

**CHAPTER**

**74**

**IGNITION**

**737-600/700/800/900  
AIRCRAFT MAINTENANCE MANUAL**

**CHAPTER 74  
IGNITION**

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IGNITION - ADJUSTMENT/TEST**1. General**

A. This procedure has one task to do an audible test of the ignition system.

**TASK 74-00-00-750-801-F00****2. Audible Test of the Ignition System - EEC BITE Igniters Test**

(Figure 501)

## A. General

(1) This task uses the ground test of the EEC BITE to energize the ignition system.

## B. References

Reference	Title
71-00-00-700-821-F00	Dry Motor the Engine (P/B 201)
FIM 73-05 TASK 803	Ch A(B) EEC Data not Available - Fault Isolation
FIM 80-06 TASK 803	Engine Start - No Lightoff, Fuel Flow Normal, Ignition Switch At IGN L, Engine Start Normal With Ignition Switch At IGN R Or BOTH - Fault Isolation
FIM 80-06 TASK 804	Engine Start - No Lightoff, Fuel Flow Normal, Ignition Switch At IGN R, Engine Start Normal With Ignition Switch At IGN L Or BOTH - Fault Isolation

## C. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
411	Engine 1 - Engine
421	Engine 2 - Engine

## D. Prepare To Do The Audible Test

SUBTASK 74-00-00-860-001-F00

**WARNING:** OBEY THE INSTRUCTIONS IN THE PROCEDURE TO MOTOR THE ENGINE. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

**CAUTION:** BEFORE YOU CAN DO THE IGNITION SYSTEM TEST, DRY MOTOR THE ENGINE TO REMOVE ALL FUEL IN THE ENGINE. FUEL THAT WAS NOT BURNED CAN CAUSE AN INTERNAL ENGINE FIRE OR A FIRE IN THE TURBINE EXHAUST AREA.

(1) To remove the remaining fuel from the engine, do this task: Dry Motor the Engine, TASK 71-00-00-700-821-F00

until there is no fuel fog.

(a) Stop the engine.

(b) Make sure that the pneumatic power is available to dry motor the engine in case of an engine fire.

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SUBTASK 74-00-00-940-001-F00

**WARNING:** MAKE SURE THAT THE IGNITION EXCITERS ARE DE-ENERGIZED FOR A MINIMUM OF FIVE MINUTES BEFORE YOU START WORK ON THE IGNITION SYSTEM. THE IGNITION SYSTEM VOLTAGE IS DANGEROUSLY HIGH. DO NOT TOUCH THE ELECTRICAL CONTACTS. THE IGNITION EXCITERS CAN HAVE AN ELECTRICAL CHARGE EVEN WHEN NOT ENERGIZED. IF YOU DO NOT OBEY THIS PROCEDURE, INJURY TO PERSONS CAN OCCUR.

**WARNING:** DO NOT DO THIS TEST IN THESE CONDITIONS: DURING AIRPLANE FUELING, WHEN THE AIRPLANE IS NEAR BUILDINGS, WHEN OTHER AIRPLANES ARE IN THE JET EXHAUST AREA FOR GROUND IDLE, OR WHEN THE AIRPLANE IS IN THE HANGAR. MAKE SURE THAT NO PERSONS OR EQUIPMENT ARE IN THE JET EXHAUST AREA FOR GROUND IDLE OF THE APPLICABLE ENGINE. SERIOUS INJURY TO PERSONS AND DAMAGE TO EQUIPMENT COULD OCCUR.

(2) Make sure that the airplane and adjacent areas are safe, if an accidental tailpipe fire occurs.

SUBTASK 74-00-00-860-002-F00

(3) Use the interphone to speak between persons on the ground and in the flight compartment.

**NOTE:** One person must be near the engine to listen for the igniter(s) to fire. The igniters are found on the combustion case at the 4:00 and 8:00 o'clock position.

SUBTASK 74-00-00-860-003-F00

(4) Do this step:

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
D	5	C01359	DISPLAY DEU 1 PRI

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	9	C01362	DISPLAY DEU 2 HOLDUP
D	10	C01361	DISPLAY DEU 1 HOLDUP
D	11	C01360	DISPLAY DEU 2 PRI

SUBTASK 74-00-00-860-029-F00

(5) For engine 1, do this step:

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	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT
A	4	C01390	ENGINE 1 ALTN PWR CHAN B
A	5	C01314	ENGINE 1 ALTN PWR CHAN A
B	1	C01316	ENGINE 1 START LEVER CHAN A
B	2	C01317	ENGINE 1 START LEVER CHAN B
B	3	C01312	ENGINE 1 RUN/PWR

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F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	4	C00359	FUEL SPAR VALVE ENG 1

SUBTASK 74-00-00-860-030-F00

- (6) For engine 2, do this step:

Make sure that these circuit breakers are closed:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	5	C01313	ENGINE 2 RUN/PWR
B	6	C01318	ENGINE 2 START LEVER CHAN A
B	7	C01319	ENGINE 2 START LEVER CHAN B
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT
D	7	C01391	ENGINE 2 ALTN PWR CHAN B
D	8	C01315	ENGINE 2 ALTN PWR CHAN A

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	3	C00360	FUEL SPAR VALVE ENG 2

SUBTASK 74-00-00-860-006-F00

- (7) Make sure that the two engine start levers on the control stand, panel P8, are in the CUTOFF position.

## E. Do the Audible Test

SUBTASK 74-00-00-860-007-F00

- (1) For engine 1, do this step:

Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	4	C00359	FUEL SPAR VALVE ENG 1

SUBTASK 74-00-00-860-008-F00

- (2) For engine 2, do this step:

Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	3	C00360	FUEL SPAR VALVE ENG 2

SUBTASK 74-00-00-740-001-F00

- (3) Do these steps to get access to the Igniters Test of the EEC BITE with the Flight Management Computer System Central Display Unit (FMCS CDU) in the flight compartment.

- (a) Push the INIT REF key to show the PERF INIT screen on the FMCS CDU.

**NOTE:** The FMCS CDU does not support a type-ahead function. You must have the prompt on the FMCS CDU screen before you type in the response.

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(b) Push these line select keys (LSK) on the FMCS CDU:

- 1) INDEX
- 2) MAINT

NOTE: This LSK causes the MAINT BITE INDEX screen to show.

- 3) ENGINE

NOTE: This LSK causes the ENGINE/EXCEED BITE INDEX screen to show.

- 4) Applicable ENGINE X, (X = 1 or 2)

NOTE: This LSK causes the ENGINE X BITE TEST MAIN MENU to show. Also, the ENGINE X LSK automatically applies power to the EEC and causes the EEC to initialize. The CDU can show INITIALIZING EEC X and EEC SORTING FAULT HISTORY for a short time, just before the ENGINE X BITE TEST MAIN MENU shows.

- 5) GROUND TESTS

NOTE: This LSK causes the ENGINE X BITE TEST GROUND TESTS menu to show.

- 6) If the FOR CH A ONLY or FOR CH B ONLY screen shows, push the INDEX LSK once, stop for 30 seconds, and then push the RECENT FAULTS LSK again.

NOTE: The system has a 15-second timer for the FMCS CDU and EEC to initialize. Sometimes, this is not enough time and the system will show this problem.

- a) If the FOR CH A ONLY or FOR CH B ONLY screen continues to show, do this task:  
Ch A(B) EEC Data not Available - Fault Isolation, FIM 73-05 TASK 803.

SUBTASK 74-00-00-740-003-F00

(4) Continue to the step to do the test for the applicable igniter.

- (a) Push the L IGNITER TEST LSK for the left igniter test.

NOTE: This LSK causes the L IGNITER TEST menu to show along with a WARNING about the operation of the ignition system.

- 1) Push the START TEST LSK.

- a) The test screen shows an AMM reference to make sure the airplane is in the correct configuration from the procedure "Prepare To Do the Audible Test" above.

NOTE: You can stop the test at this time if you push the ABORT LSK. The screen will show the test is not completed because ABORT was selected. Push the INDEX LSK to go back to the GROUND TESTS menu.

- b) Put the applicable engine start lever to the IDLE position.

- 2) Tell the person at the engine that the test will begin.
- 3) Type OK and push the CONTINUE LSK.

NOTE: The test starts with the L IGNITER operated by CH A of the EEC and then by CH B.

- 4) Make sure that the person at the engine hears the left igniter when the screen shows LISTEN FOR IGNITER.
- 5) Make sure that the test screen shows NO L IGNITER TEST FAULTS.

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- a) If the test screen shows NO faults but the person did not hear the igniter for CH A and CH B, then there is a problem with the L Ignition system. Do this task: Engine Start - No Lightoff, Fuel Flow Normal, Ignition Switch At IGN L, Engine Start Normal With Ignition Switch At IGN R Or BOTH - Fault Isolation, FIM 80-06 TASK 803.
- b) If faults are found, the test screen will show L IGNITER TEST FAILED along with the maintenance message number (MSG NBR) and a short description of the fault.
 

NOTE: If there is more than one fault, the page you are on and the total number of pages will show on the screen. Example: 1/2 means you are on page 1 of 2 pages.

  - c) Record the maintenance messages that show.
  - d) Use the NEXT PAGE or PREV PAGE key to see all of the maintenance messages.
- 6) Make sure there are no CH A INOP or CH B INOP screens.
- 7) If it necessary to do the L IGNITER TEST again, push the REPEAT TEST LSK.
- 8) Push the END TEST LSK to stop the test.
- 9) Push the INIT REF key on the FMCS CDU to exit the ENGINE X BITE test screen.
  - a) If you put the start lever back to the CUTOFF position before you exit the BITE screen, the EEC BITE INOP message will show because the power is removed from the EEC.
- 10) Put the applicable engine start lever to the CUTOFF position.
- (b) Push the R IGNITER TEST LSK for the right igniter test.

NOTE: This LSK causes the R IGNITER TEST menu to show along with a WARNING about the operation of the ignition system.

- 1) Push the START TEST LSK.
  - a) The test screen shows an AMM reference to make sure the airplane is in the correct configuration from the procedure "Prepare To Do the Audible Test" above.
 

NOTE: You can stop the test at this time if you push the ABORT LSK. The screen will show the test is not completed because ABORT was selected. Push the INDEX LSK to go back to the GROUND TESTS menu.
  - b) Put the applicable engine start lever to the IDLE position.
- 2) Tell the person at the engine that the test will begin.
- 3) Type OK and push the CONTINUE LSK.

NOTE: The test starts with the R IGNITER operated by CH A of the EEC and then by CH B.

- 4) Make sure that the person at the engine hears the right igniter when the screen shows LISTEN FOR IGNITER.
- 5) Make sure that the test screen shows NO R IGNITER TEST FAULTS.
  - a) If the test screen shows NO faults but the person did not hear the igniter for CH A and CH B, then there is a problem with the R Ignition system. Do this task: Engine Start - No Lightoff, Fuel Flow Normal, Ignition Switch At IGN R, Engine Start Normal With Ignition Switch At IGN L Or BOTH - Fault Isolation, FIM 80-06 TASK 804.

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- b) If faults are found, the test screen will show R IGNITER TEST FAILED along with the maintenance message number (MSG NBR) and a short description of the fault.

NOTE: If there is more than one fault, the page you are on and the total number of pages will show on the screen. Example: 1/2 means you are on page 1 of 2 pages.

- c) Record the maintenance messages that show.
- d) Use the NEXT PAGE or PREV PAGE key to see all of the maintenance messages.
- 6) Make sure there are no CH A INOP or CH B INOP screens.
- 7) If it necessary to do the R IGNITER test again, push the REPEAT TEST LSK.
- 8) Push the END TEST LSK to stop the test.
- 9) Push the INIT REF key on the FMCS CDU to exit the ENGINE X BITE test screen.
- a) If you put the start lever back to the CUTOFF position before you exit the BITE screen, the EEC BITE INOP message will show because the power is removed from the EEC.
- 10) Put the applicable engine start lever to the CUTOFF position.

