

CHAPTER

27

FLIGHT  
CONTROLS



**737-600/700/800/900**  
**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**

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2	Aug 05/2014	4	BLANK	27-40-17	
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4	BLANK	1	Aug 05/2015	2	BLANK
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2	Aug 05/2014	2	Aug 05/2015	7	Aug 05/2014
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27-50-11	AXIAL LOAD EQUIPMENT - FLAP ACTUATION, TORQUE BRAKE	C27058-1
27-50-12	TEST EQUIPMENT - TORQUE LIMITER, TRANSMISSION, TRAILING EDGE FLAP	C27067-81, -82, -87, -88
27-50-13	TEST EQUIPMENT - TRAILING EDGE FLAP TRANSMISSION, AFT U-JOINT AND BALLSCREW (CE)	C27072-178, -179
27-50-14	HOLDING EQUIPMENT - TRAILING EDGE INBOARD FLAP	C27079-1
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27-50-16	TEST EQUIPMENT - LEAKAGE TEST	J27054-1
27-50-17	OVERHAUL EQUIPMENT, SPRING STACK, TRAILING EDGE FLAP TRANSMISSION	C27074-1
27-50-18	TEST FIXTURE - CONTROL VALVE ASSEMBLY, TRAILING EDGE FLAP	F80232-1
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27-50-40	TEST FIXTURE - HYPOID GEAR BACKLASH	C27088-1
27-50-41	REMOVAL EQUIPMENT - SECONDARY TORQUE TUBE, INBOARD MAIN FLAP ASSEMBLY	C57004-1
27-60-01	GROUND LOCK SET - OUTBOARD SPOILER ACTUATORS (CE)	C27001-16, -41, -42, -51
27-60-02	LOCK SET - INBOARD GROUND SPOILER ACTUATOR (CE)	C27046-1, -13
27-60-03	LOCK SET - FLIGHT SPOILER ACTUATOR	C27047-19, -20, -41, -42, -43
27-60-04	WRENCH - LUG SPANNER	F80106-1, -2
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27-60-06	ADAPTER - WRENCH, FLIGHT SPOILER ACTUATOR POWER CONTROL UNIT	C27061-1
27-60-07	RIGGING EQUIPMENT - INTERLOCK VALVE CABLE, GROUND SPOILER	C27069-12, -20
27-60-08	TEST BLOCK - CARTRIDGE VALVE, FLIGHT SPOILER ACTUATOR	C27062-1
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27-80-02	KIT - RIGGING PIN	F70207-109, -128, -135, -139

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737-600/700/800/900  
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FLIGHT CONTROLS

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27-80-05	LOCKOUT PIN - LEADING EDGE CRUISE DEPRESSURIZATION VALVE (CE)	C27038-6

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737-600/700/800/900  
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PART NUMBER: F72790

**NAME:** PROTRACTOR MOUNT ASSEMBLY - PILOT'S AND COPILOT'S CONTROL WHEEL

**AIRPLANE MAINTENANCE:** YES

AMM 27-11-00, AMM 27-11-41, AMM 27-61-00, AMM 27-61-41 AMM 27-61-61 and AMM 27-62-33

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The F72790 control wheel protractor mount is used on all 737 airplanes.

F72790 is used to attach a A27021-30, F52485-500 or 4MIT65B80307-1 protractor to one of the flight deck control wheels. The control wheel is then set to neutral position and the protractor set to zero indication. The protractor may then be used to directly read control wheel angular displacement during adjustment or test of the aileron or spoiler control systems. Mounting holes are provided to attach either the A27021-30, F52485-500 or 4MIT65B80307-1 protractors.

Refer to AMM 27-11-00, AMM 27-11-41, AMM 27-61-00, AMM 27-61-41 AMM 27-61-61, AMM 27-62-33 and the current F72790 drawing for complete usage instructions.

F72790 consists of:

F72790		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ATTACH BAR ASSEMBLY	F72790-1
1	CLAMP BAR	F72790-2
2	WASHER NUT	AN960-616
2	WING NUT	MS35426-16

**WEIGHT:** 3 lbs (1.4 kg)

**DIMENSIONS:** 8 x 5 x 3 inches (203 x 127 x 76 mm)

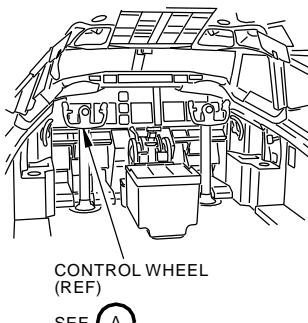
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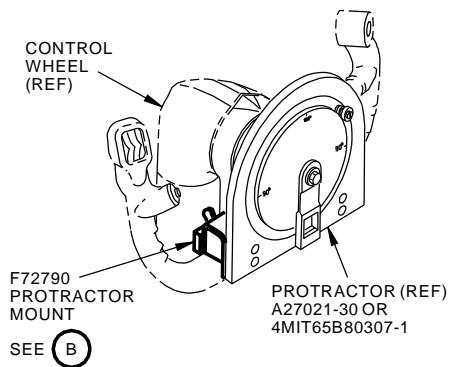
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737-600/700/800/900  
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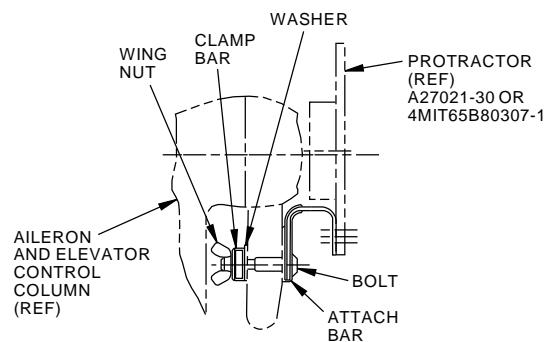


FLIGHT COMPARTMENT



CONTROL WHEEL (REF)

(A)



F72790 PROTRACTOR MOUNT

(B)

F77145 S0006831502\_V2

Pilot's and Copilot's Control Wheel Protractor Mount Assembly  
Figure 1

**27-00-01**

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737-600/700/800/900  
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**PART NUMBER: A27035-1**

**NAME:** SCREWDRIVER - ADAPTER RUDDER/ELEVATOR FEEL ACTUATOR CYLINDER

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-09-09

**USAGE & DESCRIPTION:** The A27035-1 screwdriver is used on all 737-100 thru -900 airplanes.

A27035 is used with a customer-furnished 3/8-inch drive torque wrench. A27035 is used to torque piston 69-35676 to clevis assembly 66-22815. 69-35676 and 66-22815 are part of 65-44503, feel actuator cylinder assembly.

Refer to CMM 27-09-09 and the A27035 tool drawing for complete usage instructions.

A27035 is a manufactured 3/8-inch drive torque adapter.

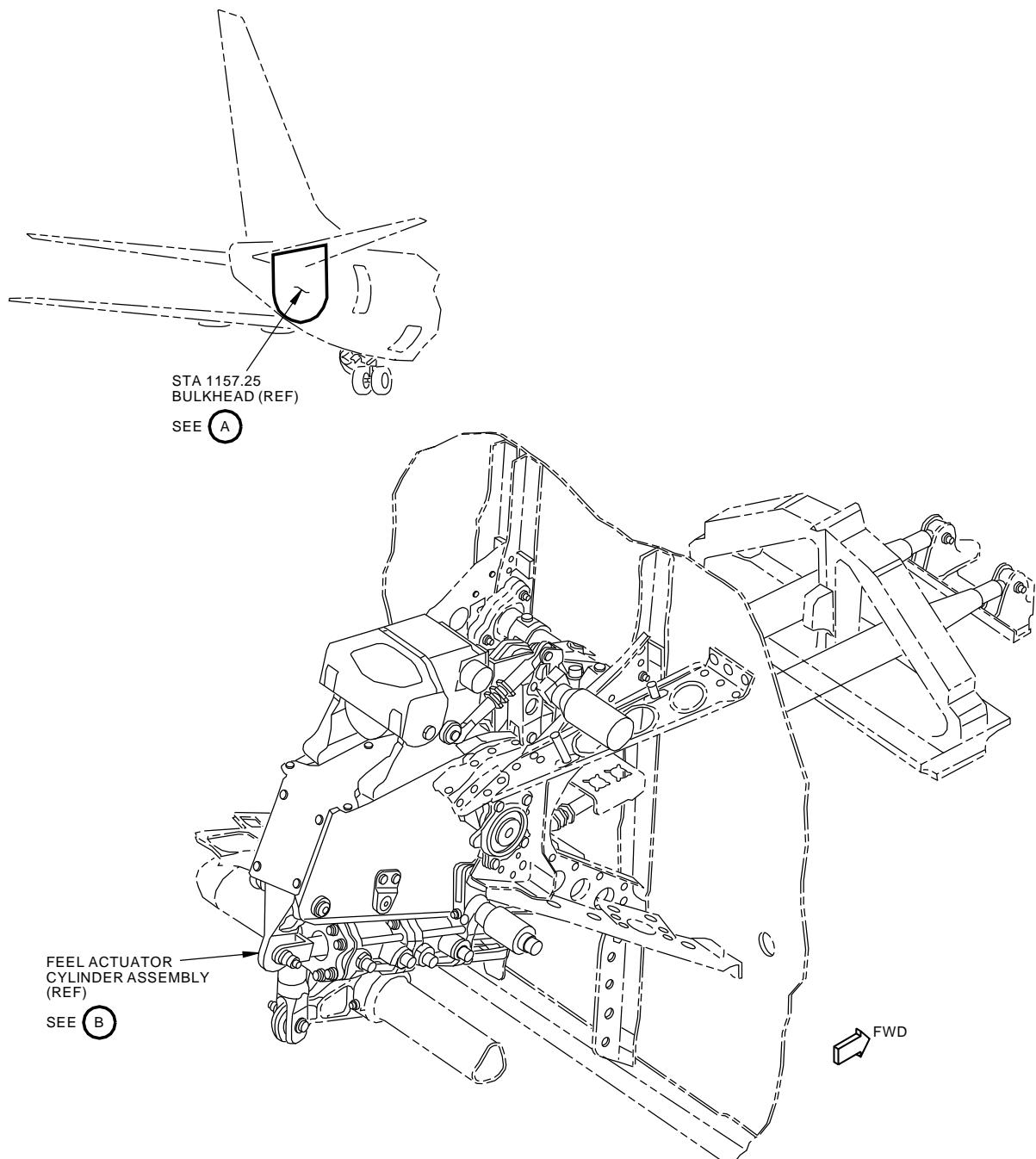
**WEIGHT:** 0.125 lbs (0.06 kg)

**DIMENSIONS:** 1 x 1 x 1 inches (25 x 25 x 25 mm)

**NOTE:** A27035 replaces MIT65B81875 for future procurement.

**27-00-02**

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STA 1157.25 BULKHEAD (Ref)

(A)

H77084 S0006831504\_V2

**Adapter Rudder/Elevator Feel Actuator Cylinder Screwdriver**  
**Figure 1**

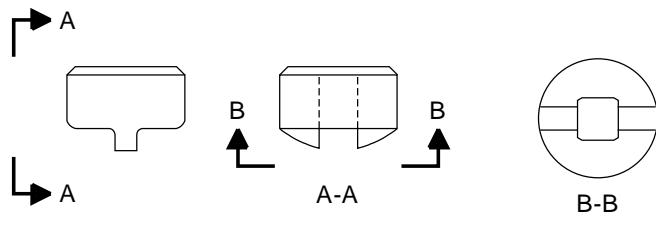
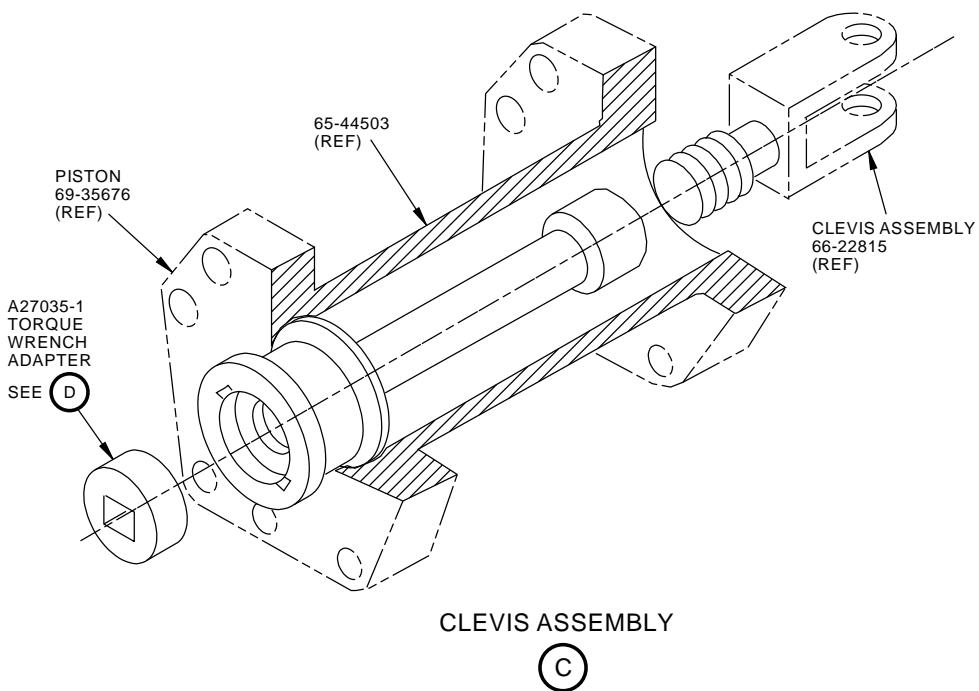
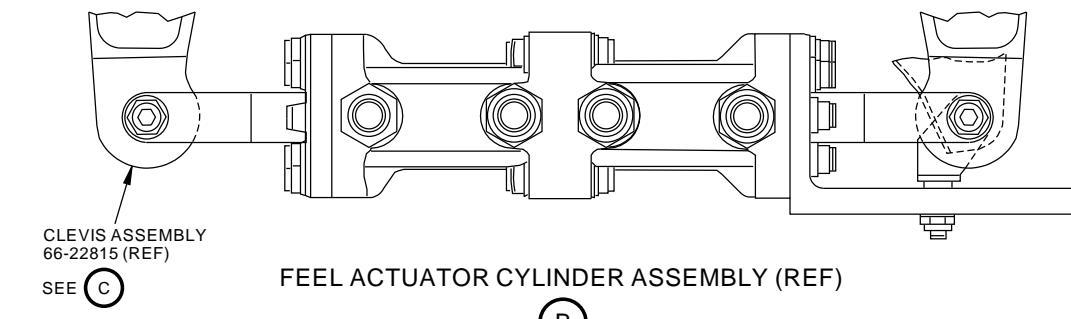
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H77294 S0006831505\_V3

**Torque Wrench Adapter Usage**  
**Figure 2**

**27-00-02**

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**PART NUMBER: F70320-1**

**NAME:** HOLDING FIXTURE - CONTROL COLUMN

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

OHM 27-16-01

**USAGE & DESCRIPTION:** The F70320-1 holding fixture is used during component maintenance on all 737 airplanes.

F70320 is used in conjunction with a customer furnished dial indicator, spring scale, megohmmeter, and a 0 to 15 in-lb torque meter. F70320 is used to check backlash, torque, and end play of the 65-45121 aileron/elevator control column assembly during component overhaul.

Refer to the current F70320 drawing and OHM 27-16-01 for complete usage information.

F70320-1 consists of:

F70320-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BASE ASSEMBLY	F70320-2
1	WRENCH ASSEMBLY	F70320-3
1	WRENCH	F70320-4
1	ADAPTOR	F70320-5
1	YOKES ASSEMBLY	F70320-6
1	STORAGE BOX	

**NOTE:** F70320 replaces TE65B80308, TSJ5-87879-1 and F72797 for future procurement.

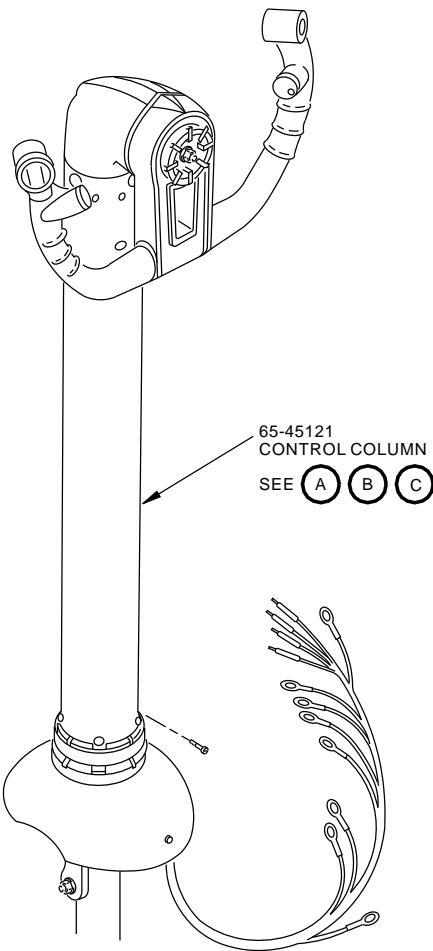
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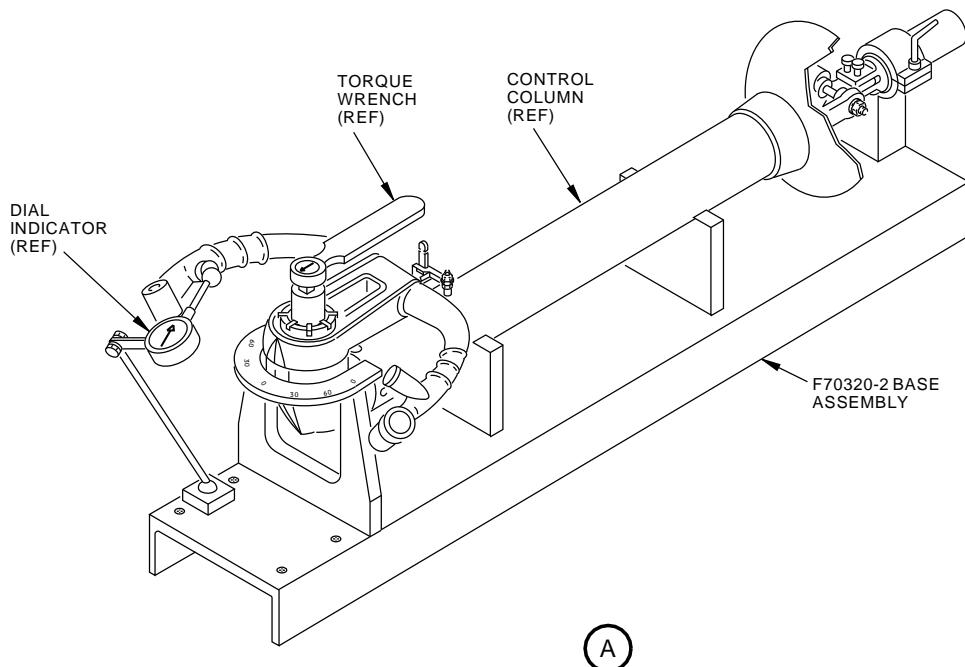
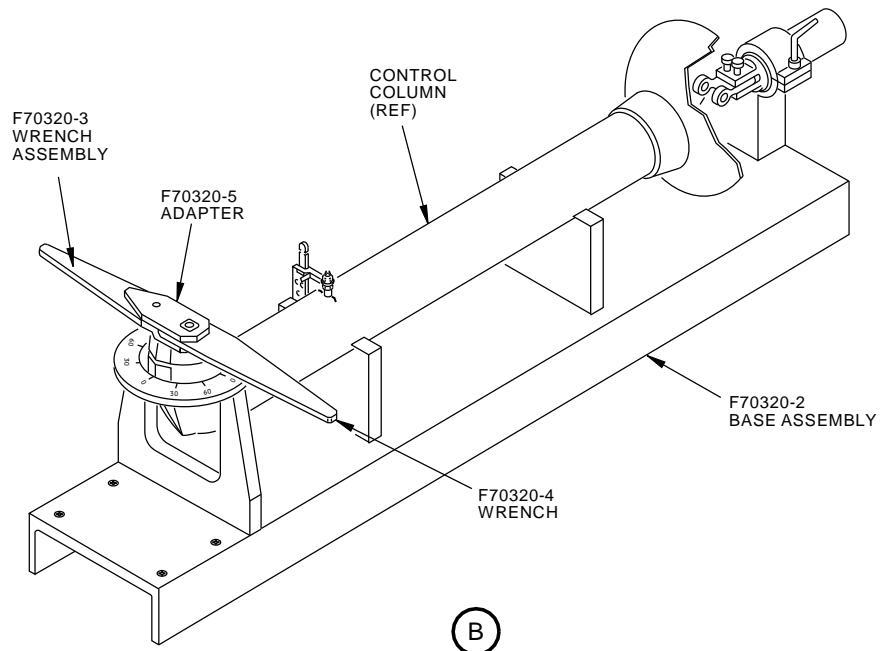
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1348384 S0000240965\_V2

**Control Column Holding Fixture**  
**Figure 1 (Sheet 1 of 3)**

**27-00-03**


**A**

**B**

1348389 S0000240967\_V2

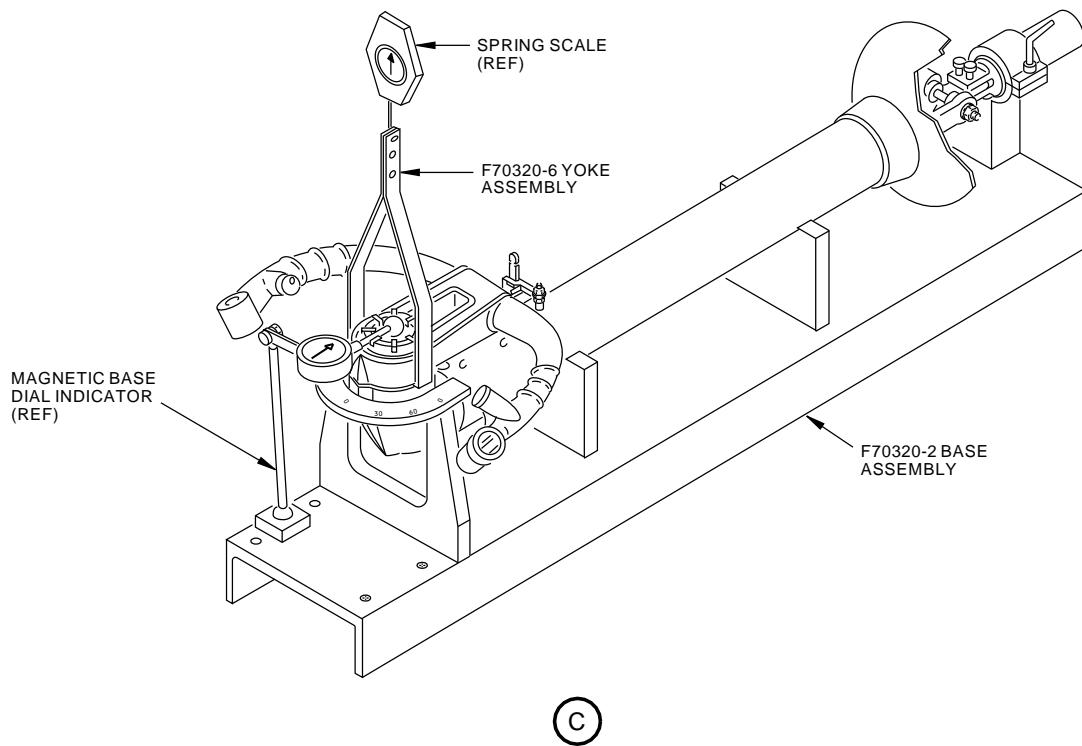
**Control Column Holding Fixture**  
**Figure 1 (Sheet 2 of 3)**

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1348390 S0000240968\_V2

**Control Column Holding Fixture**  
**Figure 1 (Sheet 3 of 3)**

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**PART NUMBER: F80085-1, -12**

**NAME:** TEST FIXTURE - CYLINDER ASSEMBLY, FEEL ACTUATOR

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-09-09

**USAGE & DESCRIPTION:** The F80085-1 fixture assembly is used during component maintenance on 737-100 and -200 airplanes prior to line number 1044.

The F80085-1 fixture assembly and the F80085-12 adapter assembly are used on 737-200 airplanes line number 1044 and on.

The F80085-1 fixture assembly and the F80085-12 adapter assembly are used on all 737-300 thru -900 airplanes.

F80085-1 fixture assembly and the F80085-12 adapter assembly are used during functional test of the feel actuator cylinder assembly. F80085 provides a fixture for holding the actuator assembly at a fixed center distance while allowing the body of the unit to freely move through the full stroke distance in both directions.

Refer to the current F80085 tool drawing and CMM 27-09-09 for complete usage instructions.

F80085-1 and -12 consist of steel upright gussets with ball lockpins mounted at each end of a stiffener plate.

**WEIGHT:** 43 lbs (20 kg)

**DIMENSIONS:** 6 x 7 x 25 inches (152 x 178 x 635 mm)

**27-00-04**

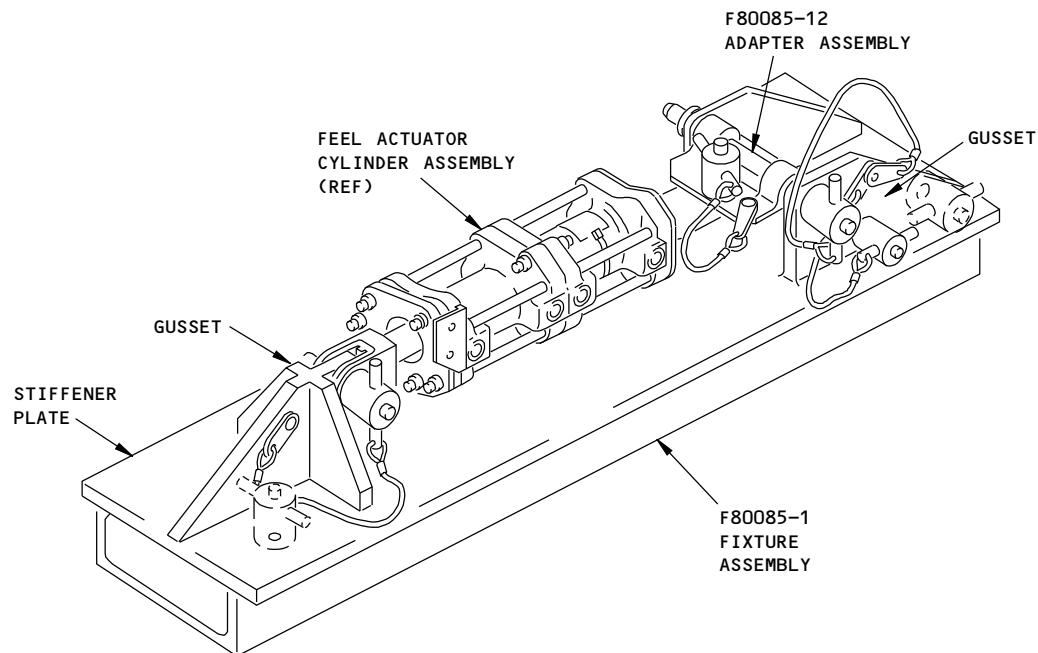
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737-600/700/800/900  
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2085651 S0000429046\_V1

Feel Actuator Cylinder Assembly Test Fixture  
Figure 1

**27-00-04**

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737-600/700/800/900  
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**PART NUMBER: F72867-1**

**NAME:** ADAPTER ASSEMBLY - CONTROL WHEEL, TORQUE AND FORCE TEST

**AIRPLANE MAINTENANCE:** YES

AMM 22-11-00, AMM 22-11-11, AMM 27-00-00, AMM 27-11-00, AMM 27-11-41, AMM 27-31-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The F72867-1 adapter assembly is used on all 737 airplanes.

F72867 is used to measure push/pull forces and rotational forces on the control column during functional tests. F72867 is bolted to the control column with the center hub removed. A 5/8-inch hex adapter is welded in the center and has provision for attaching a push/pull scale or a torque wrench.

Refer to AMM 22-11-00, AMM 22-11-11, AMM 27-00-00, AMM 27-11-00, AMM 27-11-41, AMM 27-31-00 and the current F72867 drawing for complete usage instructions.

F72867 consists of a 1/4-inch thick steel plate with three holes.

**WEIGHT:** 2 lbs (0.9 kg)

**DIMENSIONS:** 7 x 3 x 2 inches (178 x 76 x 51 mm)

**NOTE:** For 737 airplanes only, C27060 replaces F72867 for future procurement.

**27-10-01**

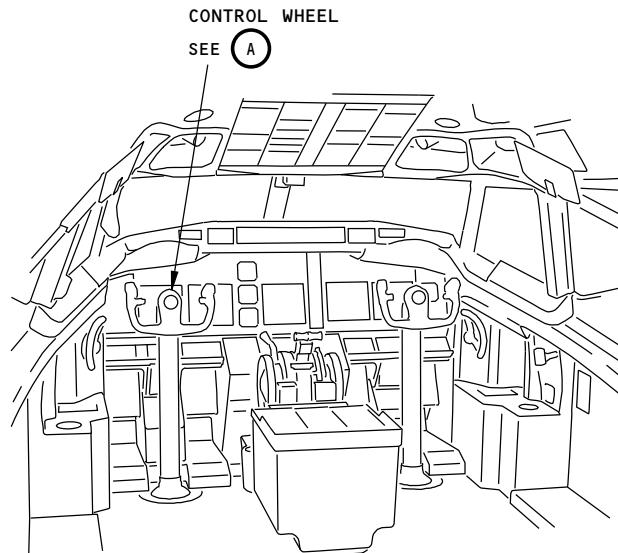
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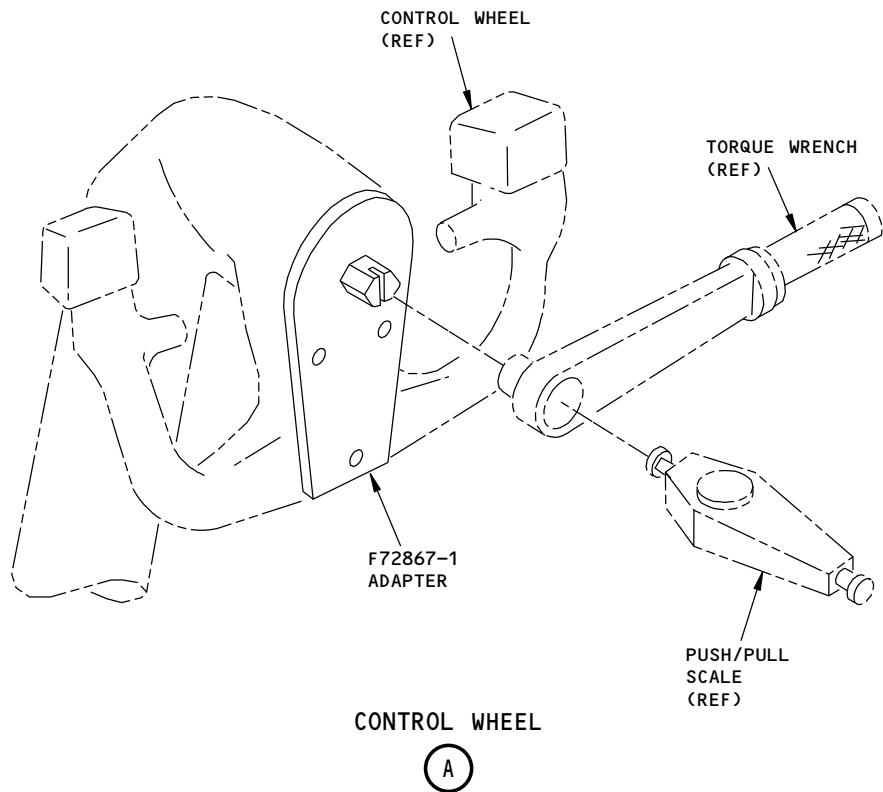
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FLIGHT COMPARTMENT



2085527 S0000428152\_V1

Torque and Force Test Control Wheel Adapter Assembly  
Figure 1

**27-10-01**

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**PART NUMBER: SE27-0001**

**NAME:** CONTROL WHEEL STRAIGHTEDGE

**AIRPLANE MAINTENANCE:** YES

AMM 27-11-00, AMM 27-11-41, AMM 27-11-81

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The SE27-0001 control wheel straightedge is used on all 737 airplanes.

SE27-0001 is used to align both control wheels to a common plane and to hold them in a neutral position. SE27-0001 is used by laying it across the top of both control wheels with both sides of each wheel contacting the straight edge. Elastic loops are then hooked under finger grips on the forward side of the control wheels to maintain a common neutral.

Refer to AMM 27-11-00, AMM 27-11-41, AMM 27-11-81 and the current SE27-0001 tool drawing for complete usage instructions.

SE27-0001 consists of an aluminum angle with four elastic cord loops.

**WEIGHT:** 6 lbs (2.7 kg)

**DIMENSIONS:** 56 x 4 x 2 inches (1422 x 102 x 51 mm)

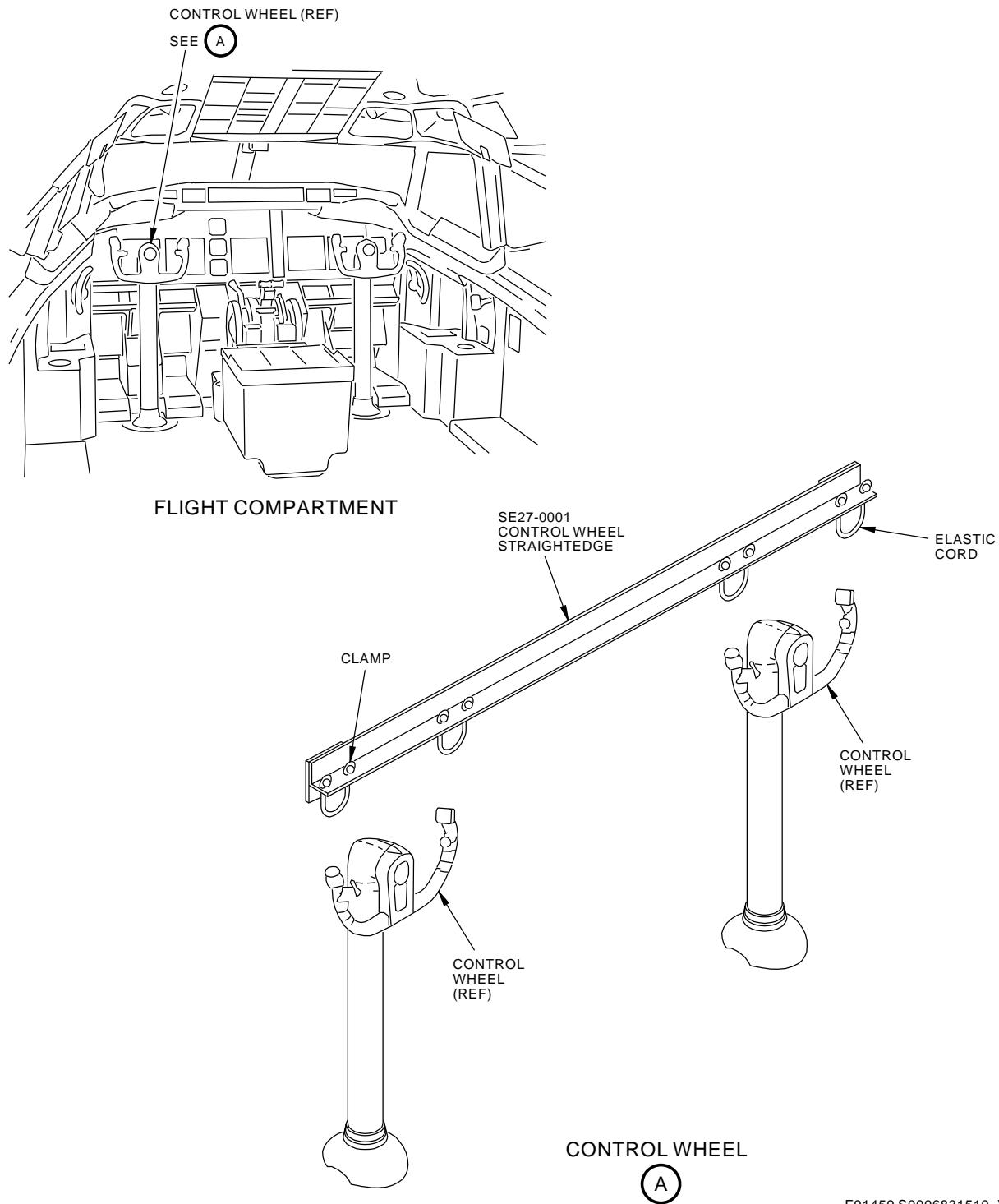
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F91459 S0006831510\_V3

**Control Wheel Straightedge**  
**Figure 1**

**27-10-02**

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**PART NUMBER: F80049-17, -31, -46, -56, -65, -66**

**NAME: LOCK ASSEMBLY - FLIGHT CONTROLS**

**AIRPLANE MAINTENANCE: YES**

AMM 05-00-00, AMM 05-05-00, AMM 27-11-00, AMM 27-21-00, AMM 27-31-00, AMM 27-51-00, AMM 27-61-00, AMM 27-62-00, AMM 27-81-00, AMM 31-31-32

**COMPONENT MAINTENANCE: NO**

**USAGE & DESCRIPTION:** The F80049-17 lock assembly is an option for use on 737 airplanes equipped with 10-60710-2 specification flight control shutoff valves.

F80049-31 (option) or F80049-46 (option) or F80049-66 (preferred) lock assembly is used on 737 airplanes equipped with 10-60710-2 or 10-60710-6 specification flight control shutoff valves.

The F80049-56 (option) or F80049-65 (preferred) lock assembly is used on 737 airplanes equipped with 10-60581-2 or 1060581-3 specification flight control shutoff valves.

The F80049 lock assemblies are used to stop inadvertent operation of the flight control surfaces by preventing electrical connection at the hydraulic module shutoff valves and the flap bypass shutoff valve. F80049 lock assemblies are L-shaped, form-fitting metal covers, which are secured to the control valves with locking pins.

Refer to AMM 05-00-00, AMM 05-05-00, AMM 27-11-00, AMM 27-21-00, AMM 27-31-00, AMM 27-51-00, AMM 27-61-00, AMM 27-62-00, AMM 27-81-00, AMM 31-31-32 and the current F80049 drawing for complete usage instructions.

F80049-17, -31, -46, -56, -65 and -66 lock assemblies consist of:

F80049-17		
QUANTITY	NOMENCLATURE	PART NUMBER
1	GUARD ASSEMBLY	F80049-19
1	STORAGE BOX	F80049-21

F80049-31		
QUANTITY	NOMENCLATURE	PART NUMBER
1	GUARD ASSEMBLY	F80049-19
1	STORAGE BOX	F80049-34

F80049-46		
QUANTITY	NOMENCLATURE	PART NUMBER
1	GUARD ASSEMBLY	F80049-48
1	STORAGE BOX	

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F80049-56		
QUANTITY	NOMENCLATURE	PART NUMBER
1	GUARD ASSEMBLY	F80049-57
1	STORAGE BOX	

F80049-65		
QUANTITY	NOMENCLATURE	PART NUMBER
1	GUARD ASSEMBLY	F80049-67
1	STORAGE BOX	

F80049-66		
QUANTITY	NOMENCLATURE	PART NUMBER
1	GUARD ASSEMBLY	F80049-68
1	STORAGE BOX	

**WEIGHT:** F80049-17 or -31 - 1 lb (0.45 kg)  
F80049-46, -56, -65, -66 - 2 lbs (1 kg)

**DIMENSIONS:** F80049-17, -31, -46, -66 - 3 x 3.5 x 4.5 inches (76 x 89 x 114 mm)  
F80049-56, -65 - 2 x 4.5 x 5.2 inches (51 x 114 x 132 mm)

**NOTE:** F80049-17 supersedes F80049-2.  
F80049-56 supersedes F80049-32 and -47.  
F80049-46 replaces F80049-17 and -31 for future procurement.  
F80049-65 replaces F80049-56 for future procurement.  
F80049-66 replaces F80049-46 for future procurement.

