

CHAPTER

77

**ENGINE
INDICATING**

(LEAP-1B ENGINES)

737-7/8/8200/9/10 AIRCRAFT MAINTENANCE MANUAL

CHAPTER 77 ENGINE INDICATING

Subject/Page	Date	COC	Subject/Page	Date	COC	Subject/Page	Date	COC
77-EFFECTIVE PAGES			77-12-03			77-21-01 (cont)		
1 thru 2	Sep 15/2023		401	Jan 15/2023		418	BLANK	
77-CONTENTS			402	May 15/2022		77-21-04		
1	Sep 15/2021		403	Sep 15/2021		401	Jan 15/2023	
2	Sep 15/2021		R 404	Sep 15/2023		402	Jan 15/2023	
77-12-00			77-21-00			403	Sep 15/2021	
601	Sep 15/2021		601	Sep 15/2021		404	Sep 15/2021	
602	Jan 15/2023		602	Jan 15/2023		405	Sep 15/2021	
603	Sep 15/2021		603	Sep 15/2021		406	Sep 15/2021	
604	Sep 15/2021		604	Sep 15/2021		407	Sep 15/2021	
605	Sep 15/2021		605	Sep 15/2021		408	Sep 15/2021	
606	Sep 15/2021		606	Sep 15/2021		409	Sep 15/2021	
607	Sep 15/2021		607	Sep 15/2021		410	Sep 15/2021	
608	Sep 15/2021		608	Sep 15/2021		411	Sep 15/2021	
609	Sep 15/2021		609	Sep 15/2021		412	Sep 15/2021	
610	Sep 15/2021		610	Sep 15/2021		413	May 15/2023	
611	Sep 15/2021		611	Sep 15/2021		414	Sep 15/2021	
612	BLANK		612	Sep 15/2021		415	Sep 15/2021	
77-12-01			613	Sep 15/2021		416	Sep 15/2021	
401	Jan 15/2023		614	BLANK		417	Sep 15/2021	
402	May 15/2023		77-21-01			418	Sep 15/2021	
403	May 15/2023		401	Jan 15/2023		77-21-05		
404	May 15/2023		402	Jan 15/2023		401	Jan 15/2023	
405	Sep 15/2021		403	Jan 15/2023		402	Jan 15/2023	
406	May 15/2023		404	Sep 15/2021		403	Sep 15/2021	
407	May 15/2022		405	Sep 15/2021		404	Sep 15/2021	
408	May 15/2022		406	Sep 15/2021		405	Sep 15/2021	
77-12-02			407	Sep 15/2021		406	Sep 15/2021	
401	Jan 15/2023		408	Sep 15/2021		407	Sep 15/2021	
402	Sep 15/2021		409	Sep 15/2021		408	Sep 15/2021	
403	Sep 15/2021		410	Sep 15/2021		409	May 15/2023	
404	Sep 15/2021		411	May 15/2023		410	Sep 15/2021	
405	Sep 15/2021		412	Jan 15/2023		411	Sep 15/2021	
406	May 15/2023		413	Sep 15/2021		412	Sep 15/2021	
407	Sep 15/2021		414	Sep 15/2021		413	Sep 15/2021	
408	Sep 15/2021		415	Jan 15/2023		414	BLANK	
			416	Sep 15/2021				
			417	Sep 15/2021				

A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

77-EFFECTIVE PAGES

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

**CHAPTER 77
ENGINE INDICATING**

Subject/Page	Date	COC	Subject/Page	Date	COC	Subject/Page	Date	COC
77-31-06								
R 401	Sep 15/2023							
O 402	Sep 15/2023							
R 403	Sep 15/2023							
404	Sep 15/2021							
405	Sep 15/2021							
R 406	Sep 15/2023							
R 407	Sep 15/2023							
O 408	Sep 15/2023							

A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

77-EFFECTIVE PAGES

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

**CHAPTER 77
ENGINE INDICATING**

<u>SUBJECT</u>	<u>CHAPTER SECTION SUBJECT</u>	<u>CONF</u>	<u>PAGE</u>	<u>EFFECT</u>
<u>ENGINE TACHOMETER SYSTEM - INSPECTION/CHECK</u>	77-12-00		601	SIA ALL
Engine Tachometer Inspection TASK 77-12-00-210-801-G00			601	SIA ALL
<u>N1 SPEED SENSOR - REMOVAL/INSTALLATION</u>	77-12-01		401	SIA ALL
N1 Speed Sensor Removal TASK 77-12-01-000-801-G00			401	SIA ALL
N1 Speed Sensor Installation TASK 77-12-01-400-801-G00			406	SIA ALL
<u>N2 SPEED SENSOR - REMOVAL/INSTALLATION</u>	77-12-02		401	SIA ALL
N2 Speed Sensor Removal TASK 77-12-02-000-801-G00			401	SIA ALL
N2 Speed Sensor Installation TASK 77-12-02-400-801-G00			406	SIA ALL
<u>N1 SPEED SENSOR SHIM - REMOVAL/INSTALLATION</u>	77-12-03		401	SIA ALL; AIRPLANES WITH POST LEAP-1B SB 72-0127
N1 Speed Sensor Shim Removal TASK 77-12-03-000-801-G00			401	SIA ALL; AIRPLANES WITH POST LEAP-1B SB 72-0127
N1 Speed Sensor Shim Installation TASK 77-12-03-400-801-G00			404	SIA ALL; AIRPLANES WITH POST LEAP-1B SB 72-0127
<u>ENGINE TEMPERATURE SENSING SYSTEM - INSPECTION/CHECK</u>	77-21-00		601	SIA ALL
Engine Temperature Sensing System Inspection TASK 77-21-00-210-801-G00			601	SIA ALL
EGT System Degradation System Test TASK 77-21-00-730-801-G00			612	SIA ALL
<u>EXHAUST GAS TEMPERATURE (EGT) SENSORS - REMOVAL/INSTALLATION</u>	77-21-01		401	SIA ALL
Exhaust Gas Temperature Sensors Removal TASK 77-21-01-000-801-G00			401	SIA ALL
Exhaust Gas Temperature Sensors Installation TASK 77-21-01-400-801-G00			411	SIA ALL

77-CONTENTS

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

**CHAPTER 77
ENGINE INDICATING**

<u>SUBJECT</u>	<u>CHAPTER SECTION SUBJECT</u>	<u>CONF</u>	<u>PAGE</u>	<u>EFFECT</u>
<u>EXHAUST GAS TEMPERATURE SENSOR HARNESS 1 - REMOVAL/INSTALLATION</u>	77-21-04		401	SIA ALL
Exhaust Gas Temperature Sensor Harness 1 Removal TASK 77-21-04-000-801-G00			401	SIA ALL
Exhaust Gas Temperature Sensor Harness 1 Installation TASK 77-21-04-400-801-G00			413	SIA ALL
<u>EXHAUST GAS TEMPERATURE SENSOR HARNESS 2 - REMOVAL/INSTALLATION</u>	77-21-05		401	SIA ALL
Exhaust Gas Temperature Sensor Harness 2 Removal TASK 77-21-05-000-801-G00			401	SIA ALL
Exhaust Gas Temperature Sensor Harness 2 Installation TASK 77-21-05-400-801-G00			409	SIA ALL
<u>TURBINE CENTER FRAME ACCELEROMETER - REMOVAL/INSTALLATION</u>	77-31-06		401	SIA ALL
Turbine Center Frame Accelerometer Removal TASK 77-31-06-000-801-G00			401	SIA ALL
Turbine Center Frame Accelerometer Installation TASK 77-31-06-400-801-G00			406	SIA ALL

77-CONTENTS

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

ENGINE TACHOMETER SYSTEM - INSPECTION/CHECK

1. General

- A. This procedure has one task:
- (1) Engine tachometer inspection.

TASK 77-12-00-210-801-G00

2. Engine Tachometer Inspection

(Figure 601 and Figure 602)

A. General

- (1) This task gives the instructions for the visual inspection of the engine tachometer system (N1 and N2 speed sensor).

B. References

Reference	Title
71-11-04-010-801-G00	Open the Fan Cowl Panels (Selection) (P/B 201)
71-11-04-410-801-G00	Close the Fan Cowl Panels (Selection) (P/B 201)
77-12-01-000-801-G00	N1 Speed Sensor Removal (P/B 401)
77-12-01-400-801-G00	N1 Speed Sensor Installation (P/B 401)
77-12-02-000-801-G00	N2 Speed Sensor Removal (P/B 401)
77-12-02-400-801-G00	N2 Speed Sensor Installation (P/B 401)
78-31-00-010-801-G00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-010-802-G00	Close the Thrust Reverser (Selection) (P/B 201)
78-31-00-040-801-G00	Thrust Reverser Deactivation For Ground Maintenance (P/B 201)
78-31-00-440-801-G00	Thrust Reverser Activation After Ground Maintenance (P/B 201)

C. Tools/Equipment

Reference	Description
STD-858	Tag - DO NOT OPERATE

D. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

E. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2

EFFECTIVITY
SIA ALL

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-12-00

Page 601
Sep 15/2021

737-7/8/8200/9/10 AIRCRAFT MAINTENANCE MANUAL

F. Prepare for the Inspection

SUBTASK 77-12-00-860-001-G00

- (1) Do these steps to make sure that the ENGINE START switch and the START LEVER switch are not operated:
 - (a) Make sure that the applicable ENGINE START switch, on the P5 overhead panel, is in the AUTO or OFF position.
 - 1) Put a DO NOT OPERATE tag, STD-858, on the applicable ENGINE START switch.
 - (b) Make sure that the applicable START LEVER switch, on the P10 control stand, is in the CUTOFF position.
 - 1) Put a DO NOT OPERATE tag, STD-858, on the applicable START LEVER switch.

SUBTASK 77-12-00-010-001-G00

- (2) Do these tasks in sequence to safely open the left and right thrust reversers on the applicable engine:



WARNING

DO THE DEACTIVATION PROCEDURE FOR THE THRUST REVERSER TO PREVENT THE OPERATION OF THE THRUST REVERSER. ACCIDENTAL OPERATION OF THE THRUST REVERSER CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

- (a) Do this task: Thrust Reverser Deactivation For Ground Maintenance, TASK 78-31-00-040-801-G00.
- (b) Open the applicable left or right fan cowl panels (TASK 71-11-04-010-801-G00).
 - 1) Open these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2



WARNING

OBEY THE INSTRUCTIONS IN THE PROCEDURE TO OPEN THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (c) Open the applicable left or right thrust reversers (TASK 78-31-00-010-801-G00).
 - 1) Open these access panels:

<u>Number</u>	<u>Name/Location</u>
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2

SUBTASK 77-12-00-010-002-G00

- (3) Do this task: N1 Speed Sensor Removal, TASK 77-12-01-000-801-G00.

SUBTASK 77-12-00-010-003-G00

- (4) Do this task: N2 Speed Sensor Removal, TASK 77-12-02-000-801-G00.

EFFECTIVITY
SIA ALL

77-12-00

D633AM101-SIA

Page 602
Jan 15/2023

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL****G. Engine Tachometer Inspection**

SUBTASK 77-12-00-212-001-G00

- (1) Do the visual inspection of the N1 speed sensor [1] as follows (Figure 601):
- (a) Examine the visible surfaces on zones A, B, E, F, FF, G, GG, H, HH, M, T, and S for these conditions:
 - 1) Cracks, dents, scoring/scratches, erosion/peening, corrosion
 - a) Not permitted.
 - b) Replace the N1 speed sensor [1].
 - (b) Deposits
 - 1) Permitted if the identification is readable visually with or without an optical device.

SUBTASK 77-12-00-212-002-G00

- (2) Do the visual inspection of the N2 speed sensor [2] as follows:
- (a) Examine the surfaces on zones P, J, and the gaskets in zone K and Q for these conditions (Figure 602 (Sheet 3)):
 - 1) Nicks, scoring, scratch
 - a) Permitted up to 0.002 in. (0.05 mm) maximum depth, 0.01 in. (0.25 mm) maximum bottom of radius and the identification on zone J is readable visually with or without an optical device.
 - b) Not permitted if more than the limits or the identification is not readable.
 - <1> Replace the N2 speed sensor [2].
 - 2) Tears on the gaskets
 - a) Not permitted.
 - <1> Replace the N2 speed sensor [2].
 - 3) Deposits
 - a) Permitted if the identification is readable visually with or without an optical device.
 - (b) Examine the surface on zone F for these conditions (Figure 602 (Sheet 3)):
 - 1) Nicks, scoring, scratch
 - a) Permitted up to 0.008 in. (0.20 mm) maximum depth and 0.01 in. (0.25 mm) maximum bottom of radius.
 - b) Not permitted if more than the limits.
 - <1> Replace the N2 speed sensor [2].
 - (c) Examine the connector in zone G, and the screws in zones L, and M for these conditions (Figure 602 (Sheet 3)):
 - 1) Nicks, scoring, scratch
 - a) Permitted up to 0.004 in. (0.10 mm) maximum depth and 0.01 in. (0.25 mm) maximum bottom of radius.
 - b) Not permitted if more than the limits.
 - <1> Replace the N2 speed sensor [2].
 - (d) Examine the surfaces on zones G, H, and I for these conditions (Figure 602 (Sheet 2)):
 - 1) Cracks, dents, corrosion, erosion, peening, scorings, scratches, nicks, and bent pins

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

- a) Not permitted.
- b) Replace the N2 speed sensor [2].
- 2) Deposits
 - a) Permitted if the identification is readable visually with or without an optical device.
- (e) Examine the engraved identification in zone F (housing) (Figure 602 (Sheet 2)):
 - 1) The engraved identification is not readable or missing.
 - a) Not permitted.
 - b) Replace the N2 speed sensor [2].

H. Put the Airplane Back to Its Usual Condition

SUBTASK 77-12-00-410-002-G00

- (1) Do this task: N1 Speed Sensor Installation, TASK 77-12-01-400-801-G00.

SUBTASK 77-12-00-410-003-G00

- (2) Do this task: N2 Speed Sensor Installation, TASK 77-12-02-400-801-G00.

SUBTASK 77-12-00-410-001-G00



OBEY THE INSTRUCTIONS IN THE PROCEDURE TO CLOSE THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (3) Do these tasks in sequence to safely close the applicable left or right thrust reversers:
- (a) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-802-G00.
 - 1) Close these access panels:

<u>Number</u>	<u>Name/Location</u>
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2
 - (b) Do this task: Close the Fan Cowl Panels (Selection), TASK 71-11-04-410-801-G00.
 - 1) Close these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
 - (c) Do this task: Thrust Reverser Activation After Ground Maintenance, TASK 78-31-00-440-801-G00.

SUBTASK 77-12-00-860-002-G00

- (4) Do these steps to remove the DO NOT OPERATE tags, STD-858, from the applicable ENGINE START switch and START LEVER switch:
- (a) On the P5 overhead panel, remove the DO NOT OPERATE tag, STD-858, from the applicable ENGINE START switch.

EFFECTIVITY
SIA ALL

77-12-00

D633AM101-SIA

Page 604
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

- (b) On the P10 control stand, remove the DO NOT OPERATE tag, STD-858, from the applicable START LEVER switch.

———— **END OF TASK** ————

EFFECTIVITY
SIA ALL

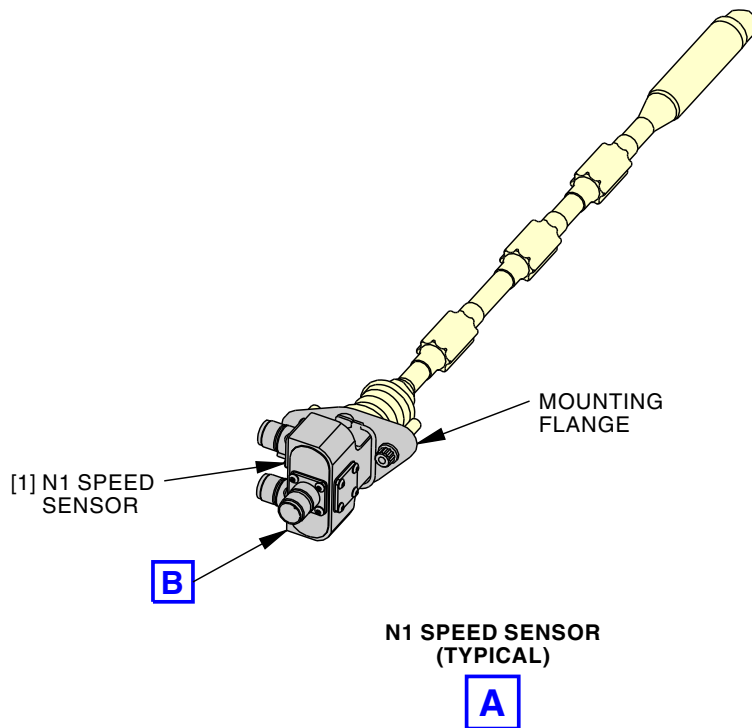
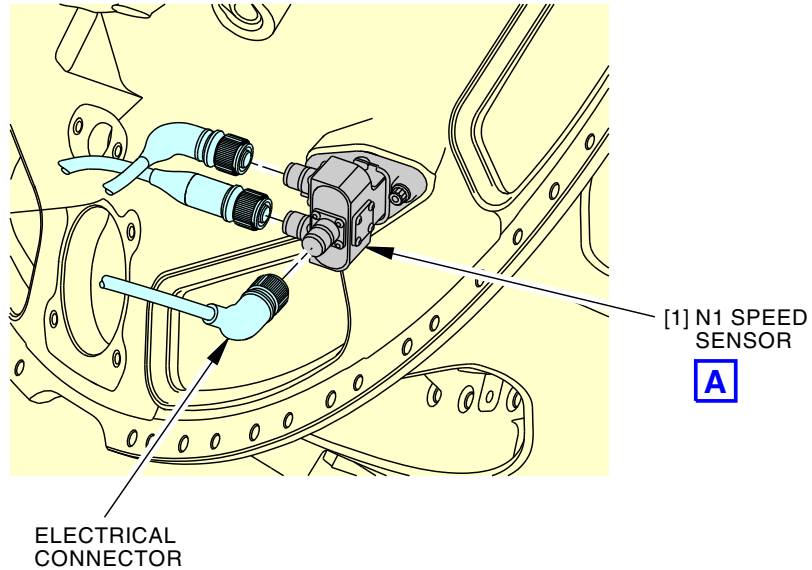
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-12-00

Page 605
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



2572897 S0000618080_V2

Engine N1 Speed Sensor Inspection
Figure 601/77-12-00-990-801-G00 (Sheet 1 of 3)

EFFECTIVITY
SIA ALL

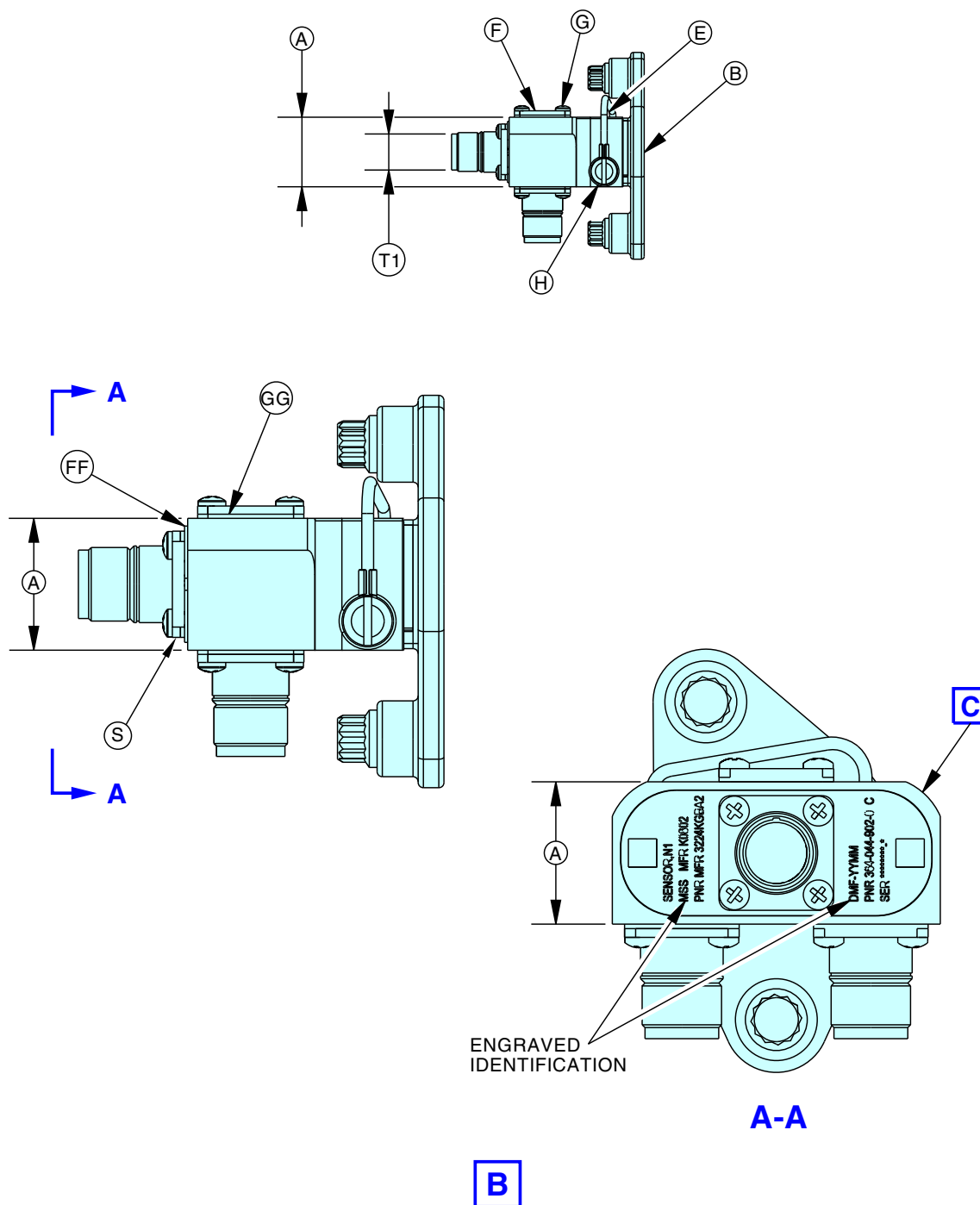
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-12-00

Page 606
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



ICN-LEAP-1B-771200-B-F0301-A0021-A-001-01

2572913 S0000618081_V1

Engine N1 Speed Sensor Inspection
Figure 601/77-12-00-990-801-G00 (Sheet 2 of 3)

EFFECTIVITY
SIA ALL

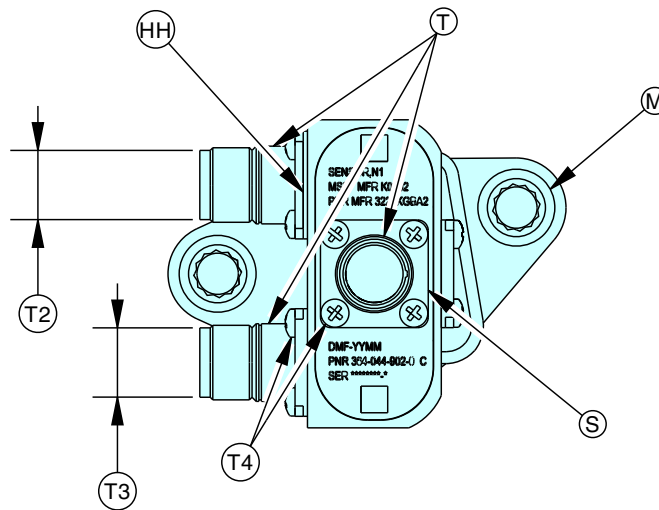
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-12-00

Page 607
Sep 15/2021

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**



ROTATED 90°

C

ZONE	DESCRIPTION
A	CONNECTOR HOUSING
B	MOUNTING FLANGE
S	CONNECTOR PLATE
E	BONDING STRAP
F	LID
G	LID FIXINGS
H	BONDING STRAP FIXINGS
M	ATTACHMENT FIXINGS
T	CONNECTOR
T1	CONNECTOR B
T2	CONNECTOR A
T3	CONNECTOR C
T4	CONNECTOR FIXINGS
FF	CONNECTOR GASKET
GG	CONNECTOR GASKET
HH	CONNECTOR GASKET

ICN-LEAP-1B-771200-B-F0301-A0022-A-001-01
2573222 S0000618082_V1

**Engine N1 Speed Sensor Inspection
Figure 601/77-12-00-990-801-G00 (Sheet 3 of 3)**

EFFECTIVITY
SIA ALL

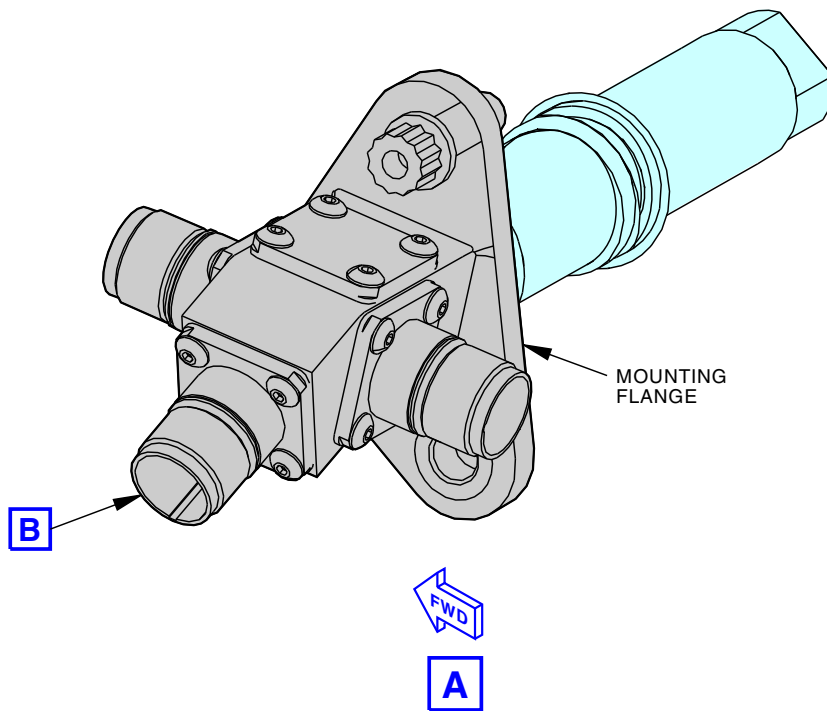
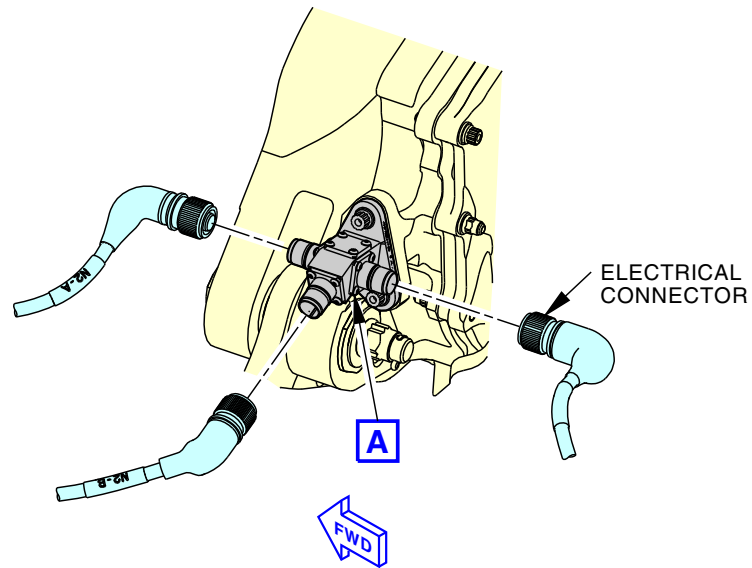
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-12-00

Page 608
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



ICN-LEAP-1B-771200-B-F0301-A0004-A-001-01
2573181 S0000618083_V1

Engine N2 Speed Sensor Inspection
Figure 602/77-12-00-990-803-G00 (Sheet 1 of 3)

EFFECTIVITY
SIA ALL

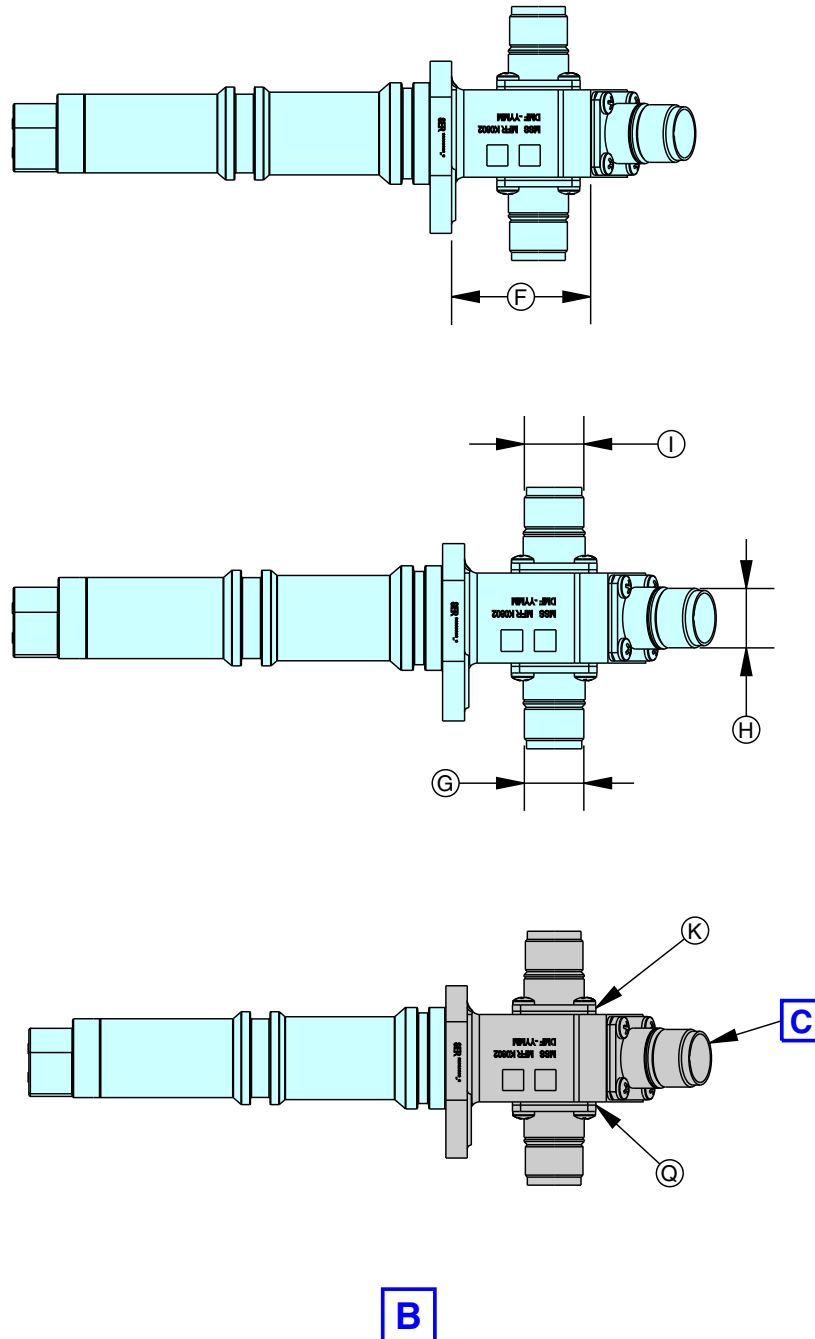
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-12-00

Page 609
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



ICN-LEAP-1B-771200-B-F0301-A0023-A-001-01
2573206 S0000618084_V1

Engine N2 Speed Sensor Inspection
Figure 602/77-12-00-990-803-G00 (Sheet 2 of 3)

EFFECTIVITY
SIA ALL

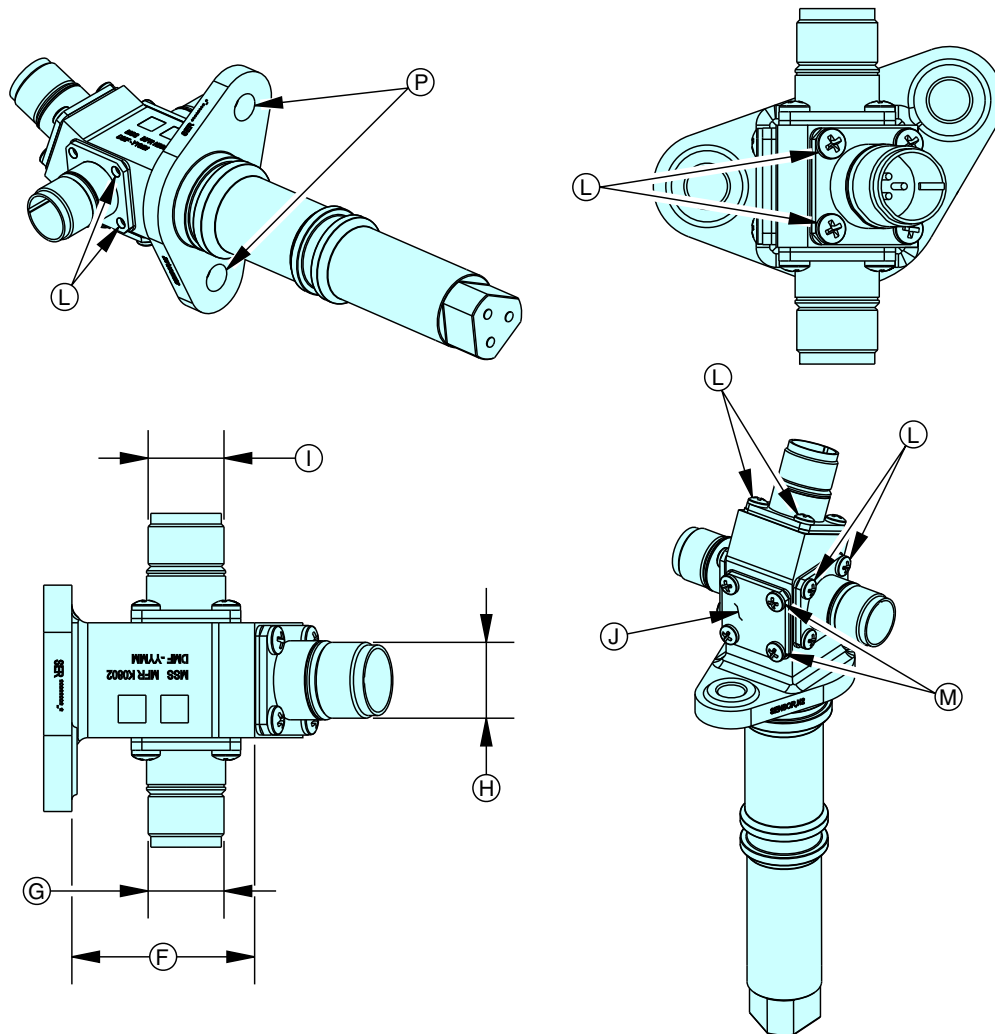
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-12-00

Page 610
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



C

ZONE	DESCRIPTION
F	HOUSING
G	CONNECTOR - 3
H	CONNECTOR - 1
I	CONNECTOR - 2
J	LID

K	GASKET, CONNECTOR - 2
L	FASTENING SCREWS - CONNECTORS TO HOUSING
M	FASTENING SCREWS - LID TO HOUSING
P	FLANGE MOUNTING HOLES
Q	GASKET, CONNECTOR - 3

ICN-LEAP-1B-771200-B-F0301-A0024-A-001-01
2573209 S0000618085_V1

Engine N2 Speed Sensor Inspection
Figure 602/77-12-00-990-803-G00 (Sheet 3 of 3)

EFFECTIVITY
SIA ALL

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-12-00

Page 611
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

N1 SPEED SENSOR - REMOVAL/INSTALLATION

1. General

- A. This procedure has two tasks:
- (1) N1 speed sensor removal
 - (2) N1 speed sensor installation.

