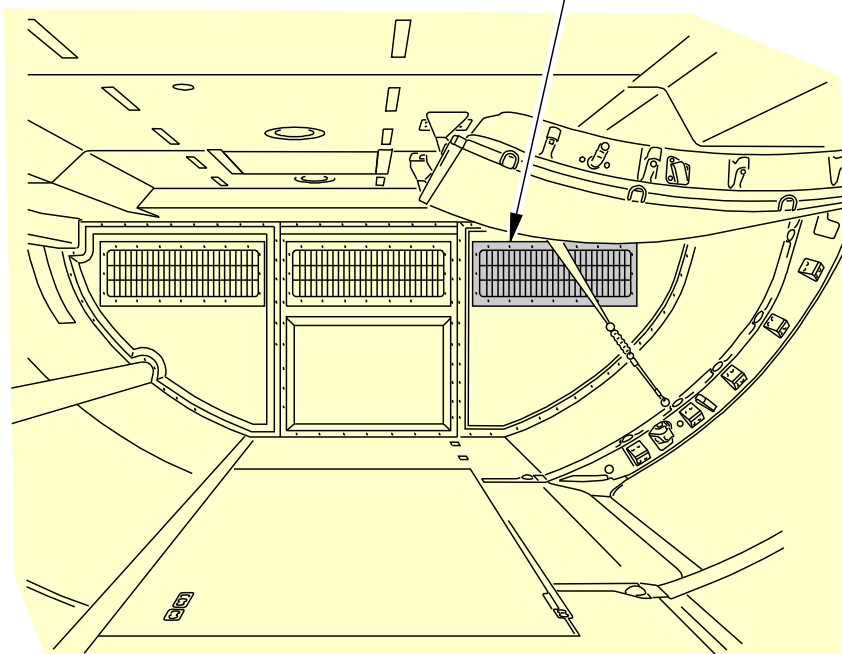


FORWARD  
CARGO  
COMPARTMENT

**A**

[5] PRESSURE  
RELIEF PANEL

**B**



FORWARD CARGO COMPARTMENT

**A**

FWD



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Aircraft Communications Addressing and Reporting System (ACARS) Airplane Personality Module  
(APM)

Figure 401/23-27-35-990-801 (Sheet 1 of 2)

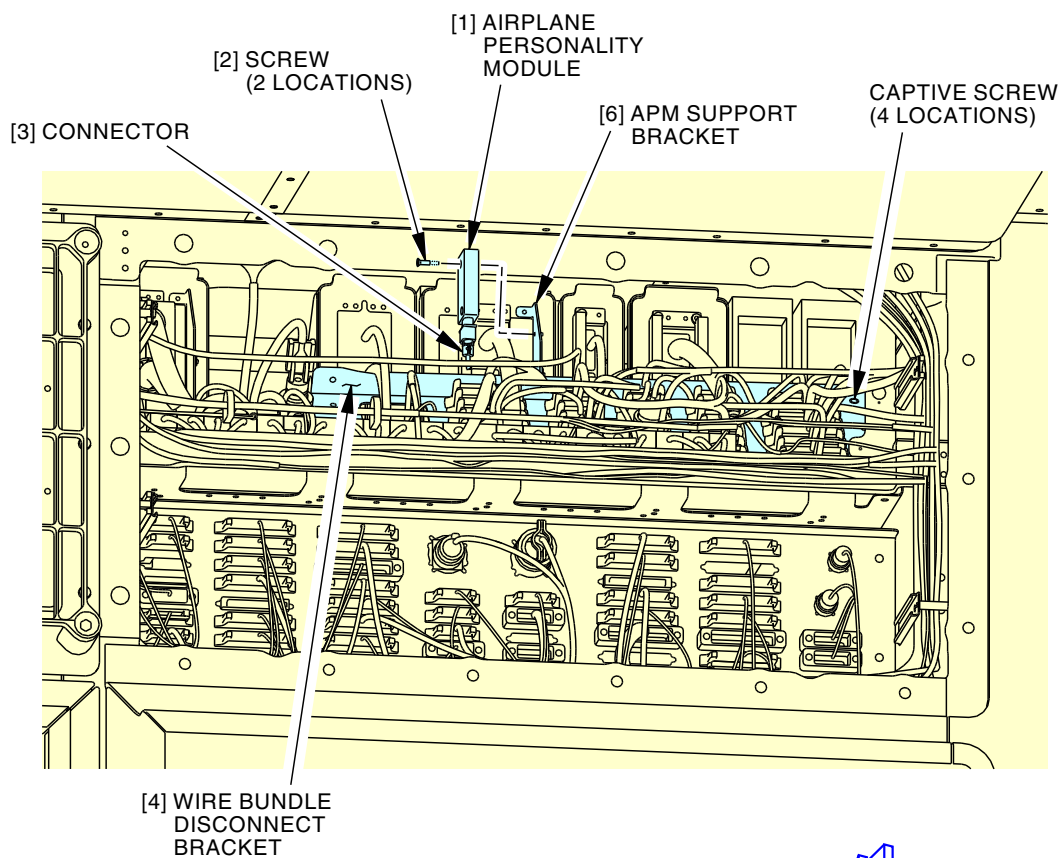
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RIGHT PRESSURE RELIEF PANEL  
(SHOWN REMOVED)

**B**

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Aircraft Communications Addressing and Reporting System (ACARS) Airplane Personality Module (APM)

Figure 401/23-27-35-990-801 (Sheet 2 of 2)

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TASK 23-27-35-420-801

3. **ACARS Airplane Personality Module (APM) Installation**

(Figure 401)

**A. References**

| Reference        | Title                                                                     |
|------------------|---------------------------------------------------------------------------|
| 20-40-12-400-801 | ESDS Handling for Printed Circuit Board Installation (P/B 201)            |
| 23-27-00-740-802 | ACARS - Operational Test (P/B 501)                                        |
| 23-27-35-700-801 | ACARS Airplane Personality Module (APM) Data Verification Check (P/B 201) |
| 50-11-01-400-801 | Forward Cargo Compartment Forward Bulkhead Liner Installation (P/B 401)   |

**B. Expendables/Parts**

| AMM Item | Description                       | AIPC Reference  | AIPC Effectivity |
|----------|-----------------------------------|-----------------|------------------|
| 1        | Airplane personality module (APM) | 23-27-35-05-005 | SIA 001-014      |

**C. Location Zones**

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |
| 121  | Forward Cargo Compartment - Left               |
| 122  | Forward Cargo Compartment - Right              |
| 211  | Flight Compartment - Left                      |
| 212  | Flight Compartment - Right                     |

**D. Access Panels**

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |
| 821    | Forward Cargo Door               |

**E. Installation Procedure**

SUBTASK 23-27-35-860-004

- (1) Make sure that this circuit breaker is open and has safety tag:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name     |
|-----|-----|--------|----------|
| E   | 8   | C01483 | CMU-1 AC |

This circuit breaker is inoperative and should remain open:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                |
|-----|-----|--------|---------------------|
| E   | 9   | C01500 | CMU/ACARS DC (INOP) |

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SUBTASK 23-27-35-020-003



DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE APM. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE APM.

- (2) Before you touch the airplane personality module (APM) [1], do this task: ESDS Handling for Printed Circuit Board Installation, TASK 20-40-12-400-801.

SUBTASK 23-27-35-420-001

- (3) Do these steps to install the airplane personality module (APM) [1]:

NOTE: Access to the airplane personality module (APM) [1] is from the forward cargo area, through the right pressure relief panel [5] and the wire bundle disconnect bracket [4] on the back of the E4-1 shelf.

- (a) Connect the airplane personality module (APM) [1] to the connector [3].
- (b) Tighten the two fasteners that hold the connector [3] to the airplane personality module (APM) [1].
- (c) Install the two screws [2] that hold the airplane personality module (APM) [1] to the APM support bracket [6].
- (d) Install the E4-1 shelf wire bundle disconnect bracket [4].
  - 1) Make sure the four fasteners that secure the wire bundle disconnect bracket [4] are tightened.
- (e) Install the right pressure relief panel [5](TASK 50-11-01-400-801).

SUBTASK 23-27-35-860-005

- (4) Remove the safety tag and close this circuit breaker:

### F/O Electrical System Panel, P6-1

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| E          | 8          | C01483        | CMU-1 AC    |

This circuit breaker is inoperative and should remain open:

### F/O Electrical System Panel, P6-1

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| E          | 9          | C01500        | CMU/ACARS DC (INOP) |

## F. Installation Test

SUBTASK 23-27-35-700-001

- (1) Do this task: ACARS Airplane Personality Module (APM) Data Verification Check, TASK 23-27-35-700-801.

SUBTASK 23-27-35-740-001

- (2) Do this task: ACARS - Operational Test, TASK 23-27-00-740-802.

## G. Put the Airplane Back to its Initial Condition.

SUBTASK 23-27-35-410-001

- (1) Close this access panel:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

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SUBTASK 23-27-35-410-002

(2) Close this access panel:

| <u>Number</u> | <u>Name/Location</u> |
|---------------|----------------------|
| 821           | Forward Cargo Door   |

————— END OF TASK —————

EFFECTIVITY  
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SELCAL SYSTEM - MAINTENANCE/PRACTICES

1. **General**

A. This procedure has these tasks:

- (1) SELCAL System Deactivation
- (2) SELCAL System Activation
- (3) SELCAL Program Switch Module switch settings.

**TASK 23-28-00-040-801**

2. **SELCAL System - Deactivation**

(Figure 201)

**A. General**

- (1) This procedure removes electrical power from the SELCAL System.

**B. Location Zones**

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |
| 211  | Flight Compartment - Left                      |
| 212  | Flight Compartment - Right                     |

**C. Procedure**

SUBTASK 23-28-00-860-001

- (1) Open this circuit breaker and install safety tag:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name                  |
|-----|-----|--------|-----------------------|
| D   | 15  | C00058 | COMMUNICATIONS SELCAL |

**D. SELCAL System - Tryout**

NOTE: This tryout is to make sure that the SELCAL system is in a zero energy state.

SUBTASK 23-28-00-860-002

- (1) Make sure that this circuit breaker is open and has safety tag:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name                  |
|-----|-----|--------|-----------------------|
| D   | 15  | C00058 | COMMUNICATIONS SELCAL |

SUBTASK 23-28-00-700-001

- (2) Do these steps to test the SELCAL system:

- (a) Set the captain's audio control panel to the VHF 1 communication system.
- (b) Set the VHF 1 to an approved test frequency.
- (c) Have a SELCAL identified signal transmitted on the VHF 1 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure that the signal is approved and is set to the SELCAL code for the airplane.

- (d) Make sure that the VHF 1 light on the SELCAL control panel does not come on.
- (e) Make sure that the VHF 1 call light on all audio control panels does not come on.

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- (f) Make sure you do not hear a single high-low chime in the flight compartment.

———— **END OF TASK** ————

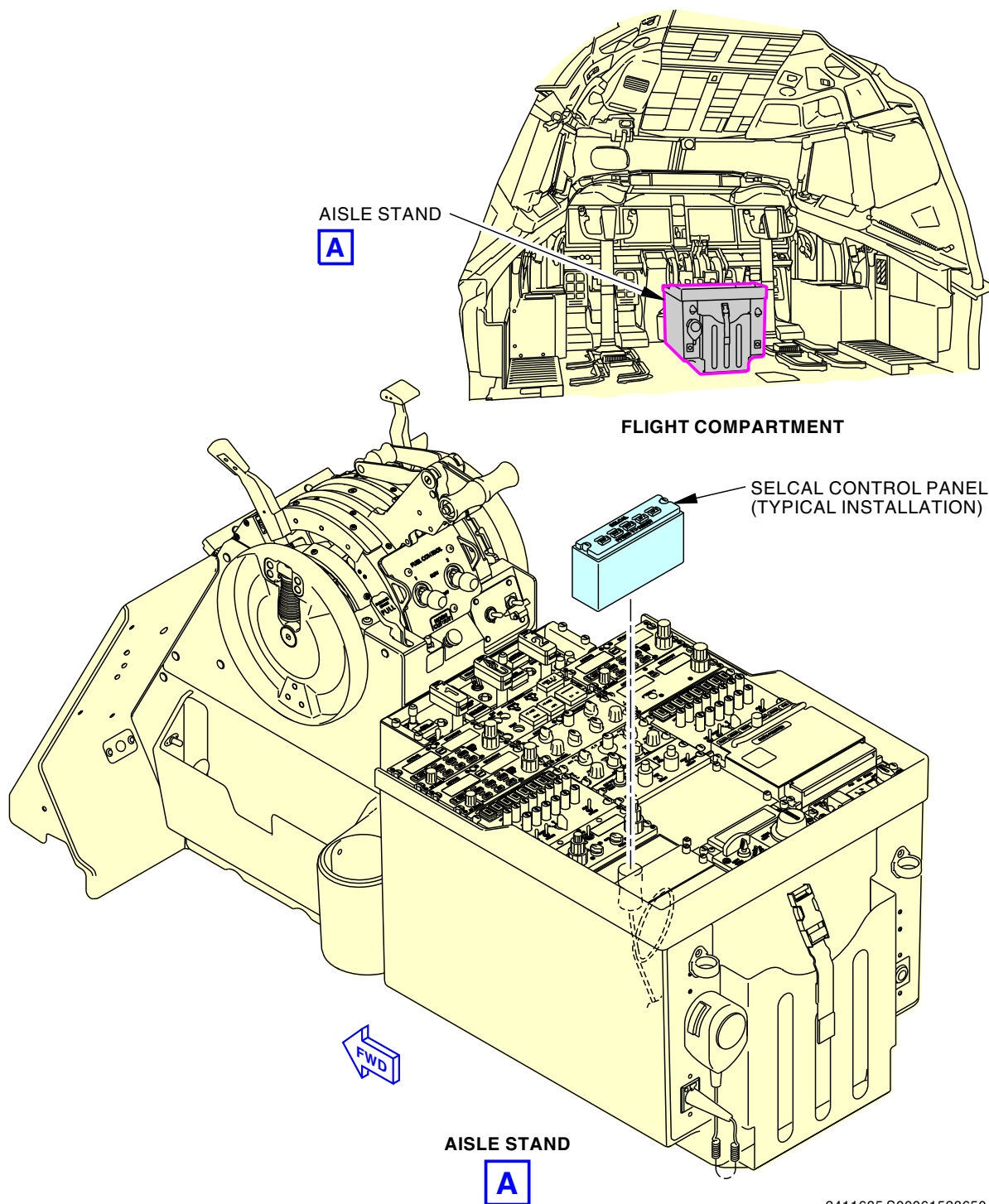
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2411685 S00061528650\_V1

**SECAL Control Panel**  
Figure 201/23-28-00-990-801

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TASK 23-28-00-440-801

3. SELCAL System - Activation

(Figure 201)

A. General

- (1) This procedure adds electrical power to the SELCAL System.

B. Location Zones

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |
| 211  | Flight Compartment - Left                      |
| 212  | Flight Compartment - Right                     |

C. Procedure

SUBTASK 23-28-00-860-003

- (1) Remove the safety tag and close this circuit breaker:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name                  |
|-----|-----|--------|-----------------------|
| D   | 15  | C00058 | COMMUNICATIONS SELCAL |

———— END OF TASK ————

TASK 23-28-00-860-801

4. SELCAL Program Switch Module Switch Settings

(Figure 202)

A. General

- (1) This task includes the steps to set the DIP switches on the SELCAL Program Switch Module (PSM), M01995. The PSM is located at the rear side of the E4-1 electronics shelf.
- (2) This procedure is used to change the SELCAL code (four letter code) when required as a result of an airplane registry change.

B. References

| Reference        | Title                                      |
|------------------|--------------------------------------------|
| 23-28-00-700-801 | SELCAL System - Operational Test (P/B 501) |
| WDM 23-22-11     | D000534458                                 |

C. Location Zones

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |
| 211  | Flight Compartment - Left                      |
| 212  | Flight Compartment - Right                     |

D. SELCAL Program Switch Module Switch Settings

SUBTASK 23-28-00-860-004

- (1) When necessary, set the SELCAL program switch module switch settings as follows:

NOTE: See WDM 23-22-11 for specific airplane switch settings.

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- (a) Look at the SELCAL coding table in WDM 23-22-11 and find the airplane you are performing this task on.
- (b) Look at the outboard part of the LEFT or RIGHT outboard display units to make sure that the SELCAL code is same.
- (c) In the forward cargo compartment, open an access panel to get access the rear side of the E4 electronics rack.  
**NOTE:** The SELCAL PSM, M01995 is on the rear side of the E4-1 electronics rack.
- (d) Loosen the two captive screws [4] and washers [5] to remove the security cover [3] from the PSM [1].
- (e) Remove the switch seals [2] to get access to the DIP switches [6].
- (f) Find the same airplane code in WDM 23-22-11 and read across all columns to find all switch settings.
- (g) Move the DIP switches [6] to the ON/OFF position according to the WDM 23-22-11.
  - For each switch where you find a “0”, set the switch to ON.
  - For each switch where you find a “1”, set the switch to OFF.
  - For each switch where you find unused or not connected, set the switch to OFF.
  - 1) If it is necessary to convert the SELCAL code (four letter code) to Binary code, see the SELCAL letter code to binary code conversion table in Figure 202.
  - 2) Make sure that all the DIP switches are set correctly.
- (h) Install the two switch seals [2] to cover the DIP switches.
- (i) Put the security cover [3] on the PSM [1].
- (j) Tighten the two captive screws [4] and washers [5] to attach the security cover [3] on the PSM [1].
- (k) Install the access panel for the E4 electronics rack.

**E. Operational Test**

SUBTASK 23-28-00-710-001

- (1) Do this task: SELCAL System - Operational Test, TASK 23-28-00-700-801.

———— **END OF TASK** ————

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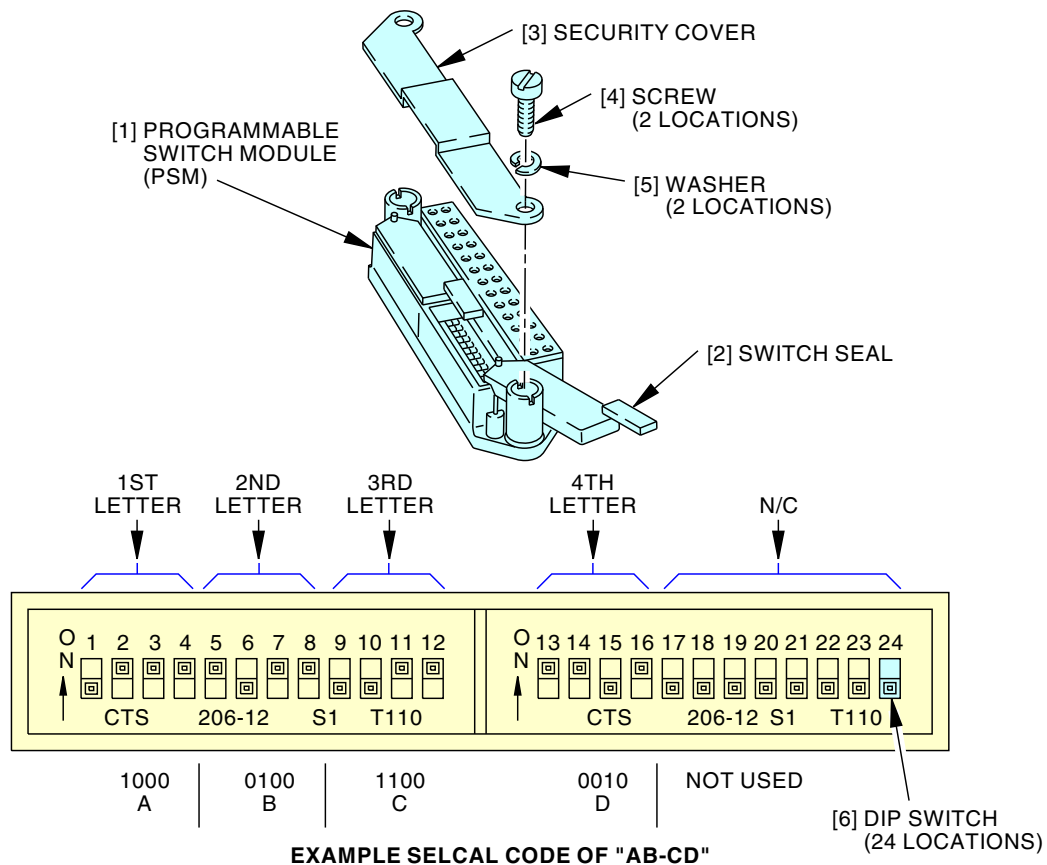
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## NOTE:

"0"=SWITCH ON

"1"=SWITCH OFF

"NOT UNUSED"=SWITCH OFF

| SELCAL LETTER CODE | BINARY CODE |
|--------------------|-------------|
| A                  | 1000        |
| B                  | 0100        |
| C                  | 1100        |
| D                  | 0010        |
| E                  | 1010        |
| F                  | 0110        |
| G                  | 1110        |
| H                  | 0001        |
| J                  | 1001        |
| K                  | 0101        |
| L                  | 1101        |
| M                  | 0011        |
| P                  | 1011        |
| Q                  | 0111        |
| R                  | 1111        |
| S                  | 0000        |

**SELCAL LETTER CODE TO BINARY CODE CONVERSION  
TABLE**

2411686 S00061528653\_V2

## SELCAL Program Switch Module Switch Settings Figure 202/23-28-00-990-802

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SELCAL - ADJUSTMENT/TEST

1. General

A. This procedure has this task:

- (1) An operational test of the Selective Calling (SELCAL) system.

**TASK 23-28-00-700-801**

2. SELCAL System - Operational Test

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                            |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1613  | Transmitter Tester - Selcal, Ground Equipment<br>Part #: ARTS-7000 Supplier: ORDZ5<br>Part #: AVX-10K Supplier: 51190<br>Part #: CTS-700 Supplier: 30242<br>Part #: IFR 4000 Supplier: 51190<br>Part #: N1304B-1 Supplier: 30242<br>Opt Part #: N1304A Supplier: 30242 |

B. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

C. SELCAL System - Operational Test

SUBTASK 23-28-00-710-003

- (1) Do the steps that follow for VHF 1:

- (a) On the P8-6 captain's audio control panel, push and release the VHF 1 push-button.
- (b) On the P8-71 captain's radio tuning panel, set the VHF 1 to an approved test frequency.
- (c) Have a SELCAL identified signal transmitted on the VHF 1 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure the signal is approved and the SELCAL Transmitter/Tester, COM-1613 set to the SELCAL code for the airplane.

- (d) On all audio control panels, make sure that the VHF 1 call light comes on.
- (e) In the flight compartment, make sure that you hear a single high-low chime.
- (f) On the Captain's or the First Officer's control wheel, push the push-to-talk (PTT) switch.
  - 1) Make sure the VHF1 transmitting switch on the ACP panel is selected.
- (g) On all audio control panels, make sure that the VHF 1 light goes off.

SUBTASK 23-28-00-710-005

- (2) Do the steps that follow for VHF 2:

- (a) On the P8-6 captain's audio control panel, push and release the VHF 2 push-button.
- (b) On the P8-71 captain's radio tuning panel, set the VHF 2 to an approved test frequency.

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- (c) Have a SELCAL identified signal transmitted on the VHF 2 test frequency.  
NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure the signal is approved and the SELCAL Transmitter/Tester, COM-1613 set to the SELCAL code for the airplane.
- (d) On all audio control panels, make sure that the VHF 2 call light comes on.
- (e) In the flight compartment, make sure that you hear a single high-low chime.
- (f) On the Captain's or the First Officer's control wheel, push the push-to-talk (PTT) switch.
  - 1) Make sure the VHF2 transmitting switch on the ACP panel is selected.
- (g) On all audio control panels, make sure that the VHF 2 light goes off.

**SUBTASK 23-28-00-710-007**

- (3) Do the steps that follow for VHF 3:
  - (a) On the P8-6 captain's audio control panel, push and release the VHF 3 push-button.
  - (b) On the P8-71 captain's radio tuning panel, set the VHF 3 to an approved test frequency.
  - (c) Have a SELCAL identified signal transmitted on the VHF 3 test frequency.  
NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure the signal is approved and the SELCAL Transmitter/Tester, COM-1613 set to the SELCAL code for the airplane.
  - (d) On all audio control panels, make sure that the VHF 3 call light comes on.
  - (e) In the flight compartment, make sure that you hear a single high-low chime.
  - (f) On the Captain's or the First Officer's control wheel, push the push-to-talk (PTT) switch.
    - 1) Make sure the VHF3 transmitting switch on the ACP panel is selected.
  - (g) On all audio control panels, make sure that the VHF 3 light goes off.

**SUBTASK 23-28-00-710-009**

- (4) Do the steps that follow for HF 1:
  - (a) On the P8-6 captain's audio control panel, set to the HF 1 communication system.
  - (b) On the P8-71 captain's radio tuning panel, set the HF 1 to an approved test frequency.
  - (c) Have a SELCAL identified signal transmitted on the HF 1 test frequency.  
NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure the signal is approved and the SELCAL Transmitter/Tester, COM-1613 set to the SELCAL code for the airplane.
  - (d) On all audio control panels, make sure that the HF 1 call light comes on.
  - (e) In the flight compartment, make sure that you hear a single high-low chime.
  - (f) On the Captain's or the First Officer's control wheel, push the push-to-talk (PTT) switch.
  - (g) On all audio control panels, make sure that the HF 1 light goes off.

**SUBTASK 23-28-00-710-011**

- (5) Do the steps that follow for HF 2:
  - (a) On the P8-6 captain's audio control panel, set to the HF 2 communication system.
  - (b) On the P8-71 captain's radio tuning panel, set the HF 2 to an approved test frequency.

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- (c) Have a SELCAL identified signal transmitted on the HF 2 test frequency.

NOTE: If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure the signal is approved and the SELCAL Transmitter/Tester, COM-1613 set to the SELCAL code for the airplane.

- (d) On all audio control panels, make sure that the HF 2 call light comes on.  
(e) In the flight compartment, make sure that you hear a single high-low chime.  
(f) On the Captain's or the First Officer's control wheel, push the push-to-talk (PTT) switch.  
(g) On all audio control panels, make sure that the HF 2 light goes off.

SUBTASK 23-28-00-860-009

- (6) Set the communication systems back to their usual conditions.

———— **END OF TASK** ————

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SELCAL DECODER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the selective calling (SELCAL) decoder.
- (2) An installation of the SELCAL decoder.

B. The SELCAL decoder is located on the E4-1 electronics shelf in the main equipment center.

**TASK 23-28-11-020-801**

2. SELCAL Decoder Unit Removal

(Figure 401)

A. **References**

| Reference        | Title                                                  |
|------------------|--------------------------------------------------------|
| 20-10-07-000-801 | E/E Box Removal (P/B 401)                              |
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201) |

B. **Location Zones**

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |
| 211  | Flight Compartment - Left                      |
| 212  | Flight Compartment - Right                     |

C. **Access Panels**

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

D. **Removal Procedure**

SUBTASK 23-28-11-010-001

- (1) Open this access panel to get access to the main equipment center:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

SUBTASK 23-28-11-860-001

- (2) Open this circuit breaker and install safety tag:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>           |
|------------|------------|---------------|-----------------------|
| D          | 15         | C00058        | COMMUNICATIONS SELCAL |

SUBTASK 23-28-11-860-002



DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE SELCAL DECODER. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE SELCAL DECODER.

- (3) Before you touch the SELCAL decoder [1], do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

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SUBTASK 23-28-11-020-001

- (4) Remove the SELCAL decoder [1] from the shelf. To remove it, do this task: E/E Box Removal, TASK 20-10-07-000-801.

————— **END OF TASK** —————

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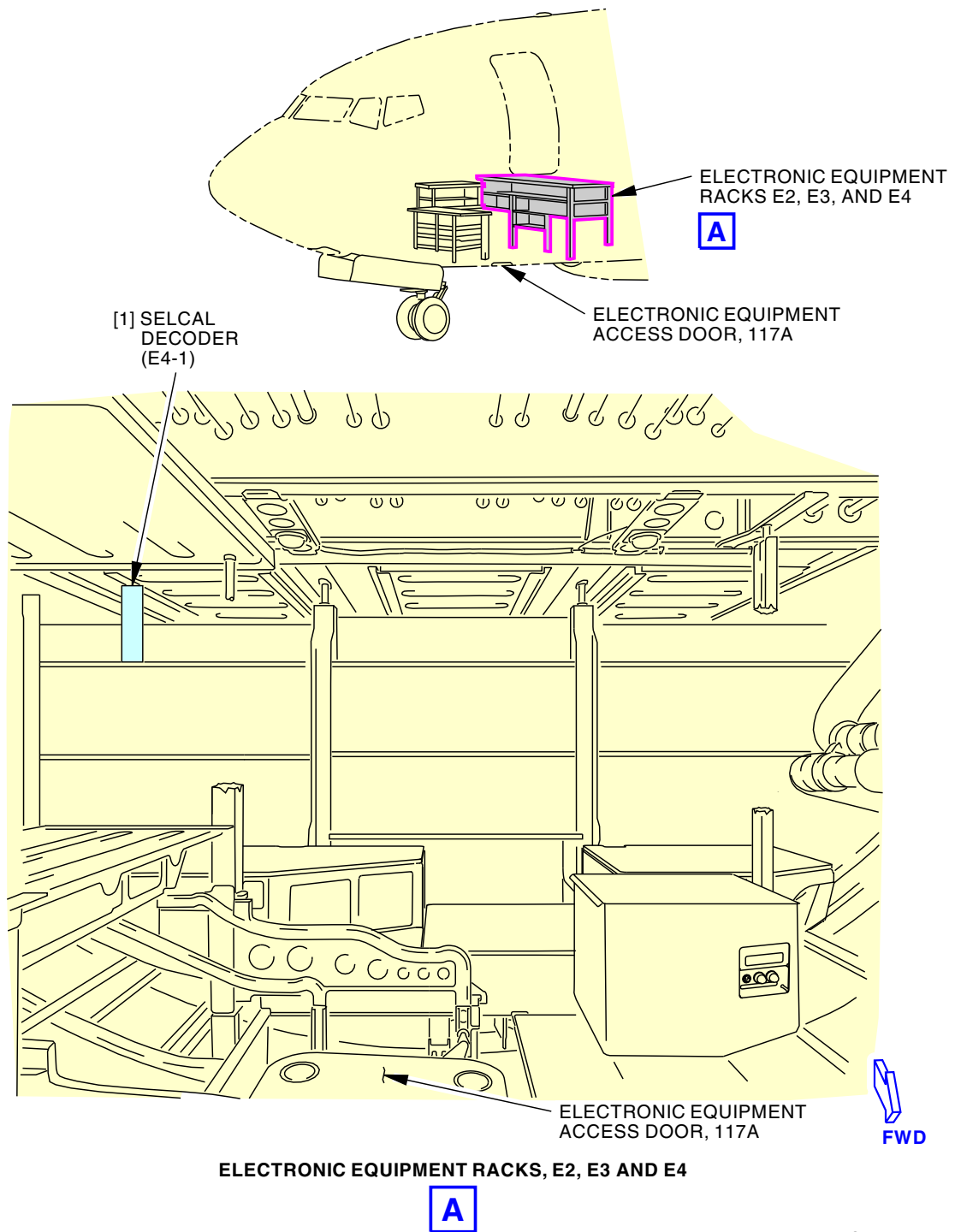
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Selective Calling (SELCAL) Decoder Installation  
Figure 401/23-28-11-990-801

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TASK 23-28-11-420-801

3. **SELCAL Decoder Unit Installation**

(Selective Calling (SELCAL) Decoder Installation/Figure 401)

**A. References**

| Reference        | Title                                                       |
|------------------|-------------------------------------------------------------|
| 20-10-07-400-801 | E/E Box Installation (P/B 401)                              |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201) |
| 23-12-00-710-801 | VHF Communication System - Operational Test (P/B 501)       |

**B. Tools/Equipment**

**NOTE:** When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                            |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1613  | Transmitter Tester - Selcal, Ground Equipment<br>Part #: ARTS-7000 Supplier: 0RDZ5<br>Part #: AVX-10K Supplier: 51190<br>Part #: CTS-700 Supplier: 30242<br>Part #: IFR 4000 Supplier: 51190<br>Part #: N1304B-1 Supplier: 30242<br>Opt Part #: N1304A Supplier: 30242 |

**C. Expendables/Parts**

| AMM Item | Description    | AIPC Reference  | AIPC Effectivity |
|----------|----------------|-----------------|------------------|
| 1        | SELCAL decoder | 23-28-11-01-005 | SIA ALL          |

**D. Location Zones**

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |
| 211  | Flight Compartment - Left                      |
| 212  | Flight Compartment - Right                     |

**E. Access Panels**

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

**F. Installation Procedure**

SUBTASK 23-28-11-860-003

- (1) Make sure that this circuit breaker is open and has safety tag:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name                  |
|-----|-----|--------|-----------------------|
| D   | 15  | C00058 | COMMUNICATIONS SELCAL |

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SUBTASK 23-28-11-860-004



DO NOT TOUCH THE CONNECTOR PINS OR OTHER CONDUCTORS ON THE SELCAL DECODER. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE SELCAL DECODER.

- (2) Before you touch the SELCAL decoder [1], do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-28-11-420-001

- (3) Install the SELCAL decoder [1] on the shelf. To install it, do this task: E/E Box Installation, TASK 20-10-07-400-801.

SUBTASK 23-28-11-860-005

- (4) Remove the safety tag and close this circuit breaker:

### **CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>           |
|------------|------------|---------------|-----------------------|
| D          | 15         | C00058        | COMMUNICATIONS SELCAL |

## **G. Installation Test**

SUBTASK 23-28-11-860-007

- (1) Make sure that the VHF communication system (TASK 23-12-00-710-801) is serviceable.

SUBTASK 23-28-11-700-001

- (2) Do the SELCAL decoder installation test.
  - (a) Set the captain's audio control panel to the VHF 1 communication system.
  - (b) Set the VHF 1 to an approved test frequency.
    - 1) Make sure you can communicate on this system.
  - (c) Have a SELCAL identified signal transmitted on the VHF 1 test frequency.

**NOTE:** If a station is not available to transmit from, make a SELCAL signal with a SELCAL ground station encoder. Make sure the signal is approved and the SELCAL Transmitter/Tester, COM-1613 set to the SELCAL code for the airplane.
  - (d) Make sure the VHF 1 call light on all audio control panels comes on.
  - (e) Make sure you hear a single high-low chime in the flight compartment.
  - (f) Push the push-to-talk (PTT) switch on the Captain's or the First Officer's control wheel.
  - (g) Make sure the VHF 1 light on all the audio control panels goes off.
  - (h) Set the communication system back to its usual condition.

## **H. Put the Airplane Back to Its Initial Condition**

SUBTASK 23-28-11-410-001

- (1) Close this access panel for the main equipment center:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

———— **END OF TASK** ————

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PASSENGER ADDRESS SYSTEM - ADJUSTMENT/TEST

1. General

- A. This procedure does a full test of the passenger address system.
- B. This procedure contains:
  - (1) An operational test of the passenger address system
  - (2) A system flight mode test of the sound level in the passenger cabin.

**TASK 23-31-00-740-801**

2. Passenger Address System - Operational Test

A. **General**

- (1) The operational test is a fast check of the system. The test has a number of different parts. All parts of the test follow in a given sequence.
- (2) The operational test has these test sections:
  - (a) Passenger Address Operation Test
  - (b) Chime Operation Test

B. **Location Zones**

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |
| 211  | Flight Compartment - Left                      |
| 212  | Flight Compartment - Right                     |

C. **Passenger Address System Operational Test**

**SUBTASK 23-31-00-710-001**

- (1) Do a test to do a check of the Passenger Address priority system from the aft control stand:
  - (a) Attach a PA microphone to the jack (D6001) on the aft control stand if a microphone or handset is not installed.
  - (b) Push and hold the PTT switch on the control stand Passenger Address (PA) microphone.
    - 1) Speak into the PA microphone.
      - a) Make sure you can hear the announcement from these speakers:
        - <1> Attendant's speakers
        - <2> Lavatory speakers
        - <3> Passenger Service Unit (PSU) speakers
  - (c) Release the PTT switch.
  - (d) Remove the PA microphone from the jack as applicable.

**SUBTASK 23-31-00-710-002**

- (2) Do a test of the passenger address operation from the from the captain's boom mic:
  - (a) Select PA on the captain's audio panel, P8.
  - (b) Push and hold the PTT switch on the captain's control wheel.
  - (c) Speak into the captain's boom mic.
    - 1) Make sure you can hear the announcement from these speakers:
      - a) Attendant's speakers

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- b) Lavatory speakers
- c) PSU speakers
- (d) Release the PTT switch.

**SUBTASK 23-31-00-710-003**

- (3) Do a test of the passenger address operation from a forward attendant station:
- (a) Set the attendant handset to the PA mode.
  - (b) Push and hold the PTT switch on the captain's control wheel.
  - (c) Push and hold the PTT button on the attendant handset.
  - (d) At the same time, speak into the captain's boom mic and have someone speak into the attendant handset.
    - 1) Make sure that you can hear the captain's announcement on these speakers:
      - a) Attendant's speakers
      - b) Lavatory speakers
      - c) PSU speakers
    - 2) Make sure you cannot hear the announcement from the attendant handset on the same speakers.
  - (e) Release the PTT switch on the captain's control wheel.
    - 1) Make sure that you can hear the announcement from the forward attendant handset on these speakers:
      - a) Aft attendant's speaker
      - b) Lavatory speakers
      - c) PSU speakers
    - 2) Make sure that you cannot hear the announcement on the forward attendant speakers.
  - (f) Select PA on the Captain's audio panel.
  - (g) On the captain's audio panel, P8, put the PA volume level to the mid position.
    - 1) Make sure that you can hear the announcement on the captain's headset.
  - (h) On the captain's audio panel, P8, put the speaker volume level to the mid position.
    - 1) Make sure that you can hear the announcement on the flight deck speaker.
  - (i) Release the PTT switch on the forward attendant handset.
  - (j) Put the attendant handset in the handset cradle.
  - (k) Do this test again using a handset from a different Forward attendant station (if installed).

**SUBTASK 23-31-00-710-004**

- (4) Do a test of the passenger address operation from an aft attendant station:
- (a) Set the attendant handset to the PA mode.
  - (b) Push and hold the PTT switch on the captain's control wheel.
  - (c) Push and hold the PTT button on the attendant handset.
  - (d) At the same time, speak into the captain's boom mic and have someone speak into the attendant handset.
    - 1) Make sure that you can hear the captain's announcement on these speakers:
      - a) Attendant's speakers

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- b) Lavatory speakers
- c) PSU speakers
- 2) Make sure you cannot hear the announcement from the attendant handset on the same speakers.
- (e) Release the PTT switch on the captain's control wheel.
  - 1) Make sure that you can hear the announcement from the aft attendant handset on these speakers:
    - a) Forward attendant's speaker
    - b) Lavatory speakers
    - c) PSU speakers.
  - 2) Make sure that you cannot hear the announcement on the aft attendant speakers.
- (f) Select PA on the captain's audio panel, P8.
- (g) On the captain's audio panel, P8, put the PA volume level to the mid position.
  - 1) Make sure that you can hear the announcement on the captain's headset.
- (h) On the captain's audio panel, P8, put the speaker volume level to the mid position.
  - 1) Make sure that you can hear the announcement on the flight deck speaker.
- (i) Release the PTT switch on the attendant handset.
- (j) Put the attendant handset in the handset cradle.
- (k) Do this test again using a handset from a different Aft attendant station (if installed).

**SUBTASK 23-31-00-710-005**

- (5) Do a test of the chime operation:
  - (a) Push the attendant call button on a PSU.
    - 1) Make sure you hear one high tone on the PA speakers.
  - (b) Push the attendant call button on all other PSUs.
    - 1) Make sure you hear a high tone each time you push an attendant call button.
  - (c) Push the attendant call buttons once more to reset them.
    - 1) Make sure the attendant light goes off.
  - (d) Push the PILOT call button on each attendant handset.
    - 1) Make sure you hear a high tone in the flight compartment.
    - 2) Push the RESET button on the attendant handset.
  - (e) Push the button for the attendant on each attendant handset.
    - 1) Make sure you hear a high/low tone on the attendant speakers and in the passenger cabin.
  - (f) Push the ATT call button on the captain's overhead panel, P5.
    - 1) Make sure you hear a high/low tone on the attendant speakers and in the passenger cabin.
  - (g) Put the attendant handsets in the handset cradles.
  - (h) Do these steps to do a check of the Fasten Seat Belt warning function:
    - 1) Make sure the FASTEN BELTS sign switch on the captain's overhead panel, P5, is in the OFF position.

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- 2) Put the FASTEN BELTS sign switch to the ON position.
  - a) Make sure you hear a low tone in the passenger cabin.
- 3) Put the FASTEN BELTS sign switch to the OFF position.
  - a) Make sure you hear a low tone in the passenger cabin.

———— **END OF TASK** ————

**TASK 23-31-00-730-801**

**3. Passenger Address System - System Test**

**A. General**

- (1) The system test has these test sections:
  - (a) A ground mode test which checks the sound level of each passenger address speaker.
  - (b) A flight mode test which makes sure that the sound level of the passenger address speakers increases when the engines are running.
- (2) This test makes sure the sound level of the speakers in the passenger cabin increases by at least 5 dBs when the engines are running.
- (3) This test makes sure that the sound level of the speakers in the passenger cabin increases by at least 2 dBs when the Oxygen is running.
- (4) This test checks the sound level in the airplane with the engine running relay from the #1 engine, or the #1 and #2 engines, connected to the PA amplifier.

**B. Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                       |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1322  | Multimeter (Analog / Digital with sufficient internal voltage to measure long cable distances)<br>Part #: 117 Supplier: 89536<br>Part #: 260-8XPI Supplier: 55026<br>Part #: FLUKE 289 Supplier: 89536<br>Opt Part #: MODEL 8 MK7 Supplier: 00426 |
| COM-1612  | Generator - Random Noise, Audio Output<br>Part #: 543-1 Supplier: 21562                                                                                                                                                                           |
| COM-1616  | Meter - Sound Level<br>Part #: CEL-240/K1 Supplier: 01RN5<br>Part #: SE-402-AC3 Supplier: 1QDV5<br>Opt Part #: 2100-10 Supplier: 90435<br>Opt Part #: 2400-10 Supplier: 90435<br>Opt Part #: CEL-254/K1 Supplier: 01RN5                           |

**C. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

**D. System Ground Mode Test**

SUBTASK 23-31-00-820-001

- (1) Do these steps to calibrate the noise generator:

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- (a) Connect the multimeter, COM-1322, to the SIGNAL OUTPUT jacks on the noise random noise generator, COM-1612.
- (b) Set the PWR/PTT switch on the noise generator to ON.
- (c) Set the OUTPUT switch to the SIG position.
  - 1) Make sure 1.0 +/- 0.05 volts rms is shown on the voltmeter.
- (d) Adjust the SIGNAL ADJUST potentiometer on the noise generator if necessary.
- (e) Set the PWR/PTT switch on the noise generator to OFF.
- (f) Disconnect the multimeter, COM-1322, from the SIGNAL OUTPUT jacks on the noise random noise generator, COM-1612.

**SUBTASK 23-31-00-480-001**

- (2) Do these steps to prepare for test:
  - (a) Connect the noise random noise generator, COM-1612, to a microphone jack in the flight compartment.
  - (b) Set the noise random noise generator, COM-1612, PWR/PTT switch to ON.
  - (c) Set the PA microphone selector switch on the applicable audio control panel to ON.
    - 1) Make sure its light comes on.
    - 2) Set the sound level meter, COM-1616, to SLOW and C.

**SUBTASK 23-31-00-730-001**

- (3) Do this test of the sound level of the PA speakers:
  - (a) Hold the sound level meter, COM-1616, close to the speaker grill at each passenger service unit with an installed speaker and at each lavatory.
    - 1) Do not touch the sound level meter to the speaker grill when you do the sound level test.
    - 2) Make sure the sound level meter shows a value between 106 dB and 108 dB.
  - (b) If necessary, adjust the PA GAIN on the front panel of the Remote Electronic Unit (M01353) located on shelf E4-1 in the Electronic Equipment Compartment.
  - (c) Hold the sound level meter, COM-1616, close to the speaker grill at any speaker in the overwing area.
    - 1) Do not touch the sound level meter to the speaker grill when you do the sound level test.
    - 2) Make sure the sound level meter shows a value between 106 dB and 108 dB.

**E. System Flight Mode Test**

**SUBTASK 23-31-00-860-004**

- (1) Do these steps to prepare for test:
  - (a) Connect the noise random noise generator, COM-1612, to a microphone jack in the flight compartment.
  - (b) Set the noise random noise generator, COM-1612, PWR/PTT switch to ON.
  - (c) Measure the sound level of the speakers:
    - 1) Hold the sound level meter, COM-1616, close to the speaker grill at any speaker in the overwing area.

NOTE: Do not touch the speaker grill.

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- 2) Ensure the value is between 106 db and 108 db.

NOTE: If the value is less than 106 db then perform SUBTASK 23-31-00-730-001 prior to continuing.

- (d) Open these circuit breakers and install safety tags:

**F/O Electrical System Panel, P6-3**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                 |
|------------|------------|---------------|-----------------------------|
| E          | 12         | C00314        | INDICATOR MASTER DIM SECT 2 |
| F          | 11         | C00317        | INDICATOR MASTER DIM SECT 5 |

**SUBTASK 23-31-00-730-002**

- (2) Do a test of engine 1 flight mode:

- (a) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>             |
|------------|------------|---------------|-------------------------|
| A          | 1          | C00458        | ENGINE 1 IGNITION RIGHT |
| A          | 3          | C00153        | ENGINE 1 IGNITION LEFT  |

**F/O Electrical System Panel, P6-3**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>           |
|------------|------------|---------------|-----------------------|
| B          | 4          | C00359        | FUEL SPAR VALVE ENG 1 |

- (b) Make sure that this circuit breaker is closed:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>      |
|------------|------------|---------------|------------------|
| B          | 3          | C01312        | ENGINE 1 RUN/PWR |

- (c) Move the engine 1 start lever to the IDLE position.
- (d) Wait at least five minutes.
- (e) Measure the sound level of the speakers:
- 1) Move the sound level meter across the same speaker panel used in the Prepare For Test section.
  - 2) Write the value down.
    - a) Make sure the value is at least 5 dBs higher than the first measurement.
- (f) Move the engine 1 start lever to the CUTOFF position.
- (g) Remove the safety tags and close these circuit breakers:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>             |
|------------|------------|---------------|-------------------------|
| A          | 1          | C00458        | ENGINE 1 IGNITION RIGHT |
| A          | 3          | C00153        | ENGINE 1 IGNITION LEFT  |

**F/O Electrical System Panel, P6-3**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>           |
|------------|------------|---------------|-----------------------|
| B          | 4          | C00359        | FUEL SPAR VALVE ENG 1 |

- (h) Measure the sound level across the speaker.
- 1) Make sure the sound level is approximately the same as in the first measurement.

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SUBTASK 23-31-00-730-003

(3) Do a test of engine 2 flight mode:

(a) Open these circuit breakers and install safety tags:

### F/O Electrical System Panel, P6-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>             |
|------------|------------|---------------|-------------------------|
| D          | 4          | C00459        | ENGINE 2 IGNITION RIGHT |
| D          | 6          | C00151        | ENGINE 2 IGNITION LEFT  |

### F/O Electrical System Panel, P6-3

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>           |
|------------|------------|---------------|-----------------------|
| B          | 3          | C00360        | FUEL SPAR VALVE ENG 2 |

(b) Make sure that this circuit breaker is closed:

### F/O Electrical System Panel, P6-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>      |
|------------|------------|---------------|------------------|
| B          | 5          | C01313        | ENGINE 2 RUN/PWR |

(c) Move the engine 2 start lever to the IDLE position.

(d) Wait at least five minutes.

(e) Measure the sound level of the speakers:

- 1) Move the sound level meter across the same speaker panel used in the Prepare For Test section.
- 2) Write the value down.
  - a) Make sure the value is at least 5 dBs higher than the first measurement.

(f) Move the engine 2 start lever to the CUTOFF position.

(g) Remove the safety tags and close these circuit breakers:

### F/O Electrical System Panel, P6-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>             |
|------------|------------|---------------|-------------------------|
| D          | 4          | C00459        | ENGINE 2 IGNITION RIGHT |
| D          | 6          | C00151        | ENGINE 2 IGNITION LEFT  |

### F/O Electrical System Panel, P6-3

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>           |
|------------|------------|---------------|-----------------------|
| B          | 3          | C00360        | FUEL SPAR VALVE ENG 2 |

(h) Measure the sound level across the same speaker.

- 1) Make sure the sound level is approximately the same as in the first measurement.

SUBTASK 23-31-00-730-004

(4) Do a test of the oxygen pass system:

(a) Open these circuit breakers and install safety tags:

### CAPT Electrical System Panel, P18-3

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>       |
|------------|------------|---------------|-------------------|
| F          | 9          | C00784        | OXYGEN PASS RIGHT |
| F          | 10         | C00783        | OXYGEN PASS LEFT  |

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- (b) Make sure that these circuit breakers are closed:

**CAPT Electrical System Panel, P18-3**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| F          | 7          | C00156        | OXYGEN IND      |
| F          | 8          | C00785        | OXYGEN MAN CONT |

- (c) Put PASS OXYGEN switch on the aft overhead panel, P5, to the ON position.
- (d) Measure the sound level of the speakers:
- 1) Move the sound level meter across the same speaker panel used in the Prepare For Test section.
  - 2) Write the value down.
    - a) Make sure the value is at least 2 dBs higher than the first measurement.
- (e) Remove the safety tags and close these circuit breakers:

**CAPT Electrical System Panel, P18-3**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>       |
|------------|------------|---------------|-------------------|
| F          | 9          | C00784        | OXYGEN PASS RIGHT |
| F          | 10         | C00783        | OXYGEN PASS LEFT  |

**F. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-31-00-860-005

- (1) Remove the safety tags and close these circuit breakers:

**F/O Electrical System Panel, P6-3**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                 |
|------------|------------|---------------|-----------------------------|
| E          | 12         | C00314        | INDICATOR MASTER DIM SECT 2 |
| F          | 11         | C00317        | INDICATOR MASTER DIM SECT 5 |

SUBTASK 23-31-00-860-006

- (2) Do the steps that follow to put the airplane back to its usual condition:
- (a) Set the noise random noise generator, COM-1612, PWR/PTT switch to OFF.
  - (b) Disconnect the noise random noise generator, COM-1612, from the microphone jack in the flight compartment.
    - 1) Remove the test equipment from the airplane.

———— **END OF TASK** ————

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PASSENGER ADDRESS AMPLIFIER - MAINTENANCE PRACTICES

1. **General**

A. This procedure has these tasks:

- (1) Passenger Address Amplifier Deactivation.
- (2) Passenger Address Amplifier Activation.

**TASK 23-31-01-040-801**

2. **Passenger Address Amplifier - Deactivation**

(Figure 201)

A. **General**

- (1) This procedure removes electrical power from the Passenger Address Amplifier.

B. **Location Zones**

| <b>Zone</b> | <b>Area</b>                                    |
|-------------|------------------------------------------------|
| 117         | Electrical and Electronics Compartment - Left  |
| 118         | Electrical and Electronics Compartment - Right |
| 211         | Flight Compartment - Left                      |
| 212         | Flight Compartment - Right                     |

C. **Access Panels**

| <b>Number</b> | <b>Name/Location</b>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

D. **Procedure**

SUBTASK 23-31-01-860-001

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-1**

| <b>Row</b> | <b>Col</b> | <b>Number</b> | <b>Name</b>                |
|------------|------------|---------------|----------------------------|
| D          | 4          | C00082        | COMMUNICATIONS PA AMPL BAT |

E. **Passenger Address Amplifier - Tryout**

**NOTE:** This tryout is to make sure that the Passenger Address Amplifier is in a zero energy state.

SUBTASK 23-31-01-860-002

- (1) Make sure that this circuit breaker is open and has safety tag:

**F/O Electrical System Panel, P6-1**

| <b>Row</b> | <b>Col</b> | <b>Number</b> | <b>Name</b>                |
|------------|------------|---------------|----------------------------|
| D          | 4          | C00082        | COMMUNICATIONS PA AMPL BAT |

SUBTASK 23-31-01-010-001

- (2) Open this access panel:

| <b>Number</b> | <b>Name/Location</b>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

SUBTASK 23-31-01-700-001

- (3) Make sure the display on the front of the amplifier is blank.

———— **END OF TASK** ————

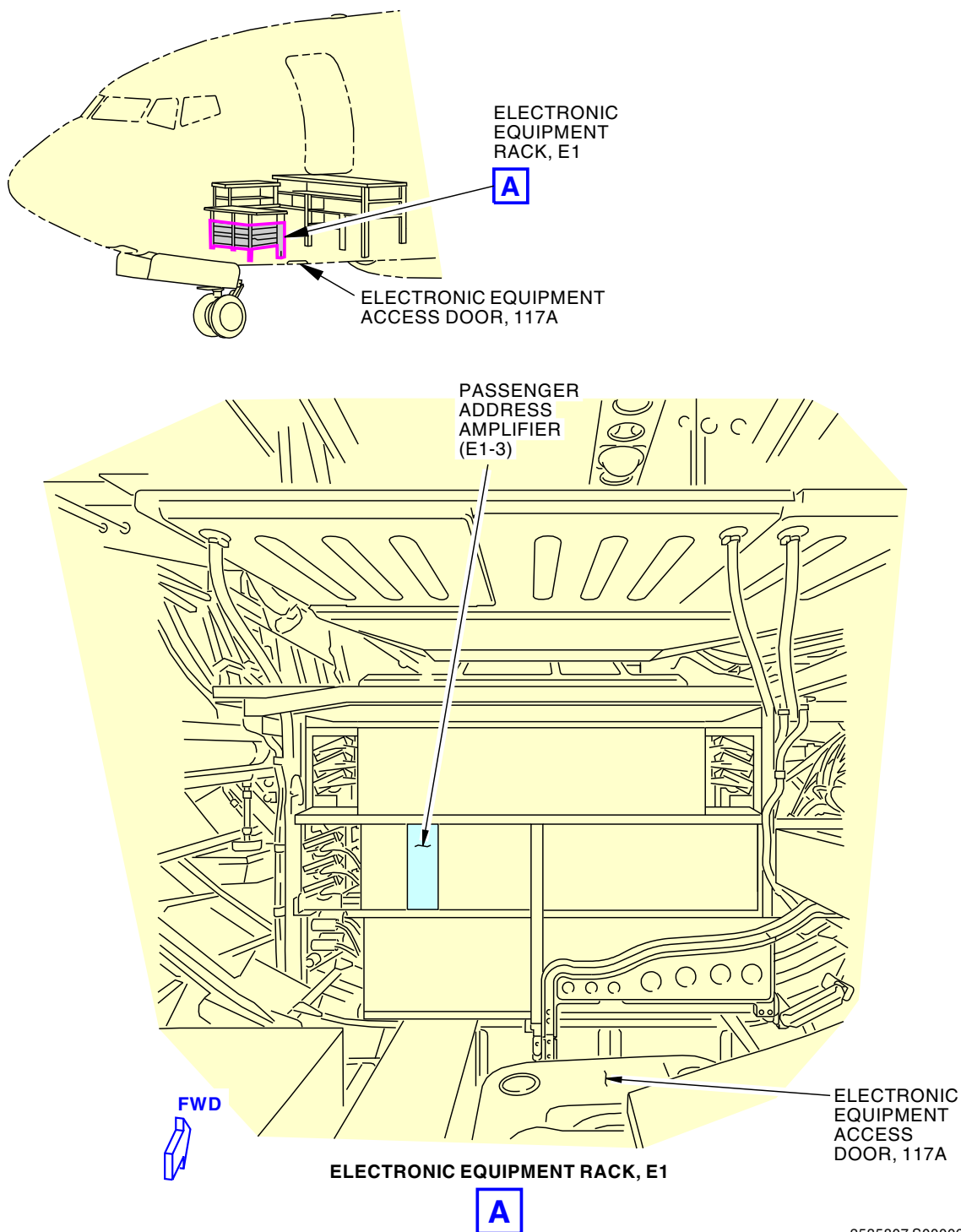
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**Passenger Address Amplifier**  
**Figure 201/23-31-01-990-801**

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TASK 23-31-01-440-801

3. Passenger Address Amplifier - Activation

(Figure 201)

A. General

- (1) This procedure adds electrical power to the Passenger Address Amplifier.

B. Location Zones

| Zone | Area                                           |
|------|------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left  |
| 118  | Electrical and Electronics Compartment - Right |
| 211  | Flight Compartment - Left                      |
| 212  | Flight Compartment - Right                     |

C. Access Panels

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

D. Procedure

SUBTASK 23-31-01-860-003

- (1) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| D          | 4          | C00082        | COMMUNICATIONS PA AMPL BAT |

SUBTASK 23-31-01-410-001

- (2) Close this access panel:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

————— **END OF TASK** —————

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PASSENGER ADDRESS AMPLIFIER - REMOVAL/INSTALLATION

1. **General**

- A. This procedure has these tasks:
- (1) Passenger Address (PA) amplifier removal
  - (2) Passenger Address (PA) amplifier installation.

**TASK 23-31-01-000-801**

2. **Passenger Address (PA) Amplifier Removal**

(Figure 401)

**A. General**

- (1) This task is for the removal of the passenger address amplifier.

**B. References**

| Reference        | Title                     |
|------------------|---------------------------|
| 20-10-07-000-801 | E/E Box Removal (P/B 401) |

**C. Location Zones**

| Zone | Area                                          |
|------|-----------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left |

**D. Prepare for the Removal**

SUBTASK 23-31-01-860-009

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| D   | 4   | C00082 | COMMUNICATIONS PA AMPL BAT |

**E. Passenger Address (PA) Amplifier Removal**

SUBTASK 23-31-01-020-001

- (1) Remove the PA amplifier [1] (TASK 20-10-07-000-801).

———— **END OF TASK** ————

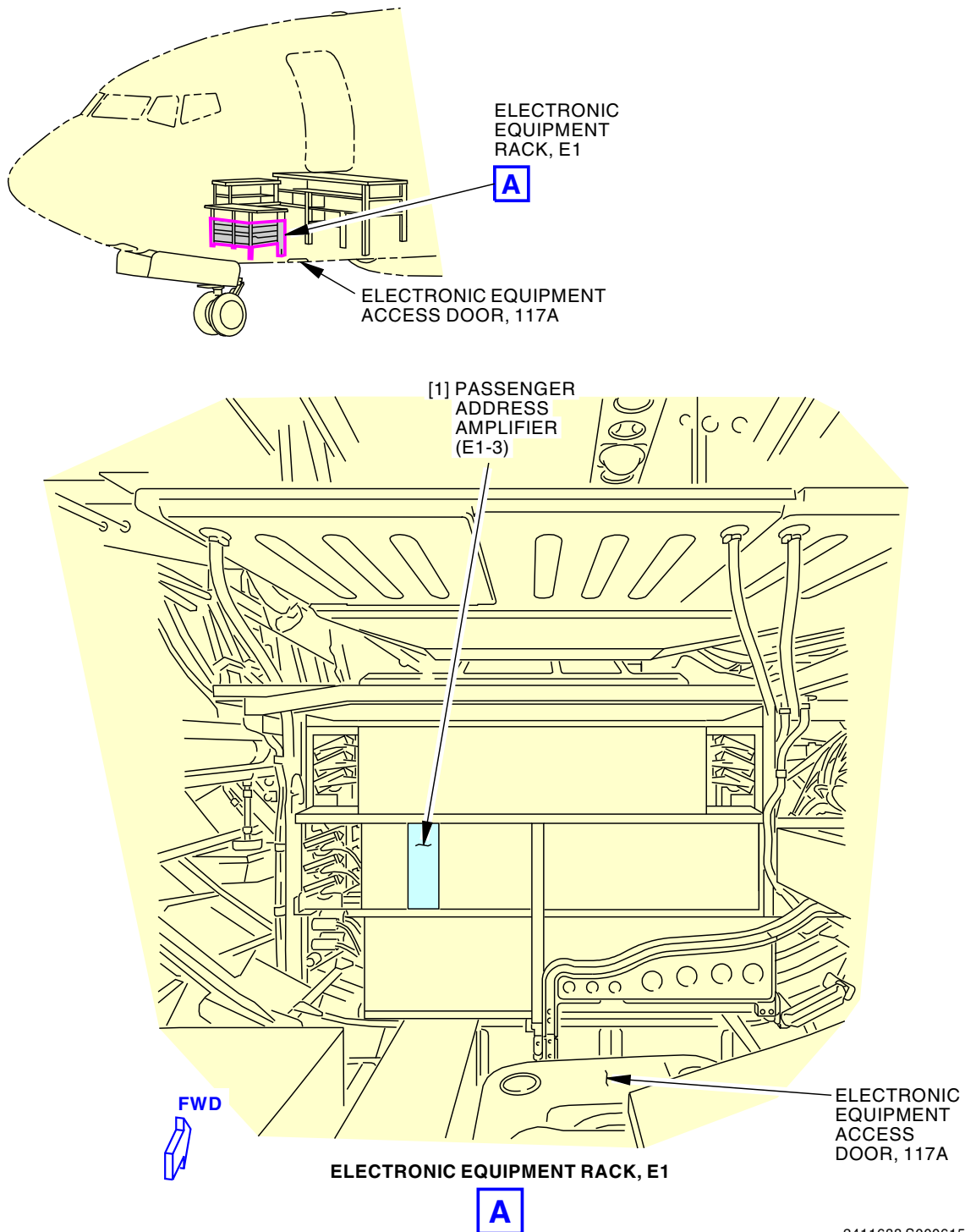
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**Passenger Address Amplifier Installation**  
**Figure 401/23-31-01-990-802**

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TASK 23-31-01-400-801

3. **Passenger Address (PA) Amplifier Installation**

(Figure 401)

**A. General**

- (1) This task is for the installation of the passenger address amplifier.

**B. References**

| Reference        | Title                                                 |
|------------------|-------------------------------------------------------|
| 20-10-07-400-801 | E/E Box Installation (P/B 401)                        |
| 23-31-00-740-801 | Passenger Address System - Operational Test (P/B 501) |

**C. Expendables/Parts**

| AMM Item | Description | AIPC Reference  | AIPC Effectivity |
|----------|-------------|-----------------|------------------|
| 1        | Amplifier   | 23-31-01-02-010 | SIA ALL          |

**D. Location Zones**

| Zone | Area                                          |
|------|-----------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left |

**E. Passenger Address (PA) Amplifier Installation**

SUBTASK 23-31-01-420-001

- (1) Install the PA amplifier [1] (TASK 20-10-07-400-801).

**F. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-31-01-860-010

- (1) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| D   | 4   | C00082 | COMMUNICATIONS PA AMPL BAT |

**G. Installation Test**

**SIA ALL; AIRPLANES WITH P/N 622-5342-101**

SUBTASK 23-31-01-710-001

- (1) Do a test of the PA amplifier operation:
- (a) Put the OPERATE/TONE switch on the front panel of the PA amplifier to the LEVEL position.
  - (b) Make sure that the display on the amplifier shows 69.0 to 71.0 VRMS.  
NOTE: If the PA amplifier's VRMS output is not within 69-71 VRMS, the output can be adjusted with the Master Gain knob on the front panel.
  - (c) Put the OPERATE/TONE switch to the TONE position.
  - (d) Make sure that you can hear a high tone on the passenger address speakers.
  - (e) Put the OPERATE/TONE switch to the OPERATE position.

**SIA ALL**

SUBTASK 23-31-01-730-001

- (2) Do this task: Passenger Address System - Operational Test, TASK 23-31-00-740-801.

————— **END OF TASK** —————

EFFECTIVITY  
SIA ALL

**23-31-01**

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PASSENGER SERVICE UNIT SPEAKER - MAINTENANCE PRACTICES

1. General

- A. This procedure has these tasks:
- (1) Passenger Service Unit Speaker Deactivation.
  - (2) Passenger Service Unit Speaker Activation.

**TASK 23-31-02-040-801**

2. Passenger Service Unit Speaker - Deactivation

(Figure 201)

A. **General**

- (1) This procedure removes electrical power to the Passenger Service Unit Speaker.

B. **Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 200  | Upper Half of Fuselage     |
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

C. **Procedure**

SUBTASK 23-31-02-860-001

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| D   | 4   | C00082 | COMMUNICATIONS PA AMPL BAT |

D. **Passenger Service Unit Speaker - Tryout**

NOTE: This tryout is to make sure that the Passenger Service Unit Speaker is in a zero energy state.

SUBTASK 23-31-02-860-002

- (1) Make sure that this circuit breaker is open and has safety tag:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| D   | 4   | C00082 | COMMUNICATIONS PA AMPL BAT |

SUBTASK 23-31-02-700-001

- (2) Do the following to test the PSU speaker:
  - (a) Lift a handset from an attendant station.
  - (b) Set the handset to PA.
  - (c) Push the PTT button on the handset.
  - (d) Make an announcement on the PA system.
    - 1) Make sure that you cannot hear the announcement on the speaker.

———— **END OF TASK** ————

EFFECTIVITY  
SIA ALL

**23-31-02**

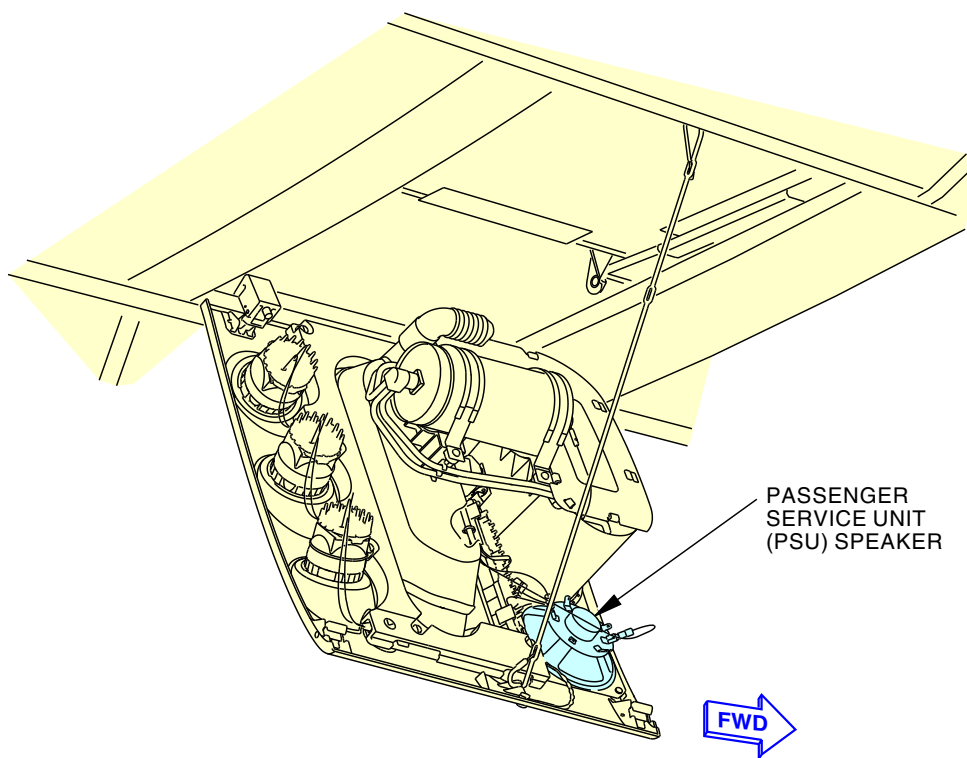
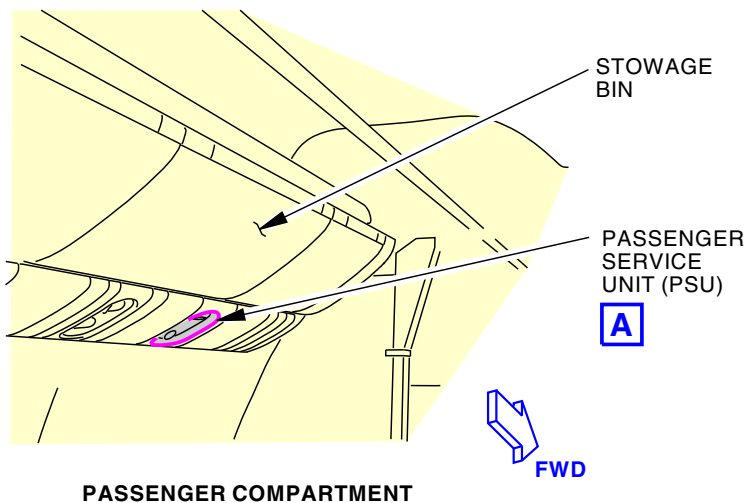
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PASSENGER SERVICE UNIT (PSU)  
(EXAMPLE)

**A**

2411689 S00061528677\_V1

Passenger Service Unit Speaker  
Figure 201/23-31-02-990-801

EFFECTIVITY  
SIA ALL

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TASK 23-31-02-440-801

3. Passenger Service Unit Speaker - Activation

(Figure 201)

A. General

- (1) This procedure adds electrical power to the Passenger Service Unit Speaker.

B. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 200  | Upper Half of Fuselage     |
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

C. Procedure

SUBTASK 23-31-02-860-003

- (1) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| D   | 4   | C00082 | COMMUNICATIONS PA AMPL BAT |

————— END OF TASK —————

EFFECTIVITY  
SIA ALL

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PASSENGER SERVICE UNIT SPEAKER - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the passenger service unit (PSU) speaker
  - (2) An installation of the PSU speaker.
- B. The passenger service units have speakers installed, as necessary, to supply equal sound in the passenger compartment.

**TASK 23-31-02-000-801**

2. Passenger Service Unit (PSU) Speaker Removal

(Figure 401)

A. Tools/Equipment

| Reference | Description                                      |
|-----------|--------------------------------------------------|
| STD-1073  | Wire - Standard, 18-22 Gauge, Insulation Removed |

B. Location Zones

| Zone | Area                   |
|------|------------------------|
| 200  | Upper Half of Fuselage |

C. Removal Procedure

SUBTASK 23-31-02-020-002

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| D   | 4   | C00082 | COMMUNICATIONS PA AMPL BAT |

SUBTASK 23-31-02-020-001



MAKE SURE THAT THE RELEASE PIN FOR THE CHEMICAL OXYGEN GENERATOR STAYS ENGAGED IN THE FIRING PIN. IF THE CHEMICAL OXYGEN GENERATOR ACCIDENTALLY OPERATES, IT IS MANDATORY THAT YOU REPLACE IT.

- (2) Do these steps to remove the PSU speaker:
- (a) Open the PSU.
    - 1) Push a 18-22 gauge insulation removed wire, STD-1073 in the holes of the PSU face panel to open the assembly.
  - (b) Hold the PSU panel.
    - 1) Push the spring clip with the 18-22 gauge insulation removed wire, STD-1073 to release the assembly.
  - (c) Slowly lower the PSU panel assembly until the lanyard can hold the PSU.
  - (d) Disconnect the PSU electrical connector.
  - (e) Identify the location of the electrical wires on the speaker transformer terminals.
  - (f) Disconnect the two electrical connectors [2] from the speaker transformer terminals.
  - (g) Remove the screws [1] from the speaker [3].

EFFECTIVITY  
SIA ALL

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- (h) Carefully remove the speaker [3] from the PSU.

———— **END OF TASK** ————

EFFECTIVITY  
**SIA ALL**

D633AM101-SIA

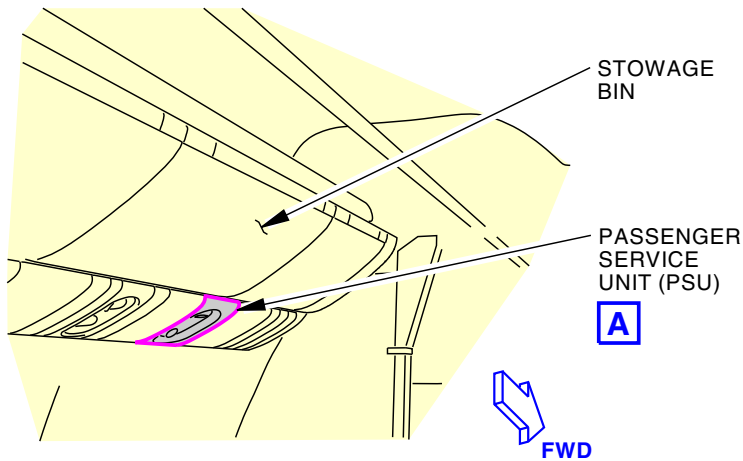
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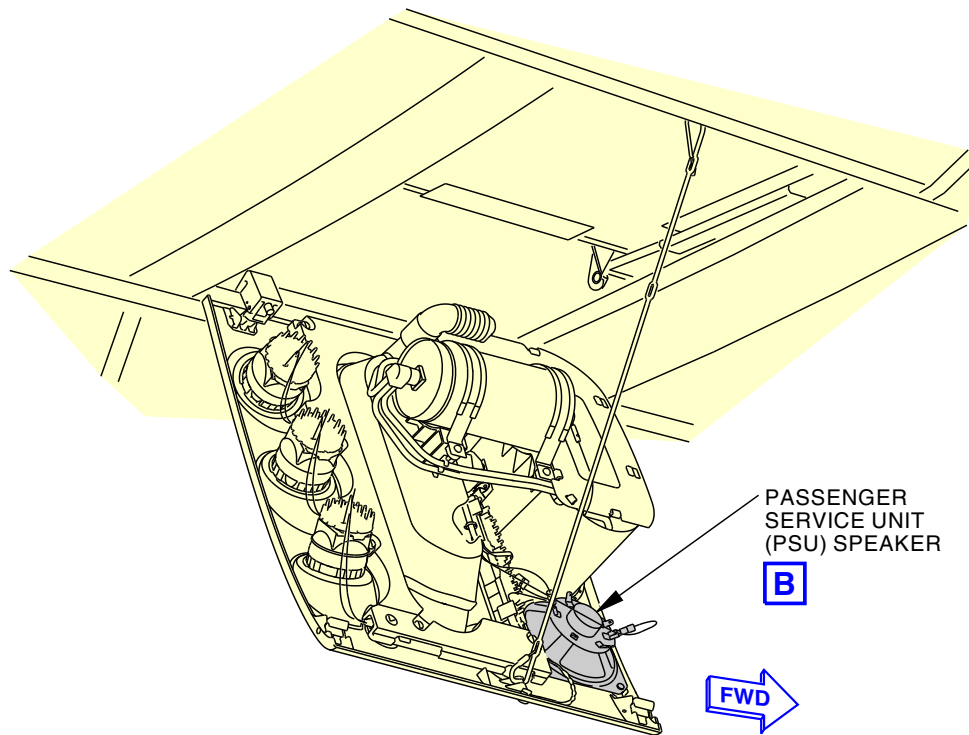
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PASSENGER COMPARTMENT



PASSENGER SERVICE UNIT (PSU)  
(EXAMPLE)

**A**

2411690 S00061528681\_V1

Passenger Service Unit Speaker Installation  
Figure 401/23-31-02-990-802 (Sheet 1 of 2)

EFFECTIVITY  
SIA ALL

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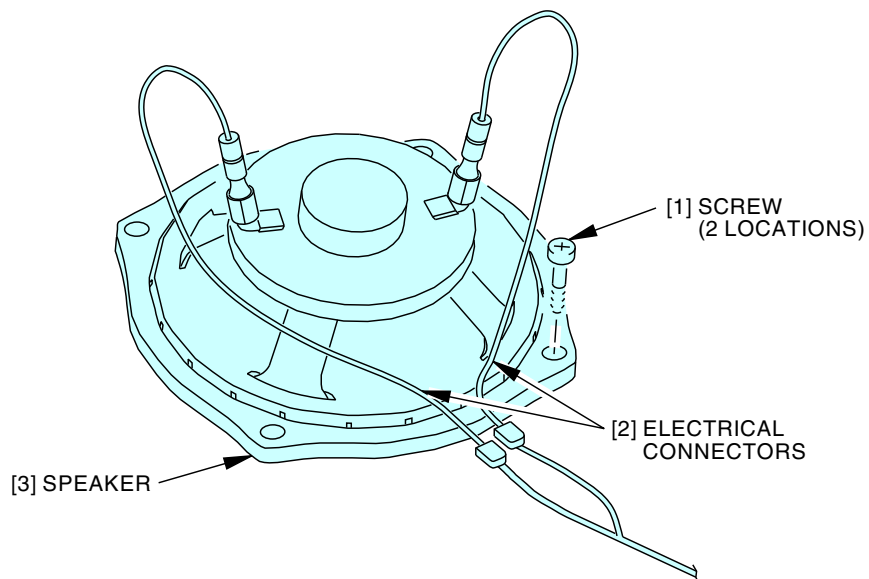
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PASSENGER SERVICE UNIT (PSU) SPEAKER  
(EXAMPLE)

**B**

2411691 S00061528682\_V2

Passenger Service Unit Speaker Installation  
Figure 401/23-31-02-990-802 (Sheet 2 of 2)

EFFECTIVITY  
SIA ALL

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TASK 23-31-02-400-801

3. Passenger Service Unit (PSU) Speaker Installation

(Figure 401)

A. Expendables/Parts

| AMM Item | Description | AIPC Reference   | AIPC Effectivity |
|----------|-------------|------------------|------------------|
| 3        | Speaker     | 23-31-02-64A-075 | SIA 001-007      |
|          |             | 23-31-02-64M-070 | SIA 008-999      |

B. Location Zones

| Zone | Area                   |
|------|------------------------|
| 200  | Upper Half of Fuselage |

C. Installation Procedure

SUBTASK 23-31-02-860-005

- (1) Make sure that this circuit breaker is open and has safety tag:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| D   | 4   | C00082 | COMMUNICATIONS PA AMPL BAT |

SUBTASK 23-31-02-420-001



MAKE SURE THAT THE RELEASE PIN FOR THE CHEMICAL OXYGEN GENERATOR STAYS ENGAGED IN THE FIRING PIN. IF THE CHEMICAL OXYGEN GENERATOR ACCIDENTALLY OPERATES, IT IS MANDATORY THAT YOU REPLACE IT.

- (2) Install the PSU speaker:
- (a) Install the speaker [3] on the PSU assembly.
  - (b) Install the screws [1].
  - (c) Connect the electrical connectors [2] to the speaker transformer terminals.
    - 1) Make sure the electrical connectors are connected to the same terminals that they were removed from.
  - (d) Connect the PSU electrical connector.
  - (e) Close the PSU panel assembly.

SUBTASK 23-31-02-420-002

- (3) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| D   | 4   | C00082 | COMMUNICATIONS PA AMPL BAT |

D. Installation Test

SUBTASK 23-31-02-710-001

- (1) Do a test of the PSU speaker operation:
- (a) Lift a handset from an attendant station.
  - (b) Set the handset to PA.
  - (c) Push the PTT button on the handset.
  - (d) Make an announcement on the PA system.

EFFECTIVITY  
SIA ALL

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- 1) Make sure you can hear the announcement on the new PSU speaker.
- (e) Put the handset back in the cradle.

———— **END OF TASK** ————

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ATTENDANT SPEAKER - MAINTENANCE PRACTICES

1. General

- A. This procedure has these tasks:
- (1) Attendant Speaker Deactivation.
  - (2) Attendant Speaker Activation.

**TASK 23-31-03-040-801**

2. Attendant Speaker - Deactivation

(Figure 201)

A. **General**

- (1) This procedure removes electrical power to the Attendant Speaker.

B. **Location Zones**

| <b>Zone</b> | <b>Area</b>                |
|-------------|----------------------------|
| 200         | Upper Half of Fuselage     |
| 211         | Flight Compartment - Left  |
| 212         | Flight Compartment - Right |

C. **Procedure**

SUBTASK 23-31-03-860-001

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| D          | 4          | C00082        | COMMUNICATIONS PA AMPL BAT |

D. **Attendant Speaker - Tryout**

NOTE: This tryout is to make sure that the Attendant Speaker is in a zero energy state.

SUBTASK 23-31-03-860-002

- (1) Make sure that this circuit breaker is open and has safety tag:

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| D          | 4          | C00082        | COMMUNICATIONS PA AMPL BAT |

SUBTASK 23-31-03-700-001

- (2) Do the following to test the attendant speaker operation:
  - (a) Push the call button on a passenger services unit (PSU).
    - 1) Make sure that you can not hear one high chime from all the attendant speakers.
    - 2) Make sure the PSU call light does not come on.