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

SUBTASK 74-00-00-860-013-F00

- (1) For engine 1, do this step:

Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	4	C00359	FUEL SPAR VALVE ENG 1

SUBTASK 74-00-00-860-014-F00

- (2) For engine 2, do this step:

Remove the safety tag and close this circuit breaker:

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	3	C00360	FUEL SPAR VALVE ENG 2

————— **END OF TASK** —————

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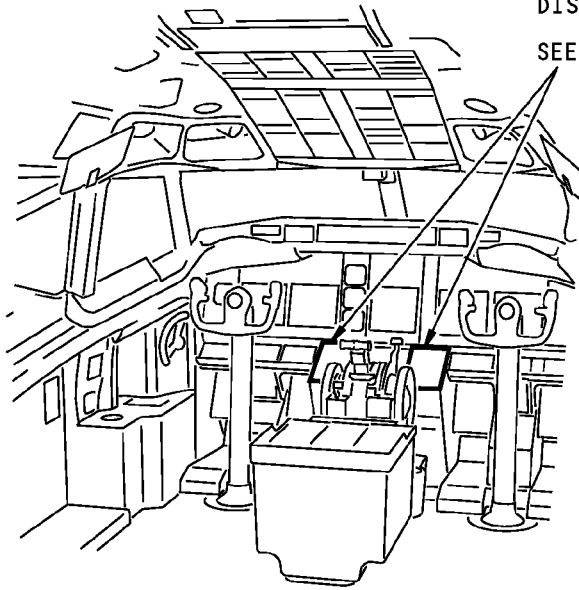
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FMCS CONTROL  
DISPLAY UNIT (CDU)

SEE (A)



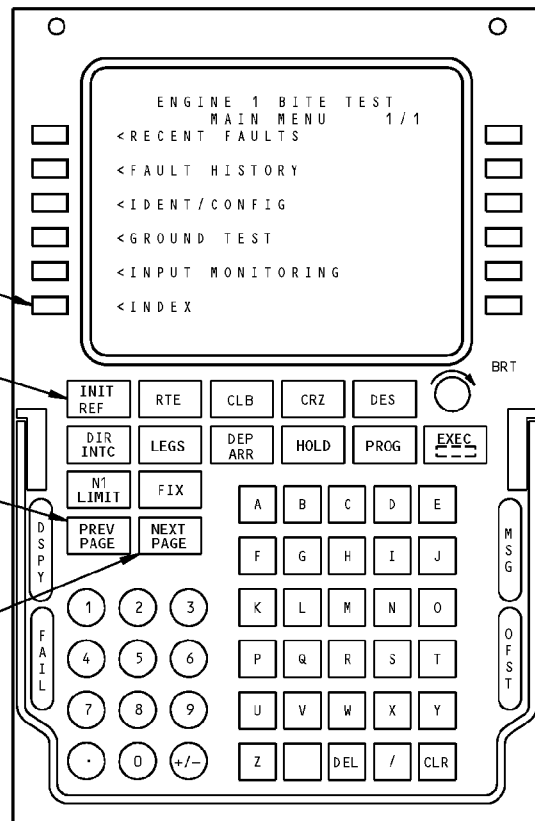
**FLIGHT COMPARTMENT**

LINE SELECT KEY (LSK)  
(12 LOCATIONS)

INIT REF  
FUNCTION KEY

PREVIOUS  
PAGE KEY

NEXT PAGE KEY



**FMCS CONTROL DISPLAY UNIT (CDU)**

(A)

**Engine 1 BITE Test Main Menu  
Figure 501/74-00-00-990-802-F00**

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## TASK 74-00-00-750-802-F00

3. Ignition System Test (Optional)

## A. General

- (1) This task includes an optional procedure to use an ignition tester for the troubleshooting of the ignition system.
- (2) This procedure is done when there is a problem with the ignition system to find which part of the ignition system is unsatisfactory.

## B. References

Reference	Title
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
74-11-01-400-801-F00	Ignition Exciter Installation (P/B 401)
74-21-01-000-801-F00	Ignition Lead Removal (P/B 401)
74-21-01-400-801-F00	Ignition Lead Installation (P/B 401)
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

## C. Tools/Equipment

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

Reference	Description
SPL-5665	Tester - Ignition System, Flight Line Applications (Part #: 137332, Supplier: 59501, A/P Effectivity: 737-100, -200, -200C, -300, -400, -500, -600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

## D. Location Zones

Zone	Area
211	Flight Compartment - Left
212	Flight Compartment - Right
411	Engine 1 - Engine
421	Engine 2 - Engine

## E. Procedure

SUBTASK 74-00-00-010-004-F00

- (1) Do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00.

SUBTASK 74-00-00-010-005-F00

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

- (2) Do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.

SUBTASK 74-00-00-210-001-F00

- (3) Visually examine the ignition systems.
  - (a) Replace all the components that are unsatisfactory.
  - (b) Make sure that all connections are tight.

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SUBTASK 74-00-00-710-002-F00

**WARNING:** DO NOT TOUCH THE ENGINE IGNITION SYSTEM WHILE THE SYSTEM OPERATES. IGNITION VOLTAGE IS HIGH WHICH MAKES IT DANGEROUS. ELECTRICAL SHOCK CAN KILL, OR CAUSE INJURIES TO PERSONNEL.

**WARNING:** DO NOT TOUCH THE IGNITER, EXCITERS, OR IGNITION LEADS DURING OPERATION. IGNITION VOLTAGE IS HIGH WHICH MAKES IT DANGEROUS. HIGH VOLTAGE CAN KILL YOU.

**NOTE:** Do not do a check of the ignition system when you have any of the conditions that follow: the airplane is in the hangar, the airplane is near the buildings and/or other airplanes that are within the jet-wake hazard area for ground idle.

Make sure that no persons or equipment are in the jet-wake hazard area for the ground idle of the applicable engine.

(4) Do these steps that follow to do a test of the ignition lead and the ignition exciter.

(a) Do this task: Ignition Lead Removal, TASK 74-21-01-000-801-F00.

**NOTE:** Do not touch the end of the ignition lead with your hands or with a dirty cloth. Oil or grease can cause the ignition lead to operate incorrectly.

(b) Connect the ignition system tester, SPL-5665 to the applicable remote sensor box.

(c) Refer to the instructions supply with the tester.

**NOTE:** The sensors have different connections for the different types of cable connectors. Make sure that you use the correct sensor box.

(d) Do the ignition system test.

1) Refer to the instructions supply with the tester.

SUBTASK 74-00-00-960-001-F00

(5) If it is necessary, do these steps to replace the ignition as follow.

(a) Do this task: Ignition Lead Installation, TASK 74-21-01-400-801-F00.

(b) Do this task: Ignition Exciter Installation, TASK 74-11-01-400-801-F00.

SUBTASK 74-00-00-710-003-F00

(6) Do this task, Audible Test of the Ignition System - EEC BITE Igniters Test, TASK 74-00-00-750-801-F00.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 74-00-00-410-004-F00

(1) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

SUBTASK 74-00-00-410-005-F00

(2) Do this task: Close the Fan Cowl Panels, TASK 71-11-02-410-801-F00

————— **END OF TASK** —————

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IGNITION - DDG MAINTENANCE PROCEDURES**1. General**

- A. This procedure has the maintenance tasks for the Master Minimum Equipment List (MMEL) maintenance requirements as shown in the Dispatch Deviations Procedures Guide (DDPG). These tasks prepare the airplane for flight with systems/components that are inoperative.
- B. This procedure also has the tasks to put the airplane back to its usual condition.
- C. These are the tasks for the components in the ignition system:
- (1) MMEL 74-1 (DDPG) Preparation - Right Ignition System Inoperative
  - (2) MMEL 74-1 (DDPG) Restoration - Right Ignition System Inoperative.

**TASK 74-00-00-040-801-F00****2. MMEL 74-1 (DDPG) Preparation - Right Ignition System Inoperative**

(Figure 901)

## A. General

- (1) This task prepares the airplane for flight with the Right Ignition System inoperative.
- (2) This task connects the left igniter to the AC STANDBY BUS.
- (3) The usual condition is the left igniter on the AC TRANSFER BUS and the right igniter on the AC STANDBY BUS (WDM 74-11-11).

## B. References

Reference	Title
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
74-00-00-750-801-F00	Audible Test of the Ignition System - EEC BITE Igniters Test (P/B 501)
WDM 74-11-11	Wiring Diagram Manual

## C. Location Zones

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

## D. Procedure

SUBTASK 74-00-00-860-015-F00

- (1) For engine 1, do this step:  
Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

SUBTASK 74-00-00-860-016-F00

- (2) For engine 2, do this step:

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Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

SUBTASK 74-00-00-860-017-F00

- (3) Make sure that the start lever is in the CUTOFF position and install a DO-NOT-OPERATE tag.

SUBTASK 74-00-00-860-018-F00

- (4) Make sure that the engine start switch is off and install a DO-NOT-OPERATE tag.

SUBTASK 74-00-00-010-002-F00

- (5) Do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00.

SUBTASK 74-00-00-040-001-F00

**WARNING:** MAKE SURE THAT THE IGNITION EXCITERS ARE DE-ENERGIZED FOR A MINIMUM OF FIVE MINUTES BEFORE YOU START WORK ON THE IGNITION SYSTEM. THE IGNITION SYSTEM VOLTAGE IS DANGEROUSLY HIGH. DO NOT TOUCH THE IGNITION CONTACTS. THE IGNITION EXCITERS CAN HAVE AN ELECTRICAL CHARGE EVEN WHEN NOT ENERGIZED. IF YOU DO NOT OBEY THIS STEP, INJURY TO PERSONS CAN OCCUR.

- (6) Stop (wait) for a minimum of five minutes to release the high voltage from the ignition exciter.

SUBTASK 74-00-00-020-001-F00

- (7) Do these steps to disconnect the power supply cables from the ignition exciters:

- (a) Disconnect the DP0102 connector on the left power supply (Transfer Bus) cable [3] from the left ignition exciter IGN 1 [4].
- (b) Disconnect the DP0201 connector on the right power supply (Standby Bus) cable [2] from the right ignition exciter IGN 2 [1].

SUBTASK 74-00-00-420-001-F00

- (8) Do these steps to connect the power supply cables:

- (a) Connect the DP0102 connector on the left power supply (Transfer Bus) cable [3] to the right ignition exciter IGN 2 [1].
- (b) Connect the DP0201 connector on the right power supply (Standby Bus) cable [2] to the left ignition exciter IGN 1 [4].
- (c) Tighten the connectors.

SUBTASK 74-00-00-860-019-F00

- (9) For engine 1, do this step:

Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

SUBTASK 74-00-00-860-020-F00

- (10) For engine 2, do this step:

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## AIRCRAFT MAINTENANCE MANUAL

Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

SUBTASK 74-00-00-860-021-F00

(11) Remove the DO-NOT-OPERATE tags from the start lever and engine start switch.

SUBTASK 74-00-00-710-001-F00

(12) Do this task: Audible Test of the Ignition System - EEC BITE Igniters Test, TASK 74-00-00-750-801-F00.

- (a) It is permitted to find faults with the left ignition system, but the right ignition system must pass the audible test.

**NOTE:** When the EEC tests the right ignition system, the left igniter will fire because of the wiring change. This audible check means the right ignition system is correct.

SUBTASK 74-00-00-410-002-F00

(13) Do this task: Close the Fan Cowl Panels, TASK 71-11-02-410-801-F00.

————— **END OF TASK** —————

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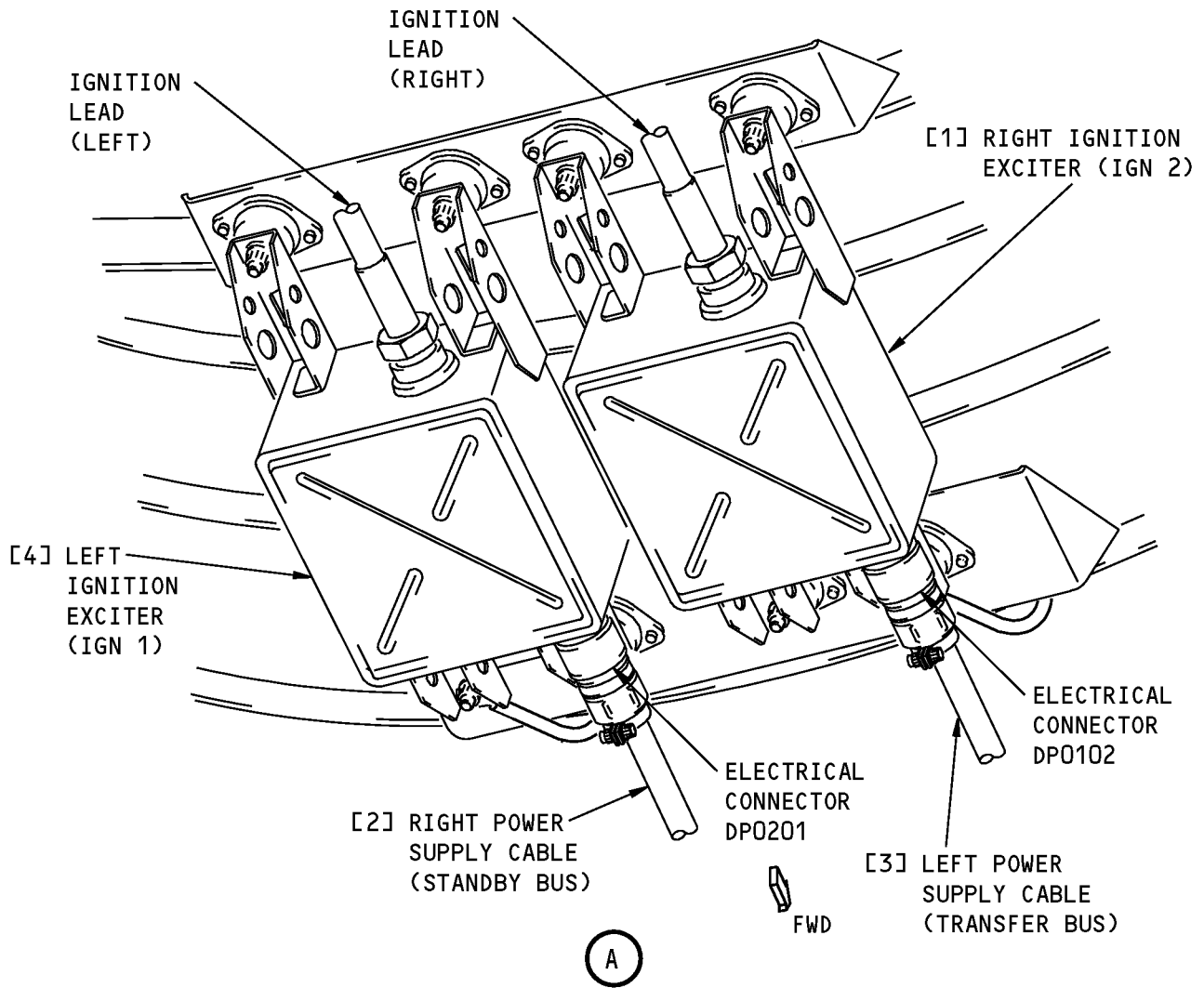
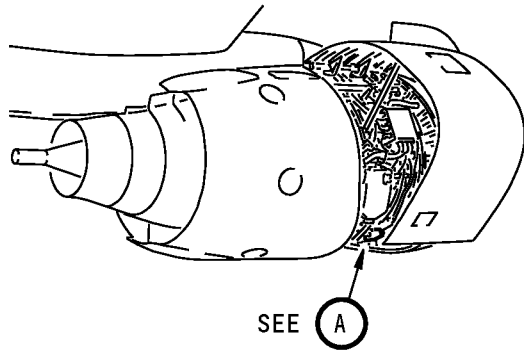
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GMM-1132234-00-A

**MMEL 74-1 Dispatch Configuration**  
**Figure 901/74-00-00-990-801-F00**

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## TASK 74-00-00-040-802-F00

3. M MEL 74-1 (DDPG) Restoration - Right Ignition System Inoperative

(Figure 902)

## A. General

- (1) This task restores the airplane after flight with the Right Ignition System inoperative.
- (2) This task re-connects the right igniter to the AC STANDBY BUS and re-connects the left igniter to the AC TRANSFER BUS (WDM 74-11-11).

