

# TO 1300i-2-27JG-30-2

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## TECHNICAL MANUAL

### JOB GUIDE

### ORGANIZATIONAL MAINTENANCE

## FLIGHT CONTROLS ELEVATOR (27-30-00 AND 27-31-10 THROUGH 27-31-13)

### USAF SERIES

### 300i AIRCRAFT

MCDONNELL DOUGLAS CORPORATION

MILITARY TRANSPORT AIRCRAFT

F33657-81-C-2108

FA8526-21-D-0001

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**T-2**

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INSERT LATEST CHANGED PAGES. DESTROY SUPERSEDED PAGES.

**LIST OF EFFECTIVE PAGES**

NOTE: The portion of the text affected by the changes is indicated by a vertical line in the outer margins of the page. Changes to illustrations are indicated by miniature pointing hands.

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TOTAL NUMBER OF PAGES IN THIS PUBLICATION IS 206 CONSISTING OF THE FOLLOWING:

Page No.	* Change No.	Page No.	* Change No.
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A. . . . .	0	2-166 blank . . . . .	0
B blank . . . . .	0	2-167 thru 2-168. . . . .	0
i . . . . .	0	2-169 blank . . . . .	0
ii blank . . . . .	0	2-170 thru 2-179. . . . .	0
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2-128 blank . . . . .	0		
2-129 thru 2-132. . . . .	0		
2-133 blank . . . . .	0		
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2-144 blank . . . . .	0		
2-145 thru 2-146. . . . .	0		
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2-148 thru 2-163. . . . .	0		
2-164 blank . . . . .	0		

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# INTRODUCTION

## **SCOPE.**

This job guide provides maintenance procedures for the removal, installation, and repair of elevator system components.

## **MODEL(S) COVERED.**

All

## **ABBREVIATIONS.**

The following is a list of non-standard abbreviations used throughout this manual:

EPC	Electrical Power Center
PLCS	Places
SDS	Safety Data Sheet

## **CHANGE REQUEST.**

Recommended changes to this manual shall be submitted in accordance with TO 00-5-1.

## **300i TO INFORMATION.**

General 300i TO/eTO, TO Manager, Supplement and finalized Recommended Change (RC) information can be found in the Enhanced Technical Information Management System (ETIMS), System of Record.

## ➤ LIST OF TIME COMPLIANCE TECHNICAL ORDERS (TCTO).

This list of TCTO's contains all current TCTO's that affect the technical content of text or illustrations found in this manual.

TCTO NUMBER	TITLE	TCTO DATE	APPLICABILITY



## SECTION 1

### GENERAL INFORMATION (27-30-00)

#### 1-1. GENERAL INFORMATION.

1-2. This section provides general information that is essential for ensuring complete and safe maintenance procedures contained throughout this job guide manual.

1-3. When operating an auxiliary motor pump below 15 degrees Fahrenheit a 30 seconds on/30 seconds off duty cycle for a maximum 10 cycles may be required to reach full hydraulic pressure of 3800 to 4200 psi. Allow ten minutes for cooling and repeat cycles.

1-4. Hydraulic system No. 2 may require 45 seconds before reaching full hydraulic pressure of 3800 to 4200 psi.

1-5. Flight control surfaces are to be cleared prior to turning off hydraulic auxiliary pumps from the loadmaster control panels. Flight control surface movement may occur.

1-6. When performing rig checks or when rigging elevator cables 5, 6, 7, and 8 located along horizontal rear spar, rig pins shall only be installed in the left hand inboard, left hand outboard, and right hand outboard control cable sector assemblies. A fourth rig pin in the right hand inboard control cable sector shall not be installed. It will result in erroneous cable tension readings.

1-7. To avoid erroneous cable tension readings perform all cable rig load checks at aircraft stable temperature throughout condition.

1-8. To achieve aircraft stable temperature throughout it is necessary to locate aircraft in hangar. Rig load checks to be performed after a time period of at least three hours from initial placement of the aircraft in the hangar (this will allow fuselage external and internal temperatures to equalize as heat or cold soak condition dissipates). For rig load limits, refer to para 1-11.

1-9. An alternate method is to perform rig load checks between the time period of three hours after sunset and one hour after sunrise (this will allow fuselage external and internal temperatures to equalize as heat or cold soak condition dissipates). For rig load limits, refer to para 1-11.

1-10. All adhesive sealants, sealants, and compounds used in this manual are listed with a primary part number and/or primary specification number. Any suitable substitutes and/or interchangeable adhesive sealants, sealants, and compounds may be used unless otherwise specified. Suitable substitutes and/or interchangeable adhesive sealants, sealants, and compounds are listed in the system peculiar corrosion control manual (Refer to TO 1300i-23, Chapter 1, Section III).

1-11. ELEVATOR RIG LOAD VS. TEMPERATURE  
CHART.

NOTE

- This chart is only valid for aircraft that have reached a uniform temperature throughout.
- Loads at 135° F represent **limit rig load** for design.
- The cable tension requirement per **Elevator Rig Load vs Temperature Chart, 1/8"-75 lb Rig @ 70° F** shall apply for elevator cable runs 5, 6, 7, and 8.
- Minimum Allow Service load is the minimum cable loads acceptable before any tensioning of the cable is required. When tensioning is required, adjust cable tension until the final rig load is between the maximum and minimum initial rig load.

Elevator Rig Load vs Temperature Chart 1/8"-75 lb Rig @ 70° F.			
TEMP (° F)	MIN INITIAL (lbf)	MAX INITIAL (lbf)	MIN ALLOW SERVICE (lbf)
135	105	116	95
130	102	113	92
125	100	110	90
120	98	107	88
115	95	105	86
110	93	102	83
105	90	99	81

**Elevator Rig Load vs Temperature Chart 1/8"-75 lb Rig @  
70° F.**

<b>TEMP (° F)</b>	<b>MIN INITIAL (lbf)</b>	<b>MAX INITIAL (lbf)</b>	<b>MIN ALLOW SERVICE (lbf)</b>
100	88	97	79
95	86	94	77
90	84	92	75
85	81	90	73
80	79	87	71
75	77	85	69
70	75	82	67
65	73	80	66
60	71	78	64
55	69	76	62
50	67	74	60
45	65	71	58
40	63	69	57
35	61	67	55
30	59	65	53
25	57	63	52
20	56	61	50
15	54	59	48
10	52	57	47
5	50	55	45
0	49	53	44
-5	47	52	42
-10	45	50	41
-15	44	48	39
-20	42	46	38
-25	40	44	36
-30	39	43	35
-35	37	41	33
-40	36	39	32
-45	34	38	31
-50	33	36	29
-55	31	34	28
-60	30	33	27

1-12. Rig pins are used extensively during flight control rigging procedures. To ensure accurate alignment of control system and repeatability of the rigging checks, whenever rig pins are used, differentially adjust the applicable turnbuckle so that the rig pin can be freely removed and inserted. Under no circumstances, should the rig pin holes be forced into alignment by stretching the cables. Rig pin hole shall not spring out of alignment when pin is removed. When a rig pin cannot be freely removed or inserted, the applicable turnbuckle shall be adjusted within tolerances to eliminate any required force.

1-13. To complete the rigging procedures, the system shall be cycled 10-20 times, and cable tensions rechecked and adjusted when necessary.

1-14. For all non regulated cable systems, certified tensiometers shall be used for measuring cable tensions. For initial cable rigging the rig load tolerances for all temperatures are as follows:

70° F RIG LOAD (lbs)	TOLERANCES (± lbs)
0 to 19	+4, -0
20 to 49	+5, -0
50 and over	+10 %, -0 %

1-15. The following tolerances shall be used for all cable tension inspections that are made after the above specified inspection:

70° F RIG LOAD (lbs)	TOLERANCES (± lbs)
0 to 19	+4, -3
20 to 49	+5, -4
50 and over	+10%, -10%

1-16. CABLE TENSION REGULATOR  
COMPENSATION.

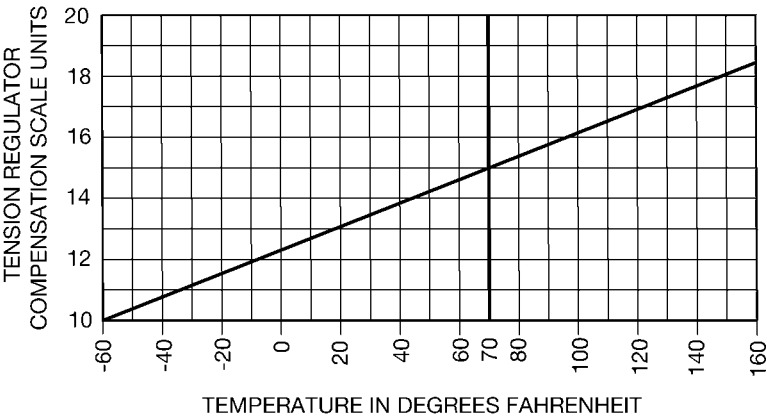
NOTE

- Aircraft shall be in a stable temperature environment for at least three hours prior to and throughout this cable tension adjustment.

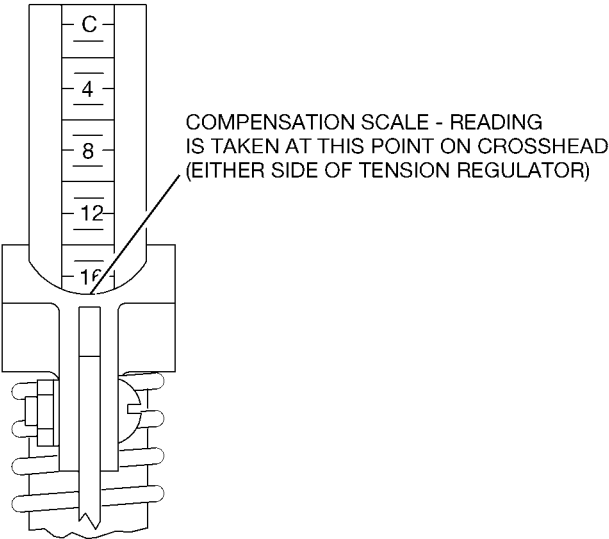
**NOTE - Continued**

- Tension regulator compensation scale unit versus temperature chart is valid only on aircrafts that have reached a uniform temperature throughout. When the cable tensions must be measured outside in free air, they shall be measured when the airplane structure has stabilized at air temperature between the time period of three hours after sunset and one hour after sunrise (this will allow the fuselage heat and cold soak condition to dissipate).

1-17. Elevator cable runs 3 and 4 tension is maintained by tension regulator located in the elevator artificial load feel assembly. Compensation scale readings may be taken from either side of the tension regulator at the crosshead alignment point as noted. The compensation scale reading shall be within  $\pm 1/2$  the chart indicated value for the average temperature taken.



NOTE: TOLERANCE IS  $\pm 1/2$  COMPENSATION SCALE UNIT.



ICN-88277-G2730001-004-01

**1-18. GENERAL WARNINGS, CAUTIONS, AND NOTES.****WARNING**

- All flight control surfaces and thrust reversers shall be clear of personnel and equipment prior to applying or removing hydraulic power. Failure to comply may cause injury to personnel or damage to aircraft.
- The use of personal protective equipment is mandatory to perform this procedure. The applicable Safety Data Sheet (SDS) will identify special protection information. Failure to comply may cause injury to personnel.

**CAUTION**

Air in a hydraulic system can cause numerous malfunctions, from a total system failure to a minor indication problem. If you suspect air has been inducted into a system by removing a hydraulic component or a line, refer to the hydraulic system bleed procedure, (12-29-08). Failure to comply may cause damage to aircraft.





## SECTION 2

# PILOT ELEVATOR ARTIFICIAL FEEL CONTROL ASSEMBLY (27-31-10)

### MASTER INPUT CONDITIONS:

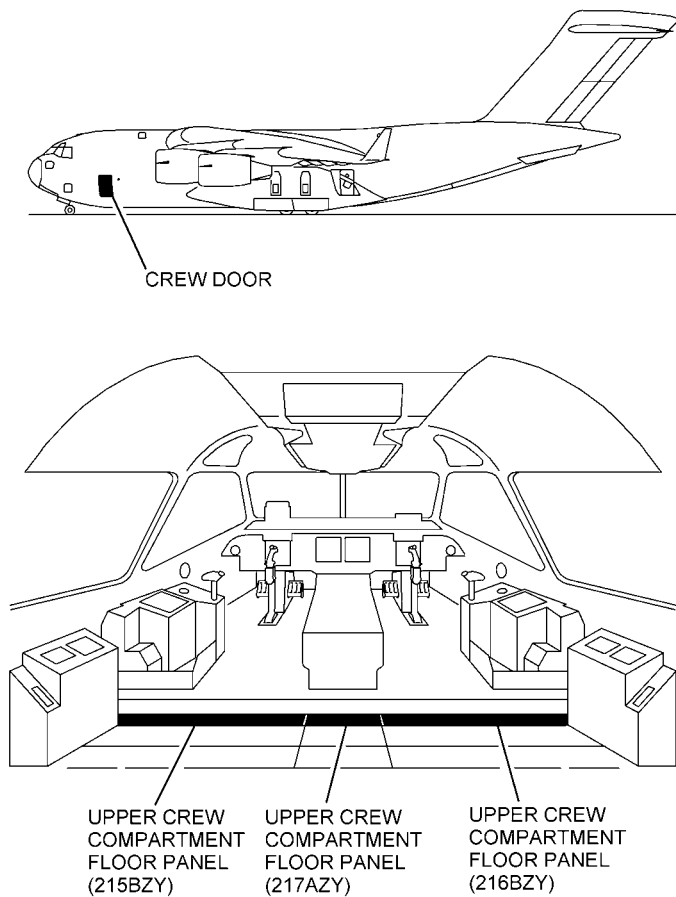
#### Reference designators:

2731AA001                      Pilot Elevator Artificial Feel Control Assembly

#### Applicable functions:

- 2 Removal.
- 3 Installation.
- 4 Repair.