———— **END OF TASK** ————

EFFECTIVITY  
SIA ALL

D633AM101-SIA

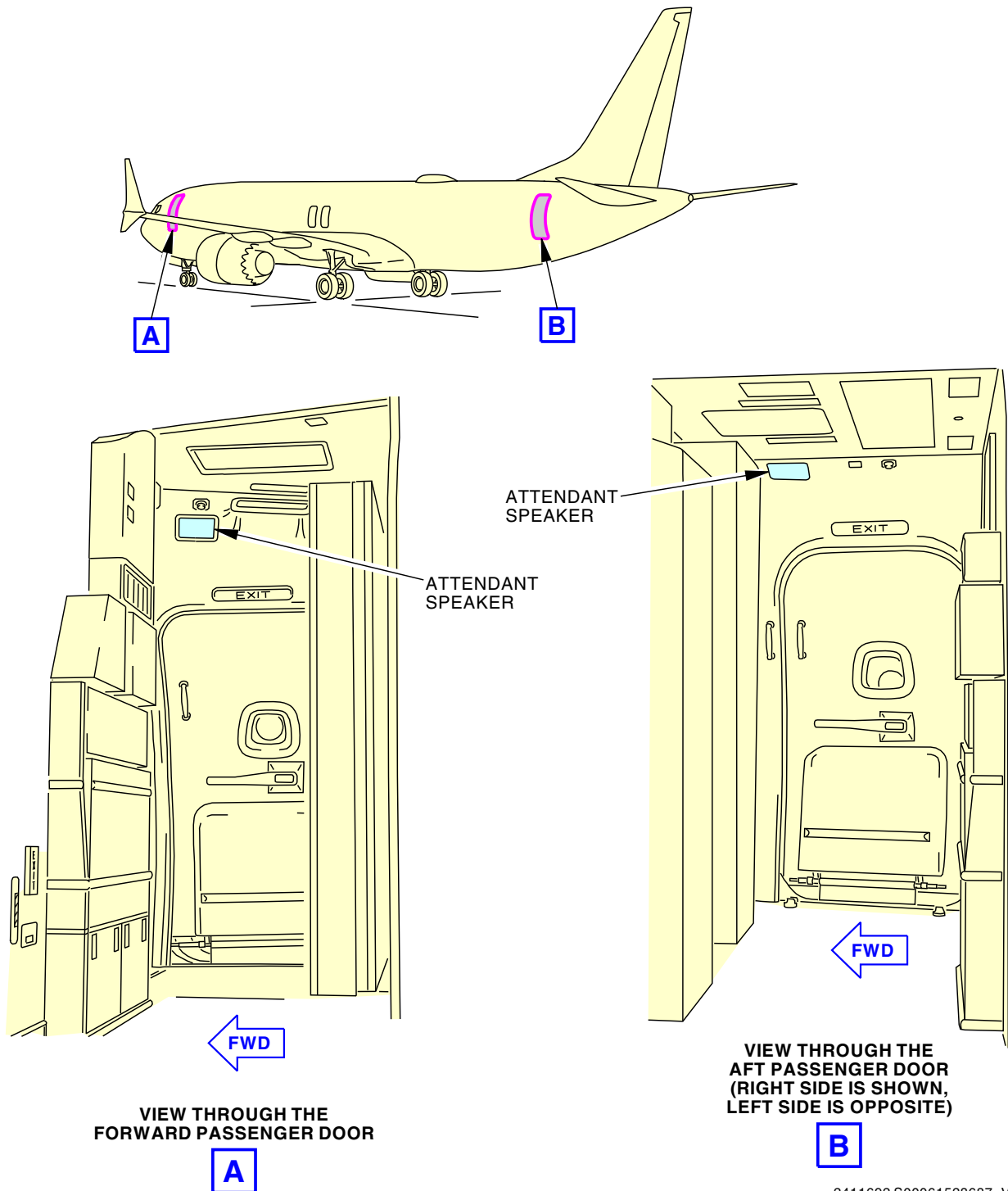
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2411692 S00061528687\_V1

Attendant Speaker  
Figure 201/23-31-03-990-801

EFFECTIVITY  
SIA ALL

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TASK 23-31-03-440-801

3. Attendant Speaker - Activation

(Figure 201)

A. General

- (1) This procedure adds electrical power to the Attendant Speaker.

B. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 200  | Upper Half of Fuselage     |
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

C. Procedure

SUBTASK 23-31-03-860-003

- (1) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| D          | 4          | C00082        | COMMUNICATIONS PA AMPL BAT |

————— END OF TASK —————

EFFECTIVITY  
SIA ALL

D633AM101-SIA

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ATTENDANT SPEAKER - REMOVAL/INSTALLATION

1. General

- A. This procedure contains:
- (1) A removal of the attendant speaker
  - (2) An installation of the attendant speaker.
- B. The attendant speaker is in the header panel over the door. You must remove the door header panel to get access to the speaker.

**TASK 23-31-03-000-801**

2. Attendant Speaker Removal

(Figure 401)

A. **References**

| <u>Reference</u> | <u>Title</u>                                              |
|------------------|-----------------------------------------------------------|
| 25-21-24-000-801 | Aft Door Doorway Header Panel Removal (P/B 401)           |
| 25-21-30-020-801 | Forward Entry Door Doorway Header Panel Removal (P/B 401) |

B. **Location Zones**

| <u>Zone</u> | <u>Area</u>            |
|-------------|------------------------|
| 200         | Upper Half of Fuselage |

C. **Removal Procedure**

**SUBTASK 23-31-03-860-004**

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| D          | 4          | C00082        | COMMUNICATIONS PA AMPL BAT |

**SUBTASK 23-31-03-010-001**

- (2) Do this task for the forward attendant speaker: Forward Entry Door Doorway Header Panel Removal, TASK 25-21-30-020-801

**SUBTASK 23-31-03-010-002**

- (3) Do this task for the aft attendant speaker: Aft Door Doorway Header Panel Removal, TASK 25-21-24-000-801

**SUBTASK 23-31-03-020-001**

- (4) Do these steps to remove the attendant speaker [1]:
- (a) Identify the location of the electrical wires on the speaker transformer terminals.
  - (b) Disconnect the electrical connectors [2] from the speaker [1].
  - (c) Remove the screws [3], washers [4] (if applicable), speaker [1], gasket [6], and spacers [5] (if applicable).

———— **END OF TASK** ————

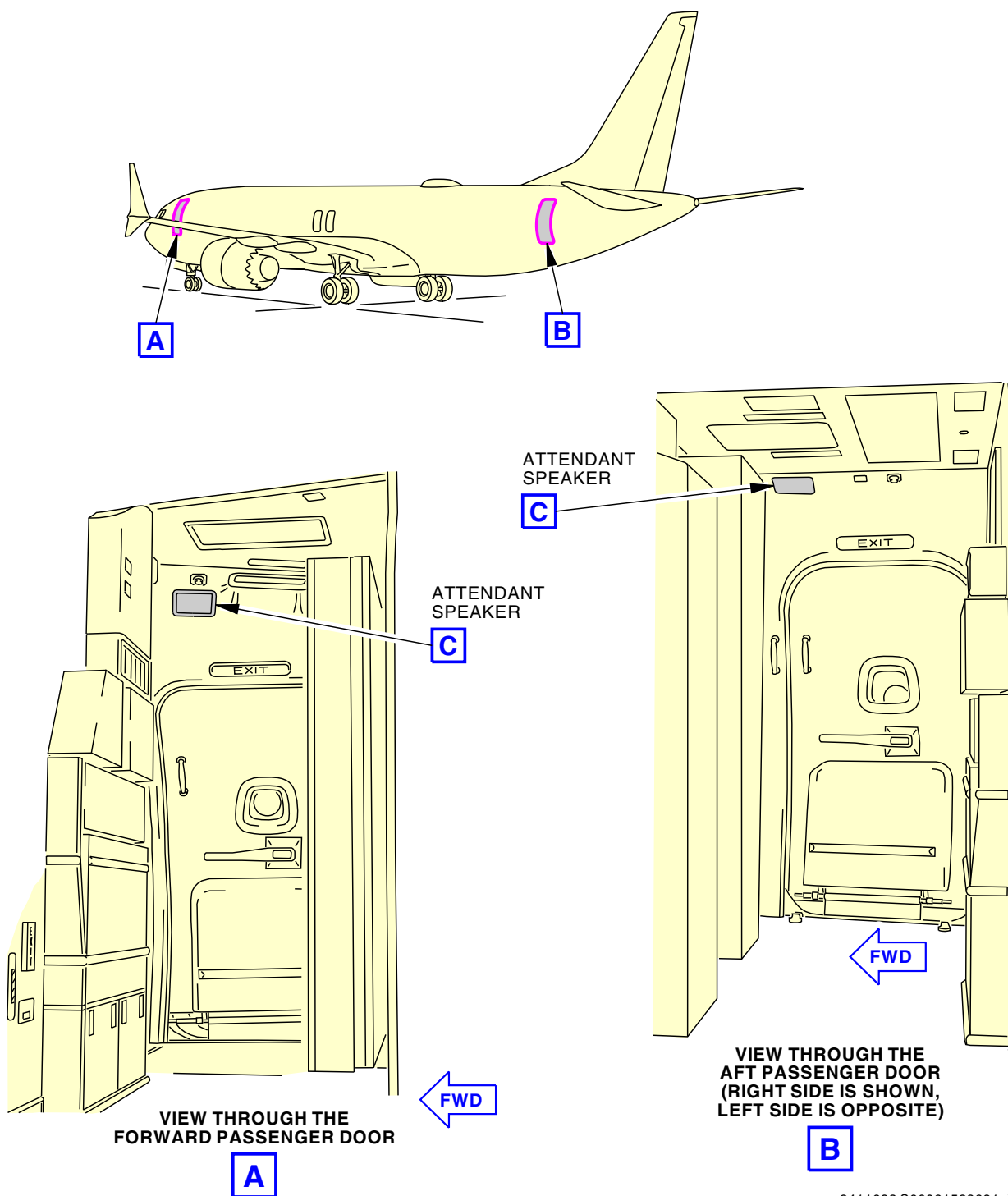
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SIA ALL

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2411693 S00061528691\_V1

**Attendant Speaker Installation**  
**Figure 401/23-31-03-990-802 (Sheet 1 of 2)**

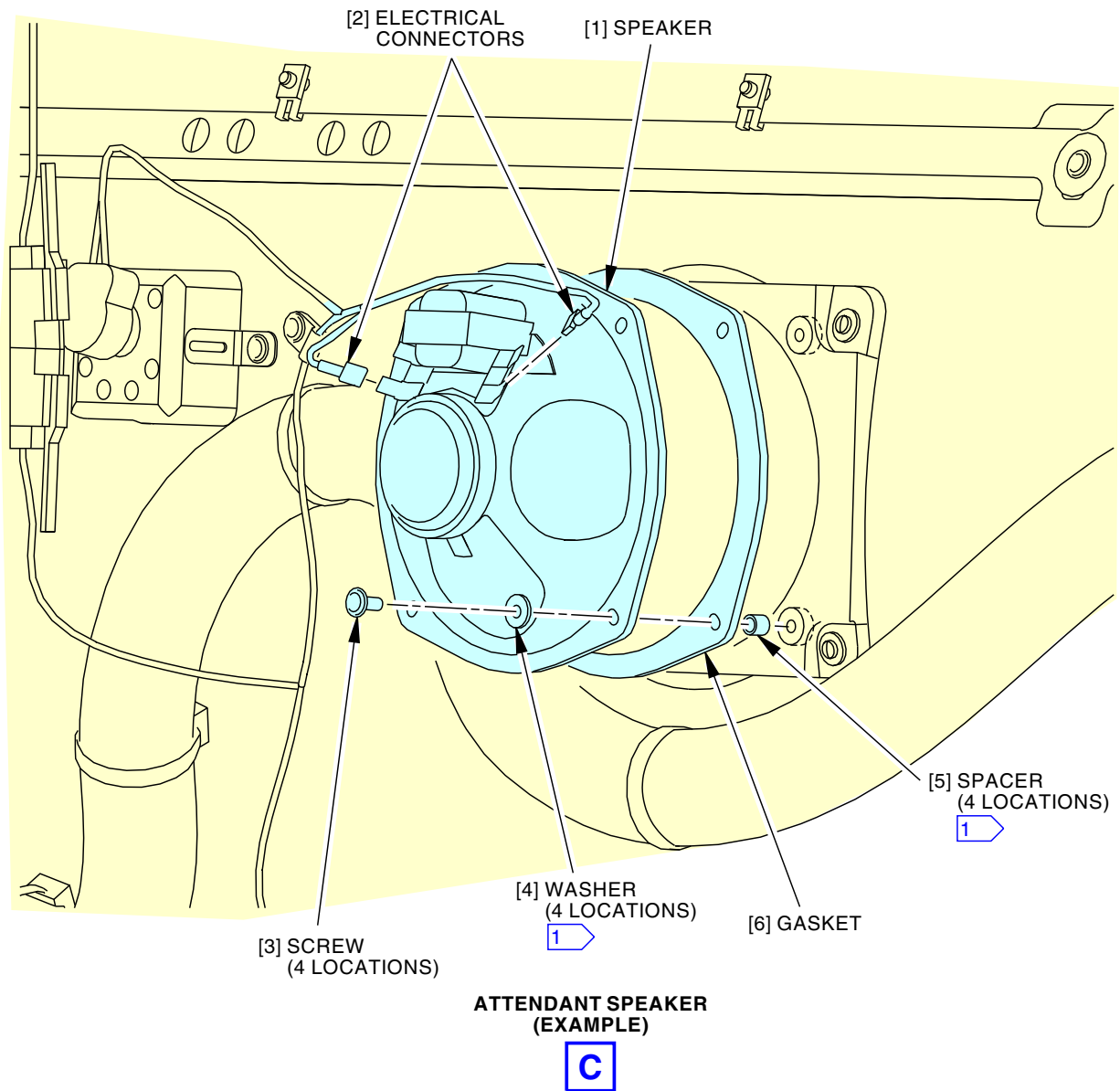
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SIA ALL

D633AM101-SIA

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1 IF APPLICABLE

2411694 S00061528692\_V2

**Attendant Speaker Installation**  
**Figure 401/23-31-03-990-802 (Sheet 2 of 2)**

EFFECTIVITY  
SIA ALL

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TASK 23-31-03-400-801

3. **Attendant Speaker Installation**

(Figure 401)

**A. References**

| Reference        | Title                                                |
|------------------|------------------------------------------------------|
| 25-21-24-400-801 | Aft Door Doorway Header Panel Installation (P/B 401) |

**B. Expendables/Parts**

| AMM Item | Description | AIPC Reference   | AIPC Effectivity |
|----------|-------------|------------------|------------------|
| 1        | Speaker     | 23-31-03-09A-100 | SIA ALL          |
|          |             | 23-31-03-09A-125 | SIA ALL          |
|          |             | 23-31-03-33-085  | SIA ALL          |
|          |             | 23-31-03-33-110  | SIA ALL          |

**C. Location Zones**

| Zone | Area                   |
|------|------------------------|
| 200  | Upper Half of Fuselage |

**D. Installation Procedure**

SUBTASK 23-31-03-420-001

- (1) Do these steps to install the attendant speaker [1]:
  - (a) Hold the speaker [1] in the correct position.
  - (b) Install the spacers [5] (if applicable), gasket [6], speaker [1], washers [4] (if applicable), and screws [3].
  - (c) Connect the two electrical connectors [2] to the speaker [1].
    - 1) Make sure the electrical connectors [2] are connected to the same terminals that they were removed from.

SUBTASK 23-31-03-410-001

- (2) Do this task for the forward attendant speaker: Aft Door Doorway Header Panel Installation, TASK 25-21-24-400-801.

SUBTASK 23-31-03-410-002

- (3) Do this task for the aft attendant speaker: Aft Door Doorway Header Panel Installation, TASK 25-21-24-400-801.

SUBTASK 23-31-03-860-005

- (4) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| D   | 4   | C00082 | COMMUNICATIONS PA AMPL BAT |

**E. Installation Test**

SUBTASK 23-31-03-710-001

- (1) Do a test of the attendant speaker operation:
  - (a) Push the call button on a passenger services unit (PSU).
    - 1) Make sure that you can hear one high chime from all the attendant speakers.
    - 2) Make sure the PSU call light comes on.
  - (b) Push the call button on a PSU one more time.

EFFECTIVITY  
SIA ALL

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- 1) Make sure that the PSU call light goes off.

———— **END OF TASK** ————

EFFECTIVITY  
**SIA ALL**

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LAVATORY SPEAKER - MAINTENANCE PRACTICES

1. General

- A. This procedure has these tasks:
- (1) Lavatory Speaker Deactivation.
  - (2) Lavatory Speaker Activation.

**TASK 23-31-05-040-801**

2. Lavatory Speaker - Deactivation

(Figure 201)

A. **General**

- (1) This procedure removes electrical power from the Lavatory Speaker.

B. **Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 200  | Upper Half of Fuselage     |
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

C. **Procedure**

SUBTASK 23-31-05-860-001

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| D          | 4          | C00082        | COMMUNICATIONS PA AMPL BAT |

D. **Lavatory Speaker - Tryout**

NOTE: This tryout is to make sure that the Lavatory Speaker is in a zero energy state.

SUBTASK 23-31-05-860-002

- (1) Make sure that this circuit breaker is open and has safety tag:

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| D          | 4          | C00082        | COMMUNICATIONS PA AMPL BAT |

SUBTASK 23-31-05-700-001

- (2) Do the following to test the lavatory speaker operation:
  - (a) Lift the PA microphone from at an attendant station.
  - (b) Push the PTT button on the microphone.
  - (c) Make an announcement on the PA system.
    - 1) Make sure you can not hear the announcement on the speaker.

———— **END OF TASK** ————

EFFECTIVITY  
SIA ALL

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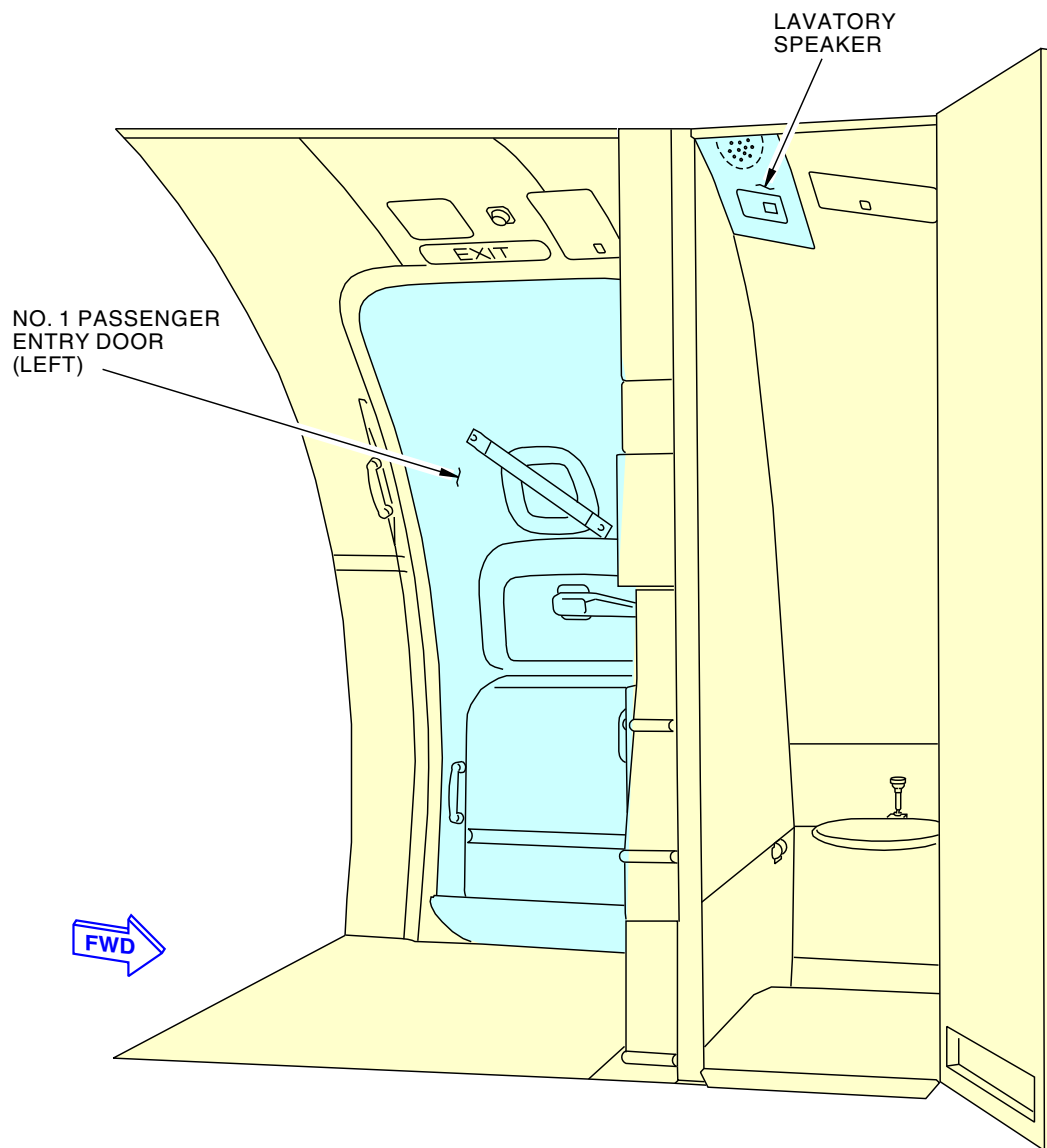
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AIRCRAFT MAINTENANCE MANUAL



PASSENGER COMPARTMENT ENTRYWAY  
(TYPICAL)

A

2411695 S00061528697\_V1

Lavatory Speaker  
Figure 201/23-31-05-990-801

EFFECTIVITY  
SIA ALL

D633AM101-SIA

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TASK 23-31-05-440-801

3. Lavatory Speaker - Activation

(Figure 201)

A. General

- (1) This procedure adds electrical power to the Lavatory Speaker.

B. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 200  | Upper Half of Fuselage     |
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

C. Procedure

SUBTASK 23-31-05-860-003

- (1) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-1

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| D   | 4   | C00082 | COMMUNICATIONS PA AMPL BAT |

————— END OF TASK —————

EFFECTIVITY  
SIA ALL

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LAVATORY SPEAKER - REMOVAL/INSTALLATION

1. General

- A. This procedure contains:
- (1) A removal of the lavatory speaker
  - (2) An installation of the lavatory speaker.
- B. The location of the lavatory speaker is in the passenger service unit (PSU) in the ceiling.

**TASK 23-31-05-000-801**

2. Lavatory Speaker Removal

(Figure 401)

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                          |
|-----------|--------------------------------------|
| SPL-14266 | Screwdriver - Driver Assembly        |
|           | Part #: 29-90-114-10 Supplier: 94222 |
|           | Part #: 29-90-214-10 Supplier: 94222 |

B. Location Zones

| Zone | Area                   |
|------|------------------------|
| 200  | Upper Half of Fuselage |

C. Removal Procedure

SUBTASK 23-31-05-860-004

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| D   | 4   | C00082 | COMMUNICATIONS PA AMPL BAT |

SUBTASK 23-31-05-020-001

- (2) Do the steps that follow to remove the forward lavatory speaker [1]:
- (a) Open the passenger service unit (PSU).
    - 1) Turn the four quarter turn fasteners [5] on the face of the PSU panel with the driver assembly screwdriver, SPL-14266.
  - (b) Slowly lower the PSU panel assembly until the lanyards can hold the PSU.
  - (c) Identify the location of the speaker wires on the speaker transformer terminals.
  - (d) Disconnect the electrical connectors [6] from the speaker transformer terminals.
  - (e) Remove the screws [2], washers [3], and spacers [4] from the speaker [1].
  - (f) Remove the speaker [1].

SUBTASK 23-31-05-420-002

- (3) Do the steps that follow to remove the aft lavatory speakers [1]:
- (a) Open the lower ceiling panel.
    - 1) Turn the two quarter turn fasteners [5] on the lower ceiling panel to open the assembly.

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- (b) Slowly lower the ceiling panel assembly until the hinge supports the ceiling panel.
- (c) Identify the location of the speaker wires on the speaker transformer terminals.
- (d) Disconnect the electrical connectors [6] from the speaker transformer terminals.
- (e) Remove the screws [7], washers [3] from the speaker [1].
- (f) Remove the speaker [1].

———— **END OF TASK** ————

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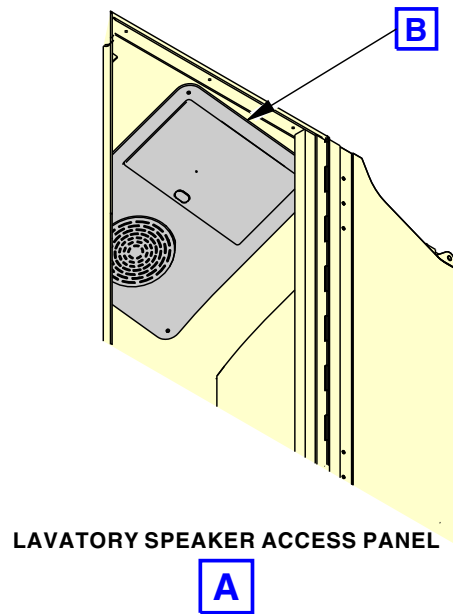
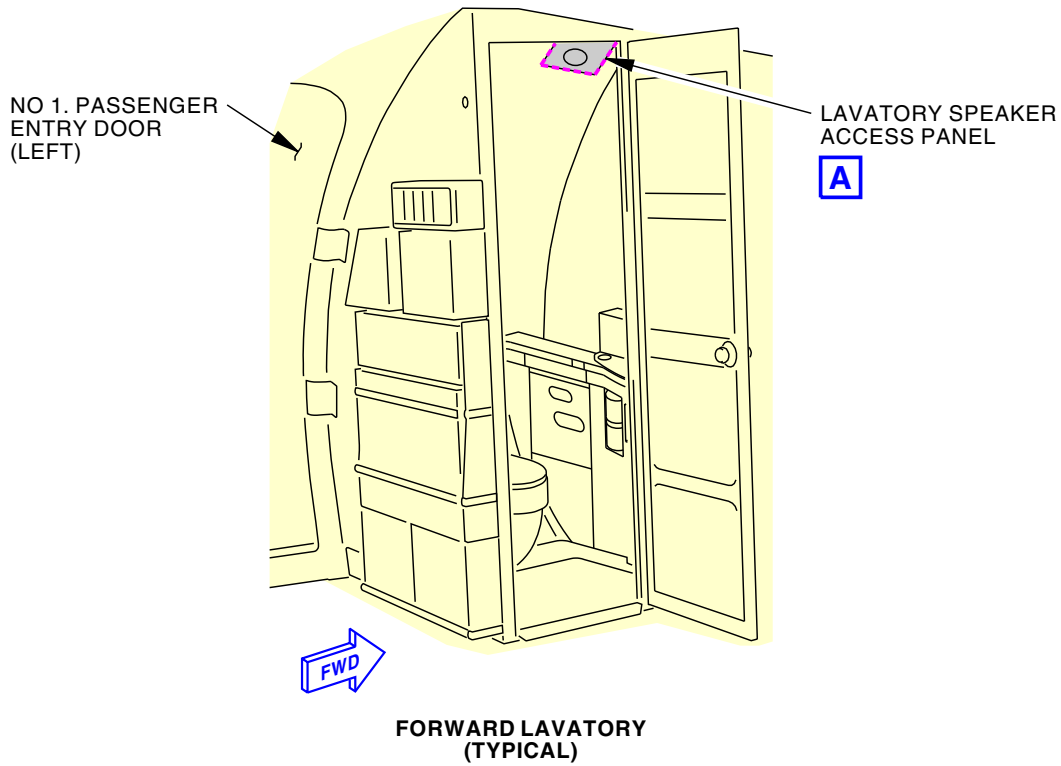
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2411696 S00061528701\_V1

**Lavatory Speaker Installation**  
**Figure 401/23-31-05-990-802 (Sheet 1 of 4)**

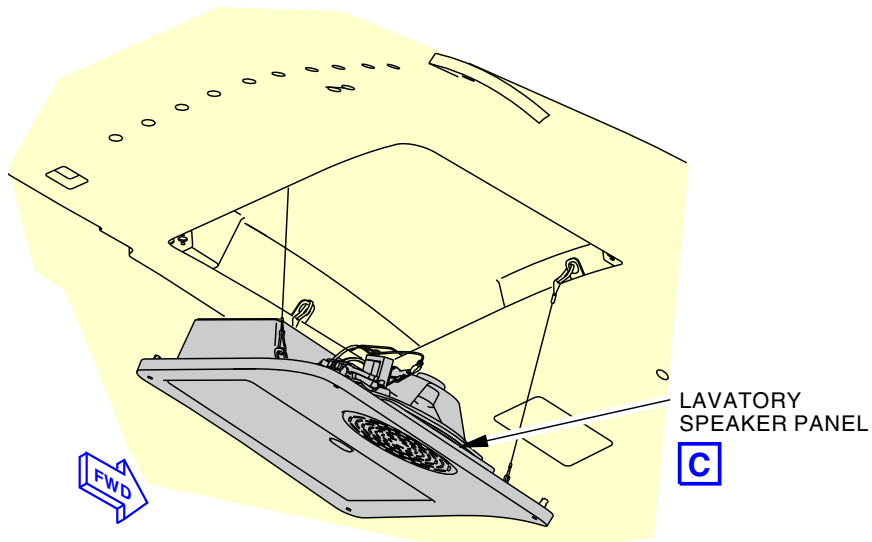
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SIA ALL

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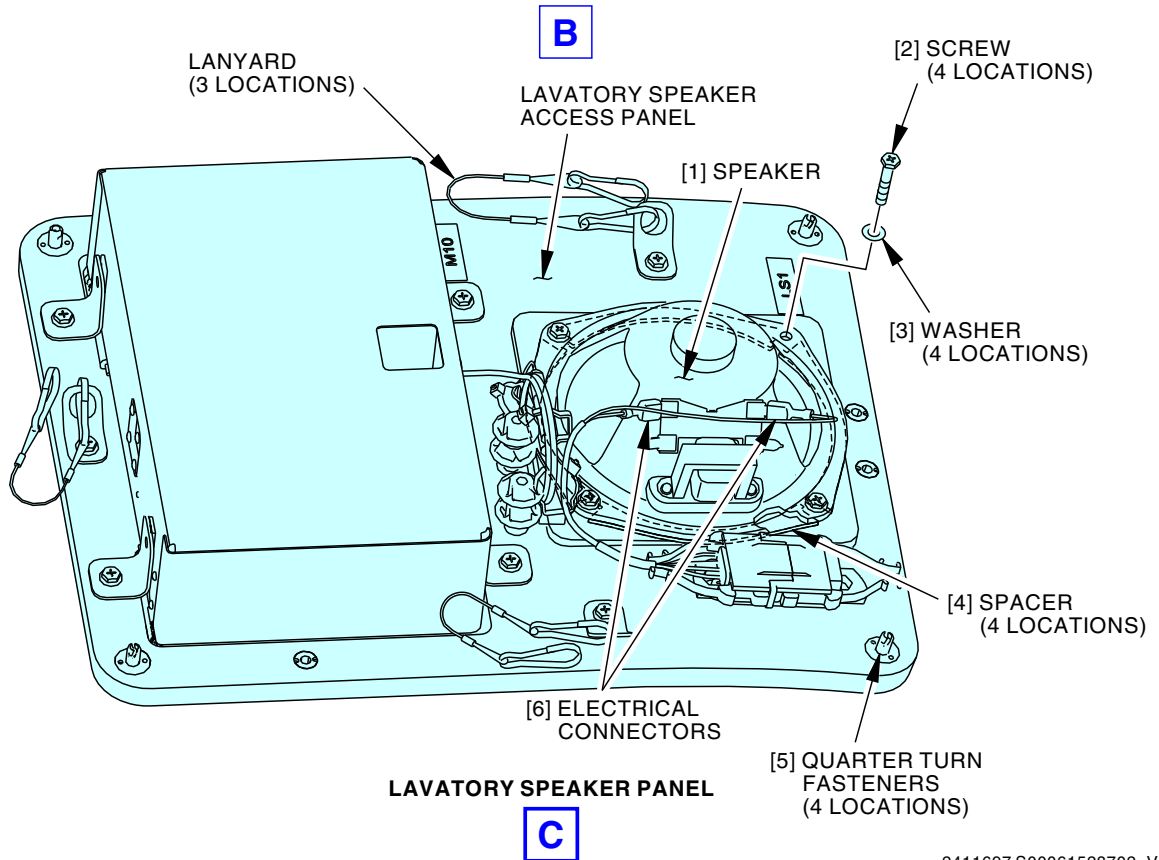
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**FORWARD LAVATORY SPEAKER ASSEMBLY  
(EXAMPLE)**



2411697 S00061528702\_V1

**Lavatory Speaker Installation**  
**Figure 401/23-31-05-990-802 (Sheet 2 of 4)**

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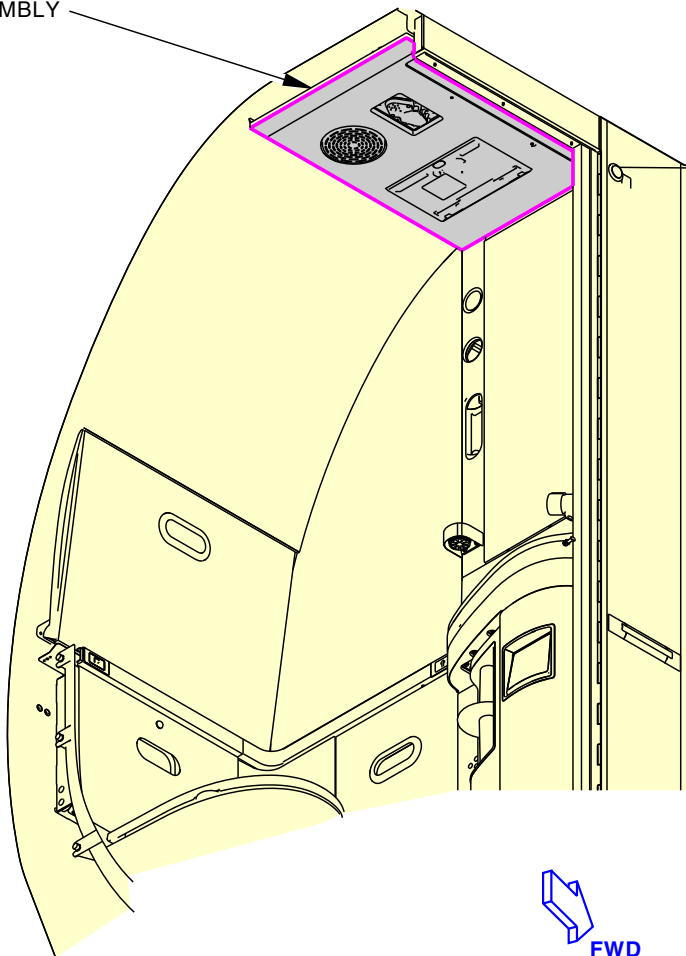
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AFT LAVATORY  
SPEAKER ASSEMBLY

**D**



AFT LAVATORY  
(EXAMPLE)

2540771 S0000602015\_V1

Lavatory Speaker Installation  
Figure 401/23-31-05-990-802 (Sheet 3 of 4)

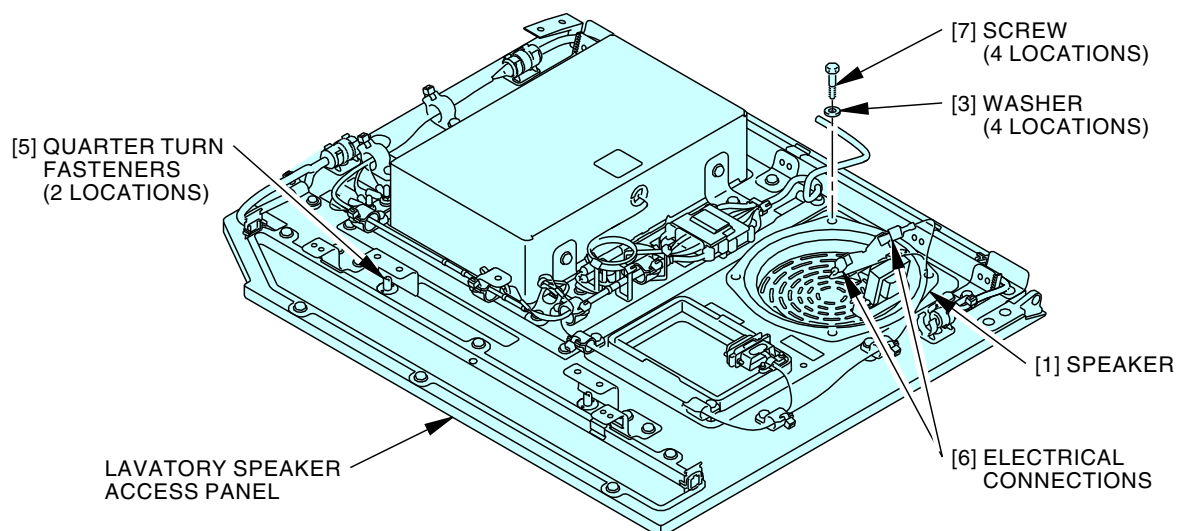
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**AFT LAVATORY SPEAKER ASSEMBLY  
(EXAMPLE)**

**D**

2540218 S0000602016\_V1

**Lavatory Speaker Installation  
Figure 401/23-31-05-990-802 (Sheet 4 of 4)**

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TASK 23-31-05-400-801

3. Lavatory Speaker Installation

(Figure 401)

A. Expendables/Parts

| AMM Item | Description | AIPC Reference   | AIPC Effectivity |
|----------|-------------|------------------|------------------|
| 1        | Speaker     | 23-31-05-01Q-052 | SIA 015-999      |
|          |             | 23-31-05-02B-050 | SIA 001-014      |
|          |             | 23-31-05-02M-050 | SIA 015-999      |
|          |             | 23-31-05-14C-050 | SIA 001-014      |
|          |             | 23-31-05-14D-050 | SIA 001-014      |

B. Location Zones

| Zone | Area                   |
|------|------------------------|
| 200  | Upper Half of Fuselage |

C. Installation Procedure

SUBTASK 23-31-05-420-001

- (1) Do the steps that follow to install the lavatory speaker [1]:
  - (a) Hold the speaker [1] in the correct position.
  - (b) Make sure the electrical connectors [6] are in the correct position.
  - (c) Install the screws [2], washers [3], and spacers [4].
  - (d) Attach the electrical connectors [6] to the speaker [1].
    - 1) Make sure the electrical connectors are connected to the same terminals that they were removed from.
  - (e) Push the PSU panel assembly up until it closes to the usual position.

SUBTASK 23-31-05-860-006

- (2) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| D   | 4   | C00082 | COMMUNICATIONS PA AMPL BAT |

D. Installation Test

SUBTASK 23-31-05-710-001

- (1) Do a test of the Lavatory speaker operation:
  - (a) Lift the PA microphone from at an attendant station.
  - (b) Push the PTT button on the microphone.
  - (c) Make an announcement on the PA system.
    - 1) Make sure you can hear the announcement on the new lavatory speaker.
  - (d) Put the microphone back in its cradle.

————— END OF TASK —————

EFFECTIVITY  
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SERVICE INTERPHONE SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has this task:

- (1) Service Interphone Operational Test

**TASK 23-41-00-710-801**

2. Service Interphone Operational Test

A. **General**

- (1) This procedure has steps to do a operational test for a Service Interphone system.

B. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                      |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-2539  | Interphone - Boom, Mic/Headset for Ground Crew<br>Part #: 12506G-05 Supplier: 71483<br>Opt Part #: 460A Supplier: 79687<br>Opt Part #: 462A Supplier: 79687<br>Opt Part #: H3310 Supplier: 71483 |

C. **Location Zones**

| Zone | Area                                                                             |
|------|----------------------------------------------------------------------------------|
| 112  | Area Forward of Nose Landing Gear Wheel Well                                     |
| 118  | Electrical and Electronics Compartment - Right                                   |
| 133  | Main Landing Gear Wheel Well, Body Station 663.75 to Body Station 727.00 - Left  |
| 134  | Main Landing Gear Wheel Well, Body Station 663.75 to Body Station 727.00 - Right |
| 211  | Flight Compartment - Left                                                        |
| 212  | Flight Compartment - Right                                                       |
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left       |
| 315  | APU Compartment - Left                                                           |
| 600  | Right Wing                                                                       |

D. **Prepare for the Service Interphone Operational Test**

SUBTASK 23-41-00-860-002

- (1) Make sure that these circuit breakers are closed:

**F/O Electrical System Panel, P6-2**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT   |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 21  | C00084 | INTPH AND WARN             |
| D   | 22  | C00086 | AUDIO F/O                  |
| D   | 23  | C00083 | AUDIO CAPT                 |
| D   | 24  | C00085 | AUDIO OBS                  |

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### SUBTASK 23-41-00-710-012

- (2) Prepare for the Service Interphone Operational Test:
  - (a) Connect a mic/headset for ground crew boom interphone, COM-2539, to the Captain's, First Officer's, or Observer's boom mic/headset jack on the Audio Control Panel (ACP).
  - (b) Push the CABIN microphone selector switch on all Audio Control Panels (ACP).
  - (c) Push the volume control for the CABIN microphone selector switch.
  - (d) Turn the volume control switch for CABIN to the middle position.
  - (e) Set the SERVICE INTERPHONE switch, on the P5 overhead panel, to ON.

### E. Service Interphone Operational Test

#### SUBTASK 23-41-00-710-011

- (1) Do a communication test between the flight crew and the ground crew at the auxiliary power unit:
  - (a) Connect a mic/headset for ground crew boom interphone, COM-2539, to the service interphone jack.
  - (b) Push the RADIO - INT switch on the Captain's, First Officer's, or Observer's ACP.
  - (c) Speak into the Captain's, First Officer's, or Observer's boom microphone.
    - 1) Make sure the ground crew can hear the voice clearly on the headset.
  - (d) Release the RADIO - INT switch on the Captain's, First Officer's, or Observer's ACP.
  - (e) Push the PTT switch on the Captain's (First Officer's) glareshield.
    - 1) Speak into the Captain's (First Officer's) boom microphone.
    - 2) Make sure the ground crew can hear the voice clearly on the service interphone headset.
    - 3) Release the PTT switch.
  - (f) Have the ground crew speak into the boom microphone.
    - 1) Make sure you can hear the voice clearly on the Captain's First Officer's, or Observer's headset.

#### SUBTASK 23-41-00-710-003

- (2) Repeat the communication test between the flight crew and the ground crew with the service interphone jack in the overhead at the aft passenger cabin.

#### SUBTASK 23-41-00-710-004

- (3) Repeat the communication test between the flight crew and the ground crew with the service interphone jack at the refueling station on the right wing.

#### SUBTASK 23-41-00-710-005

- (4) Repeat the communication test between the flight crew and the ground crew using the service interphone jack at the left wheel well.

#### SUBTASK 23-41-00-710-006

- (5) Repeat the communication test between the flight crew and the ground crew with the service interphone jack at the right wheel well.

#### SUBTASK 23-41-00-710-007

- (6) Repeat the communication test between the flight crew and the ground crew with the service interphone jack at the electrical and electronics compartment.

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**F. Service Interphone Switch Operational Test**

**SUBTASK 23-41-00-710-008**

- (1) Do the test of the SERVICE INTERPHONE switch:
  - (a) Connect a mic/headset for ground crew boom interphone, COM-2539, to a service interphone jack.
  - (b) Set the SERVICE INTERPHONE switch to OFF.
  - (c) Push the RADIO - INT switch on the Captain's, First Officer's, or Observer's ACP.
  - (d) Speak into the boom microphone.
    - 1) Make sure the ground crew can hear the voice on the service interphone headset.
  - (e) Release the RADIO - INT switch on the Captain's, First Officer's, or Observer's ACP.
  - (f) Push the PTT switch on the Captain's (First Officer's) glareshield.
    - 1) Speak into the boom microphone.
    - 2) Make sure the ground crew can hear the voice on the service interphone headset.
    - 3) Release the PTT switch.
  - (g) Have the ground crew speak into the boom microphone.
    - 1) Make sure you cannot hear the voice on the headset.

**SUBTASK 23-41-00-710-009**

- (2) Repeat the communication test between the flight crew and the ground crew with the First Officer's ACP.

**SUBTASK 23-41-00-710-010**

- (3) Repeat the communication test between the flight crew and the ground crew with the Observer's ACP.

**G. Put the Airplane Back to Its Usual Condition**

**SUBTASK 23-41-00-020-001**

- (1) Disconnect the mic/headset for ground crew boom interphone, COM-2539, from the ACP and service interphone boom mic/headset jack.

———— **END OF TASK** ————

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CABIN INTERPHONE SYSTEM - ADJUSTMENT/TEST

1. **General**

A. This procedure contains these tasks:

- (1) An Operational Test of the Cabin Interphone system
- (2) An Operational Test of the Cabin Alert system
- (3) A Cabin Interphone system / Attendant Panel Installation Test

**TASK 23-42-00-710-801**

2. **Cabin Interphone System - Operational Test**

A. **General**

- (1) This task checks to make sure that the Cabin Interphone communication between the flight crew and the attendants operates correctly.
- (2) This task requires two persons to complete.

B. **Location Zones**

| Zone | Area                                                                            |
|------|---------------------------------------------------------------------------------|
| 221  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left |
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00   |

C. **Prepare for the Operational Test**

SUBTASK 23-42-00-840-002

- (1) Make sure that all handsets are on the hook.

D. **Cabin Interphone Operational Test**

SUBTASK 23-42-00-710-001

- (1) Do the steps that follow for the Cabin Interphone Call Test:
  - (a) Push the ATTEND call switch on the P5 panel (passenger sign panel).
  - (b) Make sure that the pink, attendant call light on the FORWARD and AFT EXIT locator signs turn ON.
  - (c) Make sure that you hear a HI/LO tone in the cabin.
  - (d) Remove any handset from the holder to reset the light.
  - (e) Make sure that the attendant call lights turn OFF.
  - (f) Put the handset back on its holder.
  - (g) Do the steps that follow for the FORWARD attendant handset:
    - 1) Remove the handset from its holder.
    - 2) Push the button corresponding to "PILOT" on the handset.
    - 3) Make sure that the CABIN call light on the Audio Control Panel (ACP) turns ON.
    - 4) Make sure that you hear a HI tone in the flight deck.
    - 5) Push the "RESET" button on the handset.
    - 6) Push the button corresponding to an "Attendant call" on the handset.
    - 7) Make sure that the attendant call light at the other station turns ON.
    - 8) Make sure that you hear a HI/LO tone in the cabin.
    - 9) Put the handset back on its holder.

EFFECTIVITY  
SIA ALL

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- 10) Make sure that the attendant call light at the other station turns OFF.
- (h) Repeat the test for the AFT attendant handset(s).

SUBTASK 23-42-00-710-002

- (2) Do the steps that follow for the Cabin Interphone Communication Test:
  - (a) Push the interphone button on all ACPs.  
NOTE: Button may be labeled "CABIN" or "SERVICE".
  - (b) Make sure that you get good two way interphone communication between all communication devices: flight deck handset, pilots boom/mic headset, FORWARD and AFT attendant handsets.

————— **END OF TASK** —————

**TASK 23-42-00-710-803**

**3. Cabin Alert System - Operational Test**

**A. Location Zones**

| <b>Zone</b> | <b>Area</b>                                                                     |
|-------------|---------------------------------------------------------------------------------|
| 221         | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left |
| 240         | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00   |

**B. Procedure**

SUBTASK 23-42-00-710-004

- (1) Do the steps that follow to check the operation of the Cabin Alert system:
  - (a) Push the FWD cabin alert switch near the forward attendant station (near fwd left doorway liner).
  - (b) Make sure you hear a chime in the flight deck.
  - (c) Make sure you hear a chime in the cabin.
  - (d) Make sure the blue light on the PRIORITY COMM (P5) panel in the flight deck turns on for approximately 40 seconds.
  - (e) Make sure the white lights on the FWD and AFT Exit Locator signs turns on for approximately 40 seconds.
  - (f) Push the AFT left cabin alert switch near the aft attendant station (near aft left doorway liner).
  - (g) Make sure you hear a chime in the flight deck.
  - (h) Make sure you hear a chime in the cabin.
  - (i) Make sure the blue light on the PRIORITY COMM (P5) panel in the flight deck turns on for approximately 40 seconds.
  - (j) Make sure the white lights on the FWD and AFT Exit Locator signs turns on for approximately 40 seconds.
  - (k) Push the AFT right cabin alert switch near the aft right doorway liner.
  - (l) Make sure you hear a chime in the flight deck.
  - (m) Make sure you hear a chime in the cabin.
  - (n) Make sure the blue light on the PRIORITY COMM (P5) panel in the flight deck turns on for approximately 40 seconds.

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SIA ALL

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- (o) Make sure the white lights on the FWD and AFT Exit Locator signs turn on for approximately 40 seconds.

————— **END OF TASK** —————

**TASK 23-42-00-700-801**

**4. Cabin Interphone system - Attendant Panel Installation Test**

**A. General**

- (1) This task makes sure that the Cabin Interphone system operates correctly after the ACP installation.
- (2) This task requires two persons to complete.

**B. Location Zones**

| <b>Zone</b> | <b>Area</b>                                                                     |
|-------------|---------------------------------------------------------------------------------|
| 221         | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left |
| 240         | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00   |

**C. Cabin Interphone / Attendant Panel Installation Test**

**SUBTASK 23-42-00-720-001**

- (1) Do the steps that follow to check the Cabin Interphone system after the Attendant Panel installation:
  - (a) Do the steps that follow for any forward attendant handset:
    - 1) Remove the handset from its holder.
    - 2) Push the button corresponding to an "Attendant call" on the handset.
    - 3) Make sure the attendant call light at the other station turns on.
    - 4) Make sure that you hear a HI/LO tone in the cabin.
    - 5) Make sure that you get a good two way communication between the handset and the other station's attendant handset.
    - 6) Push the "RESET" button on the handset.
    - 7) Push the button corresponding to "PILOT" on the handset.
    - 8) Make sure the CABIN call light on the audio control panel turns on.
    - 9) Make sure you hear a HI tone in the flight deck.
    - 10) Make sure you get a good two way communication between the handset and the pilot's boom microphone.
    - 11) Push the "RESET" button on the handset.
    - 12) Put the handset back on its holder.
  - (b) Repeat the test for any aft attendant handset.

————— **END OF TASK** —————

EFFECTIVITY  
SIA ALL

**23-42-00**

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ATTENDANT HANDSET - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Attendant handset removal
  - (2) Attendant handset installation
  - (3) Attendant handset cradle removal
  - (4) Attendant handset cradle installation
  - (5) Attendant handset cord removal
  - (6) Attendant handset cord installation.

**TASK 23-42-01-000-801**

2. Attendant Handset Removal

(Figure 401)

A. **General**

- (1) This task is for the removal of the attendant handset.

B. **Location Zones**

| Zone | Area                                                                            |
|------|---------------------------------------------------------------------------------|
| 221  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left |
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00   |

C. **Attendant Handset Removal**

SUBTASK 23-42-01-020-001

- (1) Remove the attendant handset [4] as follows:
  - (a) Remove the handset [4] from the handset cradle [1].
  - (b) Disconnect the cord [5] from the handset [4].

———— **END OF TASK** ————

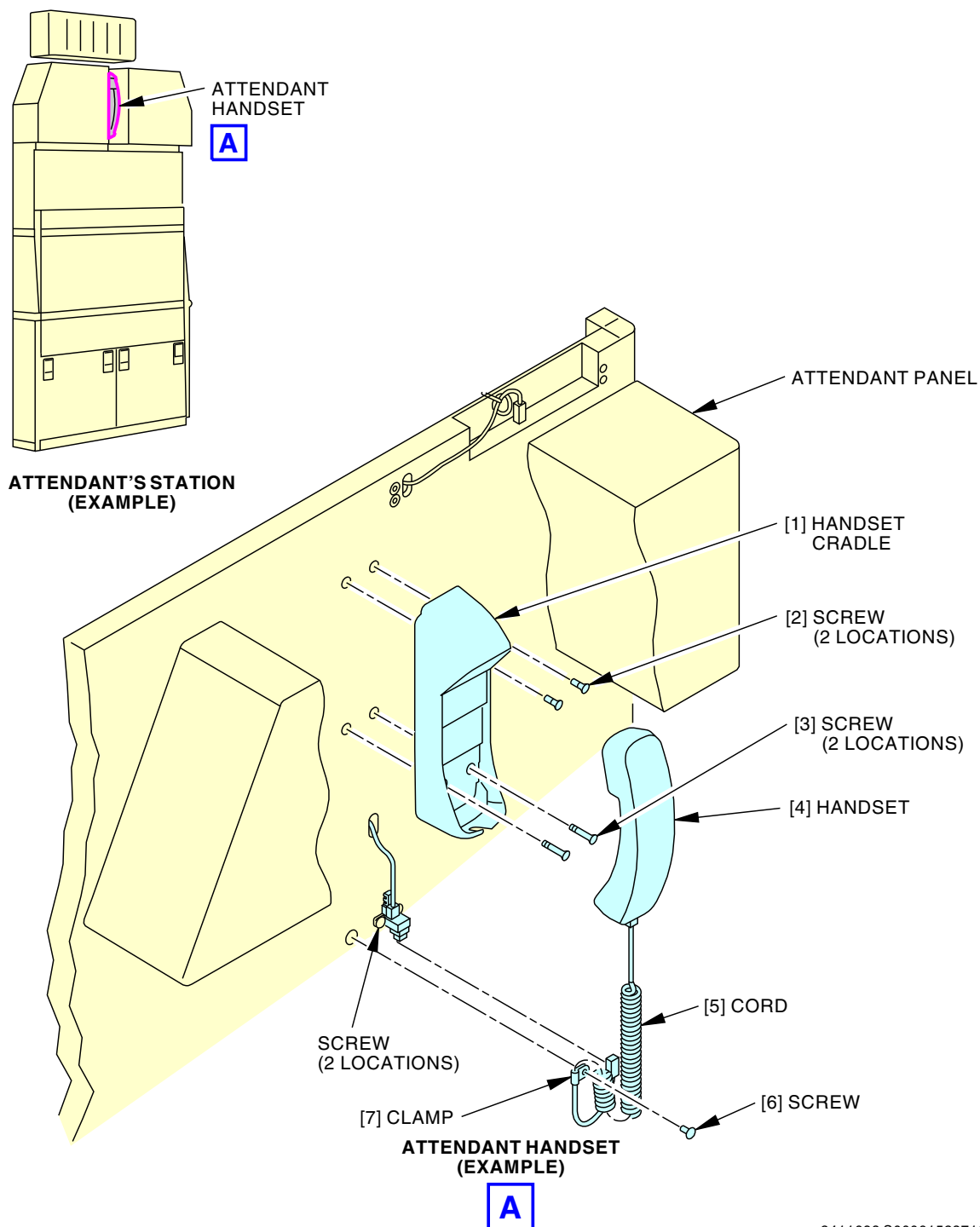
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SIA ALL

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Attendant Handset Installation  
Figure 401/23-42-01-990-801

EFFECTIVITY  
SIA ALL

**23-42-01**

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**TASK 23-42-01-400-803**

**3. Attendant Handset Installation**

(Figure 401)

**A. General**

(1) This task is for the installation of the attendant handset.

**B. References**

| Reference        | Title                                         |
|------------------|-----------------------------------------------|
| 23-42-01-700-802 | Attendant Handset Installation Test (P/B 501) |

**C. Expendables/Parts**

| AMM Item | Description | AIPC Reference  | AIPC Effectivity |
|----------|-------------|-----------------|------------------|
| 4        | Handset     | 23-42-01-03-015 | SIA ALL          |
|          |             | 23-42-01-18-025 | SIA ALL          |
|          |             | 23-42-01-19-025 | SIA ALL          |

**D. Location Zones**

| Zone | Area                                                                            |
|------|---------------------------------------------------------------------------------|
| 221  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left |
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00   |

**E. Attendant Handset Installation**

SUBTASK 23-42-01-420-003

- (1) Install the attendant handset [4] as follows:
- (a) Install the marker on the handset if missing.
  - (b) Connect the cord [5] to the handset [4].
  - (c) Put the handset [4] on the handset cradle [1].

**F. Attendant Handset Installation Test**

SUBTASK 23-42-01-720-003

- (1) Do this task: Attendant Handset Installation Test, TASK 23-42-01-700-802.

————— END OF TASK —————

**TASK 23-42-01-000-803**

**4. Attendant Handset Cradle Removal**

(Figure 401 and Figure 402)

**A. General**

(1) This task is for the removal of the attendant handset cradle.

**B. Location Zones**

| Zone | Area                                                                            |
|------|---------------------------------------------------------------------------------|
| 221  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left |
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00   |

**C. Attendant Handset Cradle Removal**

SUBTASK 23-42-01-020-003

- (1) Remove the handset cradle [1] as follows:
- (a) Remove the handset [4] from the handset cradle [1].

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- (b) Remove two screws [2] and two screws [3] from the handset cradle [1].
- (c) Remove the handset cradle [1] from the attendant station.
- (d) If the magnet [9] is loose inside the handset cradle [1], do these steps:
  - 1) Remove the screws that attach the retainer [8] to the handset cradle [1].
  - 2) Remove the retainer [8] and the magnet [9].

———— **END OF TASK** ————

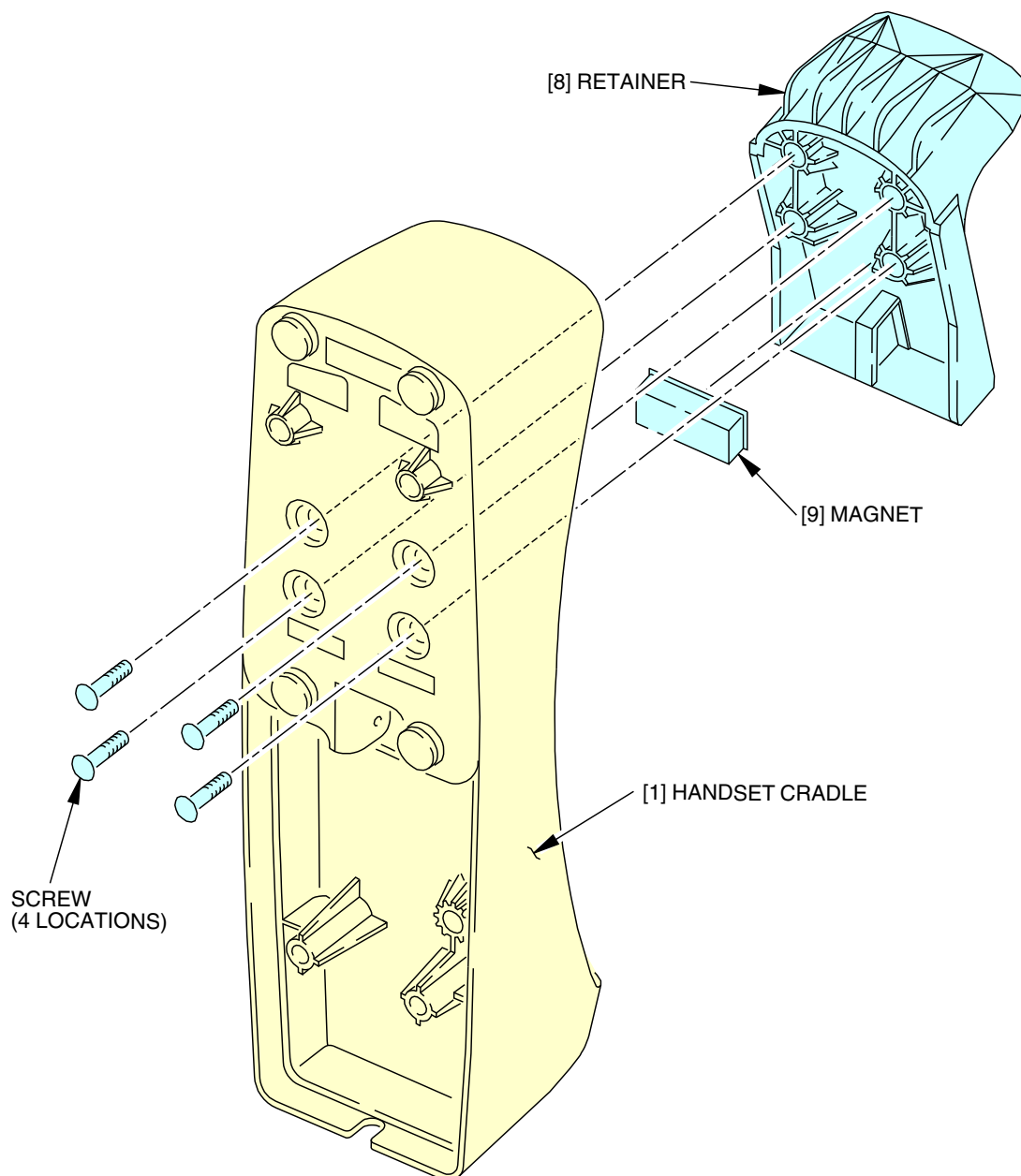
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**Attendant Handset Cradle Magnet Installation**  
**Figure 402/23-42-01-990-802**

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TASK 23-42-01-400-801

5. **Attendant Handset Cradle Installation**

(Figure 401 and Figure 402)

**A. General**

(1) This task is for the installation attendant handset cradle.

**B. References**

| Reference        | Title                                         |
|------------------|-----------------------------------------------|
| 23-42-01-700-802 | Attendant Handset Installation Test (P/B 501) |

**C. Consumable Materials**

| Reference | Description                        | Specification   |
|-----------|------------------------------------|-----------------|
| A00188    | Adhesive - Urethane, Two Component | BMS5-105 Type V |

**D. Expendables/Parts**

| AMM Item | Description    | AIPC Reference  | AIPC Effectivity |
|----------|----------------|-----------------|------------------|
| 1        | Handset cradle | 23-42-01-03-035 | SIA ALL          |
|          |                | 23-42-01-18-040 | SIA ALL          |
|          |                | 23-42-01-19-040 | SIA ALL          |

**E. Location Zones**

| Zone | Area                                                                            |
|------|---------------------------------------------------------------------------------|
| 221  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left |
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00   |

**F. Attendant Handset Cradle Installation**

SUBTASK 23-42-01-420-004

(1) If it is necessary, do these steps to attach the magnet [9] to the handset cradle [1]:

- (a) Use adhesive, A00188, to attach the magnet [9] to the retainer [8].
  - 1) Make sure that the flanged surface of the magnet is centered.
- (b) Put the retainer [8] into position on the handset cradle [1].
- (c) Install the screws that attach the retainer [8] to the handset cradle [1].

SUBTASK 23-42-01-420-001

(2) Install the handset cradle [1] as follows:

- (a) Put the handset cradle [1] in its correct position over the screw holes in the attendant station.
- (b) Install the screws [2] and screws [3] to tighten the handset cradle [1] to the attendant station.
- (c) Put the handset [4] in the handset cradle [1].

**G. Attendant Handset Cradle Installation Test**

SUBTASK 23-42-01-700-001

(1) Do this task: Attendant Handset Installation Test, TASK 23-42-01-700-802.

————— **END OF TASK** —————

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**TASK 23-42-01-000-802**

**6. Attendant Handset Cord Removal**

(Figure 401)

**A. General**

(1) This task is for the removal of the attendant handset cord.

**B. Location Zones**

| Zone | Area                                                                            |
|------|---------------------------------------------------------------------------------|
| 221  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left |
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00   |

**C. Attendant Handset Cord Removal**

SUBTASK 23-42-01-020-002

- (1) Remove the handset cord [5] as follows:
  - (a) Disconnect the cord [5] from the handset [4].
  - (b) Remove the screw [6] from the clamp [7].
  - (c) Remove the clamp [7].
  - (d) Pull the handset cord [5] out of the clamp [7].

————— **END OF TASK** —————

**TASK 23-42-01-400-802**

**7. Attendant Handset Cord Installation**

(Figure 401)

**A. General**

(1) This task is for the installation of the attendant handset cord.

**B. References**

| Reference        | Title                                         |
|------------------|-----------------------------------------------|
| 23-42-01-700-802 | Attendant Handset Installation Test (P/B 501) |

**C. Location Zones**

| Zone | Area                                                                            |
|------|---------------------------------------------------------------------------------|
| 221  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left |
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00   |

**D. Attendant Handset Cord Installation**

SUBTASK 23-42-01-420-002

- (1) Install the handset cord [5] as follows:
  - (a) Put the handset cord [5] through the clamp [7].
  - (b) Put the clamp [7] in its location over the screw hole in the attendant's station.
  - (c) Install the screw [6] to tighten the clamp [7] to the attendant's station.
  - (d) Connect the cord [5] to the handset [4].

**E. Attendant Handset Cord Installation Test**

SUBTASK 23-42-01-720-004

- (1) Do this task: Attendant Handset Installation Test, TASK 23-42-01-700-802.

————— **END OF TASK** —————

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ATTENDANT HANDSET - ADJUSTMENT/TEST

1. General

- A. This procedure has this task:  
(1) Attendant handset installation test.

**TASK 23-42-01-700-802**

2. Attendant Handset Installation Test

A. **General**

- (1) This task is for the installation test of the attendant handset.

B. **Location Zones**

| Zone | Area                                                                            |
|------|---------------------------------------------------------------------------------|
| 221  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left |
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00   |

C. **Attendant Handset Installation Test**

**SUBTASK 23-42-01-980-001**

- (1) Lift the handset from the handle cradle.

**SUBTASK 23-42-01-720-001**

- (2) Push the button for the attendant on the handset keypad and check that these occurs:  
(a) Make sure that you hear a chime on the PA speakers.  
(b) Make sure that the pink attendant call light at the other attendant station comes on.

**SUBTASK 23-42-01-720-002**

- (3) Call another attendant station and make sure that communication goes through.

**SUBTASK 23-42-01-980-002**

- (4) Put the handset in the handset cradle.

———— **END OF TASK** ————

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ATTENDANT CONTROL PANEL - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

- (1) Software Loading.
- (2) Fault Data Report.
- (3) Configuration Check.
- (4) Configuration Data Report.
- (5) Erasing Mass Storage Area (MSA).
- (6) LCD Touch Screen Display Check.

**TASK 23-42-03-470-801**

2. Attendant Control Panel (ACP) - Software Loading

A. General

- (1) This procedure installs Loadable Software Airplane Parts (LSAPs) to the ACP's and the Lighting LRU's.

NOTE: The ACP OPS, CDB and Standard Scenes LDB are required to be installed in the ACP to be fully functional. Optional Custom Scenes LDB may be installed.

NOTE: Software Loading is divided into two phases: Phase 1 data load and Phase 2 data load:

- A Phase 1 data load stages the Loadable Software Airplane Part (LSP) to the forward Attendant Control Panel's (ACP) Mass Storage Area from the ONS. These LSPs are saved onto the forward ACPs memory until ready to be used for a Phase 2 data load.
  - A Phase 2 data load transfers the LSPs into the forward ACP (if different) and aft ACP (if different) and to the Lighting LRUs. In order to perform a Phase 2 data load, at least one LSAP type (ACP OPS, CDB, Standard Scenes LDB) needs to be installed from the Current Config or Mass Storage Area of the forward ACP.
- (2) Throughout the procedure, the ACP may automatically go into screensaver mode. To exit out of screensaver mode, touch two different corners of the ACP screen sequentially.

B. References

| Reference        | Title                                            |
|------------------|--------------------------------------------------|
| 20-15-11-470-801 | On-Airplane Software Installation (P/B 201)      |
| 32-09-00-860-802 | Return the Airplane to the Ground Mode (P/B 201) |
| 46-13-00-470-801 | LRU Software Parts Installation (P/B 201)        |

C. Prepare for the Software Load

SUBTASK 23-42-03-860-003

- (1) Set the overhead panel P5-13, CAB/UTIL switch to the ON position.

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### SUBTASK 23-42-03-860-004

- (2) Set up the data loader at P61-1 panel located in the flight deck to applicable configuration for loading software to the ACP. Refer to On-Airplane Software Installation, TASK 20-15-11-470-801.

NOTE: Modern software loaders that meet the security requirements defined in ARINC 645 are recommended to be used. Check with your software loader supplier for current capabilities of the equipment you have.

- (a) Set the DATA LOAD SELECTOR switch to SINGLE SYS.
- (b) Set the SYSTEM SELECT switch to ACP.

### SUBTASK 23-42-03-860-005

- (3) Make sure that the forward ACP and aft ACP are ON.

### SUBTASK 23-42-03-940-001

- (4) Make sure that the airplane is set to ground mode (TASK 32-09-00-860-802).

## D. ACP - Software Loading

### SUBTASK 23-42-03-470-002

- (1) Do these steps to install software:

- (a) Push the "Maintenance" button on the ACP main menu column.
- (b) Enter password if necessary.

NOTE: Depending on the ACP configuration, you may be required to provide a password.

The default password is '1234'.

- (c) Push the "Data Load" button on the Maintenance menu.

NOTE: When you push the "Data Load" button, you will see four buttons in the control window: Phase 1 Data Load, Phase 2 Data Load, Start, and Exit. Data loading instructions will be displayed in the result window.

NOTE: Phase 1 Data Load will use the Onboard Network System (ONS) to load the ACP software parts. Phase 2 Data Load transfers data from the forward ACP to the aft ACP and lighting LRU's.

- (d) Determine if a Phase 1 data load is required:
  - 1) Press the Phase 2 Data Load button.
  - 2) View the Phase 2 data load screen.
- (e) Make sure that at least one of each LSP, for each LSP type (ACP OPS, CDB and Standard Scenes), can be selected.
  - 1) A selectable LSP will have a blue or black background color.
  - 2) Make sure that the correct part number shows in either the Current Config or Mass Storage Area.
  - 3) If the correct part number is not found, then a Phase 1 data load is required.
- (f) Press Exit

### SUBTASK 23-42-03-470-006

- (2) For Phase 1 Data Load, do the steps that follow to load software parts to the forward ACP with the Onboard Network System (ONS):
  - (a) Push the "Phase 1 Data Load" button on the forward ACP.



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- (b) Do this task: LRU Software Parts Installation, TASK 46-13-00-470-801.

NOTE: Select the applicable ACP parts (OPS, CDB, Standard Scenes LDB, or Custom Scenes).

NOTE: Only one part can be loaded at a time with ONS. LSAPs may be loaded in any order.

- (c) Push the "Exit" button on the ACP after all parts have been successfully loaded with ONS.

SUBTASK 23-42-03-470-007

- (3) For Phase 2 Data Load, do the steps that follow:

- (a) Push the "Phase 2 Data Load" button.

NOTE: When you select Phase 2 Data Load button, the screen will show the LSAP selection table and control window. The "Current Config" is selected as default. You can select another LSAP to load into the ACP's and the lighting LRU's.

- (b) Select the LSAP in the Mass Storage Area or "Current Config", if not already selected.

- 1) At least one LSAP from each column will need to be selected in order to begin a Phase 2 data load.
- 2) The start button in step 2 will stay gray if at least one LSAP type is not selected from each column.

NOTE: If a custom scene is not used, select the "No Custom Scene" button; its back ground will turn blue when selected.

NOTE: The back ground of all the selected part numbers will turn blue.

- (c) Push the "Start" button.

NOTE: Once the process has started, the result window will show the current progress of the file transfer. The status bar will show the approximate percent complete as the process executes.

During the Phase 2 data load, the ACPs may reboot. This is normal.

When the Lighting LRUs are being loaded, the lights will display change to a successful addressing color (colored lights will be green or white lights will be amber/warm white) during the process.

SUBTASK 23-42-03-700-001

- (4) Do this task: Attendant Control Panel (ACP) - Configuration Check, TASK 23-42-03-700-801.

————— **END OF TASK** —————

**TASK 23-42-03-970-803**

**3. Attendant Control Panel (ACP) - Fault Data Report**

**A. General**

- (1) This task lets you view the system test faults or data load faults using the ACP.
- (2) This task also lets you report or view the system test faults or data load faults using the Onboard Network System (ONS).
- (3) Throughout the procedure, the ACP may automatically go into screensaver mode. To exit out of screensaver mode, touch two different corners of the ACP screen sequentially.

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### B. References

| Reference                               | Title                                            |
|-----------------------------------------|--------------------------------------------------|
| 32-09-00-860-802                        | Return the Airplane to the Ground Mode (P/B 201) |
| 46-13-02-970-803                        | LRU Reports (P/B 201)                            |
| IFIM and do the applicable procedure(s) | Interactive Fault Isolation Manual               |

### C. Prepare to View or Report

#### SUBTASK 23-42-03-860-023

- (1) Make sure that the overhead panel P5-13, CAB/UTIL switch is set to the ON position.

#### SUBTASK 23-42-03-860-024

- (2) Make sure that the forward ACP and aft ACP are ON.

#### SUBTASK 23-42-03-940-009

- (3) Make sure the airplane is set to ground mode (TASK 32-09-00-860-802).

### D. Procedure

#### SUBTASK 23-42-03-970-004

- (1) At the forward ACP, do the steps that follow to view or report the fault data:

- (a) In the ACP main menu column, push the Maintenance button.

- 1) Enter password if necessary.

NOTE: Depending on the ACP configuration, you may be required to provide a password. The default password is "1234".

- (b) In the Maintenance menu column, push the System Test button.

- (c) In the Control Window, push the Start Test button.

NOTE: When the system test operates, the System Test and Start Test buttons are active, the other buttons become disabled and the status bar will display the approximate percent complete. When the test completes, the System Test and the Start Test buttons remain active and other buttons will be available for selection.

#### SUBTASK 23-42-03-970-007

- (2) Do these steps to view the System Test Faults:

- (a) In the Maintenance menu column, push the Fault Data button.

NOTE: After you push the Fault Data button, four buttons will appear in the control window: System Test Faults, Data Load Faults, Save All and Exit. The result window will show instructions for user to view or save the fault data.

- (b) In the Control Window, push the System Test Fault button.

NOTE: If there are System Test Faults found, the ACP will display the number of faults with their maintenance message numbers and corrective actions. If there are no faults, a message will be displayed to indicate that there are no System Test Faults.

#### SUBTASK 23-42-03-970-008

- (3) Do these steps to view the Data Load Faults:

NOTE: These faults are generated during data loading, you will see warning messages about the faults.



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- (a) Push the Data Load Faults button in the Control Window.

NOTE: The result window will show the faults with their maintenance message numbers and corrective actions. If there are no faults, a message will be displayed to indicate that there are no data load faults.

SUBTASK 23-42-03-970-009

- (4) Do these steps to report all ACP fault data using the ONS:
- (a) Push the Save All button in the Control Window.
- (b) To report all faults for the ACP, do this task: LRU Reports, TASK 46-13-02-970-803.

SUBTASK 23-42-03-970-010

- (5) To correct the faults, do the actions recommended on the screen or use the maintenance message number and refer to the IFIM and do the applicable procedure(s).

————— **END OF TASK** —————

### TASK 23-42-03-700-801

#### 4. Attendant Control Panel (ACP) - Configuration Check

##### A. General

- (1) The Configuration Check provides part number information for the Attendant Control Panel (ACP)'s and each Lighting LRU. It displays part numbers for hardware and software, including the following software:
- Operational Software (OPS)
  - Configuration Database (CDB)
  - Standard Scene (LDB)
  - Custom Scene (if applicable)
- (2) Throughout the procedure, the ACP may automatically go into screensaver mode. To exit out of screensaver mode, touch two different corners of the ACP screen sequentially.

##### B. References

| Reference        | Title                                            |
|------------------|--------------------------------------------------|
| 32-09-00-860-802 | Return the Airplane to the Ground Mode (P/B 201) |

##### C. Prepare for the Configuration Check

SUBTASK 23-42-03-860-020

- (1) Set the overhead panel P5-13, CAB/UTIL switch to the ON position.

SUBTASK 23-42-03-860-021

- (2) Make sure that the forward ACP and aft ACP are ON.

SUBTASK 23-42-03-860-022

- (3) Make sure the airplane is set to ground mode (TASK 32-09-00-860-802).

##### D. ACP Configuration Check

SUBTASK 23-42-03-700-003

- (1) Do these steps for a configuration check of the ACP:
- (a) Make sure that you know the correct software part numbers for the ACP.
- (b) Push the Maintenance button on the ACP.

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- (c) Enter a password if necessary.

NOTE: Depending on the ACP configuration, you may be required to provide a password.

The default password is '1234'.

- (d) Push the "Config Check" Button.

1) The "Configuration Check" screen is displayed.

- (e) Push the "Start Check" button in the "Control Window".

1) Wait for the "Status" progress bar to show 100%.

- (f) Make sure that the software part numbers for OPS, CDB, LDB and Custom Scene (if applicable) match the load list or installation plan.

NOTE: Use the scroll bar on the right to see all loaded software parts. Lighting part numbers display first, then the ACP part numbers.

- Firmware Revision: is only for Lighting OPS on Gen 3 lights
- Configuration Database LSAP P/N: is used for ACPs and Lighting LRUs
- Lighting Database (Standard) LSAP P/N: is used for ACPs and Lighting LRUs
- Lighting Database (Custom) LSAP P/N: is used for ACPs and Lighting LRUs
- OPS LSAP P/N: is used for only forward and aft ACP

- 1) If the software part numbers do not match, software installation is required.

a) Do the Attendant Control Panel (ACP) - Software Loading, TASK 23-42-03-470-801.

b) If the part numbers match, then continue.

————— **END OF TASK** —————

### TASK 23-42-03-970-804

#### 5. Attendant Control Panel (ACP) - Configuration Data Report

##### A. General

- (1) This task lets you view the configuration data for the ACP.
- (2) This task also lets you report or view the configuration data using the Onboard Network System (ONS).
- (3) Throughout the procedure, the ACP may automatically go into screensaver mode. To exit out of screensaver mode, touch two different corners of the ACP screen sequentially.

##### B. References

| Reference        | Title                                            |
|------------------|--------------------------------------------------|
| 32-09-00-860-802 | Return the Airplane to the Ground Mode (P/B 201) |
| 46-13-02-970-803 | LRU Reports (P/B 201)                            |

##### C. Prepare to View or Report

SUBTASK 23-42-03-860-025

- (1) Make sure that the overhead panel P5-13, CAB/UTIL switch is set to the ON position.

SUBTASK 23-42-03-860-026

- (2) Make sure that the forward ACP and aft ACP display the "Lighting" information screen.

SUBTASK 23-42-03-860-027

- (3) Make sure that the airplane is set to ground mode (TASK 32-09-00-860-802).

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### D. Procedure

SUBTASK 23-42-03-970-005

(1) At the forward ACP, do the steps that follow to view or report the configuration data:

(a) In the ACP main menu column, push the Maintenance button.

1) Enter password if necessary.

NOTE: Depending on the ACP configuration, you may be required to provide a password. The default password is "1234".

(b) In the Maintenance menu column, push the Config Check button.

(c) In the Control Window, push the Start Check button.

NOTE: When the check completes, the results will display part number information for the ACP's and each Lighting LRU. It displays part numbers for hardware and software, including the following software:

- Operational Software (OPS)
- Configuration Database (CDB)
- Standard Scene (LDB)
- Custom Scene (if applicable)

SUBTASK 23-42-03-970-006

(2) Do these steps to report all configuration data using the ONS:

(a) Push the Save Config Data button in the Control Window.

(b) To report all configuration data for the ACP, do this task: LRU Reports, TASK 46-13-02-970-803.

————— **END OF TASK** —————

### TASK 23-42-03-070-801

## 6. Attendant Control Panel (ACP) - Erasing Mass Storage Area (MSA)

### A. General

(1) This task has instructions to erase the Mass Storage Area (MSA) at the Forward Attendant Control Panel (ACP).

NOTE: Proceed with caution, by using this function, all LSAPs in MSA will be removed.

(2) Throughout the procedure, the ACP may automatically go into screensaver mode. To exit out of screensaver mode, touch two different corners of the ACP screen sequentially.

### B. Erase the Mass Storage Area

SUBTASK 23-42-03-070-001

(1) Do these steps to erase the Mass Storage Area:

(a) Push the Maintenance button in the ACP main menu column.

(b) Enter password if necessary.

NOTE: Depending on the ACP configuration, you may be required to provide a password.

The default password is '1234'.

(c) Push the Data Load button in the Maintenance menu column.

(d) Push the Phase 2 Data Load button in the control window.

(e) Push the Erase MS Area button In the control window.

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- (f) Push the Start button In the control window.

NOTE: The result window will show the progress of the erase process.

———— **END OF TASK** ————

**TASK 23-42-03-210-801**

**7. Attendant Control Panel (ACP) - LCD Touch Screen Display Check**

**A. General**

- (1) This task determines serviceability of the ACP LCD touch screen displays.

**B. References**

| Reference        | Title                                                    |
|------------------|----------------------------------------------------------|
| 23-42-03-000-801 | Cabin Attendant LCD Control Panel Removal (P/B 401)      |
| 23-42-03-400-801 | Cabin Attendant LCD Control Panel Installation (P/B 401) |

**C. LCD Touch Screen Display Check Procedure**

**SUBTASK 23-42-03-210-001**

- (1) Make sure that the LCD touch screen display is clear to read.

**SUBTASK 23-42-03-210-002**

- (2) Count the number of defective pixels on the LCD screen of the ACP.
- (a) Make sure there are no more than four defective pixels in total with no more than two defective pixels adjacent to each other.

NOTE: Defective is defined as a pixel that does not display the intended color with respect to adjacent pixels.

- 1) If the LCD touch screen does not meet this criteria, replace the ACP:
- a) Do this task: Cabin Attendant LCD Control Panel Removal, TASK 23-42-03-000-801.
- b) Do this task: Cabin Attendant LCD Control Panel Installation, TASK 23-42-03-400-801.

———— **END OF TASK** ————

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ATTENDANT LCD CONTROL PANEL - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the cabin attendant Liquid Crystal Display (LCD) control panel
  - (2) An installation of the cabin attendant LCD control panel.
- B. The forward and aft cabin attendant control panels are installed on the aft face of the lavatory wall.
- C. When the aft attendant's panel is removed the emergency lighting will come on. This will drain the emergency lighting battery packs in approximately 10-15 minutes. These battery packs must be recharged before the airplane can be released for flight.
- (1) The appropriate connector pins for the aft attendant control panel can be shorted to use less power from the battery packs.

