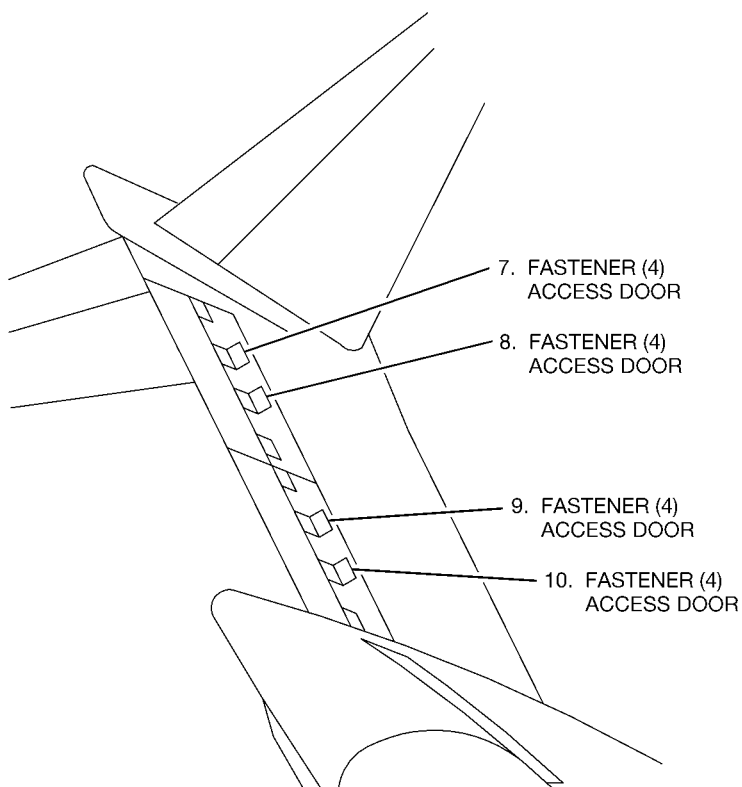


ICN-88277-G2721334-003-01

## **TO 1300i-2-27JG-20-1**

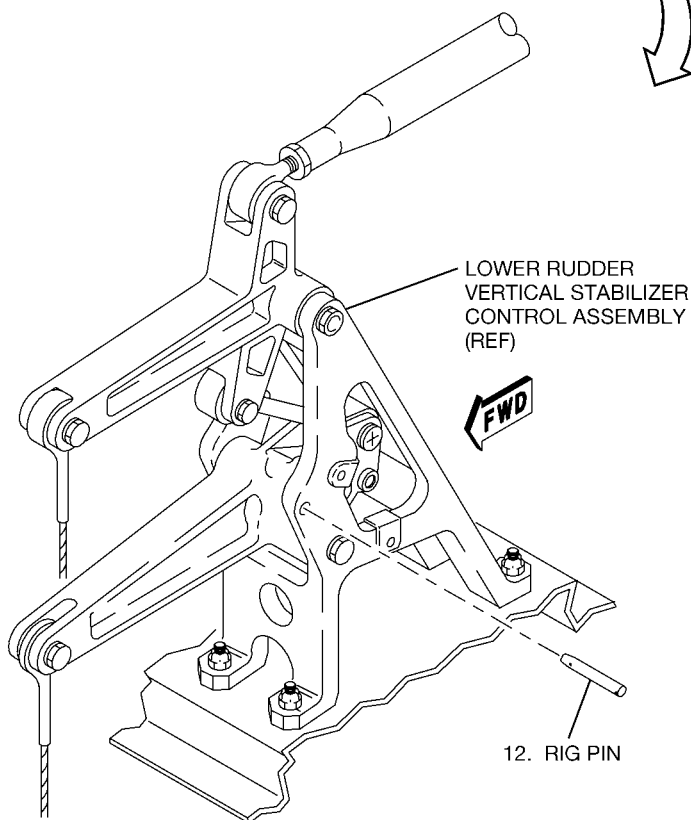
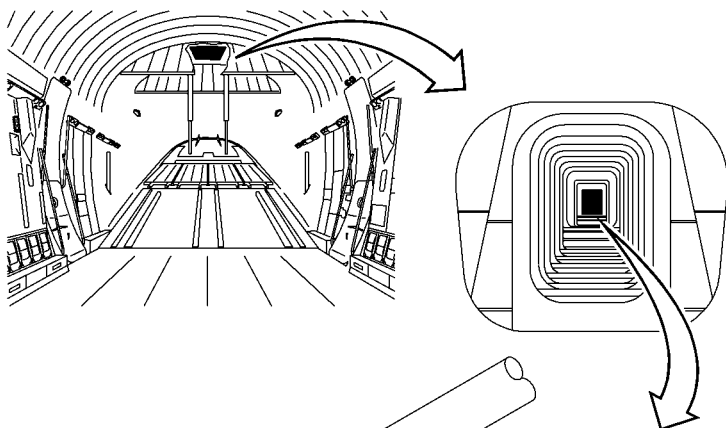
7. (A,B,C) Loosen fasteners and open access door (362CRP).
8. (A,B,C) Loosen fasteners and open access door (362BRP).
9. (A,B,C) Loosen fasteners and open access door (361CRP).
10. (A,B,C) Loosen fasteners and open access door (361BRP).



ICN-88277-G2721335-002-01

## **TO 1300i-2-27JG-20-1**

11. Perform vertical and horizontal stabilizer access (00-00-02, task 02-1).
12. (B) Install rig pin 5-5 in lower rudder vertical stabilizer control assembly.



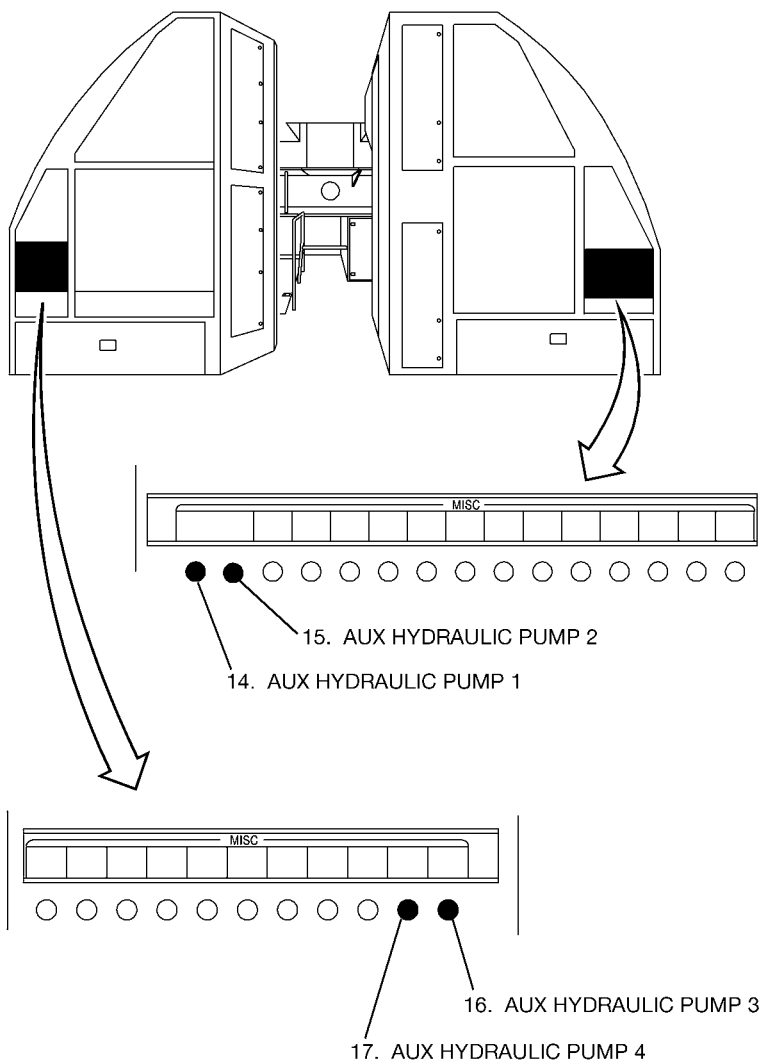
ICN-88277-G2721361-003-01

13. Perform interphone system operation (23-41-02, task 02-3).
14. (B) Remove warning tag and close **AUX HYDRAULIC PUMP 1** circuit breaker on Electrical Power Center (EPC), row **LL**, column **68**.
15. (B) Remove warning tag and close **AUX HYDRAULIC PUMP 2** circuit breaker on EPC, row **LL**, column **69**.
16. (B) Remove warning tag and close **AUX HYDRAULIC PUMP 3** circuit breaker on EPC, row **LL**, column **11**.
17. (B) Remove warning tag and close **AUX HYDRAULIC PUMP 4** circuit breaker on EPC, row **LL**, column **10**.

**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.

18. Perform auxiliary system operation (29-20-01, task 01-1).



ICN-88277-G2721336-003-01

**WARNING**

The rudder feedback connecting link shall not be disconnected to make adjustments. Adjustments shall be made with the feedback link connected to prevent uncontrolled rudder movement. Adjustments with the link connected will still cause some movement of the flight control surface. Use extreme caution and keep flight control surfaces clear of personnel and equipment while adjusting linkage. Failure to comply may cause injury to personnel and damage to aircraft.

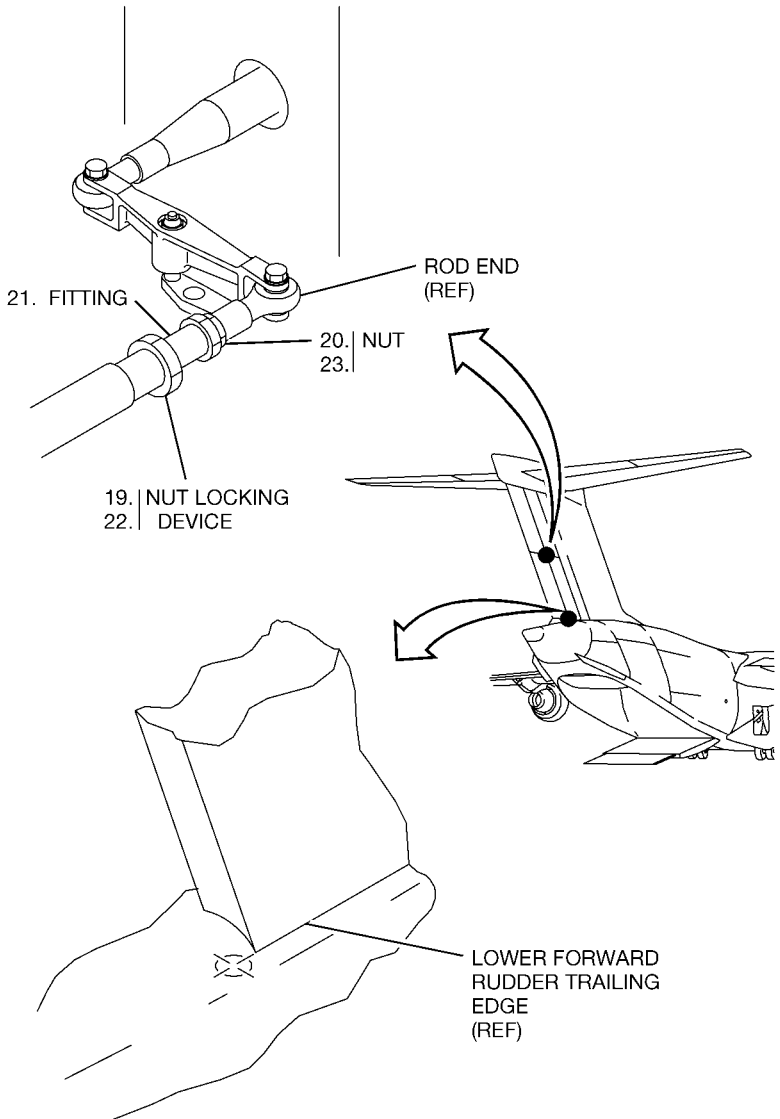
19. (A,B,C) Remove safety wire; loosen nut locking device.
20. (A,B,C) Loosen nut on rod end.

**NOTE**

Lower right and left trailing edge of forward rudder is equal on both sides or within 0.50 inch of rudder island edge.