Access data:



ICN-88277-G2731091-004-01

# PILOT ELEVATOR ARTIFICIAL FEEL CONTROL ASSEMBLY REMOVAL (27-31-10-2)

## FUNCTIONAL INPUT CONDITIONS:

### Applicability:

All

### Task

All

### Additional information:

This procedure consists of the following tasks:

- 2-1. Preparation.
- 2-2. Removal.

### Additional data:

TO 1300i-2-53JG-10-1

### Task

2-1

### Personnel recommended:

One

Two

Person (A) performs task.

Person (B) assists person (A).

### Task

2-2

2-1

Safety conditions:

Task

**WARNING**

The horizontal pressure panel access cover(s) are removed in these tasks to gain access to the cavity above. When rudder, aileron, and elevator aircraft ground safety locks are not installed, care shall be taken working around rudder, aileron, and elevator cables, pulleys, and linkage due to possible moving parts. Failure to comply may cause injury to personnel.

All

**Support equipment:**

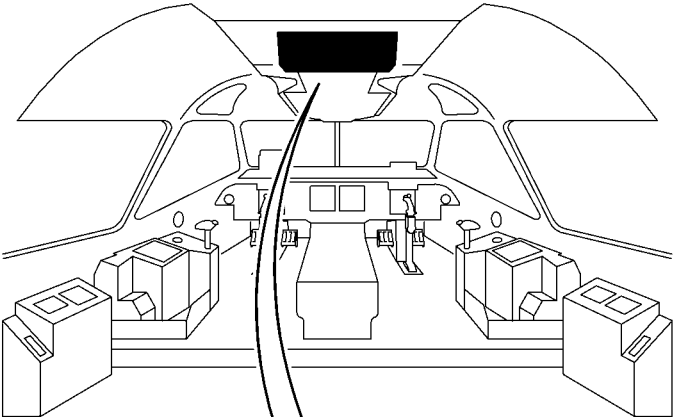
<u>Nomenclature</u>	<u>PN</u>	<u>Specification</u>	<u>Qty</u>	<u>Task</u>
Kit, Rig Pin	17G140015-1	--	--	--
Assembly, Clamp	17G140015-7	--	1	2-1
Pin 5-10, Rig	17G140015-17	--	1	2-1
Lock, Control Mechanism	17G140030-1	--	1	2-1

**Supplies:**

<u>Nomenclature</u>	<u>PN</u>	<u>Specification</u>	<u>Qty</u>	<u>Task</u>
Tag, Warning	--	--	5	2-1

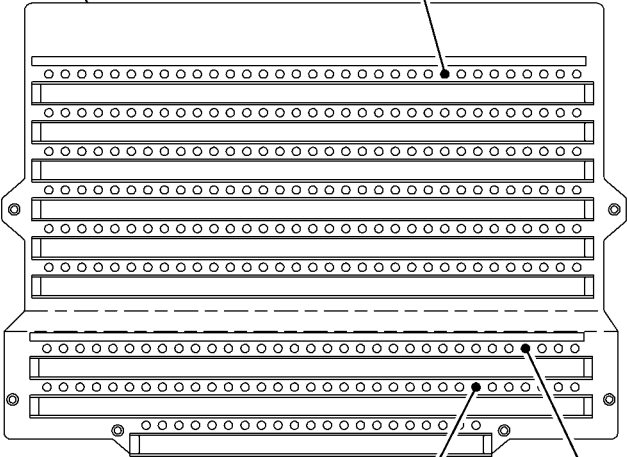
## 2-1. PREPARATION.

1. Review "Section 1 (General Information)" of this TO for system general warnings, cautions, and notes.
2. Review task "Functional Input Conditions" page for task specific safety conditions.
3. (A) Open **RATIO CHANGER ACTUATOR PITCH** circuit breaker on overhead circuit breaker panel, row **A**, column **25**, and attach warning tag.
4. (A) Open **FCC 1** circuit breaker on overhead circuit breaker panel, row **H**, column **27**, and attach warning tag.
5. (A) Open **FCC 4** circuit breaker on overhead circuit breaker panel, row **G**, column **30**, and attach warning tag.



OVERHEAD CIRCUIT  
BREAKER PANEL  
(REF)

3. RATIO CHANGER  
ACTUATOR PITCH



4. FCC 1

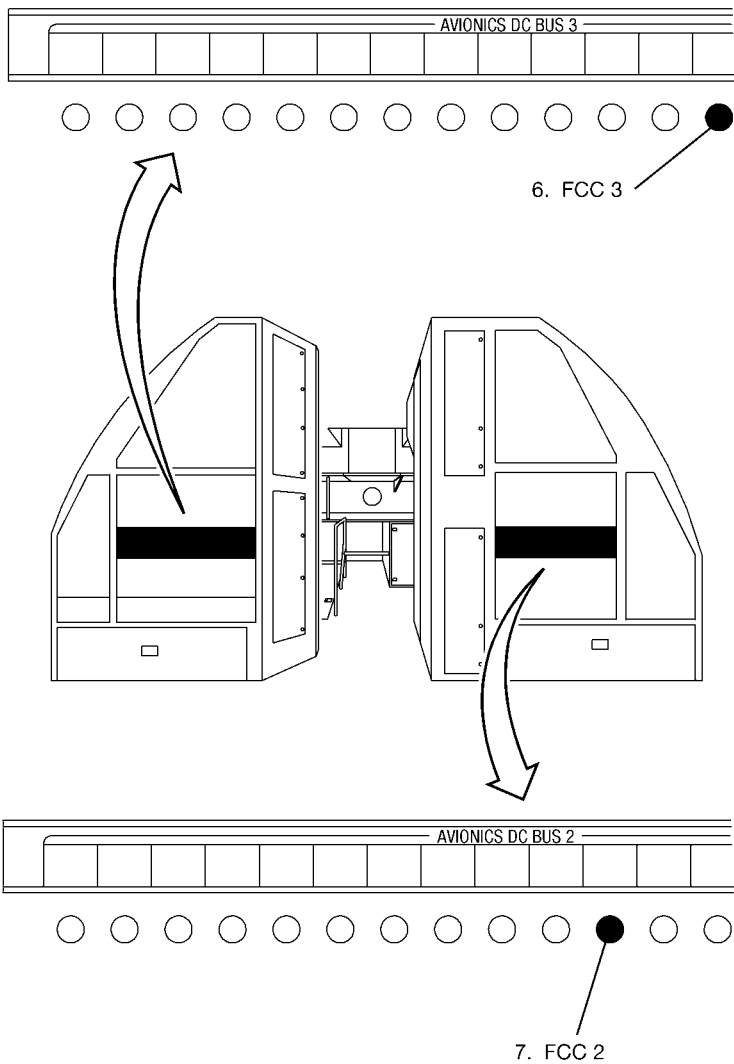
5. FCC 4

ICN-88277-G2731092-004-01

## **TO 1300i-2-27JG-30-2**

6. (A) Open **FCC 2** circuit breaker on Electrical Power Center (EPC), row **T**, column **50**, and attach warning tag.
7. (A) Open **FCC 3** circuit breaker on EPC, row **T**, column **24**, and attach warning tag.

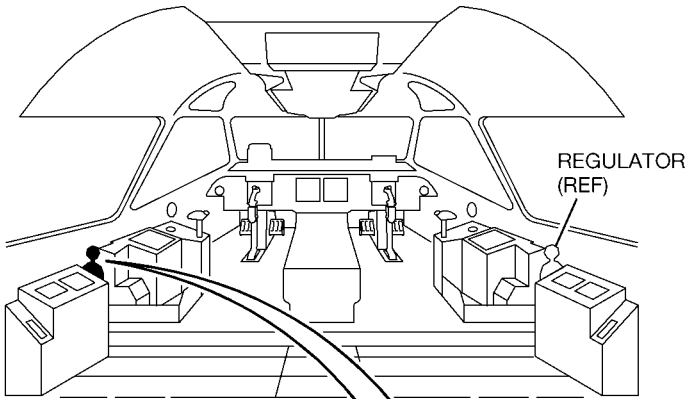




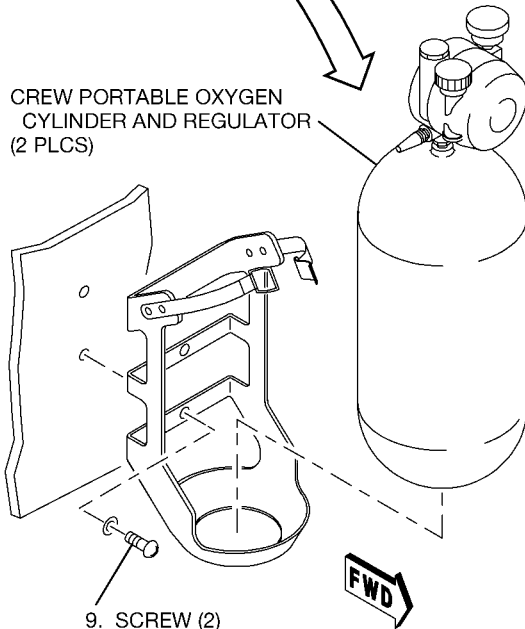
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## **TO 1300i-2-27JG-30-2**

8. (A) Unlatch and remove crew portable oxygen cylinders and regulators.
9. (A) Remove screws, washers, and brackets.



8. CREW PORTABLE OXYGEN  
CYLINDER AND REGULATOR  
(2 PLCS)

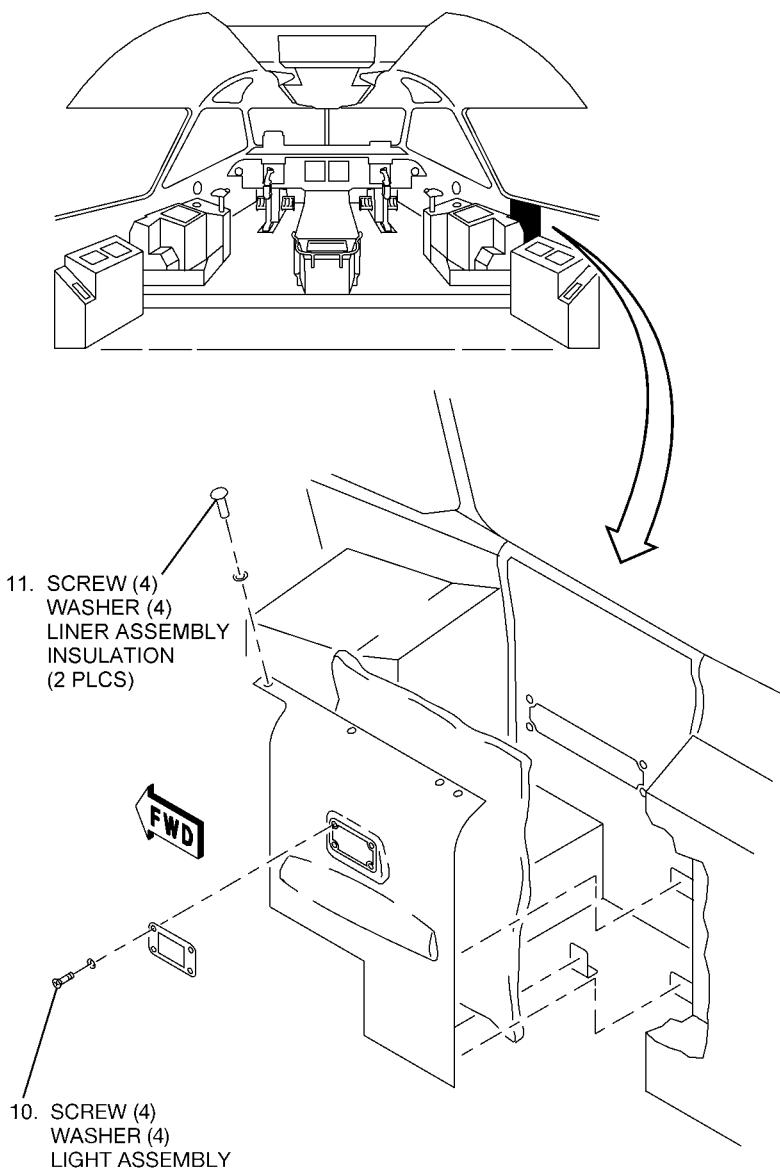


9. SCREW (2)  
WASHER (2)  
BRACKET  
(2 PLCS)

ICN-88277-G2731094-005-01

## **TO 1300i-2-27JG-30-2**

10. (A) Remove screws, washers, and light assembly.
11. (A) Remove screws, washers, liner assemblies (213FZM and 214FZM), and insulation.



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12. (A) Remove screws from upper crew compartment floor panel (215BZY).

