TECHNICAL MANUAL

JOB GUIDE ORGANIZATIONAL MAINTENANCE

FLIGHT CONTROLS HORIZONTAL STABILIZER

(27-40-00 AND 27-42-10 THROUGH 27-42-12)

300i
AIRCRAFT

MCDONNELL DOUGLAS CORPORATION
MILITARY TRANSPORT AIRCRAFT
F33657-81-C-2108
FA8526-21-D-0001

THIS MANUAL SUPERSEDES TO 1300i-2-27JG-40-2 DATED 1 JULY 2019.

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1 JULY 2022

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INTRODUCTION

SCOPE.

This job guide provides maintenance procedures for the removal and installation of horizontal stabilizer components.

MODEL(S) COVERED.

All

ABBREVIATIONS.

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

PLCS Places

CHANGE REQUEST.

Recommend changes to this manual shall be submitted in accordance with TO 00-5-1.3

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.

ZELIST 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 (27-40-00)

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. Flight control surfaces are to be cleared prior to turning off hydraulic auxiliary pumps from the loadmaster control panel. Flight control surface movement may occur.
- 1-4. 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).

1-5. 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 and damage to aircraft.

SECTION 2

LOWER PEDESTAL CONTROL ASSEMBLY (27-42-10)

MASTER INPUT CONDITIONS:

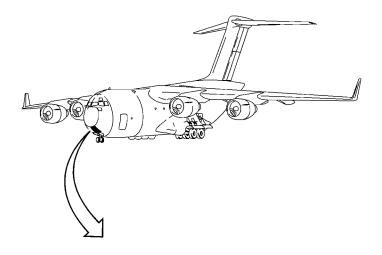
Reference designators:

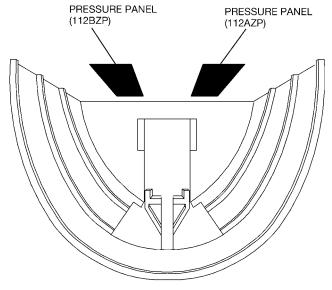
2742AA001 Lower Pedestal Control Assembly

Applicable functions:

- -2 Removal.
- -3 Installation.

Access data:





ICN-88277-G2742001-003-01

LOWER PEDESTAL CONTROL ASSEMBLY REMOVAL (27-42-10-2)

FUNCTIONAL INPUT CONDITIONS:	
Applicability:	Task
All	All
Additional information:	
This procedure consists of the following tasks:	
2-1. Preparation.2-2. Removal.	
Additional data:	Task
TO 1300i-2-00JG-00-1	2-1
TO 1300i-2-31JG-60-1	2-1
TO 1300i-2-53JG-10-1	2-1
Personnel recommended:	Task
One	2-2
Two	2-1
Person (A) performs task.	
Person (B) assists person (A).	

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 result in injury to personnel.

All

Support equipment:

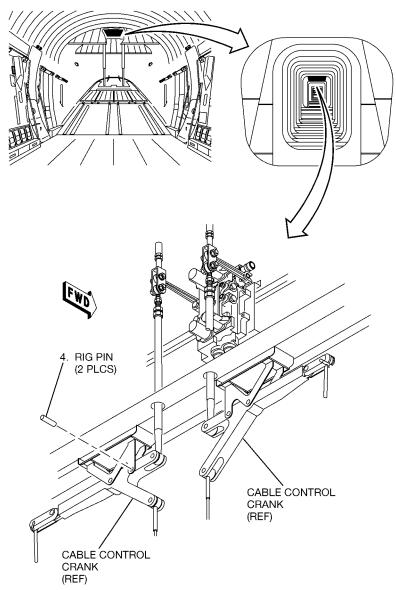
<u>Nomenclature</u>	<u>PN</u>	Specification	<u>Qty</u>	<u>Task</u>
Kit, Rig Pin	17G140015-1			
Assembly, Clamp	17G140015-7		2	2-1
Pin 5-3, Rig	17G140015-31		2	2-1
Tool, Turnbuckle Adjustment	17G140019-1		1	2-1

Supplies:

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

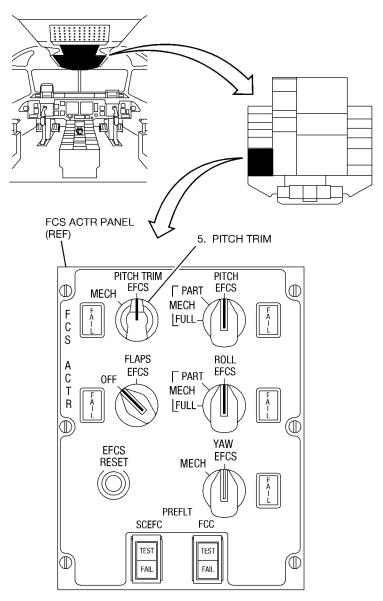
2-1. PREPARATION.

- 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. Enter vertical stabilizer (00-00-02, task 02-1).
- 4. (A) Install rig pins 5-3 in cable control cranks.



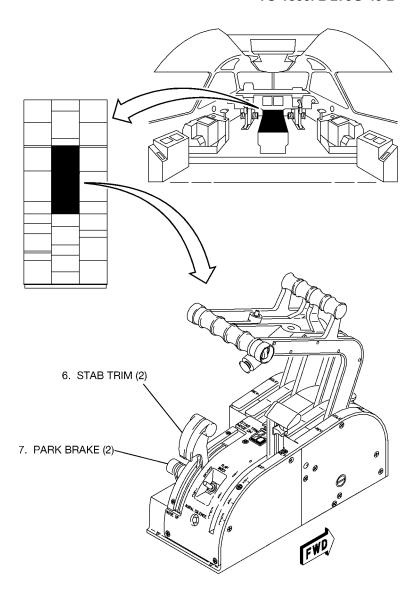
ICN-88277-G2742320-004-01

5. (A) Attach warning tag to **PITCH TRIM** switch on **FCS ACTR** panel.



