

CHAPTER

46

**INFORMATION
SYSTEMS**



**737-600/700/800/900
FAULT ISOLATION MANUAL**

**CHAPTER 46
INFORMATION SYSTEMS**

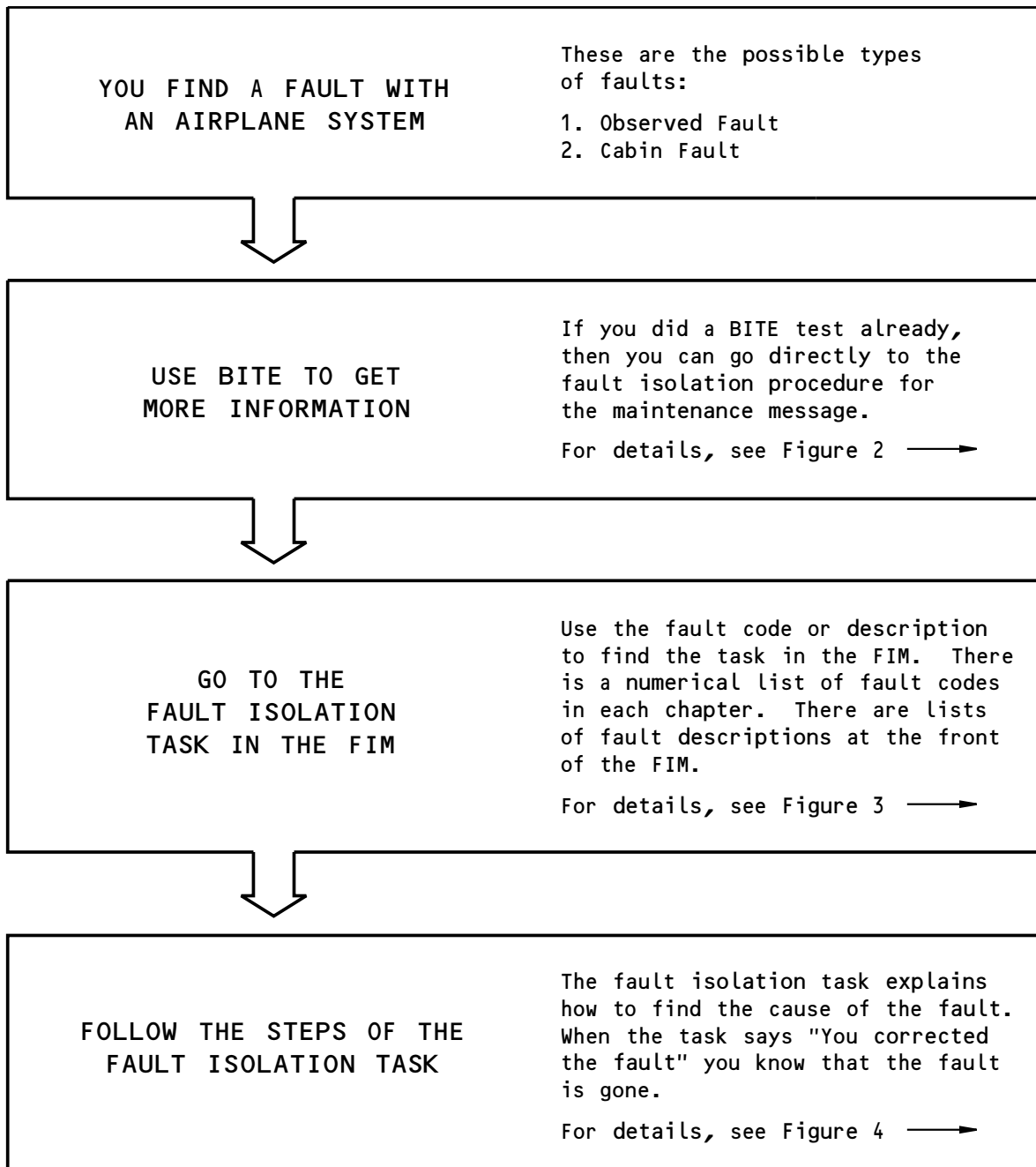
Subject/Page	Date	COC	Subject/Page	Date	COC	Subject/Page	Date	COC
46-EFFECTIVE PAGES			46-13 TASKS (cont)			46-13 TASKS (cont)		
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204	Feb 15/2022		241	Feb 15/2022		277	Feb 15/2022	
205	Feb 15/2022		242	Feb 15/2022		278	Feb 15/2022	
206	Feb 15/2022		243	Feb 15/2022		279	Feb 15/2022	
207	Feb 15/2022		244	Feb 15/2022		280	BLANK	
208	Feb 15/2022		245	Feb 15/2022				
209	Feb 15/2022		246	Feb 15/2022				
210	Feb 15/2022		247	Feb 15/2022				
211	Feb 15/2022		248	Feb 15/2022				
212	Feb 15/2022		249	Feb 15/2022				
213	Feb 15/2022		250	Feb 15/2022				
214	Feb 15/2022		251	Feb 15/2022				
215	Feb 15/2022		252	Feb 15/2022				
216	Feb 15/2022		253	Feb 15/2022				
217	Feb 15/2022		254	Feb 15/2022				
218	Feb 15/2022		255	Feb 15/2022				
219	Feb 15/2022		256	Feb 15/2022				
220	Feb 15/2022		257	Feb 15/2022				
221	Feb 15/2022		258	Feb 15/2022				
222	Feb 15/2022		259	Feb 15/2022				
223	Feb 15/2022		260	Feb 15/2022				
224	Feb 15/2022							

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

46-EFFECTIVE PAGES



**737-600/700/800/900
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G04902 S0000148576_V1

**Basic Fault Isolation Process
Figure 1**

EFFECTIVITY
SIA 710-714, 716-999; SIA 704-708 POST SB
737-46-1014

46-HOW TO USE THE FIM

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Some airplane systems have built-in test equipment (BITE). IF the system finds a fault when you do a BITE test, it will give you a maintenance message.

A maintenance message can be any of these:

- a code
- a text message
- a light
- an indication.

To find the fault isolation task for a maintenance message, go to the Maintenance Message Index in the chapter for the applicable system.

If you do not know which chapter is the correct one, look at the list at the front of any Maintenance Message Index. For each system or component (LRU) that has BITE, this list gives the chapter number where you can find the Index that you need.

Find the maintenance message for the applicable LRU or system in the Index. Then find the task number on the same line as the maintenance message. Go to the task in the FIM and do the steps of the task (see Figure 4).

G04950 S0000148578_V1

Getting Fault Information from BITE
Figure 2

EFFECTIVITY
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737-46-1014

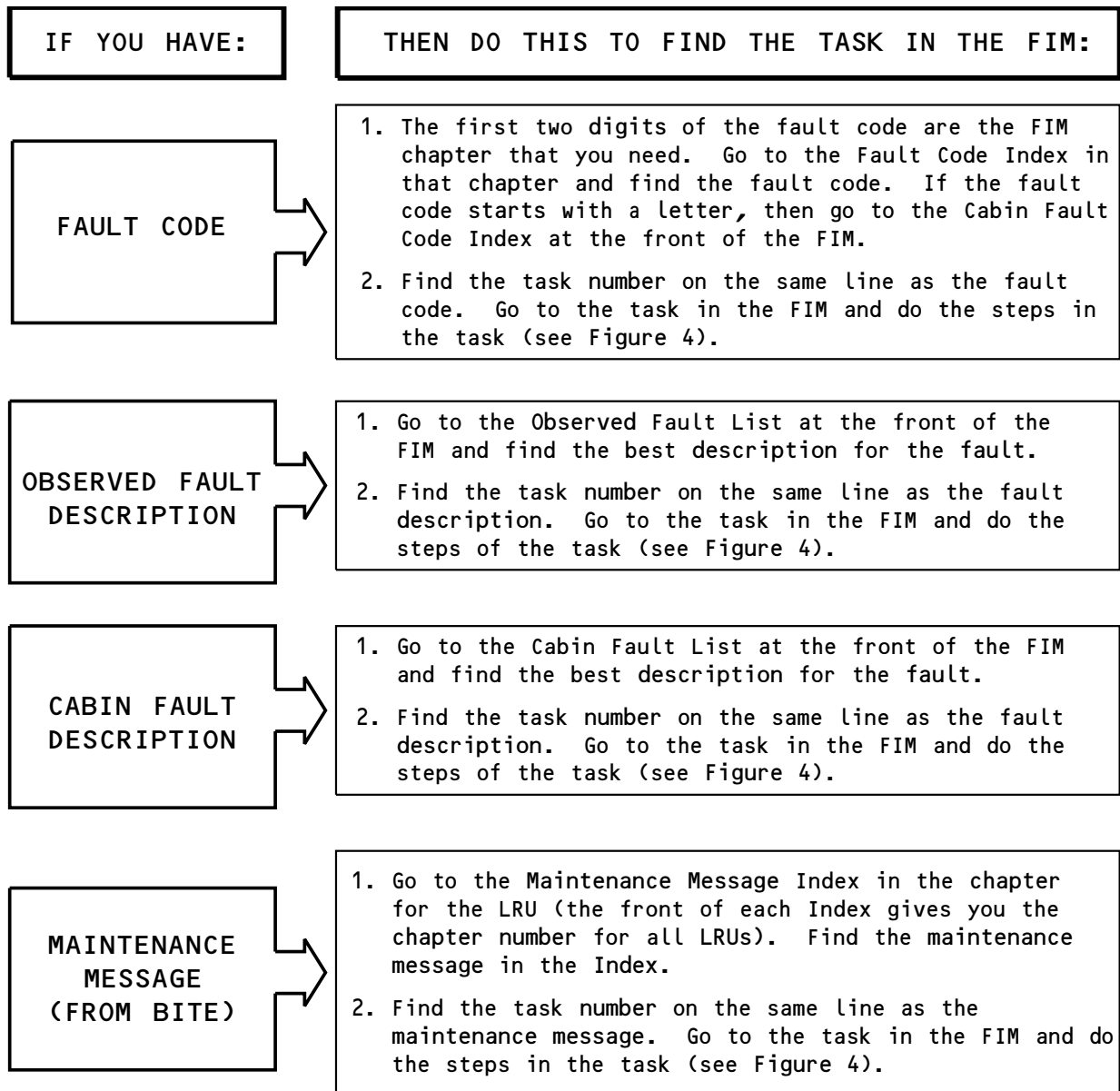
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G04979 S0000148579_V2

**Finding the Fault Isolation Task in the FIM
Figure 3**

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ASSUMED CONDITIONS AT START OF TASK

- External electrical power is ON
- Hydraulic power and pneumatic power are OFF
- Engines are shut down
- No equipment in the system is deactivated

POSSIBLE CAUSES

- The list of possible causes has the most likely cause first and the least likely cause last.
- You can use the maintenance records of your airline to determine if the fault occurred before. Compare the list of possible causes to the past maintenance actions. This will help prevent repetition of the same maintenance actions.

INITIAL EVALUATION PARAGRAPH

- The primary purpose of the Initial Evaluation paragraph at the start of the task is to help you find out if you can detect the fault right now:
 - If you cannot detect the fault right now, then the task cannot isolate the fault and the Initial Evaluation paragraph will say that there was an intermittent fault.
 - If you have an intermittent fault, you must use your judgement (and follow your airline's policy) to decide which maintenance action to take. Then monitor the airplane to see if the fault happens again on subsequent flights.
- The Initial Evaluation paragraph can also help you find out which Fault Isolation Procedure to use to isolate and correct the fault.

FAULT ISOLATION STEPS

- The FIM task steps are presented in a specified order. The "If... then" statements will guide you along a logical path. But if you do not plan to follow the FIM task exactly, make sure that you read it before you start to isolate the fault. Some FIM procedures start with important steps that have an effect on the other steps in the procedure.
- When you are at the endpoint of the path, the step says "...you corrected the fault." Complete the step and exit the procedure.

G05009 S0000148580_V3

Doing the Fault Isolation Task Figure 4

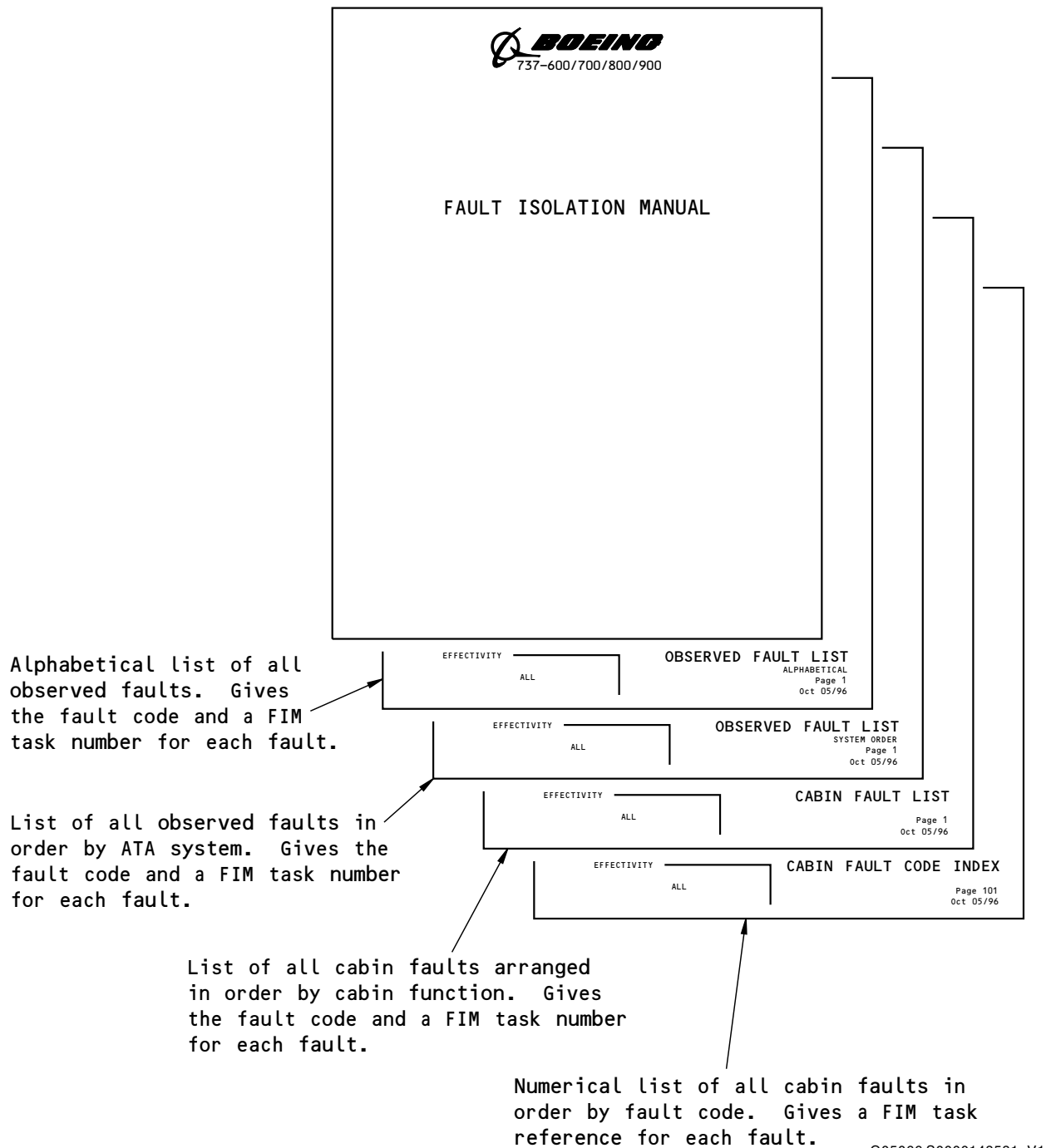
EFFECTIVITY
SIA 710-714, 716-999; SIA 704-708 POST SB
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G05066 S0000148581_V1