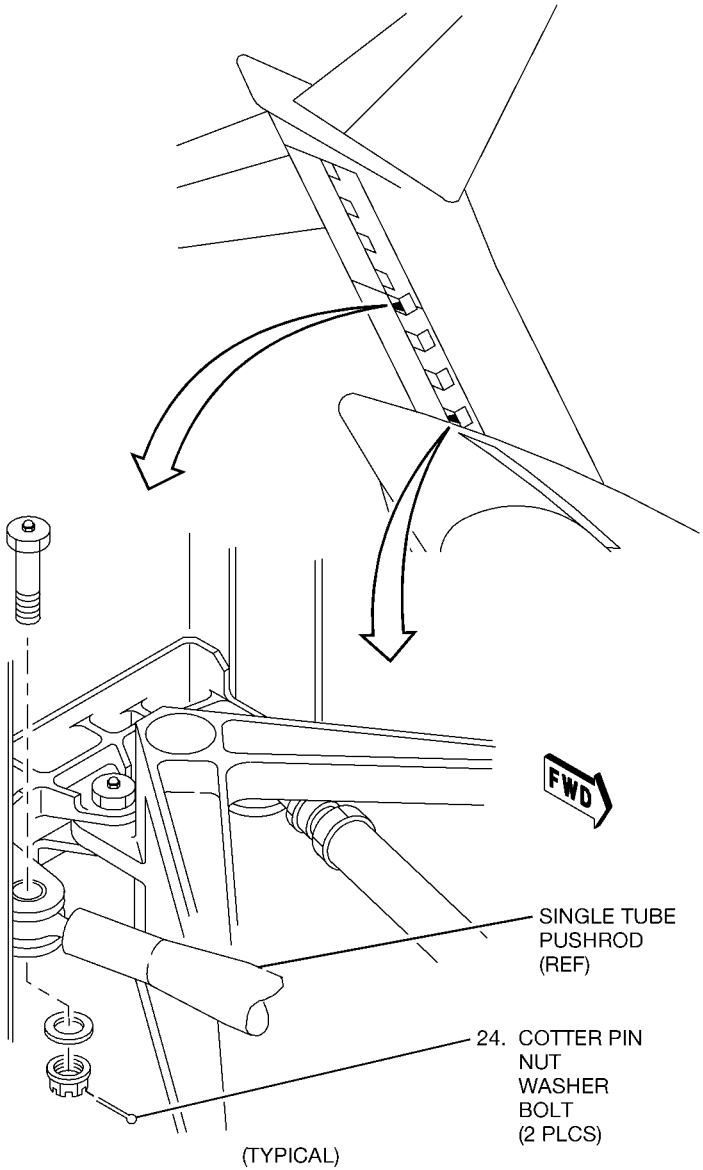
21. (A,B,C) Adjust fitting.
22. (A,B,C) Position nut locking device and tighten; secure with safety wire.
23. (A,B,C) Tighten nut.





ICN-88277-G2721337-004-01

24. (A,B,C) Remove cotter pins, nuts, washers, and bolts from single tube pushrod.



ICN-88277-G2721338-004-01

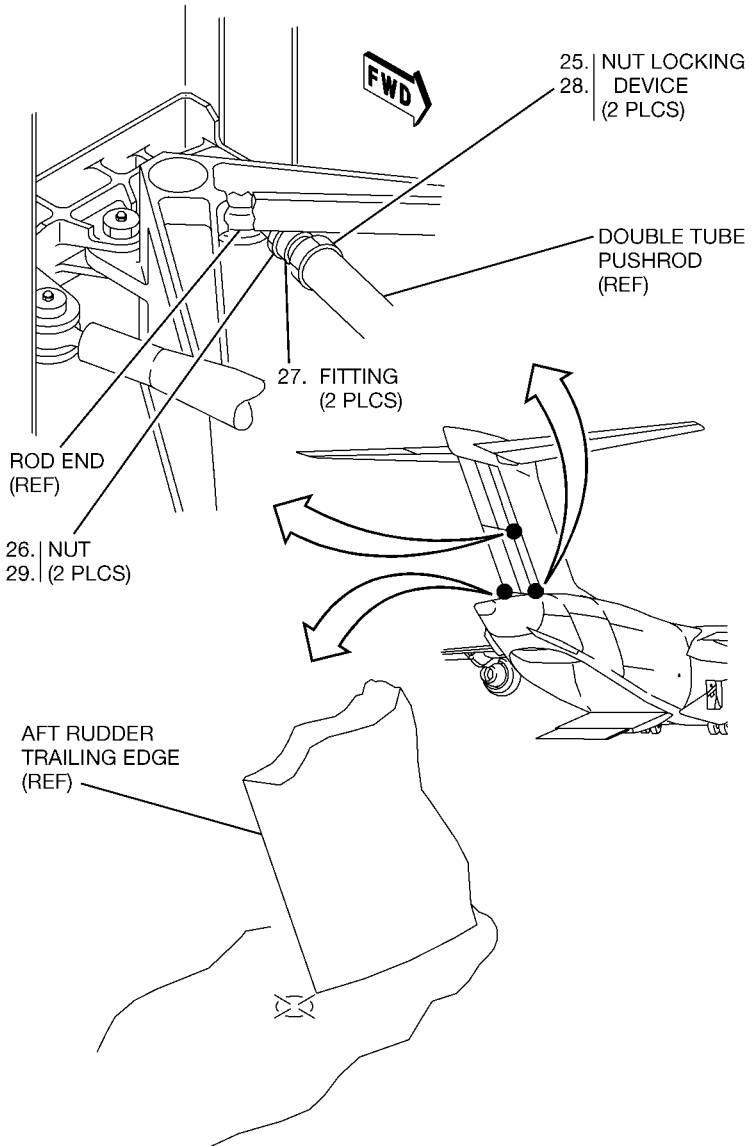
## **TO 1300i-2-27JG-20-1**

25. (A,B,C) Remove safety wire; loosen nut locking devices from double tube pushrod.
26. (A,B,C) Loosen nut on rod ends.

### **NOTE**

Lower right and left trailing edge of aft rudder is equal within 1.00 inch of rudder island edge.

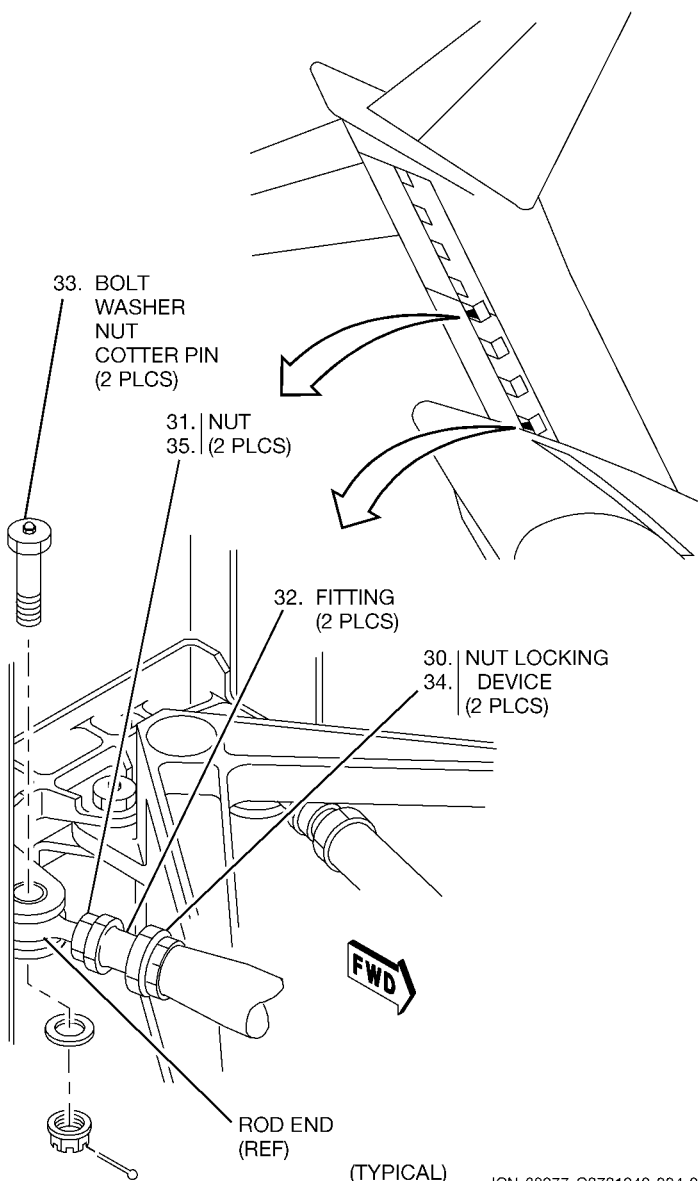
27. (A,B,C) Adjust fittings.
28. (A,B,C) Position nut locking devices and tighten; secure with safety wire.
29. (A,B,C) Tighten nuts.



ICN-88277-G2721339-004-01

## **TO 1300i-2-27JG-20-1**

30. (A,B,C) Remove safety wire; loosen nut locking devices.
31. (A,B,C) Loosen nut on rod end.
32. (A,B,C) Adjust fittings for installation.
33. (A,B,C) Install bolts, washers, nuts, and cotter pins.
34. (A,B,C) Position nut locking devices and tighten; secure with safety wire.
35. (A,B,C) Tighten nuts.



ICN-88277-G2721340-004-01

**WARNING**

The rudder feedback connecting link shall not be disconnected to make adjustments. Adjustments shall be made with the feedback link connected to prevent uncontrolled rudder movement. Adjustments with the link connected will still cause some movement of the flight control surface. Use extreme caution and keep flight control surfaces clear of personnel and equipment while adjusting linkage. Failure to comply may cause injury to personnel and damage to aircraft.

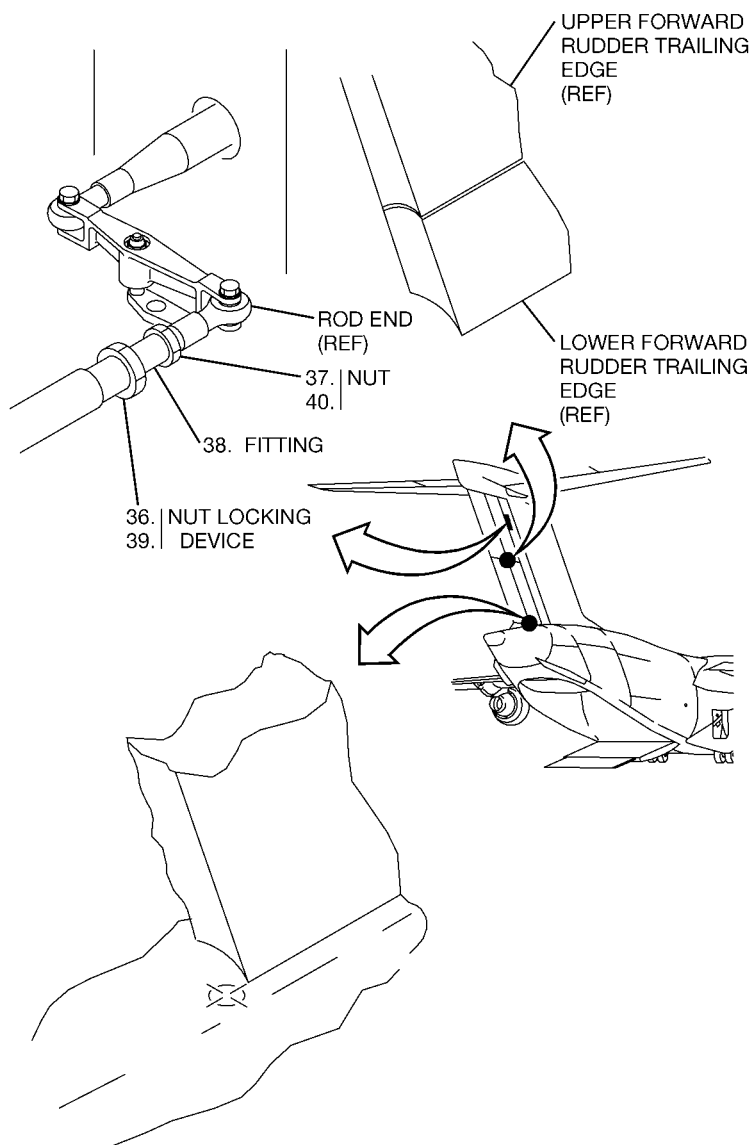
- 36. (A,B,C) Remove safety wire; loosen nut locking device.
- 37. (A,B,C) Loosen nut on rod end.

**NOTE**

Lower right trailing edge of forward upper rudder is within 0.50 inch left or right of lower forward rudder upper trailing edge.

- 38. (A,B,C) Adjust fitting.
- 39. (A,B,C) Position nut locking device and tighten; secure with safety wire.
- 40. (A,B,C) Tighten nut.