TASK 77-12-01-000-801-G00

2. N1 Speed Sensor Removal

(Figure 401)

A. General

- (1) This task gives the instructions on how to remove the N1 speed sensor.

B. References

Reference	Title
70-00-01-910-803-G00	Electrical Connector Disconnection and Connection (P/B 201)
71-11-04-010-801-G00	Open the Fan Cowl Panels (Selection) (P/B 201)
72-23-04-000-801-G00	Fan Frame Module Segment Shrouds Removal (P/B 401)
77-12-03-000-801-G00	N1 Speed Sensor Shim Removal (P/B 401)
78-31-00-010-801-G00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-040-801-G00	Thrust Reverser Deactivation For Ground Maintenance (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-4316	Fiberscope - Flexible Borescope Part #: IF2D5 Supplier: 32212 Part #: IF6C5X1-8 Supplier: 32212 Opt Part #: 7110561 Supplier: 32212
STD-203	Container - Oil Resistant, 1 U.S.-Gal (3.8 l)
STD-664	Pliers - Teflon-jawed (or Equivalent Soft-Jawed)
STD-6547	Thermometer - 0 to 350 deg F Range
STD-10718	Fiberscope (Meets General Electric or CFM Standard Practices Manual Specification)

D. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

E. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
416	Right Thrust Reverser, Engine 1

EFFECTIVITY
SIA ALL

77-12-01

D633AM101-SIA

Page 401
Jan 15/2023

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

(Continued)

Number	Name/Location
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
426	Right Thrust Reverser, Engine 2

F. Prepare for the Removal

SUBTASK 77-12-01-010-001-G00

- (1) Do these tasks in sequence to safely open the right thrust reverser on the applicable engine:

**WARNING**

DO THE DEACTIVATION PROCEDURE FOR THE THRUST REVERSER TO PREVENT THE OPERATION OF THE THRUST REVERSER. ACCIDENTAL OPERATION OF THE THRUST REVERSER CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

- (a) Do this task: Thrust Reverser Deactivation For Ground Maintenance, TASK 78-31-00-040-801-G00.

**CAUTION**

IF FAN COWLS ARE INSTALLED, MAKE SURE THAT LEFT AND RIGHT FAN COWLS ARE IN THE FULL OPEN POSITION. MAKE SURE THAT THE SPRING DOOR OPENING-SYSTEM (SDOS) AND HOLD OPEN RODS (HOR) ARE LOCKED IN THEIR POSITION. IF YOU DO NOT, STRUCTURAL DAMAGE TO THE FAN COWL AND THRUST REVERSER CAN OCCUR.

- (b) Open both fan cowl panels (TASK 71-11-04-010-801-G00).

NOTE: Because the center line of the thrust reversers is off 6:00 o'clock position, both fan cowl panels must be opened to prevent damaging the fan cowl panel if either thrust reverser needs to be opened.

- 1) Open these access panels:

Number	Name/Location
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2

**WARNING**

OBEY THE INSTRUCTIONS IN THE PROCEDURE TO OPEN THE THRUST REVERERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (c) Open the applicable right thrust reverser (TASK 78-31-00-010-801-G00).

- 1) Open these access panels:

Number	Name/Location
416	Right Thrust Reverser, Engine 1
426	Right Thrust Reverser, Engine 2

SUBTASK 77-12-01-010-002-G00

- (2) Remove the segment shroud 3 (TASK 72-23-04-000-801-G00).

EFFECTIVITY
SIA ALL

77-12-01

D633AM101-SIA

Page 402
May 15/2023

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL****G. N1 Speed Sensor Removal**

SUBTASK 77-12-01-030-001-G00



MAKE SURE THAT THE ELECTRICAL CONNECTORS AND RECEPTACLES ARE CLEAN AND CLEAR OF UNWANTED MATERIALS BEFORE YOU DISCONNECT, OR CONNECT THEM. CONTAMINATION OF THE ELECTRICAL CONNECTORS AND RECEPTACLES CAN CAUSE DAMAGE TO EQUIPMENT.



USE TEFLON-JAWED PLIERS TO LOOSEN ELECTRICAL CONNECTORS. DO NOT USE METAL-JAWED PLIERS. DAMAGE TO THE ELECTRICAL CONNECTORS COULD OCCUR.

- (1) Use a teflon-jawed pliers, STD-664, to disconnect the electrical connectors as follows (TASK 70-00-01-910-803-G00):
 - (a) Disconnect the electrical connector [4], the electrical connector [5], and the electrical connector [6] from the N1 speed sensor [1].
 - (b) Disconnect the electrical connector [4], the electrical connector [5], and the electrical connector [6] from the N1 speed sensor [1].
 - (c) Install the protective covers on the electrical connectors and the electrical receptacles on the N1 speed sensor [1].

SUBTASK 77-12-01-680-001-G00

- (2) Remove the N1 speed sensor [1] as follows:
 - (a) Put a 1 U.S.-gal (3.81 l) oil resistant container, STD-203 below the N1 speed sensor [1].

NOTE: A small quantity of oil can drain from the fan hub frame port for the N1 speed sensor.

SUBTASK 77-12-01-020-001-G00

- (3) Remove the two bolts [3] that attach the N1 speed sensor [1] to the fan hub frame [2].

NOTE: The N1 speed sensor is 19 inches in length. Be careful when you remove the N1 speed sensor.

SUBTASK 77-12-01-020-002-G00

- (4) Remove the N1 speed sensor [1] as follows:
 - (a) Do not turn the N1 sensor upside down.
 - (b) Remove the N1 speed sensor [1] from the fan hub frame [2].
 - (c) Make sure that the shim is located on the top of the N1 speed sensor [1].

SUBTASK 77-12-01-020-003-G00

- (5) Remove and discard the preformed packing [7] from the N1 speed sensor [1].

SUBTASK 77-12-01-210-001-G00

- (6) Inspect the extremity of the N1 Sensor:
 - (a) If N1 sensor shim is present, do this task: N1 Speed Sensor Shim Removal, TASK 77-12-03-000-801-G00.
 - (b) If N1 sensor shim is not present, then continue.

SUBTASK 77-12-01-290-001-G00

- (7) Inspect the N1 sensor sleeve:

EFFECTIVITY
SIA ALL

77-12-01

D633AM101-SIA

Page 403
May 15/2023

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

- (a) Assemble the borescope inspection tools per assembly instructions from the borescope tool manufacturer.

- 1) Use a fiberscope, STD-10718, or a fiberscope, COM-4316, with video probe.

NOTE: It is permitted to substitute the tools specified in the borescope inspection tasks, provided the tools are approved by CFM.



MAKE SURE THAT THE ENGINE AREA THAT YOU EXAMINE WITH THE BORESCOPE IS LESS THAN 115 DEGREES F (46 DEGREES C). IF THE ENGINE INTERNAL AND EXTERNAL TEMPERATURE IS MORE THAN 115 DEGREES F (46 DEGREES C), DAMAGE TO THE BORESCOPE CAN OCCUR

- (b) Make sure that the internal and external temperature of the engine is less than 115°F (46°C) before you insert the borescope probe into the engine.

- 1) If the engine has been recently run, measure the temperature of the engine with a thermometer, STD-6547.

NOTE: It is recommended to wait 3 to 5 hours after engine shutdown to do the borescope inspection. This will allow the engine to become sufficiently cool.

NOTE: You can dry motor the engine to decrease the engine core temperature.

- (c) Use the fiberscope, STD-10718, or the fiberscope, COM-4316, with video probe.

- 1) Use a forward view optical tip when you inspect the N1 sensor sleeve.

- (d) Engage the fiberscope in the guide tube in the 5 o'clock strut of the fan hub.

- (e) Check for the presence of N1 speed sensor shim in the guide tube in the 5 o'clock strut of the fan hub.

NOTE: The N1 speed sensor shim can be attached with oil to the bottom of the sensor guide.

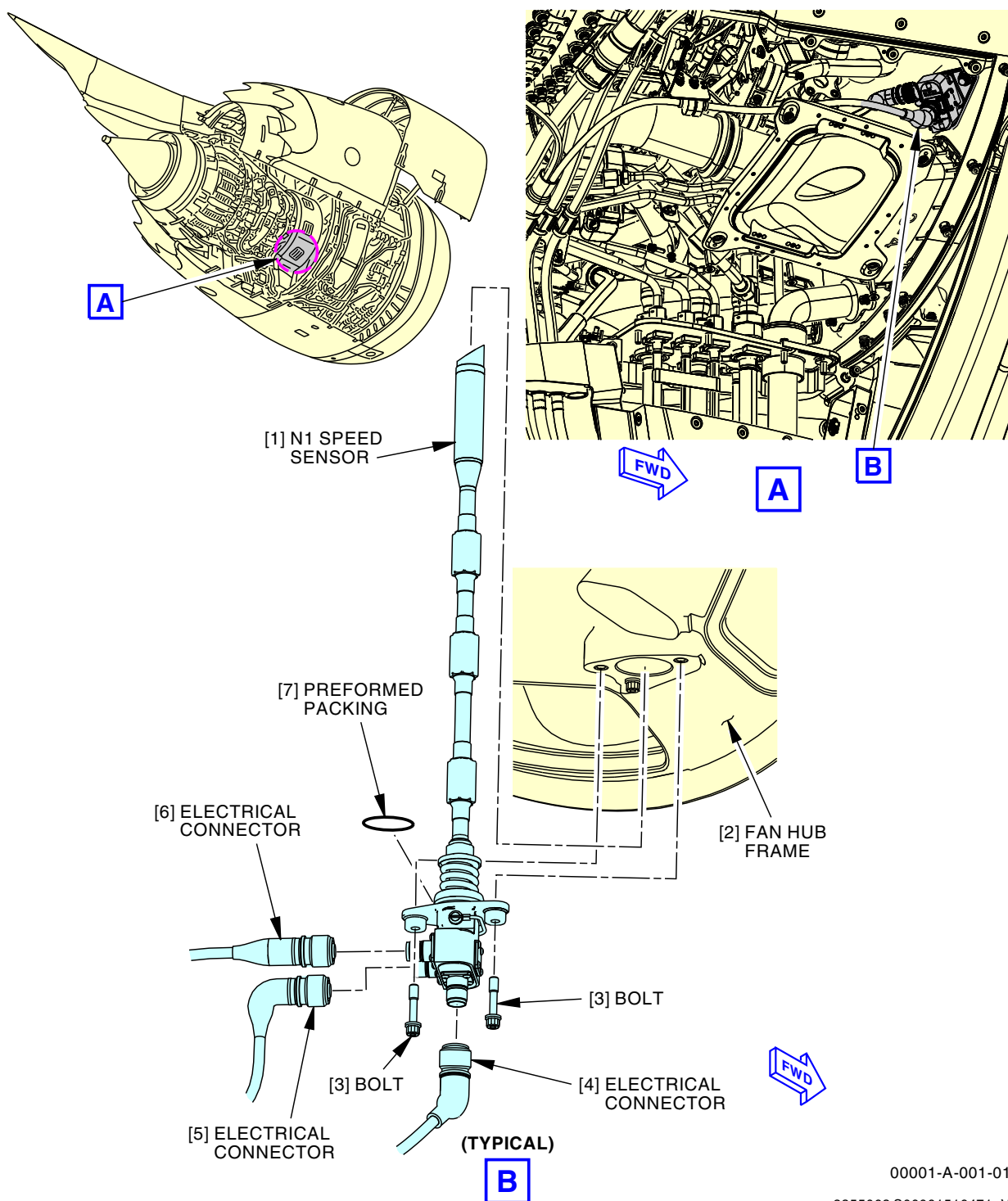
- (f) If the N1 speed sensor shim is present, do this task: N1 Speed Sensor Shim Removal, TASK 77-12-03-000-801-G00.

SUBTASK 77-12-01-480-001-G00

- (8) Install the protective covers on the sensing elements end of the N1 speed sensor [1] and the opening on the fan hub frame [2].

———— **END OF TASK** ————

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



00001-A-001-01

2355063 S00061516471_V4

N1 Speed Sensor Installation
Figure 401/77-12-01-990-801-G00

EFFECTIVITY
SIA ALL

77-12-01

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Page 405
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

TASK 77-12-01-400-801-G00**3. N1 Speed Sensor Installation**

(Figure 401)

A. General

(1) This task gives the instructions on how to install the N1 speed sensor.

B. References

Reference	Title
70-00-01-910-803-G00	Electrical Connector Disconnection and Connection (P/B 201)
71-00-00-800-804-G00	Power Plant Test Reference Table (P/B 501)
71-11-04-410-801-G00	Close the Fan Cowl Panels (Selection) (P/B 201)
72-23-04-400-801-G00	Fan Frame Module Segment Shrouds Installation (P/B 401)
77-12-03-400-801-G00	N1 Speed Sensor Shim Installation (P/B 401)
78-31-00-010-802-G00	Close the Thrust Reverser (Selection) (P/B 201)
78-31-00-440-801-G00	Thrust Reverser Activation After Ground Maintenance (P/B 201)

C. Tools/Equipment

Reference	Description
STD-664	Pliers - Teflon-jawed (or Equivalent Soft-Jawed)

D. Consumable Materials

Reference	Description	Specification
D00599 [CP2442]	Oil - Engine	
D00672 [CP5070]	Vaseline - Pure Mineral	V V-P-236

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
7	Preformed packing	77-12-01-01-020	SIA ALL

F. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

G. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
416	Right Thrust Reverser, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
426	Right Thrust Reverser, Engine 2

H. N1 Speed Sensor Installation

SUBTASK 77-12-01-420-001-G00

(1) Install the N1 speed sensor [1] as follows:

- (a) Remove the protective covers from the N1 speed sensor [1] and the open port on the fan hub frame [2].
- (b) Lubricate a new preformed packing [7] with the engine oil, D00599 [CP2442].

EFFECTIVITY
 SIA ALL

77-12-01

D633AM101-SIA

Page 406
 May 15/2023

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

- (c) Install the new preformed packing [7] on the groove on the N1 speed sensor [1].
- (d) Lubricate the threads of the bolts [3] with engine oil, D00599 [CP2442].
- (e) Make sure that there is no shim at the top of the N1 speed sensor [1] or in the bottom of the N1 speed sensor guide tube.
 - 1) If the shim is installed, make sure that there is no more than one shim.
 - 2) If there is no shim, make sure that you do not install the N1 speed sensor [1] with the shim.
- (f) If a N1 speed sensor shim is removed during the N1 speed sensor removal, do this task: N1 Speed Sensor Shim Installation, TASK 77-12-03-400-801-G00.

NOTE: If the visual inspection of the removed shim shows no signs of damage, then it is serviceable and can be used again.

- 1) Apply vaseline, D00672 [CP5070], on the face of the shim in contact with the N1 speed sensor [1].
- (g) Put the N1 speed sensor [1] into the fan hub frame [2].

NOTE: The N1 speed sensor is 19 inches in length. Be careful when you install the N1 speed sensor.

- 1) Do not move the N1 speed sensor [1] rearward and forward in the guide tube.
 - a) If you moved the N1 speed sensor [1], do these steps:
 - <1> Remove the N1 speed sensor [1].
 - <2> Make sure that the shim is in the correct position.
 - <3> Put the N1 speed sensor [1] into the fan hub frame [2].
- (h) Install the two bolts [3] that attach the N1 speed sensor [1] to the fan hub frame [2].

NOTE: Tighten the bolts [3] one bolt 1/2 turn at a time. This allows even compression of sensor spring.
- (i) Tighten the bolts [3] to 109.0 in-lb (12.3 N·m) - 121.0 in-lb (13.7 N·m).

SUBTASK 77-12-01-430-001-G00



CAUTION

MAKE SURE THAT THE ELECTRICAL CONNECTORS AND RECEPTACLES ARE CLEAN AND CLEAR OF UNWANTED MATERIALS BEFORE YOU DISCONNECT, OR CONNECT THEM. CONTAMINATION OF THE ELECTRICAL CONNECTORS AND RECEPTACLES CAN CAUSE DAMAGE TO EQUIPMENT.

- (2) Connect the electrical connectors as follows (TASK 70-00-01-910-803-G00):
 - (a) Remove the protective covers from the electrical connector [4], the electrical connector [5], and the electrical connector [6].
 - (b) Remove the protective covers from the electrical receptacles on the N1 speed sensor [1].
 - (c) Connect the electrical connector [4], the electrical connector [5], and the electrical connector [6] to the N1 speed sensor [1].



CAUTION

USE PLIERS THAT HAVE TEFLON JAWS TO TIGHTEN THE ELECTRICAL CONNECTORS. DO NOT USE PLIERS THAT HAVE METAL JAWS. METAL JAWS CAN CAUSE DAMAGE TO THE ELECTRICAL CONNECTORS.

- (d) Use a teflon-jawed pliers, STD-664, to tighten the electrical connectors to the N1 speed sensor [1].

EFFECTIVITY
SIA ALL

77-12-01

D633AM101-SIA

Page 407
May 15/2022

737-7/8/8200/9/10 AIRCRAFT MAINTENANCE MANUAL

I. Put the Airplane Back to Its Usual Condition

SUBTASK 77-12-01-410-001-G00

- (1) Install the segment shroud 3 (TASK 72-23-04-400-801-G00).

SUBTASK 77-12-01-410-002-G00



OBEY THE INSTRUCTIONS IN THE PROCEDURE TO CLOSE THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (2) Do these tasks in sequence to safely close the right thrust reverser:
- (a) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-802-G00.
- 1) Close these access panels:
- | <u>Number</u> | <u>Name/Location</u> |
|---------------|---------------------------------|
| 416 | Right Thrust Reverser, Engine 1 |
| 426 | Right Thrust Reverser, Engine 2 |
- (b) Close the fan cowl panels (TASK 71-11-04-410-801-G00).
- 1) Close these access panels:
- | <u>Number</u> | <u>Name/Location</u> |
|---------------|--------------------------|
| 413 | Left Fan Cowl, Engine 1 |
| 414 | Right Fan Cowl, Engine 1 |
| 423 | Left Fan Cowl, Engine 2 |
| 424 | Right Fan Cowl, Engine 2 |
- (c) Do this task: Thrust Reverser Activation After Ground Maintenance, TASK 78-31-00-440-801-G00.

J. N1 Speed Sensor Installation Test

SUBTASK 77-12-01-730-001-G00

- (1) Do the test(s) that are given in the Power Plant Test Reference Table (TASK 71-00-00-800-804-G00).

————— END OF TASK —————

EFFECTIVITY
SIA ALL

77-12-01

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Page 408
May 15/2022

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

N2 SPEED SENSOR - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) N2 Speed Sensor Removal
 - (2) N2 Speed Sensor Installation.

TASK 77-12-02-000-801-G00

2. N2 Speed Sensor Removal

(Figure 401)

A. General

- (1) This task gives the instructions to remove the N2 speed sensor.

B. References

Reference	Title
70-00-01-910-803-G00	Electrical Connector Disconnection and Connection (P/B 201)
71-11-04-010-801-G00	Open the Fan Cowl Panels (Selection) (P/B 201)

C. Tools/Equipment

Reference	Description
STD-203	Container - Oil Resistant, 1 U.S.-Gal (3.8 l)
STD-664	Pliers - Teflon-jawed (or Equivalent Soft-Jawed)
STD-858	Tag - DO NOT OPERATE

D. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

E. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2

F. Prepare for the Removal

SUBTASK 77-12-02-860-001-G00

- (1) Do these steps to make sure that the ENGINE START switch and the START LEVER switch are not operated:
 - (a) Make sure that the applicable ENGINE START switch, on the P5 overhead panel, is in the AUTO or OFF position.
 - 1) Put a DO NOT OPERATE tag, STD-858, on the applicable ENGINE START switch.
 - (b) Make sure that the applicable START LEVER switch, on the P10 control stand, is in the CUTOFF position.
 - 1) Put a DO NOT OPERATE tag, STD-858, on the applicable START LEVER switch.

SUBTASK 77-12-02-010-001-G00

- (2) On the applicable engine, open the left fan cowl panel (TASK 71-11-04-010-801-G00).

EFFECTIVITY
SIA ALL

D633AM101-SIA

77-12-02

Page 401
Jan 15/2023

737-7/8/8200/9/10 AIRCRAFT MAINTENANCE MANUAL

- (a) Open these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2

G. N2 Speed Sensor Removal

SUBTASK 77-12-02-020-001-G00



WARNING

BE CAREFUL WHEN YOU DO WORK ON THE ENGINE PARTS AFTER THE ENGINE IS STOPPED. THE ENGINE PARTS CAN STAY HOT FOR ALMOST ONE HOUR. DO NOT TOUCH HOT PARTS WITHOUT APPLICABLE GLOVES. HOT PARTS CAN CAUSE INJURIES TO PERSONNEL.



WARNING

DO NOT OPEN THE OIL SYSTEM UNTIL THE PRESSURE GOES TO ZERO. THE PRESSURE GOES TO ZERO APPROXIMATELY 5 MINUTES AFTER AN ENGINE STOPS. A PRESSURIZED OIL SYSTEM CAN RELEASE A SPRAY OF HOT OIL THAT CAN BURN YOU.



WARNING

DO NOT LET HOT OIL GET ON YOU. PUT ON CLOTHES, GOGGLES, AND OTHER EQUIPMENT FOR PROTECTION, OR LET THE ENGINE BECOME COOL. HOT OIL CAN BURN YOU.



WARNING

DO NOT LET THE OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.



CAUTION

DO NOT LET OIL GET ON THE ENGINE OR OTHER COMPONENTS. IMMEDIATELY CLEAN THE OIL WHEN IT FALLS ON THEM. OIL CAN CAUSE DAMAGE TO EQUIPMENT.

- (1) Remove the N2 speed sensor [1] as follows:

- (a) Put a 1 U.S.-gal (3.81 l) oil resistant container, STD-203 under the N2 speed sensor [1].



CAUTION

MAKE SURE THAT THE ELECTRICAL CONNECTORS AND RECEPTACLES ARE CLEAN AND CLEAR OF UNWANTED MATERIALS BEFORE YOU DISCONNECT, OR CONNECT THEM. CONTAMINATION OF THE ELECTRICAL CONNECTORS AND RECEPTACLES CAN CAUSE DAMAGE TO EQUIPMENT.



CAUTION

USE TEFLON-JAWED PLIERS TO LOOSEN ELECTRICAL CONNECTORS. DO NOT USE METAL-JAWED PLIERS. DAMAGE TO THE ELECTRICAL CONNECTORS COULD OCCUR.

- (b) Disconnect the electrical connectors from the N2 speed sensor [1] as follows (TASK 70-00-01-910-803-G00):

- 1) Use the teflon-jawed pliers, STD-664 to disconnect the electrical connector (W300 harness) [5], the electrical connector (HJ6B harness) [4] and the electrical connector (HJ6A harness) [3] from the N2 speed sensor [1].

EFFECTIVITY
SIA ALL

77-12-02

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

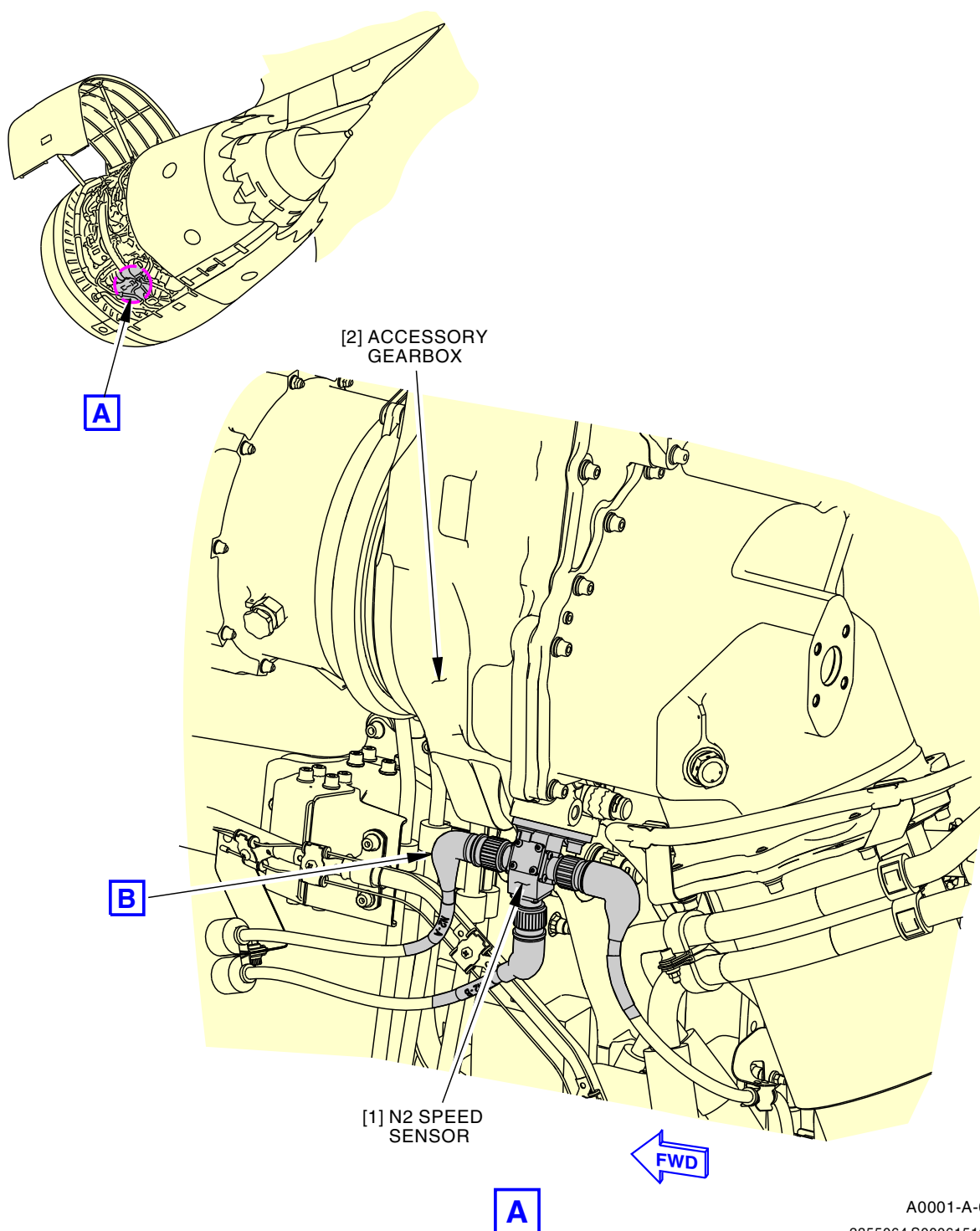
Page 402
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

- 2) Install the protective covers on the electrical connector (W300 harness) [5], the electrical connector (HJ6B harness) [4], the electrical connector (HJ6A harness) [3] and the electrical receptacles on the N2 speed sensor [1].
- (c) Remove the two bolts [6] that attach the N2 speed sensor [1] to the accessory gearbox [2].
- (d) Remove the N2 speed sensor [1] from the AGB.
- (e) Remove and discard the preformed packing [7] and the preformed packing [8] from the grooves of the N2 speed sensor [1].
- (f) Install the protective cover on the open port for the N2 speed sensor [1].