Subjects at Front of FIM
Figure 5

EFFECTIVITY
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737-46-1014

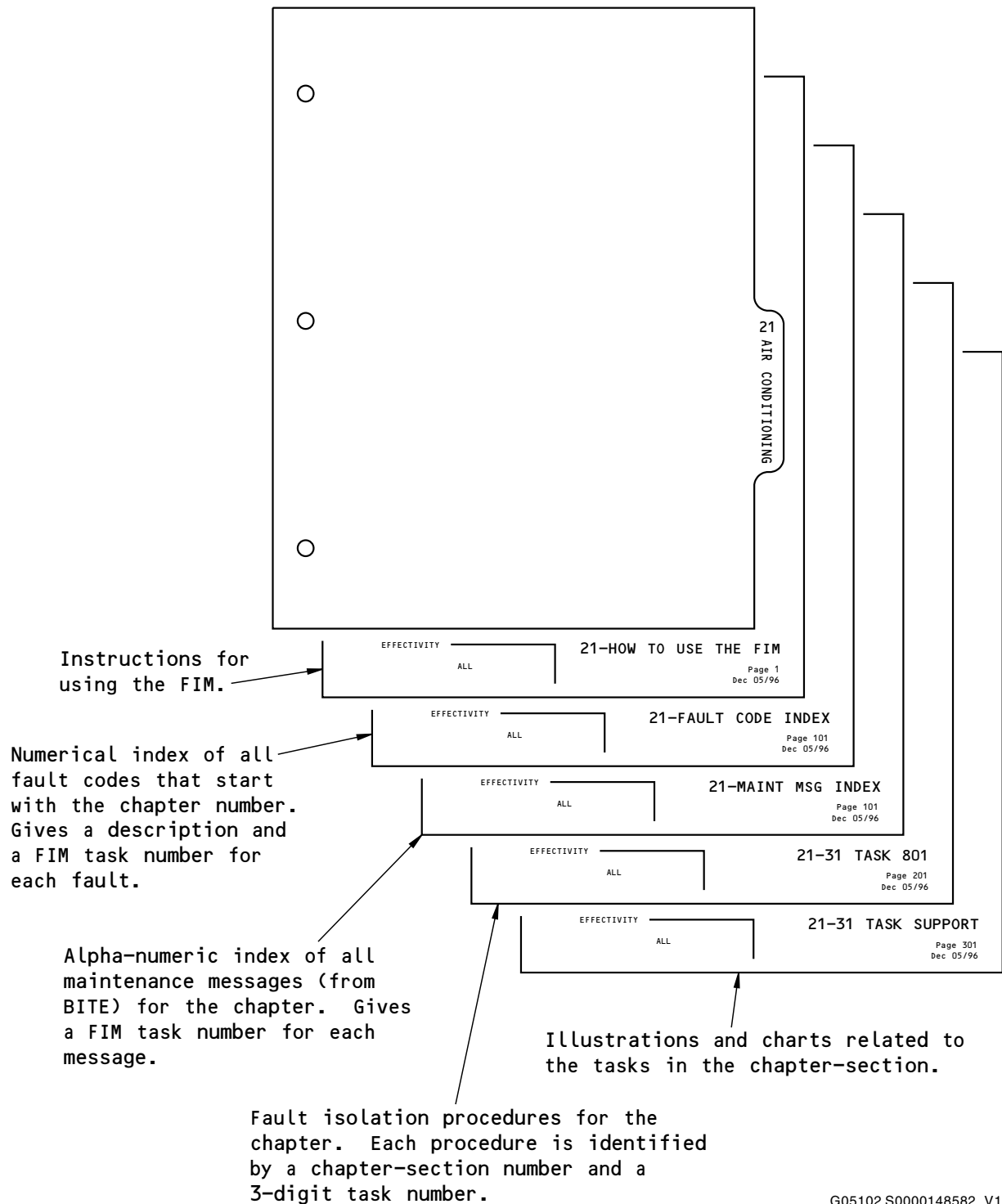
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G05102 S0000148582_V1

Subjects in Each FIM Chapter
Figure 6

EFFECTIVITY
SIA 710-714, 716-999; SIA 704-708 POST SB
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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
461 801 00	Onboard Network System: shows "System dataload state is currently disabled".	46-13 TASK 856

EFFECTIVITY
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ECCN 9E991 BOEING PROPRIETARY - See title page for details

46-FAULT CODE INDEX

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801. Message Shows on the ONS EXISTING FAULTS Page

A. General

- (1) Use the data in task to identify the correct fault isolation procedure when you know the NFS fault message code.
 - (a) In contrast, if the ONS maintenance browser is unserviceable, or the NFS has a problem but no NFS fault message shows, then refer to the Frontmatter section of the chapter 46 FIM.
 - 1) Typically, an observed fault is a problem that can occur, but does not refer to a specific NFS fault message.

B. Fault Isolation Procedure

- (1) Using the results from this task (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801), do these steps that follow:
 - (a) If one or more messages shows, then a corrective action is required.
 - (b) Find the specified fault code in the table that follows.
 - (c) Do fault isolation task specified.
 - (d) After the corrective action, make sure that no NFS messages show.
 - (e) When the NFS message check shows no LRUs or ATA/LRUs, with no messages, then no additional corrective action is necessary.

FAULT CODE	FAULT MESSAGE	GO TO FIM TASK
46-001 or 46-00001	ONS NFS-1 FAIL	46-13 TASK 802
46-002 or 46-00002	The NED inside the NFS1 is failed or has invalid client credentials	46-13 TASK 803
46-003 or 46-00003	Any hard drive fault (write errors) in File Store Service	46-13 TASK 804
46-004 or 46-00004	Insufficient storage space in the ONS MSD for a to-be-loaded LSAP	46-13 TASK 805
46-005 or 46-00005	SECURITY FAULT	46-13 TASK 806
46-007 or 46-00007	AIRPLANE DATA NOT AVAILABLE	46-13 TASK 807
46-008 or 46-00008	NFS 1 has a loaded part that fails validity check	46-13 TASK 808
46-009 or 46-00009	SECURITY LOG FULL	46-13 TASK 809
46-010 or 46-00010	NO AIRPLANE CREDENTIALS AVAILABLE	46-13 TASK 810
46-011	Self Monitor of NFS1 indicates an internal communication failure	46-13 TASK 811
46-012 or 46-00012	NFS-1 SOFTWARE FAIL	46-13 TASK 812
46-014 or 46-00014	NFS-1 DNS SERVICE FAIL	46-13 TASK 813

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(Continued)

FAULT CODE	FAULT MESSAGE	GO TO FIM TASK
46-015 or 46-00015	NFS-1 SYSLOG SERVICE FAIL	46-13 TASK 814
46-016 or 46-00016	NFS-1 FILE STORE SERVICE FAIL	46-13 TASK 815
46-017 or 46-00017	NFS-1 UPDOWN SERVICE FAIL	46-13 TASK 816
46-018 or 46-00018	DHCP service didn't initialize or reached the restart limit	46-13 TASK 817
46-020 or 46-00020	ONS SERVICE FAIL	46-13 TASK 818
46-021 or 46-00021	NFS-1 AVIONICS SERVICE FAIL	46-13 TASK 819
46-022 or 46-00022	NTP service didn't initialize or reached the restart limit	46-13 TASK 820
46-023 or 46-00023	SAPS service didn't initialize or reached the restart limit	46-13 TASK 821
46-025 or 46-00025	Application Hosting Service didn't initialize	46-13 TASK 822
46-030 or 46-00030	EXPIRED CRATE SIGNING CERTIFICATE	46-13 TASK 823
46-031 or 46-00031	EXPIRED VPN/TLS CERTIFICATE	46-13 TASK 824
46-032 or 46-00032	EXPIRED COMMAND SIGNING CERTIFICATE	46-13 TASK 825
46-033 or 46-00033	EXPIRED SOFTWARE PART SIGNING CERTIFICATE	46-13 TASK 826
46-035 or 46-00035	EXPIRED SECURITY TRUST ANCHORS	46-13 TASK 827
46-036 or 46-00036	EXPIRED AIRPLANE CERTIFICATE IN RADIUS CHAIN	46-13 TASK 828
46-037 or 46-00037	EXPIRED AIRLINE CERTIFICATE AUTHORITY CERTIFICATE	46-13 TASK 829
46-038 or 46-00038	AIRPLANE CERTIFICATE EXPIRING SOON	46-13 TASK 830
46-039 or 46-00039	AIRLINE CA CERT WILL EXPIRE WITHIN 30 DAYS OR LESS	46-13 TASK 831
46-040 or 46-00040	AIRPLANE DATA DOES NOT MATCH SECURITY CERTIFICATE	46-13 TASK 832
46-041 or 46-00041	OAS CERTIFICATE MISMATCH	46-13 TASK 833

EFFECTIVITY
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ECCN 9E991 BOEING PROPRIETARY - See title page for details

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(Continued)

FAULT CODE	FAULT MESSAGE	GO TO FIM TASK
46-044 or 46-00044	OBEDS detects expired or missing OAS certificate	46-13 TASK 835
46-046 or 46-00046	OBEDS operational error detected	46-13 TASK 836
46-048 or 46-00048	OBEDS cannot authenticate ground server connection	46-13 TASK 837
46-060 or 46-00060	A NetManager AMI has failed validation	46-13 TASK 839
46-062 or 46-00062	An OAS AMI has failed validation	46-13 TASK 840
46-063	AIRPLANE AMI VALIDITY TIME NOT WITHIN CURRENT AIRPLANE TIME	46-13 TASK 841
46-065 or 46-00065	The OBEDS data in the EXCOMM AMI fails validation	46-13 TASK 842
46-066 or 46-00066	A NetManager OPC has failed validation	46-13 TASK 843
46-067	Internal NED OPC is not compatible with NFS OPC	46-13 TASK 844
46-110 or 46-00110	EGPWS~NFS1 ETHERNET BUS FAIL	46-13 TASK 845
46-150 or 46-00150	DFDAU~NFS1 ARINC 717 BUS FAIL	46-13 TASK 862
46-153 or 46-00153	FMC~NFS1 'FMC-02' BUS FAIL	46-13 TASK 846
46-154 or 46-00154	FMC~NFS1 'FMC-09' BUS FAIL	46-13 TASK 847
46-155 or 46-00155	ADIRU-L~NFS1 'ADR-4' BUS FAIL	46-13 TASK 848
46-156 or 46-00056	ADIRU-L~NFS1 'IR-3' BUS FAIL	46-13 TASK 849
46-157 or 46-00157	DEU-1~NFS1 'CDS-GP' BUS FAIL	46-13 TASK 850
46-158 or 46-00158	DEU-2~NFS1 'CDS-GP' BUS FAIL	46-13 TASK 851
46-159 or 46-00159	EVSC~NFS1 'AVM' BUS FAIL	46-13 TASK 852
46-161 or 46-00161	MMR-1~NFS1 'GNSS DATA OUT #3' BUS FAIL	46-13 TASK 853
46-162 or 46-00162	ATC-L~NFS1 'GENERAL OUT #1' BUS FAIL	46-13 TASK 854

————— **END OF TASK** —————

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46-13 TASK 801

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802. 46-001 or 46-00001 Fault Code (ONS NFS-1 FAIL Message) Shows - Fault Isolation

A. Description

- (1) Use this task when Fault Code 46-001 shows on the Existing Faults page.
 - (a) You find this fault when NFS-1 shows in the LRU NAME column.
- (2) This fault code shows when the internal network extension device (NED) inside the NFS-1 fails. This fault code indicates there is a loss of all ARINC 429 receive and transmit functionality or you cannot get status of Ethernet busses.

B. Possible Causes

- (1) Software
- (2) Network file server (NFS), M2889.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-001 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-001 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Make new server credentials, (Onboard Network System Server Credentials Check, AMM TASK 46-13-00-750-802).

NOTE: The specified task makes new server, and all client credentials at the same time.

- (a) Click refresh on the browser or, exit and then select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-001 does not show, then you corrected the fault.
 - 3) If Fault Code 46-001 still shows, then continue.
- (2) Install the NED OPS and NED OPC software parts. Do this task: (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-001 does not show, then you corrected the fault.
 - 3) If Fault Code 46-001 still shows, then continue.
- (3) Replace the NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-001 does not show, then you corrected the fault.

————— **END OF TASK** —————

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46-13 TASK 802

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FAULT ISOLATION MANUAL**

**803. 46-002 or 46-00002 Fault Code (The NED inside the NFS1 is failed or has invalid client credentials)
Shows - Fault Isolation**

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-002.
 - (a) The text for Fault Code 46-002 is: The NED inside the NFS1 is failed or has invalid client credentials.
- (2) This fault code shows when the internal network extension device (NED) inside the NFS is unserviceable. This fault code indicates there is a loss of all ARINC 429 receive and transmit functionality, or you cannot get status of Ethernet busses.

B. Possible Causes

- (1) Software
- (2) Network file server (NFS), M2889.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-002 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-002 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Make new server credentials, (Onboard Network System Server Credentials Check, AMM TASK 46-13-00-750-802).

NOTE: The specified task makes new server, and all client credentials at the same time.

- (a) Click refresh on the browser or, exit and then select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-002 does not show, then you corrected the fault.
 - 3) If Fault Code 46-002 still shows, then continue.
- (2) Install the NED OPS and NED OPC software parts. Do this task: (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-002 does not show, then you corrected the fault.
 - 3) If Fault Code 46-002 still shows, then continue.
- (3) Replace the NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.



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- 2) If Fault Code 46-002 does not show, then you corrected the fault.

————— **END OF TASK** —————

804. **46-003 or 46-00003 Fault Code (Any hard drive fault (write errors) in File Store Service) Shows - Fault Isolation**

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-003.
 - (a) The text for Fault Code 46-003 is: Any hard drive fault (write errors) in File Store Service.
- (2) Use this task when you see any hard drive fault (write errors) in File Store Service.
- (3) This fault code is sensed by the File Store Service that supports Filestore and Mass Storage Device (MSD) service. It shows when an attempt to write to the hard drive fails.

B. Possible Causes

- (1) Software
- (2) Network file server (NFS), M2889.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-003 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-003 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

- (2) Click refresh on the browser or, exit and then re-enter the Existing Faults page.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-003 does not show, then you corrected the fault.
 - (c) If Fault Code 46-003 still shows, then continue.
- (3) Install NFS NetManager, NFS Operating System (OS) and NFS OPC software parts. Do this task: (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-003 does not show, then you corrected the fault.



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- 3) If Fault Code 46-003 still shows, then continue.
- (4) Reformat the NFS Operational Drive. Do this task: (Network File Server Drive Reformat Procedure, AMM TASK 46-13-01-070-802).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-003 does not show, then you corrected the fault.
 - 3) If Fault Code 46-003 still shows, then continue.
- (5) Replace the NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-003 does not show, then you corrected the fault.

————— END OF TASK —————

805. 46-004 or 46-00004 Fault Code (Insufficient storage space in the ONS MSD for a to-be-loaded LSAP) Shows - Fault Isolation

A. Description

- (1) Use this task when onboard network system (ONS) Existing Faults for NFS1 shows Fault Code 46-004.
 - (a) The text for Fault Code 46-004 is: Insufficient storage space in the ONS MSD for a to-be-loaded LSAP.
- (2) This fault code shows when there is not enough storage space in the ONS Mass Storage Device (MSD). No more loadable software parts (LSAPs) can be staged to the Mass Storage Device (MSD) due to insufficient space available.

B. Possible Causes

- (1) Software

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-004 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-004 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Erase all unnecessary software parts from the MSD. Do this task: (Mass Storage Device Software Removal, AMM TASK 46-13-00-070-801).
 - (a) Do a check again of the Existing Faults page.
 - 1) If NFS1 does not show, then you corrected the fault.



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- 2) If Fault Code 46-004 does not show, then you corrected the fault.

————— **END OF TASK** —————

806. 46-005 or 46-00005 Fault Code (SECURITY FAULT Message) Shows - Fault Isolation

A. Description

- (1) Use this task when onboard network system (ONS) Existing Faults for NFS1 shows fault code 46-005.
- (a) The fault data for 46-005 is: SECURITY FAULT.

B. Possible Causes

- (1) Software

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
- NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.
- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
- 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
- 2) If Fault Code 46-005 does not show, then the fault was intermittent.
- a) Since NFS1 shows, another fault isolation task can be necessary.
- 3) If Fault Code 46-005 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Make sure you first talk to your engineering department. Then, do the steps that follow.
- (2) Download security log files to the maintenance laptop, (Network File Server Log File Check, AMM TASK 46-13-01-710-802).
- NOTE: Follow your airline or operator's requirements for record keeping and data retention.
- (3) Erase the unnecessary security log files from the NFS, (Network File Server Log File Check, AMM TASK 46-13-01-710-802). These are the steps:
- NOTE: Ask your engineering department to identify log that you can erase.
- (a) Click once on the target log file(s).
- 1) You can highlight one, some, or all of the log files on a page.
- 2) There can one or more pages of records.
- (b) Click once on the DELETE button.
- (c) When the confirmation box shows, click once on the CONFIRM button.

E. Repair Confirmation

- (1) Do a check ONS Existing Faults > NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
- (a) If LRU: NFS1 does not show, then you corrected the fault.



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- (b) If Existing Faults > NFS1 does not show fault code 46-005, then you corrected the fault.

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

END OF TASK

807. 46-007 or 46-00007 Fault Code (AIRPLANE DATA NOT AVAILABLE Message) Shows - Fault Isolation

A. Description

- (1) Use this task when Onboard Network System (ONS) Existing Faults for NFS1 shows Fault Code 46-007.
 - (a) The fault data for 46-007 is: AIRPLANE DATA NOT AVAILABLE.
- (2) This fault shows when the necessary Standard Airplane Parameter Service (SAPS) data to the NFS is unserviceable.
 - (a) This fault code message can occur when a CSR is generated, and SAPS data is unserviceable, at the same time.
 - (b) SAPS data is necessary to validate the Security Certificates.