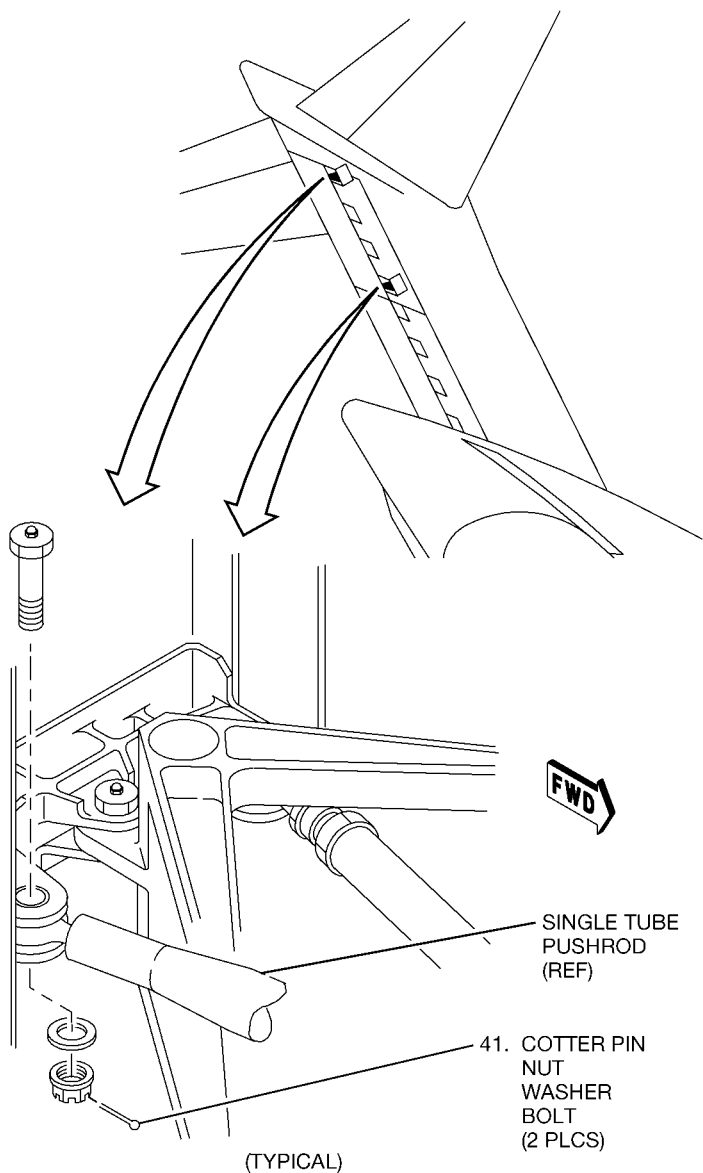




ICN-88277-G2721341-004-01

## **TO 1300i-2-27JG-20-1**

41. (A,B,C) Remove cotter pins, nuts, washers, and bolts from single tube pushrod.



ICN-88277-G2721353-003-01

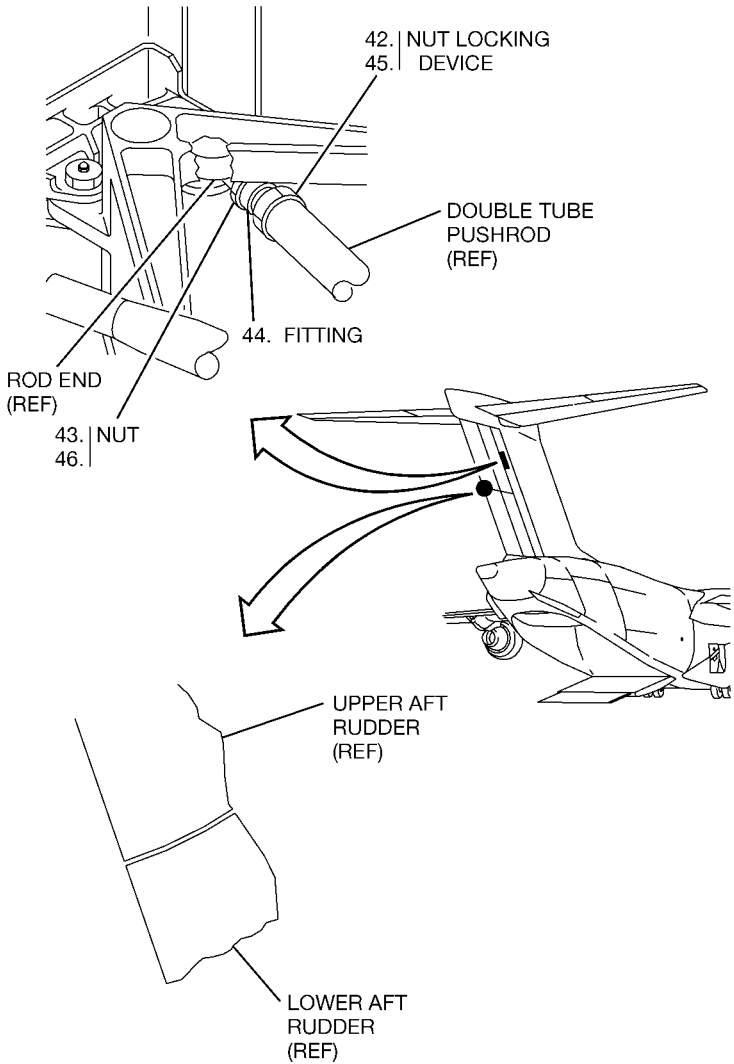
## **TO 1300i-2-27JG-20-1**

42. (A,B,C) Remove safety wire; loosen nut locking device from double tube pushrod.
43. (A,B,C) Loosen nut on rod end.

### **NOTE**

Lower right trailing edge of aft upper rudder is within 1.00 inch left or right of lower aft rudder upper trailing edge.

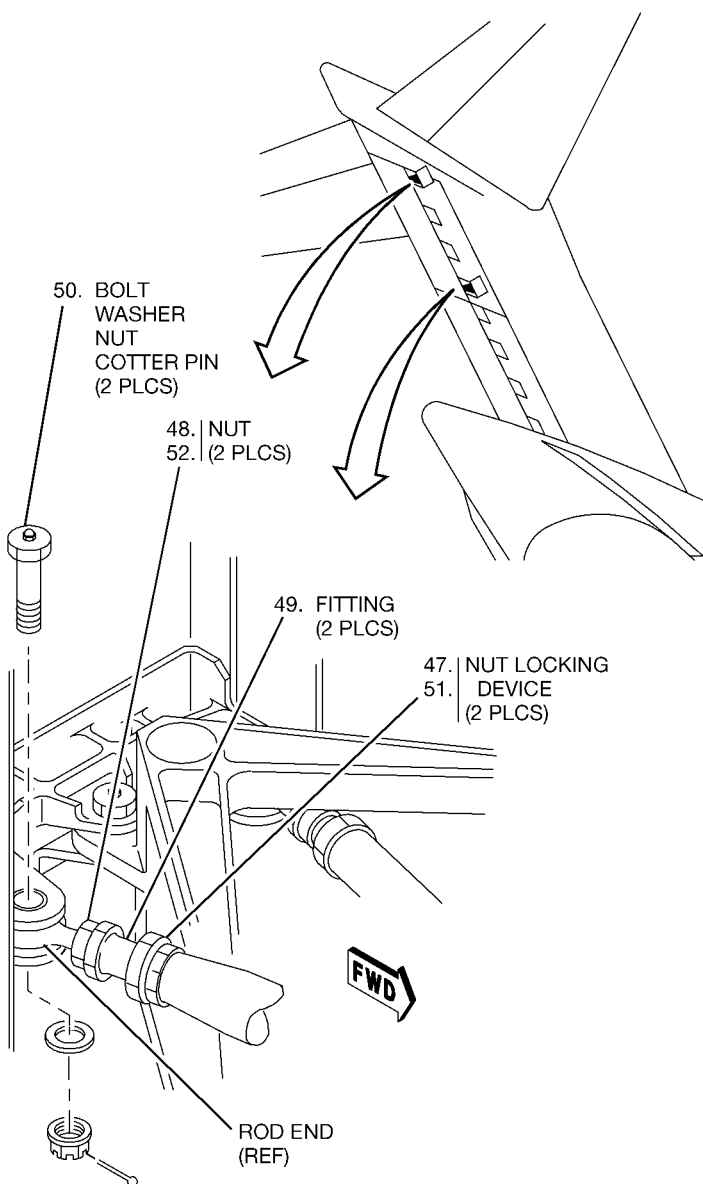
44. (A,B,C) Adjust fitting.
45. (A,B,C) Position nut locking device and tighten; secure with safety wire.
46. (A,B,C) Tighten nut.



ICN-88277-G2721342-004-01

## **TO 1300i-2-27JG-20-1**

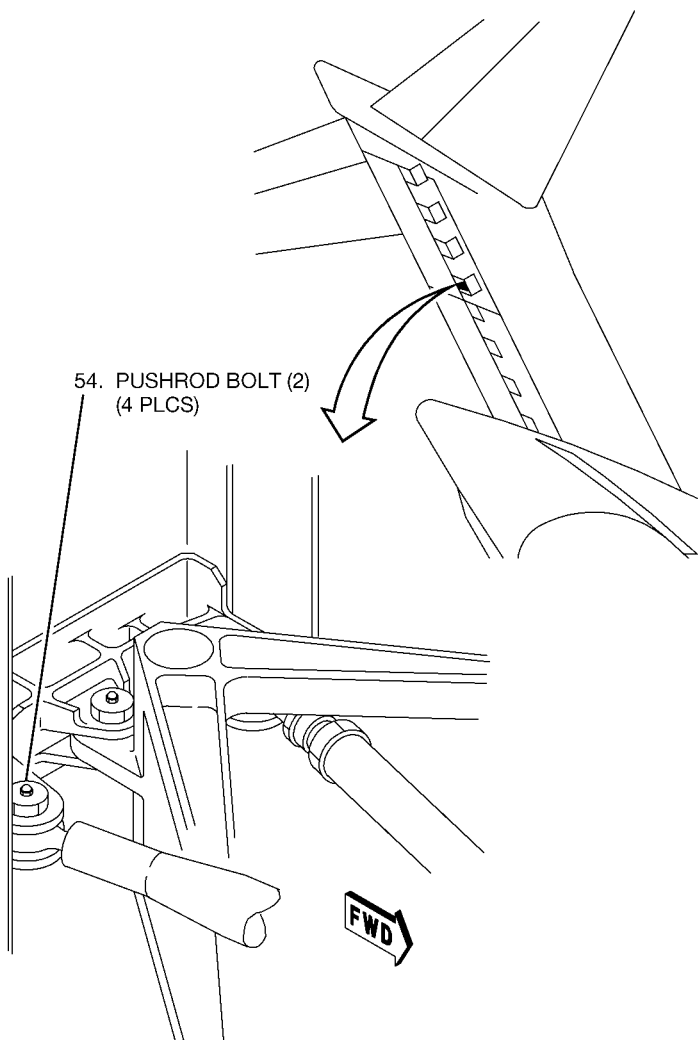
47. (A,B,C) Remove safety wire; loosen nut locking devices.
48. (A,B,C) Loosen nut on rod end.
49. (A,B,C) Adjust fittings for installation.
50. (A,B,C) Install bolts, washers, nuts, and cotter pins.
51. (A,B,C) Position nut locking devices and tighten; secure with safety wire.
52. (A,B,C) Tighten nuts.
53. Perform auxiliary system operation (29-20-01, task 01-2).



ICN-88277-G2721343-004-01

54. (A,B,C) Lubricate pushrod bolts with aircraft grease.

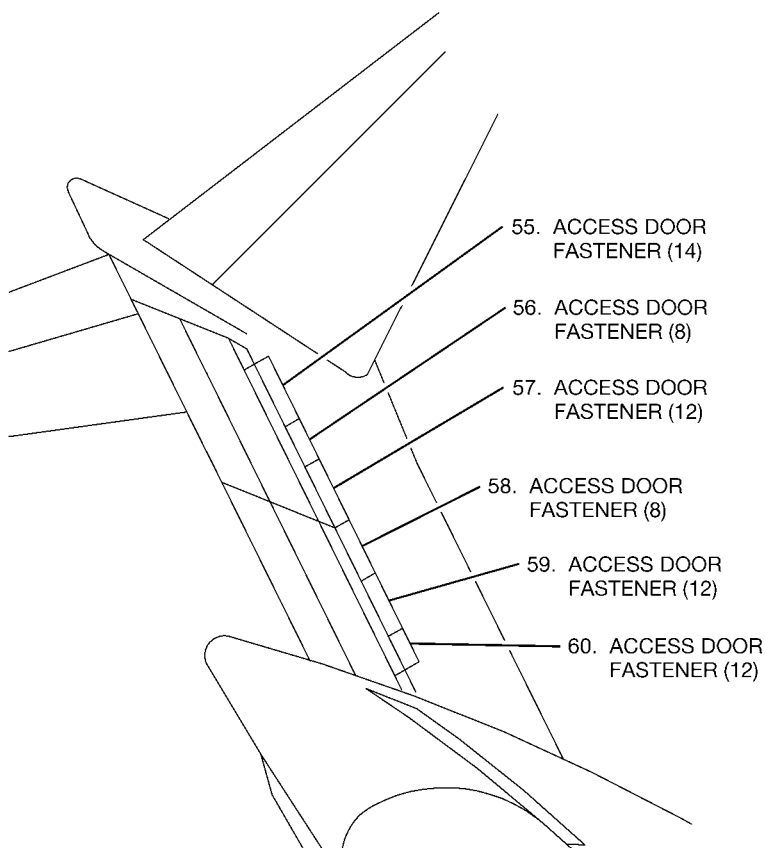




ICN-88277-G2721352-003-01

## **TO 1300i-2-27JG-20-1**

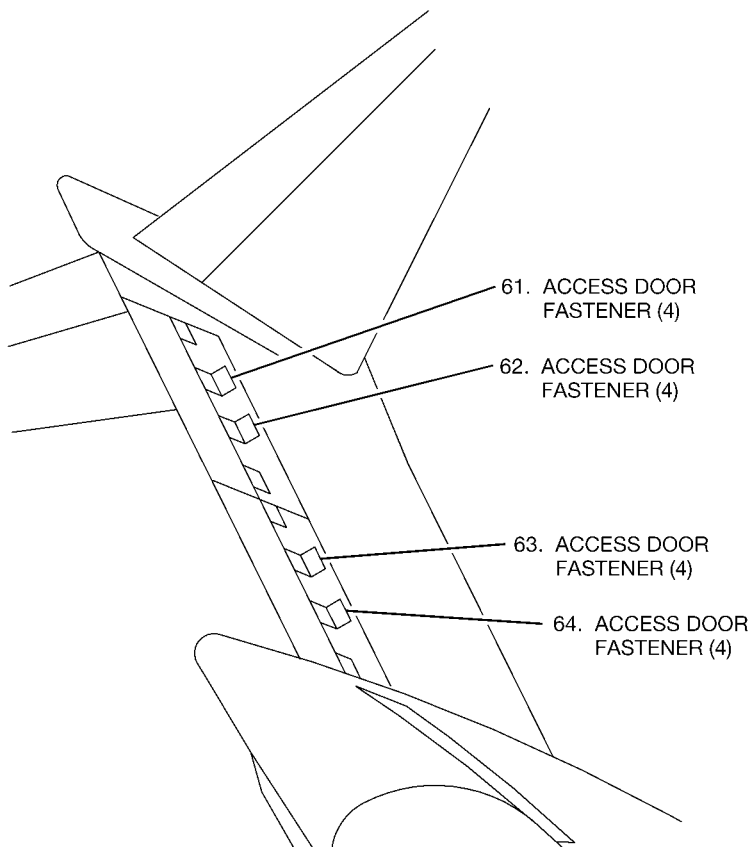
55. (A,B,C) Close access door and tighten fasteners (354JRD).
56. (A,B,C) Close access door and tighten fasteners (354HRD).
57. (A,B,C) Close access door and tighten fasteners (354GRD).
58. (A,B,C) Close access door and tighten fasteners (354FRD).
59. (A,B,C) Close access door and tighten fasteners (354ERD).
60. (A,B,C) Close access door and tighten fasteners (354DRD).