**27-10-03**

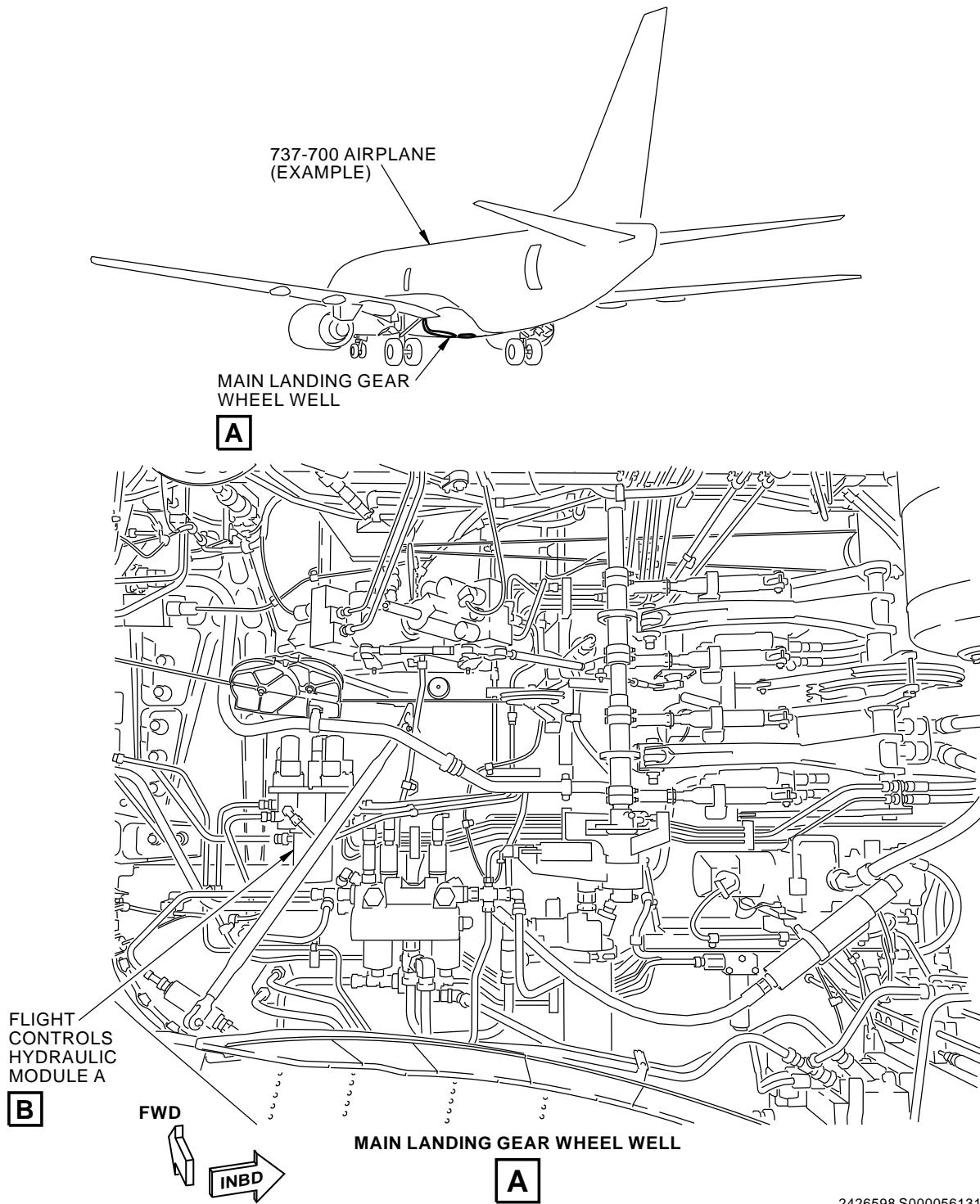
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2426598 S0000561316\_V1

Flight Controls Lock Assembly, 10-60581-2 or 10-60581-3 Valve Application (Example)  
Figure 1 (Sheet 1 of 2)

27-10-03

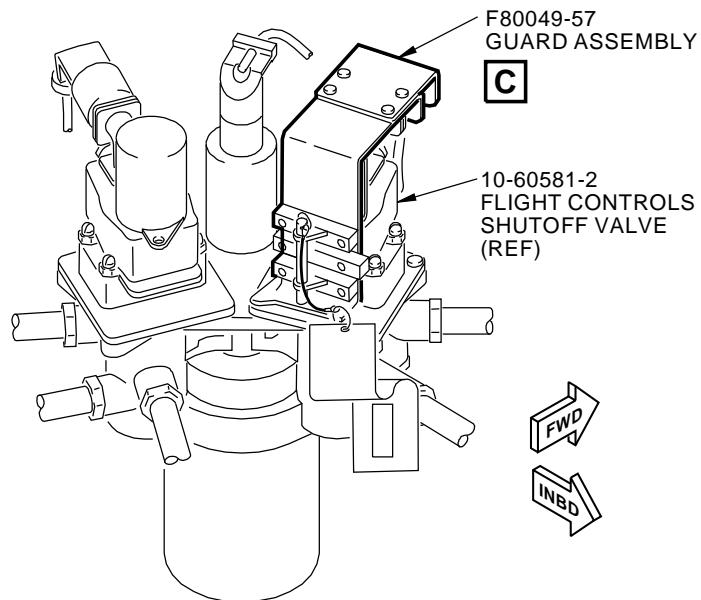
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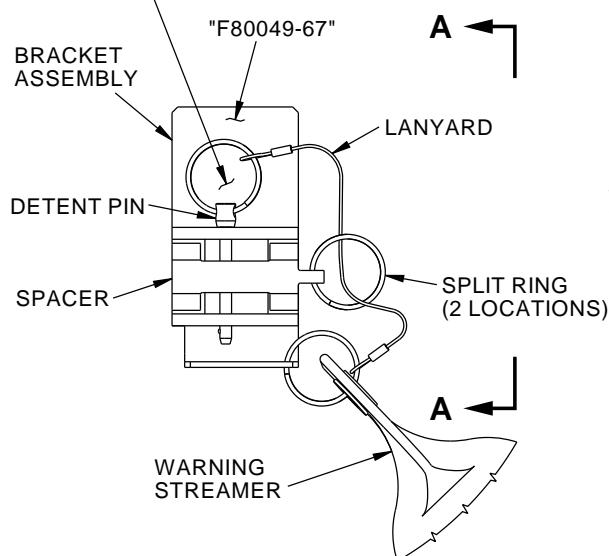
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FLIGHT CONTROLS HYDRAULIC MODULE A

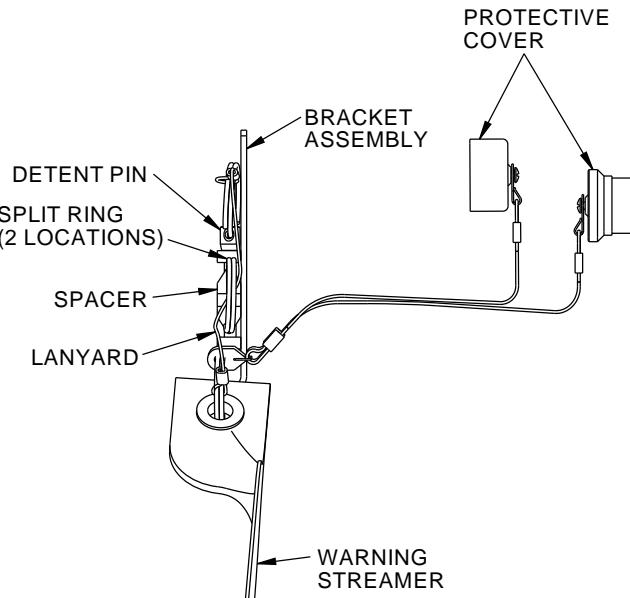
**B**

"CAUTION:  
SEE MAINTENANCE  
MANUAL FOR USAGE"



F80049-67 GUARD ASSEMBLY SHOWN  
F80049-57 SIMILAR

**C**



**A-A**

G68463 S0006831512\_V8

Flight Controls Lock Assembly, 10-60581-2 or 10-60581-3 Valve Application (Example)  
Figure 1 (Sheet 2 of 2)

**27-10-03**

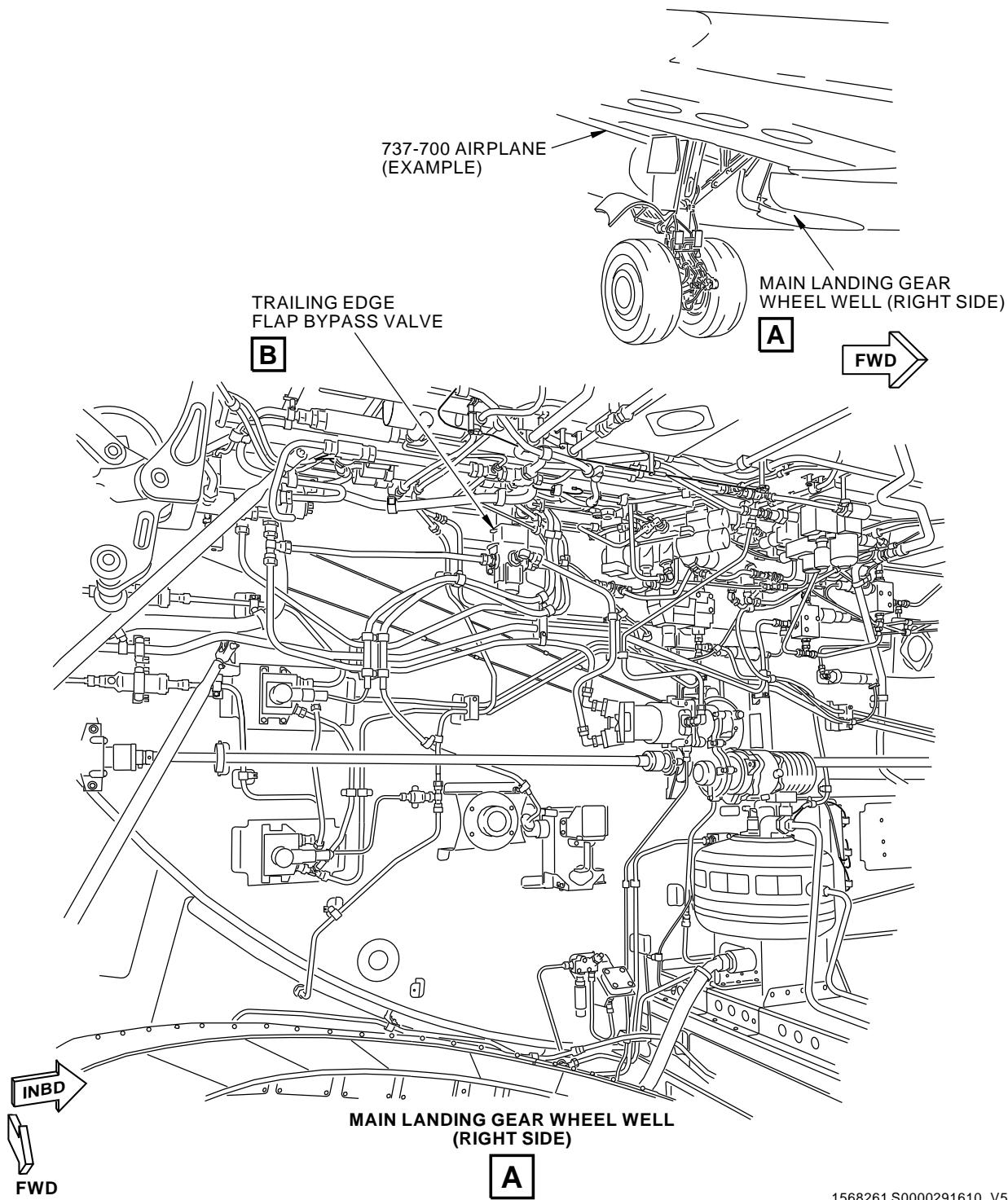
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1568261 S0000291610\_V5

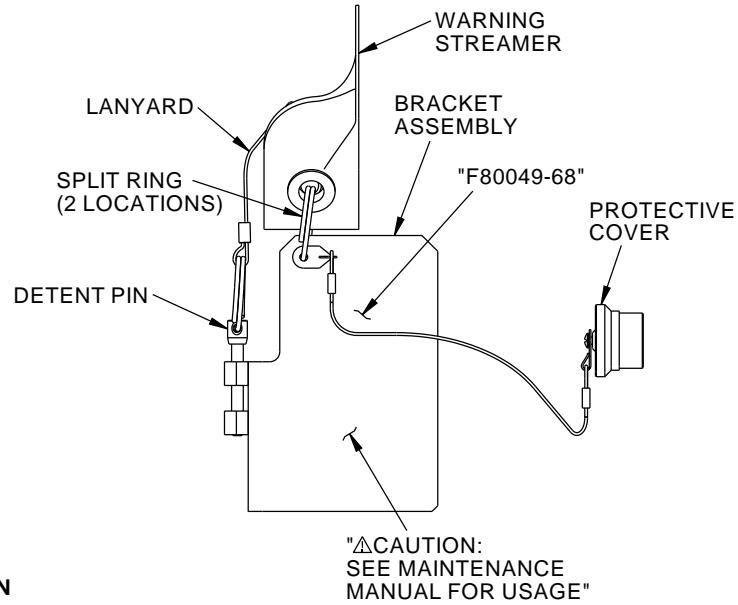
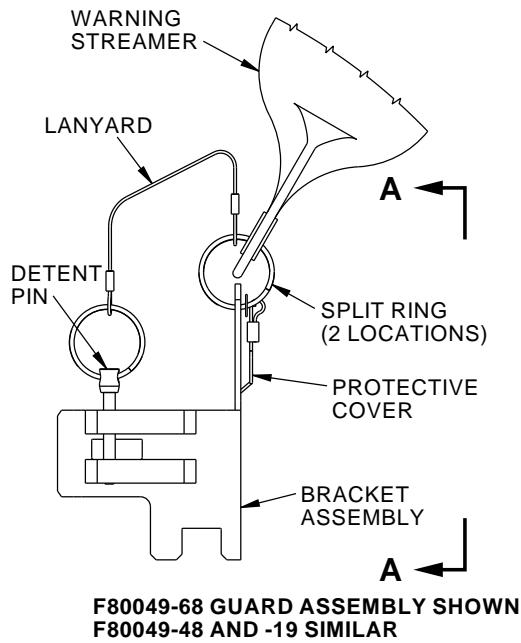
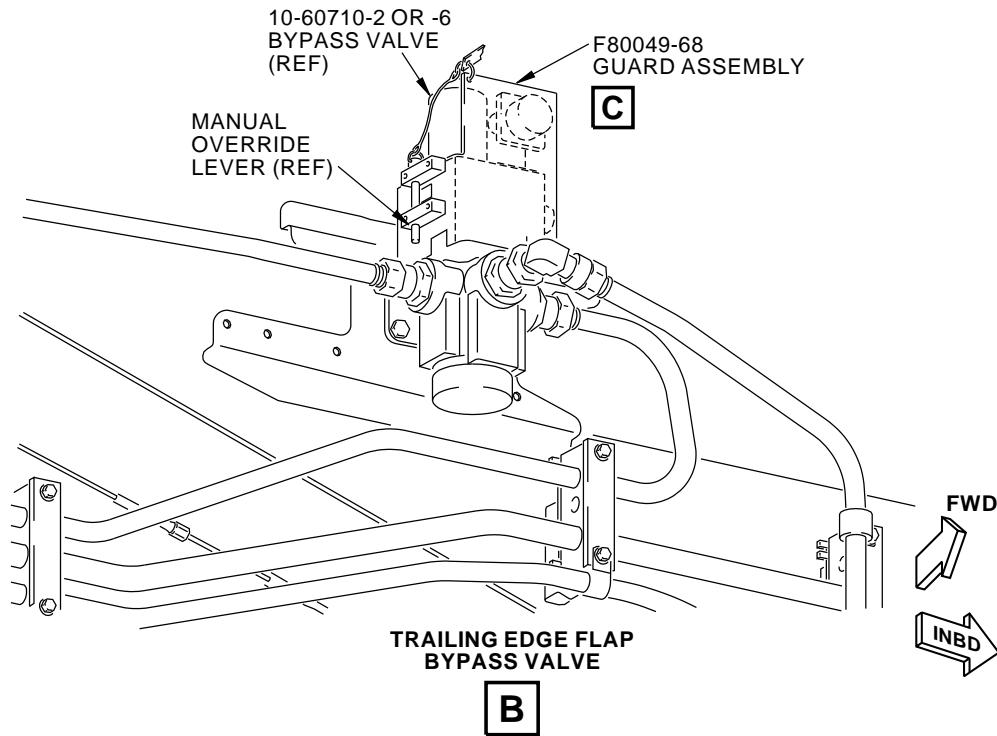
Flight Controls Lock Assembly, 10-60710-2 or 10-60710-6 Valve Application (Example)  
Figure 2 (Sheet 1 of 2)

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2426678 S0000561321\_V1

**Flight Controls Lock Assembly, 10-60710-2 or 10-60710-6 Valve Application (Example)**  
**Figure 2 (Sheet 2 of 2)**

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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: F80222-1, -11**

**NAME:** PROTRACTOR - AILERON TAB ALIGNMENT

**AIRPLANE MAINTENANCE:** YES

AMM 27-11-00, AMM 27-11-21

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The F80222-1 protractor is used on 737-100 thru -500 airplanes.

The F80222-11 protractor is used on 737-600 thru -900 airplanes.

F80222 is used to check the aileron tab alignment and travel. F80222 is fabricated from aluminum and is hand held. A protractor scale is used to read the tab positions.

Refer to AMM 27-11-00, AMM 27-11-21 and the current F80222 tool drawing for complete usage instructions.

F80222-1 and -11 consist of:

F80222-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	PROTRACTOR ASSEMBLY	F80222-2
1	STORAGE BOX	

F80222-11		
QUANTITY	NOMENCLATURE	PART NUMBER
1	PROTRACTOR ASSEMBLY	F80222-12
1	STORAGE BOX	

**WEIGHT:** 2 lbs (1 kg)

**DIMENSIONS:** 2 x 6 x 20 inches (51 x 152 x 508 mm)

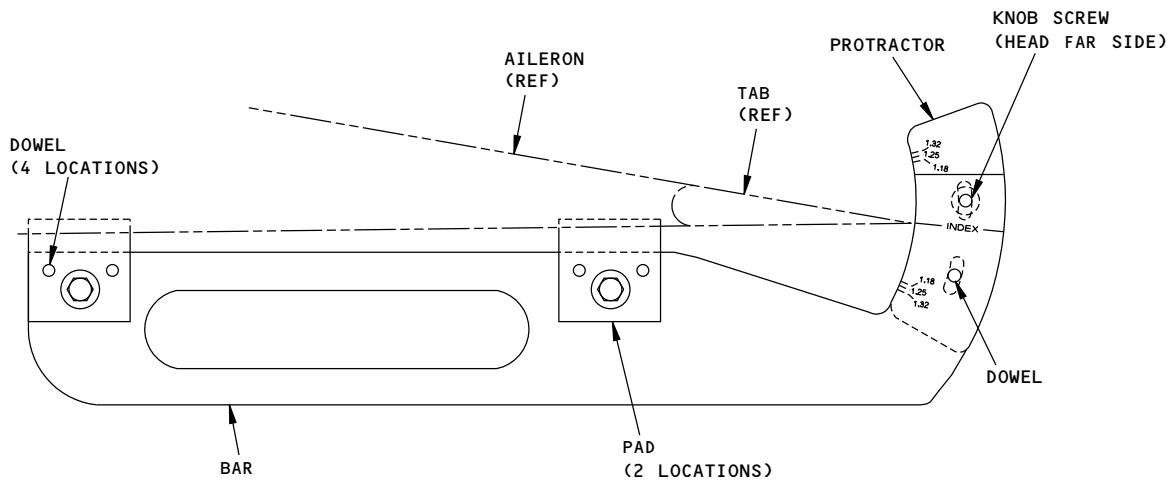
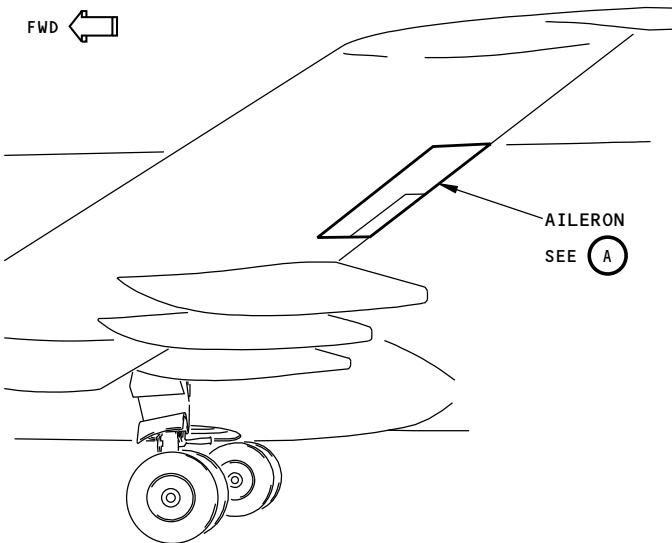
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**F80222-12**  
**PROTRACTOR ASSEMBLY SHOWN**  
**F80222-2 SIMILAR**

Ⓐ

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**Aileron Tab Alignment Protractor**  
**Figure 1**

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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: C27055-1**

**NAME:** SLING - AILERON, INSTALLATION/REMOVAL (CE)

**AIRPLANE MAINTENANCE:** YES

AMM 27-11-11

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27055-1 (CE qualified) sling is used on all 737-600 thru -900 airplanes.

C27055 is used in conjunction with a customer-furnished overhead lift and J71046 specification load cell equipment. C27055 is used to remove or install the aileron and tab assembly.

Refer to AMM 27-11-11 and the current C27055 drawing for complete usage instructions.

C27055-1 consists of:

C27055-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	SLING ASSEMBLY	C27055-2
1	STORAGE BOX	

**WEIGHT:** 30 lbs (14 kg)

**DIMENSIONS:** 22 x 15 x 15 inches (559 x 381 x 381 mm)

**DECLARATION OF CONFORMITY:** C27055 requires a written Declaration of Conformity from the C27055 fabricator if it is to be used in the European Union. The design of C27055 meets the European requirements of Machinery Directive 2006/42/EC including its amendments. When used within the European Union, the fabricator of C27055 must also meet the requirements of that directive. At a minimum for the tool fabricator, this requires the retention of a technical file, a labeling of the equipment with the CE mark, and the completion of an EC Declaration of Conformity. If C27055 is to be used within the European Union and the Declaration of Conformity is missing, contact the fabricator of C27055 for a replacement Declaration of Conformity.

**OPERATING INSTRUCTIONS:** Refer to the current C27055 drawing and AMM 27-11-11 maintenance procedures for detailed instructions on the use of this equipment. This equipment shall only be used in conjunction with Boeing maintenance procedures to maintain Boeing airplanes.

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**MAINTENANCE:** General Cleaning: Basic care of the equipment includes cleaning the equipment of dirt, corrosives, or contaminants. Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and commercial soap or detergent, clean the components and wipe dry with a clean cloth. Hang the components freely to dry, but away from excessive heat or steam.

Slings, Wire Rope: Maintenance and inspection of wire rope shall be performed in accordance with EN 1492-1, Section 6, Section Annex B and ASME B-30.9, Chapter 9-2.

Structural and Mechanical Lifting Devices, (spreader bar):

1. Maintenance shall be done based on the recommendations made by the lifter manufacturer or qualified person.
2. Before adjustments and repairs are started on a lifter, the following precautions shall be taken:
  - All courses of power shall be disconnected, locked out, and tagged "Out of Service".
  - A lifter removed from service for repair shall be tagged "Out of Service".
3. Only a qualified person shall perform adjustments and tests when required.
4. Replacement parts shall be at least equal to the original manufacturer's specifications.
5. After adjustments and repairs have been made, the lifter shall not be returned to service until it has been inspected according to ASME B-30.20, para. 20-1.3.4.
6. Dated records of repairs and replacements shall be made.
7. Adjustments and repairs. Any hazardous conditions disclosed by the inspection requirements of ASME B-30.20, para. 20-1.3.1 shall be corrected before normal operations of the lifter is resumed. Adjustments and repairs shall be done under the direction of , or by a qualified person.

Swivel Hoist Rings: Maintenance shall be done based on the recommendations made by the hoist ring manufacturer or qualified person.

**PROOF LOAD:** Proof load testing for the C27055 sling shall be performed per the current C27055 drawing proof load diagrams (example Figure 2) and:

- In conjunction with initial fabrication
- Subsequent to modification of this equipment (equipment shall only be modified in accordance with the C27055 drawing).
- After repair of load carrying components.
- After replacement of load carrying components (except for load carrying components such as shackles and hoist rings that carry their own certification).
- Continuing integrity/safety of the device to be assured by inspection.

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**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**

**INSPECTION: FREQUENT**

General Inspection (before use):

1. Missing fasteners
2. Notes, Cautions and Warnings are legible
3. Usage placards are legible

Slings, General: Prior to use, all new, altered, modified or repaired slings shall be inspected by a designated person to verify compliance with the applicable provisions of EN 1492-1, Section 6, Section Annex B and ASME B-30.9

Slings, Wire Ropes:

1. Visual inspection for damage shall be performed by the user or other designated person each day or shift the sling is used.
2. Condition such as those listed in EN 1492-1, Section 6, Section Annex B and ASME B-30.9, paragraph 9.2.9.4 or any other condition that may result in hazard shall cause the sling to be removed from service.
3. Slings shall not be returned to service until approved by a qualified person.

Structural and Mechanical Lifting Devices (spreader bar):

1. Visual Inspection by the operator before and during each lift of the device. Records are not required. Inspect for:
  - Structural deformation, cracks or excessive wear of any parts of the lifting device.
  - Loose or missing guards, fasteners, covers, stops or nameplates.
  - All functional operational mechanisms and automatic hold and release mechanisms for misadjustments interfering with operation.

Swivel Hoist Rings:

1. Visual inspection shall be performed by the user or other designated person each shift before the links, rings, and swivels are used. Semipermanent and inaccessible locations where frequent inspections are not feasible shall have periodic inspections performed. Specifically check to make sure that:
  - Body can rotate freely on bushing.
  - Bail can swivel freely on shoulder pins.
  - Shoulder pins are secure and undamaged.
2. Conditions as those listed in ASME B-30.26, para. 26-4.8.4, or any other condition that may result in a hazard, shall cause the hardware to be removed from service. Links, rings, and swivels shall not be returned to service until approved by a qualified person.
3. Written records are not required.

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PERIODIC

Welding Inspection:

1. Magnetic particle or dye penetrant inspection for all welds, after all proof load tests.
2. Inspect and evaluate per GSE Welding Document A00001 Inspection Requirements Tables 1 & 2, and Acceptance Criteria Table 3.
3. Reject cracked or deformed parts.

Slings, General:

1. A complete inspection for damage to the sling shall be periodically performed by a designated person.
2. Each sling and component shall be examined individually, taking care to expose and examine all surfaces.
3. The sling shall be examined for the conditions noted in the frequent inspection and in ASME B-30.9 or any other conditions that may result in a hazard shall cause the sling to be removed from service.
4. Slings shall not be returned to service until approved by a qualified person.
5. A written record of the most recent periodic inspection shall be maintained and shall include the condition of the sling.

Slings, Wire Ropes:

1. Wire rope inspection shall be conducted on the entire length, including splices, end attachments and fittings.
2. Wire rope inspection shall be examined for conditions listed in EN 1492-1, Section 6, Section Annex B and ASME B-30.9, paragraph 9.2.9.4.
3. Deficiencies found during the inspection are analyzed and the wire rope shall not be used, if deficiencies are determined to be hazardous.

Structural and Mechanical Lifting Devices (spreader bar):

1. A written record of a visual inspection, by a qualified person is required.
2. Inspection is made of external conditions for a continuing evaluation of the following factors:
  - Loose bolts or fasteners.
  - Excessive wear of linkages and other mechanical parts.
  - Excessive wear at hoist hooking points and load support clevises or pins.
  - Deficiencies found during the inspection are analyzed and the lifting device shall not be used, if deficiencies are determined to be hazardous.

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- The lifting device shall not be used until the hazardous deficiencies are corrected.

**Swivel Hoist Rings:**

1. A complete inspection of the links, rings, and swivels shall be performed by a designated person. The hardware shall be examined for conditions such as those listed in ASME B-30.26, para. 26-4.8.4 and a determination made as to whether they constitute a hazard.
2. Period inspection interval shall not exceed one year. The frequency of periods inspection should be based on:
  - Frequency of use
  - Severity of service conditions
  - Experience gained on the service life of hardware used in similar circumstances
  - Guidelines for the time intervals are: Normal service – yearly; Severe service – monthly to quarterly; Special service – as recommended by a qualified person.
  - Written records are not required.

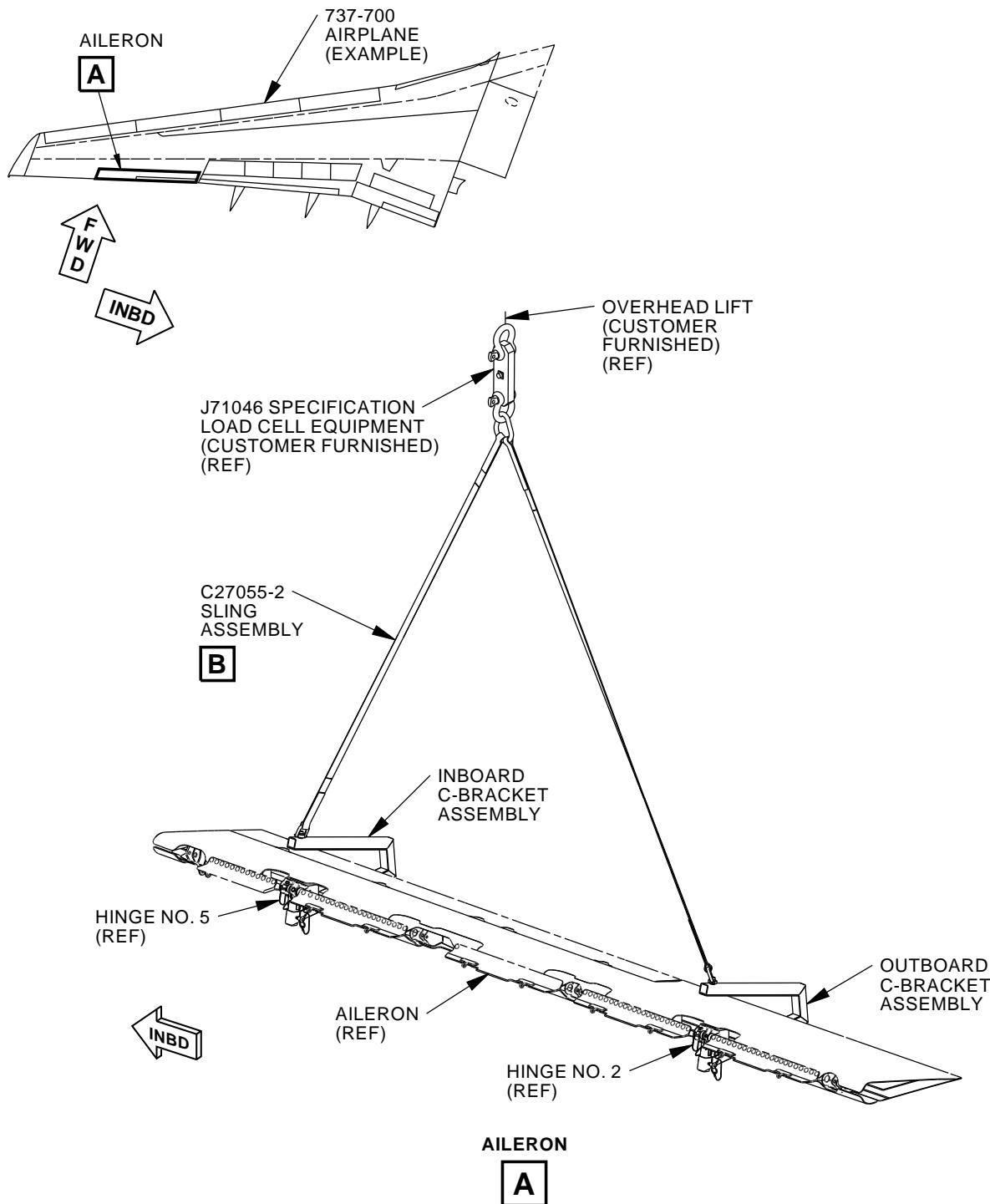
**STORAGE:** C27055 shall be stored clean, dry, and free of exposure to fumes or corrosive elements, indoors and in the furnished storage box.

**DECOMMISSIONING:** Part and assemblies of this equipment, including wire ropes, shall be permanently altered to prevent their unauthorized reuse. Recycling is the preferred manner of disposal for those materials where that option is available.

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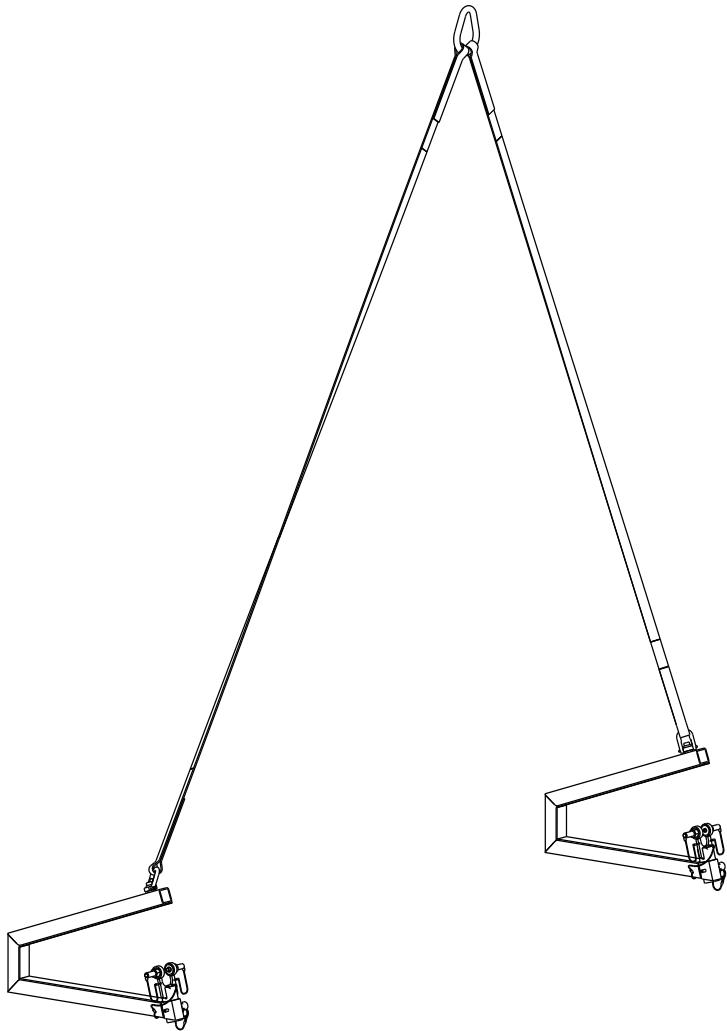


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**Aileron Sling Assembly**  
**Figure 1 (Sheet 1 of 2)**

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**C27055-2 SLING ASSEMBLY**

**B**

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**Aileron Sling Assembly  
Figure 1 (Sheet 2 of 2)**

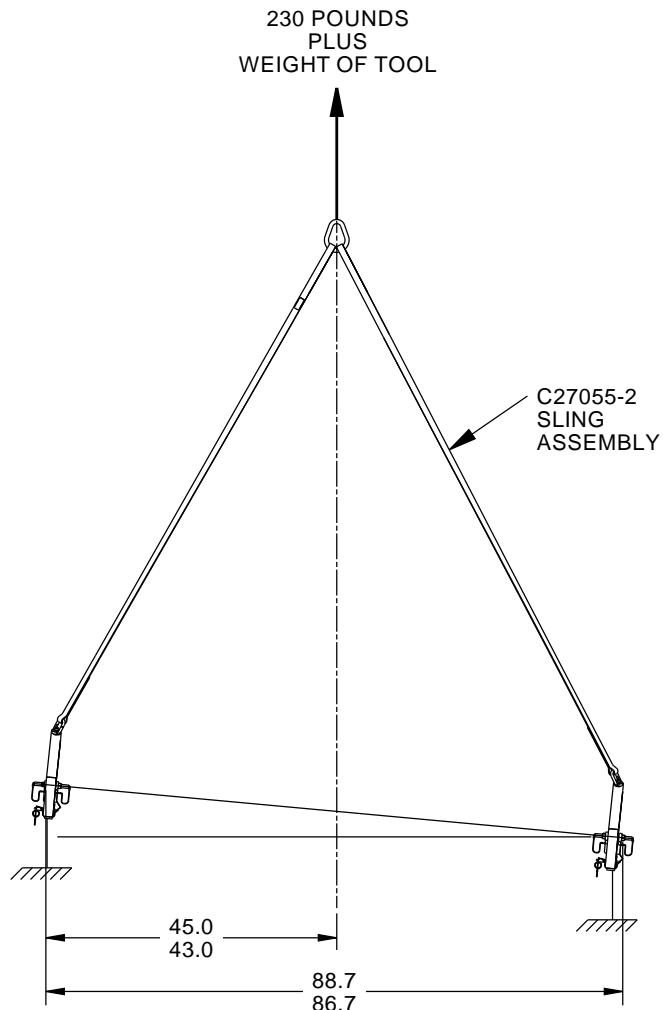
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**C27055 PROOF LOAD DIAGRAM  
(EXAMPLE)**

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**C27055 Proof Load Diagram (Example)  
Figure 2**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: C27066-1**

**NAME:** LOCK EQUIPMENT - AILERON/ELEVATOR POWER CONTROL UNIT  
INPUT ROD (POGO)

**AIRPLANE MAINTENANCE:** YES

AMM 27-11-11

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27066-1 lock equipment is used on all 737 airplanes except 737-100 thru -500 airplanes.

C27066 is a collar lock assembly used to lock the aileron and elevator power control unit (PCU) actuators (POGO's) in place for testing. A force is applied to the control column to functionally check the force necessary to collapse and extend the elevator and aileron PCU input rod POGO's.

Refer to AMM 27-11-11 and the current C27066 drawing for complete usage instructions.

C27066-1 consists of:

C27066-1		
QUANTITY	NOMENCLATURE	PART NUMBER
2	COLLAR ASSEMBLY	C27066-3
2	COLLAR HALF ASSEMBLY	C27066-4
4	KNOB (CL-16513)	C27066-11
1	STORAGE BOX	

**WEIGHT:** 3 lbs (1.4 kg)

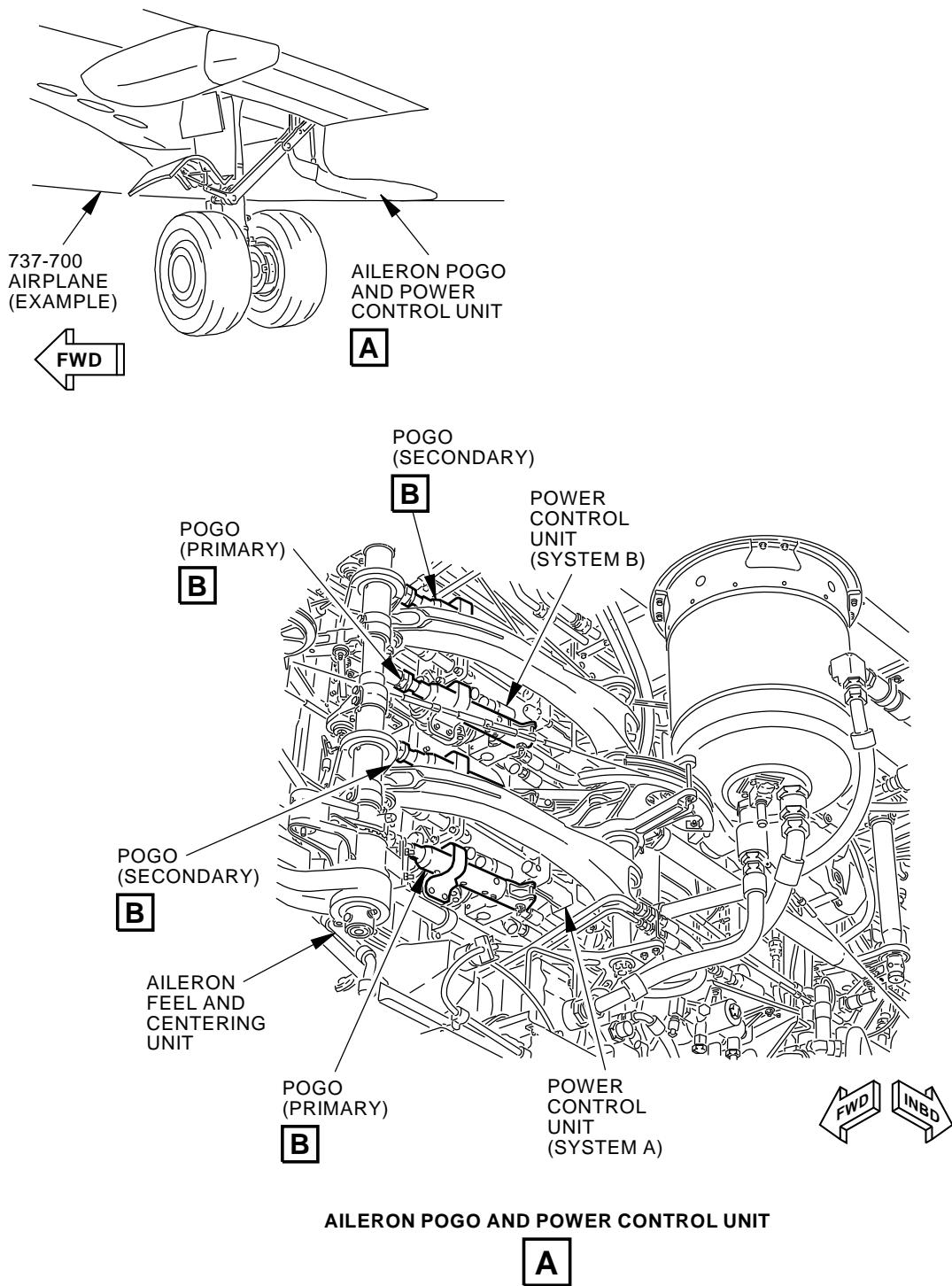
**DIMENSIONS:** 2 x 6 x 7 inches (51 x 152 x 178 mm)

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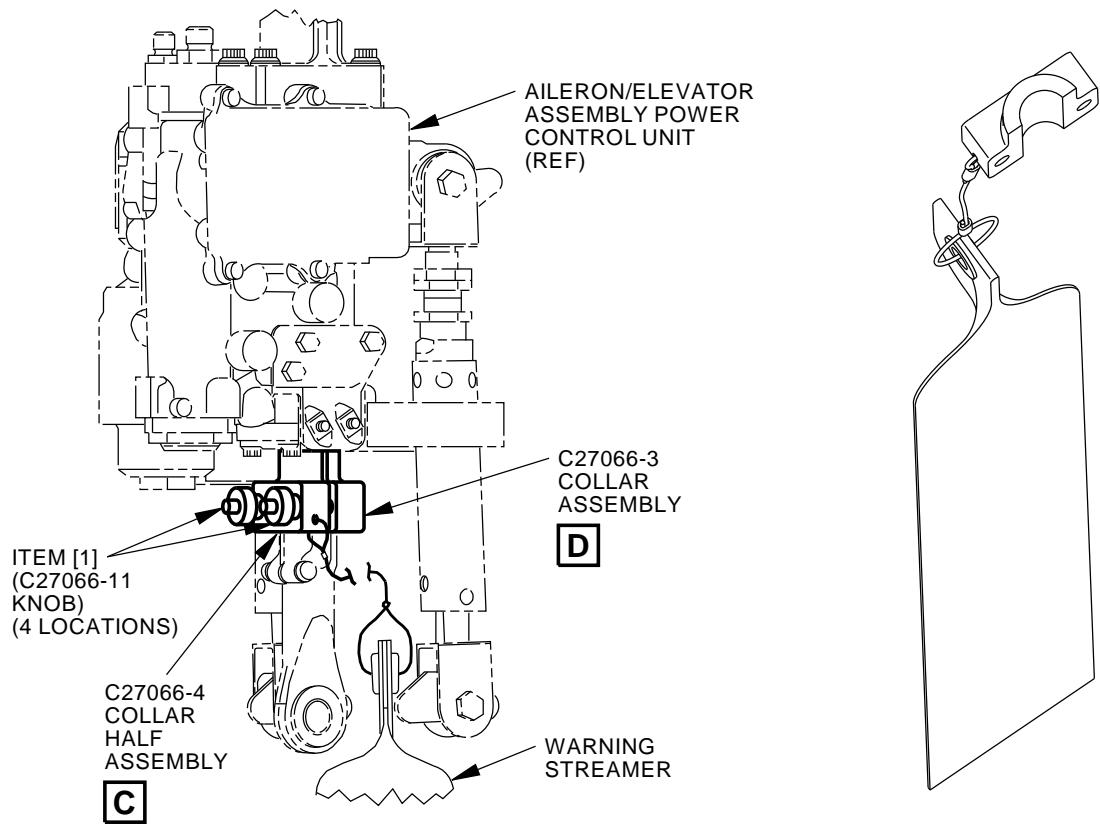
**Aileron/Elevator PCU Input Rod (POGO) Lock Equipment**  
**Figure 1 (Sheet 1 of 2)**

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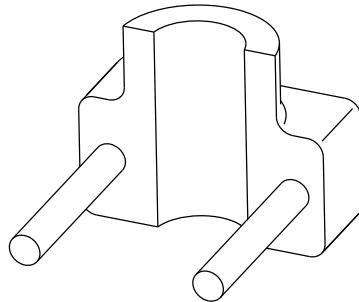
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POGO LOCKOUT (EXAMPLE)



C27066-4 COLLAR HALF ASSEMBLY



C27066-3 COLLAR ASSEMBLY



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Aileron/Elevator PCU Input Rod (POGO) Lock Equipment  
 Figure 1 (Sheet 2 of 2)

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NUMBER	PART NUMBER	NOMENCLATURE	VENDOR CODE
[1]	C27066-11 (CL-16513)	KNOB	99862

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**PART NUMBER: C27077-1**

**NAME:** TEST EQUIPMENT - QUADRANT ASSEMBLY, AILERON CONTROL

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-11-24

**USAGE & DESCRIPTION:** The C27077-1 aileron control quadrant assembly test equipment is used on all 737-600 thru -900 airplanes.