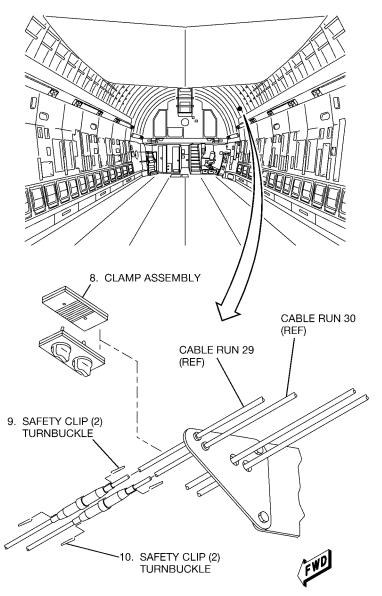
ICN-88277-G2742002-004-01

- 6. (A) Attach warning tag to **STAB TRIM** handles.
- 7. (A) Attach warning tag to **PARK BRAKE** levers.



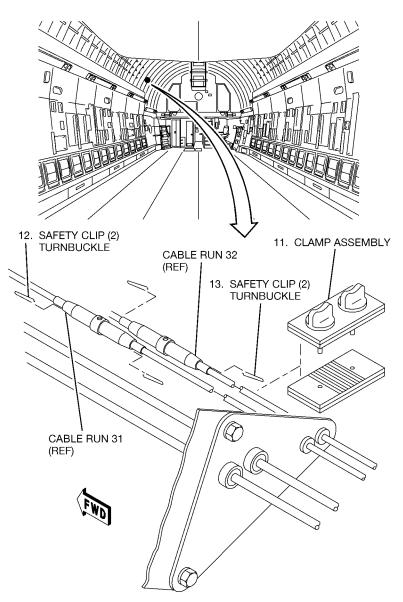
ICN-88277-G2742003-004-01

- 8. (B) Install clamp assembly on cable runs 29 and 30 forward of Station (STA) 510.
- 9. (B) Remove and discard safety clips; loosen turnbuckle on cable run 29 at STA 432.
- 10. (B) Remove and discard safety clips; loosen turnbuckle on cable run 30 at STA 450.



ICN-88277-G2742004-003-01

- 11. (B) Install clamp assembly on cable runs 31 and 32 forward of STA 510.
- 12. (B) Remove and discard safety clips; loosen turnbuckle on cable run 31 at STA 446.
- 13. (B) Remove and discard safety clips; loosen turnbuckle on cable run 32 at STA 478.

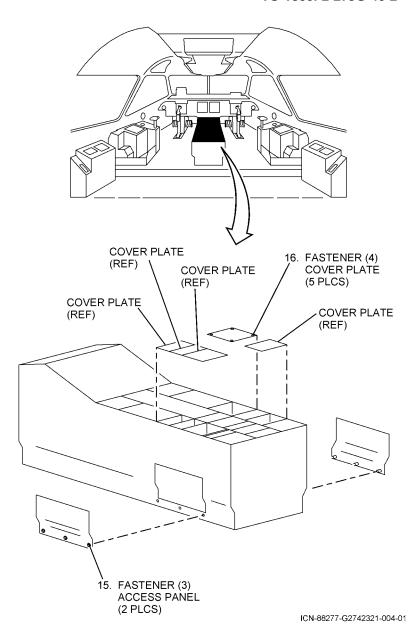


ICN-88277-G2742005-003-01

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

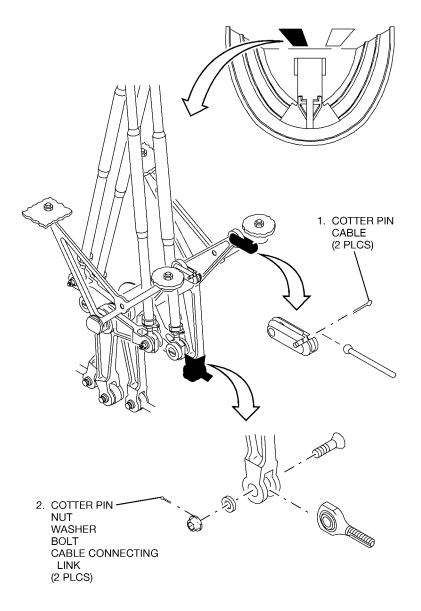
PANEL NO.	PANEL REF DES
112AZP	5312CA001
112BZP	5312CA002

- 15. (A) Loosen fasteners and remove access panels (212AZP and 212BZP).
- 16. (A) Loosen fasteners and remove cover plates.
- 17. (A) Remove multifunction control panels (31-61-10).



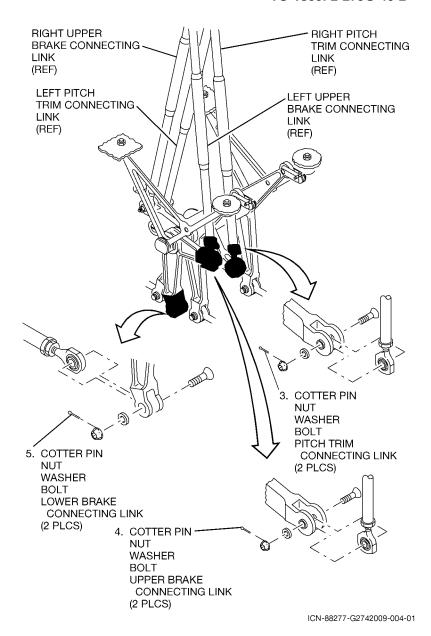
2-2. REMOVAL.