ICN-88277-G2721344-004-01

## **TO 1300i-2-27JG-20-1**

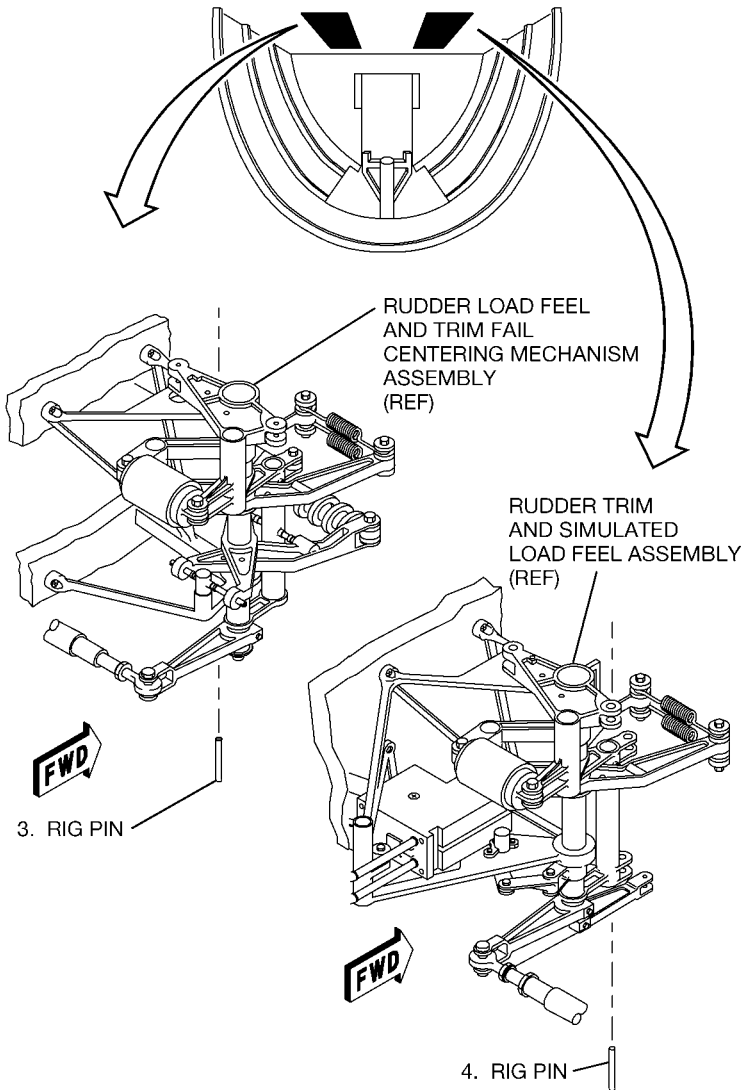
61. (A,B,C) Close access door and tighten fasteners (362CRP).
62. (A,B,C) Close access door and tighten fasteners (362BRP).
63. (A,B,C) Close access door and tighten fasteners (361CRP).
64. (A,B,C) Close access door and tighten fasteners (361BRP).



ICN-88277-G2721345-004-01

**02-5. CABLE TENSION CHECK AND  
VERIFICATION FOR CABLE RUNS 1 AND 2.**

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 rig pin 5-12 in rudder load feel and trim fail centering mechanism assembly.
4. Install rig pin 5-12 in rudder trim and simulated load feel assembly.

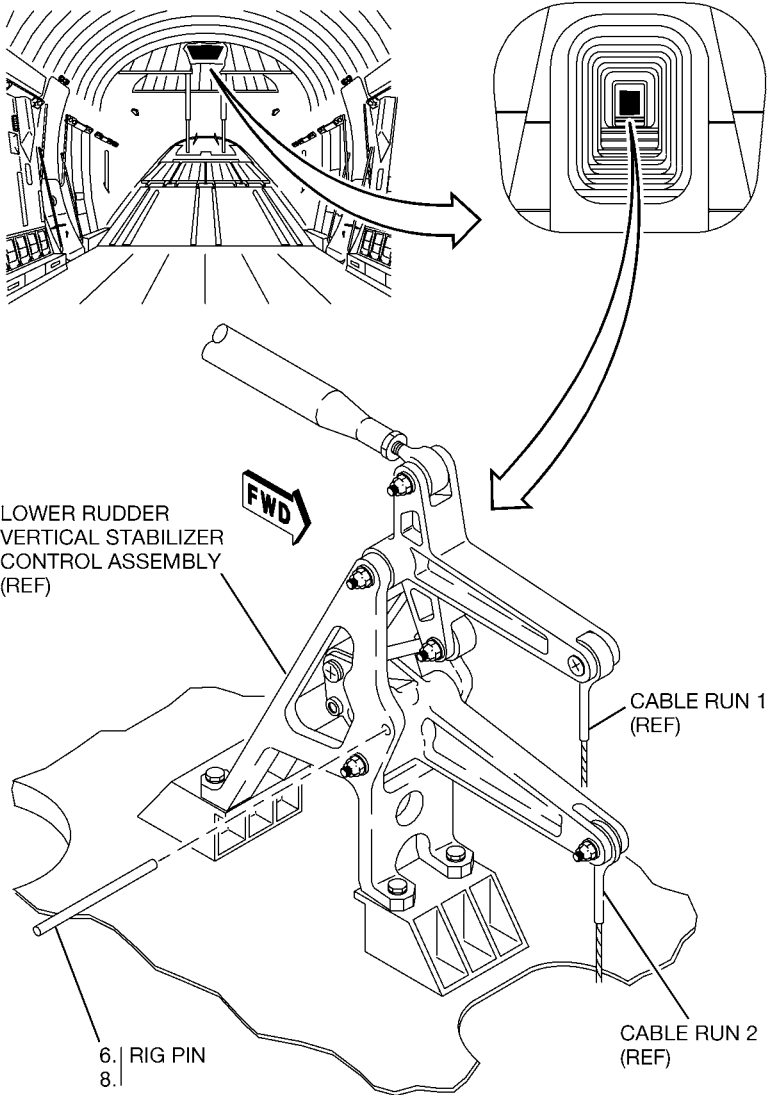


ICN-88277-G2721462-001-01

## **TO 1300i-2-27JG-20-1**

5. Perform vertical and horizontal stabilizer access (00-00-02, task 02-1).
6. Install rig pin 5-5 in lower rudder vertical stabilizer control assembly.
7. Perform cable tension check for cable runs 1 and 2 (para 1-9); verify rig pin for binding.
  - Rig pin moves freely; go to step 9.
  - Rig pin does not move freely; perform tasks 02-1, 02-3, and 02-6.
8. Remove rig pin 5-5 from lower rudder vertical stabilizer control assembly.
9. Perform vertical and horizontal stabilizer access (00-00-02, task 02-8).

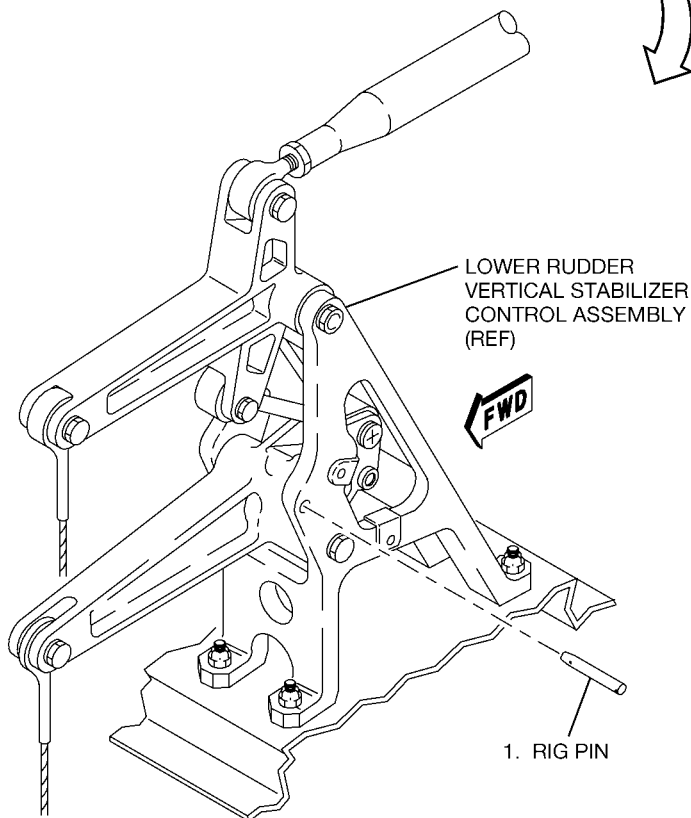
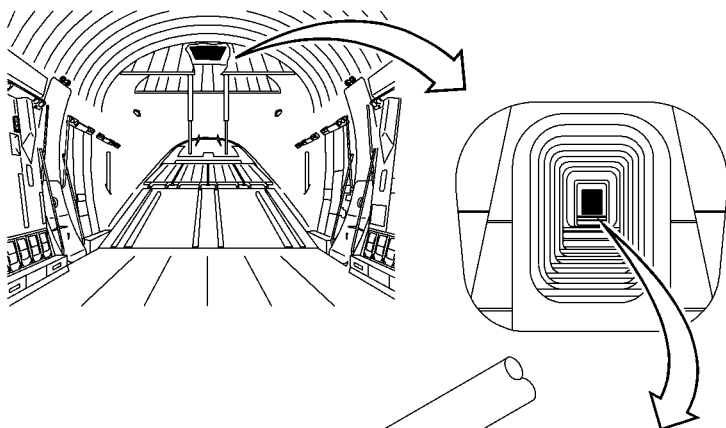




ICN-88277-G2721430-004-01

## **02-6. FOLLOW-ON MAINTENANCE.**

1. Remove rig pin 5-5 from lower rudder vertical stabilizer control assembly.
2. Perform vertical and horizontal stabilizer access (00-00-02, task 02-8).

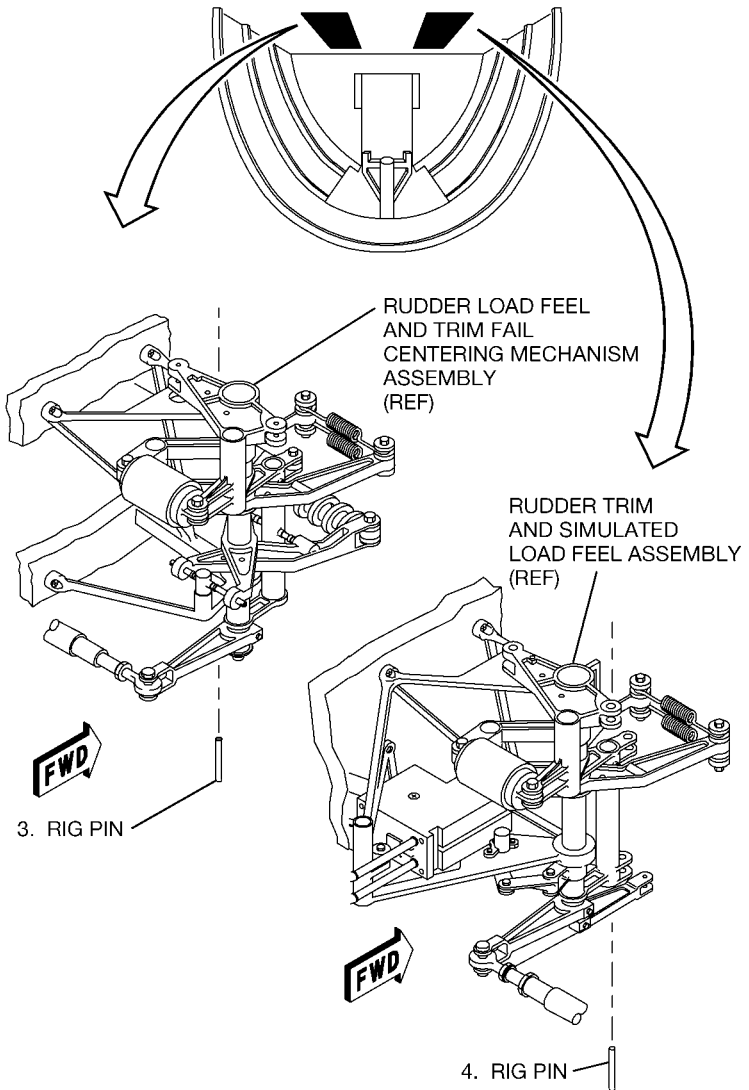


ICN-88277-G2721346-003-01

**TO 1300i-2-27JG-20-1**

- 3. Remove rig pin 5-12 from rudder load feel and trim fail centering mechanism assembly.
- 4. Remove rig pin 5-12 from rudder trim and simulated load feel assembly.
- 5. Perform horizontal pressure panel access cover assembly installation (53-12-10).