C27077 is used during component maintenance to perform a cam torque breakout test on the quadrant assembly and to hold the aileron control quadrant assembly in place while performing freeplay and friction testing.

Refer to the current C27077 tool drawing and CMM 27-11-24 for complete usage instructions.

C27077-1 consists of:

C27077-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BASE ASSEMBLY	C27077-2
1	ADAPTER ASSEMBLY	C27077-3
1	CLAMP	C27077-4
2	SCREW	C27077-5
2	WASHER	C27077-6
2	KNOB	CL-3-PPK-2
1	STORAGE BOX	

**WEIGHT:** 37 lbs (17 kg)

**DIMENSIONS:** 11 x 13 x 18 inches (279 x 330 x 457 mm)

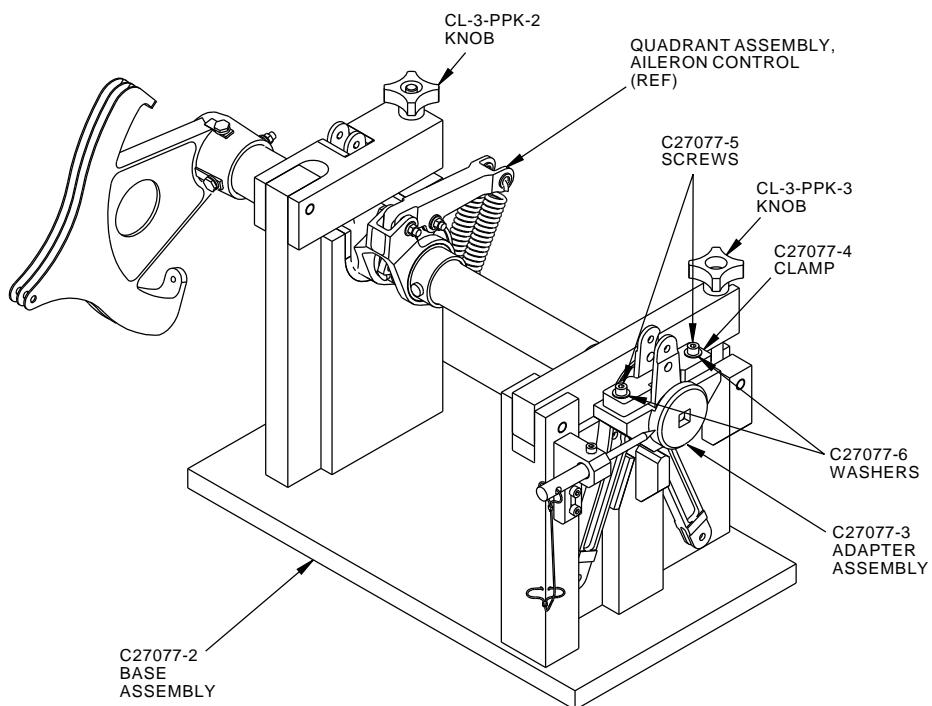
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**C27077-1**  
AILERON CONTROL QUADRANT TEST EQUIPMENT

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**Quadrant Assembly Test Equipment**  
**Figure 1**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: F80220-1**

**NAME:** FUNCTIONAL TEST - TRANSFER MECHANISM, AILERON CONTROL

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-16-07, CMM 27-16-08, OHM 27-16-05

**USAGE & DESCRIPTION:** The F80220-1 functional tester is used during component maintenance on 737-100 thru -900 airplanes.

The 251A1817 aileron control transfer mechanism is located beneath the first officer's control column. The aileron transfer mechanism provides a load path for roll control. If a control wheel can not move, the aileron transfer mechanism allows the other pilot to operate their control wheel.

F80220 is a test stand that provides a means of testing the functions of the aileron control transfer mechanism.

Refer to CMM 27-16-07, CMM 27-16-08, OHM 27-16-05 and the current F80220 drawing for complete usage instructions.

F80220-1 is a steel fixture that includes a pulley assembly, protractors and adapters.

**NOTE:** C27093 replaces F80220 for future procurement.

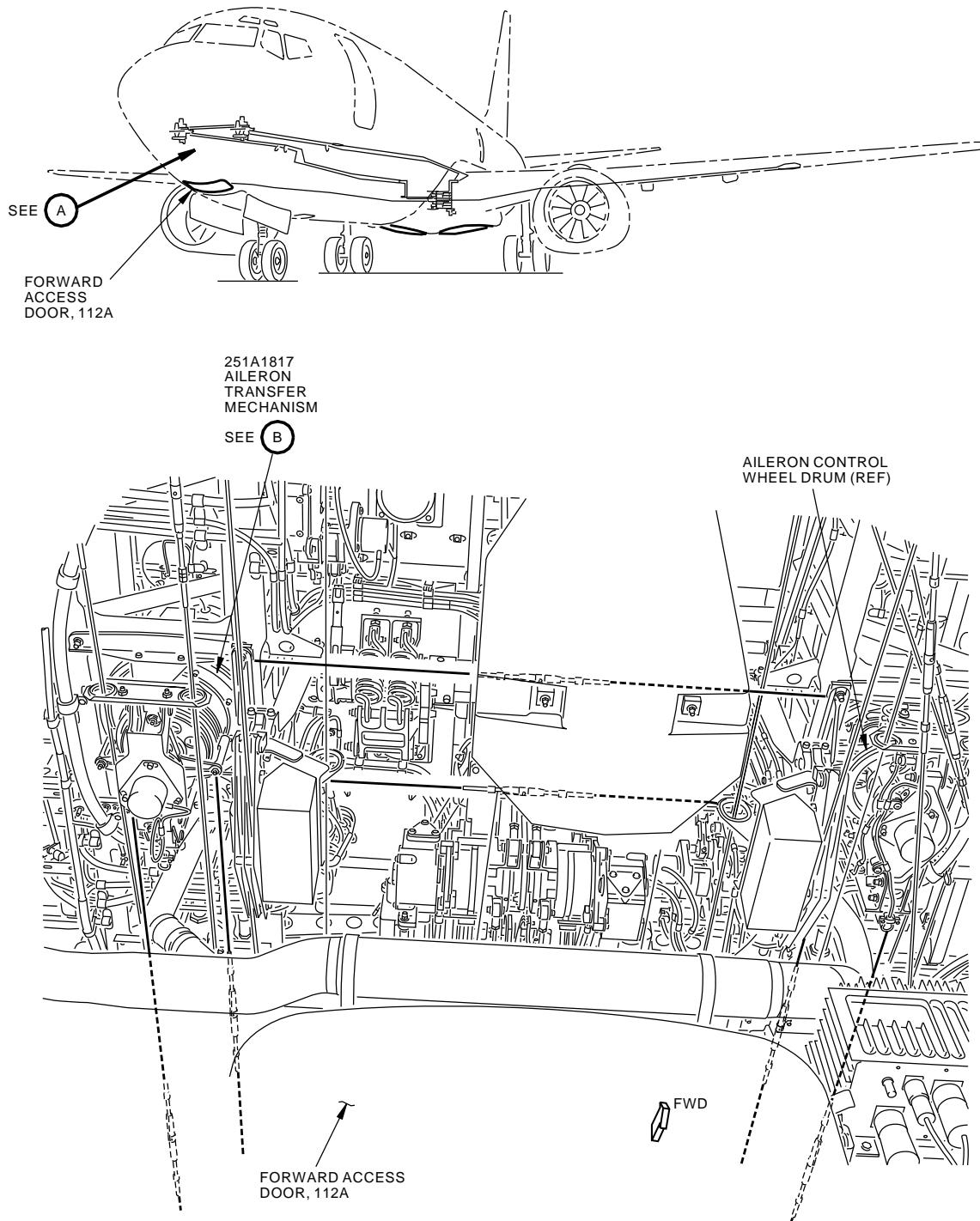
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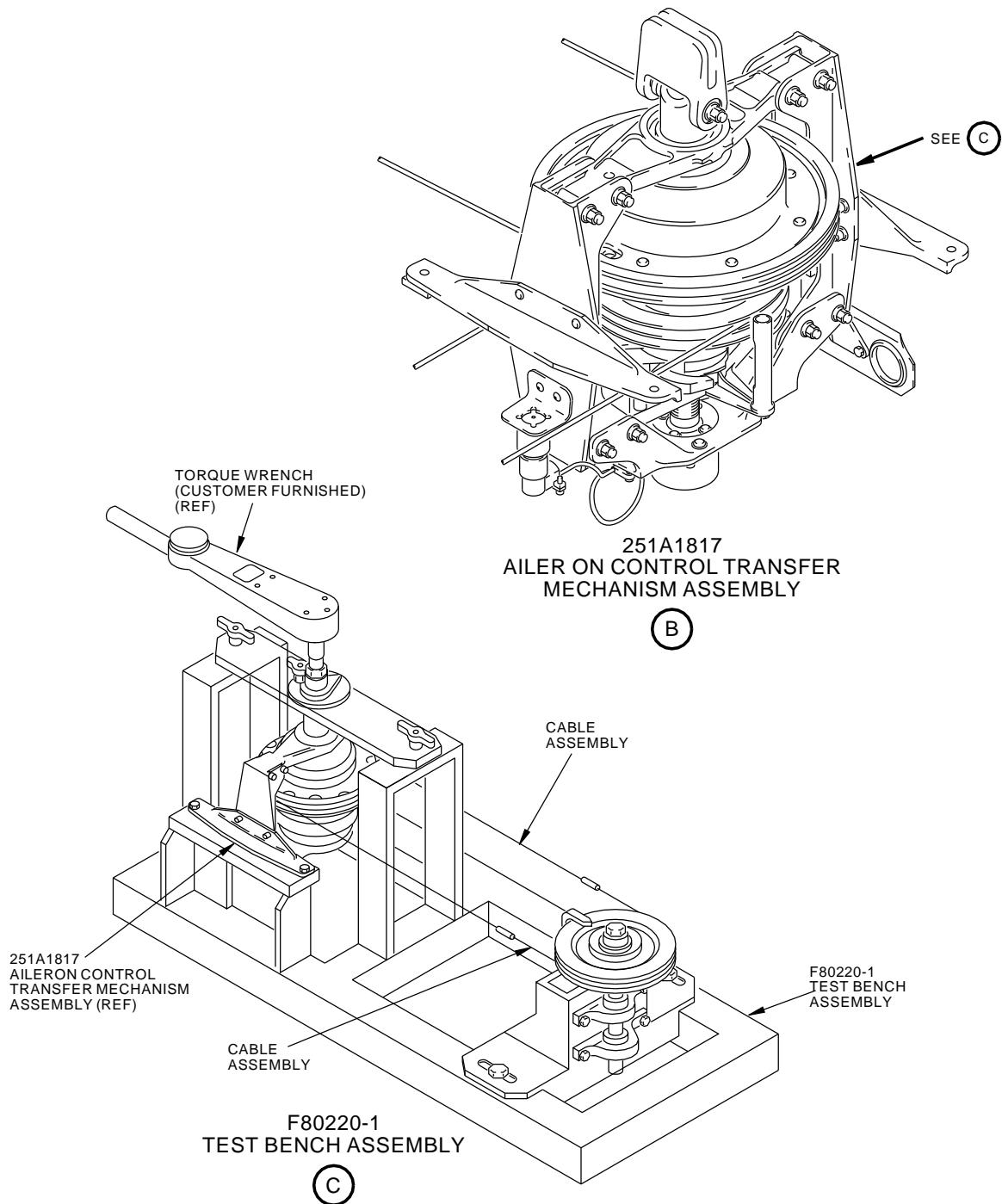
**Aileron Control Transfer Mechanism Functional Test**  
**Figure 1 (Sheet 1 of 2)**

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**Aileron Control Transfer Mechanism Functional Test**  
**Figure 1 (Sheet 2 of 2)**

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**PART NUMBER: C27093-1, -2**

**NAME:** FUNCTIONAL TEST - TRANSFER MECHANISM, AILERON CONTROL

**AIRPLANE MAINTENANCE:** YES

AMM 27-16-05, AMM 27-16-07, AMM 27-16-08

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27093-1 function test equipment and the C27093-2 test bench equipment are used on all 737-100 thru -900 airplanes.

The F80220-1 in conjunction with C27093-2 is used to provide a means of testing the function of the aileron control transfer mechanism.

Refer to AMM 27-16-05 (737-100 thru -500), AMM 27-16-07 (737-600 thru -800), AMM 27-16-08 (737-900) and the current C27093-1 drawing for complete usage instructions.

C27093-1 and C27093-2 consist of:

C27093-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BASE ASSEMBLY	C27093-4
1	DRIVER SUPPORT ASSEMBLY	C27093-5
4 <sup>[1]</sup>	1/4 HEX BOLT	C27093-13
2 <sup>[1]</sup>	1/2 HEX BOLT	C27093-14
2 <sup>[1]</sup>	1/2 WASHER	C27093-15
4 <sup>[1]</sup>	1/4 WASHER	C27093-16
1	STORAGE BOX	

<sup>[1]</sup> Stow on base assembly C27093-4

C27093-2		
QUANTITY	NOMENCLATURE	PART NUMBER
1	SUPPORT ASSEMBLY	C27093-6
1	RIGHT-HAND CABLE ASSEMBLY	C27093-8
1	LEFT-HAND CABLE ASSEMBLY	C27093-9
1	STORAGE BOX	

**WEIGHT:** C27093-1 - 126 lbs (57 kg)  
C27093-2 - 61 lbs (28 kg)

**DIMENSIONS:** C27093-1 - 17 x 18 x 48 inches (432 x 457 x 1219 mm)  
C27093-2 - 12 x 14 x 17 inches (305 x 356 x 432 mm)

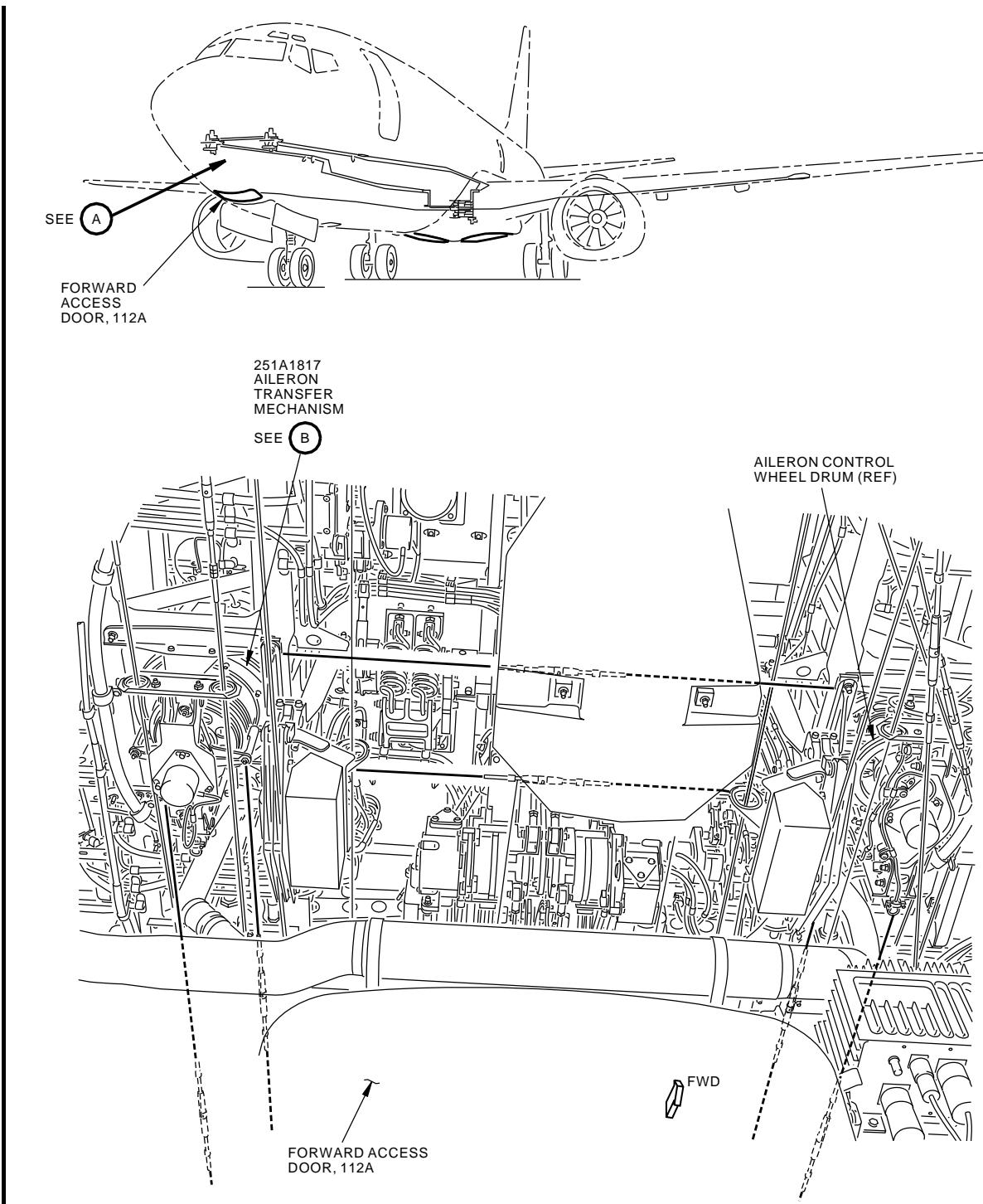
**NOTE:** C27093 replaces F80220 for future procurement.

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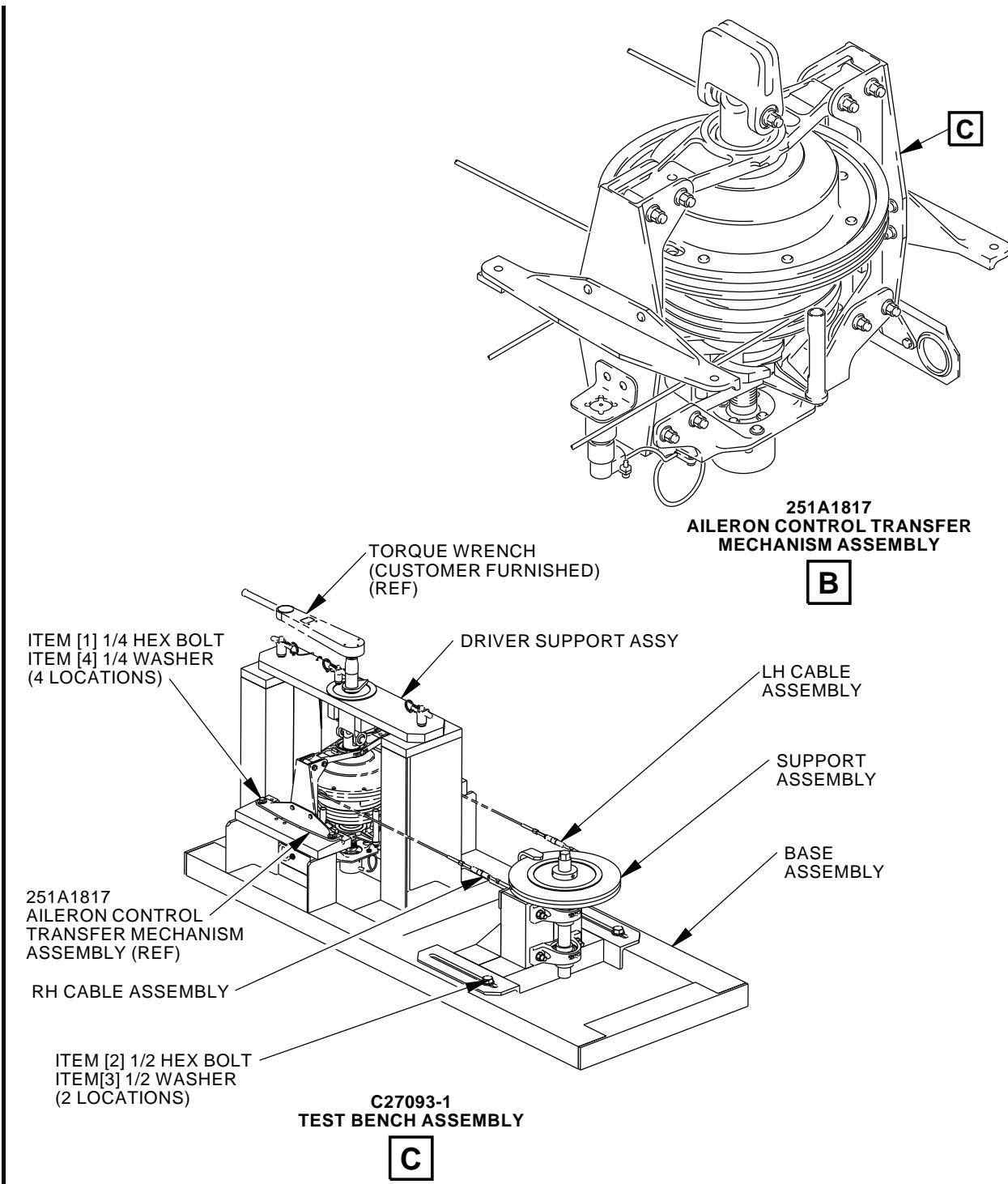
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**Aileron Control Transfer Mechanism Functional Test**  
**Figure 1 (Sheet 1 of 2)**

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**Aileron Control Transfer Mechanism Functional Test**  
**Figure 1 (Sheet 2 of 2)**

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NUMBER	PART NUMBER	NOMENCLATURE	VENDOR CODE
[1]	C27093-13	1/4 HEX BOLT	---
[2]	C27093-14	1/2 HEX BOLT	
[3]	C27093-15	1/2 WASHER	
[4]	C27093-16	1/4 WASHER	

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**PART NUMBER: F80212-30**

**NAME:** ADAPTER - RUDDER PEDAL FORCE CHECK

**AIRPLANE MAINTENANCE:** YES

AMM 27-21-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The F80212-30 adapter is used on all 737 airplanes.

F80212 is used to check the force required to move the rudder pedals. F80212 is similar to a pogo-stick: the upper tube is equipped with a T-shaped handle, a foot brace, and a compression gauge. The lower tube telescopes into the upper tube and is equipped with a bracket used to contact the rudder pedal and another bracket that contacts the compression gauge. A ball lock pin on a lanyard is used to secure the two assemblies to one another when the tool is not in use.

Refer to the current F80212 drawing and AMM 27-21-00 for complete usage instructions.

F80212-30 consists of:

F80212-30		
QUANTITY	NOMENCLATURE	PART NUMBER
1	GAUGE ASSEMBLY	F80212-31
1	STORAGE BOX	

**WEIGHT:** 8 lbs (3.6 kg)

**DIMENSIONS:** 7 x 11 x 26 inches (178 x 279 x 660 mm)

**NOTE:** F80212-30 supersedes F80212-19.

F80212 supersedes F80147.

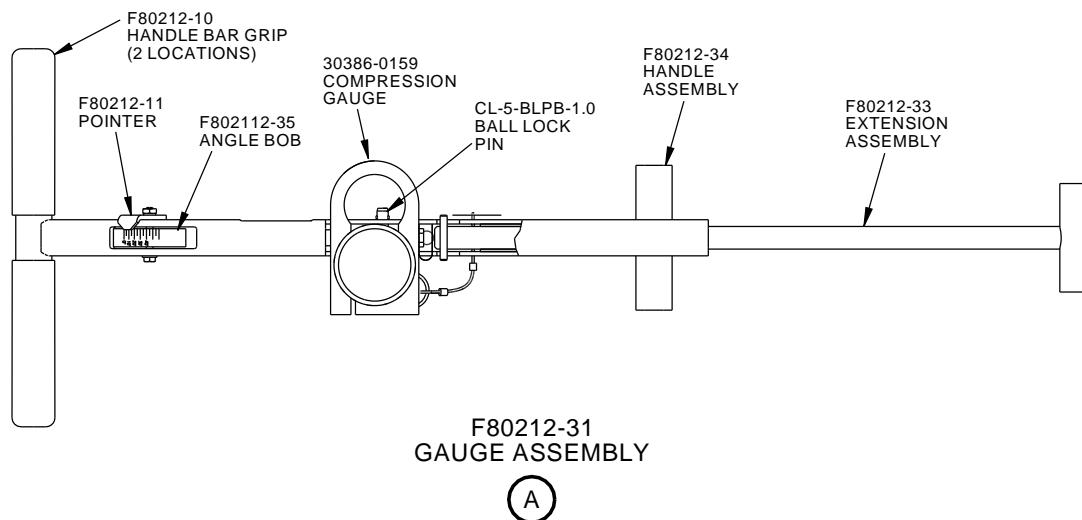
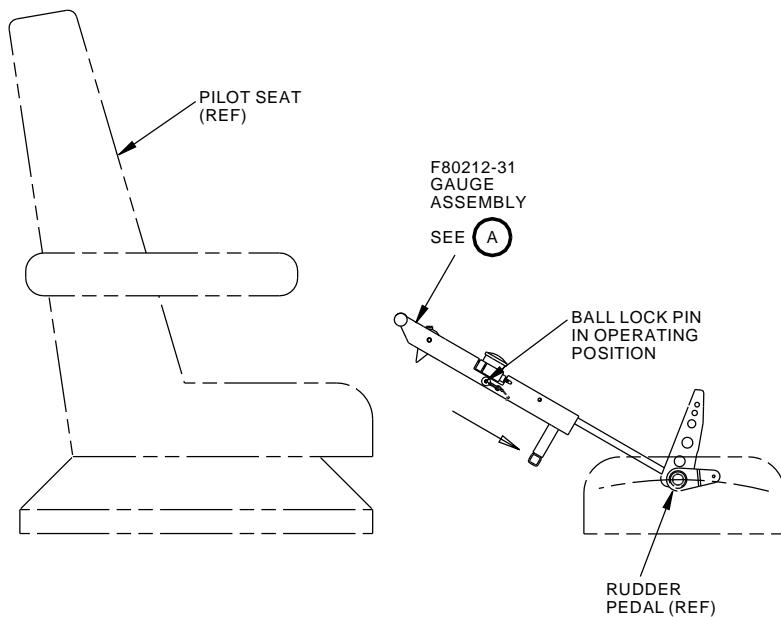
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F76978 S0006831525\_V4

**Rudder Pedal Force Check Adapter**  
**Figure 1**

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**PART NUMBER: C27042-1**

**NAME:** WRENCH - TORQUE EQUIPMENT, RUDDER POWER CONTROL UNIT ATTACHMENT

**AIRPLANE MAINTENANCE:** YES

AMM 27-21-91, AMM 54-51-02, AMM 54-51-03 and AMM 54-51-04

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27042-1 rudder power control unit (PCU) torque wrench equipment is used on all 737-600 thru -900 airplanes.

C27042 is used to torque the BACN10JC18 nut on the forward clevis bolt for the rudder main power control unit. The C27042 tool consists of a commercially available pre-set torque wrench and a fabricated open end wrench head assembly that permits access to the clevis bolt.

Refer to the current C27042 tool drawing, AMM 27-21-91, AMM 54-51-02, AMM 54-51-03 and AMM 54-51-04 for complete usage instructions.

C27042-1 consists of:

C27042-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	HEAD ASSEMBLY	C27042-2
1	TORQUE WRENCH	810014-1
1	STORAGE BOX	

**WEIGHT:** 3 lbs (1.4 kg)

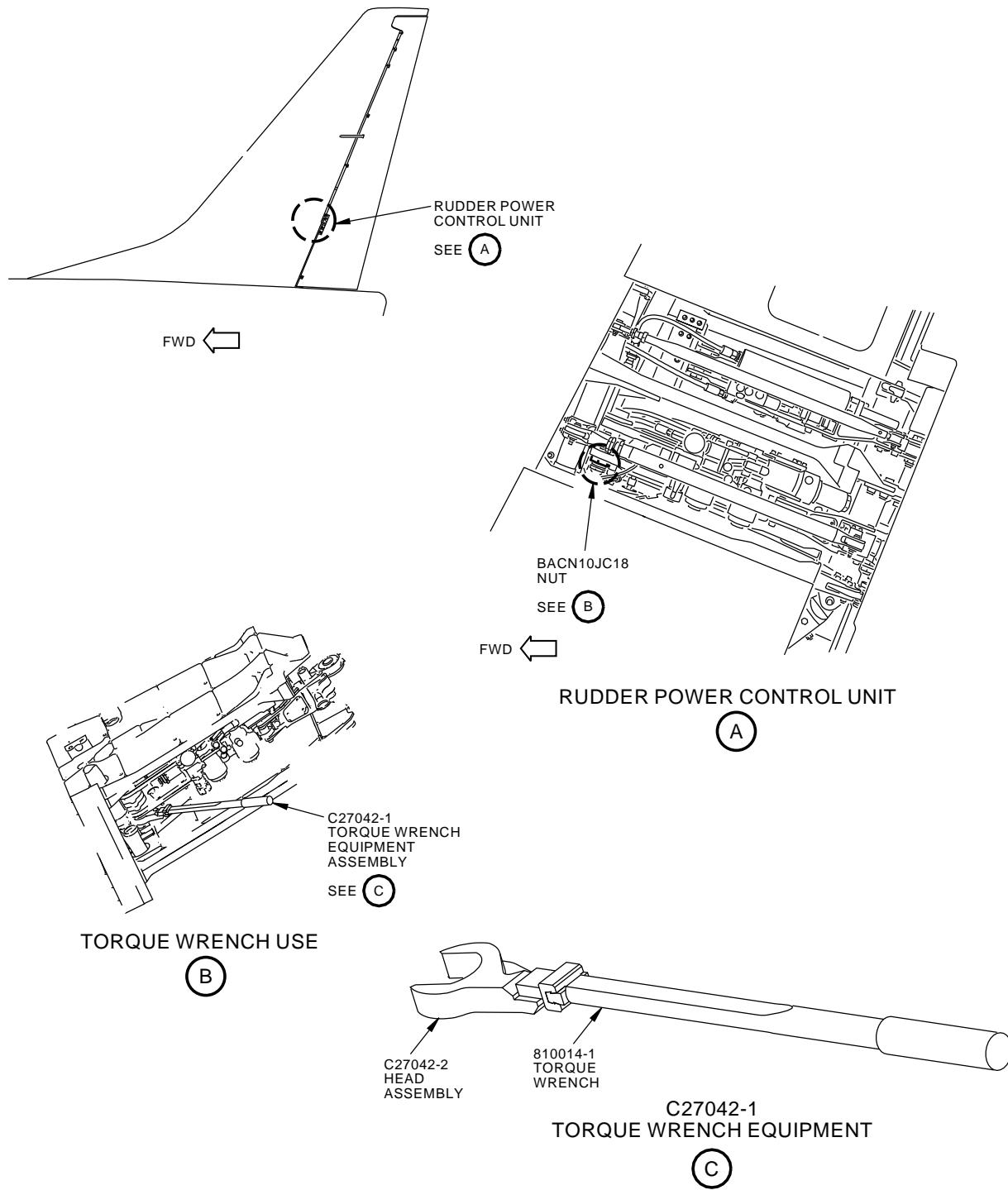
**DIMENSIONS:** 1 x 4 x 16 inches (25 x 102 x 406 mm)

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G45419 S0006831527\_V3

**Rudder PCU Attachment Wrench**  
**Figure 1**

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**PART NUMBER: C27057-1**

**NAME:** LOCK - RUDDER POWER CONTROL UNIT (PCU) REMOVED

**AIRPLANE MAINTENANCE:** YES

AMM 27-21-91, AMM 55-30-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27057-1 lock is used on all 737 airplanes, except for 737-100 thru -500 airplanes.

C27057 is used to lock the rudder in the neutral position when the power control unit is removed. C27057 is designed to withstand wind gusts up to 65 knots.

Refer to AMM 27-21-91, AMM 55-30-00 and the current C27057 drawing for complete usage instructions.

C27057-1 consists of:

C27057-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	LOCK ASSEMBLY	C27057-2
1	STORAGE BOX	

**WEIGHT:** 18 lbs (8.2 kg)

**DIMENSIONS:** 5 x 5 x 30 inches (127 x 127 x 762 mm)

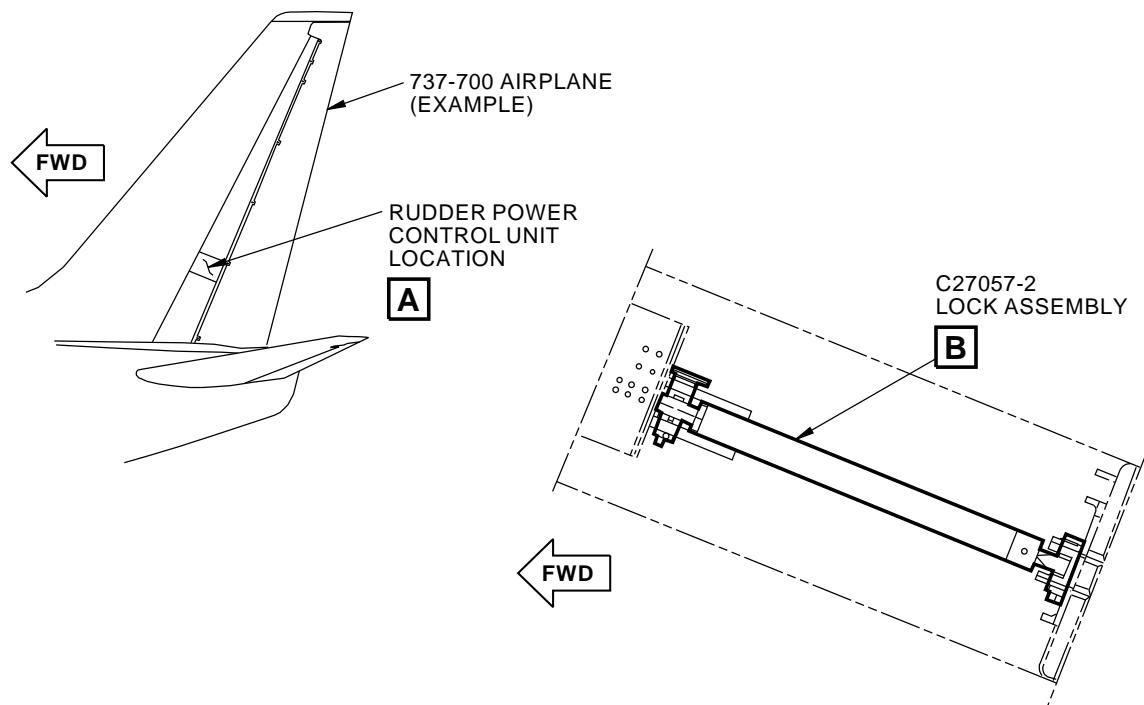
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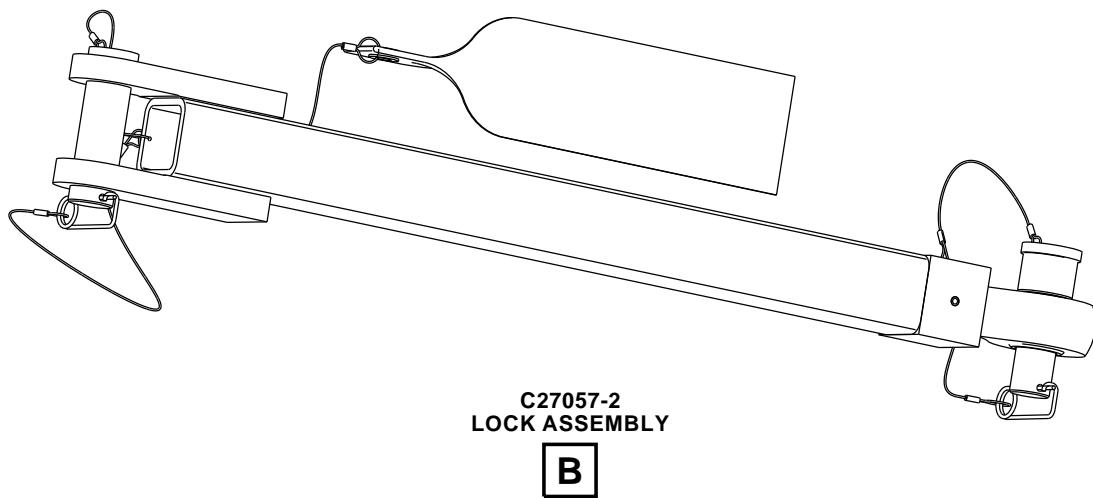
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**RUDDER POWER CONTROL UNIT LOCK (INSTALLED)**

**A**



**C27057-2  
LOCK ASSEMBLY**

**B**

G74799 S0006831529\_V4

**Rudder Power Control Unit Lock**  
**Figure 1**

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**PART NUMBER: C27049-1, -36**

**NAME:** REMOVAL/INSTALLATION EQUIPMENT - RUDDER POWER CONTROL UNIT (CE)

**AIRPLANE MAINTENANCE:** YES

AMM 27-21-91

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27049-1 (option for original rudder power control unit (PCU), CE qualified) or C27049-36 (preferred for all rudder power control units, CE qualified) removal/installation equipment is used on all 737 airplanes except 737-100 thru -500 airplanes.

C27049 is used in conjunction with a customer-furnished fishpole hoist. C27049 is used to remove or install the rudder PCU. C27049 consists of an bracket assembly that attaches to the vertical fin. An arm assembly attaches to the bracket assembly and provides a keyhole mount for the customer-furnished fishpole hoist. The beam assembly (supporting lifter) attaches to the rudder PCU for removal or installation and is raised or lowered by the fishpole hoist.

Refer to AMM 27-21-91 and the current C27049 drawing and for complete usage instructions.