———— **END OF TASK** ————

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



A0001-A-002-01
2355064 S00061516476_V1

N2 Speed Sensor Installation
Figure 401/77-12-02-990-801-G00 (Sheet 1 of 2)

EFFECTIVITY
SIA ALL

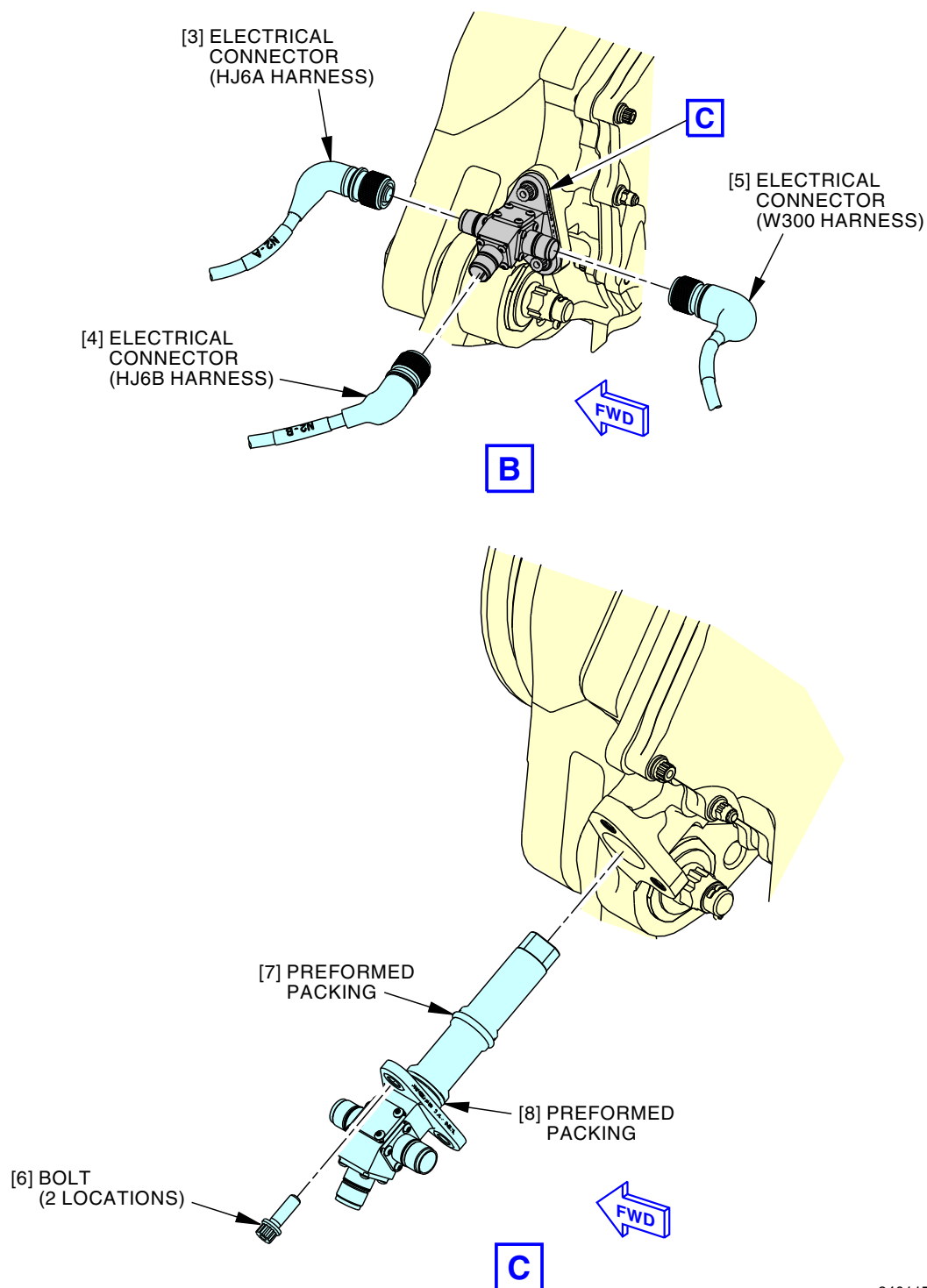
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-12-02

Page 404
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



N2 Speed Sensor Installation
Figure 401/77-12-02-990-801-G00 (Sheet 2 of 2)

A0002-A-002-01
2401172 S0000554755_V1

EFFECTIVITY
SIA ALL

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-12-02

Page 405
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

TASK 77-12-02-400-801-G00**3. N2 Speed Sensor Installation**

(Figure 401)

A. General

(1) This task gives the instructions to install the N2 speed sensor.

B. References

Reference	Title
70-00-01-910-803-G00	Electrical Connector Disconnection and Connection (P/B 201)
71-00-00-800-804-G00	Power Plant Test Reference Table (P/B 501)
71-11-04-010-801-G00	Open the Fan Cowl Panels (Selection) (P/B 201)
71-11-04-410-801-G00	Close the Fan Cowl Panels (Selection) (P/B 201)

C. Tools/Equipment

Reference	Description
STD-664	Pliers - Teflon-jawed (or Equivalent Soft-Jawed)
STD-858	Tag - DO NOT OPERATE

D. Consumable Materials

Reference	Description	Specification
D00601 [CP2101]	Vaseline - Graphite Mineral	
D00672 [CP5070]	Vaseline - Pure Mineral	V V-P-236

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
7	Preformed packing	77-12-02-01-040	SIA ALL
8	Preformed packing	77-12-02-01-030	SIA ALL

F. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

G. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2

H. Prepare for the Installation

SUBTASK 77-12-02-860-003-G00

- (1) Do these steps to make sure that the ENGINE START switch and the START LEVER switch are not operated:
- (a) Make sure that the applicable ENGINE START switch, on the P5 overhead panel, is in the AUTO or OFF position.
 - 1) Put a DO NOT OPERATE tag, STD-858, on the applicable ENGINE START switch.
 - (b) Make sure that the applicable START LEVER switch, on the P10 control stand, is in the CUTOFF position.
 - 1) Put a DO NOT OPERATE tag, STD-858, on the applicable START LEVER switch.

EFFECTIVITY
 SIA ALL

77-12-02

D633AM101-SIA

Page 406
 May 15/2023

737-7/8/8200/9/10 AIRCRAFT MAINTENANCE MANUAL

SUBTASK 77-12-02-010-002-G00

- (2) On the applicable engine, open the left fan cowl panel (TASK 71-11-04-010-801-G00).
- (a) Open these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2

I. N2 Speed Sensor Installation

SUBTASK 77-12-02-420-001-G00



DO NOT CAUSE DAMAGE TO THE PACKING WHEN YOU INSTALL THE N2 SPEED SENSOR. A DAMAGED PACKING CAN CAUSE ENGINE OIL LEAKS. OIL LEAKS CAN CAUSE AN IN-FLIGHT SHUTDOWN OF THE ENGINE.



BE CAREFUL WHEN YOU DO WORK ON THE ENGINE PARTS AFTER THE ENGINE IS STOPPED. THE ENGINE PARTS CAN STAY HOT FOR ALMOST ONE HOUR. DO NOT TOUCH HOT PARTS WITHOUT APPLICABLE GLOVES. HOT PARTS CAN CAUSE INJURIES TO PERSONNEL.



DO NOT OPEN THE OIL SYSTEM UNTIL THE PRESSURE GOES TO ZERO. THE PRESSURE GOES TO ZERO APPROXIMATELY 5 MINUTES AFTER AN ENGINE STOPS. A PRESSURIZED OIL SYSTEM CAN RELEASE A SPRAY OF HOT OIL THAT CAN BURN YOU.



DO NOT LET HOT OIL GET ON YOU. PUT ON CLOTHES, GOGGLES, AND OTHER EQUIPMENT FOR PROTECTION, OR LET THE ENGINE BECOME COOL. HOT OIL CAN BURN YOU.



DO NOT LET THE OIL STAY ON YOUR SKIN. YOU CAN ABSORB POISONOUS MATERIALS FROM THE OIL THROUGH YOUR SKIN.



DO NOT LET OIL GET ON THE ENGINE OR OTHER COMPONENTS. IMMEDIATELY CLEAN THE OIL WHEN IT FALLS ON THEM. OIL CAN CAUSE DAMAGE TO EQUIPMENT.

- (1) Install the N2 speed sensor [1] on the accessory gearbox [2]:
- Remove the protective cover from the open port for the N2 speed sensor [1] on the accessory gearbox [2].
 - Make sure that the mating faces are clean and clear of unwanted materials.
 - Lubricate the new preformed packing [7], and the new preformed packing [8] with vaseline, D00672 [CP5070].
 - Lubricate the threads of the bolts [6] with graphite mineral vaseline, D00601 [CP2101].
 - Install the new preformed packing [7] and new preformed packing [8] into the grooves on the N2 speed sensor [1].
 - Install the N2 speed sensor [1] on the accessory gearbox with the two bolts [6].

EFFECTIVITY
SIA ALL

77-12-02

D633AM101-SIA

Page 407
Sep 15/2021

737-7/8/8200/9/10 AIRCRAFT MAINTENANCE MANUAL

- 1) Tighten the bolts [6] to 109.25 in-lb (12.34 N·m) - 120.75 in-lb (13.64 N·m).

**CAUTION**

MAKE SURE THAT THE ELECTRICAL CONNECTOR AND RECEPTACLE ARE CLEAN WHEN YOU CONNECT THEM. DIRTY CONNECTORS CAN CAUSE DAMAGE TO EQUIPMENT.

**CAUTION**

USE PLIERS THAT HAVE TEFLON JAWS TO TIGHTEN THE ELECTRICAL CONNECTORS. DO NOT USE PLIERS THAT HAVE METAL JAWS. METAL JAWS CAN CAUSE DAMAGE TO THE ELECTRICAL CONNECTORS.

- (g) Connect the electrical connectors to the N2 speed sensor [1] as follows (TASK 70-00-01-910-803-G00):
 - 1) Remove the protective covers from the electrical connector (W300 harness) [5], the electrical connector (HJ6B harness) [4], the electrical connector (HJ6A harness) [3], and the electrical receptacles on the N2 speed sensor [1].
 - 2) Use the teflon-jawed pliers, STD-664 to connect the electrical connector (W300 harness) [5], the electrical connector (HJ6B harness) [4] and the electrical connector (HJ6A harness) [3] to the N2 speed sensor [1].
- (h) Clean the work area and clear the tools and other items.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 77-12-02-410-001-G00

- (1) On the applicable engine, close the left fan cowl panel (TASK 71-11-04-410-801-G00).
 - (a) Close these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2

SUBTASK 77-12-02-860-002-G00

- (2) Do these steps to remove the DO NOT OPERATE tags, STD-858, from the applicable ENGINE START switch and START LEVER switch:
 - (a) On the P5 overhead panel, remove the DO NOT OPERATE tag, STD-858, from the applicable ENGINE START switch.
 - (b) On the P10 control stand, remove the DO NOT OPERATE tag, STD-858, from the applicable START LEVER switch.

K. N2 Speed Sensor Installation Test

SUBTASK 77-12-02-730-001-G00

- (1) Do the test(s) that are given in the Power Plant Test Reference Table (TASK 71-00-00-800-804-G00).

————— END OF TASK —————

EFFECTIVITY
SIA ALL

77-12-02

D633AM101-SIA

Page 408
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

N1 SPEED SENSOR SHIM - REMOVAL/INSTALLATION

1. General

- A. This procedure has two tasks:
- (1) N1 speed sensor shim removal
 - (2) N1 speed sensor shim installation.

TASK 77-12-03-000-801-G00

2. N1 Speed Sensor Shim Removal

(Figure 401)

A. General

- (1) This task gives the instructions on how to remove the N1 speed sensor shim.

B. References

Reference	Title
77-12-01-000-801-G00	N1 Speed Sensor Removal (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-4316	Fiberscope - Flexible Borescope Part #: IF2D5 Supplier: 32212 Part #: IF6C5X1-8 Supplier: 32212 Opt Part #: 7110561 Supplier: 32212
STD-10718	Fiberscope (Meets General Electric or CFM Standard Practices Manual Specification)

D. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

E. Prepare for the Removal

SUBTASK 77-12-03-020-003-G00

- (1) Remove the N1 speed sensor [2] (TASK 77-12-01-000-801-G00).

F. N1 Speed Sensor Shim Removal

SUBTASK 77-12-03-020-001-G00

- (1) If the N1 speed sensor shim [1] is on the N1 speed sensor [2], remove the N1 speed sensor shim [1] from the N1 speed sensor [2].

SUBTASK 77-12-03-020-002-G00

- (2) If the N1 speed sensor shim [1] is in the guide tube in the 5 o'clock strut of the fan hub frame, remove the N1 speed sensor shim [1] from the guide tube, using a stick while watching the area with the fiberscope or flexible borescope.

NOTE: The N1 speed sensor shim can be attached with oil to the bottom of the sensor guide.

- (a) Use a fiberscope, STD-10718, or fiberscope, COM-4316, with video probe.
- 1) Use a forward view optical tip.

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

SUBTASK 77-12-03-210-001-G00

- (3) Do a visual inspection of the removed shim.
 - (a) If indications are found, the shim is not serviceable.
 - (b) If no indication is found, the shim is serviceable and can be re-used.

———— **END OF TASK** ————

EFFECTIVITY
**SIA ALL; AIRPLANES WITH POST LEAP-1B SB
72-0127**

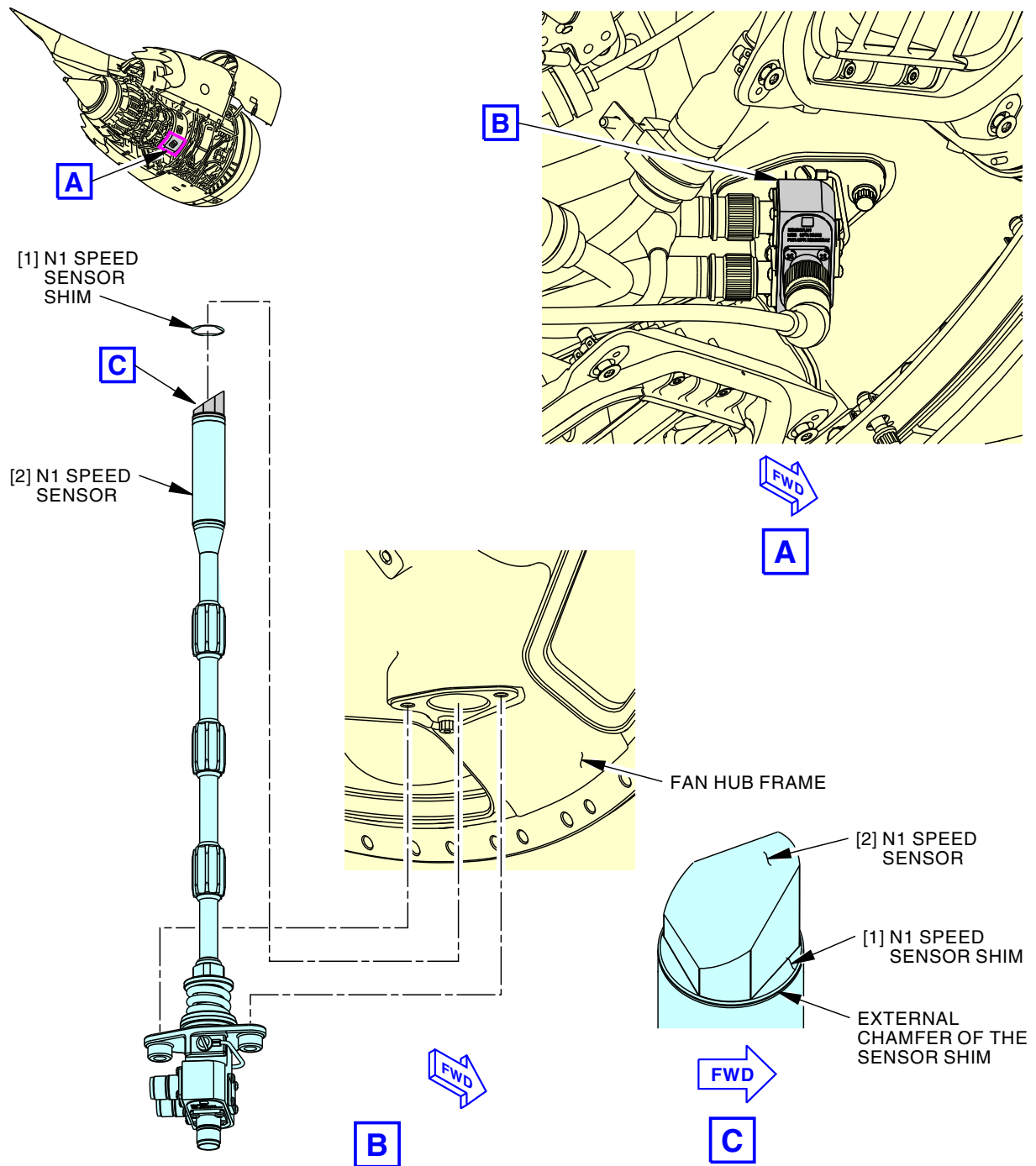
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-12-03

Page 402
May 15/2022

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



ICNLEAP1B771201D5882800001A00101
2909030 S0000695226_V2

N1 Speed Sensor Shim Installation
Figure 401/77-12-03-990-801-G00

EFFECTIVITY
SIA ALL; AIRPLANES WITH POST LEAP-1B SB
72-0127

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-12-03

Page 403
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

TASK 77-12-03-400-801-G00**3. N1 Speed Sensor Shim Installation**

(Figure 401)

A. General

- (1) This task gives the instructions on how to install the N1 speed sensor shim.

B. References

Reference	Title
77-12-01-400-801-G00	N1 Speed Sensor Installation (P/B 401)

C. Consumable Materials

Reference	Description	Specification
D00672 [CP5070]	Vaseline - Pure Mineral	V V-P-236

D. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

E. N1 Speed Sensor Shim Installation**SUBTASK 77-12-03-860-001-G00**

- (1) Apply vaseline, D00672 [CP5070], on the face of the N1 speed sensor shim [1] in contact with the N1 speed sensor [2].

SUBTASK 77-12-03-420-001-G00

- (2) Install the N1 speed sensor shim [1] on the extremity of the N1 speed sensor [2].
 (a) Put the external chamfer of the N1 speed sensor shim [1] to the outside.

SUBTASK 77-12-03-860-002-G00

- (3) Make sure that vaseline, D00672 [CP5070], is applied only on the face of the N1 speed sensor shim [1] in contact with the N1 speed sensor [2].

SUBTASK 77-12-03-420-002-G00

- (4) Do this task: N1 Speed Sensor Installation, TASK 77-12-01-400-801-G00.

———— **END OF TASK** ————

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

ENGINE TEMPERATURE SENSING SYSTEM - INSPECTION/CHECK

1. General

A. This procedure has two tasks:

- (1) Engine temperature sensing system inspection
- (2) Exhaust Gas Temperature (EGT) system degradation system test.

TASK 77-21-00-210-801-G00

2. Engine Temperature Sensing System Inspection

(Figure 601)

A. General

- (1) This task gives the instructions to do the visual inspection of the engine temperature sensing system.

B. References

Reference	Title
71-00-00-800-804-G00	Power Plant Test Reference Table (P/B 501)
71-11-04-010-801-G00	Open the Fan Cowl Panels (Selection) (P/B 201)
71-11-04-410-801-G00	Close the Fan Cowl Panels (Selection) (P/B 201)
77-21-01-000-801-G00	Exhaust Gas Temperature Sensors Removal (P/B 401)
77-21-01-400-801-G00	Exhaust Gas Temperature Sensors Installation (P/B 401)
78-31-00-010-801-G00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-010-802-G00	Close the Thrust Reverser (Selection) (P/B 201)
78-31-00-040-801-G00	Thrust Reverser Deactivation For Ground Maintenance (P/B 201)
78-31-00-440-801-G00	Thrust Reverser Activation After Ground Maintenance (P/B 201)

C. Tools/Equipment

Reference	Description
STD-858	Tag - DO NOT OPERATE

D. Consumable Materials

Reference	Description	Specification
G50163 [C10-217]	Tape - Reinforced Silicone Stretchtape - RL 6000SA	

E. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

F. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2

EFFECTIVITY
SIA ALL

77-21-00

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Page 601
Sep 15/2021

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

(Continued)

Number	Name/Location
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2

G. Prepare for the Inspection

SUBTASK 77-21-00-860-001-G00

- (1) Do these steps to make sure that the ENGINE START switch and the START LEVER switch are not operated:
 - (a) Make sure that the applicable ENGINE START switch, on the P5 overhead panel, is in the AUTO or OFF position.
 - 1) Put a DO NOT OPERATE tag, STD-858, on the applicable ENGINE START switch.
 - (b) Make sure that the applicable START LEVER switch, on the P10 control stand, is in the CUTOFF position.
 - 1) Put a DO NOT OPERATE tag, STD-858, on the applicable START LEVER switch.

SUBTASK 77-21-00-860-002-G00

- (2) Do these tasks in sequence to safely open the left and right thrust reversers on the applicable engine:

**WARNING**

DO THE DEACTIVATION PROCEDURE FOR THE THRUST REVERSER TO PREVENT THE OPERATION OF THE THRUST REVERSER. ACCIDENTAL OPERATION OF THE THRUST REVERSER CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

- (a) Do this task: Thrust Reverser Deactivation For Ground Maintenance, TASK 78-31-00-040-801-G00.
- (b) Open the applicable left or right fan cowl panels (TASK 71-11-04-010-801-G00).
 - 1) Open these access panels:

Number	Name/Location
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2

**WARNING**

OBEY THE INSTRUCTIONS IN THE PROCEDURE TO OPEN THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (c) Open the applicable left or right thrust reversers (TASK 78-31-00-010-801-G00).
 - 1) Open these access panels:

Number	Name/Location
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2

EFFECTIVITY
SIA ALL

77-21-00

D633AM101-SIA

Page 602
Jan 15/2023

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

H. Engine Temperature Sensing System Inspection

SUBTASK 77-21-00-211-001-G00

- (1) Do a visual inspection of the EGT sensors [1] for these conditions:
 - (a) Loose EGT sensor [1]
 - 1) Not permitted.
 - 2) If the bolts are loose, tighten the bolts [2] (TASK 77-21-01-400-801-G00).
 - (b) Air leakage
 - 1) Not permitted.
 - 2) Replace the gasket [3] on the EGT sensor [1] (TASK 77-21-01-400-801-G00).
 - (c) Chaffing on the lead [6] or cable [5]
 - 1) Not permitted, replace the lead [6] or cable [5].
 - 2) Continue-In-Service (CIS) limit for chaffing of the leads is 10 days with these conditions:
 - a) Chaffing is limited to the EGT sensor cable [5] or the lead [6] connected to only one EGT sensor [1].
 - b) Exhaust Gas Temperature (EGT) system maintenance messages are limited to only one EGT sensor [1].
 - <1> Do the EGT system degradation system test (TASK 77-21-00-730-801-G00).
 - <2> Make sure that you find the maintenance messages only for one EGT sensor [1].
 - c) Disconnect the lead [6] and the cable [5] from the EGT sensor [1] to prevent EGT fluctuations as follows:
 - <1> Disconnect all connections to the EGT sensor [1].
 - <2> Put RL 6000SA tape, G50163 [C10-217] on the lead [6].
 - <3> Fold the lead [6] back on the EGT sensor cable [5].
 - <4> Separate the lead [6] to prevent an electrical short.
 - <5> Attach the folded lead [6] to the EGT sensor cable [5] with safetywire or RL 6000SA tape, G50163 [C10-217].
 - (d) Loose or bad terminal studs [4]
 - 1) Not permitted.
 - 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).
 - 3) Continue-In-Service (CIS) limit for loose or bad terminal studs is 10 days with these conditions:
 - a) Loose or bad terminal studs [4] should be only on one EGT sensor [1].
 - b) EGT system maintenance messages are limited to only one EGT sensor [1].
 - <1> Do the EGT system degradation system test (TASK 77-21-00-730-801-G00)
 - <2> Make sure that you find the maintenance messages only for one EGT sensor [1].

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

- c) Disconnect the lead [6] and the cable [5] from the EGT sensor [1] to prevent EGT fluctuations as follows:
 - <1> Disconnect all connections to the EGT sensor [1].
 - <2> Put RL 6000SA tape, G50163 [C10-217] on the lead [6].
 - <3> Fold the lead [6] back on the EGT sensor cable [5].
 - <4> Separate the lead [6] to prevent an electrical short.
 - <5> Attach the folded lead [6] to the EGT sensor cable [5] with safetywire or RL 6000SA tape, G50163 [C10-217].
- (e) Do a visual inspection of the sensor stem of the EGT sensor [1] (area F, Figure 601) for these conditions:
 - 1) Creeping
 - a) Maximum serviceable limit is 0.0393 in. (0.9982 mm).
 - <1> If found within the acceptable criteria, accept as is.
 - <2> If outside of the acceptable criteria, replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).

SUBTASK 77-21-00-211-002-G00

- (2) Do a visual inspection of the flange [7] on the EGT sensors [1] for these conditions:
 - (a) Cracks, dents, tear and erosion/peening
 - 1) Not permitted.
 - 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).
 - (b) Nicks
 - 1) Not permitted.
 - 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).
 - (c) Scoring/Scratches
 - 1) Not permitted.
 - 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).
 - (d) Deposit
 - 1) Serviceable
 - (e) Engraved identification cannot be read with visual and optical device
 - 1) Not Serviceable
 - (f) Engraved identification absence
 - 1) Not Serviceable
 - (g) Scores and shock marks on engraved identification
 - 1) Not Serviceable

SUBTASK 77-21-00-211-003-G00

- (3) Do a visual inspection of the housing [8] on the EGT sensors [1] and for these conditions:
 - (a) Cracks, dents, tear, and erosion/peening
 - 1) Not permitted.

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

- 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).
- (b) Nicks
 - 1) Not permitted.
 - 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).
- (c) Scoring/Scratches
 - 1) Not permitted.
 - 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).
- (d) Deposit
 - 1) Serviceable

SUBTASK 77-21-00-211-004-G00

- (4) Do a visual inspection of the collar [9] on the EGT sensors [1] for these conditions:
 - (a) Cracks, dents, tear, oxidation and erosion/peening
 - 1) Not permitted.
 - 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).
 - (b) Nicks
 - 1) Not permitted.
 - 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).
 - (c) Scoring/Scratches
 - 1) Not permitted.
 - 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).
 - (d) Deposit
 - 1) Serviceable

SUBTASK 77-21-00-211-005-G00

- (5) Do the visual inspection of the terminal housing [10] on the EGT sensors [1] for these conditions:
 - (a) Cracks, dents, tear, oxidation and erosion/peening
 - 1) Not permitted.
 - 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).
 - (b) Nicks
 - 1) Not permitted.
 - 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).
 - (c) Scoring/Scratches
 - 1) Not permitted.

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

- 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).
- (d) Discoloration
 - 1) Serviceable

NOTE: A light deposit of discoloration is permitted.
- (e) Deposit
 - 1) Serviceable

SUBTASK 77-21-00-210-001-G00

- (6) Do a visual inspection of the fill plug [13] and the lid [14] on the EGT sensors [1] for these conditions:
 - (a) Cracks, nicks, dents, tear, oxidation, scoring/scratches and erosion/peening
 - 1) Not permitted.
 - 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).

SUBTASK 77-21-00-210-002-G00

- (7) Do a visual inspection of the KP terminal stud assembly [15] and the KN terminal stud assembly [16] on the EGT sensors [1] for these conditions:
 - (a) Cracks, nicks, dents, tear, oxidation, scoring/scratches, erosion/peening and deposits
 - 1) Not permitted.
 - 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).

SUBTASK 77-21-00-211-006-G00

- (8) Do a visual inspection of the weld joint and braze joint [11], weld joint and braze joint [12], weld joint and braze joint [17], weld joint and braze joint [18], weld joint and braze joint [19] and weld joint and braze joint [20] for these conditions:
 - (a) Cracks, nicks, dents, tear, oxidation, scoring/scratches, erosion/peening and deposits.
 - 1) Not permitted.
 - 2) Replace the EGT sensor [1] (TASK 77-21-01-000-801-G00 and TASK 77-21-01-400-801-G00).

SUBTASK 77-21-00-160-001-G00

- (9) Clean the work area and clear the tools and other items.

I. Put the Airplane Back to Its Usual Condition**SUBTASK 77-21-00-860-003-G00**

OBEY THE INSTRUCTIONS IN THE PROCEDURE TO CLOSE THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Do these tasks in sequence to safely close the applicable left or right thrust reversers:
 - (a) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-802-G00.
 - 1) Close these access panels:

<u>Number</u>	<u>Name/Location</u>
415	Left Thrust Reverser, Engine 1

EFFECTIVITY
SIA ALL

D633AM101-SIA

77-21-00

Page 606
Sep 15/2021

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

(Continued)

<u>Number</u>	<u>Name/Location</u>
416	Right Thrust Reverser, Engine 1
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2

(b) Do this task: Close the Fan Cowl Panels (Selection), TASK 71-11-04-410-801-G00.

1) Close these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2

(c) Do this task: Thrust Reverser Activation After Ground Maintenance, TASK 78-31-00-440-801-G00.

SUBTASK 77-21-00-860-004-G00

- (2) Do these steps to remove the DO NOT OPERATE tags, STD-858, from the applicable ENGINE START switch and START LEVER switch:
- (a) On the P5 overhead panel, remove the DO NOT OPERATE tag, STD-858, from the applicable ENGINE START switch.
 - (b) On the P10 control stand, remove the DO NOT OPERATE tag, STD-858, from the applicable START LEVER switch.

J. Engine Temperature Sensing System Tests**SUBTASK 77-21-00-710-001-G00**

- (1) Do the test(s) that are given in the Power Plant Test Reference Table (TASK 71-00-00-800-804-G00).