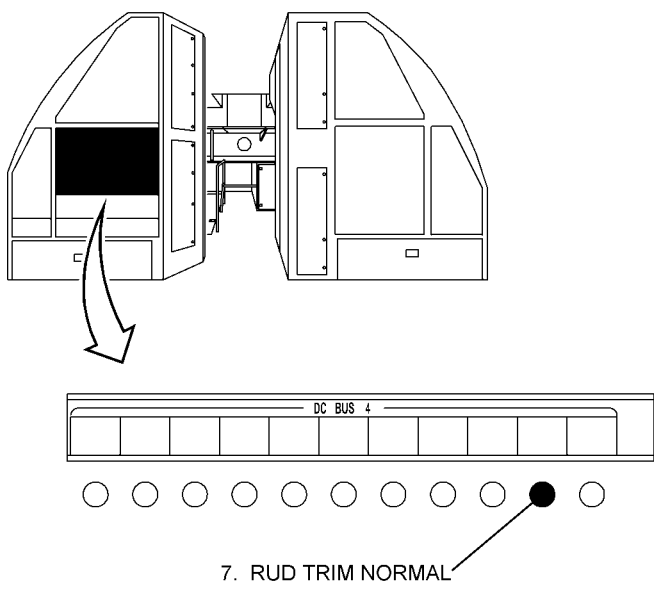
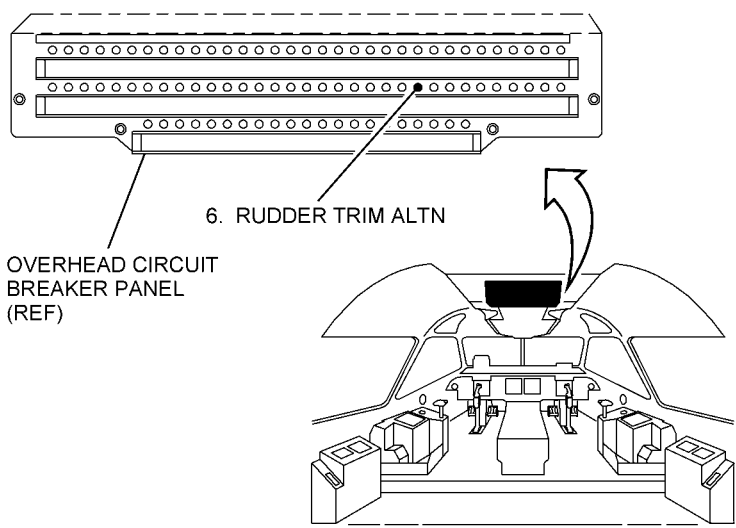
PANEL NO.	PANEL REF DES
112AZP	5312CA001
112BZP	5312CA002



ICN-88277-G2721347-005-01

## TO 1300i-2-27JG-20-1

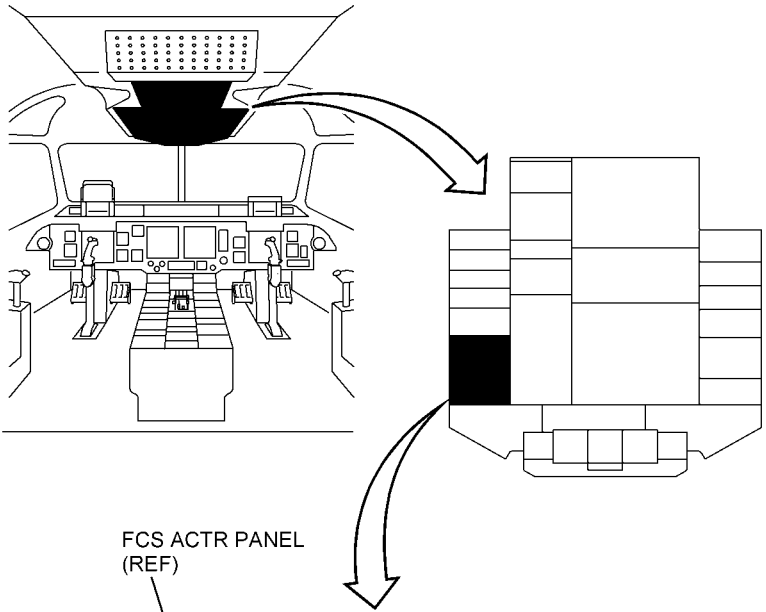
6. Remove warning tag and close **RUDDER TRIM ALTN** circuit breaker on overhead circuit breaker panel, row **H**, column **24**.
7. Remove warning tag and close **RUD TRIM NORMAL** circuit breaker on Electrical Power Center (EPC), row **R**, column **22**.



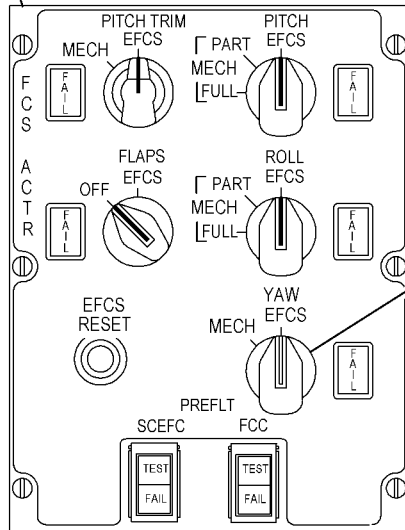
ICN-88277-G2721350-004-01

8. Remove warning tag from **YAW** switch on **FCS ACTR** panel.





FCS ACTR PANEL  
(REF)

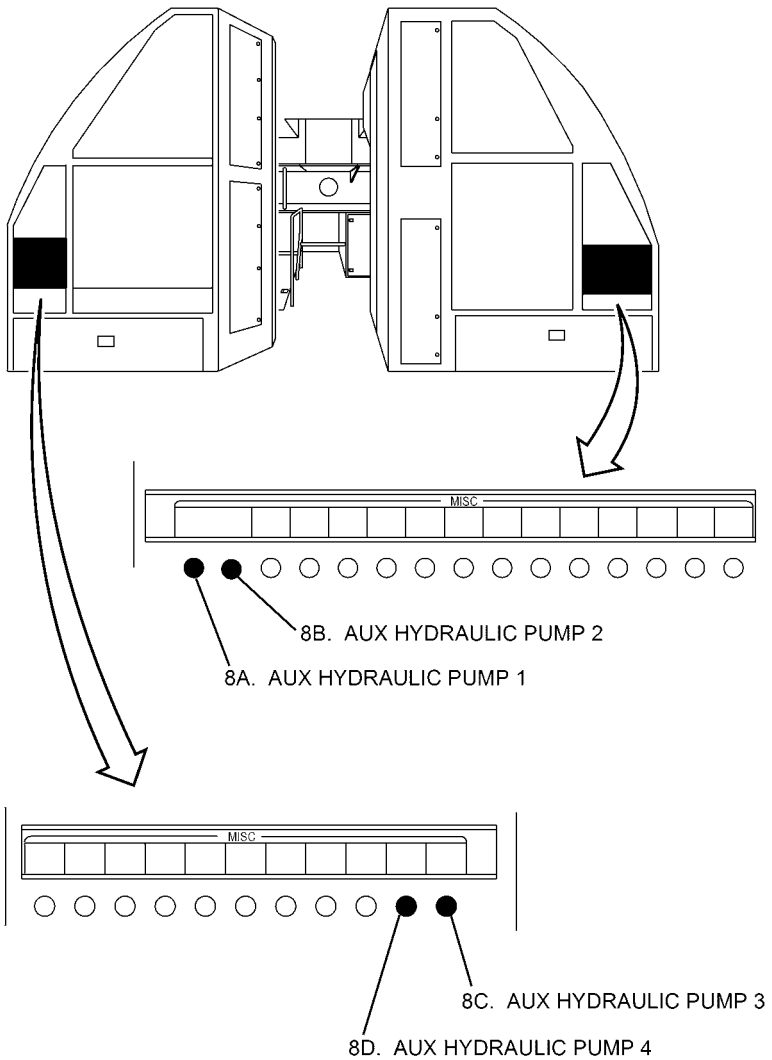


8. YAW

ICN-88277-G2721351-004-01

## **TO 1300i-2-27JG-20-1**

- 8A. Remove warning tag and close **AUX HYDRAULIC PUMP 1** circuit breaker on EPC, row **LL**, column **68**.
- 8B. Remove warning tag and close **AUX HYDRAULIC PUMP 2** circuit breaker on EPC, row **LL**, column **69**.
- 8C. Remove warning tag and close **AUX HYDRAULIC PUMP 3** circuit breaker on EPC, row **LL**, column **11**.
- 8D. Remove warning tag and close **AUX HYDRAULIC PUMP 4** circuit breaker on EPC, row **LL**, column **10**.
- 9. Perform rudder mechanical controls and surfaces system operational checkout (27-21-01, task 01-1).
- 10. Perform external electrical power (10-61-01, task 01-2).



ICN-88277-G2721500-001-01



**RUDDER MECHANICAL CONTROLS AND  
SURFACES SYSTEM REPAIR  
(27-21-03)**

**GENERAL MAINTENANCE INPUT CONDITIONS:**

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

**Additional information:**

This procedure consists of the following tasks:

- 03-1. Preparation for pilot/copilot rudder pedal stature adjust upper shaft.
- 03-2. Preparation for pilot/copilot rudder pedal stature adjust lower shaft.
- 03-3. Repair rudder mechanical controls and surfaces system by replacing pilot/copilot rudder pedal stature adjust upper shaft.
- 03-4. Repair rudder mechanical controls and surfaces system by replacing pilot/copilot rudder pedal stature adjust lower shaft.
- 03-5. Follow-on maintenance for pilot/copilot rudder pedal stature adjust upper shaft.
- 03-6. Follow-on maintenance for pilot/copilot rudder pedal stature adjust lower shaft.

<b>Additional data:</b>	<b>Task</b>
TO 1300i-2-05JG-10-1	03-1, 03-2, 03-5, 03-6
TO 1300i-2-23JG-40-1	03-3, 03-4
TO 1300i-2-25JG-10-1	03-1, 03-5

	Task
TO 1300i-23	03-3, 03-4
TO 1300i-2-53JG-10-1	03-2, 03-6

Personnel recommended:

	Task
One	03-1, 03-2, 03-5, 03-6
Two	03-3, 03-4
Person (A) performs task.	
Person (B) assists person (A).	

Safety conditions:

	Task
<div>WARNING</div>	
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.	03-2, 03-4, 03-6

### 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>
Compound, Sealing	PR-1775	--	AR	03-3, 03-4
Pin, Cotter	MS24665-151	--	1	03-4
Wire, Safety	MS20995C41	--	AR	03-4

TO 1300i-2-27JG-20-1

03-1. PREPARATION FOR PILOT/  
COPILOT RUDDER PEDAL STATURE ADJUST UPPER  
SHAFT.