## B. References

Reference	Title
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
WDM 74-11-11	Wiring Diagram Manual

## C. Location Zones

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

## D. Procedure

SUBTASK 74-00-00-860-022-F00

- (1) For engine 1, do this step:

Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

SUBTASK 74-00-00-860-023-F00

- (2) For engine 2, do this step:

Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

SUBTASK 74-00-00-860-024-F00

- (3) Make sure that the start lever is in the CUTOFF position and install a DO-NOT-OPERATE tag.

SUBTASK 74-00-00-860-025-F00

- (4) Make sure that the engine start switch is off and install a DO-NOT-OPERATE tag.

SUBTASK 74-00-00-010-003-F00

- (5) Do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00.

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SUBTASK 74-00-00-040-002-F00

**WARNING:** MAKE SURE THAT THE IGNITION EXCITERS ARE DE-ENERGIZED FOR A MINIMUM OF FIVE MINUTES BEFORE YOU START WORK ON THE IGNITION SYSTEM. THE IGNITION SYSTEM VOLTAGE IS DANGEROUSLY HIGH. DO NOT TOUCH THE ELECTRICAL CONTACTS. THE IGNITION EXCITERS CAN HAVE AN ELECTRICAL CHARGE EVEN WHEN NOT ENERGIZED. IF YOU DO NOT OBEY THIS STEP, INJURY TO PERSONS CAN OCCUR.

(6) Stop (wait) for a minimum of five minutes to release the high voltage from the ignition exciter.

SUBTASK 74-00-00-020-002-F00

- (7) Do these steps to disconnect the power supply cables from the ignition exciters:
- Disconnect the DP0102 connector on the left power supply (Transfer Bus) cable [3] from the right ignition exciter IGN 2 [1].
  - Disconnect the DP0201 connector on the right power supply (Standby Bus) cable [2] from the left ignition exciter IGN 1 [4].

SUBTASK 74-00-00-420-002-F00

- (8) Do these steps to connect the power supply cables:
- Connect the DP0102 connector on the left power supply (Transfer Bus) cable [3] to the left ignition exciter IGN 1 [4].
  - Connect the DP0201 connector on the right power supply (Standby Bus) cable [2] to the right ignition exciter IGN 2 [1].
  - Tighten the connectors.

SUBTASK 74-00-00-860-026-F00

- (9) For engine 1, do this step:  
Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

SUBTASK 74-00-00-860-027-F00

- (10) For engine 2, do this step:  
Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

SUBTASK 74-00-00-860-028-F00

- (11) Remove the DO-NOT-OPERATE tags from the start lever and the engine start switch.

SUBTASK 74-00-00-810-001-F00

- (12) Do the applicable fault isolation task in the FIM to correct the problem.
- When you do the Audible Test of the Ignition System - EEC BITE Igniters Test, make sure you do a check of the left and right ignition systems.

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SUBTASK 74-00-00-410-003-F00

(13) Do this task: Close the Fan Cowl Panels, TASK 71-11-02-410-801-F00.

————— **END OF TASK** —————

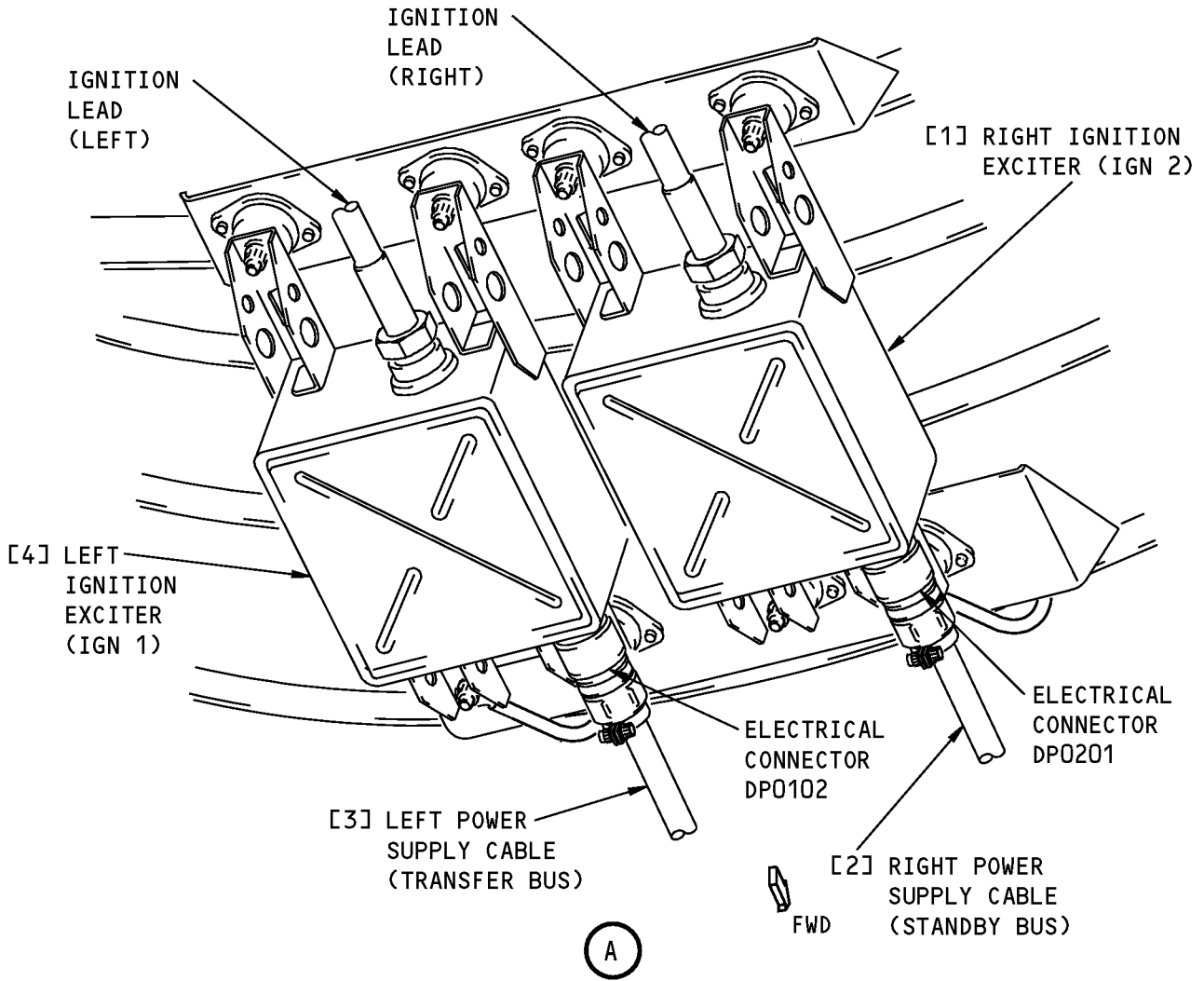
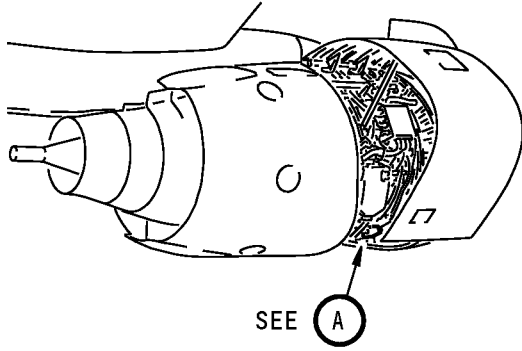
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GMM-1132234-00-A

**MMEL 74-1 Restoration**  
**Figure 902/74-00-00-990-803-F00**

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## AIRCRAFT MAINTENANCE MANUAL

IGNITION EXCITER - REMOVAL/INSTALLATION**1. General**

A. This procedure has two tasks:

- (1) The removal of the ignition exciter
- (2) The installation of the ignition exciter.

**TASK 74-11-01-000-801-F00****2. Ignition Exciter Removal**

(Figure 401)

A. General

- (1) The ignition exciters are found on the engine fan case at the 5:00 o'clock position.
- (2) The top ignition exciter is connected to the right ignition lead, and the bottom ignition exciter is connected to the left ignition lead.
- (3) This procedure can be used for the top or bottom ignition exciter.

B. References

Reference	Title
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)

C. Location Zones

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

D. Prepare for the Removal

SUBTASK 74-11-01-860-015-F00

- (1) For engine 1, do this step:

Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

SUBTASK 74-11-01-860-016-F00

- (2) For engine 2, do this step:

Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

SUBTASK 74-11-01-040-004-F00

- (3) Make sure that the start lever is in the CUTOFF position and install a DO-NOT-OPERATE tag.

SUBTASK 74-11-01-860-010-F00

- (4) Make sure that the engine start switch is off and install a DO-NOT-OPERATE tag.

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SUBTASK 74-11-01-010-003-F00

(5) Do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00.

SUBTASK 74-11-01-040-005-F00

**WARNING:** MAKE SURE THAT THE IGNITION EXCITERS ARE DE-ENERGIZED FOR A MINIMUM OF FIVE MINUTES BEFORE YOU START WORK ON THE IGNITION SYSTEM. THE IGNITION SYSTEM VOLTAGE IS DANGEROUSLY HIGH. DO NOT TOUCH THE ELECTRICAL CONTACTS. THE IGNITION EXCITERS CAN HAVE AN ELECTRICAL CHARGE EVEN WHEN NOT ENERGIZED. IF YOU DO NOT OBEY THIS STEP, INJURY TO PERSONS CAN OCCUR.

(6) Stop (wait) for a minimum of five minutes to release the high voltage from the ignition exciter.

**E. Ignition Exciter Removal**

SUBTASK 74-11-01-020-003-F00

(1) Disconnect the applicable power supply cable [4] from the electrical receptacle on the forward side of the ignition exciter [2].

SUBTASK 74-11-01-020-004-F00

**CAUTION:** MAKE SURE THAT YOUR HANDS AND TOOLS ARE CLEAN. DO NOT TOUCH THE IGNITION LEAD WITH DIRT OR GREASE ON HANDS OR TOOLS. DIRT AND GREASE WILL CAUSE DAMAGE TO THE IGNITION LEAD.

(2) Disconnect the applicable ignition lead [1] from the ignition lead receptacle on the aft side of the ignition exciter [2].

(a) Put protective covers on the ignition lead [1] and on the ignition lead receptacle.

SUBTASK 74-11-01-020-005-F00

(3) Do these steps to remove the applicable ignition exciter [2] from the engine fan case:

(a) Hold each stud on the flats with an open-end wrench.

**NOTE:** The stud flats are between the resilient mount and the ignition exciter [2].

(b) Remove the four nuts [6] and washers [5] that attach the ignition exciter [2] to the brackets.

(c) Remove the applicable ground strap [3].

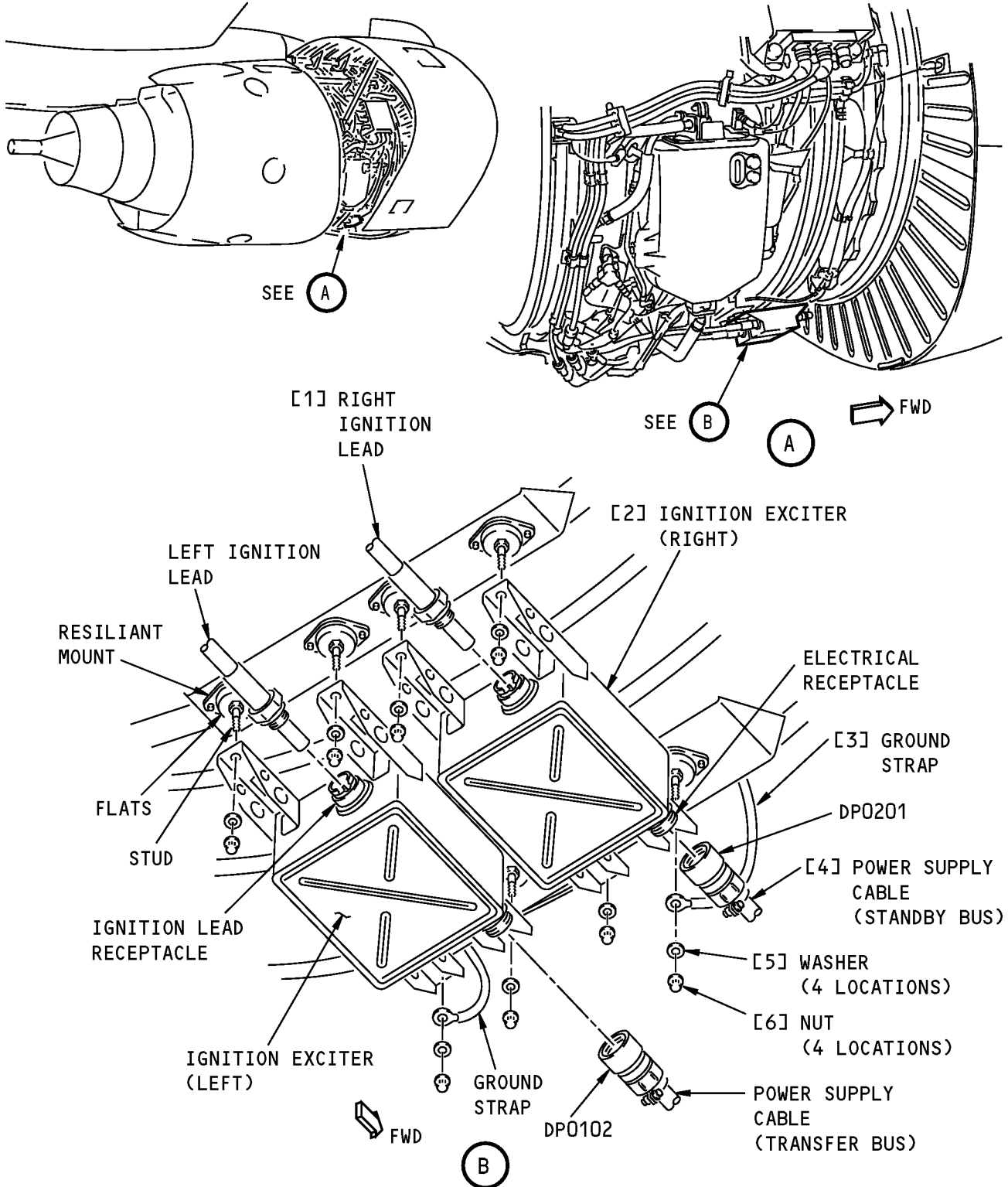
(d) Remove the ignition exciter [2] from the studs.