**NOTE**

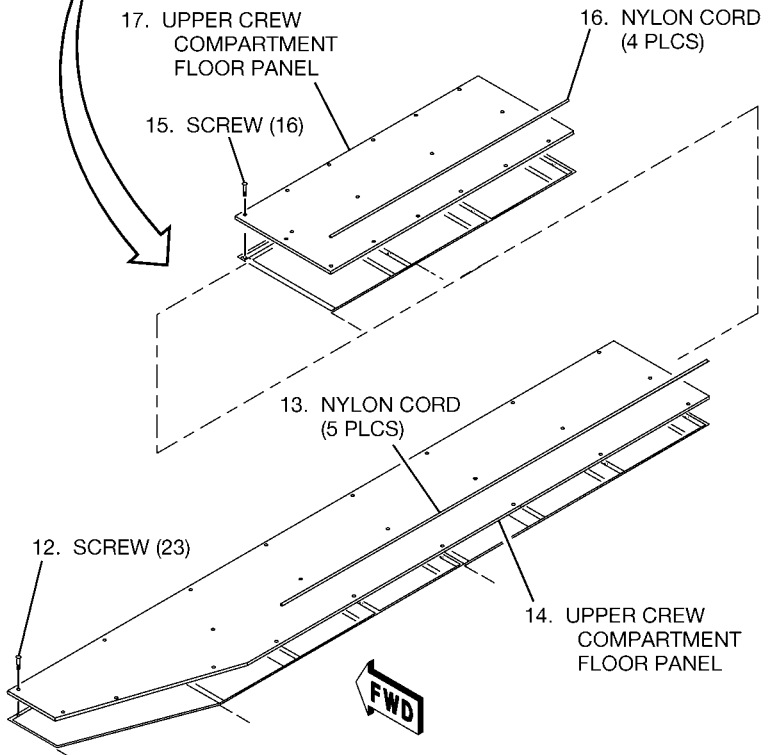
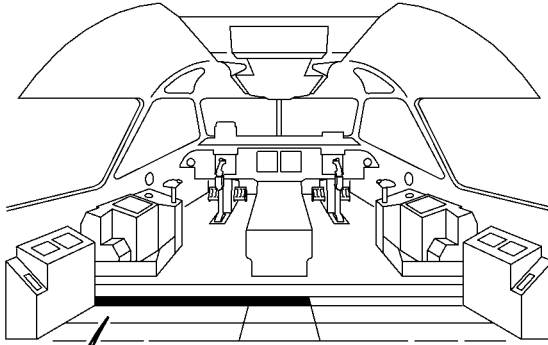
Nylon cords are being eliminated by attrition, not all floor panels will have nylon cords.

13. (A) Remove and discard nylon cords.
14. (A) Remove upper crew compartment floor panel (215BZY).
15. (A) Remove screws from upper crew compartment floor panel (217AZY).

**NOTE**

Nylon cords are being eliminated by attrition, not all floor panels will have nylon cords.

16. (A) Remove and discard nylon cords.
17. (A) Remove upper crew compartment floor panel (217AZY).



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## **TO 1300i-2-27JG-30-2**

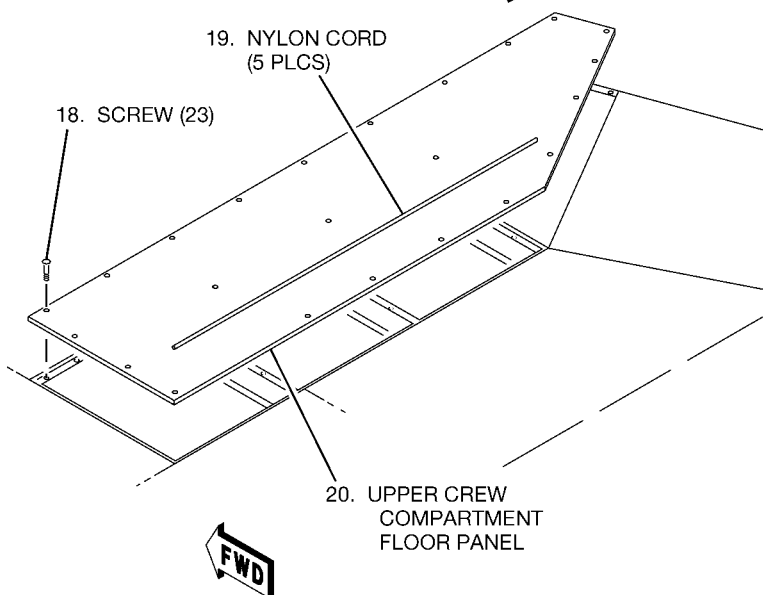
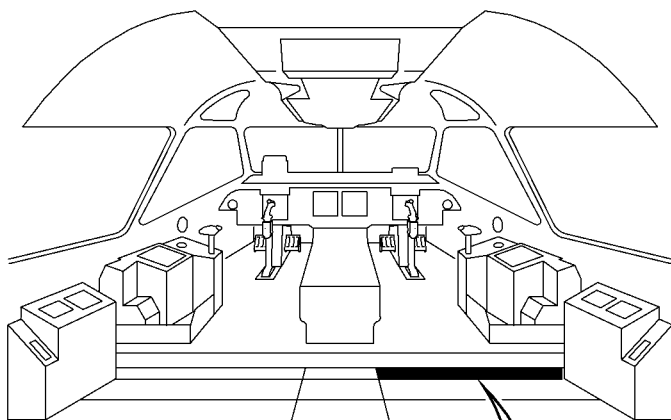
18. (A) Remove screws from upper crew compartment floor panel (216BZY).

### **NOTE**

Nylon cords are being eliminated by attrition, not all floor panels will have nylon cords.

19. (A) Remove and discard nylon cords.
20. (A) Remove upper crew compartment floor panel (216BZY).





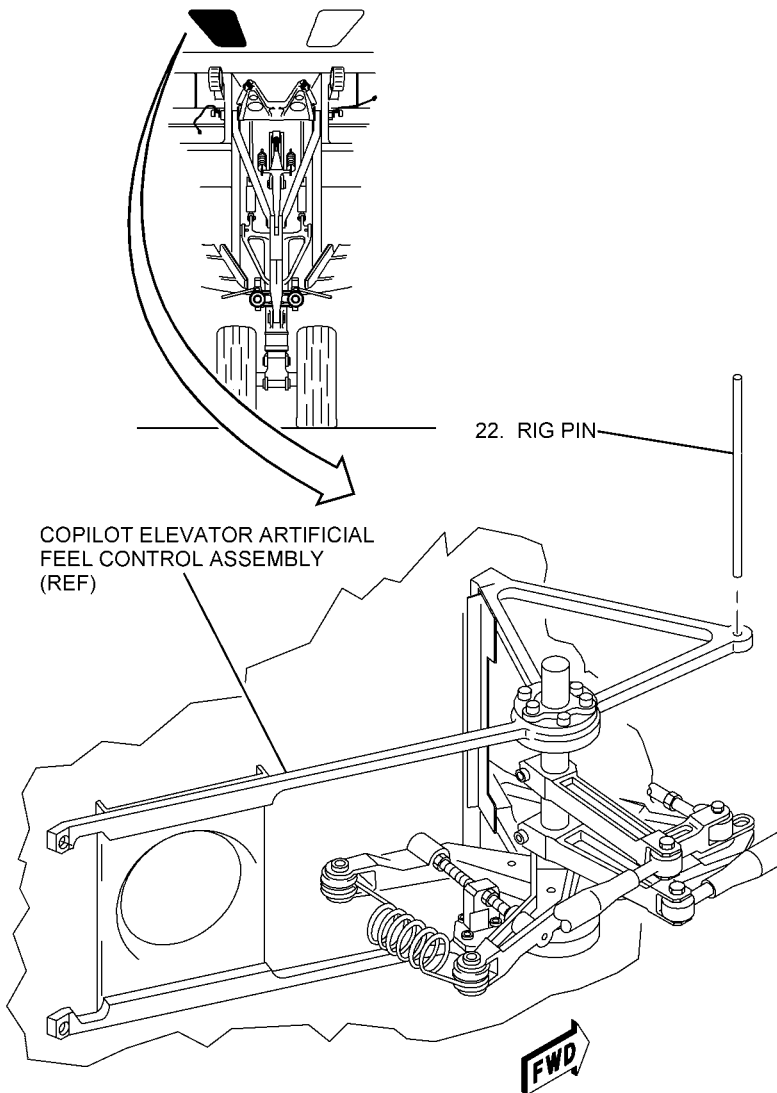
ICN-88277-G2731096-003-01

**TO 1300i-2-27JG-30-2**

21. Remove horizontal pressure panel access cover assemblies (53-12-10).

PANEL NO.	PANEL REF DES
112AZP	5312CA001
112BZP	5312CA002

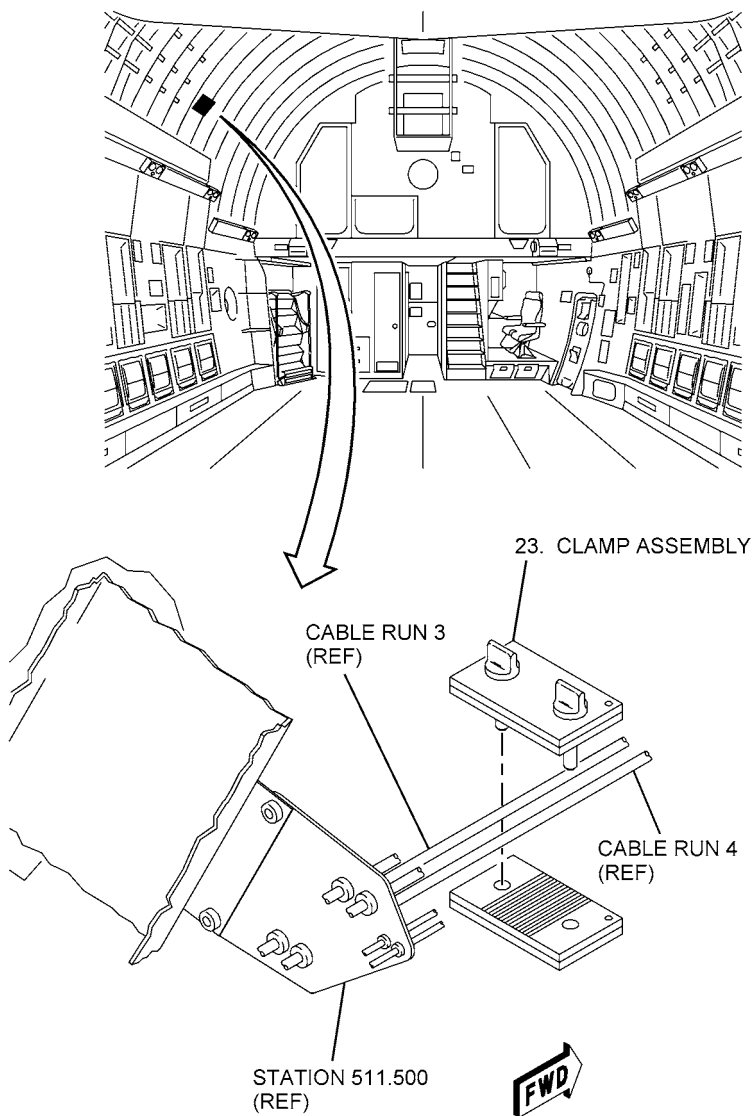
22. (A) Install rig pin 5-10 in copilot elevator artificial feel control assembly.



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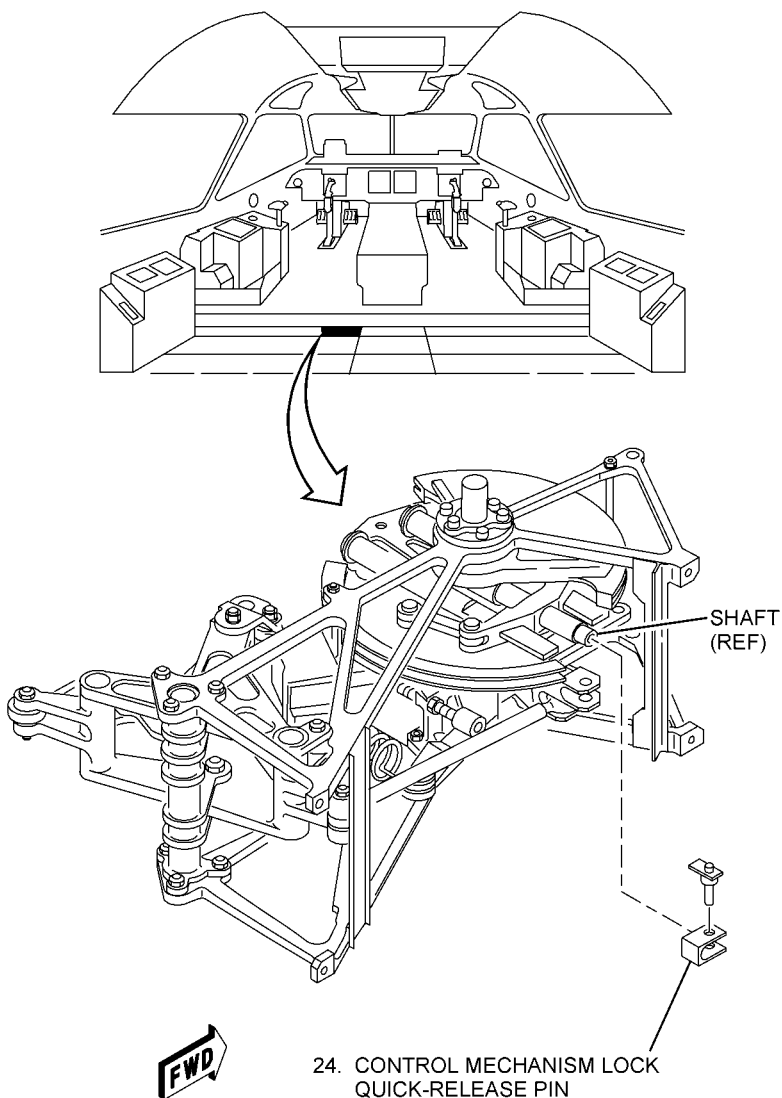
## **TO 1300i-2-27JG-30-2**

23. (A) Install clamp assembly on cable runs 3 and 4 forward of station 511.500.



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24. (A,B) Compress and hold non-intersecting halves of tension regulator and slide control mechanism lock over shaft and install quick-release pin.