**TASK 23-42-03-000-801**

2. Cabin Attendant LCD Control Panel Removal

(Figure 401)

A. **References**

| Reference        | Title                                                  |
|------------------|--------------------------------------------------------|
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201) |

B. **Location Zones**

| Zone | Area                                                                            |
|------|---------------------------------------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left                                   |
| 221  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left |
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left      |

C. **Access Panels**

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

D. **Prepare for the Removal**

SUBTASK 23-42-03-860-013

- (1) Turn off emergency lights.
  - (a) Make sure that these circuit breakers are closed:

**CAPT Electrical System Panel, P18-3**

| Row | Col | Number | Name                                |
|-----|-----|--------|-------------------------------------|
| A   | 10  | C01357 | PASS CABIN LIGHTING EMER CHGR L AFT |
| A   | 11  | C00250 | PASS CABIN LIGHTING EMER CHGR FWD   |
| B   | 10  | C01358 | PASS CABIN LIGHTING EMER CHGR R AFT |

- (b) Set the EMER EXIT LIGHTS switch, on the P5 overhead panel, to the ARMED position.
  - 1) Make sure that the applicable EMERGENCY LIGHTING CONTROL switch, on the attendant panel, is in the NORMAL position.

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SUBTASK 23-42-03-860-014

- (2) Open these circuit breakers and install safety tags:

### CAPT Electrical System Panel, P18-3

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>               |
|------------|------------|---------------|---------------------------|
| A          | 9          | C00073        | PASSENGER CABIN CREW CALL |
| D          | 19         | C01423        | VACUUM WASTE              |

### F/O Electrical System Panel, P6-1

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| C          | 6          | C01583        | ENTERTAINMENT PA SYS BAT   |
| D          | 4          | C00082        | COMMUNICATIONS PA AMPL BAT |
| D          | 12         | C01936        | ATTENDANT PANELS           |

### F/O Electrical System Panel, P6-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>    |
|------------|------------|---------------|----------------|
| D          | 21         | C00084        | INTPH AND WARN |

### F/O Electrical System Panel, P6-5

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>       |
|------------|------------|---------------|-------------------|
| B          | 18         | C01949        | CABIN EMER LIGHTS |

SUBTASK 23-42-03-010-001

- (3) To get access to the P91 panel, open this access panel:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

SUBTASK 23-42-03-860-028



WHEN YOU OPEN THE P91 AND P92 PANELS, MAKE SURE THAT THE OUTER DOOR STAYS AS OPEN AS POSSIBLE. IF THE OUTER DOOR TURNS IN, THE ATTACHED DOOR COMPONENTS COULD TOUCH THE INNER DOOR COMPONENTS. THIS CAN CAUSE AN ARC CONDITION WHEN YOU SUPPLY POWER. IF YOU DO NOT OBEY, DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.



DO NOT TOUCH THE CONDUCTORS IN THE P91 AND P92 PANELS. BE CAREFUL WHEN YOU GET ACCESS TO THE CIRCUIT BREAKERS ON THE INNER SIDE OF THE P91 AND P92 PANELS (ROW F). IF IT IS POSSIBLE, REMOVE AIRPLANE ELECTRICAL POWER FIRST. THE P91 AND P92 PANELS HAVE HIGH VOLTAGES AND CURRENTS. ELECTRICAL VOLTAGE AND CURRENT CAN KILL YOU OR CAUSE INJURIES.

- (4) Open these circuit breakers and install safety tags:

### Power Distribution Panel Number 1, P91

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>        |
|------------|------------|---------------|--------------------|
| C          | 3          | C00140        | WORK AND THSHD LTS |
| C          | 9          | C00138        | WATER QTY IND      |

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These circuit breakers are inoperative and should remain open:

**Power Distribution Panel Number 1, P91**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| C          | 1          | C01350        | THRESHOLD LTS (INOP) |
| E          | 11         | C00413        | BRT ENTRY LTS (INOP) |

SUBTASK 23-42-03-910-001



OBEY THE ELECTROSTATIC DISCHARGE PROCEDURES TO HANDLE THE WINDOW HEAT CONTROL UNIT. DAMAGE TO THE WINDOW HEAT CONTROL UNIT CAN OCCUR.

(5) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

**E. Cabin Attendant LCD Control Panel Removal**

SUBTASK 23-42-03-020-001

(1) Do these steps to remove the shroud [2]:

- (a) Remove the screws [4] from the bottom of the panel shroud [2].
- (b) Pull the shroud [2] from the attendant panel [1].

SUBTASK 23-42-03-020-003

(2) Do these steps to remove the attendant panel [1]:

- (a) Remove the screws [3] from the bottom of the attendant panel [1].
- (b) Loosen the screws [3] at the top of the attendant panel [1].



BE CAREFUL WHEN YOU REMOVE OR INSTALL THE PANEL. IF YOU ARE NOT CAREFUL, YOU CAN CAUSE DAMAGE TO THE ELECTRICAL CABLES AT THE REAR OF THE PANEL.

- (c) Lift the attendant panel [1] and pull forward to disconnect the electrical connector.
- (d) Remove the screw [6], washers [7], and clamps [8] from the back of the attendant panel [1].
- (e) Disconnect the electrical connector [5] from the attendant panel [1].
- (f) If necessary, install a jumper wire between the electrical connector [5] pins E16 and D17.  
NOTE: The jumper wire will keep the emergency lights off to use less power.
- (g) Remove the attendant panel [1].

————— **END OF TASK** —————

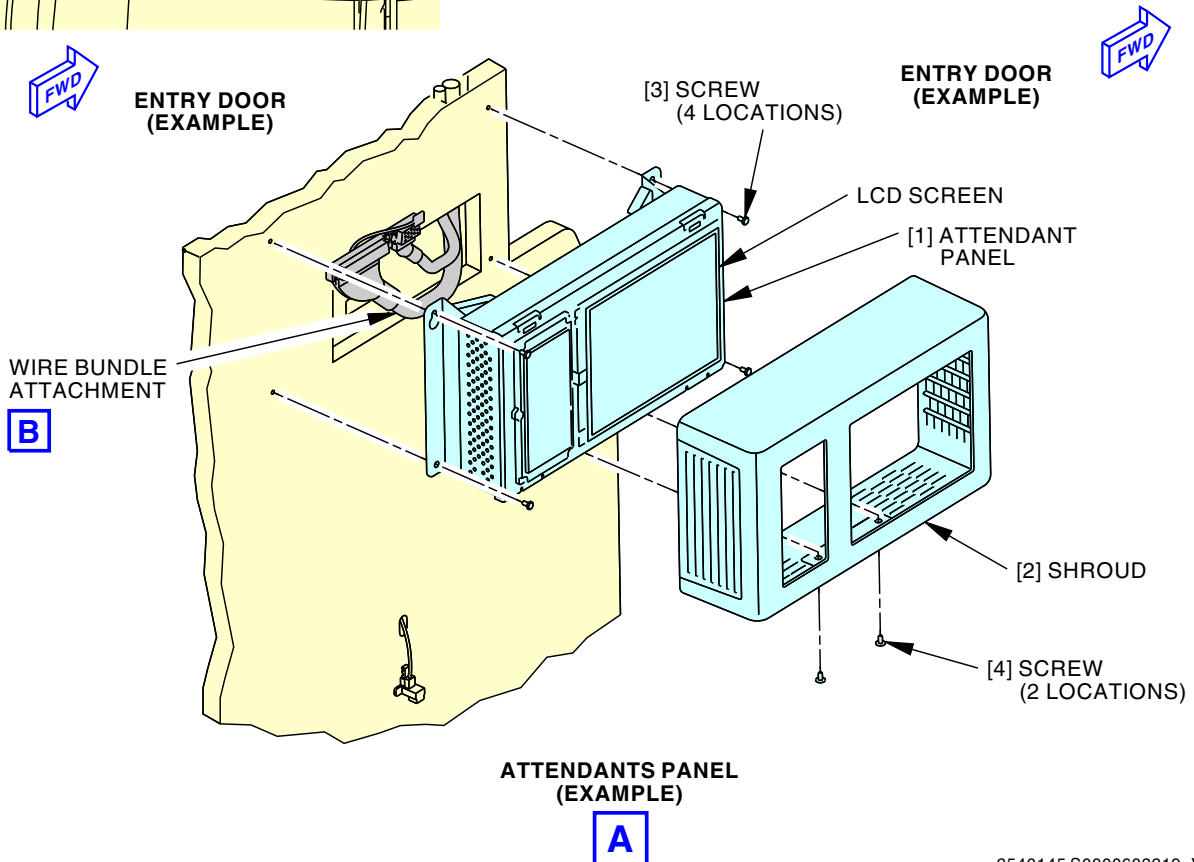
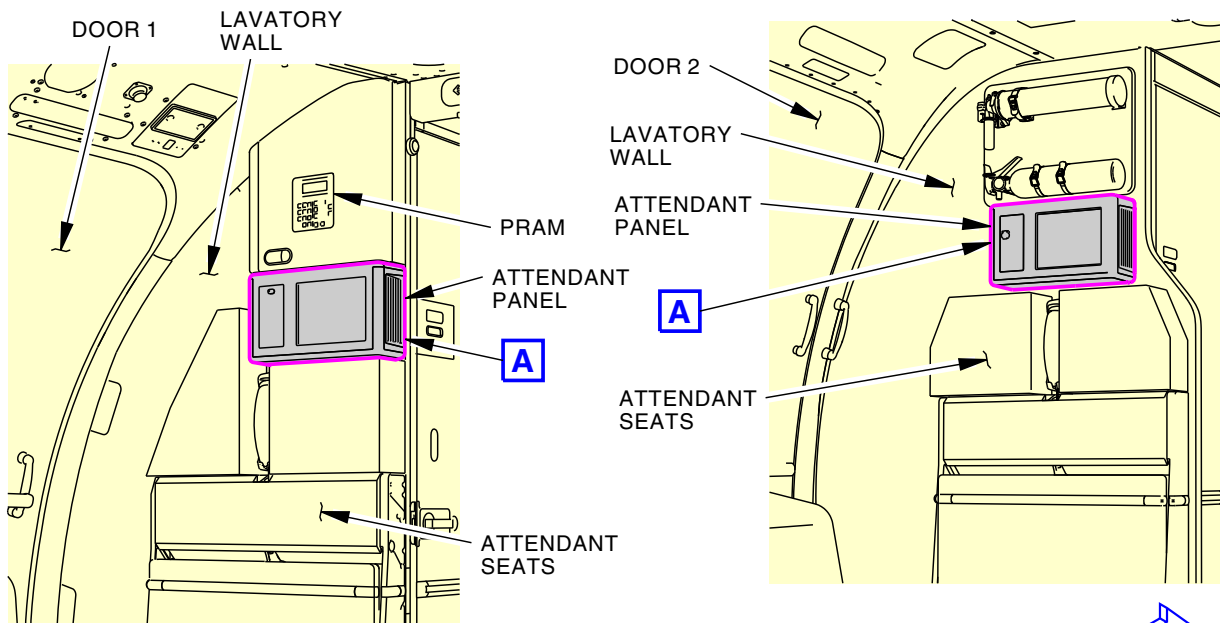
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2540145 S0000603319\_V1

Cabin Attendant LCD Control Panel Installation  
Figure 401/23-42-03-990-801 (Sheet 1 of 2)

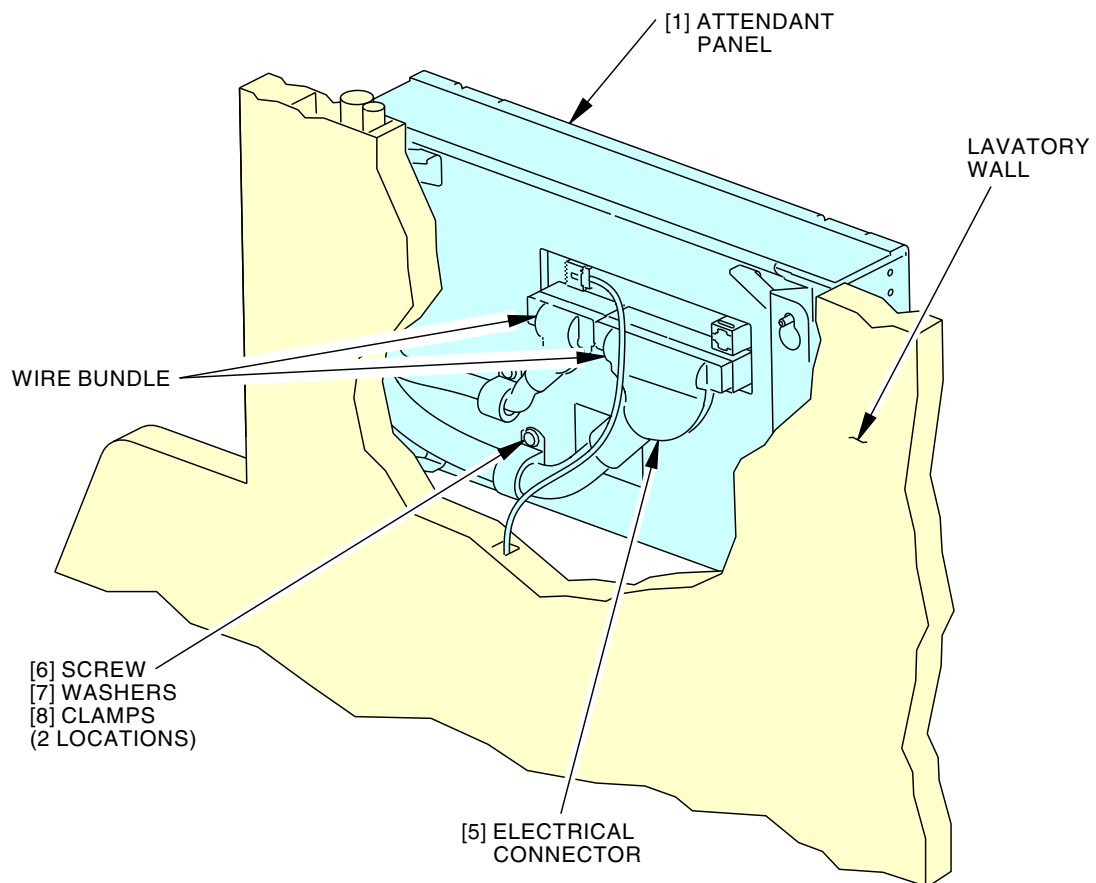
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**WIRE BUNDLE ATTACHMENT**



2411915 S00061529455\_V1

**Cabin Attendant LCD Control Panel Installation**  
**Figure 401/23-42-03-990-801 (Sheet 2 of 2)**

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### TASK 23-42-03-400-801

#### 3. Cabin Attendant LCD Control Panel Installation

(Figure 401)

##### A. General

- (1) This task has instructions to install the cabin attendant control panel (referred to as attendant panel [1]).

##### B. References

| Reference        | Title                                                         |
|------------------|---------------------------------------------------------------|
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201)   |
| 23-42-03-470-801 | Attendant Control Panel (ACP) - Software Loading (P/B 201)    |
| 23-42-03-700-801 | Attendant Control Panel (ACP) - Configuration Check (P/B 201) |
| 23-42-03-710-801 | Attendant Control Panel - Operational Test (P/B 501)          |
| 33-20-00-710-801 | Passenger Compartment Lights - Operational Test (P/B 501)     |
| 33-51-00-720-801 | Emergency Lights Operational Test (P/B 501)                   |
| 33-51-06-610-801 | Power Supply - Charge the Battery Packs (P/B 201)             |

##### C. Expendables/Parts

| AMM Item | Description     | AIPC Reference  | AIPC Effectivity |
|----------|-----------------|-----------------|------------------|
| 1        | Attendant panel | 23-42-03-01-050 | SIA ALL          |
|          |                 | 23-42-03-50-050 | SIA ALL          |

##### D. Location Zones

| Zone | Area                                                                            |
|------|---------------------------------------------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left                                   |
| 221  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Left |
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left      |

##### E. Access Panels

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

##### F. Prepare for the Installation

SUBTASK 23-42-03-860-015



OBEY THE ELECTROSTATIC DISCHARGE PROCEDURES TO HANDLE THE WINDOW HEAT CONTROL UNIT. DAMAGE TO THE WINDOW HEAT CONTROL UNIT CAN OCCUR.

- (1) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

##### G. Cabin Attendant LCD Control Panel Installation

SUBTASK 23-42-03-420-001

- (1) Do these steps to install the attendant panel [1]:
  - (a) If installed, remove the jumper wire from the electrical connector [5].
  - (b) Connect the electrical connector [5] to the attendant panel [1].
  - (c) Install the screws [6], washers [7], and clamps [8] to the attendant panel [1].
  - (d) Position the attendant panel [1] on the top screws [3] on the wall.
  - (e) Install the bottom screws [3] to the attendant panel [1].

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- (f) Tighten the screws [3] attaching the attendant panel [1] to the wall.

SUBTASK 23-42-03-420-006

- (2) (3) Do these steps to install the shroud [2]:
- (a) Position the shroud [2] on the attendant panel [1].
  - (b) Install the bottom screws [4] that attach the shroud [2] to the attendant panel [1].

### H. Cabin Attendant LCD Control Panel Installation Test

SUBTASK 23-42-03-860-016

- (1) Remove the safety tags and close these circuit breakers:

#### CAPT Electrical System Panel, P18-3

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>               |
|------------|------------|---------------|---------------------------|
| A          | 9          | C00073        | PASSENGER CABIN CREW CALL |
| D          | 19         | C01423        | VACUUM WASTE              |

#### F/O Electrical System Panel, P6-1

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| C          | 6          | C01583        | ENTERTAINMENT PA SYS BAT   |
| D          | 4          | C00082        | COMMUNICATIONS PA AMPL BAT |
| D          | 12         | C01936        | ATTENDANT PANELS           |

#### F/O Electrical System Panel, P6-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>    |
|------------|------------|---------------|----------------|
| D          | 21         | C00084        | INTPH AND WARN |

#### F/O Electrical System Panel, P6-5

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>       |
|------------|------------|---------------|-------------------|
| B          | 18         | C01949        | CABIN EMER LIGHTS |

SUBTASK 23-42-03-860-029



WHEN YOU OPEN THE P91 AND P92 PANELS, MAKE SURE THAT THE OUTER DOOR STAYS AS OPEN AS POSSIBLE. IF THE OUTER DOOR TURNS IN, THE ATTACHED DOOR COMPONENTS COULD TOUCH THE INNER DOOR COMPONENTS. THIS CAN CAUSE AN ARC CONDITION WHEN YOU SUPPLY POWER. IF YOU DO NOT OBEY, DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.



DO NOT TOUCH THE CONDUCTORS IN THE P91 AND P92 PANELS. BE CAREFUL WHEN YOU GET ACCESS TO THE CIRCUIT BREAKERS ON THE INNER SIDE OF THE P91 AND P92 PANELS (ROW F). IF IT IS POSSIBLE, REMOVE AIRPLANE ELECTRICAL POWER FIRST. THE P91 AND P92 PANELS HAVE HIGH VOLTAGES AND CURRENTS. ELECTRICAL VOLTAGE AND CURRENT CAN KILL YOU OR CAUSE INJURIES.

- (2) Remove the safety tags and close these circuit breakers:

#### Power Distribution Panel Number 1, P91

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>        |
|------------|------------|---------------|--------------------|
| C          | 3          | C00140        | WORK AND THSHD LTS |
| C          | 9          | C00138        | WATER QTY IND      |

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These circuit breakers are inoperative and should remain open:

**Power Distribution Panel Number 1, P91**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| C          | 1          | C01350        | THRESHOLD LTS (INOP) |
| E          | 11         | C00413        | BRT ENTRY LTS (INOP) |

SUBTASK 23-42-03-410-001

- (3) Close this access panel:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

**I. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-42-03-710-003

- (1) Do this task: Emergency Lights Operational Test, TASK 33-51-00-720-801.

SUBTASK 23-42-03-860-017

- (2) If it is necessary, do this task: Power Supply - Charge the Battery Packs, TASK 33-51-06-610-801.

SUBTASK 23-42-03-860-018

- (3) Do this task: Passenger Compartment Lights - Operational Test, TASK 33-20-00-710-801.

SUBTASK 23-42-03-710-004

- (4) Do this task: Attendant Control Panel (ACP) - Configuration Check, TASK 23-42-03-700-801.

SUBTASK 23-42-03-860-019

- (5) If it is necessary, do this task: Attendant Control Panel (ACP) - Software Loading, TASK 23-42-03-470-801.

SUBTASK 23-42-03-710-005

- (6) Do this task: Attendant Control Panel - Operational Test, TASK 23-42-03-710-801.

———— **END OF TASK** ————

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ATTENDANT CONTROL PANEL - ADJUSTMENT/TEST

1. **General**

- A. This procedure has these tasks:
- (1) Attendant Control Panel Operational Test
  - (2) Attendant Control Panel (ACP) BITE Procedure

**TASK 23-42-03-710-801**

2. **Attendant Control Panel - Operational Test**

**A. General**

- (1) This task makes sure the Attendant Control Panel (ACP) operates correctly.
- (2) The ACP controls and monitors several systems on the airplane. The ACP operational test consists of the tests for all systems that the ACP is associated with.

**B. References**

| Reference                               | Title                                                |
|-----------------------------------------|------------------------------------------------------|
| 23-42-00-710-801                        | Cabin Interphone System - Operational Test (P/B 501) |
| IFIM and do the applicable procedure(s) | Interactive Fault Isolation Manual                   |

**C. Procedure**

**SUBTASK 23-42-03-700-004**

- (1) Do the power-up test for the ACP:  
NOTE: After power-up, the Over-Temperature LED will turn on for 2 seconds and then turn off.
- (a) Open and close this circuit breaker:

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name             |
|-----|-----|--------|------------------|
| D   | 12  | C01936 | ATTENDANT PANELS |

- (b) Make sure that the LED at the upper left corner of the Integrated Switch Assembly (ISA).  
NOTE: The LED should turn on in the first 2 seconds after power-up and then turn off.
  - 1) If the LED light (amber) does not turn on in the first 2 seconds after power-up, refer to: IFIM and do the applicable procedure(s).
  - 2) If the LED light continues to stay on after power-up, refer to: IFIM and do the applicable procedure(s).
- (c) Make sure that the ACP Touch Screen responds to input.
  - 1) If the ACP Touch Screen does not respond to any inputs, refer to: IFIM and do the applicable procedure(s).

**SUBTASK 23-42-03-710-001**

- (2) Do this task: Cabin Interphone System - Operational Test, TASK 23-42-00-710-801

**SUBTASK 23-42-03-710-002**

- (3) Do the test for the Water/Waste system at the AFT ACP:
  - (a) Push the ENVIRONMENT menu at the AFT ACP.
    - 1) Make sure that you see the indicators for Potable Water, Vacuum Waste and LAV INOP.

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- 2) Make sure the Potable Water and Vacuum Waste indicators show the actual system levels.

————— END OF TASK —————

**TASK 23-42-03-740-801**

**3. Attendant Control Panel (ACP) - BITE Procedure**

**A. General**

- (1) This procedure provides the system test for the Attendant Control Panels (ACPs). The system test is performed at the forward ACP.
  - (a) For the system test, the forward ACP will initiate the BITE test on both the forward and the aft ACPs. The BITE test will check the ACPs for internal faults and their communication status. The forward ACP will then query the light LRU's for fault information. If there are ACP or lighting faults, the ACP will show the faults at the end of the test.
- (2) The procedure also provides the task to view faults that are generated during data loading.

**B. References**

| Reference                               | Title                              |
|-----------------------------------------|------------------------------------|
| IFIM and do the applicable procedure(s) | Interactive Fault Isolation Manual |

**C. System Test Procedure**

SUBTASK 23-42-03-730-001

- (1) At the forward ACP, do the steps that follow to start the system test:
  - (a) In the ACP main menu column, push the Maintenance button.
  - (b) In the Maintenance menu column, push the System Test button.
  - (c) In the control window, push the Start Test button.

NOTE: When the system test operates, the System Test and Start Test buttons are active, the other buttons become disabled and the status bar will display the approximate percent complete. When the test completes, the System Test and the Start Test buttons remain active and other buttons will be available for selection.
  - (d) Check the result window for the system test faults.

NOTE: The result window will show the faults with their maintenance message numbers and corrective actions. If there are no faults, a message will be displayed to indicate that there are no system test faults.
  - (e) To correct the faults, do the actions recommended on the screen or use the maintenance message number and refer to the IFIM and do the applicable procedure(s).

————— END OF TASK —————

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ATTENDANT CONTROL PANEL - CLEANING/PAINTING

1. General

A. This procedure has this task:

- (1) Attendant Control Panel (ACP) Touchscreen Cleaning

**TASK 23-42-03-100-802**

2. Attendant Control Panel (ACP) Touchscreen Cleaning

A. **General**

- (1) This task has instructions to clean the LCD touchscreen.

B. **Consumable Materials**

| Reference | Description         | Specification |
|-----------|---------------------|---------------|
| B50073    | Alcohol - Isopropyl | ASTM D 770    |
| G01043    | Cloth - Lint-free   |               |

C. **LCD Touchscreen Cleaning Procedure**

SUBTASK 23-42-03-160-001

- (1) Clean the LCD Touchscreen:

- (a) Push the Clean screen button in the Display menu.  
(b) Clean the LCD Touchscreen assembly with a lint-free cloth, G01043 and alcohol, B50073.

NOTE: Lint-free cloth wipers with alcohol are permitted.

———— **END OF TASK** ————

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**INLINE FILTER - REMOVAL/INSTALLATION**

**1. General**

- A. This procedure has these tasks:
- (1) Removal of an inline filter.
  - (2) Installation of an inline filter.
- B. The inline filters are installed above the ceiling in the forward and aft sections of the passenger compartment.

**TASK 23-42-04-000-801**

**2. Inline Filter Removal**

Figure 401

**A. References**

| <u>Reference</u> | <u>Title</u>                                           |
|------------------|--------------------------------------------------------|
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201) |
| 25-21-45-000-801 | Main Ceiling Panel - Removal (P/B 401)                 |

**B. Expendables/Parts**

| <u>AMM Item</u> | <u>Description</u> | <u>AIPC Reference</u> | <u>AIPC Effectivity</u> |
|-----------------|--------------------|-----------------------|-------------------------|
| 1               | Inline filter      | 23-42-04-01-025       | SIA ALL                 |
|                 |                    | 23-42-04-05-025       | SIA ALL                 |

**C. Location Zones**

| <u>Zone</u> | <u>Area</u>                                                                      |
|-------------|----------------------------------------------------------------------------------|
| 222         | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right |
| 241         | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left       |

**D. Removal Procedure**

**SUBTASK 23-42-04-840-001**

- (1) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-3**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>               |
|------------|------------|---------------|---------------------------|
| A          | 9          | C00073        | PASSENGER CABIN CREW CALL |

**F/O Electrical System Panel, P6-1**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>      |
|------------|------------|---------------|------------------|
| D          | 12         | C01936        | ATTENDANT PANELS |

**SUBTASK 23-42-04-010-001**

- (2) To get access to the inline filter, do this task: Main Ceiling Panel - Removal, TASK 25-21-45-000-801.

**SUBTASK 23-42-04-840-002**

- (3) Before you touch the inline filter, do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

**SUBTASK 23-42-04-020-001**

- (4) Do the steps that follow to remove the inline filter [1]:
- (a) Disconnect the electrical connector from the inline filter [1].

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- (b) Remove the four screws [2] that attach the inline filter [1] to the mounting bracket.
- (c) Remove the inline filter [1].

———— **END OF TASK** ————

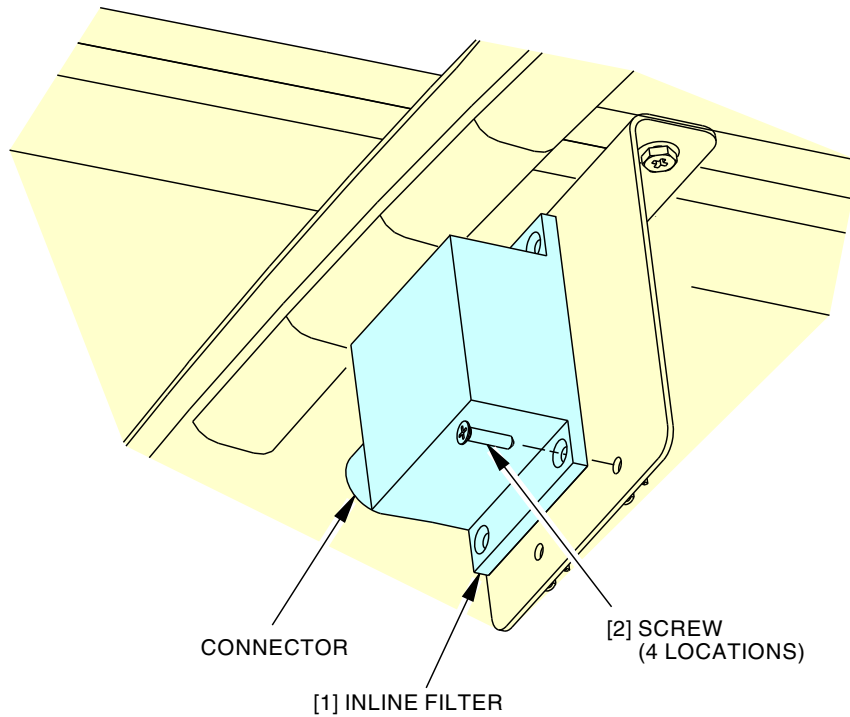
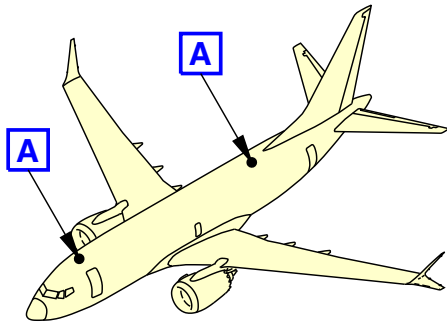
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**A**

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**INLINE FILTER INSTALLATION**  
Figure 401/23-42-04-990-801

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TASK 23-42-04-400-801

3. Inline Filter Installation

Figure 401

A. References

| Reference        | Title                                                  |
|------------------|--------------------------------------------------------|
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201) |
| 23-42-00-710-801 | Cabin Interphone System - Operational Test (P/B 501)   |
| 25-21-45-400-801 | Main Ceiling Panel - Installation (P/B 401)            |

B. Expendables/Parts

| AMM Item | Description   | AIPC Reference  | AIPC Effectivity |
|----------|---------------|-----------------|------------------|
| 1        | Inline filter | 23-42-04-01-025 | SIA ALL          |
|          |               | 23-42-04-05-025 | SIA ALL          |

C. Location Zones

| Zone | Area                                                                             |
|------|----------------------------------------------------------------------------------|
| 222  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right |
| 241  | Aft Passenger Compartment - Station 663.75 to Aft Pressure Bulkhead - Left       |

D. Installation Procedure

SUBTASK 23-42-04-840-003

- (1) Make sure that these circuit breakers are open and have safety tags:

**CAPT Electrical System Panel, P18-3**

| Row | Col | Number | Name                      |
|-----|-----|--------|---------------------------|
| A   | 9   | C00073 | PASSENGER CABIN CREW CALL |

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name             |
|-----|-----|--------|------------------|
| D   | 12  | C01936 | ATTENDANT PANELS |

SUBTASK 23-42-04-840-004

- (2) Before you touch the inline filter, do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-42-04-420-001

- (3) Do the steps that follow to install the inline filter [1]:
- (a) Attach the inline filter [1] to the mounting bracket with the screws [2] from the removal.
  - (b) Connect the electrical connector to the inline filter [1].

SUBTASK 23-42-04-410-001

- (4) Install the main ceiling panel:
- Do this task: Main Ceiling Panel - Installation, TASK 25-21-45-400-801.

SUBTASK 23-42-04-840-005

- (5) Remove the safety tags and close these circuit breakers:

**CAPT Electrical System Panel, P18-3**

| Row | Col | Number | Name                      |
|-----|-----|--------|---------------------------|
| A   | 9   | C00073 | PASSENGER CABIN CREW CALL |

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F/O Electrical System Panel, P6-1

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>      |
|------------|------------|---------------|------------------|
| D          | 12         | C01936        | ATTENDANT PANELS |

E. Installation Test

SUBTASK 23-42-04-700-001

- (1) Do voice communication test between the flight compartment and the attendant stations and make sure you can hear the voice clearly. Refer to the task: Cabin Interphone System - Operational Test, TASK 23-42-00-710-801.

————— END OF TASK —————

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FLIGHT AND GROUND CREW CALL SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has this task:

- (1) Flight and Ground Crew Call System - Operational Test.

**TASK 23-43-00-710-801**

2. Flight and Ground Crew Call System - Operational Test

A. **Location Zones**

| Zone | Area |
|------|------|
|------|------|

|     |                                     |
|-----|-------------------------------------|
| 115 | Nose Landing Gear Wheel Well - Left |
| 211 | Flight Compartment - Left           |
| 212 | Flight Compartment - Right          |

B. **Flight and Ground Crew Call System Operational Test**

**SUBTASK 23-43-00-710-001**

(1) Do an operational test of the forward attendant to the aft attendant call:

- (a) Do these steps from each forward attendant handset to each aft attendant handset.
  - 1) Push the button for attendant on the handset at the forward attendant's station.
    - a) Make sure that you hear a chime on the PA speakers.
    - b) Make sure that the aft pink attendant call light comes on.
  - 2) Push the button for reset on the handset at the aft attendant's station.
    - a) Make sure that the attendant call light goes off.
  - 3) Speak into the forward attendant's handset.
    - a) Make sure that you can hear voices on the aft attendant's handset.
  - 4) Speak into the aft attendant's handset.
    - a) Make sure that you can hear voices on the forward attendant's handset.

**SUBTASK 23-43-00-710-002**

(2) Do an operational test of the aft attendant to the forward attendant call:

- (a) Do these steps from each aft attendant handset to each forward attendant handset.
  - 1) Push the button for attendant on the handset at the aft attendant's station.
    - a) Make sure that you hear a chime on the PA speakers.
    - b) Make sure that the pink attendant call light at the forward attendant's station comes on.
  - 2) Push the button for reset on the handset at the forward attendant's station.
    - a) Make sure that the attendant call light goes off.

**SUBTASK 23-43-00-710-003**

(3) Do an operational test of the flight crew to the attendant call:

- (a) Push the ATTEND button on the P5 Overhead Panel.
  - 1) Make sure that the pink attendant call lights at the forward and aft attendant's stations come on.
  - 2) Make sure that you hear a two-tone chime in the passenger cabin.
- (b) Push the button for reset on the handset at the forward attendant's station.

EFFECTIVITY  
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- 1) Make sure that the attendant call light goes off.

### SUBTASK 23-43-00-710-004

- (4) Do an operational test of the attendant to the flight crew call:
  - (a) Do these steps from each forward attendant handset and from each aft attendant handset.
    - 1) Push the button for the pilot on the forward or aft attendant's handset.
      - a) Make sure that you hear a chime in the flight compartment.
      - b) Make sure that the CABIN interphone call light on each audio control panel comes on.
      - c) Make sure that the CABIN microphone selector switch is depressed on the audio control panels.
    - 2) Speak into the attendant's handset.
      - a) Make sure that you can hear voices on the pilot's headset.
    - 3) Speak into the pilot's boom microphone.
      - a) Make sure that you can hear voices on the attendant's handset.

### SUBTASK 23-43-00-710-005



DO NOT WEAR THE HEADSET OR TOUCH ANY UMBILICAL CONNECTIONS TO THE AIRPLANE DURING ATMOSPHERIC ELECTRICAL DISTURBANCES. A LIGHTNING STRIKE CAN CAUSE DANGEROUS INJURY TO PERSONS.

- (5) Do an operational test of the ground crew call horn:
  - (a) Push and hold the GRD CALL button on the P5 Overhead Panel in the flight compartment.
    - 1) Make sure that you hear the ground crew call horn at the nose wheel well area.
  - (b) Release the GRD CALL button.

### SUBTASK 23-43-00-710-007

- (6) Do the operational test of the external power panel, P19:
  - (a) Push and hold the PILOT CALL button on the external power P19 panel at the nose wheel well area.
    - 1) Make sure that you hear a chime in the flight compartment.
    - 2) Make sure that the flight interphone call light on each audio control panel comes on. The flight interphone is labeled Flt, Int, or Flt Int.
  - (b) Release the PILOT CALL button.

### SIA 013-999; SIA 001-012 POST SB 737-24-1236

### SUBTASK 23-43-00-710-008

- (7) Do an operation test of the nose wheel well interphone box:



DO NOT WEAR THE HEADSET OR TOUCH ANY UMBILICAL CONNECTIONS TO THE AIRPLANE DURING ATMOSPHERIC ELECTRICAL DISTURBANCES. A LIGHTNING STRIKE CAN CAUSE DANGEROUS INJURY TO PERSONS.

- (a) Connect a headset to the interphone box jack.

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**SIA 013-999; SIA 001-012 POST SB 737-24-1236 (Continued)**

- (b) Push and hold the FLIGHT DECK CALL button on the interphone box.
  - 1) Make sure that you hear a chime in the flight compartment.
  - 2) Release the FLIGHT DECK CALL button.
- (c) Push and hold the Push-To-Talk (PTT) switch on the interphone box headset.
  - 1) Speak into the interphone box headset.
  - 2) Make sure that you hear a voice on the flight compartment.
  - 3) Release the PTT switch on the interphone box headset.
- (d) On the first officer control wheel, set and hold the PTT switch to the INT position.
  - 1) Speak into the first officer microphone.
  - 2) Make sure that you hear a voice on the interphone box headset.
  - 3) Release the PTT switch to the OFF position.
- (e) Disconnect the headset from the interphone box jack.

———— **END OF TASK** ————

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GROUND CREW CALL HORN - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Ground crew call horn removal.
  - (2) Ground crew call horn installation.
- B. The ground crew call horn is installed at the nose wheel well area.

**TASK 23-43-02-000-801**

2. Ground Crew Call Horn Removal

(Figure 401)

A. **References**

| Reference        | Title                                             |
|------------------|---------------------------------------------------|
| 32-00-01-480-801 | Landing Gear Downlock Pins Installation (P/B 201) |

B. **Location Zones**

| Zone | Area                                |
|------|-------------------------------------|
| 115  | Nose Landing Gear Wheel Well - Left |

C. **Ground Crew Call Horn Removal**

SUBTASK 23-43-02-760-001

- (1) Open this circuit breaker and install safety tag:

**CAPT Electrical System Panel, P18-3**

| Row | Col | Number | Name                      |
|-----|-----|--------|---------------------------|
| A   | 9   | C00073 | PASSENGER CABIN CREW CALL |

SUBTASK 23-43-02-020-001

- (2) Remove the ground crew call horn [1]:



MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR BEFORE YOU REMOVE THE GROUND-CREW CALL HORN. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (a) Make sure that the downlock pins are installed on the nose and main landing gear (TASK 32-00-01-480-801).
- (b) Remove the bolts [3] and washers [2] from the ground crew call horn [1].
- (c) Pull the ground crew call horn [1] out until access to the terminals can be gotten.
- (d) Remove the nuts [4] from the ground crew call horn [1] terminals.
- (e) Disconnect the electrical connectors [5] from the ground crew call horn [1] terminals.
- (f) Remove the ground crew call horn [1].

———— **END OF TASK** ————

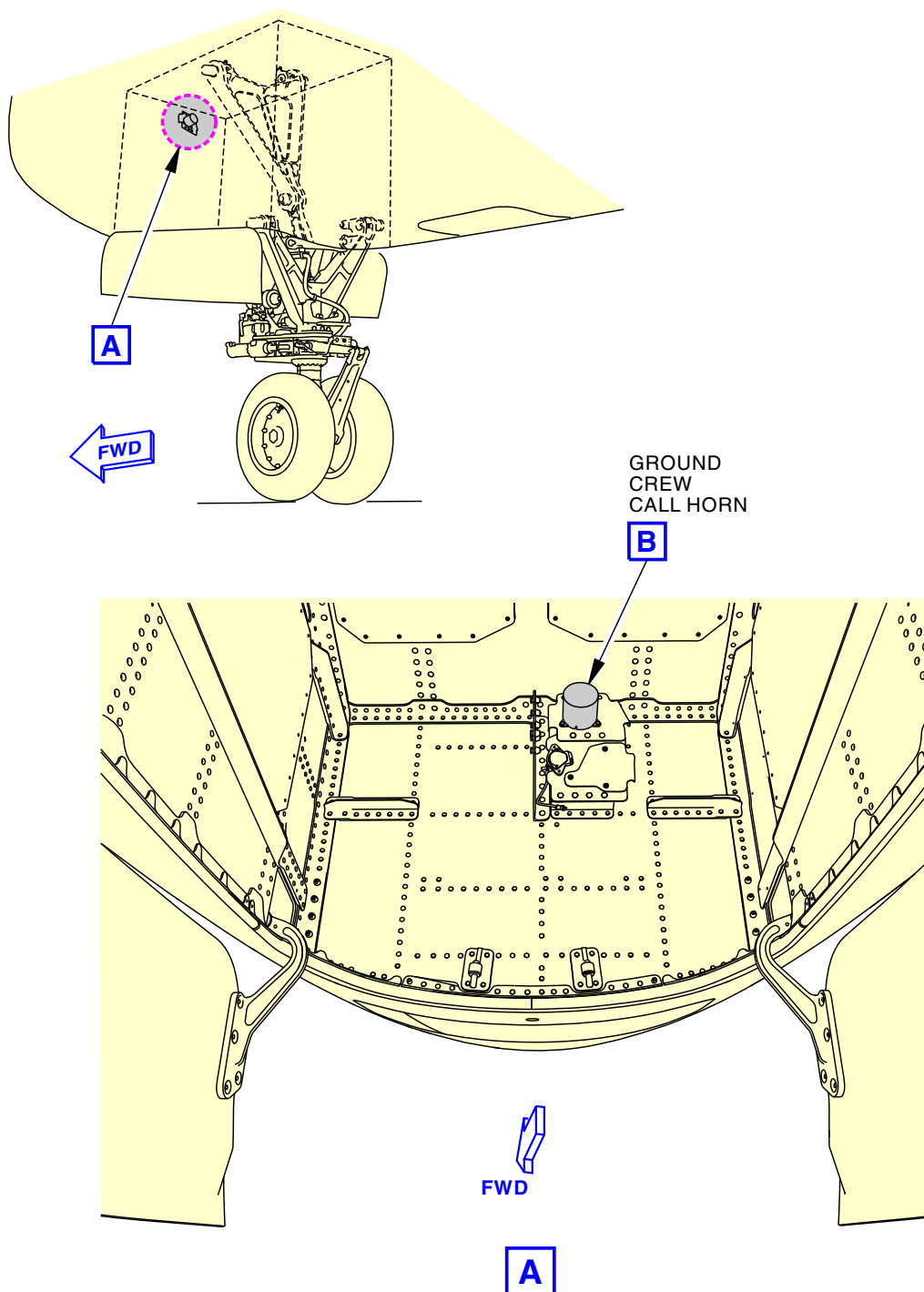
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**Ground Crew Call Horn Installation**  
**Figure 401/23-43-02-990-801 (Sheet 1 of 2)**

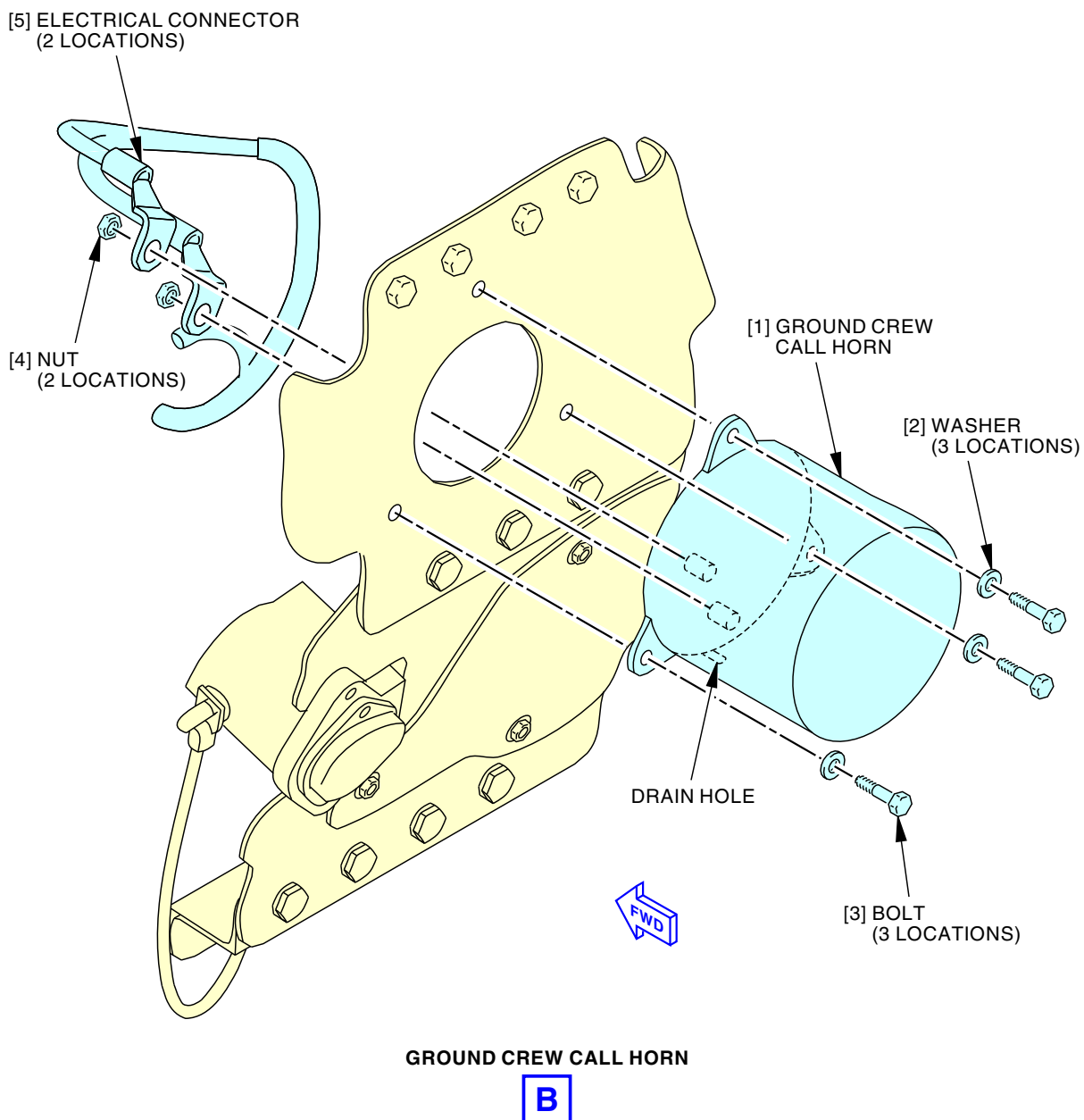
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Ground Crew Call Horn Installation  
Figure 401/23-43-02-990-801 (Sheet 2 of 2)

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TASK 23-43-02-420-801

3. Ground Crew Call Horn Installation

(Figure 401)

A. References

| Reference        | Title                                             |
|------------------|---------------------------------------------------|
| 32-00-01-480-801 | Landing Gear Downlock Pins Installation (P/B 201) |

B. Expendables/Parts

| AMM Item | Description           | AIPC Reference  | AIPC Effectivity |
|----------|-----------------------|-----------------|------------------|
| 1        | Ground crew call horn | 23-43-02-01-005 | SIA ALL          |

C. Location Zones

| Zone | Area                                |
|------|-------------------------------------|
| 115  | Nose Landing Gear Wheel Well - Left |

D. Ground Crew Call Horn Installation

SUBTASK 23-43-02-760-002

- (1) Make sure that this circuit breaker is open and has safety tag:

**CAPT Electrical System Panel, P18-3**

| Row | Col | Number | Name                      |
|-----|-----|--------|---------------------------|
| A   | 9   | C00073 | PASSENGER CABIN CREW CALL |

SUBTASK 23-43-02-420-001

- (2) Install the ground crew call horn [1]:



**WARNING**

MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR BEFORE YOU REMOVE THE GROUND-CREW CALL HORN. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (a) Make sure that the downlock pins are installed on the nose and main landing gear (TASK 32-00-01-480-801).
- (b) Connect the electrical connectors [5] to the ground crew call horn [1] terminals.  
NOTE: The ground crew call horn is polarity sensitive and will not operate if the positive connector is not connected to the positive terminal above the +28V label.
- (c) Install and tighten the nuts [4] that attach the electrical connectors [5] to the ground crew call horn [1] terminals.
- (d) Put the ground crew call horn [1] in its position over the screw holes in the forward area of the nose wheel well.  
1) Make sure that the drain hole points down to let the moisture drain.
- (e) Install the bolts [3] and washers [2] that attach the ground crew call horn [1] to the airplane.

SUBTASK 23-43-02-760-003

- (3) Remove the safety tag and close this circuit breaker:

**CAPT Electrical System Panel, P18-3**

| Row | Col | Number | Name                      |
|-----|-----|--------|---------------------------|
| A   | 9   | C00073 | PASSENGER CABIN CREW CALL |

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**E. Installation Test**

SUBTASK 23-43-02-700-001

- (1) Do an installation test of the ground crew call horn [1]:
  - (a) Push the GRD CALL switch momentarily on the P5 pilot overhead panel.
  - (b) Make sure that the ground crew call horn [1] operates.

———— **END OF TASK** ————

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NOSE WHEEL WELL INTERPHONE BOX - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) Nose Wheel Well Interphone Box Removal,
- (2) Nose Wheel Well Interphone Box Installation.

B. The Nose Wheel Well Interphone Box is installed at the nose wheel well area.

**TASK 23-43-03-000-801**

2. Nose Wheel Well Interphone Box Removal

(Figure 401)

A. General

- (1) This task is for the removal of the nose wheel well interphone box.

B. References

| Reference        | Title                                             |
|------------------|---------------------------------------------------|
| 32-00-01-480-801 | Landing Gear Downlock Pins Installation (P/B 201) |
| 53-14-01-020-801 | Nose Wheel Well Access Panels Removal (P/B 401)   |

C. Location Zones

| Zone | Area                                 |
|------|--------------------------------------|
| 116  | Nose Landing Gear Wheel Well - Right |

D. Access Panels

| Number | Name/Location                 |
|--------|-------------------------------|
| 114AW  | Forward Nose Wheel Well Panel |

E. Prepare for the Interphone Box Removal

SUBTASK 23-43-03-860-001

- (1) Open this circuit breaker and install safety tag:

**CAPT Electrical System Panel, P18-3**

| Row | Col | Number | Name                      |
|-----|-----|--------|---------------------------|
| A   | 9   | C00073 | PASSENGER CABIN CREW CALL |

SUBTASK 23-43-03-860-002



MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS IN THE NOSE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE NOSE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

- (2) Make sure that the downlock pins are installed on the nose landing gear (TASK 32-00-01-480-801).

SUBTASK 23-43-03-010-001

- (3) Remove this access panel (Nose Wheel Well Access Panels Removal, TASK 53-14-01-020-801):

- (a) Remove this access panel:

| Number | Name/Location                 |
|--------|-------------------------------|
| 114AW  | Forward Nose Wheel Well Panel |

EFFECTIVITY  
SIA 013-999; SIA 001-012 POST SB 737-24-1236

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**F. Interphone Box Removal**

SUBTASK 23-43-03-020-001

- (1) Remove the interphone box [1]:
  - (a) Disconnect the electrical connector [4] from the interphone box [1].
  - (b) Remove the bolts [2] and washers [3] from the interphone box [1] and the bulkhead.
  - (c) Remove the interphone box [1] from the bulkhead.

———— **END OF TASK** ————

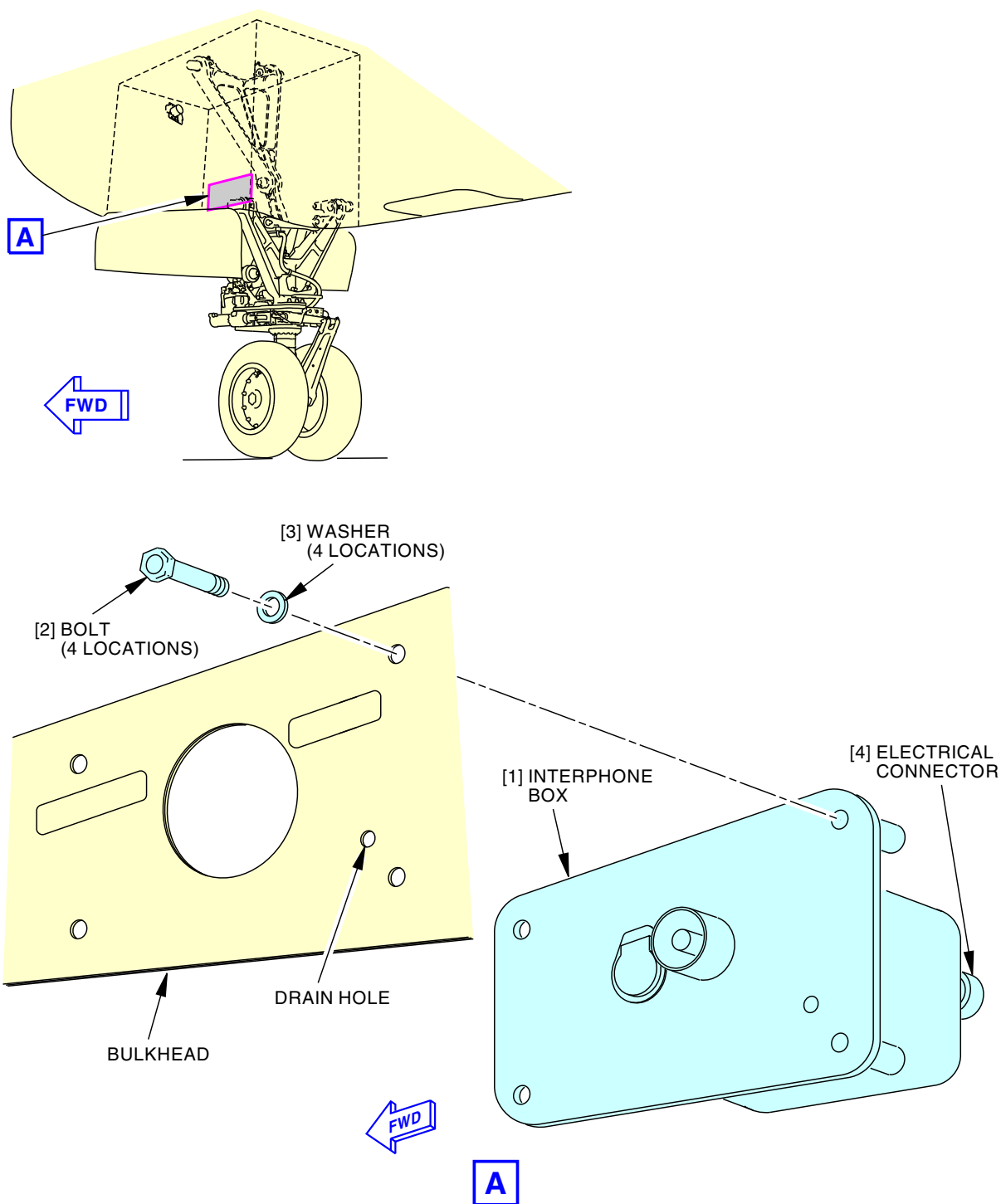
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Nose Wheel Well Interphone Box Installation  
Figure 401/23-43-03-990-801

EFFECTIVITY  
SIA 013-999; SIA 001-012 POST SB 737-24-1236

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TASK 23-43-03-400-801

3. Nose Wheel Well Interphone Box Installation

(Figure 401)

A. General

(1) This task is for the installation of the nose wheel well interphone box.

B. References

| Reference        | Title                                                           |
|------------------|-----------------------------------------------------------------|
| 05-51-91-790-801 | Cabin Pressure Leak Test (P/B 201)                              |
| 23-43-00-710-801 | Flight and Ground Crew Call System - Operational Test (P/B 501) |
| 32-00-01-480-801 | Landing Gear Downlock Pins Installation (P/B 201)               |
| 51-22-00-390-802 | Removable Faying (Mated) Surface Seal Application (P/B 201)     |
| 51-22-00-390-806 | Fillet Seal Application (P/B 201)                               |
| 53-14-01-420-801 | Nose Wheel Well Access Panels Installation (P/B 401)            |

C. Consumable Materials

| Reference | Description                                          | Specification |
|-----------|------------------------------------------------------|---------------|
| A00247    | Sealant - Pressure And Environmental - Chromate Type | BMS5-95       |

D. Expendables/Parts

| AMM Item | Description    | AIPC Reference  | AIPC Effectivity |
|----------|----------------|-----------------|------------------|
| 1        | Interphone box | 23-43-51-01-025 | SIA ALL          |

E. Location Zones

| Zone | Area                                 |
|------|--------------------------------------|
| 116  | Nose Landing Gear Wheel Well - Right |

F. Access Panels

| Number | Name/Location                 |
|--------|-------------------------------|
| 114AW  | Forward Nose Wheel Well Panel |

G. Prepare for the Installation

SUBTASK 23-43-03-860-004



**WARNING**

MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS IN THE NOSE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE NOSE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure that the downlock pins are installed on the nose landing gear (TASK 32-00-01-480-801).

H. Interphone Box Installation

SUBTASK 23-43-03-420-001

(1) Install the interphone box [1]:

EFFECTIVITY  
SIA 013-999; SIA 001-012 POST SB 737-24-1236

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**WARNING**

MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS IN THE NOSE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE NOSE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

- (a) Apply sealant, A00247, between the interphone box [1] and the bulkhead for a faying surface seal (TASK 51-22-00-390-802).
  - 1) Make sure that there is no sealant in the drain hole.
  - 2) Remove excessive sealant after the squeeze out.
- (b) Install the interphone box [1] to the bulkhead with the bolts [2] and washers [3].
- (c) Apply a fillet seal around the interphone box [1] with sealant, A00247 (TASK 51-22-00-390-806).
- (d) Connect the electrical connector [4] to the interphone box [1].

SUBTASK 23-43-03-860-003

- (2) Remove the safety tag and close this circuit breaker:

**CAPT Electrical System Panel, P18-3**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>               |
|------------|------------|---------------|---------------------------|
| A          | 9          | C00073        | PASSENGER CABIN CREW CALL |

**I. Installation Test**

SUBTASK 23-43-03-710-001

- (1) Do an operation test of the nose wheel well interphone box (TASK 23-43-00-710-801).

**J. Put the Airplane Back to its Initial Condition**

SUBTASK 23-43-03-410-001

- (1) Install this access panel (TASK 53-14-01-420-801):

- (a) Install this access panel:

| <u>Number</u> | <u>Name/Location</u>          |
|---------------|-------------------------------|
| 114AW         | Forward Nose Wheel Well Panel |

SUBTASK 23-43-03-790-001

- (2) Do this task: Cabin Pressure Leak Test, TASK 05-51-91-790-801.

————— **END OF TASK** —————





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AIRCRAFT MAINTENANCE MANUAL

FLIGHT INTERPHONE SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has these tasks:

- (1) Flight interphone system operational test
- (2) Oxygen mask microphone operational test.

**TASK 23-51-00-710-801**

2. Flight Interphone System Operational Test

NOTE: This procedure is a scheduled maintenance task.

A. **General**

- (1) This task is for the test of the flight interphone system.
- (2) This task requires two persons to accomplish.

B. **References**

| Reference        | Title                                     |
|------------------|-------------------------------------------|
| 35-12-00-440-801 | Crew Oxygen System - Activation (P/B 201) |
| 35-12-85-910-801 | Crew Oxygen Mask Stowage (P/B 201)        |

C. **Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

D. **Prepare for the Test**

SUBTASK 23-51-00-860-005

- (1) Open these circuit breakers and install safety tags:

**F/O Electrical System Panel, P6-2**

| Row | Col | Number | Name                      |
|-----|-----|--------|---------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2 |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT  |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT |
| D   | 21  | C00084 | INTPH AND WARN            |
| D   | 22  | C00086 | AUDIO F/O                 |
| D   | 24  | C00085 | AUDIO OBS                 |

SUBTASK 23-51-00-860-006

- (2) Make sure that these circuit breakers are closed:

**CAPT Electrical System Panel, P18-1**

| Row | Col | Number | Name          |
|-----|-----|--------|---------------|
| B   | 7   | C00629 | GND PROX WARN |

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| D   | 4   | C00082 | COMMUNICATIONS PA AMPL BAT |

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**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| C          | 23         | C00239        | INTERPHONE POWER CAPT DC 2 |
| D          | 23         | C00083        | AUDIO CAPT                 |

SUBTASK 23-51-00-850-001

- (3) Set the NORM/ALT switch on the Audio Control Panels (ACP) to the NORM position.

SUBTASK 23-51-00-850-047

- (4) Push the INT mic selector on the Captain's Audio Control Panel (ACP) to ON and do these steps:
- (a) Make sure that the VHF 2 is available on the First Officer's ACP.
  - (b) Make sure that the VHF 1 is available on the Observer's ACP.

SUBTASK 23-51-00-860-007

- (5) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| C          | 23         | C00239        | INTERPHONE POWER CAPT DC 2 |

SUBTASK 23-51-00-860-008

- (6) Close this circuit breaker:

**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>               |
|------------|------------|---------------|---------------------------|
| C          | 24         | C00240        | INTERPHONE POWER CAPT BAT |

SUBTASK 23-51-00-850-048

- (7) Push the INT mic selector on the Captain's ACP to ON and do these steps:
- (a) Make sure that the VHF 2 is available on the First Officer's ACP.
  - (b) Make sure that the VHF 1 is available on the Observer's ACP.

SUBTASK 23-51-00-860-009

- (8) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| D          | 23         | C00083        | AUDIO CAPT  |

SUBTASK 23-51-00-860-010

- (9) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u> |
|------------|------------|---------------|-------------|
| D          | 24         | C00085        | AUDIO OBS   |

SUBTASK 23-51-00-850-049

- (10) Push the INT mic selector on the Observer's ACP to ON and do these steps:
- (a) Make sure that the VHF 1 is available on the Captain's ACP.
  - (b) Make sure that the VHF 2 is available on the First Officer's ACP.

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**SUBTASK 23-51-00-860-011**

- (11) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>               |
|------------|------------|---------------|---------------------------|
| C          | 24         | C00240        | INTERPHONE POWER CAPT BAT |

**SUBTASK 23-51-00-860-012**

- (12) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| C          | 23         | C00239        | INTERPHONE POWER CAPT DC 2 |

**SUBTASK 23-51-00-850-050**

- (13) Push the INT mic selector on the Observer's ACP to ON and do these steps:

- (a) Make sure that the VHF 1 is available on the Captain's ACP.
- (b) Make sure that the VHF 2 is available on the First Officer's ACP.

**SUBTASK 23-51-00-860-013**

- (14) Open these circuit breakers and install safety tags:

**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| C          | 23         | C00239        | INTERPHONE POWER CAPT DC 2 |
| D          | 24         | C00085        | AUDIO OBS                  |

**SUBTASK 23-51-00-860-014**

- (15) Remove the safety tags and close these circuit breakers:

**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>               |
|------------|------------|---------------|---------------------------|
| C          | 21         | C00560        | INTERPHONE POWER F/O DC 2 |
| D          | 22         | C00086        | AUDIO F/O                 |

**SUBTASK 23-51-00-850-051**

- (16) Push the INT mic selector on the First Officer's ACP to ON and do these steps:

- (a) Make sure that the VHF 1 is available on the Captain's ACP.
- (b) Make sure that the VHF 1 is available on the Observer's ACP.

**SUBTASK 23-51-00-860-015**

- (17) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>               |
|------------|------------|---------------|---------------------------|
| C          | 21         | C00560        | INTERPHONE POWER F/O DC 2 |

**SUBTASK 23-51-00-860-016**

- (18) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>              |
|------------|------------|---------------|--------------------------|
| C          | 22         | C00561        | INTERPHONE POWER F/O BAT |

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### SUBTASK 23-51-00-850-052

- (19) Push the INT mic selector on the First Officer's ACP to ON and do these steps:
- (a) Make sure that the VHF 1 is available on the Captain's ACP.
  - (b) Make sure that the VHF 1 is available on the Observer's ACP.

### SUBTASK 23-51-00-860-017

- (20) Remove the safety tags and close these circuit breakers:

#### F/O Electrical System Panel, P6-2

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 21  | C00084 | INTPH AND WARN             |
| D   | 23  | C00083 | AUDIO CAPT                 |
| D   | 24  | C00085 | AUDIO OBS                  |

### SUBTASK 23-51-00-860-018

- (21) Make sure that the GPWS INOP indicator light on the First Officer's Panel is OFF.

### SUBTASK 23-51-00-850-008

- (22) Set the switches on the GROUND PROXIMITY MODULE to NORMAL.

## E. Flight Interphone System Operational Test

### SUBTASK 23-51-00-780-001

- (1) Make sure that the oxygen system is pressurized (TASK 35-12-00-440-801).

**NOTE:** The switch in the stowage box will not set if the oxygen system is not pressurized.

### SUBTASK 23-51-00-850-010

- (2) Set all ACP as follows:
- (a) Push the INT microphone selector switch to on.
  - (b) Make sure that its light comes on.
  - (c) Push the volume control for the INT microphone selector switch.
  - (d) Turn the volume control for the INT microphone selector switch clockwise to the middle position.

### SUBTASK 23-51-00-850-012

- (3) Set the SPKR switch on the Captain's and the First Officer's ACP as follows:
- (a) Set the SPKR switch on each ACP to ON.
  - (b) Make sure that its light comes on.
  - (c) Turn the SPKR volume control switch clockwise to the middle position or to the volume level you are comfortable with.

### SUBTASK 23-51-00-850-017

- (4) Use a headset for all headphone jacks.

### SUBTASK 23-51-00-850-016

- (5) Hold the Push-To-Talk (PTT) switch on the Captain's hand microphone.

### SUBTASK 23-51-00-860-019

- (6) Speak into the Captain's hand microphone and do this step:

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- (a) Make sure that you hear sound in the headphone applicable to the audio control panel.

NOTE: Use a oxygen mask for a low volume level from the cockpit speaker. Sound from an external source will have low volume from the cockpit speaker.

**SUBTASK 23-51-00-860-020**

- (7) Make sure that the voice level from the Captain's speaker decreases.

NOTE: The voice level from the First Officer's speaker still remains the same.

**SUBTASK 23-51-00-860-021**

- (8) Hold the PTT switch on the First Officer's hand microphone and do these steps:

- (a) Speak into the First Officer's hand microphone.
- (b) Make sure that you hear sound in the Captain's Headphone.
- (c) Make sure that the voice level from the First Officer's speaker decreases.

NOTE: The voice level from the Captain's speaker still remains the same.

**SUBTASK 23-51-00-860-022**

- (9) Hold the PTT switch on the Observer's hand microphone and do these steps:

- (a) Speak into the Observer's hand microphone.

NOTE: The Observer's hand microphone is on the P6 panel.

- (b) Make sure that you hear sound from the Captain's Headphone.

**SUBTASK 23-51-00-860-024**

- (10) On the external power panel, connect the ground cord and headset to the FLT INT Jack.

**SUBTASK 23-51-00-850-020**

- (11) Hold the PTT switch on the ground headset and do these steps:

- (a) Speak into the headset microphone.
- (b) Make sure that you hear voice on the cockpit speaker.
- (c) Release the PTT switch on the ground headset.

**SUBTASK 23-51-00-850-021**

- (12) Hold the PTT switch on the First Officer's Control Wheel to the lower INT position and do these steps:

- (a) Speak into the First Officer's microphone.
- (b) Make sure that you hear a voice on the ground headset.
- (c) Release the PTT switch on the First Officer's Control Wheel to the OFF position.

**SUBTASK 23-51-00-850-022**

- (13) Set the PA Microphone button on all the audio control panel's.

**SUBTASK 23-51-00-850-023**

- (14) Turn the PA volume controls to approximately 1/2 MAX on all the audio control panel's.

**SUBTASK 23-51-00-850-024**

- (15) Hold the PTT switch on the Captain's Control Wheel in the lower INT position and do these steps:

- (a) Speak into the Captain's microphone.
- (b) Make sure that you hear a voice on the First Officer's headset.
- (c) Make sure that there is no PA announcement in the cabin area.
- (d) Release the PTT switch on the Captain's Control Wheel to the OFF position.

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### SUBTASK 23-51-00-850-025

- (16) Hold the PTT switch on the First Officer's Control Wheel in the lower INT position. and do these steps:
- (a) Speak into the First Officer's microphone.
  - (b) Make sure that there is a voice on the Captain's headset.
  - (c) Make sure that there is no PA announcement in the cabin area.
  - (d) Release the PTT switch on the First Officer's Control Wheel to the OFF position.

NOTE: The microphone for the oxygen mask removed from the stowage box is on.

### SUBTASK 23-51-00-020-001

- (17) Remove the oxygen masks from the stowage boxes

### SUBTASK 23-51-00-710-004

- (18) Test the Captain/First Officer oxygen mask microphone as follows:

NOTE: Do a test of the Captains's then the First Officer's oxygen mask microphone.

- (a) Hold the PTT switch on the applicable control wheel in the MIC position.
- (b) Speak into the oxygen mask microphone.
- (c) Make sure that you hear voice from the cockpit speaker.
- (d) Release the PTT switch.

### SUBTASK 23-51-00-850-027

- (19) Test the PTT switches on the glareshield as follows:

NOTE: Do a test of the Captains's then the First Officer's PTT switch.

- (a) Hold the PTT glareshield switch.
- (b) Speak into the oxygen mask microphone.
- (c) Make sure that you hear a voice from the cockpit speaker.
- (d) Make sure that there is a voice from the cabin speakers.
- (e) Release the PTT glareshield switch.

### SUBTASK 23-51-00-710-005

- (20) Test the Observer's mask microphone as follows:

- (a) Set the RADIO-INT switch to the RADIO position at the Observer's audio control panel
- (b) Speak into the Observer's oxygen mask microphone.
- (c) Make sure that you hear voice from the cockpit speaker.
- (d) Release the RADIO-INT switch.

### SUBTASK 23-51-00-420-001

- (21) Put the oxygen masks back into the stowage boxes (TASK 35-12-85-910-801).

## F. ALT/NORM Switch Test

### SUBTASK 23-51-00-850-041

- (1) Set the Captain's ALT/NORM switch to the ALT position on the ACP and do this step:
- (a) Make sure that the VHF 1 switch light comes ON.

### SUBTASK 23-51-00-850-042

- (2) Set the Observer's ALT/NORM switch to the ALT position on the ACP and do this step:
- (a) Make sure that the VHF 1 switch light comes ON.

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SUBTASK 23-51-00-850-043

- (3) Set the First Officer's ALT/NORM switch to the ALT position on the ACP and do this step:
  - (a) Make sure that the VHF 2 switch light comes ON.

SUBTASK 23-51-00-850-044

- (4) Make sure that the ALT/NORM switch on the audio control panels is in the NORM position.

### G. AURAL Warning Signal to Headsets Test

SUBTASK 23-51-00-850-045

- (1) Push the GPWS SYS TEST BUTTON for approximately 2 seconds on the GROUND PROXIMITY MODULE and do this step:

NOTE: The self test switch pushed for longer than 2 seconds will cancel the self test.

- (a) Make sure that there are AURAL warning sounds from the headsets.

————— END OF TASK —————

### TASK 23-51-00-710-802

### 3. Oxygen Mask Microphone Operational Test

#### A. General

- (1) This task is for the operational test of the oxygen masks microphones.

#### B. References

| Reference        | Title                              |
|------------------|------------------------------------|
| 35-12-85-910-801 | Crew Oxygen Mask Stowage (P/B 201) |

#### C. Location Zones

| Zone | Area                                                                       |
|------|----------------------------------------------------------------------------|
| 210  | Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50 |
| 211  | Flight Compartment - Left                                                  |
| 212  | Flight Compartment - Right                                                 |

#### D. Oxygen Mask Microphone Operational Test

SUBTASK 23-51-00-210-001

- (1) Make sure that the flight crew oxygen system is pressurized.

SUBTASK 23-51-00-210-002

- (2) Make sure that the SERVICE INTERPHONE switch on the aft overhead panel is OFF.

SUBTASK 23-51-00-860-025

- (3) Set all Audio Control Panels (ACP) as follows:
  - (a) Set all microphone selectors to off.
  - (b) Push the INT MIC SELECTOR switch to on.
  - (c) Make sure that the MIC SELECTOR lamp comes on.
  - (d) Push the volume control for the INT MIC SELECTOR switch.
  - (e) Turn the volume control for the INT microphone selector switch clockwise to the middle position.

SUBTASK 23-51-00-860-026

- (4) Set the Captain's and First Officer's ACP as follows:
  - (a) Push the SPKR volume control switch on each ACP to ON.
  - (b) Make sure that its light comes on.

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- (c) Turn the SPKR volume control switches clockwise to the middle position or to the desired volume level.

**SUBTASK 23-51-00-010-001**

- (5) Remove oxygen masks from the stowage boxes.

**SUBTASK 23-51-00-710-001**

- (6) Test the Captain/First Officer oxygen mask microphone as follows:

NOTE: Do a test of the Captains's then the First Officer's oxygen mask microphone.

- (a) Hold the Push-To-Talk (PTT) switch on the applicable control wheel in the MIC position.
- (b) Speak into the oxygen mask microphone.
- (c) Make sure that you hear voice from the cockpit speaker.
- (d) Release the PTT switch.

**SUBTASK 23-51-00-710-003**

- (7) Test the PTT switches on the glareshield as follows:

NOTE: Do a test of the Captains's then the First Officer's PTT switch.

- (a) Hold the PTT glareshield switch.
- (b) Speak into the oxygen mask microphone.
- (c) Make sure that you hear a voice from the cockpit speaker.
- (d) Make sure that there is a voice from the cabin speakers.
- (e) Release the PTT glareshield switch.

**SUBTASK 23-51-00-710-002**

- (8) Test the Observer's mask microphone as follows:

- (a) Set the RADIO-INT switch to the RADIO position at the Observer's audio control panel
- (b) Speak into the Observer's oxygen mask microphone.
- (c) Make sure that you hear voice from the cockpit speaker.
- (d) Release the RADIO-INT switch.

**SUBTASK 23-51-00-410-001**

- (9) Put the oxygen masks back into the stowage boxes (TASK 35-12-85-910-801).

———— **END OF TASK** ————

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REMOTE ELECTRONICS UNIT - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Remote Electronics Unit Removal
  - (2) Remote Electronics Unit Installation.
- B. The remote electronics unit is on the E4-1 shelf in the electrical/electronic compartment.

**TASK 23-51-01-000-801**

2. Remote Electronics Unit Removal

(Figure 401)

A. General

- (1) This task gives the instructions to remove the remote electronics unit [1].

B. References

| Reference        | Title                                                  |
|------------------|--------------------------------------------------------|
| 20-10-07-000-801 | E/E Box Removal (P/B 401)                              |
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201) |

C. Location Zones

| Zone | Area                                          |
|------|-----------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left |

D. Access Panels

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

E. Prepare for the Remote Electronics Unit Removal

SUBTASK 23-51-01-860-001

- (1) Open these circuit breakers and install safety tags:

**F/O Electrical System Panel, P6-2**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT   |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 21  | C00084 | INTPH AND WARN             |
| D   | 22  | C00086 | AUDIO F/O                  |
| D   | 23  | C00083 | AUDIO CAPT                 |
| D   | 24  | C00085 | AUDIO OBS                  |

SUBTASK 23-51-01-010-001

- (2) Open this access panel:

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

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SUBTASK 23-51-01-860-002



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(3) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

**F. Remote Electronics Unit Removal**

SUBTASK 23-51-01-020-001

(1) Remove the remote electronics unit [1] (TASK 20-10-07-000-801).

———— **END OF TASK** ————

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ELECTRONIC  
EQUIPMENT  
RACK, E4

**A**

[1] REMOTE  
ELECTRONICS  
UNIT (E4-1)

ELECTRONIC EQUIPMENT  
ACCESS DOOR, 117A

ELECTRONIC EQUIPMENT  
ACCESS DOOR, 117A

ELECTRONIC EQUIPMENT RACKS E2, E3 AND E4

**A**

**FWD**

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Remote Electronics Unit Installation  
Figure 401/23-51-01-990-801

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TASK 23-51-01-400-801

3. Remote Electronics Unit Installation

(Figure 401)

A. General

(1) This task gives the instructions to install the remote electronics unit [1].

B. References

| Reference        | Title                                                       |
|------------------|-------------------------------------------------------------|
| 20-10-07-400-801 | E/E Box Installation (P/B 401)                              |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201) |

C. Expendables/Parts

| AMM Item | Description             | AIPC Reference  | AIPC Effectivity |
|----------|-------------------------|-----------------|------------------|
| 1        | Remote electronics unit | 23-51-01-01-010 | SIA ALL          |

D. Location Zones

| Zone | Area                                          |
|------|-----------------------------------------------|
| 117  | Electrical and Electronics Compartment - Left |

E. Access Panels

| Number | Name/Location                    |
|--------|----------------------------------|
| 117A   | Electronic Equipment Access Door |

F. Prepare for the Remote Electronic Unit Installation

SUBTASK 23-51-01-860-003

(1) Make sure that these circuit breakers are open and have safety tags:

F/O Electrical System Panel, P6-2

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT   |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 21  | C00084 | INTPH AND WARN             |
| D   | 22  | C00086 | AUDIO F/O                  |
| D   | 23  | C00083 | AUDIO CAPT                 |
| D   | 24  | C00085 | AUDIO OBS                  |

SUBTASK 23-51-01-860-004



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(2) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

G. Remote Electronics Unit Installation

SUBTASK 23-51-01-420-001

(1) Install the remote electronics unit [1] (TASK 20-10-07-400-801).

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SUBTASK 23-51-01-200-001

- (2) If there is an AURAL WARN MUTE switch on the front panel of the remote electronics unit [1], adjust the switch to the applicable airline standard as follows:

**NOTE:** If no AURAL WARN MUTE switch is present, the REU is preset.

- (a) Vertical Position - Aural warnings are delivered to the flight deck headsets and speakers.
- (b) Horizontal Position - Aural warnings are muted from the flight deck headsets and are only heard through the flight deck speakers.

### H. Remote Electronics Unit Installation Test

SUBTASK 23-51-01-860-005

- (1) Close these circuit breakers:

#### F/O Electrical System Panel, P6-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| C          | 21         | C00560        | INTERPHONE POWER F/O DC 2  |
| C          | 22         | C00561        | INTERPHONE POWER F/O BAT   |
| C          | 23         | C00239        | INTERPHONE POWER CAPT DC 2 |
| C          | 24         | C00240        | INTERPHONE POWER CAPT BAT  |
| D          | 21         | C00084        | INTPH AND WARN             |
| D          | 22         | C00086        | AUDIO F/O                  |
| D          | 23         | C00083        | AUDIO CAPT                 |
| D          | 24         | C00085        | AUDIO OBS                  |

SUBTASK 23-51-01-710-001

- (2) Do the operational test for the remote electronics unit [1]:
- (a) Set the MIC button on the audio control panel's to the ON position.
  - (b) Make sure that the MIC buttons come on for the audio control panel's.
  - (c) Turn the volume controls to approximately 1/2 MAX on the audio control panel's.
  - (d) Set the SPKR volume control to the ON position.
  - (e) Turn the SPKR volume control on the Captain's Audio Control Panel to approximately 1/2 MAX.
  - (f) Turn the SPKR volume control on the First Officer's Audio Control Panel to approximately 1/2 MAX.
  - (g) Make sure that you hear an announcement between the Captain, First Officer and Observer when you use Hand Microphones, Headphones, and Boom Mic headsets.

### I. Put the Airplane Back to Its Usual Condition

SUBTASK 23-51-01-860-006

- (1) Close this access panel:

| <u>Number</u> | <u>Name/Location</u>             |
|---------------|----------------------------------|
| 117A          | Electronic Equipment Access Door |

————— END OF TASK —————

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AUDIO CONTROL PANEL - MAINTENANCE PRACTICES

1. General

A. This procedure has this task:

- (1) Audio Control Panel (ACP) mic select switch lamp replacement.

**TASK 23-51-02-300-801**

2. Audio Control Panel - Mic Select Switch Lamp Replacement

(Figure 201)

A. **General**

- (1) This task is to replace the mic selector switch lamps when the lamps do not come on and the switch is still functional.

B. **Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

C. **Mic Selector Switch Lamp Replacement**

SUBTASK 23-51-02-040-001

- (1) Open these circuit breakers and install safety tags:

**F/O Electrical System Panel, P6-2**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT   |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 21  | C00084 | INTPH AND WARN             |
| D   | 22  | C00086 | AUDIO F/O                  |
| D   | 23  | C00083 | AUDIO CAPT                 |
| D   | 24  | C00085 | AUDIO OBS                  |

**F/O Electrical System Panel, P6-3**

| Row | Col | Number | Name                        |
|-----|-----|--------|-----------------------------|
| F   | 11  | C00317 | INDICATOR MASTER DIM SECT 5 |
| F   | 13  | C01179 | INDICATOR MASTER DIM SECT 7 |
| F   | 14  | C01180 | INDICATOR MASTER DIM SECT 8 |

SUBTASK 23-51-02-300-001

- (2) Get access to the thumbnail slots on the perimeter of the switch bezel.

SUBTASK 23-51-02-300-002



DO NOT USE SHARP TOOLS TO PULL THE SWITCH BEZEL. IF YOU DO NOT OBEY, DAMAGE TO THE SEAL THAT IS AROUND THE SWITCH CAN OCCUR.

- (3) Carefully pull the switch forward, away from the edgelit panel.

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SUBTASK 23-51-02-300-003

- (4) Pivot the switch bezel to the side to gain access to the lamps, then slide the lamps out of the switch body.

SUBTASK 23-51-02-300-004

- (5) Insert new replacement lamps all the way into the socket in the back of the switch body.