**END OF TASK****EFFECTIVITY**  
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**Ignition Exciter Installation  
Figure 401/74-11-01-990-802-F00**

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## TASK 74-11-01-400-801-F00

3. Ignition Exciter Installation

(Figure 401)

## A. References

Reference	Title
71-00-00-800-811-F00	Power Plant Test Reference Table (P/B 501)
71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)

## B. Consumable Materials

Reference	Description	Specification
D00601 [CP2101]	Grease - Graphite, High Temperature	SAE AMS 2518

## C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Exciter	74-11-01-01-040	HAP ALL

## D. Location Zones

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

## E. Ignition Exciter Installation

SUBTASK 74-11-01-420-003-F00

(1) Do these steps to install the applicable ignition exciter [2] on the engine fan case:

- (a) Install the ignition exciter [2] on the studs.
- (b) Put the end of the applicable ground strap [3] on the nearest stud on the respective ignition exciter [2].

**NOTE:** The ground strap is installed between the washer [5] and the ignition exciter [2].

- (c) Put the four washers [5] on the studs.
- (d) Apply a thin layer of grease, D00601 [CP2101] to the ends of the threads of the studs.
- (e) Install the four nuts [6] on the studs and hold each stud on the flats with an open-end wrench.

**NOTE:** The stud flats are between the resilient mount and the ignition exciter [2].

- 1) Hold the stud while you tighten the nuts [6] to 110-120 pound-inches (11.9-13.1 Newton meters).

SUBTASK 74-11-01-420-004-F00

(2) Do these steps to connect the applicable ignition lead [1] to the ignition exciter [2]:

- (a) Remove the protective covers on the ignition lead [1] and the ignition lead receptacle.

**CAUTION:** MAKE SURE THAT THE IGNITION LEADS ARE CLEAN WHEN YOU CONNECT THEM. THE CONTAMINATION OF THE IGNITION LEADS CAN CAUSE DAMAGE TO THE EQUIPMENT.

- (b) Connect the ignition lead [1] to the ignition lead receptacle on the aft side of the ignition exciter [2].

- 1) Tighten the connector nut on the ignition lead [1] to 140-160 pound-inches (16.0-18.0 Newton meters).

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SUBTASK 74-11-01-420-005-F00

- (3) Connect the applicable power supply cable [4] to the electrical receptacle on the forward side of the ignition exciter [2].

## F. Ignition Exciter Installation Test

SUBTASK 74-11-01-860-017-F00

- (1) For engine 1, do this step:

Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

SUBTASK 74-11-01-860-018-F00

- (2) For engine 2, do this step:

Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

SUBTASK 74-11-01-860-014-F00

- (3) Remove the DO-NOT-OPERATE tag from the start lever and the engine start switch.

SUBTASK 74-11-01-710-002-F00

- (4) Do the tests that are listed for the ignition exciter in the Power Plant Test Reference Table (TASK 71-00-00-800-811-F00).

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

SUBTASK 74-11-01-410-001-F00

- (1) Do this task: Close the Fan Cowl Panels, TASK 71-11-02-410-801-F00.

————— **END OF TASK** —————

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## AIRCRAFT MAINTENANCE MANUAL

IGNITION EXCITER - INSPECTION/CHECK**1. General**

A. This procedure has one task to examine the ignition exciter.

**TASK 74-11-01-200-801-F00****2. Ignition Exciter Inspection**

(Figure 601)

## A. General

- (1) The ignition exciters are found on the engine fan case at the 5:00 o'clock position.
- (2) The top ignition exciter is connected to the right ignition lead, and the bottom ignition exciter is connected to the left ignition lead.

## B. References

Reference	Title
71-11-02-010-801-F00	Open the Fan Cowl Panels (P/B 201)
71-11-02-410-801-F00	Close the Fan Cowl Panels (P/B 201)
74-00-00-750-801-F00	Audible Test of the Ignition System - EEC BITE Igniters Test (P/B 501)
74-11-01-000-801-F00	Ignition Exciter Removal (P/B 401)
74-11-01-400-801-F00	Ignition Exciter Installation (P/B 401)

## C. Consumable Materials

Reference	Description	Specification
B00682 [CP2011]	Solvent - Stoddard	P-D-680, Type I, II or III

## D. Location Zones

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

## E. Prepare for the Inspection

SUBTASK 74-11-01-860-019-F00

- (1) For engine 1, do this step:

Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

SUBTASK 74-11-01-860-020-F00

- (2) For engine 2, do this step:

Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

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SUBTASK 74-11-01-040-001-F00

- (3) Make sure that the start lever is in the CUTOFF position and install a DO-NOT-OPERATE tag.

SUBTASK 74-11-01-040-002-F00

- (4) Make sure that the engine start switch is off and install a DO-NOT-OPERATE tag.

SUBTASK 74-11-01-010-001-F00

- (5) Do this task: Open the Fan Cowl Panels, TASK 71-11-02-010-801-F00.

SUBTASK 74-11-01-040-003-F00

**WARNING:** MAKE SURE THAT THE IGNITION EXCITERS ARE DE-ENERGIZED FOR A MINIMUM OF FIVE MINUTES BEFORE YOU START WORK ON THE IGNITION SYSTEM. THE IGNITION SYSTEM VOLTAGE IS DANGEROUSLY HIGH. DO NOT TOUCH THE ELECTRICAL CONTACTS. THE IGNITION EXCITERS CAN HAVE AN ELECTRICAL CHARGE EVEN WHEN NOT ENERGIZED. IF YOU DO NOT OBEY THIS STEP, INJURY TO PERSONS CAN OCCUR.

- (6) To release the high voltage from the ignition exciter, stop (wait) for a minimum of five minutes.

SUBTASK 74-11-01-020-001-F00

- (7) Disconnect the power supply cable [3] from the input connector [4] on the forward side of the applicable ignition exciter [2].

SUBTASK 74-11-01-020-002-F00

**CAUTION:** MAKE SURE THAT YOUR HANDS AND TOOLS ARE CLEAN. DO NOT TOUCH THE IGNITION LEAD WITH DIRT OR GREASE ON HANDS OR TOOLS. DIRT AND GREASE WILL CAUSE DAMAGE TO THE IGNITION LEAD.

- (8) Disconnect the ignition lead [1] from the ignition lead receptacle [5] on the aft side of the ignition exciter [2].

- (a) Put the protective covers on the ignition lead [1].

## F. Ignition Exciter Inspection

SUBTASK 74-11-01-900-001-F00

- (1) If you find damage that is not in the limits, replace the ignition exciter, unless you are given other instructions.

These are the tasks:

Ignition Exciter Removal, TASK 74-11-01-000-801-F00,

Ignition Exciter Installation, TASK 74-11-01-400-801-F00.

SUBTASK 74-11-01-210-001-F00

- (2) Examine the ignition exciter [2] for cracks.

- (a) Cracks are not permitted.

SUBTASK 74-11-01-210-002-F00

- (3) Examine the ignition exciter [2] for nicks, dents and scratches.

- (a) All nicks, dents and scratches are permitted, if they are no more than 0.030 inch (0.76 mm) in depth.

SUBTASK 74-11-01-210-003-F00

- (4) Examine the input receptacle [4] and ignition lead receptacle [5] for thread damage.

- (a) Thirty percent damage on one lead-in thread is permitted, or 20 percent damage on each of the two lead-in threads.

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SUBTASK 74-11-01-210-004-F00

- (5) Examine the input receptacle [4] for pin damage.
- (a) Pin damage is permitted if the pins engage freely with the connector.

SUBTASK 74-11-01-210-005-F00

- (6) Examine the well of the ignition lead receptacle [3] and the well of the input receptacle [4] for dirt.
- (a) Dirt is not permitted.
- (b) If you find dirt, clean the well with a soft bristle brush and solvent, B00682 [CP2011].

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

SUBTASK 74-11-01-420-001-F00

- (1) Do these steps to connect the ignition lead [1] to the ignition exciter [2]:
- (a) Remove the protective covers on the ignition lead [1].

**CAUTION:** MAKE SURE THAT THE IGNITION LEAD IS CLEAN WHEN YOU CONNECT IT. THE CONTAMINATION OF THE IGNITION LEAD CAN CAUSE DAMAGE TO THE EQUIPMENT.

- (b) Connect the ignition lead [1] to the ignition lead receptacle [5] on the aft side of the ignition exciter.
- (c) Tighten the connector nut on the ignition lead [1] to 140-160 pound-inches (16.0-18.0 Newton meters).

SUBTASK 74-11-01-420-002-F00

- (2) Connect the power supply cable [3] to the ignition exciter [2].

SUBTASK 74-11-01-860-021-F00

- (3) For engine 1, do this step:

Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

SUBTASK 74-11-01-860-022-F00

- (4) For engine 2, do this step:

Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

SUBTASK 74-11-01-860-005-F00

- (5) Remove the DO-NOT-OPERATE tags from the start lever and the engine start switch.

SUBTASK 74-11-01-710-001-F00

- (6) Do this task: Audible Test of the Ignition System - EEC BITE Igniters Test, TASK 74-00-00-750-801-F00.

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SUBTASK 74-11-01-010-004-F00

(7) Do this task: Close the Fan Cowl Panels, TASK 71-11-02-410-801-F00.

————— **END OF TASK** —————

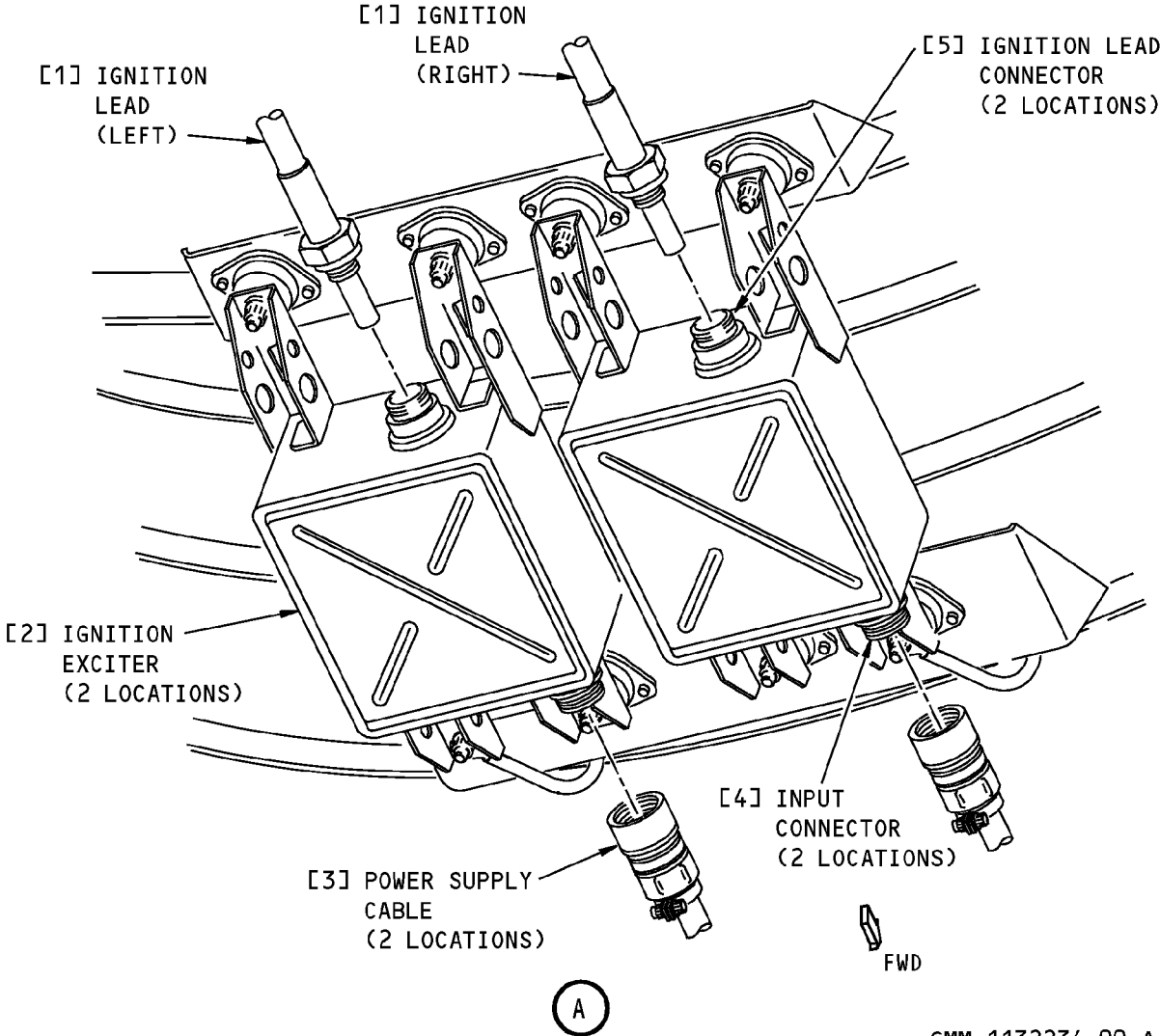
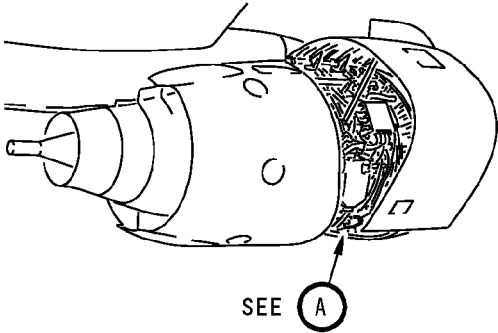
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**Ignition Exciter Inspection**  
**Figure 601/74-11-01-990-801-F00**

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## AIRCRAFT MAINTENANCE MANUAL

IGNITION LEADS - REMOVAL/INSTALLATION**1. General**

- A. This procedure has two tasks:
- (1) The removal of the ignition lead
  - (2) The installation of the ignition lead.