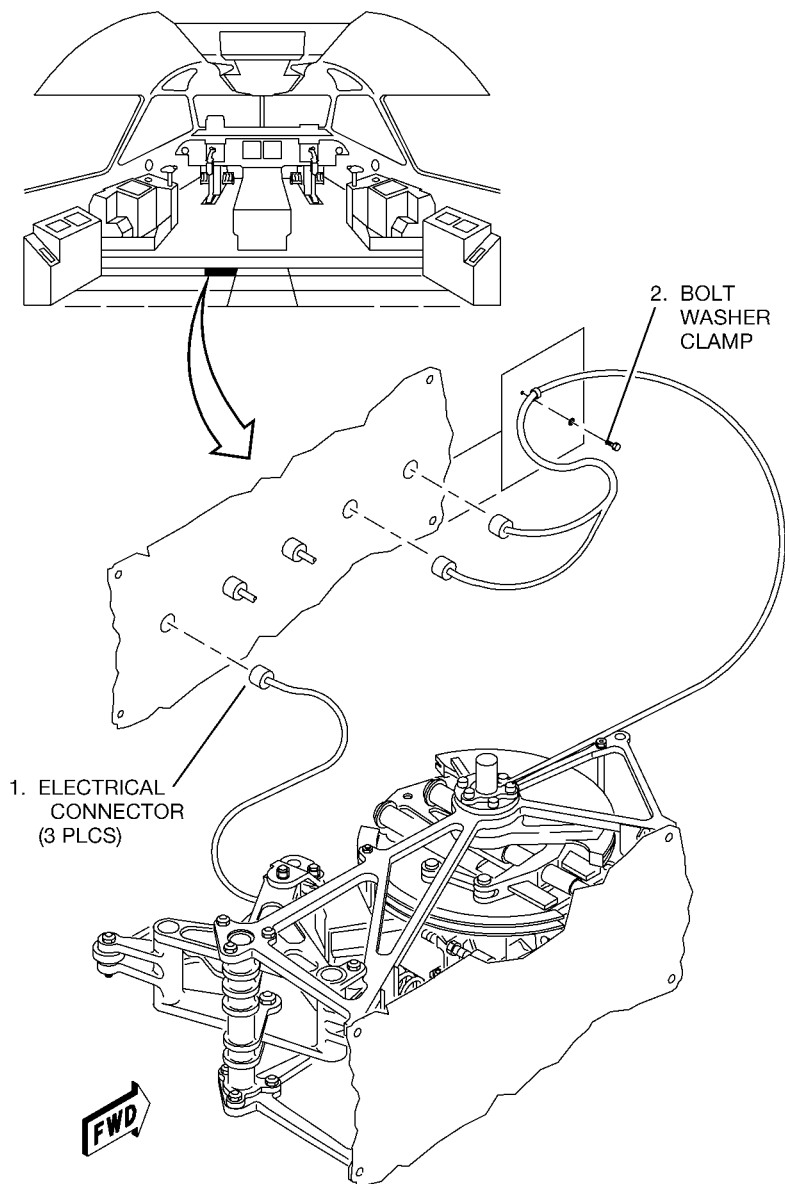


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## **2-2. REMOVAL.**

1. Disconnect electrical connectors.
2. Remove bolt, washer, and clamp.

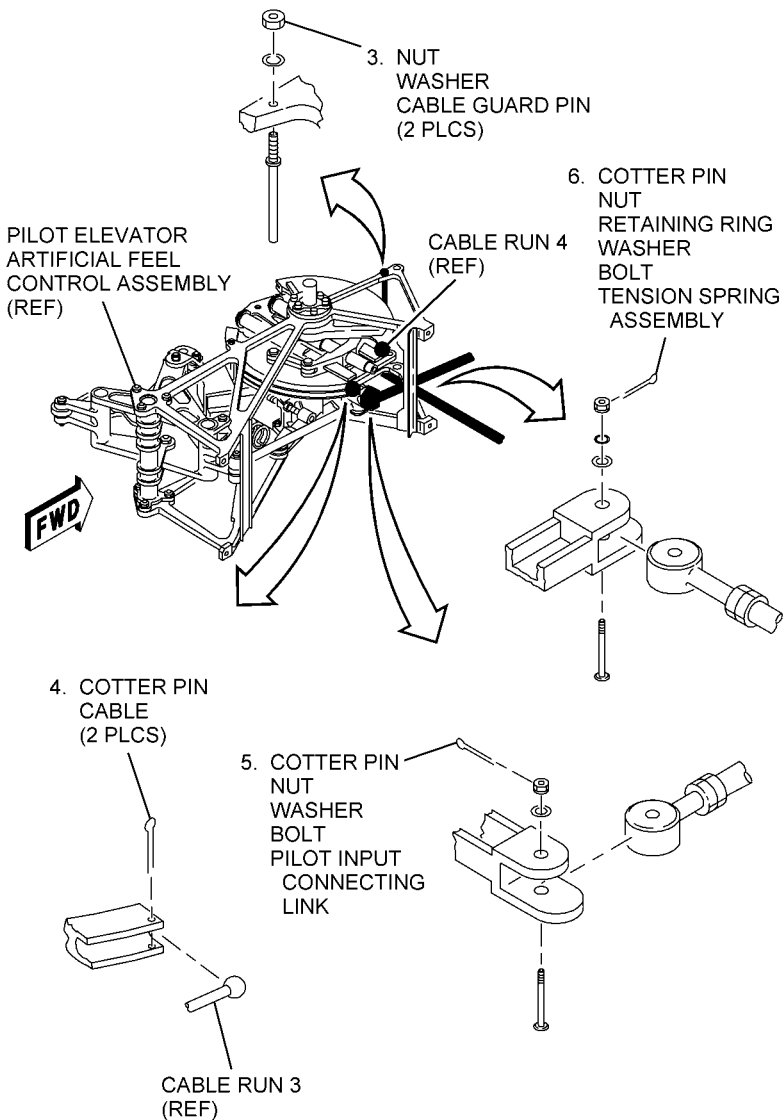




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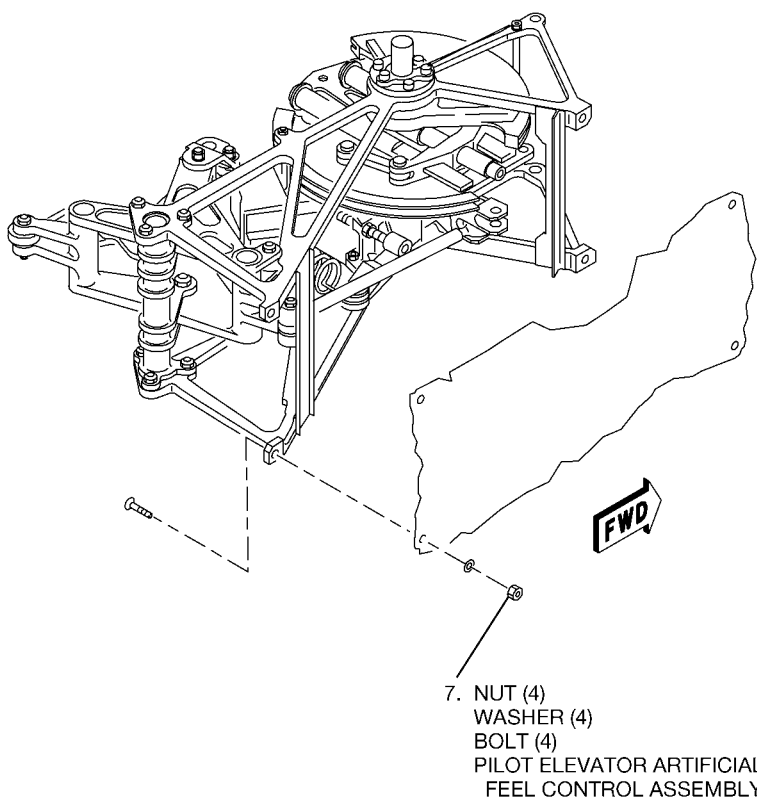
## **TO 1300i-2-27JG-30-2**

3. Remove nuts, washers, and cable guard pins.
4. Remove cotter pins and disconnect cable runs 3 and 4 from pilot elevator artificial feel control assembly.
5. Remove cotter pin, nut, washer, bolt, and pilot input connecting link.
6. Remove cotter pin, nut, retaining ring, washer, bolt, and tension spring assembly.



ICN-88277-G2731100-006-01

7. Remove nuts, washers, bolts, and pilot elevator artificial feel control assembly.



ICN-88277-G2731101-003-01



# PILOT ELEVATOR ARTIFICIAL FEEL CONTROL ASSEMBLY INSTALLATION (27-31-10-3)

## FUNCTIONAL INPUT CONDITIONS:

### Applicability:

All

### Task

All

### Additional information:

This procedure consists of the following tasks:

- 3-1. Installation.
- 3-2. Follow-on maintenance.

### Additional data:

TO 1300i-2-27JG-30-1  
 TO 1300i-2-53JG-10-1  
 TO 1300i-2-53JG-20-1  
 TO 1300i-23

### Task

All  
 3-2  
 3-2  
 3-1

### Personnel recommended:

One  
 Two  
 Person (A) performs task.  
 Person (B) assists person (A).

### Task

3-2  
 3-1

Safety conditions:

Task

**WARNING**

The horizontal pressure panel access cover(s) are removed in these tasks to gain access to the cavity above. When rudder, aileron, and elevator aircraft ground safety locks are not installed, care shall be taken working around rudder, aileron, and elevator cables, pulleys, and linkage due to possible moving parts. Failure to comply may cause injury to personnel.

All



### Support equipment:

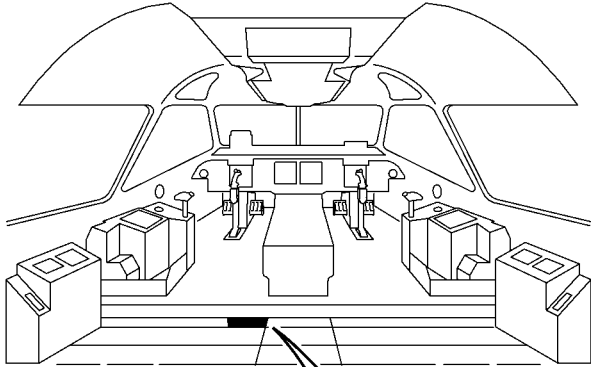
<u>Nomenclature</u>	<u>PN</u>	<u>Specification</u>	<u>Qty</u>	<u>Task</u>
NA	--	--	--	--

### Supplies:

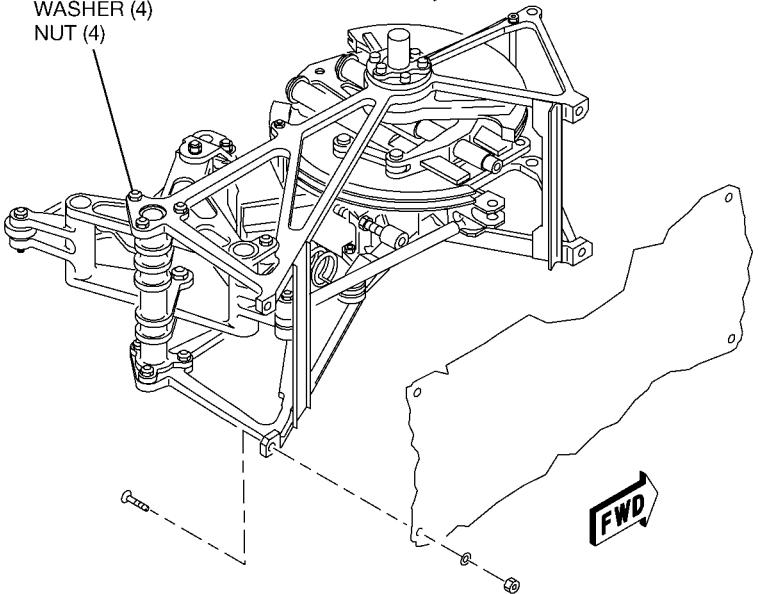
<u>Nomenclature</u>	<u>PN</u>	<u>Specification</u>	<u>Qty</u>	<u>Task</u>
Pin, Cotter	MS24665-151	--	2	3-1
Pin, Cotter	MS24665-153	--	2	3-1
Sealant	PR-1436G	AMS 3265	AR	3-1
Sealant	PR-1775	MIL-PRF-81733	AR	3-1

## **3-1. INSTALLATION.**

1. Review "Section 1 (General Information)" of this TO for system general warnings, cautions, and notes.
2. Review task "Functional Input Conditions" page for task specific safety conditions.
3. Perform faying surface sealing using MIL-PRF-81733 (TO 1300i-23, Chapter 1, Section III).
4. Perform fastener head sealing using AMS 3265 (TO 1300i-23, Chapter 1, Section III).
5. (A) Position pilot elevator artificial feel control assembly and install bolts, washers, and nuts.