SUBTASK 23-51-02-300-005

- (6) Pivot the switch body back into normal position and gently push on the switch cap until the switch body is fully seated.

SUBTASK 23-51-02-440-002

- (7) Close these circuit breakers:

**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| C          | 21         | C00560        | INTERPHONE POWER F/O DC 2  |
| C          | 22         | C00561        | INTERPHONE POWER F/O BAT   |
| C          | 23         | C00239        | INTERPHONE POWER CAPT DC 2 |
| C          | 24         | C00240        | INTERPHONE POWER CAPT BAT  |
| D          | 21         | C00084        | INTPH AND WARN             |
| D          | 22         | C00086        | AUDIO F/O                  |
| D          | 23         | C00083        | AUDIO CAPT                 |
| D          | 24         | C00085        | AUDIO OBS                  |

**F/O Electrical System Panel, P6-3**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                 |
|------------|------------|---------------|-----------------------------|
| F          | 11         | C00317        | INDICATOR MASTER DIM SECT 5 |
| F          | 13         | C01179        | INDICATOR MASTER DIM SECT 7 |
| F          | 14         | C01180        | INDICATOR MASTER DIM SECT 8 |

SUBTASK 23-51-02-700-001

- (8) Push the mic select switch and make sure that the light comes on.

———— **END OF TASK** ————

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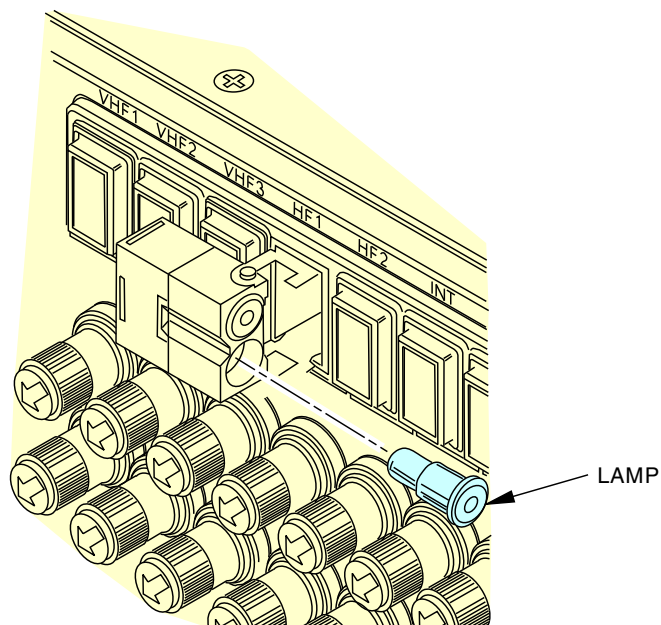
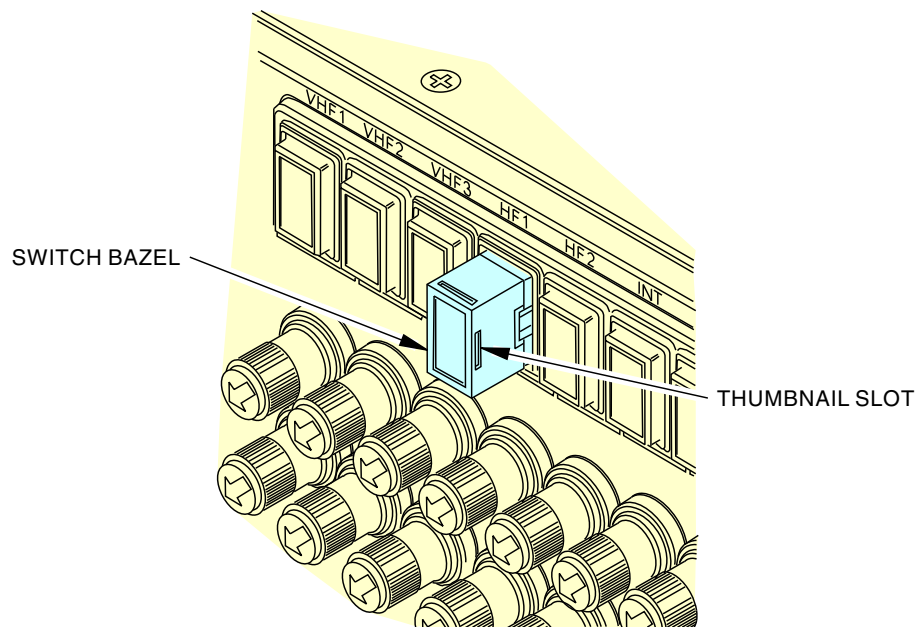
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**Audio Control Panel Mic Select Switch**  
**Figure 201/23-51-02-990-802**

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AUDIO CONTROL PANEL - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Audio Control Panel Removal
  - (2) Audio Control Panel Installation.

**TASK 23-51-02-000-801**

2. Audio Control Panel Removal

(Figure 401)

A. **General**

- (1) This procedure has steps to remove the audio control panel [1].

B. **Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

C. **Prepare for the Audio Control Panel Removal**

SUBTASK 23-51-02-860-001

- (1) Open these circuit breakers and install safety tags:

**F/O Electrical System Panel, P6-2**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT   |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 21  | C00084 | INTPH AND WARN             |
| D   | 22  | C00086 | AUDIO F/O                  |
| D   | 23  | C00083 | AUDIO CAPT                 |
| D   | 24  | C00085 | AUDIO OBS                  |

D. **Audio Control Panel Removal**

SUBTASK 23-51-02-020-001

- (1) Loosen the four quarter-turn fasteners [2] on the front panel of the audio control panel [1].

SUBTASK 23-51-02-020-002

- (2) Lift the audio control panel [1] to get access to the electrical connector [3].

SUBTASK 23-51-02-020-003

- (3) Disconnect the electrical connector [3] from the rear of the audio control panel [1].

SUBTASK 23-51-02-020-004

- (4) Remove the audio control panel [1].

———— **END OF TASK** ————

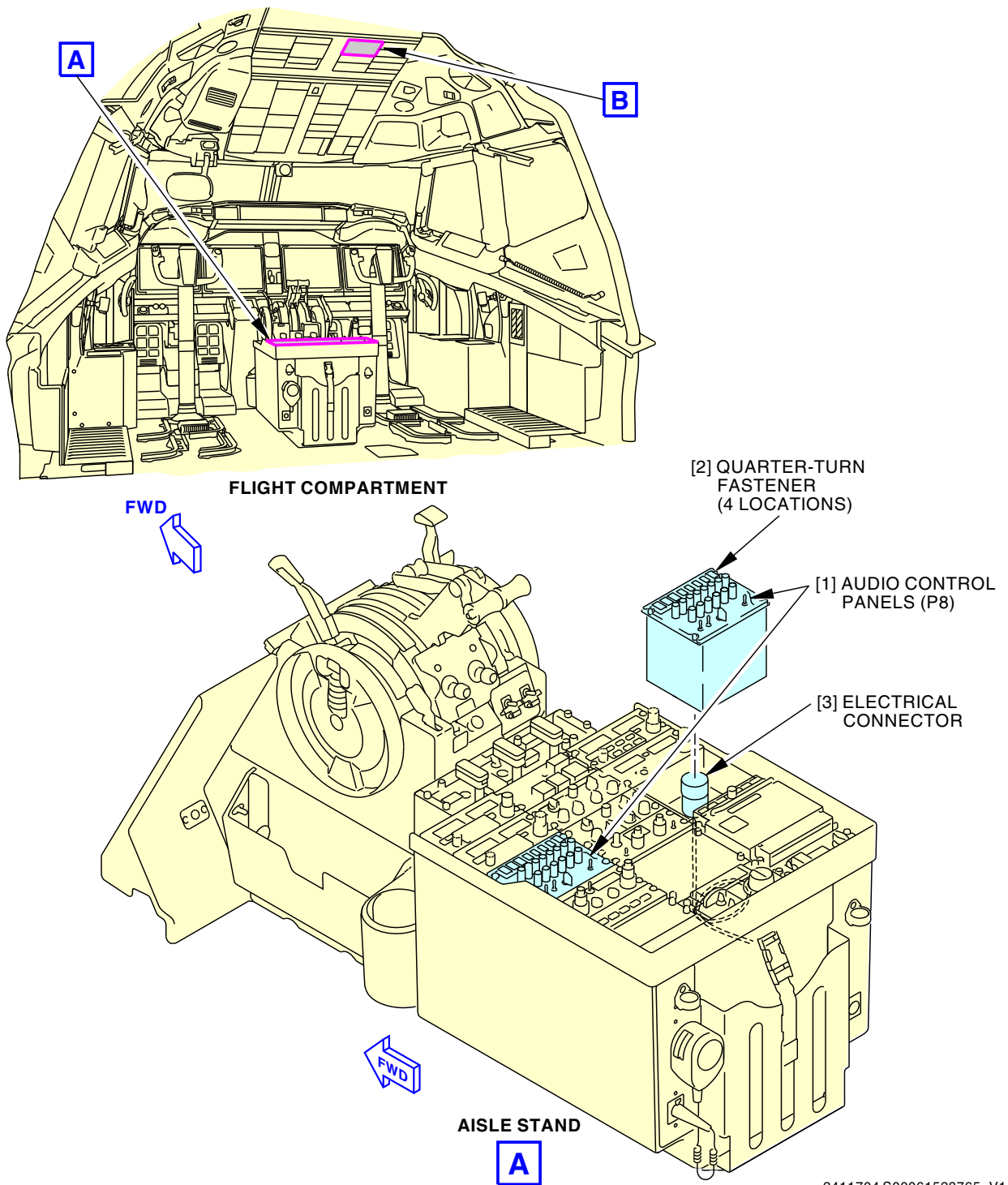
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**Audio Control Panel Installation**  
Figure 401/23-51-02-990-801 (Sheet 1 of 2)

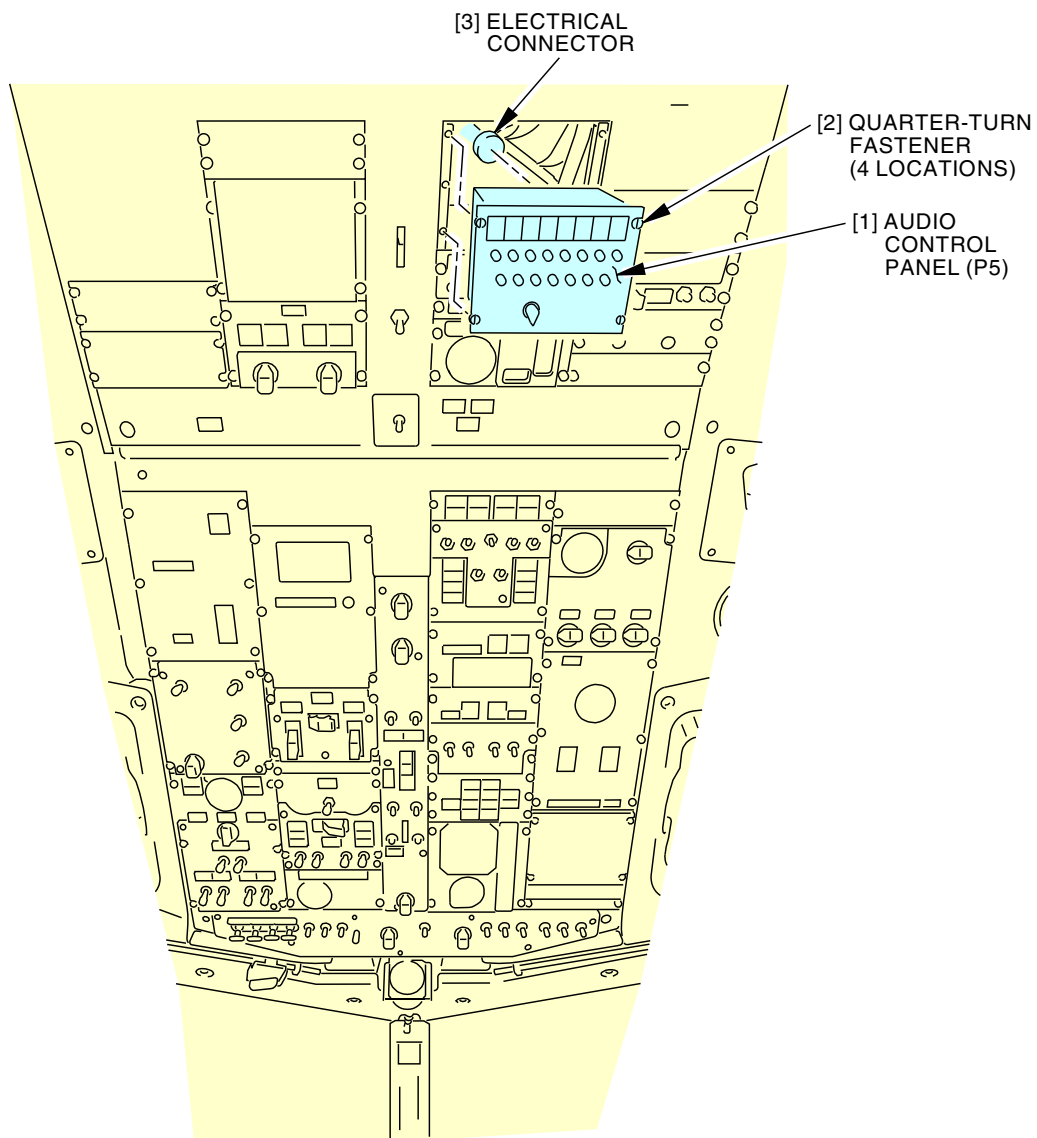
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**OVERHEAD PANEL  
(VIEW IN THE FORWARD DIRECTION)**

**B**

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**Audio Control Panel Installation  
Figure 401/23-51-02-990-801 (Sheet 2 of 2)**

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TASK 23-51-02-400-801

3. Audio Control Panel Installation

(Figure 401)

A. General

- (1) This procedure has steps to install the audio control panel [1].

B. References

| Reference        | Title                                     |
|------------------|-------------------------------------------|
| 35-12-00-440-801 | Crew Oxygen System - Activation (P/B 201) |
| 35-12-85-000-802 | Oxygen Mask/Regulator Removal (P/B 401)   |

C. Expendables/Parts

| AMM Item | Description         | AIPC Reference  | AIPC Effectivity |
|----------|---------------------|-----------------|------------------|
| 1        | Audio control panel | 23-51-02-02-020 | SIA ALL          |
|          |                     | 23-51-02-20-050 | SIA ALL          |

D. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

E. Audio Control Panel Installation

SUBTASK 23-51-02-420-001

- (1) Connect the electrical connector [3] in the rear of the audio control panel [1].

SUBTASK 23-51-02-420-002

- (2) Put the audio control panel [1] into its position.

SUBTASK 23-51-02-420-003

- (3) Tighten the four quarter-turn fasteners [2] on the front panel of the audio control panel [1].

F. Audio Control Panel Installation Test

SUBTASK 23-51-02-860-002

- (1) Remove the safety tags and close these circuit breakers:

**F/O Electrical System Panel, P6-2**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT   |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 21  | C00084 | INTPH AND WARN             |
| D   | 22  | C00086 | AUDIO F/O                  |
| D   | 23  | C00083 | AUDIO CAPT                 |
| D   | 24  | C00085 | AUDIO OBS                  |

SUBTASK 23-51-02-440-001

- (2) Make sure that the oxygen system is pressurized (TASK 35-12-00-440-801).

SUBTASK 23-51-02-710-001

- (3) Make sure that there is sound between the three audio control panels [1]:  
(a) Push the INT microphone selector switch on the audio control panels [1].

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- (b) Turn the INT volume controls to approximately 1/2 MAX on all the audio control panels [1].
- (c) Make sure that there is sound from all three audio control panels [1].
- (d) Remove the oxygen mask from the stowage box (TASK 35-12-85-000-802).
- (e) Set the RADIO-INT Push-To-Talk (PTT) switch on the audio control panel [1] to the INT position.

NOTE: There can be feedback caused by this audio coupling between the headphones and the area microphone. The feedback is intermittent and does not affect the test results.

- 1) If there is background noise caused by the audio feedback from the hot microphone, cover the oxygen mask microphone.
- (f) Speak into the oxygen mask microphone.
- (g) Make sure that there is sound from the cockpit speaker.
- (h) Set the RADIO-INT PTT switch on the audio control panel [1] to the middle switch position.
- (i) Push the PILOT button on the attendant handset.
  - 1) Make sure that the CABIN microphone light comes ON.

———— **END OF TASK** ————

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FLIGHT INTERPHONE SPEAKER - REMOVAL/INSTALLATION

1. **General**

- A. This procedure has these tasks:
- (1) Flight Interphone Speaker Removal
  - (2) Flight Interphone Speaker Installation
- B. The flight interphone speaker is in the forward ceiling panel in the flight compartment.

**TASK 23-51-03-000-801**

2. **Flight Interphone Speaker Removal**

(Figure 401)

A. **General**

- (1) This procedure has steps to remove the flight interphone speaker (referred to as the speaker [1] in this task).

B. **References**

| Reference        | Title                                                      |
|------------------|------------------------------------------------------------|
| 25-11-21-000-801 | Flight Compartment Forward Ceiling Panel Removal (P/B 201) |

C. **Location Zones**

| Zone | Area                      |
|------|---------------------------|
| 211  | Flight Compartment - Left |

D. **Prepare for the Flight Interphone Speaker Removal**

SUBTASK 23-51-03-760-001

- (1) Open these circuit breakers and install safety tags:

**F/O Electrical System Panel, P6-2**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT   |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 21  | C00084 | INTPH AND WARN             |
| D   | 22  | C00086 | AUDIO F/O                  |
| D   | 23  | C00083 | AUDIO CAPT                 |
| D   | 24  | C00085 | AUDIO OBS                  |

SUBTASK 23-51-03-010-001

- (2) Remove the ceiling panel (TASK 25-11-21-000-801).

E. **Flight Interphone Speaker Removal**

SUBTASK 23-51-03-020-001

- (1) Remove the four screws [3] from the speaker [1].

SUBTASK 23-51-03-020-002

- (2) Disconnect the electrical connector [2] from the speaker [1].

SUBTASK 23-51-03-020-003

- (3) Remove the speaker [1].

————— **END OF TASK** —————

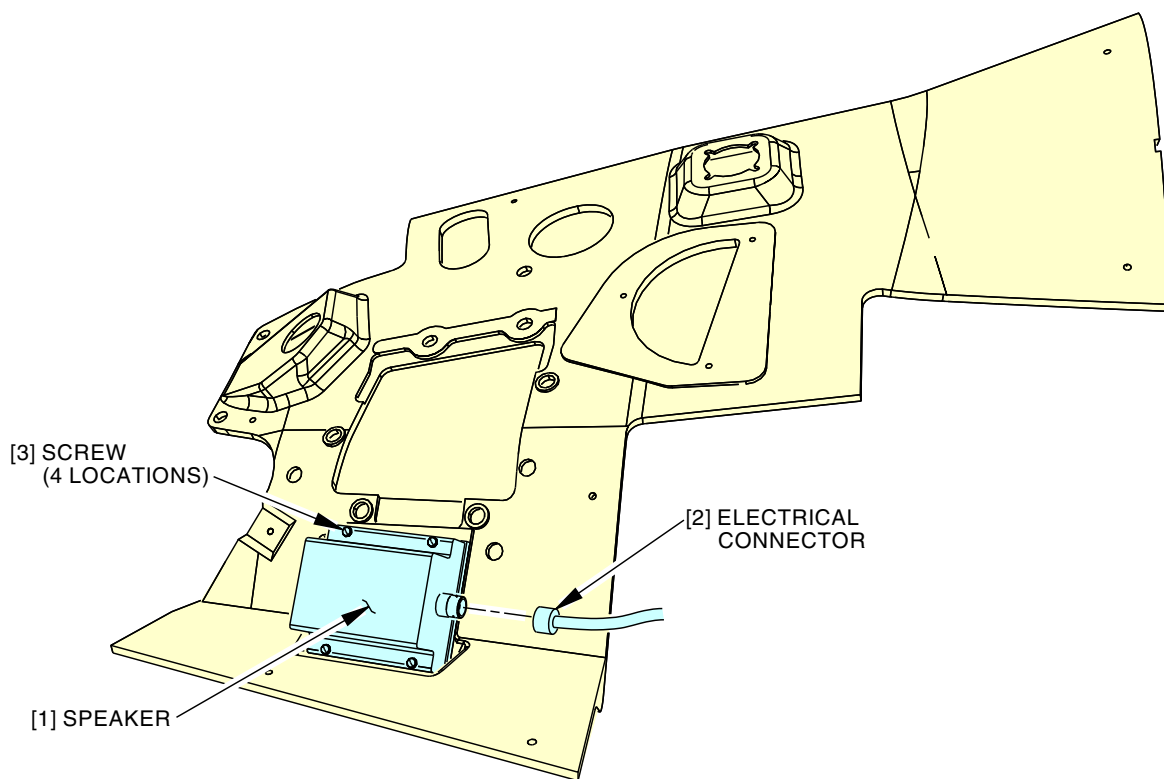
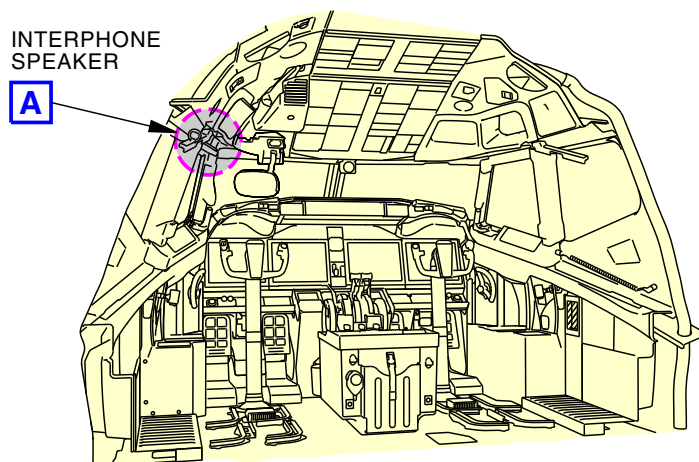
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FLIGHT INTERPHONE SPEAKER

**A**

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Flight Interphone Speaker Installation  
Figure 401/23-51-03-990-801

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TASK 23-51-03-400-801

3. Flight Interphone Speaker Installation

(Figure 401)

A. General

- (1) This procedure has steps to install a flight interphone speaker (referred to as the speaker [1] in this task).

B. References

| Reference        | Title                                                           |
|------------------|-----------------------------------------------------------------|
| 25-11-21-400-801 | Flight Compartment Forward Ceiling Panel Installation (P/B 201) |
| 35-12-00-440-801 | Crew Oxygen System - Activation (P/B 201)                       |
| 35-12-85-000-802 | Oxygen Mask/Regulator Removal (P/B 401)                         |
| 35-12-85-400-802 | Oxygen Mask/Regulator Installation (P/B 401)                    |

C. Expendables/Parts

| AMM Item | Description | AIPC Reference  | AIPC Effectivity |
|----------|-------------|-----------------|------------------|
| 1        | Speaker     | 23-51-03-01-010 | SIA ALL          |
|          |             | 23-51-03-02-030 | SIA ALL          |

D. Location Zones

| Zone | Area                      |
|------|---------------------------|
| 211  | Flight Compartment - Left |

E. Flight Interphone Speaker Installation

SUBTASK 23-51-03-420-001

- (1) Put the speaker [1] in its correct position in the forward overhead panel.

SUBTASK 23-51-03-420-002

- (2) Connect the electrical connector [2] to the speaker [1].

SUBTASK 23-51-03-420-003

- (3) Install the four screws [3] to the speaker [1].

F. Flight Interphone Installation Test

SUBTASK 23-51-03-860-001

- (1) Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-2

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT   |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 21  | C00084 | INTPH AND WARN             |
| D   | 22  | C00086 | AUDIO F/O                  |
| D   | 23  | C00083 | AUDIO CAPT                 |
| D   | 24  | C00085 | AUDIO OBS                  |

SUBTASK 23-51-03-440-001

- (2) Make sure that the oxygen system is pressurized (TASK 35-12-00-440-801).

SUBTASK 23-51-03-020-004

- (3) Remove the oxygen masks from the stowage box (TASK 35-12-85-000-802).

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SUBTASK 23-51-03-860-003

- (4) Make sure that there is sound from the speaker [1]:
  - (a) Set the INT volume control to ON.
  - (b) Push the INT mic selector button ON.
    - 1) Turn the INT volume controls to approximately 1/2 MAX.
  - (c) Set the SPKR switch to ON.
    - 1) Turn the SPKR volume control to approximately 1/2 MAX.
  - (d) On the external power panel, connect the ground cord and headset to the FLT INT Jack.
    - 1) Hold the Push-To-Talk (PTT) switch on the ground headset.
    - 2) Speak into the ground headset microphone.
    - 3) Make sure that there is sound from the cockpit speaker.
    - 4) Release the PTT switch on the ground headset.
  - (e) Hold the PTT switch on the control wheel to the MIC position
    - 1) Speak into the oxygen mask microphone.
    - 2) Make sure that there is sound from the cockpit speaker.
    - 3) Release the PTT switch on the control wheel.
  - (f) Hold the PTT glareshield switch:
    - 1) Speak into the oxygen mask microphone.
    - 2) Make sure that there is sound from the cockpit speaker.
    - 3) Release the PTT glareshield switch.
  - (g) Set the RADIO-INT switch to the RADIO position.
    - 1) Speak into the oxygen mask microphone.
    - 2) Make sure that there is sound from the cockpit speaker.
    - 3) Release the RADIO-INT switch.

### G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-51-03-410-001

- (1) Install the ceiling panel (TASK 25-11-21-400-801).

SUBTASK 23-51-03-420-004

- (2) Put the oxygen masks in the stowage box (TASK 35-12-85-400-802).

————— END OF TASK —————

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PUSH TO TALK CONTROL WHEEL SWITCH - REMOVAL/INSTALLATION

1. **General**

A. This procedure has these tasks:

- (1) Push To Talk (PTT) Control Wheel Switch Removal
- (2) Push To Talk (PTT) Control Wheel Switch Installation

B. The PTT switch is installed on the control wheel.

**TASK 23-51-04-000-801**

2. **Push-To-Talk (PTT) Control Wheel Switch Removal**

(Figure 401)

**A. General**

- (1) This procedure has steps to remove a PTT switch assembly [1].

**B. Location Zones**

| Zone | Area |
|------|------|
|------|------|

|     |                           |
|-----|---------------------------|
| 211 | Flight Compartment - Left |
|-----|---------------------------|

|     |                            |
|-----|----------------------------|
| 212 | Flight Compartment - Right |
|-----|----------------------------|

**C. Prepare for the PTT Control Wheel Switch Removal**

SUBTASK 23-51-04-860-001

- (1) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name                 |
|-----|-----|--------|----------------------|
| D   | 11  | C00165 | COMMUNICATIONS VHF 1 |

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                 |
|-----|-----|--------|----------------------|
| C   | 3   | C00166 | COMMUNICATIONS VHF 2 |

**F/O Electrical System Panel, P6-2**

| Row | Col | Number | Name                       |
|-----|-----|--------|----------------------------|
| C   | 21  | C00560 | INTERPHONE POWER F/O DC 2  |
| C   | 22  | C00561 | INTERPHONE POWER F/O BAT   |
| C   | 23  | C00239 | INTERPHONE POWER CAPT DC 2 |
| C   | 24  | C00240 | INTERPHONE POWER CAPT BAT  |
| D   | 21  | C00084 | INTPH AND WARN             |
| D   | 22  | C00086 | AUDIO F/O                  |
| D   | 23  | C00083 | AUDIO CAPT                 |
| D   | 24  | C00085 | AUDIO OBS                  |

**D. PTT Control Wheel Switch Removal**

SUBTASK 23-51-04-020-001

- (1) Remove the two mounting screws [2] from the control wheel.

SUBTASK 23-51-04-020-002

- (2) Remove the PTT switch assembly [1] to get access to the wires.

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**SUBTASK 23-51-04-020-003**

- (3) Disconnect the lugs from the interphone switch [3] in the PTT switch assembly [1].
- S519 - Captain
  - S520 - First Officer
- (a) Make sure to identify each wire for correct installation on the switch.

NOTE: Correct wire installation is important for correct operation.

**SUBTASK 23-51-04-020-004**

- (4) Disconnect the lugs from the microphone switch [6] in the PTT switch assembly [1].
- S161 - Captain
  - S214 - First Officer
- (a) Make sure to identify each wire for correct installation on the switch.

NOTE: Correct wire installation is important for correct operation.

**SUBTASK 23-51-04-020-005**

- (5) Remove the locking screw [5] from the clamp [4].

**SUBTASK 23-51-04-020-006**

- (6) Turn the PTT switch assembly [1] counterclockwise.

**SUBTASK 23-51-04-020-007**

- (7) Remove the PTT switch assembly [1] from the clamp [4].

———— **END OF TASK** ————

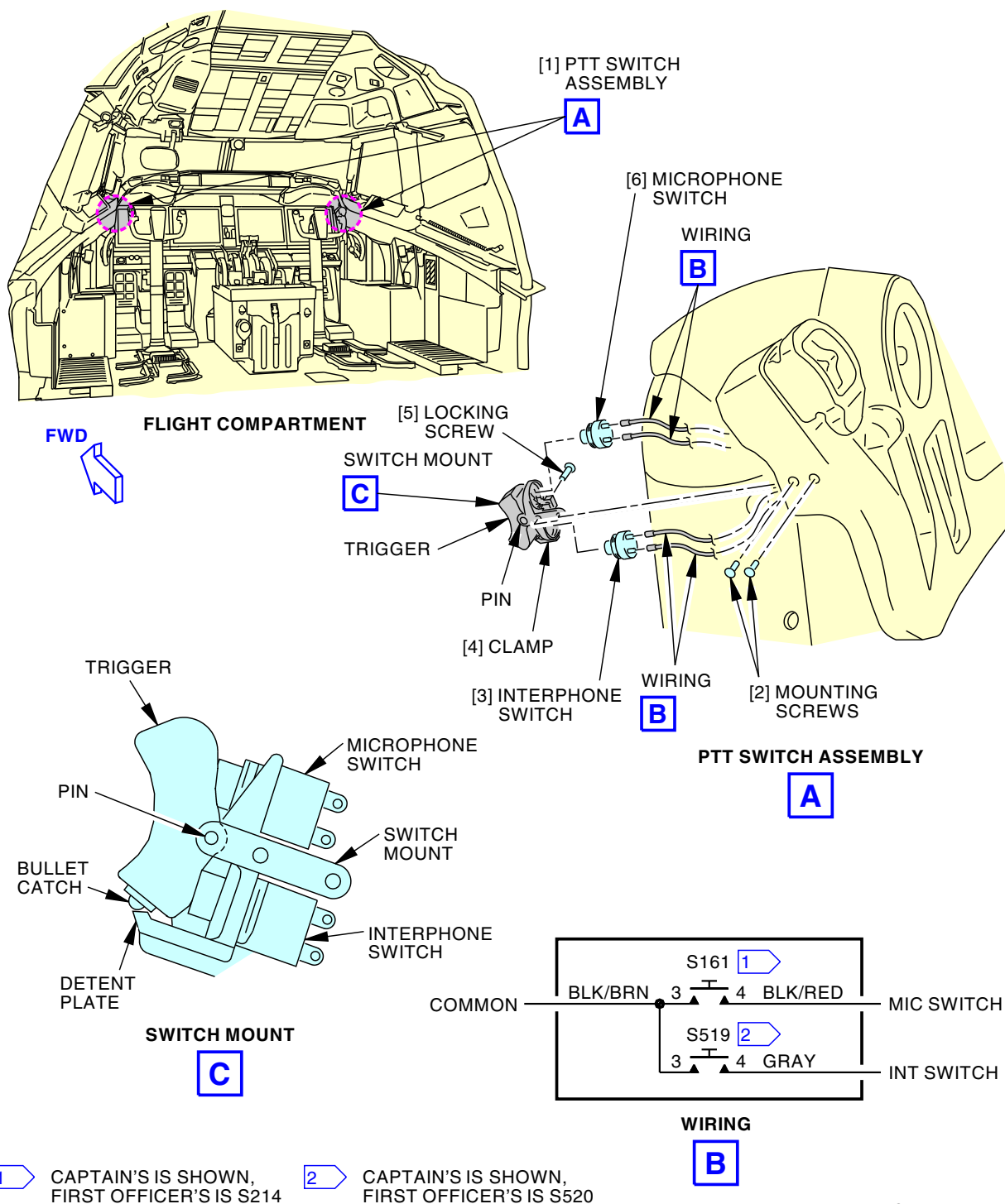
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PTT Control Wheel Switch Installation  
Figure 401/23-51-04-990-801

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**TASK 23-51-04-400-801**

**3. Push To Talk (PTT) Control Wheel Switch Installation**

(Figure 401)

**A. General**

- (1) This procedure has steps to install a PTT switch assembly [1].

**B. References**

| Reference        | Title                                        |
|------------------|----------------------------------------------|
| 35-12-00-440-801 | Crew Oxygen System - Activation (P/B 201)    |
| 35-12-85-000-802 | Oxygen Mask/Regulator Removal (P/B 401)      |
| 35-12-85-400-802 | Oxygen Mask/Regulator Installation (P/B 401) |

**C. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

**D. PTT Control Wheel Switch Installation**

**SUBTASK 23-51-04-420-001**

- (1) Install the interphone switch [3] into the clamp [4].

**SUBTASK 23-51-04-420-002**

- (2) Install the microphone switch [6] into the clamp [4].

**SUBTASK 23-51-04-820-001**

- (3) Turn the PTT switch assembly [1] clockwise.

**SUBTASK 23-51-04-820-002**

- (4) Adjust the microphone switch [6] in the PTT switch assembly [1].

**SUBTASK 23-51-04-820-003**

- (5) Adjust the interphone switch [3] in the PTT switch assembly [1].

**SUBTASK 23-51-04-420-003**

- (6) Install the locking screw [5] in the clamp [4].

**SUBTASK 23-51-04-820-004**

- (7) Push the trigger to the INT position and then release the trigger.

- (a) Make sure that the trigger stays in the detent position.

**SUBTASK 23-51-04-020-008**

- (8) Loosen the locking screw [5] on the clamp [4].

**SUBTASK 23-51-04-820-005**

- (9) Push the trigger to the OFF position.

**SUBTASK 23-51-04-820-006**

- (10) Push the trigger to the MIC position and then release the trigger.

- (a) Make sure that the trigger returns to the center (OFF) position.

**SUBTASK 23-51-04-420-004**

- (11) Connect the lugs to the interphone switch [3] in the PTT switch assembly [1].

- S519 - Captain
- S520 - First Officer

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- (a) Make sure that you connect the identified wires on the terminals.

NOTE: Correct wire installation is important for correct operation.

### SUBTASK 23-51-04-420-005

- (12) Connect the lugs to the microphone switch [6] in the PTT switch assembly [1].

- S161 - Captain
- S214 - First Officer

- (a) Make sure that you connect the identified wires on the terminals.

NOTE: Correct wire installation is important for correct operation.

### SUBTASK 23-51-04-420-006

- (13) Tighten the locking screw [5] on the PTT switch assembly [1].

### SUBTASK 23-51-04-420-007

- (14) Install the two mounting screws [2] on the control wheel.

## E. PTT Control Wheel Switch Installation Test

### SUBTASK 23-51-04-860-002

- (1) Remove the safety tags and close these circuit breakers:

#### CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| D          | 11         | C00165        | COMMUNICATIONS VHF 1 |

#### F/O Electrical System Panel, P6-1

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>          |
|------------|------------|---------------|----------------------|
| C          | 3          | C00166        | COMMUNICATIONS VHF 2 |

#### F/O Electrical System Panel, P6-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| C          | 21         | C00560        | INTERPHONE POWER F/O DC 2  |
| C          | 22         | C00561        | INTERPHONE POWER F/O BAT   |
| C          | 23         | C00239        | INTERPHONE POWER CAPT DC 2 |
| C          | 24         | C00240        | INTERPHONE POWER CAPT BAT  |
| D          | 21         | C00084        | INTPH AND WARN             |
| D          | 22         | C00086        | AUDIO F/O                  |
| D          | 23         | C00083        | AUDIO CAPT                 |
| D          | 24         | C00085        | AUDIO OBS                  |

### SUBTASK 23-51-04-440-001

- (2) Make sure that the oxygen system is pressurized (TASK 35-12-00-440-801).

NOTE: The switch in the stowage box will not set if the oxygen system is not pressurized.

### SUBTASK 23-51-04-850-001

- (3) Push the INT microphone selector switch on the pilot's Audio Control Panel (ACP) to on.

### SUBTASK 23-51-04-850-010

- (4) Turn the volume control for the INT microphone selector switch clockwise to the middle position.

### SUBTASK 23-51-04-850-004

- (5) Set the SPKR switch on the Audio Control Panels (ACP) to ON.

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**SUBTASK 23-51-04-850-005**

- (6) Turn the SPKR volume control on the ACP clockwise to the middle position or to the volume level you are comfortable with.

**SUBTASK 23-51-04-850-006**

- (7) Hold the PTT switch on the control wheel in the lower INT position.
- (a) Speak into the microphone.
  - (b) Make sure that there is a voice on the headset.
  - (c) Make sure that there is no PA announcement in the cabin area.
  - (d) Release the PTT switch.
  - (e) Make sure that the switch stays in the INT position.
  - (f) Push the PTT switch to the center (OFF) position.

**SUBTASK 23-51-04-020-009**

- (8) Remove the oxygen masks from the stowage box (TASK 35-12-85-000-802).

**SUBTASK 23-51-04-850-007**

- (9) Hold the PTT switch on the control wheel in the MIC position.
- (a) Speak into the oxygen mask microphone.
  - (b) Make sure that there is a voice from the cockpit speaker.
  - (c) Make sure that there is no voice from the cabin speakers.
  - (d) Release the PTT switch.
  - (e) Make sure that the switch returns to the center (OFF) position.

**SUBTASK 23-51-04-420-008**

- (10) Put the oxygen masks in the stowage box (TASK 35-12-85-400-802).

———— **END OF TASK** ————

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PUSH TO TALK CONTROL WHEEL SWITCH - ADJUSTMENT/TEST

1. **General**

- A. This procedure has this task:
- (1) An adjustment of the catchball.
- B. Do this procedure when the Push-To-Talk (PTT) switch is not in the INT locked position.

**TASK 23-51-04-720-801**

2. **Catchball Adjustment**

(Figure 501)

A. **General**

- (1) This task has the steps to adjust the catchball on the control wheel.

B. **References**

| Reference        | Title                                                          |
|------------------|----------------------------------------------------------------|
| 23-51-04-000-801 | Push-To-Talk (PTT) Control Wheel Switch Removal (P/B 401)      |
| 23-51-04-400-801 | Push To Talk (PTT) Control Wheel Switch Installation (P/B 401) |

C. **Consumable Materials**

| Reference | Description                                          | Specification                                             |
|-----------|------------------------------------------------------|-----------------------------------------------------------|
| A00270    | Compound - Threadlocking, Low-strength - Loctite 222 |                                                           |
| A00648    | Compound - Retaining - Loctite 242                   | ASTM D5363 Grp 3 Cl 2<br>Gd 1 (SUPERSEDES<br>MIL-S-46163) |

D. **Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

E. **Catchball Adjustment**

SUBTASK 23-51-04-760-001

- (1) Do these steps when the Push-To-Talk (PTT) switch does not lock in the INT position:
  - (a) Remove the PTT switch assembly (TASK 23-51-04-000-801).
  - (b) Do the steps to adjust the ball catch:

**NOTE:** The assembly consists of three small parts that will spring apart when released.

- 1) Remove the ball catch assembly from the trigger.
- 2) Apply a thin layer of Loctite 222 compound, A00270, or Loctite 242 compound, A00648, to 1 to 3 full threads centered on thread length of ball catch sleeve.
- 3) Assemble the catchesleeve, ball, and spring in the trigger.
- 4) Push the trigger to the INT position.
- 5) Turn the ball catch clockwise until the ball no longer makes contact with the switch mount detent.
- 6) Push the trigger to the INT position.
- 7) Turn the bullet catch counterclockwise until the ball just makes contact with the switch mount detent.

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- 8) Turn the bullet catch counterclockwise 1/4 turn.
- 9) Do not extend the bullet catch further than 0.078 in. (1.981 mm) from the trigger.  
NOTE: If the PTT switch will not stay in the INT position when the bullet catch is fully extended, adjust the PTT switch (Figure 501).

- 10) Push the trigger to the bottom (INT) position.
- 11) Make sure that the trigger stays in the locked INT position.
- (c) Install the PTT switch assembly (TASK 23-51-04-400-801):

**SUBTASK 23-51-04-850-008**

- (2) Push the trigger to the bottom (INT) position.
  - (a) Make sure that the trigger stays in the locked INT position.

———— **END OF TASK** ————

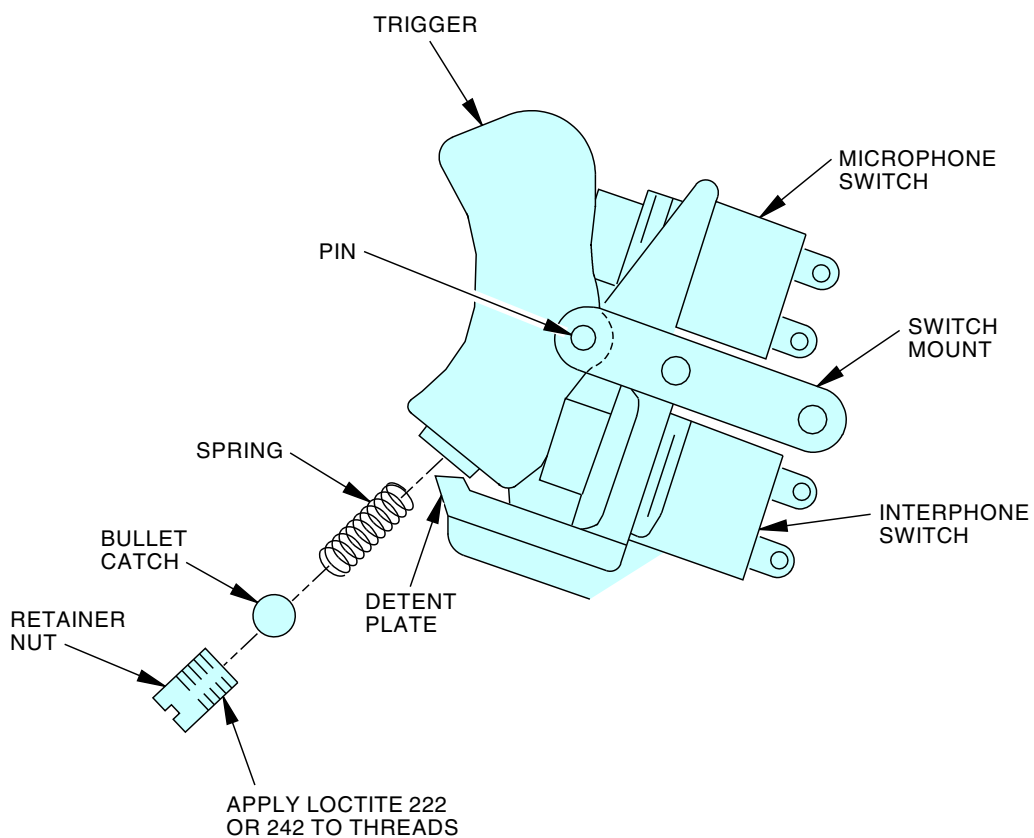
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**PTT SWITCH ASSEMBLY**

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**Control Wheel PTT Switch Bullet Catch Assembly**  
**Figure 501/23-51-04-990-802**

|                        |
|------------------------|
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GLARESHIELD PUSH TO TALK SWITCH - REMOVAL/INSTALLATION

1. **General**

- A. This procedure has these tasks:
- (1) Glareshield PTT Switch Removal
  - (2) Glareshield PTT Switch Installation.

**TASK 23-51-05-000-801**

2. **Glareshield Push To Talk (PTT) Switch Removal**

(Figure 401)

A. **General**

- (1) This procedure has steps to remove the glareshield PTT switch [1].

B. **Location Zones**

| <b>Zone</b> | <b>Area</b>                |
|-------------|----------------------------|
| 211         | Flight Compartment - Left  |
| 212         | Flight Compartment - Right |

C. **Prepare for the Glareshield PTT Switch Removal**

SUBTASK 23-51-05-860-001

- (1) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| <b><u>Row</u></b> | <b><u>Col</u></b> | <b><u>Number</u></b> | <b><u>Name</u></b>   |
|-------------------|-------------------|----------------------|----------------------|
| D                 | 11                | C00165               | COMMUNICATIONS VHF 1 |

**F/O Electrical System Panel, P6-1**

| <b><u>Row</u></b> | <b><u>Col</u></b> | <b><u>Number</u></b> | <b><u>Name</u></b>   |
|-------------------|-------------------|----------------------|----------------------|
| C                 | 3                 | C00166               | COMMUNICATIONS VHF 2 |

**F/O Electrical System Panel, P6-2**

| <b><u>Row</u></b> | <b><u>Col</u></b> | <b><u>Number</u></b> | <b><u>Name</u></b>         |
|-------------------|-------------------|----------------------|----------------------------|
| C                 | 21                | C00560               | INTERPHONE POWER F/O DC 2  |
| C                 | 22                | C00561               | INTERPHONE POWER F/O BAT   |
| C                 | 23                | C00239               | INTERPHONE POWER CAPT DC 2 |
| C                 | 24                | C00240               | INTERPHONE POWER CAPT BAT  |
| D                 | 21                | C00084               | INTPH AND WARN             |
| D                 | 22                | C00086               | AUDIO F/O                  |
| D                 | 23                | C00083               | AUDIO CAPT                 |
| D                 | 24                | C00085               | AUDIO OBS                  |

D. **Glareshield PTT Switch Removal**

SUBTASK 23-51-05-020-001

- (1) Remove the two screws [3] from the glareshield switch plate [2].

SUBTASK 23-51-05-020-002

- (2) Pull the glareshield PTT switch [1] from the glareshield panel.

SUBTASK 23-51-05-020-003

- (3) Do the steps to get access to the cable connector [5].

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- (a) Remove the screws that attach panel [6].
- (b) Make sure that you record the location of the different screws for the installation.
- (c) Remove the panel [6].

**SUBTASK 23-51-05-020-004**

- (4) Disconnect the cable connector [5] from the glareshield PTT switch [1].

**SUBTASK 23-51-05-020-005**

- (5) Remove the lock nut [4] from the glareshield PTT switch [1].

———— **END OF TASK** ————

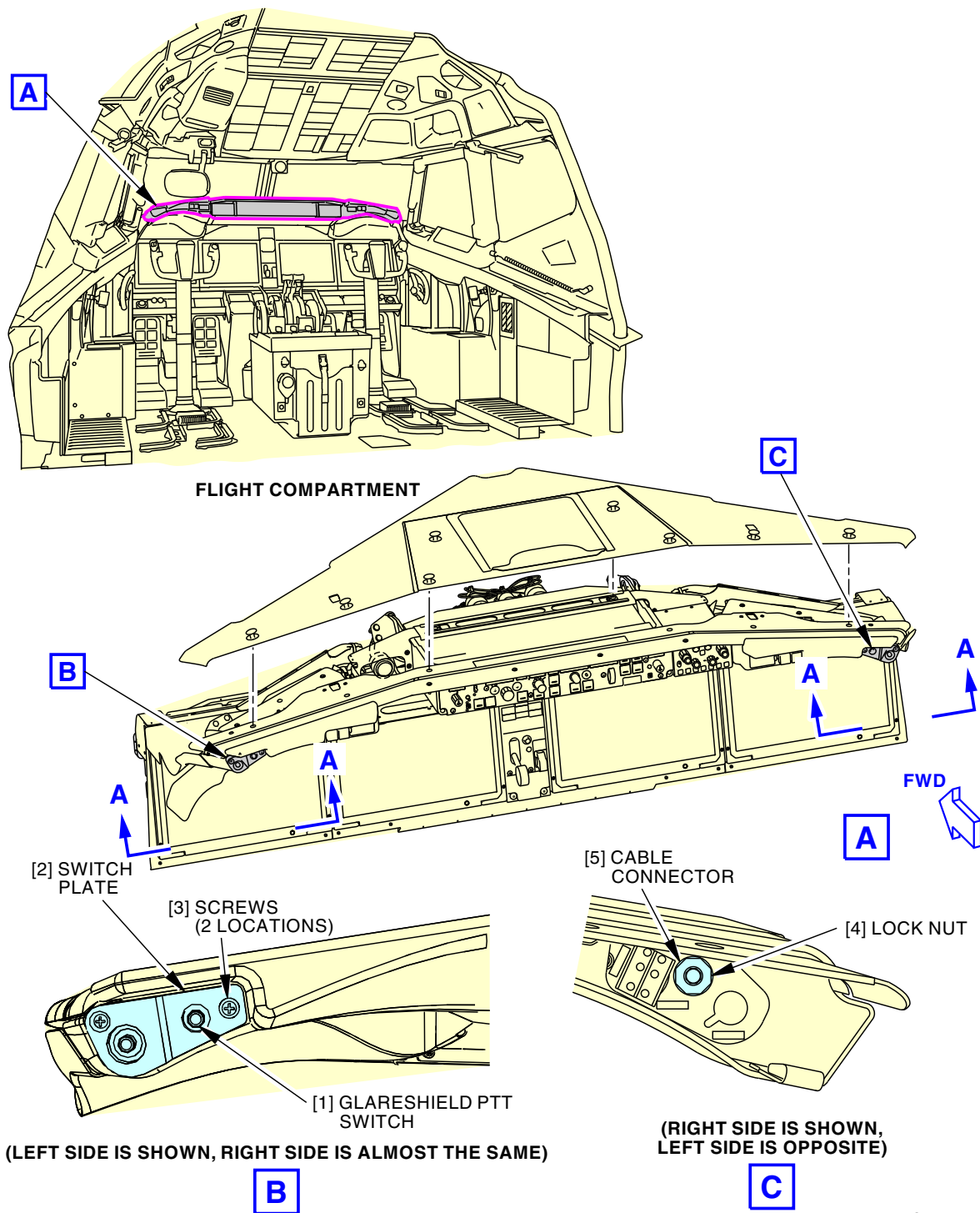
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**Glareshield PTT Switch Installation**  
Figure 401/23-51-05-990-801 (Sheet 1 of 2)

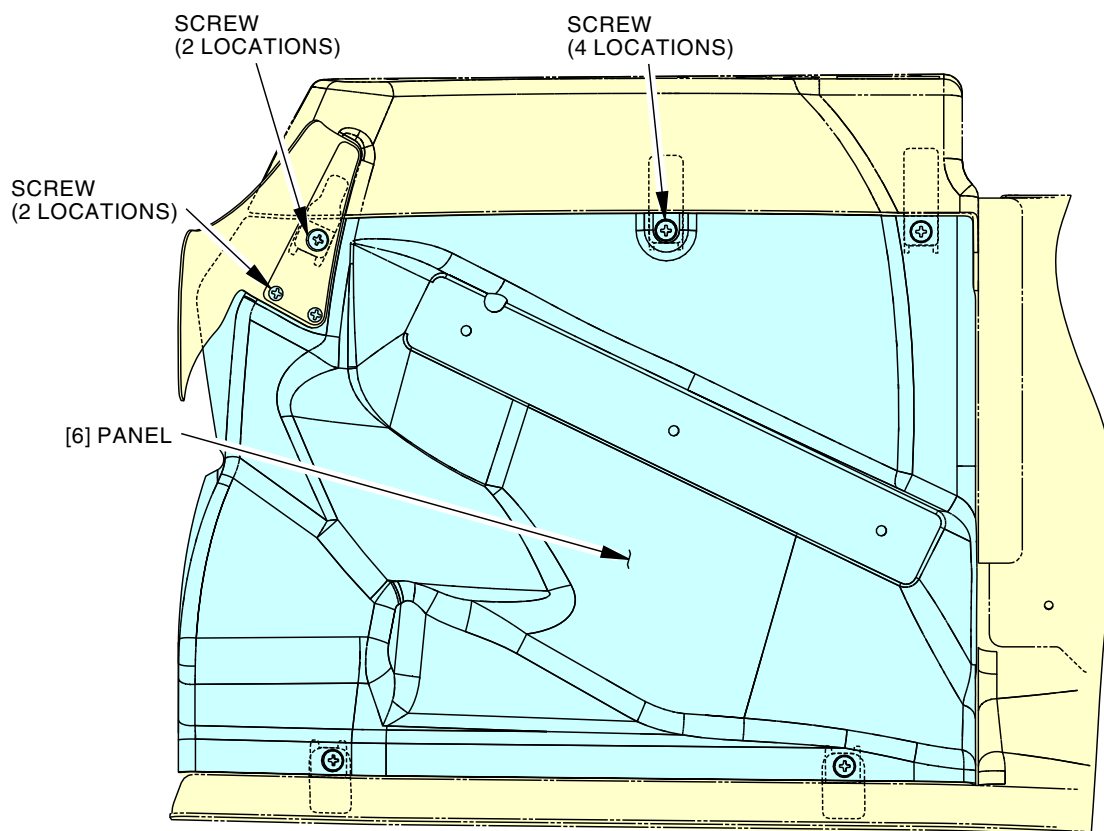
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(LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE)

**A-A**

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**Glareshield PTT Switch Installation**  
**Figure 401/23-51-05-990-801 (Sheet 2 of 2)**

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TASK 23-51-05-400-801

3. **Glareshield Push To Talk (PTT) Switch Installation**

(Figure 401)

**A. General**

- (1) This procedure has steps to install the glareshield PTT switch [1].

**B. References**

| Reference        | Title                                        |
|------------------|----------------------------------------------|
| 35-12-00-440-801 | Crew Oxygen System - Activation (P/B 201)    |
| 35-12-85-000-802 | Oxygen Mask/Regulator Removal (P/B 401)      |
| 35-12-85-400-802 | Oxygen Mask/Regulator Installation (P/B 401) |

**C. Expendables/Parts**

| AMM Item | Description            | AIPC Reference  | AIPC Effectivity |
|----------|------------------------|-----------------|------------------|
| 1        | Glareshield PTT switch | 23-51-05-01-010 | SIA ALL          |

**D. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

**E. Glareshield PTT Switch Installation**

SUBTASK 23-51-05-420-001

- (1) Install the lock nut [4] to the glareshield PTT switch [1]

SUBTASK 23-51-05-420-002

- (2) Connect the cable connector [5] to the glareshield PTT switch [1].

SUBTASK 23-51-05-420-003

- (3) Put the glareshield PTT switch [1] to the glareshield panel.

SUBTASK 23-51-05-420-004

- (4) Install two screws [3] to the switch plate [2].

SUBTASK 23-51-05-410-001

- (5) Put the panel [6] in its position.  
(a) Install the screws that attach the panel [6].

**F. Glareshield PTT Switch Installation Test**

SUBTASK 23-51-05-860-002

- (1) Remove the safety tags and close these circuit breakers:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name                 |
|-----|-----|--------|----------------------|
| D   | 11  | C00165 | COMMUNICATIONS VHF 1 |

**F/O Electrical System Panel, P6-1**

| Row | Col | Number | Name                 |
|-----|-----|--------|----------------------|
| C   | 3   | C00166 | COMMUNICATIONS VHF 2 |

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**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>                |
|------------|------------|---------------|----------------------------|
| C          | 21         | C00560        | INTERPHONE POWER F/O DC 2  |
| C          | 22         | C00561        | INTERPHONE POWER F/O BAT   |
| C          | 23         | C00239        | INTERPHONE POWER CAPT DC 2 |
| C          | 24         | C00240        | INTERPHONE POWER CAPT BAT  |
| D          | 21         | C00084        | INTPH AND WARN             |
| D          | 22         | C00086        | AUDIO F/O                  |
| D          | 23         | C00083        | AUDIO CAPT                 |
| D          | 24         | C00085        | AUDIO OBS                  |

**SUBTASK 23-51-05-440-001**

- (2) Make sure that the oxygen system is pressurized (TASK 35-12-00-440-801).

NOTE: The switch in the stowage box will not set if the oxygen system is not pressurized.

**SUBTASK 23-51-05-850-001**

- (3) Set the FLT INT volume control to ON.

NOTE: The volume control is automatic for the microphone.

**SUBTASK 23-51-05-850-002**

- (4) Set the FLT INT MIC button on the audio control panel's to ON.

**SUBTASK 23-51-05-850-003**

- (5) Turn the FLT INT volume controls to approximately 1/2 MAX on the audio control panel's.

**SUBTASK 23-51-05-850-004**

- (6) Set the SPKR switch on the audio control panel's to ON.

**SUBTASK 23-51-05-850-005**

- (7) Turn the SPKR volume control on the audio control panel's to approximately 1/2 MAX.

**SUBTASK 23-51-05-020-006**

- (8) Remove the oxygen masks from the stowage box (TASK 35-12-85-000-802).

**SUBTASK 23-51-05-850-006**

- (9) Hold the glareshield PTT switch [1].
- (a) Speak into the oxygen mask microphone.
  - (b) Make sure that there is a voice from the cockpit speaker.
  - (c) Make sure that there is no voice from the cabin speakers.
  - (d) Release the glareshield PTT switch [1].

**SUBTASK 23-51-05-420-005**

- (10) Put the oxygen masks in the stowage box (TASK 35-12-85-400-802).

———— **END OF TASK** ————

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STATIC DISCHARGERS - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) Static Discharger Removal
- (2) Static Discharger Installation
- (3) Static Discharger Base with Screws Removal
- (4) Static Discharger Base with Screws Installation
- (5) Static Discharger Base with Rivets Removal
- (6) Static Discharger Base with Rivets Installation
- (7) Static Discharger Base with Adapter Plate Assembly Removal
- (8) Static Discharger Base with Adapter Plate Assembly Installation

**TASK 23-61-00-000-801**

2. Static Discharger Removal

(Figure 401)

A. **General**

- (1) The static dischargers [1] are installed on the edge of the airplane wing and tail.
- (2) The static discharger [1] is held by a set screw [2] on its discharger base [3].
- (3) The discharger base [3] is attached to the airplane surface.

B. **References**

| Reference        | Title                                                                                            |
|------------------|--------------------------------------------------------------------------------------------------|
| 24-22-00-860-802 | Remove Electrical Power (P/B 201)                                                                |
| 27-11-00-860-801 | Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)                     |
| 27-11-00-860-802 | Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)                         |
| 27-21-00-800-802 | Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)            |
| 27-21-00-840-802 | Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)                          |
| 27-31-00-800-802 | Pressure from the Elevator Hydraulic Systems A and B Removal (P/B 201)                           |
| 27-31-00-840-802 | Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201) |

C. **Location Zones**

| Zone | Area       |
|------|------------|
| 300  | Empennage  |
| 500  | Left Wing  |
| 600  | Right Wing |

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**D. Prepare for the Static Discharger Removal**

SUBTASK 23-61-00-040-001



MAKE SURE TO REMOVE ALL PRESSURE FROM THE HYDRAULIC SYSTEM. DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.

- (1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces, do these tasks:
  - Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801
  - Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802
  - Pressure from the Elevator Hydraulic Systems A and B Removal, TASK 27-31-00-800-802

SUBTASK 23-61-00-040-002

- (2) Remove the electrical power (TASK 24-22-00-860-802).

**E. Static Discharger Removal**

SUBTASK 23-61-00-010-001

- (1) Get access to the static discharger [1].

SUBTASK 23-61-00-020-001

- (2) Loosen the set screw [2].

SUBTASK 23-61-00-020-002

- (3) Remove the static discharger [1] from the discharger base [3].

**F. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-61-00-440-001

- (1) If it is necessary, put the hydraulic systems back to the usual condition, do these tasks:
  - Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802
  - Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802
  - Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802

————— **END OF TASK** —————

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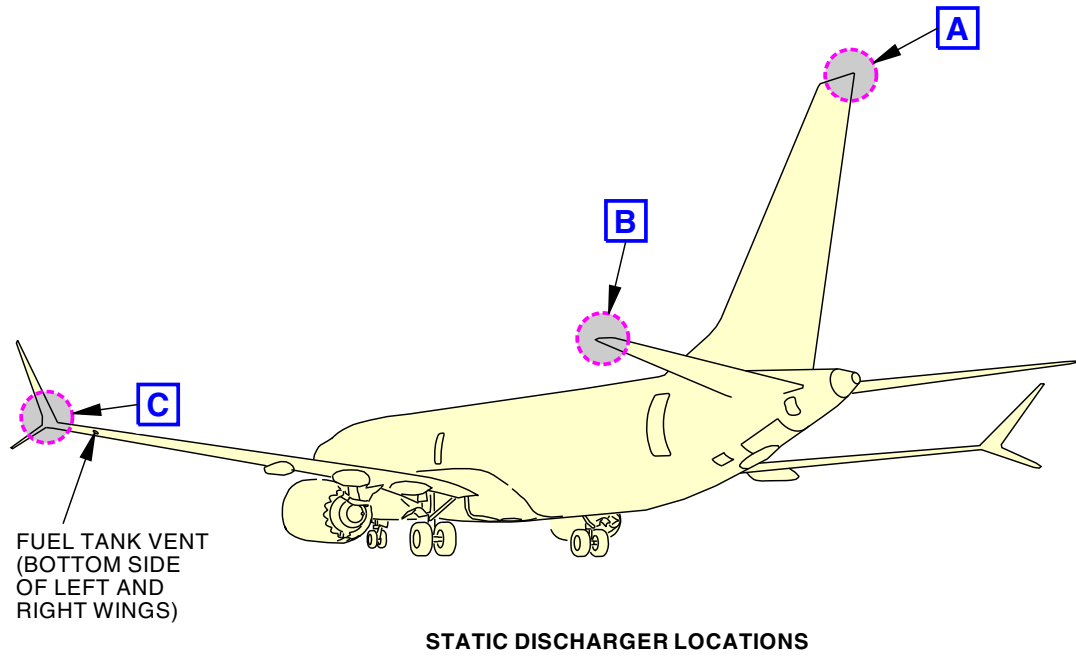
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2411709 S00061528784\_V1

Static Discharger Installation  
Figure 401/23-61-00-990-804 (Sheet 1 of 3)

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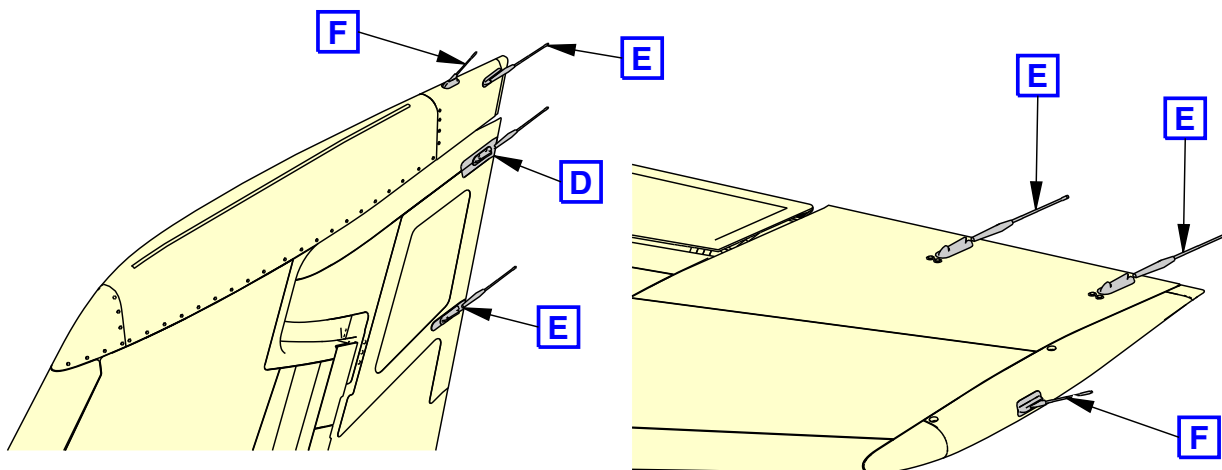
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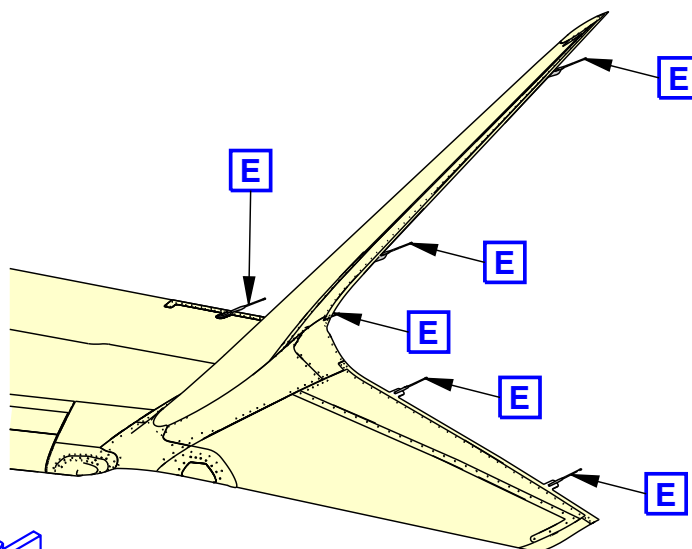
VERTICAL STABILIZER DISCHARGERS

A



LEFT HORIZONTAL STABILIZER  
DISCHARGERS - (RIGHT HORIZONTAL  
STABILIZER DISCHARGERS ARE OPPOSITE)

B



LEFT WING DISCHARGERS -  
(RIGHT WING DISCHARGERS  
ARE OPPOSITE)

C

2411710 S00061528785\_V1

Static Discharger Installation  
Figure 401/23-61-00-990-804 (Sheet 2 of 3)

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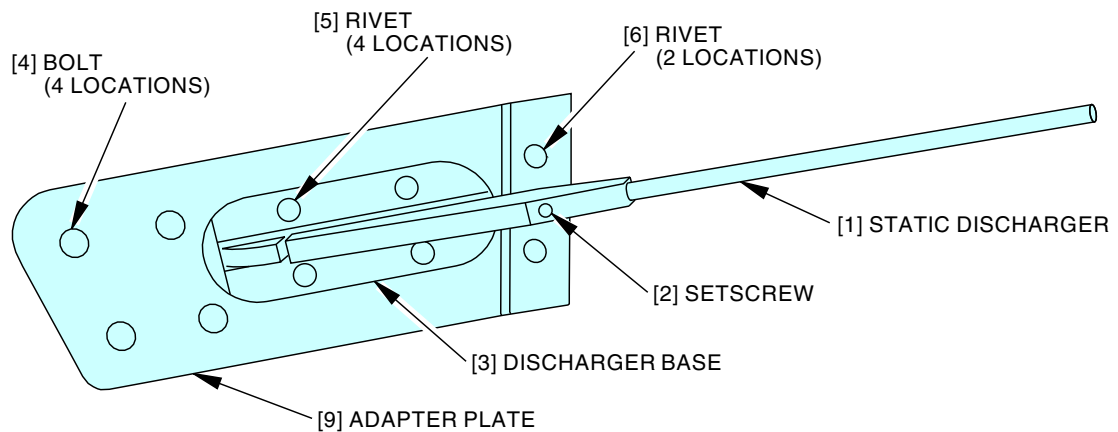
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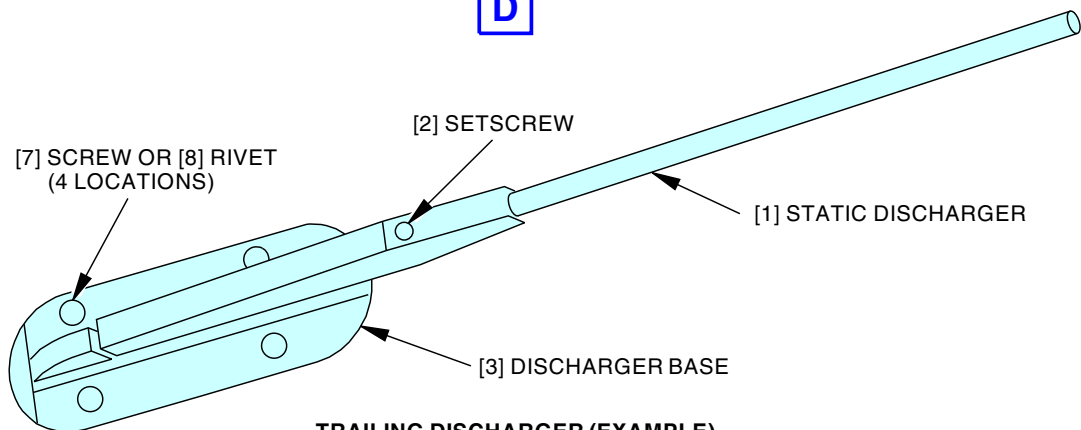
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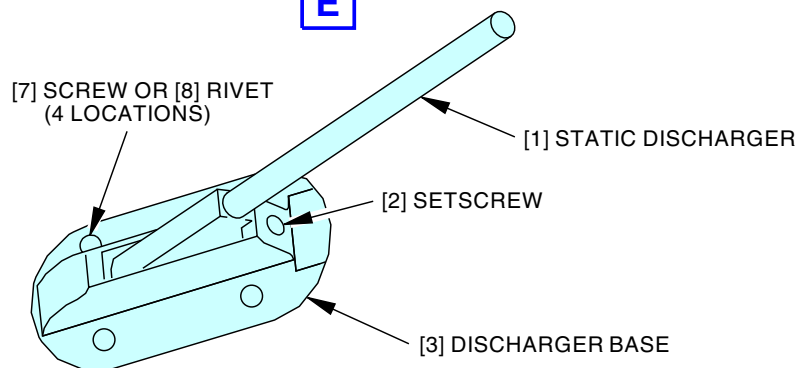
**TRAILING DISCHARGER WITH ADAPTER PLATE (EXAMPLE)**

**D**



**TRAILING DISCHARGER (EXAMPLE)**

**E**



**TIP DISCHARGER (EXAMPLE)**

**F**

2411711 S00061528786\_V1

**Static Discharger Installation  
Figure 401/23-61-00-990-804 (Sheet 3 of 3)**

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**TASK 23-61-00-400-801**

**3. Static Discharger Installation**

(Figure 401)

**A. General**

- (1) The static dischargers [1] are installed on the edge of the airplane wing and tail.
- (2) The discharger is held by a set screw [2] on its base.
- (3) The discharger base [3] is attached to the airplane surface.

**B. References**

| Reference        | Title                                                                                            |
|------------------|--------------------------------------------------------------------------------------------------|
| 23-61-00-990-803 | Figure: Chelton Static Discharger Resistance Test (P/B 601)                                      |
| 24-22-00-860-802 | Remove Electrical Power (P/B 201)                                                                |
| 27-11-00-860-801 | Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)                     |
| 27-11-00-860-802 | Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)                         |
| 27-21-00-800-802 | Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)            |
| 27-21-00-840-802 | Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)                          |
| 27-31-00-800-802 | Pressure from the Elevator Hydraulic Systems A and B Removal (P/B 201)                           |
| 27-31-00-840-802 | Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201) |
| SWPM 20-20-00    | ELECTRICAL BONDING PROCESSES                                                                     |

**C. Tools/Equipment**

**NOTE:** When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1550  | Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550).<br>Part #: 620LK Supplier: 1CRL2<br>Part #: M1 Supplier: 3AD17<br>Part #: M1B Supplier: 3AD17<br>Part #: T477W (C15292) Supplier: 06659 |
| COM-1587  | Wrench - Torque, 30 in-lbs (4 N-m)<br>Part #: TE3FUA Supplier: 55719                                                                                                                                                                                                                                                                               |
| COM-6457  | Meter - Insulation (Range: 1-1,000 VDC or equivalent, select meter per test requirements)<br>Part #: 1864-9700 Supplier: 62015<br>Part #: 1865PLUS Supplier: 62015<br>Part #: 1865PLUSCE Supplier: 62015<br>Part #: 2471F Supplier: 21844<br>Opt Part #: 1865-00-CE Supplier: 62015                                                                |

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D. Consumable Materials

| Reference | Description                        | Specification                                             |
|-----------|------------------------------------|-----------------------------------------------------------|
| A00648    | Compound - Retaining - Loctite 242 | ASTM D5363 Grp 3 Cl 2<br>Gd 1 (SUPERSEDES<br>MIL-S-46163) |

E. Expendables/Parts

| AMM Item | Description       | AIPC Reference  | AIPC Effectivity |
|----------|-------------------|-----------------|------------------|
| 1        | Static discharger | 23-61-00-02-110 | SIA ALL          |
|          |                   | 23-61-00-02-210 | SIA ALL          |
|          |                   | 23-61-00-02-305 | SIA ALL          |
|          |                   | 23-61-00-02-310 | SIA 001          |
|          |                   | 23-61-00-02-355 | SIA ALL          |

F. Location Zones

| Zone | Area       |
|------|------------|
| 300  | Empennage  |
| 500  | Left Wing  |
| 600  | Right Wing |

G. Prepare for the Static Discharger Installation

SUBTASK 23-61-00-040-003



**WARNING**

MAKE SURE TO REMOVE ALL PRESSURE FROM THE HYDRAULIC SYSTEM. DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.

- (1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces, do these tasks:
  - Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801
  - Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802
  - Pressure from the Elevator Hydraulic Systems A and B Removal, TASK 27-31-00-800-802

SUBTASK 23-61-00-040-004

- (2) Remove the electrical power (TASK 24-22-00-860-802).

SUBTASK 23-61-00-210-001

- (3) Inspect the static discharger [1].
  - (a) If the static discharger [1] is damaged, replace the static discharger [1].

SUBTASK 23-61-00-760-001



**WARNING**

OBEY THE INSTRUCTIONS TO USE A MEGOHMMETER, FAILURE TO OBEY THE INSTRUCTIONS WILL CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (4) Check for fuel vapors:
  - (a) Use these precautions for possible fuel vapors when you use a megohmmeter.

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- (b) Use the insulation meter, COM-6457 or equivalent meter with a 500 VDC test voltage and a maximum 5 milliampere short circuit current.
- (c) Do not use a megohmmeter at these locations:
  - 1) A 5.000 ft (1.524 m) diameter, vertical column areas adjacent to or below:
    - a wing fuel tank vent (from the vent to the ground).
    - open fuel tank doors (from the door to the ground).
    - open fuel tank access panels (from the panel to the ground).
  - 2) Zero to 18 in. (457 mm) above the ground in the area around the airplane.
- (d) Make sure that:
  - 1) Area is well ventilated.
  - 2) Metal workstands are grounded.
  - 3) Megohmmeter is plugged into a grounded receptacle.

NOTE: It is not necessary to connect shock-resistant portable megohmmeters to a grounded receptacle.
  - 4) Megohmmeter is insulated from metal work stands.

**SUBTASK 23-61-00-760-002**

- (5) Move the static dischargers [1] to a safe location for the test with a megohmmeter.

**SUBTASK 23-61-00-760-003**

- (6) Check the resistance between the discharger tip and the discharger shank:

NOTE: Dayton-Granger and other static dischargers [1] not supplied by Chelton.

  - (a) Use a megohmmeter to measure the resistance between the discharger tip and the discharger shank.
  - (b) Set the megohmmeter to 500 VDC test voltage.

NOTE: A good electrical bond between the end of the discharger tip and the megohmmeter is necessary for a correct measure of resistance.
  - (c) Make a good connection with the end of the discharger tip, use wet paper towel, cotton cloth or a sponge.
  - (d) Put the wet towel on the end of the discharger tip.
  - (e) Put the megohmmeter connectors on the shank of the static discharger and on the wet towel at the end of the tip.
    - 1) Make sure that the resistance is between 6-100 megohms.
    - 2) If the resistance is high, make sure that the meter lead and the end of the discharger tip touch the wet towel.
  - (f) If it is necessary, add water and measure.
    - 1) Use the low resistance value.

**SUBTASK 23-61-00-760-004**

- (7) Check resistance between the discharger tip and the discharger shank:

NOTE: Chelton supplied static dischargers [1] only.

  - (a) Use a megohmmeter to measure the resistance between the discharger tip and the discharger shank.

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- (b) Set the megohmmeter to 500 Vdc test voltage.

NOTE: A good electrical bond between the end of the discharger tip and the megohmmeter is necessary for a correct measure of resistance.

- (c) Make a good connection with the end of the discharger tip, use a wet material.

- (d) Put the wet material on the END of the discharger tip.

NOTE: This can give incorrect resistance values that cause unnecessary removals of serviceable static dischargers.

- (e) Do not wrap the wet material around the discharger tip of static dischargers

- (f) Put the wet material between the tip of the discharger and the megohmmeter probe.

- (g) Put one megohmmeter probe on the shank of the static discharger and one probe on the edge of the wet material at the end of the discharger tip.

NOTE: Refer to Alternate (Off Wing) Discharger Resistance Test Detail II (Figure 23-61-00-990-803).

- 1) Make sure that the measured resistance is between 6-100 megohms.
- 2) If the resistance is more than 6-100 megohms, remove the wet material.
- 3) Put megohmmeter probe directly on the tip of the discharger core material.

- (h) If it is necessary, add water and measure.

- 1) Use the low resistance value.

### H. Static Discharger Installation

SUBTASK 23-61-00-420-001

- (1) Install the set screw [2] into the static discharger [1].



**CAUTION**

DO NOT USE THIS MATERIAL WITH PLASTIC-BASED MATERIALS. IT WILL NOT BOND CORRECTLY. THE STATIC DISCHARGER WILL COME OFF. DAMAGE TO EQUIPMENT WILL OCCUR.

- (a) Apply a thin layer of Loctite 242 compound, A00648 to the set screw [2] threads.

NOTE: Static dischargers without NY-LOC insert in the set screw and static dischargers that are not plastic based material.

- (b) Do not use Loctite with the plastic-based material static discharger or with NY-LOC insert in the setscrew.

NOTE: Loctite reacts to the plastic materials that will cause eventual failure of the bond and result in separation of the static discharger from the airplane.

- (c) Install the set screw [2] on the static discharger [1].

- (d) Adjust the set screw [2] until it makes a continuous surface with the static discharger [1] casting.

SUBTASK 23-61-00-420-002

- (2) Install the static discharger [1] into the discharger base [3].

- (a) Hold the static discharger [1] in the correct position and tighten the set screw [2] to this value:

- 1) Tighten the set screw [2] to 6 in-lb (0.68 N·m) -9 in-lb (1.02 N·m) using a torque wrench ( 30 in-lbs), COM-1587.

- (b) Make sure that the static discharger [1] is attached to its base correctly.

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### I. Static Discharger Installation Test

SUBTASK 23-61-00-760-005



OBEY THE INSTRUCTIONS TO USE A BONDING METER, FAILURE TO OBEY INSTRUCTIONS WILL CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (1) Check the static dischargers with metallic shank:
  - (a) Use a intrinsically safe approved bonding meter, COM-1550, (SWPM 20-20-00) to measure the resistance between the static discharger shank and the static discharger base.
  - (b) Make sure that the resistance is not more than 1 ohm.

NOTE: A resistance of more than these values can cause damage if a lightning strike occurs.

SUBTASK 23-61-00-760-006



OBEY THE INSTRUCTIONS TO USE A BONDING METER, FAILURE TO OBEY INSTRUCTIONS WILL CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (2) Check the static dischargers with plastic shank:
  - (a) Use a intrinsically safe approved bonding meter, COM-1550, (SWPM 20-20-00) .
  - (b) Measure the resistance between the set screw [2] in the static discharger [1] shank and the static discharger base [3].
    - 1) Make sure that the resistance is not more than 1 ohm.

NOTE: A resistance of more than these values can cause damage if a lightning strike occurs.

### J. Put the Airplane Back to Its Usual Condition

SUBTASK 23-61-00-440-002

- (1) If it is necessary, put the hydraulic systems back to the usual condition:
  - Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802
  - Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802
  - Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802

————— END OF TASK —————

### TASK 23-61-00-000-802

#### 4. Static Discharger Base with Screws Removal

(Figure 401)

##### A. General

- (1) This procedure has steps to remove the static discharger base [3] with screws.

##### B. References

| Reference        | Title                             |
|------------------|-----------------------------------|
| 24-22-00-860-802 | Remove Electrical Power (P/B 201) |

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(Continued)

| <b>Reference</b> | <b>Title</b>                                                                                     |
|------------------|--------------------------------------------------------------------------------------------------|
| 27-11-00-860-801 | Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)                     |
| 27-11-00-860-802 | Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)                         |
| 27-21-00-800-802 | Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)            |
| 27-21-00-840-802 | Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)                          |
| 27-31-00-800-802 | Pressure from the Elevator Hydraulic Systems A and B Removal (P/B 201)                           |
| 27-31-00-840-802 | Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201) |

**C. Tools/Equipment**

**NOTE:** When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| <b>Reference</b> | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-2481         | Sealant Removal Tool (meets BSS7384 requirements)<br>Part #: 1-6390-A Supplier: 63318<br>Part #: 10810 Supplier: \$0855<br>Part #: 10811 Supplier: \$0855<br>Part #: 10812 Supplier: \$0855<br>Part #: 234350 Supplier: 5HCF1<br>Part #: 235072 Supplier: 5HCF1<br>Part #: 235073 Supplier: 5HCF1<br>Part #: 235074 Supplier: 5HCF1<br>Part #: 235075 Supplier: 5HCF1<br>Part #: 235076 Supplier: 5HCF1<br>Part #: 311/03 Supplier: F6892<br>Part #: 311/14 Supplier: F6892<br>Part #: 311/25 Supplier: F6892<br>Part #: 311/37 Supplier: F6892<br>Part #: AS1 Supplier: \$1351<br>Part #: AS2 Supplier: \$1351<br>Part #: AS3 Supplier: \$1351<br>Part #: DAD5013 Supplier: 7RKH2<br>Part #: DFD5019 Supplier: 7RKH2<br>Part #: JNT411B60 Supplier: 3DN12<br>Part #: JNT411B90 Supplier: 3DN12<br>Part #: SCD5019 Supplier: 7RKH2<br>Part #: ST982LF-9 Supplier: 81205<br>Part #: TS1275-4 Supplier: 22975 |
| STD-1053         | Knife - Putty, Broad Blade                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

**D. Location Zones**

| <b>Zone</b> | <b>Area</b> |
|-------------|-------------|
| 300         | Empennage   |
| 500         | Left Wing   |
| 600         | Right Wing  |

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### E. Prepare for the Static Discharger with Screws Removal

SUBTASK 23-61-00-040-005



MAKE SURE TO REMOVE ALL PRESSURE FROM THE HYDRAULIC SYSTEM. DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.