C27049-1 and -36 consist of:

C27049-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ARM ASSEMBLY	C27049-2
1	BEAM ASSEMBLY	C27049-3
1	BRACKET ASSEMBLY	C27049-4
8	SMALL CAP SCREW (MS16998-32)	C27049-44
8	SMALL WASHER (AN960-10)	C27049-42
3	LARGE CAP SCREW (MS16998-47)	C27049-45
3	LARGE WASHER (AN960-416)	C27049-43
1	STORAGE BOX	

C27049-36		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ARM ASSEMBLY	C27049-2
1	BRACKET ASSEMBLY	C27049-4
1	BEAM ASSEMBLY	C27049-37
8	SMALL CAP SCREW (MS16998-32)	C27049-44
8	SMALL WASHER (AN960-10)	C27049-42
3	LARGE CAP SCREW (MS16998-47)	C27049-45

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(Continued)

C27049-36		
QUANTITY	NOMENCLATURE	PART NUMBER
3	LARGE WASHER (AN960-416)	C27049-43
1	STORAGE BOX	

**WEIGHT:** C27049-1 or -36 - 24 lbs (11 kg)

**DIMENSIONS:** C27049-1 or -36 - 34 x 20 x 8 inches (864 x 508 x 203 mm)

**NOTE:** C27049-36 replaces C27049-1 for future procurement.

**DECLARATION OF CONFORMITY:** C27049 requires a written Declaration of Conformity from the C27049 fabricator if it is to be used in the European Union. The design of C27049 meets the European requirements of Machinery Directive 2006/42/EC including its amendments. When used within the European Union, the fabricator of C27049 must also meet the requirements of that directive. At a minimum for the tool fabricator, this requires the retention of a technical file, a labeling of the equipment with the CE mark, and the completion of an EC Declaration of Conformity. If C27049 is to be used within the European Union and the Declaration of Conformity is missing, contact the fabricator of C27049 for a replacement Declaration of Conformity.

**OPERATING INSTRUCTIONS:** Refer to the current C27049 drawing and AMM 27-21-91 procedures for detailed instructions on the use of this equipment. This equipment shall only be used in conjunction with Boeing maintenance procedures to maintain Boeing airplanes.

**MAINTENANCE:** General Cleaning: Basic care of the equipment includes cleaning the equipment of dirt, corrosives, or contaminants. Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and commercial soap or detergent, clean the components and wipe dry with a clean cloth. Hang the components freely to dry, but away from excessive heat or steam.

Structural and Mechanical Lifting Devices, (supporting lifter):

1. Maintenance shall be done based on the recommendations made by the lifter manufacturer or qualified person.
2. Before adjustments and repairs are started on a lifter, the following precautions shall be taken:
  - All courses of power shall be disconnected, locked out, and tagged "Out of Service".
  - A lifter removed from service for repair shall be tagged "Out of Service".
3. Only a qualified person shall perform adjustments and tests when required.
4. Replacement parts shall be at least equal to the original manufacturer's specifications.

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5. After adjustments and repairs have been made, the lifter shall not be returned to service until it has been inspected according to ASME B-30.20, para. 20-1.3.4.
6. Dated records of repairs and replacements shall be made.
7. Adjustments and repairs. Any hazardous conditions disclosed by the inspection requirements of ASME B-30.20, para. 20-1.3.1 shall be corrected before normal operations of the lifter is resumed. Adjustments and repairs shall be done under the direction of , or by, a qualified person.

**Swivel Hoist Rings:** Maintenance shall be done based on the recommendations made by the hoist ring manufacturer or qualified person.

**PROOF LOAD:** Proof load testing for the C27049-1 or C27049-36 removal/installation equipment shall be performed per the current C27049 drawing proof load diagrams (example Figure 2) and:

- In conjunction with initial fabrication
- Subsequent to modification of this equipment (equipment shall only be modified in accordance with the C27049 drawing).
- After repair of load carrying components.
- After replacement of load carrying components (except for load carrying components such as shackles and hoist rings that carry their own certification).
- Continuing integrity/safety of the device to be assured by inspection.

**INSPECTION:** FREQUENT

General Inspection (before use):

1. Missing fasteners
2. Notes, Cautions and Warnings are legible
3. Usage placards are legible

Structural and Mechanical Lifting Devices (supporting lifters):

1. Visual Inspection by the operator before and during each lift of the device. Records are not required. Inspect for:
  - Structural deformation, cracks or excessive wear of any parts of the lifting device.
  - Loose or missing guards, fasteners, covers, stops or nameplates.
  - All functional operational mechanisms and automatic hold and release mechanisms for misadjustments interfering with operation.

Swivel Hoist Rings:

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1. Visual inspection shall be performed by the user or other designated person each shift before the links, rings, and swivels are used. Semipermanent and inaccessible locations where frequent inspections are not feasible shall have periodic inspections performed. Specifically check to make sure that:
  - Body can rotate freely on bushing.
  - Bail can swivel freely on shoulder pins.
  - Shoulder pins are secure and undamaged.
2. Conditions as those listed in ASME B-30.26, para. 26-4.8.4, or any other condition that may result in a hazard, shall cause the hardware to be removed from service. Links, rings, and swivels shall not be returned to service until approved by a qualified person.
3. Written records are not required.

PERIODIC

Welding Inspection:

1. Magnetic particle or dye penetrant inspection for all welds, after all proof load tests.
2. Inspect and evaluate per GSE Welding Document A00001 Inspection Requirements Tables 1 & 2, and Acceptance Criteria Table 3.
3. Reject cracked or deformed parts.

Structural and Mechanical Lifting Devices (supporting lifter):

1. A written record of a visual inspection, by a qualified person is required.
2. Inspection is made of external conditions for a continuing evaluation of the following factors:
  - Loose bolts or fasteners.
  - Excessive wear of linkages and other mechanical parts.
  - Excessive wear at hoist hooking points and load support clevises or pins.
  - Deficiencies found during the inspection are analyzed and the lifting device shall not be used, if deficiencies are determined to be hazardous.
  - The lifting device shall not be used until the hazardous deficiencies are corrected.

Swivel Hoist Rings:

1. A complete inspection of the links, rings, and swivels shall be performed by a designated person. The hardware shall be examined for conditions such as those listed in ASME B-30.26, para. 26-4.8.4 and a determination made as to whether they constitute a hazard.

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2. Period inspection interval shall not exceed one year. The frequency of periods inspection should be based on:
  - Frequency of use
  - Severity of service conditions
  - Experience gained on the service life of hardware used in similar circumstances
  - Guidelines for the time intervals are: Normal service – yearly; Severe service – monthly to quarterly; Special service – as recommended by a qualified person.
  - Written records are not required.

**STORAGE:** C27049 shall be stored clean, dry, and free of exposure to fumes or corrosive elements, indoors and in the furnished storage box.

**DECOMMISSIONING:** Part and assemblies of this equipment shall be permanently altered to prevent their unauthorized reuse. Recycling is the preferred manner of disposal for those materials where that option is available.

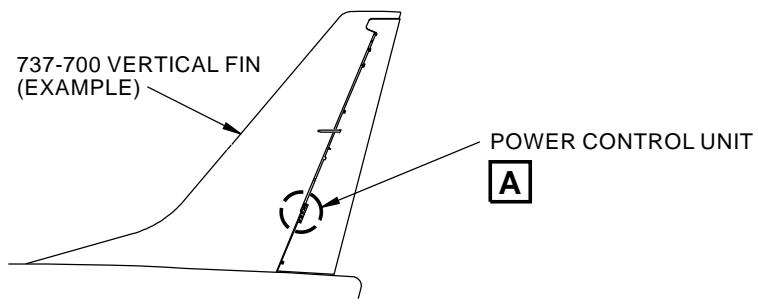
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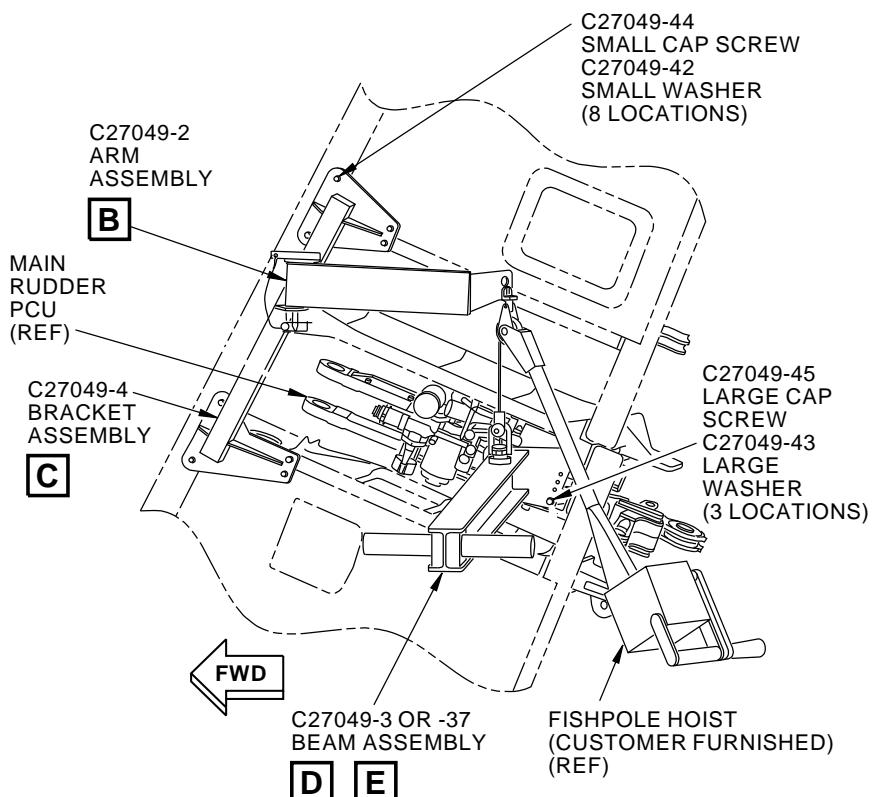
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**FWD**



POWER CONTROL UNIT

**A**

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**Rudder Power Control Unit Removal/Installation Equipment**  
**Figure 1 (Sheet 1 of 2)**

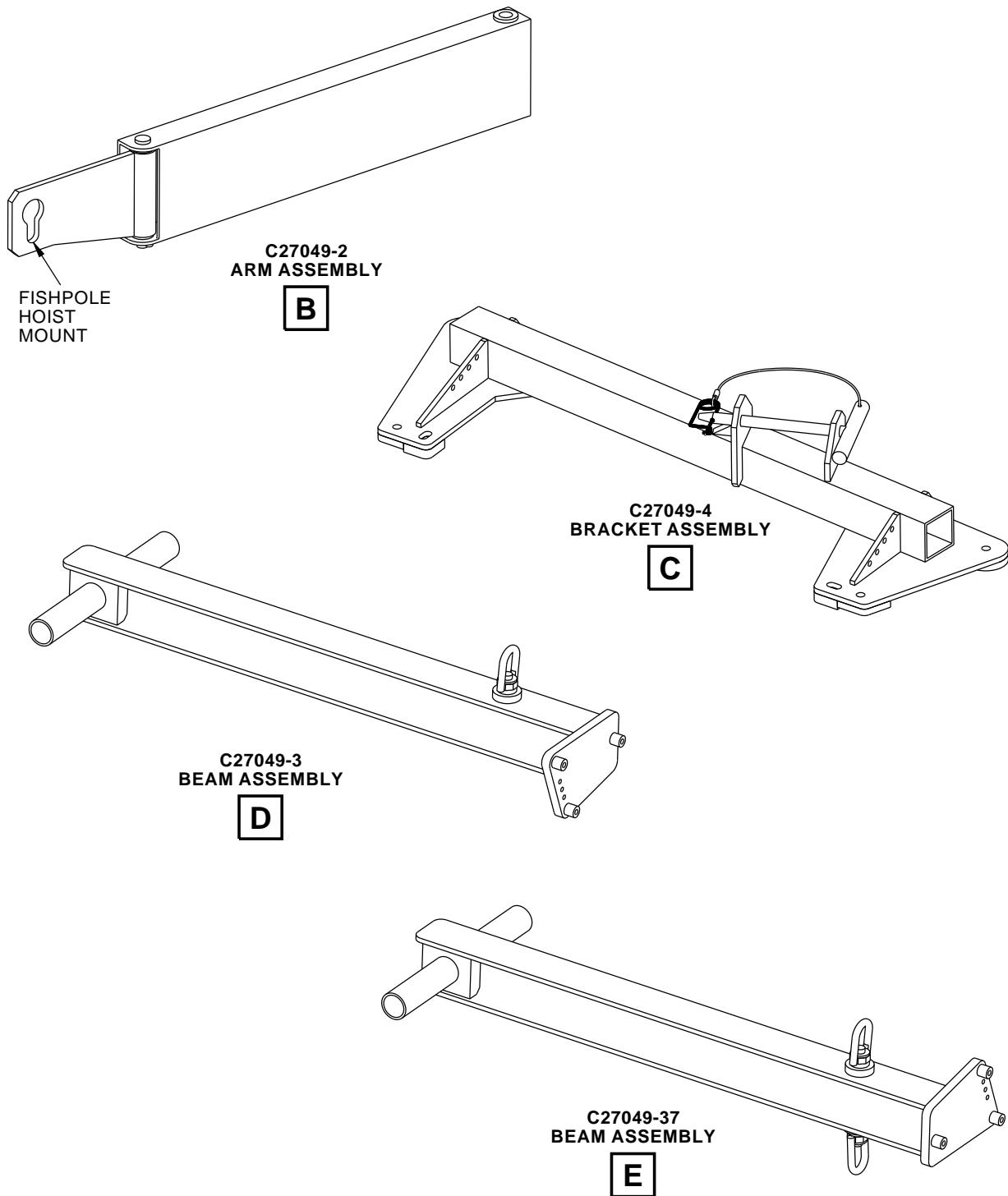
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Rudder Power Control Unit Removal/Installation Equipment  
Figure 1 (Sheet 2 of 2)

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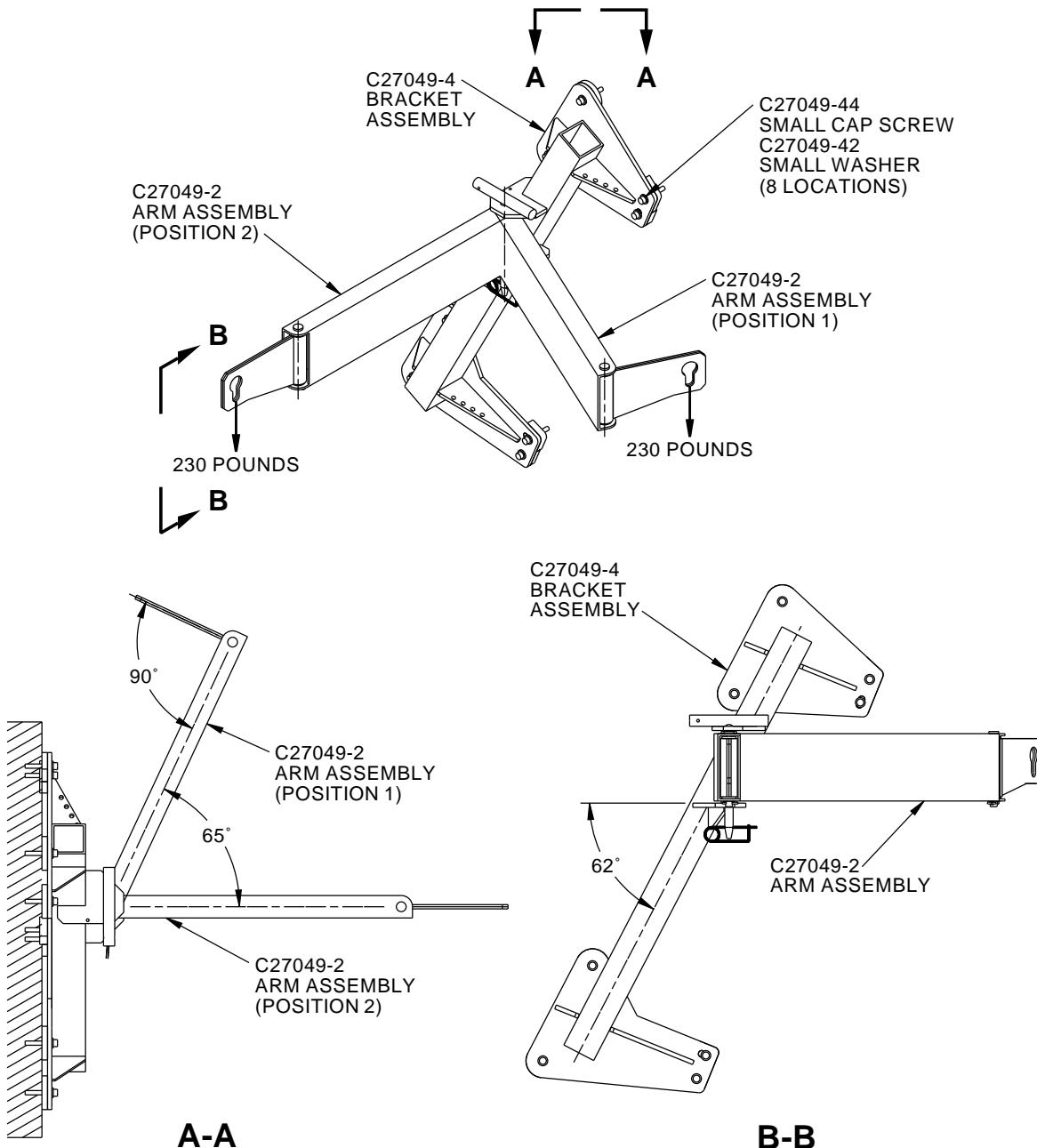
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**C27049-4 BRACKET AND C27049-2 ARM ASSEMBLY  
PROOF LOAD DIAGRAMS  
(EXAMPLES)**

2425996 S0000561204\_V1

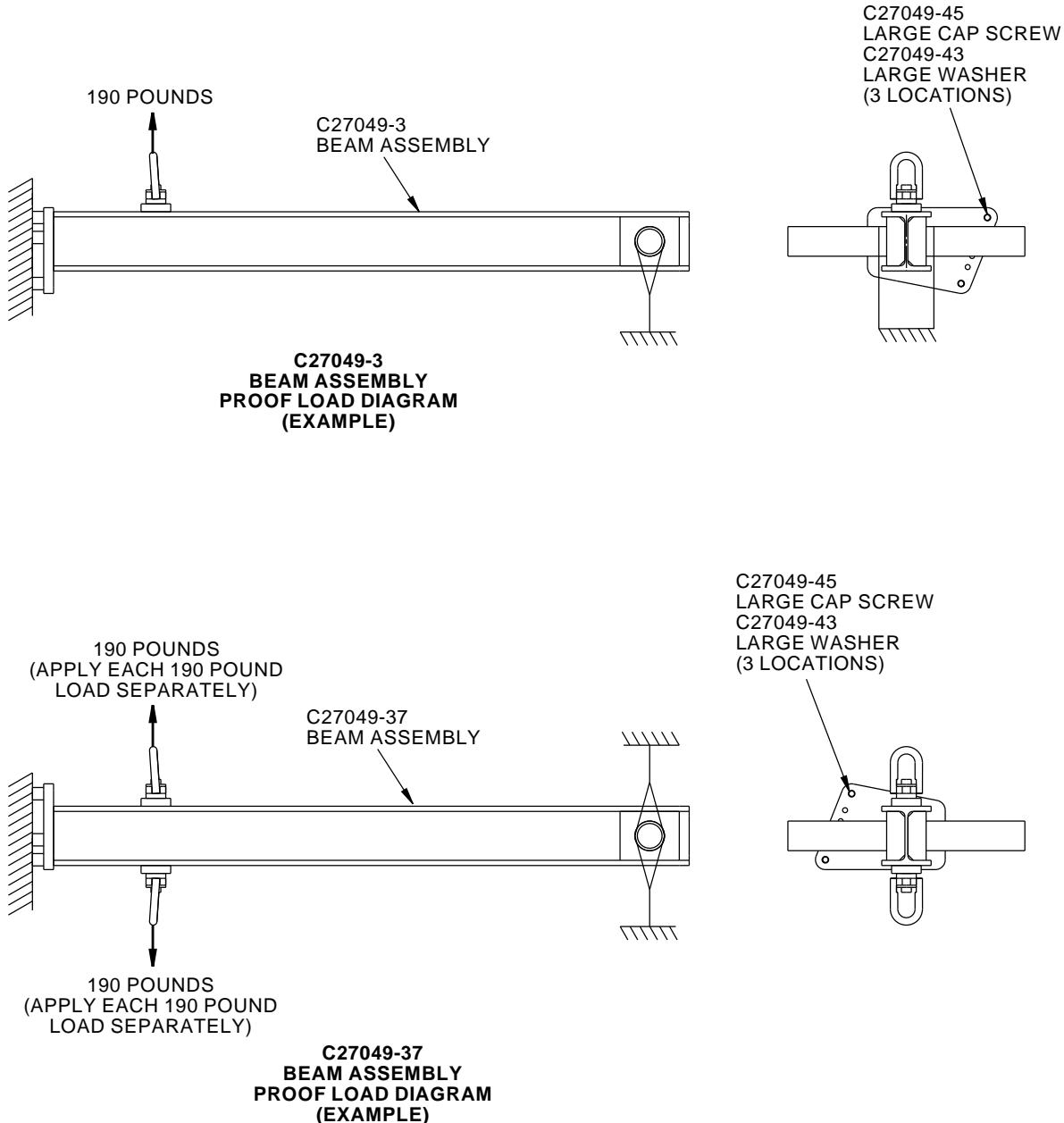
**C27049 Proof Load Diagrams (Examples)**  
**Figure 2 (Sheet 1 of 2)**

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**C27049 Proof Load Diagrams (Examples)**  
**Figure 2 (Sheet 2 of 2)**

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**PART NUMBER: C27035-20**

**NAME:** SLING EQUIPMENT - RUDDER REMOVAL/INSTALLATION (CE)

**AIRPLANE MAINTENANCE:** YES

AMM 27-21-11

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27035-20 (CE qualified) sling equipment is used on all 737 airplanes except 737-100 thru -500 airplanes.

C27035 is used in conjunction with a customer-furnished overhead lift, four tag lines and J71046 specification load cell equipment. C27035 is used to remove or install the rudder assembly from the vertical stabilizer. The C27035-21 beam assembly attaches to the rudder and is lifted by an overhead crane. The C27035-3 tether assembly is used to attach customer-furnished braided nylon ropes as a tag-line for the rudder.

Refer to AMM 27-21-11 and the current C27035 drawing for complete usage instructions.

C27035-20 consists of:

C27035-20		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BEAM ASSEMBLY	C27035-21
1	TETHER ASSEMBLY	C27035-3
4	SOCKET HEAD CAP SCREW	C27035-24
1	STORAGE BOX	

**WEIGHT:** 15 lbs (6.8 kg)

**DIMENSIONS:** 10 x 10 x 20 inches (254 x 254 x 508 mm)

**NOTE:** C27035-20 supersedes C27035-1.

**DECLARATION OF CONFORMITY:** C27035 requires a written Declaration of Conformity from the C27035 fabricator if it is to be used in the European Union. The design of C27035 meets the European requirements of Machinery Directive 2006/42/EC including its amendments. When used within the European Union, the fabricator of C27035 must also meet the requirements of that directive. At a minimum for the tool fabricator, this requires the retention of a technical file, a labeling of the equipment with the CE mark, and the completion of an EC Declaration of Conformity. If C27035 is to be used within the European Union and the Declaration of Conformity is missing, contact the fabricator of C27035 for a replacement Declaration of Conformity.

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**OPERATING INSTRUCTIONS:** Refer to the current C27035 drawing and AMM 27-21-11 maintenance procedures for detailed instructions on the use of this equipment. This equipment shall only be used in conjunction with Boeing maintenance procedures to maintain Boeing airplanes.

**MAINTENANCE:** General Cleaning: Basic care of the equipment includes cleaning the equipment of dirt, corrosives, or contaminants. Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and commercial soap or detergent, clean the components and wipe dry with a clean cloth. Hang the components freely to dry, but away from excessive heat or steam.

Slings, Synthetic: Maintenance and inspection of synthetic shall be performed in accordance with ASME B-30.9, Chapter 9-5 and 9-6.

Structural and Mechanical Lifting Devices, (spreader bars):

1. Maintenance shall be done based on the recommendations made by the lifter manufacturer or qualified person.
2. Before adjustments and repairs are started on a lifter, the following precautions shall be taken:
  - All courses of power shall be disconnected, locked out, and tagged "Out of Service".
  - A lifter removed from service for repair shall be tagged "Out of Service".
3. Only a qualified person shall perform adjustments and tests when required.
4. Replacement parts shall be at least equal to the original manufacturer's specifications.
5. After adjustments and repairs have been made, the lifter shall not be returned to service until it has been inspected according to ASME B-30.20, para. 20-1.3.4.
6. Dated records of repairs and replacements shall be made.
7. Adjustments and repairs. Any hazardous conditions disclosed by the inspection requirements of ASME B-30.20, para. 20-1.3.1 shall be corrected before normal operations of the lifter is resumed. Adjustments and repairs shall be done under the direction of, or by, a qualified person.

Swivel Hoist Rings: Maintenance shall be done based on the recommendations made by the hoist ring manufacturer or qualified person.

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**PROOF LOAD:** Proof load testing for the C27035 sling equipment shall be performed per the current C27035 drawing proof load diagrams (example Figure 3) and:

- In conjunction with initial fabrication
- Subsequent to modification of this equipment (equipment shall only be modified in accordance with the C27035 drawing).
- After repair of load carrying components.
- After replacement of load carrying components (except for load carrying components such as shackles and hoist rings that carry their own certification).
- Continuing integrity/safety of the device to be assured by inspection.

**INSPECTION:** FREQUENT

General Inspection (before use):

1. Missing fasteners
2. Notes, Cautions and Warnings are legible
3. Usage placards are legible

Slings, General: Prior to use, all new, altered, modified or repaired slings shall be inspected by a designated person to verify compliance with the applicable provisions of EN 1492-1, Section 6, Section Annex B and ASME B-30.9

Slings, Webbing:

1. Visual inspection for damage shall be performed by the user or other designated person each day or shift the sling is used.
2. Slings shall not be returned to service until approved by a qualified person.
3. A written record of frequent inspections is not required.
4. Conditions detailed below and in EN 1492-1, Section 6, Section Annex B and ASME B-30.9, or conditions that may result in a hazard shall cause the sling to be removed from service.
  - Red warning yarns visible.
  - Acid or caustic burns.
  - Melting or charring of any part of the sling surface.
  - Snags, punctures, tears or cuts.
  - Broken or worn stitches in load bearing splices.
  - Excessive abrasive wear.
  - Knots in any part of the sling.
  - Discoloration and brittle or stiff areas on any part of the sling.
  - Distortion of fittings.
  - Missing or illegible sling tag.

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**Structural and Mechanical Lifting Devices (spreader bar):**

1. Visual Inspection by the operator before and during each lift of the device. Records are not required. Inspect for:
  - Structural deformation, cracks or excessive wear of any parts of the lifting device.
  - Loose or missing guards, fasteners, covers, stops or nameplates.
  - All functional operational mechanisms and automatic hold and release mechanisms for misadjustments interfering with operation.

**Swivel Hoist Rings:**

1. Visual inspection shall be performed by the user or other designated person each shift before the links, rings, and swivels are used. Semipermanent and inaccessible locations where frequent inspections are not feasible shall have periodic inspections performed. Specifically check to make sure that:
  - Body can rotate freely on bushing.
  - Bail can swivel freely on shoulder pins.
  - Shoulder pins are secure and undamaged.
2. Conditions as those listed in ASME B-30.26, para. 26-4.8.4, or any other condition that may result in a hazard, shall cause the hardware to be removed from service. Links, rings, and swivels shall not be returned to service until approved by a qualified person.
3. Written records are not required.

**PERIODIC**

**Welding Inspection:**

1. Magnetic particle or dye penetrant inspection for all welds, after all proof load tests.
2. Inspect and evaluate per GSE Welding Document A00001 Inspection Requirements Tables 1 & 2, and Acceptance Criteria Table 3.
3. Reject cracked or deformed parts.

**Slings, General:**

1. A complete inspection for damage to the sling shall be periodically performed by a designated person.
2. Each sling and component shall be examined individually, taking care to expose and examine all surfaces.
3. The sling shall be examined for the conditions noted in the frequent inspection and in ASME B-30.9 or any other conditions that may result in a hazard shall cause the sling to be removed from service.
4. Slings shall not be returned to service until approved by a qualified person.

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5. A written record of the most recent periodic inspection shall be maintained and shall include the condition of the sling.

Slings, Synthetic: The straps shall be examined for the conditions noted in the frequent inspection and in ASME B-30.9 or any other conditions that may result in a hazard shall cause the sling to be removed from service.

Structural and Mechanical Lifting Devices (spreader bar):

1. A written record of a visual inspection, by a qualified person is required.
2. Inspection is made of external conditions for a continuing evaluation of the following factors:
  - Loose bolts or fasteners.
  - Excessive wear of linkages and other mechanical parts.
  - Excessive wear at hoist hooking points and load support clevises or pins.
  - Deficiencies found during the inspection are analyzed and the lifting device shall not be used, if deficiencies are determined to be hazardous.
  - The lifting device shall not be used until the hazardous deficiencies are corrected.

Swivel Hoist Rings:

1. A complete inspection of the links, rings, and swivels shall be performed by a designated person. The hardware shall be examined for conditions such as those listed in ASME B-30.26, para. 26-4.8.4 and a determination made as to whether they constitute a hazard.
2. Period inspection interval shall not exceed one year. The frequency of periods inspection should be based on:
  - Frequency of use
  - Severity of service conditions
  - Experience gained on the service life of hardware used in similar circumstances
  - Guidelines for the time intervals are: Normal service – yearly; Severe service – monthly to quarterly; Special service – as recommended by a qualified person.
  - Written records are not required.

**STORAGE:** C27035 shall be stored clean, dry, and free of exposure to fumes or corrosive elements, indoors and in the furnished storage box.

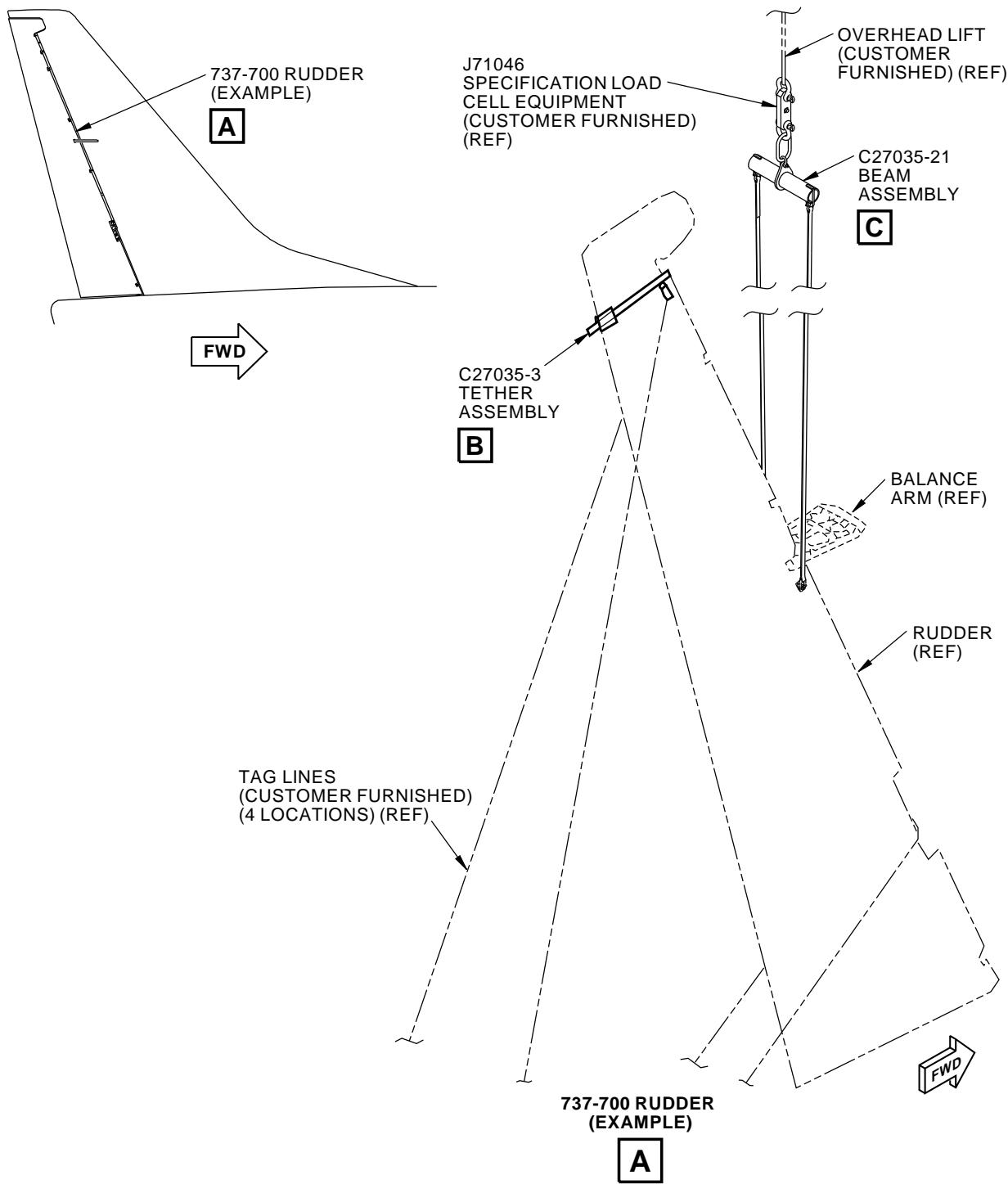
**DECOMMISSIONING:** Part and assemblies of this equipment including textile components shall be permanently altered to prevent their unauthorized reuse. Recycling is the preferred manner of disposal for those materials where that option is available.

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**Rudder Removal/Installation Sling Equipment**  
**Figure 1**

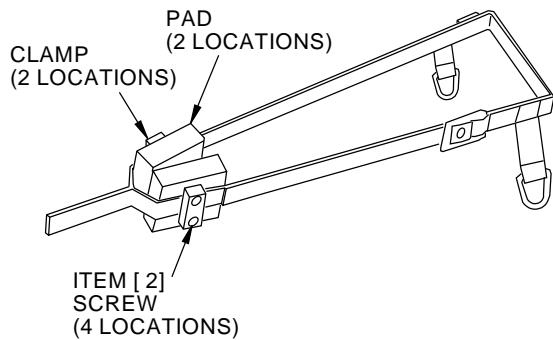
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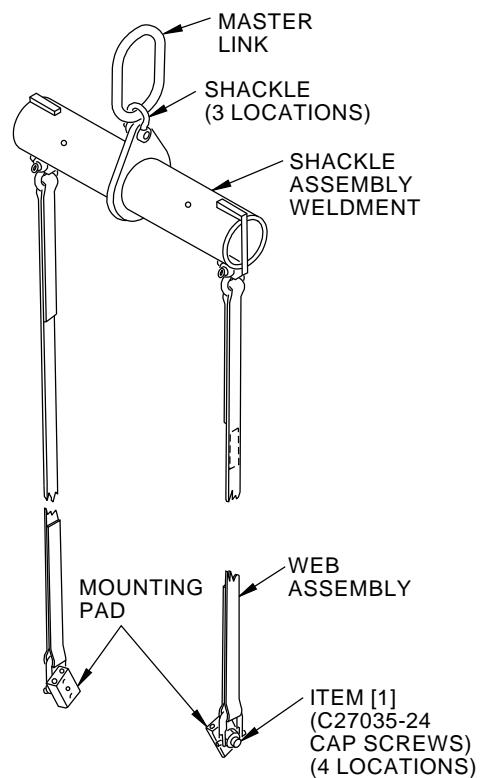


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C27035-3  
TETHER ASSEMBLY

**B**



C27035-21  
BEAM ASSEMBLY

**C**

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Rudder Removal/Installation Sling Equipment  
Figure 2

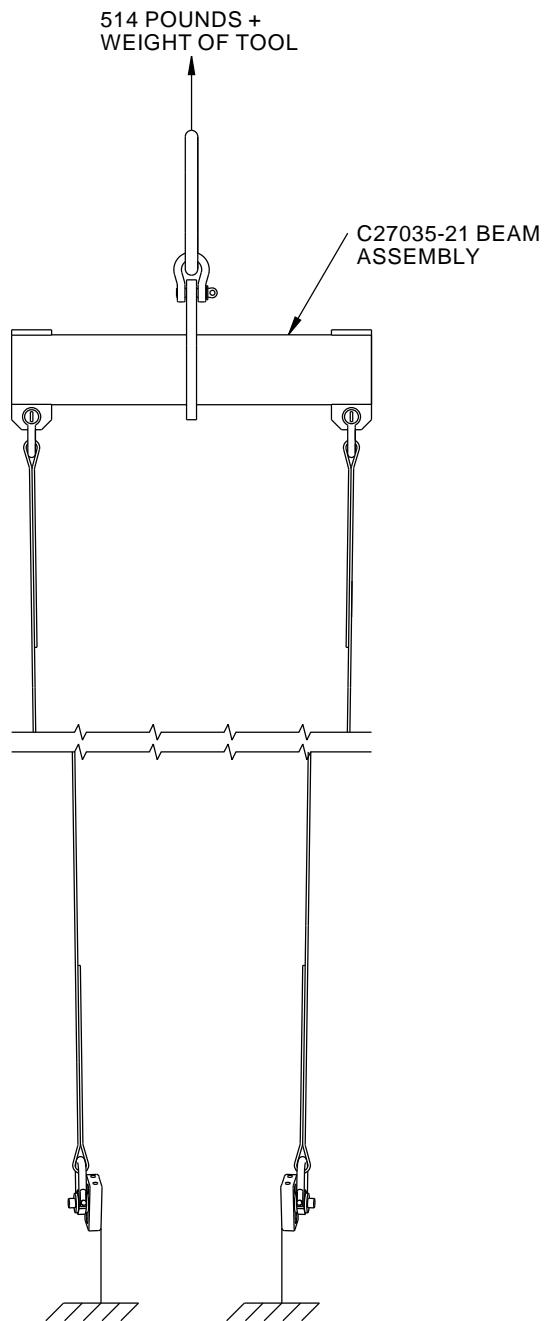
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**C27035 PROOF LOAD DIAGRAM  
(EXAMPLE)**

2420727 S0000559616\_V1

**C27035 Proof Load Diagram (Example)**  
**Figure 3**

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NUMBER	PART NUMBER	NOMENCLATURE	VENDOR CODE
[1]	C27035-24 (NAS1351-4-24P)	SOCKET HEAD CAP SCREW	---
[2]	C27035-17	SCREW	---

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**PART NUMBER: F80120-1**

**NAME:** TEST FIXTURE - ELEVATOR AND RUDDER CENTERING UNIT

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-21-85, CMM 27-24-32

**USAGE & DESCRIPTION:** The F80120-1 test fixture is used during component maintenance on all 737 airplanes except -100 and -200.

F80120 is used to determine the input torque input versus angular displacement of the elevator and rudder centering units. As the F80120 test unit is rotated, a light directed at the torque wrench is activated by the cam mechanism at predetermined angles. The light indicates the point to record the torque.

Refer to CMM 27-21-85, CMM 27-24-32 and the current F80120 drawing for complete usage instructions.