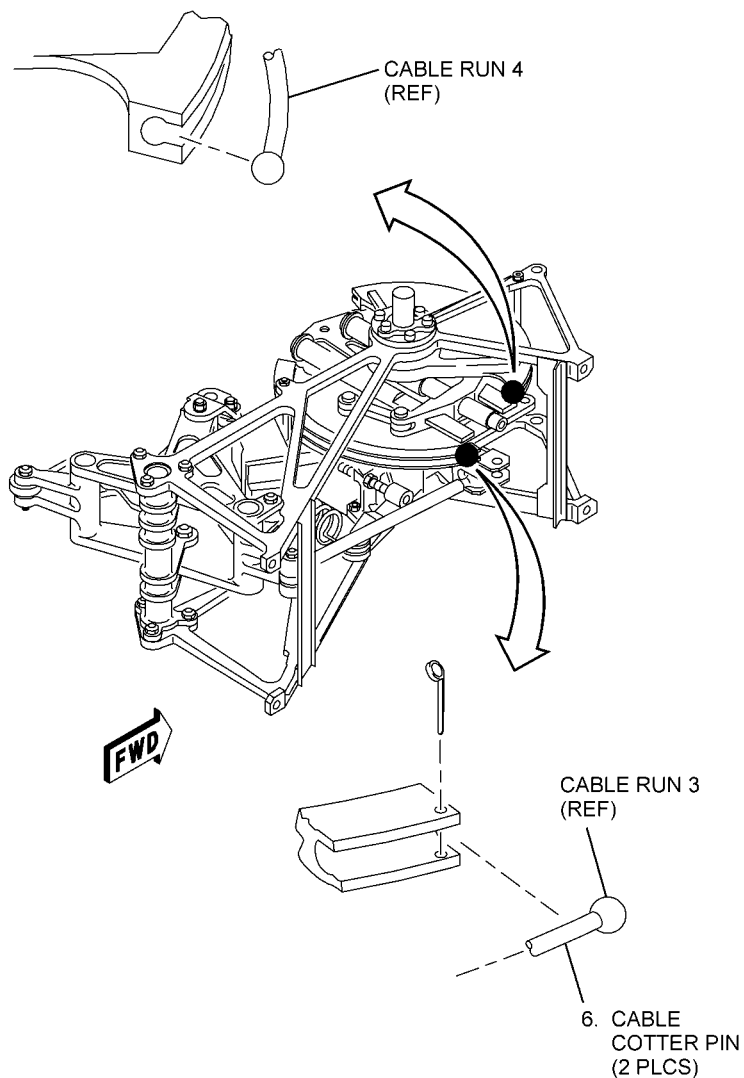
5. PILOT ELEVATOR ARTIFICIAL  
FEEL CONTROL ASSEMBLY  
BOLT (4)  
WASHER (4)  
NUT (4)



ICN-88277-G2731102-003-01

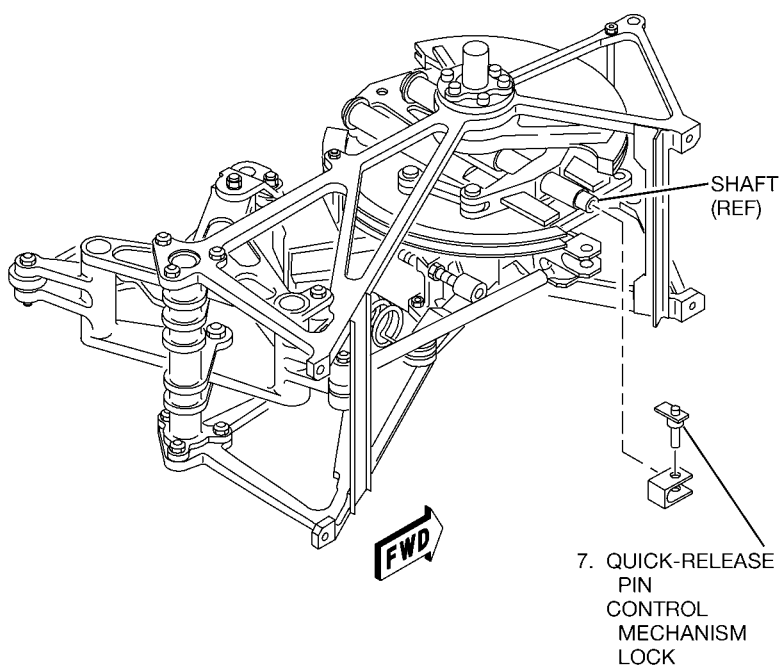
## **TO 1300i-2-27JG-30-2**

6. (A) Connect cable runs 3 and 4 to pilot elevator artificial feel control assembly and install cotter pins (PN MS24665-153).



ICN-88277-G2731103-004-01

7. (A,B) Hold non-intersecting halves and remove quick-release pin and control mechanism lock from shaft.

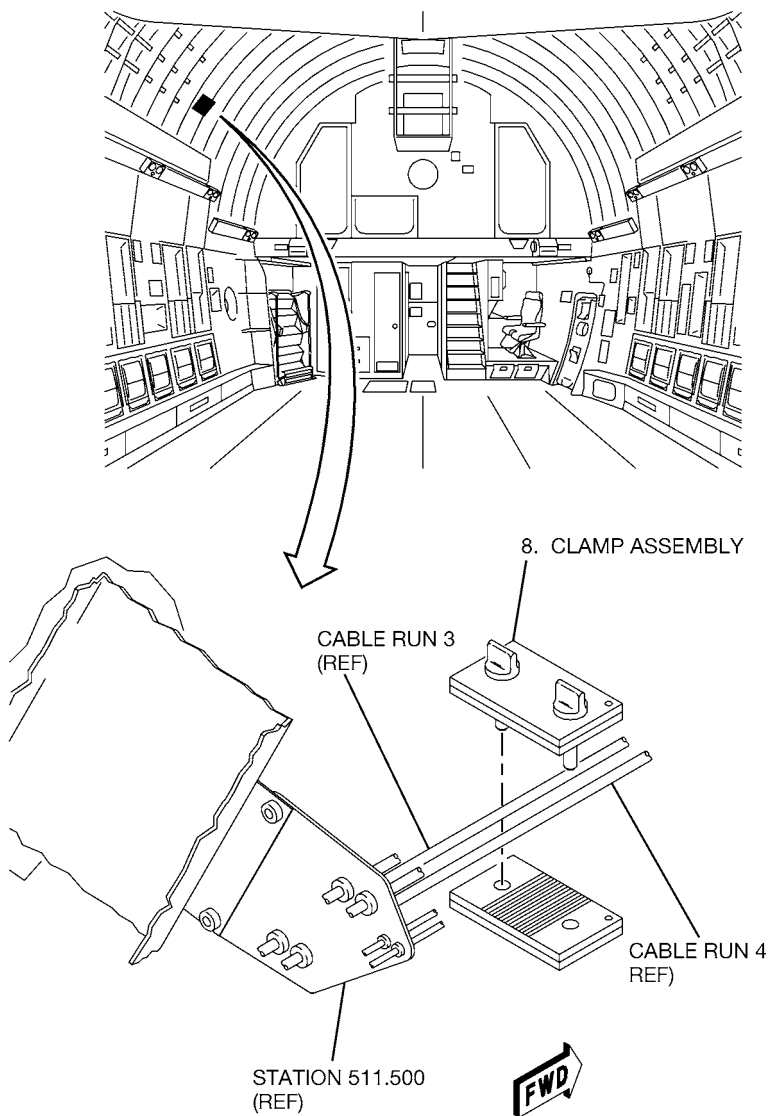


ICN-88277-G2731104-003-01

## **TO 1300i-2-27JG-30-2**

8. (A) Remove clamp assembly from cable runs 3 and 4 forward of station 511.500.

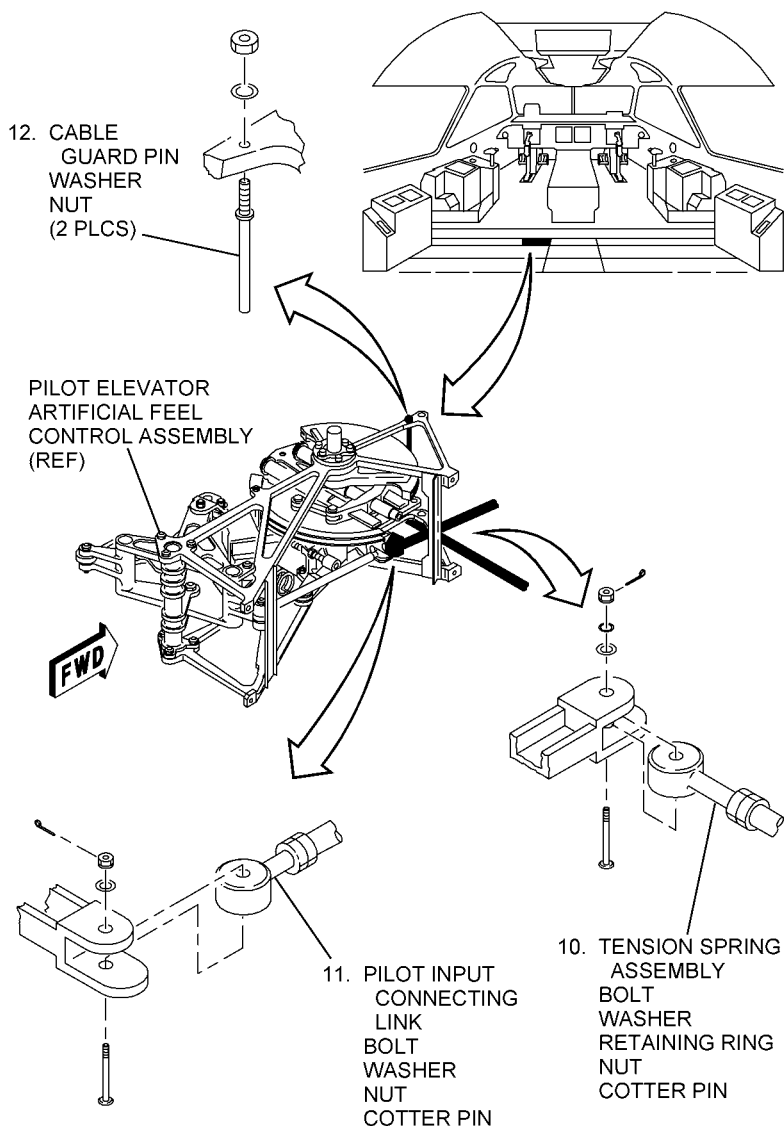




ICN-88277-G2731105-003-01

## **TO 1300i-2-27JG-30-2**

9. Adjust mechanical controls and surfaces system (27-31-02, task 02-2 and 02-3).
10. (A) Position tension spring assembly and install bolt, washer, retaining ring, nut, and cotter pin (PN MS24665-151).
11. (A) Position pilot input connecting link and install bolt, washer, nut, and cotter pin (PN MS24665-151).
12. (A) Install cable guard pins, washers, and nuts.

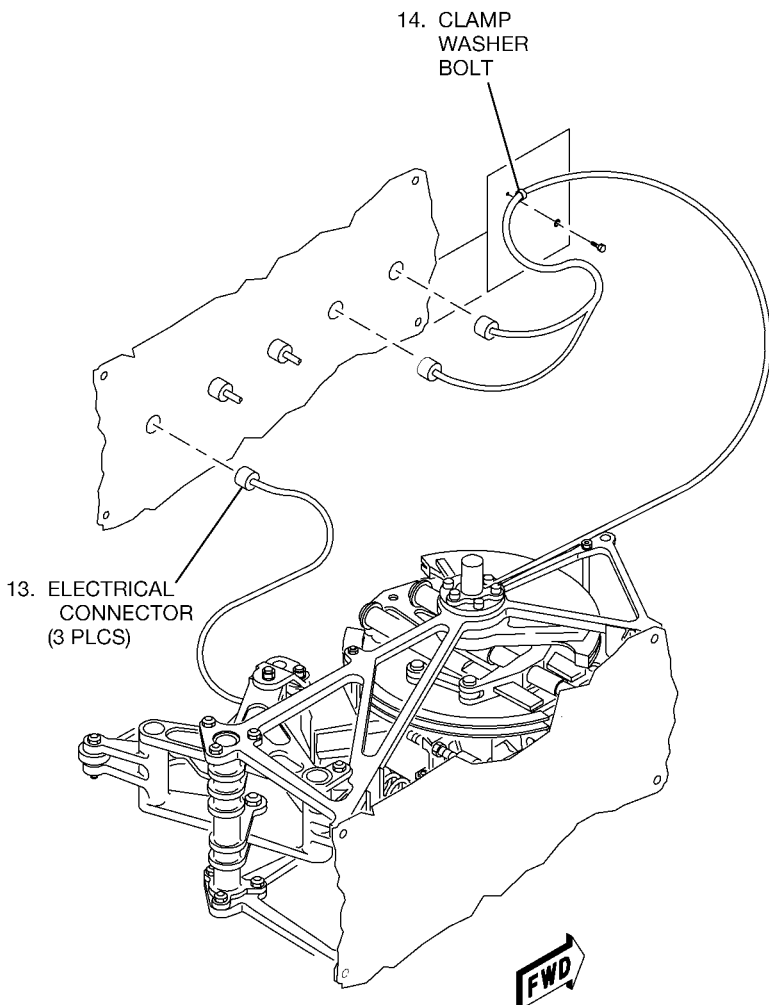


ICN-88277-G2731106-004-01

13. (A) Connect electrical connectors as follows:

CONNECTOR REF DES	JUNCTION REF DES
2738PP001	2738JE001
2738PP003	2738JE003
2731PP001	2731JE001

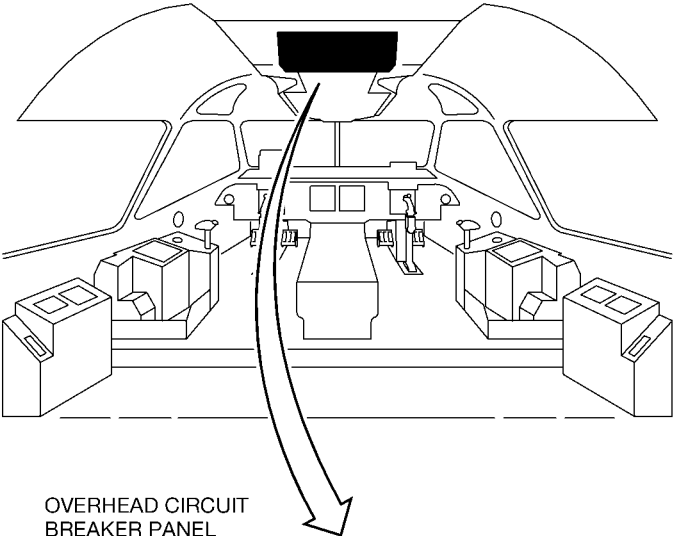
14. (A) Position clamp; install washer and bolt.



ICN-88277-G2731502-003-01

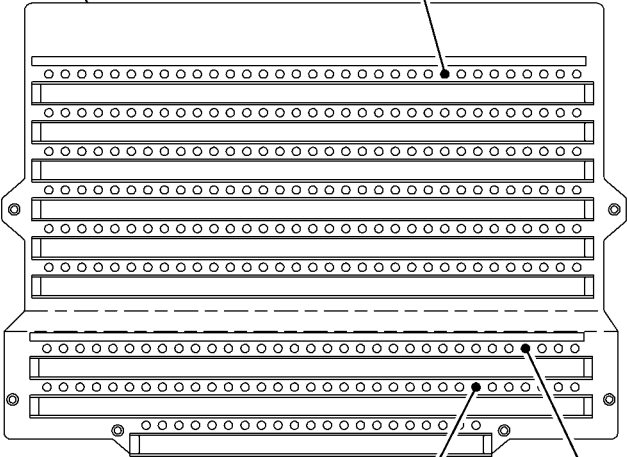
## 3-2. FOLLOW-ON MAINTENANCE.