B. Possible Causes

- (1) Circuit breakers
- (2) Network file server (NFS), M2889

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-007 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-007 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

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

CAPT Electrical System Panel, P18-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	2	C01479	RADIO NAVIGATION MMR 1
A	7	C01519	TERRAIN DISPLAY
B	5	C00186	ATC 1

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	6	C01017	FMCS CMPTR 1
C	9	C00109	FLIGHT RECORDER AC
D	5	C01359	DISPLAY DEU 1 PRI

EFFECTIVITY
SIA 710-714, 716-999; SIA 704-708 POST SB
737-46-1014

46-13 TASKS 806-807

D633A103-SIA

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F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C01360	DISPLAY DEU 2 PRI
D	16	C01262	FMCS CMPTR 2

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	2	C01076	ENGINE VIB MON

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00133	INDICATOR MASTER DIM DIM/TST CONT

- (a) If you closed the breaker, do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - 1) If Existing Faults > NFS1 does not show, then you corrected the problem.
 - 2) If Existing Faults > NFS1 shows, but does not show code 46-007, then you corrected the problem.
 - 3) If NFS1 shows fault code 46-007, then continue.
- (2) Do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.

NOTE: Give priority to fault messages that refer to the INTERNAL NED, SAPS or AIRPLANE DATA, or NFS1 BUS.

 - 1) If fault code 46-002 shows, then do this fault isolation task (46-002 or 46-00002 Fault Code (The NED inside the NFS1 is failed or has invalid client credentials) Shows - Fault Isolation, 46-13 TASK 803).
 - 2) If fault code 46-023 shows, then do this fault isolation task (46-023 or 46-00023 Fault Code (SAPS service didn't initialize or reached the restart limit) Shows - Fault Isolation, 46-13 TASK 821).
 - 3) If fault code 46-067 shows, then do this fault isolation task (46-067 Fault Code (Internal NED OPC is not compatible with NFS OPC) Shows - Fault Isolation, 46-13 TASK 844).
 - 4) For other fault codes that show in NFS1, find the applicable fault isolation task using the table in (46-13 TASK 801), and do the corrective action.
 - (b) After the corrective action, again do a check of Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If Existing Faults > NFS1 does not show, then you corrected the problem.
 - 2) If Existing Faults > NFS1 shows, but does not show code 46-007, then you corrected the problem.
 - 3) If NFS1 shows fault code 46-007, then continue.
- (3) Remove the NFS, and install a serviceable unit: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and then re-enter the NFS MESSAGES page.



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- 1) If Fault Code 46-007 does not show, then you corrected the fault.
- 2) If Fault Code 46-007 still shows, then continue.

E. Repair Confirmation

- (1) Do a check of Airplane Data in ONS, (Onboard Network System Airplane Identification Check, AMM TASK 46-13-00-860-801).
 - (a) Make sure the data in ONS, and the airplane data agree.
- (2) After confirmation of the Airplane Data entry, examine Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If Existing Faults > NFS1 does not show, then you corrected the problem.
 - (b) If Existing Faults > NFS1 shows, but does not show code 46-007, then you corrected the problem.

————— END OF TASK —————

808. 46-008 or 46-00008 Fault Code (NFS 1 has a loaded part that fails validity check) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-008.
 - (a) The text for Fault Code 46-008 is: NFS 1 has a loaded part that fails validity check.
- (2) This fault code shows when a Loadable Software Airplane Part (LSAP) on the NFS-1 fails a boot-time validity check and is not loaded.

B. Possible Causes

- (1) Software

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes are present.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-008 does not show, then the fault was intermittent. No action is necessary.
 - 3) If Fault Code 46-008 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.



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- (a) If NFS1 does not show, then you corrected the fault.
- (b) If Fault Code 46-008 does not show, then you corrected the fault.
- (c) If Fault Code 46-008 shows, then continue.
- (3) Install NFS NetManager, NFS Operating System (OS) and NFS OPC software parts. Do this task: (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-008 does not show, then you corrected the fault.
 - 3) If Fault Code 46-008 still shows, then continue.
- (4) Reformat the NFS Operational Drive. Do this task: (Network File Server Drive Reformat Procedure, AMM TASK 46-13-01-070-802).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-008 does not show, then you corrected the fault.
 - 3) If Fault Code 46-008 still shows, then continue.
- (5) Replace the NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-008 does not show, then you corrected the fault.

— END OF TASK —

809. 46-009 or 46-00009 Fault Code (SECURITY LOG FULL Message) Shows - Fault Isolation

A. General

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-009.
 - (a) The text for Fault Code 46-009 is: SECURITY LOG FULL.
- (2) The NFS shows this fault code when the security partition is 95% full. When that limit is exceeded, there can be a loss of security data.

B. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-009 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-009 shows, then do the Fault Isolation Procedure below.



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C. Fault Isolation Procedure

- (1) Make sure you first talk to your engineering department. Then, do the steps that follow.
- (2) Set the ONS maintenance browser to show the NFS logs page.
 - (a) Make your selection: Extended Maintenance > ONS Maintenance > Logs.
 - (b) On the NFS LOGS pop-up, do these steps:
 - 1) Click once on the word SECURITY to highlight.
 - 2) Click once on the CONTINUE button.
- (3) Download security log files to the maintenance laptop, (Network File Server Log File Check, AMM TASK 46-13-01-710-802).

NOTE: Follow your airline or operator's requirements for record keeping and data retention.
- (4) Erase the unnecessary security log files from the NFS, (Network File Server Log File Check, AMM TASK 46-13-01-710-802). These are the steps:

NOTE: Ask your engineering department to identify log that you can erase.

 - (a) Click once on the target log file(s).
 - 1) You can highlight one, some, or all of the log files on a page.
 - 2) There can one or more pages of records.
 - (b) Click once on the DELETE button.
 - (c) When the confirmation box shows, click once on the CONFIRM button.

D. Repair Confirmation

- (1) Do a check ONS Existing Faults > NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If LRU: NFS1 does not show, then you corrected the fault.
 - (b) If Existing Faults > NFS1 does not show fault code 46-009, then you corrected the fault.

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

————— **END OF TASK** —————

810. 46-010 or 46-00010 Fault Code (NO AIRPLANE CREDENTIALS AVAILABLE Message) Shows - Fault Isolation

A. Description

- (1) Use this task when onboard network system (ONS) Existing Faults for NFS1 shows Fault Code 46-010.
 - (a) The fault data for 46-010 is: NO AIRPLANE CREDENTIALS AVAILABLE.

B. Possible Causes

- (1) Software
- (2) Network File Server (NFS), M2889

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.



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- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-010 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-010 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Do a check of the airplane credentials, (Onboard Network System Airplane Credentials Check, AMM TASK 46-13-00-750-801).
 - (a) If you find a problem, do the corrective action in that task.
- (2) On the ONS browser, make your selections: Extended Maintenance > ONS Maintenance > Existing Faults.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-010 does not show, then you corrected the fault.
 - (c) If Fault Code 46-010 still shows, then continue.
- (3) Erase the NFS drive, and install new software. Do this task: (Network File Server Drive Reformat Procedure, AMM TASK 46-13-01-070-802).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-010 does not show, then you corrected the fault.

————— END OF TASK —————

811. 46-011 Fault Code (Self Monitor of NFS1 indicates an internal communication failure) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-011.
 - (a) The fault data for 46-011 is: Self Monitor of NFS1 indicates an internal communication failure.
- (2) This fault code shows when the NFS-1 self-monitor function senses that internal communication is unserviceable.

B. Possible Causes

- (1) Software
- (2) Network file server, M2889.

C. Initial Evaluation

- (1) Do this task: (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes are present.

 - (a) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - (b) If Fault Code 46-011 does not show, then the fault was intermittent. No action is necessary.
 - (c) If Fault Code 46-011 shows, then do the Fault Isolation Procedure below.



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D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

- (2) Again do a check of the Existing Faults page for NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-011 does not show, then you corrected the fault.
 - (c) If Fault Code 46-011 still shows, then continue.
- (3) Reformat the NFS Operational Drive. Do this task: (Network File Server Drive Reformat Procedure, AMM TASK 46-13-01-070-802).
 - (a) Again do a check of the ONS Existing Faults page for NFS1.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-011 does not show, then you corrected the fault.

————— **END OF TASK** —————

812. 46-012 or 46-00012 Fault Code (NFS-1 SOFTWARE FAIL Message) Shows - Fault Isolation

A. Description

- (1) Use this task when onboard network system (ONS) Existing Faults for NFS1 shows Fault Code 46-012.
 - (a) The fault data for 46-012 is: NFS-1 SOFTWARE FAIL.
- (2) This is a high-level fault that is triggered by lower level faults.
 - (a) There are no fault isolation procedure for this specific fault code.
 - (b) Typically, NFS1 shows fault code 46-012 with one or more other fault codes at the same time.
 - 1) Do the corrective action for the other fault code, or codes first.

B. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-012 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-012 shows, then do the Fault Isolation Procedure below.



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C. Fault Isolation Procedure

- (1) If NFS-1 shows Fault Code 46-014 at the same time as Fault Code 46-012, then do this task: (46-014 or 46-00014 Fault Code (NFS-1 DNS SERVICE FAIL Message) Shows - Fault Isolation, 46-13 TASK 813)
- (2) If NFS-1 shows Fault Code 46-015 at the same time as Fault Code 46-012, then do this task: (46-015 or 46-00015 Fault Code (NFS-1 SYSLOG SERVICE FAIL Message) Shows - Fault Isolation, 46-13 TASK 814).
- (3) If NFS-1 shows Fault Code 46-016 at the same time as Fault Code 46-012, then do this task: (46-016 or 46-00016 Fault Code (NFS-1 FILE STORE SERVICE FAIL Message) Shows - Fault Isolation, 46-13 TASK 815).
- (4) If NFS-1 shows Fault Code 46-017 at the same time as Fault Code 46-012, then do this task: (46-017 or 46-00017 Fault Code (NFS-1 UPDOWN SERVICE FAIL Message) Shows - Fault Isolation, 46-13 TASK 816).
- (5) If NFS-1 shows Fault Code 46-018 at the same time as Fault Code 46-012, then do this task: (46-018 or 46-00018 Fault Code (DHCP service didn't initialize or reached the restart limit) Shows - Fault Isolation, 46-13 TASK 817).
- (6) If fault continues, you can do this task: (Network File Server Drive Reformat Procedure, AMM TASK 46-13-01-070-802).
 - (a) Make sure you do the steps to generate new credentials as specified in that task.
 - (b) Again do a check of the Existing Faults page, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-012 does not show, then you corrected the fault.
 - 3) If Fault Code 46-012 still shows, then continue.
- (7) Replace the NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-012 does not show, then you corrected the fault.

————— **END OF TASK** —————

813. 46-014 or 46-00014 Fault Code (NFS-1 DNS SERVICE FAIL Message) Shows - Fault Isolation

A. Description

- (1) Use this task when onboard network system (ONS) Existing Faults for NFS1 shows Fault Code 46-014.
 - (a) The fault data for 46-014 is: NFS-1 DNS SERVICE FAIL.
- (2) This fault code can show when the NFS cannot get access to a specific uniform resource location (URL), website, or IP address.

B. Possible Causes

- (1) Software



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C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-014 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-014 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

- (2) Click refresh on the browser or, exit and then re-enter the Existing Faults page.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-014 does not show, then you corrected the fault.
 - (c) If Fault Code 46-014 still shows, then continue.
- (3) Install 46 NFS NetManager, 46 NFS Operating System (OS) and 46 NFS OPC software parts. Do this task: (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-014 does not show, then you corrected the fault.
 - 3) If Fault Code 46-014 still shows, then continue.
- (4) Erase the NFS drive, and install new software. Do this task: (Network File Server Drive Reformat Procedure, AMM TASK 46-13-01-070-802).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-014 does not show, then you corrected the fault.
 - 3) If Fault Code 46-014 still shows, then continue.
- (5) Replace the NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-014 does not show, then you corrected the fault.

———— **END OF TASK** ————



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814. 46-015 or 46-00015 Fault Code (NFS-1 SYSLOG SERVICE FAIL Message) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-015.
 - (a) The fault data for 46-015 is: NFS-1 SYSLOG SERVICE FAIL.
- (2) This fault code can show when the NFS internal software cannot create or save log files.

B. Possible Causes

- (1) Software

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-015 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-015 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

- (2) Click refresh on the browser or, exit and then re-enter the Existing Faults page.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-015 does not show, then you corrected the fault.
 - (c) If Fault Code 46-015 still shows, then continue.
- (3) Install 46 NFS NetManager, 46 NFS Operating System (OS) and 46 NFS OPC software parts. Do this task: (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-015 does not show, then you corrected the fault.
 - 3) If Fault Code 46-015 still shows, then continue.
- (4) Erase the NFS drive, and install new software. Do this task: (Network File Server Drive Reformat Procedure, AMM TASK 46-13-01-070-802).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-015 does not show, then you corrected the fault.
 - 3) If Fault Code 46-015 still shows, then continue.



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- (5) Replace the NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-015 does not show, then you corrected the fault.

— END OF TASK —

815. 46-016 or 46-00016 Fault Code (NFS-1 FILE STORE SERVICE FAIL Message) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-016.
 - (a) The text for Fault Code 46-016 is: NFS-1 FILE STORE SERVICE FAIL.
- (2) This fault code can occur when
 - (a) A CNAS-hosted application cannot save data to the NFS.
 - (b) A CNAS-hosted application cannot save or get software parts for a configuration update of the NFS.

B. Possible Causes

- (1) Software

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-016 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-016 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

- (2) Click refresh on the browser or, exit and then re-enter the Existing Faults page.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-016 does not show, then you corrected the fault.
 - (c) If Fault Code 46-016 still shows, then continue.
- (3) Install 46 NFS NetManager, 46 NFS Operating System (OS) and 46 NFS OPC software parts. Do this task: (Network File Server Software Installation, AMM TASK 46-13-01-470-801).

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- (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-016 does not show, then you corrected the fault.
 - 3) If Fault Code 46-016 still shows, then continue.
- (4) Erase the NFS drive, and install new software. Do this task: (Network File Server Drive Reformat Procedure, AMM TASK 46-13-01-070-802).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-016 does not show, then you corrected the fault.
 - 3) If Fault Code 46-016 still shows, then continue.
- (5) Replace the NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-016 does not show, then you corrected the fault.

————— **END OF TASK** —————

816. 46-017 or 46-00017 Fault Code (NFS-1 UPDOWN SERVICE FAIL Message) Shows - Fault Isolation

A. Description

- (1) Use this task when onboard network server (ONS) Existing Faults for NFS1 shows Fault Code 46-017.
 - (a) The fault data for 46-017 is: NFS-1 UPDOWN SERVICE FAIL.
- (2) The NFS causes this fault code when an internal process named uplink-downlink service (UDS) is unserviceable.
 - (a) Typically, an ONS client uses UDS to send data to the network file server (NFS).
 - (b) UDS can also be part of the process to select a file for transmission to an off-airplane destination.

B. Possible Causes

- (1) Airplane credentials
- (2) Network File Server (NFS), M2889.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-017 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-017 shows, then do the Fault Isolation Procedure below.



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D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

- (2) Click refresh on the browser or, exit and then re-enter the Existing Faults page.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-017 does not show, then you corrected the fault.
 - (c) If Fault Code 46-017 still shows, then continue.
- (3) Do a check of the airplane credentials, (Onboard Network System Airplane Credentials Check, AMM TASK 46-13-00-750-801).
 - (a) If you find a problem, do the corrective action in that task.
- (4) On the ONS browser, make your selections: Extended Maintenance > ONS Maintenance > Existing Faults.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-017 does not show, then you corrected the fault.
 - (c) If Fault Code 46-017 still shows, then continue.
- (5) Remove the NFS, and install a serviceable NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-017 does not show, then you corrected the fault.

————— **END OF TASK** —————

817. **46-018 or 46-00018 Fault Code (DHCP service didn't initialize or reached the restart limit) Shows - Fault Isolation**

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows fault code 46-018.
 - (a) The fault data for 46-018 is: DHCP service didn't initialize or reached the restart limit.
- (2) This fault code is detected with internal monitoring of the service and indicates Dynamic Host Configuration Protocol (DHCP) service didn't initialize, or it reached the restart limit. It is detected by internal monitoring of the DHCP service.

NOTE: DHCP is the protocol that lets a computer get it's IP address, its default gateway address and Domain Name Server information.

- (3) One possible, observed problem related to this fault code is the laptop cannot connect to the NFS because it is not assigned an IP address.