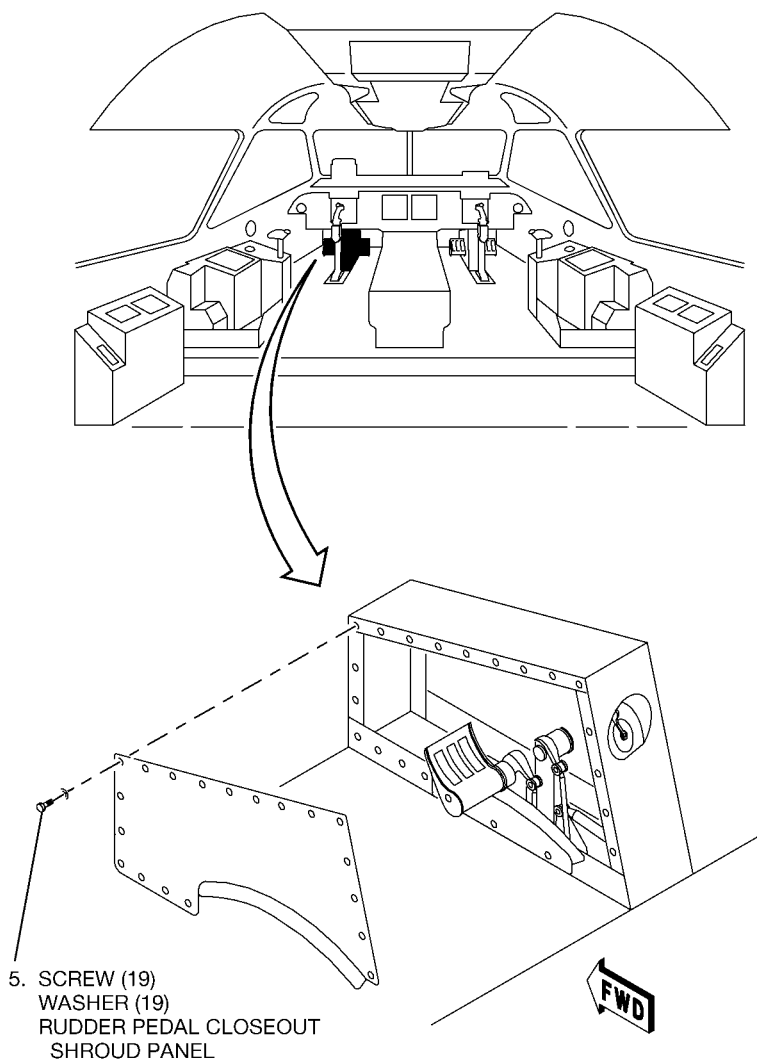
- 1. Review "Section 1 (General Information)" of this TO for system general warnings, cautions, and notes.
- 2. Review task "General Maintenance Input Conditions" page for task specific safety conditions.
- 3. Perform aircraft ground safety locks (05-10-01, task 01-1).
- 4. Perform pilot/copilot seat assembly (25-11-10, task 2-1) as follows:

RUDDER PEDAL	SEAT REF DES
PILOT	2511AA001
COPILOT	2511AA002

- 5. Remove screws, washers, and rudder pedal closeout shroud panel as follows:

RUDDER PEDAL	PANEL NO.
PILOT	211FZM
COPILOT	211MZM





(TYPICAL)

ICN-88277-G2721446-002-01

**03-2. PREPARATION FOR PILOT/COPILOT  
RUDDER PEDAL STATURE ADJUST LOWER  
SHAFT.**

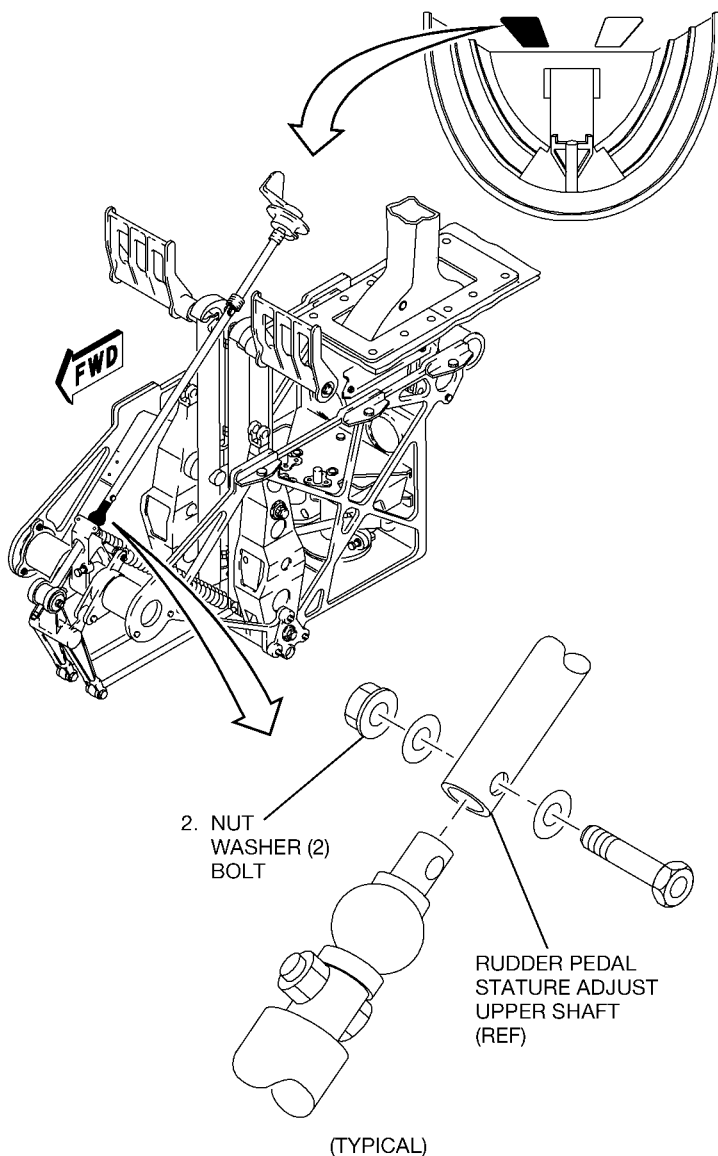
- 1. Review "Section 1 (General Information)" of this TO for system general warnings, cautions, and notes.
- 2. Review task "General Maintenance Input Conditions" page for task specific safety conditions.
- 3. Perform aircraft ground safety locks (05-10-01, task 01-1).
- 4. Perform horizontal pressure panel access cover assembly removal (53-12-10).

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



**03-3. REPAIR RUDDER MECHANICAL CONTROLS  
AND SURFACES SYSTEM BY REPLACING  
PILOT/COPILOT RUDDER PEDAL STATURE  
ADJUST UPPER SHAFT.**

1. Perform interphone system operation (23-41-02, task 02-3).
2. (B) Remove nut, washers, and bolt from rudder pedal stature adjust upper shaft.



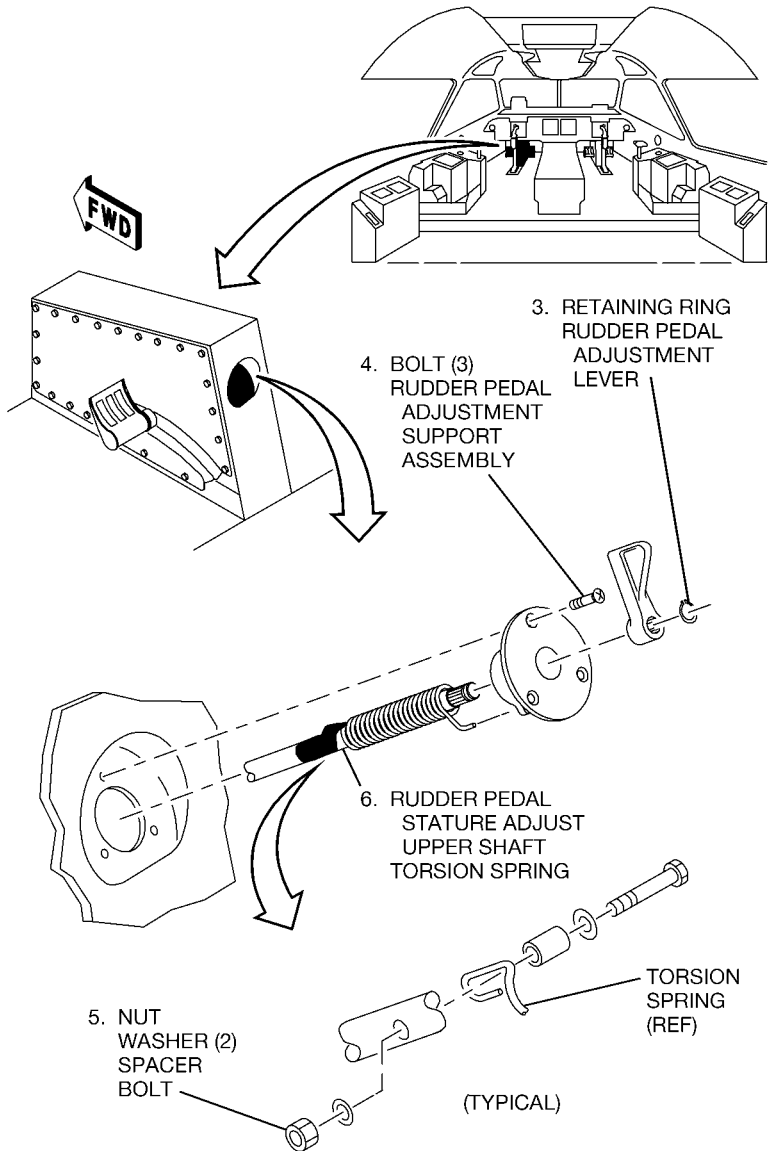
ICN-88277-G2721433-002-01

3. (A) Remove retaining ring and rudder pedal adjustment lever.



Shaft torsion spring is hooked in back of rudder pedal adjustment support assembly and is preloaded. Support assembly shall be held in position when bolts are removed, then rotated clockwise to relieve tension on torsion spring. Failure to comply may cause damage to aircraft.

4. (A,B) Remove bolts; rotate rudder pedal adjustment support assembly one-half turn clockwise and remove support assembly.
5. (B) Remove nut, washers, spacer, and bolt attaching torsion spring.
6. (A,B) Remove rudder pedal stature adjust upper shaft and torsion spring.

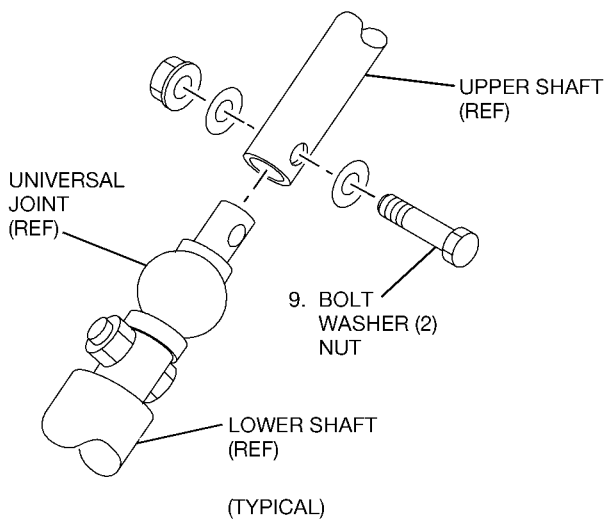
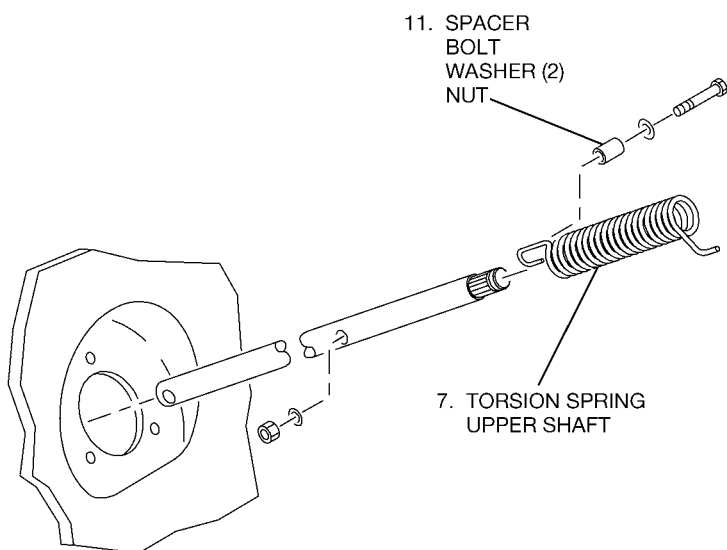


ICN-88277-G2721434-002-01

## **TO 1300i-2-27JG-20-1**

7. (A,B) Slide torsion spring on upper shaft; position upper shaft over the universal joint on lower shaft.
8. Perform wet fastener installation (TO 1300i-23, Chapter 1, Section III).
9. (B) Install bolt, washers, and nut.
10. Perform wet fastener installation (TO 1300i-23, Chapter 1, Section III).
11. (B) Position spring; install spacer, bolt, washers, and nut.





ICN-88277-G2721435-002-01

## **TO 1300i-2-27JG-20-1**

12. (A) Install support assembly on upper shaft.
13. (A,B) Position spring end in support assembly receptacle.