- 1. Remove cotter pins and disconnect cables.
- 2. Remove cotter pins, nuts, washers, bolts, and disconnect cable connecting links.

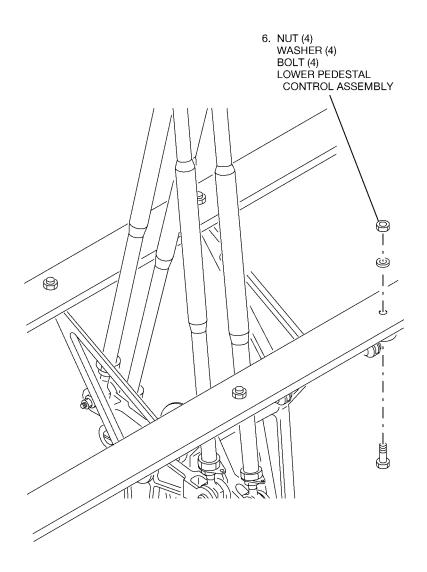


ICN-88277-G2742008-004-01

- 3. Remove cotter pins, nuts, washers, bolts, and disconnect pitch trim connecting links.
- 4. Remove cotter pins, nuts, washers, bolts, and disconnect upper brake connecting links.
- 5. Remove cotter pins, nuts, washers, bolts, and disconnect lower brake connecting links.



6. Remove nuts, washers, bolts, and lower pedestal control assembly.



ICN-88277-G2742010-003-01

27-42-10-2 2-23/(2-24 blank)

LOWER PEDESTAL CONTROL ASSEMBLY INSTALLATION (27-42-10-3)

FUNCTIONAL INPUT CONDITIONS:

Applicab	oility:	Task
All		All
This pro	al information: ocedure consists of the following tasks: Installation. Follow-on maintenance.	
Addition	al data:	Task
TO	1300i-2-00JG-00-1	3-1
TO	1300i-2-27JG-40-1	All
TO	1300i-2-31JG-60-1	3-2
TO	1300i-2-53JG-10-1	3-2
TO 1	300i-23	3-1
Personn	el recommended:	Task
One		All
Perso	on (A) performs task.	

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 result in injury to personnel.

All

Support equipment:

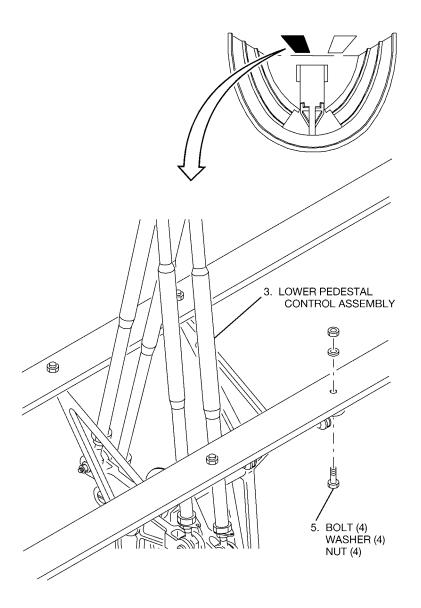
<u>Nomenclature</u>	<u>PN</u>	Specification	<u>Qty</u>	<u>Task</u>
Kit, Rig Pin	17G140015-1			
Pin 5-8, Rig	17G140015-15		1	3-1
Tool, Turnbuckle Adjustment	17G140019-1		1	3-1

Supplies:

<u>Nomenclature</u>	<u>PN</u>	Specification	Qty	<u>Task</u>
Pin, Cotter	MS24665-96		2	3-1
Pin, Cotter	MS24665-151		6	3-1
Pin, Cotter	MS24665-155		2	3-1
Sealant	PR-1775	AMS 3265	AR	3-1

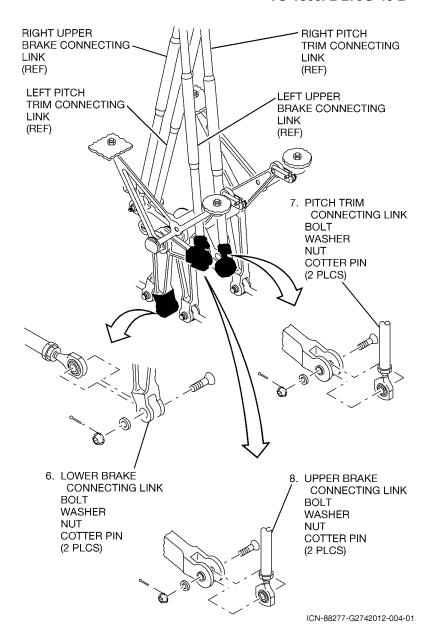
INSTALLATION. 3-1.

- 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.
- Position lower pedestal control assembly. 3.
- Perform wet fastener installation (TO 1300i-23, Chapter 1, Section III).
- Install bolts, washers, and nuts. 5.