B. Possible Causes

- (1) Software



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C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-018 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-018 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

- (2) Click refresh on the browser or, exit and then re-enter the Existing Faults page.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-018 does not show, then you corrected the fault.
 - (c) If Fault Code 46-018 still shows, then continue.
- (3) Install 46 NFS NetManager, 46 NFS Operating System (OS) and 46 NFS OPC software parts. Do this task: (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-018 does not show, then you corrected the fault.
 - 3) If Fault Code 46-018 still shows, then continue.
- (4) Erase the NFS drive, and install new software. Do this task: (Network File Server Drive Reformat Procedure, AMM TASK 46-13-01-070-802).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-018 does not show, then you corrected the fault.
 - 3) If Fault Code 46-018 still shows, then continue.
- (5) Replace the NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-018 does not show, then you corrected the fault.

————— **END OF TASK** —————



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818. 46-020 or 46-00020 Fault Code (ONS SERVICE FAIL Message) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows fault code 46-020.
 - (a) The fault data for 46-020 is: ONS SERVICE FAIL.
- (2) This is a high-level fault that is triggered by lower level faults.
 - (a) There are no fault isolation procedure for this specific fault code.
 - (b) Typically, NFS1 shows fault code 46-020 with one or more other fault codes at the same time.
 - 1) Do the corrective action for the other fault code, or codes first.

B. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-020 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-020 shows, then do the Fault Isolation Procedure below.

C. Fault Isolation Procedure

- (1) If NFS-1 shows Fault Code 46-021 at the same time as Fault Code 46-020, then do this task: (46-021 or 46-00021 Fault Code (NFS-1 AVIONICS SERVICE FAIL Message) Shows - Fault Isolation, 46-13 TASK 819).
- (2) If NFS-1 shows Fault Code 46-022 at the same time as Fault Code 46-020, then do this task: (46-022 or 46-00022 Fault Code (NTP service didn't initialize or reached the restart limit) Shows - Fault Isolation, 46-13 TASK 820).
- (3) If NFS-1 shows Fault Code 46-023 at the same time as Fault Code 46-020, then do this task: (46-023 or 46-00023 Fault Code (SAPS service didn't initialize or reached the restart limit) Shows - Fault Isolation, 46-13 TASK 821).
- (4) If fault continues, you can do this task: (Network File Server Drive Reformat Procedure, AMM TASK 46-13-01-070-802).
 - (a) Make sure you do the steps to generate new credentials as specified in that task.
 - (b) Again do a check of the Existing Faults page, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-020 does not show, then you corrected the fault.
 - 3) If Fault Code 46-020 still shows, then continue.
- (5) Replace the NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.



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- 2) If Fault Code 46-020 does not show, then you corrected the fault.

————— **END OF TASK** —————

819. 46-021 or 46-00021 Fault Code (NFS-1 AVIONICS SERVICE FAIL Message) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows fault code 46-021.
 - (a) The fault data for 46-021 is: NFS-1 AVIONICS SERVICE FAIL.
- (2) This fault code is detected with internal monitoring of the service.

B. Possible Causes

- (1) Software
- (2) Network File Server (NFS), M2889

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-021 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-021 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

- (2) Click refresh on the browser or, exit and then re-enter the Existing Faults page.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-021 does not show, then you corrected the fault.
 - (c) If Fault Code 46-021 still shows, then continue.
- (3) Install 46 NFS NetManager, 46 NFS Operating System (OS) and 46 NFS OPC software parts. Do this task: (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-021 does not show, then you corrected the fault.
 - 3) If Fault Code 46-021 still shows, then continue.
- (4) Erase the NFS drive, and install new software. Do this task: (Network File Server Drive Reformat Procedure, AMM TASK 46-13-01-070-802).



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- (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-021 does not show, then you corrected the fault.
 - 3) If Fault Code 46-021 still shows, then continue.
- (5) Remove the NFS, and install a serviceable NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
- (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-021 does not show, then you corrected the fault.

END OF TASK

820. 46-022 or 46-00022 Fault Code (NTP service didn't initialize or reached the restart limit) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-022.
 - (a) The fault data for 46-022 is: NTP service didn't initialize or reached the restart limit.
- (2) The NFS can cause this fault code to show when the network time protocol (NTP) is unserviceable.

B. Possible Causes

- (1) Software
- (2) Network File Server (NFS), M2889

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-022 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-022 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

- (2) Click refresh on the browser or, exit and then re-enter the Existing Faults page.
 - (a) If NFS1 does not show, then you corrected the fault.



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- (b) If Fault Code 46-022 does not show, then you corrected the fault.
- (c) If Fault Code 46-022 still shows, then continue.
- (3) Install 46 NFS NetManager, 46 NFS Operating System (OS) and 46 NFS OPC software parts. Do this task: (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-022 does not show, then you corrected the fault.
 - 3) If Fault Code 46-022 still shows, then continue.
- (4) Erase the NFS drive, and install new software. Do this task: (Network File Server Drive Reformat Procedure, AMM TASK 46-13-01-070-802).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-022 does not show, then you corrected the fault.
 - 3) If Fault Code 46-022 still shows, then continue.
- (5) Remove the NFS, and install a serviceable NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-022 does not show, then you corrected the fault.

END OF TASK

821. 46-023 or 46-00023 Fault Code (SAPS service didn't initialize or reached the restart limit) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-023.
 - (a) The fault data for 46-023 is: SAPS service didn't initialize or reached the restart limit.
- (2) The NFS shows this fault code when the standard airline parameter service (SAPS) is unserviceable.

B. Possible Causes

- (1) Software

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-023 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-023 shows, then do the Fault Isolation Procedure below.



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D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

- (2) Click refresh on the browser or, exit and then re-enter the Existing Faults page.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-023 does not show, then you corrected the fault.
 - (c) If Fault Code 46-023 still shows, then continue.
- (3) Install 46 NFS NetManager, 46 NFS Operating System (OS) and 46 NFS OPC software parts. Do this task: (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-023 does not show, then you corrected the fault.
 - 3) If Fault Code 46-023 still shows, then continue.
- (4) Erase the NFS drive, and install new software. Do this task: (Network File Server Drive Reformat Procedure, AMM TASK 46-13-01-070-802).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-023 does not show, then you corrected the fault.
 - 3) If Fault Code 46-023 still shows, then continue.
- (5) Replace the NFS with a serviceable NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-023 does not show, then you corrected the fault.

— END OF TASK —

822. 46-025 or 46-00025 Fault Code (Application Hosting Service didn't initialize) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows fault code 46-025.
 - (a) The fault data for 46-025 is: Application Hosting Service didn't initialize.
- (2) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-025.
 - (a) The fault data for 46-025 is: Application Hosting Service didn't initialize.
- (3) The NFS shows this fault code when the NFS application host is unserviceable.

B. Possible Causes

- (1) Software



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C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-025 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-025 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

- (2) Click refresh on the browser or, exit and then re-enter the Existing Faults page.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-025 does not show, then you corrected the fault.
 - (c) If Fault Code 46-025 still shows, then continue.
- (3) Install 46 NFS NetManager, 46 NFS Operating System (OS) and 46 NFS OPC software parts. Do this task: (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-025 does not show, then you corrected the fault.
 - 3) If Fault Code 46-025 still shows, then continue.
- (4) Erase the NFS drive, and install new software. Do this task: (Network File Server Drive Reformat Procedure, AMM TASK 46-13-01-070-802).
 - (a) Click refresh on the browser or, exit and then again select the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-025 does not show, then you corrected the fault.
 - 3) If Fault Code 46-025 still shows, then continue.
- (5) Replace the NFS with a serviceable NFS. Do these tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
 - (a) Click refresh on the browser or, exit and select again the Existing Faults button.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-025 does not show, then you corrected the fault.

————— **END OF TASK** —————



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823. 46-030 or 46-00030 Fault Code (EXPIRED CRATE SIGNING CERTIFICATE Message) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-030.
 - (a) The fault data for 46-030 is: EXPIRED CRATE SIGNING CERTIFICATE.
- (2) This fault shows when one of these conditions is present:
 - (a) An OBEDS internal function found no certificate from OAS.
 - (b) The crated installation file is unserviceable.
 - (c) The certificate has expired, or is unserviceable.

NOTE: The certificate can refer to the airplane certificate, command certificate, crate certificate, SSL certificate, or part certificate.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-030 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-030 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Examine the configuration this software part: 46 NFS OAS AIRLINE CERTS UMS, (Network File Server Software Check, AMM TASK 46-13-01-710-803).
 - (a) If you find a problem with 46 NFS OAS AIRLINE CERTS UMS, then install a new LSAP, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-030.
 - 1) If 46-030 does not show, then you corrected the fault.

————— END OF TASK —————

824. 46-031 or 46-00031 Fault Code (EXPIRED VPN/TLS CERTIFICATE Message) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-031.
 - (a) The fault data for 46-031 is: EXPIRED VPN/TLS CERTIFICATE.



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- (2) This fault shows when one of these conditions is present:
 - (a) The virtual private network (VPN) certificate has expired, or is unserviceable.
 - (b) The transport layer security (TLS) certificate has expired, or is unserviceable.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-031 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-031 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Examine the configuration this software part: 46 NFS OAS AIRLINE CERTS UMS, (Network File Server Software Check, AMM TASK 46-13-01-710-803).
 - (a) If you find a problem with 46 NFS OAS AIRLINE CERTS UMS, then install the correct software for NFS, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-031.
 - 1) If 46-031 does not show, then you corrected the fault.

————— **END OF TASK** —————

825. 46-032 or 46-00032 Fault Code (EXPIRED COMMAND SIGNING CERTIFICATE Message) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-032.
 - (a) The fault data for 46-032 is: EXPIRED COMMAND SIGNING CERTIFICATE.
- (2) This fault shows when this condition is present:
 - (a) The command signing certificate (CSR) has expired, or is unserviceable.

B. Possible Causes

- (1) Software.



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C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-032 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-032 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Examine the configuration this software part: 46 NFS OAS AIRLINE CERTS UMS, (Network File Server Software Check, AMM TASK 46-13-01-710-803).
 - (a) If you find a problem with 46 NFS OAS AIRLINE CERTS UMS, then install the correct software for NFS, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-032.
 - 1) If 46-032 does not show, then you corrected the fault.

————— **END OF TASK** —————

**826. 46-033 or 46-00033 Fault Code (EXPIRED SOFTWARE PART SIGNING CERTIFICATE Message)
Shows - Fault Isolation**

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-033.
 - (a) The fault data for 46-033 is: EXPIRED SOFTWARE PART SIGNING CERTIFICATE.
- (2) This fault shows when the software part signing certificate has expired, or is unserviceable.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-033 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.



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- 3) If Fault Code 46-033 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Examine the configuration of the software part: 46 NFS OAS AIRLINE CERTS UMS, (Network File Server Software Check, AMM TASK 46-13-01-710-803).
 - (a) If you find a problem with 46 NFS OAS AIRLINE CERTS UMS, then install the correct software for NFS, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-033.
 - 1) If 46-033 does not show, then you corrected the fault.

— END OF TASK —

827. 46-035 or 46-00035 Fault Code (EXPIRED SECURITY TRUST ANCHORS) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-035.
 - (a) The fault data for 46-035 is: EXPIRED SECURITY TRUST ANCHORS.
- (2) This fault shows at NFS boot-up when the security trust anchor, in the airline AMI has expired.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-035 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-035 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Examine the configuration of the software part: 46 NFS OAS AIRLINE CERTS AMI, (Network File Server Software Check, AMM TASK 46-13-01-710-803).
 - (a) If you find a problem with 46 NFS OAS AIRLINE CERTS AMI, then install the correct software for NFS, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-035.



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- 1) If 46-035 does not show, then you corrected the fault.

————— **END OF TASK** —————

828. 46-036 or 46-00036 Fault Code (EXPIRED AIRPLANE CERTIFICATE IN RADIUS CHAIN) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-036.
 - (a) The fault data for 46-036 is: EXPIRED AIRPLANE CERTIFICATE IN RADIUS CHAIN.
- (2) This fault shows when the software part signing certificate has expired, or is unserviceable.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-036 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-036 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Do this task: (Onboard Network System Airplane Credentials Check, AMM TASK 46-13-00-750-801).
 - (a) Make sure you do the steps to generate a credential signing request (CST), and install the new airplane keys.
- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-036.
 - 1) If 46-036 does not show, then you corrected the fault.

————— **END OF TASK** —————

829. 46-037 or 46-00037 Fault Code (EXPIRED AIRLINE CERTIFICATE AUTHORITY CERTIFICATE) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-037.
 - (a) The fault data for 46-037 is: EXPIRED AIRLINE CERTIFICATE AUTHORITY CERTIFICATE.
- (2) This fault shows when the airline certificate has expired, or is unserviceable.



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B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-037 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-037 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Examine the configuration of the software part: 46 NFS OAS AIRLINE CERTS UMS, (Network File Server Software Check, AMM TASK 46-13-01-710-803).
 - (a) If you find a problem with 46 NFS OAS AIRLINE CERTS UMS, then install the correct software for NFS, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-037.
 - 1) If 46-037 does not show, then you corrected the fault.

————— END OF TASK —————

830. 46-038 or 46-00038 Fault Code (AIRPLANE CERTIFICATE EXPIRING SOON) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-038.
 - (a) The fault data for 46-038 is: AIRPLANE CERTIFICATE EXPIRING SOON.
- (2) This fault shows when the software part signing certificate has expired, or is unserviceable.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.



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- 2) If Fault Code 46-038 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
- 3) If Fault Code 46-038 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Do this task: (Onboard Network System Airplane Credentials Check, AMM TASK 46-13-00-750-801).
 - (a) Make sure you do the steps to generate a credential signing request (CST), and install the new airplane keys.
- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-038.
 - 1) If 46-038 does not show, then you corrected the fault.

————— END OF TASK —————

831. **46-039 or 46-00039 Fault Code (AIRLINE CA CERT WILL EXPIRE WITHIN 30 DAYS OR LESS)** **Shows - Fault Isolation**

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-039.
 - (a) The fault data for 46-039 is: AIRLINE CA CERT WILL EXPIRE WITHIN 30 DAYS OR LESS.
- (2) This fault shows when the airline CA certificate will expire, or become unserviceable, in 30 days or less.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-039 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-039 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Examine the configuration of the software part: 46 NFS OAS AIRLINE CERTS UMS, (Network File Server Software Check, AMM TASK 46-13-01-710-803).
 - (a) If you find a problem with 46 NFS OAS AIRLINE CERTS UMS, then install the correct software for NFS, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).



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- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-039.
 - 1) If 46-039 does not show, then you corrected the fault.

————— END OF TASK —————

**832. 46-040 or 46-00040 Fault Code (AIRPLANE DATA DOES NOT MATCH SECURITY CERTIFICATE)
Shows - Fault Isolation**

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-040.
 - (a) The fault data for 46-040 is: AIRPLANE DATA DOES NOT MATCH SECURITY CERTIFICATE.
- (2) This fault shows when the data recorded on the ONS airplane identification page, and one or more security certificates, do not agree.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-040 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-040 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Do a check of the airplane identification data, (Onboard Network System Airplane Identification Check, AMM TASK 46-13-00-860-801).
 - (a) If you find a problem, then correct the airplane identification data.
- (2) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-040 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-040 shows, then do the Fault Isolation Procedure below.
- (3) Do this task: (Onboard Network System Airplane Credentials Check, AMM TASK 46-13-00-750-801).



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- (a) Make sure you do the steps to generate a credential signing request (CST), and install the new airplane keys.
- (4) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-040.
 - 1) If 46-040 does not show, then you corrected the fault.

————— END OF TASK —————

833. 46-041 or 46-00041 Fault Code (OAS CERTIFICATE MISMATCH) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-041.
 - (a) The fault data for 46-041 is: OAS CERTIFICATE MISMATCH.
- (2) The NFS can show this fault when a certificate for operationally approved software (OAS) does not agree, or is unserviceable.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-041 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-041 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Verify the configuration of the network file server. This is the task: (Onboard Network System Configuration Check, AMM TASK 46-13-00-720-803).
 - (a) If you find a problem with the configuration, then do these steps:
 - 1) Install the correct software for NFS, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-041 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-041 shows, then do the Fault Isolation Procedure below.



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- (3) Do this task: (Onboard Network System Airplane Credentials Check, AMM TASK 46-13-00-750-801).
 - (a) Make sure you do the steps to generate a credential signing request (CST), and install the new airplane keys.
- (4) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-041.
 - 1) If 46-041 does not show, then you corrected the fault.

————— **END OF TASK** —————

835. 46-044 or 46-00044 Fault Code (OBEDS detects expired or missing OAS certificate) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-044.
 - (a) The fault data for 46-044 is: OBEDS detects expired or missing OAS certificate.
- (2) The NFS shows this fault when the Oracle™ application server (OAS) certificate for Onboard Boeing Electronic Distribution of Software (OBEDS) is expired, missing, or unserviceable.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-044 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-044 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Do this task: (Onboard Network System Airplane Credentials Check, AMM TASK 46-13-00-750-801).
 - (a) Make sure you do the steps to generate a credential signing request (CST), and install the new airplane keys.
- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-044.
 - 1) If 46-044 does not show, then you corrected the fault.