1. Perform pitch rotary variable differential transducer position sensor adjustment (27-38-10, tasks 5-1 or 5-2, 5-3, and 5-4 or 5-5).
- 1A. Perform upper crew compartment floor panel installation and follow-on maintenance (215BZY, 217AZY, and 216BZY) (53-21-10, task 3-1 and 3-4).
2. Remove warning tag and close **RATIO CHANGER ACTUATOR PITCH** circuit breaker on overhead circuit breaker panel, row **A**, column **25**.
3. Remove warning tag and close **FCC 1** circuit breaker on overhead circuit breaker panel, row **H**, column **27**.
4. Remove warning tag and close **FCC 4** circuit breaker on overhead circuit breaker panel, row **G**, column **30**.



OVERHEAD CIRCUIT  
BREAKER PANEL  
(REF)

2. RATIO CHANGER  
ACTUATOR PITCH



3. FCC 1

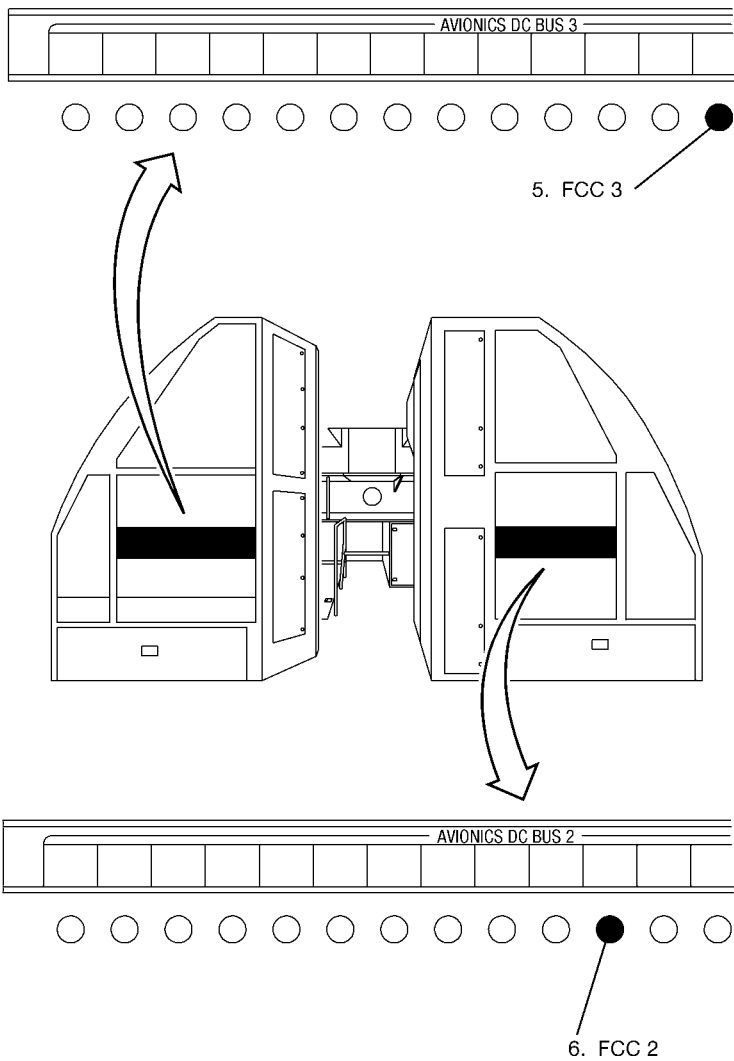
4. FCC 4

ICN-88277-G2731107-003-01

## **TO 1300i-2-27JG-30-2**

5. Remove warning tag and close **FCC 3** circuit breaker on Electrical Power Center (EPC), row **T**, column **24**.
6. Remove warning tag and close **FCC 2** circuit breaker on EPC, row **T**, column **50**.

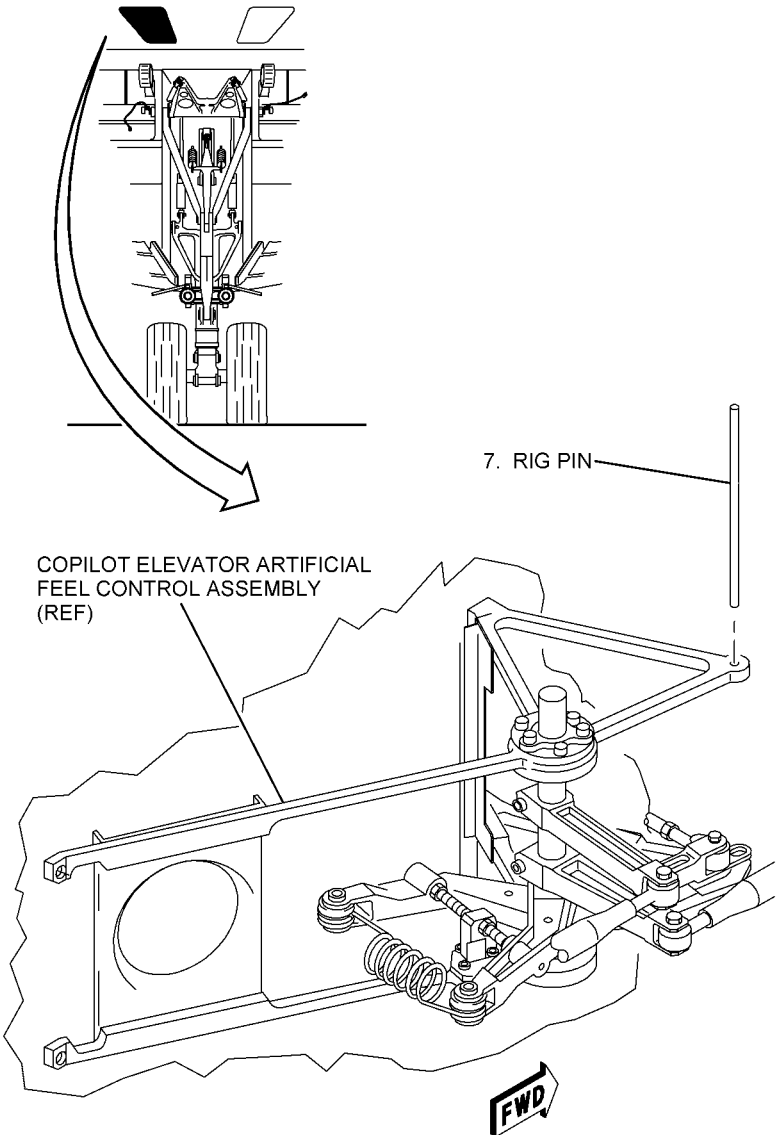




ICN-88277-G2731108-003-01

## **TO 1300i-2-27JG-30-2**

7. Remove rig pin 5-10 from copilot elevator artificial feel control assembly.



ICN-88277-G2731633-002-01

**TO 1300i-2-27JG-30-2**

- 8. Perform elevator mechanical controls and surfaces system operational checkout (27-31-01, task 01-1).
- 9. Install horizontal pressure panel access cover assemblies (53-12-10).

PANEL NO.	PANEL REF DES
112AZP	5312CA001
112BZP	5312CA002

**PILOT ELEVATOR ARTIFICIAL FEEL  
CONTROL ASSEMBLY REPAIR  
(27-31-10-4)**

**FUNCTIONAL INPUT CONDITIONS:**

<b>Applicability:</b>	<b>Task</b>
All	All

**Additional information:**

This procedure consists of the following task:

- 4-1. Repair pilot elevator artificial feel control assembly by replacing spring.

<b>Additional data:</b>	<b>Task</b>
TO 1300i-2-05JG-10-1	All
TO 1300i-2-27JG-30-1	All
TO 1300i-2-53JG-20-1	All

<b>Personnel recommended:</b>	<b>Task</b>
One	All

<b>Safety conditions:</b>	<b>Task</b>
NA	--

Support equipment:

<u>Nomenclature</u>	<u>PN</u>	<u>Specification</u>	<u>Qty</u>	<u>Task</u>
NA	--	--	--	--

Supplies:

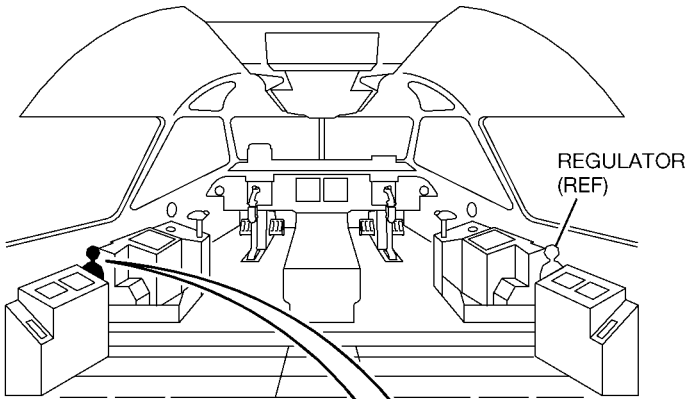
<u>Nomenclature</u>	<u>PN</u>	<u>Specification</u>	<u>Qty</u>	<u>Task</u>
NA	--	--	--	--



#### **4-1. REPAIR PILOT ELEVATOR ARTIFICIAL FEEL CONTROL ASSEMBLY BY REPLACING SPRING.**

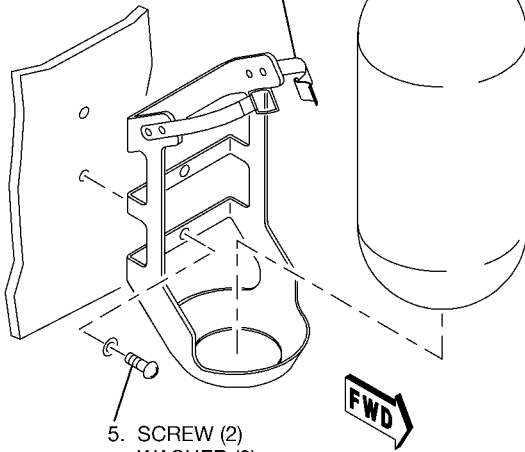
1. Review "Section 1 (General Information)" of this TO for system general warnings, cautions, and notes.
2. Review task "General Maintenance Input Conditions" page for task specific safety conditions.
3. Install elevator aircraft ground safety lock (05-10-01, task 01-5).
4. Release latch and remove crew portable oxygen cylinder and regulator.
5. Remove screws, washers, and bracket.





REGULATOR  
(REF)