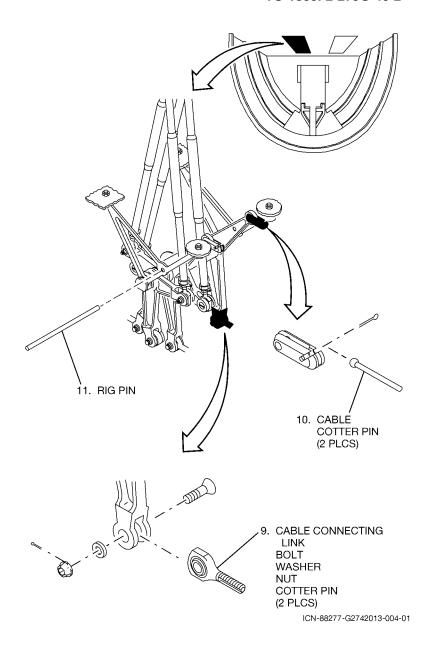


ICN-88277-G2742011-002-01

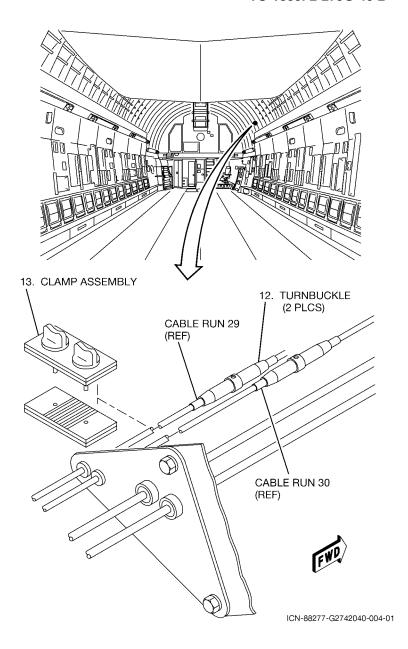
- 6. Position lower brake connecting links and install bolts, washers, nuts, and cotter pins (PN MS24665-96).
- 7. Position pitch trim connecting links and install bolts, washers, nuts, and cotter pins (PN MS24665-151).
- 8. Position upper brake connecting links and install bolts, washers, nuts, and cotter pins (PN MS24665-151).



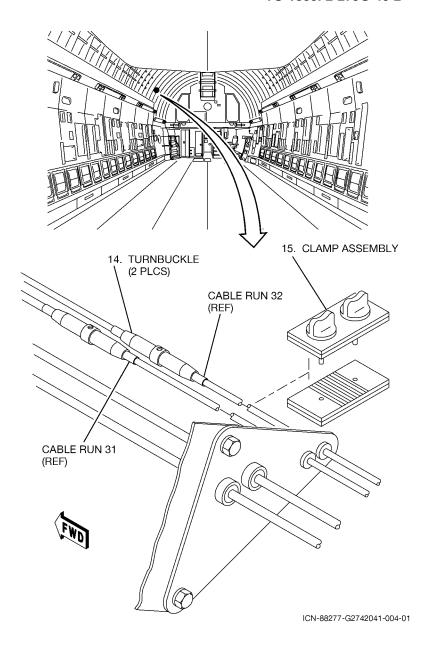
- 9. Position cable connecting links and install bolts, washers, nuts, and cotter pins (PN MS24665-151).
- 10. Install cables and cotter pins (PN MS24665-155).
- 11. Install rig pin 5-8.



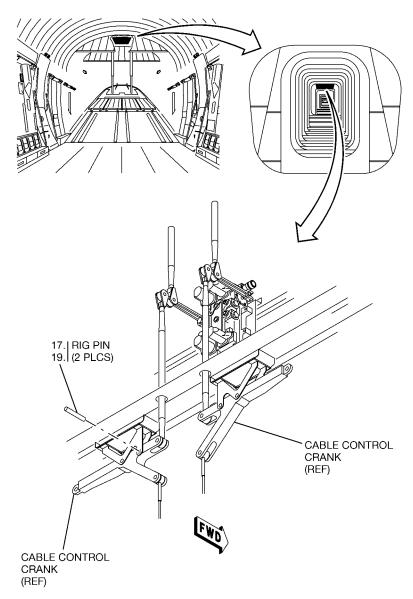
- 12. Tighten turnbuckles on cable runs 29 and 30 to remove slack.
- 13. Remove clamp assembly on cable runs 29 and 30 at Station (STA) 510.



- 14. Tighten turnbuckles on cable runs 31 and 32 to remove slack.
- 15. Remove clamp assembly on cable runs 31 and 32 at STA 510.



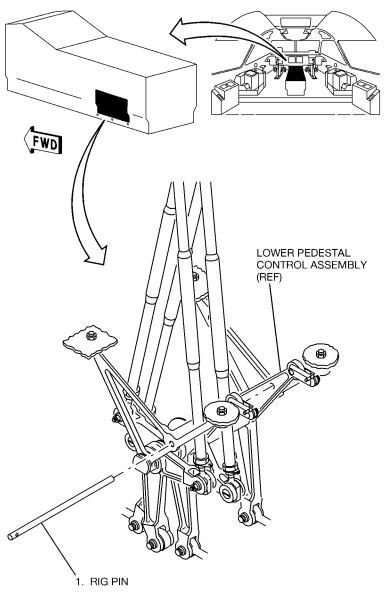
- 16. Enter vertical stabilizer (00-00-02, task 02-1).
- 17. Install rig pins 5-3 in cable control cranks.
- 18. Perform mechanical controls and surfaces system adjustment (27-42-01, tasks 01-2 and 01-3).
- 19. Remove rig pins 5-3 from cable control cranks.
- 20. Exit vertical stabilizer (00-00-02, task 02-8).



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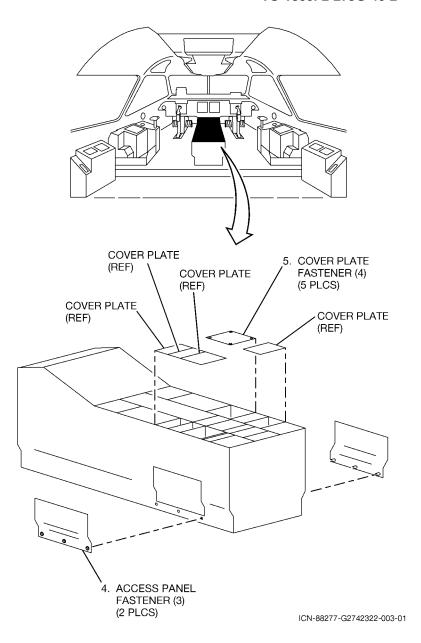
3-2. FOLLOW-ON MAINTENANCE.