- (1) Remove pressure and power from hydraulic systems for the applicable flight control surfaces, do these tasks:
  - Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801
  - Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802
  - Pressure from the Elevator Hydraulic Systems A and B Removal, TASK 27-31-00-800-802

SUBTASK 23-61-00-040-006

- (2) Remove the electrical power (TASK 24-22-00-860-802).

### F. Static Discharger with Screws Removal

SUBTASK 23-61-00-020-003

- (1) Remove the discharger base [3]:
  - (a) Loosen the set screw [2] from the discharger base [3].
  - (b) Remove the static discharger [1] from the discharger base [3].
  - (c) Make a mark with a grease pencil larger than the area of the discharger base [3] be cleaned.
    - 1) Make sure that the line is parallel to the airflow.
  - (d) Remove the screws [7] from the discharger base [3].
    - 1) Remove the weather/aerodynamic fillet seal around the edge of the discharger base [3] with a sealant removal tool, COM-2481.
    - 2) Keep the screws [7] for installation.



BE CAREFUL WITH A PUTTY KNIFE, DAMAGE TO THE AIRCRAFT SURFACE CAN OCCUR.

- 3) Put a broad blade putty knife, STD-1053 below the edge of the discharger base [3].
- 4) Remove the discharger base [3] from the surface.

### G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-61-00-440-003

- (1) If it is necessary, put the hydraulic systems back to the usual condition, do these tasks:
  - Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802
  - Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802
  - Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802

————— END OF TASK —————

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TASK 23-61-00-400-802

5. Static Discharger Base with Screws Installation

(Figure 401)

A. General

(1) This procedure has steps to install the static discharger base [3] with screws.

B. References

| Reference        | Title                                                                                            |
|------------------|--------------------------------------------------------------------------------------------------|
| 20-10-34-120-801 | Hand Clean Metal Surfaces with Abrasives (P/B 701)                                               |
| 24-22-00-860-802 | Remove Electrical Power (P/B 201)                                                                |
| 27-11-00-860-801 | Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)                     |
| 27-11-00-860-802 | Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)                         |
| 27-21-00-800-802 | Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)            |
| 27-21-00-840-802 | Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)                          |
| 27-31-00-800-802 | Pressure from the Elevator Hydraulic Systems A and B Removal (P/B 201)                           |
| 27-31-00-840-802 | Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201) |
| 51-21-99-300-802 | Decorative Exterior Paint System Repair (P/B 701)                                                |
| 51-22-00-390-806 | Fillet Seal Application (P/B 201)                                                                |
| 51-22-00-390-808 | Fastener Seal Application (P/B 201)                                                              |
| SWPM 20-20-00    | ELECTRICAL BONDING PROCESSES                                                                     |

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1550  | Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550).<br>Part #: 620LK Supplier: 1CRL2<br>Part #: M1 Supplier: 3AD17<br>Part #: M1B Supplier: 3AD17<br>Part #: T477W (C15292) Supplier: 06659 |

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| Reference | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-2481  | Sealant Removal Tool (meets BSS7384 requirements)<br>Part #: 1-6390-A Supplier: 63318<br>Part #: 10810 Supplier: \$0855<br>Part #: 10811 Supplier: \$0855<br>Part #: 10812 Supplier: \$0855<br>Part #: 234350 Supplier: 5HCF1<br>Part #: 235072 Supplier: 5HCF1<br>Part #: 235073 Supplier: 5HCF1<br>Part #: 235074 Supplier: 5HCF1<br>Part #: 235075 Supplier: 5HCF1<br>Part #: 235076 Supplier: 5HCF1<br>Part #: 311/03 Supplier: F6892<br>Part #: 311/14 Supplier: F6892<br>Part #: 311/25 Supplier: F6892<br>Part #: 311/37 Supplier: F6892<br>Part #: AS1 Supplier: \$1351<br>Part #: AS2 Supplier: \$1351<br>Part #: AS3 Supplier: \$1351<br>Part #: DAD5013 Supplier: 7RKH2<br>Part #: DFD5019 Supplier: 7RKH2<br>Part #: JNT411B60 Supplier: 3DN12<br>Part #: JNT411B90 Supplier: 3DN12<br>Part #: SCD5019 Supplier: 7RKH2<br>Part #: ST982LF-9 Supplier: 81205<br>Part #: TS1275-4 Supplier: 22975 |
| STD-739   | Respirator - Half-Mask, Air Purifying (with filters/cartridges)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| STD-810   | Spatula - Fillet Smoothing, Hardwood or Plastic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## D. Consumable Materials

| Reference | Description                                                                                        | Specification                                                     |
|-----------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| A00247    | Sealant - Pressure And Environmental - Chromate Type                                               | BMS5-95                                                           |
| B00062    | Solvent - Acetone (99.5% Grade)                                                                    | ASTM D 329<br>(Supersedes O-A-51)                                 |
| B00102    | Abrasive - Aluminum Oxide Coated Cloth                                                             |                                                                   |
| B00148    | Solvent - Methyl Ethyl Ketone (MEK)                                                                | ASTM D740                                                         |
| B00184    | Solvent - Presealing, Cleaning Solvent                                                             | BMS11-7                                                           |
| B00666    | Solvent - Methyl Propyl Ketone                                                                     | BMS11-9                                                           |
| B01026    | Solvent - FCC-55                                                                                   |                                                                   |
| B01054    | Solvent - Methyl Ethyl Ketone and sec-Butyl Alcohol Blend - (MEK:secButyl Alcohol - 42:58 Percent) | BAC5750, ASTM D740/ASTM D1007                                     |
| G00034    | Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)                               | AMS3819 Class 1<br>Grade A or B Form 1<br>(Supersede BMS15-5 CLA) |

## E. Expendables/Parts

| AMM Item | Description       | AIPC Reference  | AIPC Effectivity |
|----------|-------------------|-----------------|------------------|
| 1        | Static discharger | 23-61-00-02-110 | SIA ALL          |

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| AMM Item  | Description | AIPC Reference  | AIPC Effectivity |
|-----------|-------------|-----------------|------------------|
| 1 (cont.) |             | 23-61-00-02-210 | SIA ALL          |
|           |             | 23-61-00-02-305 | SIA ALL          |
|           |             | 23-61-00-02-310 | SIA 001          |
|           |             | 23-61-00-02-355 | SIA ALL          |

**F. Location Zones**

| Zone | Area       |
|------|------------|
| 300  | Empennage  |
| 500  | Left Wing  |
| 600  | Right Wing |

**G. Prepare for the Static Discharger with Screws Installation**

SUBTASK 23-61-00-040-007



**WARNING**

MAKE SURE TO REMOVE ALL PRESSURE FROM THE HYDRAULIC SYSTEM. DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.

- (1) Remove pressure and power from hydraulic systems for applicable flight control surfaces, do these tasks:

- Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801
- Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802
- Pressure from the Elevator Hydraulic Systems A and B Removal, TASK 27-31-00-800-802

SUBTASK 23-61-00-040-008

- (2) Remove the electrical power (TASK 24-22-00-860-802).

SUBTASK 23-61-00-110-001

- (3) Clean the surface for the installation of the discharger base [3]:

- (a) Remove sealant with a sealant removal tool, COM-2481.



**WARNING**

DO NOT GET SOLVENTS IN YOUR MOUTH, EYES, OR SKIN. DO NOT BREATHE FUMES FROM SOLVENTS. REFER TO PRODUCT MATERIAL SAFETY DATA SHEETS (MSDS AND LOCAL REQUIREMENTS FOR PROPER HANDLING. SOLVENTS ARE HAZARDOUS MATERIALS AND MAY BE FLAMMABLE OR HARMFUL TO THE ENVIRONMENT.

- (b) Clean the area to be bonded with the solvent, B00148, solvent, B00666, solvent, B00184, FCC-55 solvent, B01026, or solvent, B01054.
- 1) Wear a half-mask respirator, STD-739 to clean with solvents.
  - 2) Apply the solvent with a cotton wiper, G00034.
- (c) Remove the solvent with cotton wiper, G00034 before it dries.
- 1) Make sure that you do not touch the surface.
- (d) Rub the surface with the abrasive cloth, B00102 (600 grit) (TASK 20-10-34-120-801).

NOTE: Change the sandpaper frequently.

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- 1) Make sure that you have a smooth surface.
- 2) Make sure that the surface is not shiny.
- (e) Clean with cotton wiper, G00034.

NOTE: Do not use solvent.

### H. Static Discharger with Screws Installation

SUBTASK 23-61-00-420-003

- (1) Install the static discharger base [3] to the aircraft surface:
  - (a) Remove the metal discharger base [3] from the plastic container.
    - 1) Make sure not to touch the bottom surface of the discharger base [3] which touches the airplane surface.
  - (b) Rub the discharger base [3] with a abrasive cloth, B00102.
    - 1) Make sure that the discharger base [3] is installed in less than 5 minutes.

NOTE: Do not rub a plated discharger base with sandpaper. A plated discharger base has a green dot for identification. Put a pair of gloves on to touch the bases.
    - 2) Make sure that you have a smooth surface.

NOTE: Change the sandpaper frequently.
    - 3) Make sure that the airplane surface is not shiny.
  - (c) Attach the discharger base [3] to the airplane surface.
    - 1) Make sure that you install the base in the same direction as the airflow.
  - (d) Install the screws [7] to attach the discharger base [3].
  - (e) Apply sealant, A00247 to the screws [7] (TASK 51-22-00-390-808).
  - (f) Apply sealant, A00247 to the edge of the discharger base [3] (TASK 51-22-00-390-806).
  - (g) Make the sealant smooth with a hardwood or plastic fillet smoothing spatula, STD-810.
  - (h) Make sure that you do not see cracks between the discharger base [3] and the airplane surface.
  - (i) Remove the sealant, A00247 with a cotton wiper, G00034 which is moist with solvent, B00062 or solvent, B00184.

SUBTASK 23-61-00-210-002

- (2) Examine the installation of the discharger base [3].
  - (a) Make sure that there are no cracks in the sealant, A00247.
  - (b) If you find a crack, fill the crack with the sealant, A00247.

### I. Static Discharger with Screws Installation Test

SUBTASK 23-61-00-760-007



**WARNING**

OBEY THE INSTRUCTIONS TO USE A MEGOHMMETER, FAILURE TO OBEY THE INSTRUCTIONS WILL CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (1) Check the electrical bond between the discharger base [3] and airplane surface:

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- (a) Use an intrinsically safe approved bonding meter, COM-1550 to measure the electrical bond between the discharger base [3] and the airplane surface (SWPM 20-20-00).

**NOTE:** This resistance value is for a new installed static discharger base and a new bond. The resistance value is different for an in-service bond and the discharger base.

The resistance value of a new discharger base [3] must not be more than:

**NOTE:** A resistance of more than these value can cause airplane equipment damage if a lightning strike occurs.

- 1) 0.01 ohms for discharger base [3] installed on metal panels.
- 2) 0.10 ohms for discharger base [3] installed on an aluminum flame spray on top of the fiberglass laminate or the composite panel.

**NOTE:** This includes discharger bases installed on aluminum-covered fabric.

- 3) 1.0 ohms for discharger base [3] installed on composite panels without a cover of the aluminum flame spray.

SUBTASK 23-61-00-420-004

- (2) Install the static discharger [1] into the discharger base [3], do this task: Static Discharger Installation, TASK 23-61-00-400-801.

### J. Put the Airplane Back to Its Usual Condition

SUBTASK 23-61-00-370-001

- (1) Paint the area around the discharger base [3] (TASK 51-21-99-300-802).

SUBTASK 23-61-00-440-004

- (2) If it is necessary, put the hydraulic systems back to the usual condition, do these tasks:
- Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802
  - Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802
  - Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802

————— END OF TASK —————

### TASK 23-61-00-000-803

#### 6. Static Discharger Base with Rivets Removal

(Figure 401)

##### A. General

- (1) This procedure has steps to remove the static discharger base [3] base with rivets.

##### B. References

| Reference        | Title                                                                                 |
|------------------|---------------------------------------------------------------------------------------|
| 24-22-00-860-802 | Remove Electrical Power (P/B 201)                                                     |
| 27-11-00-860-801 | Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)          |
| 27-11-00-860-802 | Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)              |
| 27-21-00-800-802 | Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201) |

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| Reference        | Title                                                                                            |
|------------------|--------------------------------------------------------------------------------------------------|
| 27-21-00-840-802 | Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)                          |
| 27-31-00-800-802 | Pressure from the Elevator Hydraulic Systems A and B Removal (P/B 201)                           |
| 27-31-00-840-802 | Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201) |
| SRM 51-40-02     | FASTENER INSTALLATION AND REMOVAL                                                                |

**C. Tools/Equipment**

**NOTE:** When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt.", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-2481  | Sealant Removal Tool (meets BSS7384 requirements)<br>Part #: 1-6390-A Supplier: 63318<br>Part #: 10810 Supplier: \$0855<br>Part #: 10811 Supplier: \$0855<br>Part #: 10812 Supplier: \$0855<br>Part #: 234350 Supplier: 5HCF1<br>Part #: 235072 Supplier: 5HCF1<br>Part #: 235073 Supplier: 5HCF1<br>Part #: 235074 Supplier: 5HCF1<br>Part #: 235075 Supplier: 5HCF1<br>Part #: 235076 Supplier: 5HCF1<br>Part #: 311/03 Supplier: F6892<br>Part #: 311/14 Supplier: F6892<br>Part #: 311/25 Supplier: F6892<br>Part #: 311/37 Supplier: F6892<br>Part #: AS1 Supplier: \$1351<br>Part #: AS2 Supplier: \$1351<br>Part #: AS3 Supplier: \$1351<br>Part #: DAD5013 Supplier: 7RKH2<br>Part #: DFD5019 Supplier: 7RKH2<br>Part #: JNT411B60 Supplier: 3DN12<br>Part #: JNT411B90 Supplier: 3DN12<br>Part #: SCD5019 Supplier: 7RKH2<br>Part #: ST982LF-9 Supplier: 81205<br>Part #: TS1275-4 Supplier: 22975 |
| STD-1053  | Knife - Putty, Broad Blade                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

**D. Location Zones**

| Zone | Area       |
|------|------------|
| 300  | Empennage  |
| 500  | Left Wing  |
| 600  | Right Wing |

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**E. Prepare for the Static Discharger Base with Rivets Removal**

SUBTASK 23-61-00-040-009



MAKE SURE TO REMOVE ALL PRESSURE FROM THE HYDRAULIC SYSTEM. DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.

- (1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces, do these tasks:
  - Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801
  - Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802
  - Pressure from the Elevator Hydraulic Systems A and B Removal, TASK 27-31-00-800-802

SUBTASK 23-61-00-040-010

- (2) Remove the electrical power (TASK 24-22-00-860-802).

**F. Static Discharger Base with Rivets Removal**

SUBTASK 23-61-00-020-004

- (1) Remove the discharger base [3] with rivets:
  - (a) Loosen the set screw [2].
  - (b) Remove the static discharger [1] from the base.
  - (c) Make a mark with a grease pencil larger than the area of the discharger base [3].
    - 1) Make sure that the line is parallel to the airflow.
  - (d) Remove the discharger base [3].
    - 1) Remove the weather/aerodynamic fillet seal around the edge of the discharger base [3] with a sealant removal tool, COM-2481.
  - (e) Remove the rivets [8] from the discharger base [3] (SRM SUBJECT 51-40-02).



BE CAREFUL WITH A PUTTY KNIFE, DAMAGE TO THE AIRCRAFT SURFACE CAN OCCUR.

- (f) Put a broad blade putty knife, STD-1053 below the edge of the discharger base [3].
- (g) Remove the discharger base [3] from the airplane surface.

**G. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-61-00-440-005

- (1) If it is necessary, put the hydraulic systems back to the usual condition, do these tasks:
  - Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802
  - Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802
  - Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802

————— END OF TASK —————

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TASK 23-61-00-400-803

7. **Static Discharger Base with Rivets Installation**

(Figure 401)

**A. General**

(1) This procedure has steps to install the discharger base [3] with rivets.

**B. References**

| Reference        | Title                                                                                            |
|------------------|--------------------------------------------------------------------------------------------------|
| 20-10-34-120-801 | Hand Clean Metal Surfaces with Abrasives (P/B 701)                                               |
| 24-22-00-860-802 | Remove Electrical Power (P/B 201)                                                                |
| 27-11-00-860-801 | Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)                     |
| 27-11-00-860-802 | Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)                         |
| 27-21-00-800-802 | Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)            |
| 27-21-00-840-802 | Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)                          |
| 27-31-00-800-802 | Pressure from the Elevator Hydraulic Systems A and B Removal (P/B 201)                           |
| 27-31-00-840-802 | Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201) |
| 51-21-99-300-802 | Decorative Exterior Paint System Repair (P/B 701)                                                |
| 51-22-00-390-806 | Fillet Seal Application (P/B 201)                                                                |
| 51-22-00-390-808 | Fastener Seal Application (P/B 201)                                                              |
| SRM 51-40-02     | FASTENER INSTALLATION AND REMOVAL                                                                |
| SWPM 20-20-00    | ELECTRICAL BONDING PROCESSES                                                                     |

**C. Tools/Equipment**

**NOTE:** When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1550  | Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550).<br>Part #: 620LK Supplier: 1CRL2<br>Part #: M1 Supplier: 3AD17<br>Part #: M1B Supplier: 3AD17<br>Part #: T477W (C15292) Supplier: 06659 |

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| Reference | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-2481  | Sealant Removal Tool (meets BSS7384 requirements)<br>Part #: 1-6390-A Supplier: 63318<br>Part #: 10810 Supplier: \$0855<br>Part #: 10811 Supplier: \$0855<br>Part #: 10812 Supplier: \$0855<br>Part #: 234350 Supplier: 5HCF1<br>Part #: 235072 Supplier: 5HCF1<br>Part #: 235073 Supplier: 5HCF1<br>Part #: 235074 Supplier: 5HCF1<br>Part #: 235075 Supplier: 5HCF1<br>Part #: 235076 Supplier: 5HCF1<br>Part #: 311/03 Supplier: F6892<br>Part #: 311/14 Supplier: F6892<br>Part #: 311/25 Supplier: F6892<br>Part #: 311/37 Supplier: F6892<br>Part #: AS1 Supplier: \$1351<br>Part #: AS2 Supplier: \$1351<br>Part #: AS3 Supplier: \$1351<br>Part #: DAD5013 Supplier: 7RKH2<br>Part #: DFD5019 Supplier: 7RKH2<br>Part #: JNT411B60 Supplier: 3DN12<br>Part #: JNT411B90 Supplier: 3DN12<br>Part #: SCD5019 Supplier: 7RKH2<br>Part #: ST982LF-9 Supplier: 81205<br>Part #: TS1275-4 Supplier: 22975 |
| STD-739   | Respirator - Half-Mask, Air Purifying (with filters/cartridges)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| STD-810   | Spatula - Fillet Smoothing, Hardwood or Plastic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

**D. Consumable Materials**

| Reference | Description                                                                                        | Specification                                                     |
|-----------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| A00247    | Sealant - Pressure And Environmental - Chromate Type                                               | BMS5-95                                                           |
| B00062    | Solvent - Acetone (99.5% Grade)                                                                    | ASTM D 329<br>(Supersedes O-A-51)                                 |
| B00102    | Abrasive - Aluminum Oxide Coated Cloth                                                             |                                                                   |
| B00148    | Solvent - Methyl Ethyl Ketone (MEK)                                                                | ASTM D740                                                         |
| B00184    | Solvent - Presealing, Cleaning Solvent                                                             | BMS11-7                                                           |
| B00666    | Solvent - Methyl Propyl Ketone                                                                     | BMS11-9                                                           |
| B01026    | Solvent - FCC-55                                                                                   |                                                                   |
| B01054    | Solvent - Methyl Ethyl Ketone and sec-Butyl Alcohol Blend - (MEK:secButyl Alcohol - 42:58 Percent) | BAC5750, ASTM D740/ASTM D1007                                     |
| G00034    | Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)                               | AMS3819 Class 1<br>Grade A or B Form 1<br>(Supersede BMS15-5 CLA) |

**E. Expendables/Parts**

| AMM Item | Description       | AIPC Reference  | AIPC Effectivity |
|----------|-------------------|-----------------|------------------|
| 1        | Static discharger | 23-61-00-02-110 | SIA ALL          |

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| AMM Item  | Description | AIPC Reference  | AIPC Effectivity |
|-----------|-------------|-----------------|------------------|
| 1 (cont.) |             | 23-61-00-02-210 | SIA ALL          |
|           |             | 23-61-00-02-305 | SIA ALL          |
|           |             | 23-61-00-02-310 | SIA 001          |
|           |             | 23-61-00-02-355 | SIA ALL          |

**F. Location Zones**

| Zone | Area       |
|------|------------|
| 300  | Empennage  |
| 500  | Left Wing  |
| 600  | Right Wing |

**G. Prepare for the Static Discharger Base with Rivets Installation**

SUBTASK 23-61-00-040-011



**WARNING**

MAKE SURE TO REMOVE ALL PRESSURE FROM THE HYDRAULIC SYSTEM. DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.

- (1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces, do these tasks:
  - Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801
  - Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802
  - Pressure from the Elevator Hydraulic Systems A and B Removal, TASK 27-31-00-800-802

SUBTASK 23-61-00-040-012

- (2) Remove the electrical power (TASK 24-22-00-860-802).

SUBTASK 23-61-00-110-002

- (3) Clean the surface for the installation of the discharger base [3]:
  - (a) Remove sealant with a sealant removal tool, COM-2481.



**WARNING**

DO NOT GET SOLVENTS IN YOUR MOUTH, EYES, OR SKIN. DO NOT BREATHE FUMES FROM SOLVENTS. REFER TO PRODUCT MATERIAL SAFETY DATA SHEETS (MSDS AND LOCAL REQUIREMENTS FOR PROPER HANDLING. SOLVENTS ARE HAZARDOUS MATERIALS AND MAY BE FLAMMABLE OR HARMFUL TO THE ENVIRONMENT.

- (b) Clean the area to be bonded with solvent, B00148, solvent, B00666, solvent, B00184, FCC-55 solvent, B01026, or solvent, B01054.
  - 1) Wear a half-mask respirator, STD-739 to clean with solvents.
  - 2) Apply the solvent with a cotton wiper, G00034.
- (c) Remove the solvent with cotton wiper, G00034 before it dries.
  - 1) Make sure that you do not touch the cleaned surface.

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- (d) Rub the surface with the abrasive cloth, B00102 (600 grit) 1183 (TASK 20-10-34-120-801).

NOTE: Change the sandpaper frequently.

- 1) Make sure that you have a smooth surface.
  - 2) Make sure that the surface is not shiny.
- (e) Clean with cotton wiper, G00034.

NOTE: Do not use solvent.

#### **H. Static Discharger Base with Rivets Installation**

**SUBTASK 23-61-00-420-005**

- (1) Install the discharger base [3] with rivets:
  - (a) Remove the metal discharger base [3] from the plastic container.
    - 1) Make sure not to touch the bottom surface of the discharger base [3] which touches the airplane surface.
  - (b) Rub the discharger base [3] with a abrasive cloth, B00102.
    - 1) Make sure that the discharger base [3] is installed in less than 5 minutes.

NOTE: Do not rub a plated discharger base with sandpaper. A plated discharger base has a green dot for identification. Put a pair of gloves on to touch the bases.
    - 2) Make sure that you have a smooth surface.

NOTE: Change the sandpaper frequently.
    - 3) Make sure that the airplane surface is not shiny.
  - (c) Attach the discharger base [3] to the airplane surface.
    - 1) Make sure that you install the base in the same direction as the airflow.
  - (d) Install the rivets [8] to the discharger base [3] (SRM SUBJECT 51-40-02).
  - (e) Apply sealant, A00247 to the rivets [8] (Fastener Seal Application, TASK 51-22-00-390-808).
  - (f) Apply sealant, A00247 to the edge of the discharger base [3] (TASK 51-22-00-390-806).
  - (g) Make the sealant smooth with a hardwood or plastic fillet smoothing spatula, STD-810.
  - (h) Make sure that you do not see cracks between the discharger base [3] and the airplane surface.
  - (i) Remove the sealant, A00247 with a cotton wiper, G00034 which is moist with solvent, B00062 or solvent, B00184.

**SUBTASK 23-61-00-210-003**

- (2) Examine the installation of the discharger base [3]:
  - (a) Make sure that there are no cracks in the sealant, A00247.
  - (b) If you find a crack, fill the crack with the sealant, A00247.

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### I. Static Discharger Base with Rivets Installation Test

SUBTASK 23-61-00-760-008



OBEY THE INSTRUCTIONS TO USE A MEGOHMMETER, FAILURE TO OBEY THE INSTRUCTIONS WILL CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (1) Check the electrical bond between the discharger base [3] and airplane surface:
  - (a) Use a intrinsically safe approved bonding meter, COM-1550 to measure the electrical bond between the discharger base [3] and the airplane surface (SWPM 20-20-00).

NOTE: This resistance value is for a new installed static discharger base and a new bond. The resistance value is different for an in-service bond and the discharger base.

The resistance value of a new discharger base [3] must not be more than:

NOTE: A resistance of more than these value can cause airplane equipment damage if a lightning strike occurs.

- 1) 0.01 ohms for discharger base [3] installed on metal panels.
- 2) 0.10 ohms for discharger base [3] installed on an aluminum flame spray on top of the fiberglass laminate or the composite panel.

NOTE: This includes discharger bases installed on aluminum-covered fabric.

- 3) 1.0 ohms for discharger base [3] installed on composite panels without a cover of the aluminum flame spray.

SUBTASK 23-61-00-420-006

- (2) Install the static discharger [1] into the discharger base [3], do this task: Static Discharger Installation, TASK 23-61-00-400-801.

### J. Put the Airplane Back to Its Usual Condition

SUBTASK 23-61-00-370-002

- (1) Paint the area around the discharger base [3] (TASK 51-21-99-300-802).

SUBTASK 23-61-00-440-006

- (2) If it is necessary, put the hydraulic systems back to the usual condition, do these tasks:
  - Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802
  - Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802
  - Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802

————— END OF TASK —————

### TASK 23-61-00-000-804

### 8. Static Discharger Base with Adapter Plate Assembly Removal

(Figure 401)

#### A. General

- (1) This procedure has steps to remove the static discharger base [3] with adapter plate assembly.

#### B. References

| Reference        | Title                             |
|------------------|-----------------------------------|
| 24-22-00-860-802 | Remove Electrical Power (P/B 201) |

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| Reference        | Title                                                                                            |
|------------------|--------------------------------------------------------------------------------------------------|
| 27-11-00-860-801 | Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)                     |
| 27-11-00-860-802 | Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)                         |
| 27-21-00-800-802 | Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)            |
| 27-21-00-840-802 | Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)                          |
| 27-31-00-800-802 | Pressure from the Elevator Hydraulic Systems A and B Removal (P/B 201)                           |
| 27-31-00-840-802 | Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201) |
| SRM 51-40-02     | FASTENER INSTALLATION AND REMOVAL                                                                |

**C. Tools/Equipment**

**NOTE:** When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt.", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-2481  | Sealant Removal Tool (meets BSS7384 requirements)<br>Part #: 1-6390-A Supplier: 63318<br>Part #: 10810 Supplier: \$0855<br>Part #: 10811 Supplier: \$0855<br>Part #: 10812 Supplier: \$0855<br>Part #: 234350 Supplier: 5HCF1<br>Part #: 235072 Supplier: 5HCF1<br>Part #: 235073 Supplier: 5HCF1<br>Part #: 235074 Supplier: 5HCF1<br>Part #: 235075 Supplier: 5HCF1<br>Part #: 235076 Supplier: 5HCF1<br>Part #: 311/03 Supplier: F6892<br>Part #: 311/14 Supplier: F6892<br>Part #: 311/25 Supplier: F6892<br>Part #: 311/37 Supplier: F6892<br>Part #: AS1 Supplier: \$1351<br>Part #: AS2 Supplier: \$1351<br>Part #: AS3 Supplier: \$1351<br>Part #: DAD5013 Supplier: 7RKH2<br>Part #: DFD5019 Supplier: 7RKH2<br>Part #: JNT411B60 Supplier: 3DN12<br>Part #: JNT411B90 Supplier: 3DN12<br>Part #: SCD5019 Supplier: 7RKH2<br>Part #: ST982LF-9 Supplier: 81205<br>Part #: TS1275-4 Supplier: 22975 |
| STD-1053  | Knife - Putty, Broad Blade                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

**D. Location Zones**

| Zone | Area      |
|------|-----------|
| 300  | Empennage |
| 500  | Left Wing |

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| Zone | Area       |
|------|------------|
| 600  | Right Wing |

**E. Prepare for the Static Discharger Base with Adapter Plate Assembly Removal**

SUBTASK 23-61-00-040-013



**WARNING**

MAKE SURE TO REMOVE ALL PRESSURE FROM THE HYDRAULIC SYSTEM. DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.

- (1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces, do these tasks:
  - Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801
  - Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802
  - Pressure from the Elevator Hydraulic Systems A and B Removal, TASK 27-31-00-800-802

SUBTASK 23-61-00-040-014

- (2) Remove the electrical power (TASK 24-22-00-860-802).

**F. Static Discharger Base with Adapter Plate Assembly Removal**

SUBTASK 23-61-00-020-005

- (1) Remove the static discharger base [3] with adapter plate [9] assembly:
  - (a) Loosen the set screw [2].
  - (b) Remove the static discharger [1] from the discharger base [3].
  - (c) Make a mark with a grease pencil larger than the area of the discharger base [3] to be cleaned.
    - 1) Make sure that the line is parallel to the airflow.
  - (d) Remove the adapter plate [9] assembly:
    - 1) Remove the weather/aerodynamic fillet seal around the edge of the adapter plate [9] with a sealant removal tool, COM-2481.
    - 2) Remove the bolts [4] and rivets [6] from the adapter plate [9] (SRM SUBJECT 51-40-02).



**CAUTION**

BE CAREFUL WITH A PUTTY KNIFE, DAMAGE TO THE AIRCRAFT SURFACE CAN OCCUR.

- (e) Put a broad blade putty knife, STD-1053 below the edge of the adapter plate [9].
- (f) Remove the adapter plate [9] from the airplane surface.
- (g) Remove the discharger base [3] from the adapter plate [9].
  - 1) Remove the rivets [5] from the discharger base [3] (SRM SUBJECT 51-40-02).
  - 2) Remove the discharger base [3] from the adapter plate [9].

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### G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-61-00-440-007

- (1) If it is necessary, put the hydraulic systems back to the usual condition, do these tasks:
- Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802
  - Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802
  - Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802

————— END OF TASK —————

### TASK 23-61-00-400-804

### 9. Static Discharger Base with Adapter Plate Assembly Installation

(Figure 401)

#### A. General

- (1) This procedure has steps to install the static discharger base [3] with adapter plate assembly.

#### B. References

| Reference        | Title                                                                                            |
|------------------|--------------------------------------------------------------------------------------------------|
| 20-10-34-120-801 | Hand Clean Metal Surfaces with Abrasives (P/B 701)                                               |
| 24-22-00-860-802 | Remove Electrical Power (P/B 201)                                                                |
| 27-11-00-860-801 | Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)                     |
| 27-11-00-860-802 | Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)                         |
| 27-21-00-800-802 | Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)            |
| 27-21-00-840-802 | Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)                          |
| 27-31-00-800-802 | Pressure from the Elevator Hydraulic Systems A and B Removal (P/B 201)                           |
| 27-31-00-840-802 | Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201) |
| 51-21-99-300-802 | Decorative Exterior Paint System Repair (P/B 701)                                                |
| 51-22-00-390-806 | Fillet Seal Application (P/B 201)                                                                |
| 51-22-00-390-808 | Fastener Seal Application (P/B 201)                                                              |
| SRM 51-40-02     | FASTENER INSTALLATION AND REMOVAL                                                                |
| SWPM 20-20-00    | ELECTRICAL BONDING PROCESSES                                                                     |

#### C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

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| Reference | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1550  | Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550).<br>Part #: 620LK Supplier: 1CRL2<br>Part #: M1 Supplier: 3AD17<br>Part #: M1B Supplier: 3AD17<br>Part #: T477W (C15292) Supplier: 06659                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| COM-2481  | Sealant Removal Tool (meets BSS7384 requirements)<br>Part #: 1-6390-A Supplier: 63318<br>Part #: 10810 Supplier: \$0855<br>Part #: 10811 Supplier: \$0855<br>Part #: 10812 Supplier: \$0855<br>Part #: 234350 Supplier: 5HCF1<br>Part #: 235072 Supplier: 5HCF1<br>Part #: 235073 Supplier: 5HCF1<br>Part #: 235074 Supplier: 5HCF1<br>Part #: 235075 Supplier: 5HCF1<br>Part #: 235076 Supplier: 5HCF1<br>Part #: 311/03 Supplier: F6892<br>Part #: 311/14 Supplier: F6892<br>Part #: 311/25 Supplier: F6892<br>Part #: 311/37 Supplier: F6892<br>Part #: AS1 Supplier: \$1351<br>Part #: AS2 Supplier: \$1351<br>Part #: AS3 Supplier: \$1351<br>Part #: DAD5013 Supplier: 7RKH2<br>Part #: DFD5019 Supplier: 7RKH2<br>Part #: JNT411B60 Supplier: 3DN12<br>Part #: JNT411B90 Supplier: 3DN12<br>Part #: SCD5019 Supplier: 7RKH2<br>Part #: ST982LF-9 Supplier: 81205<br>Part #: TS1275-4 Supplier: 22975 |
| STD-739   | Respirator - Half-Mask, Air Purifying (with filters/cartridges)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| STD-810   | Spatula - Fillet Smoothing, Hardwood or Plastic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

**D. Consumable Materials**

| Reference | Description                                                                                        | Specification                     |
|-----------|----------------------------------------------------------------------------------------------------|-----------------------------------|
| A00247    | Sealant - Pressure And Environmental - Chromate Type                                               | BMS5-95                           |
| B00062    | Solvent - Acetone (99.5% Grade)                                                                    | ASTM D 329<br>(Supersedes O-A-51) |
| B00102    | Abrasive - Aluminum Oxide Coated Cloth                                                             |                                   |
| B00148    | Solvent - Methyl Ethyl Ketone (MEK)                                                                | ASTM D740                         |
| B00184    | Solvent - Presealing, Cleaning Solvent                                                             | BMS11-7                           |
| B00666    | Solvent - Methyl Propyl Ketone                                                                     | BMS11-9                           |
| B01026    | Solvent - FCC-55                                                                                   |                                   |
| B01054    | Solvent - Methyl Ethyl Ketone and sec-Butyl Alcohol Blend - (MEK:secButyl Alcohol - 42:58 Percent) | BAC5750, ASTM D740/ASTM D1007     |

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| Reference | Description                                                          | Specification                                                      |
|-----------|----------------------------------------------------------------------|--------------------------------------------------------------------|
| G00034    | Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze) | AMS3819 Class 1<br>Grade A or B Form 1<br>(Supersede BMS15-5 CL A) |

E. Expendables/Parts

| AMM Item | Description       | AIPC Reference  | AIPC Effectivity |
|----------|-------------------|-----------------|------------------|
| 1        | Static discharger | 23-61-00-02-110 | SIA ALL          |
|          |                   | 23-61-00-02-210 | SIA ALL          |
|          |                   | 23-61-00-02-305 | SIA ALL          |
|          |                   | 23-61-00-02-310 | SIA 001          |
|          |                   | 23-61-00-02-355 | SIA ALL          |

F. Location Zones

| Zone | Area       |
|------|------------|
| 300  | Empennage  |
| 500  | Left Wing  |
| 600  | Right Wing |

G. Prepare for the Static Discharger Base with Adapter Plate Assembly Installation

SUBTASK 23-61-00-040-015



MAKE SURE TO REMOVE ALL PRESSURE FROM THE HYDRAULIC SYSTEM. DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.

- (1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces, do these tasks:
  - Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801
  - Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802
  - Pressure from the Elevator Hydraulic Systems A and B Removal, TASK 27-31-00-800-802.

SUBTASK 23-61-00-040-016

- (2) Remove the electrical power (TASK 24-22-00-860-802).

SUBTASK 23-61-00-110-003

- (3) Clean the surface for the installation of the discharger base [3]:
  - (a) Remove sealant with a sealant removal tool, COM-2481.



DO NOT GET SOLVENTS IN YOUR MOUTH, EYES, OR SKIN. DO NOT BREATHE FUMES FROM SOLVENTS. REFER TO PRODUCT MATERIAL SAFETY DATA SHEETS (MSDS AND LOCAL REQUIREMENTS FOR PROPER HANDLING. SOLVENTS ARE HAZARDOUS MATERIALS AND MAY BE FLAMMABLE OR HARMFUL TO THE ENVIRONMENT.

- (b) Clean the adapter plate [9] with solvent, B00148, solvent, B00666, solvent, B00184, FCC-55 solvent, B01026, or solvent, B01054.

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- 1) Wear a half-mask respirator, STD-739 to clean with solvent.
- 2) Apply the solvent with a cotton wiper, G00034.
- (c) Remove the solvent with cotton wiper, G00034 before it dries.
  - 1) Do not touch the cleaned surface.
- (d) Rub the adapter plate [9] with the abrasive cloth, B00102 (600 grit) (TASK 20-10-34-120-801).

NOTE: Change the sandpaper frequently.

  - 1) Make sure that you have a smooth surface.
  - 2) Make sure that the surface is not shiny.
- (e) Clean with cotton wiper, G00034.

NOTE: Do not use solvent.

### H. Static Discharger Base with Adapter Plate Assembly Installation

SUBTASK 23-61-00-420-007

- (1) Install the discharger base [3]:
  - (a) Remove the metal discharger base [3] from the plastic container.
    - 1) Do not touch the bottom surface of the discharger base [3] which touches the adapter plate [9].
  - (b) Rub the discharger base [3] with a abrasive cloth, B00102.
    - 1) Make sure that the discharger base [3] is installed in less than 5 minutes.

NOTE: Do not rub a plated discharger base with sandpaper. A plated discharger base has a green dot for identification. Put a pair of gloves on to touch the bases.
    - 2) Make sure that you have a smooth surface.

NOTE: Change the sandpaper frequently.
    - 3) Make sure that the adapter plate [9] is not shiny.
  - (c) Attach the discharger base [3] to the adapter plate [9].
  - (d) Install the rivets [5] which attaches the discharger base [3] to the adapter plate [9] (SRM SUBJECT 51-40-02).
  - (e) Apply sealant, A00247 to the rivets [5] (TASK 51-22-00-390-808).
  - (f) Apply sealant, A00247 to the edge of the discharger base [3] (TASK 51-22-00-390-806).
  - (g) Make the sealant smooth with a hardwood or plastic fillet smoothing spatula, STD-810.
  - (h) Make sure that you do not see cracks between the discharger base [3] and the adapter plate [9] surface.
  - (i) Remove the unwanted sealant, A00247 with a cotton wiper, G00034 which is moist with solvent, B00062 or solvent, B00184.

SUBTASK 23-61-00-420-008

- (2) Install the adapter plate [9] assembly:
  - (a) Rub the airplane surface with abrasive cloth, B00102.
    - 1) Make sure that you have a smooth surface.

NOTE: Change the sandpaper frequently.
    - 2) Make sure that the airplane surface is not shiny.

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- (b) Attach the adapter plate [9] assembly to the airplane surface.
  - 1) Make sure that you install the adapter plate [9] assembly in the same direction as the airflow.
- (c) Install the bolts [4] that attaches to the adapter plate [9] assembly.
- (d) Install the rivets [6] that attach to the adapter plate [9] assembly (SRM SUBJECT 51-40-02).
- (e) Apply sealant, A00247 to the rivets [6] and bolts [4] (TASK 51-22-00-390-808).
- (f) Apply sealant, A00247 to the edge of the adapter plate [9] (TASK 51-22-00-390-806).
- (g) Make sure that you do not see cracks between the adapter plate [9] and the airplane surface.
- (h) Remove the sealant, A00247 with a cotton wiper, G00034 which is moist with solvent, B00148.

SUBTASK 23-61-00-210-004

- (3) Examine the discharger base [3]:
  - (a) Make sure that there are no cracks in the sealant, A00247.
  - (b) If you find a crack, fill the crack with the sealant, A00247.

**I. Static Discharger Base with Adapter Plate Assembly Installation Test**

SUBTASK 23-61-00-760-009

|                                                                                                      |                                                                                                                                        |
|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>WARNING</b> | OBEY THE INSTRUCTIONS TO USE A MEGOHMMETER, FAILURE TO OBEY THE INSTRUCTIONS WILL CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT. |
|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|

- (1) Check the electrical bond between the discharger base [3] and aircraft surface:
  - (a) Use a intrinsically safe approved bonding meter, COM-1550 to measure the electrical bond between the discharger base [3] and the airplane surface (SWPM 20-20-00).  
NOTE: This resistance value for a new static discharger base and a new bond is different for an in-service bond and the discharger base.
  - (b) Make sure that the resistance value of a new discharger base [3] must not be more than:  
NOTE: A resistance of more than these value can cause airplane equipment damage if a lightning strike occurs.
    - 1) 0.01 ohms for discharger base [3] installed on metal panels.
    - 2) 0.10 ohms for discharger base [3] installed on an aluminum flame spray on top of the fiberglass laminate or the composite panel.  
NOTE: This includes discharger bases installed on aluminum-covered fabric.
    - 3) 1.0 ohms for discharger base [3] installed on composite panels without a cover of the aluminum flame spray.

SUBTASK 23-61-00-420-009

- (2) Install the static discharger [1] into the discharger base [3], do this task: Static Discharger Installation, TASK 23-61-00-400-801.

SUBTASK 23-61-00-370-003

- (3) Paint the area around the discharger base [3] (TASK 51-21-99-300-802).

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**J. Put the Airplane Back to Its Usual Condition**

**SUBTASK 23-61-00-440-008**

- (1) If it is necessary, put the hydraulic systems back to the usual condition, do these tasks:
- Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802
  - Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802
  - Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802

———— **END OF TASK** ————

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**STATIC DISCHARGER - INSPECTION/CHECK**

**1. General**

- A. This procedure has these tasks:
- (1) Static Discharger Inspection
  - (2) Static Discharger Resistance Measurement
- B. Do a regular check of the static dischargers to prevent static interference and bad radio operation.

**TASK 23-61-00-210-801**

**2. Static Discharger Inspection**

(Figure 601)

**A. General**

- (1) This task has steps to inspect static dischargers.

**B. References**

| Reference        | Title                                                                                            |
|------------------|--------------------------------------------------------------------------------------------------|
| 24-22-00-860-802 | Remove Electrical Power (P/B 201)                                                                |
| 27-11-00-860-801 | Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)                     |
| 27-11-00-860-802 | Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)                         |
| 27-21-00-800-802 | Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)            |
| 27-21-00-840-802 | Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)                          |
| 27-31-00-800-802 | Pressure from the Elevator Hydraulic Systems A and B Removal (P/B 201)                           |
| 27-31-00-840-802 | Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201) |

**C. Location Zones**

| Zone | Area       |
|------|------------|
| 300  | Empennage  |
| 500  | Left Wing  |
| 600  | Right Wing |

**D. Prepare for the Static Discharger Inspection**

SUBTASK 23-61-00-860-001



**WARNING**

MAKE SURE TO REMOVE ALL PRESSURE FROM THE HYDRAULIC SYSTEM. DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.

- (1) Remove the hydraulic pressure and power from the hydraulic systems for the applicable flight control surfaces:
  - For the aileron hydraulic systems, do this task: Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801.
  - For the rudder and standby hydraulic systems, do this task: Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802.

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- For the elevator hydraulic systems, do this task: Pressure from the Elevator Hydraulic Systems A and B Removal, TASK 27-31-00-800-802.

### SUBTASK 23-61-00-860-002

- (2) Remove the electrical power (TASK 24-22-00-860-802).

## E. Static Discharger Inspection

### SUBTASK 23-61-00-210-005

- (1) Make sure that at least 19 static dischargers are installed correctly in the locations that follow:

NOTE: There are 22 static dischargers installed on the airplane.

- (a) Make sure that at least two static dischargers are installed on each horizontal stabilizer.
  - 1) Make sure that one is in the tip position or in the outermost trailing position.
- (b) Make sure that at least two static dischargers are installed on the vertical stabilizer.
  - 1) Make sure that one of the two must be on the tip or top-most position.
  - 2) Where there are only 2 dischargers on the vertical, one of the two must be in the tip position or in the uppermost trailing position.
- (c) The 2 dischargers on the aircraft wings, inboard from the winglet, may be missing.
- (d) Make sure that 4 static dischargers are installed on each winglet.

### SUBTASK 23-61-00-210-006

- (2) Make sure that there is no lightning damage.

NOTE: This damage will be seen as a burned or a rough area on the black conductive surfaces.

- (a) You could also find damage as pits on the discharger base.
- (b) If it is necessary, replace the discharger.

### SUBTASK 23-61-00-210-007

- (3) Do a visual check for erosion of the discharger surface.

NOTE: The leading edge erosion must not extend more than a third the width of the discharger.

- (a) Replace all dischargers that show damage.

## F. Put the Airplane Back to Its Usual Condition

### SUBTASK 23-61-00-010-002

- (1) If it is necessary, put the applicable hydraulic systems back to the usual condition:
  - For the aileron hydraulic systems, do this task: Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802.
  - For the rudder and standby hydraulic systems, do this task: Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802.
  - For the elevator hydraulic systems, do this task: Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802.

————— END OF TASK —————

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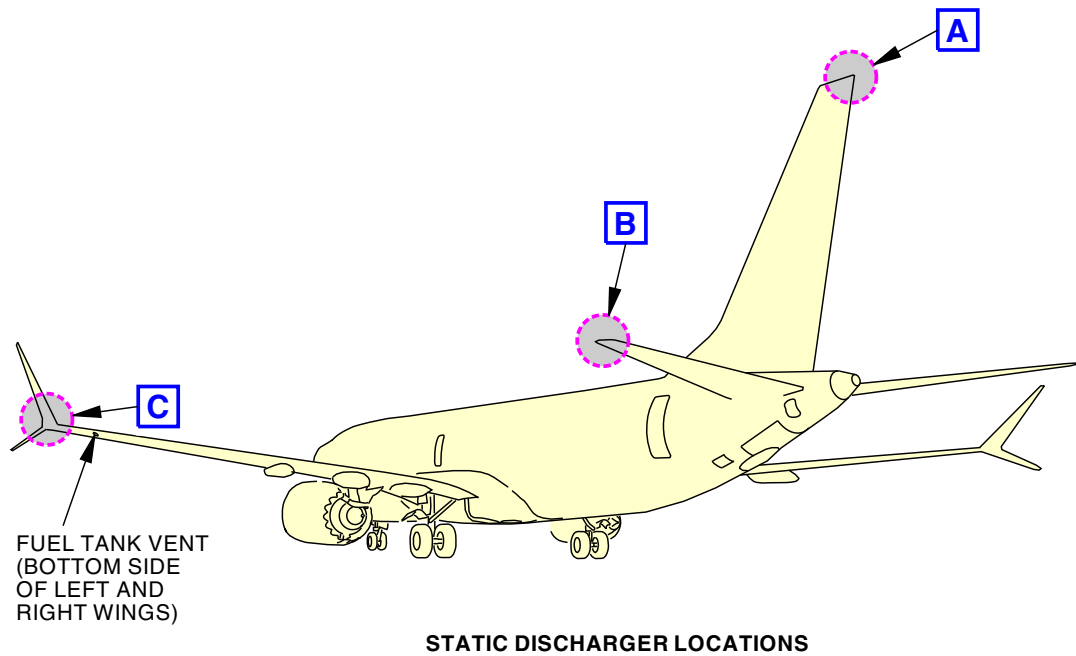
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**Static Discharger Inspection**  
**Figure 601/23-61-00-990-802 (Sheet 1 of 3)**

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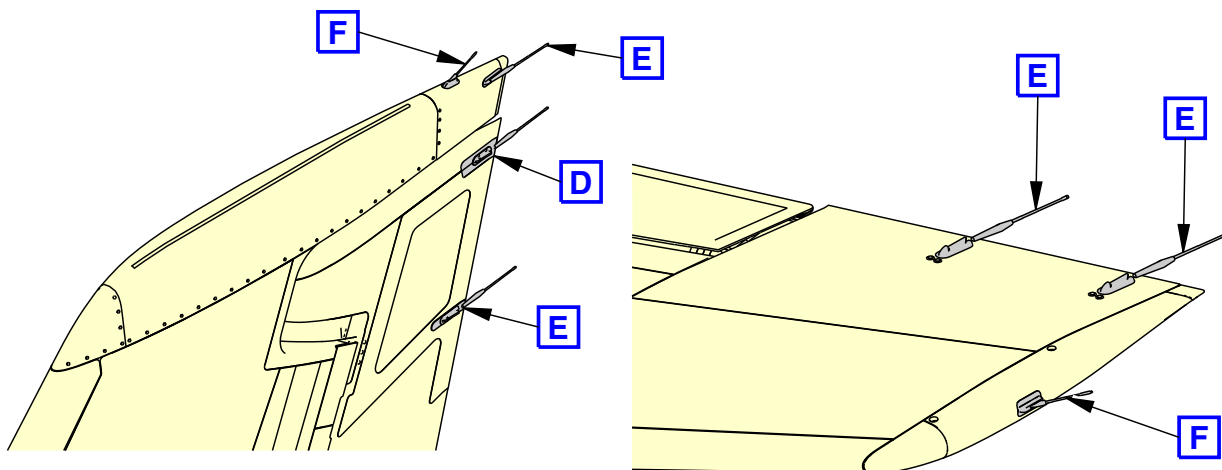
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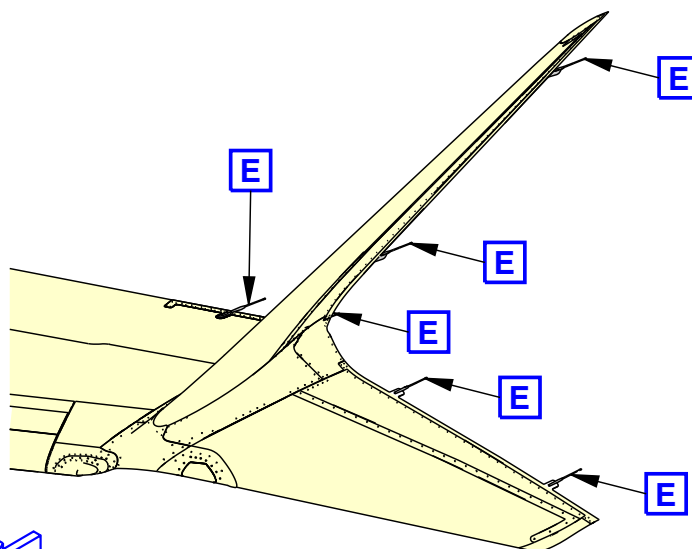
VERTICAL STABILIZER DISCHARGERS

A



LEFT HORIZONTAL STABILIZER  
DISCHARGERS - (RIGHT HORIZONTAL  
STABILIZER DISCHARGERS ARE OPPOSITE)

B



LEFT WING DISCHARGERS -  
(RIGHT WING DISCHARGERS  
ARE OPPOSITE)

C

2411710 S00061528785\_V1

Static Discharger Inspection  
Figure 601/23-61-00-990-802 (Sheet 2 of 3)

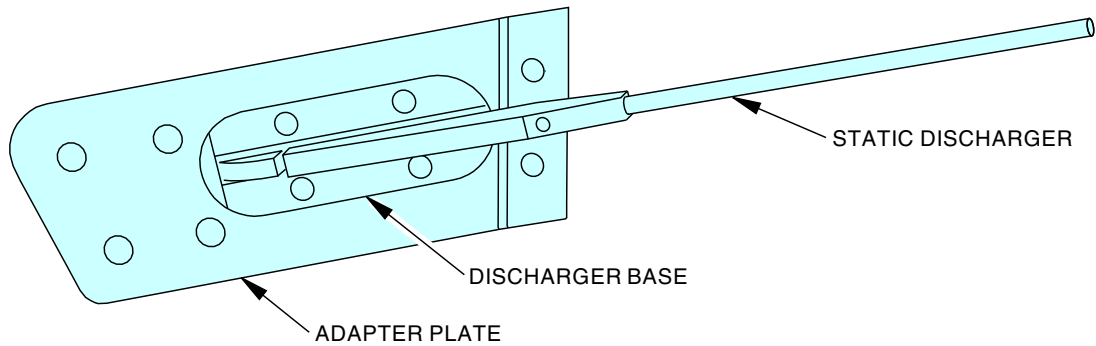
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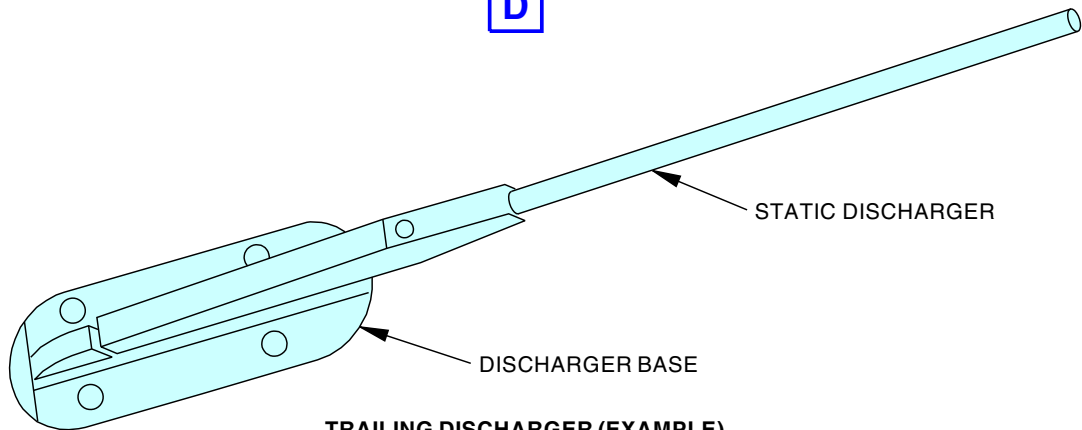
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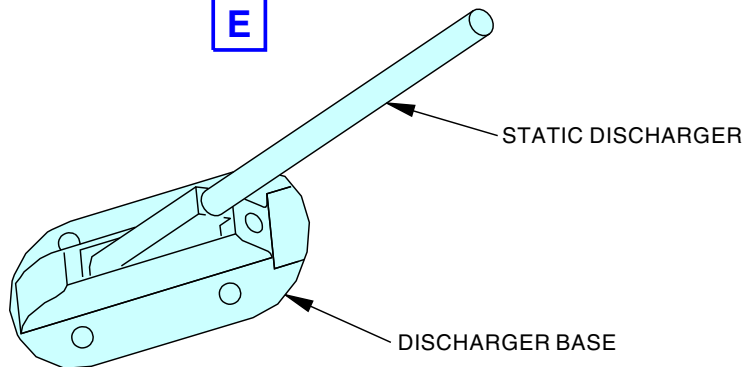
TRAILING DISCHARGER WITH ADAPTER PLATE (EXAMPLE)

**D**



TRAILING DISCHARGER (EXAMPLE)

**E**



TIP DISCHARGER (EXAMPLE)

**F**

2411714 S00061528798\_V1

Static Discharger Inspection  
Figure 601/23-61-00-990-802 (Sheet 3 of 3)

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**TASK 23-61-00-760-801**

**3. Static Discharger Resistance Measurement**

(Figure 601)

NOTE: This procedure is a scheduled maintenance task.

**A. References**

| Reference        | Title                                                                                            |
|------------------|--------------------------------------------------------------------------------------------------|
| 23-61-00-000-801 | Static Discharger Removal (P/B 401)                                                              |
| 23-61-00-000-802 | Static Discharger Base with Screws Removal (P/B 401)                                             |
| 23-61-00-000-803 | Static Discharger Base with Rivets Removal (P/B 401)                                             |
| 23-61-00-000-804 | Static Discharger Base with Adapter Plate Assembly Removal (P/B 401)                             |
| 23-61-00-400-801 | Static Discharger Installation (P/B 401)                                                         |
| 23-61-00-400-802 | Static Discharger Base with Screws Installation (P/B 401)                                        |
| 23-61-00-400-803 | Static Discharger Base with Rivets Installation (P/B 401)                                        |
| 23-61-00-400-804 | Static Discharger Base with Adapter Plate Assembly Installation (P/B 401)                        |
| 24-22-00-860-802 | Remove Electrical Power (P/B 201)                                                                |
| 27-11-00-860-801 | Pressure from the Aileron Hydraulic Systems A and B - Deactivation (P/B 201)                     |
| 27-11-00-860-802 | Pressure to the Aileron Hydraulic Systems A and B - Activation (P/B 201)                         |
| 27-21-00-800-802 | Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation (P/B 201)            |
| 27-21-00-840-802 | Pressure to the Rudder Systems A, B, and Standby - Activation (P/B 201)                          |
| 27-31-00-800-802 | Pressure from the Elevator Hydraulic Systems A and B Removal (P/B 201)                           |
| 27-31-00-840-802 | Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal (P/B 201) |
| 51-21-99-300-802 | Decorative Exterior Paint System Repair (P/B 701)                                                |
| SWPM 20-20-00    | ELECTRICAL BONDING PROCESSES                                                                     |

**B. Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt.", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1550  | Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550).<br>Part #: 620LK Supplier: 1CRL2<br>Part #: M1 Supplier: 3AD17<br>Part #: M1B Supplier: 3AD17<br>Part #: T477W (C15292) Supplier: 06659 |

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| Reference | Description                                                                                                                                                                                                                                                                         |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-6457  | Meter - Insulation (Range: 1-1,000 VDC or equivalent, select meter per test requirements)<br>Part #: 1864-9700 Supplier: 62015<br>Part #: 1865PLUS Supplier: 62015<br>Part #: 1865PLUSCE Supplier: 62015<br>Part #: 2471F Supplier: 21844<br>Opt Part #: 1865-00-CE Supplier: 62015 |

### C. Consumable Materials

| Reference | Description                                                          | Specification                                                     |
|-----------|----------------------------------------------------------------------|-------------------------------------------------------------------|
| G00034    | Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze) | AMS3819 Class 1<br>Grade A or B Form 1<br>(Supersede BMS15-5 CLA) |

### D. Location Zones

| Zone | Area       |
|------|------------|
| 300  | Empennage  |
| 500  | Left Wing  |
| 600  | Right Wing |

### E. Prepare for the Static Discharger Resistance Measurement

SUBTASK 23-61-00-860-003



**WARNING**

MAKE SURE TO REMOVE ALL PRESSURE FROM THE HYDRAULIC SYSTEM. DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.

- (1) Remove pressure and power from the hydraulic systems for the applicable flight control surfaces, do these tasks:
  - (a) Pressure from the Aileron Hydraulic Systems A and B - Deactivation, TASK 27-11-00-860-801.
  - (b) Pressure from the Rudder Hydraulic Systems A, B, and Standby - Deactivation, TASK 27-21-00-800-802.
  - (c) Pressure from the Elevator Hydraulic Systems A and B Removal, TASK 27-31-00-800-802.

SUBTASK 23-61-00-860-004

- (2) Remove the electrical power (TASK 24-22-00-860-802).

SUBTASK 23-61-00-760-010



**WARNING**

OBEY THE INSTRUCTIONS TO USE A MEGOHMMETER, FAILURE TO OBEY THE INSTRUCTIONS WILL CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (3) Check for fuel vapors:

**NOTE:** If you must do a resistance check for a static discharger that is in a five foot diameter area around a fuel tank vent, open fuel tank doors or open fuel tank access panels, then do the Alternative Discharger Resistance Test procedures.

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Use these precautions for possible fuel vapors when you use a megohmmeter to measure the discharger resistance.

- (a) Use a insulation meter, COM-6457 or equivalent meter with a 500 VDC test voltage and a maximum 5 milliampere short circuit current.
- (b) Do not use a megohmmeter at these locations:
  - 1) A 5.000 ft (1.524 m) diameter, vertical column areas adjacent to or below:
    - a wing fuel tank vent (from the vent to the ground).
    - open fuel tank doors (from the door to the ground).
    - open fuel tank access panels (from the panel to the ground).
  - 2) Zero to 18 in. (457 mm) above the ground in the area around the airplane.
- (c) Make sure that:
  - 1) Area is well ventilated.
  - 2) Metal workstands are grounded.
  - 3) Megohmmeter is plugged into a grounded receptacle.

NOTE: It is not necessary to connect shock-resistant portable megohmmeters to a grounded receptacle.
  - 4) Megohmmeter is insulated from metal work stand.

**F. Static Discharger Resistance Measurement Test**

NOTE: If you must do a resistance check for a static discharger that is in a five foot diameter area around a fuel tank vent, open fuel tank doors or open fuel tank access panels, then do the Alternative Discharger Resistance Test procedures below.

SUBTASK 23-61-00-760-011

|                                                                                                       |                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>WARNING</b> | OBEY THE INSTRUCTIONS TO USE A MEGOHMMETER, FAILURE TO OBEY THE INSTRUCTIONS WILL CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT. |
|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|

- (1) Do a resistance check of static dischargers:

NOTE: Dayton-Granger and other static dischargers not supplied by Chelton.

  - (a) Use a megohmmeter to measure the resistance between the discharger tip and the discharger base:
  - (b) Set the megohmmeter to 500 VDC test voltage.
  - (c) Make a good surface bond with the end of the static discharger:

NOTE: A good connection between the discharger end and the megohmmeter is necessary for a correct resistance value.

    - 1) Use water to make a cotton wiper, G00034 wet.
    - 2) Make sure that the full end of the discharger touches the wet cotton wiper, G00034.
  - (d) Put one lead of the megohmmeter on the discharger base.
  - (e) Put the other lead of the megohmmeter on the wet cotton wiper, G00034.
  - (f) Measure the resistance value.
  - (g) Make sure that the resistance value is in a range of 6-100 megohms for dischargers.

NOTE: If the measured value is too high, add water to the wet material and then measure the resistance value again.

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- (h) For a discharger that does not agree with the correct resistance value, replace the static discharger.

These are the tasks:

- Static Discharger Removal, TASK 23-61-00-000-801
- Static Discharger Installation, TASK 23-61-00-400-801

SUBTASK 23-61-00-760-012



OBEY THE INSTRUCTIONS TO USE A MEGOHMMETER, FAILURE TO OBEY THE INSTRUCTIONS WILL CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (2) Do the resistance check of static dischargers:

NOTE: Chelton supplied static dischargers only.

- (a) Use a megohmmeter to measure the resistance between the discharger tip and the discharger base:

- (b) Set the megohmmeter to 500 VDC test voltage.

NOTE: A good electrical bond between the end of the discharger tip and the megohmmeter is necessary for a correct measure of resistance.

- (c) To make a good connection with the end of the discharger tip, use a wet material.

- (d) Put the wet material on the END of the discharger tip.

NOTE: DO NOT WRAP the wet material around the discharger tip of Chelton static dischargers. This can give incorrect resistance values that cause unnecessary removals of serviceable static dischargers. Put the wet material between the tip of the discharger and the megohmmeter probe

- (e) Put one megohmmeter probe on the base and one probe on the wet material at the end of the discharger tip. .

NOTE: See On Wing Discharger Resistance Test Detail I (Figure 602)

- 1) Make sure that the measured resistance is between 6-100 megohms.
  - 2) If the resistance is more than 6-100 megohms, remove the wet material and put megohmmeter probe directly on the tip of the discharger core material.
- (f) Add more water if it is necessary and measure again.
- 1) Use the lowest measured value.
- (g) For a discharger that does not agree with the correct resistance value, replace the static discharger.

These are the tasks:

- Static Discharger Removal, TASK 23-61-00-000-801
- Static Discharger Installation, TASK 23-61-00-400-801

**G. Alternative Static Discharger Resistance Test**

SUBTASK 23-61-00-020-006

- (1) Remove the static discharger (TASK 23-61-00-000-801).

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SUBTASK 23-61-00-760-013



**WARNING**

OBEY THE INSTRUCTIONS TO USE A MEGOHMMETER, FAILURE TO OBEY THE INSTRUCTIONS WILL CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (2) Do a resistance check of discharger tip and discharger shank:

NOTE: Dayton-Granger and other static dischargers not supplied by Chelton.

- (a) Use a megohmmeter to measure the resistance between the discharger tip and the discharger shank:

- (b) Set the megohmmeter to 500 VDC test voltage.

NOTE: A good electrical bond between the end of the discharger tip and the megohmmeter is necessary for a correct measure of resistance.

- (c) To make a good connection with the end of the discharger tip, use a wet paper towel, cotton cloth or a sponge.

- (d) Put the wet towel on the end of the discharger tip.

- (e) Put the megohmmeter connectors on the shank of the static discharger and on the wet towel at the end of the tip.

1) Make sure that the resistance is between 6-100 megohms.

2) If the resistance is high, make sure that the meter lead and the end of the discharger tip touch the wet towel.

- (f) Add more water if it is necessary and measure again.

1) Use the lowest measured value.

- (g) For a discharger that does not agree with the correct resistance value, replace the static discharger.

SUBTASK 23-61-00-760-014



**WARNING**

OBEY THE INSTRUCTIONS TO USE A MEGOHMMETER, FAILURE TO OBEY THE INSTRUCTIONS WILL CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (3) Do a resistance check between discharger tip and discharger shank:

NOTE: Chelton supplied static discharger only.

- (a) Use a megohmmeter to measure the resistance between the discharger tip and the discharger shank:

- (b) Set the megohmmeter to 500 V dc (volts direct current) test voltage.

NOTE: A good electrical bond between the end of the discharger tip and the megohmmeter is necessary for a correct measure of resistance.

- (c) To make a good connection with the end of the discharger tip, use a wet material.

- (d) Put the wet material on the END of the discharger tip.

NOTE: DO NOT WRAP the wet material around the discharger tip of Chelton static dischargers. This can give incorrect resistance values that cause unnecessary removals of serviceable static dischargers. Put the wet material between the tip of the discharger and the megohmmeter probe.

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- (e) Put one megohmmeter probe on the shank of the static discharger and one probe on the edge of the wet material at the end of the discharger tip.

NOTE: See Alternate (Off Wing) Discharger Resistance Test Detail II (Figure 602).

- 1) Make sure that the measured resistance is between 6-100 megohms.
  - 2) If the resistance is more than 6-100 megohms, remove the wet material and put megohmmeter probe directly on the tip of the discharger core material.
- (f) Add more water if it is necessary and measure again.
  - 1) Use the lowest measured value.
- (g) For a discharger that does not agree with the correct resistance value, replace the static discharger.

SUBTASK 23-61-00-420-010

- (4) Install the Static Discharger (TASK 23-61-00-400-801).

### H. Resistance Test for a Static Discharger

SUBTASK 23-61-00-760-015



OBEY THE INSTRUCTIONS TO USE A BONDING METER, FAILURE TO OBEY INSTRUCTIONS WILL CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (1) Do the resistance test of static dischargers:
  - (a) Do a resistance test of static dischargers with a metallic shank.
    - 1) Use a intrinsically safe approved bonding meter, COM-1550, (SWPM 20-20-00) to measure the resistance between the static discharger shank and the static discharger base.
    - 2) Make sure that the resistance is not more than 1 ohm.

NOTE: A resistance of more than these values can cause damage if a lightning strike occurs.
  - (b) Do a resistance test of static dischargers with a plastic shank.
    - 1) Use a intrinsically safe approved bonding meter, COM-1550, (SWPM 20-20-00) to measure the resistance between the set screw in the static discharger shank and the static discharger base.
    - 2) Make sure that the resistance is not more than 1 ohm.

NOTE: A resistance of more than these values can cause damage if a lightning strike occurs.

### I. Resistance Test for a Static Discharger Base

SUBTASK 23-61-00-760-016



OBEY THE INSTRUCTIONS TO USE A BONDING METER, FAILURE TO OBEY INSTRUCTIONS WILL CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (1) Do a electrical bond check between static discharger bases and airplane surface:

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- (a) Method 1 - Measure the bond resistance from the discharger base to its mounting surface.

NOTE: It may be necessary to scratch the paint on the mounting surface to get a good connection.

- 1) Use a intrinsically safe approved bonding meter, COM-1550 to measure the bond between the static discharger base and the airplane surface (SWPM 20-20-00).

NOTE: This resistance value is for an in-service discharger. There is a different value for a new installed discharger base.

- 2) Put one lead on the static discharger base.  
3) Put the other lead on the airplane surface.  
4) Make sure that the two leads touch bare metal.  
5) If it is necessary, remove a small quantity of paint or use a sharp probe to go into the paint.  
6) Make sure the resistance value for an in-service static discharger base is not more than:

NOTE: A resistance of more than these values can cause damage if a lightning strike occurs. Take the resistance measurement between the discharger base and the discharger mounting surface.

- a) 0.05 ohms for the discharger base installed on the metal panels.  
b) 0.5 ohms for the discharger base installed on an aluminum flame spray on top of the fiberglass laminate or the composite panels.  
c) 0.5 ohms for the discharger base installed on an aluminum-covered fabric.  
d) 5.0 ohms for the discharger base installed on a composite panels that do not have an aluminum layer.

- (b) Method 2 - Measure the bond resistance between two adjacent discharger bases.

- 1) Use a intrinsically safe approved bonding meter, COM-1550 to measure the bond between a static discharger base and an adjacent static discharger base (SWPM 20-20-00).

NOTE: This resistance value is for an in-service discharger. There is a different value for a new installed discharger base.

- 2) Make sure that the resistance between the two adjacent static discharger bases is not more than:

NOTE: A resistance of more than these values can cause damage if a lightning strike occurs. Take the resistance measurement between two discharger bases.

- a) 0.05 ohms for the discharger base installed on the metal panels.  
b) 0.5 ohm for the discharger base installed on an aluminum flame spray on top of the fiberglass laminate or the composite panels.  
c) 0.5 ohm for the discharger base installed on an aluminum-covered fabric.  
d) 5.0 ohms for the discharger base installed on a composite panels that do not have an aluminum layer.

- 3) If the resistance shows more than the resistance values in Method 2, then do the procedure in Method 1 to find the defective static discharger base.

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- (c) For a static discharger base that shows more than the resistance value in Method 1, replace the static discharger base:
  - 1) For a static discharger base attached with screws, do these tasks:
    - a) Static Discharger Base with Screws Removal, TASK 23-61-00-000-802.
    - b) Static Discharger Base with Screws Installation, TASK 23-61-00-400-802.
  - 2) For a static discharger base attached with rivets, do these tasks:
    - a) Static Discharger Base with Rivets Removal, TASK 23-61-00-000-803.
    - b) Static Discharger Base with Rivets Installation, TASK 23-61-00-400-803.
  - 3) For a static discharger adapter plate assembly attached with rivets and screws, do these tasks:
    - a) Static Discharger Base with Adapter Plate Assembly Removal, TASK 23-61-00-000-804.
    - b) Static Discharger Base with Adapter Plate Assembly Installation, TASK 23-61-00-400-804.

**SUBTASK 23-61-00-370-004**

- (2) Paint the area where the paint was removed for the surface resistance test, do this task:
  - (a) Decorative Exterior Paint System Repair, TASK 51-21-99-300-802.

**J. Put the Airplane Back to Its Usual Condition**

**SUBTASK 23-61-00-010-003**

- (1) If it is necessary, put the hydraulic systems back to the usual condition, do these tasks:
  - (a) Pressure to the Aileron Hydraulic Systems A and B - Activation, TASK 27-11-00-860-802.
  - (b) Pressure to the Rudder Systems A, B, and Standby - Activation, TASK 27-21-00-840-802.
  - (c) Putting the Elevator Systems A and B Back to the Condition Before the Pressure Removal, TASK 27-31-00-840-802.

———— **END OF TASK** ————

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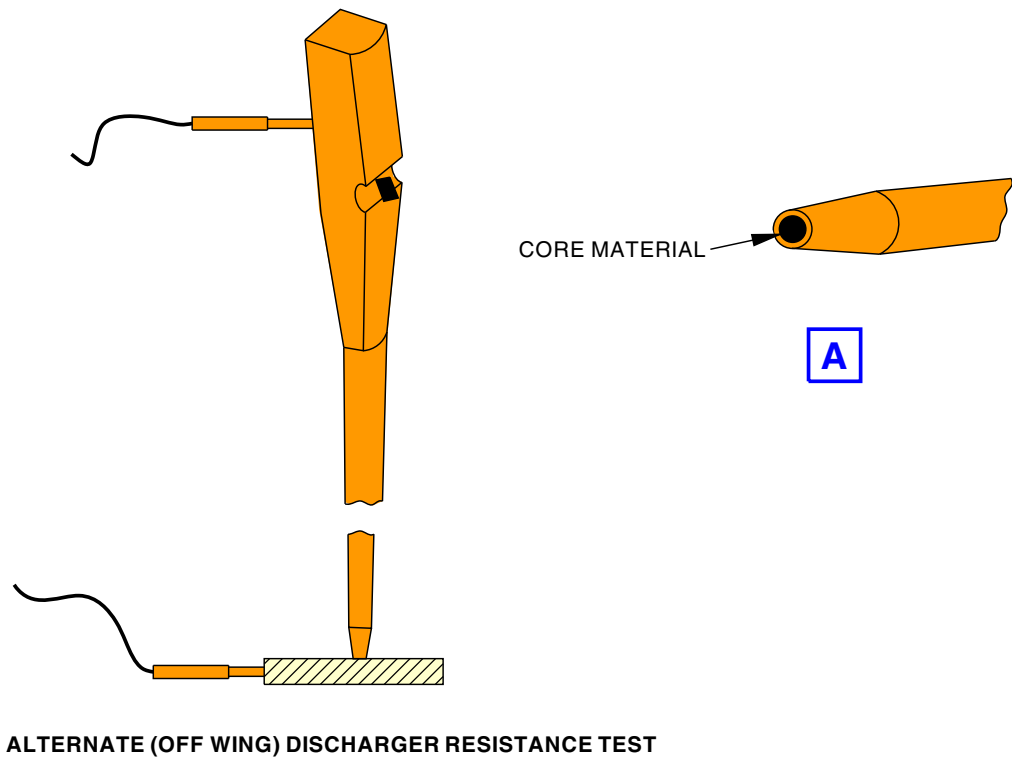
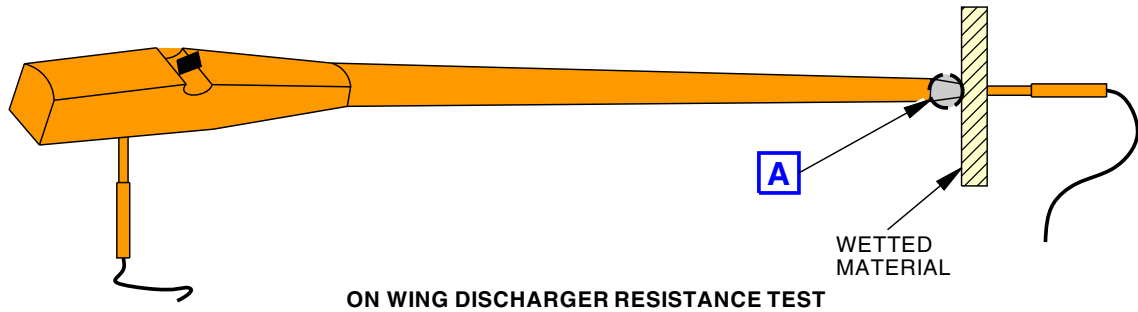
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**NOTE:**  
TEST PROCEDURES FOR THE TRAILING EDGE AND  
WING TIP DISCHARGERS ARE THE SAME.

2411715 S00061528800\_V1

Chelton Static Discharger Resistance Test  
Figure 602/23-61-00-990-803

|             |  |
|-------------|--|
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VOICE RECORDER SYSTEM - MAINTENANCE PRACTICES

1. **General**

- A. This procedure has these tasks:
- (1) Voice Recorder System Deactivation
  - (2) Voice Recorder System Activation

**SIA 001-010**

- (3) Make a copy of the Cockpit Voice Recorder (CVR) data with the Hand Held Multipurpose Interface (HHMPI)

**SIA ALL**

- (4) Make a copy of the CVR data with the Recorder Data Interface (RDI)

**TASK 23-71-00-040-801**

2. **Voice Recorder System Deactivation**

**A. General**

- (1) This task disconnects the electrical power to the Cockpit Voice Recorder (CVR) system.

**B. Tools/Equipment**

| Reference | Description                                        |
|-----------|----------------------------------------------------|
| STD-1390  | Headphone - 600 Ohm, with 1/4 Inch Mono Audio Plug |

**C. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

**D. Voice Recorder System Deactivation**

**SUBTASK 23-71-00-860-001**

- (1) Deactivate the CVR as follows:
  - (a) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name             |
|-----|-----|--------|------------------|
| C   | 7   | C01537 | VOICE RCDR RELAY |
| D   | 6   | C01948 | VOICE RCDR/RIPS  |

This circuit breaker is inoperative and should remain open:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name              |
|-----|-----|--------|-------------------|
| D   | 7   | C00107 | VOICE RCDR (INOP) |

- (b) Wait a minimum of 11 minutes after you remove power from the CVR.

**SUBTASK 23-71-00-210-001**

- (2) Verify that the electrical power to the voice recorder system is off as follows:
  - (a) Set the CVR AUTO/ON switch (P5) to the ON position.
  - (b) Connect a headphone, STD-1390 to the voice recorder control panel at the overhead panel, P5.

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- (c) Push and hold the TEST switch on the voice recorder control panel for one second.

NOTE: It is not necessary to hold the TEST switch for five seconds.

- 1) Make sure that you do not hear a tone in the headphone.
- 2) Make sure that the TEST light does not come on.

————— END OF TASK —————

**TASK 23-71-00-440-801**

**3. Voice Recorder System Activation**

**A. General**

- (1) This procedure connects the electrical power to the Cockpit Voice Recorder (CVR) system.

**B. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

**C. Voice Recorder System Activation**

SUBTASK 23-71-00-860-003

- (1) Remove the safety tags and close these circuit breakers:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>      |
|------------|------------|---------------|------------------|
| C          | 7          | C01537        | VOICE RCDR RELAY |
| D          | 6          | C01948        | VOICE RCDR/RIPS  |

This circuit breaker is inoperative and should remain open:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>       |
|------------|------------|---------------|-------------------|
| D          | 7          | C00107        | VOICE RCDR (INOP) |

SUBTASK 23-71-00-710-011

- (2) Push and hold the TEST switch on the voice recorder control panel for one second.

NOTE: It is not necessary to hold the TEST switch for five seconds.

- (a) Make sure that the TEST light comes on in five seconds or less.

————— END OF TASK —————

**SIA 001-010**

**TASK 23-71-00-970-801**

**4. Make a Copy of the CVR Data with the HHMPI**

**A. General**

- (1) This task gives the steps on how to use the Hand Held Multipurpose Interface (HHMPI) to make a copy of the Cockpit Voice Recorder (CVR) data.
- (2) The copied data then can be analyzed at a different location by the applicable airline personnel.

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SIA 001-010 (Continued)

## B. References

| Reference        | Title                                 |
|------------------|---------------------------------------|
| 23-71-11-000-801 | Voice Recorder Removal (P/B 401)      |
| 23-71-11-400-801 | Voice Recorder Installation (P/B 401) |

## C. Tools/Equipment

**NOTE:** When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                       |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------|
| COM-13694 | Unit - Interface, Hand-Held Multi-Purpose (HHMPI)<br>Part #: FDS40-0301 Supplier: Z7C70<br>Opt Part #: FDS400-301 Supplier: Z7C70 |
| COM-13697 | Cable - Interface, HHMPI (L-3 Comm FA2100)<br>Part #: FDS40-0202 Supplier: Z7C70<br>Opt Part #: FDS400-202 Supplier: Z7C70        |
| COM-14627 | Adapter - CVR Rack, ARINC-757<br>Part #: FDS40-0247 Supplier: Z7C70<br>Opt Part #: FDS400-247 Supplier: Z7C70                     |

## D. Location Zones

| Zone | Area                          |
|------|-------------------------------|
| 142  | Aft Cargo Compartment - Right |

## E. Prepare to Make a Copy of the CVR Data

SUBTASK 23-71-00-480-002

- (1) Make sure that the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694 is OFF.

SUBTASK 23-71-00-480-003

- (2) If it is necessary, install the removable media into the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694.

**NOTE:** The downloaded CVR data can be stored on its internal memory, a USB flash drive, a compact flash card, SD card, or an optional PCMCIA card.

SUBTASK 23-71-00-480-013

- (3) If it is necessary, do these steps to prepare the CVR:

**NOTE:** These steps are not necessary if audio data is not necessary.

- (a) Do this task: Voice Recorder Removal, TASK 23-71-11-000-801.
- (b) Connect the ARINC-757 CVR rack adapter, COM-14627, to the CVR equipment rack and the rear of the CVR.
- (c) Make sure that the J1 connector is connected to the Recorder Independent Power Supply (RIPS).
- (d) Activate the CVR system (TASK 23-71-00-440-801).

SUBTASK 23-71-00-860-025

- (4) Set the voice recorder switch panel AUTO/ON switch to ON.