4. LATCH  
CREW PORTABLE OXYGEN  
CYLINDER AND REGULATOR

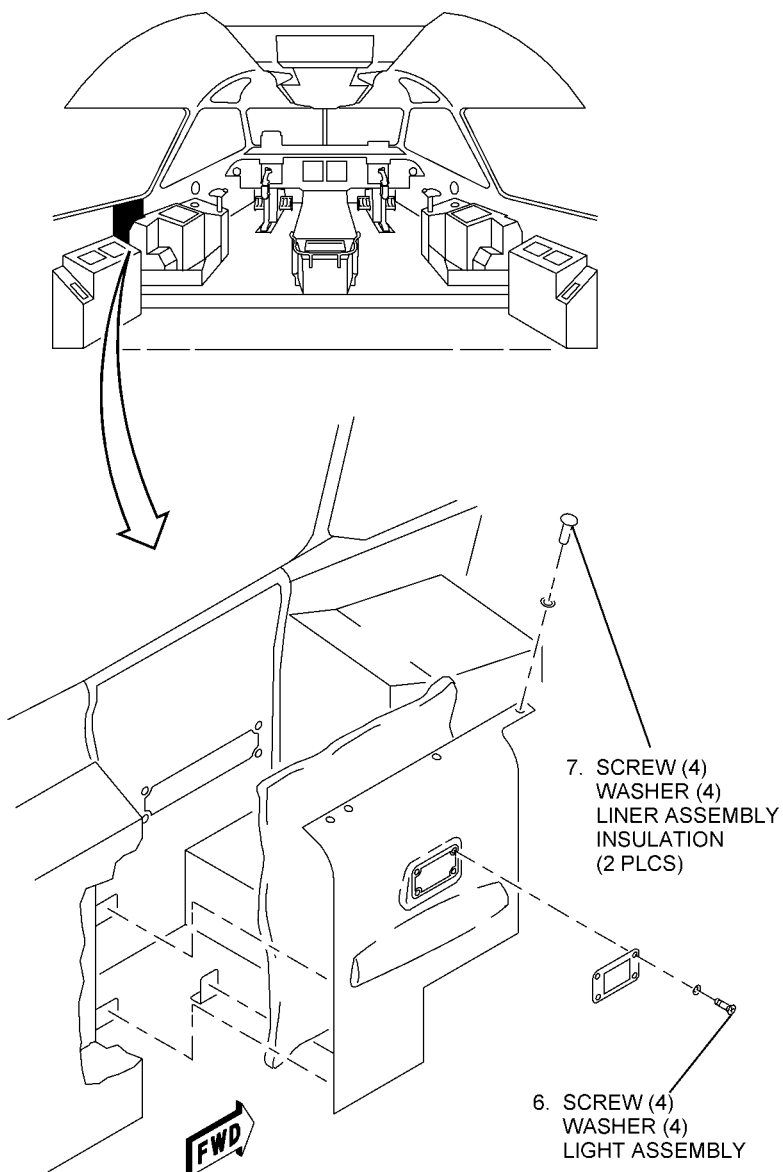


5. SCREW (2)  
WASHER (2)  
BRACKET

ICN-88277-G2731111-004-01

## **TO 1300i-2-27JG-30-2**

6. Remove screws, washers, and light assembly.
7. Remove screws, washers, liner assembly (213FZM), and insulation.



ICN-88277-G2731503-005-01

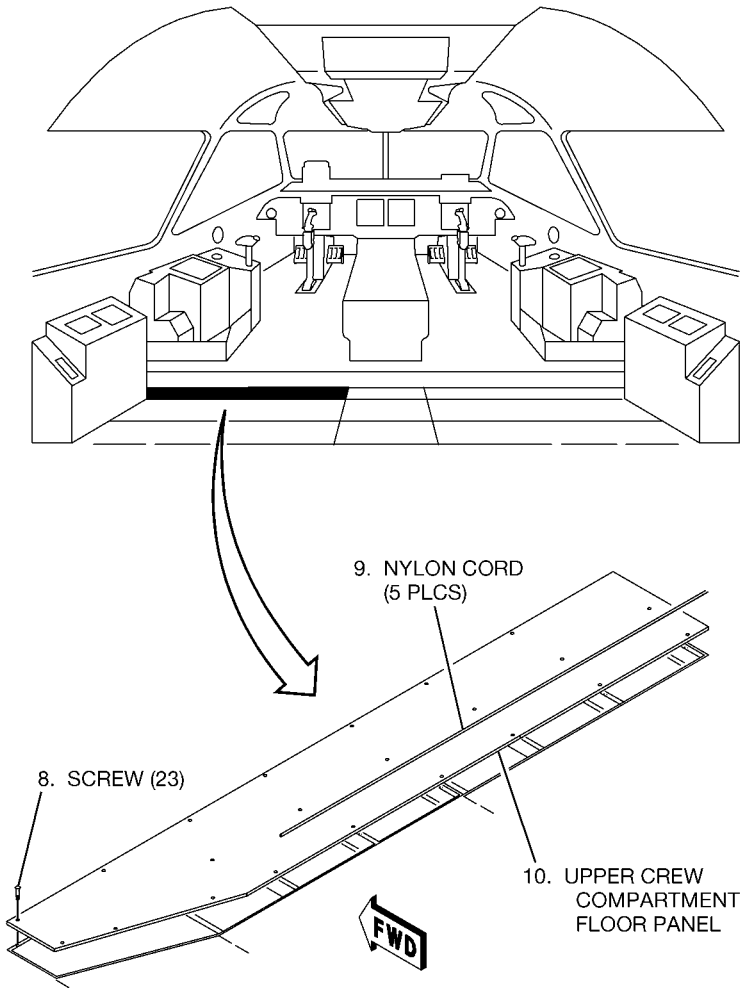
## **TO 1300i-2-27JG-30-2**

8. Remove screws from upper crew compartment floor panel (215BZY).

### **NOTE**

Nylon cords are being eliminated by attrition, not all floor panels will have nylon cords.

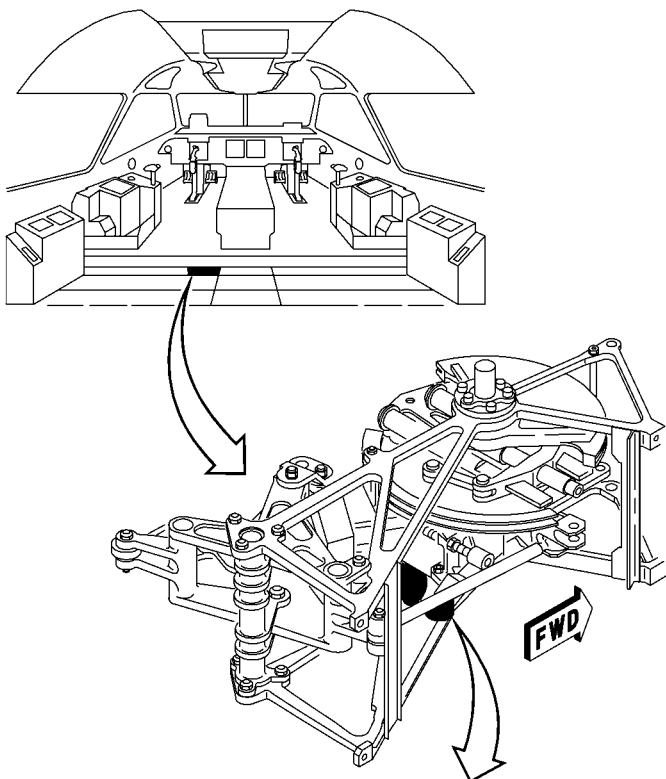
9. Remove and discard nylon cords.
10. Remove upper crew compartment floor panel (215BZY).



ICN-88277-G2731112-003-01

## **TO 1300i-2-27JG-30-2**

11. Remove spring from spring retainer bearings.
12. Install spring on spring retainer bearings.
13. Remove elevator aircraft ground safety lock (05-10-01, task 01-6).
14. Perform mechanical controls and surfaces system breakout force operational checkout (27-31-01, task 01-2).
15. Install upper crew compartment floor panel (215BZY) (53-21-10, tasks 3-1 and 3-2).



SPRING RETAINER  
BEARING  
(REF)

11. SPRING  
12.

SPRING RETAINER  
BEARING  
(REF)

ICN-88277-G2731113-003-01





# **COPILOT ELEVATOR ARTIFICIAL FEEL CONTROL ASSEMBLY (27-31-11)**

## **MASTER INPUT CONDITIONS:**

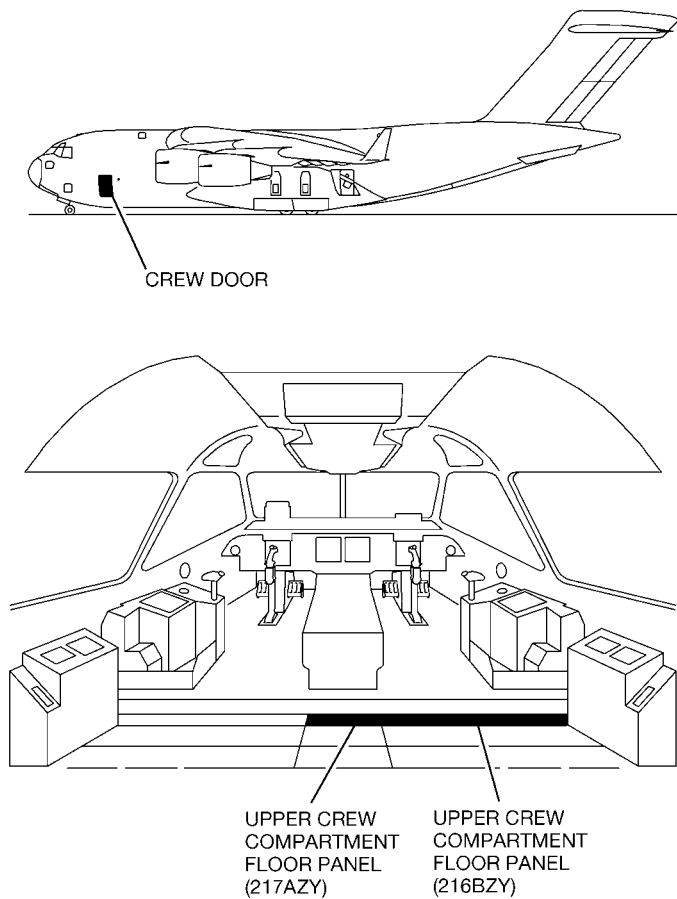
### **Reference designators:**

2731AA002	Copilot Elevator Artificial Feel Control Assembly
-----------	--

### **Applicable functions:**

- 2 Removal.
- 3 Installation.
- 4 Repair.

Access data:



ICN-88277-G2731121-002-01

**COPILOT ELEVATOR ARTIFICIAL FEEL  
CONTROL ASSEMBLY REMOVAL  
(27-31-11-2)**

**FUNCTIONAL INPUT CONDITIONS:**

<b>Applicability:</b>	<b>Task</b>
All	All

**Additional information:**

This procedure consists of the following tasks:

- 2-1. Preparation.
- 2-2. Removal.

<b>Additional data:</b>	<b>Task</b>
TO 1300i-2-53JG-10-1	2-1

<b>Personnel recommended:</b>	<b>Task</b>
One	All

<b>Safety conditions:</b>	<b>Task</b>
---------------------------	-------------



The horizontal pressure panel access cover(s) are removed in these tasks to gain access to the cavity above. When rudder, aileron, and elevator aircraft ground safety locks are not installed, care shall be taken working around rudder, aileron, and elevator cables, pulleys, and linkage due to possible moving parts. Failure to comply may cause injury to personnel.	All
--	-----

Support equipment:

<u>Nomenclature</u>	<u>PN</u>	<u>Specification</u>	<u>Qty</u>	<u>Task</u>
Kit, Rig Pin	17G140015-1	--	--	--
Pin 5-10, Rig	17G140015-17	--	1	2-1

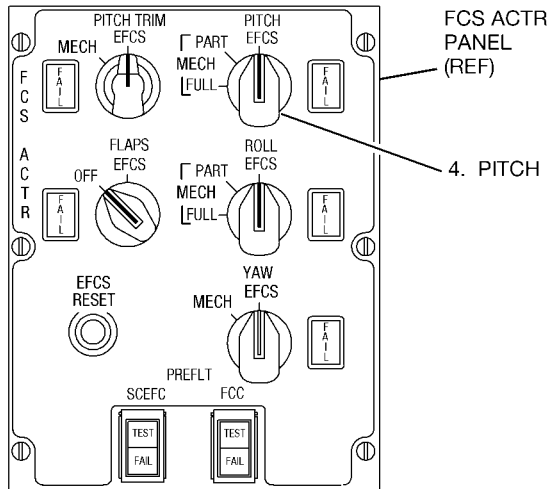
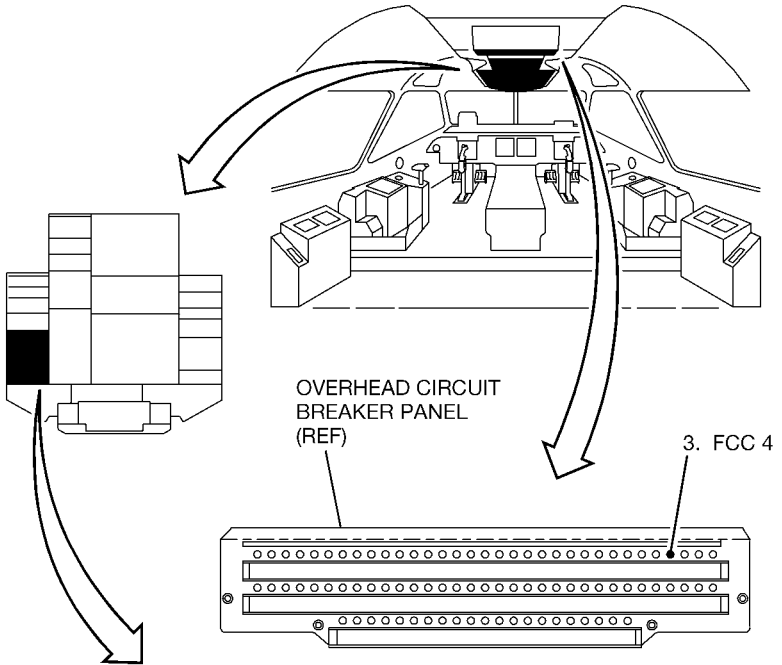
Supplies:

<u>Nomenclature</u>	<u>PN</u>	<u>Specification</u>	<u>Qty</u>	<u>Task</u>
Tag, Warning	--	--	3	2-1



## **2-1. PREPARATION.**

1. Review "Section 1 (General Information)" of this TO for system general warnings, cautions, and notes.
2. Review task "Functional Input Conditions" page for task specific safety conditions.
3. Open **FCC 4** circuit breaker on overhead circuit breaker panel, row **G**, column **30**, and attach warning tag.
4. Rotate **PITCH** switch on **FCS ACTR** panel to **FULL MECH** and attach warning tag.

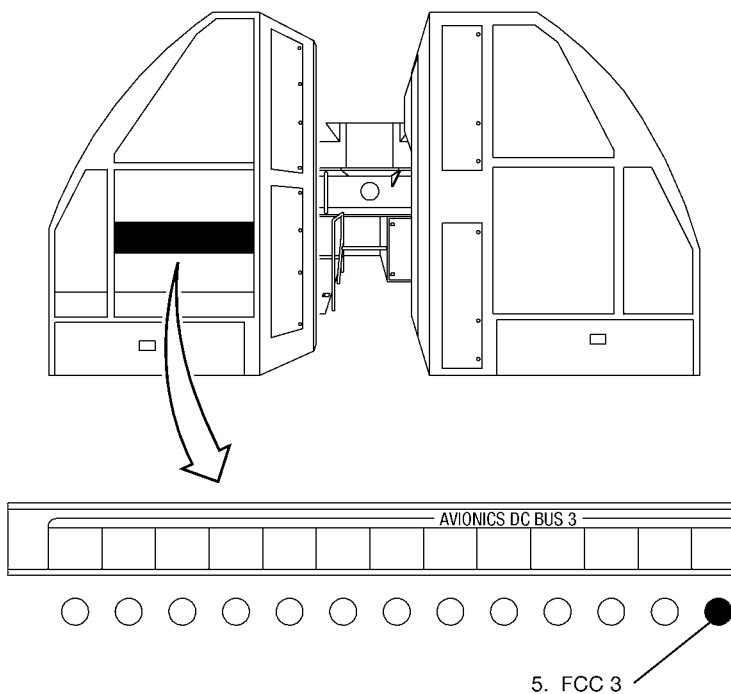


ICN-88277-G2731122-002-01

## **TO 1300i-2-27JG-30-2**

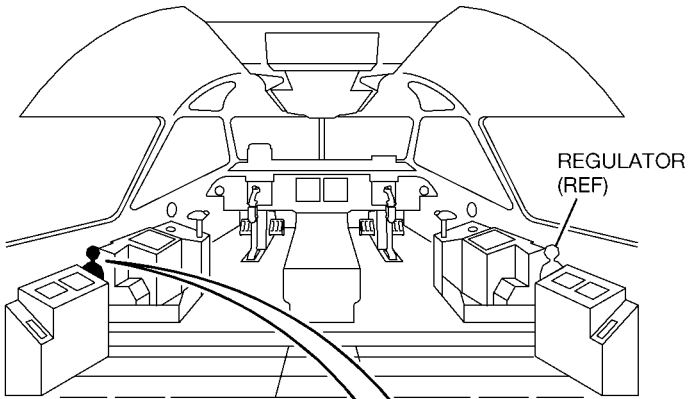
5. Open **FCC 3** circuit breaker on Electrical Power Center (EPC), row **T**, column **24**, and attach warning tag.