- 1. Remove rig pin 5-8 from lower pedestal control assembly.
- 2. Install multifunction control panels (31-61-10).
- 3. Perform multifunction control panel operational checkout (31-61-10).

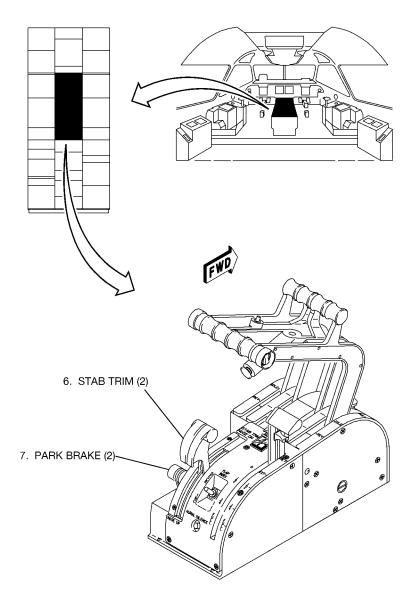


ICN-88277-G2742043-004-01

- 4. Position access panels (212AZP and 212BZP) and tighten fasteners.
- 5. Position cover plates and tighten fasteners.



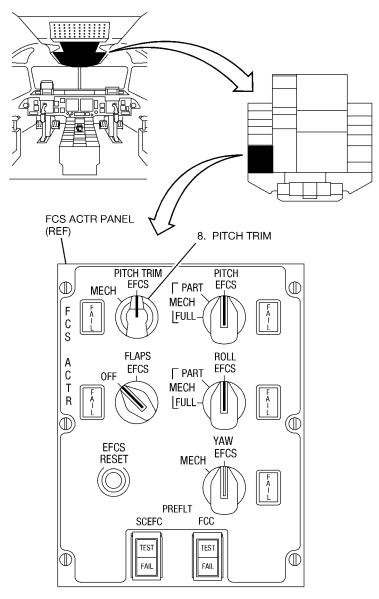
- 6. Remove warning tag from **STAB TRIM** handles.
- 7. Remove warning tag from **PARK BRAKE** levers.



ICN-88277-G2742044-004-01

- 8. Remove warning tag from **PITCH TRIM** switch on **FCS ACTR** panel.
- 9. Perform horizontal stabilizer system operational checkout (27-40-01).
- 10. Install horizontal pressure panel access cover assemblies (53-12-10).

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



ICN-88277-G2742045-003-01

VERTICAL STABILIZER PITCH TRIM CRANK ASSEMBLY (27-42-11)

MASTER INPUT CONDITIONS:

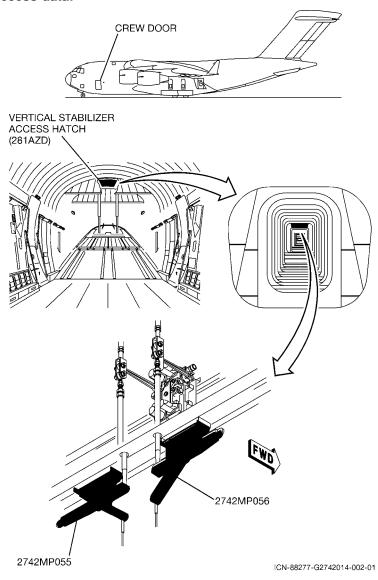
Reference designators:

2742MP055 Vertical Stabilizer Pitch Trim Crank Assembly 2742MP056 Vertical Stabilizer Pitch Trim Crank Assembly

Applicable functions:

- -2 Removal.
- -3 Installation.

Access data:



VERTICAL STABILIZER PITCH TRIM CRANK ASSEMBLY REMOVAL (27-42-11-2)

FUNCTIONAL INPUT CONDITIONS:

Applicability:	Task
All	All
Additional information: This procedure consists of the following tasks:	
2-1. Preparation. 2-2. Removal.	
NOTE	Task
This is a typical removal task for all vertical stabilizer pitch trim crank assemblies.	All
Additional data:	Task
TO 1300i-2-00JG-00-1	2-1
TO 1300i-2-53JG-10-1	2-1
Personnel recommended:	Task
One	All

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 result in injury to personnel.

All

Support equipment:

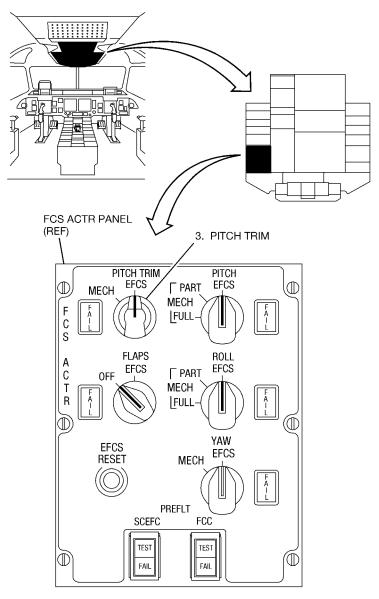
<u>Nomenclature</u>	<u>PN</u>	Specification	<u>Qty</u>	<u>Task</u>
Kit, Rig Pin	17G140015-1			
Assembly, Clamp	17G140015-7		1	2-1
Pin 5-8, Rig	17G140015-15		1	2-1
Tool, Turnbuckle Adjustment	17G140019-1		1	2-1

Supplies:

<u>Nomenclature</u>	<u>PN</u>	<u>Specification</u>	Qty	<u>Task</u>
Cord, Nylon Utility	300NOR17NAT		AR	2-2
Tag, Warning			2	2-1

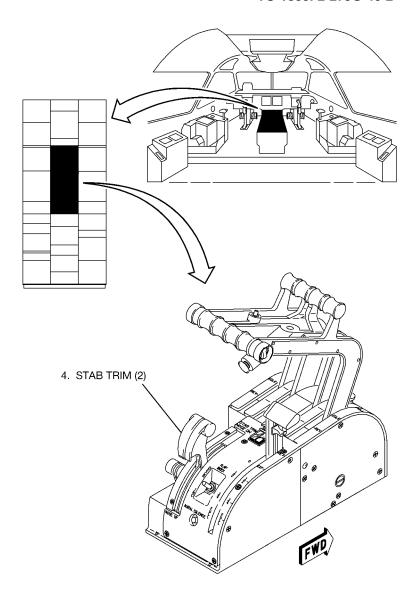
2-1. PREPARATION.