————— **END OF TASK** —————



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836. 46-046 or 46-00046 Fault Code (OBEDS operational error detected) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-046.
 - (a) The fault data for 46-046 is: OBEDS operational error detected.
- (2) The NFS shows this fault when the Oracle™ application server (OAS) certificate for Onboard Boeing Electronic Distribution of Software (OBEDS) is expired, missing, or unserviceable.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-046 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-046 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Do this task: (Onboard Network System Airplane Credentials Check, AMM TASK 46-13-00-750-801).
 - (a) If you find a problem, do the corrective action in the specified task.
- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-046.
 - 1) If 46-046 does not show, then you corrected the fault.

———— **END OF TASK** ————

837. 46-048 or 46-00048 Fault Code (OBEDS cannot authenticate ground server connection) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-048.
 - (a) The fault data for 46-048 is: OBEDS cannot authenticate ground server connection.
- (2) The NFS shows this fault when the Onboard Boeing Electronic Distribution of Software (OBEDS) connection is unserviceable.

B. Possible Causes

- (1) Software.



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C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-048 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-048 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

- (2) Click refresh on the browser or, exit and then re-enter the Existing Faults page.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-048 does not show, then you corrected the fault.
 - (c) If Fault Code 46-048 still shows, then continue.
- (3) Do this task: (Onboard Network System Airplane Credentials Check, AMM TASK 46-13-00-750-801).
 - (a) Make sure you do the steps to generate a credential signing request (CST), and install the new airplane keys.
- (4) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-048.
 - 1) If 46-048 does not show, then you corrected the fault.

————— **END OF TASK** —————

838. 46-049 Fault Code (Received request for non-existent client) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults > NFS1 shows fault code 46-049.
 - (a) The fault data for 46-049 is: Received request for non-existent client.
- (2) The NFS shows this fault when the ???

B. Possible Causes

- (1) Software.



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C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes are present.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If NFS1 does not show Fault Code 46-049, then the fault was intermittent.
 - 3) If Fault Code 46-049 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

Click refresh on the browser or, exit and then re-enter the Existing Faults page.

- (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-049 does not show, then you corrected the fault.
 - (c) If Fault Code 46-049 still shows, then continue.
- (2) Do this task: (Onboard Network System Server Credentials Check, AMM TASK 46-13-00-750-802).
 - (3) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-049.
 - 1) If 46-049 does not show, then you corrected the fault.

————— **END OF TASK** —————

839. 46-060 or 46-00060 Fault Code (A NetManager AMI has failed validation) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-060.
 - (a) The fault data for 46-060 is: A NetManager AMI has failed validation.
- (2) The NFS shows this fault when a type of LSAP identified as NetManager AMI (airline modifiable information) is unserviceable.
 - (a) Typically, NFS1 shows fault code 46-060 with one or more other fault codes, at the same time.
 - 1) Do the corrective action for the other fault code, or codes first.

B. Possible Causes

- (1) Software.



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C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-060 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-060 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) If NFS-1 shows Fault Code 46-065 at the same time as Fault Code 46-060, then do this task: (46-065 or 46-00065 Fault Code (The OBEDS data in the EXCOMM AMI fails validation), 46-13 TASK 842)
 - (a) When complete, then examine the selection: Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then you corrected the fault.
 - 2) If Fault Code 46-060 does not show, then you corrected the fault.
 - 3) If Fault Code 46-060 still shows, then continue.
- (2) Examine the NFS software configuration, (Network File Server Software Check, AMM TASK 46-13-01-710-803).
 - (a) If you find a problem with airline or operator-specified software, then follow your airline's policy to report this condition.
 - (b) If you find a problem with the software configuration, then install the correct software for NFS, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).

E. Repair Confirmation

- (1) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes are present.

 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-060.
 - 1) If 46-060 does not show, then you corrected the fault.

————— **END OF TASK** —————

840. 46-062 or 46-00062 Fault Code (An OAS AMI has failed validation) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-062.
 - (a) The fault data for 46-062 is: An OAS AMI has failed validation.
- (2) The NFS shows this fault when a type of LSAP identified as OAS AMI (airline modifiable information) is unserviceable.

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- (a) Typically, NFS1 shows fault code 46-062 with one or more other fault codes, at the same time.

- 1) Do the corrective action for the other fault code, or codes first.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes are present.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If NFS1 does not show Fault Code 46-062, then the fault was intermittent.
 - 3) If Fault Code 46-062 shows, then do these steps:
 - a) Examine NFS1 existing faults for fault code 46-065, and determine if it shows.
 - b) Do the fault isolation procedure that follows.

D. Fault Isolation Procedure

- (1) Examine the NFS software configuration, (Network File Server Software Check, AMM TASK 46-13-01-710-803).
 - (a) If you find a problem with airline or operator-specified software, then follow your airline's policy to report this condition.
 - (b) If you find a problem with the software configuration, then install the correct software for NFS, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-062.
 - 1) If 46-062 does not show, then you corrected the fault.

————— **END OF TASK** —————

841. 46-063 Fault Code (AIRPLANE AMI VALIDITY TIME NOT WITHIN CURRENT AIRPLANE TIME)

Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults > NFS1 shows fault code 46-063.
 - (a) The fault data for 46-063 is: AIRPLANE AMI VALIDITY TIME NOT WITHIN CURRENT AIRPLANE TIME.

B. Possible Causes

- (1) Software.



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C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes are present.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If NFS1 does not show Fault Code 46-063, then the fault was intermittent.
 - 3) If Fault Code 46-063 shows, then do these steps:
 - a) Examine NFS1 existing faults for fault code 46-065, and determine if it shows.
 - b) Do the fault isolation procedure that follows.

D. Fault Isolation Procedure

- (1) Examine the NFS software configuration, (Network File Server Software Check, AMM TASK 46-13-01-710-803).
 - (a) If you find a problem with the software configuration, then install the correct software for NFS, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-063.
 - 1) If 46-063 does not show, then you corrected the fault.

————— **END OF TASK** —————

842. 46-065 or 46-00065 Fault Code (The OBEDS data in the EXCOMM AMI fails validation)

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-065.
 - (a) The fault data for 46-065 is: The OBEDS data in the EXCOMM AMI fails validation.
 - (b) This fault code, and fault code 46-060, can show at the same time.
 - (c) If this occurs, the two fault codes can refer to the same problem.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-065 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.



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3) If Fault Code 46-065 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Examine the NFS software configuration, (Network File Server Software Check, AMM TASK 46-13-01-710-803).
 - (a) If you find a problem with airline or operator-specified software, then follow your airline's policy to report this condition.
 - (b) If you find a problem with the software configuration, then install the correct software for NFS, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-065.
 - 1) If 46-065 does not show, then you corrected the fault.

————— **END OF TASK** —————

843. 46-066 or 46-00066 Fault Code (A NetManager OPC has failed validation) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults for NFS1 shows Fault Code 46-066.
 - (a) The fault data for 46-066 is: A NetManager OPC has failed validation.
- (2) The NFS shows this fault when a type of LSAP identified as NetManager OPC (operation program code) is unserviceable.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes show.
 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If Fault Code 46-066 does not show, then the fault was intermittent.
 - a) Since NFS1 shows, another fault isolation task can be necessary.
 - 3) If Fault Code 46-066 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.



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- (2) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-066 does not show, then you corrected the fault.
 - (c) If Fault Code 46-066 shows, then continue.
- (3) Examine the configuration (Network File Server Software Check, AMM TASK 46-13-01-710-803).
 - (a) If you find a problem with airline or operator-specified software, then follow your airline's policy to report this condition.
 - (b) If you find a problem with the ONS software configuration, then install the correct software for NFS, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (4) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-066.
 - 1) If 46-066 does not show, then you corrected the fault.

END OF TASK

844. 46-067 Fault Code (Internal NED OPC is not compatible with NFS OPC) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults > NFS1 shows fault code 46-067.
 - (a) The fault data for 46-067 is: Internal NED OPC is not compatible with NFS OPC.
- (2) The NFS shows this fault when the software parts do not agree.

B. Possible Causes

- (1) Software.

C. Initial Evaluation

- (1) Do a check of ONS Existing Faults for NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes are present.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1.
 - 1) If NFS1 does not show, then the fault was intermittent. No action is necessary.
 - 2) If NFS1 does not show Fault Code 46-067, then the fault was intermittent.
 - 3) If Fault Code 46-067 shows, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER



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NOTE: It is necessary to wait from three to five minutes for a complete NFS reboot.

Click refresh on the browser or, exit and then re-enter the Existing Faults page.

- (a) If NFS1 does not show, then you corrected the fault.
 - (b) If Fault Code 46-067 does not show, then you corrected the fault.
 - (c) If Fault Code 46-067 still shows, then continue.
- (2) Examine the configuration (Network File Server Software Check, AMM TASK 46-13-01-710-803).
- (a) If you find a problem with airline or operator-specified software, then follow your airline's policy to report this condition.
 - (b) If you find a problem with the ONS software configuration, then install the correct software for NFS, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (3) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > NFS1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
- (a) If NFS1 does not show, then you corrected the fault.
 - (b) If NFS1 shows, then select NFS1 and look for fault code 46-067.
 - 1) If 46-067 does not show, then you corrected the fault.

———— **END OF TASK** ————

845. 46-110 or 46-00110 Fault Code (EGPWS~NFS1 ETHERNET BUS FAIL) Shows - Fault Isolation

A. Description

- (1) Use this task when ONS Existing Faults > EGPWS shows fault code 46-110.
 - (a) The fault data for 46-110 is: EGPWS~NFS1 ETHERNET BUS FAIL.
- (2) The NFS shows this fault when communication from the enhanced ground proximity system (EGPWS) to the network file server (NFS) is unserviceable.

B. Possible Causes

- (1) Software
- (2) Wiring
- (3) Network file server, M2889.
- (4) Ground proximity warning computer, M652.

C. Related Data

- (1) WDM 46-13-11.

D. Initial Evaluation

- (1) Do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, and no fault codes are present.

- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > EGPWS.
 - 1) If EGPWS does not show, then the fault was intermittent. No action is necessary.



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- 2) If Existing Faults > EGPWS shows, but does not show code 46-110, then the fault is intermittent.
 - a) Corrective action for other fault codes shown is necessary.
 - 3) If fault code 46-110 shows, then continue.
- (2) Using ONS, make your selection: Extended Maintenance > Input Monitoring > NFS > Ethernet (Onboard Network System Input Monitoring Check, AMM TASK 46-13-00-720-802).
- (a) If End Connection EGPWS shows the status: DOWN, then do: Fault Isolation Procedure - Ethernet Bus, that follows.
 - (b) If End Connection EGPWS shows the status: High, Low, Up, or words other than DOWN, then do: Fault Isolation Procedure - NFS Configuration, that follows.

E. Fault Isolation Procedure - Ethernet Bus

- (1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	7	C01519	TERRAIN DISPLAY

- (a) If you closed the breaker, do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - 1) If Existing Faults > EGPWS does not show, then you corrected the problem.
 - 2) If Existing Faults > EGPWS shows, but does not show code 46-110, then you corrected the problem.
 - 3) If EGPWS shows fault code 46-110, then continue.
 - (b) If you closed the breaker, do a check of ONS EXISTING FAULTS, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - 1) If 46 - Onboard Network System does not show selectable, then you corrected the problem.
 - 2) If 46 - Onboard Network System does show selectable, but does not show code 46-00110, then you corrected the problem.
 - 3) If fault code 46-00110 shows, then continue.
- (2) Do this check of the wiring:
- (a) Remove the Ground Proximity Warning Computer (GPWC), M652. This is the task: (Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801).
 - (b) Remove the NFS, M2889. This is the task: (Network File Server Removal, AMM TASK 46-13-01-000-801).

E/E Bay				
E5-2	M2889, NFS, E5-2		M652, GPWC, E1-1	
	D13673B		D1153B	
	KK-1		B4	0
	KK-3		A5	0
	KK-2		A4	0
	KK-4		B5	0

- 1) If you find a problem, then repair the wiring.

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- (d) Install the NFS, M2889. This is the task: (Network File Server Installation, AMM TASK 46-13-01-400-801).
- (e) Install the GPWC, M652. This is the task: (Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801).
- (3) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > EGPWS, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > EGPWS does not show, then you corrected the problem.
 - (b) If Existing Faults > EGPWS shows, but code 46-110 does not show, then you corrected the problem.
 - (c) If EGPWS shows fault code 46-110, then continue.
- (4) Install a new client credential for EGPWS, (Onboard Network System Client Credentials Check, AMM TASK 46-13-00-750-803).
- (5) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > EGPWS, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > EGPWS does not show, then you corrected the problem.
 - (b) If Existing Faults > EGPWS shows, but code 46-110 does not show, then you corrected the problem.
 - (c) If EGPWS shows fault code 46-110, then continue.
- (6) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
- (7) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > EGPWS.
 - (a) If EGPWS does not show, then you corrected the fault.
 - (b) If fault code 46-110 does not show, then you corrected the fault.
 - (c) If the Existing Faults page shows no LRUs, with no fault codes, then the NFS is serviceable.
 - (d) If fault code 46-110 shows, then continue.
- (8) Remove the GPWC, M652, and install a serviceable GPWC. Do these tasks: (Ground Proximity Warning Computer Removal, AMM TASK 34-46-01-000-801, and Ground Proximity Warning Computer Installation, AMM TASK 34-46-01-400-801).
- (9) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

F. Fault Isolation Procedure - NFS Configuration

- (1) Do a check of ONS software. This is the task: (Network File Server Software Check, AMM TASK 46-13-01-710-803)
 - (a) Make sure that 46 NED OPC is serviceable.
 - (b) Make sure that 46 NFS OPC is serviceable.
 - (c) Make sure the two parts agree with your airline's required software record.

NOTE: At this step in the process, it is very likely that at least one of the two parts is unserviceable.



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- (d) If you find a problem, then install the correct software part, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > EGPWS, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > EGPWS does not show, then you corrected the problem.
 - (b) If Existing Faults > EGPWS does not show code 46-110, then you corrected the problem.
 - (c) If Existing Faults > EGPWS shows fault code 46-110, then continue.
- (3) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

G. Repair Confirmation

- (1) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > EGPWS, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If LRU EGPWS does not show, then you corrected the fault.
 - (b) If Existing Faults > EGPWS shows, but does not show code 46-110, then you corrected the problem.

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, with no fault codes present.

END OF TASK

846. 46-153 or 46-00153 Fault Code (FMC~NFS1 'FMC-02' BUS FAIL) Shows - Fault Isolation

A. Description

- (1) Use this task when Extended Maintenance > ONS Maintenance > Existing Faults > FMC shows fault code 46-153.
 - (a) The fault data for 46-153 is: FMC~NFS1 'FMC-02' BUS FAIL.
- (2) The nomenclature FMC-02 refers to the bus.
- (3) This fault can occur when ARINC 429 communications, on bus FMC-02, between the FMC and NFS is unserviceable.

B. Possible Causes

- (1) Circuit breakers.
- (2) Wiring
- (3) Network file server (NFS), M2889
- (4) Flight Management Computer, FMC-1, M1175.
- (5) FMCS Transfer Relay 2, R476.

C. Related Data

- (1) WDM 34-61-14
- (2) WDM 46-13-11.

D. Initial Evaluation

- (1) Set the FMC SOURCE SELECT SWITCH, P5-28, to BOTH ON L.
- (2) Do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).



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- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > FMC.
 - 1) If the LRU FMC does not show, then the fault is intermittent. No action is necessary.
 - 2) If Existing Faults > FMC shows, but does not show code 46-153, then the fault is intermittent.
 - a) Corrective action for other fault codes shown is necessary.
 - 3) If FMC shows fault code 46-153, then continue.
- (3) Using ONS, make your selection: Extended Maintenance > Input Monitoring > NFS > 429 Receive (Onboard Network System Input Monitoring Check, AMM TASK 46-13-00-720-802).
 - (a) If End Connection: FMC Relay / FMC-02 shows the status: FAILED, then do: Fault Isolation Procedure - FMC-02 Bus, that follows.
 - (b) If End Connection: FMC Relay / FMC-02 shows the status: High, Low, or words other than FAILED, then do: Fault Isolation Procedure - NFS Configuration, that follows.

E. Fault Isolation Procedure - FMC-02 BUS

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

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	6	C01017	FMCS CMPTR 1

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	15	C01263	FMCS XFR

- (a) If you found an open breaker, do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - 1) If Existing Faults > FMC does not show, then you corrected the problem.
 - 2) If Existing Faults > FMC shows, but does not show code 46-153, then you corrected the problem.
 - 3) If FMC shows fault code 46-153, then continue.