F80120-1 consists of:

F80120-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	RUDDER CENTERING UNIT FIXTURE ASSEMBLY	F80120-2
1	TORQUE MEASURING ASSEMBLY	F80120-3
VARIOUS	CONNECTING HARDWARE	

**WEIGHT:** 56 lbs (25.4 kg)

**DIMENSIONS:** 12 x 12 x 18 inches (305 x 305 x 457 mm)

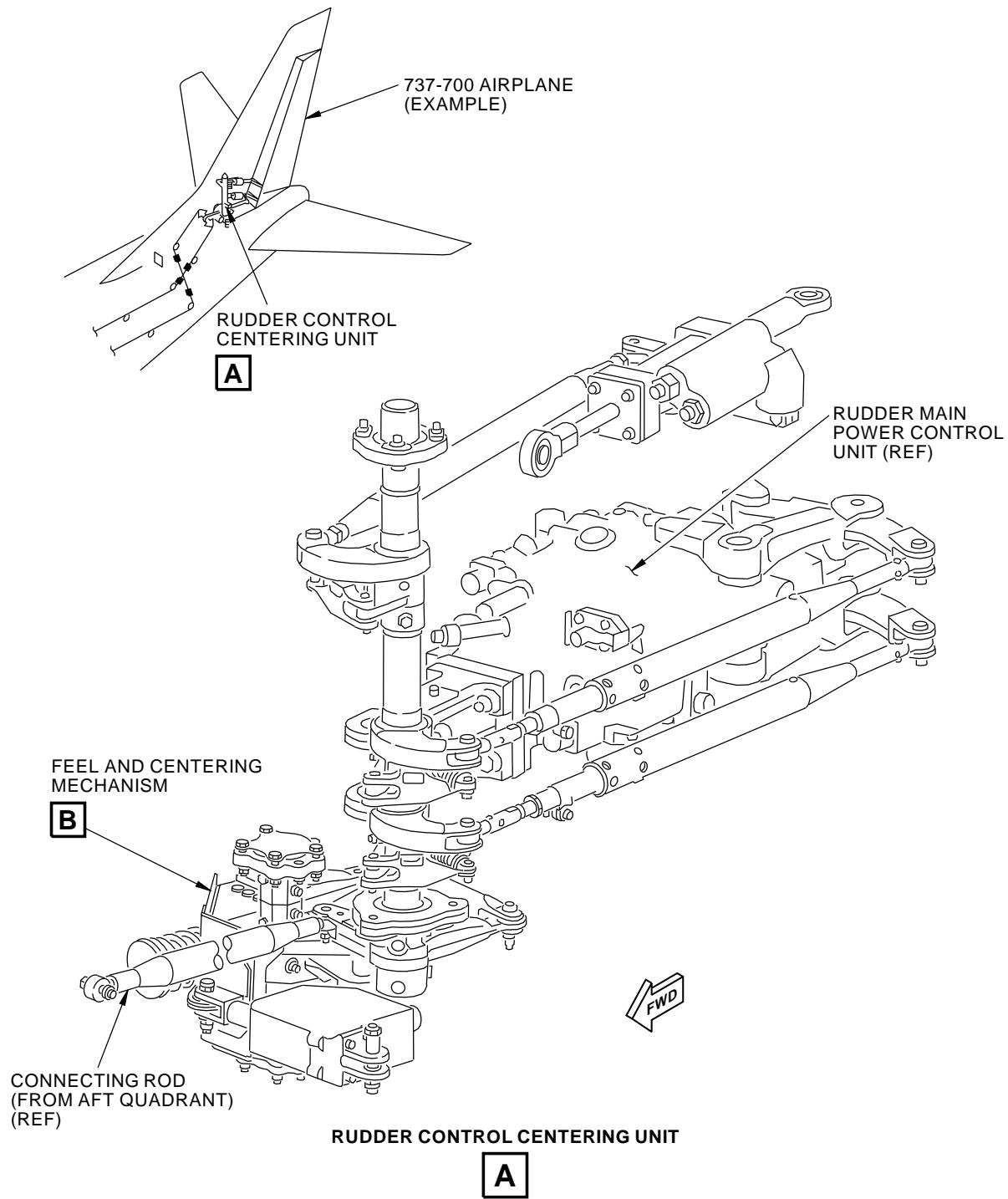
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2085569 S0000429098\_V2

**Elevator and Rudder Centering Unit Test Fixture**  
**Figure 1 (Sheet 1 of 2)**

**27-20-06**

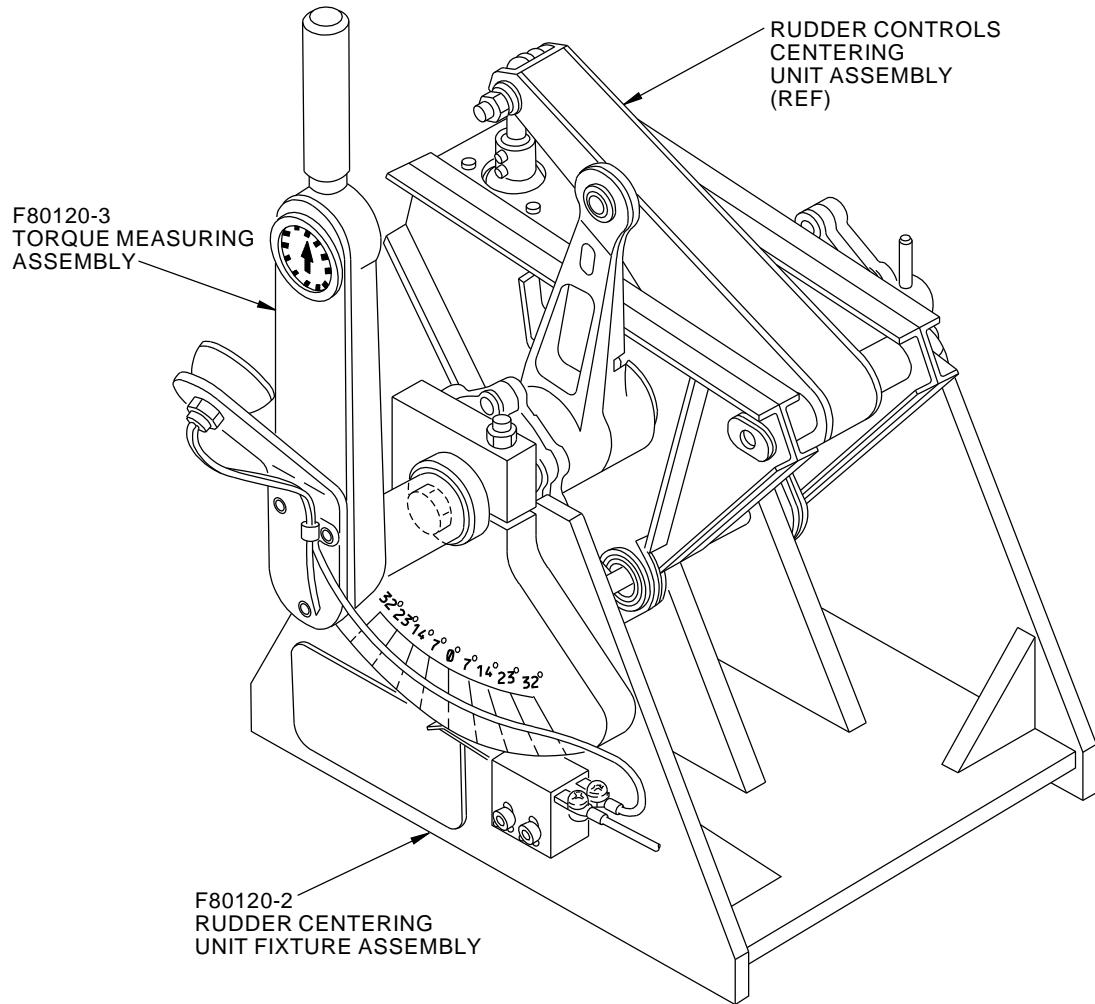
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FEEL AND CENTERING UNIT



2085570 S0000429057\_V2

Elevator and Rudder Centering Unit Test Fixture  
Figure 1 (Sheet 2 of 2)

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PART NUMBER: A27063-91

**NAME:** BREAKOUT BOX EQUIPMENT - POSITION SENSORS, FLIGHT CONTROL RIGGING

**AIRPLANE MAINTENANCE:** YES

AMM 27-21, AMM 27-61-00, AMM 31-24, AMM 31-31

**COMPONENT MAINTENANCE:** NO

**OTHER MANUALS:** YES

FAULT ISOLATION MANUAL

**USAGE & DESCRIPTION:** The A27063-91 breakout box equipment is used on 737-100 thru -900 airplanes.

A27063 is used to adjust the position sensors during rigging of flight control systems and components. Based on choice of two methods, determine the proper cable assemblies from the usage table below:

A27063 USAGE TABLE				
POSITION SENSOR	EQUIPMENT NUMBER	MATING AIRPLANE CONNECTOR	A27063 ADAPTER CABLE	
			METHOD 1	METHOD 2
RUDDER PEDAL FORCE TRANSDUCER	T541	S251A303-1	A27063-27	A27063-27, A27063-26
SPOILER TRANSMITTER, 3	T539	S250N104-4	A27063-19	A27063-19, A27063-18
SPOILER TRANSMITTER, 10	T540	S250N104-4	A27063-19	A27063-19, A27063-18
SPEEDBRAKE LEVER POSITION SENSOR	M1439	S250N104-1	A27063-19	A27063-19, A27063-18

The contents of A27063-91 breakout box equipment depend on whether method 1 or 2 is used. The cables available could determine the method used. With a complete set of cables either method could be used.

Refer to AMM 27-21, AMM 27-61-00, AMM 31-24, AMM 31-31, the current A27063 tool drawing and the fault isolation manual (FIM) for complete usage instructions.

A complete set of A27063-91 for the 737 consists of:

A27063-91		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BREAKOUT BOX ASSEMBLY	A27063-2
1	CABLE ASSEMBLY	A27063-18
1	CABLE ASSEMBLY	A27063-19
1	CABLE ASSEMBLY	A27063-26
1	CABLE ASSEMBLY	A27063-27

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(Continued)

A27063-91		
QUANTITY	NOMENCLATURE	PART NUMBER
1	STORAGE BOX	

**WEIGHT:** 15 lbs (7 kg)

**DIMENSIONS:** 20 x 20 x 10 inches (508 x 508 x 254 mm)

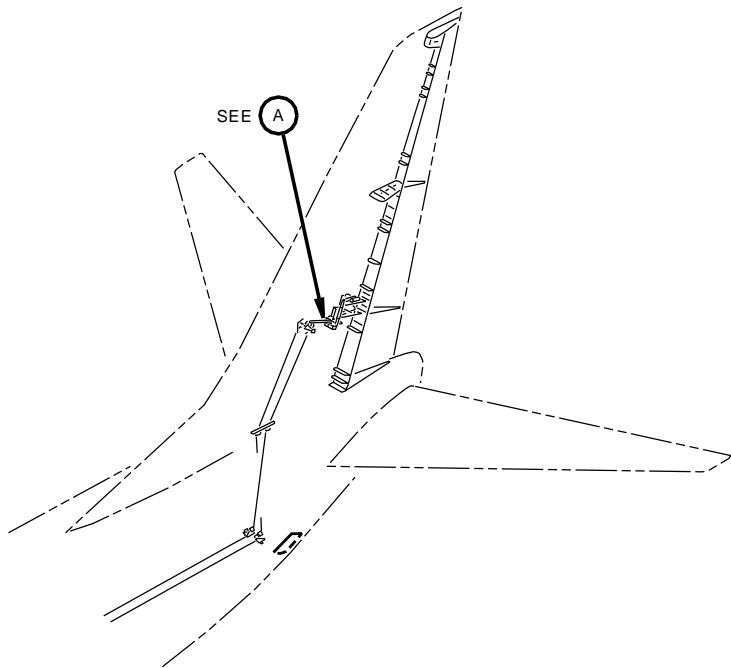
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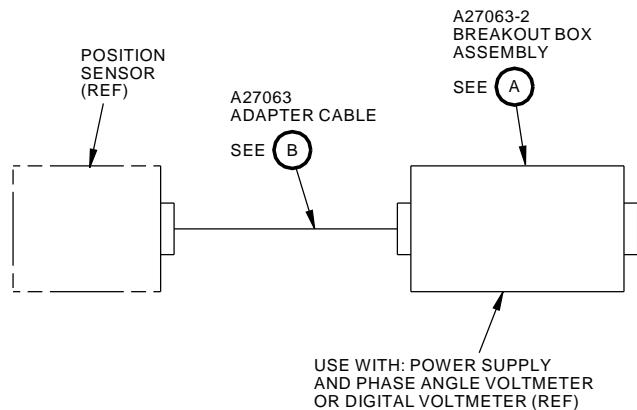
418506 S0006831538\_V5

**Flight Control Rigging Position Sensors Breakout Box Equipment**  
**Figure 1 (Sheet 1 of 3)**

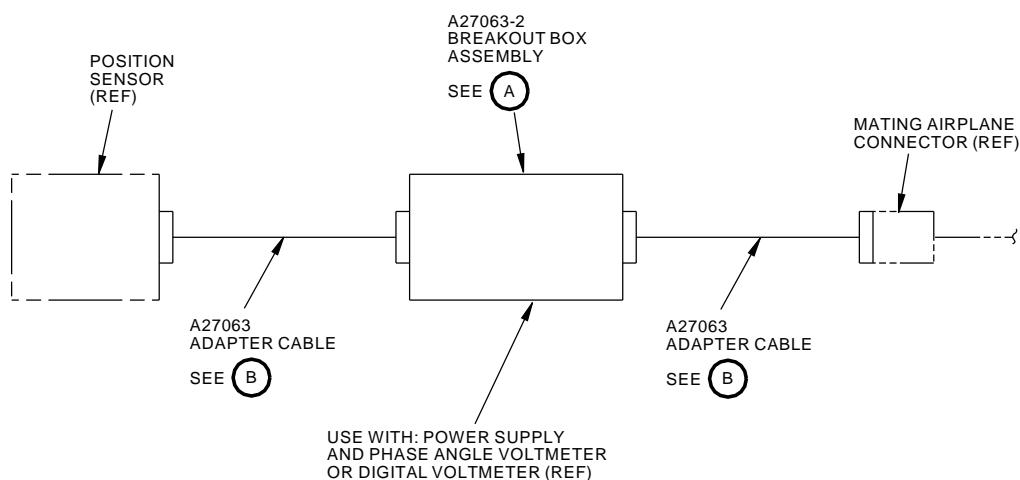
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**METHOD I**



**METHOD II**

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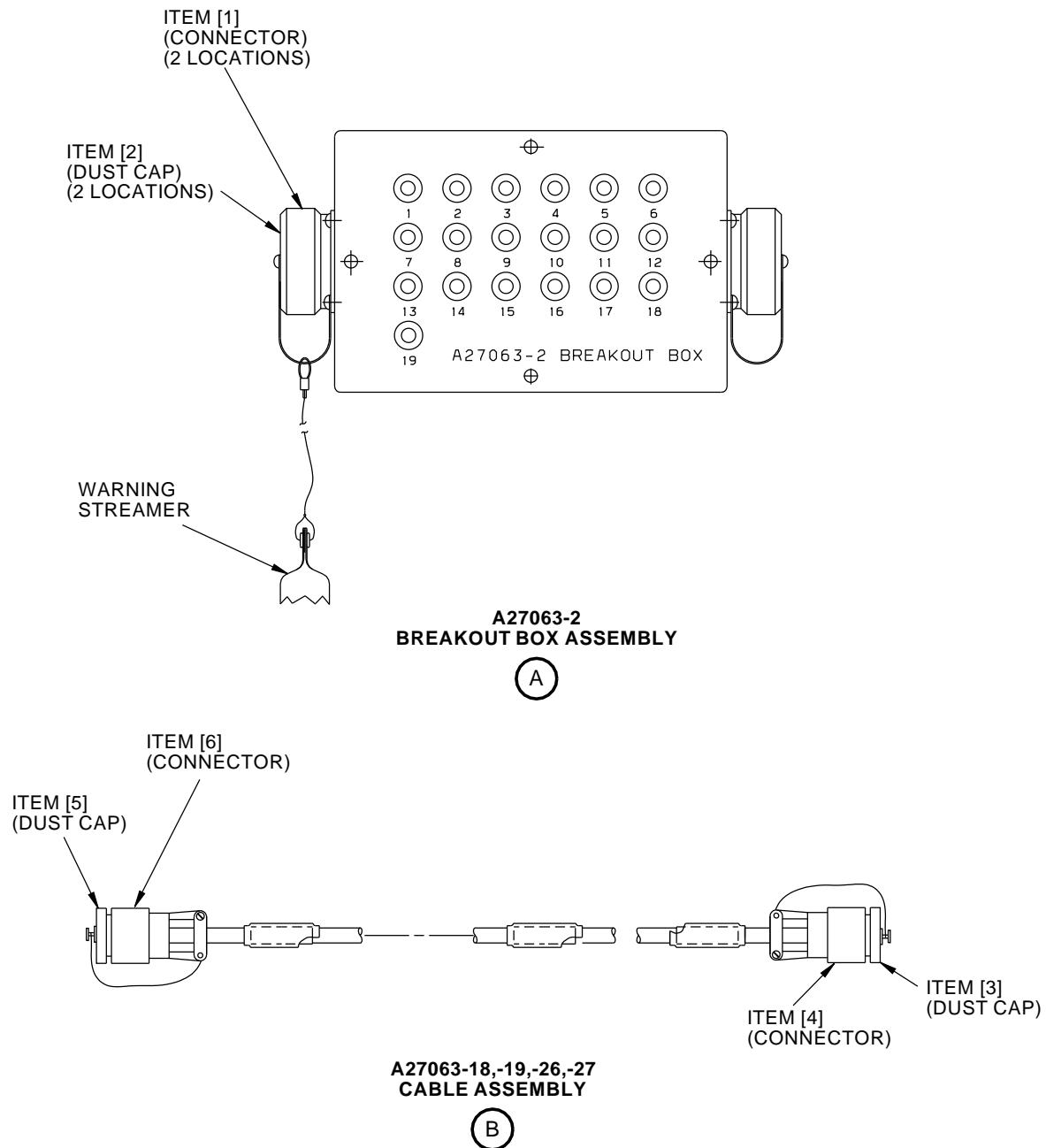
**Flight Control Rigging Position Sensors Breakout Box Equipment**  
**Figure 1 (Sheet 2 of 3)**

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1341971 S0000238508\_V2

**Flight Control Rigging Position Sensors Breakout Box Equipment**  
**Figure 1 (Sheet 3 of 3)**

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A27063-2 BREAKOUT BOX ASSEMBLY REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[1]	MS24264R22T19PN	CONNECTOR	---
[2]	MS27294-6	DUST CAP	---
A27063-18 BREAKOUT BOX ASSEMBLY REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[3]	MS27292-6	DUST CAP	---
[4]	MS24264R22T19SN	CONNECTOR	---
[5]	MS27295-1	DUST CAP	---
[6]	MS24264R10B5PN	CONNECTOR	---
A27063-19 BREAKOUT BOX ASSEMBLY REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[3]	MS27292-6	DUST CAP	---
[4]	MS24264R22T19SN	CONNECTOR	---
[5]	MS27293-1	DUST CAP	---
[6]	MS24266R10B5SN	CONNECTOR	---
A27063-26 BREAKOUT BOX ASSEMBLY REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[3]	MS27292-6	DUST CAP	---
[4]	MS24264R22T19SN	CONNECTOR	---
[5]	MS27292-3	DUST CAP	---
[6]	MS24266R14T7PN	CONNECTOR	---
A27063-27 BREAKOUT BOX ASSEMBLY REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[3]	MS27292-6	DUST CAP	---
[4]	MS24264R22T19SN	CONNECTOR	---
[5]	MS27294-3	DUST CAP	---
[6]	MS24266R14T7SN	CONNECTOR	---

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**PART NUMBER: B27064-1, -2**

**NAME:** TORQUE EQUIPMENT - RUDDER PEDAL ADJUSTMENT

**AIRPLANE MAINTENANCE:** YES

AMM 27-21-41

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The B27064-1 (option) or B27064-2 (option) torque equipment is used on all 737 airplanes, except 737-100 thru -500 airplanes.

B27064-1 includes a B27064-5 alignment tool, a flare nut wrench and a crowfoot wrench. B27064-2 only includes a B27064-5 alignment tool and requires customer-furnished, flare nut and crowfoot wrenches.

B27064 torque equipment holds a universal joint in position to attach and tighten the rudder pedal adjustment shaft retaining nut while adjusting the rudder pedals.

Refer to AMM 27-21-41 and the current B27064 drawing for complete usage instructions.

B27064-1 and -2 consist of:

B27064-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ALIGNMENT TOOL	B27064-5
1	7/8-INCH FLARE NUT WRENCH	AN850814B
1	1 1/16-INCH CROWFOOT WRENCH	FC34A
1	STORAGE BOX	

B27064-2 <sup>[1]</sup>		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ALIGNMENT TOOL	B27064-5
1	STORAGE BOX	

<sup>[1]</sup> A CUSTOMER FURNISHED, 7/8-INCH FLARE NUT AND A 1 1/16-INCH CROWFOOT WRENCH IS REQUIRED TO USE B27064-2.

**WEIGHT:** B27064-1 - 2 lbs (0.9 kg)  
B27064-2 - 1 lb (0.45 kg)

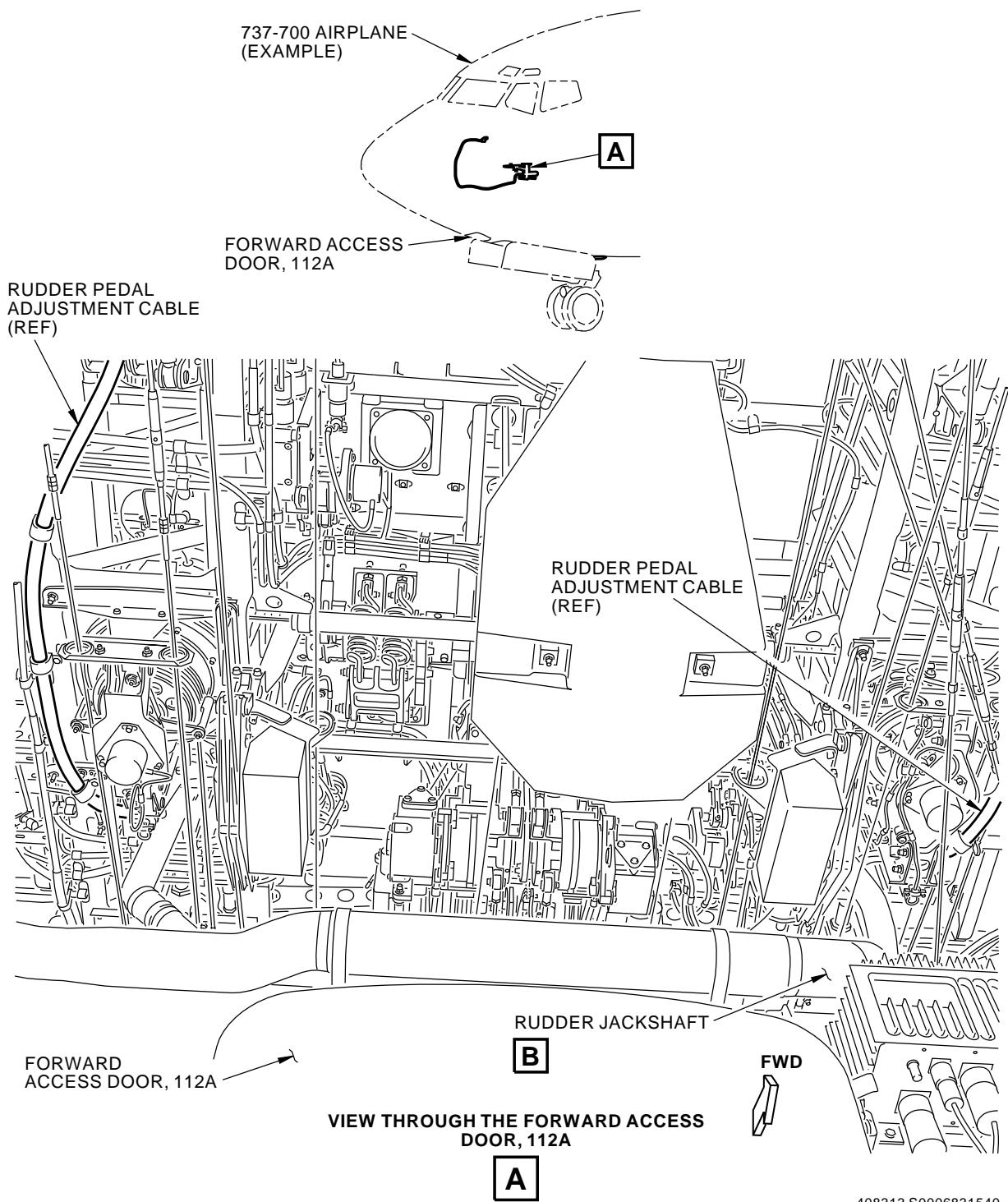
**DIMENSIONS:** B27064-1 - 1 x 3 x 7 inches (25 x 76 x 178 mm)  
B27064-2 - 1 x 1 x 7 inches (25 x 25 x 178 mm)

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408313 S0006831540\_V4

**Rudder Pedal Adjustment Torque Equipment**  
**Figure 1 (Sheet 1 of 2)**

**27-20-08**

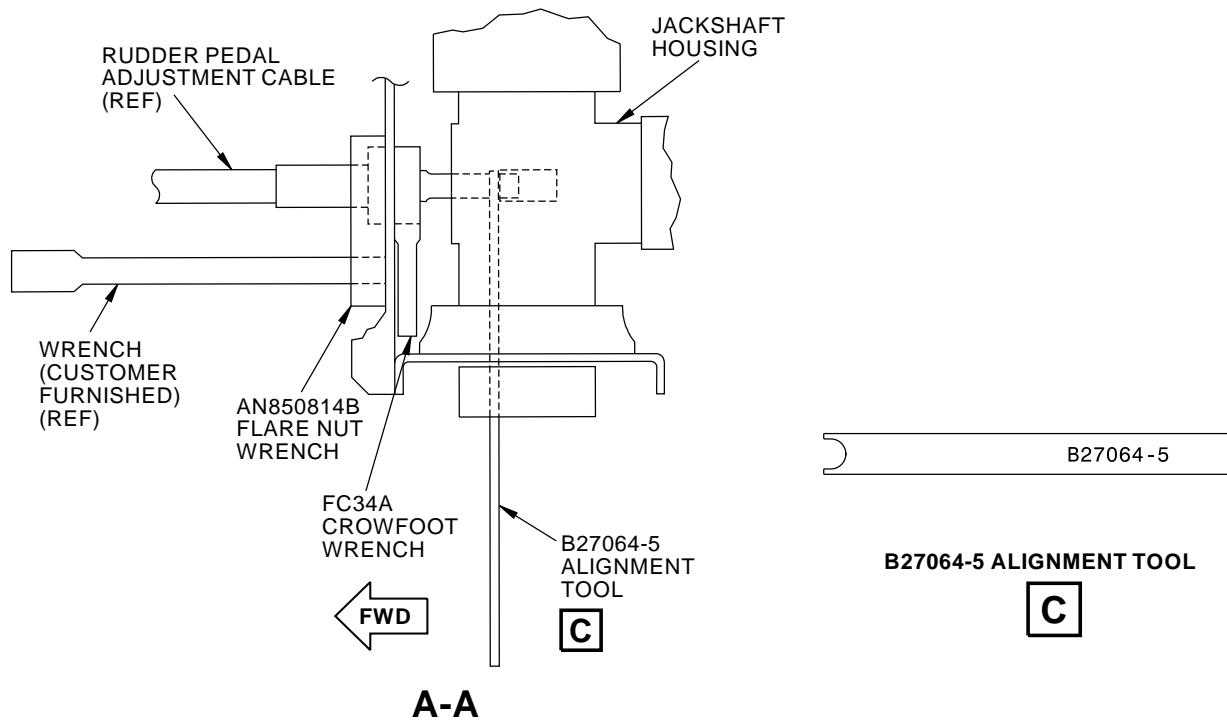
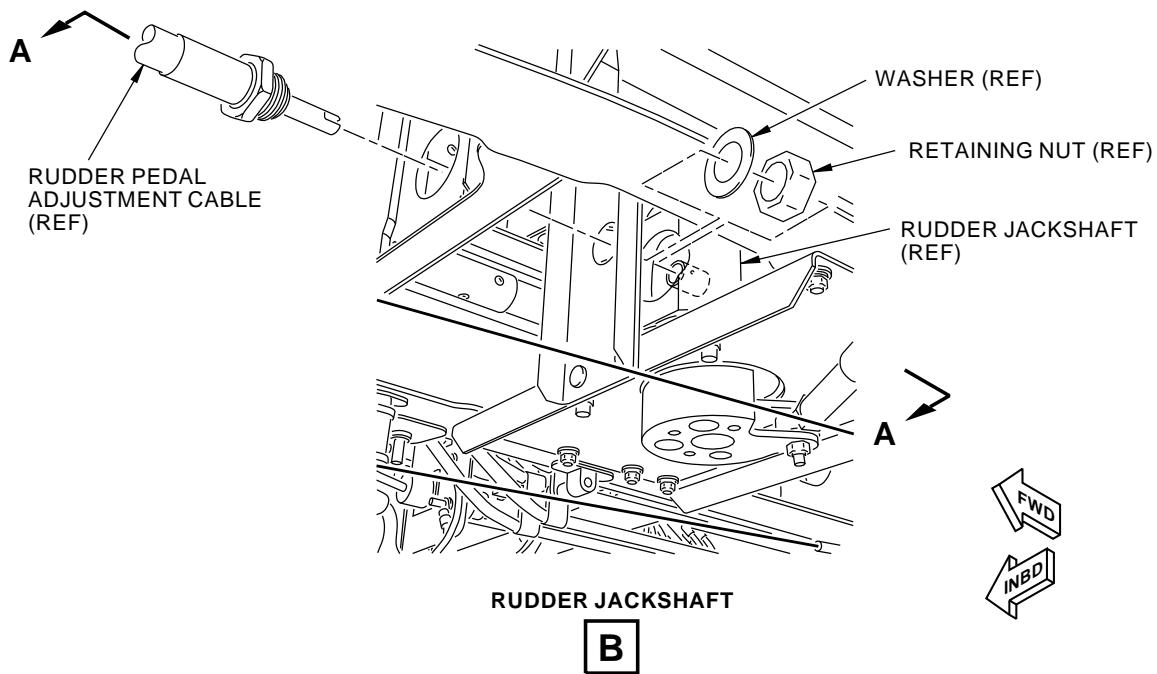
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2421452 S0000559455\_V1

Rudder Pedal Adjustment Torque Equipment  
Figure 1 (Sheet 2 of 2)

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**PART NUMBER: A27021-29**

**NAME:** ADAPTER EQUIPMENT - CONTROL WHEELS

**AIRPLANE MAINTENANCE:** YES

AMM 27-00-00, AMM 27-11-00, AMM 27-11-41, AMM 27-31-00, AMM 27-31-51, AMM 27-31-61, AMM 27-41-00, AMM 27-61-00, AMM 27-61-41, AMM 27-61-61, AMM 27-62-33, AMM 31-31-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The A27021-29 adapter equipment is used on all 737 airplanes.

A27021 is a protractor assembly that is used in conjunction with various customer-furnished adapters to measure angular movement of control wheels, control columns, and engine control levers.

The A27021 protractor vernier dial has two options: The A27021-31 vernier dial set consists of a dial (0021-0001-1) and vernier (0021-0001-2). The dial range of 360 degrees is calibrated from 0 to 180 degrees. An optional dial and vernier set, AW-4, includes the vernier identical to the A27021-31 vernier dial set but the dial is calibrated from 0 to 360 degrees. All vernier options use a direct reading pendulum index. The protractor can be read accurately to within 0.5 degree. A27021 is identical to 4MIT65B80307-1, which is used on the same applications.

Refer to AMM 27-00-00, AMM 27-11-00, AMM 27-11-41, AMM 27-31-00, AMM 27-31-51, AMM 27-31-61, AMM 27-41-00, AMM 27-61-00, AMM 27-61-41, AMM 27-61-61, AMM 27-62-33, AMM 31-31-00 and the current A27021 drawing for complete usage instructions.

A27021-29 consists of:

A27021-29		
QUANTITY	NOMENCLATURE	PART NUMBER
2	PROTRACTOR ASSEMBLY	A27021-30
1	STORAGE BOX	

**WEIGHT:** 5 lbs (2.3 kg)

**DIMENSIONS:** 8 x 8 x 4 inches (203 x 203 x 102 mm)

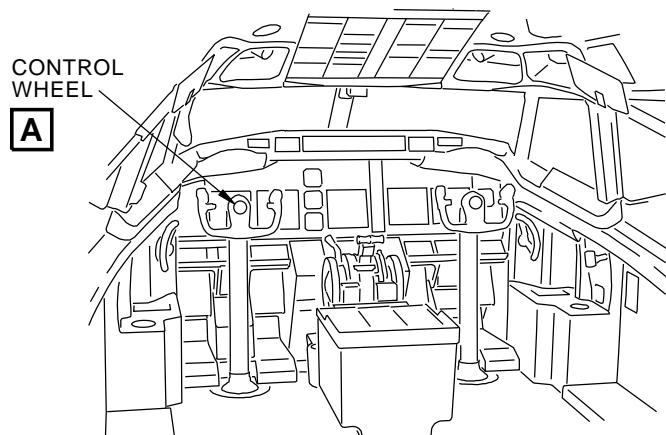
**NOTE:** The A27021-30 protractor assembly (which is part of the A27021-29 protractor kit) is optional and identical to the 4MIT65B80307-1 protractor assembly.

**27-30-01**

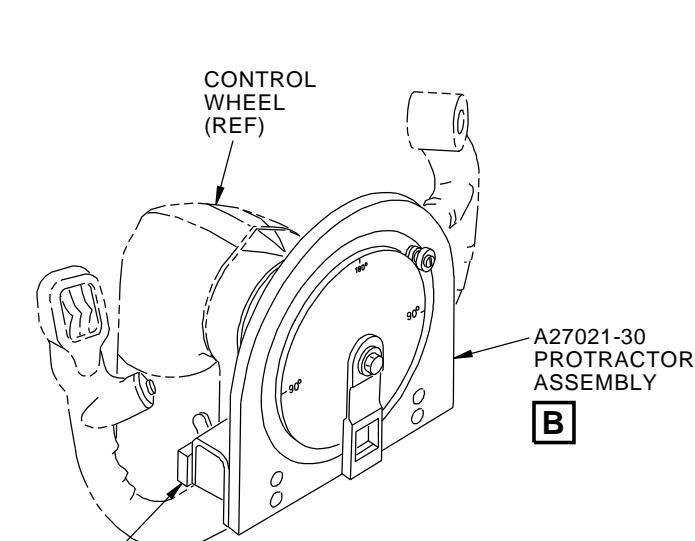
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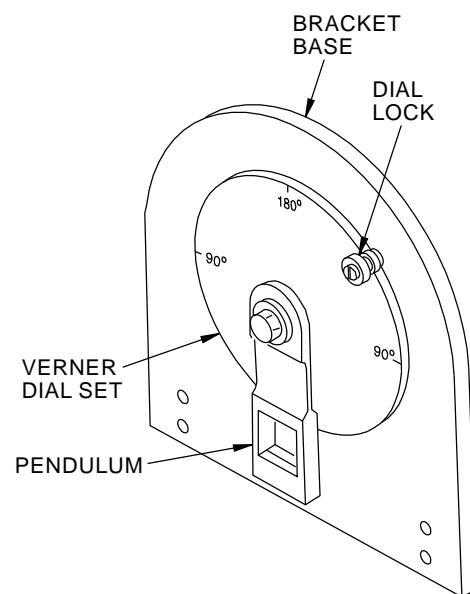
**FLIGHT COMPARTMENT**



F72790  
ADAPTER  
(CUSTOMER  
FURNISHED)  
(Ref)

**TYPICAL USE ON CONTROL WHEEL**

**A**



**A27021-30  
PROTRACTOR ASSEMBLY**

**B**

F69292 S0006831543\_V4

**Control Wheels Adapter Equipment**  
**Figure 1**

**27-30-01**

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**PART NUMBER: C27028-1, -21**

**NAME:** RIGGING BAR - ELEVATOR TAB

**AIRPLANE MAINTENANCE:** YES

AMM 27-31-00, AMM 27-31-31

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27028-1 (option) or -21 (preferred) rigging bar is used on 737-100 thru -900 airplanes.

C27028 is used to restore original position to elevator tabs during re-rigging. C27028 is positioned at specific locations on the underside of the elevator and used to adjust the location of the trailing edge of the elevator tab.

Refer to AMM 27-31-00, AMM 27-31-31 and the current C27028 drawing for complete usage instructions.

C27028-1 and -21 consist of:

C27028-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	RIGGING BAR ASSEMBLY	C27028-2
1	STORAGE BOX	

C27028-21		
QUANTITY	NOMENCLATURE	PART NUMBER
1	RIGGING BAR ASSEMBLY	C27028-22
1	POINTER	C27028-12
1	STRAIGHT EDGE	599-527-36-1
2	SCREW	NAS514P440-8B
1	STORAGE BOX	

**WEIGHT:** 7 lbs (3.2 kg)

**DIMENSIONS:** 40 x 9 x 11 inches (1016 x 229 x 280 mm)

**NOTE:** C27028-21 replaces C27028-1 for future procurement.  
C27083 replaces C27028 for future procurement.

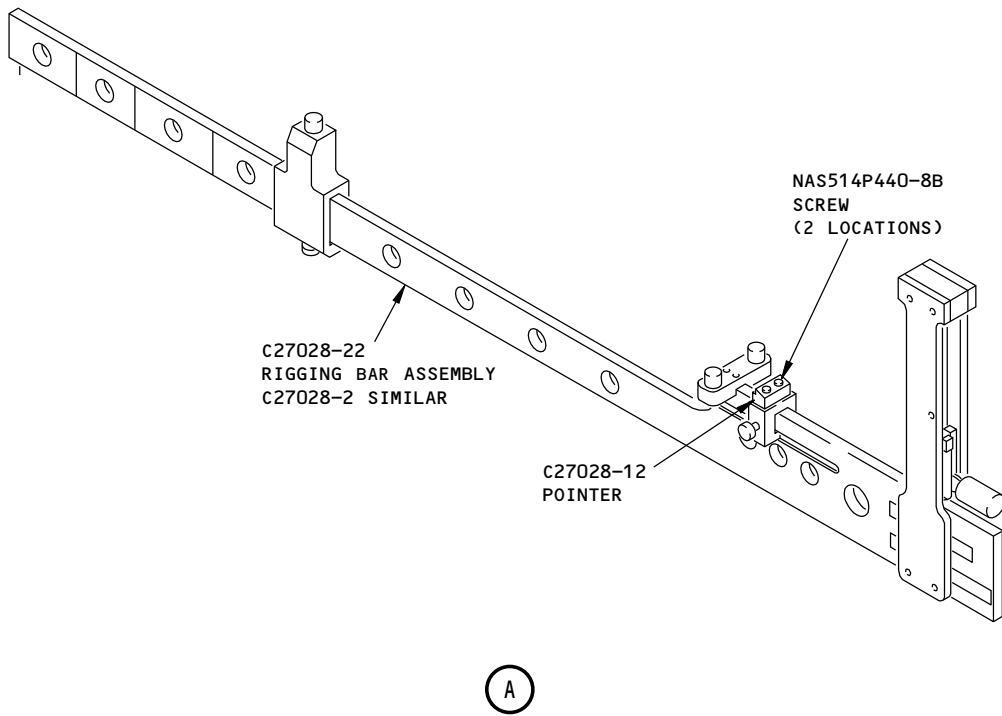
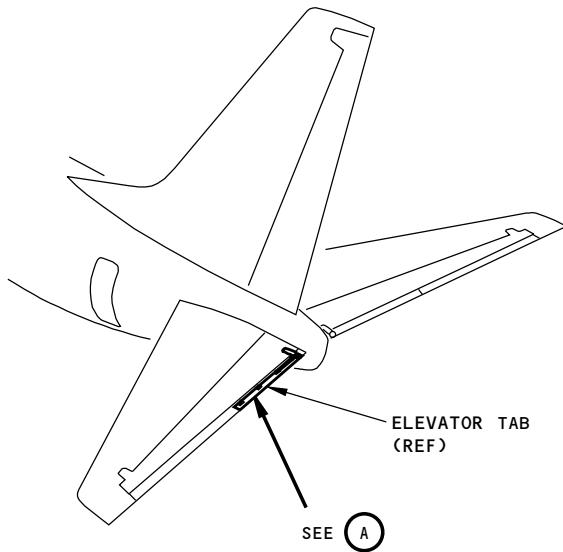
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2085912 S0000431708\_V1

**Elevator Tab Rigging Bar**  
**Figure 1**

**27-30-02**



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**PART NUMBER: F80153-1**

**NAME:** SAFETY PIN - ELEVATOR FEEL COMPUTER

**AIRPLANE MAINTENANCE:** YES

AMM 27-31-37

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The F80153-1 safety pin is used on all 737 airplanes.

F80153 is used to lock the elevator feel computer input arm to prevent rotation and computer damage during installation or removal. F80153 fits into a hole in the input arm and the feel computer housing and is locked into place with a hitch pin clip.

Refer to AMM 27-31-37 and the current F80153 drawing for complete usage instructions.

F80153-1 consists of:

F80153-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	PIN	F80153-2
1	HITCH PIN CLIP	F80153-3
1	CABLE ASSEMBLY	F80153-4
1	CABLE ASSEMBLY	F80153-5
1	WARNING STREAMER	F80153-6
1	IDENTIFICATION TAG	F80153-7

**WEIGHT:** 2 lbs (0.9 kg)

**DIMENSIONS:** 1 x 1 x 7 inches (25 x 25 x 177 mm)

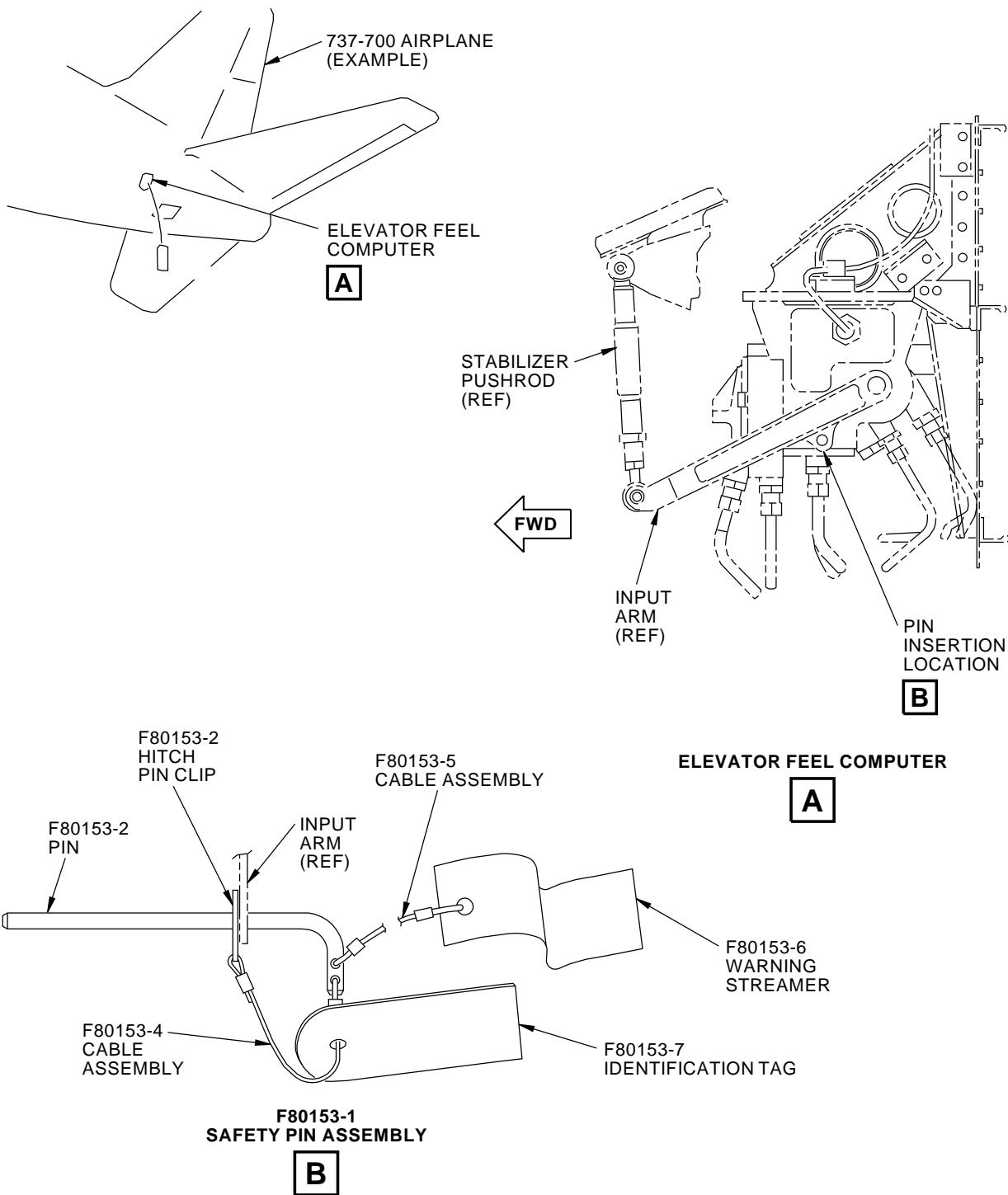
**27-30-03**

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2085752 S0000430581\_V2

**Elevator Feel Computer Safety Pin**  
**Figure 1**

**27-30-03**

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**PART NUMBER: C27044-15**

**NAME:** RIGGING BEAM - ELEVATOR INDEX PLATE INSTALLATION

**AIRPLANE MAINTENANCE:** YES

AMM 27-31-81

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27044-15 rigging beam index plate is used on 737-600 thru -900 airplanes.