————— **END OF TASK** —————

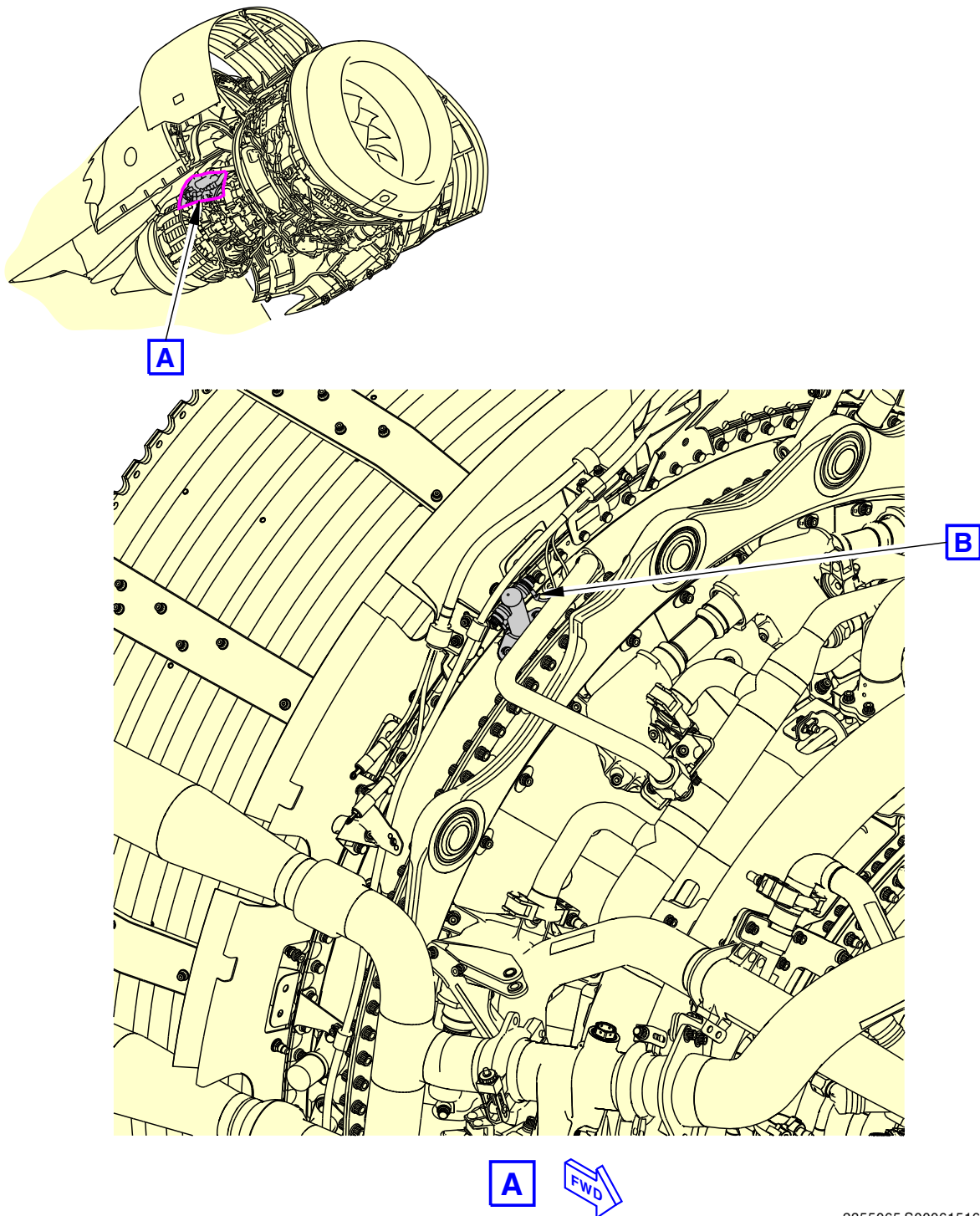
EFFECTIVITY
SIA ALL

77-21-00

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Page 607
Sep 15/2021



2355065 S00061516482_V1

Engine Temperature Sensing System Inspection
Figure 601/77-21-00-990-801-G00 (Sheet 1 of 4)

EFFECTIVITY
SIA ALL

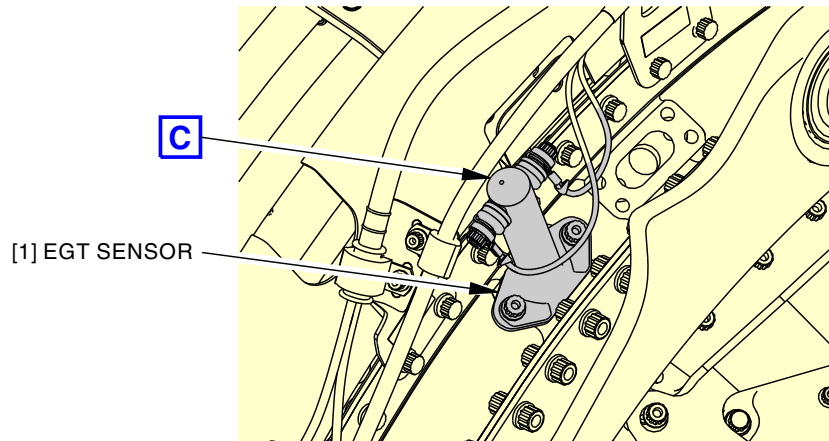
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

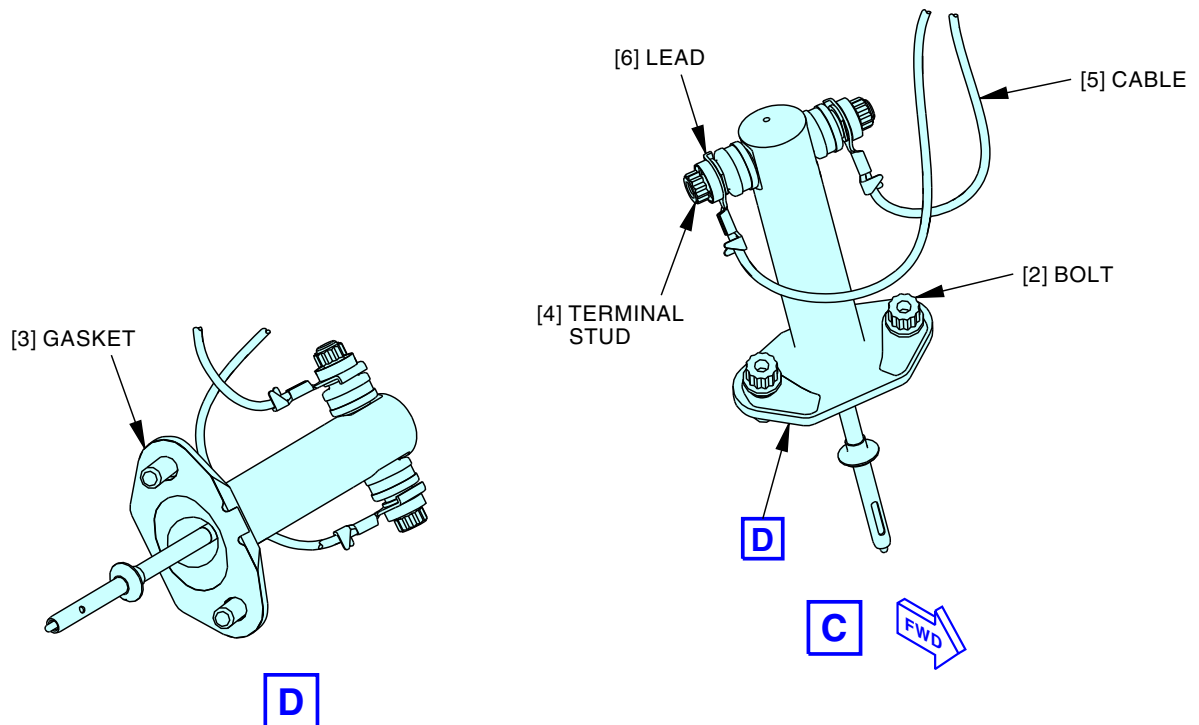
77-21-00

Page 608
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



B



2457749 S0000572048_V2

Engine Temperature Sensing System Inspection
Figure 601/77-21-00-990-801-G00 (Sheet 2 of 4)

EFFECTIVITY
SIA ALL

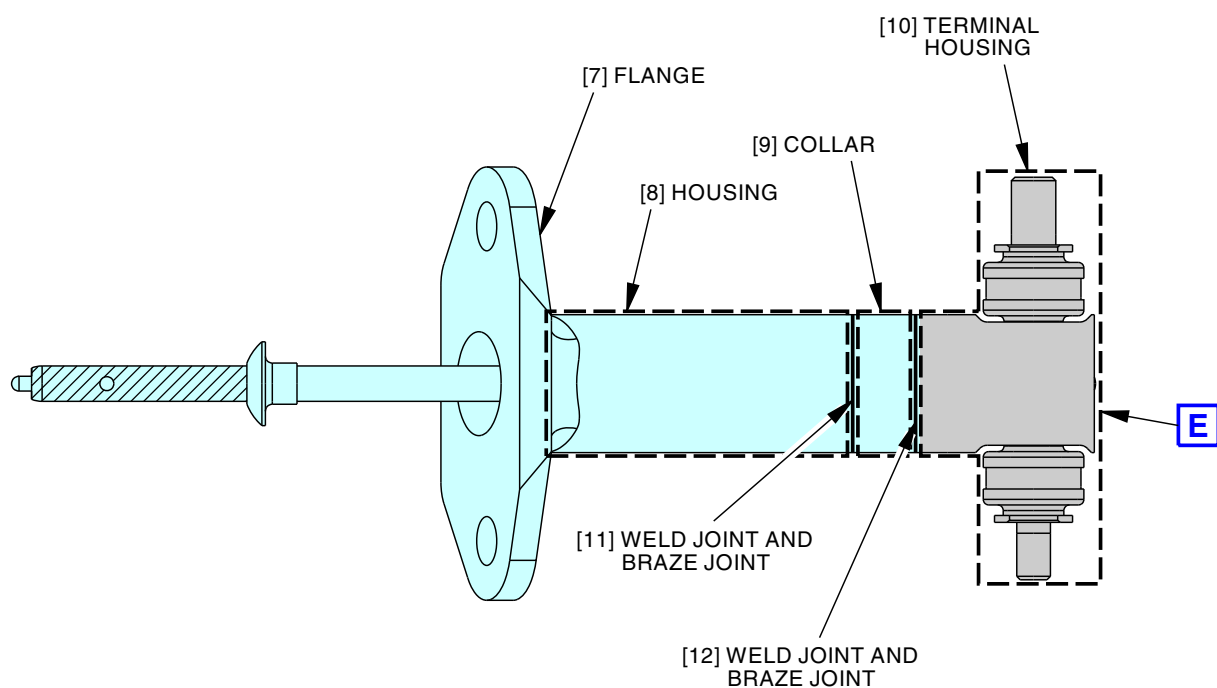
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-00

Page 609
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

**LEGEND:**
 AREA F

2457755 S0000572049_V3

Engine Temperature Sensing System Inspection
Figure 601/77-21-00-990-801-G00 (Sheet 3 of 4)

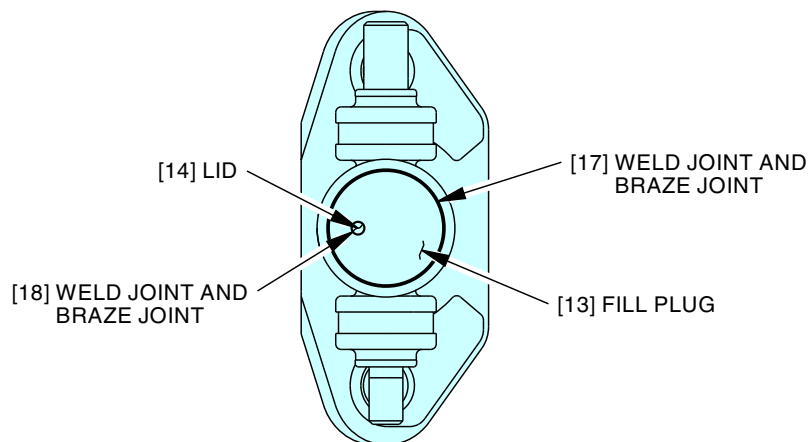
EFFECTIVITY
SIA ALL

D633AM101-SIA

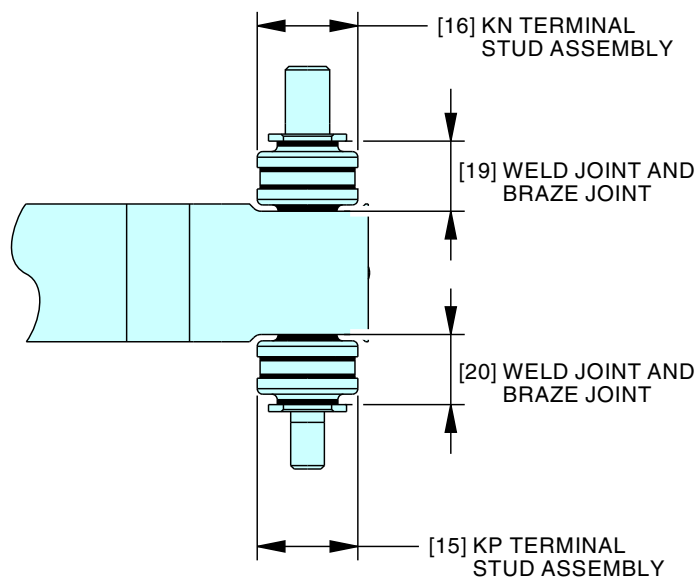
77-21-00

Page 610
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



E



2481417 S0000583241_V1

Engine Temperature Sensing System Inspection
Figure 601/77-21-00-990-801-G00 (Sheet 4 of 4)

EFFECTIVITY
SIA ALL

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-00

Page 611
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

TASK 77-21-00-730-801-G00**3. EGT System Degradation System Test****A. General**

- (1) This task gives the instructions on how to do the Exhaust Gas Temperature (EGT) system degradation test.

B. References

Reference	Title
46-13-02-700-806	Fault History Check (P/B 201)
73-21-00-800-801-G00	EEC Maintenance Power Selection (P/B 201)

C. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

D. EGT System Degradation Test (Preferred)

SUBTASK 77-21-00-200-001-G00

- (1) Do the EGT system degradation test as follows:
- Set the EEC MAINT POWER switch on the MISC SYSTEM CTRLS to TEST (TASK 73-21-00-800-801-G00)
 - Wait 30 seconds before you start the test.
 - Use the MAX display system to find the EGT system fault messages (TASK 46-13-02-700-806).
 - Select the criteria below on the MAX display system:
 - ONBD MAINT
 - EXTENDED MAINT
 - FAULT HISTORY
 - 71-80 Engine 1 or 2
 - Look for the EGT system degradation maintenance messages that show in the Table 601 that follows:
 - Look for these maintenance messages in the last 3 flight legs (LEG 0, LEG-1 and LEG-2).
 - If you find one or more of the EGT system degradation maintenance messages, do the corrective action in the fault isolation manual (FIM) for the message(s) that you find.

Table 601/77-21-00-993-803-G00

Maintenance Message Number	Maintenance Message
77-4130X ^[1]	EGT Probe 1 Sensor Fault
77-4162X	EGT Probe 2 Sensor Fault
77-4164X	EGT Probe 3 Sensor Fault
77-4166X	EGT Probe 4 Sensor Fault
77-4168X	EGT Probe 5 Sensor Fault

EFFECTIVITY
 SIA ALL

77-21-00

D633AM101-SIA

Page 612
 Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

Table 601/77-21-00-993-803-G00 (Continued)

Maintenance Message Number	Maintenance Message
77-4170X	EGT Probe 6 Sensor Fault
77-4172X	EGT Probe 7 Sensor Fault
77-4174X	EGT Probe 8 Sensor Fault

*[1] X = Engine Position 1 or 2

E. EGT System Degradation Test (Alternate)

SUBTASK 77-21-00-200-002-G00

(1) Do this task: Engine Temperature Sensing System Inspection, TASK 77-21-00-210-801-G00.

————— END OF TASK —————

EFFECTIVITY
SIA ALL

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-00

Page 613
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

EXHAUST GAS TEMPERATURE (EGT) SENSORS - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

- (1) Exhaust Gas Temperature (EGT) sensors removal
- (2) Exhaust Gas Temperature (EGT) sensors installation.

TASK 77-21-01-000-801-G00

2. Exhaust Gas Temperature Sensors Removal

(Figure 401 and Figure 402)

A. General

- (1) This task gives the instructions to remove the exhaust gas temperature sensor.
- (2) The exhaust gas temperature sensor is referred to as the EGT sensor.
- (3) There are eight EGT sensors which are installed on the turbine center frame. The EGT sensors are interchangeable.

B. References

Reference	Title
71-11-04-010-801-G00	Open the Fan Cowl Panels (Selection) (P/B 201)
78-31-00-010-801-G00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-040-801-G00	Thrust Reverser Deactivation For Ground Maintenance (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
SPL-14947	Protector - SACOC Part #: 956A8681G02 Supplier: 58828
STD-858	Tag - DO NOT OPERATE

D. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

E. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

F. Prepare for the Removal

SUBTASK 77-21-01-860-001-G00

- (1) Do these steps to make sure that the ENGINE START switch and the START LEVER switch are not operated:
 - (a) Make sure that the applicable ENGINE START switch, on the P5 overhead panel, is in the AUTO or OFF position.
 - 1) Put a DO NOT OPERATE tag, STD-858, on the applicable ENGINE START switch.
 - (b) Make sure that the applicable START LEVER switch, on the P10 control stand, is in the CUTOFF position.
 - 1) Put a DO NOT OPERATE tag, STD-858, on the applicable START LEVER switch.

SUBTASK 77-21-01-860-002-G00

- (2) Open the applicable 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>
B	3	C00360	FUEL SPAR VALVE ENG 2
B	4	C00359	FUEL SPAR VALVE ENG 1

SUBTASK 77-21-01-860-003-G00

- (3) For the left engine, open these applicable 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	5	C01320	ENGINE FUEL ENGINE 1 HPSOV CONT
E	6	C01395	ENGINE FUEL ENGINE 1 HPSOV IND

SUBTASK 77-21-01-860-004-G00

- (4) For the right engine, open these applicable 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	3	C01321	ENGINE FUEL ENGINE 2 HPSOV CONT
E	4	C01396	ENGINE FUEL ENGINE 2 HPSOV IND

SUBTASK 77-21-01-010-001-G00

- (5) Do these tasks in sequence to safely open the left and right thrust reversers on the applicable engine:

**WARNING**

DO THE DEACTIVATION PROCEDURE FOR THE THRUST REVERSER TO PREVENT THE OPERATION OF THE THRUST REVERSER. ACCIDENTAL OPERATION OF THE THRUST REVERSER CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

- (a) Do this task: Thrust Reverser Deactivation For Ground Maintenance, TASK 78-31-00-040-801-G00.
- (b) Open the applicable left or right fan cowl panels (TASK 71-11-04-010-801-G00).
 - 1) Open these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1

EFFECTIVITY
SIA ALL

77-21-01

D633AM101-SIA

Page 402
Jan 15/2023

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

(Continued)

<u>Number</u>	<u>Name/Location</u>
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2

**WARNING**

OBEY THE INSTRUCTIONS IN THE PROCEDURE TO OPEN THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(c) Open the applicable left or right thrust reversers (TASK 78-31-00-010-801-G00).

1) Open these access panels:

<u>Number</u>	<u>Name/Location</u>
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2

SUBTASK 77-21-01-480-001-G00

(6) Install the protector, SPL-14947 on the oil coolers.

G. Exhaust Gas Temperature Sensors Removal

SUBTASK 77-21-01-020-001-G00

**CAUTION**

MAKE SURE THAT YOU INSTALL THE SACOC PROTECTOR TO PREVENT DAMAGE TO THE OIL COOLER.

(1) For the EGT sensor [1] at location 7, remove the EGT sensor [1] as follows:

NOTE: The EGT sensor at location 7 is installed at the 1:00 o'clock position aft looking forward on the turbine center frame.

- (a) Remove the bolt [7] that attaches the loop clamp [8] and the EGT harness [3] to the bracket [6].
- (b) Tie the EGT harness [3] out of the way with tie wraps.

**CAUTION**

DO NOT REMOVE THE CAPTIVE NUTS FROM THE LEADS. DAMAGE CAN OCCUR TO THE LEADS OR THE CAPTIVE NUTS.

- (c) Loosen the captive nuts on the lead [2A] and the lead [2B].
- (d) Remove the lead [2A] and the lead [2B] from the EGT sensor [1].
- (e) Remove and discard the safety cable or lockwire from the two bolts [5].
- (f) Remove the two bolts [5] that attach the EGT sensor [1] to the mounting pad of the turbine center frame.
- (g) Remove the EGT sensor [1].
- (h) Remove and discard the gasket [4] from the EGT sensor [1].
- (i) Install the protective cover on the open port for the EGT sensor [1] on the turbine center frame.

EFFECTIVITY
SIA ALL

77-21-01

D633AM101-SIA

Page 403
Jan 15/2023

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

SUBTASK 77-21-01-010-002-G00

**CAUTION**

MAKE SURE THAT YOU INSTALL THE SACOC PROTECTOR TO PREVENT DAMAGE TO THE OIL COOLER.

- (2) For the EGT sensor [1] at locations 1 to 6, remove the EGT sensor [1] as follows:

NOTE: The EGT sensors at locations 1 to 6 are installed anti-clockwise at the 10:00 to 3:00 o'clock positions aft looking forward on the turbine center frame.

**CAUTION**

DO NOT REMOVE THE CAPTIVE NUTS FROM THE LEADS. DAMAGE CAN OCCUR TO THE LEADS OR THE CAPTIVE NUTS.

- (a) Loosen the captive nuts on the lead [2A] and the lead [2B].
- (b) Remove the lead [2A] and the lead [2B] from the EGT sensor [1].
- (c) Remove and discard the safety cable or lockwire from the two bolts [5].
- (d) Remove the two bolts [5] that attach the EGT sensor [1] to the mounting pad of the turbine center frame.
- (e) Remove the EGT sensor [1].
- (f) Remove and discard the gasket [4] from the EGT sensor [1].
- (g) Install the protective cover on the open port for the EGT sensor [1] on the turbine center frame.

SUBTASK 77-21-01-010-003-G00

**CAUTION**

MAKE SURE THAT YOU INSTALL THE SACOC PROTECTOR TO PREVENT DAMAGE TO THE OIL COOLER.

- (3) For the EGT sensor [1] at location 8, remove the EGT sensor [1] as follows:

NOTE: The EGT sensor at location 8 is installed at the 12:00 o'clock position aft looking forward on the turbine center frame.

**CAUTION**

DO NOT REMOVE THE CAPTIVE NUTS FROM THE LEADS. DAMAGE CAN OCCUR TO THE LEADS OR THE CAPTIVE NUTS.

- (a) Loosen the captive nuts on the lead [2A] and the lead [2B].
 - (b) Remove the lead [2A] and the lead [2B] from the EGT sensor [1].
 - (c) Remove and discard the safety cable or lockwire from the two bolts [5].
 - (d) Remove the two bolts [5] that attach the EGT sensor [1] to the mounting pad of the turbine center frame.
- NOTE: You can only access the right side bolt from the right side of the engine.
- (e) Remove the EGT sensor [1].
 - (f) Remove and discard the gasket [4] from the EGT sensor [1].

EFFECTIVITY
SIA ALL

77-21-01

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Page 404
Sep 15/2021

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

- (g) Install the protective cover on the open port for the EGT sensor [1] on the turbine center frame.

———— **END OF TASK** ————

EFFECTIVITY
SIA ALL

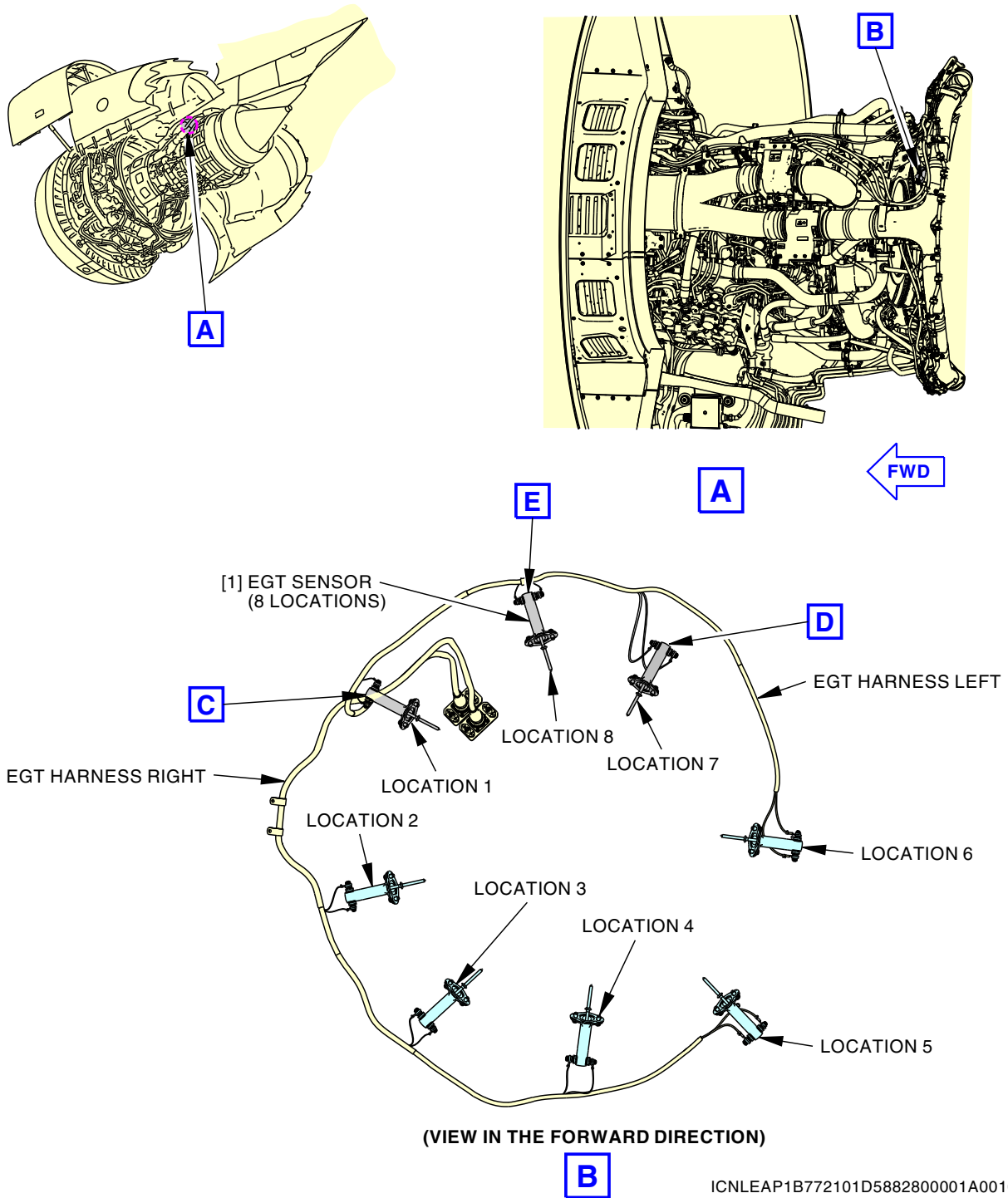
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-01

Page 405
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



ICNLEAP1B772101D5882800001A00101
2355066 S00061516487_V2

Exhaust Gas Temperature Sensors Installation
Figure 401/77-21-01-990-801-G00 (Sheet 1 of 4)

EFFECTIVITY
SIA ALL

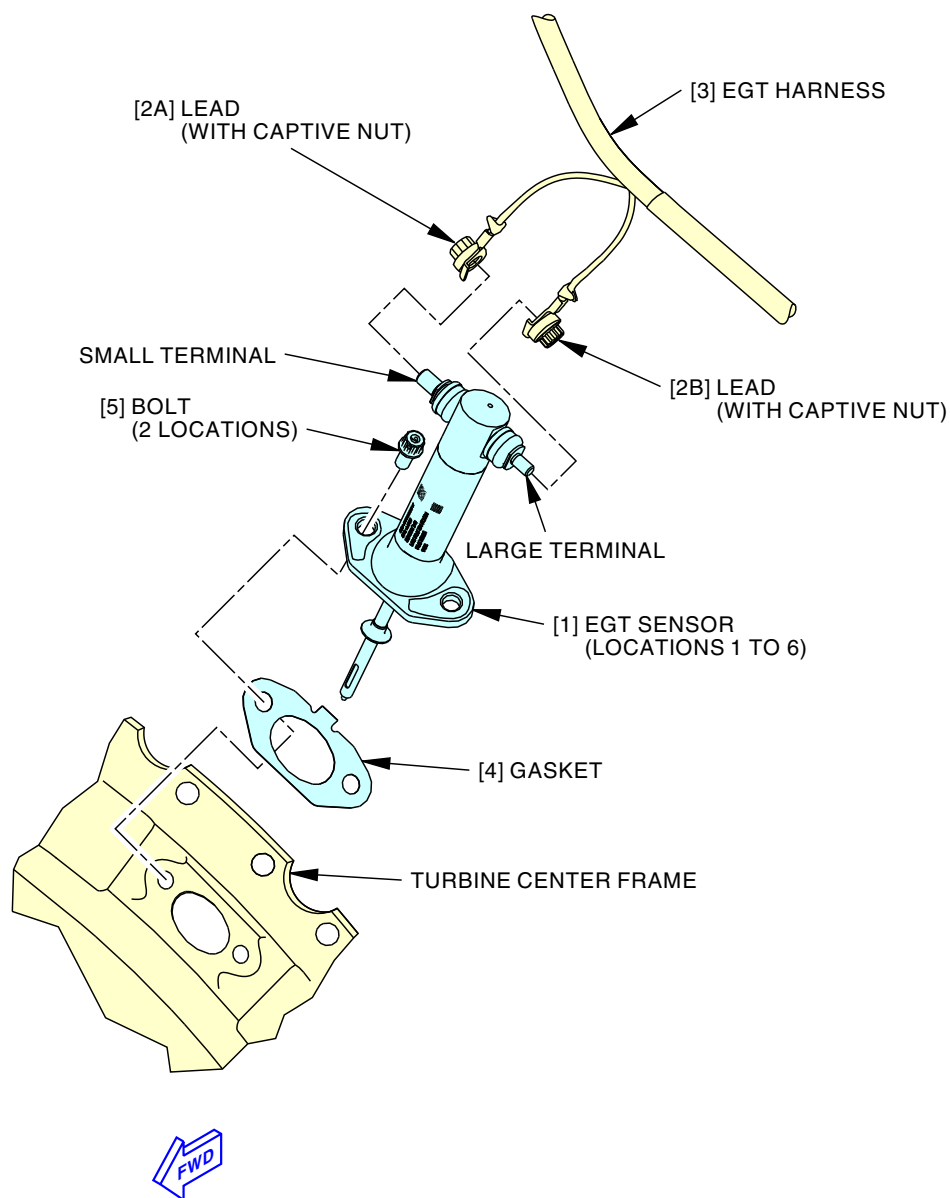
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-01

Page 406
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



EGT SENSORS LOCATIONS 1 TO 6

C

ICNLEAP1B772101D5882800002A00101
2355067 S00061516488_V3

Exhaust Gas Temperature Sensors Installation
Figure 401/77-21-01-990-801-G00 (Sheet 2 of 4)

EFFECTIVITY
SIA ALL

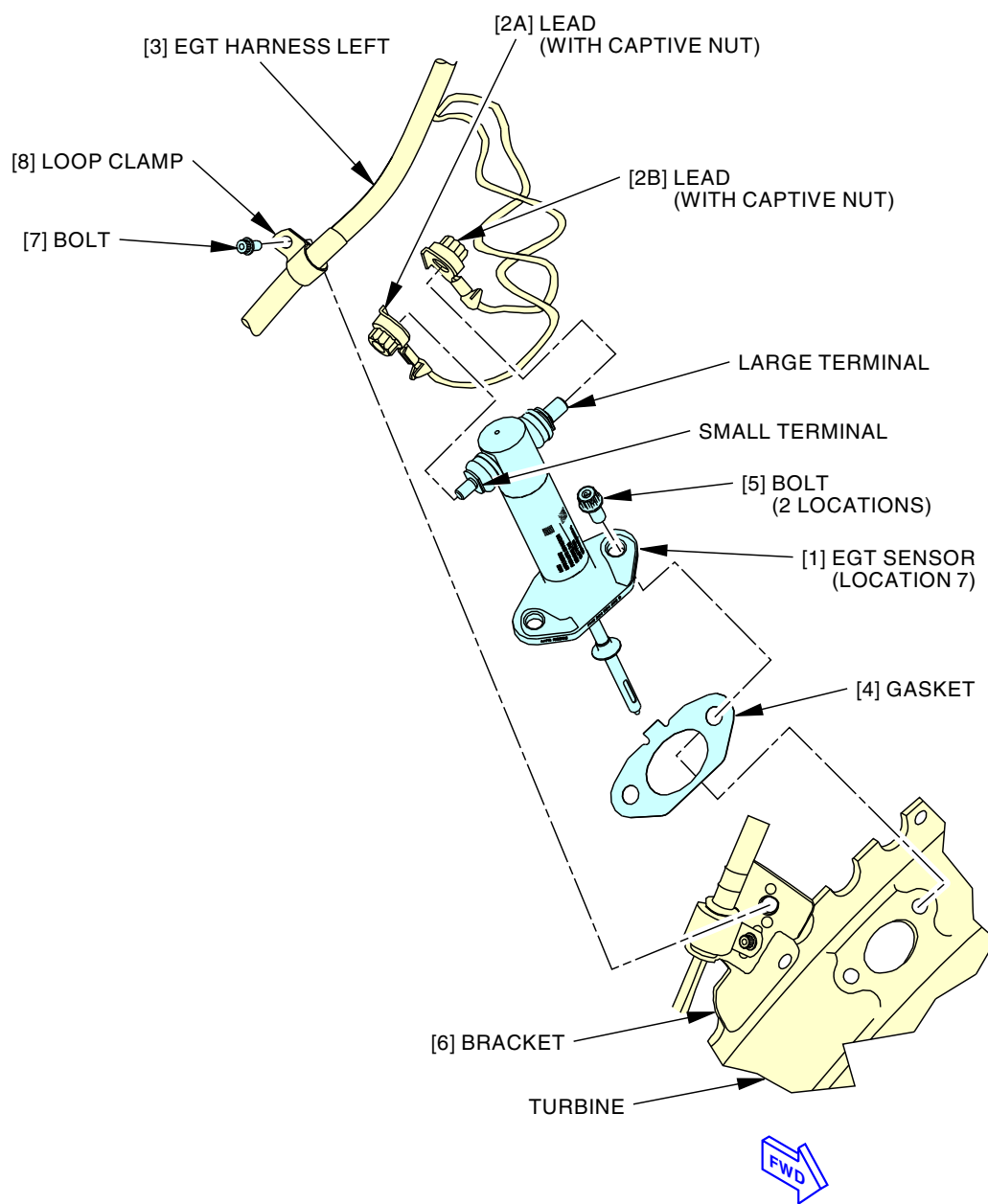
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-01