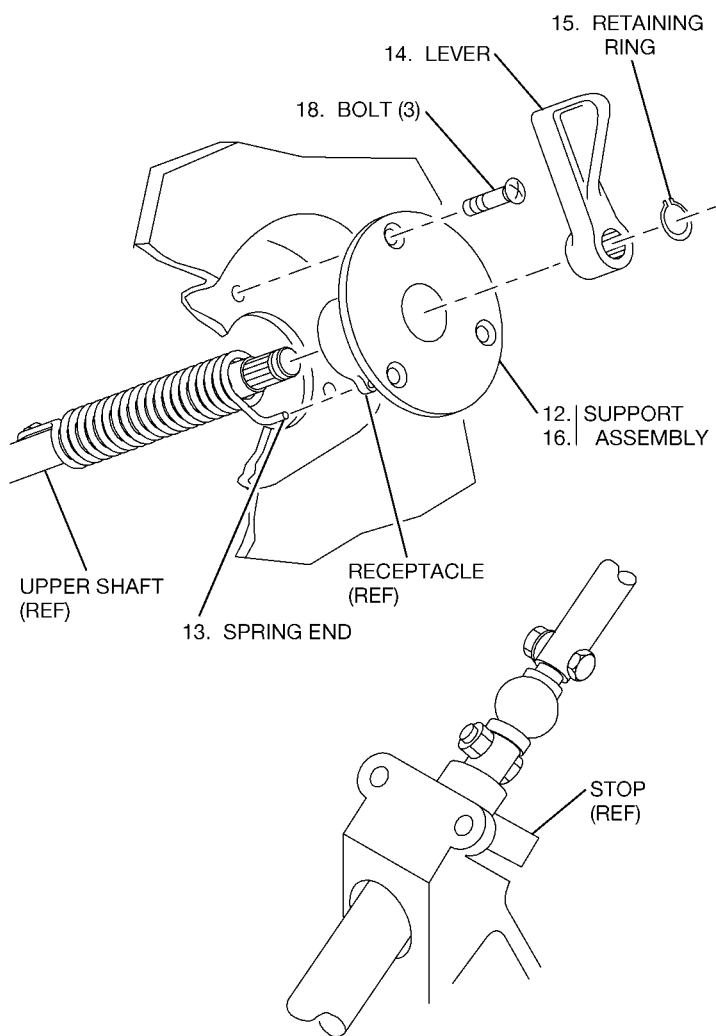
SPECIAL INSTRUCTION. Ensure spring end is inserted firmly in the support assembly receptacle.

14. (A,B) Position lever on shaft and rotate counter clockwise until stop engages.
15. (A) Verify lever is in vertical position and install retaining ring.

### **NOTE**

Turn the support assembly until bolt holes are aligned.

16. (A) Hold lever in vertical position and rotate support assembly one-half turn counter clockwise.
17. Perform wet fastener installation (TO 1300i-23, Chapter 1, Section III).
18. (A) Install bolts.
19. Perform interphone system operation (23-41-02, task 02-4).

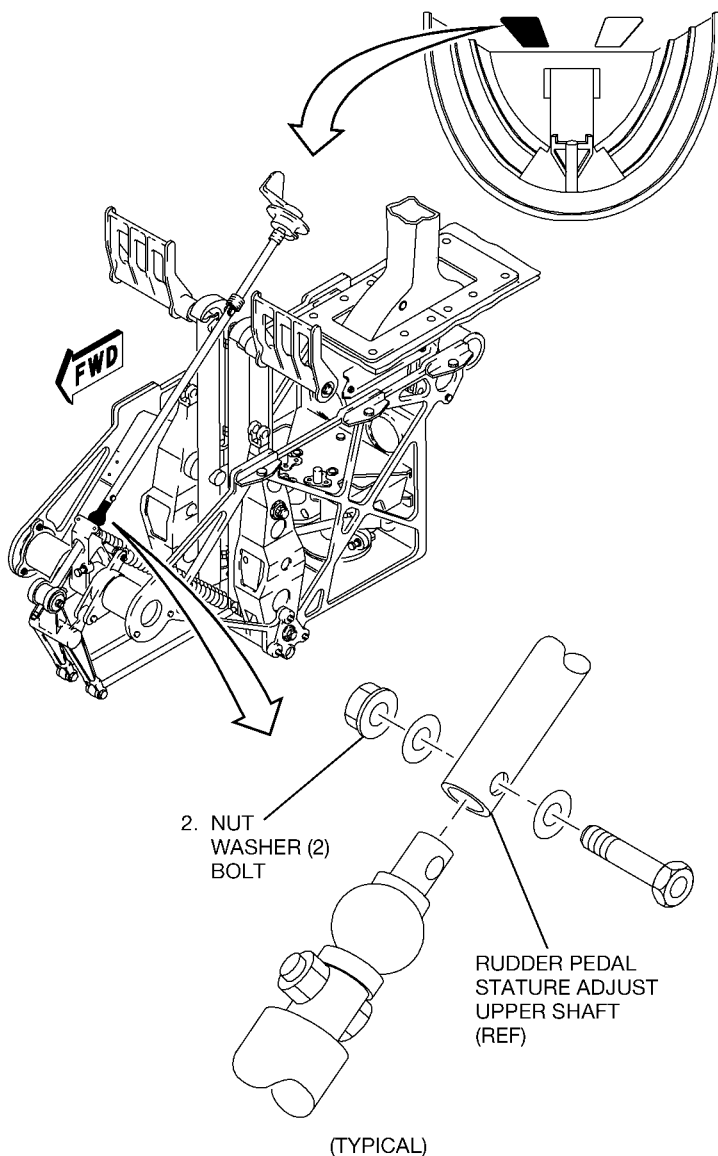


(TYPICAL)

ICN-88277-G2721436-002-01

**03-4. REPAIR RUDDER MECHANICAL CONTROLS  
AND SURFACES SYSTEM BY REPLACING  
PILOT/COPILOT RUDDER PEDAL STATURE  
ADJUST LOWER SHAFT.**

1. Perform interphone system operation (23-41-02, task 02-3).
2. (B) Remove nut, washers, and bolt from rudder pedal stature adjust upper shaft.



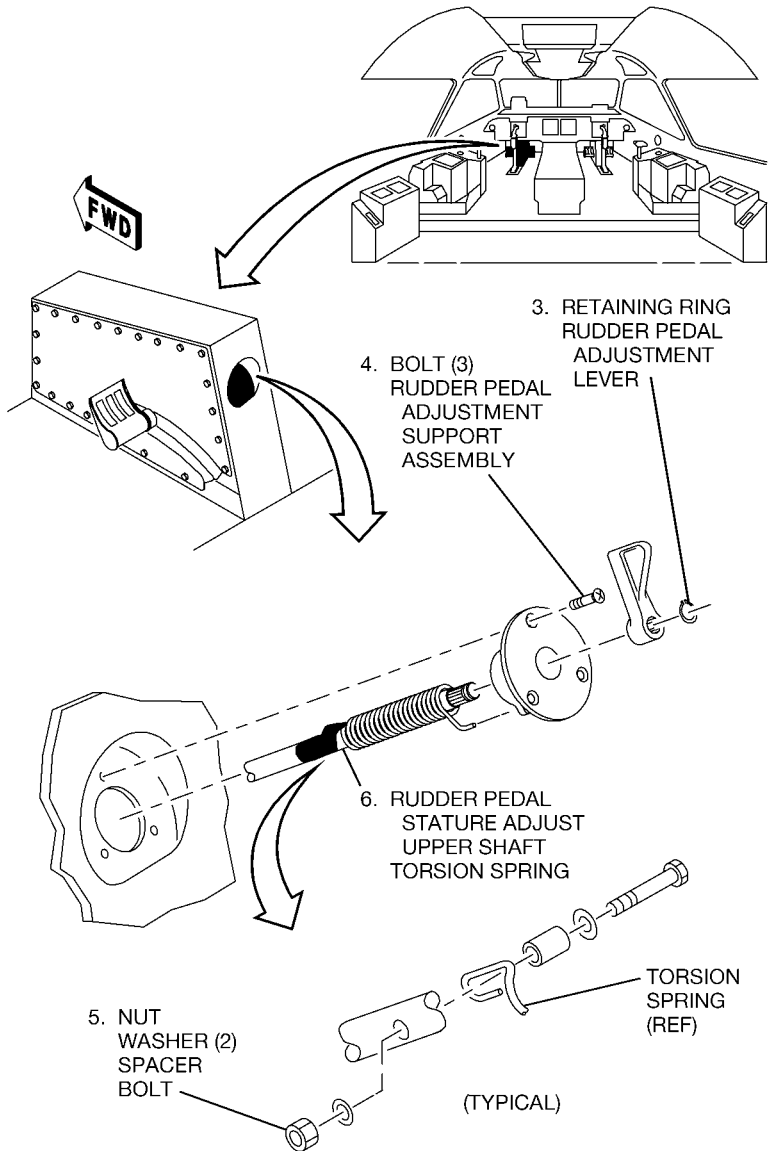
ICN-88277-G2721440-002-01

3. (A) Remove retaining ring and rudder pedal adjustment lever.



Shaft torsion spring is hooked in back of rudder pedal adjustment support assembly and is preloaded. Support assembly shall be held in position when bolts are removed, then rotated clockwise to relieve tension on torsion spring. Failure to comply may cause damage to aircraft.

4. (A,B) Remove bolts; rotate rudder pedal adjustment support assembly one half turn clockwise and remove support assembly.
5. (B) Remove nut, washers, spacer, and bolt attaching torsion spring.
6. (A,B) Remove rudder pedal stature adjust upper shaft and torsion spring.

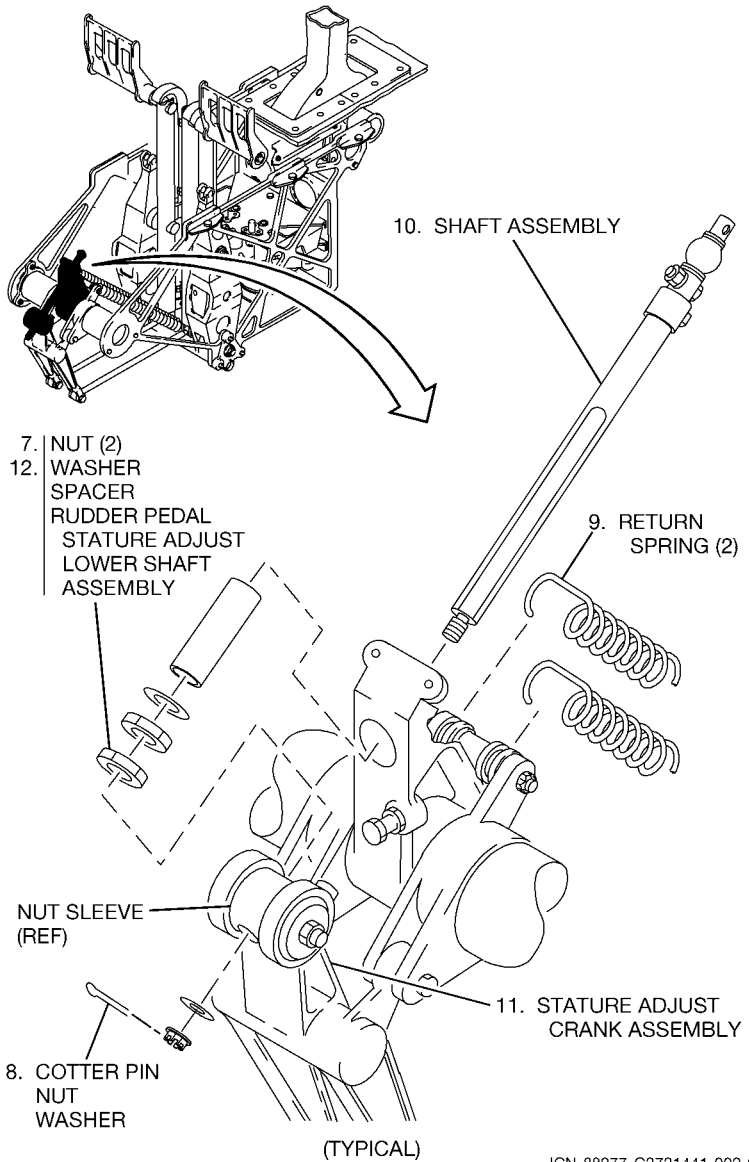


ICN-88277-G2721439-002-01

## **TO 1300i-2-27JG-20-1**

7. (B) Remove safety wire and loosen nuts on rudder pedal stature adjust lower shaft assembly.
8. (B) Remove cotter pin, nut, and washer.
9. (B) Remove return springs.
10. (B) Rotate shaft assembly 90° clockwise. Verify shaft threads disengage threads in nut sleeve.
11. (B) Slide stature adjust crank assembly off lower shaft.
12. (B) Remove nuts, washer, and spacer from shaft; remove lower shaft assembly.





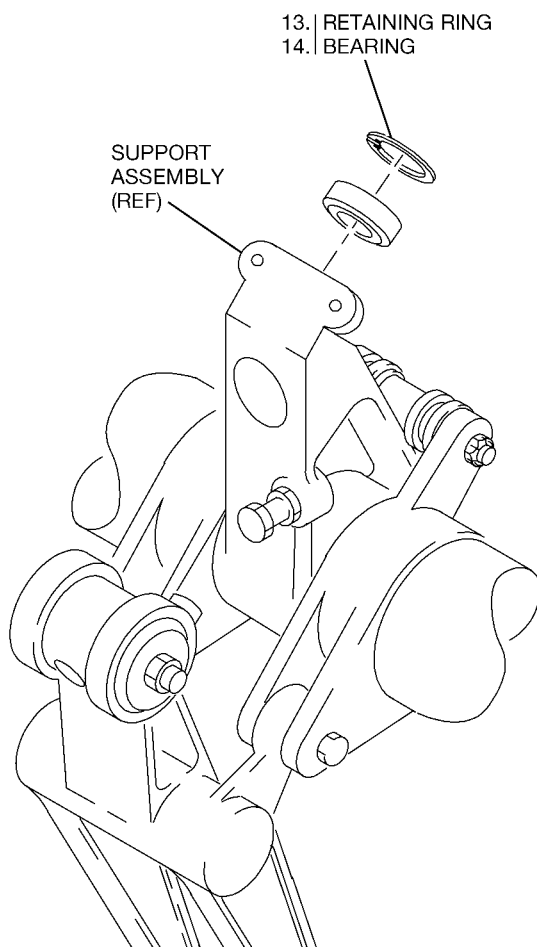
ICN-88277-G2721441-002-01

13. (B) Remove retaining ring and bearing from support assembly.