C27044 is used to position the elevator trailing edges, so that the elevator index plates can be located and installed on a replacement tail cone.

Refer to the current C27044 drawing and AMM 27-31-81 for complete usage instructions.

C27044-15 rigging assembly consists of:

C27044-15		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BEAM ASSEMBLY	C27044-16
1	STORAGE BOX	

**WEIGHT:** 29 lbs (13 kg)

**DIMENSIONS:** 5 x 13 x 116 inches (127 x 330 x 2946 mm)

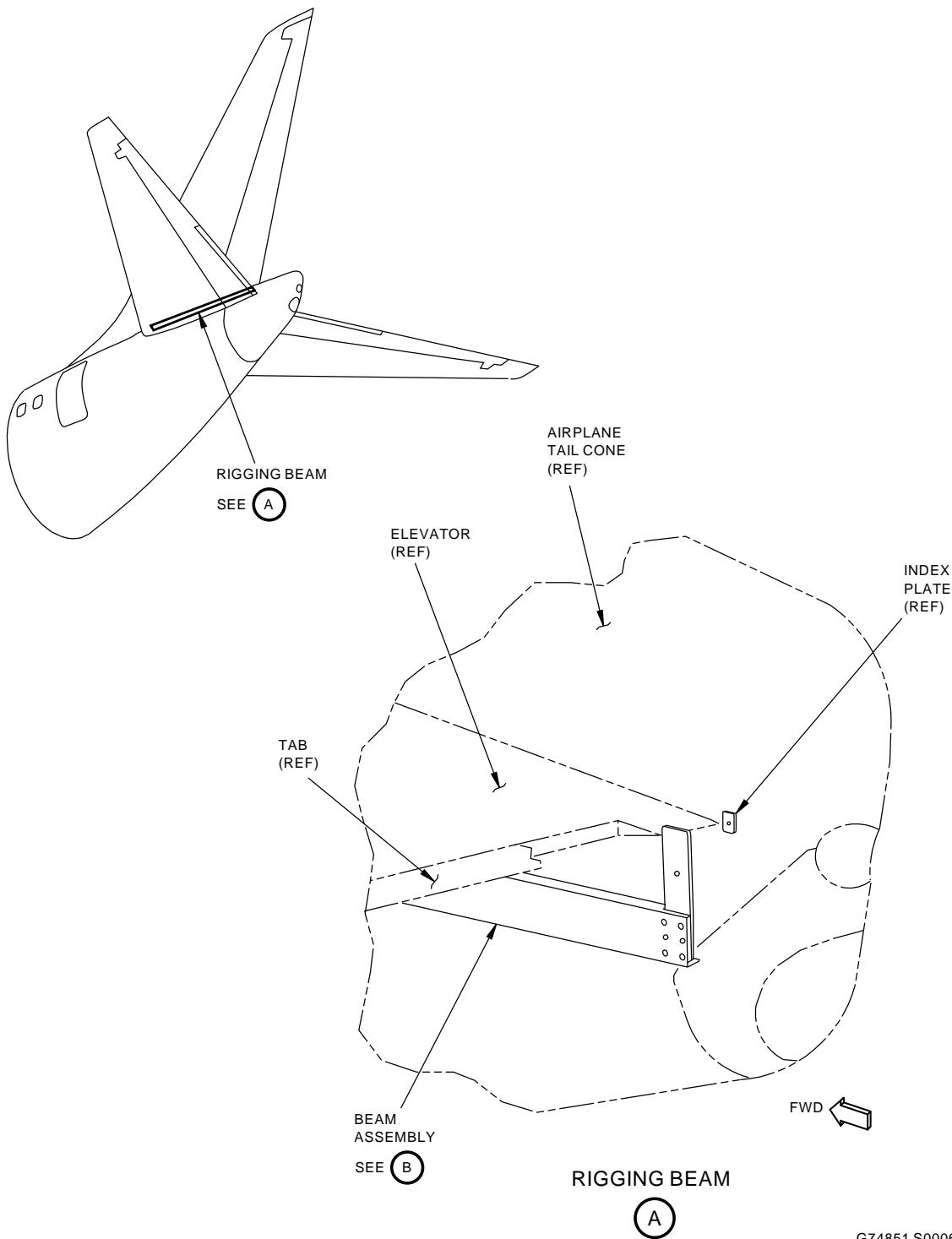
**NOTE:** C27044-15 supersedes C27044-1.

**27-30-04**

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G74851 S0006831549\_V2

**Elevator Index Plate Rigging Beam**  
**Figure 1**

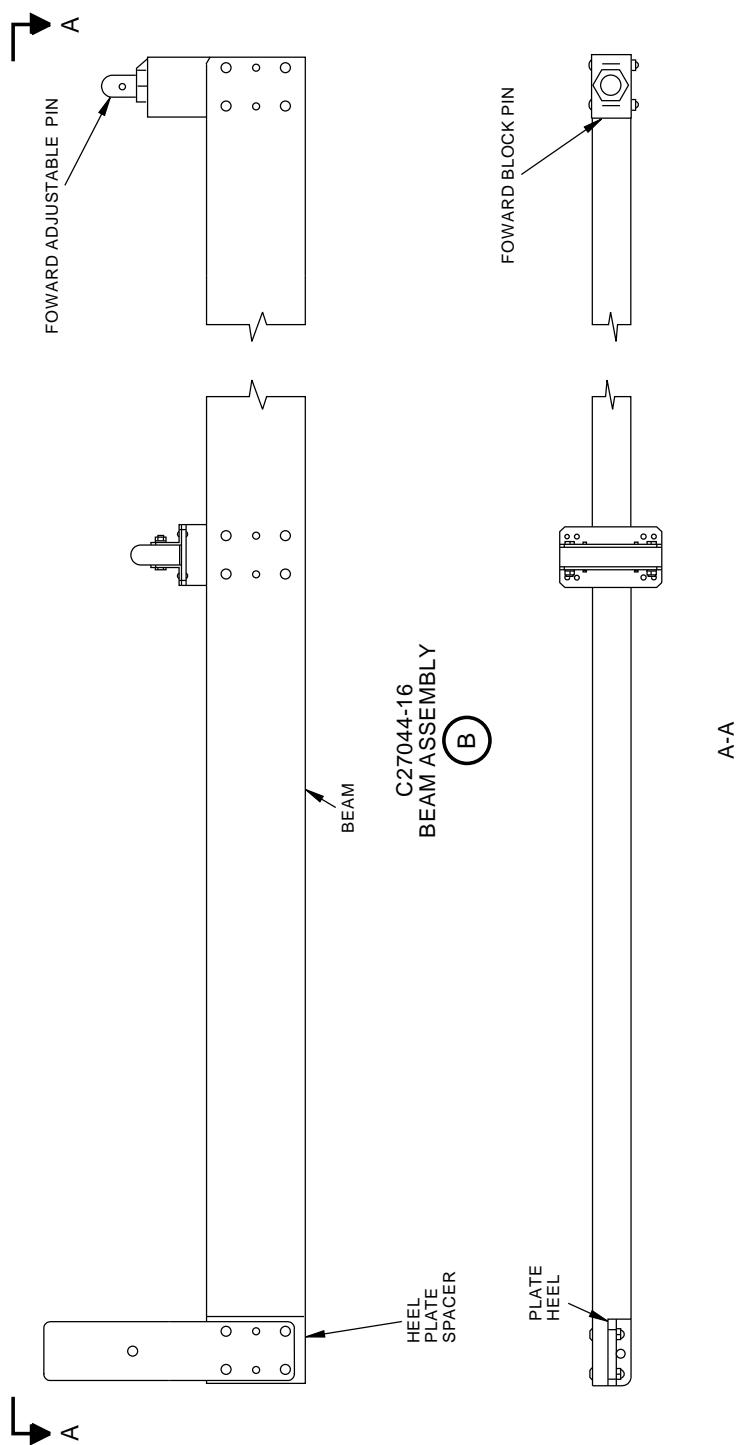
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**Elevator Index Plate Rigging Beam**  
**Figure 2**

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G74895 S0006831550\_V3



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**PART NUMBER: C27034-1**

**NAME:** SLING - ELEVATOR REMOVAL/INSTALLATION

**AIRPLANE MAINTENANCE:** YES

AMM 27-31-11

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27034-1 elevator removal/installation sling is used on all 737-600 thru -900 airplanes.

C27034 is used for removal and installation of the right and left elevators.

Refer to the current C27034 tool drawing and AMM 27-31-11 for complete usage instructions.

C27034-1 consists of:

C27034-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BRACKET ASSEMBLY	C27034-2
2	FITTING ASSEMBLY	C27034-3
1	SLING ASSEMBLY	C27034-4
2	STRAP ASSEMBLY	C27034-5
4	SCREW	NAS1351-4-16
3	SHACKLE	G-209 3/8
1	STORAGE BOX	

**WEIGHT:** 10 lbs (4.5 kg)

**DIMENSIONS:** 8 x 12 x 24 inches (203 x 305 x 610 mm)

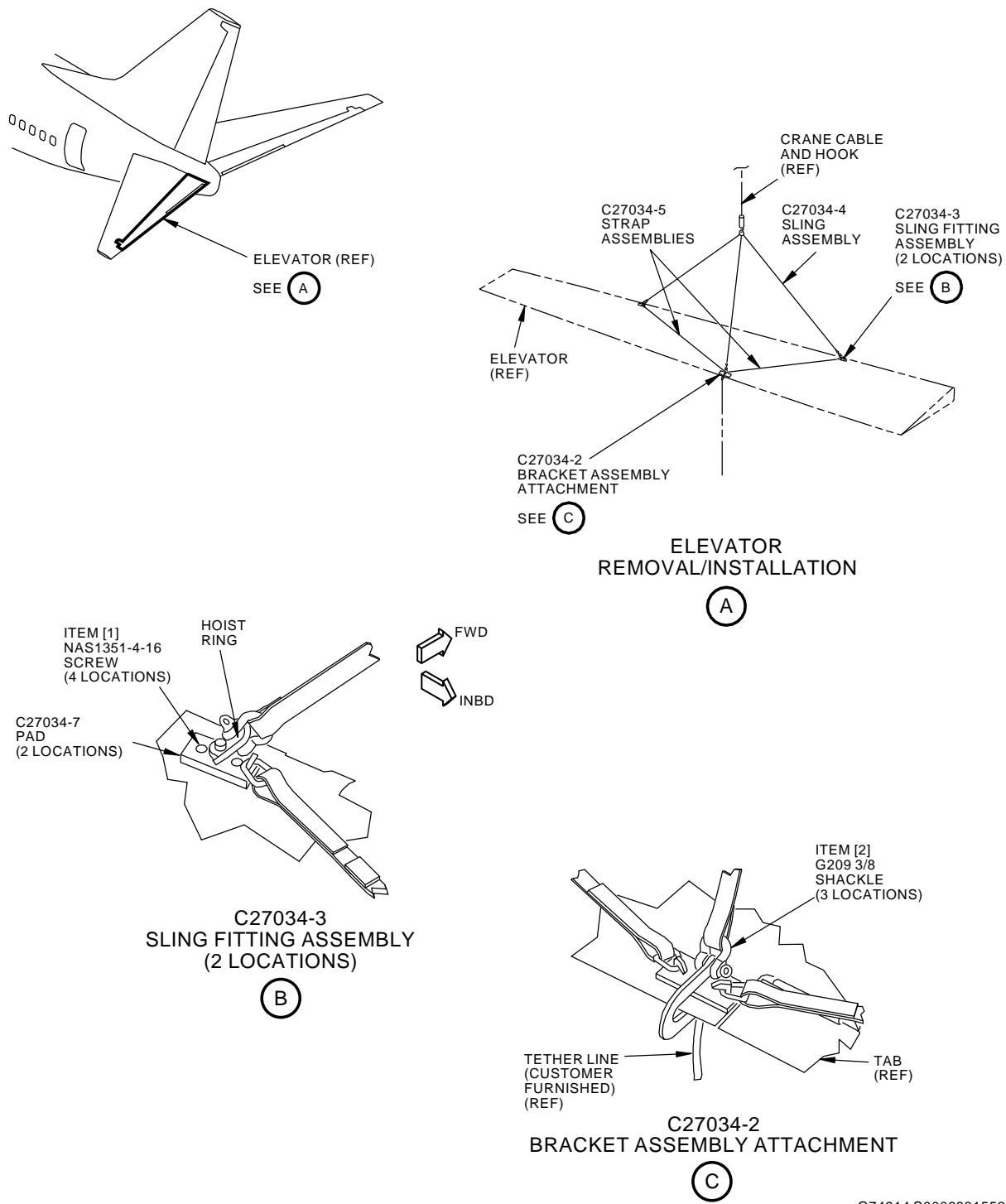
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G74914 S0006831552\_V3

Elevator Removal/Installation Sling  
Figure 1

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[1]	NAS1351-4-16	SCREW	---
[2]	G-209 3/8	SHACKLE	75535

**27-30-05**



737-600/700/800/900

## ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: F72928-33, -34, -52, -53, -54, -58, -62, -63**

**NAME:** AIR PRESSURE REGULATOR EQUIPMENT - ELEVATOR FEEL COMPUTER

**AIRPLANE MAINTENANCE:** YES

AMM 22-11-00, AMM 27-00-00, AMM 27-31-00 and AMM 27-31-17

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The F72928-33 (option) or -52 (preferred) pressure regulator is used on 737-100 thru -500 airplanes.

The F72928-34 (option) or -53 (preferred) pressure regulator is used on 737-100 thru -500 airplanes.

The F72928-54 conversion equipment is used on 737-100 thru -500 airplanes.

The F72928-58 pressure regulator 737-600 thru -900 airplanes.

The F72928-62 and -63 pressure regulator are used on all 737 airplanes. F72928-62 is a combination of F72928-52 and -58 except duplicate parts. F72928-63 is a combination of F72928-53 and -58 except duplicate parts.

F72928 tool provides regulated shop air pressure to perform pressure leakage and feel force system checks on the 737 pitot system.

F72928-33, -34, -52 or -53 is used for 737-100 thru -500 airplanes. The major differences between F72928-33, -34, -52 and -53 are F72928-33 and -34 include two analog pressure gauges included in the F72928-2 test box. F72928-52 and -53 use an F72928-55 test box that includes two digital pressure gauges. F72928-33 and -52 also include "T" adapter assemblies, for use on 727 airplanes. For use on 737-100 thru -500 airplanes, F72928-52 and -53 replace F72928-33 and -34 respectively, for future procurement.

F72928-54 conversion equipment is hardware to rework the superseded F72928-36 or -37 into F72928-52 or -53, respectively. F72928-54 conversion equipment can also be used to rework F72928-33 or -34 into F72928-52 or -53 respectively. The F72928-54 conversion equipment includes two digital pressure gauges. For complete rework instructions, refer to the current F72928 drawing.

F72928-58 air pressure regulator equipment is used only on 737-600 thru -900 airplanes.

F72928-62 or -63 air pressure regulator equipment is used on all 737 airplanes. F72928-62 is a combination of F72928-52 and -58 without duplicate parts. F72928-63 is a combination of F72928-53 and -58 without duplicate parts.

Refer to AMM 22-11-00, AMM 27-00-00, AMM 27-31-00 and AMM 27-31-17 and the current F72928 tool drawing for complete usage instructions.

F72928-33, -34, -52, -53, -54, -58, -62 and -63 consist of:

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F72928-33		
QUANTITY	NOMENCLATURE	PART NUMBER
1	AIR REGULATOR HOSE ASSEMBLY	F72928-8 OR -29
2	T-ADAPTER ASSEMBLY	F72928-12 OR -30
1	HOSE ASSEMBLY	F72928-18
1	TEST BOX ASSEMBLY	F72928-2

F72928-34		
QUANTITY	NOMENCLATURE	PART NUMBER
1	AIR REGULATOR HOSE ASSEMBLY	F72928-8 OR -29
1	HOSE ASSEMBLY	F72928-18
1	TEST BOX ASSEMBLY	F72928-2

F72928-52		
QUANTITY	NOMENCLATURE	PART NUMBER
1	AIR REGULATOR HOSE ASSEMBLY	F72928-8 OR -29
2	T-ADAPTOR ASSEMBLY	F72928-12 OR -30
1	HOSE ASSEMBLY	F72928-18
1	TEST BOX ASSEMBLY	F72928-55

F72928-53		
QUANTITY	NOMENCLATURE	PART NUMBER
1	AIR REGULATOR HOSE ASSEMBLY	F72928-8 OR -29
1	HOSE ASSEMBLY	F72928-18
1	TEST BOX ASSEMBLY	F72928-55

F72928-54		
QUANTITY	NOMENCLATURE	PART NUMBER
2	TUBE	F72928-57
6	WASHER	AN960-10
6	SCREW	MS51960-66
6	NUT	NAS679A3
2	ELBOW	6-2CBU-S
2	DIGITAL PRESSURE GAUGE	3251

F72928-58		
QUANTITY	NOMENCLATURE	PART NUMBER
1	AIR REGULATOR HOSE ASSEMBLY	F72928-59
1	HOSE ASSEMBLY	F72928-18
1	TEST BOX ASSEMBLY	F72928-55

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F72928-62		
QUANTITY	NOMENCLATURE	PART NUMBER
1	AIR REGULATOR HOSE ASSEMBLY	F72928-8 OR -29
2	T-ADAPTOR ASSEMBLY	F72928-12 OR -30
1	AIR REGULATOR HOSE ASSEMBLY	F72928-59
1	HOSE ASSEMBLY	F72928-18
1	TEST BOX ASSEMBLY	F72928-55

F72928-63		
QUANTITY	NOMENCLATURE	PART NUMBER
1	AIR REGULATOR HOSE ASSEMBLY	F72928-8 OR -29
1	AIR REGULATOR HOSE ASSEMBLY	F72928-59
1	HOSE ASSEMBLY	F72928-18
1	TEST BOX ASSEMBLY	F72928-55

**WEIGHT:** 25 lbs (11.4 kg)

**DIMENSIONS:** 36 x 36 x 36 inches (914 x 914 x 914 mm)

**NOTE:** F72928-54 supersedes F72928-43.

F72928-52 and -53 replaces F72928-33 and -34 respectively for future procurement.

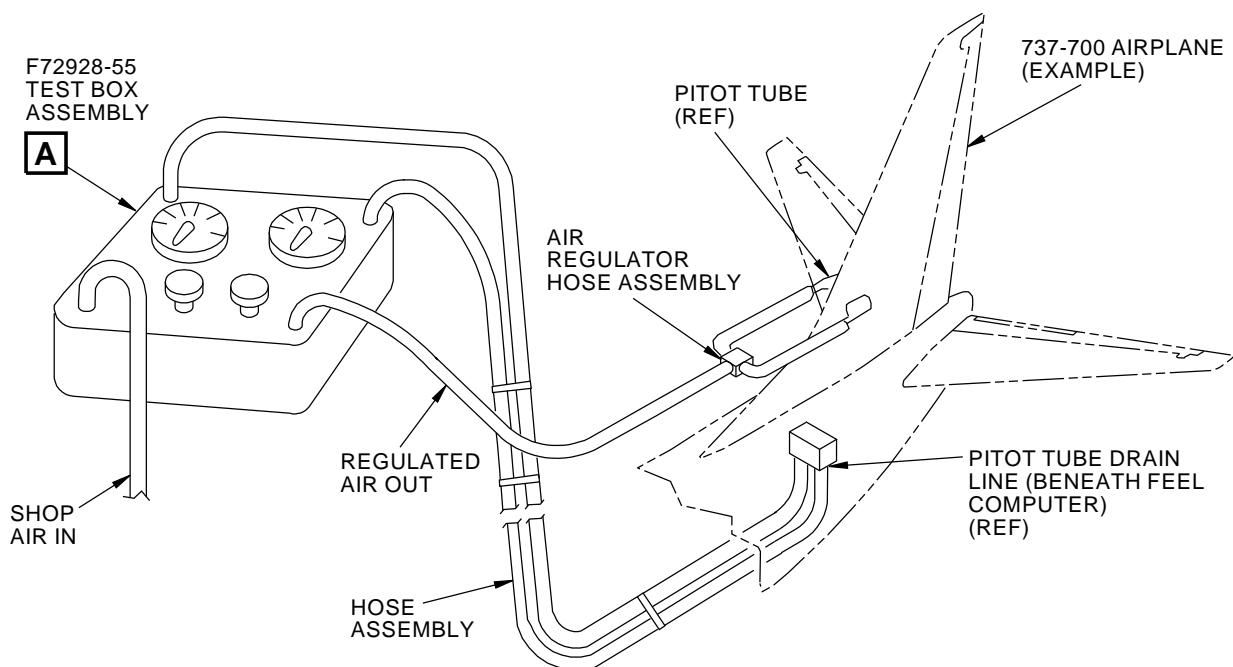
F72928-52 and -53 supersedes F72928-36 and -37 respectively.

F72928-33 supersedes F72928-1 and -25.

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H39230 S0006831554\_V3

**Elevator Feel Computer Air Pressure Regulator Equipment**  
**Figure 1**

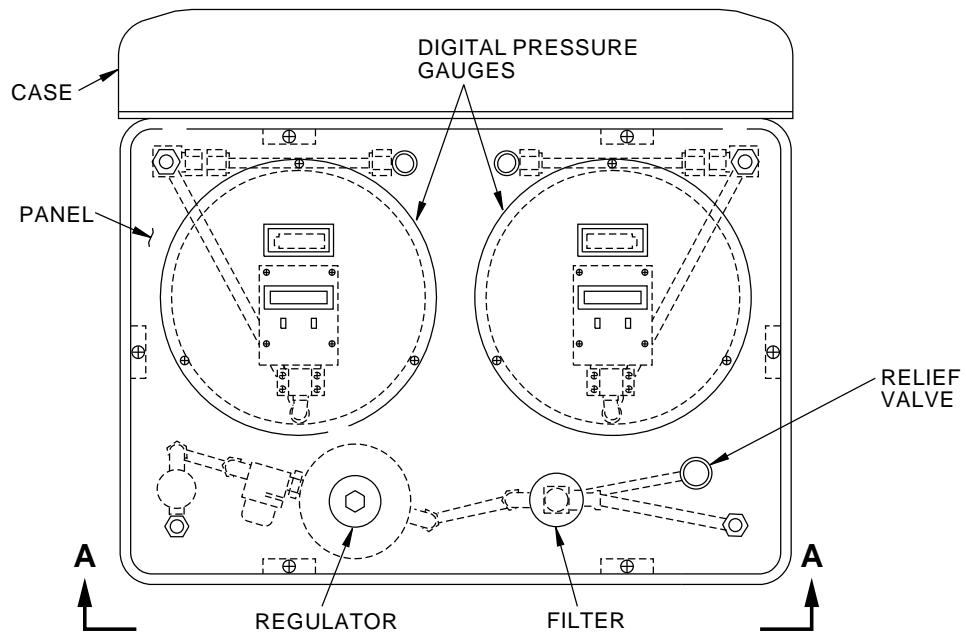
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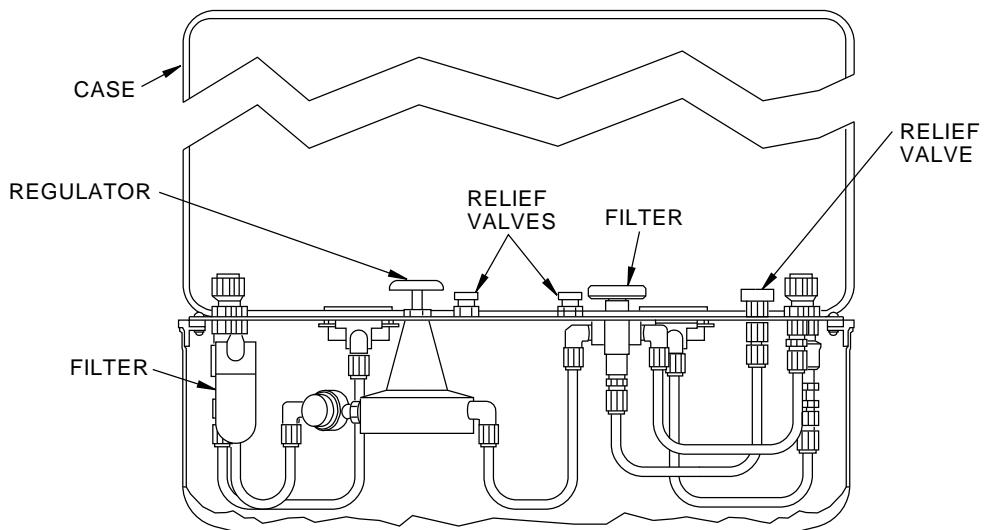
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**F72928-55**  
**TEXT BOX ASSEMBLY SHOWN**  
**F72928-2 SIMILAR**

**A**



**A-A**

H39238 S0006831555\_V4

**F72928-55 Test Box Assembly**  
**Figure 2**

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**PART NUMBER:** 4MIT65B80307-1

**NAME:** PROTRACTOR ASSEMBLY - CONTROL COLUMN

**AIRPLANE MAINTENANCE:** YES

AMM 27-00-00, AMM 27-11-00, AMM 27-11-41, AMM 27-31-00, AMM 27-31-51, AMM 27-31-61, AMM 27-41-00, AMM 27-61-00, AMM 27-61-41, AMM 27-61-61, AMM 27-62-33, AMM 31-31-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The 4MIT65B80307-1 protractor assembly is used on all 737 airplanes.

The 4MIT65B80307-1 protractor assembly is used in conjunction with various customer-furnished adapters to measure angular movement of control wheels, control columns, and engine control levers.

The 4MIT65B80307-1 protractor vernier dial has two options: The -4 vernier dial set consists of a dial (0021-0001-1) and vernier (0021-0001-2). The dial range of 360 degrees is calibrated from 0 to 180 degrees. The optional dial and vernier set, AW-4 includes the vernier identical to the -4 vernier dial set but the dial is calibrated from 0 to 360 degrees. All vernier options use a direct reading pendulum index. The protractor can be read accurately to within 0.5 degree.

4MIT65B80307-1 is comparable to the F52485-500 protractor, which is used for similar applications. 4MIT65B80307-1 is identical to the A27021-30 protractor assembly (part of the A27021-29 protractor kit).

Refer to AMM 27-00-00, AMM 27-11-00, AMM 27-11-41, AMM 27-31-00, AMM 27-31-51, AMM 27-31-61, AMM 27-41-00, AMM 27-61-00, AMM 27-61-41, AMM 27-61-61, AMM 27-62-33, AMM 31-31-00 and the current 4MIT65B80307-1 drawing for complete usage instructions.

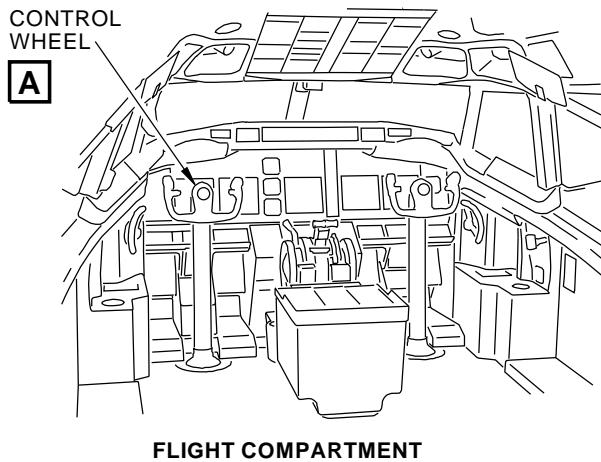
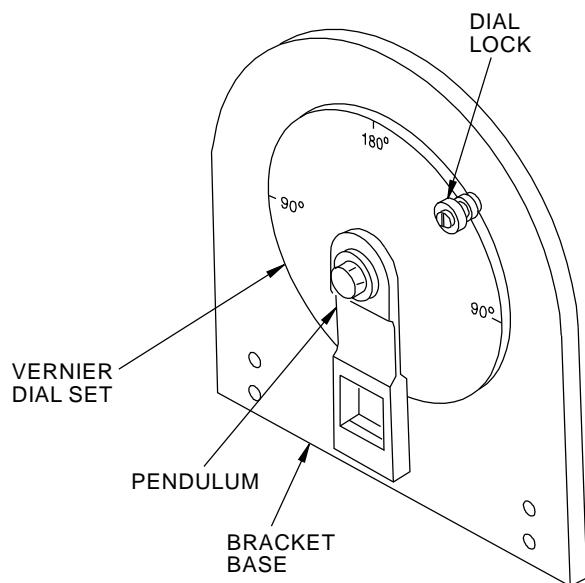
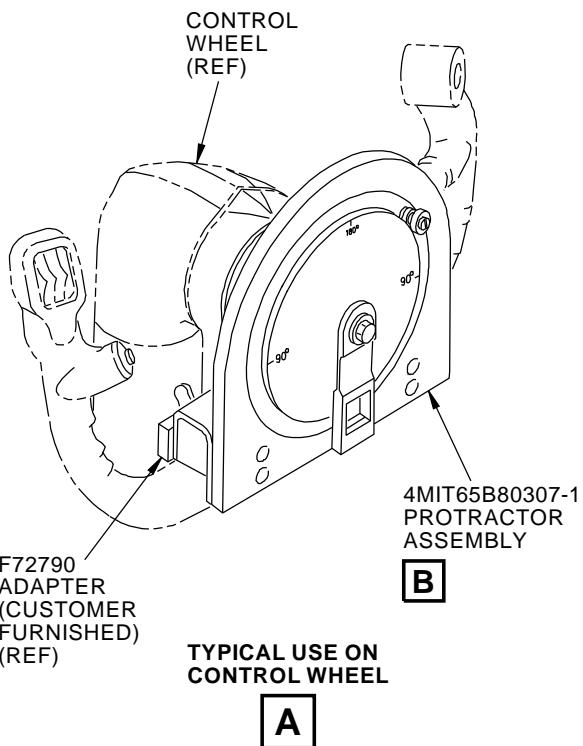
The 4MIT65B80307-1 kit consists of a single protractor contained in a storage box.

**WEIGHT:** 2.5 lbs (1.2 kg)

**DIMENSIONS:** 8 x 8 x 4 inches (203 x 203 x 102 mm)

**NOTE:** The A27021-30 protractor assembly (which is part of the A27021-29 protractor kit) is optional and identical to the 4MIT65B80307-1 protractor assembly.

**27-30-07**


**FLIGHT COMPARTMENT**

**4MIT65B80307-1  
PROTRACTOR ASSEMBLY**

H51086 S0006831557\_V4

**Control Column Protractor Assembly**  
**Figure 1**
**27-30-07**

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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: C27036-1**

**NAME:** SUPPORT SET - FORWARD ELEVATOR CONTROL QUADRANT

**AIRPLANE MAINTENANCE:** YES

AMM 27-31-54

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27036-1 support set is used on all 737 airplanes except 737-100 thru -500 airplanes.

C27036 supports the forward elevator control quadrant during removal or installation of the control column support bearing.

Refer to AMM 27-31-54 and the current C27036 drawing for complete usage instructions.

C27036-1 consists of:

C27036-1		
QUANTITY	NOMENCLATURE	PART NUMBER
2	SUPPORT SHIM ASSEMBLY	C27036-2
1	STORAGE BOX	

**WEIGHT:** 0.1 lbs (0.05 kg)

**DIMENSIONS:** 2 x 2 x 3 inches (51 x 51 x 76 mm)

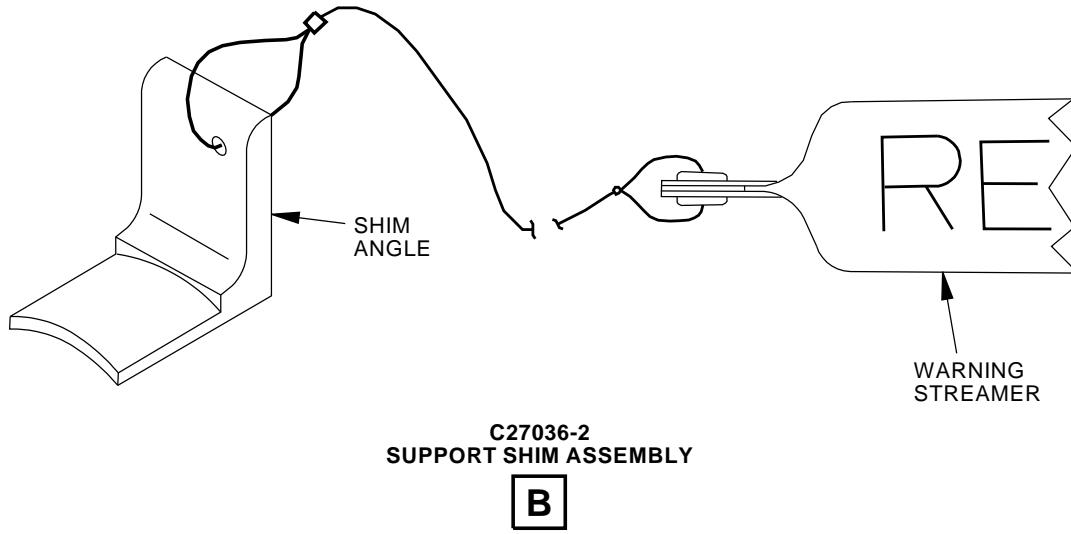
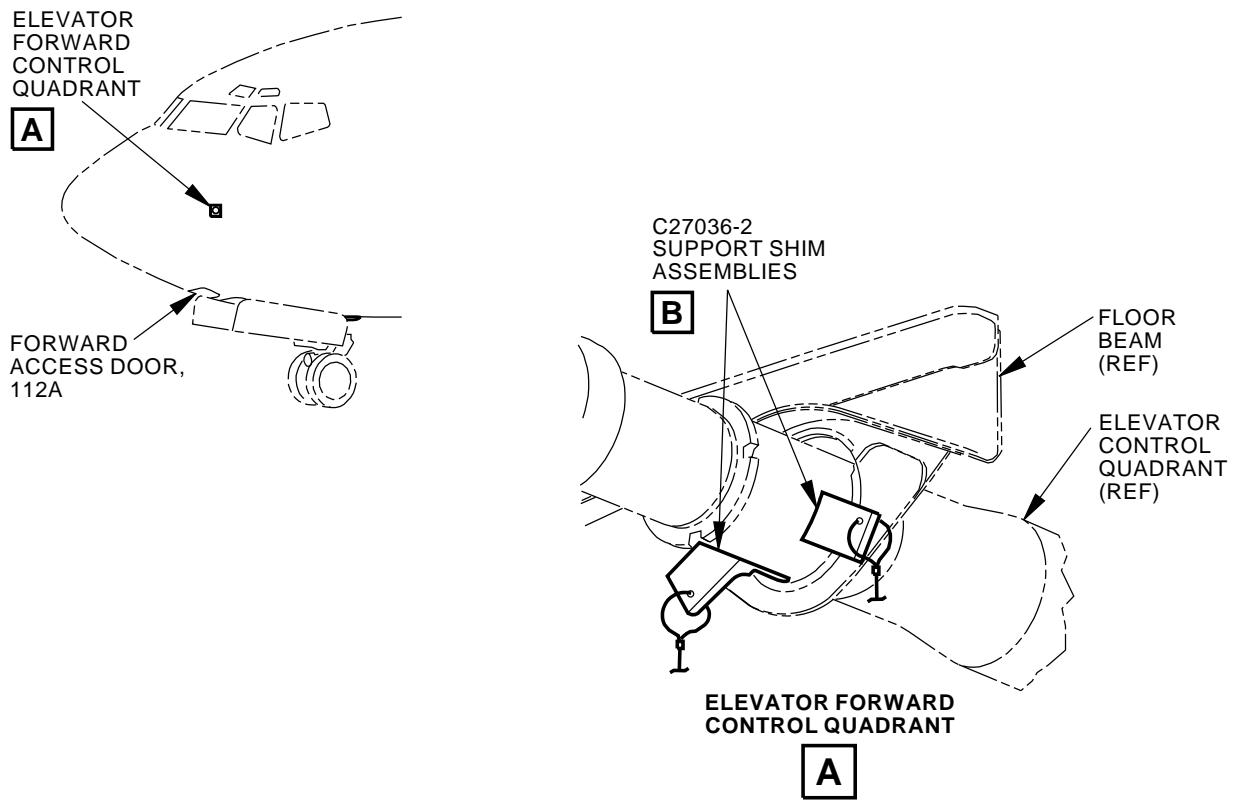
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H75513 S0006831559\_V4

**Forward Elevator Control Quadrant Support Set**  
**Figure 1**

**27-30-08**

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**PART NUMBER: F80063-501**

**NAME:** FIXTURE - ELEVATOR RIGGING AND RESTRAINING

**AIRPLANE MAINTENANCE:** YES

AMM 27-31-14

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The F80063-501 fixture is used on all 737 airplanes.

F80063 is used to simulate the elevator power control actuator at the neutral position while final adjustments are made to the elevator rod assembly. F80063 is also used as a restraining tool when power control units (PCU) are removed (One F80063 is required for each PCU removed).

Refer to AMM 27-31-14 and the current F80063 drawing for complete usage instructions.

F80063-501 consists of:

F80063-501		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BAR ASSEMBLY	F80063-6
1	BALL LOCK PIN	CL-10-DEP-3.0
1	BALL LOCK PIN	CL-8-BLPT-2.8

**WEIGHT:** 5.5 lbs (2.5 kg)

**DIMENSIONS:** 1.5 x 2.7 x 20.7 inches (38 x 69 x 526 mm)

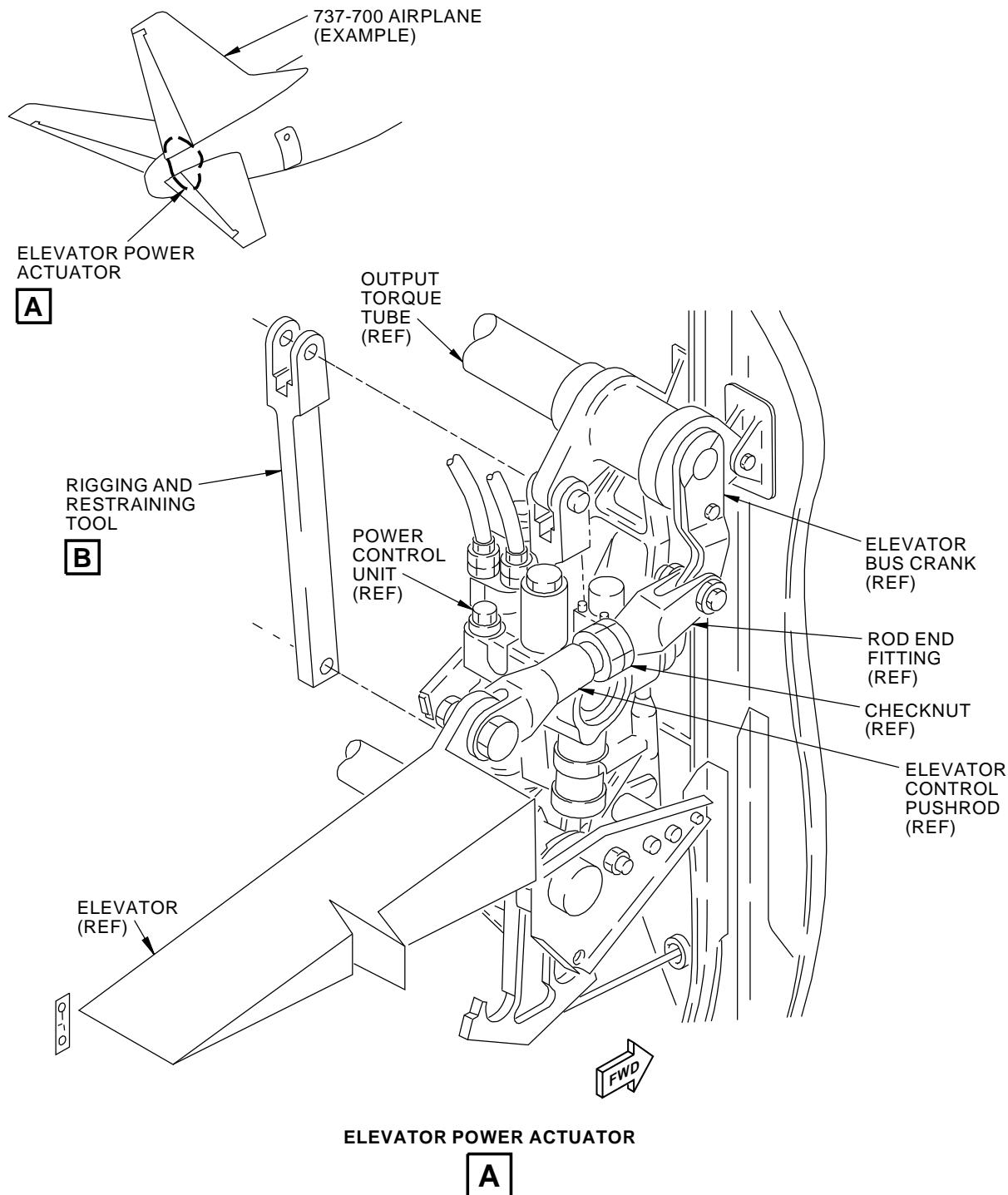
**NOTE:** F80063-501 supersedes F80063-500.