**TASK 74-21-01-000-801-F00****2. Ignition Lead Removal**

(Figure 401)

## A. General

- (1) The removal and installation instructions are the same for the two ignition leads.
  - (a) The left ignition lead connects the left igniter plug to the bottom ignition exciter.
  - (b) The right ignition lead connects the right igniter plug to the top ignition exciter.

## B. References

Reference	Title
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)

## C. Location Zones

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

## D. Prepare for the Removal

SUBTASK 74-21-01-860-014-F00

- (1) For engine 1, do this step:  
Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

SUBTASK 74-21-01-860-015-F00

- (2) For engine 2, do this step:  
Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

SUBTASK 74-21-01-860-012-F00

- (3) Make sure that the start lever is in the CUTOFF position and install a DO-NOT-OPERATE tag.

SUBTASK 74-21-01-040-004-F00

- (4) Make sure that the engine start switch is off and install a DO-NOT-OPERATE tag.

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SUBTASK 74-21-01-840-001-F00

**WARNING:** DO THESE SPECIFIED TASKS IN THE CORRECT SEQUENCE BEFORE YOU OPEN THE THRUST REVERSER: RETRACT THE LEADING EDGE, DO THE DEACTIVATION PROCEDURES FOR THE LEADING EDGE AND THE THRUST REVERSERS (FOR GROUND MAINTENANCE), AND OPEN THE FAN COWL PANELS. IF YOU DO NOT OBEY THE ABOVE SEQUENCE, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(5) Do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.

## E. Ignition Lead Removal

SUBTASK 74-21-01-020-003-F00

**WARNING:** MAKE SURE THAT THE IGNITION EXCITERS ARE DE-ENERGIZED FOR A MINIMUM OF FIVE MINUTES BEFORE YOU START WORK ON THE IGNITION SYSTEM. THE IGNITION SYSTEM VOLTAGE IS DANGEROUSLY HIGH. DO NOT TOUCH THE ELECTRICAL CONTACTS. THE IGNITION EXCITERS CAN HAVE AN ELECTRICAL CHARGE EVEN WHEN NOT ENERGIZED. IF YOU DO NOT OBEY THIS PROCEDURE, INJURY TO PERSONS CAN OCCUR.

**CAUTION:** MAKE SURE THAT YOUR HANDS AND TOOLS ARE CLEAN. DO NOT TOUCH THE IGNITION LEAD OR THE MAIN IGNITER PLUG WITH DIRT OR GREASE ON HANDS OR TOOLS. DIRT AND GREASE WILL CAUSE DAMAGE TO THE IGNITION LEAD AND TO THE MAIN IGNITER PLUG.

(1) To release the high voltage from the ignition system, stop (wait) for a minimum of five minutes.

SUBTASK 74-21-01-020-009-F00

(2) Do these steps to remove the mating pad [15] and the mating pad shroud [18] on the 6:00 o'clock strut:

- (a) Remove the two bolts [13] and washers [14] from the mating pad [15].
  - 1) Remove the mating pad shroud [18].
- (b) Remove the bolt [17] and the washer [16] that connects the mating pad [15] to the 6:00 o'clock strut.
- (c) Remove the mating pad [15].

SUBTASK 74-21-01-020-010-F00

(3) Do these steps to disconnect the ignition lead [2] from the main igniter plug [1]:

- (a) Remove the cooling shroud clamp [9], and remove the cooling shroud [7].
- (b) Loosen the coupling nut [8].
- (c) Pull the ignition lead [2] straight out, with no side load, until it is free from the main igniter plug [1].
- (d) Remove the outer silicone seal [10] from the ignition lead [2].
  - 1) Discard the outer silicone seal [10].

SUBTASK 74-21-01-020-004-F00

(4) Disconnect the ignition lead [2] from the aft side of the ignition exciter [3].

SUBTASK 74-21-01-020-005-F00

(5) Do these steps to protect the main igniter plug [1], the ignition exciter [3], and the ignition lead [2]:

- (a) Put a protective cover on each end of the ignition lead [2].

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- (b) Put a protective cover on the main igniter plug [1].
- (c) Put a protective cover on the connector of the ignition exciter [3].

SUBTASK 74-21-01-020-006-F00

- (6) Do these steps to remove the ignition lead [2] from the loop clamps [5] and [6]:
  - (a) Remove the bolts [11] and [12] from the two loop clamps [5] and [6].
  - (b) Remove the loop clamps [5] and [6] from the ignition lead.

SUBTASK 74-21-01-020-007-F00

- (7) Remove the ignition lead [2] from the seven electrical clips [4] and the mating plate.

SUBTASK 74-21-01-020-008-F00

- (8) Remove the ignition lead [2].

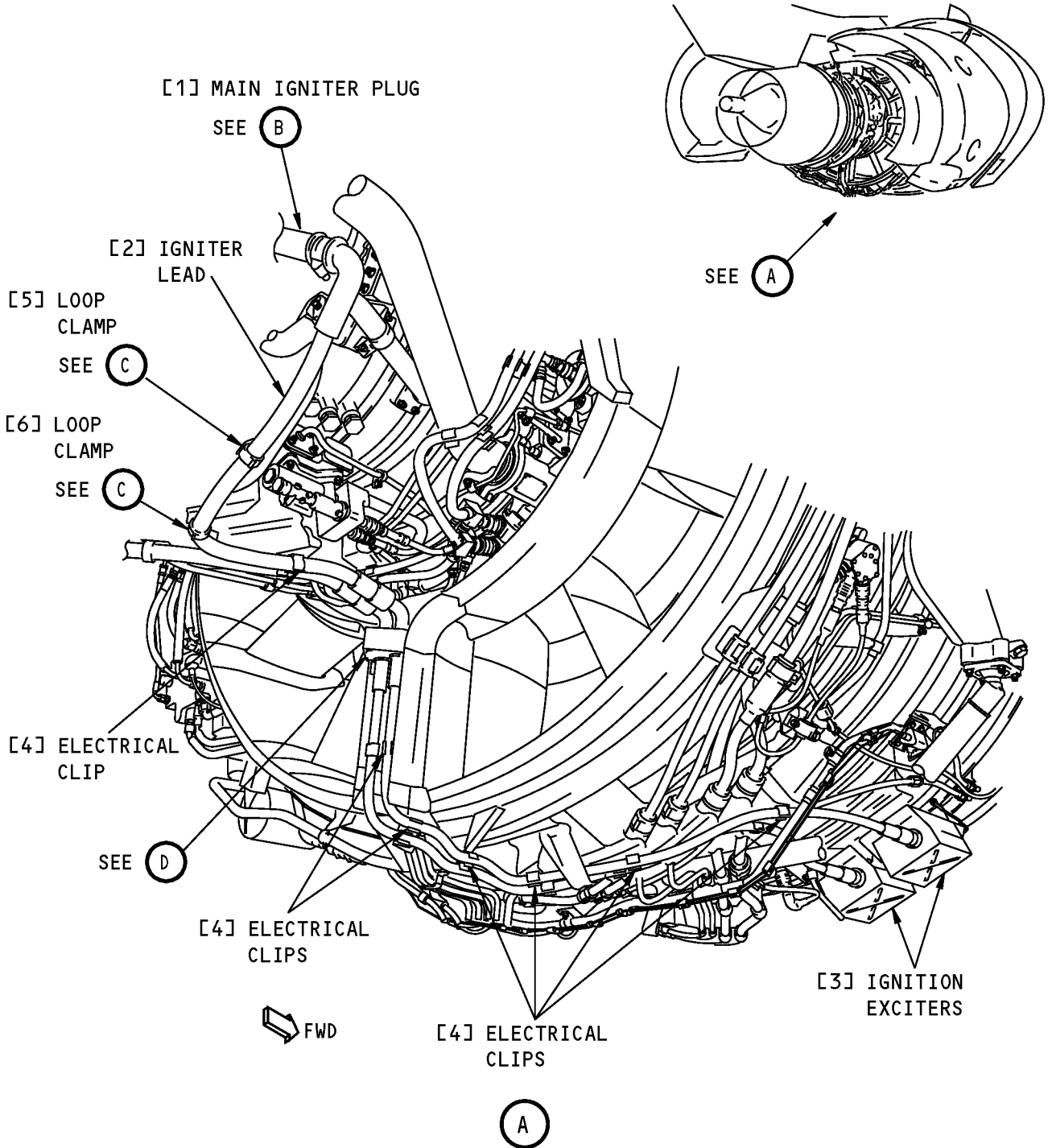
————— **END OF TASK** —————

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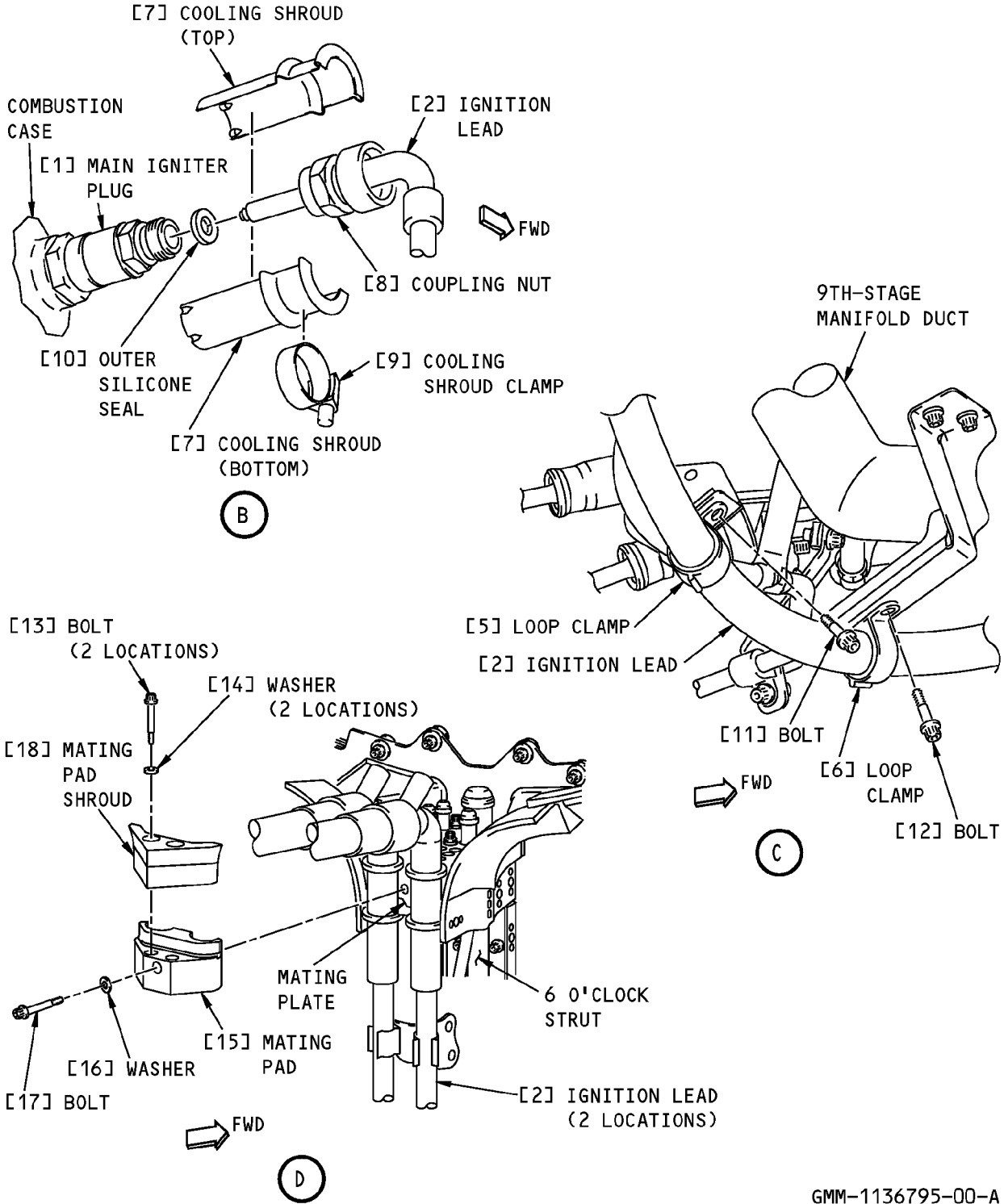
**NOTE:** RIGHT SIDE IGNITION LEAD SHOWN,  
LEFT SIDE IGNITION LEAD OPPOSITE.