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

- (2) Do this check of the wiring:
 - (a) Remove the NFS, M2889. Do this task: (Network File Server Removal, AMM TASK 46-13-01-000-801).
 - (b) Remove FMC-1, M1175. Do this task: (FMCS Computer Removal, AMM TASK 34-61-02-000-801).



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E/E BAY to			
E5-2	M2889, NFS	M1175, Single FMC	
	D13673A	D2179B	
	D12	D7	0
	E12	E7	0

- 1) If you find a problem, then repair the wiring.
- (d) Install FMC-1. Do this task: (FMCS Computer Installation, AMM TASK 34-61-02-400-801).
- (e) Install the NFS. Do this task: (Network File Server Installation, AMM TASK 46-13-01-400-801).
- (3) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > FMC, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If FMC does not show, then you corrected the fault.
 - (b) If Existing Faults > FMC shows, but does not show code 46-153, then you corrected the problem.
 - (c) If Fault Code 46-153 still shows, then continue.
- (4) Set the FMC SOURCE SELECT SWITCH, P5-28, to NORMAL.
- (5) Make sure the FMCS Transfer Relay, R00476, is serviceable, (Flight Management Computer System - Operational Test, AMM TASK 34-61-00-710-801).

F. Fault Isolation Procedure - NFS Configuration

- (1) Do a check of ONS software. This is the task: (Network File Server Software Check, AMM TASK 46-13-01-710-803).
 - (a) Make sure the 46 NED OPC is serviceable.
 - (b) Make sure that 46 NFS OPC is serviceable.
 - (c) Make sure the two parts agree with your airline's required software record.

NOTE: At this step in the process, it is very likely that at least one of the two parts is unserviceable.
 - (d) If you find a problem, then replace the applicable software part, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > FMC, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If the LRU FMC does not show, then you corrected the fault.
 - (b) If Existing Faults > FMC shows, but does not show code 46-153, then you corrected the problem.
 - (c) If FMC shows fault code 46-153, then continue.
- (3) Set the FMC SOURCE SELECT SWITCH, P5-28, to NORMAL.
- (4) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).



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G. Repair Confirmation

- (1) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > FMC, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If the LRU FMC does not show, then you corrected the fault.
 - (b) If Existing Faults > FMC shows, but does not show code 46-153, then you corrected the problem.
 - 1) Corrective action for other fault codes shown is necessary.

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, with no fault codes present.

———— **END OF TASK** ————

847. 46-154 or 46-00154 Fault Code (FMC~NFS1 `FMC-09` BUS FAIL) Shows - Fault Isolation

A. Description

- (1) Use this task when Extended Maintenance > ONS Maintenance > Existing Faults > FMC shows fault code 46-154.
 - (a) The fault data for 46-154 is: FMC~NFS1 'FMC-09' BUS FAIL.
- (2) This fault can occur when ARINC 429 communications, on bus FMC-09, between the FMC and NFS is unserviceable.

B. Possible Causes

- (1) Circuit breakers.
- (2) Wiring
- (3) Network file server (NFS), M2889
- (4) Flight Management Computer, FMC-2, M1632.
- (5) FMCS Transfer Relay 2, R476.

C. Related Data

- (1) WDM 34-61-15.
- (2) WDM 46-13-11.

D. Initial Evaluation

- (1) Set the FMC SOURCE SELECT SWITCH, P5-28, to BOTH ON L.
- (2) Do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > FMC.
 - 1) If the LRU FMC does not show, then the fault is intermittent. No action is necessary.
 - 2) If Existing Faults > FMC shows, but does not show code 46-154, then the fault is intermittent.
 - a) Corrective action for other fault codes shown is necessary.
 - 3) If FMC shows fault code 46-154, then continue.
- (3) Using ONS, make your selection: Extended Maintenance > Input Monitoring > NFS > 429 Receive (Onboard Network System Input Monitoring Check, AMM TASK 46-13-00-720-802).
 - (a) If End Connection: FMC Relay / FMC-09 shows the status: FAILED, then do: Fault Isolation Procedure - FMC-09 Bus, that follows.



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- (b) If End Connection: FMC Relay / FMC-09 shows the status: High, Low, or words other than FAILED, then do: Fault Isolation Procedure - NFS Configuration, that follows.

E. Fault Isolation Procedure - FMC-09 BUS

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

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	16	C01262	FMCS CMPTR 2
E	15	C01263	FMCS XFR

- (a) If you found an open breaker, do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
- 1) If Existing Faults > FMC does not show, then you corrected the problem.
 - 2) If Existing Faults > FMC shows, but does not show code 46-154, then you corrected the problem.
 - 3) If FMC shows fault code 46-154, then continue.



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

- (2) Do this check of the wiring:
- (a) Remove the NFS, M2889. Do this task: (Network File Server Removal, AMM TASK 46-13-01-000-801).
 - (b) Remove FMC-2, M1632. Do this task: (FMCS Computer Removal, AMM TASK 34-61-02-000-801).

E/E BAY

	M2889, NFS	M1632, FMC2	
E5-2	D13673A	D2179B	
	G12	G9	0
	H12	H9	0

- (d) Install FMC-2. Do this task: (FMCS Computer Installation, AMM TASK 34-61-02-400-801).
 - (e) Install the NFS. Do this task: (Network File Server Installation, AMM TASK 46-13-01-400-801).
- (3) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > FMC, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
- (a) If FMC does not show, then you corrected the fault.
 - (b) If Existing Faults > FMC shows, but does not show code 46-154, then you corrected the problem.
 - (c) If Fault Code 46-154 still shows, then continue.
- (4) Set the FMC SOURCE SELECT SWITCH, P5-28, to NORMAL.
- (5) Make sure the FMCS Transfer Relay 2, R00476, is serviceable, (Flight Management Computer System - Operational Test, AMM TASK 34-61-00-710-801).

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F. Fault Isolation Procedure - NFS Configuration

- (1) Do a check of ONS software. This is the task: (Network File Server Software Check, AMM TASK 46-13-01-710-803)
 - (a) Make sure the 46 NED OPC is serviceable.
 - (b) Make sure that 46 NFS OPC is serviceable.
 - (c) Make sure the two parts agree with your airline's required software record.
NOTE: At this step in the process, it is very likely that at least one of the two parts is unserviceable.
 - (d) If you find a problem, then replace the applicable software part, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > FMC, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If the LRU FMC does not show, then you corrected the fault.
 - (b) If Existing Faults > FMC shows, but does not show code 46-154, then you corrected the problem.
 - (c) If FMC shows fault code 46-154, then continue.
- (3) Set the FMC SOURCE SELECT SWITCH, P5-28, to NORMAL.
- (4) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

G. Repair Confirmation

- (1) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > FMC, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If the LRU FMC does not show, then you corrected the fault.
 - (b) If Existing Faults > FMC shows, but does not show code 46-154, then you corrected the problem.
 - 1) Corrective action for other fault codes shown is necessary.

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, with no fault codes present.

————— **END OF TASK** —————

848. 46-155 or 46-00155 Fault Code (ADIRU-L~NFS1 'ADR-4' BUS FAIL) Shows - Fault Isolation

A. Description

- (1) Use this task when Extended Maintenance > ONS Maintenance > Existing Faults > ADIRU-L shows fault code 46-155.
 - (a) The fault data for 46-155 is: ADIRU-L~NFS1 'ADR-4' BUS FAIL.
- (2) This fault can occur when ARINC 429 communications, on bus ADR-4, between the ADIRU-L and NFS is unserviceable.

B. Possible Causes

- (1) Circuit breakers.
- (2) Wiring
- (3) Network file server (NFS), M2889

EFFECTIVITY
SIA 710-714, 716-999; SIA 704-708 POST SB
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- (4) ADIRU-L, M1749.

C. Related Data

- (1) WDM 34-21-14.
(2) WDM 46-13-11.

D. Initial Evaluation

- (1) Do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > ADIRU-L.
- 1) If the LRU ADIRU-L does not show, then the fault is intermittent. No action is necessary.
- 2) If Existing Faults > ADIRU-L shows, but does not show code 46-155, then the fault is intermittent.
- a) Corrective action for other fault codes shown is necessary.
- 3) If ADIRU-L shows fault code 46-155, then continue.
- (2) Using ONS, make your selection: Extended Maintenance > Input Monitoring > NFS > 429 Receive (Onboard Network System Input Monitoring Check, AMM TASK 46-13-00-720-802).
- (a) If End Connection: ADIRU-L / ADR-4 shows the status: FAILED, then do: Fault Isolation Procedure - ADR-L-4 Bus, that follows.
- (b) If End Connection: ADIRU-L / ADR-4 shows the status: High, Low, or words other than FAILED, then do: Fault Isolation Procedure - NFS Configuration, that follows.

E. Fault Isolation Procedure - ADR-4 BUS

- (1) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00133	INDICATOR MASTER DIM DIM/TST CONT

- (a) If you closed a breaker, then do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
- 1) If Existing Faults > ADIRU-L does not show, then you corrected the problem.
- 2) If Existing Faults > ADIRU-L shows, but does not show code 46-155, then you corrected the problem.
- 3) If ADIRU-L shows fault code 46-155, then continue.



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- (2) Do this check of the wiring:
- (a) Remove the NFS, M2889. Do this task: (Network File Server Removal, AMM TASK 46-13-01-000-801).
- (b) Remove ADIRU-L, M1749. Do this task: (Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801).

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E/E BAY

E5-2	M2889, NFS	M1749, ADIRU-L	
	D13673A	D3687A	
	B9	A9	0
	C9	B9	0

- (d) Install ADIRU-L. Do this task: (Air Data Inertial Reference Unit - Installation, AMM TASK 34-21-01-400-801).
- (e) Install the NFS. Do this task: (Network File Server Installation, AMM TASK 46-13-01-400-801).
- (3) Do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > ADIRU-L.
 - 1) If the LRU ADIRU-L does not show, then you corrected the problem.
 - 2) If Existing Faults > ADIRU-L shows, but does not show code 46-155, then you corrected the problem.
 - 3) If ADIRU-L shows fault code 46-155, then continue.

F. Fault Isolation Procedure - NFS Configuration

- (1) Do a check of ONS software. This is the task: (Network File Server Software Check, AMM TASK 46-13-01-710-803)
 - (a) Make sure the 46 NED OPC is serviceable.
 - (b) Make sure that 46 NFS OPC is serviceable.
 - (c) Make sure the two parts agree with your airline's required software record.
NOTE: At this step in the process, it is very likely that at least one of the two parts is unserviceable.
 - (d) If you find a problem, then install the correct software part, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > ADIRU-L.
 - 1) If the LRU ADIRU-L does not show, then you corrected the problem.
 - 2) If Existing Faults > ADIRU-L shows, but does not show code 46-155, then you corrected the problem.
 - 3) If ADIRU-L shows fault code 46-155, then continue.
- (3) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

G. Repair Confirmation

- (1) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > ADIRU-L, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If the LRU ADIRU-L does not show, then you corrected the fault.

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- (b) If Existing Faults > ADIRU-L shows, but does not show code 46-155, then you corrected the problem.

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, with no fault codes present.

————— END OF TASK —————

849. 46-156 or 46-00156 Fault Code (ADIRU-L~NFS1 'IR-3' BUS FAIL) Shows - Fault Isolation

A. Description

- (1) Use this task when Extended Maintenance > ONS Maintenance > Existing Faults > ADIRU-L shows fault code 46-156.
- (a) The fault data for 46-156 is: ADIRU-L~NFS1 'IR-3' BUS FAIL.
- (2) This fault can occur when ARINC 429 communications, on bus IR-3, between the ADIRU-L and NFS is unserviceable.

B. Possible Causes

- (1) Circuit breakers
- (2) Wiring
- (3) Network file server (NFS), M2889
- (4) ADIRU-L, M1749.

C. Related Data

- (1) WDM 34-21-13
- (2) WDM 46-13-11.

D. Initial Evaluation

- (1) Do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > ADIRU-L.
- 1) If the LRU ADIRU-L does not show, then the fault is intermittent. No action is necessary.
- 2) If Existing Faults > ADIRU-L shows, but does not show code 46-156, then the fault is intermittent.
- a) Corrective action for other fault codes shown is necessary.
- 3) If ADIRU-L shows fault code 46-156, then continue.
- (2) Using ONS, make your selection: Extended Maintenance > Input Monitoring > NFS > 429 Receive (Onboard Network System Input Monitoring Check, AMM TASK 46-13-00-720-802).
- (a) If End Connection: ADIRU-L / IR-3 shows the status: FAILED, then do: Fault Isolation Procedure - IR-3 Bus, that follows.
- (b) If End Connection: ADIRU-L / IR-3 shows the status: High, Low, or words other than FAILED, then do: Fault Isolation Procedure - NFS Configuration, that follows.



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E. Fault Isolation Procedure - IR-3 BUS

- (1) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00133	INDICATOR MASTER DIM DIM/TST CONT

- (a) If you closed the breaker, do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
- 1) If Existing Faults > ADIRU-L does not show, then you corrected the problem.
 - 2) If Existing Faults > ADIRU-L shows, but does not show code 46-156, then you corrected the problem.
 - 3) If ADIRU-L shows fault code 46-156, then continue.



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

- (2) Do this check of the wiring:

- (a) Remove the NFS, M2889. Do this task: (Network File Server Removal, AMM TASK 46-13-01-000-801).
- (b) Remove ADIRU-L, M1749. Do this task: (Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801).

E/E BAY			
E5-2	M2889, NFS		M1749, ADIRU-L
	D13673A		D3687B
	B10		C10
	C10		C11
			0
			0

- (d) Install ADIRU-L. Do this task: (Air Data Inertial Reference Unit - Installation, AMM TASK 34-21-01-400-801).
- (e) Install the NFS. Do this task: (Network File Server Installation, AMM TASK 46-13-01-400-801).
- (3) Do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
- (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > ADIRU-L.
- 1) If the LRU ADIRU-L does not show, then you corrected the problem.
 - 2) If Existing Faults > ADIRU-L shows, but does not show code 46-156, then you corrected the problem.
 - 3) If ADIRU-L shows fault code 46-156, then continue.
- (4) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

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F. Fault Isolation Procedure - NFS Configuration

- (1) Do a check of ONS software. This is the task: (Network File Server Software Check, AMM TASK 46-13-01-710-803)
 - (a) Make sure the 46 NED OPC is serviceable.
 - (b) Make sure that 46 NFS OPC is serviceable.
 - (c) Make sure the two parts agree with your airline's required software record.
NOTE: At this step in the process, it is very likely that at least one of the two parts is unserviceable.
 - (d) If you find a problem, then install the correct software part, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > ADIRU-L, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > ADIRU-L does not show, then you corrected the problem.
 - (b) If Existing Faults > ADIRU-L does not show code 46-156, then you corrected the problem.
 - (c) If Existing Faults > ADIRU-L shows fault code 46-156, then continue.
- (3) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

G. Repair Confirmation

- (1) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > ADIRU-L, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If the LRU ADIRU-L does not show, then you corrected the fault.
 - (b) If Existing Faults > ADIRU-L shows, but does not show code 46-156, then you corrected the problem.
NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, with no fault codes present.

END OF TASK

850. 46-157 or 46-00157 Fault Code (DEU-1~NFS1 `CDS-GP` BUS FAIL) Shows - Fault Isolation

A. Description

- (1) Use this task when Extended Maintenance > ONS Maintenance > Existing Faults > DEU-1 shows fault code 46-157.
 - (a) The fault data for 46-157 is: DEU-1~NFS1 'CDS-GP' BUS FAIL.
- (2) This fault can occur when ARINC 429 communications, on bus CDS-GP, between the DEU-1 and NFS is unserviceable.

B. Possible Causes

- (1) Circuit breakers
- (2) Wiring
- (3) Network file server (NFS), M2889
- (4) DEU-1, M1808.



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C. Related Data

- (1) WDM 31-62-15
- (2) WDM 46-13-11.

D. Initial Evaluation

- (1) Do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > DEU-1.
 - 1) If the LRU DEU-1 does not show, then the fault is intermittent. No action is necessary.
 - 2) If Existing Faults > DEU-1 shows, but does not show code 46-157, then the fault is intermittent.
 - a) Corrective action for other fault codes shown is necessary.
 - 3) If DEU-1 shows fault code 46-157, then continue.
 - (2) Using ONS, make your selection: Extended Maintenance > Input Monitoring > NFS > 429 Receive (Onboard Network System Input Monitoring Check, AMM TASK 46-13-00-720-802).
 - (a) If End Connection: DEU-1 / CDS-GP shows the status: FAILED, then do: Fault Isolation Procedure - CDS-GP Bus, that follows.
 - (b) If End Connection: DEU-1 / CDS-GP shows the status: High, Low, or words other than FAILED, then do: Fault Isolation Procedure - NFS Configuration, that follows.