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L33168 S0006831563\_V4

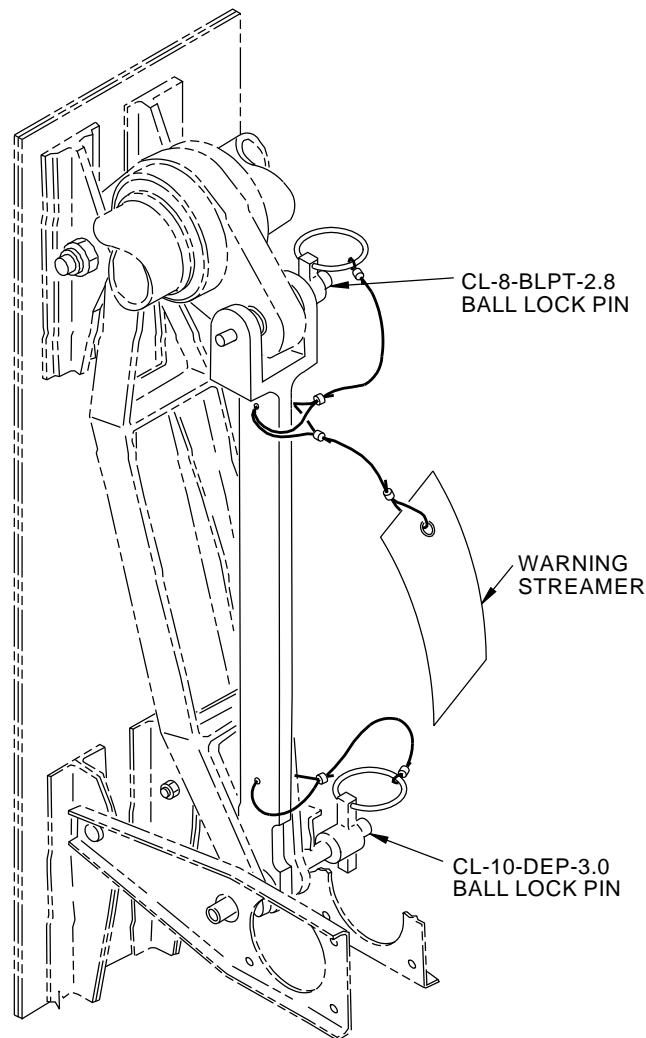
**Elevator Rigging Restraining Fixture**  
**Figure 1 (Sheet 1 of 2)**

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**F80063-501**  
**ELEVATOR RIGGING AND RESTRAINING FIXTURE**

**B**

2086005 S0000430955\_V2

**Elevator Rigging Restraining Fixture**  
**Figure 1 (Sheet 2 of 2)**

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737-600/700/800/900  
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**PART NUMBER: A27041-175, -188**

**NAME:** TEST EQUIPMENT - ELEVATOR FEEL AND CENTERING UNIT

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-24-31, CMM 27-31-09, CMM 27-31-10, CMM 27-31-95

**USAGE & DESCRIPTION:** The A27041-175 test equipment is used during component maintenance on 737-100 thru -900 airplanes.

The A27041-188 test equipment is used during component maintenance on all 737 airplanes.

A27041 is used in conjunction with a customer-furnished, A27081 readout and control equipment and a 48-inch (1219 mm) pipe. A27041 is used to functionally check the elevator feel and centering unit..

Refer to CMM 27-24-31, CMM 27-31-09, CMM 27-31-10, CMM 27-31-95 and the current A27041 drawing for complete usage instructions.

A27041-175 and -188 consist of:

A27041-175		
QUANTITY	NOMENCLATURE	PART NUMBER
1	UNIT ASSEMBLY	A27041-181
1	CRANK ASSEMBLY	A27041-162 <sup>*[1]</sup>
1	TIE ROD ASSEMBLY	A27041-109
1	WEIGHT ASSEMBLY	A27041-110 <sup>*[1]</sup>
1	TEST STAND ASSEMBLY	A27041-178
1	STORAGE BOX	

\*[1] A27041-162 AND -110 ARE NOT USED ON 737-300 THRU -900, -7, -8, -8200 AND -9 AIRPLANES.

A27041-188		
QUANTITY	NOMENCLATURE	PART NUMBER
1	UNIT ASSEMBLY	A27041-181
1	CRANK ASSEMBLY	A27041-162 <sup>*[1]</sup>
1	TIE ROD ASSEMBLY	A27041-109
1	WEIGHT ASSEMBLY	A27041-110 <sup>*[1]</sup>
1	TEST STAND ASSEMBLY	A27041-239
1	STORAGE BOX	

\*[1] A27041-162 AND -110 ARE NOT USED ON 737-300 THRU -900, -7, -8, -8200 AND -9 AIRPLANES.

**WEIGHT:** 640 lbs (290 kg)

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**DIMENSIONS:** 24 x 28 x 34 inches (610 x 711 x 864 mm)

**NOTE:** A27041-175 supersedes A27041-161.

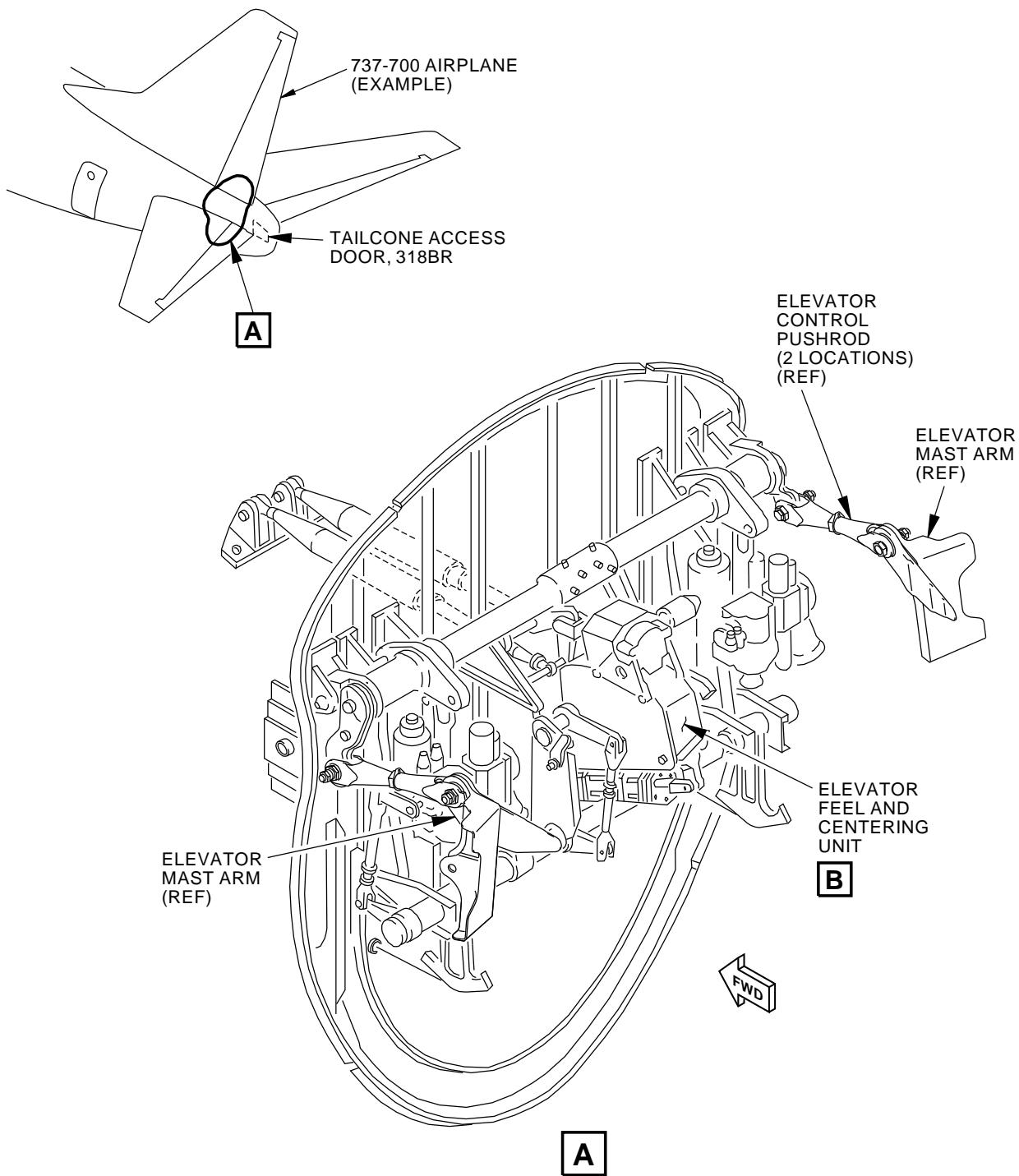
A27041-188 replaces A27041-175 for future procurement.

**27-30-11**

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2421399 S0000559449\_V1

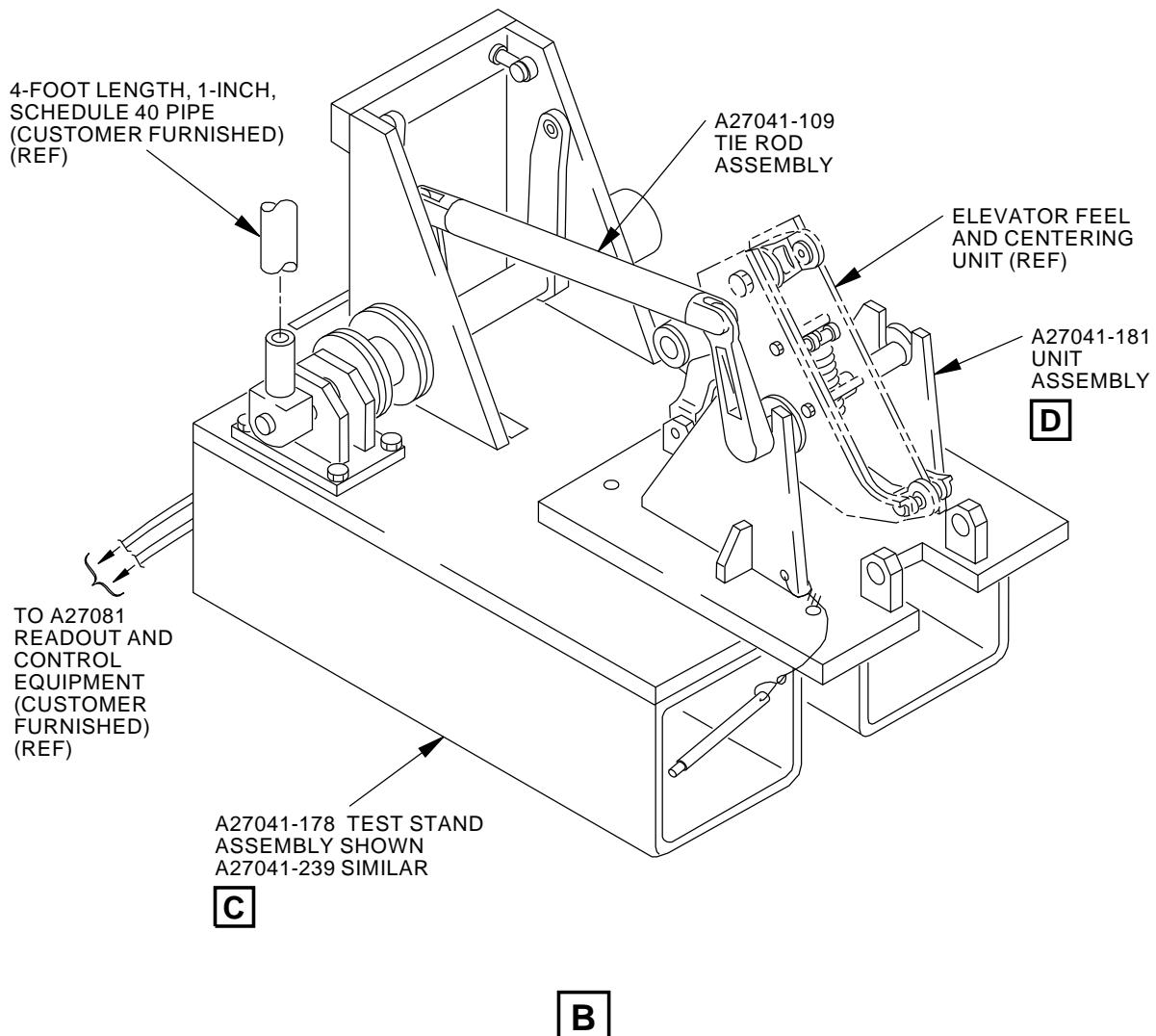
**Elevator Feel and Centering Unit Test Equipment**  
**Figure 1 (Sheet 1 of 3)**

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L76312 S0006831566\_V5

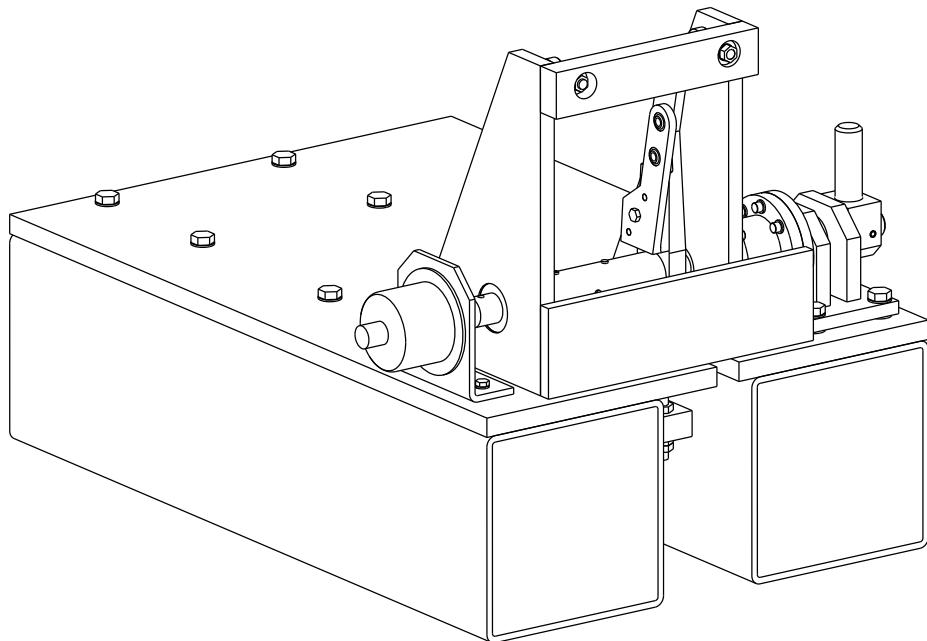
**Elevator Feel and Centering Unit Test Equipment**  
**Figure 1 (Sheet 2 of 3)**

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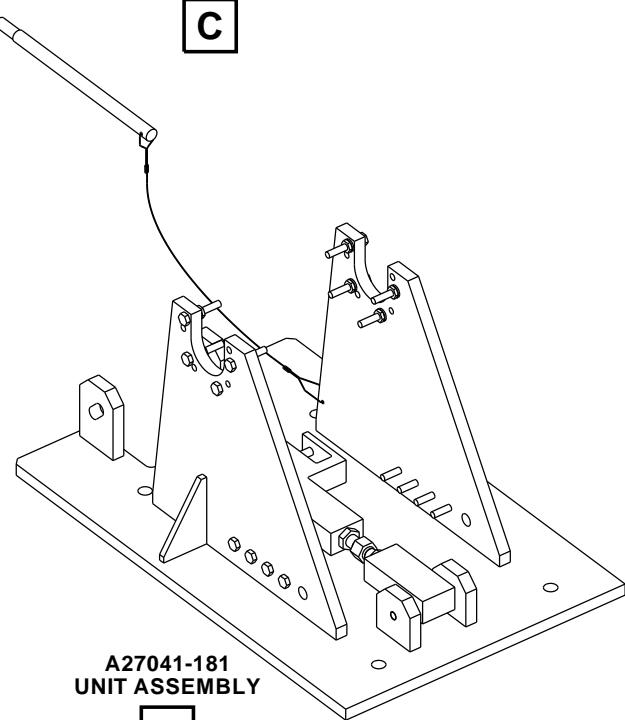
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**A27041-178  
TEST STAND ASSEMBLY**

**C**



**A27041-181  
UNIT ASSEMBLY**

**D**

2421597 S0000560180\_V1

**Elevator Feel and Centering Unit Test Equipment  
Figure 1 (Sheet 3 of 3)**

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**PART NUMBER: B27070-1**

**NAME:** ALIGNMENT PIN - FEEL ACTUATOR PISTON

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-31-15, CMM 27-09-09

**USAGE & DESCRIPTION:** The B27070-1 alignment pin is used during component maintenance on 737-100 thru -900 airplanes.

B27070 is used during component maintenance assembly of the rudder and elevator feel actuator cylinder assembly. B27070 aligns the piston during installation of seals in the feel actuator cylinder assembly.

Refer to CMM 27-31-15, CMM 27-09-09 and the current B27070 tool drawing for complete usage instructions.

B27070-1 consists of:

B27070-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	PIN ASSEMBLY	B27070-2
1	STORAGE BOX	

**WEIGHT:** 1.5 lbs (0.68 kg)

**DIMENSIONS:** 1 x 1 x 2 inches (25 x 25 x 51 mm)

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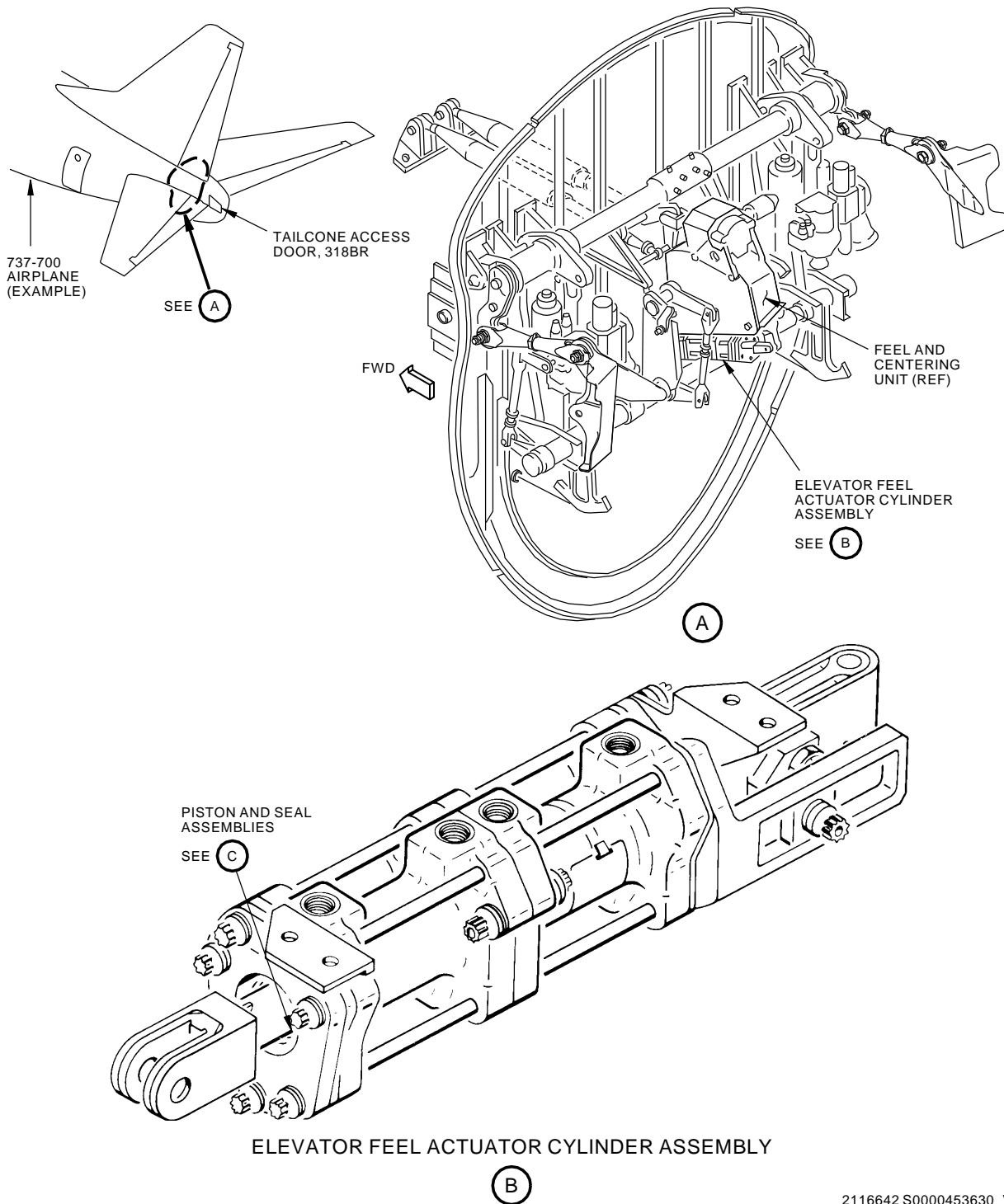
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2116642 S0000453630\_V1

Feel Actuator Piston Alignment Pin  
Figure 1 (Sheet 1 of 2)

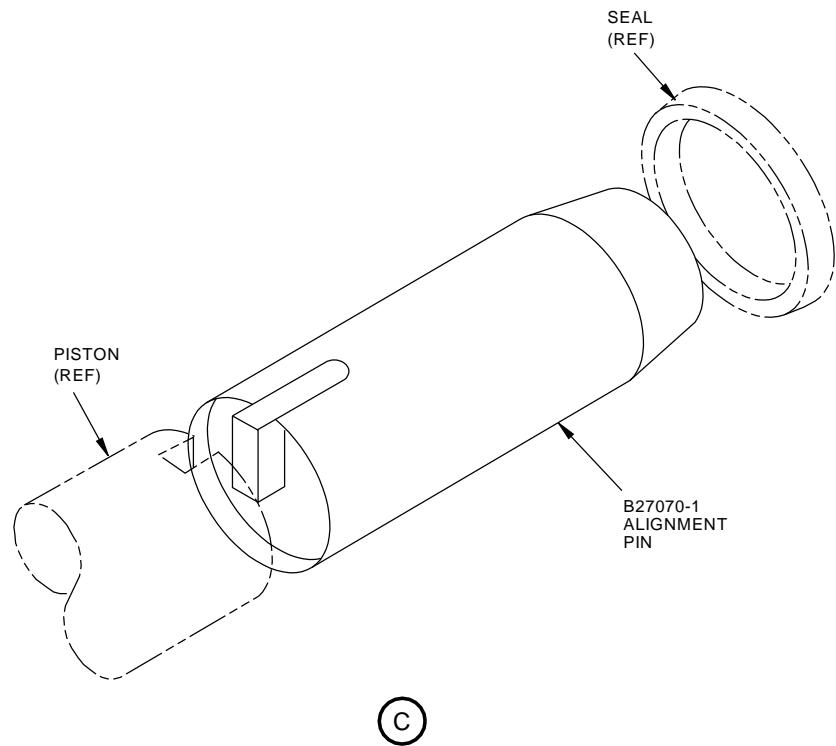
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2085926 S0000431518\_V1

**Feel Actuator Piston Alignment Pin**  
**Figure 1 (Sheet 2 of 2)**

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**PART NUMBER: C27005-1, -19**

**NAME:** ASSEMBLY FIXTURE - ELEVATOR FEEL AND CENTERING UNIT

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-31-95

**USAGE & DESCRIPTION:** The C27005-1 assembly fixture is used during component maintenance on 737-200 airplane customer airplane identification codes: PK618-PK620, PK750-PK770, PK780-PK799, PK805-PK818, PK828, PK829, PL062-PL080, PL222-PL250, PL789-PL792, PM091-PM099, PM143-PM160, PM341-PM380 and PY158-PY160.

The C27005-19 assembly fixture is used during component maintenance on all 737 airplanes except for 737-100 and 737-200 airplane customer airplane identification codes: PK618-PK620, PK750-PK770, PK780-PK799, PK805-PK818, PK828, PK829, PL062-PL080, PL222-PL250, PL789-PL792, PM091-PM099, PM143-PM160, PM341-PM380 and PY158-PY160.

C27005 is used during overhaul assembly of the elevator feel and centering unit to position the input crank assemblies and the crank stop.

Refer to CMM 27-31-95 and the current C27005 drawing for complete usage instructions.

C27005-1 and -19 consist of:

C27005-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ACTUATOR ASSEMBLY	C27005-3
1	STRAP ASSEMBLY	C27005-4
1	STRAP ASSEMBLY	C27005-5
1	STRAP ASSEMBLY	C27005-6
1	WASHER	AN960KD516
1	SCREW	NAS603-10
1	WASHER	AN960KD616
1	WASHER	AN960KD1016
1	NUT	MS51968-5
1	BOLT	AN6-5A
1	BOLT	AN9-10A
1	STORAGE BOX	

C27005-19		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ACTUATOR ASSEMBLY	C27005-3

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(Continued)

C27005-19		
QUANTITY	NOMENCLATURE	PART NUMBER
1	STRAP ASSEMBLY	C27005-5
1	STRAP ASSEMBLY	C27005-6
1	WASHER	AN960KD516
1	NUT	MS51968-5
1	SCREW	NAS603-10
1	STORAGE BOX	

**WEIGHT:** 5 lbs (2.2 kg)

**DIMENSIONS:** 2 x 12 x 12 inches (51 x 305 x 305 mm)

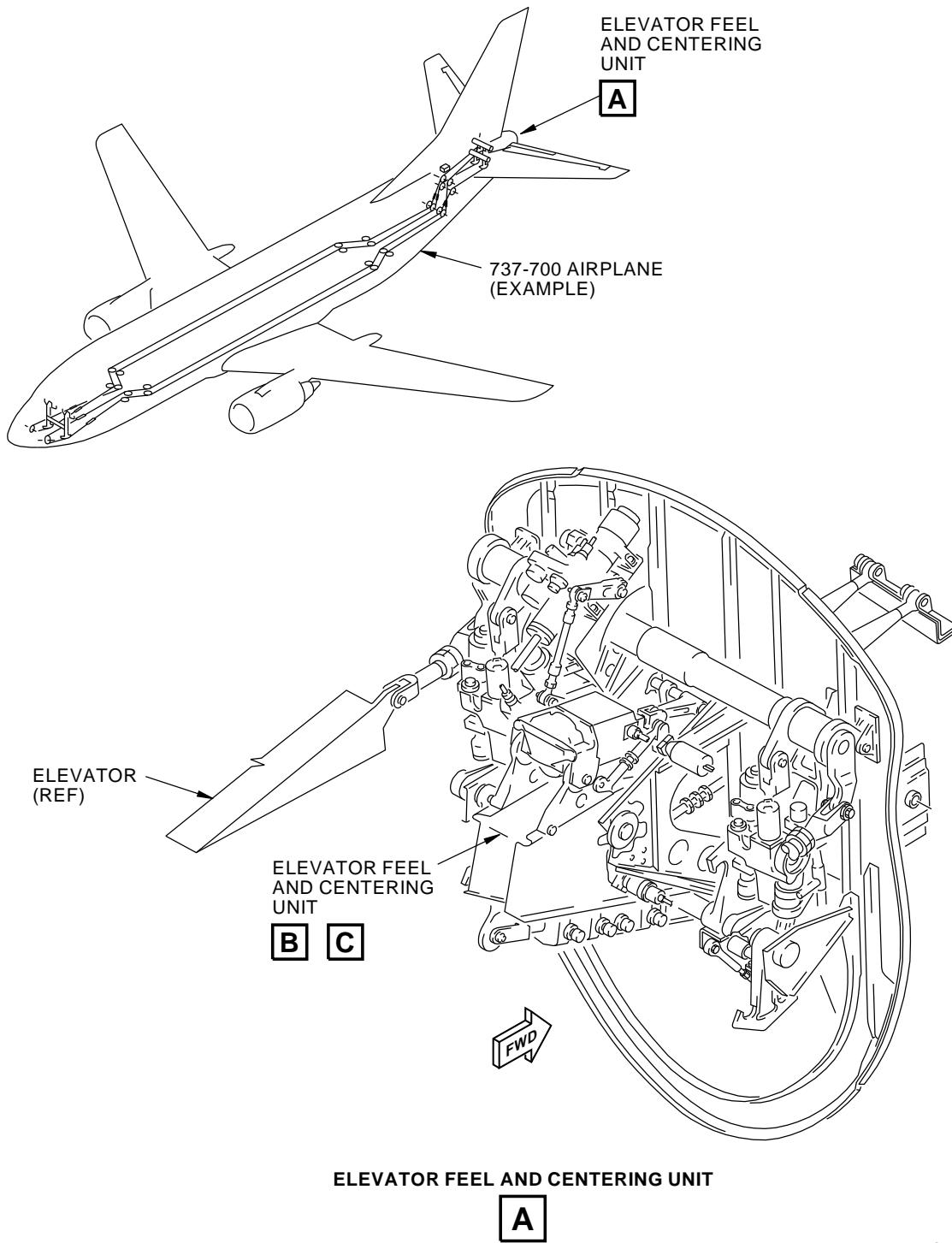
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2085691 S0000431326\_V2

**Elevator Feel and Centering Unit Assembly Fixture**  
**Figure 1 (Sheet 1 of 3)**

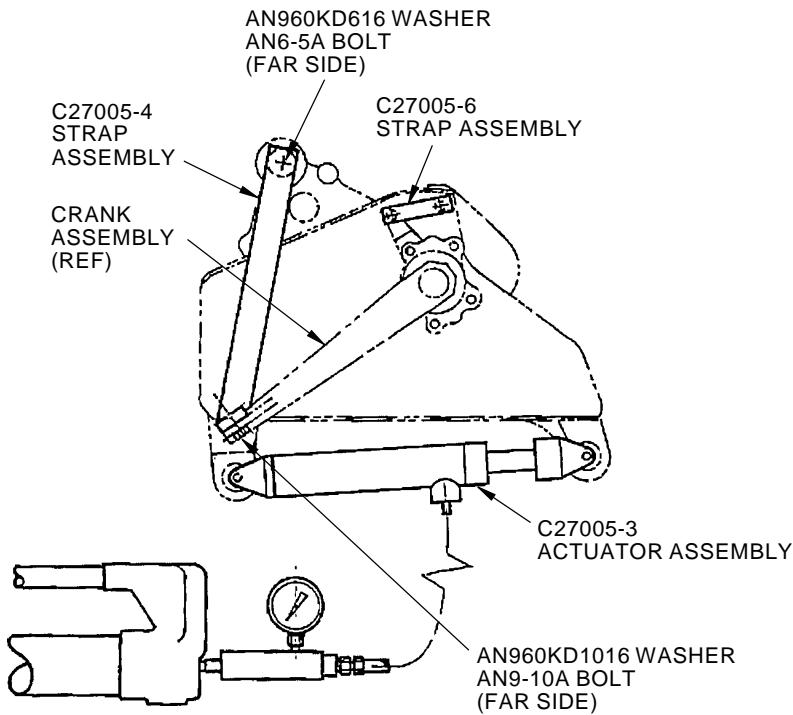
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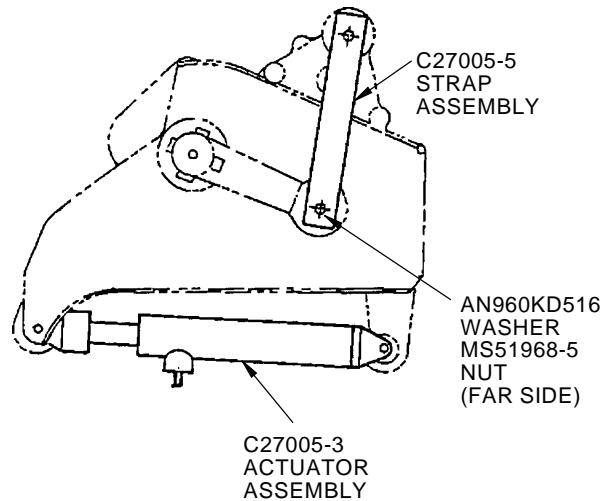
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RIGHT VIEW



LEFT VIEW

**C27005-1  
ASSEMBLY FIXTURE USAGE**

**B**

2085693 S0000431328\_V2

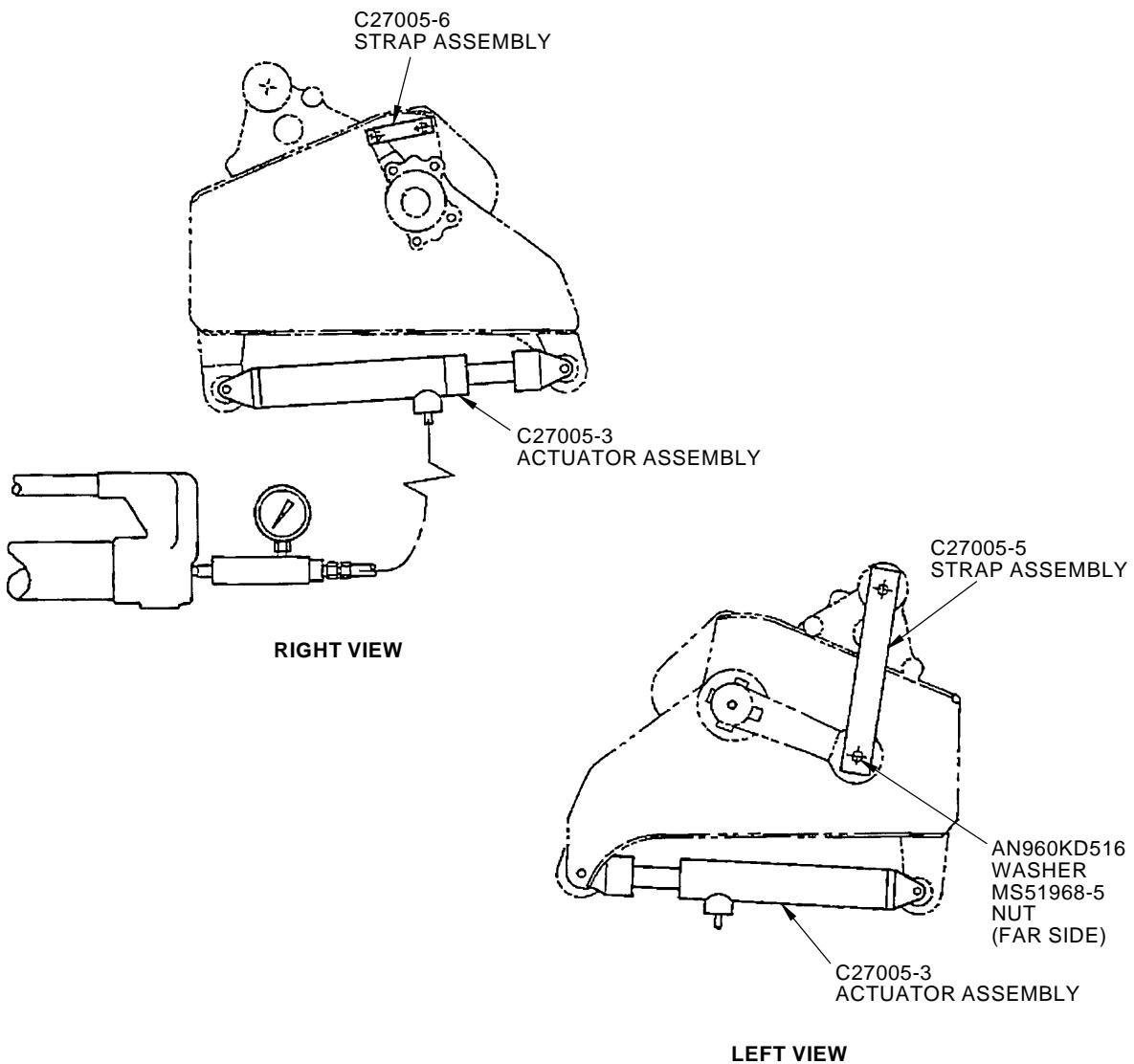
**Elevator Feel and Centering Unit Assembly Fixture**  
**Figure 1 (Sheet 2 of 3)**

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**C27005-19**  
**ASSEMBLY FIXTURE USAGE**

**C**

2085695 S0000431329\_V2

**Elevator Feel and Centering Unit Assembly Fixture**  
**Figure 1 (Sheet 3 of 3)**

**27-30-13**



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**PART NUMBER: A27081-1**

**NAME:** READOUT AND CONTROL EQUIPMENT - FUNCTIONAL TEST STANDS

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-24-31, CMM 27-31-95

**USAGE & DESCRIPTION:** The A27082-1 readout and control equipment is used during component overhaul on all 737 airplanes.

A27081 is used on 65-45133 elevator and rudder feel and centering units and the 65C25465 elevator feel and centering units.

On 65-45133 elevator and rudder feel and centering units, A27081 is used in conjunction with A27041 and A27063 test equipment, an X-Y plotter (Hewlett Packard HP7045B or equivalent), a 200 lb and a 4 lb weight. Refer to CMM 27-24-31 and the current A27081 drawing for complete usage information.

On 65C25465 elevator feel and centering units, A27081 is used in conjunction with A27041 and A27063 test equipment, an X-Y plotter (Hewlett Packard HP7045B or equivalent), and a hydraulic test stand capable of supplying filtered BMS 3-11 fluid at a constant pressure up to 2100 psi. Refer to CMM 27-31-95, CMM 27-31-95 and the current A27081 drawing for complete usage information.