**Ignition Leads Installation**  
**Figure 401 (Sheet 1 of 2)/74-21-01-990-802-F00**

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**Ignition Leads Installation**  
**Figure 401 (Sheet 2 of 2)/74-21-01-990-802-F00**

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## TASK 74-21-01-400-801-F00

3. Ignition Lead Installation

(Figure 401)

## A. References

Reference	Title
71-00-00-800-811-F00	Power Plant Test Reference Table (P/B 501)
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

## B. Consumable Materials

Reference	Description	Specification
A01077 [CP2266]	Adhesive - Silicone Rubber - RTV 102	
B00666	Solvent - Methyl Propyl Ketone	BMS 11-9
D00601 [CP2101]	Grease - Graphite, High Temperature	SAE AMS 2518

## C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Ignition lead	74-21-01-01-065	HAP ALL
10	Outer silicone seal	74-21-02-01-045	HAP ALL

## D. Location Zones

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

## E. Procedure

SUBTASK 74-21-01-420-003-F00

(1) Do these steps to install the ignition lead [2]:

**CAUTION:** MAKE SURE THAT YOUR HANDS AND TOOLS ARE CLEAN. DO NOT TOUCH THE IGNITION LEAD OR THE MAIN IGNITER PLUG WITH DIRT OR GREASE ON HANDS OR TOOLS. DIRT AND GREASE WILL CAUSE DAMAGE TO THE IGNITION LEAD AND TO THE MAIN IGNITER PLUG.

**CAUTION:** DO NOT TWIST OR BEND THE IGNITION LEAD. YOU CAN CAUSE DAMAGE TO THE LEAD.

- (a) Remove the protective covers from the ignition exciter [3], the main igniter plug [1], and the ignition lead [2].
- (b) Loosely connect the ignition lead [2] to the connector on the aft side of the ignition exciter [3].
- (c) Install the ignition lead [2] along the fan case, and put the ignition lead [2] into the four electrical clips [4].
- (d) Install the ignition lead [2] along the 6:00 o'clock strut and into the two electrical clips [4].
- (e) Put the ignition lead [2] into the mating plate at the top of the 6:00 o'clock strut.
- (f) Install the ignition lead [2] along the bottom of the compressor case.
- (g) Put the ignition lead [2] into the electrical clip [4] found on the transient bleed valve.

SUBTASK 74-21-01-420-004-F00

(2) Do these steps to connect the ignition lead [2] to the main igniter plug [1]:

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- (a) Install a new outer silicone seal [10] on the ignition lead [2].
- (b) Connect the end of the ignition lead [2] to the main igniter plug [1].
  - 1) Tighten the coupling nut [8] to 260-290 pound-inches (29.4-32.8 Newton meters).
- (c) Install the two pieces of the cooling shroud [7] around the ignition lead [2] with the cooling shroud clamp [9].
  - 1) Tighten the cooling shroud clamp [9] to 33-37 pound-inches (3.8-4.1 Newton meters).

SUBTASK 74-21-01-800-001-F00

- (3) Do these steps to install the mating pad [15] and the mating pad shroud [18]:
  - (a) Use a clean cloth and solvent, B00666 to remove the remaining sealant from the mating pad [15] and the ignition leads [2].
  - (b) Apply a layer of RTV 102 adhesive, A01077 [CP2266] to the recesses in the mating pad [15] which touch the ignition leads [2].
  - (c) Put the mating pad [15] on the 6:00 o'clock strut with the recesses in the mating pad around the ignition leads [2].
  - (d) Install the bolt [17] and washer [16] to attach the mating pad to the strut.
    - 1) Tighten the bolt [17] to 40-50 pound-inches (4.5-5.6 Newton meters).
  - (e) Install the mating pad shroud [18] on the mating pad.
  - (f) Install the two washers [14] and bolts [13].
    - 1) Tighten the bolts [13] to 40-50 pound-inches (4.5-5.6 Newton meters).

SUBTASK 74-21-01-420-005-F00

- (4) Do these steps to install the loop clamps [5] and [6]:
  - (a) Put the loop clamps [5] and [6] around the ignition lead [2].
  - (b) Apply grease, D00601 [CP2101] to the threads of the bolts [11] and [12].
  - (c) Loosely install the bolts [11] and [12] that attach the loop clamps [5] and [6] to the brackets.
  - (d) If it is necessary, move the ignition lead [2] until it does not touch the other parts.
  - (e) Tighten the bolts [11] and [12] to 60-66 pound-inches (6.8-7.5 Newton meters).

SUBTASK 74-21-01-420-006-F00

- (5) Tighten the connector on the ignition exciter [3] to 140-160 pound-inches (15.8-18.1 Newton meters).

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

SUBTASK 74-21-01-860-008-F00

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

- (1) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

SUBTASK 74-21-01-860-016-F00

- (2) For engine 1, do this step:

Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

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SUBTASK 74-21-01-860-017-F00

(3) For engine 2, do this step:

Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

SUBTASK 74-21-01-860-011-F00

(4) Remove the DO-NOT-OPERATE tags from the start lever and the engine start switch.

## G. Ignition Lead Installation Test

SUBTASK 74-21-01-700-001-F00

(1) Do the tests that are listed for the ignition lead in the Power Plant Test Reference Table (TASK 71-00-00-800-811-F00).

————— **END OF TASK** —————

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## AIRCRAFT MAINTENANCE MANUAL

IGNITION LEADS - INSPECTION/CHECK**1. General**

- A. This procedure contains scheduled maintenance task data.  
 B. This procedure has one task to examine the ignition leads.

**TASK 74-21-01-200-801-F00****2. Ignition Lead Inspection**

(Figure 601)

**A. General**

- (1) This procedure is a scheduled maintenance task.  
 (2) This task is to examine the condition of the ignition leads.  
 (3) The left ignition lead connects the left igniter plug with the bottom ignition exciter.  
 (4) The right ignition lead connects the right igniter plug with the top ignition exciter.

**B. References**

Reference	Title
71-00-00-800-811-F00	Power Plant Test Reference Table (P/B 501)
74-21-01-000-801-F00	Ignition Lead Removal (P/B 401)
74-21-01-400-801-F00	Ignition Lead Installation (P/B 401)
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

**C. Consumable Materials**

Reference	Description	Specification
B00682 [CP2011]	Solvent - Stoddard	P-D-680, Type I, II or III
B00683 [CP1008] G00834	Solvent - Stabilized Trichloroethylene Cloth - Lint-free Cotton	

**D. Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Outer silicone seal	74-21-02-01-045	HAP ALL

**E. Location Zones**

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

**F. Prepare for the Inspection**

SUBTASK 74-21-01-860-018-F00

- (1) For engine 1, do this step:

Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

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SUBTASK 74-21-01-860-019-F00

- (2) For engine 2, do this step:

Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

SUBTASK 74-21-01-040-001-F00

- (3) Make sure that the start lever is in the CUTOFF position and install a DO-NOT-OPERATE tag.

SUBTASK 74-21-01-040-002-F00

- (4) Make sure that the engine start switch is off and install a DO-NOT-OPERATE tag.

SUBTASK 74-21-01-010-001-F00

**WARNING:** DO THESE SPECIFIED TASKS IN THE CORRECT SEQUENCE BEFORE YOU OPEN THE THRUST REVERSERS: RETRACT THE LEADING EDGE, DO THE DEACTIVATION PROCEDURES FOR THE LEADING EDGE AND THE THRUST REVERSERS (FOR GROUND MAINTENANCE), AND OPEN THE FAN COWL PANELS. IF YOU DO NOT OBEY THE ABOVE SEQUENCE, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (5) Do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.

SUBTASK 74-21-01-040-003-F00

**WARNING:** MAKE SURE THAT THE IGNITION EXCITERS ARE DE-ENERGIZED FOR A MINIMUM OF FIVE MINUTES BEFORE YOU START WORK ON THE IGNITION SYSTEM. THE IGNITION SYSTEM VOLTAGE IS DANGEROUSLY HIGH. DO NOT TOUCH THE ELECTRICAL CONTACTS. THE IGNITION EXCITERS CAN HAVE AN ELECTRICAL CHARGE EVEN WHEN NOT ENERGIZED. IF YOU DO NOT OBEY THIS PROCEDURE, INJURY TO PERSONS CAN OCCUR.

- (6) To release the high voltage from the ignition exciter, stop (wait) for a minimum of five minutes.

SUBTASK 74-21-01-020-001-F00

**CAUTION:** MAKE SURE THAT YOUR HANDS AND TOOLS ARE CLEAN. DO NOT TOUCH THE IGNITION LEAD WITH DIRT OR GREASE ON HANDS OR TOOLS. DIRT AND GREASE WILL CAUSE DAMAGE TO THE IGNITION LEAD.

- (7) Disconnect the ignition leads from the aft side of the ignition exciters.

- (a) Put the protective covers on the ignition exciters.

SUBTASK 74-21-01-020-002-F00

- (8) Do these steps to disconnect the ignition lead from the igniter plug:

- (a) Remove the cooling shroud clamp and remove the cooling shroud.

- (b) Loosen the coupling nut.

- (c) Pull the ignition lead straight out, with no side load, until it is free from the main igniter plug.

- (d) Remove and discard the outer silicone seal [1] on the ignition lead.

## G. Ignition Lead Inspection

SUBTASK 74-21-01-900-002-F00

- (1) If you find damage that is not in the limits, replace the ignition lead unless you are given other instructions.

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These are the tasks:

Ignition Lead Removal, TASK 74-21-01-000-801-F00,  
Ignition Lead Installation, TASK 74-21-01-400-801-F00.

SUBTASK 74-21-01-110-001-F00

- (2) Clean the ceramic insulator and contact with lint-free cloth, G00834 that is moist with solvent, B00683 [CP1008] or solvent, B00682 [CP2011].

SUBTASK 74-21-01-210-015-F00

- (3) Examine the ignition exciter end of the ignition lead.  
(a) Signs of arcing, burning, or flash over are not permitted. Replace the lead.

SUBTASK 74-21-01-210-016-F00

- (4) Examine the contact on the igniter plug end of the ignition lead for erosion and pits.  
(a) Erosion and pits on the contact are not permitted. Replace the lead.  
(b) Measure the dimension from the contact face to the retaining ring groove.  
1) The limit is 0.055 inch (1.40 mm) minimum.

SUBTASK 74-21-01-210-017-F00

**CAUTION:** DO NOT PULL ON THE CONTACT AND CERAMIC INSULATOR TO EXAMINE THE LEAD WIRE. THIS CAN CRACK THE SILICONE INSULATION OF THE WIRE AND CREATE AN ARC PATH TO AN INTERNAL SPRING AND CAN CAUSE IGNITION LEAD FAILURE.

- (5) Examine the ceramic insulator on the igniter plug end of the ignition lead for cracks or chips.  
(a) Cracks or chips are not permitted, replace the lead.

SUBTASK 74-21-01-210-018-F00

- (6) Examine the lead connector threads for damage.  
(a) If less than 30 percent of the first thread is damaged, chase the thread to repair the damage. Replace the lead if the damage is more than the limit.  
(b) If less than 10 percent of the second thread is damaged, chase the thread to repair the damage. Replace the lead if the damage is more than the limit.

SUBTASK 74-21-01-210-019-F00

- (7) Examine the braided conduit of the ignition lead for chafing along the full length of the lead.  
(a) Chafing is not permitted, replace the lead.  
(b) Move the lead to prevent chafing.

SUBTASK 74-21-01-210-020-F00

- (8) Examine the braided conduit for broken strands.  
(a) No more than half of the circumference by 1.0 inch (25.4 mm) in length is permitted. If the length is more than the limit, replace the lead.  
(b) No more than 1.0 inch (25.4 mm) in length within any 3.0 inch (76.2 mm) of length is permitted. If the length is more than the limit, replace the lead.  
(c) Total damage of no more than 10 percent of the total length of the conduit is permitted. If the length is more than the limit, replace the lead.  
(d) No damage is permitted to the conduit under the strands. If you see damage under the strands, replace the lead.  
(e) Separation of the braze joint is not permitted. If you see separation of the braze joint, replace the lead.

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SUBTASK 74-21-01-210-021-F00

- (9) Examine the routing of the braided conduit for sharp bends.
- (a) Sharp bends are permitted, if the bend radius is not less than 6.0 inches (152.4 mm).
- 1) Re-position the lead to prevent sharp bends.

SUBTASK 74-21-01-210-022-F00

- (10) Examine the chafe guard of the ignition lead for cuts and tears.
- (a) Cuts and tears are not permitted, replace the ignition lead.

SUBTASK 74-21-01-210-023-F00

- (11) Examine the cooling air exit/outlet for blockage.
- (a) Blockage is not permitted, remove the blockage.

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

SUBTASK 74-21-01-420-001-F00

- (1) Do these steps to install the igniter end of the ignition lead to the igniter plug:
- (a) Remove the protective cover from the igniter plug.
- (b) Install a new outer silicone seal [1] on the ignition lead.
- (c) Install the ignition lead on the igniter plug.
- 1) Tighten the coupling nut to 260-290 pound-inches (29.4-32.8 Newton meters).
- (d) Install the two pieces of the cooling shroud around the igniter plug with the cooling shroud clamp.
- 1) Tighten the cooling shroud clamp to 33-37 pound-inches (3.8-4.1 Newton meters).