SPECIAL INSTRUCTION. When the bearing housing is damaged, the support assembly shall be replaced. When the bearing and/or retaining ring are damaged, they must be replaced.

14. (B) Install bearing and retaining ring.

SPECIAL INSTRUCTION. Both the bearing and the retaining ring shall be seated properly in the housing.

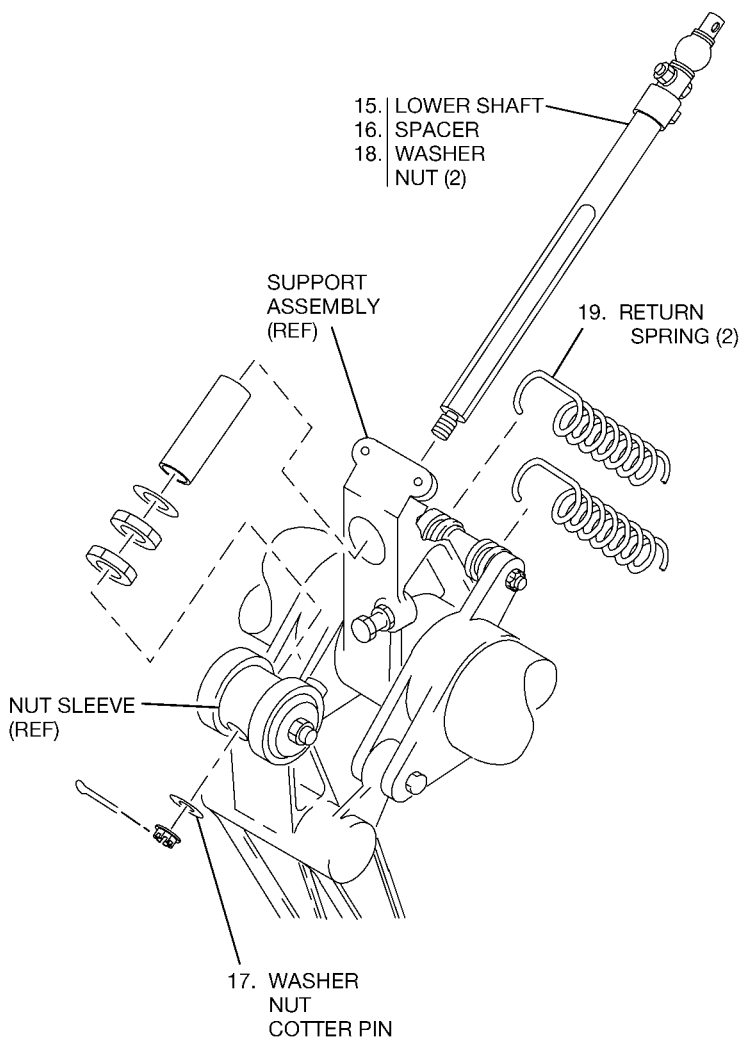


(TYPICAL)

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## **TO 1300i-2-27JG-20-1**

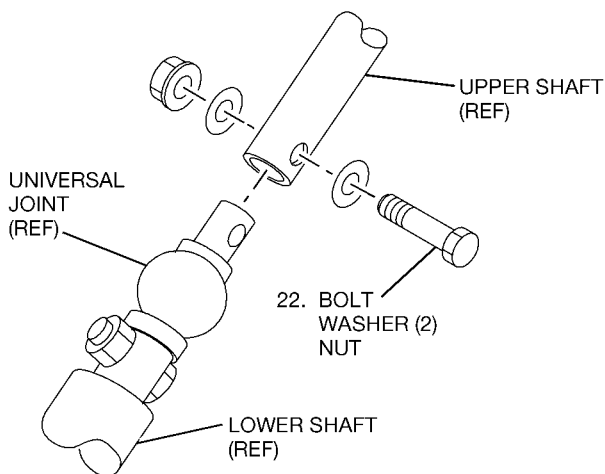
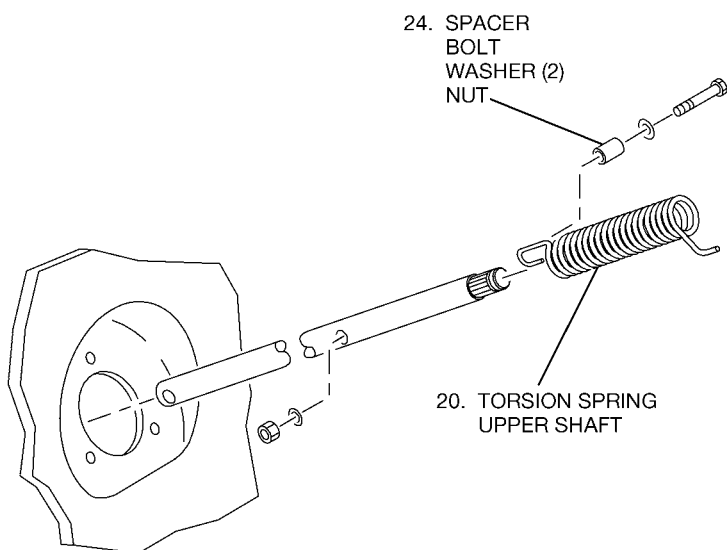
15. (B) Slide lower shaft through support assembly; install spacer, washer, and nuts on shaft.
16. (B) Rotate lower shaft 90° clockwise to locked position; insert shaft through nut sleeve on crank assembly.
17. (B) Install washer and nut on shaft; install cotter pin.
18. (B) Secure nuts with safety wire.
19. (B) Install return springs on support assembly.



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## **TO 1300i-2-27JG-20-1**

20. (A,B) Slide torsion spring on upper shaft; position upper shaft over the universal joint on lower shaft.
21. Perform wet fastener installation (TO 1300i-23, Chapter 1, Section III).
22. (B) Install bolt, washers, and nut.
23. Perform wet fastener installation (TO 1300i-23, Chapter 1, Section III).
24. (B) Position spring; install spacer, bolt, washers, and nut.



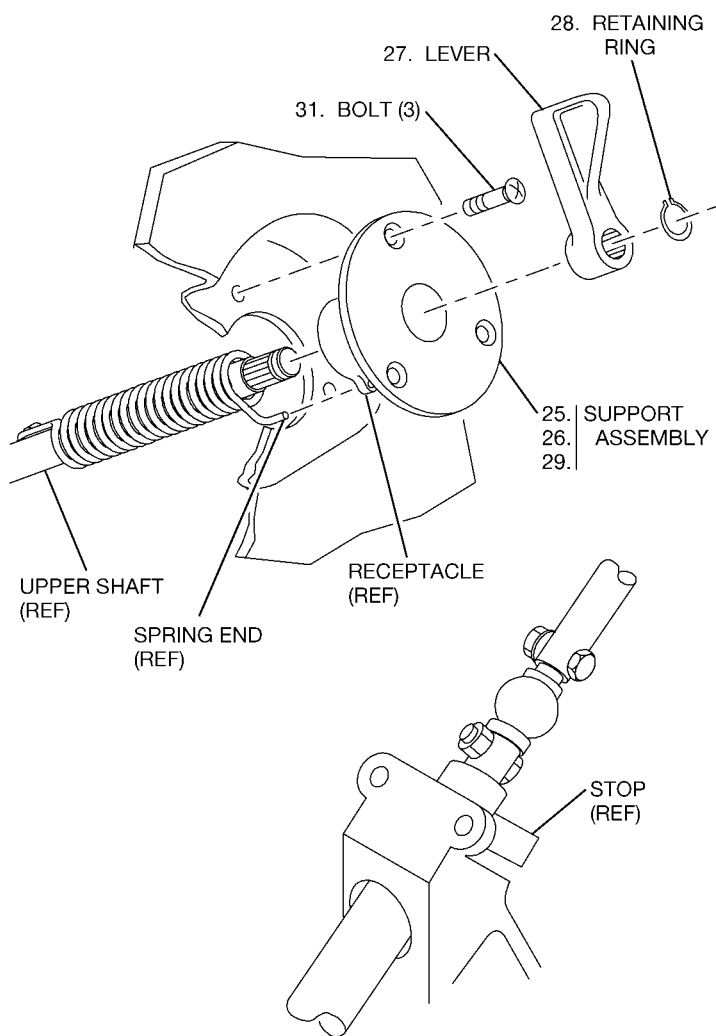
(TYPICAL)

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## **TO 1300i-2-27JG-20-1**

25. (A) Install support assembly on upper shaft.
26. (A) Position support assembly on spring end.  
SPECIAL INSTRUCTION. Ensure spring end is inserted firmly in the support assembly receptacle.
27. (A,B) Position lever on shaft and rotate counter clockwise until stop engages.
28. (A) Verify lever is in vertical position and install retaining ring.
29. (A) Hold lever in vertical position and rotate support assembly one-half turn counter clockwise.
30. Perform wet fastener installation (TO 1300i-23, Chapter 1 Section III).
31. (A) Install bolts.
32. Perform interphone system operation (23-41-02, task 02-4).





(TYPICAL)

ICN-88277-G2721445-002-01

**03-5. FOLLOW-ON MAINTENANCE FOR PILOT/  
COPILOT RUDDER PEDAL STATURE  
ADJUST UPPER SHAFT.**

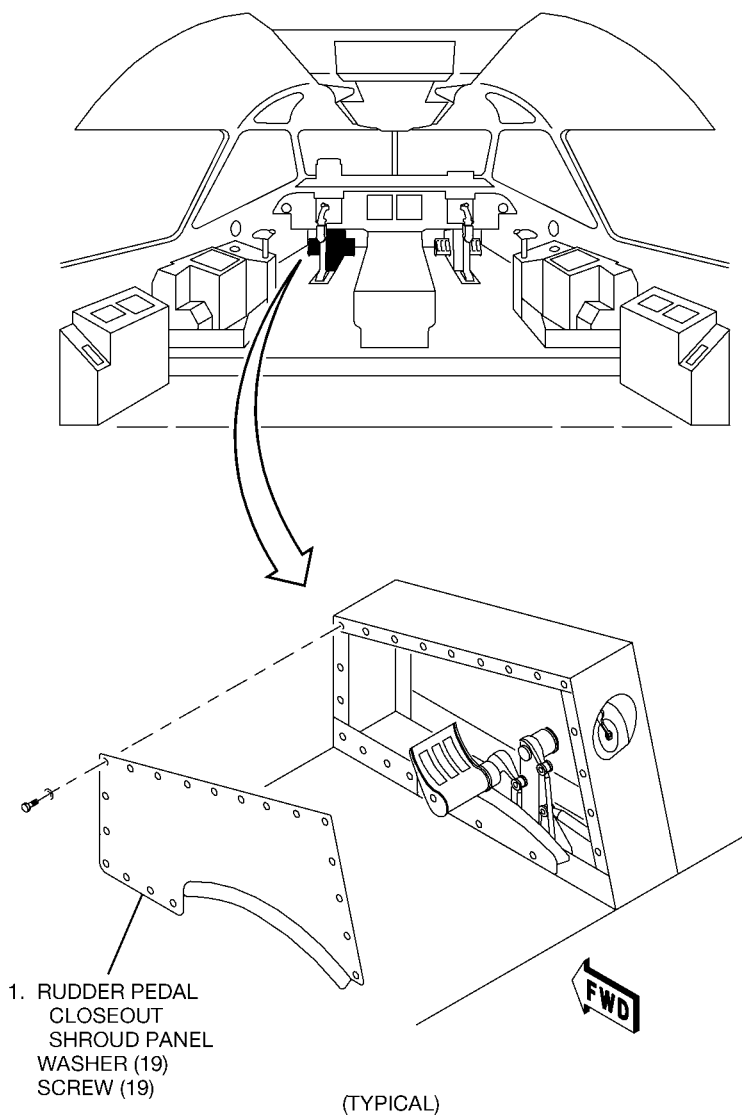
1. Position rudder pedal closeout shroud panel, install washers and screws as follows:

<b>RUDDER PEDAL</b>	<b>PANEL NO.</b>
PILOT	211FZM
COPILOT	211MZM

2. Perform pilot/copilot seat assembly (25-11-10, task 3-1) as follows:

<b>RUDDER PEDAL</b>	<b>SEAT REF DES</b>
PILOT	2511AA001
COPILOT	2511AA002

3. Perform aircraft ground safety locks (05-10-01, task 01-2).



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**03-6. FOLLOW-ON MAINTENANCE FOR PILOT/  
COPILOT RUDDER PEDAL STATURE  
ADJUST LOWER SHAFT.**

- 1. Perform horizontal pressure panel access cover assembly installation (53-12-10).

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

- 2. Remove rudder aircraft ground safety locks (05-10-01, task 01-2).