- 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. Attach warning tag to PITCH TRIM switch on FCS ACTR panel.



ICN-88277-G2742015-002-01

4. Attach warning tag to **STAB TRIM** handles.

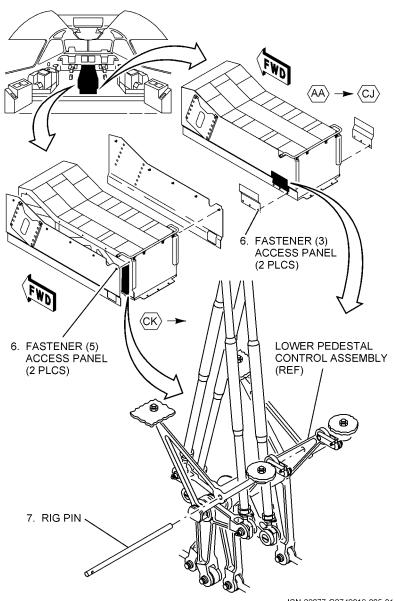


ICN-88277-G2742016-004-01

5. Install horizontal pressure panel access cover assemblies (53-12-10).

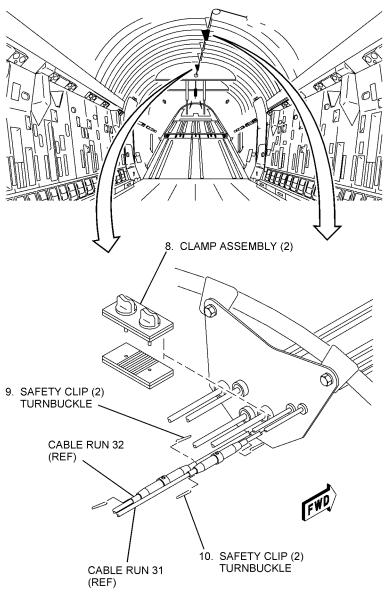
PANEL NO.	PANEL REF DES	
112AZP	5312CA001	
112BZP	5312CA002	

- 6. $\langle \overline{AA} \rangle \rightarrow \langle \overline{CJ} \rangle$ Loosen fasteners and remove access panels (212AZC and 212BZC).
- 6. $\overline{\text{CK}}$ \rightarrow Loosen fasteners and remove access panels (212AZP and 212BZP).
- 7. Install rig pin 5-8 in lower pedestal control assembly.



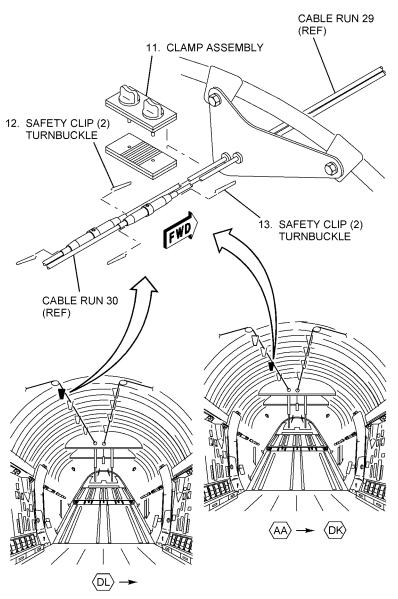
ICN-88277-G2742019-005-01

- 8. Install clamp assembly on cable runs 31 and 32 aft of Station (STA) 1208.
- 9. Remove and discard safety clips; loosen turnbuckles on cable run 32 at STA 1278.
- 10. Remove and discard safety clips; loosen turnbuckles on cable run 31 at STA 1348.



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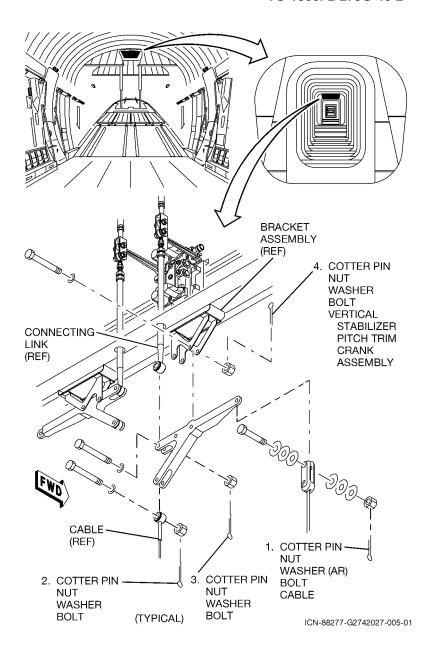
- 11. Install clamp assembly on cable runs 29 and 30 aft of Station 1208.
- 12. $\langle \overline{AA} \rangle \rightarrow \langle \overline{DK} \rangle$ Remove and discard safety clips; loosen turnbuckles on cable run 29 at STA 1358.
- 12. (DL) → Remove and discard safety clips; loosen turnbuckles on cable run 29 at STA 1138.
- 13. $\langle \overline{AA} \rangle \rightarrow \langle \overline{DK} \rangle$ Remove and discard safety clips; loosen turnbuckles on cable run 30 at STA 1340.
- 13. (DL) → Remove and discard safety clips; loosen turnbuckles on cable run 30 at STA 1182.
- 14. Enter vertical stabilizer (00-00-02, task 02-1).