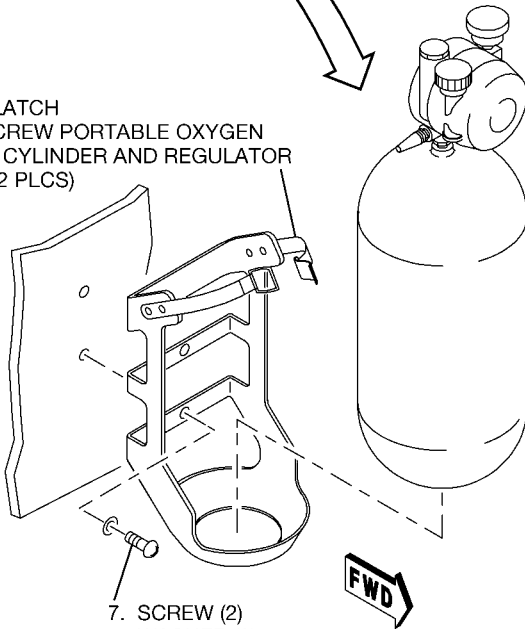
## **TO 1300i-2-27JG-30-2**

6. Release latches and remove crew portable oxygen cylinders and regulators.
7. Remove screws, washers, and brackets.



REGULATOR  
(REF)

6. LATCH  
CREW PORTABLE OXYGEN  
CYLINDER AND REGULATOR  
(2 PLCS)

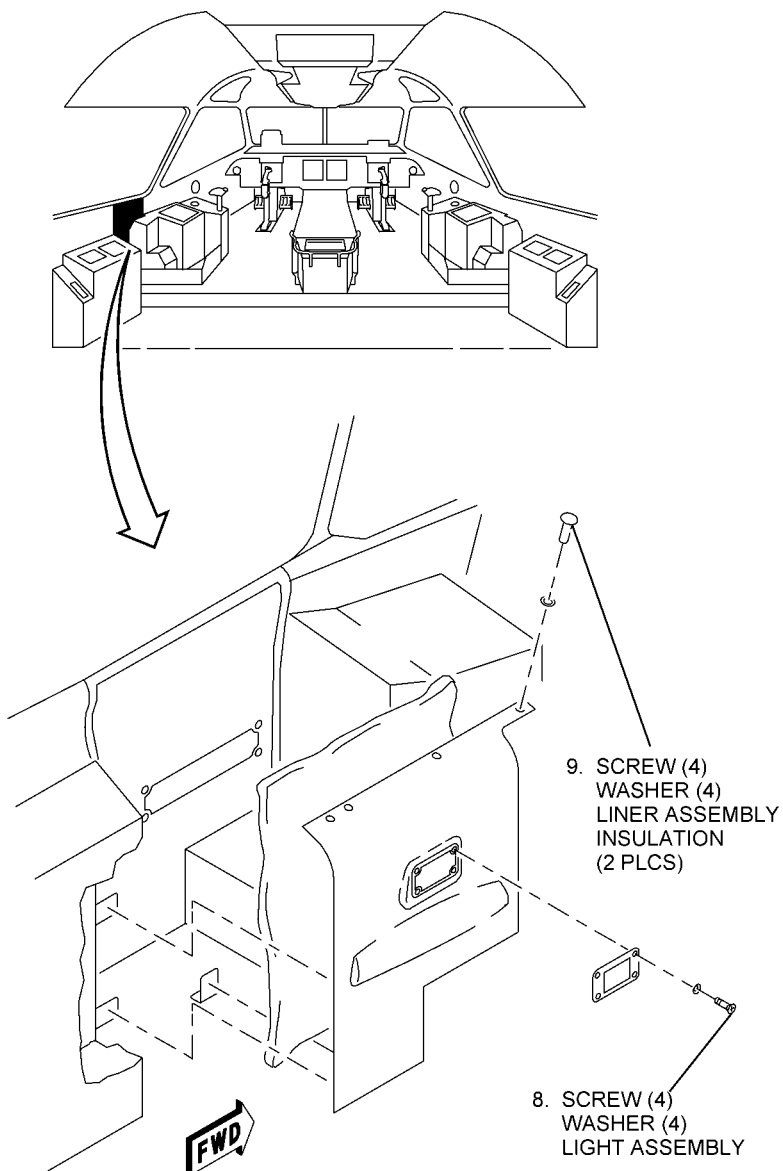


7. SCREW (2)  
WASHER (2)  
BRACKET  
(2 PLCS)

ICN-88277-G2731124-004-01

## **TO 1300i-2-27JG-30-2**

8. Remove screws, washers, and light assembly.
9. Remove screws, washers, liner assemblies (213FZM and 214FZM), and insulations.



ICN-88277-G2731504-005-01

## **TO 1300i-2-27JG-30-2**

10. Remove screws from upper crew compartment floor panel (215BZY).

### **NOTE**

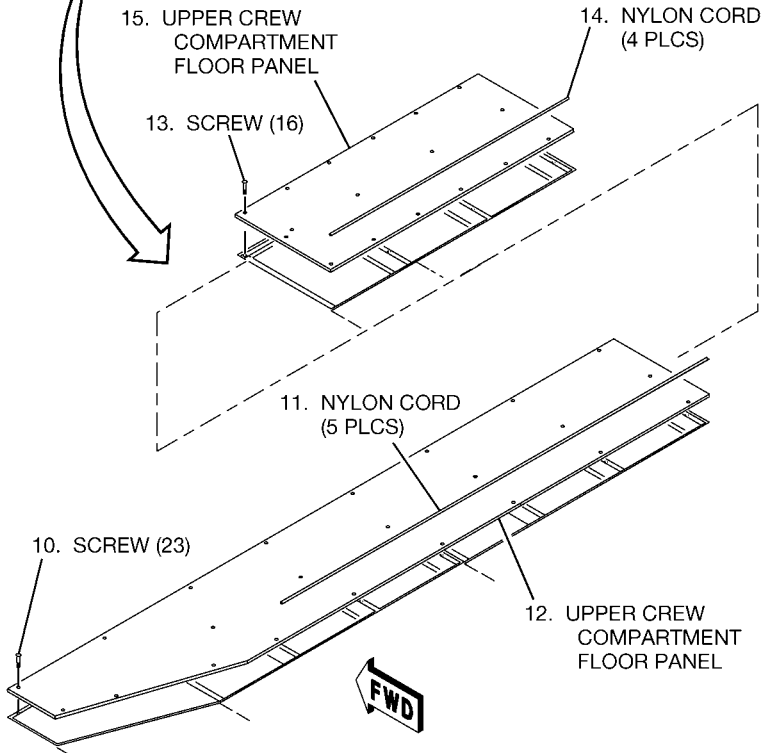
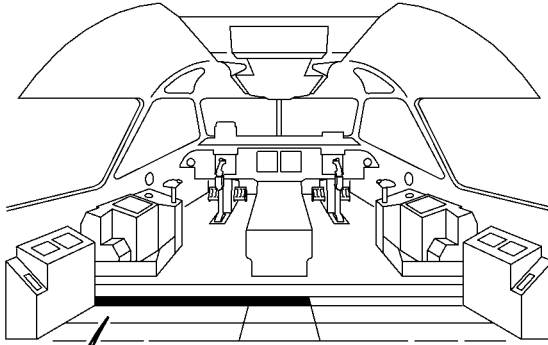
Nylon cords are being eliminated by attrition, not all floor panels will have nylon cords.

11. Remove and discard nylon cords.
12. Remove upper crew compartment floor panel (215BZY).
13. Remove screws from upper crew compartment floor panel (217AZY).

### **NOTE**

Nylon cords are being eliminated by attrition, not all floor panels will have nylon cords.

14. Remove and discard nylon cords.
15. Remove upper crew compartment floor panel (217AZY).



ICN-88277-G2731125-003-01

## **TO 1300i-2-27JG-30-2**

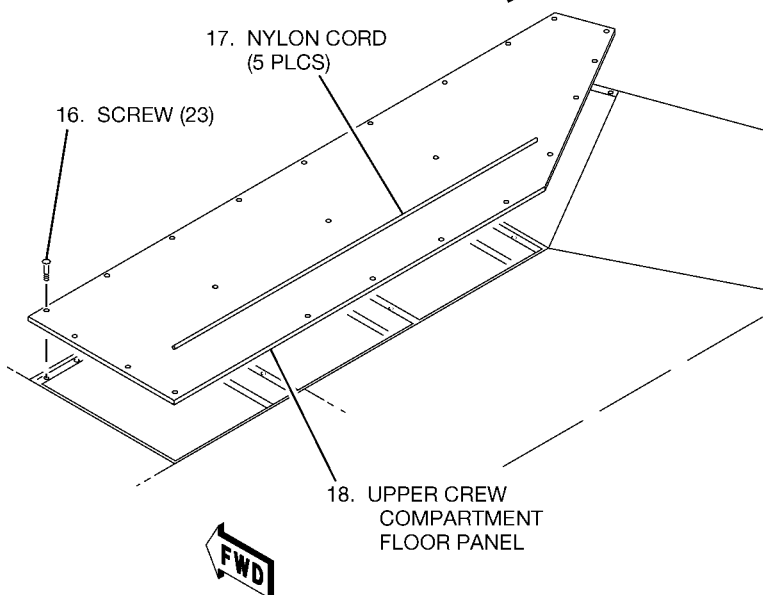
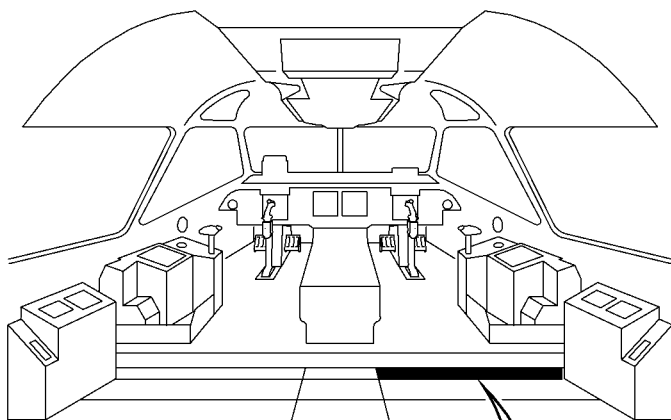
16. Remove screws from upper crew compartment floor panel (216BZY).
17. Remove and discard nylon cords.

### **NOTE**

Nylon cords are being eliminated by attrition, not all floor panels will have nylon cords.

18. Remove upper crew compartment floor panel (216BZY).





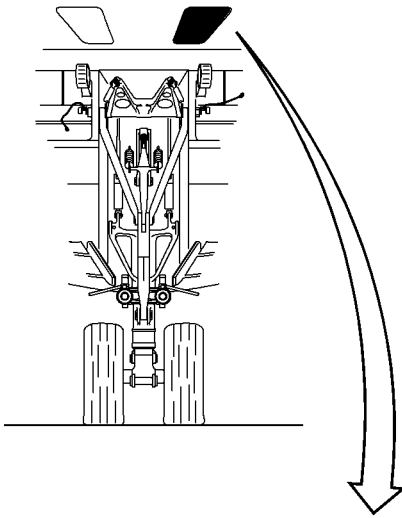
ICN-88277-G2731126-003-01

**TO 1300i-2-27JG-30-2**

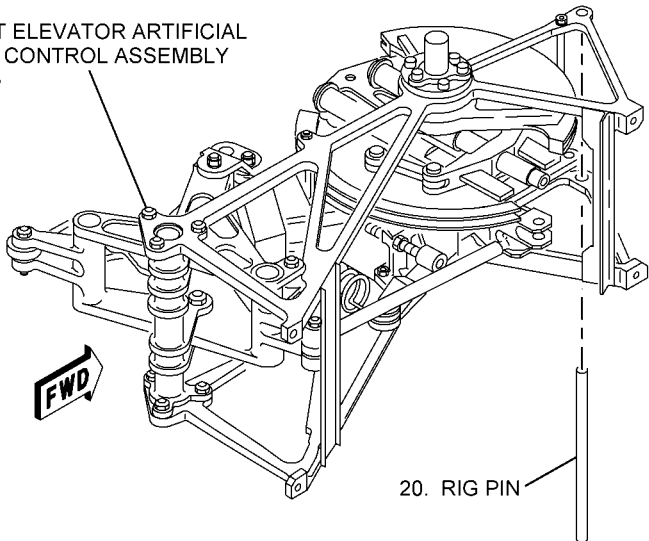
19. Remove horizontal pressure panel access cover assemblies (53-12-10).

PANEL NO.	PANEL REF DES
112AZP	5312CA001
112BZP	5312CA002

20. Install rig pin 5-10 in pilot elevator artificial feel control assembly.



PILOT ELEVATOR ARTIFICIAL  
FEEL CONTROL ASSEMBLY  
(REF)



ICN-88277-G2731127-005-01

## **2-2. REMOVAL.**

1. Remove cotter pin, nut, retaining ring, washer, bolt, and tension spring assembly.
2. Remove cotter pin, nut, washer, bolt, and disconnect autopilot follow-up actuator connecting link.
3. Remove cotter pin, nut, washer, bolt, and disconnect copilot input connecting link.