SUBTASK 23-71-00-480-008

- (5) Connect the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694, as follows:

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### SIA 001-010 (Continued)

- (a) Connect the HHMPI interface cable (L-3 Comm FA2100), COM-13697, to the CVR front connector.
- (b) Connect the HHMPI interface cable (L-3 Comm FA2100), COM-13697, to the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694.

#### SUBTASK 23-71-00-480-019

- (6) Turn on the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694, as follows:

- (a) Press CANCEL or OK for 2-3 seconds until the unit beeps.

NOTE: The interface cable is detected automatically. A blue aircraft icon will show in the status bar of the display to indicate correct connection to the CVR.

### F. Make a Copy of the CVR Data

#### SUBTASK 23-71-00-700-005

- (1) Make a copy of the CVR data with the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694, as follows:

- (a) If it is necessary, select the aircraft type, model and tail number.
- (b) If it is necessary, select the memory storage device.

NOTE: The option to download to the HHMPI Internal Memory will not appear if an SD card is connected. Remove the SD storage card if access to the internal memory is required.

- (c) Select DOWNLOAD OPERATIONS from the main menu.
- (d) Select one of the CVR download options.
- (e) Push the OK button when the download has completed.

### G. Put the Airplane Back to Its Usual Condition

#### SUBTASK 23-71-00-080-009

- (1) Turn off the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694, as follows:

- (a) Press CANCEL until the CONFIRM POWER OFF alert is on the display.
- (b) Press OK to confirm.

#### SUBTASK 23-71-00-080-004

- (2) Disconnect the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694, as follows:

- (a) Disconnect the HHMPI interface cable (L-3 Comm FA2100), COM-13697, from the Hand-Held Multi-Purpose Interface Unit (HHMPI), COM-13694.
- (b) Disconnect the HHMPI interface cable (L-3 Comm FA2100), COM-13697, from the CVR front connector.

#### SUBTASK 23-71-00-080-007

- (3) If it is necessary, do these steps to re-install the CVR:

- (a) Deactivate the CVR system (TASK 23-71-00-040-801).

NOTE: The RIPS can power the CVR for a maximum of 11 minutes after deactivation.

- (b) Disconnect the ARINC-757 CVR rack adapter, COM-14627 from the CVR equipment rack and the rear of the CVR.
- (c) Do this task: Voice Recorder Installation, TASK 23-71-11-400-801.



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## SIA 001-010 (Continued)

SUBTASK 23-71-00-860-031

- (4) Set the voice recorder switch panel AUTO/ON switch to AUTO.

————— **END OF TASK** —————

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### TASK 23-71-00-970-803

#### 5. Make a Copy of the CVR Data with the RDI

##### A. General

- (1) This task gives the steps on how to use the Recorder Data Interface (RDI) to make a copy of the Cockpit Voice Recorder (CVR) data.
- (2) The copied data then can be analyzed at a different location by the applicable airline personnel.

##### B. References

| Reference        | Title                                 |
|------------------|---------------------------------------|
| 23-71-11-000-801 | Voice Recorder Removal (P/B 401)      |
| 23-71-11-400-801 | Voice Recorder Installation (P/B 401) |

##### C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                |
|-----------|----------------------------------------------------------------------------------------------------------------------------|
| COM-14627 | Adapter - CVR Rack, ARINC-757<br>Part #: FDS40-0247 Supplier: Z7C70<br>Opt Part #: FDS400-247 Supplier: Z7C70              |
| COM-20023 | Kit - Recorder Data Interface (For L-3 SRVIVR25)<br>Part #: 17TES0900 Supplier: 06141<br>Part #: 17TES0901 Supplier: 06141 |
| COM-21043 | Cable - Interface, L-3 Comm FA2100/7100 Series CVR Download<br>Part #: 17TES0078 Supplier: 06141                           |

##### D. Location Zones

| Zone | Area                          |
|------|-------------------------------|
| 142  | Aft Cargo Compartment - Right |

##### E. Prepare to Make a Copy of the CVR Data

SUBTASK 23-71-00-480-015

- (1) If it is necessary, do these steps to prepare the CVR:
- NOTE: These steps are not necessary if audio data is not necessary.
- (a) Do this task: Voice Recorder Removal, TASK 23-71-11-000-801.
- (b) Connect the ARINC-757 CVR rack adapter, COM-14627, or CVR download interface cable (L-3 Comm FA2100/7100 Series), COM-21043, to the CVR equipment rack and the rear of the CVR.
- (c) Make sure that the J1 connector is connected to the Recorder Independent Power Supply (RIPS).

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- (d) Activate the CVR system (TASK 23-71-00-440-801).

### SUBTASK 23-71-00-860-032

- (2) Set the voice recorder switch panel AUTO/ON switch to ON.

### SUBTASK 23-71-00-480-016

- (3) Connect the recorder data interface kit, COM-20023, as follows.
- (a) Connect the cable of the recorder data interface kit, COM-20023, to the CVR front connector.
  - (b) Connect the cable of the recorder data interface kit, COM-20023, to the handheld unit.

### SUBTASK 23-71-00-480-017

- (4) Start the RDI application on the handheld unit of the recorder data interface kit, COM-20023.
- (a) Push the P1 button on the handheld unit of the recorder data interface kit, COM-20023.
  - (b) Make sure that the home screen of the RDI application shows on the handheld unit of the recorder data interface kit, COM-20023.
  - (c) On the handheld unit of the recorder data interface kit, COM-20023, make sure that the connection status on the home screen of the RDI application shows CONNECTED.

## F. Make a Copy the CVR Data

### SUBTASK 23-71-00-700-009

- (1) On the RDI home screen, select DOWNLOAD.

### SUBTASK 23-71-00-700-010

- (2) To download a fault log or an event log, select FAULT LOG or EVENT LOG.

NOTE: The data download starts immediately and the data is saved on the recorder data interface installation directory.

### SUBTASK 23-71-00-700-011

- (3) To download datalink data, do these steps:

- (a) Select DATALINK.
- (b) If it is necessary, check the box for file conversion.

NOTE: File conversion is a separate option and some devices do not have this feature available.

NOTE: File conversion is an optional feature that requires decryption, the optional feature needs to be purchased from supplier.

NOTE: The RDI encrypts the data coming off the CVR and a license is required to decrypt it.

- (c) Select a download type (FULL, FROM LAST, MARKER, or TIME).

NOTE: The FULL option downloads all the data. The FROM LAST option downloads all data since the last data download. The MARKER option downloads the data from a set marker. The TIME option downloads the data from a selection of hours and minutes.

- 1) For MARKER or TIME download types, set the time or marker selections.

- (d) Select VERIFY TAIL NUMBER.

- 1) Enter the tail number.

NOTE: If the tail number field is left empty, there will be no tail number on the data file name.

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- (e) Select START DOWNLOAD.

NOTE: Data is saved on the recorder data interface installation directory.

- (f) Make sure that a DOWNLOAD COMPLETE screen is shown.

### SUBTASK 23-71-00-700-012

- (4) To download audio data, do these steps:

- (a) Select AUDIO.

- (b) Select the audio channel source (for single source) or all sources (for all audio data).

- (c) If it is necessary, check the box for file conversion.

NOTE: File conversion is a separate option and some devices do not have this feature available.

NOTE: File conversion is an optional feature that requires decryption, the optional feature needs to be purchased from supplier.

NOTE: The RDI encrypts the data coming off the CVR and a license is required to decrypt it.

- (d) Select a download type (FULL, FROM LAST, MARKER, or TIME).

NOTE: The FULL option downloads all the data. The FROM LAST option downloads all data since the last data download. The MARKER option downloads the data from a set marker. The TIME option downloads the data from a selection of hours and minutes.

- 1) For MARKER or TIME download types, set the time or marker selections.

- (e) Select VERIFY TAIL NUMBER.

- 1) Enter the tail number.

NOTE: If the tail number field is left empty, there will be no tail number on the data file name.

- (f) Select START DOWNLOAD.

NOTE: Data is saved on the recorder data interface installation directory.

- (g) Make sure that a DOWNLOAD COMPLETE screen is shown.

## G. Convert the CVR Data Format

### SUBTASK 23-71-00-700-013

- (1) On the RDI home screen, Select FILES.

NOTE: The files to convert must be on the internal storage of the unit.

NOTE: File conversion is a separate option and some devices do not have this feature available.

### SUBTASK 23-71-00-700-014

- (2) To convert data, do these steps:

- (a) Select CONVERT.

- (b) Select a data type (MIC AUDIO, CAM AUDIO, ALL AUDIO, or DATALINK).

- (c) Select the file(s) to convert.

NOTE: More than one file can be selected.

- (d) Select CONVERT.

- (e) Make sure that a CONVERSION COMPLETE screen is shown.



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**H. Transfer the CVR Data**

**SUBTASK 23-71-00-700-015**

- (1) On the RDI home screen, select FILES.

**SUBTASK 23-71-00-700-016**

- (2) To move data from the handheld unit of the recorder data interface kit, COM-20023, to a different location, do these steps:
- (a) Select TRANSFER.
  - (b) Select USB.
  - (c) Select a drive from the list.
  - (d) Select SELECT DRIVE.
  - (e) Select the file(s) to transfer.  
NOTE: More than one file can be selected.
  - (f) Select TRANSFER.
  - (g) Make sure that a TRANSFER COMPLETE screen is shown.

**I. Put the Airplane Back to Its Usual Condition**

**SUBTASK 23-71-00-080-011**

- (1) Disconnect the recorder data interface kit, COM-20023, as follows:
- (a) Disconnect the cable of the recorder data interface kit, COM-20023, from the handheld unit.
  - (b) Disconnect the cable of the recorder data interface kit, COM-20023, from the CVR front connector.

**SUBTASK 23-71-00-080-012**

- (2) If it is necessary, do these steps to re-install the CVR:
- (a) Deactivate the CVR System (TASK 23-71-00-040-801).  
NOTE: The RIPS can power the CVR for a maximum of 11 minutes after deactivation.
  - (b) Disconnect the ARINC-757 CVR rack adapter, COM-14627, or CVR download interface cable (L-3 Comm FA2100/7100 Series), COM-21043, from the CVR equipment rack and the rear of the CVR.
  - (c) Do this task: Voice Recorder Installation, TASK 23-71-11-400-801.

**SUBTASK 23-71-00-860-033**

- (3) Set the voice recorder switch, on the P5 forward overhead panel, to the AUTO position.

———— **END OF TASK** ————

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VOICE RECORDER SYSTEM - ADJUSTMENT/TEST

1. **General**

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has these tasks for the voice recorder system:
  - (1) Voice Recorder System - Operational Test
  - (2) Voice Recorder System - Audio Fidelity Test
  - (3) Voice Recorder System - System Test

**TASK 23-71-00-710-801**

2. **Voice Recorder System - Operational Test**

NOTE: This procedure is a scheduled maintenance task.

**A. General**

- (1) This test will perform an operational test of the voice recorder system.

**B. References**

| Reference                               | Title                              |
|-----------------------------------------|------------------------------------|
| 23-27-00-740-802                        | ACARS - Operational Test (P/B 501) |
| IFIM and do the applicable procedure(s) | Interactive Fault Isolation Manual |

**C. Tools/Equipment**

| Reference | Description                                        |
|-----------|----------------------------------------------------|
| STD-1390  | Headphone - 600 Ohm, with 1/4 Inch Mono Audio Plug |

**D. Location Zones**

| Zone | Area                          |
|------|-------------------------------|
| 142  | Aft Cargo Compartment - Right |
| 212  | Flight Compartment - Right    |

**E. Prepare for the Test**

**SUBTASK 23-71-00-860-005**

- (1) Make sure that the ACARS system is serviceable (TASK 23-27-00-740-802).

**SUBTASK 23-71-00-860-006**

- (2) Set the airplane's parking brake.
  - (a) Pull the Parking brake lever, located on the control stand.
  - (b) Make sure that the Parking brake light comes on.

**SUBTASK 23-71-00-420-002**

- (3) Connect a headphone, STD-1390 to the voice recorder control panel at the pilot's overhead panel, P5.

**SUBTASK 23-71-00-860-007**

- (4) Set the volume control switches on the audio control panels (ACP) to the OFF position.

**SUBTASK 23-71-00-860-017**

- (5) Set the CVR AUTO/ON switch (P5) to the ON position.
  - (a) Make sure that the CVR AUTO/ON switch stays in the ON position.

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SUBTASK 23-71-00-710-002

- (6) Make sure that you can hear the flight deck conversation in the headphone.

### F. Operational Test

SUBTASK 23-71-00-700-001

- (1) Do the Operational Test as follows:

NOTE: When you push the TEST switch on the voice recorder control panel, a test is performed on the CVR, Datalink, and the Recorder Independent Power Supply (RIPS).

- (a) Push and hold the TEST switch on the voice recorder control panel for one second.

NOTE: It is not necessary to hold the TEST switch for five seconds.

- 1) In five seconds or less, make sure that:

a) You hear a test tone (800 HZ) in the headphone.

b) The TEST light comes on.

<1> A "PASS" Test is when the TEST light is steady and bright.

<2> A "FAIL" is when the TEST light blinks, flickers, or dims. Refer to IFIM and do the applicable procedure(s).

### G. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-00-080-001

- (1) Disconnect the headphone from the voice recorder's control panel.

SUBTASK 23-71-00-860-018

- (2) Set the CVR AUTO/ON switch (P5) back to the AUTO position.

————— END OF TASK —————

### TASK 23-71-00-730-801

## 3. Voice Recorder System - Audio Fidelity Test

NOTE: This procedure is a scheduled maintenance task.

### A. General

- (1) This procedure contains a task for the four-channel microphone test of the voice recorder system using the flight crew's microphones and the area microphone.

### B. References

| Reference        | Title                                               |
|------------------|-----------------------------------------------------|
| 23-51-00-710-801 | Flight Interphone System Operational Test (P/B 501) |

### C. Tools/Equipment

| Reference | Description                                                                          |
|-----------|--------------------------------------------------------------------------------------|
| STD-1390  | Headphone - 600 Ohm, with 1/4 Inch Mono Audio Plug                                   |
| STD-13898 | Headset with Boom Mic and two-prong plug (For use on Flight Deck during CVR testing) |

### D. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

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### E. Prepare for the Test

SUBTASK 23-71-00-860-019

- (1) Set the CVR AUTO/ON switch (P5) to the ON position.
  - (a) Make sure that the CVR AUTO/ON switch stays in the ON position.

SUBTASK 23-71-00-760-002

- (2) Make sure that the Flight Interphone System is serviceable (TASK 23-51-00-710-801).

SUBTASK 23-71-00-480-001

- (3) Connect a headphone, STD-1390 to the voice recorder control panel at the pilot's overhead panel, P5.

SUBTASK 23-71-00-860-009

- (4) Set the volume control switches on the audio control panels (ACP) to the off position.

### F. Audio Fidelity Test

SUBTASK 23-71-00-710-003

- (1) Do an operational test for the voice recorder system:

NOTE: When you push the TEST switch on the voice recorder control panel, a test is performed on the CVR and the Recorder Independent Power Supply (RIPS).

- (a) Push and hold the TEST switch on the voice recorder control panel for one second.

NOTE: It is not necessary to hold the TEST switch for five seconds.

- 1) In five seconds or less, make sure that:
      - a) You hear a tone in the headphone.
      - b) The TEST light comes on.

SUBTASK 23-71-00-860-010

- (2) Put a cover on the area microphone for the voice recorder system.

SUBTASK 23-71-00-710-004

- (3) Do a test for the voice recorder microphone at the captain's position:

- (a) Connect a on-board boom microphone headset, STD-13898 to the captain's jack panel.
    - (b) If the captain's ACP has a BOOM microphone switch, then make sure it is set to the BOOM position.
    - (c) Speak into the boom microphone.

- 1) Make sure that you hear your voice through the headphone at the voice recorder control panel.

NOTE: When you test the digital or solid state voice recorder you will hear your voice in the headset as you speak. When you test the analog or tape based voice recorder you will hear your voice in the headset after approximately a 0.5 second delay.

- (d) Disconnect the boom microphone from the captain's jack panel.

SUBTASK 23-71-00-710-005

- (4) Do a test for the voice recorder microphone at the first officer's position:

- (a) Connect a boom microphone to the first officer's jack panel.
    - (b) If the first officer's ACP has a BOOM microphone switch, then make sure it is set to the BOOM position.
    - (c) Speak into the boom microphone.

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- 1) Make sure that you hear your voice through the headphone at the voice recorder control panel.

NOTE: When you test the digital or solid state voice recorder you will hear your voice in the headset as you speak. When you test the analog or tape based voice recorder you will hear your voice in the headset after approximately a 0.5 second delay.

- (d) Disconnect the boom microphone from the first officer's jack panel.

### SUBTASK 23-71-00-710-006

- (5) Do a test for the voice recorder microphone at the first observer's position:

- (a) Connect a boom microphone or a hand mic, as applicable, to the first observer's jack panel.
- (b) If the first observer's ACP has a BOOM microphone switch, then make sure it is set to the BOOM position.
- (c) Speak into the boom microphone or hand mic.

- 1) Make sure that you hear your voice through the headphone at the voice recorder control panel.

NOTE: When you test the digital or solid state voice recorder you will hear your voice in the headset as you speak. When you test the analog or tape based voice recorder you will hear your voice in the headset after approximately a 0.5 second delay.

- (d) Disconnect the boom microphone or hand mic from the first observer's jack panel.

### SUBTASK 23-71-00-700-002

- (6) Remove the cover from the area microphone for the voice recorder system.

### SUBTASK 23-71-00-710-007

- (7) Do a test for the area microphone of the voice recorder system:

- (a) Speak in an usual voice to the area microphone.

NOTE: Keep 3 to 4 feet (1 meter) away from the area microphone for the voice recorder.

- 1) Make sure that you hear your voice through the headphone at the voice control panel.

NOTE: When you test the digital or solid state voice recorder you will hear your voice in the headset as you speak. When you test the analog or tape based voice recorder you will hear your voice in the headset after approximately a 0.5 second delay.

NOTE: There can be feedback caused by the audio coupling between the headphones and the area mic. The feedback is a nuisance only and does not affect the test results.

### SUBTASK 23-71-00-860-011

- (8) Do these steps to erase the memory for the voice recorder:

- (a) Set the airplane's parking brake.
- (b) Push and hold the ERASE switch on the voice recorder control panel for three seconds.
  - 1) Make sure that you hear a tone in the headphone in six seconds or less.

## G. Put the Airplane Back to the Usual Condition

### SUBTASK 23-71-00-020-001

- (1) Disconnect the headphone from the voice recorder control panel.

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SUBTASK 23-71-00-860-020

- (2) Set the CVR AUTO/ON switch (P5) to the AUTO position.

————— END OF TASK —————

### TASK 23-71-00-730-802

#### 4. Voice Recorder System Test

##### A. General

- (1) This procedure contains the steps to test the voice recorder system.
- (2) This system test includes these tests:
  - (a) Operational test
  - (b) Audio fidelity test
  - (c) CVR engine relay test
  - (d) Bulk erasure test

##### B. References

| Reference        | Title                                                               |
|------------------|---------------------------------------------------------------------|
| 10-11-05-500-801 | Chock Installation Winds/Gusts Maximum 40 mph (35 Knots) (P/B 201)  |
| 10-11-05-500-802 | Chock Installation in Winds More Than 35 Knots - Handling (P/B 201) |
| 23-51-00-710-801 | Flight Interphone System Operational Test (P/B 501)                 |
| 32-09-00-860-801 | Put the Airplane in the Air Mode (P/B 201)                          |
| 32-09-00-860-802 | Return the Airplane to the Ground Mode (P/B 201)                    |

##### C. Tools/Equipment

| Reference | Description                                        |
|-----------|----------------------------------------------------|
| STD-1390  | Headphone - 600 Ohm, with 1/4 Inch Mono Audio Plug |

##### D. Location Zones

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

##### E. Prepare for the Test

SUBTASK 23-71-00-860-013

- (1) Make sure that the flight interphone system is serviceable (TASK 23-51-00-710-801).

SUBTASK 23-71-00-860-014

- (2) Connect a headphone, STD-1390 to the voice recorder's control panel at the pilot's overhead panel, P5.

SUBTASK 23-71-00-860-015

- (3) Set the volume control switches on the Audio Control Panels (ACP) to the off position.

##### F. Voice Recorder System Test

SUBTASK 23-71-00-710-008

- (1) Do this task: Voice Recorder System - Operational Test, TASK 23-71-00-710-801.

SUBTASK 23-71-00-710-009

- (2) Do this task: Voice Recorder System - Audio Fidelity Test, TASK 23-71-00-730-801.

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SUBTASK 23-71-00-860-028

- (3) Set the CVR AUTO/ON switch (P5) to the ON position as follows:
- (a) Make sure that the CVR AUTO/ON switch stays in the ON position.

SUBTASK 23-71-00-730-001

- (4) Do a test for the CVR Engine Relay as follows:
- (a) Set the CVR AUTO/ON switch to the AUTO position.
- (b) Open these circuit breakers and install safety tags:

## CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>             |
|------------|------------|---------------|-------------------------|
| A          | 1          | C00458        | ENGINE 1 IGNITION RIGHT |
| A          | 3          | C00153        | ENGINE 1 IGNITION LEFT  |

## F/O Electrical System Panel, P6-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>             |
|------------|------------|---------------|-------------------------|
| D          | 4          | C00459        | ENGINE 2 IGNITION RIGHT |
| D          | 6          | C00151        | ENGINE 2 IGNITION LEFT  |

## F/O Electrical System Panel, P6-3

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>           |
|------------|------------|---------------|-----------------------|
| B          | 3          | C00360        | FUEL SPAR VALVE ENG 2 |
| B          | 4          | C00359        | FUEL SPAR VALVE ENG 1 |

- (c) Set the left engine start lever to the IDLE position and do these steps:
- 1) Make sure that the right engine start lever is in the CUTOFF position.
  - 2) Wait approximately five minutes.  
**NOTE:** The CDS will toggle the engine running relay five minutes after the start lever is placed in the IDLE position.
  - 3) Make sure that you can hear the flight deck conversation in the headphone, STD-1390.
- (d) Push and hold the TEST switch on the voice recorder control panel for one second.  
**NOTE:** It is not necessary to hold the TEST switch for five seconds.
- 1) In five seconds or less, make sure that:
    - a) You hear a tone in the headphone, STD-1390.
    - b) The TEST light comes on.
- (e) Set the left engine start lever to the CUTOFF position.
- 1) Make sure that you cannot hear the flight deck conversation in the headphone, STD-1390.
- (f) Set the right engine start lever to the IDLE position.
- 1) Wait approximately five minutes.  
**NOTE:** The CDS will toggle the engine running relay five minutes after the start lever is placed in the IDLE position.
  - 2) Make sure that you can hear the flight deck conversation in the headphone, STD-1390.

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- (g) Push and hold the TEST switch on the voice recorder control panel for one second.

NOTE: It is not necessary to hold the TEST switch for five seconds.

- 1) In five seconds or less, make sure that:
- a) You hear a tone in the headphone, STD-1390.
  - b) The TEST light comes on.
- (h) Set the right engine start lever to the CUTOFF position.
- (i) Make sure that you cannot hear the flight deck conversation in the headphone, STD-1390.
- (j) Set the CVR AUTO/ON switch to the ON position (P5 panel).
- NOTE: Make sure that the CVR AUTO/ON switch stays in the ON position.
- (k) Make sure that you can hear the flight deck conversation in the headphone, STD-1390.

SUBTASK 23-71-00-710-010

- (5) Do a test for the Bulk Erasure of the voice recorder as follows:
- (a) Make sure that the airplane wheels have chocks in place (TASK 10-11-05-500-801 or TASK 10-11-05-500-802).
  - (b) Make sure that you connect a headphone, STD-1390 to the voice recorder's control panel.



**WARNING**

MAKE SURE LANDING GEAR WHEELS ARE CHOCKED, BEFORE PARKING BRAKE LEVER IS RELEASED. INJURIES TO PERSONNEL AND DAMAGE TO THE AIRCRAFT CAN OCCUR.

- (c) Release the parking brake.
- (d) Push and hold the ERASE switch on the voice recorder control panel for three seconds.
  - 1) Make sure that you do not hear a tone in the headphone, STD-1390, in six seconds or less.
- (e) Set the parking brake.
- (f) Push and hold the ERASE switch on the voice recorder control panel for three seconds.
  - 1) Make sure that you hear a tone in the headphone, STD-1390, in six seconds or less.



**WARNING**

MAKE SURE THAT YOU INSTALL CHOCKS AT THE WHEELS. THE BRAKES WILL RELEASE WHEN YOU PUT THE AIRPLANE IN AIR MODE. THIS CAN CAUSE THE AIRPLANE TO MOVE SUDDENLY. IF YOU DO NOT INSTALL THE CHOCKS, INJURY TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (g) Do the PSEU BITE procedure to put the No. 1 air/ground system in air mode (TASK 32-09-00-860-801).
- (h) Push and hold the ERASE switch on the voice recorder control panel for three seconds.
  - 1) Make sure that you do not hear a tone in the headphone, STD-1390, in six seconds or less.
- (i) Put the airplane back to the ground mode (TASK 32-09-00-860-802).
- (j) Push and hold the ERASE switch on the voice recorder control panel for three seconds.

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- 1) Make sure that you hear a tone in the headphone, STD-1390, in six seconds or less.

SUBTASK 23-71-00-860-021

- (6) Remove the safety tags and close these circuit breakers:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>             |
|------------|------------|---------------|-------------------------|
| A          | 1          | C00458        | ENGINE 1 IGNITION RIGHT |
| A          | 3          | C00153        | ENGINE 1 IGNITION LEFT  |

**F/O Electrical System Panel, P6-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>             |
|------------|------------|---------------|-------------------------|
| D          | 4          | C00459        | ENGINE 2 IGNITION RIGHT |
| D          | 6          | C00151        | ENGINE 2 IGNITION LEFT  |

**F/O Electrical System Panel, P6-3**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>           |
|------------|------------|---------------|-----------------------|
| B          | 3          | C00360        | FUEL SPAR VALVE ENG 2 |
| B          | 4          | C00359        | FUEL SPAR VALVE ENG 1 |

**G. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-71-00-860-016

- (1) Disconnect the headphone, STD-1390 from the voice recorder's control panel.

SUBTASK 23-71-00-860-022

- (2) Set the CVR AUTO/ON switch (P5) back to the AUTO position.

———— **END OF TASK** ————

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**VOICE RECORDER - REMOVAL/INSTALLATION**

**1. General**

- A. This procedure has these tasks:
- (1) Voice Recorder Removal
  - (2) Voice Recorder Installation.
- B. The voice recorder is installed in the voice recorder rack in the aft cargo compartment.

**TASK 23-71-11-000-801**

**2. Voice Recorder Removal**

(Figure 401)

**A. General**

- (1) This procedure has steps to remove a voice recorder.

**B. References**

| Reference        | Title                                                  |
|------------------|--------------------------------------------------------|
| 20-10-07-000-801 | E/E Box Removal (P/B 401)                              |
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201) |
| 23-71-21-000-801 | Underwater Locator Beacon Removal (P/B 401)            |

**C. Tools/Equipment**

| Reference | Description                 |
|-----------|-----------------------------|
| STD-1048  | Stepladder - 6 foot (1.83m) |

**D. Location Zones**

| Zone | Area                          |
|------|-------------------------------|
| 142  | Aft Cargo Compartment - Right |

**E. Access Panels**

| Number | Name/Location  |
|--------|----------------|
| 822    | Aft Cargo Door |

**F. Prepare for the Voice Recorder Removal**

SUBTASK 23-71-11-010-001

- (1) Open this access panel:

| <u>Number</u> | <u>Name/Location</u> |
|---------------|----------------------|
| 822           | Aft Cargo Door       |

SUBTASK 23-71-11-860-001

- (2) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>      |
|------------|------------|---------------|------------------|
| C          | 7          | C01537        | VOICE RCDR RELAY |
| D          | 6          | C01948        | VOICE RCDR/RIPS  |

This circuit breaker is inoperative and should remain open:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>       |
|------------|------------|---------------|-------------------|
| D          | 7          | C00107        | VOICE RCDR (INOP) |

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SUBTASK 23-71-11-860-004

- (3) Wait for a minimum of 11 minutes after you remove power from the voice recorder [1].

SUBTASK 23-71-11-800-001

- (4) Get access to the Recorder Independent Power Supply (RIPS) in the aft passenger compartment, open the lowered ceiling panel.

(a) Use a 6 foot (1.83m) stepladder, STD-1048, to get access to the RIPS.

NOTE: The RIPS is next to the Flight Data Recorder (FDR).

SUBTASK 23-71-11-020-001

- (5) Disconnect the J1 connector from the RIPS unit.

SUBTASK 23-71-11-010-002

- (6) Open the access panel on the E6 rack to get access to the voice recorder [1].

SUBTASK 23-71-11-020-002

- (7) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

### G. Voice Recorder Removal

SUBTASK 23-71-11-020-003



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (1) Remove the voice recorder [1], (TASK 20-10-07-000-801).

SUBTASK 23-71-11-020-004

- (2) If the voice recorder [1] will be repaired or replaced, do this task: Underwater Locator Beacon Removal, TASK 23-71-21-000-801.

———— **END OF TASK** ————

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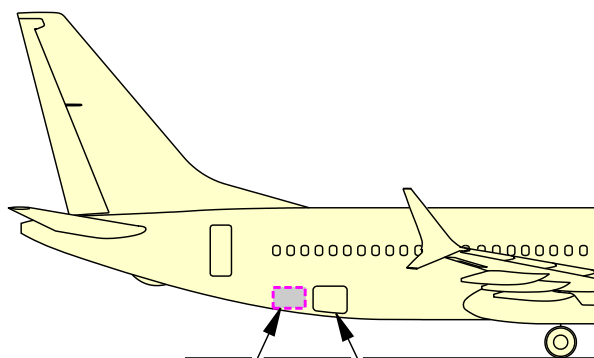
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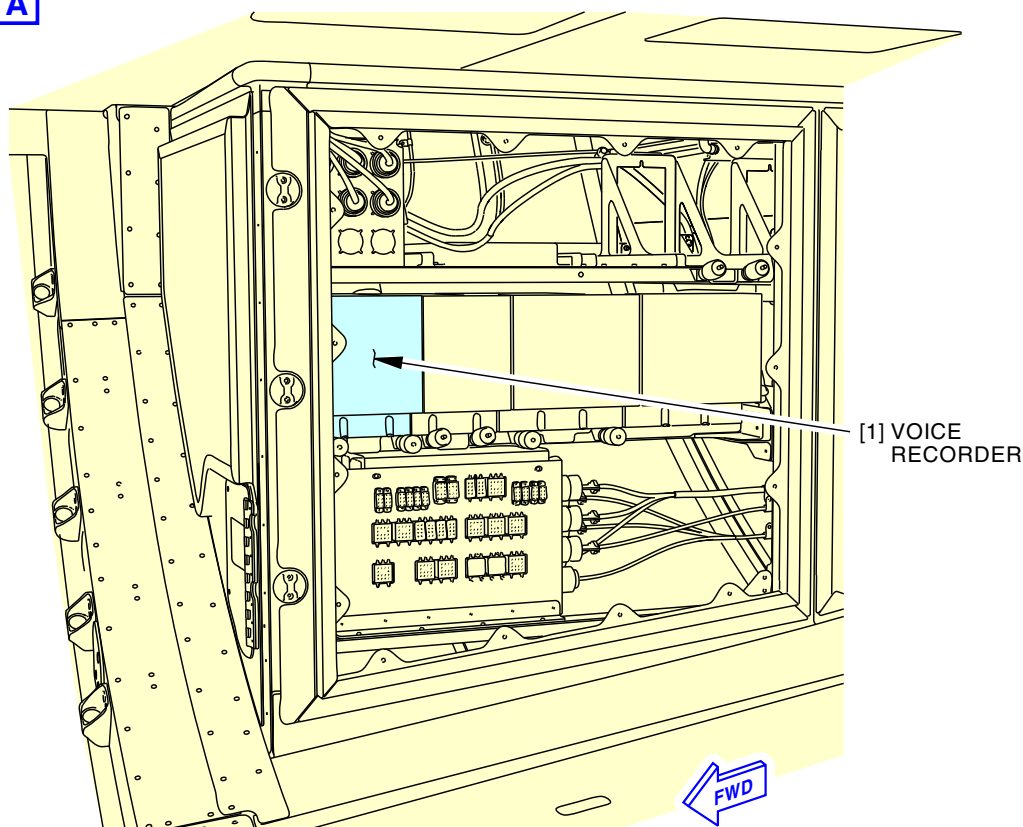
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ELECTRONIC  
EQUIPMENT  
RACK, E6

AFT CARGO  
DOOR, 822

**A**



[1] VOICE  
RECORDER

FWD

ELECTRONIC EQUIPMENT RACK, E6

**A**

2411717 S00061528814\_V3

Voice Recorder Installation  
Figure 401/23-71-11-990-801

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TASK 23-71-11-400-801

3. Voice Recorder Installation

(Figure 401)

A. General

- (1) This procedure has steps to install a voice recorder.

B. References

| Reference        | Title                                                       |
|------------------|-------------------------------------------------------------|
| 20-10-07-400-801 | E/E Box Installation (P/B 401)                              |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201) |
| 23-71-00-710-801 | Voice Recorder System - Operational Test (P/B 501)          |
| 23-71-21-400-801 | Underwater Locator Beacon Installation (P/B 401)            |

C. Expendables/Parts

| AMM Item | Description    | AIPC Reference  | AIPC Effectivity |
|----------|----------------|-----------------|------------------|
| 1        | Voice recorder | 23-71-11-01-100 | SIA 001-010      |
|          |                | 23-71-11-01-255 | SIA 011-999      |

D. Location Zones

| Zone | Area                          |
|------|-------------------------------|
| 142  | Aft Cargo Compartment - Right |

E. Access Panels

| Number | Name/Location  |
|--------|----------------|
| 822    | Aft Cargo Door |

F. Prepare for the Voice Recorder Installation

SUBTASK 23-71-11-420-001

- (1) If removed, install the underwater locator beacon (ULB) to the voice recorder [1], do this task: Underwater Locator Beacon Installation, TASK 23-71-21-400-801.

SUBTASK 23-71-11-860-002

- (2) Make sure that these circuit breakers are open and have safety tags:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name             |
|-----|-----|--------|------------------|
| C   | 7   | C01537 | VOICE RCDR RELAY |
| D   | 6   | C01948 | VOICE RCDR/RIPS  |

This circuit breaker is inoperative and should remain open:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name              |
|-----|-----|--------|-------------------|
| D   | 7   | C00107 | VOICE RCDR (INOP) |

SUBTASK 23-71-11-420-002

- (3) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

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### G. Voice Recorder Installation

SUBTASK 23-71-11-420-003



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (1) Install the voice recorder [1], do this task: E/E Box Installation, TASK 20-10-07-400-801.

SUBTASK 23-71-11-410-001

- (2) Close the access door on the E6 rack.

SUBTASK 23-71-11-420-004

- (3) Connect the J1 connector to the Recorder Independent Power Supply (RIPS).

SUBTASK 23-71-11-410-002

- (4) Close the lowered ceiling panel in the aft passenger compartment.

### H. Voice Recorder Installation Test

SUBTASK 23-71-11-860-003

- (1) Remove the safety tags and close these circuit breakers:

#### CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>      |
|------------|------------|---------------|------------------|
| C          | 7          | C01537        | VOICE RCDR RELAY |
| D          | 6          | C01948        | VOICE RCDR/RIPS  |

This circuit breaker is inoperative and should remain open:

#### CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>       |
|------------|------------|---------------|-------------------|
| D          | 7          | C00107        | VOICE RCDR (INOP) |

SUBTASK 23-71-11-710-001

- (2) Do the operational test for the voice recorder (TASK 23-71-00-710-801).

### I. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-11-410-003

- (1) Close this access panel:

| <u>Number</u> | <u>Name/Location</u> |
|---------------|----------------------|
| 822           | Aft Cargo Door       |

————— END OF TASK —————

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VOICE RECORDER CONTROL PANEL - REMOVAL/INSTALLATION

1. **General**

- A. This procedure has these tasks:
- (1) A removal of the voice recorder control panel
  - (2) An installation of the voice recorder control panel.
- B. The voice recorder control panel is installed in the pilot's overhead panel P5.

**TASK 23-71-12-000-801**

2. **Voice Recorder Control Panel Removal**

(Figure 401 or Figure 402)

**A. General**

- (1) This task gives instruction to remove voice recorder control panel.

**B. Tools/Equipment**

| Reference | Description                 |
|-----------|-----------------------------|
| STD-1048  | Stepladder - 6 foot (1.83m) |

**C. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 212  | Flight Compartment - Right |

**D. Prepare for the Removal**

SUBTASK 23-71-12-860-001

- (1) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name             |
|-----|-----|--------|------------------|
| C   | 7   | C01537 | VOICE RCDR RELAY |
| D   | 6   | C01948 | VOICE RCDR/RIPS  |

This circuit breaker is inoperative and should remain open:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name              |
|-----|-----|--------|-------------------|
| D   | 7   | C00107 | VOICE RCDR (INOP) |

SUBTASK 23-71-12-040-001

- (2) Wait for a minimum of 11 minutes after the power from the voice recorder was removed.

SUBTASK 23-71-12-800-001

- (3) To get access to the Recorder Independent Power Supply (RIPS) in the aft passenger compartment, open the lowered ceiling panel.

NOTE: The RIPS is next to the Flight Data Recorder.

- (a) Use the 6 foot (1.83m) stepladder, STD-1048, to get access to the RIPS.

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SUBTASK 23-71-12-020-001



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (4) Disconnect the J1 connector from the RIPS unit.

**E. Voice Recorder Control Panel Removal**

SUBTASK 23-71-12-020-002

- (1) Loosen the quarter-turn fasteners [2] on the voice recorder control panel [1].

SUBTASK 23-71-12-020-003

- (2) Remove the voice recorder control panel [1] to get access to the electrical connectors [3].

SUBTASK 23-71-12-020-004

- (3) Disconnect the electrical connector [3] from the voice recorder control panel [1].

SUBTASK 23-71-12-020-005

- (4) Put a protective cover on the electrical connector [3].

———— **END OF TASK** ————

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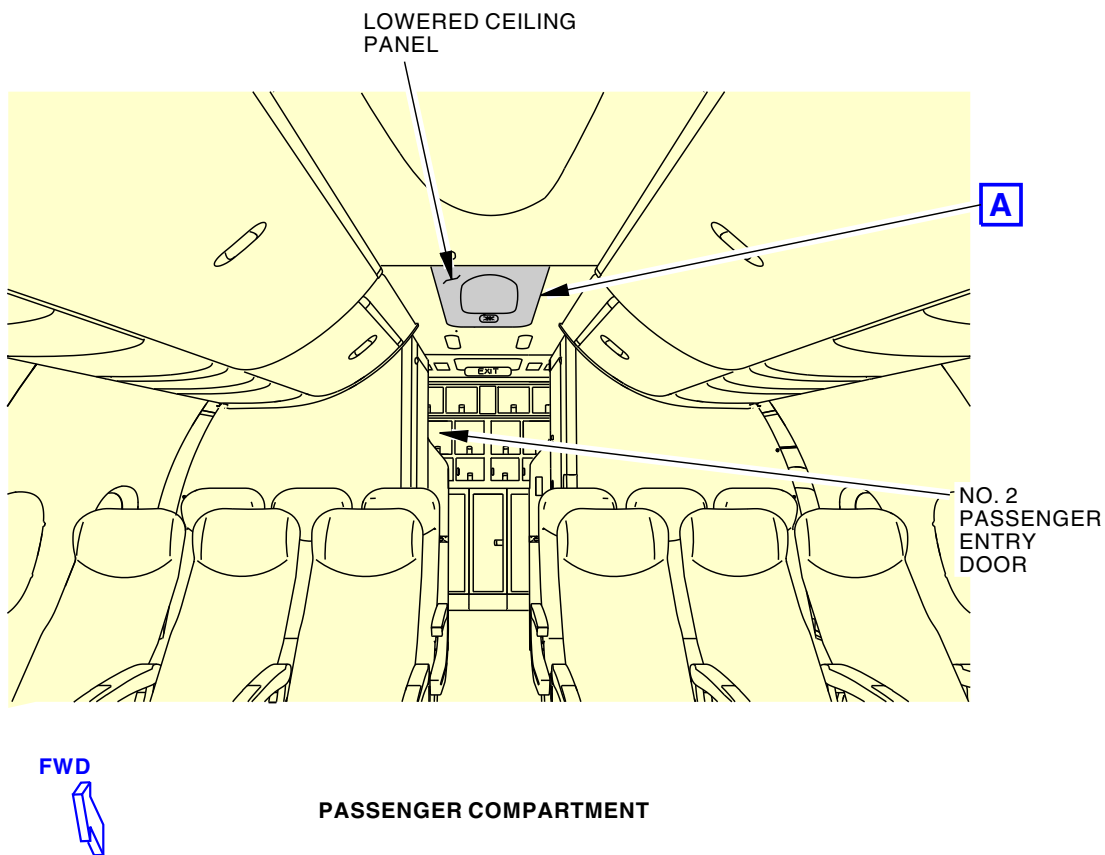
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2411725 S00061528844\_V1

Recorder Independent Power Supply Location  
Figure 401/23-71-12-990-803 (Sheet 1 of 3)

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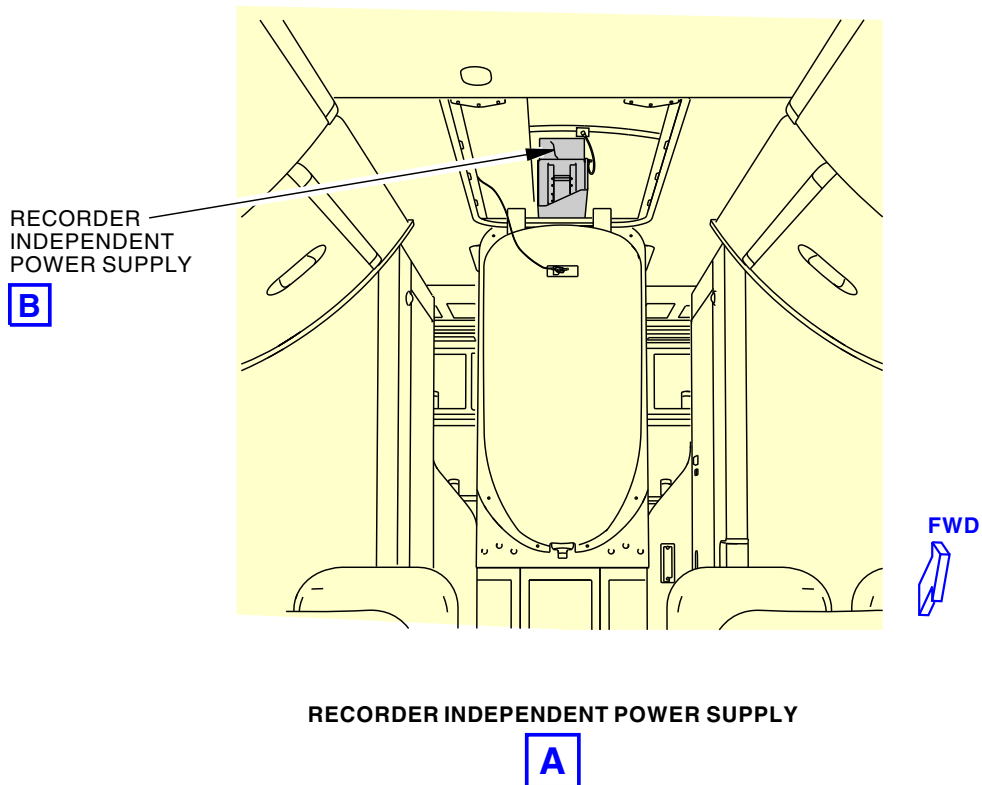
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RECORDER INDEPENDENT POWER SUPPLY

3011612 S0000785520\_V1

Recorder Independent Power Supply Location  
Figure 401/23-71-12-990-803 (Sheet 2 of 3)

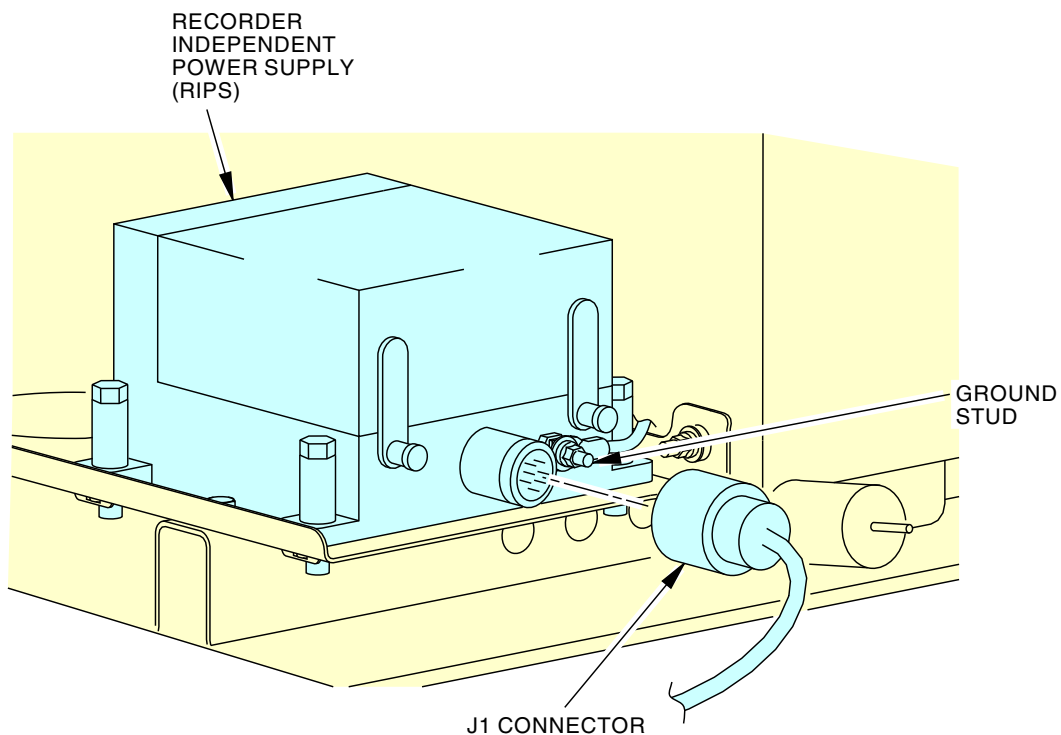
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RECORDER INDEPENDENT POWER  
SUPPLY (RIPS)  
(EXAMPLE)

**B**

3011613 S0000785521\_V1

Recorder Independent Power Supply Location  
Figure 401/23-71-12-990-803 (Sheet 3 of 3)

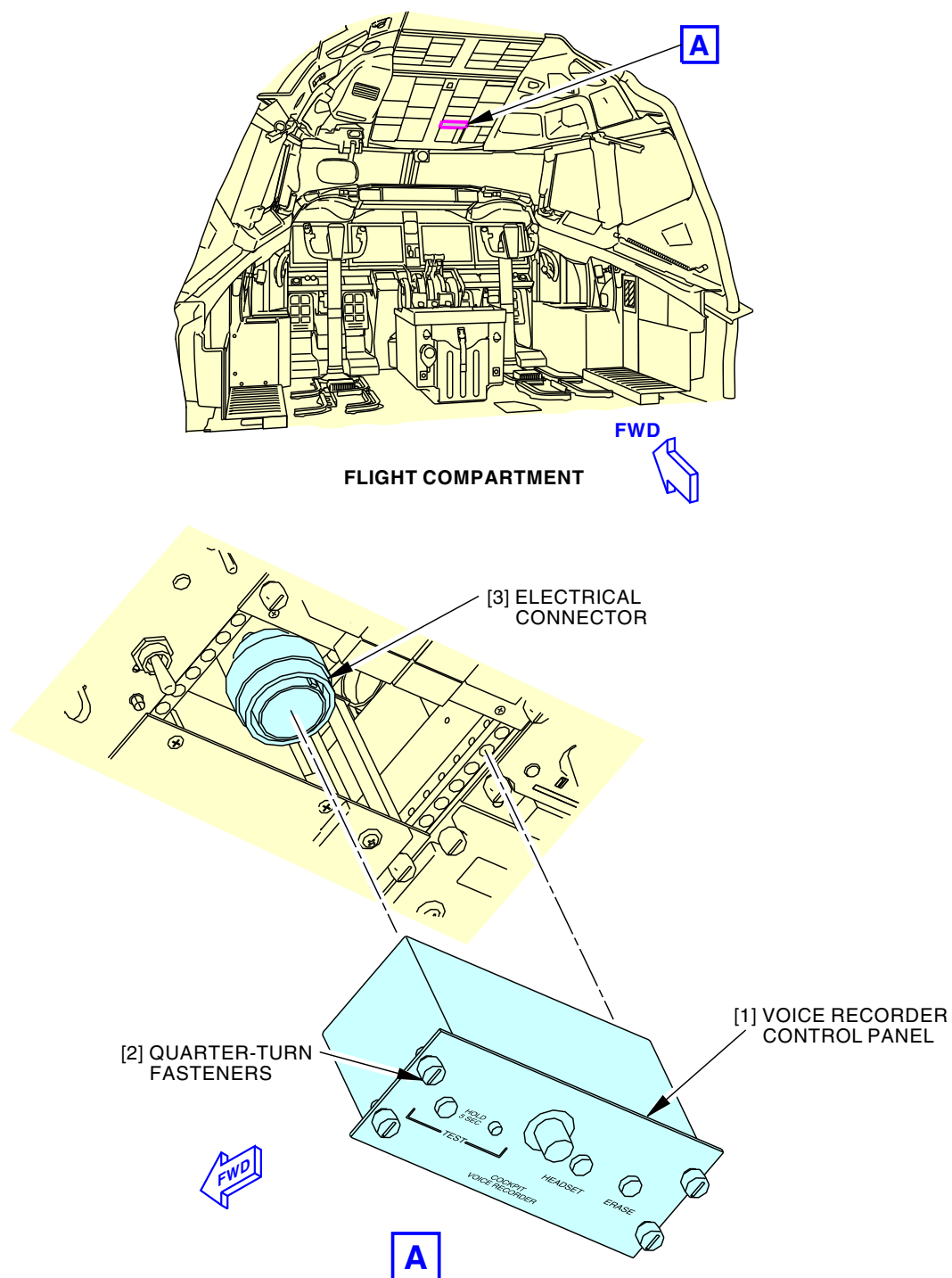
EFFECTIVITY  
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2783764 S0000631506\_V2

**Voice Recorder Control Panel Installation**  
**Figure 402/23-71-12-990-801**

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TASK 23-71-12-400-801

3. **Voice Recorder Control Panel Installation**

(Figure 401 or Figure 402)

**A. General**

(1) This task gives instruction to install the voice recorder control panel.

**B. References**

| Reference        | Title                                              |
|------------------|----------------------------------------------------|
| 23-71-00-710-801 | Voice Recorder System - Operational Test (P/B 501) |

**C. Tools/Equipment**

| Reference | Description                                        |
|-----------|----------------------------------------------------|
| STD-1390  | Headphone - 600 Ohm, with 1/4 Inch Mono Audio Plug |

**D. Expendables/Parts**

| AMM Item | Description                  | AIPC Reference  | AIPC Effectivity |
|----------|------------------------------|-----------------|------------------|
| 1        | Voice recorder control panel | 23-71-12-01-050 | SIA ALL          |
|          |                              | 31-11-94-01-255 | SIA 001-014      |
|          |                              | 31-11-94-02-255 | SIA 015-999      |

**E. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 212  | Flight Compartment - Right |

**F. Voice Recorder Control Panel Installation**

SUBTASK 23-71-12-420-001

(1) Remove the protective cover from the electrical connector [3].

SUBTASK 23-71-12-210-001

(2) Examine the electrical connectors for bent or broken pins, dirt, and damage.

SUBTASK 23-71-12-420-002

(3) Connect the electrical connector [3] to the voice recorder control panel [1].

SUBTASK 23-71-12-420-003

(4) Install the voice recorder control panel [1].

SUBTASK 23-71-12-420-004

(5) Tighten the quarter-turn fasteners [2] on the voice recorder control panel [1].

SUBTASK 23-71-12-420-005



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(6) Connect the J1 connector to the Recorder Independent Power Supply (RIPS).

SUBTASK 23-71-12-410-001

(7) Close the lowered ceiling panel in the aft passenger compartment.

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**G. Voice Recorder Control Panel Installation Test**

SUBTASK 23-71-12-860-003

- (1) Remove the safety tags and close these circuit breakers:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>      |
|------------|------------|---------------|------------------|
| C          | 7          | C01537        | VOICE RCDR RELAY |
| D          | 6          | C01948        | VOICE RCDR/RIPS  |

This circuit breaker is inoperative and should remain open:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>       |
|------------|------------|---------------|-------------------|
| D          | 7          | C00107        | VOICE RCDR (INOP) |

SUBTASK 23-71-12-710-001

- (2) Do the operational test of the voice recorder (TASK 23-71-00-710-801).

SUBTASK 23-71-12-860-004

- (3) Make sure that the airplane's parking brake is set.

SUBTASK 23-71-12-860-005

- (4) Make sure that a headphone is connected to the voice recorder control panel [1], at P5.

SUBTASK 23-71-12-860-006

- (5) Set the voice recorder Auto/On switch to the ON position.

SUBTASK 23-71-12-730-001

- (6) Push and hold the ERASE switch on the voice recorder control panel [1] for three seconds.  
(a) Make sure that you hear a tone in the headphone, STD-1390, in six seconds or less.

SUBTASK 23-71-12-020-006

- (7) Disconnect the headphone from the voice recorder control panel [1].

SUBTASK 23-71-12-860-007

- (8) Set the CVR AUTO/ON switch (P5) back to the AUTO position.

———— **END OF TASK** ————

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VOICE RECORDER SWITCH PANEL - REMOVAL/INSTALLATION

1. **General**

A. This procedure has these tasks:

- (1) Voice Recorder Switch Panel Removal
- (2) Voice Recorder Switch Panel Installation.

**TASK 23-71-13-000-801**

2. **Voice Recorder Switch Panel Removal**

(Figure 401)

**A. General**

- (1) This task has instructions to remove the voice recorder switch panel.

**B. References**

| Reference        | Title                                  |
|------------------|----------------------------------------|
| 25-21-45-000-801 | Main Ceiling Panel - Removal (P/B 401) |

**C. Tools/Equipment**

| Reference | Description                 |
|-----------|-----------------------------|
| STD-1048  | Stepladder - 6 foot (1.83m) |

**D. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

**E. Prepare for Removal**

SUBTASK 23-71-13-860-001

- (1) Open this circuit breaker and install safety tag:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name             |
|-----|-----|--------|------------------|
| C   | 7   | C01537 | VOICE RCDR RELAY |

This circuit breaker is inoperative and should remain open:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name              |
|-----|-----|--------|-------------------|
| D   | 7   | C00107 | VOICE RCDR (INOP) |

SUBTASK 23-71-13-010-001

- (2) Get access to the Recorder Independent Power Supply (RIPS) in the aft passenger compartment, open the applicable lowered ceiling panel (TASK 25-21-45-000-801).
  - (a) Make sure to use a 6 foot (1.83m) stepladder, STD-1048 to get access to the RIPS.

SUBTASK 23-71-13-020-001

- (3) Disconnect the J1 connector from the RIPS.

**F. Voice Recorder Switch Removal**

SUBTASK 23-71-13-020-002

- (1) Remove the voice recorder switch panel [1]:
  - (a) Loosen the quarter-turn fasteners [2].

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- (b) Pull the voice recorder switch panel [1].
- (c) Disconnect the electrical connector [3].
- (d) Put the protective cover on the electrical connector [3].

———— **END OF TASK** ————

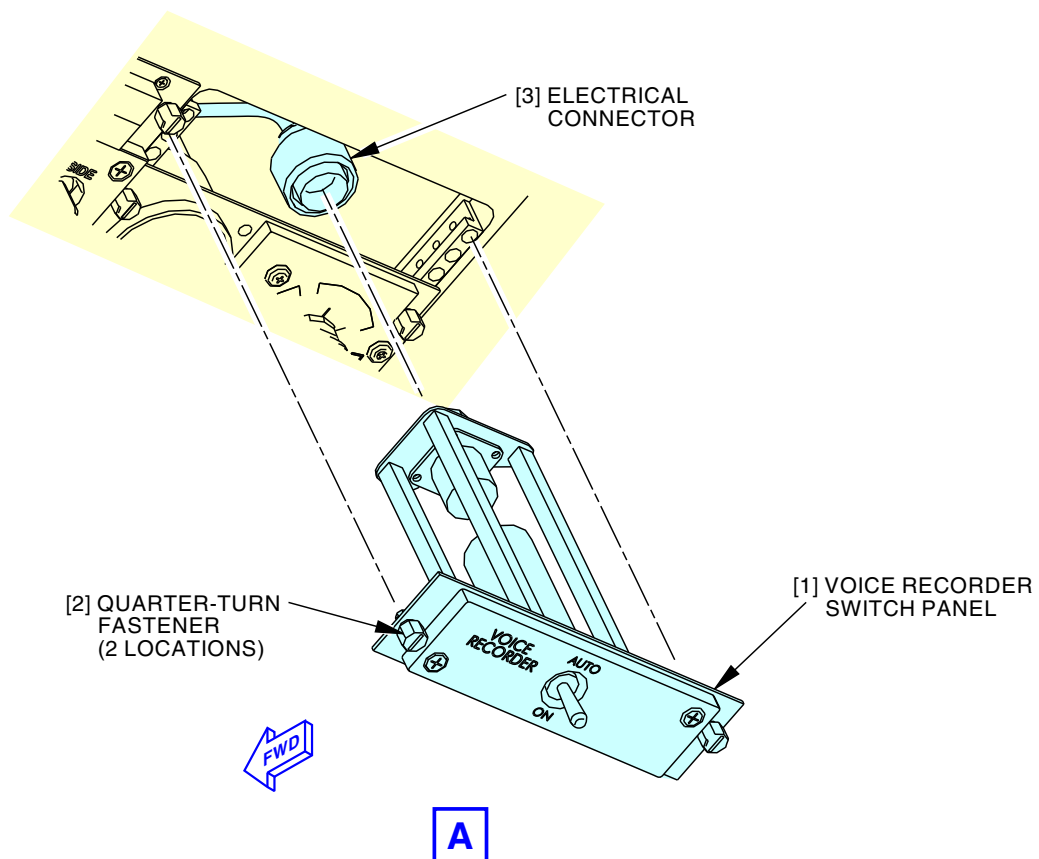
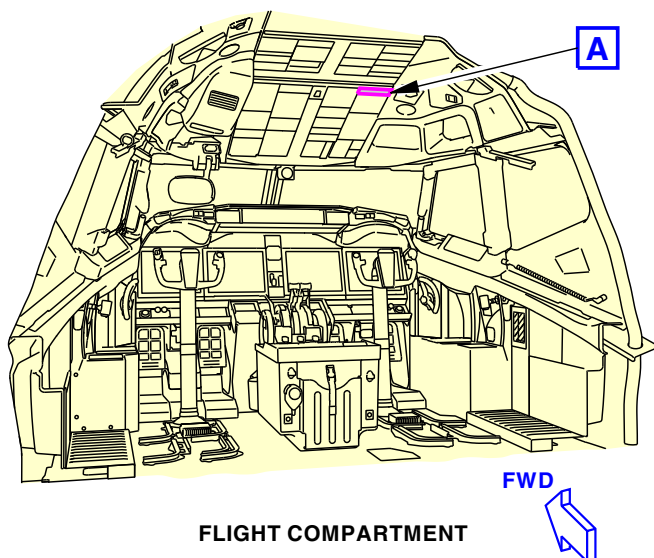
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2574923 S0000618944\_V4

**Voice Recorder Switch Panel Installation**  
**Figure 401/23-71-13-990-801**

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TASK 23-71-13-400-801

3. **Voice Recorder Switch Panel Installation**

(Figure 401)

**A. General**

- (1) This task has instructions to install the voice recorder switch panel.

**B. References**

| Reference        | Title                                       |
|------------------|---------------------------------------------|
| 25-21-45-400-801 | Main Ceiling Panel - Installation (P/B 401) |

**C. Tools/Equipment**

| Reference | Description                                        |
|-----------|----------------------------------------------------|
| STD-1048  | Stepladder - 6 foot (1.83m)                        |
| STD-1390  | Headphone - 600 Ohm, with 1/4 Inch Mono Audio Plug |

**D. Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

**E. Voice Recorder Switch Panel Installation**

SUBTASK 23-71-13-420-001

- (1) Install the voice recorder switch panel [1]:
- (a) Remove the protective cover from the electrical connector [3].
  - (b) Connect the electrical connector [3].
  - (c) Put the voice recorder switch panel [1] into position.
  - (d) Tighten the quarter-turn fasteners [2].

**F. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-71-13-410-001

- (1) Get access to the Recorder Independent Power Supply (RIPS) in the aft passenger compartment, close the applicable lowered ceiling panel (TASK 25-21-45-400-801).
- (a) Make sure to use a 6 foot (1.83m) stepladder, STD-1048 to get access to the RIPS.

SUBTASK 23-71-13-420-002

- (2) Connect the J1 connector to the RIPS.

**G. Voice Recorder Switch Panel Installation Test**

SUBTASK 23-71-13-860-002

- (1) Remove the safety tag and close this circuit breaker:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name             |
|-----|-----|--------|------------------|
| C   | 7   | C01537 | VOICE RCDR RELAY |

This circuit breaker is inoperative and should remain open:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name              |
|-----|-----|--------|-------------------|
| D   | 7   | C00107 | VOICE RCDR (INOP) |

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**SUBTASK 23-71-13-420-003**

- (2) Connect a headphone, STD-1390 to the HEADPHONE jack on the voice recorder control panel.

**SUBTASK 23-71-13-710-001**

- (3) Do these steps to test the voice recorder switch panel [1]:
- (a) Set the VOICE RECORDER AUTO/ON switch to the ON position.
  - (b) Make sure that the switch is latched in the ON position.
  - (c) Make sure that a conversation is heard in the headphone.
  - (d) Open this circuit breaker and install safety tag:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>      |
|------------|------------|---------------|------------------|
| C          | 7          | C01537        | VOICE RCDR RELAY |

- (e) Make sure that the VOICE RECORDER AUTO/ON switch is in the AUTO position.
- (f) Remove the safety tag and close this circuit breaker:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>      |
|------------|------------|---------------|------------------|
| C          | 7          | C01537        | VOICE RCDR RELAY |

- (g) Make sure that a conversation is not heard in the headphone.

**SUBTASK 23-71-13-020-003**

- (4) Disconnect the headphone, STD-1390 from the HEADPHONE jack on the voice recorder control panel.

———— **END OF TASK** ————

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UNDERWATER LOCATOR BEACON - MAINTENANCE PRACTICES

1. **General**

- A. This procedure has these tasks:
- (1) Dukane Underwater Locator Beacon Battery - Replacement
  - (2) L-3 Underwater Beacon Battery - Replacement
- B. The underwater locator beacon (ULB) is attached to the front of the voice recorder. The voice recorder is located in the voice recorder rack at the aft cargo compartment.

**TASK 23-71-21-960-801**

2. **Dukane Underwater Locator Beacon Battery - Replacement**

(Figure 201)

NOTE: This procedure is a scheduled maintenance task.

**A. General**

- (1) This procedure contains the steps to replace the Dukane Underwater Locator Beacon (ULB) battery.

**B. References**

| Reference        | Title                                            |
|------------------|--------------------------------------------------|
| 23-71-21-000-801 | Underwater Locator Beacon Removal (P/B 401)      |
| 23-71-21-400-801 | Underwater Locator Beacon Installation (P/B 401) |

**C. Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                       |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1619  | Wrench - Spanner, Underwater Locator Beacon<br>Part #: 810-2005 Supplier: 94970<br>Part #: 810-2007/KVS Supplier: 94970<br>Part #: 810-325 Supplier: 94970<br>Part #: B362-09111 Supplier: 61257<br>Opt Part #: 008407 Supplier: 26858<br>Opt Part #: B362-04180A Supplier: 26858 |
| COM-15071 | Wrench - Spanner<br>Part #: 810-325 Supplier: 94970<br>Part #: 9809800007 Supplier: 06141                                                                                                                                                                                         |
| COM-15496 | Clamp - Vise<br>Part #: 810-546 Supplier: 94970<br>Part #: 9809800002 Supplier: 06141                                                                                                                                                                                             |
| STD-1066  | Hose - Radiator, Split, 1-1/4 Inch Diameter, 5 Inch Length                                                                                                                                                                                                                        |

**D. Consumable Materials**

| Reference | Description                       | Specification |
|-----------|-----------------------------------|---------------|
| D50082    | Lubricant - 810-346               |               |
| G51422    | Kit - Lithium Battery, 810-2042/K |               |
| G51671    | Kit - Lithium Battery, 810-2050K  |               |

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### E. Dukane Underwater Locator Beacon Battery Removal

SUBTASK 23-71-21-010-001

- (1) Remove the ULB, do this task: Underwater Locator Beacon Removal, TASK 23-71-21-000-801.

SUBTASK 23-71-21-800-001



DO NOT REMOVE THE BATTERY FROM THE UNDERWATER LOCATOR BEACON. THE BATTERY HAS DANGEROUS MATERIALS AND CAN CAUSE SERIOUS INJURY TO PERSONNEL.

- (2) If you have a DK100/90 or DK130/90 ULB, send it to the manufacturer for servicing.

SUBTASK 23-71-21-020-014

- (3) If you have a DK120/90 or DK140/90 ULB, remove the battery [28] as follows:



DO NOT PUT THE UNDERWATER LOCATOR BEACON IN A VISE. DAMAGE TO THE UNDERWATER LOCATOR BEACON CAN OCCUR.

- (a) Hold the ULB [4] with a radiator hose - 1-1/4 Inch Diameter, 5 Inch Length, STD-1066, or vise clamp, COM-15496.
- (b) Use the spanner wrench, COM-1619, or spanner wrench, COM-15071, to remove the end cap [25] that is identified BATTERY ACCESS.
- (c) Remove the rubber shock cushion [27] from the battery end if it is not removed with the end cap [25].
- (d) Remove and discard the o-ring [26] from the end cap [25].
- (e) Hit the ULB [4] lightly to remove the battery [28].

SUBTASK 23-71-21-020-015

- (4) If you have a DK290 ULB, remove the batteries [28] as follows:



DO NOT CLAMP THE BEACON IN A VISE, UNLESS YOU USE VISE CLAMP COM-15496. IF YOU DO NOT, IT CAN CAUSE DAMAGE.

- (a) Hold the ULB [4] with a radiator hose - 1-1/4 Inch Diameter, 5 Inch Length, STD-1066, or vise clamp, COM-15496.
- (b) Use the spanner wrench, COM-1619, or spanner wrench, COM-15071, to remove the end caps [25].



DO NOT USE A STEEL SCREWDRIVER OR SHARP TOOL. THIS WILL PREVENT DAMAGE TO THE O-RING GROOVE.

- (c) Remove and discard the o-rings [26] from the end caps [25].
- (d) Hit the ULB [4] lightly to remove the batteries [28].

### F. Dukane Underwater Locator Beacon Battery Installation

SUBTASK 23-71-21-420-014

- (1) If you have a DK120/90 or DK140/90 ULB, install the new battery [28] as follows:

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- (a) Make sure that the new battery is the same as the battery code on the ULB label. See the table below.

| BATTERY CODE | REQUIRED BATTERY KIT |
|--------------|----------------------|
| F            | 810-2042/K           |

NOTE: The Dukane 810-2042/K battery is a 7 year lithium battery used in the Dukane model DK120/90 and DK140/90 ULB.

NOTE: The battery, o-ring and lubricant are provided in the battery replacement kit, G51422.



**CAUTION**

DO NOT REVERSE THE POLARITY OF THE UNDERWATER LOCATOR BEACON BATTERY. DAMAGE TO THE UNDERWATER BEACON WILL OCCUR.

- (b) Put the new battery [28] in the ULB [4] with the end identified INSERT THIS END in first.



**CAUTION**

DO NOT GET DIRT OR UNWANTED MATERIALS NEAR THE O-RING. DAMAGE TO THE O-RING AND THREADS CAN CAUSE DAMAGE TO THE UNDERWATER LOCATOR BEACON.

- (c) Clean the threads and the o-ring groove in the ULB [4].
- (d) Apply a thin layer of lubricant, D50082, to the new o-ring [26], o-ring groove, and threads.
- (e) Install the new o-ring [26] on the end cap [25].
- (f) Put the rubber shock cushion [27] smoothly on the end cap [25].
- (g) Hold the ULB [4] with a radiator hose - 1-1/4 Inch Diameter, 5 Inch Length, STD-1066, or vise clamp, COM-15496.
- (h) Put the end cap [25] into the ULB [4].
- (i) Hand tighten the end cap [25] with a spanner wrench, COM-1619, or spanner wrench, COM-15071, until the cap flange touches the ULB [4].
- (j) Put a new battery replacement label [23] on the ULB [4].
- (k) On the battery replacement label [23] write the next scheduled replacement date for the new battery [28].

NOTE: The battery replacement label [23] is blank so you can write in a replacement date based on your maintenance schedule.

**SUBTASK 23-71-21-420-015**

- (2) If you have a DK290 ULB, install the new batteries [28] as follows:

- (a) Make sure that the new batteries are the same as the battery code on the ULB label.

NOTE: The Dukane 810-2050K batteries are 6 year lithium batteries used in the Dukane model DK290 ULB.

NOTE: The battery, o-ring and lubricant are provided in the battery replacement kit, G51671.

- (b) Clean the threads and the o-ring grooves in the ULB [4] and end caps [25].
- (c) Apply a thin layer of lubricant, D50082, to the new o-rings [26], o-ring grooves, and threads.
- (d) Install the new o-rings [26] on the end caps [25].

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- (e) For each battery [28], do these steps:

NOTE: There are two batteries [28], one at each end of the ULB [4].



DO NOT REVERSE THE POLARITY OF THE UNDERWATER LOCATOR BEACON BATTERY. DAMAGE TO THE UNDERWATER BEACON WILL OCCUR.

- 1) Put the new battery [28] in the ULB [4].
    - a) Make sure that the bullseye pattern side of the battery [28] is inserted first into the ULB [4].
  - 2) Hold the ULB [4] with a radiator hose - 1-1/4 Inch Diameter, 5 Inch Length, STD-1066, or vise clamp, COM-15496.
  - 3) Put the end cap [25] into the ULB [4].
  - 4) Hand tighten the end cap [25] with a spanner wrench, COM-1619, or spanner wrench, COM-15071, until the cap flange touches the ULB [4] or has a clearance of 0.003 in. (0.076 mm) or less.
- (f) Put a new battery replacement label [23] on the ULB [4].
- (g) On the battery replacement label [23], write the next scheduled replacement date for the new batteries [28].

NOTE: The battery replacement label [23] is blank so you can write in a replacement date based on your maintenance schedule.

SUBTASK 23-71-21-410-001

- (3) Install the ULB, do this task: Underwater Locator Beacon Installation, TASK 23-71-21-400-801.

———— **END OF TASK** ————

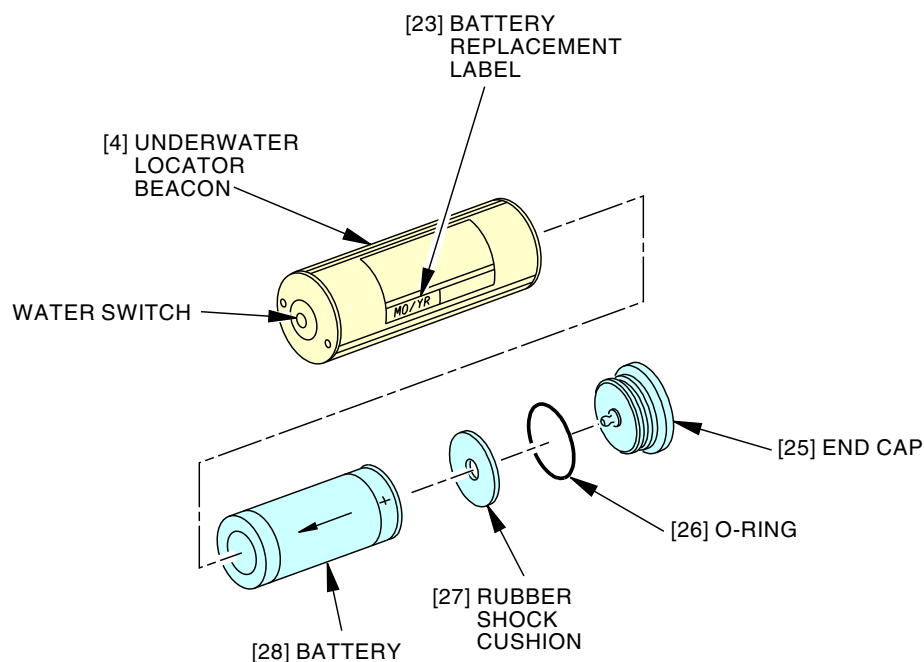
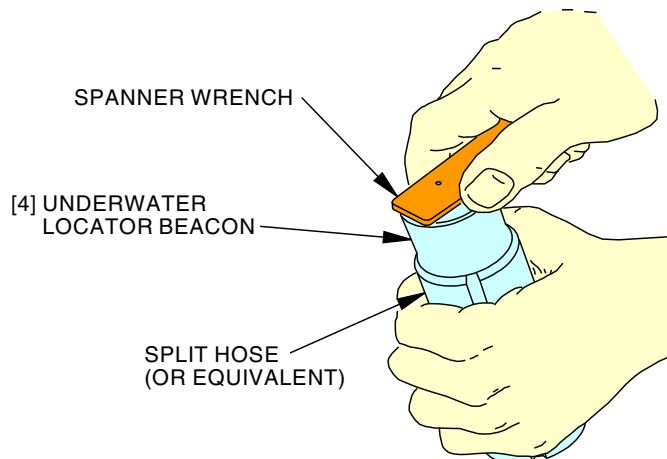
EFFECTIVITY  
SIA ALL

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2411722 S00061528828\_V2

Underwater Locator Beacon Battery Replacement  
Figure 201/23-71-21-990-802 (Sheet 1 of 2)

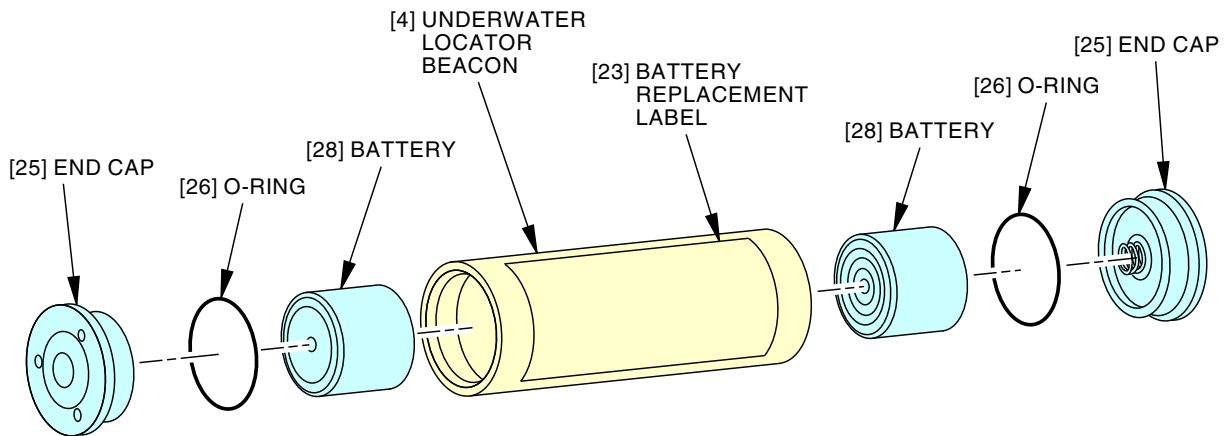
EFFECTIVITY  
SIA ALL; UNDERWATER LOCATOR BEACONS WITH  
ONE WATER SWITCH

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2954530 S0000732223\_V2

**Underwater Locator Beacon Battery Replacement**  
**Figure 201/23-71-21-990-802 (Sheet 2 of 2)**

EFFECTIVITY  
SIA ALL; UNDERWATER LOCATOR BEACONS WITH  
TWO WATER SWITCHES

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TASK 23-71-21-960-803

3. **L-3 Underwater Locator Beacon Battery - Replacement**

(Figure 202)

**A. General**

- (1) This procedure contains the steps to replace the L-3 Underwater Locator Beacon (ULB) battery.
  - (a) Use a Battery Replacement Kit, P/N 147E5542-00, to replace the ULB battery.

**B. Tools/Equipment**

**NOTE:** When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                               |
|-----------|-------------------------------------------------------------------------------------------|
| COM-15071 | Wrench - Spanner<br>Part #: 810-325 Supplier: 94970<br>Part #: 9809800007 Supplier: 06141 |
| COM-15496 | Clamp - Vise<br>Part #: 810-546 Supplier: 94970<br>Part #: 9809800002 Supplier: 06141     |

**C. Consumable Materials**

| Reference | Description         | Specification |
|-----------|---------------------|---------------|
| D50082    | Lubricant - 810-346 |               |

**D. L-3 Underwater Locator Beacon Battery Removal**

SUBTASK 23-71-21-000-001



**CAUTION**

REMOVE ALL OF THE CONTAMINATION FROM THE THREADS AND THE O-RING GROOVES. CONTAMINATION CAN CAUSE DAMAGE TO THE THREADS. THREAD DAMAGE CAN CAUSE LEAKS.

- (1) Remove the battery [28] from the L-3 ULB [4].
  - (a) Secure the L-3 ULB [4] with vise clamp, COM-15496.



**CAUTION**

DO NOT GET DIRT OR UNWANTED MATERIALS NEAR THE O-RING. DAMAGE TO THE O-RING AND THREADS CAN CAUSE DAMAGE TO THE UNDERWATER LOCATOR BEACON.

- (b) Use the spanner wrench, COM-15071, to remove the battery end cap [25] with two wrench holes by unscrewing counterclockwise.

**NOTE:** The breakaway torque is usually high, so the spanner wrench should be held firmly in contact with the battery end cap in order to prevent damage to wrench holes.
- (c) Remove the rubber shock cushion [27] from the battery end if it is not removed with the battery end cap [25].

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## CAUTION

DO NOT USE A STEEL SCREWDRIVER OR SHARP TOOL. THIS WILL PREVENT DAMAGE TO THE O-RING GROOVE.

- (d) Remove the o-ring [26] from the end cap [25].
- (e) Remove the battery [28].
  - 1) Make sure that the rubber shock cushion [27] remains in the battery end cap [25].

## E. L-3 Underwater Locator Beacon Battery Installation

SUBTASK 23-71-21-420-013



## CAUTION

DO NOT INSTALL A BATTERY OTHER THAN THAT FROM THE BATTERY REPLACEMENT KIT. IF YOU DO NOT FOLLOW THIS CAUTION, IT CAN CAUSE DAMAGE.



## CAUTION

DO NOT INSTALL A 90-DAY BATTERY IN A 30-DAY BEACON OR A 30-DAY BATTERY IN A 90-DAY BEACON. IF YOU DO, IT CAN CAUSE DAMAGE.

- (1) Make sure that the new battery is same as the battery on the ULB battery replacement label [23] (Table 201).

**Table 201/23-71-21-993-802 Beacon Battery Replacement Kits**

| Description    | Kit Part Number |
|----------------|-----------------|
| 30-Day Battery | 147E030500      |
| 90-Day Battery | 147E554200      |

SUBTASK 23-71-21-400-001



## CAUTION

REMOVE ALL OF THE CONTAMINATION FROM THE THREADS AND THE O-RING GROOVES. CONTAMINATION CAN CAUSE DAMAGE TO THE THREADS. THREAD DAMAGE CAN CAUSE LEAKS.



## CAUTION

MAKE SURE THAT YOU INSTALL THE BATTERY CORRECTLY. INCORRECT INSTALLATION OF THE BATTERY WILL CAUSE PERMANENT DAMAGE TO THE BEACON.



## CAUTION

DO NOT CLAMP THE BEACON IN A VISE, UNLESS YOU USE VISE CLAMP COM-15496. IF YOU DO NOT, IT CAN CAUSE DAMAGE.

- (2) Install the L-3 ULB battery [28]:
  - (a) Apply a thin coating of lubricant, D50082, to new o-ring [26], o-ring groove and threads on end cap [25].
  - (b) Carefully install the new o-ring [26] on the battery end cap [25].
  - (c) Install new battery [28].
    - 1) Make sure that the end marked "INSERT THIS END FIRST" goes in first.

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- (d) Position rubber shock cushion [27] around contact spring and on the inside of the battery end cap [25].
- (e) Install the battery end cap [25] and tighten it until the cover flange contacts the body or leaves less than a 0.003 in. (0.076 mm) gap.
  - 1) Hold the L-3 ULB in the vise clamp, COM-15496, use only hand force to tighten.
- (f) Clean the L-3 ULB [4] exterior of excess lubricant.
- (g) Replace the battery replacement label [23] on the outside of the L-3 ULB [4] case, with the new label that is supplied with the battery.
  - 1) Locate the battery replacement label [23] on the L-3 ULB [4] body in the space provided.
    - a) Do not put label on the water switch end of the beacon.