ICN-88277-G2742026-005-01

2-2. REMOVAL.

- 1. Identify and remove cotter pin, nut, washers, and bolt; disconnect cable and attach nylon utility cord to cable.
- 2. Remove cotter pin, nut, washer, bolt; disconnect cable and attach nylon utility cord to cable.
- Remove cotter pin, nut, washer, bolt, and disconnect connecting link.
- 4. Remove cotter pin, nut, washer, bolt, and vertical stabilizer pitch trim crank assembly.



VERTICAL STABILIZER PITCH TRIM CRANK ASSEMBLY INSTALLATION (27-42-11-3)

FUNCTIONAL INPUT CONDITIONS:

Applicability:			
All	All		
Additional information:			
This procedure consists of the following tasks:			
3-1. Installation.3-2. Follow-on maintenance.			
NOTE			
This is a typical installation task for all vertical stabilizer pitch trim crank assemblies.			
Additional data:	Task		
TO 1300i-2-27JG-40-1	3-1		
TO 1300i-2-27JG-40-6	3-2		
TO 1300i-2-53JG-10-1	3-2		
Personnel recommended:	Task All		
	7 111		

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 result in injury to personnel.

All

Support equipment:

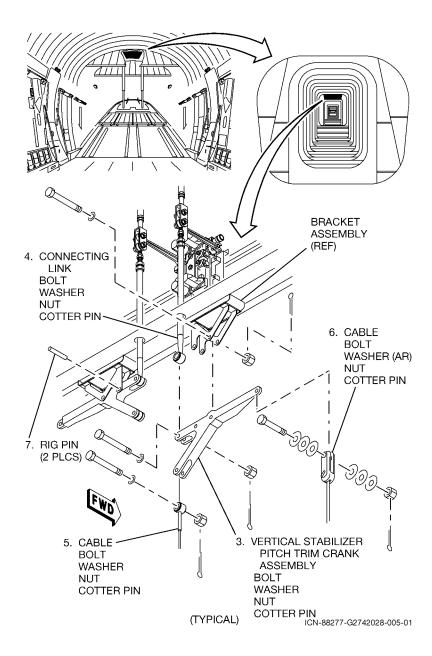
<u>Nomenclature</u>	<u>PN</u>	Specification	<u>Qty</u>	<u>Task</u>
Kit, Rig Pin	17G140015-1			
Pin 5-3, Rig	17G140015-31		2	3-1
Tool, Turnbuckle Adjustment	17G140019-1		1	3-1

Supplies:

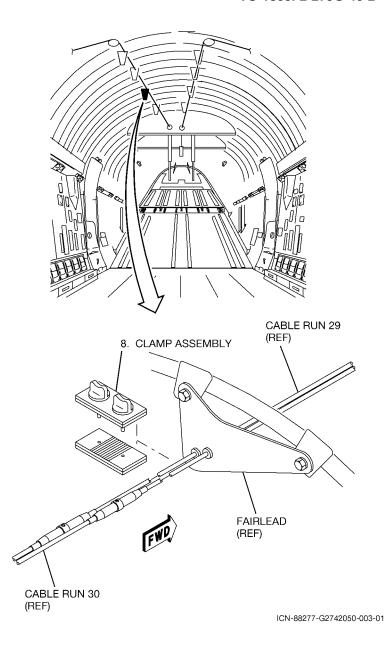
<u>Nomenclature</u>	<u>PN</u>	<u>Specification</u>	Qty	<u>Task</u>
Pin, Cotter	MS24665-151		4	3-1

3-1. INSTALLATION.

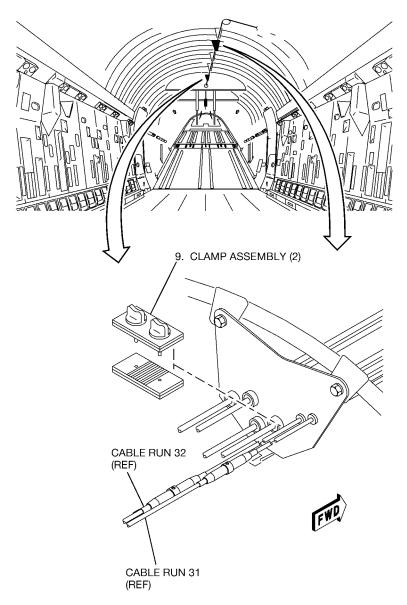
- 1. Review "Section 1 (General Information)" of this TO for system general warnings, cautions, and notes.
- 2. Review task "Functional Input Conditions" page for task specific safety conditions.
- 3. Position vertical stabilizer pitch trim crank assembly on bracket assembly; install bolt, washer, nut and cotter pin.
- 4. Position connecting link and install bolt, washer, nut and cotter pin.
- 5. Remove nylon utility cord; position cable and install bolt, washer, nut and cotter pin.
- 6. Remove nylon utility cord; position cable and install bolt, washers, nut and cotter pin as identified.
- 7. Install rig pins 5-3 in cable control cranks.



8. Remove clamp assembly on cable runs 29 and 30 at Station (STA) 1208.



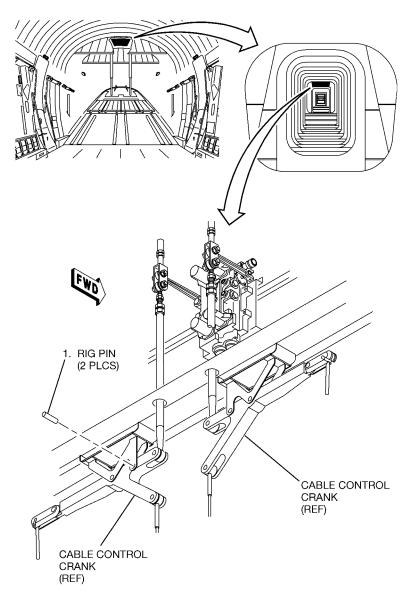
- 9. Remove clamp assembly on cable runs 31 and 32 at STA 1208.
- 10. Adjust controls and surfaces system (27-42-01, task 01-3).