SUBTASK 74-21-01-420-002-F00

- (2) Do these steps to connect the ignition lead to the aft side of the ignition exciter:
- (a) Remove the protective cover from the ignition exciter.
- (b) Connect the ignition lead to the aft side of the ignition exciter.
- (c) Tighten the connector nut on the ignition lead to 140-160 pound-inches (16.0-18.0 Newton meters).

SUBTASK 74-21-01-410-001-F00

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

- (3) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

SUBTASK 74-21-01-860-020-F00

- (4) For engine 1, do this step:
- Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

SUBTASK 74-21-01-860-021-F00

- (5) For engine 2, do this step:

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Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

SUBTASK 74-21-01-860-005-F00

- (6) Remove the DO-NOT-OPERATE tags from the start lever and the engine start switch.

SUBTASK 74-21-01-700-002-F00

- (7) Do the tests that are listed for the ignition lead in the Power Plant Test Reference Table (TASK 71-00-00-800-811-F00).

————— **END OF TASK** —————

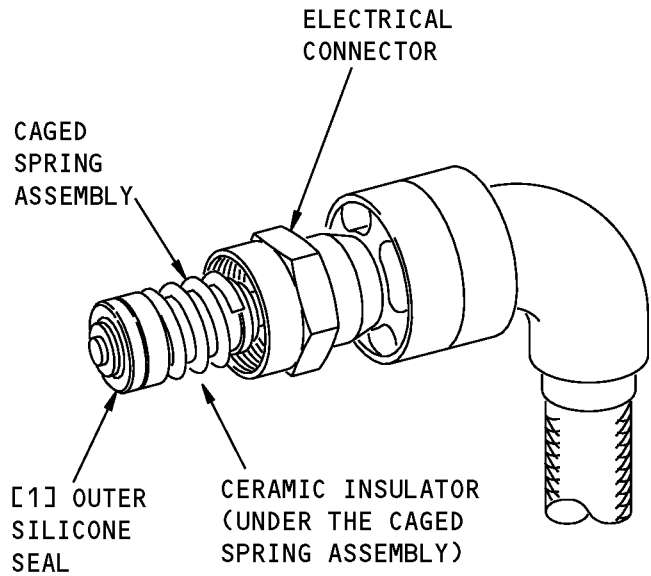
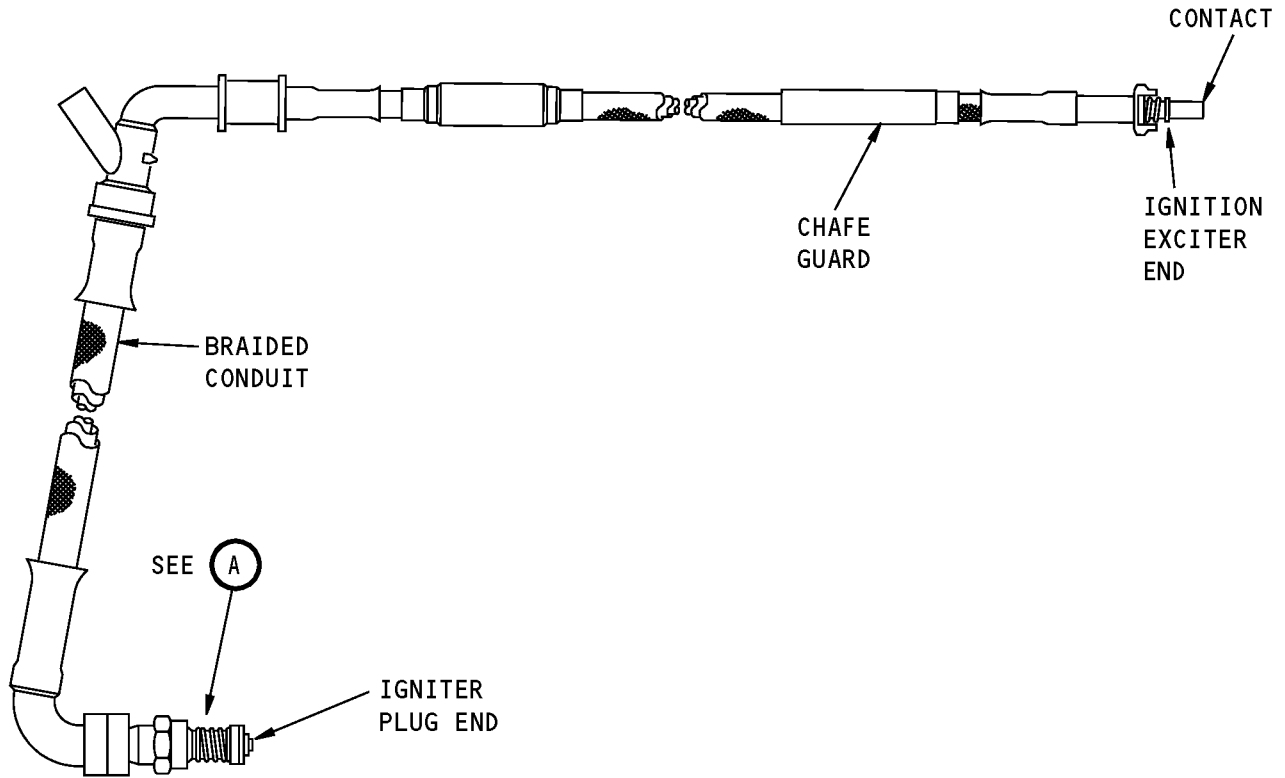
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(A)

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**Ignition Lead Inspection**  
**Figure 601/74-21-01-990-801-F00**

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## AIRCRAFT MAINTENANCE MANUAL

MAIN IGNITER PLUG - REMOVAL/INSTALLATION**1. General**

A. This procedure has two tasks:

- (1) The removal of the main igniter plug
- (2) The installation of the main igniter plug.

**TASK 74-21-02-000-801-F00****2. Main Igniter Plug Removal**

(Figure 401)

A. General

- (1) There are two main igniter plugs on each engine.
  - (a) They are found on the combustion case at the 4:00 (right ignition) and 8:00 (left ignition) o'clock positions.

B. References

Reference	Title
78-31-00-010-801-F00	Open the Thrust Reverser (Selection) (P/B 201)

C. Location Zones

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

D. Prepare for the Removal

SUBTASK 74-21-02-860-009-F00

(1) For engine 1, do this step:

Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

SUBTASK 74-21-02-860-010-F00

(2) For engine 2, do this step:

Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

SUBTASK 74-21-02-860-003-F00

(3) Make sure that the start lever is in the CUTOFF position and install a DO-NOT-OPERATE tag.

SUBTASK 74-21-02-860-004-F00

(4) Make sure that the engine start switch is off and install a DO-NOT-OPERATE tag.

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## AIRCRAFT MAINTENANCE MANUAL

SUBTASK 74-21-02-840-001-F00

**WARNING:** DO THESE SPECIFIED TASKS IN THE CORRECT SEQUENCE BEFORE YOU OPEN THE THRUST REVERSER: RETRACT THE LEADING EDGE, DO THE DEACTIVATION PROCEDURES FOR THE LEADING EDGE, AND THE THRUST REVERSER (FOR GROUND MAINTENANCE), AND OPEN THE FAN COWL PANELS. IF YOU DO NOT OBEY THE ABOVE SEQUENCE, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(5) Do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-801-F00.

## E. Main Igniter Plug Removal

SUBTASK 74-21-02-020-002-F00

**WARNING:** MAKE SURE THAT THE IGNITION EXCITERS ARE DE-ENERGIZED FOR A MINIMUM OF FIVE MINUTES BEFORE YOU START WORK ON THE IGNITION SYSTEM. THE IGNITION SYSTEM VOLTAGE IS DANGEROUSLY HIGH. DO NOT TOUCH THE ELECTRICAL CONTACTS. THE IGNITION EXCITERS CAN HAVE AN ELECTRICAL CHARGE EVEN WHEN NOT ENERGIZED. IF YOU DO NOT OBEY THIS PROCEDURE, INJURY TO PERSONS CAN OCCUR.

**CAUTION:** MAKE SURE THAT YOUR HANDS AND TOOLS ARE CLEAN. DO NOT TOUCH THE IGNITION LEAD OR THE MAIN IGNITER PLUG WITH DIRT OR GREASE ON HANDS OR TOOLS. DIRT AND GREASE WILL CAUSE DAMAGE TO THE IGNITION LEAD AND THE MAIN IGNITER PLUG.

(1) To release the high voltage from the ignition system, Stop (wait) for a minimum of five minutes.

SUBTASK 74-21-02-020-003-F00

(2) Do these steps to disconnect the ignition lead [4] from the main igniter plug [6]:

(a) Remove the cooling shroud clamp [2].

1) Remove the top and bottom cooling shroud [1].

**CAUTION:** MAKE SURE THAT THE HINGE CLAMP NEAREST TO THE MAIN IGNITER PLUG IS LOOSE OR REMOVED BEFORE YOU REMOVE THE IGNITION LEAD FROM THE MAIN IGNITER PLUG. THIS WILL PREVENT DAMAGE TO THE CERAMIC TIP OF THE MAIN IGNITER PLUG.

(b) Loosen the coupling nut [3] to disconnect the ignition lead [4] from the main igniter plug [6].

**CAUTION:** DO NOT TWIST OR BEND THE IGNITION LEAD. YOU CAN CAUSE DAMAGE TO THE CONDUIT AND THE INTERNAL WIRES.

(c) Pull the ignition lead [4] straight out until it is free from the main igniter plug [6].

(d) Remove the outer silicone seal [5].

1) Discard the outer silicone seal [5].

(e) Put a protective cover on the ignition lead [4].

SUBTASK 74-21-02-020-004-F00

(3) Do these steps to remove the main igniter plug [6]:

(a) Hold the igniter bushing.

(b) Remove the main igniter plug [6] from the igniter bushing.

(c) Make sure you remove the captive washer with the main igniter plug [6].

————— **END OF TASK** —————

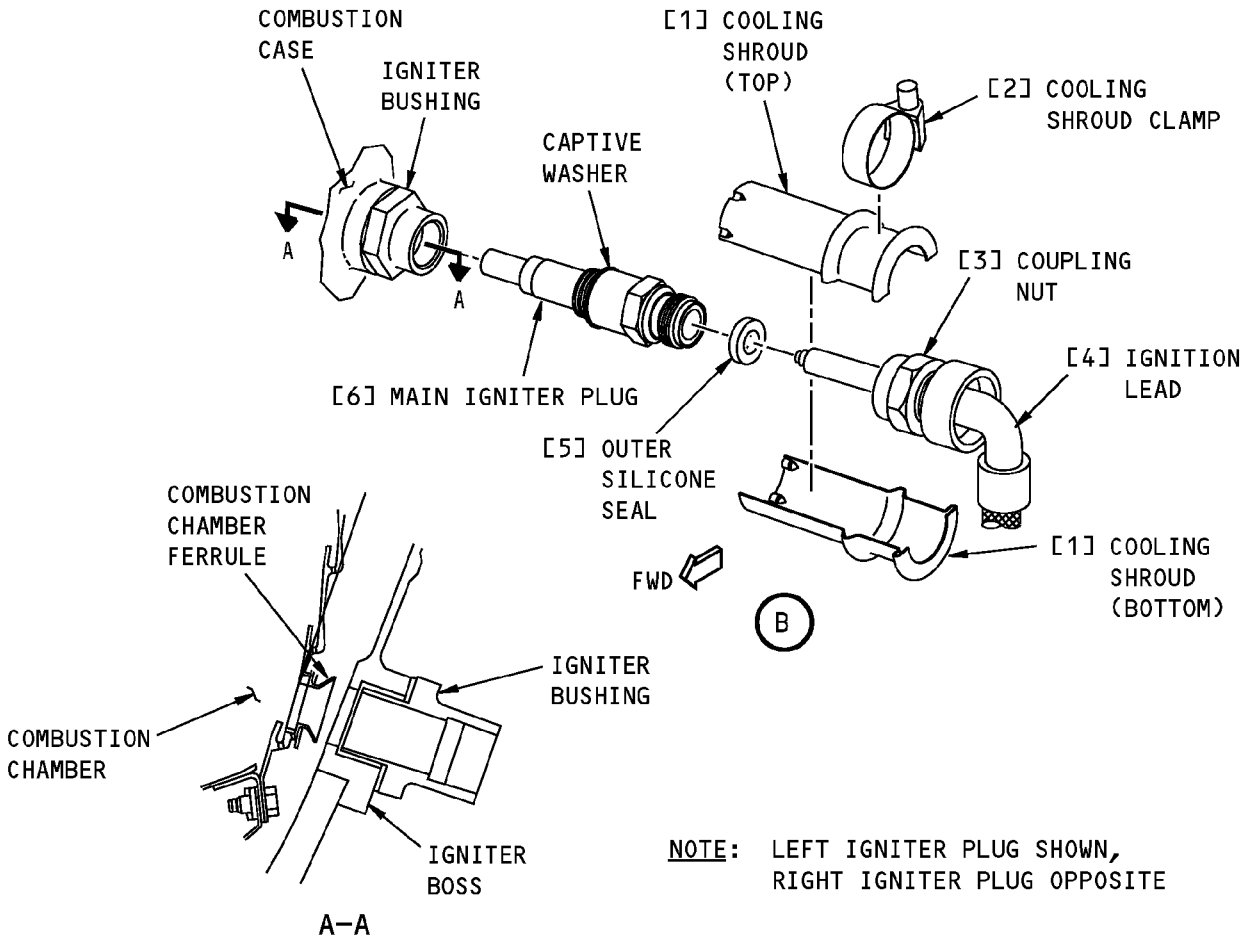
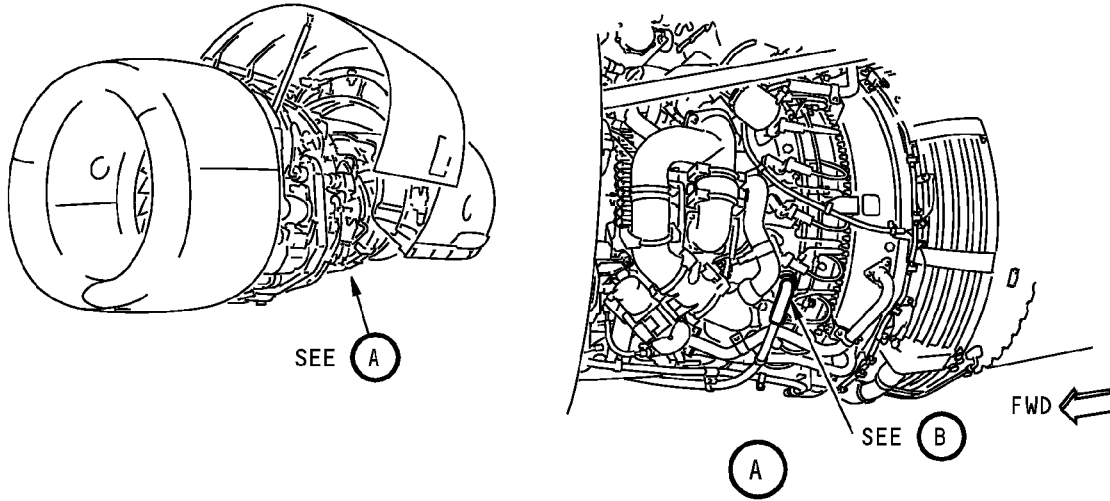
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**Main Igniter Plug Installation**  
**Figure 401/74-21-02-990-802-F00**