Page 407
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



EGT SENSOR LOCATION 7



ICNLEAP1B772101D5882800003A00101
2402884 S0000554880_V3

Exhaust Gas Temperature Sensors Installation
Figure 401/77-21-01-990-801-G00 (Sheet 3 of 4)

EFFECTIVITY
SIA ALL

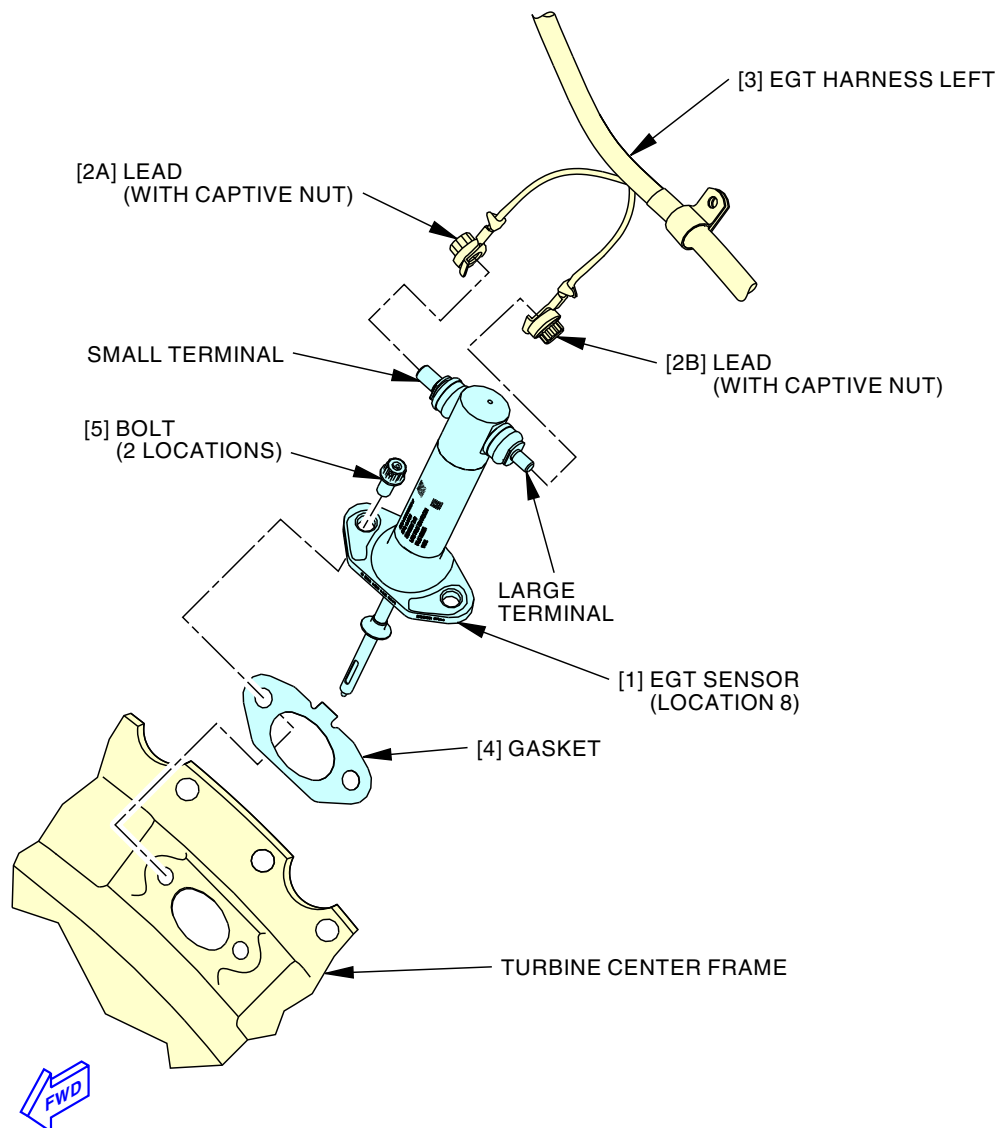
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-01

Page 408
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



EGT SENSOR LOCATION 8

E

ICNLEAP1B772101D5882800004A00101
2402885 S0000554881_V3

Exhaust Gas Temperature Sensors Installation
Figure 401/77-21-01-990-801-G00 (Sheet 4 of 4)

EFFECTIVITY
SIA ALL

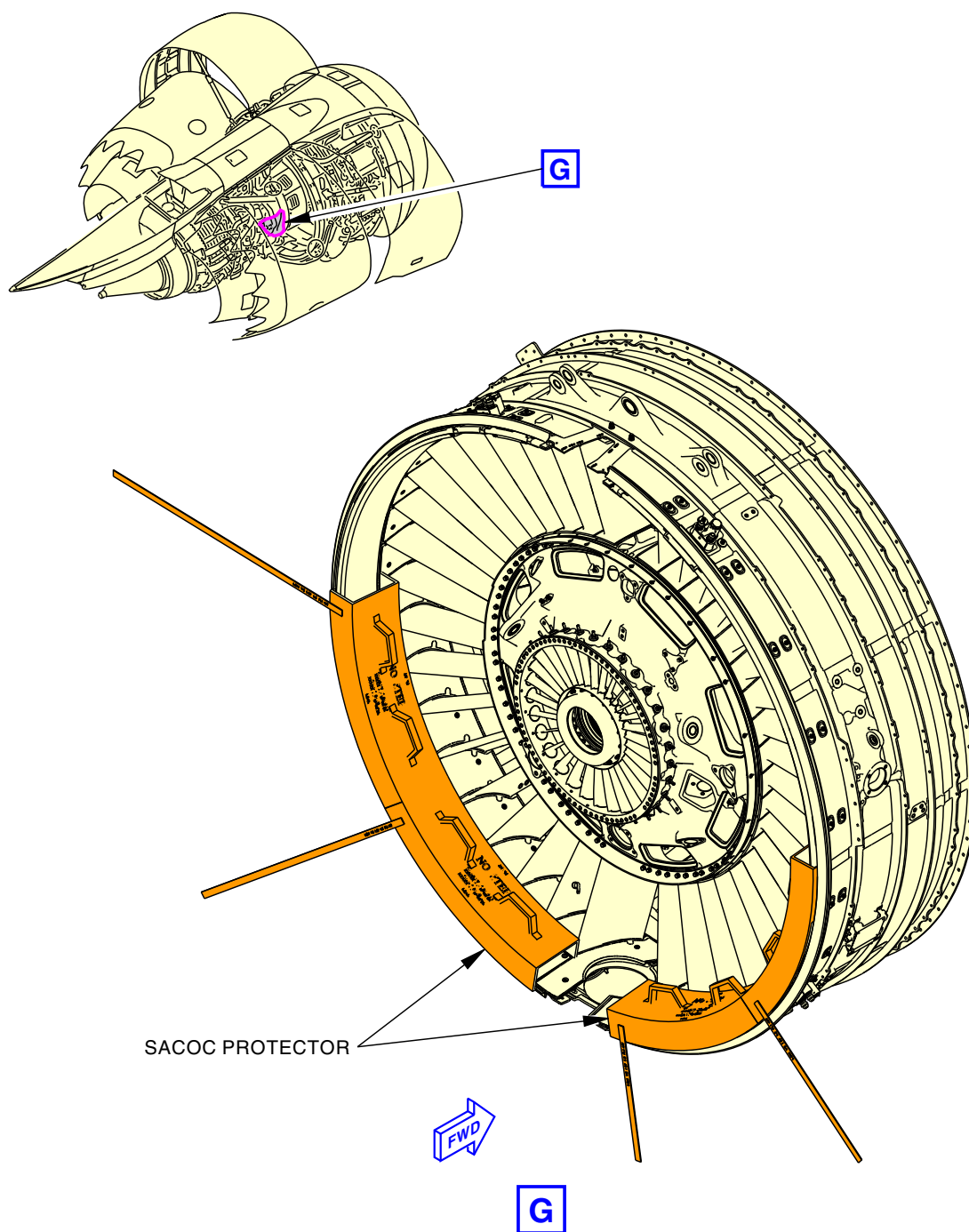
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-01

Page 409
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



2834961 S0000659770_V1

SACOC Protector Installation
Figure 402/77-21-01-990-803-G00

EFFECTIVITY
SIA ALL

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-01

Page 410
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

TASK 77-21-01-400-801-G00**3. Exhaust Gas Temperature Sensors Installation**

(Figure 401 and Figure 402)

A. General

- (1) This task gives the instructions to install the exhaust gas temperature sensor.
- (2) The exhaust gas temperature sensor is referred to as the EGT sensor.
- (3) There are eight EGT sensors which are installed on the turbine center frame. The EGT sensors are interchangeable.

B. References

Reference	Title
70-41-00-400-801-G00	Lockwire Installation (P/B 201)
70-41-00-400-802-G00	Safety Cable Installation (P/B 201)
71-00-00-800-804-G00	Power Plant Test Reference Table (P/B 501)
71-11-04-410-801-G00	Close the Fan Cowl Panels (Selection) (P/B 201)
78-31-00-010-802-G00	Close the Thrust Reverser (Selection) (P/B 201)
78-31-00-440-801-G00	Thrust Reverser Activation After Ground Maintenance (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
SPL-14947	Protector - SACOC Part #: 956A8681G02 Supplier: 58828
STD-858	Tag - DO NOT OPERATE

D. Consumable Materials

Reference	Description	Specification
D00599 [CP2442]	Oil - Engine	
D00601 [CP2101]	Vaseline - Graphite Mineral	
G02495 [CP8002]	Wire - Safety, 0.032 Inch (0.8 mm) Diameter	AMS5689
G50065 [CP8006]	Cable, Safety, Stainless Steel, 0.032 inch (0.8 mm) Diameter	M50 TF 9 CL-A
G51435 [CP2635]	Wax - Stick	

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	EGT sensor	77-21-01-01-020	SIA ALL
4	Gasket	77-21-01-01-030	SIA ALL

F. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

G. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1

EFFECTIVITY
SIA ALL

77-21-01

D633AM101-SIA

Page 411
May 15/2023

737-7/8/8200/9/10 AIRCRAFT MAINTENANCE MANUAL

(Continued)

Number	Name/Location
414	Right Fan Cowl, Engine 1
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2

H. Exhaust Gas Temperature Sensors Installation

SUBTASK 77-21-01-420-001-G00

- (1) For the EGT sensor [1] at location 7, install the EGT sensor [1] as follows:

NOTE: The EGT sensor at location 7 is installed at the 1:00 o'clock position aft looking forward on the turbine center frame.

- (a) Remove the protective cover from the open port for the EGT sensor [1] on the turbine center frame.

- (b) Put a new gasket [4] on the mounting pad flange.

NOTE: Make sure that the tab on the gasket is in the correct position. The gasket must have full sealing around the EGT sensor to prevent leaks in the probe hole.

- (c) Install the EGT sensor [1] on the mounting pad.

- (d) Lubricate the threads of the two bolts [5] with graphite mineral vaseline, D00601 [CP2101].

- (e) Install the two bolts [5].

- 1) Tighten the two bolts [5] to 106.0 in-lb (11.98 N·m) - 124.0 in-lb (14.01 N·m).

- 2) Install the safety wire, G02495 [CP8002] or cable, G50065 [CP8006] on the bolts [5] (TASK 70-41-00-400-801-G00 or TASK 70-41-00-400-802-G00).

**CAUTION**

MAKE SURE THAT THE EGT HARNESS LEADS ARE IN THE CORRECT POSITION BEFORE YOU TIGHTEN THE CAPTIVE NUTS. IF THE LEADS ARE NOT IN THE CORRECT POSITION, YOU CAN CAUSE DAMAGE TO EGT HARNESS LEADS AND THE EGT PROBE.

**CAUTION**

DO NOT APPLY TOO MUCH TORQUE TO THE CAPTIVE NUTS. IF YOU APPLY TOO MUCH TORQUE TO THE CAPTIVE NUTS, YOU CAN CAUSE DAMAGE TO THE TERMINALS ON THE EGT PROBE.

- (f) Install the lead [2A] on the EGT sensor [1] as follows:

NOTE: The EGT probe has a large terminal and a small terminal. Make sure that you install the captive nuts on the correct terminals.

- 1) Attach the lead [2A] to the EGT sensor [1] smaller terminal.

- 2) Hold the wiring harness lead [2A] to keep it in its position.

- 3) Tighten the captive nut to 25.2 in-lb (2.85 N·m) - 27.9 in-lb (3.15 N·m).

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

MAKE SURE THAT THE EGT HARNESS LEADS ARE IN THE CORRECT POSITION BEFORE YOU TIGHTEN THE CAPTIVE NUTS. IF THE LEADS ARE NOT IN THE CORRECT POSITION, YOU CAN CAUSE DAMAGE TO EGT HARNESS LEADS AND THE EGT PROBE.



DO NOT APPLY TOO MUCH TORQUE TO THE CAPTIVE NUTS. IF YOU APPLY TOO MUCH TORQUE TO THE CAPTIVE NUTS, YOU CAN CAUSE DAMAGE TO THE TERMINALS ON THE EGT PROBE.

- (g) Install the lead [2B] to the EGT sensor [1] as follows:

NOTE: The EGT probe has a large terminal and a small terminal. Make sure that you install the captive nuts on the correct terminals.

NOTE: Wrap the lead [2B] around the lead [2A] three to five times to prevent the leads from contacting the wire harness or adjacent hardware. Do not wrap too tight to prevent damage to the leads.

- 1) Attach the lead [2B] to the EGT sensor [1] larger terminal.
 - 2) Hold the wiring harness lead [2B] to keep it in its position.
 - 3) Tighten the captive nut to 34.0 in-lb (3.8 N·m) - 37.0 in-lb (4.2 N·m).
- (h) Remove the tie wraps from the EGT harness [3].
- (i) Apply engine oil, D00599 [CP2442] on the threads of the bolt [7].
- (j) Install the bolt [7] that attaches the loop clamp [8] and the EGT harness [3] to the bracket [6].
- 1) Tighten the bolt [7] to 32.0 in-lb (3.62 N·m) - 38.0 in-lb (4.29 N·m).

SUBTASK 77-21-01-410-001-G00

- (2) For the EGT sensor [1] at locations 1 to 6, install the EGT sensor [1] as follows:

NOTE: The EGT sensor at locations 1 to 6 are installed anti-clockwise at the 10:00 to 3:00 o'clock positions aft looking forward on the turbine center frame.

- (a) Remove the protective cover from the open port for the EGT sensor [1] on the turbine center frame.

- (b) Put a new gasket [4] on the mounting pad flange.

NOTE: The gasket must have full sealing around the EGT sensor to prevent leaks in the probe hole.

- (c) Install the EGT sensor [1] on the mounting pad.

- (d) Lubricate the threads of the two bolts [5] with graphite mineral vaseline, D00601 [CP2101].

- (e) Install the two bolts [5].

- 1) Tighten the bolts [5] to 106.0 in-lb (11.98 N·m) - 124.0 in-lb (14.01 N·m).
- 2) Install the safety wire, G02495 [CP8002] or cable, G50065 [CP8006] on the bolts [5] (TASK 70-41-00-400-801-G00 or TASK 70-41-00-400-802-G00).



MAKE SURE THAT THE EGT HARNESS LEADS ARE IN THE CORRECT POSITION BEFORE YOU TIGHTEN THE CAPTIVE NUTS. IF THE LEADS ARE NOT IN THE CORRECT POSITION, YOU CAN CAUSE DAMAGE TO EGT HARNESS LEADS AND THE EGT PROBE.

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL****(CAUTION PRECEDES)**

DO NOT APPLY TOO MUCH TORQUE TO THE CAPTIVE NUTS. IF YOU APPLY TOO MUCH TORQUE TO THE CAPTIVE NUTS, YOU CAN CAUSE DAMAGE TO THE TERMINALS ON THE EGT PROBE.

- (f) Install the lead [2A] on the EGT sensor [1] as follows:

NOTE: The EGT probe has a large terminal and a small terminal. Make sure that you install the captive nuts on the correct terminals.

- 1) Attach the lead [2A] to the EGT sensor [1] smaller terminal.
- 2) Hold the wiring harness lead [2A] to keep it in its position.
- 3) Tighten the captive nut to 25.2 in-lb (2.85 N·m) - 27.9 in-lb (3.15 N·m).



MAKE SURE THAT THE EGT HARNESS LEADS ARE IN THE CORRECT POSITION BEFORE YOU TIGHTEN THE CAPTIVE NUTS. IF THE LEADS ARE NOT IN THE CORRECT POSITION, YOU CAN CAUSE DAMAGE TO EGT HARNESS LEADS AND THE EGT PROBE.



DO NOT APPLY TOO MUCH TORQUE TO THE CAPTIVE NUTS. IF YOU APPLY TOO MUCH TORQUE TO THE CAPTIVE NUTS, YOU CAN CAUSE DAMAGE TO THE TERMINALS ON THE EGT PROBE.

- (g) Install the lead [2B] to the EGT sensor [1] as follows:

NOTE: The EGT probe has a large terminal and a small terminal. Make sure that you install the captive nuts on the correct terminals.

NOTE: Wrap the lead [2B] around the lead [2A] three to five times to prevent the leads from contacting the wire harness or adjacent hardware. Do not wrap too tight to prevent damage to the leads.

- 1) Attach the lead [2B] to the EGT sensor [1] larger terminal.
- 2) Hold the wiring harness lead [2B] to keep it in its position.
- 3) Tighten the captive nut to 34.0 in-lb (3.8 N·m) - 37.0 in-lb (4.2 N·m).

SUBTASK 77-21-01-410-002-G00

- (3) For the EGT sensor [1] at location 8, install the EGT sensor [1] as follows:

NOTE: The EGT sensor at location 8 is installed at the 12:00 o'clock position aft looking forward on the turbine center frame.

- (a) Remove the protective cover from the open port for the EGT sensor [1] on the turbine center frame.

- (b) Put a new gasket [4] on the mounting pad flange as follows:

NOTE: The gasket must have full sealing around the EGT sensor to prevent leaks in the probe hole.

- 1) Use stick wax, G51435 [CP2635] to hold the gasket [4] in place on the mount pad flange.

- (c) Install the EGT sensor [1] on the location 8 mounting pad.

- (d) Lubricate the threads of the two bolts [5] with graphite mineral vaseline, D00601 [CP2101].

- (e) Install the two bolts [5].

EFFECTIVITY
SIA ALL

77-21-01

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Page 414
Sep 15/2021

737-7/8/8200/9/10 AIRCRAFT MAINTENANCE MANUAL

- 1) Tighten the bolts [5] to 106.0 in-lb (11.98 N·m) - 124.0 in-lb (14.01 N·m).
- 2) Install the safety wire, G02495 [CP8002] or cable, G50065 [CP8006] on the bolts [5] (TASK 70-41-00-400-801-G00 or TASK 70-41-00-400-802-G00).

**CAUTION**

MAKE SURE THAT THE EGT HARNESS LEADS ARE IN THE CORRECT POSITION BEFORE YOU TIGHTEN THE CAPTIVE NUTS. IF THE LEADS ARE NOT IN THE CORRECT POSITION, YOU CAN CAUSE DAMAGE TO EGT HARNESS LEADS AND THE EGT PROBE.

**CAUTION**

DO NOT APPLY TOO MUCH TORQUE TO THE CAPTIVE NUTS. IF YOU APPLY TOO MUCH TORQUE TO THE CAPTIVE NUTS, YOU CAN CAUSE DAMAGE TO THE TERMINALS ON THE EGT PROBE.

- (f) Install the lead [2A] on the EGT sensor [1] as follows:

NOTE: The EGT probe has a large terminal and a small terminal. Make sure that you install the captive nuts on the correct terminals.

- 1) Attach the lead [2A] to the EGT sensor [1] smaller terminal.
- 2) Hold the wiring harness lead [2A] to keep it in its position.
- 3) Tighten the captive nut to 25.2 in-lb (2.85 N·m) - 27.9 in-lb (3.15 N·m).

**CAUTION**

MAKE SURE THAT THE EGT HARNESS LEADS ARE IN THE CORRECT POSITION BEFORE YOU TIGHTEN THE CAPTIVE NUTS. IF THE LEADS ARE NOT IN THE CORRECT POSITION, YOU CAN CAUSE DAMAGE TO EGT HARNESS LEADS AND THE EGT PROBE.

**CAUTION**

DO NOT APPLY TOO MUCH TORQUE TO THE CAPTIVE NUTS. IF YOU APPLY TOO MUCH TORQUE TO THE CAPTIVE NUTS, YOU CAN CAUSE DAMAGE TO THE TERMINALS ON THE EGT PROBE.

- (g) Install the lead [2B] to the EGT sensor [1] as follows:

NOTE: The EGT probe has a large terminal and a small terminal. Make sure that you install the captive nuts on the correct terminals.

NOTE: Wrap the lead [2B] around the lead [2A] three to five times to prevent the leads from contacting the wire harness or adjacent hardware. Do not wrap too tight to prevent damage to the leads.

- 1) Attach the lead [2B] to the EGT sensor [1] larger terminal.
- 2) Hold the wiring harness lead [2B] to keep it in its position.
- 3) Tighten the captive nut to 34 in-lb (3.8 N·m) - 37 in-lb (4.2 N·m).

I. Put the Airplane Back to Its Usual Condition

SUBTASK 77-21-01-080-002-G00

- (1) Remove the protector, SPL-14947 from the engine.

SUBTASK 77-21-01-860-005-G00

- (2) Do these steps to remove the DO NOT OPERATE tags, STD-858, from the applicable ENGINE START switch and START LEVER switch:
 - (a) On the P5 overhead panel, remove the DO NOT OPERATE tag, STD-858, from the applicable ENGINE START switch.

EFFECTIVITY
SIA ALL

77-21-01

D633AM101-SIA

Page 415
Jan 15/2023

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

- (b) On the P10 control stand, remove the DO NOT OPERATE tag, STD-858, from the applicable START LEVER switch.

SUBTASK 77-21-01-860-006-G00

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

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

SUBTASK 77-21-01-860-007-G00

- (4) For the left engine, remove the safety tags and close these applicable circuit breakers:

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	5	C01320	ENGINE FUEL ENGINE 1 HPSOV CONT
E	6	C01395	ENGINE FUEL ENGINE 1 HPSOV IND

SUBTASK 77-21-01-860-008-G00

- (5) For the right engine, remove the safety tags and close these applicable circuit breakers:

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C01321	ENGINE FUEL ENGINE 2 HPSOV CONT
E	4	C01396	ENGINE FUEL ENGINE 2 HPSOV IND

SUBTASK 77-21-01-410-003-G00



OBEY THE INSTRUCTIONS IN THE PROCEDURE TO CLOSE THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (6) Do these tasks in sequence to safely close the applicable left or right thrust reversers:
- (a) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-802-G00.
- 1) Close these access panels:
- | <u>Number</u> | <u>Name/Location</u> |
|---------------|---------------------------------|
| 415 | Left Thrust Reverser, Engine 1 |
| 416 | Right Thrust Reverser, Engine 1 |
| 425 | Left Thrust Reverser, Engine 2 |
| 426 | Right Thrust Reverser, Engine 2 |
- (b) Do this task: Close the Fan Cowl Panels (Selection), TASK 71-11-04-410-801-G00.
- 1) Close these access panels:
- | <u>Number</u> | <u>Name/Location</u> |
|---------------|--------------------------|
| 413 | Left Fan Cowl, Engine 1 |
| 414 | Right Fan Cowl, Engine 1 |
| 423 | Left Fan Cowl, Engine 2 |
| 424 | Right Fan Cowl, Engine 2 |
- (c) Do this task: Thrust Reverser Activation After Ground Maintenance, TASK 78-31-00-440-801-G00.

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

J. Exhaust Gas Temperature Sensors Installation Test

SUBTASK 77-21-01-730-001-G00

- (1) Do the test(s) that are given in the Power Plant Test Reference Table (TASK 71-00-00-800-804-G00).

———— **END OF TASK** ————

EFFECTIVITY
SIA ALL

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-01

Page 417
Sep 15/2021

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

EXHAUST GAS TEMPERATURE SENSOR HARNESS 1 - REMOVAL/INSTALLATION

1. General

A. This procedure contains the following tasks:

- (1) A removal of the exhaust gas temperature sensor harness 1
- (2) An installation of the exhaust gas temperature sensor harness 1.

TASK 77-21-04-000-801-G00

2. Exhaust Gas Temperature Sensor Harness 1 Removal

(Figure 401)

A. General

- (1) This task provides the instructions on how to remove the Exhaust Gas Temperature (EGT) harness 1.

B. References

Reference	Title
70-00-01-910-803-G00	Electrical Connector Disconnection and Connection (P/B 201)
71-11-04-010-801-G00	Open the Fan Cowl Panels (Selection) (P/B 201)
78-31-00-010-801-G00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-040-801-G00	Thrust Reverser Deactivation For Ground Maintenance (P/B 201)

C. Tools/Equipment

Reference	Description
STD-664	Pliers - Teflon-jawed (or Equivalent Soft-Jawed)
STD-858	Tag - DO NOT OPERATE

D. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

E. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2

F. Prepare for the Removal

SUBTASK 77-21-04-860-001-G00

- (1) Do these steps to make sure that the ENGINE START switch and the START LEVER switch are not operated:
 - (a) Make sure that the applicable ENGINE START switch, on the P5 overhead panel, is in the AUTO or OFF position.

EFFECTIVITY
SIA ALL

77-21-04

D633AM101-SIA

Page 401
Jan 15/2023

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

- 1) Put a DO NOT OPERATE tag, STD-858, on the applicable ENGINE START switch.
- (b) Make sure that the applicable START LEVER switch, on the P10 control stand, is in the CUTOFF position.
 - 1) Put a DO NOT OPERATE tag, STD-858, on the applicable START LEVER switch.

SUBTASK 77-21-04-865-001-G00

- (2) Open these applicable 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	4	C04008	ENGINE 1 ALTN PWR CHAN B
A	5	C04007	ENGINE 1 ALTN PWR CHAN A
B	3	C01312	ENGINE 1 RUN/PWR

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
D	7	C04010	ENGINE 2 ALTN PWR CHAN B
D	8	C04009	ENGINE 2 ALTN PWR CHAN A

F/O Electrical System Panel, P6-5

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C04018	ENG 1 STBY ALTN PWR RELAY CHAN A
E	4	C04019	ENG 1 STBY ALTN PWR CHAN A

SUBTASK 77-21-04-010-001-G00

- (3) Do these tasks in sequence to safely open the left and right thrust reversers on the applicable engine:

**WARNING**

DO THE DEACTIVATION PROCEDURE FOR THE THRUST REVERSER TO PREVENT THE OPERATION OF THE THRUST REVERSER. ACCIDENTAL OPERATION OF THE THRUST REVERSER CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

- (a) Do this task: Thrust Reverser Deactivation For Ground Maintenance, TASK 78-31-00-040-801-G00.
- (b) Open the applicable left or right fan cowl panels (TASK 71-11-04-010-801-G00).
 - 1) Open these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2

**WARNING**

OBEY THE INSTRUCTIONS IN THE PROCEDURE TO OPEN THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (c) Open the applicable left or right thrust reversers (TASK 78-31-00-010-801-G00).

737-7/8/8200/9/10 AIRCRAFT MAINTENANCE MANUAL

- 1) Open these access panels:

<u>Number</u>	<u>Name/Location</u>
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2

G. Exhaust Gas Temperature Sensor Harness 1 Removal

SUBTASK 77-21-04-010-002-G00



BE CAREFUL WHEN YOU DO WORK ON THE ENGINE PARTS AFTER THE ENGINE IS STOPPED. THE ENGINE PARTS CAN STAY HOT FOR ALMOST ONE HOUR. DO NOT TOUCH HOT PARTS WITHOUT APPLICABLE GLOVES. HOT PARTS CAN CAUSE INJURIES TO PERSONNEL.



MAKE SURE THAT THE ELECTRICAL CONNECTORS AND RECEPTACLES ARE CLEAN AND CLEAR OF UNWANTED MATERIALS BEFORE YOU DISCONNECT, OR CONNECT THEM. CONTAMINATION OF THE ELECTRICAL CONNECTORS AND RECEPTACLES CAN CAUSE DAMAGE TO EQUIPMENT.



USE TEFLON-JAWED PLIERS TO LOOSEN ELECTRICAL CONNECTORS. DO NOT USE METAL-JAWED PLIERS. DAMAGE TO THE ELECTRICAL CONNECTORS COULD OCCUR.

- (1) Use a teflon-jawed pliers, STD-664, to disconnect these electrical connectors (TASK 70-00-01-910-803-G00):
- (a) Disconnect the electrical connector [7] from the EGT harness 1 [1].
 - (b) Disconnect the electrical connector [5] from the TCF accelerometer cable [2].
 - (c) Disconnect the electrical connector [6] from the HPTACC valve [3].
 - (d) Install the protective covers on the electrical receptacles on the EGT harness 1 [1], the TCF accelerometer cable [2], the HPTACC valve [3], and the electrical connectors.

SUBTASK 77-21-04-020-001-G00

- (2) Remove the EGT harness 1 [1] as follows:
- (a) Remove the two bolts [8] that attach the EGT harness 1 [1] to the support bracket [9].
 - 1) Remove the EGT harness 1 [1] from the support bracket [9].
 - (b) Put the protective covers on the TCF accelerometer cable [2] and the EGT harness 1 [1] receptacles.



DO NOT REMOVE THE CAPTIVE NUTS FROM THE LEADS. DAMAGE CAN OCCUR TO THE LEADS OR THE CAPTIVE NUTS.

- (c) Disconnect the EGT harness 1 lead [50] and the lead [51] from the four EGT sensors [33] as follows:
- 1) Loosen the captive nuts.
 - 2) Remove the lead [50] and the lead [51] from the four EGT sensors [33].

EFFECTIVITY
SIA ALL

77-21-04

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Page 403
Sep 15/2021

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

- (d) Disconnect the EGT harness 1 [1] loop clamps from the engine brackets and the LPTACC air duct [34] as follow:
- 1) Remove the bolt [11] that attaches the loop clamp [10] and the EGT harness 1 [1] to the support bracket [12].
 - 2) Remove the bolt [15] that attaches the loop clamp [14] and the EGT harness 1 [1] to the support bracket [13].
 - 3) Remove the bolt [18] that attaches the loop clamp [17] and the EGT harness 1 [1] to the support bracket [16].

SIA ALL; AIRPLANES WITH PRE LEAP-1B SB 72-0270

- 4) Remove the bolt [19] that attaches the loop clamp [20] and the EGT harness 1 [1] to the support bracket [21].

SIA ALL; AIRPLANES WITH POST LEAP-1B SB 72-0270

- 5) Remove the bolt [20] that attaches the loop clamp [19] and the EGT harness 1 [1] to the LPTACC air duct [34].

SIA ALL

- 6) Remove the bolt [32] that attaches the loop clamp [31] and the EGT harness 1 [1] to the LPTACC air duct [34].
- 7) Remove the bolt [30] that attaches the loop clamp [29] and the EGT harness 1 [1] to the LPTACC air duct [34].

SIA ALL; AIRPLANES WITH PRE LEAP-1B SB 72-0270

- 8) Remove the bolt [28] that attaches the loop clamp [27] and the EGT harness 1 [1] to the LPTACC air duct [34].
- 9) Remove the bolt [26] that attaches the loop clamp [25] and the EGT harness 1 [1] to the LPTACC air duct [34].