E. Fault Isolation Procedure - CDS-GP BUS

- (1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	5	C01359	DISPLAY DEU 1 PRI

- (a) If you closed the breaker, do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - 1) If Existing Faults > DEU-1 does not show, then you corrected the problem.
 - 2) If Existing Faults > DEU-1 shows, but does not show code 46-157, then you corrected the problem.
 - 3) If DEU-1 shows fault code 46-157, then continue.



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

- (2) Do this check of the wiring:
 - (a) Remove the NFS, M2889. Do this task: (Network File Server Removal, AMM TASK 46-13-01-000-801).
 - (b) Remove DEU-1, M1808. Do this task: (Display Electronic Unit Removal, AMM TASK 31-62-21-000-801).



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E/E BAY

E5-2 to E3-1	M2889, NFS	M1808, DEU-1	
	D13673A	D3973D	
	B11	A15	0
	C11	B15	0

- (d) Install DEU-1. Do this task: (Display Electronic Unit Installation, AMM TASK 31-62-21-400-801).
- (e) Install the NFS. Do this task: (Network File Server Installation, AMM TASK 46-13-01-400-801).
- (3) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > DEU-1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > DEU-1 does not show, then you corrected the problem.
 - (b) If Existing Faults > DEU-1 shows, but code 46-157 does not show, then you corrected the problem.
 - (c) If DEU-1 shows fault code 46-157, then continue.
- (4) Install a new client credential for DEU-1, (Onboard Network System Client Credentials Check, AMM TASK 46-13-00-750-803).
- (5) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > DEU-1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > DEU-1 does not show, then you corrected the problem.
 - (b) If Existing Faults > DEU-1 shows, but code 46-157 does not show, then you corrected the problem.
 - (c) If DEU-1 shows fault code 46-157, then continue.
- (6) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

F. Fault Isolation Procedure - NFS Configuration

- (1) Do a check of ONS software. This is the task: (Network File Server Software Check, AMM TASK 46-13-01-710-803)
 - (a) Make sure that 46 NED OPC is serviceable.
 - (b) Make sure that 46 NFS OPC is serviceable.
 - (c) Make sure the two parts agree with your airline's required software record.

NOTE: At this step in the process, it is very likely that at least one of the two parts is unserviceable.
 - (d) If you find a problem, then install the correct software part, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > DEU-1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > DEU-1 does not show, then you corrected the problem.
 - (b) If Existing Faults > DEU-1 does not show code 46-157, then you corrected the problem.
 - (c) If Existing Faults > DEU-1 shows fault code 46-157, then continue.



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- (3) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

G. Repair Confirmation

- (1) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > DEU-1, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If the LRU DEU-1 does not show, then you corrected the fault.
 - (b) If Existing Faults > DEU-1 shows, but does not show code 46-157, then you corrected the problem.

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, with no fault codes present.

————— END OF TASK —————

851. 46-158 or 46-00158 Fault Code (DEU-2~NFS1 `CDS-GP` BUS FAIL) Shows - Fault Isolation

A. Description

- (1) Use this task when Extended Maintenance > ONS Maintenance > Existing Faults > DEU-2 shows fault code 46-158.
 - (a) The fault data for 46-158 is: DEU-2~NFS1 'CDS-GP' BUS FAIL.
- (2) This fault can occur when ARINC 429 communications, on bus CDS-GP, between the DEU-2 and NFS is unserviceable.

B. Possible Causes

- (1) Circuit breakers
- (2) Wiring
- (3) Network file server (NFS), M2889
- (4) DEU-2, M1809.

C. Related Data

- (1) WDM 31-62-25
- (2) WDM 46-13-11.

D. Initial Evaluation

- (1) Do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > DEU-2.
 - 1) If the LRU DEU-2 does not show, then the fault is intermittent. No action is necessary.
 - 2) If Existing Faults > DEU-2 shows, but does not show code 46-158, then the fault is intermittent.
 - a) Corrective action for other fault codes shown is necessary.
 - 3) If DEU-2 shows fault code 46-158, then continue.
- (2) Using ONS, make your selection: Extended Maintenance > Input Monitoring > NFS > 429 Receive (Onboard Network System Input Monitoring Check, AMM TASK 46-13-00-720-802).
 - (a) If End Connection: DEU-2 / CDS-GP shows the status: FAILED, then do: Fault Isolation Procedure - CDS-GP Bus, that follows.

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- (b) If End Connection: DEU-2 / CDS-GP shows the status: High, Low, or words other than FAILED, then do: Fault Isolation Procedure - NFS Configuration, that follows.

E. Fault Isolation Procedure - CDS-GP BUS

- (1) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C01360	DISPLAY DEU 2 PRI

- (a) If you closed the breaker, do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
- 1) If Existing Faults > DEU-2 does not show, then you corrected the problem.
 - 2) If Existing Faults > DEU-2 shows, but does not show code 46-158, then you corrected the problem.
 - 3) If DEU-2 shows fault code 46-158, then continue.



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- (2) Do this check of the wiring:
- (a) Remove the NFS, M2889. Do this task: (Network File Server Removal, AMM TASK 46-13-01-000-801).
 - (b) Remove DEU-2, M1809. Do this task: (Display Electronic Unit Removal, AMM TASK 31-62-21-000-801).

E/E BAY

	M2889, NFS	M1809, DEU-2	
E5-2 to E3-1	D13673A	D3975D	
	B12	A15	0
	C12	B15	0

- (d) Install DEU-2. Do this task: (Display Electronic Unit Installation, AMM TASK 31-62-21-400-801).
- (e) Install the NFS. Do this task: (Network File Server Installation, AMM TASK 46-13-01-400-801).
- (3) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > DEU-2, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
- (a) If Existing Faults > DEU-2 does not show, then you corrected the problem.
 - (b) If Existing Faults > DEU-2 shows, but code 46-158 does not show, then you corrected the problem.
 - (c) If DEU-2 shows fault code 46-158, then continue.
- (4) Install a new client credential for DEU-2, (Onboard Network System Client Credentials Check, AMM TASK 46-13-00-750-803).
- (5) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > DEU-2, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).

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- (a) If Existing Faults > DEU-2 does not show, then you corrected the problem.
 - (b) If Existing Faults > DEU-2 does not show code 46-158, then you corrected the problem.
 - (c) If DEU-2 shows fault code 46-158, then continue.
- (6) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

F. Fault Isolation Procedure - NFS Configuration

- (1) Do a check of ONS software. This is the task: (Network File Server Software Check, AMM TASK 46-13-01-710-803)
- (a) Make sure that 46 NED OPC is serviceable.
 - (b) Make sure that 46 NFS OPC is serviceable.
 - (c) Make sure the two parts agree with your airline's required software record.
- NOTE: At this step in the process, it is very likely that at least one of the two parts is unserviceable.
- (d) If you find a problem, then install the correct software part, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > DEU-2, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
- (a) If Existing Faults > DEU-2 does not show, then you corrected the problem.
 - (b) If Existing Faults > DEU-2 does not show code 46-158, then you corrected the problem.
 - (c) If Existing Faults > DEU-2 shows fault code 46-158, then continue.
- (3) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

G. Repair Confirmation

- (1) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > DEU-2, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
- (a) If the LRU DEU-2 does not show, then you corrected the fault.
 - (b) If Existing Faults > DEU-2 shows, but does not show code 46-158, then you corrected the problem.
- NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, with no fault codes present.

————— **END OF TASK** —————

852. 46-159 or 46-00159 Fault Code (EVSC~NFS1 `AVM` BUS FAIL) Shows - Fault Isolation

A. Description

- (1) Use this task when Extended Maintenance > ONS Maintenance > Existing Faults > EVSC shows fault code 46-159.
- (a) The fault data for 46-159 is: EVSC~NFS1 'AVM' BUS FAIL.
- (2) This fault can occur when ARINC 429 communications is unserviceable on the Airborne Vibration Monitor (AVM) bus, between the Engine Vibration Signal Conditioner (EVSC) and network file server (NFS).

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B. Possible Causes

- (1) Circuit breaker
- (2) Wiring
- (3) Network file server (NFS), M2889
- (4) EVSC (or AVMSC), M1420.

C. Related Data

- (1) WDM 46-13-11
- (2) WDM 77-31-11
- (3) WDM 77-31-21.

D. Initial Evaluation

- (1) Do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > EVSC.
 - 1) If the LRU EVSC does not show, then the fault is intermittent. No action is necessary.
 - 2) If Existing Faults > EVSC shows, but does not show code 46-159, then the fault is intermittent.
 - a) Corrective action for other fault codes shown is necessary.
 - 3) If EVSC shows fault code 46-159, then continue.
 - (2) Using ONS, make your selection: Extended Maintenance > Input Monitoring > NFS > 429 Receive (Onboard Network System Input Monitoring Check, AMM TASK 46-13-00-720-802).
 - (a) If End Connection EVSC: AVM shows the status: FAILED, then do: Fault Isolation Procedure - AVM Bus, that follows.
 - (b) If End Connection EVSC: AVM shows the status: High, Low, or words other than FAILED, then do: Fault Isolation Procedure - NFS Configuration, that follows.

E. Fault Isolation Procedure - AVM BUS

- (1) Make sure that this circuit breaker is closed:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	2	C01076	ENGINE VIB MON

- (a) If you closed the breaker, do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - 1) If Existing Faults > EVSC does not show, then you corrected the problem.
 - 2) If Existing Faults > EVSC shows, but does not show code 46-159, then you corrected the problem.
 - 3) If EVSC shows fault code 46-159, then continue.

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- (2) Do this check of the wiring:
 - (a) Remove the NFS, M2889. Do this task: (Network File Server Removal, AMM TASK 46-13-01-000-801).
 - (b) Remove EVSC, M1420. Do this task: (Airborne Vibration Monitor (AVM) Signal Conditioner Removal, AMM TASK 77-31-03-000-801-F00).

E/E BAY			
E5-2 to E3-2	M2889, NFS	M1240, EVSC	
	D13673A	D3228A	
	G5	C6	0
	H5	D6	0

- (d) Install the EVSC. Do this task: (Airborne Vibration Monitor (AVM) Signal Conditioner Installation, AMM TASK 77-31-03-400-801-F00).
 - (e) Install the NFS. Do this task: (Network File Server Installation, AMM TASK 46-13-01-400-801).
- (3) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > EVSC, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > EVSC does not show, then you corrected the problem.
 - (b) If Existing Faults > EVSC shows, but code 46-159 does not show, then you corrected the problem.
 - (c) If EVSC shows fault code 46-159, then continue.
- (4) Install a new client credential for EVSC, (Onboard Network System Client Credentials Check, AMM TASK 46-13-00-750-803).
- (5) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > EVSC, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > EVSC does not show, then you corrected the problem.
 - (b) If Existing Faults > EVSC shows, but code 46-159 does not show, then you corrected the problem.
 - (c) If EVSC shows fault code 46-159, then continue.
- (6) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).
- (7) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

F. Fault Isolation Procedure - NFS Configuration

- (1) Do a check of ONS software. This is the task: (Network File Server Software Check, AMM TASK 46-13-01-710-803)
 - (a) Make sure that 46 NED OPC is serviceable.

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- (b) Make sure that 46 NFS OPC is serviceable.
- (c) Make sure the two parts agree with your airline's required software record.
NOTE: At this step in the process, it is very likely that at least one of the two parts is unserviceable.
- (d) If you find a problem, then install the correct software part, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > EVSC, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > EVSC does not show, then you corrected the problem.
 - (b) If Existing Faults > EVSC does not show code 46-159, then you corrected the problem.
 - (c) If Existing Faults > EVSC shows fault code 46-159, then continue.
- (3) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

G. Repair Confirmation

- (1) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > EVSC, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If the LRU EVSC does not show, then you corrected the fault.
 - (b) If Existing Faults > EVSC shows, but does not show code 46-159, then you corrected the problem.
- NOTE:** ONS is serviceable only when the Existing Faults page shows no LRUs, with no fault codes present.

————— END OF TASK —————

853. 46-161 or 46-00161 Fault Code (MMR-1~NFS1 `GNSS DATA OUT #3` BUS FAIL) Shows - Fault Isolation

A. Description

- (1) Use this task when Extended Maintenance > ONS Maintenance > Existing Faults > MMR shows fault code 46-161.
 - (a) The fault data for 46-161 is: MMR~NFS1 'GNSS DATA OUT #3' BUS FAIL.
- (2) This fault can occur when ARINC 429 communications is unserviceable on bus GNSS Data #3, between Multimode Receiver (MMR)-1 and network file server (NFS).
 - (a) Onboard Network System (ONS) uses the bus name: GNSS Data #3.
 - (b) The wiring diagram uses the bus name: GPS-1 OUTPUT BUS 3.

B. Possible Causes

- (1) Circuit breaker
- (2) Wiring
- (3) Network file server (NFS), M2889
- (4) MMR, M2104.

C. Related Data

- (1) WDM 34-58-11
- (2) WDM 46-13-11.



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D. Initial Evaluation

- (1) Do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > MMR.
 - 1) If the LRU MMR does not show, then the fault is intermittent. No action is necessary.
 - 2) If Existing Faults > MMR shows, but does not show code 46-161, then the fault is intermittent.
 - a) Corrective action for other fault codes shown is necessary.
 - 3) If MMR shows fault code 46-161, then continue.
 - (2) Using ONS, make your selection: Extended Maintenance > Input Monitoring > NFS > 429 Receive (Onboard Network System Input Monitoring Check, AMM TASK 46-13-00-720-802).
 - (a) If End Connection MMR: GNSS Data #3 shows the status: FAILED, then do: Fault Isolation Procedure - GNSS Bus #3, that follows.
 - (b) If End Connection MMR: GNSS Data #3 shows the status: High, Low, or words other than FAILED, then do: Fault Isolation Procedure - NFS Configuration, that follows.

E. Fault Isolation Procedure - GNSS BUS #3

- (1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	2	C01479	RADIO NAVIGATION MMR 1

- (a) If you closed the breaker, do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - 1) If Existing Faults > MMR does not show, then you corrected the problem.
 - 2) If Existing Faults > MMR shows, but does not show code 46-161, then you corrected the problem.
 - 3) If MMR shows fault code 46-161, then continue.



CAUTION

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

- (2) Do this check of the wiring:
 - (a) Remove the NFS, M2889. Do this task: (Network File Server Removal, AMM TASK 46-13-01-000-801).
 - (b) Remove MMR, M2104. Do this task: (ILS and Multi-Mode Receiver (MMR) - Removal, AMM TASK 34-31-42-000-801).



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E/E BAY

E5-2 to E1-2	M2889, NFS	M2104, MMR-1	
	D13673A	D10719B	
	G7	E9	0
	H7	F9	0

- (d) Install the MMR. Do this task: (ILS and Multi-Mode Receiver (MMR) - Installation, AMM TASK 34-31-42-400-801).
- (e) Install the NFS. Do this task: (Network File Server Installation, AMM TASK 46-13-01-400-801).
- (3) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > MMR, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > MMR does not show, then you corrected the problem.
 - (b) If Existing Faults > MMR shows, but code 46-161 does not show, then you corrected the problem.
 - (c) If MMR shows fault code 46-161, then continue.
- (4) Install a new client credential for MMR, (Onboard Network System Client Credentials Check, AMM TASK 46-13-00-750-803).
- (5) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > MMR, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > MMR does not show, then you corrected the problem.
 - (b) If Existing Faults > MMR shows, but code 46-161 does not show, then you corrected the problem.
 - (c) If MMR shows fault code 46-161, then continue.
- (6) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

F. Fault Isolation Procedure - NFS Configuration

- (1) Do a check of ONS software. This is the task: (Network File Server Software Check, AMM TASK 46-13-01-710-803)
 - (a) Make sure that 46 NED OPC is serviceable.
 - (b) Make sure that 46 NFS OPC is serviceable.
 - (c) Make sure the two parts agree with your airline's required software record.

NOTE: At this step in the process, it is very likely that at least one of the two parts is unserviceable.
 - (d) If you find a problem, then install the correct software part, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > MMR, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > MMR does not show, then you corrected the problem.
 - (b) If Existing Faults > MMR does not show code 46-161, then you corrected the problem.
 - (c) If Existing Faults > MMR shows fault code 46-161, then continue.



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- (3) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

G. Repair Confirmation

- (1) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > MMR, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If the LRU MMR does not show, then you corrected the fault.
 - (b) If Existing Faults > MMR shows, but does not show code 46-161, then you corrected the problem.

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, with no fault codes present.