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## AIRCRAFT MAINTENANCE MANUAL

## TASK 74-21-02-400-801-F00

3. Main Igniter Plug Installation

(Figure 401)

## A. References

Reference	Title
71-00-00-800-811-F00	Power Plant Test Reference Table (P/B 501)
78-31-00-010-804-F00	Close the Thrust Reverser (Selection) (P/B 201)

## B. Consumable Materials

Reference	Description	Specification
D00600 [CP2162]	Oil - Penetrating - Liquid Wrench	
D00601 [CP2101]	Grease - Graphite, High Temperature	SAE AMS 2518

## C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
5	Outer silicone seal	74-21-02-01-045	HAP ALL
6	Igniter plug	74-21-02-01-014	HAP ALL

## D. Location Zones

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

## E. Procedure

SUBTASK 74-21-02-820-001-F00

**CAUTION:** ALIGN THE COMBUSTION CHAMBER FERRULE WITH THE IGNITER BOSS BEFORE YOU INSTALL THE MAIN IGNITER PLUG. IF NOT, DAMAGE TO THE MAIN IGNITER PLUG CAN OCCUR.

(1) Do these steps to align the combustion chamber ferrule with the igniter boss:

- (a) Put a plastic drift pin through the igniter bushing on the combustion case and the combustion chamber ferrule.

**NOTE:** The ferrule is on the combustion chamber in the engine. The combustion chamber ferrule floats on the combustion chamber. It can become out of line with the igniter bushing.

**NOTE:** The plastic drift should have a maximum diameter of 0.375 inch (9.52 mm).

- (b) Align the combustion chamber ferrule and the igniter bushing with the plastic drift pin.

**NOTE:** If the combustion chamber ferrule is difficult to move, apply Liquid Wrench oil, D00600 [CP2162], to it.

SUBTASK 74-21-02-420-002-F00

(2) Do these steps to install the main igniter plug [6]:

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**CAUTION:** MAKE SURE THAT YOUR HANDS AND TOOLS ARE CLEAN. DO NOT TOUCH THE IGNITION LEAD OR THE MAIN IGNITER PLUG WITH DIRT OR GREASE ON HANDS OR TOOLS. DIRT AND GREASE WILL CAUSE DAMAGE TO THE IGNITION LEAD AND THE MAIN IGNITER PLUG.

- (a) Apply a small amount of grease, D00601 [CP2101], to the threads on the combustion-case-side of the main igniter plug [6].
- (b) Install the main igniter plug [6] into the igniter bushing.
  - 1) Hold the igniter bushing.
  - 2) Tighten the main igniter plug [6] to 261-288 pound-inches (29.5-32.6 Newton meters).

SUBTASK 74-21-02-420-003-F00

- (3) Do these steps to connect the ignition lead [4] to the main igniter plug [6]:

**CAUTION:** DO NOT APPLY GREASE OR LUBRICANT TO THE THREADS OF THE CONNECTOR ON THE IGNITION LEAD. GREASE AND LUBRICANTS WILL CAUSE DAMAGE TO THE IGNITION LEAD AND THE MAIN IGNITER PLUG.

- (a) Remove the protective cover from the ignition lead [4].
- (b) Install the outer silicone seal [5].
- (c) Install the ignition lead [4] into the main igniter plug [6].
  - 1) Tighten the coupling nut [3] to 260-290 pound-inches (29.4-32.8 Newton meters).

SUBTASK 74-21-02-420-004-F00

- (4) Tighten the hinge clamp on the ignition lead nearest to the main igniter plug that was loosened or removed.

SUBTASK 74-21-02-420-005-F00

- (5) Do these steps to install the cooling shroud [1] to the ignition lead [4]:
  - (a) Install the top and bottom cooling shroud [1] on the flange of the ignition lead [4] with the cooling shroud clamp [2].
  - (b) Tighten the cooling shroud clamp [2] to 33-37 pound-inches (3.8-4.1 Newton meters).

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

SUBTASK 74-21-02-860-005-F00

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

- (1) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-010-804-F00.

SUBTASK 74-21-02-860-011-F00

- (2) For engine 1, do this step:

Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C00458	ENGINE 1 IGNITION RIGHT
A	3	C00153	ENGINE 1 IGNITION LEFT

SUBTASK 74-21-02-860-012-F00

- (3) For engine 2, do this step:

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## AIRCRAFT MAINTENANCE MANUAL

Remove the safety tags and close these circuit breakers:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00459	ENGINE 2 IGNITION RIGHT
D	6	C00151	ENGINE 2 IGNITION LEFT

SUBTASK 74-21-02-860-008-F00

(4) Remove the DO-NOT-OPERATE tags from the start lever and the engine start switch.

G. Main Igniter Plug Installation Test

SUBTASK 74-21-02-710-001-F00

(1) Do the tests that are listed for the igniter plug in the Power Plant Test Reference Table (TASK 71-00-00-800-811-F00)

————— **END OF TASK** —————

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## AIRCRAFT MAINTENANCE MANUAL

MAIN IGNITER PLUG - INSPECTION/CHECK**1. General**

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has one task to examine the main igniter plug.

**TASK 74-21-02-200-801-F00****2. Main Igniter Plug Inspection**

(Figure 601)

## A. General

- (1) This procedure is a scheduled maintenance task.
- (2) This task is to examine the condition of the main igniter plugs.
- (3) There are two igniter plugs on each engine.
- (4) You must remove the igniter plug to do this task.

## B. References

Reference	Title
74-21-02-000-801-F00	Main Igniter Plug Removal (P/B 401)
74-21-02-400-801-F00	Main Igniter Plug Installation (P/B 401)

## C. Location Zones

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

## D. Procedure

SUBTASK 74-21-02-020-001-F00

- (1) Do this task: Main Igniter Plug Removal, TASK 74-21-02-000-801-F00.

SUBTASK 74-21-02-900-001-F00

- (2) If you find damage that is not in the limits, replace the main igniter plug unless you are given other instructions. To replace it, do this task: Main Igniter Plug Installation, TASK 74-21-02-400-801-F00.

SUBTASK 74-21-02-220-001-F00

- (3) Examine the shell for worn areas where the shell touches the combustion chamber.
  - (a) Worn areas are permitted if not more than 0.030 inch (0.76 mm) in depth.
  - (b) Worn areas that go through the shell are not permitted.

SUBTASK 74-21-02-220-003-F00

- (4) Examine the shell for worn areas from internal arcing.
  - (a) Worn areas that go through the shell are not permitted.

SUBTASK 74-21-02-210-001-F00

- (5) Examine the tip for distortion.
  - (a) Distortion is not permitted.

SUBTASK 74-21-02-210-002-F00

- (6) Examine the tip for a missing or loose electrode.
  - (a) A missing or loose electrode is not permitted.

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SUBTASK 74-21-02-220-002-F00

- (7) Measure the depth of the electrode in relation to the tip.
- (a) The maximum depth of the electrode below the tip is 0.25 inch (6.3 mm).

SUBTASK 74-21-02-210-003-F00

- (8) Examine the well in the terminal end for dirt or grease.
- (a) Dirt or grease is not permitted.

SUBTASK 74-21-02-210-004-F00

- (9) Examine the ceramic material in the terminal end for cracked or missing pieces.
- (a) Cracked or missing pieces are not permitted.

SUBTASK 74-21-02-210-005-F00

- (10) Examine the button contact for arcing or erosion.
- (a) Arcing or erosion is not permitted.

SUBTASK 74-21-02-210-006-F00

- (11) Examine the ceramic material for carbon tracks.
- (a) Carbon tracks are not permitted.

SUBTASK 74-21-02-420-001-F00

- (12) Do this task: Main Igniter Plug Installation, TASK 74-21-02-400-801-F00.

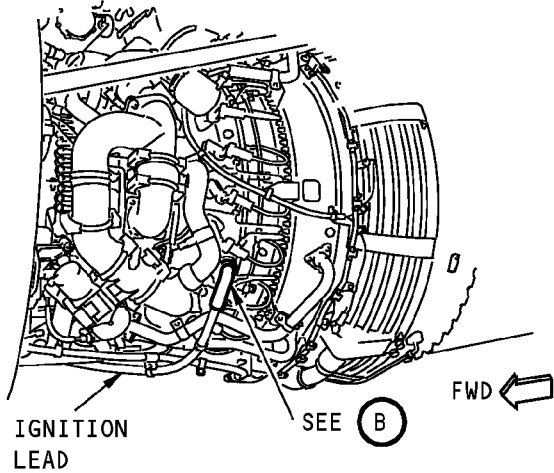
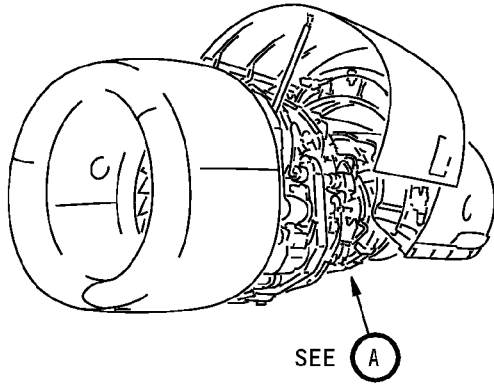
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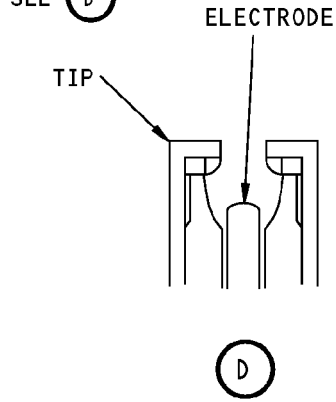
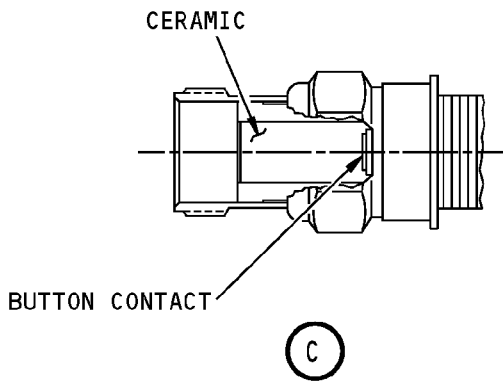
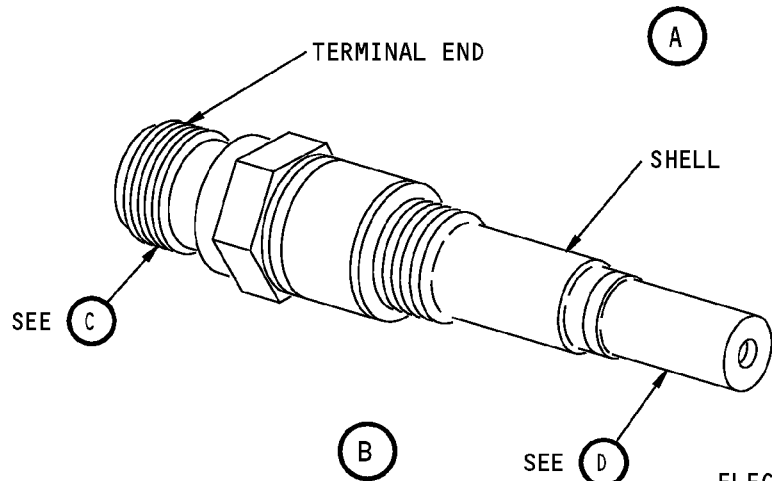
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**NOTE:** LEFT IGNITER PLUG IS SHOWN,  
RIGHT IGNITER PLUG IS OPPOSITE



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**Main Igniter Plug Inspection**  
**Figure 601/74-21-02-990-801-F00**

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