SIA ALL; AIRPLANES WITH POST LEAP-1B SB 72-0270

- 10) Remove the bolt [28] that attaches the loop clamp [27] and the EGT harness 1 [1] to the support bracket [53].
- 11) Remove the bolt [26] that attaches the loop clamp [25] and the EGT harness 1 [1] to the support bracket [52].

SIA ALL

- 12) Remove the bolt [23] that attaches the loop clamp [22] and the EGT harness 1 [1] to the support bracket [24].
- 13) Remove the bolt [48] that attaches the loop clamp [49] and the EGT harness 1 [1] to the support bracket [47].
- 14) Remove the bolt [45] that attaches the loop clamp [46] and the EGT harness 1 [1] to the support bracket [44].

SIA ALL; AIRPLANES WITH PRE LEAP-1B SB 72-0270

- 15) Remove the bolt [36] that attaches the loop clamp [35] and the EGT harness 1 [1] to the support bracket [37].

EFFECTIVITY
SIA ALL

77-21-04

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

SIA ALL; AIRPLANES WITH POST LEAP-1B SB 72-0270

- 16) Remove the two bolts [36] that attach the two loop clamps [35] and the EGT harness 1 [1] to the support bracket [37].

SIA ALL

- 17) Remove the bolt [39] that attaches the loop clamp [38] and the EGT harness 1 [1] to the support bracket [40].
- 18) Remove the bolt [42] that attaches the loop clamp [41] and the EGT harness 1 [1] to the support bracket [43].
- (e) Remove the EGT harness 1 [1] from the engine.
- (f) Put the protective covers on the four EGT sensors [33] terminals and the EGT electrical harness 1 lead [50] and the lead [51].

———— **END OF TASK** ————

EFFECTIVITY
SIA ALL

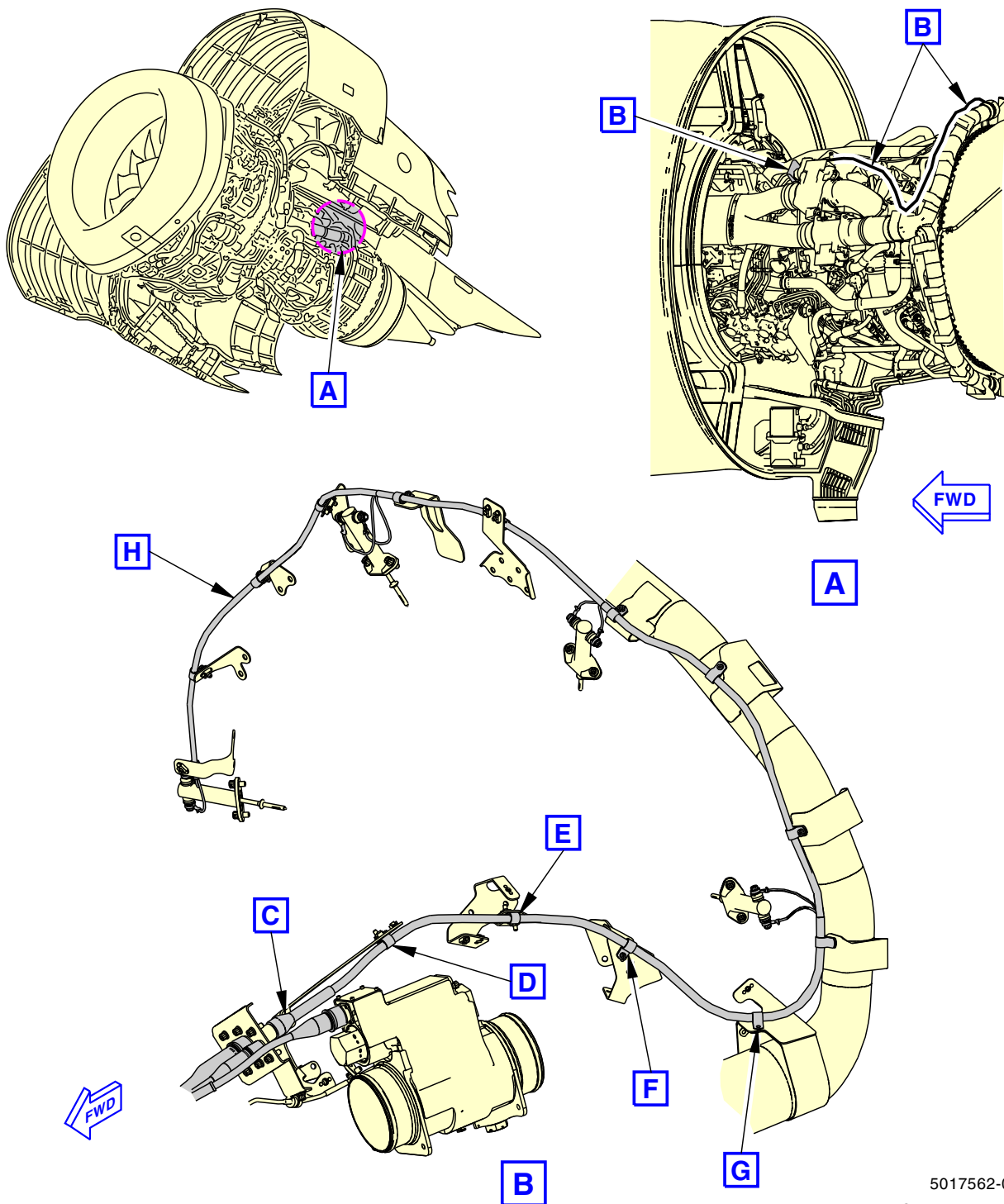
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-04

Page 405
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



5017562-00

2355069 S00061516494_V2

Exhaust Gas Temperature Sensor Harness 1 Installation
Figure 401/77-21-04-990-801-G00 (Sheet 1 of 7)

EFFECTIVITY
SIA ALL; AIRPLANES WITH PRE LEAP-1B SB
72-0270

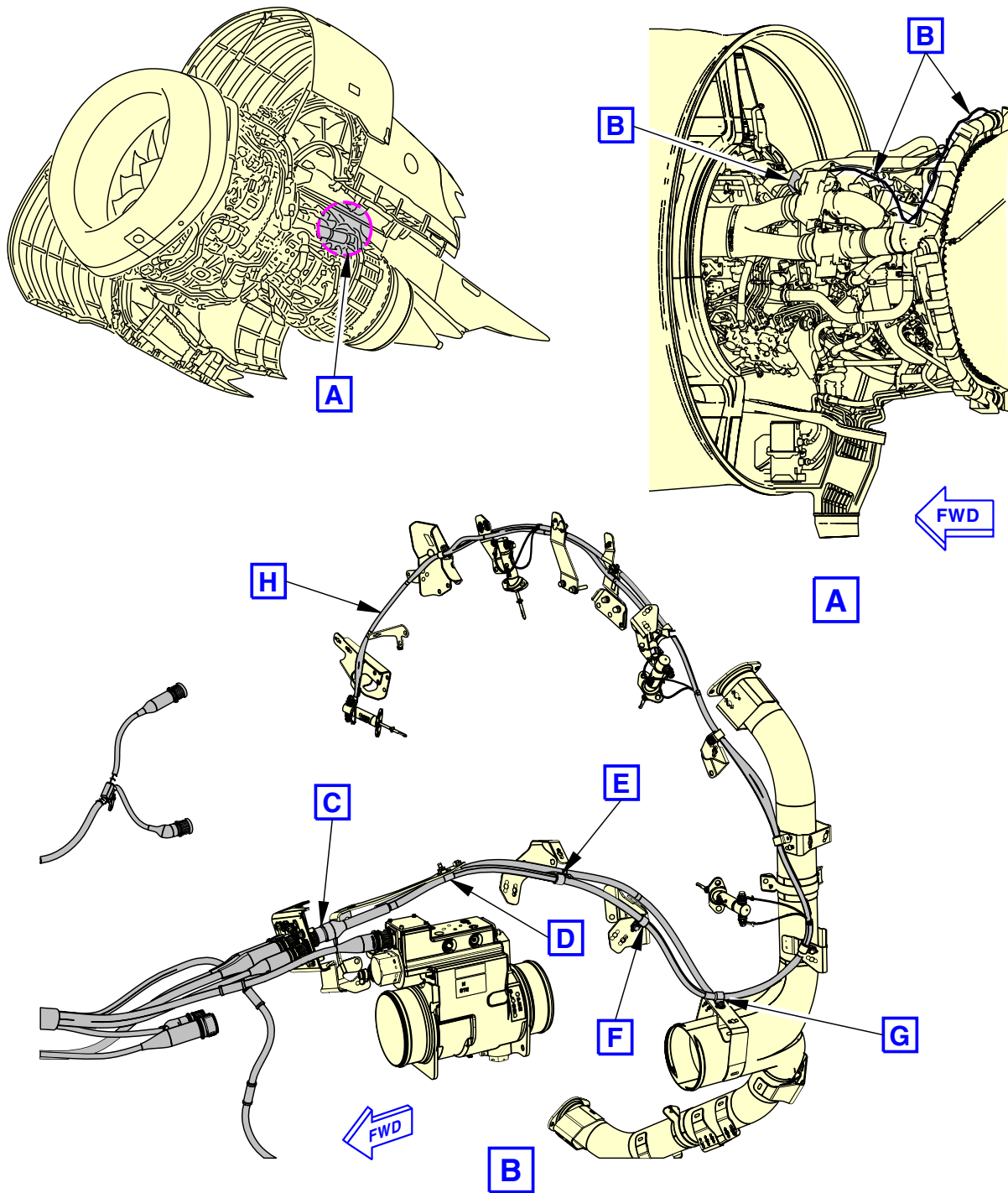
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-04

Page 406
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



5017562-01

2933865 S0000710585_V1

Exhaust Gas Temperature Sensor Harness 1 Installation
Figure 401/77-21-04-990-801-G00 (Sheet 2 of 7)

EFFECTIVITY
SIA ALL; AIRPLANES WITH POST LEAP-1B SB
72-0270

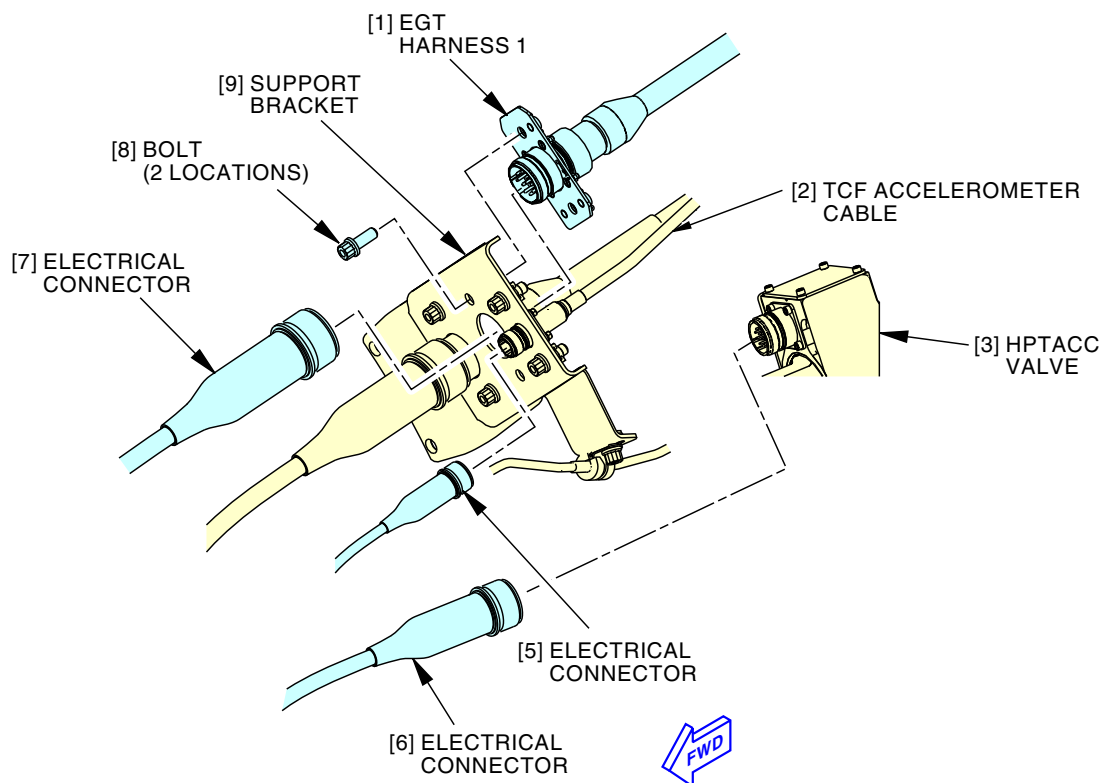
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

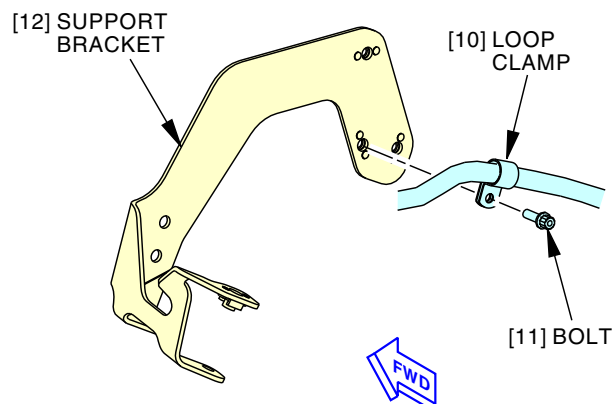
77-21-04

Page 407
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



C



D

5017564-00
2355070 S00061516495_V2

Exhaust Gas Temperature Sensor Harness 1 Installation
Figure 401/77-21-04-990-801-G00 (Sheet 3 of 7)

EFFECTIVITY
SIA ALL

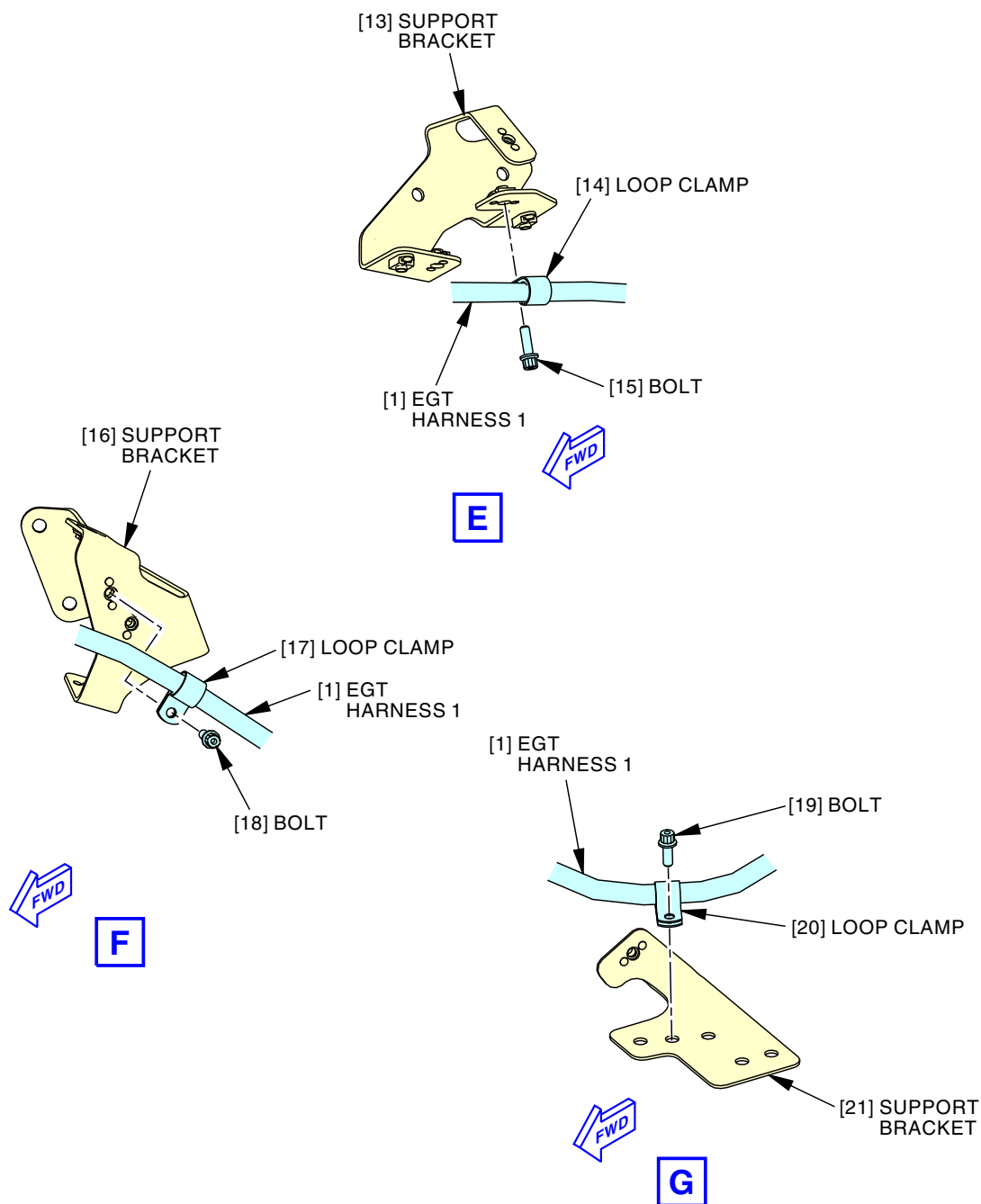
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-04

Page 408
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



5017566-00
2355071 S00061516496_V2

Exhaust Gas Temperature Sensor Harness 1 Installation
Figure 401/77-21-04-990-801-G00 (Sheet 4 of 7)

EFFECTIVITY
SIA ALL; AIRPLANES WITH PRE LEAP-1B SB
72-0270

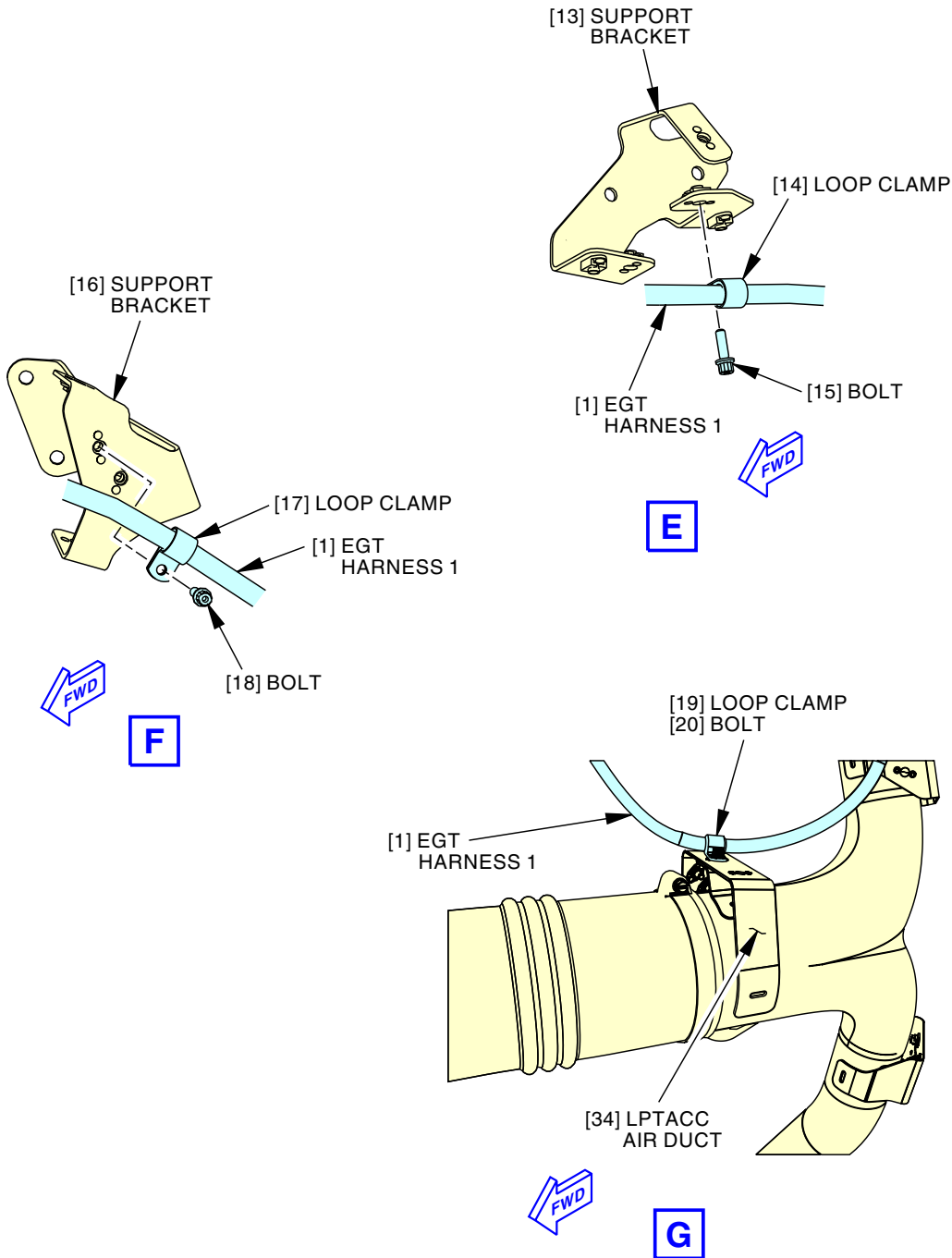
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-04

Page 409
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



5017566-00
6014451-00
2933875 S0000710587_V1

Exhaust Gas Temperature Sensor Harness 1 Installation
Figure 401/77-21-04-990-801-G00 (Sheet 5 of 7)

EFFECTIVITY
SIA ALL; AIRPLANES WITH POST LEAP-1B SB
72-0270

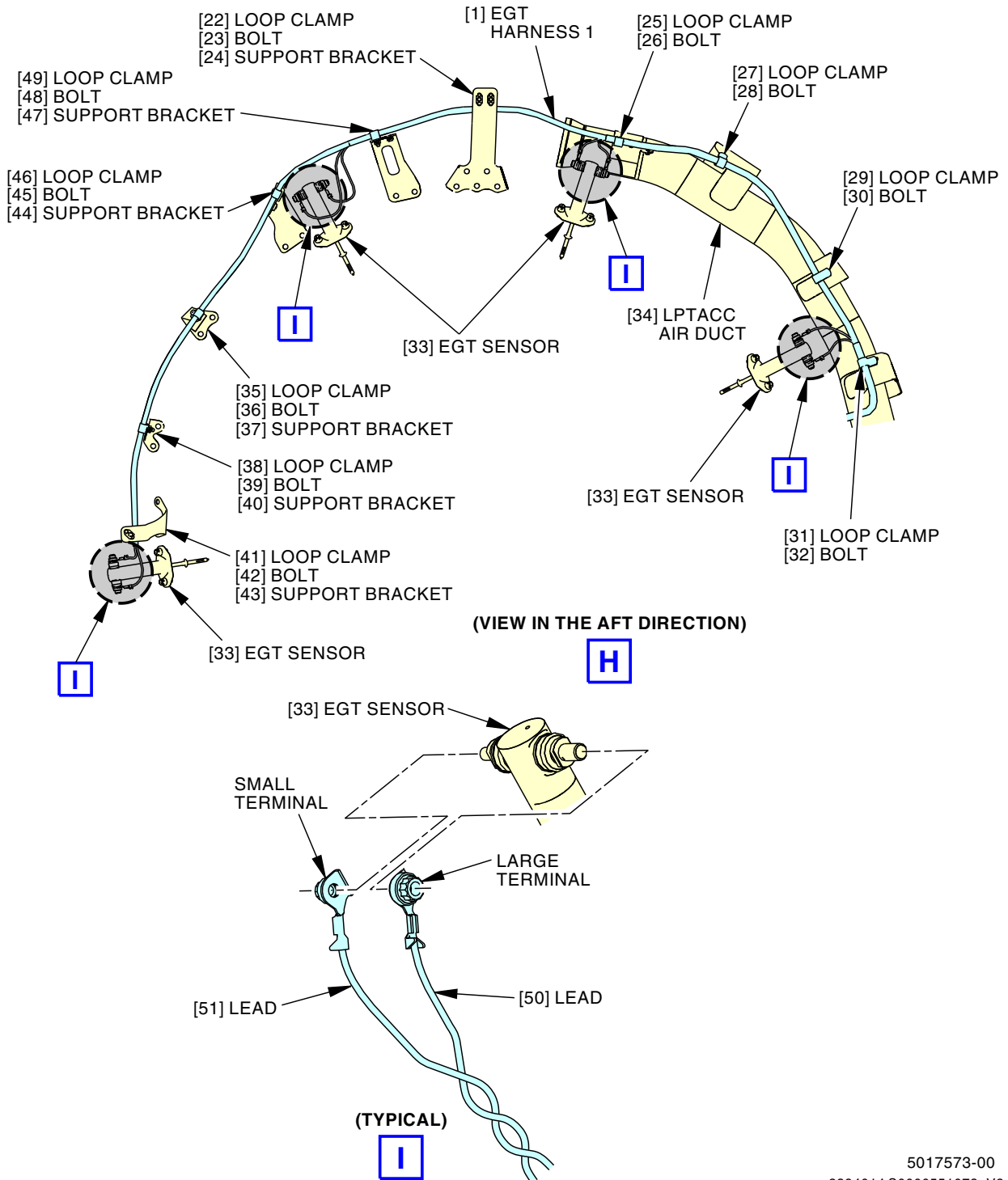
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-04

Page 410
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



5017573-00
2394014 S0000551073_V2

Exhaust Gas Temperature Sensor Harness 1 Installation
Figure 401/77-21-04-990-801-G00 (Sheet 6 of 7)

EFFECTIVITY
SIA ALL; AIRPLANES WITH PRE LEAP-1B SB
72-0270

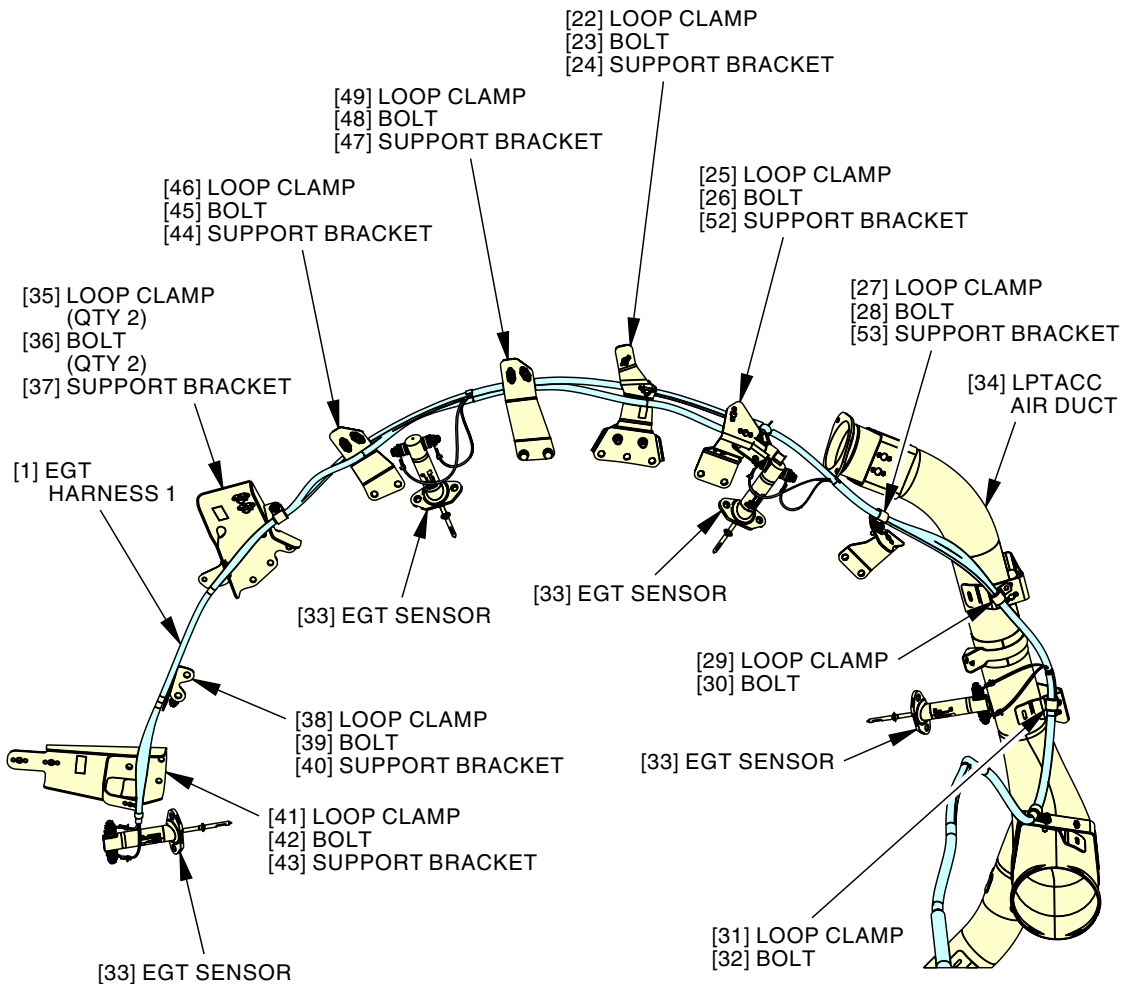
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-04

Page 411
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



(VIEW IN THE AFT DIRECTION)



6014452-00
2933890 S0000710589_V1

Exhaust Gas Temperature Sensor Harness 1 Installation
Figure 401/77-21-04-990-801-G00 (Sheet 7 of 7)

EFFECTIVITY
SIA ALL; AIRPLANES WITH POST LEAP-1B SB
72-0270

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-04

Page 412
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

TASK 77-21-04-400-801-G00**3. Exhaust Gas Temperature Sensor Harness 1 Installation**

(Figure 401)

A. General

- (1) This task provides the instructions on how to install the Exhaust Gas Temperature (EGT) harness 1.

B. References

Reference	Title
70-00-01-910-803-G00	Electrical Connector Disconnection and Connection (P/B 201)
71-00-00-800-804-G00	Power Plant Test Reference Table (P/B 501)
71-11-04-410-801-G00	Close the Fan Cowl Panels (Selection) (P/B 201)
78-31-00-010-802-G00	Close the Thrust Reverser (Selection) (P/B 201)
78-31-00-440-801-G00	Thrust Reverser Activation After Ground Maintenance (P/B 201)

C. Tools/Equipment

Reference	Description
STD-664	Pliers - Teflon-jawed (or Equivalent Soft-Jawed)
STD-858	Tag - DO NOT OPERATE

D. Consumable Materials

Reference	Description	Specification
D00599 [CP2442]	Oil - Engine	

E. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

F. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2

G. Exhaust Gas Temperature Sensor Harness 1 Installation

SUBTASK 77-21-04-420-001-G00

- (1) Install the EGT harness 1 [1] as follows:
- Remove the protective covers from the four EGT sensors [33] terminals and the EGT electrical harness 1 lead [50] and the lead [51].
 - Put the EGT harness 1 [1] in position on the brackets and the LPTACC air duct [34].
 - Loosely install the EGT harness 1 [1] and loop clamps on the engine brackets and LPTACC air duct [34] as follows:

EFFECTIVITY
 SIA ALL

77-21-04

D633AM101-SIA

Page 413
 May 15/2023

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

- 1) Make sure that you install the harness correctly.

NOTE: If you install the harness incorrectly, the harness can rub on the adjacent components.



MAKE SURE THAT YOU USE THE BOLTS IDENTIFIED IN THE PARTS LIST. THESE BOLTS WILL HAVE THE CORRECT LENGTH. BOLTS THAT ARE TOO LONG CAN CAUSE DAMAGE.