———— **END OF TASK** ————

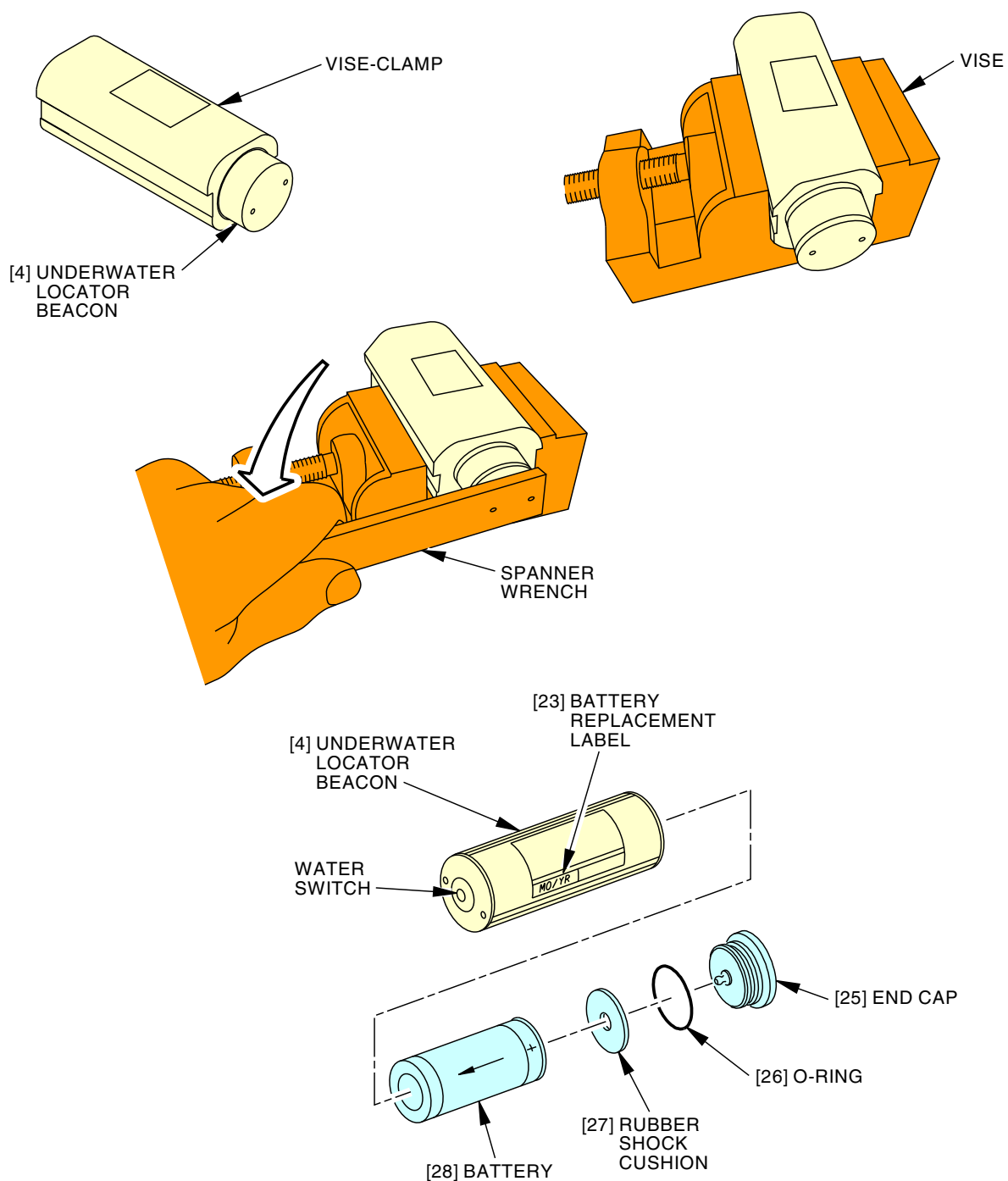
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2797221 S0000638845\_V1

**Underwater Locator Beacon Battery Replacement**  
**Figure 202/23-71-21-990-806**

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UNDERWATER LOCATOR BEACON - REMOVAL/INSTALLATION

1. **General**

A. This procedure has these tasks:

- (1) A removal of the ULB
- (2) An installation of the ULB.

**TASK 23-71-21-000-801**

2. **Underwater Locator Beacon Removal**

(Figure 401)

**NOTE:** This procedure is a scheduled maintenance task.

**A. General**

- (1) This procedure has steps to remove the Underwater Locator Beacon (ULB) from the cockpit voice recorder.
- (2) The ULB only has a battery as the power source.

**B. References**

| Reference        | Title                            |
|------------------|----------------------------------|
| 23-71-11-000-801 | Voice Recorder Removal (P/B 401) |

**C. Location Zones**

| Zone | Area                          |
|------|-------------------------------|
| 142  | Aft Cargo Compartment - Right |

**D. Underwater Locator Beacon Removal**

SUBTASK 23-71-21-020-003

- (1) If it is necessary, do this task: Voice Recorder Removal, TASK 23-71-11-000-801.

**SIA 001-010**

SUBTASK 23-71-21-020-007

- (2) Remove the ULB [1] from the cockpit voice recorder:
  - (a) Remove the screws [3] and brackets [2] that attach the ULB [1] to the voice recorder.
    - 1) If the new 30-day ULB [1] will be installed, it is recommended to discard the screws [3].
    - 2) If the new 90-day ULB [1] will be installed, it is recommended to discard the screws [3].
    - 3) If the new 90-day ULB [1] replaces 30-day ULB [1], use the new screws [3].
  - (b) Remove the ULB [1] from the brackets [2].

**SIA 011-999**

SUBTASK 23-71-21-020-010

- (3) Remove the ULB [1] from the cockpit voice recorder:
  - (a) Remove the screws [3] and brackets [2] that attach the ULB [1] to the voice recorder.
  - (b) Remove the ULB [1] from the brackets [2].

**SIA ALL**

————— **END OF TASK** —————

EFFECTIVITY  
SIA ALL

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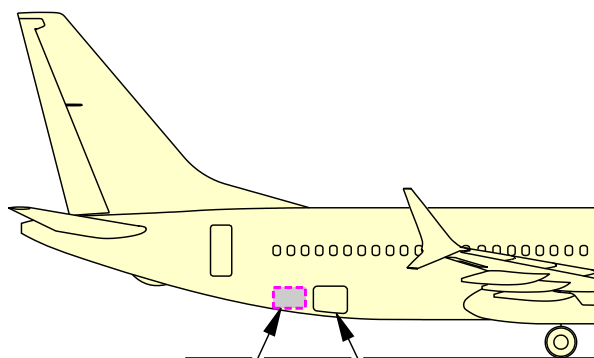
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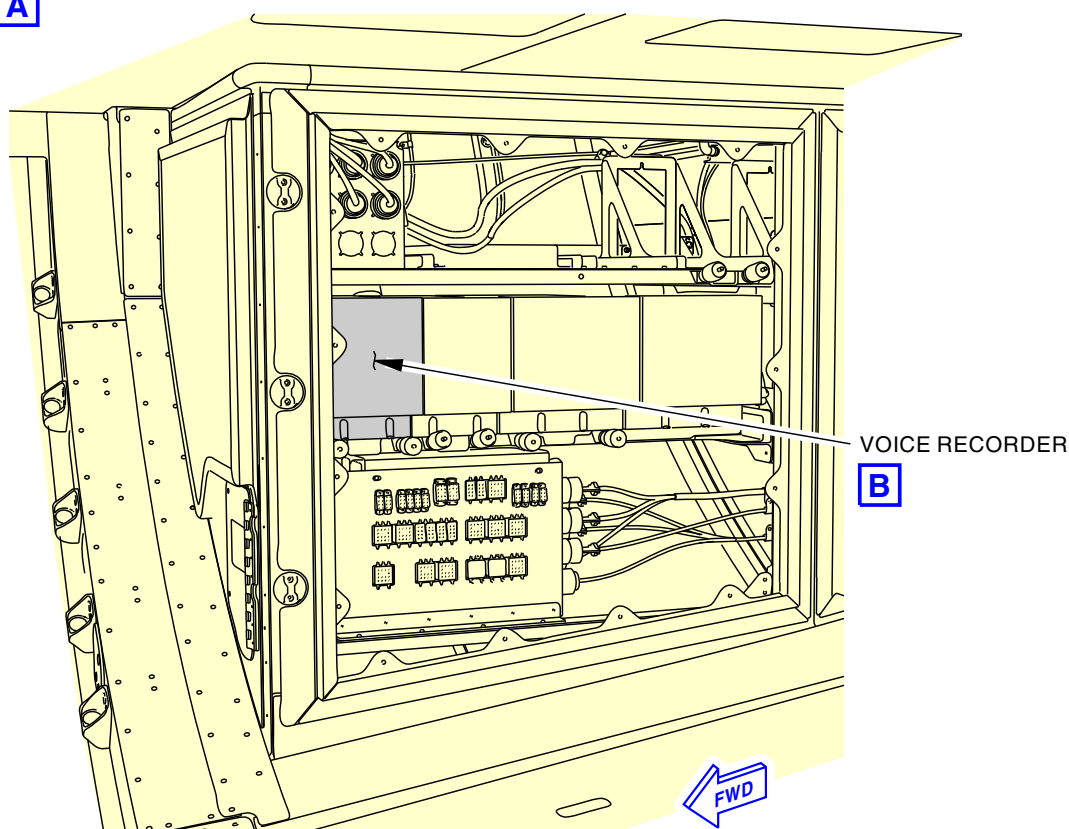
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ELECTRONIC  
EQUIPMENT  
RACK, E6

AFT CARGO  
DOOR, 822

**A**



VOICE RECORDER

**B**

ELECTRONIC EQUIPMENT RACK, E6

**A**

2411720 S00061528825\_V2

Underwater Locator Beacon Installation  
Figure 401/23-71-21-990-805 (Sheet 1 of 3)

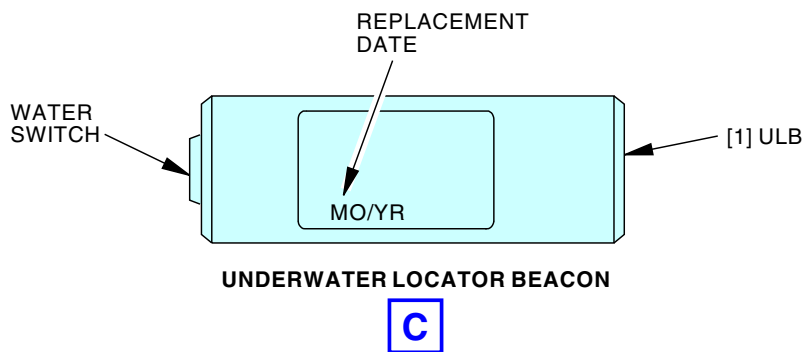
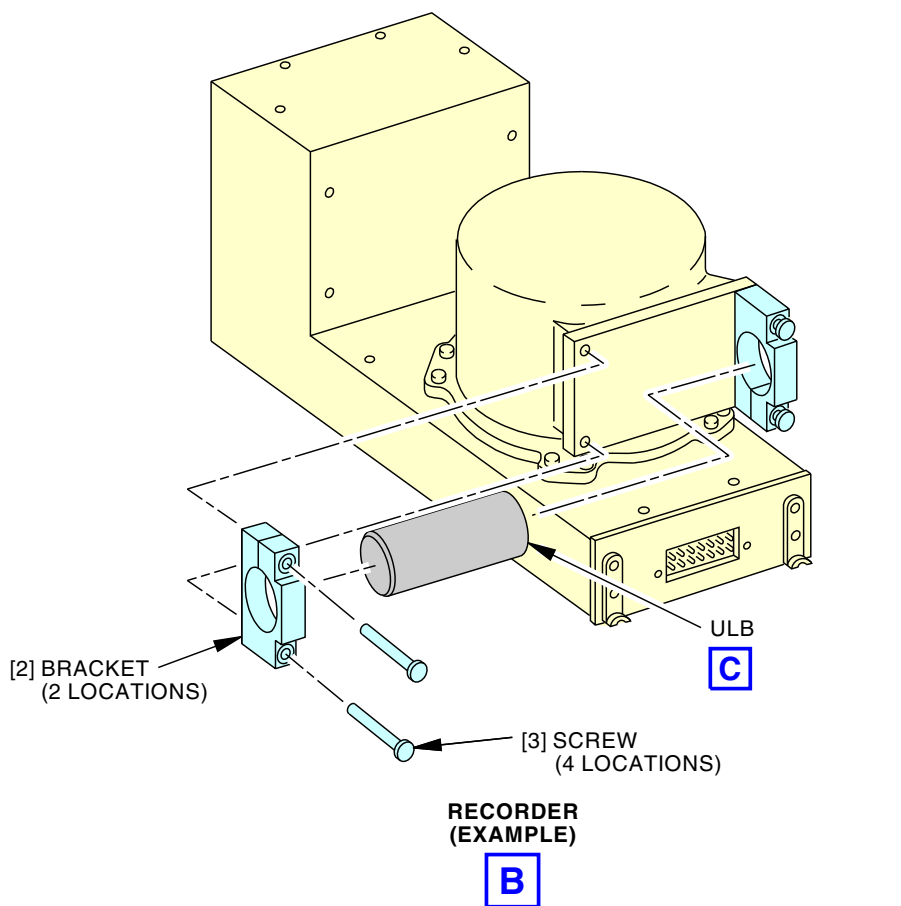
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2983570 S0000761071\_V1

**Underwater Locator Beacon Installation**  
**Figure 401/23-71-21-990-805 (Sheet 2 of 3)**

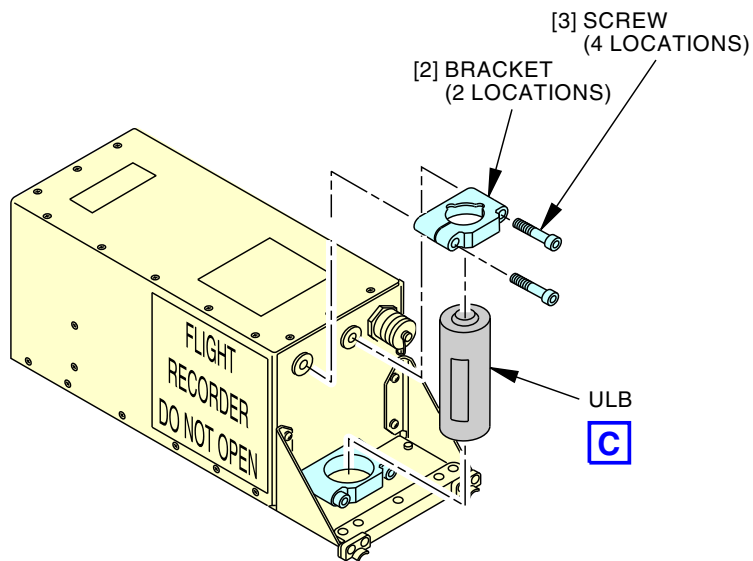
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SIA 001-010

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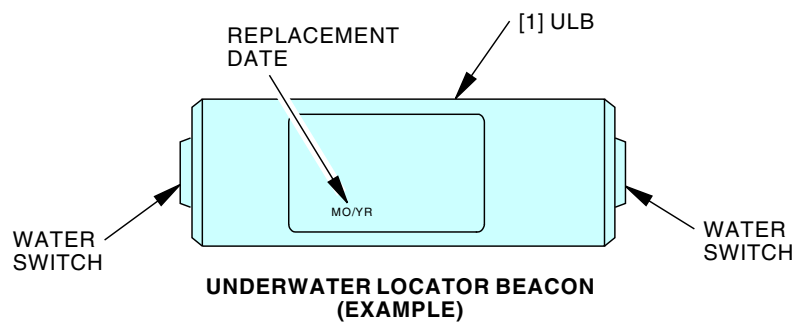
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RECORDER  
(EXAMPLE)

**[B]**



**[C]**

2986842 S0000764698\_V1

Underwater Locator Beacon Installation  
Figure 401/23-71-21-990-805 (Sheet 3 of 3)

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TASK 23-71-21-400-801

3. Underwater Locator Beacon Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. General

- (1) This procedure has steps to install the Underwater Locator Beacon (ULB) to the cockpit voice recorder.
- (2) The ULB only has a battery as the power source.

B. References

| Reference        | Title                                                          |
|------------------|----------------------------------------------------------------|
| 23-71-11-400-801 | Voice Recorder Installation (P/B 401)                          |
| 23-71-21-730-801 | Underwater Locator Beacon Test with a 42A12 Test Set (P/B 501) |
| 23-71-21-730-802 | Underwater Locator Beacon Test with a PL1 Test Set (P/B 501)   |
| 23-71-21-730-803 | Underwater Locator Beacon Test with a PL3 Test Set (P/B 501)   |
| 23-71-21-730-806 | Underwater Locator Beacon Test with a TS200 Test Set (P/B 501) |
| 23-71-21-730-807 | Underwater Locator Beacon Test with a L-3AR Test Set (P/B 501) |
| 23-71-21-730-808 | Underwater Locator Beacon Test with a TS500 Test Set (P/B 501) |

C. Consumable Materials

| Reference | Description                                          | Specification |
|-----------|------------------------------------------------------|---------------|
| A00270    | Compound - Threadlocking, Low-strength - Loctite 222 |               |
| B00541    | Cleaner - General Purpose Household Detergent        |               |

D. Expendables/Parts

| AMM Item | Description | AIPC Reference  | AIPC Effectivity |
|----------|-------------|-----------------|------------------|
| 1        | ULB         | 23-71-21-04-030 | SIA 001-010      |

E. Location Zones

| Zone | Area                          |
|------|-------------------------------|
| 142  | Aft Cargo Compartment - Right |

F. Underwater Locator Beacon Pre-Installation Test

SUBTASK 23-71-21-730-001

- (1) If the ULB is repaired or replaced, do the ULB test with applicable test set (Underwater Locator Beacon Test with a 42A12 Test Set, TASK 23-71-21-730-801 or Underwater Locator Beacon Test with a PL1 Test Set, TASK 23-71-21-730-802 or Underwater Locator Beacon Test with a PL3 Test Set, TASK 23-71-21-730-803 or Underwater Locator Beacon Test with a TS200 Test Set, TASK 23-71-21-730-806 or Underwater Locator Beacon Test with a L-3AR Test Set, TASK 23-71-21-730-807 or Underwater Locator Beacon Test with a TS500 Test Set, TASK 23-71-21-730-808).

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**G. Underwater Locator Beacon Installation**

**SIA 001-010**

**SUBTASK 23-71-21-420-006**

- (1) Install the ULB [1] on the cockpit voice recorder:
  - (a) Make sure that the water switch of the ULB [1] has no grease or dirt.
    - 1) Clean the water switch with a weak general purpose household detergent cleaner, B00541.
  - (b) Install the ULB [1] into the brackets [2].
    - 1) Make sure that the water switch points left.
  - (c) Make sure that you can read the replacement date on the ULB [1].
  - (d) Apply Loctite 222 compound, A00270, to the threads of the screws [3].
    - 1) If the new 30-day ULB [1] is installed, it is recommended to use the new screws [3].
    - 2) If the new 90-day ULB [1] is installed, it is recommended to use the new screws [3].
    - 3) If the new 90-day ULB [1] replaces 30-day ULB [1], use the new screws [3].
  - (e) Install the brackets [2] with the screws [3].
  - (f) Tighten the screws [3] to 75 in-lb (8.47 N·m) in this sequence:
    - 1) Bottom left.
    - 2) Top right.
    - 3) Bottom right.
    - 4) Top left.

**SIA 011-999**

**SUBTASK 23-71-21-420-009**

- (2) Install the ULB [1] on the cockpit voice recorder:
  - (a) Make sure that the water switch of the ULB [1] has no grease or dirt.
    - 1) Clean the water switch with a weak general purpose household detergent cleaner, B00541.
  - (b) Put the ULB [1] into the brackets [2].
    - 1) Make sure that the notch in the top bracket [2] points left and the bottom notch points right.
  - (c) Make sure that you can read the replacement date on the ULB [1].
  - (d) Apply Loctite 222 compound, A00270, to the threads of the screws [3].
  - (e) Install the brackets [2] with the screws [3].
  - (f) Tighten the screws [3] in a cross-pattern to 18 in-lb (2.03 N·m) - 22 in-lb (2.49 N·m).

**SIA ALL**

**SUBTASK 23-71-21-420-004**

- (3) If it is necessary, do this task: Voice Recorder Installation, TASK 23-71-11-400-801.

———— **END OF TASK** ————

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UNDERWATER LOCATOR BEACON - ADJUSTMENT/TEST

1. General

A. This procedure has these tasks:

- (1) Underwater Locator Beacon Test with a 42A12 Test Set
- (2) Underwater Locator Beacon Test with a PL1 Test Set
- (3) Underwater Locator Beacon Test with a PL3 Test Set
- (4) Underwater Locator Beacon Test with a TS200 Test Set
- (5) Underwater Locator Beacon Test with a L-3AR Test Set
- (6) Underwater Locator Beacon Test with a TS500 Test Set
- (7) Underwater Locator Beacon Operational Test with a TS500 Test Set
- (8) Underwater Locator Beacon Voltage Test with a TS500 Test Set

**TASK 23-71-21-730-801**

2. Underwater Locator Beacon Test with a 42A12 Test Set

NOTE: This procedure is a scheduled maintenance task.

A. **General**

- (1) This procedure has steps to do a test of the Underwater Locator Beacon (ULB) with a 42A12 Test Set.

B. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                              |
|-----------|------------------------------------------------------------------------------------------|
| COM-10768 | Test Set - 42A12, Underwater Locator Beacon (ULB)<br>Opt Part #: 42A12-1 Supplier: 94970 |
| STD-11018 | Voltmeter - High Impedance (Minimum 10Mohm Input Impedance)                              |

C. **Battery Test**

SUBTASK 23-71-21-760-001

- (1) Do a check of the battery voltage:
  - (a) Make sure the case and water switch are clean and dry.
  - (b) Place the negative lead of the high impedance voltmeter, STD-11018, on the water switch pin and the positive of the meter on the beacon case or mounting kit.
  - (c) Measure the battery voltage.
    - 1) Refer to the ULB label for the minimum permitted range of the beacon battery voltage:
      - a) Code F : 2.97 Volts.

D. **Operation Test**

SUBTASK 23-71-21-730-002

- (1) If you have a 42A12 ULB Test Set, COM-10768, do this test of the ULB:

NOTE: 42A12 can do a test for all ULBs.

- (a) Put the 42A12 ULB Test Set, COM-10768 as close as possible to the ULB.

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- (b) Set the GAIN control switch on the 42A12 ULB Test Set, COM-10768 to the maximum clockwise position.  
NOTE: A background noise is heard. If you do not hear noise from the test set, replace the test set battery.
- (c) Set the TUNING control switch to the middle position.
- (d) Make sure that the 42A12 ULB Test Set, COM-10768 operates correctly.
  - 1) Rub your thumb and fingers together in front of the microphone to make sure that it operates.  
NOTE: This will produce a rushing noise from the speaker.
    - a) Make sure that you hear sounds through the speaker.
- (e) Use tape to attach a piece of wire, a shorting tab, or other conductive material to the ULB case and to the center of the water switch.  
NOTE: This will make a short circuit from the center of the water switch to the outer part of the ULB.
- (f) Set the GAIN control switch to a comfortable listening level.
- (g) Point the microphone of the test set towards the water switch end of the beacon for best results.
  - 1) Make sure you hear a pulse tone.
- (h) Remove the wire, shorting tab, or other conducting material from the ULB case and the center of the water switch.
- (i) Set the GAIN control switch to the OFF position.
- (j) Make sure that the water switch on the ULB has no grease or dirt.
- (k) If necessary, do the steps that follow:
  - 1) Clean the switch with water and detergent.
  - 2) Dry the switch with a clean cloth.

———— **END OF TASK** ————

**TASK 23-71-21-730-802**

**3. Underwater Locator Beacon Test with a PL1 Test Set**

NOTE: This procedure is a scheduled maintenance task.

**A. General**

- (1) This procedure has steps to do a test of the Underwater Locator Beacon with a PL1 Test Set.

**B. Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                        |
|-----------|------------------------------------------------------------------------------------|
| COM-10771 | Test Set - PL1, Underwater Locator Beacon (ULB)<br>Opt Part #: PL1 Supplier: 94970 |

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**C. Consumable Materials**

| Reference | Description                        | Specification                      |
|-----------|------------------------------------|------------------------------------|
| G00270    | Tape - Scotch Flatback Masking 250 | ASTM D6123<br>(Supersedes A-A-883) |

**D. Procedure**

SUBTASK 23-71-21-730-003

- (1) If you have a PL1 ULB test set, COM-10771, do this test of the underwater locator beacon (ULB):

NOTE: PL1 can only do a test for the DK100–90 and DK120–90 ULB.

- (a) Use Scotch Flatback Masking Tape 250, G00270 to attach a piece of wire or other conductive material to the ULB case and the center of the water switch.

NOTE: This will make a short circuit from the center of the water switch to the outer part of the ULB.

- (b) Put the end of the PL1 ULB test set, COM-10771 against the ULB, approximately one inch from the water switch.
- (c) Push and hold the operation switch on the PL1 ULB test set, COM-10771.
- 1) Make sure that the BEACON ACTIVE WHEN FLASHING light flashes.
  - 2) Remove the piece of wire or other conductive material from the ULB case and the center of the water switch.
  - 3) Make sure that the BEACON ACTIVE WHEN FLASHING light does not flash.
- (d) Release the operation switch on the PL1 ULB test set, COM-10771.
- (e) Remove the PL1 ULB test set, COM-10771.
- (f) Make sure that the water switch end of the ULB has no grease or dirt.
- (g) If necessary, do the steps that follow:
- 1) Clean the switch with water and detergent.
  - 2) Dry the switch with a clean cloth.

————— **END OF TASK** —————

**TASK 23-71-21-730-803**

**4. Underwater Locator Beacon Test with a PL3 Test Set**

NOTE: This procedure is a scheduled maintenance task.

**A. General**

- (1) This procedure has steps to do a test of the Underwater Locator Beacon with a PL3 Test Set.

**B. Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                        |
|-----------|------------------------------------------------------------------------------------|
| COM-10772 | Test Set - PL3, Underwater Locator Beacon (ULB)<br>Opt Part #: PL3 Supplier: 94970 |

EFFECTIVITY  
SIA ALL

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### C. Procedure

SUBTASK 23-71-21-730-004

- (1) If you have a PL3 ULB test set, COM-10772, do this test of the underwater locator beacon (ULB):

NOTE: PL3 can only do a test for the DK100–90 and DK120–90 ULBs.

- (a) Push and hold the PL3 ULB test set, COM-10772 against the ULB water switch.
  - 1) Make sure that you hear a pulse sound.
  - 2) Make sure that you see the LED light comes on and off.
- (b) Remove the PL3 ULB test set, COM-10772.
- (c) Make sure that the water switch end of the ULB has no grease or dirt.
- (d) If necessary, do the steps that follow:
  - 1) Clean the switch with water and detergent.
  - 2) Dry the switch with a clean cloth.

————— **END OF TASK** —————

### TASK 23-71-21-730-806

#### 5. Underwater Locator Beacon Test with a TS200 Test Set

NOTE: This procedure is a scheduled maintenance task.

##### A. General

- (1) This procedure has steps to do a test of the Underwater Locator Beacon with a TS200 Test Set.

##### B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                            |
|-----------|----------------------------------------------------------------------------------------|
| COM-10770 | Test Set - TS200, Underwater Locator Beacon (ULB)<br>Opt Part #: TS200 Supplier: 94970 |

### C. Procedure

SUBTASK 23-71-21-730-007

- (1) If you have a TS200 ULB test set, COM-10770, do this test of the underwater locator beacon (ULB):

NOTE: TS200 can do a test for all Dukane ULBs.

- (a) Attach the test probe clip of the TS200 ULB test set, COM-10770 to the beacon in its mount.
- (b) Put the tip of the probe on the silver pad of the water switch at the end of the beacon.
  - 1) The LCD display will show the battery voltage of the beacon.
- (c) Refer to the applicable battery code for the minimum permitted range of the beacon battery voltage:

NOTE: Examine the battery replacement label to find the battery code.

- 1) Code F – 2.97 Volts
- (d) Push the red button on the TS200 ULB test set, COM-10770.

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- 1) The beacon starts and you hear a pinging noise from the TS200 ULB test set, COM-10770.
- (e) Remove the test probe clip of the TS200 ULB test set, COM-10770.
- (f) Replace the ULB if necessary.
- (g) Make sure that the water switch end of the ULB has no grease or dirt.
- (h) If necessary, do the steps that follow:
  - 1) Clean the switch with water and detergent.
  - 2) Dry the switch with a clean cloth.

———— **END OF TASK** ————

**TASK 23-71-21-730-807**

**6. Underwater Locator Beacon Test with a L-3AR Test Set**

**NOTE:** This procedure is a scheduled maintenance task.

**A. General**

- (1) This procedure has steps to do a test of the Underwater Locator Beacon with a L-3AR Test Set.

**B. Tools/Equipment**

**NOTE:** When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt.", which stands for Optional.

| Reference | Description                                                                                |
|-----------|--------------------------------------------------------------------------------------------|
| COM-15070 | Test Set - 17TES0015, Underwater Locator Beacon (ULB)<br>Part #: 17TES0015 Supplier: 06141 |

**C. Procedure**

**SUBTASK 23-71-21-730-008**

- (1) If you have a underwater locator beacon test set, COM-15070, do this test of the underwater locator beacon (ULB):

**NOTE:** L-3AR ULB test set can only do a test for the L-3 266–E5542–00 ULBs.

- (a) Attach the test probe clip of the test set to the beacon case.
- (b) Place the tip of the probe in contact with the metal pad at the end of the water switch.
  - 1) The display will show the battery voltage of the beacon.
  - 2) The minimum permitted voltage of the battery is 2.97 Volts.
- (c) Press and hold the red button on the test set.
  - 1) The beacon starts and you hear a pinging noise from the test set.
- (d) Remove the test probe of the test set.
- (e) Replace the ULB if necessary.
- (f) Make sure that the water switch end of the ULB has no grease or dirt.
- (g) If necessary, do the steps that follow:
  - 1) Clean the switch with water and detergent.
  - 2) Dry the switch with a clean cloth.

———— **END OF TASK** ————

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TASK 23-71-21-730-808

7. Underwater Locator Beacon Test with a TS500 Test Set

NOTE: This procedure is a scheduled maintenance task.

A. General

- (1) This procedure has steps to do a test of the Underwater Locator Beacon (ULB) with a TS500 Test Set.

NOTE: TS500 can do a test for all ULBs.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                        |
|-----------|------------------------------------------------------------------------------------|
| COM-19623 | Test Set - TS500, Underwater Locator Beacon (ULB)<br>Part #: TS500 Supplier: 94970 |

C. Procedure

SUBTASK 23-71-21-730-009

- (1) Testing for the ULB battery voltage:
- (a) Attach the test probe clip of the TS500 underwater locator beacon test set, COM-19623 to the beacon in its mount.
  - (b) Put the tip of the probe on the silver pad of the water switch at the end of the beacon.
    - 1) The LCD display will show the battery voltage of the beacon.
  - (c) Refer to the ULB label for the minimum permitted range of the beacon battery voltage:
    - 1) Code: F - 2.97 Volts
    - 2) P/N: DK290 - 2.75 Volts
- (2) Testing for the operation of the ULB:
- (a) Keep the probes connected to the ULB.

NOTE: The test set display will remain blank during this test.
  - (b) Push the red button on the TS500 underwater locator beacon test set, COM-19623.
    - 1) The beacon starts and you hear a pinging noise from the TS500 underwater locator beacon test set, COM-19623.
    - 2) The TS500 underwater locator beacon test set, COM-19623 LED indicator will light up red every time the ULB pings.
  - (c) Remove the test probe clip of the TS500 underwater locator beacon test set, COM-19623.
- (3) If voltage or operation test does not pass, replace the ULB if necessary.
- (a) Make sure that the water switch end of the ULB has no grease or dirt.
  - (b) If necessary, do the steps that follow:
    - 1) Clean the switch with water and detergent.
    - 2) Dry the switch with a clean cloth.

————— END OF TASK —————

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TASK 23-71-21-710-801

8. Underwater Locator Beacon Operational Test with a TS500 Test Set

A. General

- (1) This procedure has steps to do the operational test of the Underwater Locator Beacon (ULB) with a TS500 Test Set.

B. References

| Reference        | Title                                            |
|------------------|--------------------------------------------------|
| 23-71-21-000-801 | Underwater Locator Beacon Removal (P/B 401)      |
| 23-71-21-400-801 | Underwater Locator Beacon Installation (P/B 401) |

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt.", which stands for Optional.

| Reference | Description                                                                        |
|-----------|------------------------------------------------------------------------------------|
| COM-19623 | Test Set - TS500, Underwater Locator Beacon (ULB)<br>Part #: TS500 Supplier: 94970 |

D. Prepare for the ULB Operation Test

SUBTASK 23-71-21-020-012

- (1) If it is necessary, remove the ULB (TASK 23-71-21-000-801).

SUBTASK 23-71-21-480-001

- (2) Set the TS500 underwater locator beacon test set, COM-19623, power switch to ON.

E. ULB Operation Test

SUBTASK 23-71-21-710-001

- (1) Do the operational test of the ULB:
- (a) Hold the TS500 underwater locator beacon test set, COM-19623, test probes onto the ULB water switch caps.  
NOTE: The polarity is shown on the ULB label.
  - (b) Push the red button on the TS500 underwater locator beacon test set, COM-19623.  
NOTE: The test set display will remain blank during this test.
    - 1) Make sure that you hear the beep from the TS500 underwater locator beacon test set, COM-19623.  
NOTE: The test set red LED indicator will come on with every beep.
  - (c) Remove the test probes.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-21-080-001

- (1) Set the TS500 underwater locator beacon test set, COM-19623, power switch to OFF.

SUBTASK 23-71-21-420-011

- (2) If removed, install the ULB (TASK 23-71-21-400-801).

————— END OF TASK —————

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TASK 23-71-21-720-801

9. Underwater Locator Beacon Voltage Test with a TS500 Test Set

A. General

- (1) This procedure has steps to do the voltage test of the Underwater Locator Beacon (ULB) with a TS500 Test Set.

B. References

| Reference        | Title                                            |
|------------------|--------------------------------------------------|
| 23-71-21-000-801 | Underwater Locator Beacon Removal (P/B 401)      |
| 23-71-21-400-801 | Underwater Locator Beacon Installation (P/B 401) |

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                        |
|-----------|------------------------------------------------------------------------------------|
| COM-19623 | Test Set - TS500, Underwater Locator Beacon (ULB)<br>Part #: TS500 Supplier: 94970 |

D. Prepare for the ULB Voltage Test

SUBTASK 23-71-21-020-013

- (1) If it is necessary, remove the ULB (TASK 23-71-21-000-801).

SUBTASK 23-71-21-480-002

- (2) Set the TS500 underwater locator beacon test set, COM-19623, power switch to ON.

E. ULB Voltage Test

SUBTASK 23-71-21-720-001

- (1) Do the voltage test of the ULB:

- (a) Refer to the ULB label to get the minimum required voltage:

- 1) Code: F - 2.97 Volts
- 2) P/N: DK290 - 2.75 Volts

- (b) Hold the TS500 underwater locator beacon test set, COM-19623, test probes onto the ULB water switch caps.

NOTE: The polarity is shown on the ULB label.

- 1) Make sure that the voltage shown on the TS500 underwater locator beacon test set, COM-19623, display is not below the minimum requirement.

- (c) Remove the test probes.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-21-080-002

- (1) Set the TS500 underwater locator beacon test set, COM-19623, power switch to OFF.

SUBTASK 23-71-21-420-012

- (2) If removed, install the ULB (TASK 23-71-21-400-801).

————— END OF TASK —————

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UNDERWATER LOCATOR BEACON - CLEANING/PAINTING

1. General

- A. This procedure has the task to clean the underwater locator beacon.

**TASK 23-71-21-100-801**

2. Underwater Locator Beacon Cleaning

A. **General**

- (1) This procedure has steps to clean the Underwater Locator Beacon (ULB).

B. **References**

| Reference        | Title                                            |
|------------------|--------------------------------------------------|
| 23-71-21-000-801 | Underwater Locator Beacon Removal (P/B 401)      |
| 23-71-21-400-801 | Underwater Locator Beacon Installation (P/B 401) |

C. **Prepare to clean the ULB**

SUBTASK 23-71-21-020-011

- (1) If it is necessary, remove the ULB (TASK 23-71-21-000-801).

D. **Clean the ULB**

SUBTASK 23-71-21-100-001

- (1) Clean the ULB switch caps as follows:
- (a) Clean the switch caps with a soft cloth with water and detergent.
  - (b) Dry the switch caps with a clean cloth.
  - (c) Make sure that the switch caps do not have grease or dirt.

E. **Put the Airplane Back to Its Usual Condition**

SUBTASK 23-71-21-420-010

- (1) If removed, install the ULB (TASK 23-71-21-400-801).

———— **END OF TASK** ————

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RECORDER INDEPENDENT POWER SUPPLY (RIPS) - MAINTENANCE PRACTICES

1. General

- A. This procedure has these tasks:

**SIA ALL; AIRPLANES WITH LITHIUM-ION RIPS P/N 100-3020-400**

- (1) Recorder Independent Power Supply (RIPS) Battery - Replacement

**SIA ALL; AIRPLANES WITH NICKEL-CADMIUM RIPS P/N 100-3010-401**

- (2) Recorder Independent Power Supply (RIPS) Battery - Replacement

**SIA ALL**

- B. The RIPS battery pack is attached to the RIPS charger.  
C. The recorder independent power supply is in the aft passenger compartment. The unit is adjacent to the flight recorder.

**SIA ALL; AIRPLANES WITH LITHIUM-ION RIPS P/N 100-3020-400**

**TASK 23-71-22-960-801**

2. Recorder Independent Power Supply (RIPS) Battery - Replacement

(Figure 201)

NOTE: This procedure is a scheduled maintenance task.

**A. General**

- (1) This task includes a replacement of the Lithium-Ion Recorder Independent Power Supply (RIPS) battery pack.  
(2) The RIPS is in the 47 section.

**B. References**

| Reference        | Title                                                            |
|------------------|------------------------------------------------------------------|
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201)           |
| 20-40-12-000-803 | Conductive Dust Cap and Connector Cover Removal (P/B 201)        |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201)      |
| 20-40-12-400-803 | Conductive Dust Cap and Connector Cover Installation (P/B 201)   |
| 23-71-22-730-801 | Recorder Independent Power Supply (RIPS) - System Test (P/B 501) |

**C. Tools/Equipment**

| Reference | Description                 |
|-----------|-----------------------------|
| STD-1048  | Stepladder - 6 foot (1.83m) |

**D. Location Zones**

| Zone | Area                                                                          |
|------|-------------------------------------------------------------------------------|
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00 |

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SIA ALL; AIRPLANES WITH LITHIUM-ION RIPS P/N 100-3020-400 (Continued)

**E. Prepare for the Removal**

SUBTASK 23-71-22-860-001

- (1) Open this circuit breaker and install safety tag:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| D          | 6          | C01948        | VOICE RCDR/RIPS |

SUBTASK 23-71-22-040-001

- (2) Wait for a minimum of 11 minutes after you remove power from the voice recorder.

SUBTASK 23-71-22-800-001

- (3) To get access to the RIPS in the aft passenger compartment, open the lowered ceiling panel.

- (a) Use a 6 foot (1.83m) stepladder, STD-1048, to get access to the RIPS.

NOTE: The RIPS is next to the Flight Data Recorder.

SUBTASK 23-71-22-020-001

- (4) Disconnect the J1 connector from the RIPS unit.

SUBTASK 23-71-22-020-002

- (5) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

**F. Recorder Independent Power Supply Battery Removal**

SUBTASK 23-71-22-000-001

- (1) Remove the Lithium-Ion RIPS battery pack from the RIPS:

- (a) Loosen the two captive screws from the Lithium-Ion RIPS battery pack.

- (b) Pull the Lithium-Ion RIPS battery pack forward to disengage the rear electrical connector.

SUBTASK 23-71-22-400-001

- (2) Do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-803.

**G. Recorder Independent Power Supply Battery Installation**

SUBTASK 23-71-22-400-002

- (1) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-71-22-400-003



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (2) Do this task: Conductive Dust Cap and Connector Cover Removal, TASK 20-40-12-000-803.

SUBTASK 23-71-22-420-001

- (3) Install a new Lithium-Ion RIPS battery pack to the RIPS.

- (a) Push slightly to engage the rear electrical connector.

- (b) Tighten the two captive screws to 13.0 ±1.0 in-lb (1.5 ±0.1 N·m).

SUBTASK 23-71-22-420-002

- (4) Connect the J1 connector to the RIPS unit.

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SIA ALL; AIRPLANES WITH LITHIUM-ION RIPS P/N 100-3020-400 (Continued)

SUBTASK 23-71-22-860-002

- (5) Remove the safety tag and close this circuit breaker:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| D          | 6          | C01948        | VOICE RCDR/RIPS |

**H. Recorder Independent Power Supply Battery Test**

SUBTASK 23-71-22-730-001

- (1) Do this task: Recorder Independent Power Supply (RIPS) - System Test, TASK 23-71-22-730-801.

————— **END OF TASK** —————

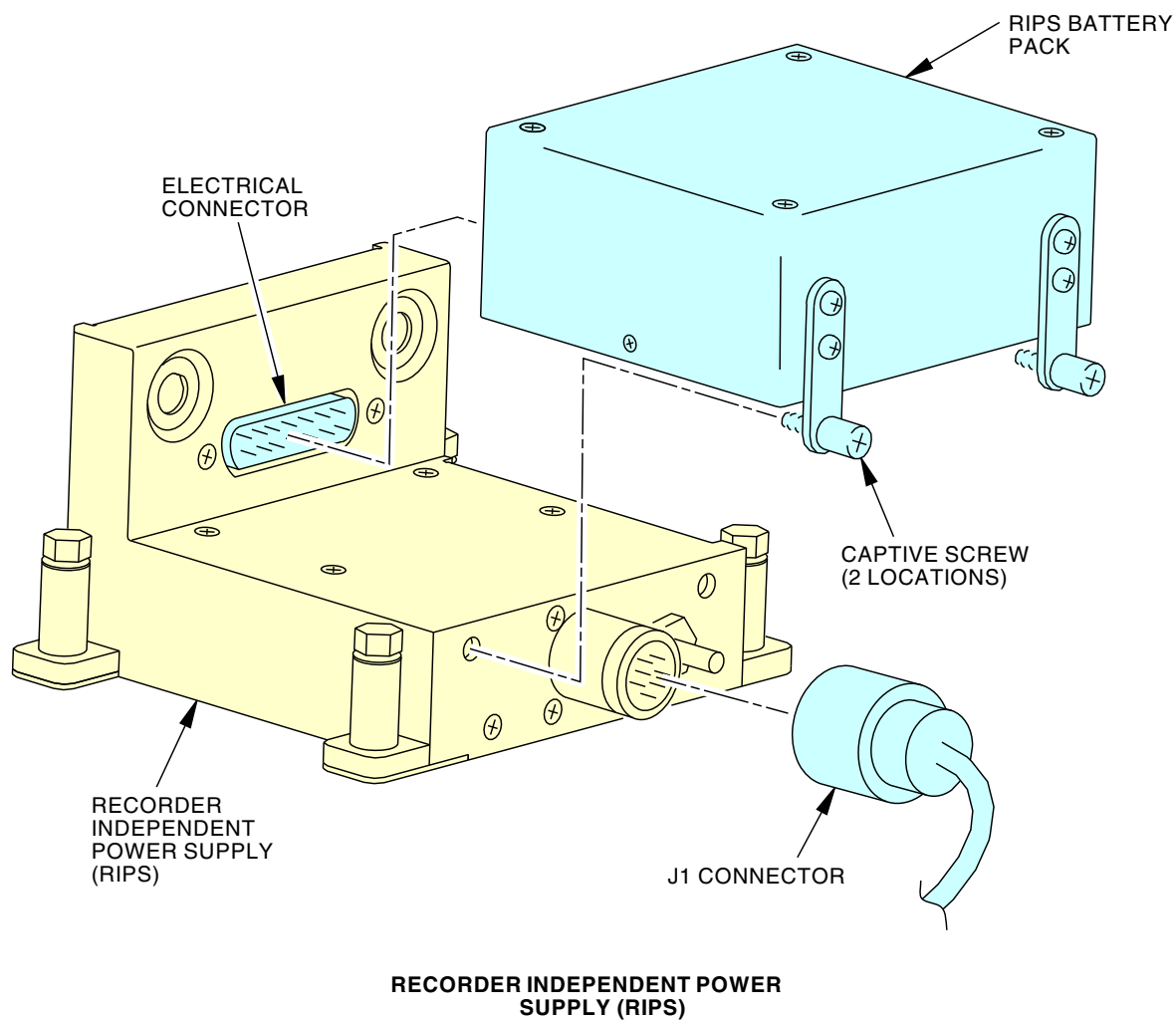
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**Recorder Independent Power Supply Battery - Replacement**  
**Figure 201/23-71-22-990-801**

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100-3020-400

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SIA ALL; AIRPLANES WITH NICKEL-CADMIUM RIPS P/N 100-3010-401

### TASK 23-71-22-960-802

#### 3. Recorder Independent Power Supply (RIPS) Battery - Replacement

(Figure 202)

##### A. General

- (1) This task includes a replacement of the Nickel-Cadmium Recorder Independent Power Supply (RIPS) battery pack.
- (2) The RIPS is in the 47 section.

##### B. References

| Reference        | Title                                                            |
|------------------|------------------------------------------------------------------|
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201)           |
| 20-40-12-000-803 | Conductive Dust Cap and Connector Cover Removal (P/B 201)        |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201)      |
| 20-40-12-400-803 | Conductive Dust Cap and Connector Cover Installation (P/B 201)   |
| 23-71-22-730-801 | Recorder Independent Power Supply (RIPS) - System Test (P/B 501) |

##### C. Tools/Equipment

| Reference | Description                 |
|-----------|-----------------------------|
| STD-1048  | Stepladder - 6 foot (1.83m) |

##### D. Location Zones

| Zone | Area                                                                          |
|------|-------------------------------------------------------------------------------|
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00 |

##### E. Prepare for the Removal

SUBTASK 23-71-22-860-022

- (1) Open this circuit breaker and install safety tag:

##### **CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name            |
|-----|-----|--------|-----------------|
| D   | 6   | C01948 | VOICE RCDR/RIPS |

SUBTASK 23-71-22-040-003

- (2) Wait for a minimum of 11 minutes after you remove power from the voice recorder.

SUBTASK 23-71-22-010-001

- (3) To get access to the RIPS in the aft passenger compartment, open the lowered ceiling panel.
  - (a) Use a 6 foot (1.83m) stepladder, STD-1048, to get access to the RIPS.

**NOTE:** The RIPS is next to the Flight Data Recorder.

SUBTASK 23-71-22-020-011

- (4) Disconnect the J1 connector from the RIPS unit.

SUBTASK 23-71-22-020-012

- (5) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

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SIA ALL; AIRPLANES WITH NICKEL-CADMIUM RIPS P/N 100-3010-401 (Continued)

**F. Recorder Independent Power Supply Battery Removal**

SUBTASK 23-71-22-020-013

- (1) Remove the Nickel-Cadmium RIPS battery pack from the RIPS:
  - (a) Loosen the two captive screws from the Nickel-Cadmium RIPS battery pack.
  - (b) Pull the Nickel-Cadmium RIPS battery pack forward to disengage the rear electrical connector.

SUBTASK 23-71-22-400-005

- (2) Do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-40-12-400-803.

**G. Recorder Independent Power Supply Battery Installation**

SUBTASK 23-71-22-400-006

- (1) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-71-22-020-014



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (2) Do this task: Conductive Dust Cap and Connector Cover Removal, TASK 20-40-12-000-803.

SUBTASK 23-71-22-420-014

- (3) Install a new Nickel-Cadmium RIPS battery pack to the RIPS.
  - (a) Push slightly to engage the rear electrical connector.
  - (b) Tighten the two captive screws to 13.0 ±1.0 in-lb (1.5 ±0.1 N·m).

SUBTASK 23-71-22-420-015

- (4) Connect the J1 connector to the RIPS unit.

SUBTASK 23-71-22-860-023

- (5) Remove the safety tag and close this circuit breaker:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| D          | 6          | C01948        | VOICE RCDR/RIPS |

**H. Recorder Independent Power Supply Battery Test**

SUBTASK 23-71-22-730-011

- (1) Do this task: Recorder Independent Power Supply (RIPS) - System Test, TASK 23-71-22-730-801.

————— END OF TASK —————

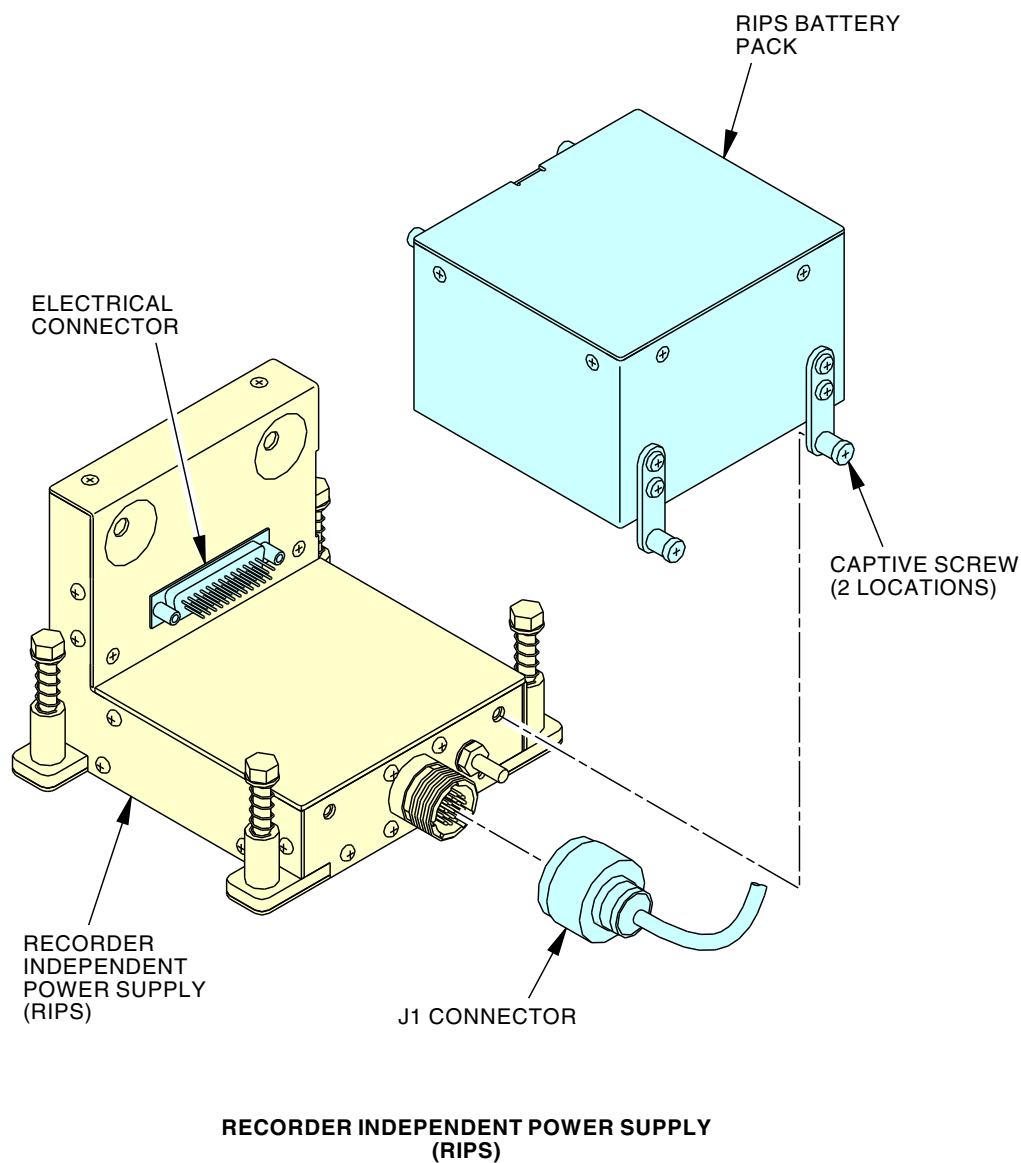
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**Recorder Independent Power Supply Battery - Replacement**  
**Figure 202/23-71-22-990-804**

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P/N 100-3010-401

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RECORDER INDEPENDENT POWER SUPPLY (RIPS) - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Recorder Independent Power Supply Removal
  - (2) Recorder Independent Power Supply Installation.
- B. The recorder independent power supply is in the aft passenger compartment. The unit is adjacent to the flight data recorder.

**TASK 23-71-22-000-801**

2. Recorder Independent Power Supply Removal

(Figure 401)

A. General

- (1) This task has steps to remove the recorder independent power supply.

B. References

| Reference        | Title                                                          |
|------------------|----------------------------------------------------------------|
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201)         |
| 20-40-12-400-803 | Conductive Dust Cap and Connector Cover Installation (P/B 201) |

C. Tools/Equipment

| Reference | Description                 |
|-----------|-----------------------------|
| STD-1048  | Stepladder - 6 foot (1.83m) |

D. Location Zones

| Zone | Area                                                                          |
|------|-------------------------------------------------------------------------------|
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00 |

E. Prepare for Removal

SUBTASK 23-71-22-860-003

- (1) Open these circuit breakers and install safety tags:

**CAPT Electrical System Panel, P18-2**

| Row | Col | Number | Name             |
|-----|-----|--------|------------------|
| C   | 7   | C01537 | VOICE RCDR RELAY |
| D   | 6   | C01948 | VOICE RCDR/RIPS  |

F. Recorder Independent Power Supply Removal

SUBTASK 23-71-22-040-002

- (1) Wait for a minimum of 11 minutes after you remove power from the voice recorder.

SUBTASK 23-71-22-800-002

- (2) To get access to the recorder independent power supply [1] in the aft passenger compartment, open the lowered ceiling panel.
- (a) Use a 6 foot (1.83m) stepladder, STD-1048, to get access to the recorder independent power supply [1].

NOTE: The recorder independent power supply is next to the flight data recorder.

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SUBTASK 23-71-22-020-003



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (3) Disconnect the J1 connector [6] from the recorder independent power supply [1].

SUBTASK 23-71-22-000-002

- (4) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-71-22-020-004

- (5) Remove the nut [2] and washer [3] from the ground stud.

SUBTASK 23-71-22-020-005

- (6) Remove the ground wire [4] from the recorder independent power supply [1].

SUBTASK 23-71-22-420-003

- (7) Install the conductive dust cap and connector cover (TASK 20-40-12-400-803).

SUBTASK 23-71-22-020-006

- (8) Loosen the captive screws [5].

SUBTASK 23-71-22-020-007

- (9) Remove the recorder independent power supply [1] from the structure.

**— END OF TASK —**

EFFECTIVITY  
SIA ALL

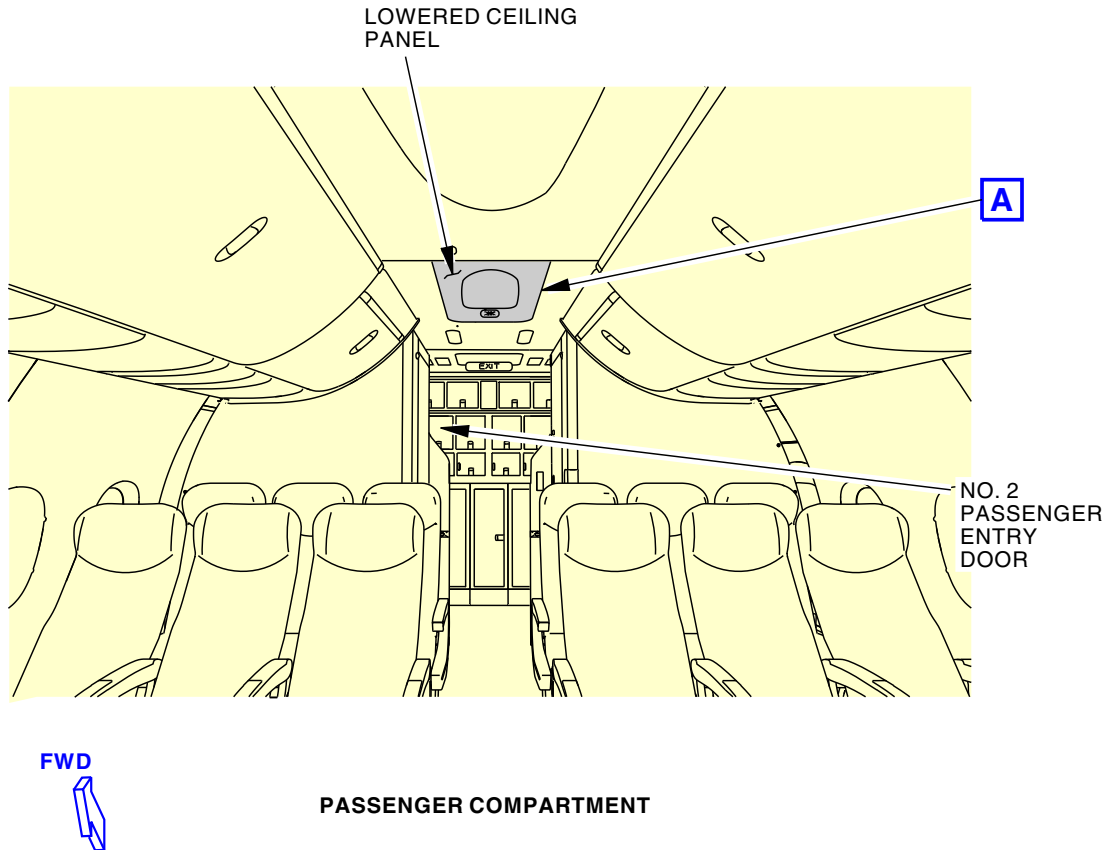
D633AM101-SIA

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**BOEING**  
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2411725 S00061528844\_V1

**Recorder Independent Power Supply Installation**  
**Figure 401/23-71-22-990-802 (Sheet 1 of 4)**

|             |  |
|-------------|--|
| EFFECTIVITY |  |
| SIA ALL     |  |

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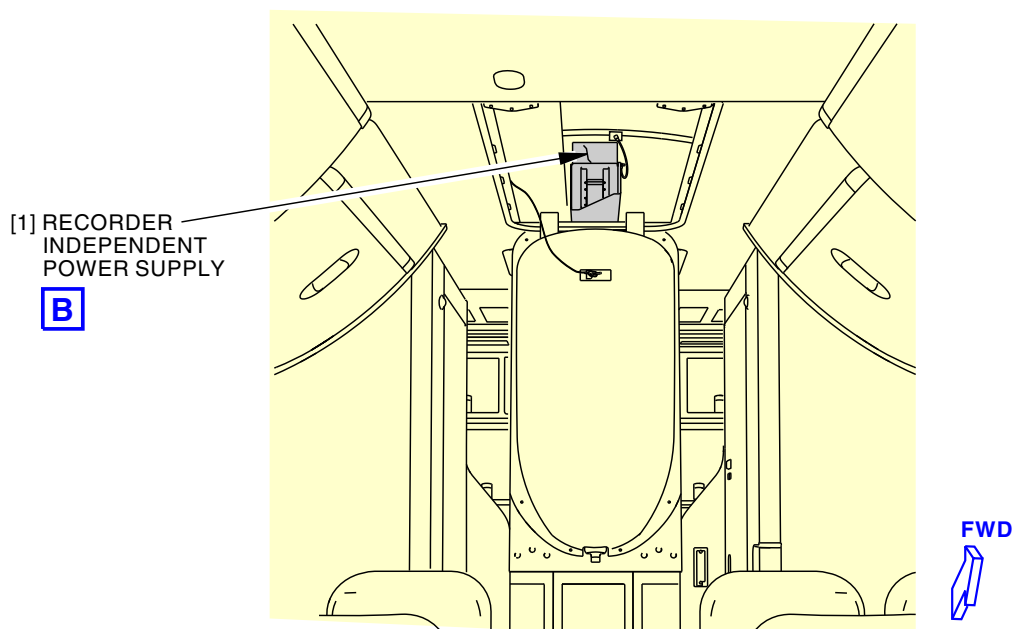
ECCN 9E991 BOEING PROPRIETARY - See title page for details

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RECORDER INDEPENDENT POWER SUPPLY

**A**

2411726 S00061528845\_V1

Recorder Independent Power Supply Installation  
Figure 401/23-71-22-990-802 (Sheet 2 of 4)

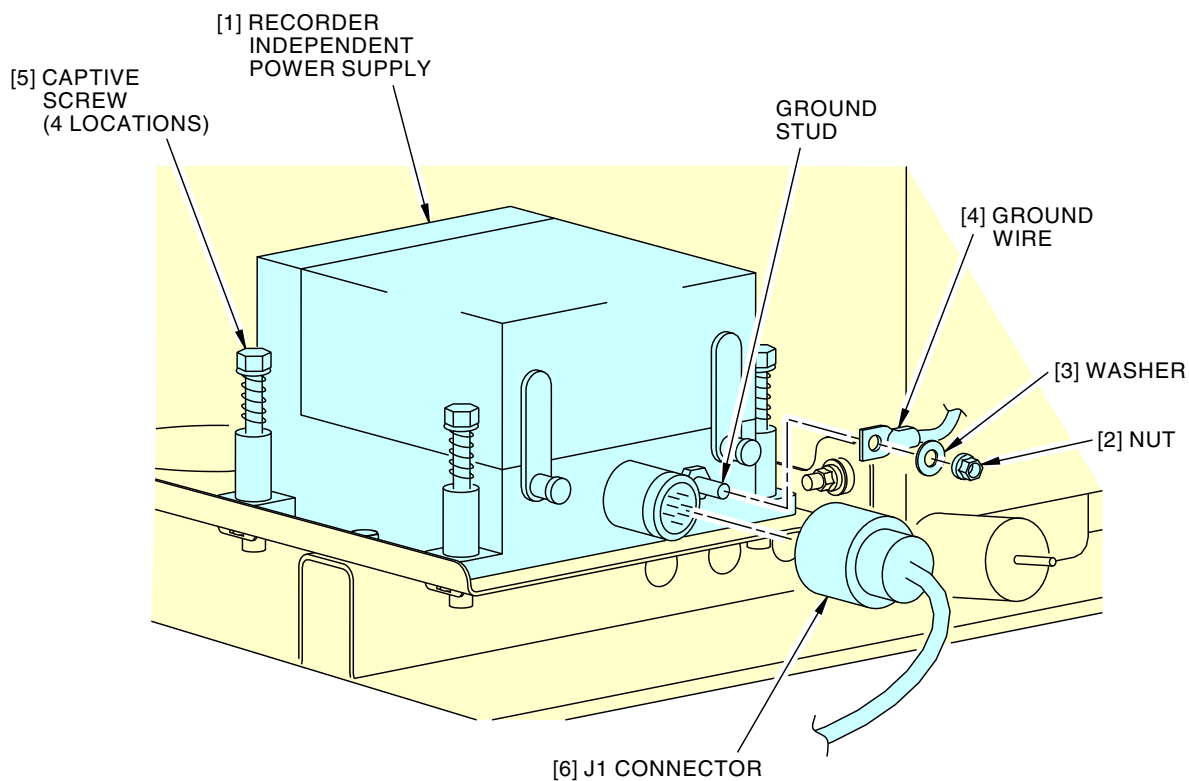
EFFECTIVITY  
SIA ALL

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RECORDER INDEPENDENT POWER SUPPLY  
(RIPS)

**B**

2411727 S00061528846\_V1

Recorder Independent Power Supply Installation  
Figure 401/23-71-22-990-802 (Sheet 3 of 4)

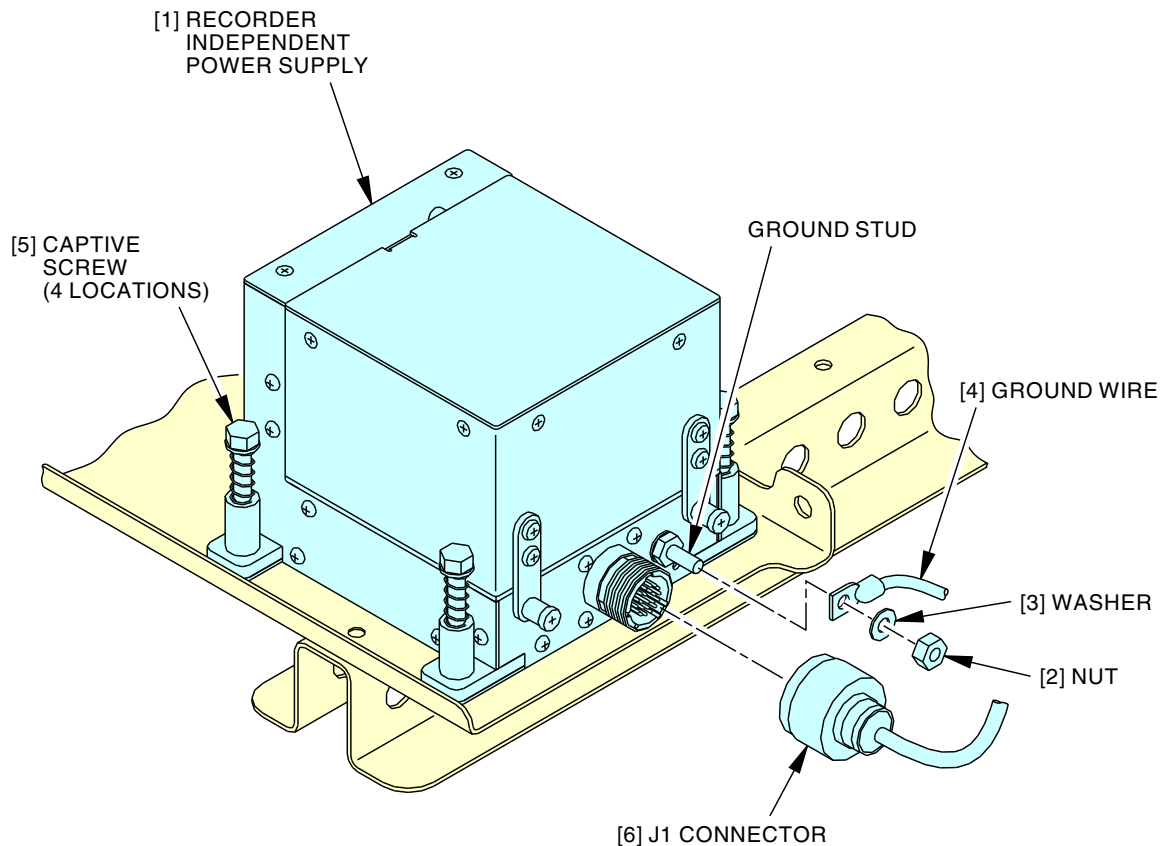
EFFECTIVITY  
SIA ALL; AIRPLANES WITH LITHIUM-ION RIPS P/N  
100-3020-400

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RECORDER INDEPENDENT POWER SUPPLY  
(RIPS)



2817449 S0000650523\_V1

Recorder Independent Power Supply Installation  
Figure 401/23-71-22-990-802 (Sheet 4 of 4)

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SIA ALL; AIRPLANES WITH NICKEL-CADMIUM RIPS  
P/N 100-3010-401

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TASK 23-71-22-400-801

3. Recorder Independent Power Supply Installation

(Figure 401)

A. General

(1) This task has steps to install the recorder independent power supply.

B. References

| Reference        | Title                                                            |
|------------------|------------------------------------------------------------------|
| 20-40-12-000-803 | Conductive Dust Cap and Connector Cover Removal (P/B 201)        |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201)      |
| 23-71-22-730-801 | Recorder Independent Power Supply (RIPS) - System Test (P/B 501) |
| SWPM 20-20-00    | ELECTRICAL BONDING PROCESSES                                     |

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1550  | Bonding Meter - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550).<br>Part #: 620LK Supplier: 1CRL2<br>Part #: M1 Supplier: 3AD17<br>Part #: M1B Supplier: 3AD17<br>Part #: T477W (C15292) Supplier: 06659 |

D. Consumable Materials

| Reference | Description                                                          | Specification                                                      |
|-----------|----------------------------------------------------------------------|--------------------------------------------------------------------|
| B00130    | Alcohol - Isopropyl                                                  | TT-I-735                                                           |
| B00666    | Solvent - Methyl Propyl Ketone                                       | BMS11-9                                                            |
| G00034    | Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze) | AMS3819 Class 1<br>Grade A or B Form 1<br>(Supersede BMS15-5 CL A) |

E. Expendables/Parts

| AMM Item | Description                       | AIPC Reference  | AIPC Effectivity |
|----------|-----------------------------------|-----------------|------------------|
| 1        | Recorder independent power supply | 23-71-22-01-025 | SIA ALL          |
|          |                                   | 23-71-22-01-060 | SIA ALL          |

F. Location Zones

| Zone | Area                                                                          |
|------|-------------------------------------------------------------------------------|
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00 |

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### G. Prepare for the Installation

SUBTASK 23-71-22-860-004

- (1) Make sure that these circuit breakers are open and have safety tags:

#### CAPT Electrical System Panel, P18-2

| Row | Col | Number | Name             |
|-----|-----|--------|------------------|
| C   | 7   | C01537 | VOICE RCDR RELAY |
| D   | 6   | C01948 | VOICE RCDR/RIPS  |

### H. Recorder Independent Power Supply Installation

SUBTASK 23-71-22-400-004

- (1) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-71-22-100-001

- (2) Clean the mounting flanges and the captive screws [5] of the recorder independent power supply [1].
  - (a) Make sure to use alcohol, B00130, and a moist cotton wiper, G00034

SUBTASK 23-71-22-100-002

- (3) Dry the mounting flanges and the captive screws [5] with a new cotton wiper, G00034.

SUBTASK 23-71-22-100-003

- (4) Clean the ground wire [4] and the ground stud of the recorder independent power supply [1].
  - (a) Make sure to use solvent, B00666, and a moist cotton wiper, G00034, to clean the bond surface of the ground wire [4] and the ground stud.

SUBTASK 23-71-22-100-004

- (5) Dry the ground wire [4] and the ground stud with a new cotton wiper, G00034.

SUBTASK 23-71-22-420-004



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (6) Install the recorder independent power supply [1].
  - (a) Make sure to put the recorder independent power supply [1] in its position on the support panel.

SUBTASK 23-71-22-420-005

- (7) Tighten the captive screws [5] to 54 in-lb (6.1 N·m) - 66 in-lb (7.5 N·m).

SUBTASK 23-71-22-020-008

- (8) Remove the conductive dust cap and connector cover (TASK 20-40-12-000-803).

SUBTASK 23-71-22-420-006

- (9) Install the washer [3] and nut [2] that attach the ground wire [4] to the ground stud as a specified bond.

SUBTASK 23-71-22-760-001

- (10) Measure the specified bond resistance (SWPM 20-20-00):
  - (a) Use an intrinsically safe approved bonding meter, COM-1550.
  - (b) Make sure that the resistance is 0.0010 ohm (1.0 milliohm) or less.

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SUBTASK 23-71-22-420-007

- (11) Connect the J1 connector [6] to the recorder independent power supply [1].

SUBTASK 23-71-22-860-005

- (12) Remove the safety tags and close these circuit breakers:

### CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>      |
|------------|------------|---------------|------------------|
| C          | 7          | C01537        | VOICE RCDR RELAY |
| D          | 6          | C01948        | VOICE RCDR/RIPS  |

### I. Recorder Independent Power Supply Installation Test

SUBTASK 23-71-22-860-006

- (1) Do the system test for the Recorder Independent Power Supply (TASK 23-71-22-730-801).

### J. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-22-410-001

- (1) Close the lowered ceiling panel in the aft passenger compartment.

————— **END OF TASK** —————

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**RECORDER INDEPENDENT POWER SUPPLY (RIPS) - ADJUSTMENT/TEST**

**1. General**

- A. This procedure has these tasks:
- (1) Recorder Independent Power Supply (RIPS) System Test
  - (2) Recorder Independent Power Supply (RIPS) Functional Test

**SIA ALL; AIRPLANES WITH LITHIUM-ION RIPS P/N 100-3020-400**

- (3) Recorder Independent Power Supply (RIPS) Maintenance Discrete Check

**SIA ALL; AIRPLANES WITH NICKEL-CADMIUM RIPS P/N 100-3010-401**

- (4) Recorder Independent Power Supply (RIPS) Maintenance Discrete Check.

**SIA ALL**

- B. The RIPS is at STA 940 in the aft passenger compartment ceiling adjacent to the flight data recorder.
- C. The RIPS Maintenance Port (Connector D10101) is in the crown near the left side raceway at STA 955. It is fifteen inches aft and approximately six inches higher than the RIPS.

**TASK 23-71-22-730-801**

**2. Recorder Independent Power Supply (RIPS) - System Test**

NOTE: This procedure is a scheduled maintenance task.

**A. General**

- (1) This task gives a system test of the Recorder Independent Power Supply (RIPS).
- (2) Do this test when you install a new RIPS or when you replace the battery in the RIPS.
- (3) The RIPS is at STA 940 in the aft passenger compartment adjacent to the flight data recorder.
- (4) To do this test, it is necessary that the ambient temperature is between 32°F (0°C) and 113°F (45°C).
- (5) The RIPS Maintenance Port (Connector D10101) is in the crown near the left side raceway at STA 955. It is fifteen inches aft and approximately six inches higher than the RIPS.

**B. References**

| Reference    | Title      |
|--------------|------------|
| WDM 23-71-01 | D000534459 |

**C. Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

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| Reference | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1793  | Multimeter - Digital/Analog (or equivalent meter meets task requirements)<br>Part #: 117 Supplier: 89536<br>Part #: 260-8XPI Supplier: 55026<br>Part #: 287 Supplier: 89536<br>Part #: 289 Supplier: 89536<br>Part #: 87V Supplier: 89536<br>Part #: FLUKE 27 II Supplier: 89536<br>Part #: FLUKE-77-4 Supplier: 89536<br>Opt Part #: 187 Supplier: 89536<br>Opt Part #: 189 Supplier: 89536<br>Opt Part #: 21 Supplier: 89536<br>Opt Part #: 27 Supplier: 89536<br>Opt Part #: 77 SERIES III Supplier: 89536<br>Opt Part #: 87 Supplier: 89536<br>Opt Part #: FLUKE 27 Supplier: 89536<br>Opt Part #: MODEL 27 Supplier: 89536 |
| STD-1048  | Stepladder - 6 foot (1.83m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

### D. Location Zones

| Zone | Area                                                                          |
|------|-------------------------------------------------------------------------------|
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00 |

### E. Prepare for the Recorder Independent Power Supply (RIPS) System Test

#### SUBTASK 23-71-22-860-026

- (1) Make sure that this circuit breaker is closed:

#### CAPT Electrical System Panel, P18-2

| Row | Col | Number | Name            |
|-----|-----|--------|-----------------|
| D   | 6   | C01948 | VOICE RCDR/RIPS |

#### SUBTASK 23-71-22-860-027

- (2) Make sure that you wait for 15 (fifteen) minutes after you supply electrical power to the airplane before you do the tests that follow.

**NOTE:** It may take more than 30 (thirty) minutes, and possibly up to 4 (four) hours, to charge if the batteries were not properly stored and maintained every 12 (twelve) months. Until the battery is charged sufficiently, the no-fault status check and maintenance status and battery discharge check will not pass.

#### SUBTASK 23-71-22-020-009

- (3) Open the applicable lowered ceiling panel to get access to the Maintenance Port in the aft passenger compartment.

**NOTE:** The Maintenance Port is at STA 955, WL 301, LBL 8.

- (4) Use a 6 foot (1.83m) stepladder, STD-1048, to get access to the Maintenance Port.  
(a) Remove the protective dust-cap cover from the Maintenance Port (Connector D10101).

#### SUBTASK 23-71-22-860-020

- (5) Set the CVR AUTO/ON switch (P5-88) to the ON position.

### F. No-Fault Status Check

#### SUBTASK 23-71-22-760-002

- (1) Do the No-Fault Status Check:

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- (a) Make sure that the digital/analog multimeter, COM-1793, is set to the DIODE position.
- (b) Do a check for voltage at connector D10101 between pin 1 and pin 6 (WDM 23-71-01).

### SIA ALL; AIRPLANES WITH LITHIUM-ION RIPS P/N 100-3020-400

- 1) Make sure that the digital/analog multimeter, COM-1793, shows a voltage between "0.400 V" and "0.700 V" (ground state).

### SIA ALL; AIRPLANES WITH NICKEL-CADMIUM RIPS P/N 100-3010-401

- 2) Make sure that the digital/analog multimeter, COM-1793, shows a voltage less than "0.700 V" (ground state).

### SIA ALL

- (c) Push and hold the TEST switch on the voice recorder control panel for one second.

NOTE: It is not necessary to hold the TEST switch for five seconds.

- 1) Make sure that the TEST light comes on in five seconds or less.

## G. Maintenance Status and Battery Discharge Check

### SUBTASK 23-71-22-760-003

- (1) Do the maintenance discrete and battery discharge test as follows.

NOTE: If you do not wait fifteen minutes, it is possible the value you see will not be satisfactory because the battery is at a low state of charge.

NOTE: Use a watch or a clock to measure the time after you open this circuit breaker.

- (a) Open this circuit breaker and install safety tag:

### CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| D          | 6          | C01948        | VOICE RCDR/RIPS |

### SUBTASK 23-71-22-730-002

- (2) Use a digital/analog multimeter, COM-1793, and set it to the DIODE position.

- (a) Do a check for continuity at connector D10101 between pin 1 and pin 10 (WDM 23-71-01).

- (b) Make sure that you see "OL" (out-of-limit).

### SUBTASK 23-71-22-730-006

- (3) At or before 8 minutes and 45 seconds, push and hold the TEST switch on the voice recorder control panel for one second.

NOTE: It is not necessary to hold the TEST switch for five seconds.

- (a) Make sure that the TEST light comes on in five seconds or less.

### SUBTASK 23-71-22-730-009

- (4) At 11 minutes, push and hold the TEST switch on the voice recorder control panel for one second.

NOTE: It is not necessary to hold the TEST switch for five seconds.

- (a) Make sure that the TEST light does not come on.

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SUBTASK 23-71-22-860-009

- (5) Remove the safety tag and close this circuit breaker:

## CAPT Electrical System Panel, P18-2

| Row | Col | Number | Name            |
|-----|-----|--------|-----------------|
| D   | 6   | C01948 | VOICE RCDR/RIPS |

### H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-22-860-021

- (1) Set the CVR AUTO/ON switch (P5-88) back to the AUTO position.

SUBTASK 23-71-22-420-008

- (2) Install the protective dust-cap cover on the Maintenance Port (Connector D10101).

SUBTASK 23-71-22-420-009

- (3) Close the lowered ceiling panel in the aft passenger compartment.

— END OF TASK —

## TASK 23-71-22-720-801

### 3. Recorder Independent Power Supply (RIPS) Functional Test

NOTE: This procedure is a scheduled maintenance task.

#### A. General

- (1) This task gives a functional test of the Recorder Independent Power Supply (RIPS).
- (2) To do this test, it is necessary that the ambient temperature is between 32°F (0°C) and 113°F (45°C).
- (3) The RIPS is at STA 940 in the aft passenger compartment adjacent to the flight data recorder.

#### B. References

| Reference        | Title                              |
|------------------|------------------------------------|
| 23-27-00-740-802 | ACARS - Operational Test (P/B 501) |

#### C. Tools/Equipment

| Reference | Description                                        |
|-----------|----------------------------------------------------|
| STD-836   | Stopwatch                                          |
| STD-1390  | Headphone - 600 Ohm, with 1/4 Inch Mono Audio Plug |

#### D. Location Zones

| Zone | Area                                                                          |
|------|-------------------------------------------------------------------------------|
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00 |

#### E. Prepare for the Recorder Independent Power Supply (RIPS) Functional Test

SUBTASK 23-71-22-860-018

- (1) Set the CVR AUTO/ON switch (P5) to the ON position.
- (a) Make sure that the CVR AUTO/ON switch stays in the ON position.

SUBTASK 23-71-22-860-012

- (2) Make sure that the ACARS system is serviceable (TASK 23-27-00-740-802).

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### F. No-Fault Status Check

SUBTASK 23-71-22-760-004

- (1) Push and hold the TEST switch on the voice recorder control panel for one second.

NOTE: It is not necessary to hold the TEST switch for five seconds.

- (a) Make sure that the TEST light comes on in five seconds or less.

### G. Battery Discharge Check

SUBTASK 23-71-22-760-005

- (1) Connect a headphone, STD-1390, to the voice recorder's control panel (pilot's overhead panel, P5).

- (a) Use a stopwatch, STD-836, or a clock to measure the time after you open this circuit breaker.
  - (b) Open this circuit breaker and install safety tag:

#### **CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| D          | 6          | C01948        | VOICE RCDR/RIPS |

NOTE: The RIPS will now supply power to the CVR for 10 (ten) minutes ( $\pm 1$  minute).

SUBTASK 23-71-22-720-001

- (2) Use the headphone that connected to the voice recorder's control panel to monitor the voice recorder's functions.

- (a) Make sure that the voice recorder continues to function normally on RIPS battery power for 10 minutes  $\pm 1$  minute, but does NOT function after 11 minutes.

NOTE: The area sounds can be heard through the headphone when the voice recorder has power and the area sound stops when the voice recorder does NOT have power.

SUBTASK 23-71-22-860-013

- (3) Remove the safety tag and close this circuit breaker:

#### **CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| D          | 6          | C01948        | VOICE RCDR/RIPS |

### H. Put the Airplane Back to Its Usual Condition

SUBTASK 23-71-22-860-014

- (1) Disconnect the headphone from the voice recorder's control panel.