————— **END OF TASK** —————

854. 46-162 or 46-00162 Fault Code (ATC-L~NFS1 `GENERAL OUT #1` BUS FAIL) Shows - Fault Isolation

A. Description

- (1) Use this task when Extended Maintenance > ONS Maintenance > Existing Faults > ATC-L shows fault code 46-162.
 - (a) The fault data for 46-162 is: ATC-L~NFS1 `GENERAL OUT #1` BUS FAIL.
- (2) This fault can occur when ARINC 429 communications is unserviceable on the GEN OUT #1 bus, between Air Traffic Control (ATC) transponder #1 and network file server (NFS).

B. Possible Causes

- (1) Circuit breaker
- (2) Wiring
- (3) Network file server (NFS), M2889
- (4) ATC-L, M163.

C. Related Data

- (1) WDM 34-53-11
- (2) WDM 46-13-11

D. Initial Evaluation

- (1) Do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) Set the browser to show Extended Maintenance > ONS Maintenance > Existing Faults > ATC-L.
 - 1) If the LRU ATC-L does not show, then the fault is intermittent. No action is necessary.
 - 2) If Existing Faults > ATC-L shows, but does not show code 46-162, then the fault is intermittent.
 - a) Corrective action for other fault codes shown is necessary.
 - 3) If ATC-L shows fault code 46-162, then continue.
- (2) Using ONS, make your selection: Extended Maintenance > Input Monitoring > NFS > 429 Receive (Onboard Network System Input Monitoring Check, AMM TASK 46-13-00-720-802).



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- (a) If End Connection ATC-L GENERAL OUT #1 shows the status: FAILED, then do: Fault Isolation Procedure - GEN OUT #1 Bus, that follows.
- (b) If End Connection ATC-L GENERAL OUT #1 shows the status: High, Low, or words other than FAILED, then do: Fault Isolation Procedure - NFS Configuration, that follows.

E. Fault Isolation Procedure - GEN OUT #1 BUS

- (1) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	5	C00186	ATC 1

- (a) If you closed the breaker, do a check of ONS Existing Faults, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - 1) If Existing Faults > ATC-L does not show, then you corrected the problem.
 - 2) If Existing Faults > ATC-L shows, but does not show code 46-162, then you corrected the problem.
 - 3) If ATC-L shows fault code 46-162, then continue.



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

- (2) Do this check of the wiring:
 - (a) Remove the NFS, M2889. Do this task: (Network File Server Removal, AMM TASK 46-13-01-000-801).
 - (b) Remove ATC-L, M163. Do this task: (ATC Transponder Removal, AMM TASK 34-53-02-020-801).

E/E BAY

E5-2 to E1-2	M2889, NFS	M163, ATC-1	
	D13673A	TRANSPONDER	
		D149A	
	G8	E2	0
	H8	F2	0

- (d) Install the ATC-L. Do this task: (ATC Transponder Installation, AMM TASK 34-53-02-400-801).
- (e) Install the NFS. Do this task: (Network File Server Installation, AMM TASK 46-13-01-400-801).
- (3) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > ATC-L, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > ATC-L does not show, then you corrected the problem.
 - (b) If Existing Faults > ATC-L shows, but code 46-162 does not show, then you corrected the problem.
 - (c) If ATC-L shows fault code 46-162, then continue.



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FAULT ISOLATION MANUAL**

- (4) Install a new client credential for ATC-L, (Onboard Network System Client Credentials Check, AMM TASK 46-13-00-750-803).
- (5) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > ATC-L, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > ATC-L does not show, then you corrected the problem.
 - (b) If Existing Faults > ATC-L shows, but code 46-162 does not show, then you corrected the problem.
 - (c) If ATC-L shows fault code 46-162, then continue.
- (6) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

F. Fault Isolation Procedure - NFS Configuration

- (1) Do a check of ONS software. This is the task: (Network File Server Software Check, AMM TASK 46-13-01-710-803)
 - (a) Make sure that 46 NED OPC is serviceable.
 - (b) Make sure that 46 NFS OPC is serviceable.
 - (c) Make sure the two parts agree with your airline's required software record.

NOTE: At this step in the process, it is very likely that at least one of the two parts is unserviceable.
 - (d) If you find a problem, then install the correct software part, (Network File Server Software Installation, AMM TASK 46-13-01-470-801).
- (2) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > ATC-L, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If Existing Faults > ATC-L does not show, then you corrected the problem.
 - (b) If Existing Faults > ATC-L does not show code 46-162, then you corrected the problem.
 - (c) If Existing Faults > ATC-L shows fault code 46-162, then continue.
- (3) Remove the NFS, and install a serviceable NFS. These are the tasks: (Network File Server Removal, AMM TASK 46-13-01-000-801, and Network File Server Installation, AMM TASK 46-13-01-400-801).

G. Repair Confirmation

- (1) Do a check of Extended Maintenance > ONS Maintenance > Existing Faults > ATC-L, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - (a) If the LRU ATC-L does not show, then you corrected the fault.
 - (b) If Existing Faults > ATC-L shows, but does not show code 46-162, then you corrected the problem.

NOTE: ONS is serviceable only when the Existing Faults page shows no LRUs, with no fault codes present.

————— **END OF TASK** —————



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855. Data Load Error Problems

A. Description

- (1) Use this task when ONS Maintenance browser shows a pop-up with the words: Data Load Error.
 - (a) Corrective action follows for these Data Load Error messages:
 - 1) "Another Operator is performing a conflicting operation at this time. Please try again later."
 - 2) "System data load state is currently DISABLED. Unable to proceed with the requested operation."

B. Possible Causes

- (1) Air/Ground Relay, R584.

C. Related Data

- (1) WDM 46-13-11.

D. Initial Evaluation

- (1) Examine the Data Load Error for additional information:
 - (a) For the message: "Another Operator is performing a conflicting operation at this time. Please try again later", do the Conflicting Operation - Fault Isolation Procedure that follows.
 - (b) For the message: "System data load state is currently DISABLED. Unable to proceed with the requested operation", do the Load State Disabled - Fault Isolation Procedure that follows.

E. Conflicting Operation - Fault Isolation Procedure

- (1) If ONS shows a pop-up with the words: Data Load Error, with the message: "Another Operator is performing a conflicting operation at this time. Please try again later", then do these steps that follow.
 - (a) Wait 60 seconds - to let ONS reset.
 - (b) If same message shows again, then:
 - 1) Close the ONS browser session. Make your selection "X" in upper right-hand corner.
 - 2) Open and close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

- (c) Let ONS reboot, then launch the web browser, and do your initial action again.

F. Load State Disabled - Fault Isolation Procedure

- (1) If ONS shows a pop-up with the words: Data Load Error, with the message: "System data load state is currently DISABLED. Unable to proceed with the requested operation", then do these steps that follow.
 - (a) Do a check of Input Monitoring > Avionics Parameters. This is the task: (Onboard Network System Input Monitoring Check, AMM TASK 46-13-00-720-802).
 - 1) Make sure that Avionics Parameters shows the result: Flight Phase = 1.



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- a) If Flight Phase shows 2, 3, 4, 5, or 6, then do this task: (Air Data Inertial Reference System - Alignment from the ISDU, AMM TASK 34-21-00-820-802 or Air Data Inertial Reference System - Alignment from the FMC CDU, AMM TASK 34-21-00-820-801).

NOTE: Flight Phase conditions 2, 3, 4, 5, and 6 tell ONS that the airplane is in motion. The ADIRU must be re-aligned.

- 2) Make sure that Avionics Parameters shows the result: Weight on Wheels = True.
 - a) If Weight on Wheels does not equal TRUE, then make sure the Air-Ground Relay, R584, is serviceable, (AIR/GROUND SYSTEM - MAINTENANCE PRACTICES, AMM 32-09-00/201
- 3) If you find a problem, do a check of NFS fault messages, (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801).
 - a) For a specific corrective action, refer to (Message Shows on the ONS EXISTING FAULTS Page, 46-13 TASK 801).

————— **END OF TASK** —————

856. System Dataload State Disabled Problems - Fault Isolation

A. Description

- (1) Use this task when the ONS browser shows a pop-up window with the text that follows:
 - (a) System dataload state is currently DISABLED. Unable to proceed with the requested operation.
- (2) The data load page has two requirements, as follows.
 - (a) The Weight-On-Wheels discrete condition must show ground, or true.
 - (b) The Flight Phase must show condition 1, which refers to the aircraft on ground, and not moving.

B. Possible Causes

- (1) Wiring
- (2) ADIRU-L (alignment)
- (3) Air/Ground relay, R00584.

C. Related Data

- (1) WDM 32-31-11
- (2) WDM 46-13-11.

D. Initial Evaluation

- (1) Using the maintenance browser, make your selection: Line Maintenance > Data Load, (Onboard Network System LRU Software Installation, AMM TASK 46-13-00-470-801).
 - (a) If the Data Load page shows correctly, then the fault is intermittent.
 - (b) If a pop-up window shows with shows the words: "System dataload state is currently DISABLED. Unable to proceed with the requested operation", then do the fault isolation procedure the follows.

E. Fault Isolation Procedure

- (1) Do a check of Input Monitoring. Make your selection: Extended Maintenance > Input Monitoring, (Onboard Network System Input Monitoring Check, AMM TASK 46-13-00-720-802).



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- (2) In the pop-up window, make your selection: Avionics Parameters.
- (3) Make sure that Input Monitoring shows the condition: Flight Phase = 1.

NOTE: Flight Phase 2 thru 6 tells NFS that the aircraft is in motion, which prevents ONS data load.

- (a) If Flight Phase = 1, then skip the wiring check, and continue with the Weight-On-Wheels condition that follows.
- (b) If Flight Phase equals 2, 3, 4, 5, or 6, then a corrective action is required, (AIR DATA INERTIAL REFERENCE SYSTEM - ADJUSTMENT/TEST, AMM 34-21-00/501). There are two possible corrective actions:

- 1) Shut-down the ADIRU-L.
 - a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C00425	ADIRU LEFT EXC

- 2) Or, activate ADIRU-L, and complete the alignment task. Do this task: (Air Data Inertial Reference System - Alignment from the ISDU, AMM TASK 34-21-00-820-802 or Air Data Inertial Reference System - Alignment from the FMC CDU, AMM TASK 34-21-00-820-801).
- (c) If Extended Maintenance > Input Monitoring > Avionics Parameters shows Flight Phase = 1, then continue.
- (4) Make sure that Weight On Wheels input discrete shows the condition: TRUE, (Onboard Network System Input Monitoring Check, AMM TASK 46-13-00-720-802).
 - (a) If Weight on Wheels shows FALSE, then do the wiring check, and other steps that follow.
 - 1) Remove the NFS, (Network File Server Removal, AMM TASK 46-13-01-000-801).
 - 2) Get access to electrical connector D11002 from System 1 Air Ground Relay, R584, WDM 32-31-11).

E/E BAY

	NFS, M2889, E5-2	J22, RELAY, R584	
E5-2	D13673A	D11002	
	K3	C3	0

- a) If you find a problem, then correct the wiring.
- 4) Install the NFS, (Network File Server Installation, AMM TASK 46-13-01-400-801).
- 5) Connect electrical connector D11002 with the System 1 Air/Ground relay, R584.
- (b) If the Weight-On-Wheels condition is TRUE, then continue.
- (5) Make sure that the System 1 Air/Ground Relay, R584, is serviceable, (AIR/GROUND SYSTEM - MAINTENANCE PRACTICES, AMM 32-09-00/201, and WDM 32-31-11).

———— **END OF TASK** ————

EFFECTIVITY
SIA 710-714, 716-999; SIA 704-708 POST SB
737-46-1014

46-13 TASK 856

D633A103-SIA

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862. 46-150 or 46-00150 Fault Code (DFDAU~NFS1 ARINC 717 BUS FAIL) Shows - Fault Isolation

A. Description

- (1) Use this task when EXTENDED MAINTENANCE > ONS MAINTENANCE > EXISTING FAULTS > Digital Flight Data Acquisition Unit (DFDAU) shows Fault Code 46-00150.
 - (a) The fault data for 46-00150 is: DFDAU~Network File Server (NFS)1 Aeronautical Radio Incorporated (ARINC) 717 BUS FAIL.
- (2) This problem can occur when ARINC 717 communications is unserviceable on bus ARINC 717, between DFDAU-1 and NFS.
 - (a) ONS uses the bus name: ARINC 717.
 - (b) The Wiring Diagram uses the bus name: DAR DATA OUT.

B. Possible Causes

- (1) System State

NOTE: This fault is a normal, expected message when the DFDAU is not outputting ARINC 717 data. The DFDAU does not output data on the ground when the engines are not running.

- (2) Wiring
- (3) NFS, M2889
- (4) DFDAU, M675.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	9	C00109	FLIGHT RECORDER AC
C	10	C00468	FLIGHT RECORDER DC

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C01958	NETWORK FILE SERVER

D. Related Data

- (1) WDM 31-35-09

E. Initial Evaluation

- (1) Do a check of ONS Existing Faults (Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801):
 - (a) Set the browser to show EXTENDED MAINTENANCE > ONS MAINTENANCE > EXISTING FAULTS > DFDAU.
 - 1) If the Line Replaceable Unit (LRU) DFDAU does not show, then the problem is intermittent. No action is necessary.
 - 2) If EXISTING FAULTS > DFDAU shows, but does not show Fault Code 46-00150, the problem is intermittent.
 - a) Corrective action for other Fault Codes shown is necessary.
 - 3) If DFDAU shows Fault Code 46-00150, then continue.



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- (2) Using ONS, make your selection: EXTENDED MAINTENANCE > INPUT MONITORING > NFS > 717 RECEIVE (Onboard Network System Input Monitoring Check, AMM TASK 46-13-00-720-802).
 - (a) If End Connection DFDAU: ARINC 717 shows the status: FAILED, then do: Fault Isolation Procedure - ARINC 717 BUS.
 - (b) If End Connection DFDAU: ARINC 717 shows the status: High, Low, or words other than FAILED, then do: Fault Isolation Procedure - NFS Configuration.

F. Fault Isolation Procedure - ARINC 717 BUS

- (1) Open and close this circuit breaker:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	9	C00109	FLIGHT RECORDER AC

- (a) Do the Repair Confirmation at the end of this task.



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

- (2) Do this wiring check (WDM 31-35-09):
 - (a) Remove the NFS, M2889. This is the task: Network File Server Removal, AMM TASK 46-13-01-000-801.
 - (b) Remove DFDAU, M675. This is the task: Digital Flight Data Acquisition Unit (DFDAU) Removal, AMM TASK 31-31-22-000-801.

E/E BAY	
E5-2 to E3-2	
NFS	DFDAU
D13673A	D2295A
pin G4	pin C9
pin H4	pin D9

- (d) Install the DFDAU, M675. This is the task: Digital Flight Data Acquisition Unit (DFDAU) Installation, AMM TASK 31-31-22-400-801.
 - (e) Install the NFS, M2889. This is the task: Network File Server Installation, AMM TASK 46-13-01-400-801.
 - (f) Do the Repair Confirmation at the end of this task.
- (3) Install a new client credential for DFDAU. This is the task: Onboard Network System Client Credentials Check, AMM TASK 46-13-00-750-803.
 - (a) Do the Repair Confirmation at the end of this task.
- (4) Replace the NFS, M2889. These are the tasks:
 - Network File Server Removal, AMM TASK 46-13-01-000-801
 - Network File Server Installation, AMM TASK 46-13-01-400-801
 - (a) Do the Repair Confirmation at the end of this task.
- (5) Do a check of ONS Software. This is the task: Network File Server Software Check, AMM TASK 46-13-01-710-803.

EFFECTIVITY
SIA 710-714, 716-999; SIA 704-708 POST SB
737-46-1014

D633A103-SIA

46-13 TASK 862

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- (a) Make sure that 46 NED Operational Program Configuration (OPC) is serviceable.
- (b) Make sure that 46 NFS OPC is serviceable.
- (c) Make sure the two parts agree with your airline's required software record.

NOTE: At this step in the process, it is very likely that at least one of the two parts is unserviceable.

- (d) If you find a problem, then install the correct software part. This is the task: Network File Server Software Installation, AMM TASK 46-13-01-470-801.
 - (e) Do the Repair Confirmation at the end of this task.
- (6) Replace the NFS, M2889. These are the tasks:
- Network File Server Removal, AMM TASK 46-13-01-000-801
 - Network File Server Installation, AMM TASK 46-13-01-400-801
- (a) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

- (1) Do a check of EXTENDED MAINTENANCE > ONS MAINTENANCE > EXISTING FAULTS > DFDAU: Onboard Network System NFS Message Check, AMM TASK 46-13-00-720-801.
- (a) If the LRU DFDAU does not show, then you corrected the problem.
 - (b) If EXISTING FAULTS > DFDAU shows, but does not show Fault Code 46-00150, then you corrected the problem.
 - (c) If the extended maintenance check is not satisfactory, then continue the Fault Isolation at the subsequent step.

NOTE: ONS is serviceable only when the EXISTING FAULTS page shows no LRU, with no Fault Codes present.

———— **END OF TASK** ————