- 2) Lubricate the threads of these bolts with the engine oil, D00599 [CP2442]:

SIA ALL; AIRPLANES WITH PRE LEAP-1B SB 72-0270

- a) The bolt [11], the bolt [15], the bolt [18], the bolt [19], and the bolt [23].

SIA ALL; AIRPLANES WITH POST LEAP-1B SB 72-0270

- b) The bolt [11], the bolt [15], the bolt [18], the bolt [20], and the bolt [23].

SIA ALL

- c) The bolt [26], the bolt [28], the bolt [30], the bolt [32], and the bolt [36].
- d) The bolt [39], the bolt [42], the bolt [45], and the bolt [48].
- 3) Install the bolt [42] that attaches the loop clamp [41] and the EGT harness 1 [1] to the support bracket [43].
- 4) Install the bolt [39] that attaches the loop clamp [38] and the EGT harness 1 [1] to the support bracket [40].

SIA ALL; AIRPLANES WITH PRE LEAP-1B SB 72-0270

- 5) Install the bolt [36] that attaches the loop clamp [35] and the EGT harness 1 [1] to the support bracket [37].

SIA ALL; AIRPLANES WITH POST LEAP-1B SB 72-0270

- 6) Install the two bolts [36] that attach the two loop clamps [35] and the EGT harness 1 [1] to the support bracket [37].

SIA ALL

- 7) Install the bolt [45] that attaches the loop clamp [46] and the EGT harness 1 [1] to the support bracket [44].
- 8) Install the bolt [48] that attaches the loop clamp [49] and the EGT harness 1 [1] to the support bracket [47].
- 9) Install the bolt [23] that attaches the loop clamp [22] and the EGT harness 1 [1] to the support bracket [24].

SIA ALL; AIRPLANES WITH PRE LEAP-1B SB 72-0270

- 10) Install the bolt [26] that attaches the loop clamp [25] and the EGT harness 1 [1] to the LPTACC air duct [34].
- 11) Install the bolt [28] that attaches the loop clamp [27] and the EGT harness 1 [1] to the LPTACC air duct [34].

SIA ALL; AIRPLANES WITH POST LEAP-1B SB 72-0270

- 12) Install the bolt [26] that attaches the loop clamp [25] and the EGT harness 1 [1] to the support bracket [52].

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL****SIA ALL; AIRPLANES WITH POST LEAP-1B SB 72-0270 (Continued)**

- 13) Install the bolt [28] that attaches the loop clamp [27] and the EGT harness 1 [1] to the support bracket [53].

SIA ALL

- 14) Install the bolt [30] that attaches the loop clamp [29] and the EGT harness 1 [1] to the LPTACC air duct [34].
- 15) Install the bolt [32] that attaches the loop clamp [31] and the EGT harness 1 [1] to the LPTACC air duct [34].

SIA ALL; AIRPLANES WITH PRE LEAP-1B SB 72-0270

- 16) Install the bolt [19] that attaches the loop clamp [20] and the EGT harness 1 [1] to the support bracket [21].

SIA ALL; AIRPLANES WITH POST LEAP-1B SB 72-0270

- 17) Install the bolt [20] that attaches the loop clamp [19] and the EGT harness 1 [1] to the LPTACC air duct [34].

SIA ALL

- 18) Install the bolt [18] that attaches the loop clamp [17] and the EGT harness 1 [1] to the support bracket [16].
- 19) Install the bolt [15] that attaches the loop clamp [14] and the EGT harness 1 [1] to the support bracket [13].
- 20) Install the bolt [11] that attaches the loop clamp [10] and the EGT harness 1 [1] to the support bracket [12].

**CAUTION**

MAKE SURE THAT THE EGT HARNESS LEADS ARE IN THE CORRECT POSITION BEFORE YOU TIGHTEN THE CAPTIVE NUTS. IF THE LEADS ARE NOT IN THE CORRECT POSITION, YOU CAN CAUSE DAMAGE TO EGT HARNESS LEADS AND THE EGT PROBE.

**CAUTION**

DO NOT TIGHTEN THE CONNECTORS TOO TIGHT. TOO MUCH TORQUE ON THE CONNECTORS CAN CAUSE DAMAGE TO THE EQUIPMENT.

- (d) Connect the EGT harness 1 leads [50] and the leads [51] to the four EGT sensors [33] as follows:

NOTE: The EGT sensor has two terminals and two connector nuts. One terminal has a smaller diameter than the other terminal.

- 1) Make sure that you install the smaller connector nut on the smaller terminal and larger connector nut on the larger terminal.

**CAUTION**

DO NOT WRAP THE LEADS TOGETHER TOO TIGHT. IF YOU DO, DAMAGE CAN OCCUR.

- 2) Wrap the lead [50] and the lead [51] together as shown 3 to 5 times (View H and View I, Figure 401).

NOTE: This will keep the leads separate from the harness or adjacent hardware.

EFFECTIVITY
SIA ALL

77-21-04

D633AM101-SIA

Page 415
Sep 15/2021

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

- 3) Install the lead [50] on the larger terminal of the EGT sensor [33].
- 4) Install the lead [51] on the smaller terminal of the EGT sensor [33].
- 5) Tighten each of the lead [50] nut to 33.3 in-lb (3.8 N·m) - 36.7 in-lb (4.1 N·m).
- 6) Tighten each of the lead [51] nut to 23.8 in-lb (2.7 N·m) - 26.2 in-lb (3.0 N·m).
- (e) Lubricate the threads of the two bolts [8] with engine oil, D00599 [CP2442].
- (f) Remove the protective covers from the TCF accelerometer cable [2] and the EGT harness 1 [1].
- (g) Put the EGT harness 1 [1] to the support bracket [9].
- (h) Install the two bolts [8] that attach the EGT harness 1 [1] to the support bracket [9].
- (i) Tighten the two bolts [8] to 106.0 in-lb (12.0 N·m) - 124.0 in-lb (14.0 N·m).

SIA ALL; AIRPLANES WITH PRE LEAP-1B SB 72-0270

- (j) Tighten the bolt [11], the bolt [15], the bolt [18], and the bolt [19] to 32.0 in-lb (3.6 N·m) - 38.0 in-lb (4.3 N·m).

SIA ALL; AIRPLANES WITH POST LEAP-1B SB 72-0270

- (k) Tighten the bolt [11], the bolt [15], the bolt [18], and the bolt [20] to 32.0 in-lb (3.6 N·m) - 38.0 in-lb (4.3 N·m).

SIA ALL

- (l) Tighten the bolt [23], the bolt [26], and the bolt [28] to 32.0 in-lb (3.6 N·m) - 38.0 in-lb (4.3 N·m).
- (m) Tighten the bolt [30], the bolt [32], the bolt [36], and the bolt [39] to 32.0 in-lb (3.6 N·m) - 38.0 in-lb (4.3 N·m).
- (n) Tighten the bolt [42], the bolt [45], and the bolt [48] to 32.0 in-lb (3.6 N·m) - 38.0 in-lb (4.3 N·m).



MAKE SURE THAT THE ELECTRICAL CONNECTORS AND RECEPTACLES ARE CLEAN AND CLEAR OF UNWANTED MATERIALS BEFORE YOU DISCONNECT, OR CONNECT THEM. CONTAMINATION OF THE ELECTRICAL CONNECTORS AND RECEPTACLES CAN CAUSE DAMAGE TO EQUIPMENT.



USE PLIERS THAT HAVE TEFLON JAWS TO TIGHTEN THE ELECTRICAL CONNECTORS. DO NOT USE PLIERS THAT HAVE METAL JAWS. METAL JAWS CAN CAUSE DAMAGE TO THE ELECTRICAL CONNECTORS.

- (o) Connect the electrical connectors as follows:
 - 1) Remove the protective covers from the electrical receptacles on the EGT harness 1 [1], the TCF accelerometer cable [2], and the HPTACC valve [3].
 - 2) Remove the protective covers from the electrical connector [7], the electrical connector [5], and the electrical connector [6].
 - 3) Connect the electrical connector [7] to the EGT harness 1 [1].
 - 4) Connect the electrical connector [5] to the TCF accelerometer cable [2].
 - 5) Connect the electrical connector [6] to the HPTACC valve [3].
 - 6) Use a teflon-jawed pliers, STD-664, to tighten the electrical connectors (TASK 70-00-01-910-803-G00).

EFFECTIVITY
SIA ALL

77-21-04

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Page 416
Sep 15/2021

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

H. Put the Airplane Back to Its Usual Condition

SUBTASK 77-21-04-410-001-G00



OBEY THE INSTRUCTIONS IN THE PROCEDURE TO CLOSE THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Do these tasks in sequence to safely close the applicable left or right thrust reversers:
 - (a) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-802-G00.
 - 1) Close these access panels:

<u>Number</u>	<u>Name/Location</u>
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2
 - (b) Do this task: Close the Fan Cowl Panels (Selection), TASK 71-11-04-410-801-G00.
 - 1) Close these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
 - (c) Do this task: Thrust Reverser Activation After Ground Maintenance, TASK 78-31-00-440-801-G00.

SUBTASK 77-21-04-865-002-G00

- (2) 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	4	C04008	ENGINE 1 ALTN PWR CHAN B
A	5	C04007	ENGINE 1 ALTN PWR CHAN A
B	3	C01312	ENGINE 1 RUN/PWR

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
D	7	C04010	ENGINE 2 ALTN PWR CHAN B
D	8	C04009	ENGINE 2 ALTN PWR CHAN A

F/O Electrical System Panel, P6-5

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C04018	ENG 1 STBY ALTN PWR RELAY CHAN A
E	4	C04019	ENG 1 STBY ALTN PWR CHAN A

SUBTASK 77-21-04-860-002-G00

- (3) Do these steps to remove the DO NOT OPERATE tags, STD-858, from the applicable ENGINE START switch and START LEVER switch:

EFFECTIVITY
SIA ALL

D633AM101-SIA

77-21-04

Page 417
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

- (a) On the P5 overhead panel, remove the DO NOT OPERATE tag, STD-858, from the applicable ENGINE START switch.
- (b) On the P10 control stand, remove the DO NOT OPERATE tag, STD-858, from the applicable START LEVER switch.

I. Exhaust Gas Temperature Sensor Harness 1 Installation Test

SUBTASK 77-21-04-730-001-G00

- (1) Do the test(s) that are given in the Power Plant Test Reference Table (TASK 71-00-00-800-804-G00).

———— **END OF TASK** ————

EFFECTIVITY
SIA ALL

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-04

Page 418
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

EXHAUST GAS TEMPERATURE SENSOR HARNESS 2 - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

- (1) Exhaust gas temperature sensor harness 2 removal
- (2) Exhaust gas temperature sensor harness 2 installation.

TASK 77-21-05-000-801-G00

2. Exhaust Gas Temperature Sensor Harness 2 Removal

(Figure 401)

A. General

- (1) This task provides the instructions on how to remove the Exhaust Gas Temperature (EGT) sensor harness 2.

B. References

Reference	Title
70-00-01-910-803-G00	Electrical Connector Disconnection and Connection (P/B 201)
71-11-04-010-801-G00	Open the Fan Cowl Panels (Selection) (P/B 201)
78-31-00-010-801-G00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-040-801-G00	Thrust Reverser Deactivation For Ground Maintenance (P/B 201)

C. Tools/Equipment

Reference	Description
STD-664	Pliers - Teflon-jawed (or Equivalent Soft-Jawed)
STD-858	Tag - DO NOT OPERATE

D. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

E. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2

F. Prepare for the Removal

SUBTASK 77-21-05-860-001-G00

- (1) Do these steps to make sure that the ENGINE START switch and the START LEVER switch are not operated:
 - (a) Make sure that the applicable ENGINE START switch, on the P5 overhead panel, is in the AUTO or OFF position.

EFFECTIVITY
SIA ALL

77-21-05

D633AM101-SIA

Page 401
Jan 15/2023

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

- 1) Put a DO NOT OPERATE tag, STD-858, on the applicable ENGINE START switch.
- (b) Make sure that the applicable START LEVER switch, on the P10 control stand, is in the CUTOFF position.
 - 1) Put a DO NOT OPERATE tag, STD-858, on the applicable START LEVER switch.

SUBTASK 77-21-05-860-002-G00

- (2) Open these applicable 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	4	C04008	ENGINE 1 ALTN PWR CHAN B
A	5	C04007	ENGINE 1 ALTN PWR CHAN A
B	3	C01312	ENGINE 1 RUN/PWR

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
D	7	C04010	ENGINE 2 ALTN PWR CHAN B
D	8	C04009	ENGINE 2 ALTN PWR CHAN A

F/O Electrical System Panel, P6-5

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C04018	ENG 1 STBY ALTN PWR RELAY CHAN A
E	4	C04019	ENG 1 STBY ALTN PWR CHAN A

SUBTASK 77-21-05-010-001-G00

- (3) Do these tasks in sequence to safely open the left and right thrust reversers on the applicable engine:



DO THE DEACTIVATION PROCEDURE FOR THE THRUST REVERSER TO PREVENT THE OPERATION OF THE THRUST REVERSER. ACCIDENTAL OPERATION OF THE THRUST REVERSER CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

- (a) Do this task: Thrust Reverser Deactivation For Ground Maintenance, TASK 78-31-00-040-801-G00.
- (b) Open the applicable left or right fan cowl panels (TASK 71-11-04-010-801-G00).
 - 1) Open these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2



OBEY THE INSTRUCTIONS IN THE PROCEDURE TO OPEN THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (c) Open the applicable left or right thrust reversers (TASK 78-31-00-010-801-G00).

737-7/8/8200/9/10 AIRCRAFT MAINTENANCE MANUAL

- 1) Open these access panels:

<u>Number</u>	<u>Name/Location</u>
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2

G. Exhaust Gas Temperature Sensor Harness 2 Removal

SUBTASK 77-21-05-010-002-G00



BE CAREFUL WHEN YOU DO WORK ON THE ENGINE PARTS AFTER THE ENGINE IS STOPPED. THE ENGINE PARTS CAN STAY HOT FOR ALMOST ONE HOUR. DO NOT TOUCH HOT PARTS WITHOUT APPLICABLE GLOVES. HOT PARTS CAN CAUSE INJURIES TO PERSONNEL.



MAKE SURE THAT THE ELECTRICAL CONNECTORS AND RECEPTACLES ARE CLEAN AND CLEAR OF UNWANTED MATERIALS BEFORE YOU DISCONNECT, OR CONNECT THEM. CONTAMINATION OF THE ELECTRICAL CONNECTORS AND RECEPTACLES CAN CAUSE DAMAGE TO EQUIPMENT.



USE TEFLON-JAWED PLIERS TO LOOSEN ELECTRICAL CONNECTORS. DO NOT USE METAL-JAWED PLIERS. DAMAGE TO THE ELECTRICAL CONNECTORS COULD OCCUR.

- (1) Use a teflon-jawed pliers, STD-664 to disconnect these electrical connectors(TASK 70-00-01-910-803-G00):
 - (a) Disconnect the electrical connector [7] from the EGT harness 1 [1].
 - (b) Disconnect the electrical connector [5] from the TCF accelerometer cable [2].
 - (c) Disconnect the electrical connector [62] from the EGT harness 2 [61].
 - (d) Disconnect the electrical connector [3] from the HPTACC valve [4].
 - (e) Install protective covers on the electrical receptacles on the EGT harness 1 [1], the TCF accelerometer cable [2], and on the electrical connectors.

SUBTASK 77-21-05-020-001-G00

- (2) Remove the EGT harness 2 [61] as follows:
 - (a) Remove the two bolts [63] that attach the EGT harness 2 [61] to the support bracket [9].
 - (b) Remove the EGT harness 2 [61] from the support bracket [9].
 - (c) Put a protective cover on the EGT harness 2 [61] receptacle.



DO NOT REMOVE THE CAPTIVE NUTS FROM THE LEADS. DAMAGE CAN OCCUR TO THE LEADS OR THE CAPTIVE NUTS.

- (d) Disconnect the EGT harness 2 lead [72] and the lead [73] from each of the four EGT sensors [33] as follows:
 - 1) Loosen the captive nuts.
 - 2) Remove the leads [72] and the leads [73] from the four EGT sensors [33].

EFFECTIVITY
SIA ALL

77-21-05

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

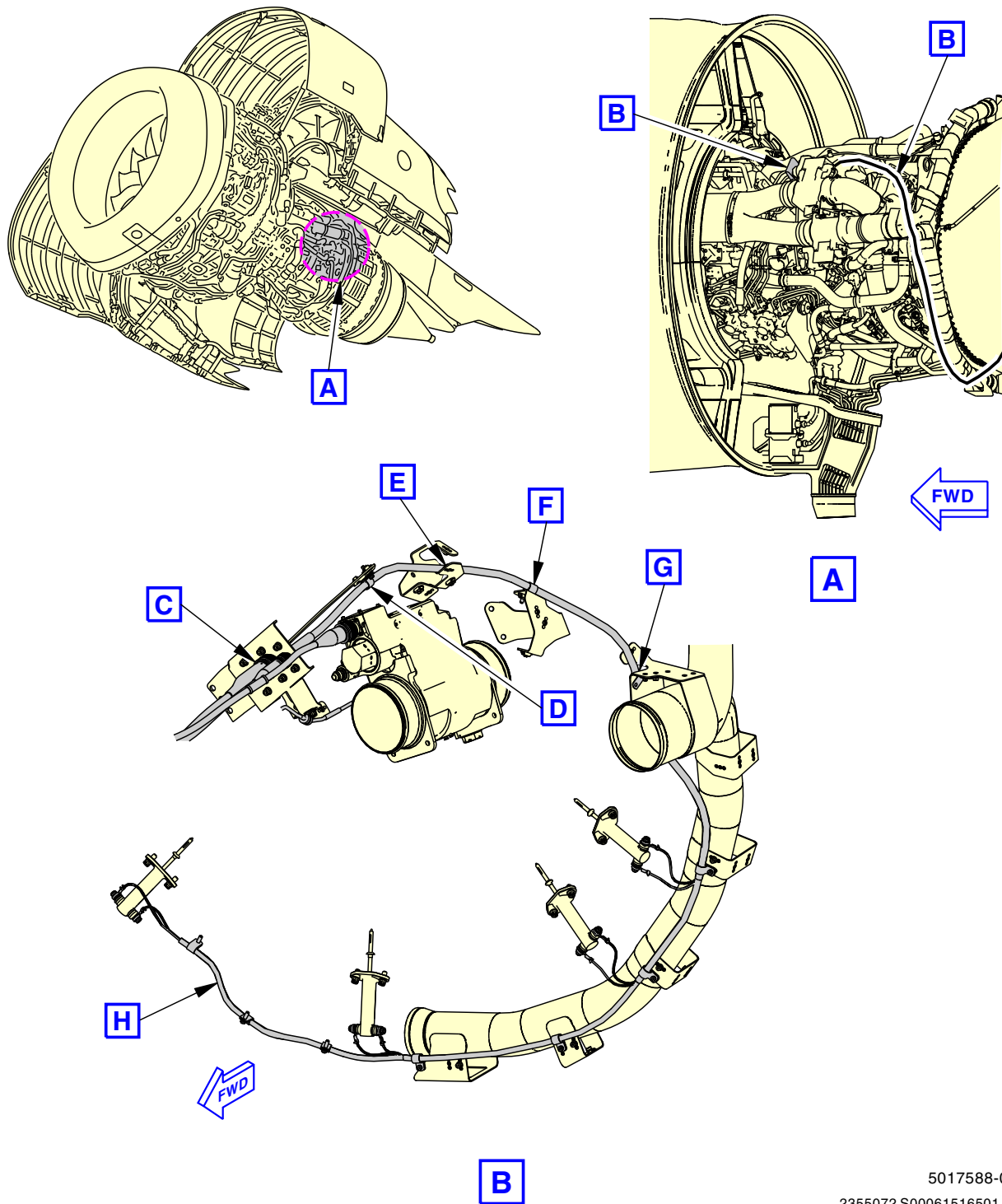
Page 403
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

- (e) Disconnect the EGT harness 2 loop clamps from the engine brackets, the LPTACC air duct [34], and the oil supply manifold [92] as follows:
- 1) Remove the bolt [65] that attaches the loop clamp [64] and the EGT harness 2 [61] to the support bracket [12].
 - 2) Remove the bolt [66] that attaches the loop clamp [67] and the EGT harness 2 [61] to the support bracket [13].
 - 3) Remove the bolt [68] that attaches the loop clamp [69] and the EGT harness 2 [61] to the support bracket [16].
 - 4) Remove the bolt [71] that attaches the loop clamp [70] and the EGT harness 2 [61] to LPTACC air duct [34].
 - 5) Remove the bolt [75] that attaches the loop clamp [74] and the EGT harness 2 [61] to the support bracket [76].
 - 6) Remove the bolt [78] that attaches the loop clamp [77] and the EGT harness 2 [61] to the LPTACC air duct [34].
 - 7) Remove the bolt [80] that attaches the loop clamp [79] and the EGT harness 2 [61] to the LPTACC air duct [34].
 - 8) Remove the bolt [82] that attaches the loop clamp [81] and the EGT harness 2 [61] to the LPTACC air duct [34].
 - 9) Remove the bolt [83] that attaches the loop clamp [84] and the EGT harness 2 [61] to the LPTACC air duct [34].
 - 10) Remove the bolt [85] that attaches the loop clamp [86] and the EGT harness 2 [61] to the oil supply manifold [92].
 - 11) Remove the bolt [87] that attaches the loop clamp [88] and the EGT harness 2 [61] to the oil supply manifold [92].
 - 12) Remove the bolt [90] that attaches the loop clamp [91] and the EGT harness 2 [61] to the support bracket [89].
- (f) Remove the EGT harness 2 [61] from the engine.
- (g) Put protective covers on the EGT sensors [33] terminals, EGT harness 2 lead [72], and the lead [73].

———— **END OF TASK** ————

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



5017588-00

2355072 S00061516501_V2

Exhaust Gas Temperature Sensor Harness 2 Installation
Figure 401/77-21-05-990-801-G00 (Sheet 1 of 4)

EFFECTIVITY
SIA ALL

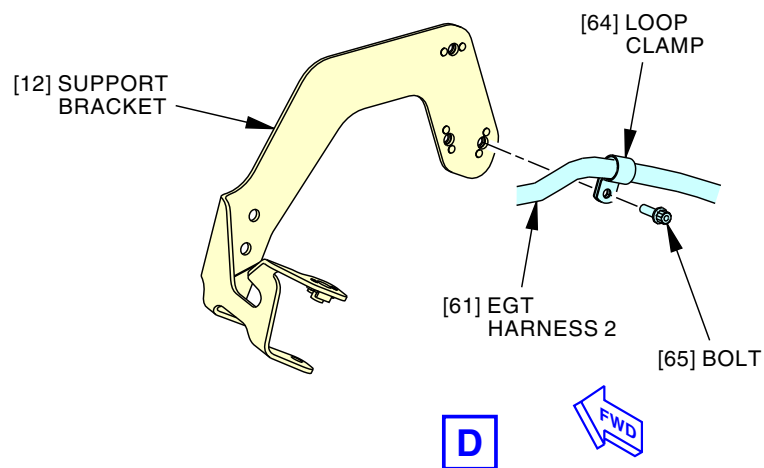
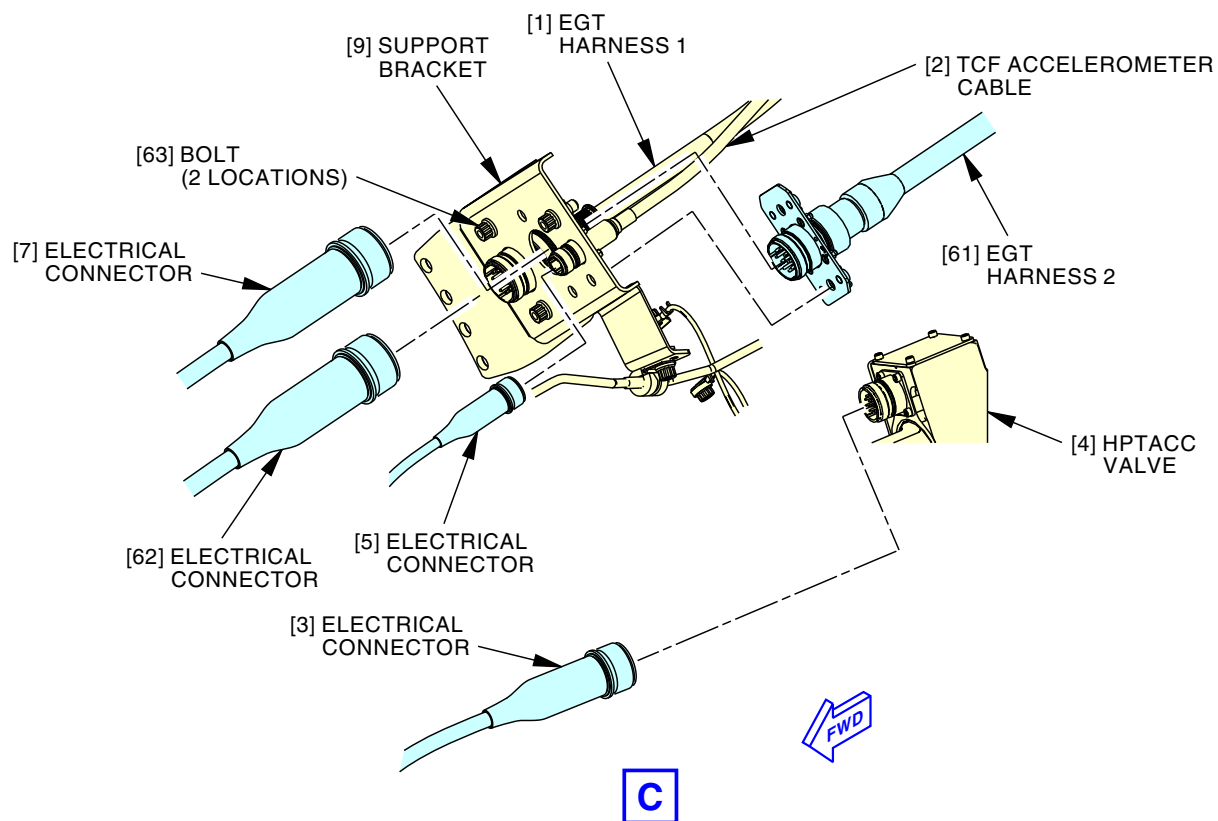
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-05

Page 405
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



5036135-00

2355073 S00061516502_V5

Exhaust Gas Temperature Sensor Harness 2 Installation
Figure 401/77-21-05-990-801-G00 (Sheet 2 of 4)

EFFECTIVITY
SIA ALL

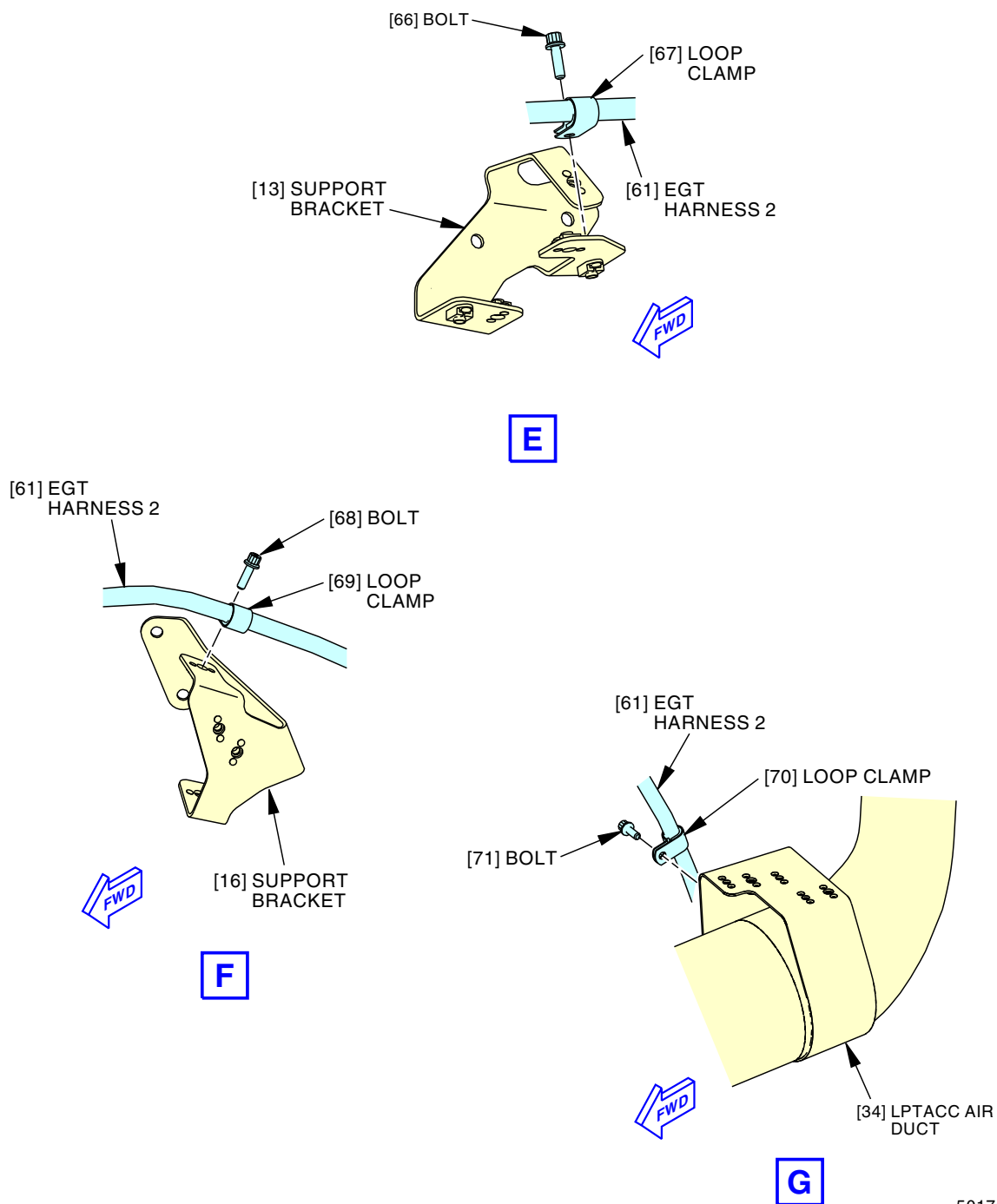
77-21-05

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Page 406
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



5017592-00
2355074 S00061516503_V1

Exhaust Gas Temperature Sensor Harness 2 Installation
Figure 401/77-21-05-990-801-G00 (Sheet 3 of 4)

EFFECTIVITY
SIA ALL

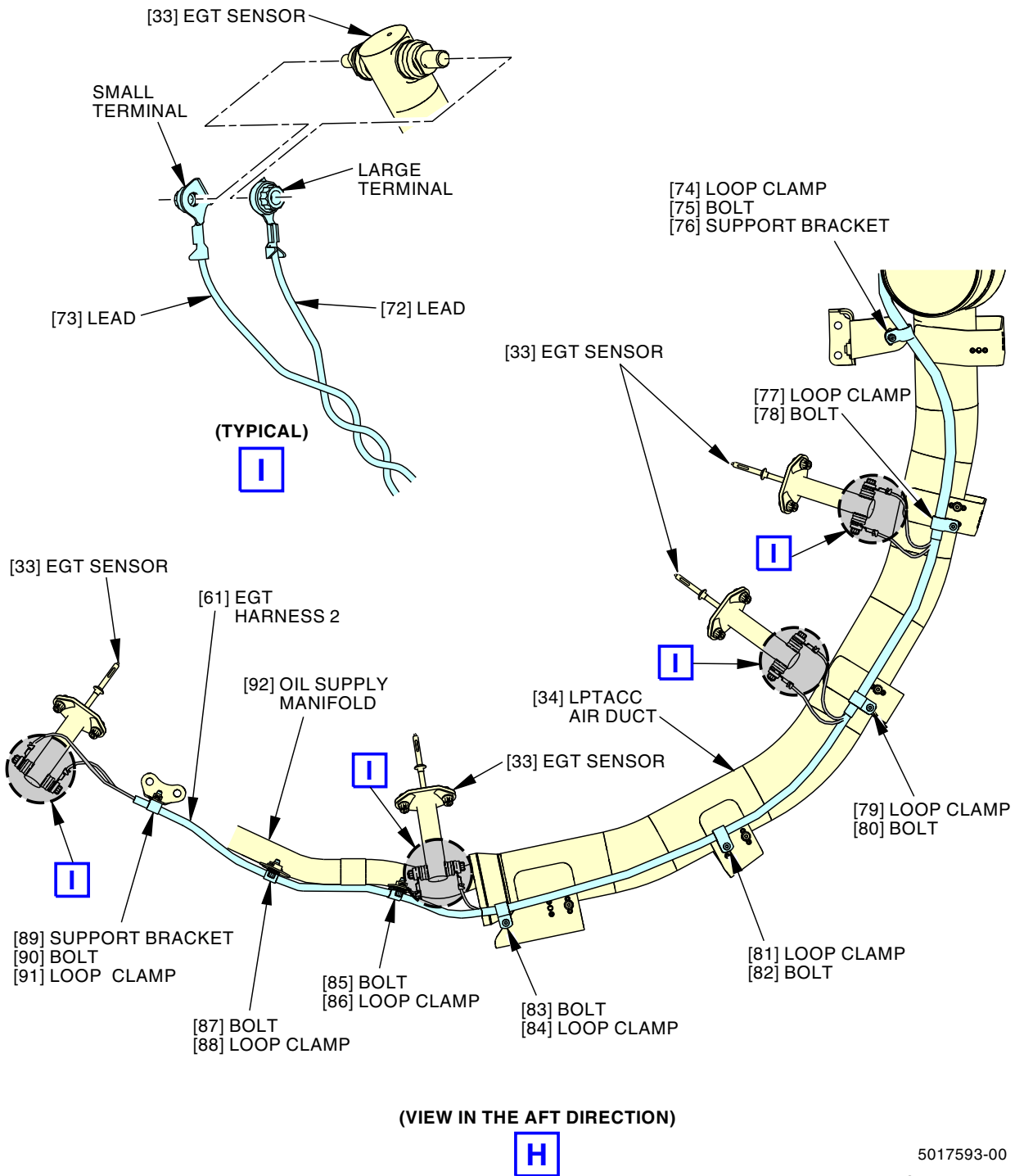
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-05

Page 407
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



5017593-00

2394743 S0000551263_V2

Exhaust Gas Temperature Sensor Harness 2 Installation
Figure 401/77-21-05-990-801-G00 (Sheet 4 of 4)

EFFECTIVITY
SIA ALL

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-05

Page 408
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

TASK 77-21-05-400-801-G00**3. Exhaust Gas Temperature Sensor Harness 2 Installation**

(Figure 401)

A. General

- (1) This task provides the instructions on how to install the Exhaust Gas Temperature (EGT) sensor harness 2.