SUBTASK 23-71-22-860-019

- (2) Set the CVR AUTO/ON switch (P5) to the AUTO position.

————— **END OF TASK** —————

**SIA ALL; AIRPLANES WITH LITHIUM-ION RIPS P/N 100-3020-400**

#### **TASK 23-71-22-760-801**

#### **4. Recorder Independent Power Supply (RIPS) - Maintenance Discrete Check**

NOTE: This procedure is a scheduled maintenance task.

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SIA ALL; AIRPLANES WITH LITHIUM-ION RIPS P/N 100-3020-400 (Continued)

**A. General**

- (1) This task gives a check of the maintenance discrete for the Recorder Independent Power Supply (RIPS) with the Lithium-Ion battery.
- (2) The RIPS is at STA 940 in the aft passenger compartment adjacent to the flight data recorder.
- (3) To do this test, it is necessary that the ambient temperature is between 32°F (0°C) and 113°F (45°C).
- (4) The RIPS Maintenance Port (Connector D10101) is in the crown near the left side raceway at STA 955. It is 15 in. (38 cm) aft and approximately 6 in. (15 cm) higher than the RIPS.

**B. References**

| Reference    | Title      |
|--------------|------------|
| WDM 23-71-01 | D000534459 |

**C. Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1793  | Multimeter - Digital/Analog (or equivalent meter meets task requirements)<br>Part #: 117 Supplier: 89536<br>Part #: 260-8XPI Supplier: 55026<br>Part #: 287 Supplier: 89536<br>Part #: 289 Supplier: 89536<br>Part #: 87V Supplier: 89536<br>Part #: FLUKE 27 II Supplier: 89536<br>Part #: FLUKE-77-4 Supplier: 89536<br>Opt Part #: 187 Supplier: 89536<br>Opt Part #: 189 Supplier: 89536<br>Opt Part #: 21 Supplier: 89536<br>Opt Part #: 27 Supplier: 89536<br>Opt Part #: 77 SERIES III Supplier: 89536<br>Opt Part #: 87 Supplier: 89536<br>Opt Part #: FLUKE 27 Supplier: 89536<br>Opt Part #: MODEL 27 Supplier: 89536 |
| STD-1048  | Stepladder - 6 foot (1.83m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**D. Location Zones**

| Zone | Area                                                                          |
|------|-------------------------------------------------------------------------------|
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00 |

**E. Prepare for the RIPS Maintenance Discrete Check**

SUBTASK 23-71-22-020-010

- (1) Open the applicable lowered ceiling panel to get access to the Maintenance Port (Connector D10101) in the aft passenger compartment.

NOTE: The Maintenance Port (Connector D10101) is at STA 955, WL 301, LBL 8.

SUBTASK 23-71-22-080-001

- (2) Use a 6 foot (1.83m) stepladder, STD-1048, to get access to the Maintenance Port (Connector D10101).

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- (a) Remove the protective dust-cap cover from the Maintenance Port (Connector D10101).

### F. RIPS Status Check with Aircraft Power On

SUBTASK 23-71-22-720-002

- (1) Make sure that the digital/analog multimeter, COM-1793, is set to the DIODE position.

**NOTE:** Attach the Black (Negative) lead of the digital/analog multimeter, COM-1793, to Pin 1 of connector D10101 as a ground reference when taking measurements in the subsequent steps.

SUBTASK 23-71-22-720-003

- (2) Do the check that follows for the RIPS Status Check with aircraft power on:

- (a) Do these steps for RIPS Maintenance Status Check:

- 1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 10 for the status of the RIPS MAINT REQ (WDM 23-71-01).
- 2) Make sure that the digital/analog multimeter, COM-1793, shows "OL" (out of limit).

- (b) Do these steps for RIPS No-Fault Status Check:

- 1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 6 for the status of the RIPS NO FAULT (WDM 23-71-01).
- 2) Make sure that the digital/analog multimeter, COM-1793, shows a voltage between "0.400 V" and "0.700 V".

### G. RIPS Status Check with Aircraft Power Off

SUBTASK 23-71-22-860-016

- (1) Open this circuit breaker and install safety tag:

#### CAPT Electrical System Panel, P18-2

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>      |
|------------|------------|---------------|------------------|
| D          | 6          | C01948        | VOICE RCDCR/RIPS |

SUBTASK 23-71-22-720-004

- (2) Make sure that the digital/analog multimeter, COM-1793, is set to the DIODE position.

**NOTE:** Attach the Black (Negative) lead of the digital/analog multimeter, COM-1793, to Pin 1 of connector D10101 as a ground reference when taking measurements in the subsequent steps.

SUBTASK 23-71-22-720-005

- (3) Do the check that follows in no more than nine (9) minutes after you opened the circuit breaker:

- (a) Do these steps for RIPS Maintenance Status Check:

- 1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 10 for the status of the RIPS MAINT REQ (WDM 23-71-01).
- 2) Make sure that the digital/analog multimeter, COM-1793, shows "OL" (out of limit).

- (b) Do these steps for RIPS No-Fault Status Check:

- 1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 6 for the status of the RIPS NO FAULT (WDM 23-71-01).
- 2) Make sure that the digital/analog multimeter, COM-1793, shows a voltage between "0.400 V" and "0.700 V".

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**H. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-71-22-420-010

- (1) Install the protective dust-cap cover on the Maintenance Port (Connector D10101).

SUBTASK 23-71-22-420-011

- (2) Close the lowered ceiling panel in the aft passenger compartment.

SUBTASK 23-71-22-860-017

- (3) Remove the safety tag and close this circuit breaker:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| D          | 6          | C01948        | VOICE RCDR/RIPS |

————— **END OF TASK** —————

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**TASK 23-71-22-760-802**

**5. Recorder Independent Power Supply (RIPS) - Maintenance Discrete Check**

**A. General**

- (1) This task gives a check of the maintenance discrete for the Recorder Independent Power Supply (RIPS) with the Nickel-Cadmium battery.
- (2) The RIPS is at STA 940 in the aft passenger compartment adjacent to the flight data recorder.
- (3) To do this test, it is necessary that the ambient temperature is between 32°F (0°C) and 113°F (45°C).
- (4) The RIPS Maintenance Port (Connector D10101) is in the crown near the left side raceway at STA 955. It is 15 in. (38 cm) aft and approximately 6 in. (15 cm) higher than the RIPS.

**B. References**

| <u>Reference</u> | <u>Title</u> |
|------------------|--------------|
| WDM 23-71-01     | D000534459   |

**C. Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

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| Reference | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-1793  | Multimeter - Digital/Analog (or equivalent meter meets task requirements)<br>Part #: 117 Supplier: 89536<br>Part #: 260-8XPI Supplier: 55026<br>Part #: 287 Supplier: 89536<br>Part #: 289 Supplier: 89536<br>Part #: 87V Supplier: 89536<br>Part #: FLUKE 27 II Supplier: 89536<br>Part #: FLUKE-77-4 Supplier: 89536<br>Opt Part #: 187 Supplier: 89536<br>Opt Part #: 189 Supplier: 89536<br>Opt Part #: 21 Supplier: 89536<br>Opt Part #: 27 Supplier: 89536<br>Opt Part #: 77 SERIES III Supplier: 89536<br>Opt Part #: 87 Supplier: 89536<br>Opt Part #: FLUKE 27 Supplier: 89536<br>Opt Part #: MODEL 27 Supplier: 89536 |
| STD-1048  | Stepladder - 6 foot (1.83m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**D. Location Zones**

| Zone | Area                                                                          |
|------|-------------------------------------------------------------------------------|
| 240  | Subzone - Passenger Compartment - Body Station 663.75 to Body Station 1016.00 |

**E. Prepare for the RIPS Maintenance Discrete Check**

SUBTASK 23-71-22-010-002

- (1) Open the applicable lowered ceiling panel to get access to the Maintenance Port (Connector D10101) in the aft passenger compartment.

NOTE: The Maintenance Port (Connector D10101) is at STA 955, WL 301, LBL 8.

SUBTASK 23-71-22-480-001

- (2) Use a 6 foot (1.83m) stepladder, STD-1048, to get access to the Maintenance Port (Connector D10101).
  - (a) Remove the protective dust-cap cover from the Maintenance Port (Connector D10101).

**F. RIPS Status Check with Aircraft Power On**

SUBTASK 23-71-22-720-006

- (1) Make sure that the digital/analog multimeter, COM-1793, is set to the DIODE position.

NOTE: Attach the Black (Negative) lead of the digital/analog multimeter, COM-1793, to Pin 1 of connector D10101 as a ground reference when taking measurements in the subsequent steps.

SUBTASK 23-71-22-720-007

- (2) Do the check that follows for the RIPS Status Check with aircraft power on:
  - (a) Do these steps for RIPS Maintenance Status Check:
    - 1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 10 for the status of the RIPS MAINT REQ (WDM 23-71-01).
    - 2) Make sure that the digital/analog multimeter, COM-1793, shows "OL" (out of limit).
  - (b) Do these steps for RIPS No-Fault Status Check:

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- 1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 6 for the status of the RIPS NO FAULT (WDM 23-71-01).
- 2) Make sure that the digital/analog multimeter, COM-1793, shows a voltage less than "0.700 V".

**G. RIPS Status Check with Aircraft Power Off**

SUBTASK 23-71-22-860-024

- (1) Open this circuit breaker and install safety tag:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| D          | 6          | C01948        | VOICE RCDR/RIPS |

SUBTASK 23-71-22-720-008

- (2) Make sure that the digital/analog multimeter, COM-1793, is set to the DIODE position.

NOTE: Attach the Black (Negative) lead of the digital/analog multimeter, COM-1793, to Pin 1 of connector D10101 as a ground reference when taking measurements in the subsequent steps.

SUBTASK 23-71-22-720-009

- (3) Do the check that follows in no more than nine (9) minutes after you opened the circuit breaker:
  - (a) Do these steps for RIPS Maintenance Status Check:
    - 1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 10 for the status of the RIPS MAINT REQ (WDM 23-71-01).
    - 2) Make sure that the digital/analog multimeter, COM-1793, shows "OL" (out of limit).
  - (b) Do these steps for RIPS No-Fault Status Check:
    - 1) At Maintenance Port (Connector D10101), measure between pin 1 and pin 6 for the status of the RIPS NO FAULT (WDM 23-71-01).
    - 2) Make sure that the digital/analog multimeter, COM-1793, shows a voltage less than "0.700 V".

**H. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-71-22-420-016

- (1) Install the protective dust-cap cover on the Maintenance Port (Connector D10101).

SUBTASK 23-71-22-410-002

- (2) Close the lowered ceiling panel in the aft passenger compartment.

SUBTASK 23-71-22-860-025

- (3) Remove the safety tag and close this circuit breaker:

**CAPT Electrical System Panel, P18-2**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>     |
|------------|------------|---------------|-----------------|
| D          | 6          | C01948        | VOICE RCDR/RIPS |

————— **END OF TASK** —————

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FLIGHT DECK ENTRY VIDEO SURVEILLANCE SYSTEM - MAINTENANCE PRACTICES

1. General

- A. This procedure has these tasks:
- (1) Video Surveillance System - Deactivation.
  - (2) Video Surveillance System - Activation.

**TASK 23-75-00-040-801**

2. Video Surveillance System - Deactivation

A. **General**

- (1) This procedure removes the electrical power to the Video Surveillance System.

B. **Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

C. **Procedure**

SUBTASK 23-75-00-860-001

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-5**

| Row | Col | Number | Name                |
|-----|-----|--------|---------------------|
| B   | 1   | C01641 | SURVEILLANCE CAMERA |

D. **Video Surveillance System - Tryout**

SUBTASK 23-75-00-211-001

NOTE: This tryout is to make sure the Video Surveillance system is in a zero energy state.

- (1) Do the following steps to verify the Video Surveillance System is off:
  - (a) Select a camera on the Camera Control Panel.

NOTE: The Camera Control Panel is in the flight compartment on the aisle stand P8 panel.
  - (b) View the MAX Display System.
  - (c) If the Video Surveillance System is off there will be no display from any of the cameras.

———— **END OF TASK** ————

**TASK 23-75-00-440-801**

3. Video Surveillance System - Activation

A. **General**

- (1) This procedure adds electrical power to the Video Surveillance System.

B. **Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

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C. Procedure

SUBTASK 23-75-00-860-002

- (1) Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-5

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| B          | 1          | C01641        | SURVEILLANCE CAMERA |

————— END OF TASK —————

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FLIGHT DECK ENTRY VIDEO SURVEILLANCE SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has one task:

- (1) Flight Deck Entry Video Surveillance System - System Test.

**TASK 23-75-00-730-801**

2. Flight Deck Entry Video Surveillance System - System Test

A. **References**

| Reference        | Title                                |
|------------------|--------------------------------------|
| 31-65-00 P/B 501 | MAX DISPLAY SYSTEM - ADJUSTMENT/TEST |

B. **Location Zones**

| Zone | Area                       |
|------|----------------------------|
| 211  | Flight Compartment - Left  |
| 212  | Flight Compartment - Right |

C. **Prepare for the Procedure**

SUBTASK 23-75-00-860-003

- (1) Make sure that the P5-13 IFE/PASS SEAT switch in the Flight Deck is in the ON position.

SUBTASK 23-75-00-860-004

- (2) Make sure that the MAX Display System (MDS) is serviceable (PAGEBLOCK 31-65-00/501).

D. **Test Procedure**

SUBTASK 23-75-00-710-001

- (1) Push the "DSPL" button on the Camera Control Panel (CCP).

NOTE: The CCP is on the aisle stand, P8 panel in the flight compartment.

- (a) Make sure that a video image appears on the captain's or the first officer's inboard display unit.

SUBTASK 23-75-00-710-002

- (2) Rotate the "CAM SEL" knob on the CCP to the position "C".

- (a) Make sure that the center camera (Camera 1) image shows on the captain's or the first officer's inboard display unit.

NOTE: The camera image will show the area for the aft of the flight deck door.

SUBTASK 23-75-00-710-003

- (3) Rotate the "CAM SEL" knob on the CCP to the position "L".

- (a) Make sure that the left camera (Camera 2) image shows on the captain's or the first officer's inboard display unit.

NOTE: The camera image will show the Door 1 Left area.

SUBTASK 23-75-00-710-004

- (4) Rotate the "CAM SEL" knob on the CCP to the position "R".

- (a) Make sure that the right camera (Camera 3) image shows on the captain's or the first officer's inboard display unit.

NOTE: The camera image will show the Door 1 Right area.

SUBTASK 23-75-00-710-005

- (5) Set the P5-13 IFE/PASS SEAT switch to OFF.

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- (a) Make sure that the surveillance camera images no longer show on the captain's or the first officer's inboard display unit.

———— **END OF TASK** ————

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**VIDEO CAMERAS - REMOVAL/INSTALLATION**

**1. General**

- A. This procedure has these tasks:
- (1) A removal of the video camera
  - (2) An installation of the video camera.
- B. The camera assemblies are installed in the ceiling above the flight compartment, and the aft of the flight deck security door.

**TASK 23-75-01-000-801**

**2. Video Camera Removal**

(Figure 401)

**A. General**

- (1) This task is for the removal of these cameras:
- (a) Camera 1 on the back-side of the forward lowered ceiling close-out.
  - (b) Camera 2 on the forward entry doorway header 1L.
  - (c) Camera 3 on the forward galley doorway header 1R.

NOTE: On the camera Control Panel (CP), position R is camera 3, position C is camera 1, and position L is camera 2.

**B. References**

| <u>Reference</u> | <u>Title</u>                                                   |
|------------------|----------------------------------------------------------------|
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201)         |
| 20-40-12-400-803 | Conductive Dust Cap and Connector Cover Installation (P/B 201) |
| 25-21-30-020-801 | Forward Entry Door Doorway Header Panel Removal (P/B 401)      |
| 25-21-34-000-801 | Forward Galley Door Doorway Header Panel Removal (P/B 401)     |
| 25-21-71-000-805 | Close Out Ceiling Panel Removal (P/B 401)                      |

**C. Location Zones**

| <u>Zone</u> | <u>Area</u>                                                     |
|-------------|-----------------------------------------------------------------|
| 220         | Subzone - Passenger Compartment - Body Station 259.50 to 360.00 |

**D. Prepare for the Removal**

SUBTASK 23-75-01-860-001

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-5**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| B          | 1          | C01641        | SURVEILLANCE CAMERA |

SUBTASK 23-75-01-010-001

- (2) Get access to the applicable camera:
- (a) To get access to camera 1, do this task: Close Out Ceiling Panel Removal, TASK 25-21-71-000-805.
  - (b) To get access to camera 2, do this task: Forward Entry Door Doorway Header Panel Removal, TASK 25-21-30-020-801.

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- (c) To get access to camera 3, do this task: Forward Galley Door Doorway Header Panel Removal, TASK 25-21-34-000-801.

**E. Video Camera Removal**

SUBTASK 23-75-01-860-002



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.



DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 INCH (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

- (1) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-75-01-020-001

- (2) Remove camera 1, M3002 as follows:
- (a) Disconnect the camera camera electrical connector [42] from Camera Control Unit (CCU) 1, M3005.
  - (b) Remove screws [3] and washers [4] to remove camera [1] from support [2].

SUBTASK 23-75-01-020-002

- (3) Remove camera 2, M3026 as follows:
- (a) Remove the camera electrical connector [43] from the bonded retainer strap [44].
  - (b) Disconnect the camera electrical connector [43] from Camera Control Unit (CCU) 2, M3030.
  - (c) If it is necessary, remove the screws [6] to remove support [5] from the doorway header panel.
  - (d) Remove the screws [3] and washers [4] to remove camera [1] from support [5].

SUBTASK 23-75-01-020-003

- (4) Remove camera 3, M3004 as follows:
- (a) Remove the camera electrical connector [43] from the bonded retainer strap [44].
  - (b) Disconnect the camera electrical connector [43] from Camera Control Unit (CCU) 3, M3009.
  - (c) If it is necessary, remove screws [6] to remove support [5] from the doorway header panel.
  - (d) Remove screws [3] and washers [4] to remove camera [1] from support [5].

SUBTASK 23-75-01-480-001

- (5) Install a conductive dust cap and connector cover on the video camera electrical connector (TASK 20-40-12-400-803).

————— **END OF TASK** —————

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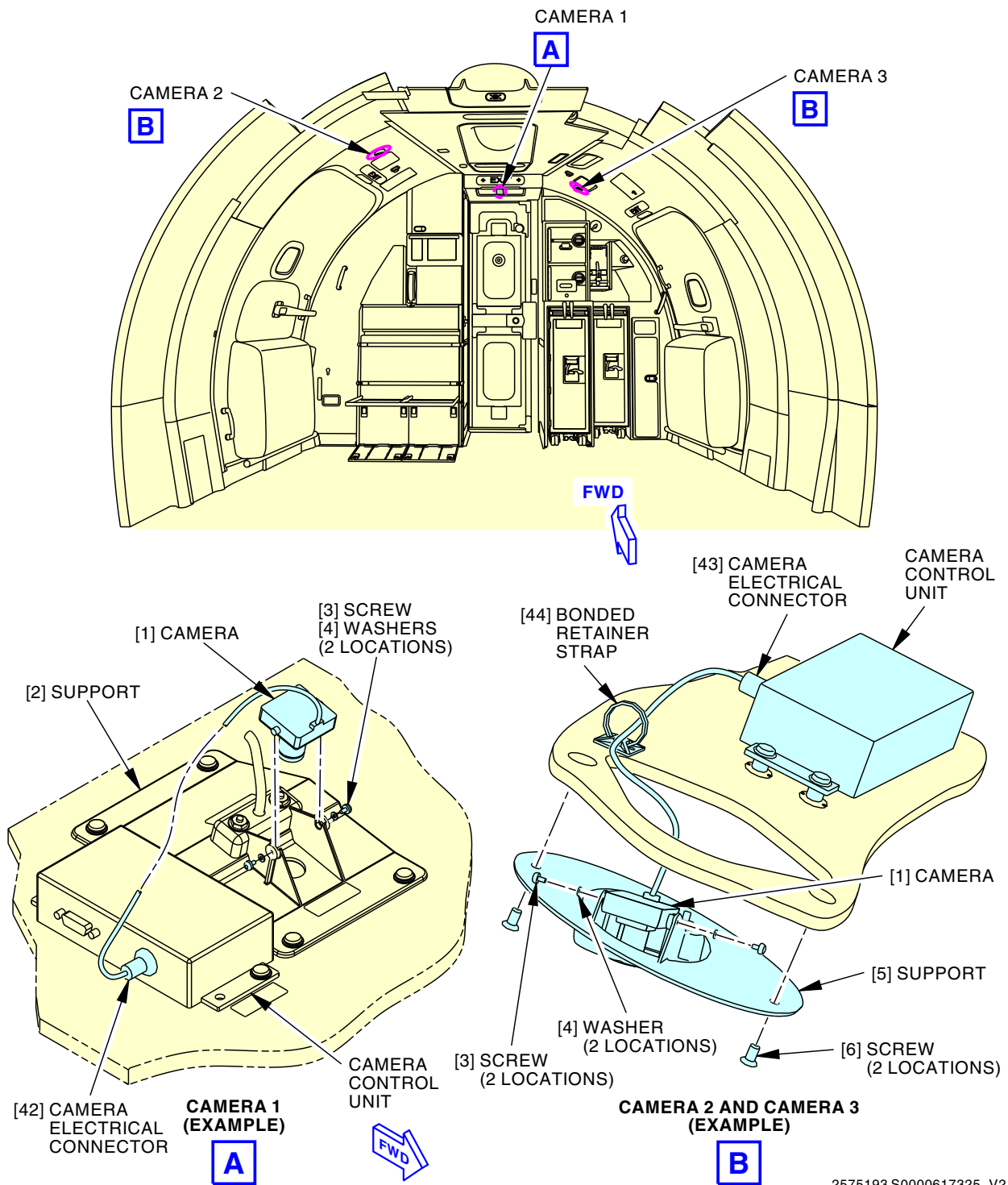
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**Video Camera Installation**  
**Figure 401/23-75-01-990-801**

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TASK 23-75-01-400-801

3. Video Camera Installation

(Figure 401)

A. General

(1) This task is for the installation of the video camera assemblies.

B. References

| Reference        | Title                                                               |
|------------------|---------------------------------------------------------------------|
| 20-40-12-000-803 | Conductive Dust Cap and Connector Cover Removal (P/B 201)           |
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201)         |
| 23-75-00-730-801 | Flight Deck Entry Video Surveillance System - System Test (P/B 501) |
| 25-21-30-420-801 | Forward Entry Door Doorway Header Panel Installation (P/B 401)      |
| 25-21-34-400-801 | Forward Galley Door Doorway Header Panel Installation (P/B 401)     |
| 25-21-71-400-805 | Close Out Ceiling Panel Installation (P/B 401)                      |

C. Consumable Materials

| Reference | Description                                                 | Specification    |
|-----------|-------------------------------------------------------------|------------------|
| C00039    | Primer - Interior Decorative Urethane, White                | BMS10-83 Type I  |
| C50333    | Coating - Interior Decorative Urethane Enamel, Color BAC702 | BMS10-83 Type II |
| C50437    | Coating - Interior Decorative Urethane Enamel, Color BAC870 | BMS10-83 Type II |

D. Expendables/Parts

| AMM Item | Description | AIPC Reference  | AIPC Effectivity |
|----------|-------------|-----------------|------------------|
| 1        | Camera      | 23-75-01-01-015 | SIA ALL          |
|          |             | 23-75-01-01-120 | SIA ALL          |
|          |             | 23-75-01-01-220 | SIA ALL          |

E. Location Zones

| Zone | Area                                                            |
|------|-----------------------------------------------------------------|
| 220  | Subzone - Passenger Compartment - Body Station 259.50 to 360.00 |

F. Video Camera Installation

SUBTASK 23-75-01-860-004



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.



DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 INCH (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

(1) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

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### SUBTASK 23-75-01-080-001

- (2) Remove the protective cover from the video camera electrical connector (TASK 20-40-12-000-803).

### SUBTASK 23-75-01-420-001

- (3) Install camera 1, M3002, as follows:
  - (a) Attach camera [1] to support [2] with screws [3] washers [4].

NOTE: A minimum of 2 washers are required, any extra washers may be discarded.
  - (b) Connect the camera electrical connector [42] to the Camera Control Unit (CCU) 1, M3005.

### SIA 001-005



DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 INCH (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

- 1) Make sure that the bend radius of the camera wires is not less than 1 in. (25.4 mm).

### SIA 006-999



DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 0.5 INCH (12.7 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

- 2) Make sure that the bend radius of the camera wires is not less than 0.5 in. (12.7 mm).

### SIA ALL

- 3) When the door panel is closed, make sure that the close out seal on the door panel is underneath the camera wire and connector.

### SUBTASK 23-75-01-420-002

- (4) Install camera 2, M3026, as follows:
  - (a) Attach the camera [1] to support [5] with screws [3] and washers [4].

NOTE: A minimum of 2 washers are required, any extra washers may be discarded.
  - (b) If it is removed, attach the support [5] to the doorway header panel with screws [6].
    - 1) Apply primer, C00039, and coating, C50333, or coating, C50437, to the heads of the screws [6].
  - (c) Attach the camera electrical connector [43] to Camera Control Unit (CCU) 2, M3030.
    - 1) Make sure that the bend radius of the camera wires is not less than 1 in. (25.4 mm).
  - (d) Attach the camera electrical connector [43] to the bonded retainer strap [44].

### SUBTASK 23-75-01-420-003

- (5) Install camera 3, M3004, as follows:
  - (a) Attach the camera [1] to support [5] with screws [3] and washers [4].

NOTE: A minimum of 2 washers are required, any extra washers may be discarded.
  - (b) If it is removed, attach the support [5] to the doorway header panel with screws [6].

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- 1) Apply primer, C00039, and coating, C50333, or coating, C50437, to the heads of the screws [6].
- (c) Attach the camera electrical connector [43] to Camera Control Unit (CCU) 2, M3030.
  - 1) Make sure that the bend radius of the camera wires is not less than 1 in. (25.4 mm).
- (d) Attach the camera electrical connector [43] to the bonded retainer strap [44].

**G. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-75-01-860-006

- (1) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-5**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| B          | 1          | C01641        | SURVEILLANCE CAMERA |

SUBTASK 23-75-01-410-002

- (2) For camera 1, do this task: Close Out Ceiling Panel Installation, TASK 25-21-71-400-805.

SUBTASK 23-75-01-410-003

- (3) For camera 2, do this task: Forward Entry Door Doorway Header Panel Installation, TASK 25-21-30-420-801.

SUBTASK 23-75-01-410-004

- (4) For camera 3, do this task: Forward Galley Door Doorway Header Panel Installation, TASK 25-21-34-400-801.

**H. Installation Test**

SUBTASK 23-75-01-730-001

- (1) Do this task: Flight Deck Entry Video Surveillance System - System Test, TASK 23-75-00-730-801.

———— **END OF TASK** ————

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CAMERA CONTROL PANEL ASSEMBLY- REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Camera Control Panel Removal
  - (2) Camera Control Panel Installation.
- B. The camera control panel is installed on the aisle stand P8 panel, in the flight compartment.

**TASK 23-75-02-000-801**

2. Camera Control Panel Removal

(Figure 401)

A. **General**

- (1) This task shows how to remove the camera control panel for the flight deck entry video surveillance system.

B. **Location Zones**

| Zone | Area                                                                       |
|------|----------------------------------------------------------------------------|
| 210  | Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50 |

C. **Prepare for the Removal**

SUBTASK 23-75-02-860-005

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-5**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| B          | 1          | C01641        | SURVEILLANCE CAMERA |

D. **Camera Control Panel Removal**

SUBTASK 23-75-02-020-001

- (1) Loosen the captive fasteners [2] on the camera control panel [1].

SUBTASK 23-75-02-020-002

- (2) Lift the camera control panel [1] to get access to the electrical connector [3].

SUBTASK 23-75-02-020-003



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (3) Disconnect the electrical connector [3] from the camera control panel [1].

SUBTASK 23-75-02-860-002

- (4) Put a protective cover on the electrical connector [3].

———— **END OF TASK** ————

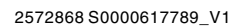
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**Camera Control Panel**  
**Figure 401/23-75-02-990-801**

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TASK 23-75-02-400-801

3. Camera Control Panel Installation

(Figure 401)

A. General

- (1) This task is for the installation of the camera control panel for the flight deck entry video surveillance system.

B. References

| Reference        | Title                                                               |
|------------------|---------------------------------------------------------------------|
| 23-75-00-730-801 | Flight Deck Entry Video Surveillance System - System Test (P/B 501) |

C. Expendables/Parts

| AMM Item | Description          | AIPC Reference   | AIPC Effectivity |
|----------|----------------------|------------------|------------------|
| 1        | Camera control panel | 23-75-02-01-010  | SIA ALL          |
|          |                      | 31-11-91-01E-505 | SIA ALL          |

D. Location Zones

| Zone | Area                                                                       |
|------|----------------------------------------------------------------------------|
| 210  | Subzone - Control Compartment - Body Station 178.00 to Body Station 259.50 |

E. Camera Control Panel Installation

SUBTASK 23-75-02-420-001

- (1) Install the camera control panel as follows:
- (a) Remove the protective cover from the electrical connector [3].
  - (b) Examine the electrical connector [3] for dirt, broken pins, and damage.
  - (c) Connect the electrical connector [3] to the camera control panel [1].
  - (d) Lower the camera control panel [1] into the aisle stand.
  - (e) Tighten the captive fasteners [2] on the camera control panel [1].

F. Put the Airplane Back to Its Usual Condition

SUBTASK 23-75-02-860-006

- (1) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-5**

| Row | Col | Number | Name                |
|-----|-----|--------|---------------------|
| B   | 1   | C01641 | SURVEILLANCE CAMERA |

G. Camera Control Panel Installation Test

SUBTASK 23-75-02-730-001

- (1) Do this task: Flight Deck Entry Video Surveillance System - System Test, TASK 23-75-00-730-801.

————— END OF TASK —————

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**VIDEO SWITCH - REMOVAL/INSTALLATION**

**1. General**

- A. This procedure has these tasks:
- (1) A removal of the video switch
  - (2) An installation of the video switch.
- B. The video switch, M3029, is installed in a frame, above the ceiling panel, at STA 390, WL 295, LBL 11.

**TASK 23-75-03-000-801**

**2. Video Switch Removal**

(Figure 401)

**A. General**

- (1) This task is for the removal video switch component of the flight deck entry video system.

**B. References**

| Reference        | Title                                                  |
|------------------|--------------------------------------------------------|
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201) |
| 25-21-71-000-801 | Lowered Ceiling Removal (P/B 401)                      |

**C. Location Zones**

| Zone | Area                                                                             |
|------|----------------------------------------------------------------------------------|
| 222  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right |

**D. Prepare for the Removal**

SUBTASK 23-75-03-860-001

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-5**

| Row | Col | Number | Name                |
|-----|-----|--------|---------------------|
| B   | 1   | C01641 | SURVEILLANCE CAMERA |

SUBTASK 23-75-03-010-001

- (2) Do this task: Lowered Ceiling Removal, TASK 25-21-71-000-801.

SUBTASK 23-75-03-860-002



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (3) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

**E. Video Switch Removal**

SUBTASK 23-75-03-020-001

- (1) Disconnect the electrical connectors [4] from the J2 receptacle.

SUBTASK 23-75-03-020-004

- (2) Remove the nut [8], washer [9], and jumper [5].

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**SIA 001-014**

**SUBTASK 23-75-03-020-002**

- (3) If it is necessary, remove the nut [3], washers [6], and lock washer [7] to disconnect the jumper [5] from the ground stud.

**SIA 015-999**

**SUBTASK 23-75-03-020-005**

- (4) If it is necessary, remove the nuts [3], washers [6], and lock washers [7] to disconnect the jumper [5] from the ground stud.

**SIA ALL**

**SUBTASK 23-75-03-020-003**

- (5) Remove the captive screws [2] that attach the video switch [1] to the support.

**SUBTASK 23-75-03-020-006**

- (6) Remove the video switch [1].

**SUBTASK 23-75-03-480-001**

- (7) Put protective covers on the J2 receptacle and electrical connectors [4].

———— **END OF TASK** ————

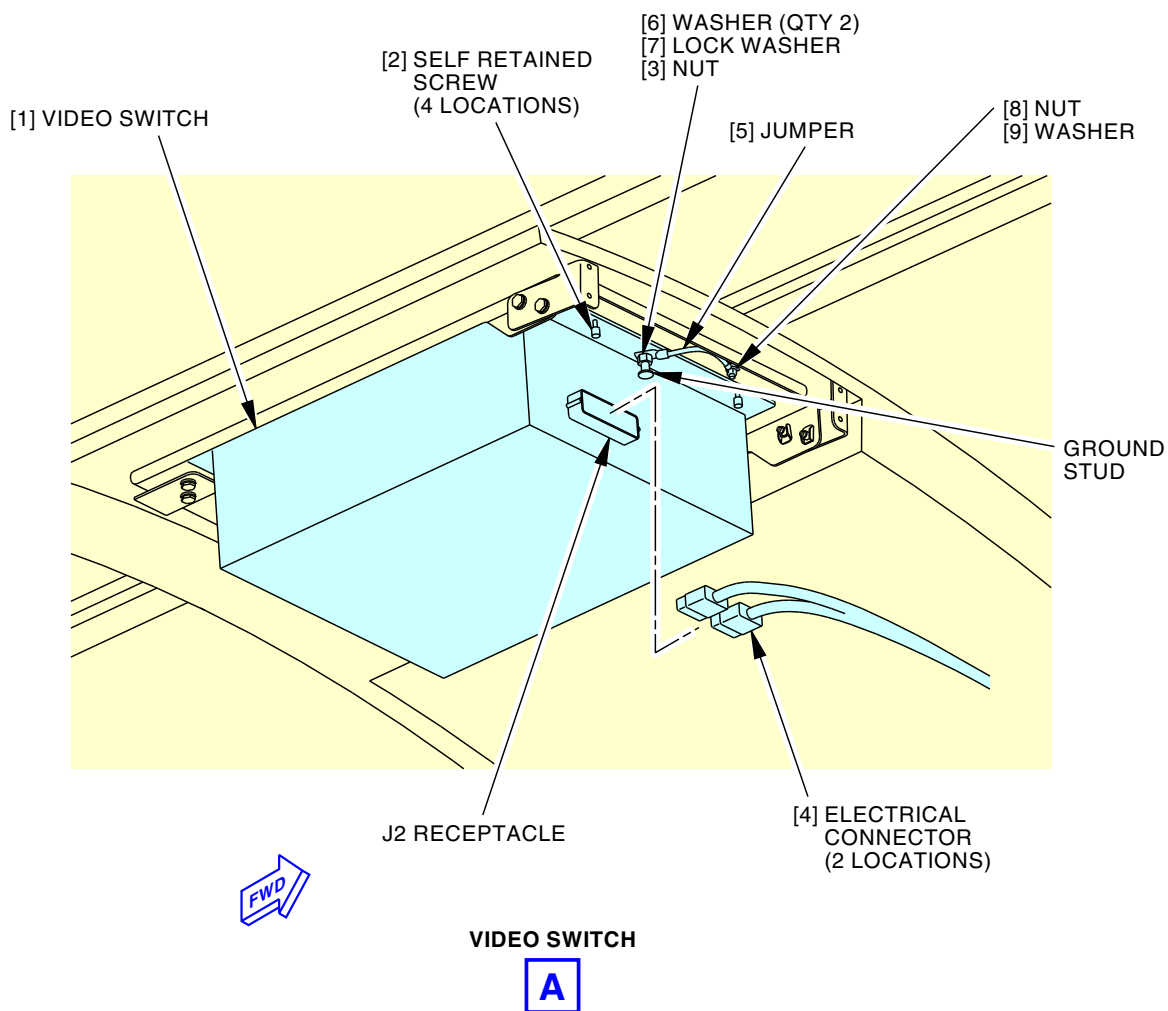
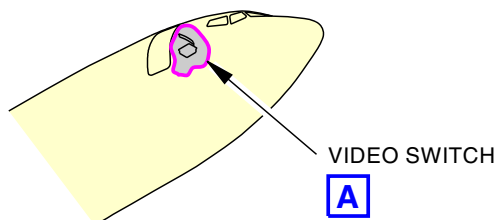
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2572918 S0000618048\_V2

**Video Switch Installation**  
Figure 401/23-75-03-990-801 (Sheet 1 of 2)

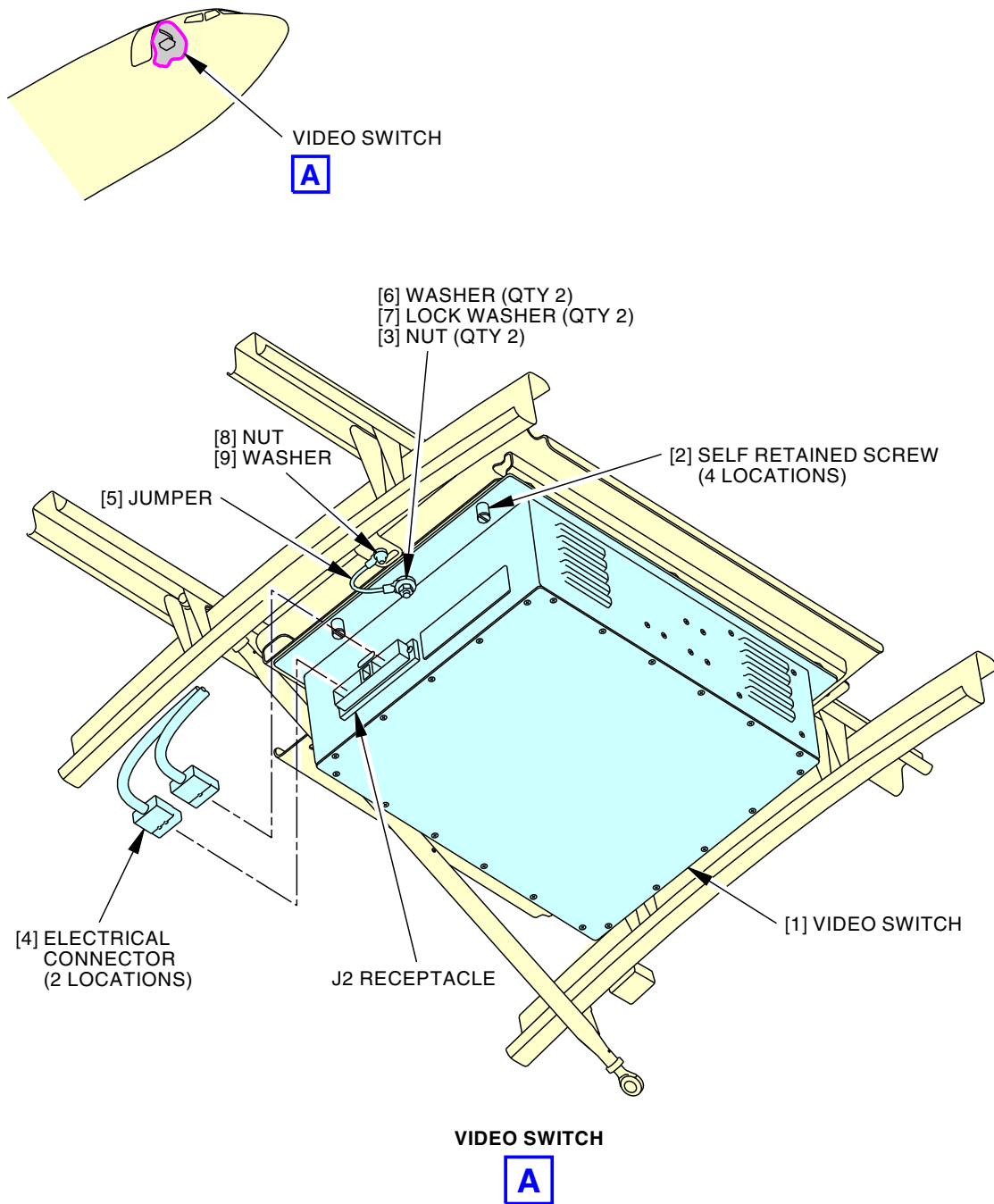
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2986422 S0000763959\_V1

**Video Switch Installation**  
**Figure 401/23-75-03-990-801 (Sheet 2 of 2)**

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TASK 23-75-03-400-801

3. Video Switch Installation

(Figure 401)

A. General

- (1) This task is for the installation of the video switch component of the flight deck entry video surveillance system.

B. References

| Reference        | Title                                                               |
|------------------|---------------------------------------------------------------------|
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201)         |
| 23-75-00-730-801 | Flight Deck Entry Video Surveillance System - System Test (P/B 501) |
| 25-21-71-400-801 | Lowered Ceiling Installation (P/B 401)                              |
| SWPM 20-20-00    | ELECTRICAL BONDING PROCESSES                                        |

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

| Reference | Description                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COM-614   | Bonding Meters - Non-Intrinsically Safe (For use in outside Class I, Divisions I & II non-hazardous locations. For hazardous locations, use COM-1550).<br>Part #: 247000 Supplier: 00426<br>Part #: 620LK Supplier: 1CRL2<br>Part #: BLR-0003-XX Supplier: KC432<br>Part #: BT51 Supplier: 00426<br>Part #: M1 Supplier: 3AD17<br>Part #: M1B Supplier: 3AD17<br>Part #: T477W (C15292) Supplier: 06659<br>Opt Part #: 247001 Supplier: 00426 |

D. Consumable Materials

| Reference | Description                                                          | Specification                                                      |
|-----------|----------------------------------------------------------------------|--------------------------------------------------------------------|
| B00130    | Alcohol - Isopropyl                                                  | TT-I-735                                                           |
| G00034    | Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze) | AMS3819 Class 1<br>Grade A or B Form 1<br>(Supersede BMS15-5 CL A) |

E. Expendables/Parts

| AMM Item | Description  | AIPC Reference  | AIPC Effectivity |
|----------|--------------|-----------------|------------------|
| 1        | Video switch | 23-75-03-01-020 | SIA 001-014      |
|          |              | 23-75-03-02-020 | SIA 015-999      |

F. Location Zones

| Zone | Area                                                                             |
|------|----------------------------------------------------------------------------------|
| 222  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right |

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### G. Video Switch Installation

SUBTASK 23-75-03-860-004



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (1) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-75-03-420-001

- (2) Put the video switch [1] in the support.

SUBTASK 23-75-03-420-005

- (3) Attach the video switch [1] to the base with the captive screws [2].

SUBTASK 23-75-03-420-006

- (4) Install the nut [8] and washer [9] to connect the jumper [5] to the airplane structure.
- (a) Use cotton wiper, G00034, moist in alcohol, B00130, to clean the mating surfaces of the airplane structure, ground stud, nut [8], washer [9], and jumper [5].
  - (b) Install the nut [8], washer [9], and jumper [5].
  - (c) Tighten the nut [8] to 28 in-lb (3 N·m) - 35 in-lb (4 N·m).
  - (d) Measure the electrical resistance between the terminal on the ground stud and airplane structure (SWPM 20-20-00).
    - 1) Use a non-intrinsically safe bonding meter, COM-614.
    - 2) Make sure that the electrical bonding resistance is 0.001 ohm (1.0 milliohm) or less.

#### SIA 001-014

SUBTASK 23-75-03-420-002

- (5) If it is removed, install the nut [3], washers [6], and lock washer [7] to connect the jumper [5] to the video switch [1].
- (a) Use cotton wiper, G00034, moist in alcohol, B00130, to clean the mating surfaces of the video switch [1], ground stud, nut [3], washers [6], lock washer [7], and jumper [5].
  - (b) Install the nut [3], washers [6], lock washer [7], and jumper [5].
  - (c) Tighten the nut [3] to 65 in-lb (7 N·m) - 70 in-lb (8 N·m).
  - (d) Measure the electrical resistance between the terminal on the ground stud and airplane structure (SWPM 20-20-00).
    - 1) Use a non-intrinsically safe bonding meter, COM-614.
    - 2) Make sure that the electrical bonding resistance is 0.001 ohm (1.0 milliohm) or less.

#### SIA 015-999

SUBTASK 23-75-03-420-004

- (6) If it is removed, install the nuts [3], washers [6], and lock washers [7] to connect the jumper [5] to the video switch [1].
- (a) Use cotton wiper, G00034, moist in alcohol, B00130, to clean the mating surfaces of the video switch [1], ground stud, nuts [3], washers [6], lock washers [7], jumper [5].
  - (b) Install the nuts [3], washers [6], lock washers [7], jumper [5].
  - (c) Tighten the nuts [3] to 65 in-lb (7 N·m) - 70 in-lb (8 N·m).

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**SIA 015-999 (Continued)**

- (d) Measure the electrical resistance between the terminal on the ground stud and airplane structure (SWPM 20-20-00).
  - 1) Use a non-intrinsically safe bonding meter, COM-614.
  - 2) Make sure that the electrical bonding resistance is 0.001 ohm (1.0 milliohm) or less.

**SIA ALL**

**SUBTASK 23-75-03-420-003**

- (7) Connect the electrical connectors [4] to the J2 receptacle.

**H. Put the Airplane Back to Its Usual Condition**

**SUBTASK 23-75-03-410-001**

- (1) Do this task: Lowered Ceiling Installation, TASK 25-21-71-400-801.

**SUBTASK 23-75-03-860-006**

- (2) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-5**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| B          | 1          | C01641        | SURVEILLANCE CAMERA |

**I. Video Switch Installation Test**

**SUBTASK 23-75-03-730-001**

- (1) Do this task: Flight Deck Entry Video Surveillance System - System Test, TASK 23-75-00-730-801.

———— **END OF TASK** ————

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CAMERA CONTROL UNIT - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the camera control unit
- (2) An installation of the camera control unit.

**TASK 23-75-04-000-801**

2. Camera Control Unit Removal

(Figure 401)

A. General

- (1) This task is for the removal of camera control units components of the flight deck entry video surveillance system.
- (2) This removal task is for these camera control units:
  - (a) Camera control unit 1 is installed on the back-side of the forward lowered ceiling close-out.
  - (b) Camera control unit 2 is installed on the forward entry doorway header 1L.
  - (c) Camera control unit 3 is installed on the forward galley doorway header 1R.

B. References

| Reference        | Title                                                      |
|------------------|------------------------------------------------------------|
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201)     |
| 25-21-30-020-801 | Forward Entry Door Doorway Header Panel Removal (P/B 401)  |
| 25-21-34-000-801 | Forward Galley Door Doorway Header Panel Removal (P/B 401) |
| 25-21-71-000-805 | Close Out Ceiling Panel Removal (P/B 401)                  |

C. Location Zones

| Zone | Area                                                                             |
|------|----------------------------------------------------------------------------------|
| 220  | Subzone - Passenger Compartment - Body Station 259.50 to 360.00                  |
| 222  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right |

D. Prepare for the Removal

**SUBTASK 23-75-04-860-001**

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-5**

| Row | Col | Number | Name                |
|-----|-----|--------|---------------------|
| B   | 1   | C01641 | SURVEILLANCE CAMERA |

**SUBTASK 23-75-04-010-001**

- (2) Get access to the applicable camera:
  - (a) To get access to camera control unit 1, do this task: Close Out Ceiling Panel Removal, TASK 25-21-71-000-805.
  - (b) To get access to camera control unit 2, do this task: Forward Entry Door Doorway Header Panel Removal, TASK 25-21-30-020-801.

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- (c) To get access to camera control unit 3, do this task: Forward Galley Door Doorway Header Panel Removal, TASK 25-21-34-000-801.

SUBTASK 23-75-04-860-002



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (3) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

**E. Camera Control Unit Removal**

SUBTASK 23-75-04-020-001

- (1) Remove camera control unit 1 as follows:
- (a) Disconnect the camera electrical connector [4] from the camera control unit [1].

**SIA 001-004**

- (b) Remove the pan head screws [2] and washers [3].

**SIA 005-999**

- (c) Remove the fairing screws [2] and spacers [5].

**SIA ALL**

- (d) Remove the camera control unit [1].

SUBTASK 23-75-04-020-004

- (2) Remove camera control unit 2 and camera control unit 3 as follows:
- (a) Disconnect the camera electrical connector [9] from the camera control unit [1].
- (b) Remove the screws [6], washers [7], and spacers [8].
- (c) Remove the camera control unit [1].

SUBTASK 23-75-04-480-001

- (3) Put protective covers on the wire connectors and receptacles.

———— **END OF TASK** ————

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SIA ALL

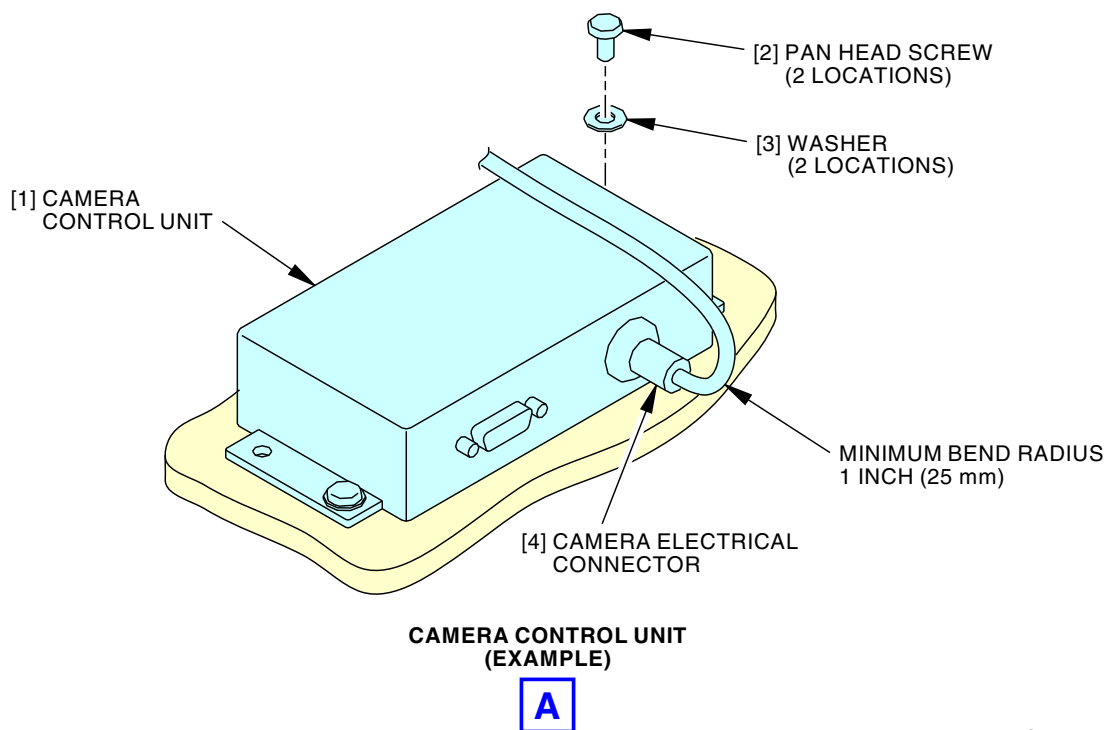
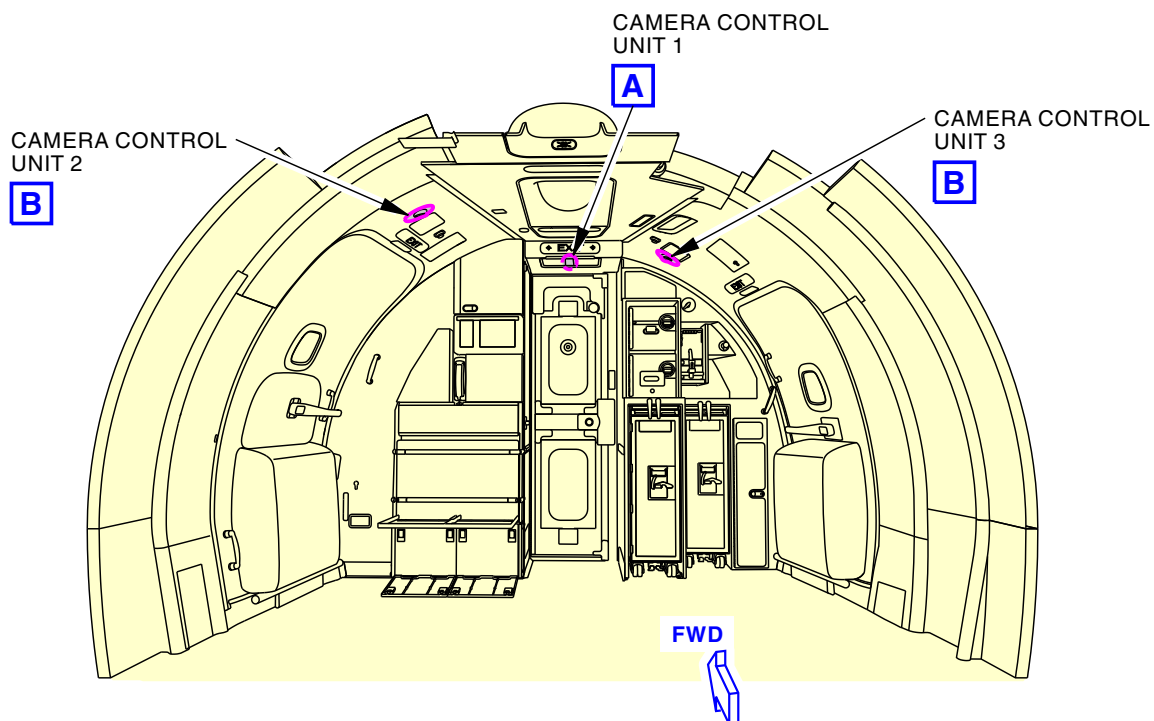
**23-75-04**

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2574304 S0000618136\_V2

Camera Control Unit Installation  
Figure 401/23-75-04-990-801 (Sheet 1 of 4)

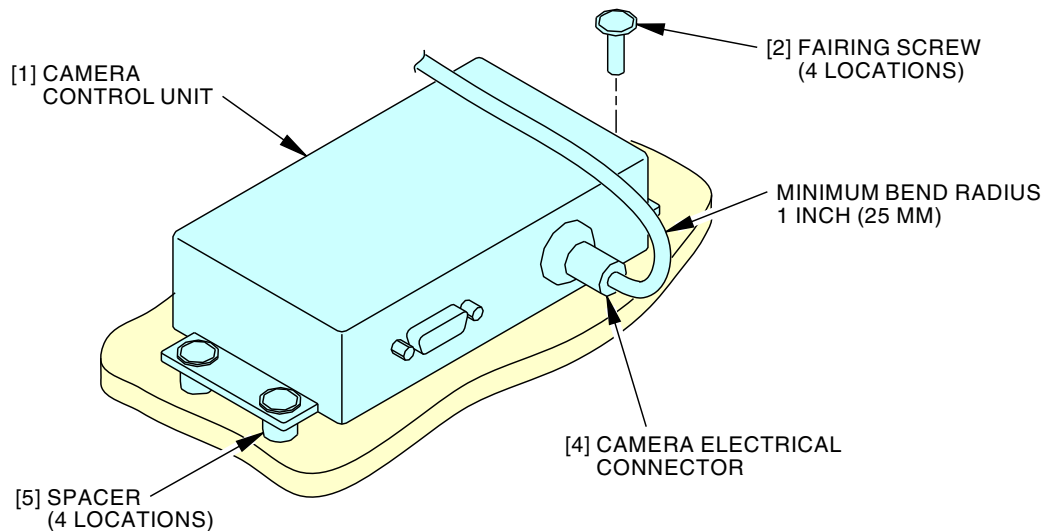
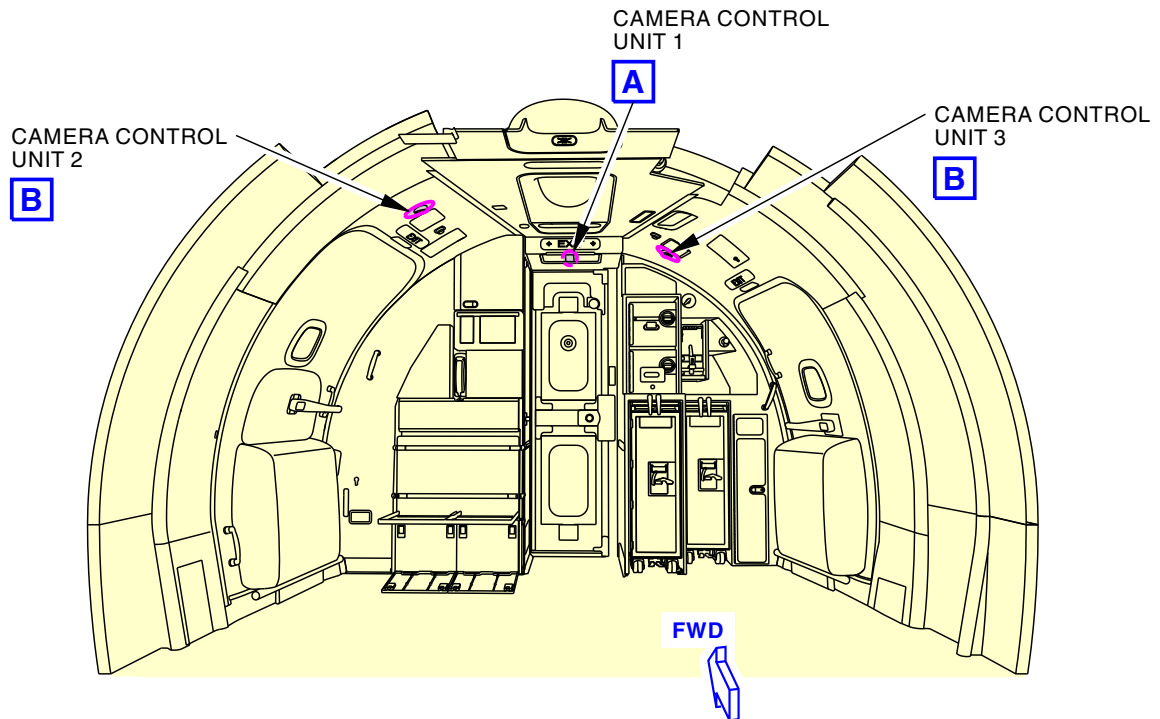
EFFECTIVITY  
SIA 001-004

**23-75-04**

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CAMERA CONTROL UNIT  
(EXAMPLE)

A

2986577 S0000763960\_V1

Camera Control Unit Installation  
Figure 401/23-75-04-990-801 (Sheet 2 of 4)

EFFECTIVITY  
SIA 005

23-75-04

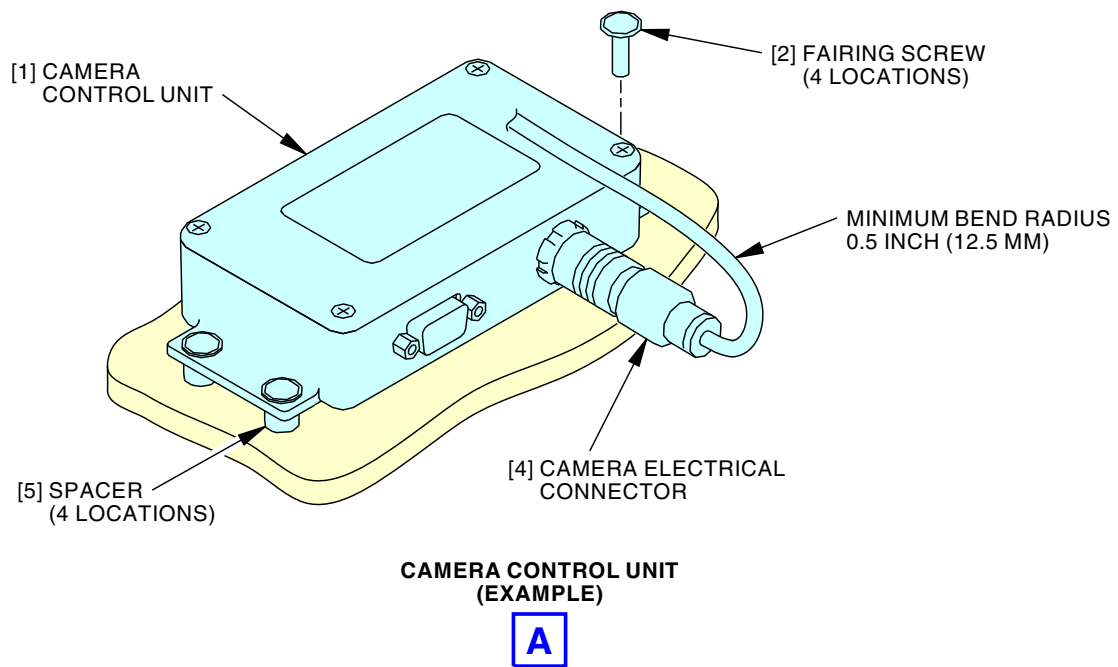
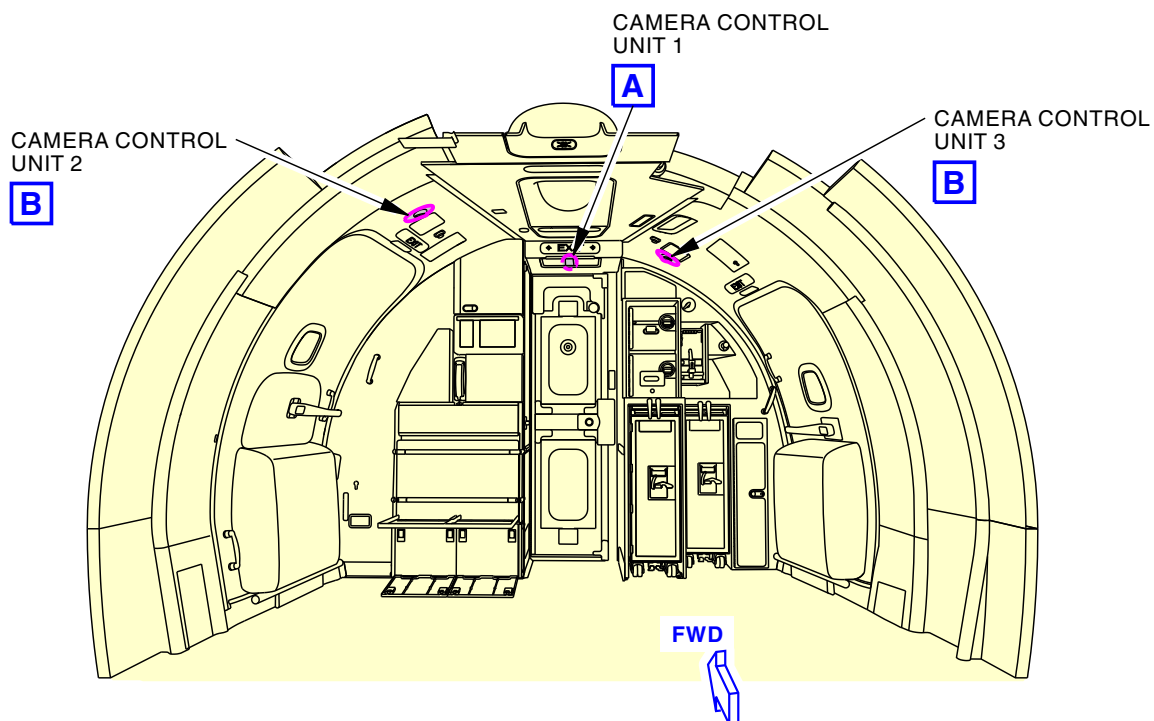
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2986576 S0000763961\_V1

Camera Control Unit Installation  
Figure 401/23-75-04-990-801 (Sheet 3 of 4)

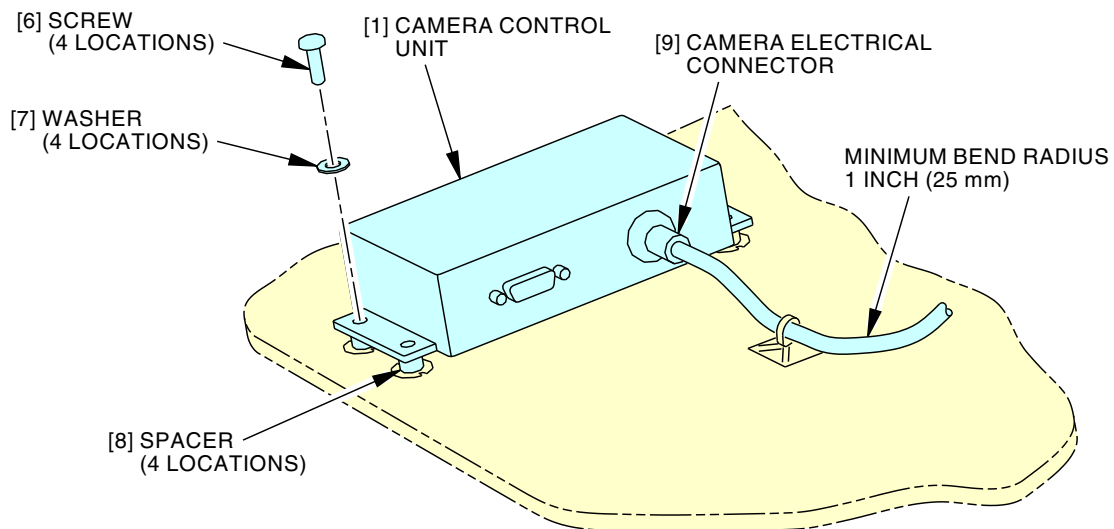
EFFECTIVITY  
SIA 006-999

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CAMERA CONTROL UNIT 2 AND CAMERA CONTROL UNIT 3  
(EXAMPLE)

**B**

2986578 S0000763962\_V1

Camera Control Unit Installation  
Figure 401/23-75-04-990-801 (Sheet 4 of 4)

EFFECTIVITY  
SIA ALL

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TASK 23-75-04-400-801

3. Camera Control Unit Installation

(Figure 401)

A. General

- (1) This task is for the installation of camera control units components of the flight deck entry video surveillance system.

B. References

| Reference        | Title                                                               |
|------------------|---------------------------------------------------------------------|
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201)         |
| 23-75-00-730-801 | Flight Deck Entry Video Surveillance System - System Test (P/B 501) |
| 25-21-30-420-801 | Forward Entry Door Doorway Header Panel Installation (P/B 401)      |
| 25-21-34-400-801 | Forward Galley Door Doorway Header Panel Installation (P/B 401)     |
| 25-21-71-400-805 | Close Out Ceiling Panel Installation (P/B 401)                      |

C. Expendables/Parts

| AMM Item | Description         | AIPC Reference  | AIPC Effectivity |
|----------|---------------------|-----------------|------------------|
| 1        | Camera control unit | 23-75-04-01-015 | SIA ALL          |
|          |                     | 23-75-04-01-110 | SIA ALL          |
|          |                     | 23-75-04-01-210 | SIA ALL          |

D. Location Zones

| Zone | Area                                                                             |
|------|----------------------------------------------------------------------------------|
| 220  | Subzone - Passenger Compartment - Body Station 259.50 to 360.00                  |
| 222  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right |

E. Camera Control Unit Installation

SUBTASK 23-75-04-860-004



**CAUTION**

DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (1) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-75-04-080-001

- (2) Remove the protective covers on the wire connectors and receptacles.

SUBTASK 23-75-04-420-001

- (3) Install camera control unit 1 as follows:

**SIA 001-004**

- (a) Attach the camera control unit [1] to the ceiling with the pan head screws [2] and washers [3].

EFFECTIVITY  
SIA ALL

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**SIA 005-999**

- (b) Attach the camera control unit [1] to the ceiling with the fairing screws [2] and spacers [5].

**SIA ALL**

- (c) Connect the electrical connector [4] to the camera control unit [1].

**SIA 001-005**



DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 INCH (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

- 1) Make sure that the bend radius of the camera wire is not less than 1 in. (25 mm).

**SIA 006-999**



DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 0.5 INCH (12.7 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

- 2) Make sure that the bend radius of the camera wire is not less than 0.5 in. (12.7 mm).

**SIA ALL**

- 3) When the door panel is closed, make sure that the close out seal on the door panel is underneath the camera wire and connector.

**SUBTASK 23-75-04-420-004**

- (4) Install camera control unit 2 and 3 as follows:

- (a) Attach the camera control unit [1] to the doorway header panel with the screws [6], washers [7], and spacers [8].  
(b) Connect the camera electrical connector [9] to the camera control unit [1].



DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 INCH (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

- 1) Make sure that the bend radius of the camera wire is not less than 1 in. (25 mm).

**F. Put the Airplane Back to Its Usual Condition**

**SUBTASK 23-75-04-410-002**

- (1) Close the access to the camera control unit as follows:

- (a) If you installed the camera control unit 1, do this task: Close Out Ceiling Panel Installation, TASK 25-21-71-400-805.  
(b) If you installed the camera control unit 2, do this task: Forward Entry Door Doorway Header Panel Installation, TASK 25-21-30-420-801.  
(c) If you installed the camera control unit 3, do this task: Forward Galley Door Doorway Header Panel Installation, TASK 25-21-34-400-801.

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SUBTASK 23-75-04-860-006

- (2) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-5**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| B          | 1          | C01641        | SURVEILLANCE CAMERA |

**G. Camera Control Unit Installation Test**

SUBTASK 23-75-04-730-001

- (1) Do this task: Flight Deck Entry Video Surveillance System - System Test, TASK 23-75-00-730-801.

————— **END OF TASK** —————

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ILLUMINATOR - REMOVAL/INSTALLATION

1. **General**

- A. This procedure has these tasks:
- (1) A removal of the Illuminator
  - (2) An installation of the Illuminator.
- B. One illuminator is installed adjacent to each video camera. These are the locations:
- (1) Illuminator 1, M3006, is at STA 285, BL 0, installed on the back-side of the forward lowered ceiling close-out.
  - (2) Illuminator 2, M3031, is at STA 338 LBL 28, installed on the forward entry doorway header 1L.
  - (3) Illuminator 3, M3010, is at STA 300, RBL 23, installed on the forward galley doorway header 1R.

**TASK 23-75-05-000-801**

2. **Illuminator - Removal**

(Figure 401)

**A. General**

- (1) The illuminators are components of the flight deck entry video surveillance system.
- (2) To remove the illuminator from the support, you must cut the wires on the aircraft-side of the splice.

**B. References**

| Reference        | Title                                                      |
|------------------|------------------------------------------------------------|
| 20-40-12-000-802 | ESDS Handling for Metal Encased Unit Removal (P/B 201)     |
| 25-21-30-020-801 | Forward Entry Door Doorway Header Panel Removal (P/B 401)  |
| 25-21-34-000-801 | Forward Galley Door Doorway Header Panel Removal (P/B 401) |
| 25-21-71-000-805 | Close Out Ceiling Panel Removal (P/B 401)                  |

**C. Location Zones**

| Zone | Area                                                                             |
|------|----------------------------------------------------------------------------------|
| 220  | Subzone - Passenger Compartment - Body Station 259.50 to 360.00                  |
| 222  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right |

**D. Prepare for the Removal**

SUBTASK 23-75-05-860-001

- (1) Open this circuit breaker and install safety tag:

**F/O Electrical System Panel, P6-5**

| Row | Col | Number | Name                |
|-----|-----|--------|---------------------|
| B   | 1   | C01641 | SURVEILLANCE CAMERA |

SUBTASK 23-75-05-010-001

- (2) Make sure that you have access to the applicable illuminator.
  - (a) To get access to illuminator 1, do this task: Close Out Ceiling Panel Removal, TASK 25-21-71-000-805.

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SIA ALL

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- (b) To get access to illuminator 2, do this task: Forward Entry Door Doorway Header Panel Removal, TASK 25-21-30-020-801.
- (c) To get access to illuminator 3, do this task: Forward Galley Door Doorway Header Panel Removal, TASK 25-21-34-000-801.

**E. Illuminator Removal**

SUBTASK 23-75-05-860-002



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (1) Before you touch the component, do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-40-12-000-802.

SUBTASK 23-75-05-020-001

- (2) Remove illuminator 1, M3006, as follows:
  - (a) From the ceiling panel, remove the self-locking nuts [2] and washers [3] that attach the illuminator [1] to the support [4].
  - (b) Cut the illuminator [1] cable on each side of the splice connector.
    - 1) Discard the splice connector.
  - (c) Remove the illuminator [1] and wire from the support [4].

SUBTASK 23-75-05-020-002

- (3) Remove illuminator 2, M3031, as follows:
  - (a) From the doorway header, remove the self-locking nuts [2] and washers [3] that attach the illuminator [1] to the support [5].
  - (b) Cut the illuminator [1] cable on each side of the splice connector.
    - 1) Discard the splice connector.
  - (c) Remove the illuminator [1] and wire from the support [5].

SUBTASK 23-75-05-020-003

- (4) Remove illuminator 3, M3010, as follows:
  - (a) From the doorway header, remove the self-locking nuts [2] and washers [3] that attach the illuminator [1] to the support [5].
  - (b) Cut the illuminator [1] cable on each side of the splice connector.
    - 1) Discard the splice connector.
  - (c) Remove the illuminator [1] and wire from the support [5].

————— **END OF TASK** —————

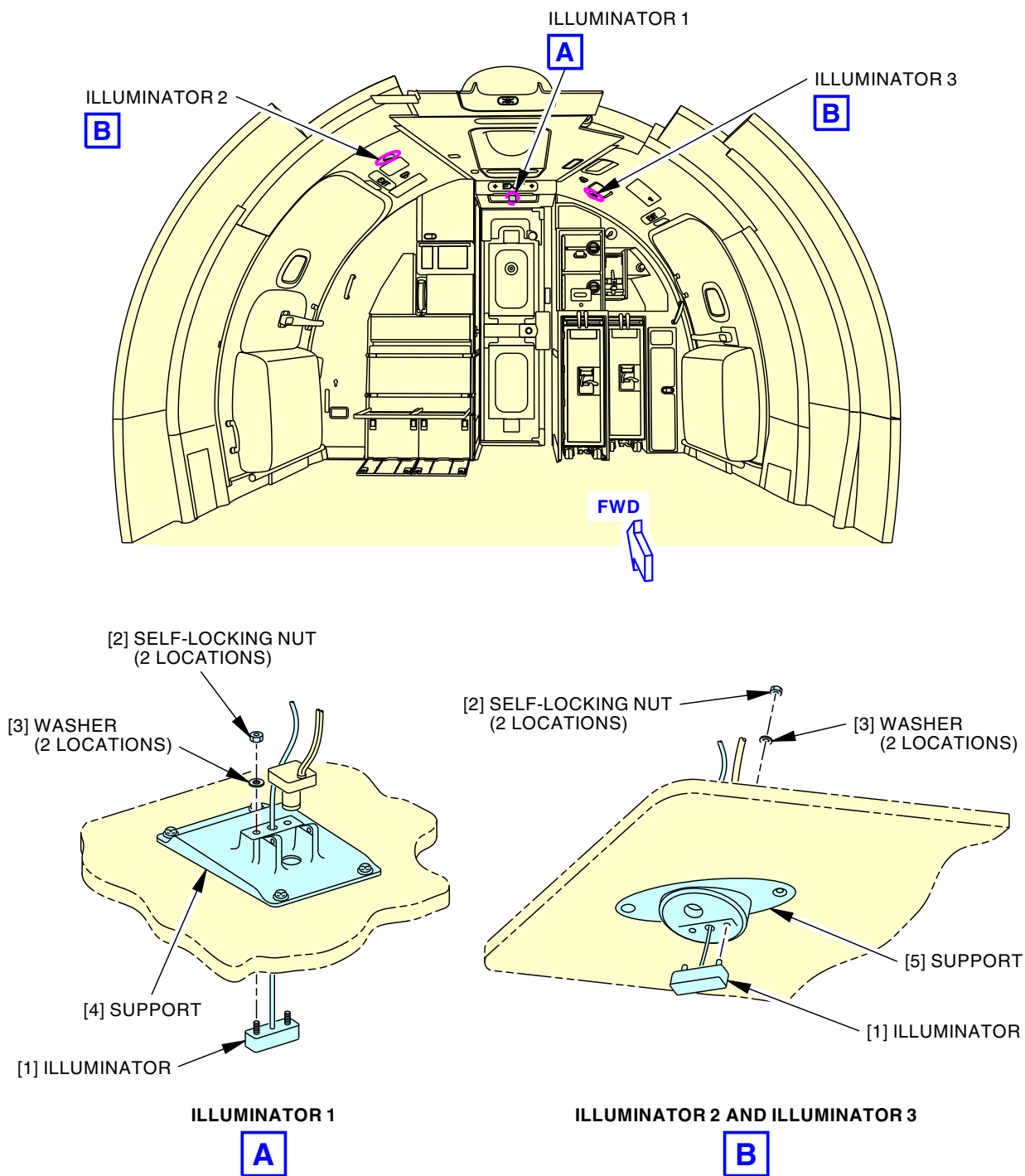
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SIA ALL

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2574614 S0000618634\_V2

ILLUMINATOR INSTALLATION  
Figure 401/23-75-05-990-801

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TASK 23-75-05-400-801

3. Illuminator - Installation

(Figure 401)

A. General

- (1) The three illuminators, M3006, M3031, M3010, are components of the flight deck entry video surveillance system.
- (2) You must install a new electrical splice on the illuminator after the cable is fed through the support.

B. References

| Reference        | Title                                                               |
|------------------|---------------------------------------------------------------------|
| 20-40-12-400-802 | ESDS Handling for Metal Encased Unit Installation (P/B 201)         |
| 23-75-00-730-801 | Flight Deck Entry Video Surveillance System - System Test (P/B 501) |
| 25-21-30-420-801 | Forward Entry Door Doorway Header Panel Installation (P/B 401)      |
| 25-21-34-400-801 | Forward Galley Door Doorway Header Panel Installation (P/B 401)     |
| 25-21-71-400-805 | Close Out Ceiling Panel Installation (P/B 401)                      |
| SWPM 20-30-12    | ASSEMBLY OF SPLICES                                                 |

C. Expendables/Parts

| AMM Item | Description | AIPC Reference  | AIPC Effectivity |
|----------|-------------|-----------------|------------------|
| 1        | Illuminator | 23-75-05-01-015 | SIA ALL          |
|          |             | 23-75-05-01-110 | SIA ALL          |
|          |             | 23-75-05-01-210 | SIA ALL          |

D. Location Zones

| Zone | Area                                                                             |
|------|----------------------------------------------------------------------------------|
| 220  | Subzone - Passenger Compartment - Body Station 259.50 to 360.00                  |
| 222  | Passenger Compartment - Aft of Control Compartment to Forward Entry Door - Right |

E. Illuminator Installation

SUBTASK 23-75-05-860-004



DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

- (1) Before you touch the component, do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-40-12-400-802.

SUBTASK 23-75-05-420-001



DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 INCH (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

- (2) Install illuminator 1, M3006 as follows:

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- (a) From the appearance-side of the support [4], insert the illuminator [1] cable through center hole.
  - 1) Seat the illuminator [1] completely against the support [4], with the two mounting studs inserted through the attachment holes.
- (b) Attach the illuminator [1] to the support [4] with the washers [3] and self-locking nuts [2].
- (c) Connect the illuminator [1] wire to the aircraft wiring with the splice connector (SWPM 20-30-12).

NOTE: 24V DC (volts direct current) from the video switch goes to RED.

SUBTASK 23-75-05-420-002



DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 INCH (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

- (3) Install illuminator 2, M3031 as follows:
  - (a) From the appearance-side of the support [5], insert the illuminator [1] cable through center hole.
    - 1) Seat the illuminator [1] completely against the support [5], with the two mounting studs inserted through the attachment holes.
  - (b) Attach the illuminator [1] to the support [5] with the washers [3] and self-locking nuts [2].
  - (c) Connect the illuminator [1] wire to the aircraft wiring with the splice connector (SWPM 20-30-12).

NOTE: 24V DC (volts direct current) from the video switch goes to RED.

SUBTASK 23-75-05-420-003



DO NOT PULL, TWIST, OR BEND THE CAMERA CABLE MORE THAN THE MINIMUM RADIUS OF 1 INCH (25 MM). IF YOU BEND, PULL, OR TWIST THE CABLE TOO MUCH, DAMAGE TO THE CABLE CAN OCCUR.

- (4) Install illuminator 3, M3010 as follows:
  - (a) From the appearance-side of the support [5], insert the illuminator [1] cable through center hole.
    - 1) Seat the illuminator [1] completely against the support [5], with the two mounting studs inserted through the attachment holes.
  - (b) Attach the illuminator [1] to the support [5] with the washers [3] and self-locking nuts [2].
  - (c) Connect the illuminator [1] wire to the aircraft wiring with the splice connector (SWPM 20-30-12).

NOTE: 24V DC (volts direct current) from the video switch goes to RED.

SUBTASK 23-75-05-860-005

- (5) Remove the safety tag and close this circuit breaker:

**F/O Electrical System Panel, P6-5**

| <u>Row</u> | <u>Col</u> | <u>Number</u> | <u>Name</u>         |
|------------|------------|---------------|---------------------|
| B          | 1          | C01641        | SURVEILLANCE CAMERA |

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SUBTASK 23-75-05-730-001

- (6) Do this task: Flight Deck Entry Video Surveillance System - System Test, TASK 23-75-00-730-801.

**F. Put the Airplane Back to Its Usual Condition**

SUBTASK 23-75-05-410-001

- (1) Put the applicable ceiling panel and doorway header panels back to their usual condition.
- (a) Do this task: Close Out Ceiling Panel Installation, TASK 25-21-71-400-805.
  - (b) Do this task: Forward Entry Door Doorway Header Panel Installation, TASK 25-21-30-420-801.
  - (c) Do this task: Forward Galley Door Doorway Header Panel Installation, TASK 25-21-34-400-801.

————— **END OF TASK** —————

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