ICN-88277-G2742051-004-01

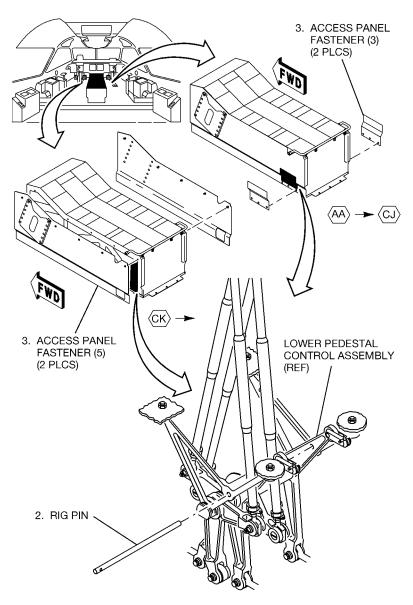
3-2. FOLLOW-ON MAINTENANCE.

1. Remove rig pins 5-3 from cable control cranks.



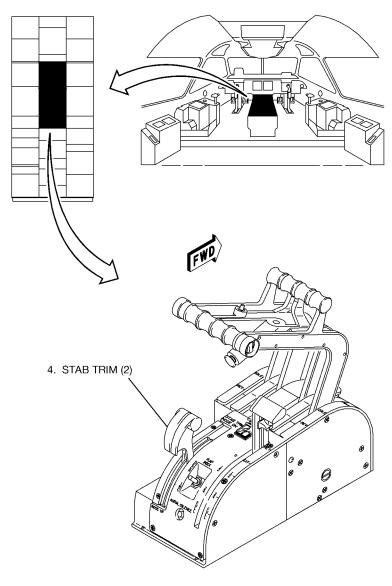
ICN-88277-G2742052-003-01

- 2. Remove rig pin 5-8 from lower pedestal control assembly.
- 3. $\langle \overline{AA} \rangle \rightarrow \langle \overline{CJ} \rangle$ Position access panels (212AZC and 212BZC) and tighten fasteners.
- 3. $\langle \overline{\text{CK}} \rangle \rightarrow \text{Position access panels (212AZP and 212BZP)}$ and tighten fasteners.



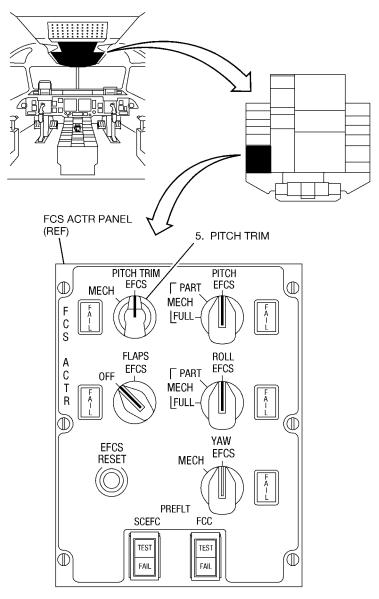
ICN-88277-G2742025-004-01

4. Remove warning tag from **STAB TRIM** handles.



ICN-88277-G2742022-004-01

- 5. Remove warning tag from **PITCH TRIM** switch on **FCS ACTR** panel.
- 6. Perform horizontal stabilizer position sensor operational checkout (27-45-11).



ICN-88277-G2742021-003-01

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

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

PITCH TRIM STABILIZER CONTROL VALVE CRANK ASSEMBLY (27-42-12)

MASTER INPUT CONDITIONS:

Reference designators:

2742MP061 Pitch Trim Stabilizer Control Valve Crank

Assembly

2742MP062 Pitch Trim Stabilizer Control Valve Crank

Assembly

2742MP065 Pitch Trim Stabilizer Control Valve Crank

Assembly

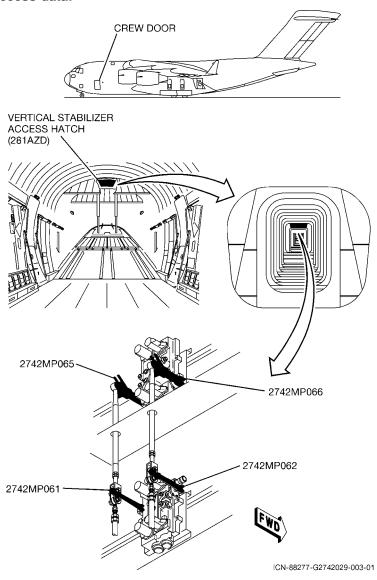
2742MP066 Pitch Trim Stabilizer Control Valve Crank

Assembly

Applicable functions:

- -2 Removal.
- -3 Installation.

Access data:



PITCH TRIM STABILIZER CONTROL VALVE CRANK ASSEMBLY REMOVAL (27-42-12-2)

FUNCTIONAL INPUT CONDITIONS:

NA

Applicability: Task A11 A11 Additional information: This procedure consists of the following tasks: 2-1. Preparation. 2-2. Removal for 2742MP061 and 2742MP062. 2-3. Removal for 2742MP065 and 2742MP066. Additional data: Task TO 1300i-2-00JG-00-1 2 - 1Personnel recommended: Task A11 One Safety conditions: Task

<u>Nomenclature</u>	PN	<u>Specification</u>	<u>Qty</u>	<u>Task</u>
Kit, Rig Pin	17G140015-1			
Pin 5-3, Rig	17G140015-31		1	2-1

Supplies:

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