B. References

Reference	Title
70-00-01-910-803-G00	Electrical Connector Disconnection and Connection (P/B 201)
71-00-00-800-804-G00	Power Plant Test Reference Table (P/B 501)
71-11-04-410-801-G00	Close the Fan Cowl Panels (Selection) (P/B 201)
78-31-00-010-802-G00	Close the Thrust Reverser (Selection) (P/B 201)
78-31-00-440-801-G00	Thrust Reverser Activation After Ground Maintenance (P/B 201)

C. Tools/Equipment

Reference	Description
STD-664	Pliers - Teflon-jawed (or Equivalent Soft-Jawed)
STD-858	Tag - DO NOT OPERATE

D. Consumable Materials

Reference	Description	Specification
D00599 [CP2442]	Oil - Engine	

E. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

F. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2

G. Exhaust Gas Temperature Sensor Harness 2 Installation

SUBTASK 77-21-05-420-001-G00

- (1) Install the EGT harness 2 [61] as follows:
- Remove the protective covers from the EGT sensors [33] terminals and the EGT harness 2 lead [72] and the lead [73].
 - Put the EGT harness 2 [61] in position on the engine.

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

MAKE SURE THAT YOU USE THE BOLTS IDENTIFIED IN THE PARTS LIST. THESE BOLTS WILL HAVE THE CORRECT LENGTH. BOLTS THAT ARE TOO LONG CAN CAUSE DAMAGE.

- (c) Loosely install the EGT harness 2 loop clamps on the engine brackets, the LPTACC air duct [34], and the oil supply manifold [92] with the bolts as follows:

NOTE: Make sure that the position of the harness is correct. The harness must not rub other components.

- 1) Lubricate the threads of the bolt [65], the bolt [66], the bolt [68], and the bolt [71] with engine oil, D00599 [CP2442].
- 2) Lubricate the threads of the bolt [75], and the bolt [78] with engine oil, D00599 [CP2442].
- 3) Lubricate the threads of the bolt [80], the bolt [82], and the bolt [83] with engine oil, D00599 [CP2442].
- 4) Lubricate the threads of the bolt [85], the bolt [87], and the bolt [90] with engine oil, D00599 [CP2442].
- 5) Install the bolt [90] that attaches the loop clamp [91] and the EGT harness 2 [61] to the support bracket [89].
- 6) Install the bolt [87] that attaches the loop clamp [88] and the EGT harness 2 [61] to the oil supply manifold [92].
- 7) Install the bolt [85] that attaches the loop clamp [86] and the EGT harness 2 [61] to the oil supply manifold [92].
- 8) Install the bolt [83] that attaches the loop clamp [84] and the EGT harness 2 [61] to the LPTACC air duct [34].
- 9) Install the bolt [82] that attaches the loop clamp [81] and the EGT harness 2 [61] to the LPTACC air duct [34].
- 10) Install the bolt [80] that attaches the loop clamp [79] and the EGT harness 2 [61] to the LPTACC air duct [34].
- 11) Install the bolt [78] that attaches the loop clamp [77] and the EGT harness 2 [61] to the LPTACC air duct [34].
- 12) Install the bolt [75] that attaches the loop clamp [74] and the EGT harness 2 [61] to the support bracket [76].
- 13) Install the bolt [71] that attaches the loop clamp [70] and the EGT harness 2 [61] to LPTACC air duct [34].
- 14) Install the bolt [68] that attaches the loop clamp [69] and the EGT harness 2 [61] to the support bracket [16].
- 15) Install the bolt [66] that attaches the loop clamp [67] and the EGT harness 2 [61] to the support bracket [13].
- 16) Install the bolt [65] that attaches the loop clamp [64] and the EGT harness 2 [61] to the support bracket [12].

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

- (d) Connect the EGT harness 2 lead [72] and the lead [73] to the EGT sensors [33] as follows:

NOTE: The EGT sensor has two terminals and two connector nuts. One terminal has a smaller diameter than the other terminal. The smaller connector nut is installed on the smaller terminal. The larger connector nut is installed on the larger terminal.



DO NOT WRAP THE LEADS TOGETHER TOO TIGHT. IF YOU DO, DAMAGE CAN OCCUR.

- 1) Wrap the lead [72] and the lead [73] together as shown 3 to 5 times (Figure 401 (Sheet 4)).
NOTE: This will keep the leads separate from the harness or adjacent hardware.
 - 2) Install the lead [72] on the larger terminal of the EGT sensor [33].
 - 3) Install the lead [73] on the smaller terminal of the EGT sensor [33].
 - 4) Tighten the lead [72] nuts to 33.3 in-lb (3.8 N·m) - 36.7 in-lb (4.1 N·m).
 - 5) Tighten the lead [73] nuts to 23.8 in-lb (2.7 N·m) - 26.2 in-lb (3.0 N·m).
- (e) Lubricate the threads of the bolts [63] with engine oil, D00599 [CP2442].
- (f) Remove the protective cover from the EGT harness 2 [61] receptacle.
- (g) Put the EGT harness 2 [61] in position on the support bracket [9].
- (h) Install the two bolts [63] that attach the EGT harness 2 [61] to the support bracket [9].
- (i) Tighten the two bolts [63] to 106.0 in-lb (11.98 N·m) - 124.0 in-lb (14.01 N·m).
 - (j) Tighten the bolt [65], the bolt [66], the bolt [68], and the bolt [71] to 32.0 in-lb (3.62 N·m) - 38.0 in-lb (4.29 N·m).
 - (k) Tighten the bolt [75], and the bolt [78] to 32.0 in-lb (3.62 N·m) - 38.0 in-lb (4.29 N·m).
 - (l) Tighten the bolt [80], the bolt [82], and the bolt [83] to 32.0 in-lb (3.62 N·m) - 38.0 in-lb (4.29 N·m).
- (m) Tighten the bolt [85], the bolt [87], and the bolt [90] to 32.0 in-lb (3.62 N·m) - 38.0 in-lb (4.29 N·m).



MAKE SURE THAT THE ELECTRICAL CONNECTORS AND RECEPTACLES ARE CLEAN AND CLEAR OF UNWANTED MATERIALS BEFORE YOU DISCONNECT, OR CONNECT THEM. CONTAMINATION OF THE ELECTRICAL CONNECTORS AND RECEPTACLES CAN CAUSE DAMAGE TO EQUIPMENT.



USE PLIERS THAT HAVE TEFLON JAWS TO TIGHTEN THE ELECTRICAL CONNECTORS. DO NOT USE PLIERS THAT HAVE METAL JAWS. METAL JAWS CAN CAUSE DAMAGE TO THE ELECTRICAL CONNECTORS.

- (n) Connect the electrical connectors as follows (TASK 70-00-01-910-803-G00):
- 1) Remove the protective covers from the electrical connector [7], the electrical connector [5], the electrical connector [62], and the electrical connector [3].
 - 2) Remove the protective covers from the EGT harness 1 [1], the TCF accelerometer cable [2], and from the receptacle on the HPTACC valve [4].

737-7/8/8200/9/10 AIRCRAFT MAINTENANCE MANUAL

- 3) Examine the orientation of the harness.
- 4) Connect the electrical connector [62] to the EGT harness 2 [61].
- 5) Connect the electrical connector [7] to the EGT harness 1 [1].
- 6) Connect the electrical connector [5] to the TCF accelerometer cable [2].
- 7) Connect the electrical connector [3] to the HPTACC valve [4].
- 8) Use a teflon-jawed pliers, STD-664, to tighten the electrical connectors (TASK 70-00-01-910-803-G00).

H. Put the Airplane Back to Its Usual Condition

SUBTASK 77-21-05-410-001-G00



WARNING

OBEY THE INSTRUCTIONS IN THE PROCEDURE TO CLOSE THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Do these tasks in sequence to safely close the applicable left or right thrust reversers:
 - (a) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-802-G00.
 - 1) Close these access panels:

<u>Number</u>	<u>Name/Location</u>
415	Left Thrust Reverser, Engine 1
416	Right Thrust Reverser, Engine 1
425	Left Thrust Reverser, Engine 2
426	Right Thrust Reverser, Engine 2
 - (b) Do this task: Close the Fan Cowl Panels (Selection), TASK 71-11-04-410-801-G00.
 - 1) Close these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
414	Right Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2
424	Right Fan Cowl, Engine 2
 - (c) Do this task: Thrust Reverser Activation After Ground Maintenance, TASK 78-31-00-440-801-G00.

SUBTASK 77-21-05-860-003-G00

- (2) 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	4	C04008	ENGINE 1 ALTN PWR CHAN B
A	5	C04007	ENGINE 1 ALTN PWR CHAN A
B	3	C01312	ENGINE 1 RUN/PWR

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
D	7	C04010	ENGINE 2 ALTN PWR CHAN B
D	8	C04009	ENGINE 2 ALTN PWR CHAN A

EFFECTIVITY
SIA ALL

77-21-05

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Page 412
Sep 15/2021

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL****F/O Electrical System Panel, P6-5**

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C04018	ENG 1 STBY ALTN PWR RELAY CHAN A
E	4	C04019	ENG 1 STBY ALTN PWR CHAN A

SUBTASK 77-21-05-860-004-G00

- (3) Do these steps to remove the DO NOT OPERATE tags, STD-858, from the applicable ENGINE START switch and START LEVER switch:
- (a) On the P5 overhead panel, remove the DO NOT OPERATE tag, STD-858, from the applicable ENGINE START switch.
 - (b) On the P10 control stand, remove the DO NOT OPERATE tag, STD-858, from the applicable START LEVER switch.

I. Exhaust Gas Temperature Sensor Harness 2 Installation Test**SUBTASK 77-21-05-730-001-G00**

- (1) Do the test(s) that are given in the Power Plant Test Reference Table (TASK 71-00-00-800-804-G00).

———— **END OF TASK** ————

EFFECTIVITY
SIA ALL

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-21-05

Page 413
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

TURBINE CENTER FRAME ACCELEROMETER - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

- (1) Turbine center frame accelerometer removal
- (2) Turbine center frame accelerometer installation.

TASK 77-31-06-000-801-G00

2. Turbine Center Frame Accelerometer Removal

(Figure 401)

A. General

- (1) This task provides the instructions on how to remove the Turbine Center Frame (TCF) accelerometer.
- (2) You must open the left thrust reverser to get access to the TCF accelerometer.

B. References

Reference	Title
70-00-01-910-803-G00	Electrical Connector Disconnection and Connection (P/B 201)
71-11-04-010-801-G00	Open the Fan Cowl Panels (Selection) (P/B 201)
78-31-00-010-801-G00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-040-801-G00	Thrust Reverser Deactivation For Ground Maintenance (P/B 201)

C. Tools/Equipment

Reference	Description
STD-664	Pliers - Teflon-jawed (or Equivalent Soft-Jawed)
STD-858	Tag - DO NOT OPERATE
STD-15636	Socket - Hex, 1-5/16 Inch

D. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

E. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
415	Left Thrust Reverser, Engine 1
423	Left Fan Cowl, Engine 2
425	Left Thrust Reverser, Engine 2

F. Prepare for the Removal

SUBTASK 77-31-06-860-001-G00

- (1) Do these steps to make sure that the ENGINE START switch and the START LEVER switch are not operated:
 - (a) Make sure that the applicable ENGINE START switch, on the P5 overhead panel, is in the AUTO or OFF position.
 - 1) Put a DO NOT OPERATE tag, STD-858, on the applicable ENGINE START switch.

EFFECTIVITY
SIA ALL

77-31-06

D633AM101-SIA

Page 401
Sep 15/2023

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

- (b) Make sure that the applicable START LEVER switch, on the P10 control stand, is in the CUTOFF position.
- 1) Put a DO NOT OPERATE tag, STD-858, on the applicable START LEVER switch.

SUBTASK 77-31-06-010-001-G00

- (2) Do these tasks in sequence to safely open the left thrust reverser on the applicable engine:



WARNING

DO THE DEACTIVATION PROCEDURE FOR THE THRUST REVERSER TO PREVENT THE OPERATION OF THE THRUST REVERSER. ACCIDENTAL OPERATION OF THE THRUST REVERSER CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

- (a) Do this task: Thrust Reverser Deactivation For Ground Maintenance, TASK 78-31-00-040-801-G00.
- (b) Open the applicable left fan cowl panel (TASK 71-11-04-010-801-G00).
- 1) Open these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2



WARNING

OBEY THE INSTRUCTIONS IN THE PROCEDURE TO OPEN THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (c) Open the applicable left thrust reverser (TASK 78-31-00-010-801-G00).
- 1) Open these access panels:
- | <u>Number</u> | <u>Name/Location</u> |
|---------------|--------------------------------|
| 415 | Left Thrust Reverser, Engine 1 |
| 425 | Left Thrust Reverser, Engine 2 |

G. TCF Accelerometer Removal

SUBTASK 77-31-06-020-001-G00



CAUTION

DO NOT BEND THE ACCELEROMETER CABLE TOO TIGHTLY. IF YOU BEND THE ACCELEROMETER CABLE TO A RADIUS THAT IS LESS THAN 2 IN. (51 MM), DAMAGE TO THE CABLE CAN OCCUR.

- (1) Remove the TCF accelerometer [1] as follows:



CAUTION

MAKE SURE THAT THE ELECTRICAL CONNECTORS AND RECEPTACLES ARE CLEAN AND CLEAR OF UNWANTED MATERIALS BEFORE YOU DISCONNECT, OR CONNECT THEM. CONTAMINATION OF THE ELECTRICAL CONNECTORS AND RECEPTACLES CAN CAUSE DAMAGE TO EQUIPMENT.

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL****(CAUTION PRECEDES)**

USE TEFLON-JAWED PLIERS TO LOOSEN ELECTRICAL CONNECTORS. DO NOT USE METAL-JAWED PLIERS. DAMAGE TO THE ELECTRICAL CONNECTORS COULD OCCUR.

- (a) Use the teflon-jawed pliers, STD-664, to disconnect the electrical connector [2] from the TCF accelerometer [1] (TASK 70-00-01-910-803-G00).
 - 1) Install the protective covers on the electrical receptacle on the TCF accelerometer [1] and electrical connector [2].
- (b) Remove the bolt [6] that attaches the loop clamp [5] and TCF accelerometer [1] to the support bracket [4].
- (c) Remove the bolt [8] that attaches the loop clamp [9] and TCF accelerometer [1] to the support bracket [10].
- (d) Remove the bolt [15] that attaches the loop clamp [14] and TCF accelerometer [1] to the support bracket [13].
- (e) Remove the two bolts [7] that attach the TCF accelerometer [1] to the support bracket [3].
- (f) Use a 1-5/16 inch socket, STD-15636, to remove the three bolts [11] that attach the TCF accelerometer [1] and support bracket [13] to the accelerometer adapter [12].
- (g) Remove the support bracket [13] from the engine.
- (h) Remove the TCF accelerometer [1] from the engine.
- (i) Put the TCF accelerometer [1] in a protective cover.

———— **END OF TASK** ————

EFFECTIVITY
SIA ALL

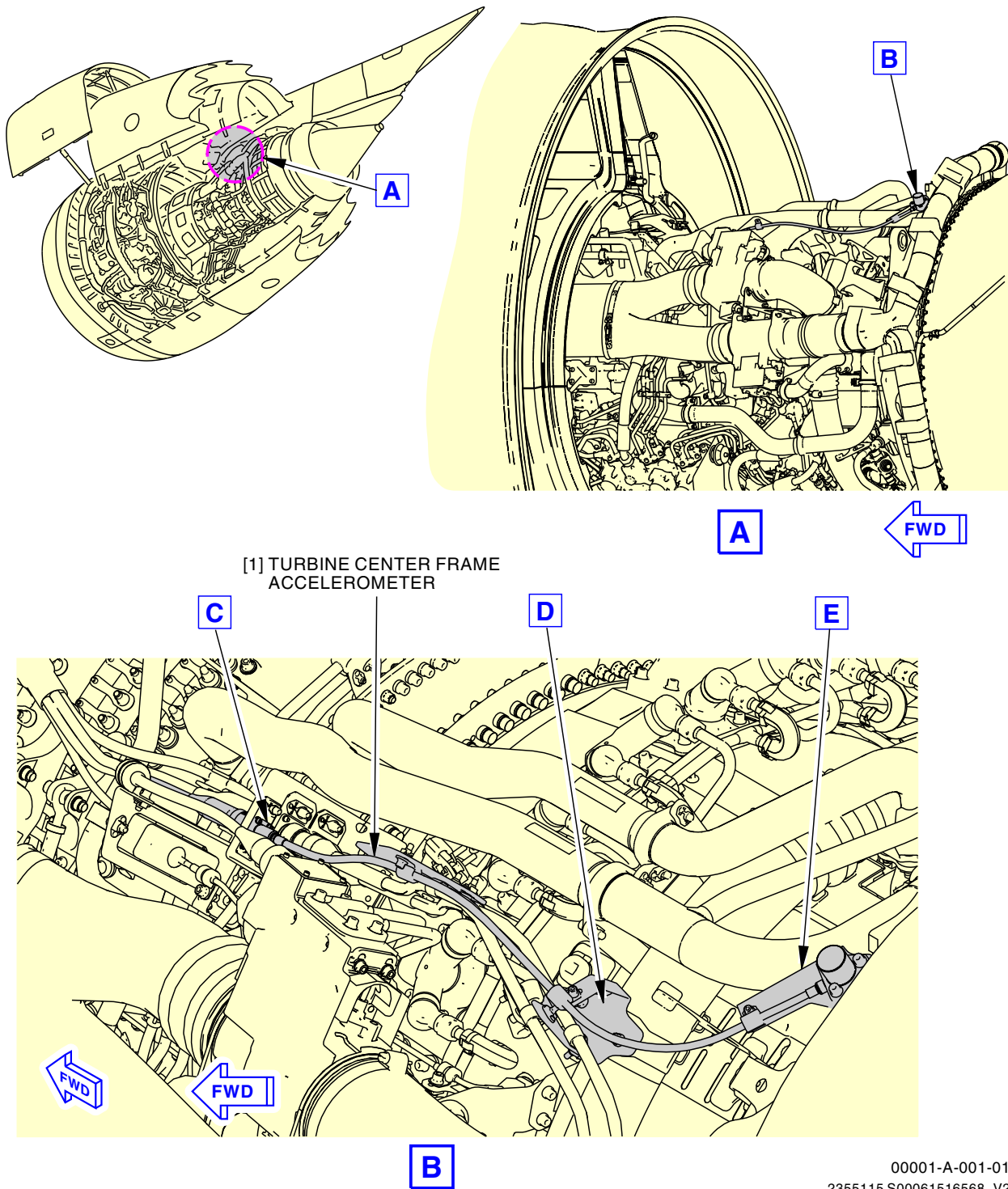
D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-31-06

Page 403
Sep 15/2023

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



00001-A-001-01
2355115 S00061516568_V2

Turbine Center Frame Accelerometer Installation
Figure 401/77-31-06-990-801-G00 (Sheet 1 of 2)

EFFECTIVITY
SIA ALL

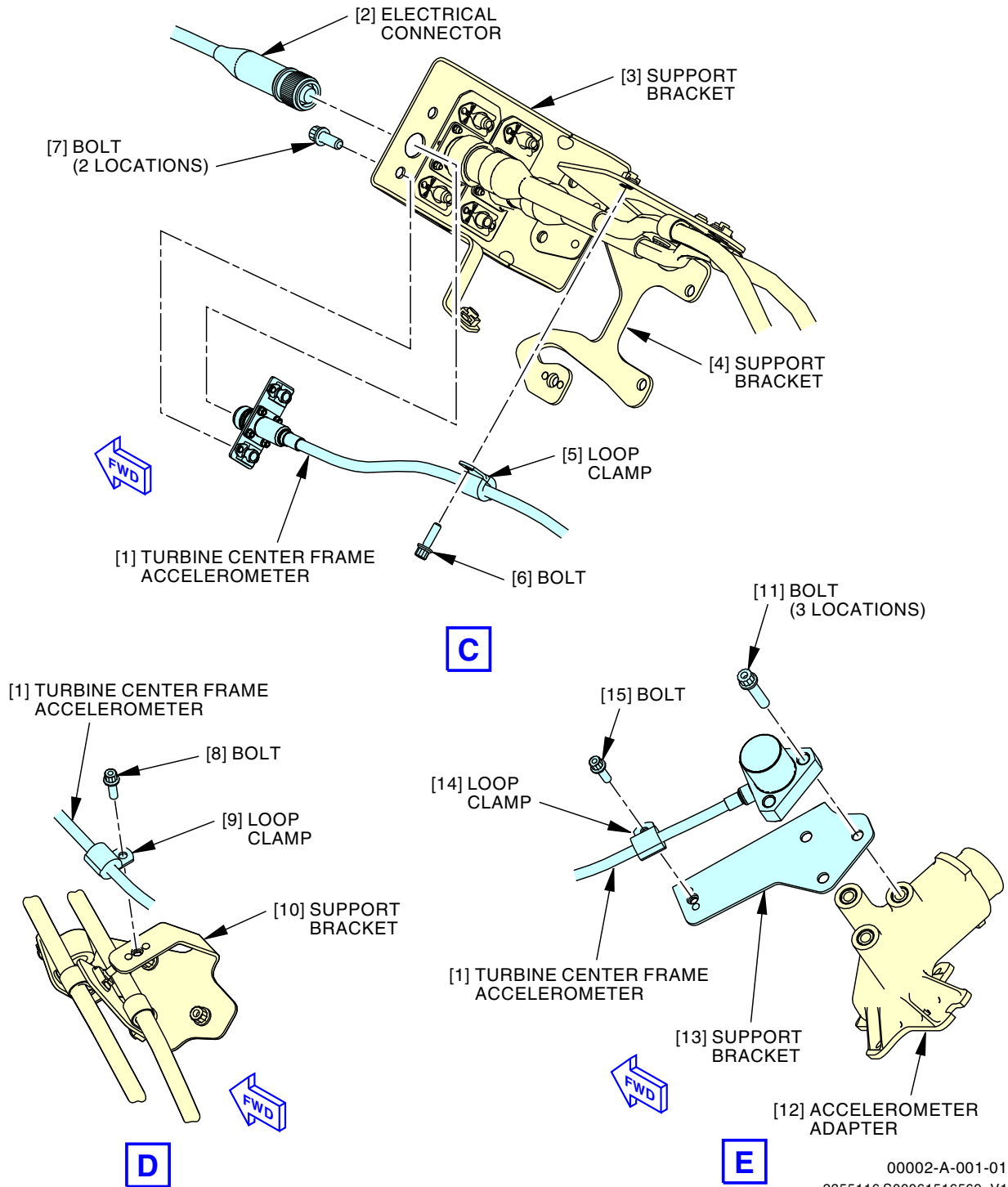
77-31-06

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

Page 404
Sep 15/2021

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL



00002-A-001-01
2355116 S00061516569_V1

Turbine Center Frame Accelerometer Installation
Figure 401/77-31-06-990-801-G00 (Sheet 2 of 2)

EFFECTIVITY
SIA ALL

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-31-06

Page 405
Sep 15/2021

**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

TASK 77-31-06-400-801-G00**3. Turbine Center Frame Accelerometer Installation**

(Figure 401)

A. General

- (1) This task provides the instructions on how to install the Turbine Center Frame (TCF) accelerometer.
- (2) You must do the tests that are listed in the power plant test reference table after you install TCF accelerometer.

B. References

Reference	Title
71-00-00-800-804-G00	Power Plant Test Reference Table (P/B 501)
71-11-04-410-801-G00	Close the Fan Cowl Panels (Selection) (P/B 201)
78-31-00-010-802-G00	Close the Thrust Reverser (Selection) (P/B 201)
78-31-00-440-801-G00	Thrust Reverser Activation After Ground Maintenance (P/B 201)

C. Tools/Equipment

Reference	Description
STD-858	Tag - DO NOT OPERATE
STD-15636	Socket - Hex, 1-5/16 Inch

D. Consumable Materials

Reference	Description	Specification
D00599 [CP2442]	Oil - Engine	

E. Location Zones

Zone	Area
411	Engine 1 - Engine
421	Engine 2 - Engine

F. Access Panels

Number	Name/Location
413	Left Fan Cowl, Engine 1
415	Left Thrust Reverser, Engine 1
423	Left Fan Cowl, Engine 2
425	Left Thrust Reverser, Engine 2

G. TCF Accelerometer Installation

SUBTASK 77-31-06-420-001-G00



DO NOT BEND THE ACCELEROMETER CABLE TOO TIGHTLY. IF YOU BEND THE ACCELEROMETER CABLE TO A RADIUS THAT IS LESS THAN 2 IN. (51 MM), DAMAGE TO THE CABLE CAN OCCUR.

- (1) Install the TCF accelerometer [1] as follows:
 - (a) Remove the TCF accelerometer [1] from the protective cover.
 - (b) Lubricate the threads of the bolt [6], bolts [7], bolt [8], bolts [11], and bolt [15] with clean oil, D00599 [CP2442].
 - (c) Put the TCF accelerometer [1] and support bracket [13] in position on the engine.

EFFECTIVITY
SIA ALL

D633AM101-SIA

77-31-06

Page 406
Sep 15/2023

737-7/8/8200/9/10 AIRCRAFT MAINTENANCE MANUAL

- (d) Install the three bolts [11] that attach the TCF accelerometer [1] and support bracket [13] to the accelerometer adapter [12].
 - 1) Use a 1-5/16 inch socket, STD-15636, to tighten the three bolts [11] to 106.0 in-lb (12.0 N·m) - 124.0 in-lb (14.0 N·m).
- (e) Install the two bolts [7] that attach the TCF accelerometer [1] to the support bracket [3].
 - 1) Tighten the two bolts [7] to 106.0 in-lb (12.0 N·m) - 124.0 in-lb (14.0 N·m).

**CAUTION**

MAKE SURE THAT THE ELECTRICAL CONNECTOR AND RECEPTACLE ARE CLEAN WHEN YOU CONNECT THEM. DIRTY CONNECTORS CAN CAUSE DAMAGE TO EQUIPMENT.

**CAUTION**

USE PLIERS THAT HAVE TEFLON JAWS TO TIGHTEN THE ELECTRICAL CONNECTORS. DO NOT USE PLIERS THAT HAVE METAL JAWS. METAL JAWS CAN CAUSE DAMAGE TO THE ELECTRICAL CONNECTORS.

- (f) Use the Teflon-jawed pliers to connect the electrical connector [2] to the TCF accelerometer [1].
 - 1) Remove the protective covers from the electrical connector [2].
 - 2) Connect the electrical connector [2] to the TCF accelerometer [1].
 - a) Tighten the electrical connector [2].
- (g) Install the bolt [15] that attaches the loop clamp [14] and TCF accelerometer [1] to the support bracket [13].
- (h) Install the bolt [8] that attaches the loop clamp [9] and TCF accelerometer [1] to the support bracket [10].
- (i) Install the bolt [6] that attaches the loop clamp [5] and TCF accelerometer [1] to the support bracket [4].
- (j) Adjust the tension in the cable of the accelerometer until there is the same quantity of cable between the three loop clamps.
- (k) Tighten the bolt [6], bolt [8], and bolt [15] to 32.0 in-lb (3.6 N·m) - 38.0 in-lb (4.3 N·m).

H. Put the Airplane Back to Its Usual Condition

SUBTASK 77-31-06-410-001-G00

**WARNING**

OBEY THE INSTRUCTIONS IN THE PROCEDURE TO CLOSE THE THRUST REVERSERS. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Do these tasks in sequence to safely close the left thrust reverser:
 - (a) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-802-G00.
 - 1) Close these access panels:

<u>Number</u>	<u>Name/Location</u>
415	Left Thrust Reverser, Engine 1
425	Left Thrust Reverser, Engine 2
 - (b) Close the applicable left Fan Cowl Panel (TASK 71-11-04-410-801-G00).

EFFECTIVITY
SIA ALL

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-31-06

Page 407
Sep 15/2023

737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL

- 1) Close these access panels:

<u>Number</u>	<u>Name/Location</u>
413	Left Fan Cowl, Engine 1
423	Left Fan Cowl, Engine 2

- (c) Do this task: Thrust Reverser Activation After Ground Maintenance,
TASK 78-31-00-440-801-G00.

SUBTASK 77-31-06-860-003-G00

- (2) Do these steps to remove the DO NOT OPERATE tags, STD-858, from the applicable ENGINE START switch and START LEVER switch:
- (a) On the P5 overhead panel, remove the DO NOT OPERATE tag, STD-858, from the applicable ENGINE START switch.
- (b) On the P10 control stand, remove the DO NOT OPERATE tag, STD-858, from the applicable START LEVER switch.

I. Turbine Center Frame Accelerometer Installation Test

SUBTASK 77-31-06-730-001-G00

- (1) Do the test(s) that are given in the Power Plant Test Reference Table
(TASK 71-00-00-800-804-G00).

SUBTASK 77-31-06-710-001-G00

- (2) Monitor the vibration data on the subsequent flight or engine operation for a satisfactory indication.

————— **END OF TASK** —————

EFFECTIVITY
SIA ALL

D633AM101-SIA

ECCN 9E991 BOEING PROPRIETARY - See title page for details

77-31-06

Page 408
Sep 15/2023