A27081-1 consists of:

A27081-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TEST BOX ASSEMBLY	A27081-3
1	CABLE ASSEMBLY	A27081-7
1	CABLE ASSEMBLY	A27081-8
1	CABLE ASSEMBLY	A27081-9
1	CABLE ASSEMBLY	A27081-10
1	STORAGE BOX	

**WEIGHT:** 10 lbs (4.5 kg)

**DIMENSIONS:** 15 x 15 x 5 inches (381 x 381 x 127 mm)

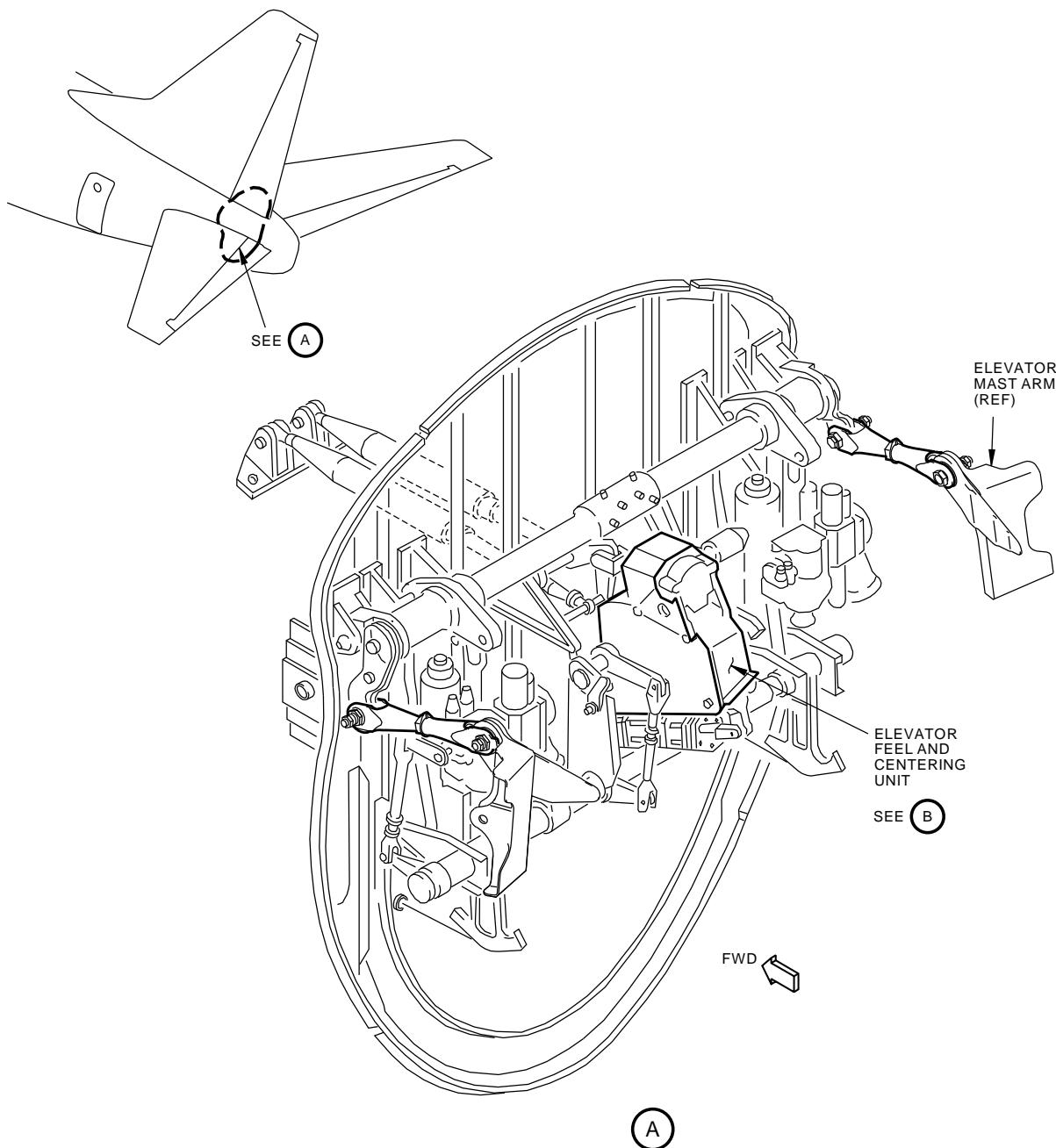
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J83206 S0000180356\_V1

**Elevator Feel and Control Unit Location**  
**Figure 1**

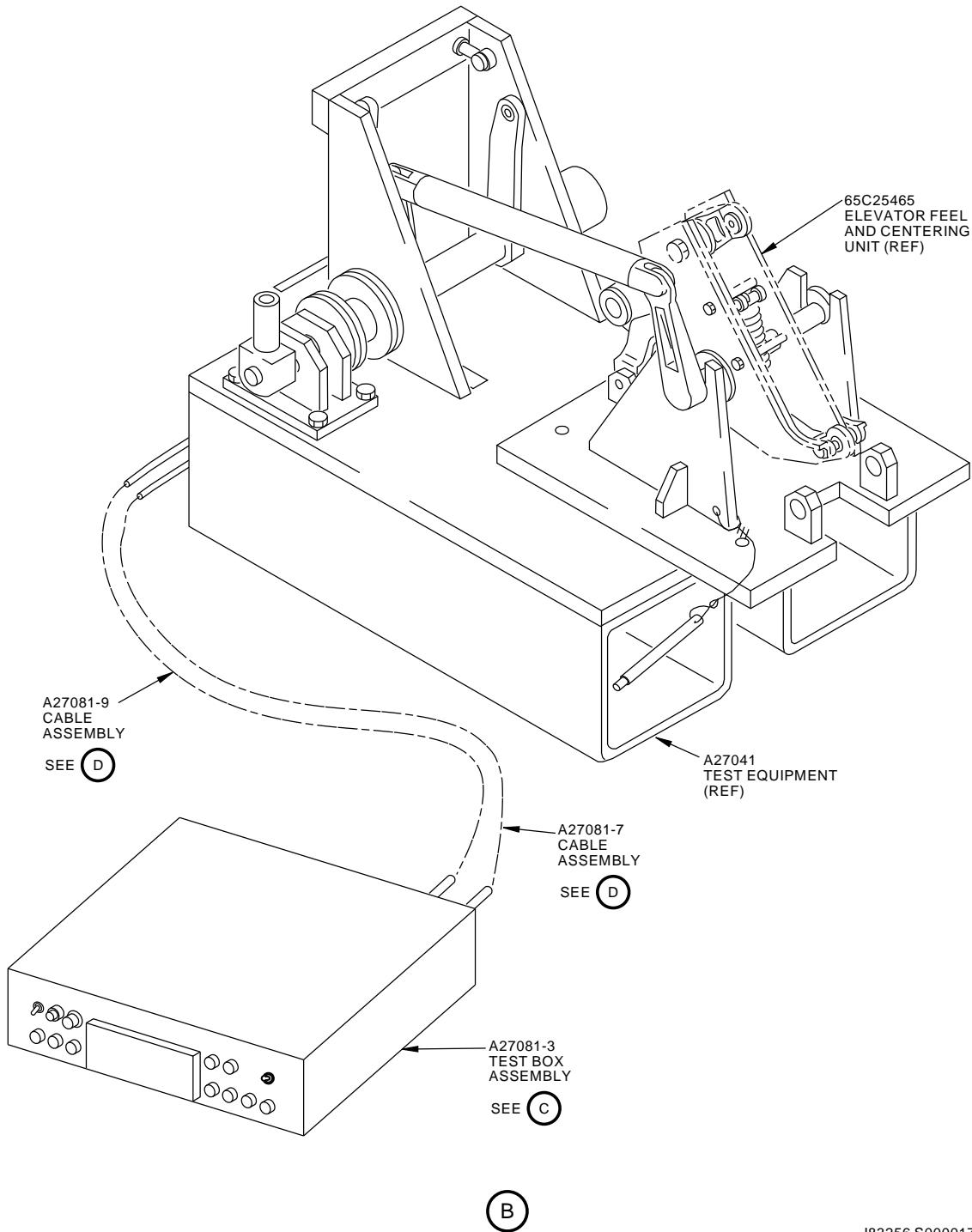
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J83256 S0000179730\_V1

**A27081-1 Readout and Control Equipment Application**  
**Figure 2**

**27-30-14**

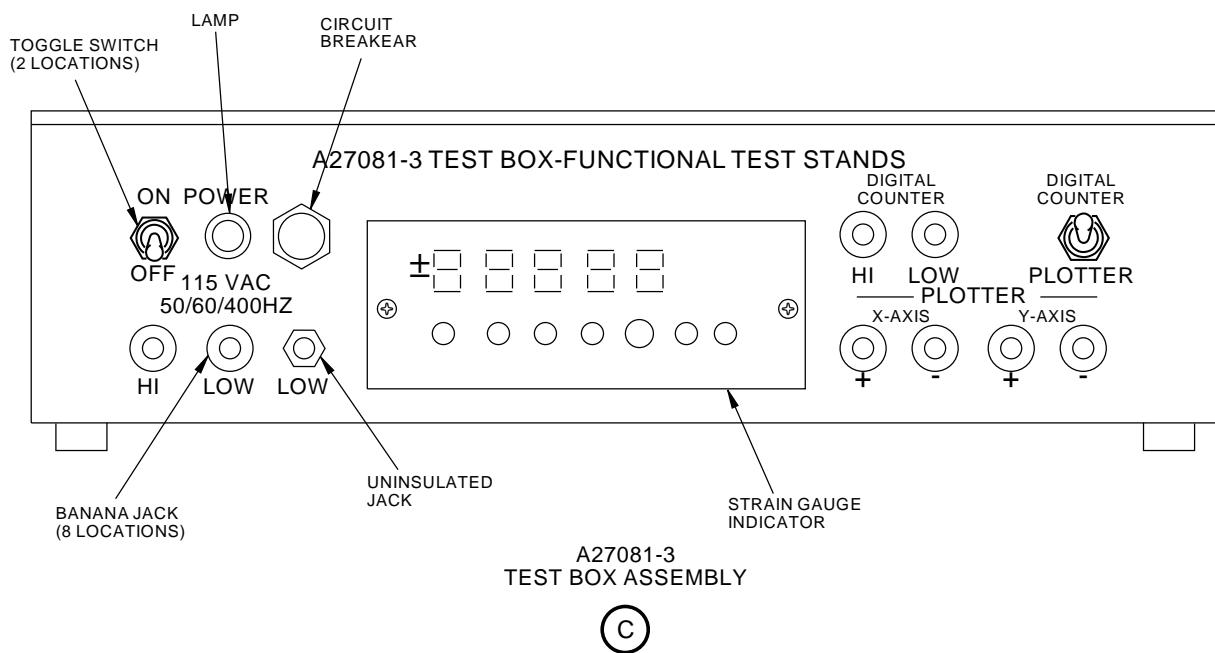
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J83303 S0000180357\_V1

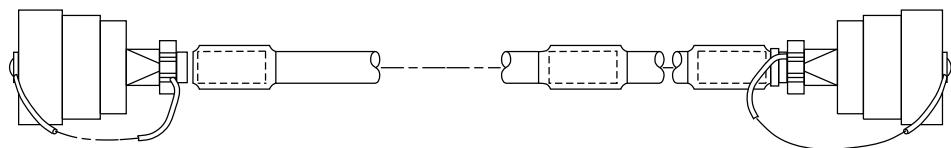
**A27081-3 Test Box Assembly**  
**Figure 3**

**27-30-14**

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A27081-7 CABLE ASSEMBLY SHOWN  
A27081-8,-9,-10 SIMILAR

(D)

J83372 S0000180359\_V1

**Cable Assembly Detail**  
**Figure 4**

**27-30-14**



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REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
A27081-3 TEST BOX ASSEMBLY			
[1]	M83723/60-110AC	CAP	---
[2]	M83723/60-112AC	CAP	---
[3]	M83723/83R105N	RECEPTACLE CONNECTOR	---
[4]	M83723/83R1212N	RECEPTACLE CONNECTOR	---
A27081-7 CABLE ASSEMBLY			
[5]	M83723/86R105N	PLUG CONNECTOR	---
[6]	MS3106A-14S-5S	PLUG CONNECTOR	---
[7]	MS25042-14D	CAP	---
[8]	M83723/59-110AC	CAP	---
A27081-8 CABLE ASSEMBLY			
[5]	M83723/86R105N	PLUG CONNECTOR	---
[6]	MS3105A-10SL-4S	PLUG CONNECTOR	---
[7]	MS25042-10D	CAP	---
[8]	M83723/59-110AC	CAP	---
A27081-9 CABLE ASSEMBLY			
[5]	M83723/86R1212N	PLUG CONNECTOR	---
[6]	MS3106A-14S-5S	PLUG CONNECTOR	---
[7]	MS25042-14D	CAP	---
[8]	M83723/59-112AC	CAP	---
A27081-10 CABLE ASSEMBLY			
[5]	M83723/86R1212N	PLUG CONNECTOR	---
[6]	MS3106A-14S-6S	PLUG CONNECTOR	---
[7]	MS25042-14D	CAP	---
[8]	M83723/59-112AC	CAP	---

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**PART NUMBER: C27073-1**

**NAME:** TEST EQUIPMENT - QUADRANT ASSEMBLY, ELEVATOR CONTROLS

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-37-17

**USAGE & DESCRIPTION:** The C27073-1 test equipment is used during component maintenance on all 737 airplanes, except 737-100 thru -500 airplanes.

C27073 is used to perform a breakout test on the 251A2196 elevator controls quadrant assembly. C27073 holds the quadrant assembly in place while performing freeplay and friction testing.

Refer to CMM 27-37-17 and the current C27073 drawing for complete usage instructions.

C27073-1 consists of:

C27073-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BASE ASSEMBLY	C27073-2
1	CLAMP ASSEMBLY	C27073-3
1	CLAMP ASSEMBLY	C27073-4
1	CLAMP	C27073-5
1	CLAMP	C27073-6
1	TORQUE ADAPTER	C27073-7
2	SCREW	C27073-8
4	SCREW	C27073-9
1	STORAGE BOX	

**WEIGHT:** 25 lbs (11 kg)

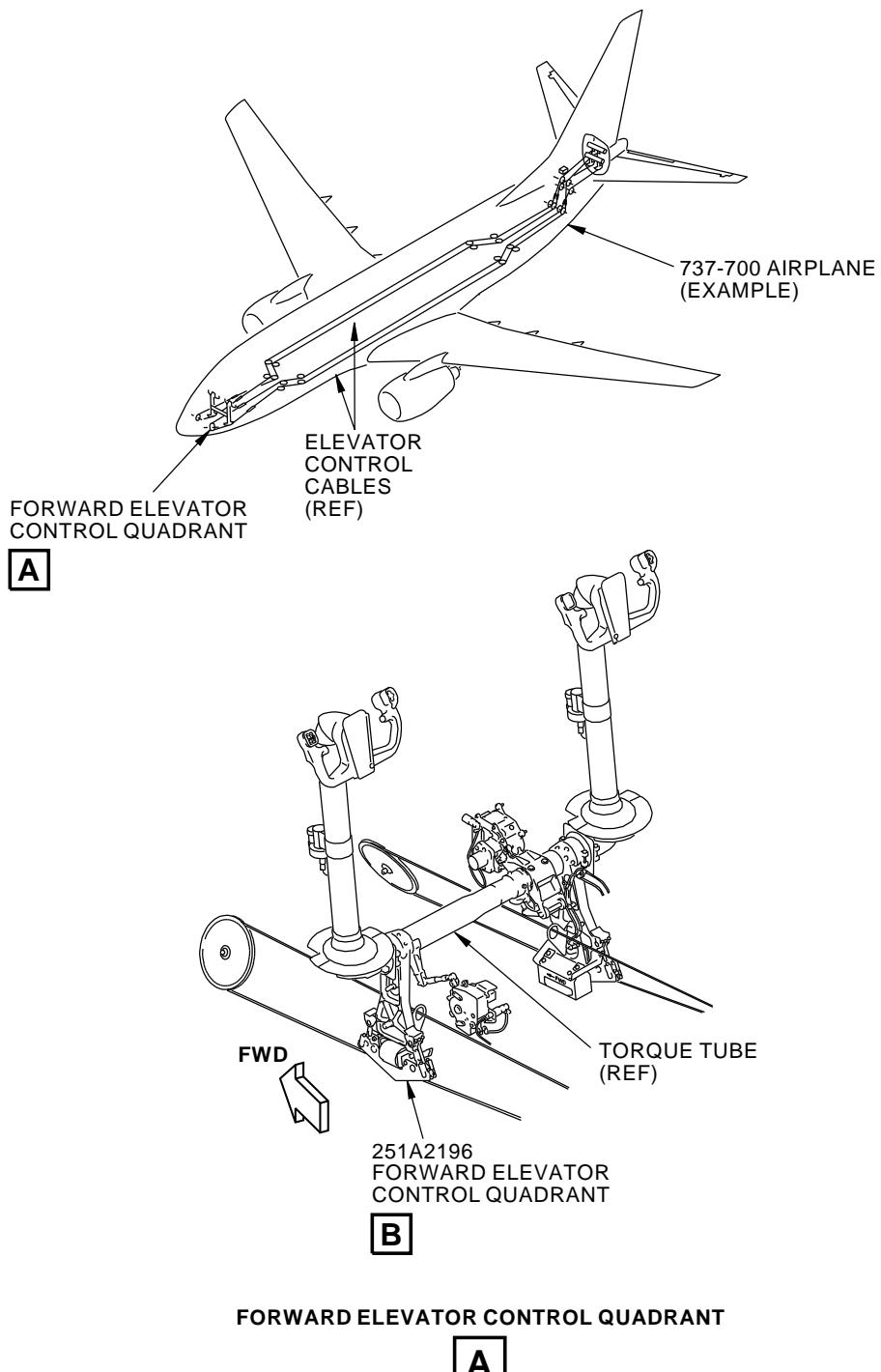
**DIMENSIONS:** 5 x 15 x 20 inches (127 x 381 x 508 mm)

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1570896 S0000292960\_V2

**Elevator Controls Quadrant Assembly Test Equipment**  
**Figure 1 (Sheet 1 of 2)**

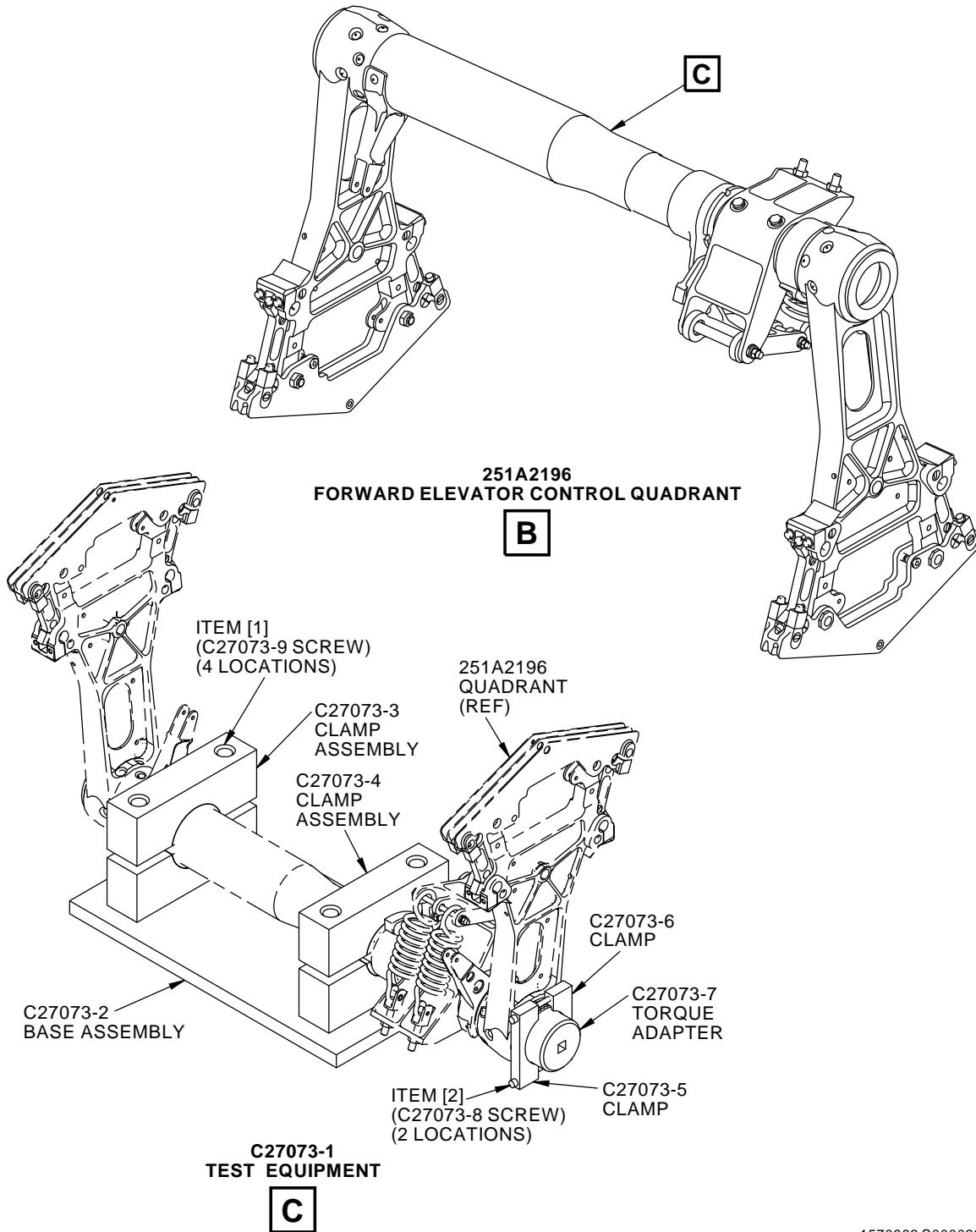
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1570963 S0000292979\_V2

**Elevator Controls Quadrant Assembly Test Equipment**  
**Figure 1 (Sheet 2 of 2)**

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NUMBER	PART NUMBER	NOMENCLATURE	VENDOR CODE
[1]	C27073-9	SCREW	---
[2]	C27073-8	SCREW	---

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**PART NUMBER: C27082-1**

**NAME:** FIXTURE EQUIPMENT - PUSHROD LENGTH ADJUSTMENT,  
ELEVATOR TAB AND AILERON

**AIRPLANE MAINTENANCE:** YES

AMM 27-31-34

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27082-1 fixture equipment is used on 737-100 thru -900 airplanes.

C27082 is used to adjust the length of a new control pushrod installation for the aileron and elevator tab to the same length as the pushrods being replaced.

Refer to AMM 27-31-34 and the current C27082 drawing for usage instructions.

C27082-1 consists of:

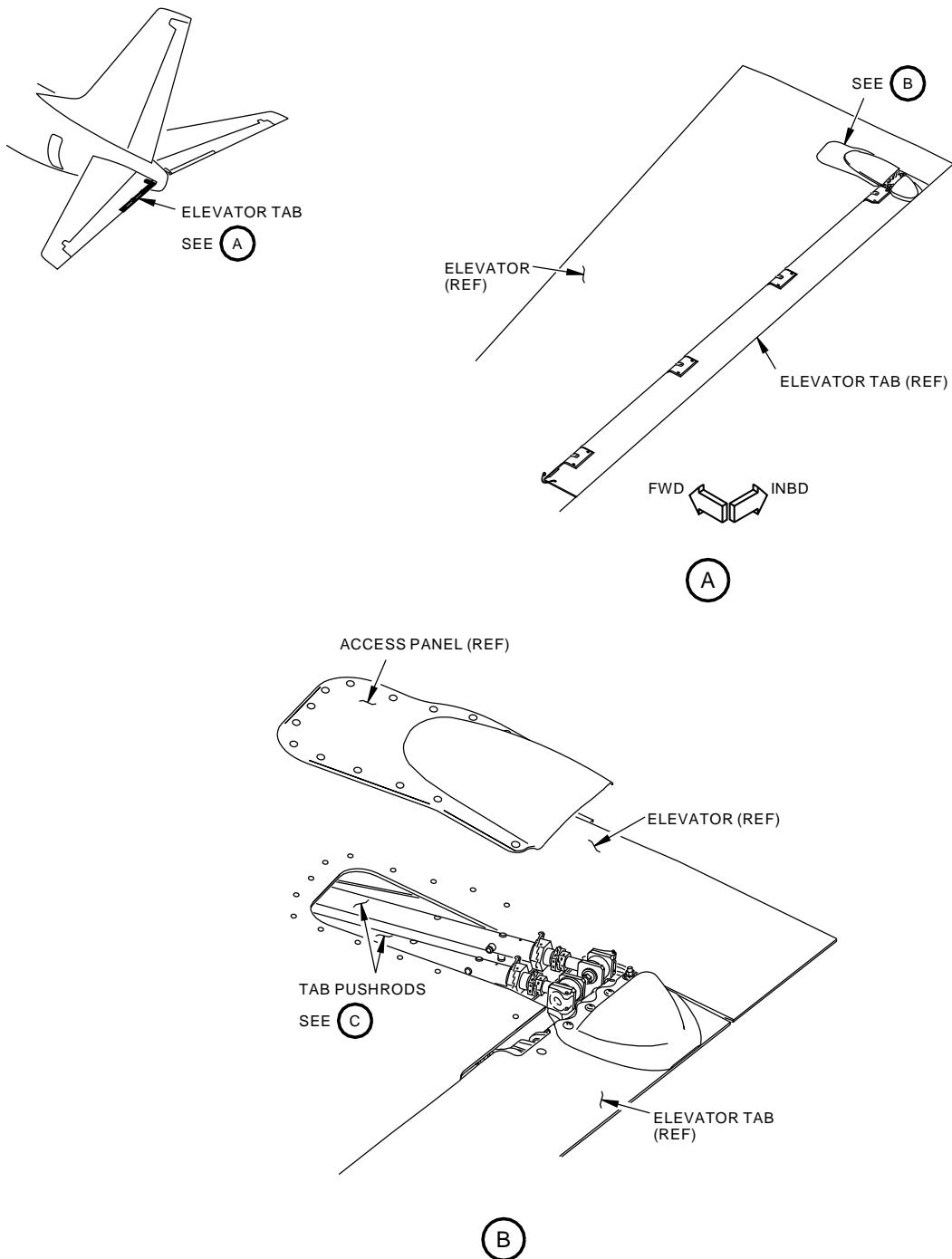
C27082-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	FIXTURE ASSEMBLY	C27082-2
1	LOCKING PIN BASE ASSEMBLY	C27082-3
4	CONICAL PIN	C27082-5
2	SHOULDER SCREW	C27082-6
2	WASHER	C27082-7
2	NUT	C27082-8
4	KNURLED KNOB	CL-16414
1	STORAGE BOX	

**WEIGHT:** 16 lbs (7 kg)

**DIMENSIONS:** 6 x 12 x 38 inches (152 x 305 x 965 mm)

**27-30-16**


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1755147 S0000315566\_V1

**Elevator Tab and Aileron Pushrod Adjustment Fixture**  
**Figure 1 (Sheet 1 of 2)**

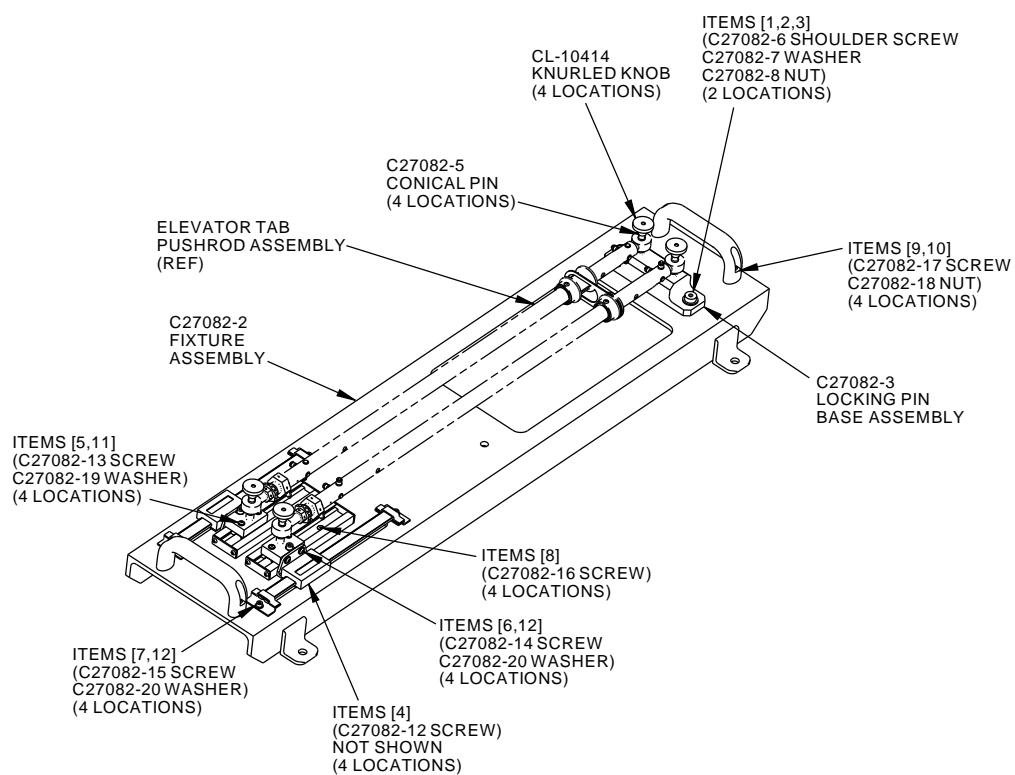
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1755162 S0000315567\_V1

Elevator Tab and Aileron Pushrod Adjustment Fixture  
Figure 1 (Sheet 2 of 2)

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[1]	C27082-6	SHOULDER SCREW	---
[2]	C27082-7	WASHER	---
[3]	C27082-8	NUT	---
[4]	C27082-12	SCREW	---
[5]	C27082-13	SCREW	---
[6]	C27082-14	SCREW	---
[7]	C27082-15	SCREW	---
[8]	C27082-16	SCREW	---
[9]	C27082-17	SCREW	---
[10]	C27082-18	NUT	---
[11]	C27082-19	WASHER	---
[12]	C27082-20	WASHER	---

**27-30-16**



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**PART NUMBER: C27083-1**

**NAME:** RIGGING BAR - ELEVATOR TAB

**AIRPLANE MAINTENANCE:** YES

AMM 27-31-00, AMM 27-31-31, AMM 27-31-34

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27083-1 elevator tab rigging bar is used on all 737-300 thru -900 airplanes.

C27083 is used to restore original position to elevator tabs during re-rigging. C27083 is positioned at specific locations on the underside of the elevator and used to adjust the location of the trailing edge of the elevator tab.

Refer to the current C27083 tool drawing, AMM 27-31-00, AMM 27-31-00 and AMM 27-31-31 for complete usage instructions.

C27083-1 consists of:

C27083-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	RIGGING BAR ASSEMBLY	C27083-2
1	STORAGE BOX	

**WEIGHT:** 4 lbs (2 kg)

**DIMENSIONS:** 3 x 4 x 30 inches (76 x 102 x 762 mm)

**NOTE:** C27083 replaces C27028 for future procurement.

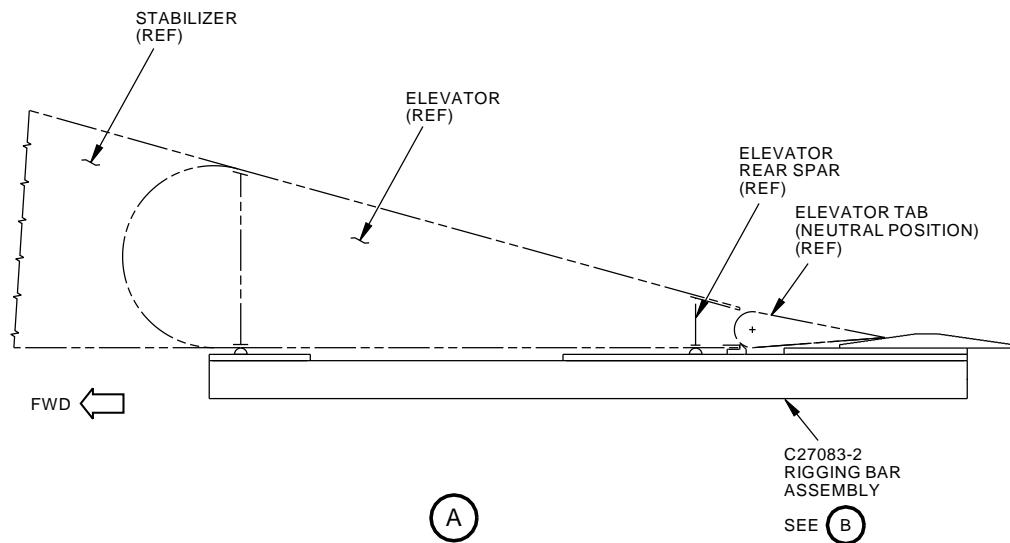
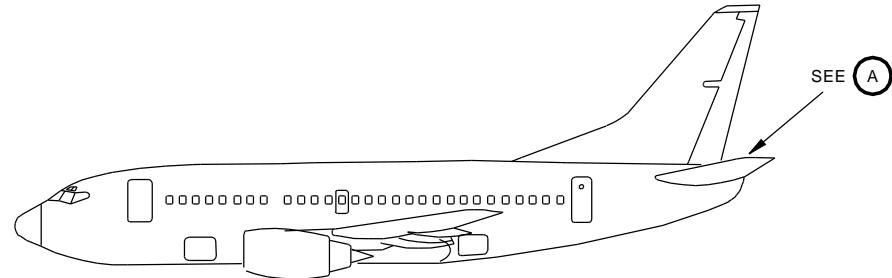
**27-30-17**

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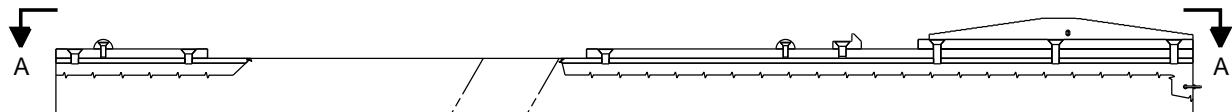
1963749 S0000376276\_V1

**Elevator Tab Rigging Bar Locator**  
**Figure 1**

**27-30-17**

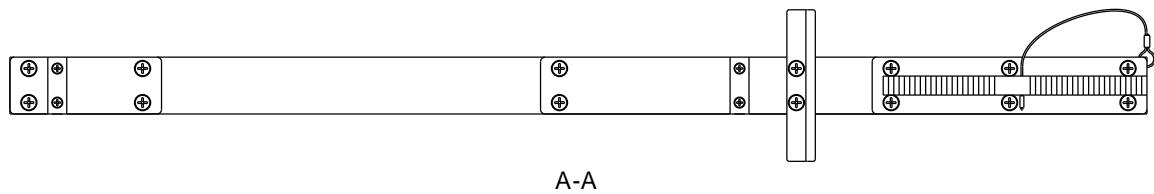


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C27083-2  
RIGGING BAR ASSEMBLY

(B)



1963452 S0000376277\_V1

Elevator Tab Rigging Bar  
Figure 2

**27-30-17**



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**PART NUMBER: C27085-1**

**NAME:** REMOVAL/INSTALLATION EQUIPMENT - TAB MECHANISM ASSEMBLY, ELEVATOR CONTROL

**AIRPLANE MAINTENANCE:** YES

AMM 27-31-34

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27085-1 removal/installation equipment is used on all 737 airplanes, except 737-100 thru -500 airplanes.

C27085 is used to aid in the removal or installation of the elevator control tab mechanism assembly, attach pins, bolts and bushings.

Refer to AMM 27-31-34 and the current C27085 drawing for complete usage instructions.

C27085-1 consists of:

C27085-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	AFT PIN PULLER ASSEMBLY	C27085-2
1	FORWARD BUSHING PULLER ASSEMBLY	C27085-3
1	SHORT PUNCH ASSEMBLY	C27085-26
1	MEDIUM PUNCH ASSEMBLY	C27085-27
1	LONG PUNCH ASSEMBLY	C27085-28
1	WRENCH ASSEMBLY	C27085-30
1	STORAGE BOX	

**WEIGHT:** 2 lbs (1 kg)

**DIMENSIONS:** 2 x 8 x 12 inches (51 x 203 x 305 mm)

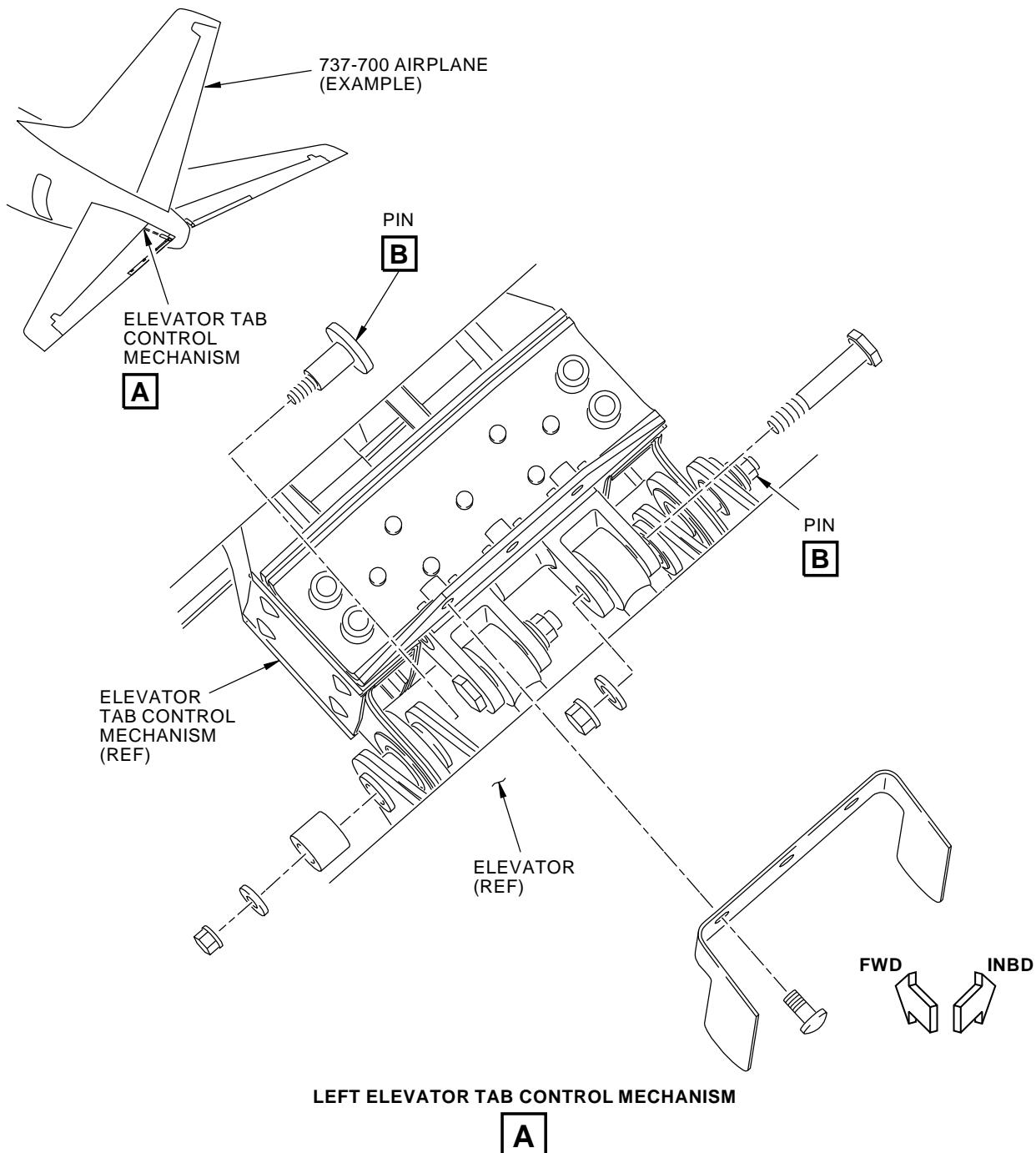
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2037972 S0000408575\_V2

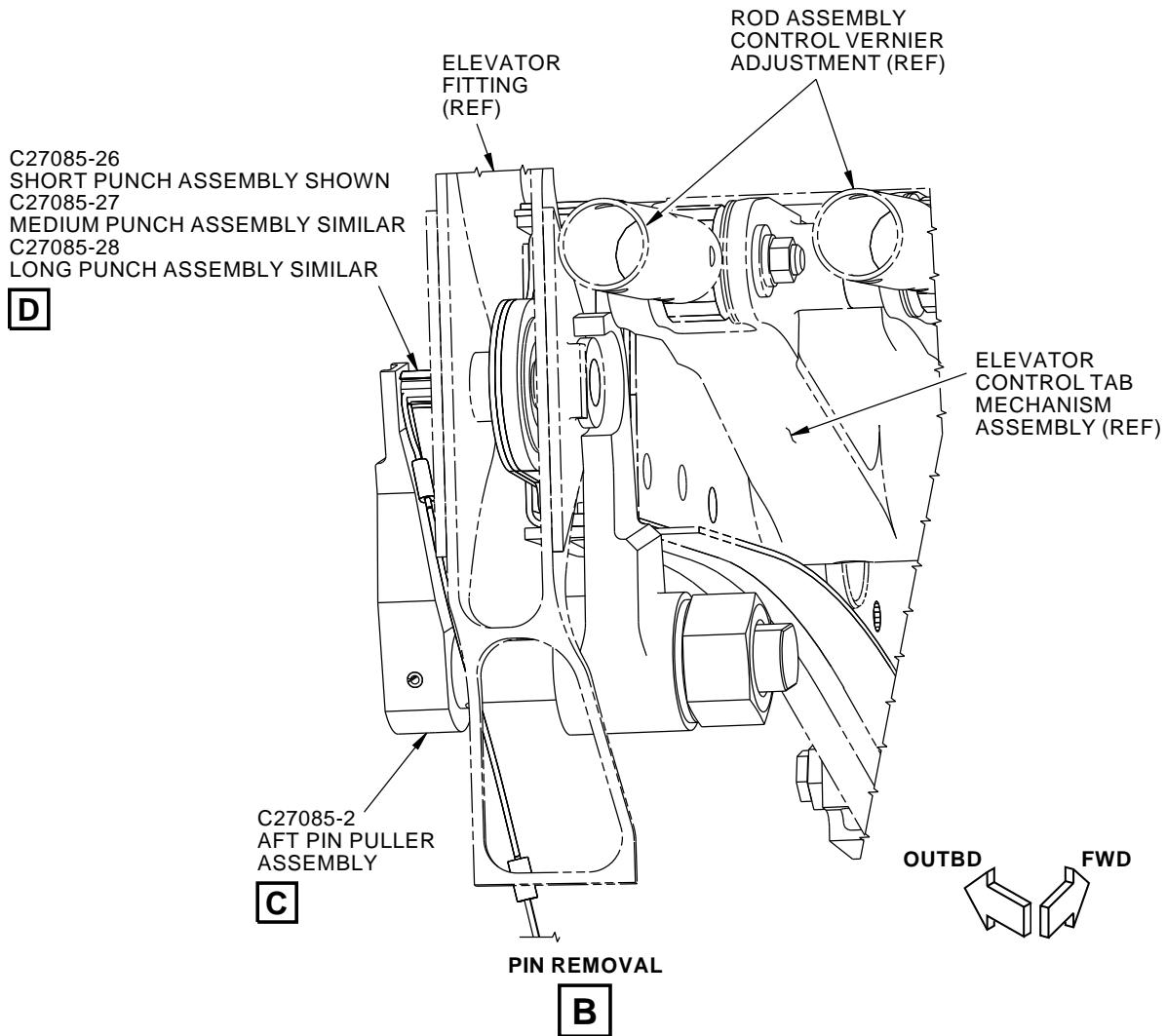
**Elevator Control Tab Removal and Installation Equipment Pin Removal**  
**Figure 1 (Sheet 1 of 3)**

**27-30-18**

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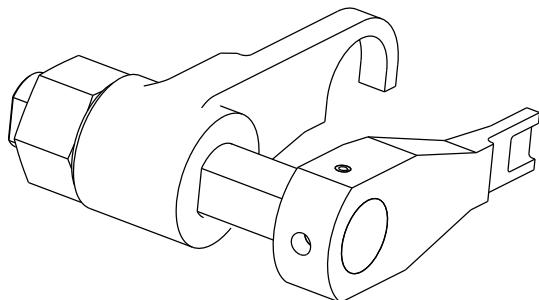
2038223 S0000411065\_V2

**Elevator Control Tab Removal and Installation Equipment Pin Removal**  
**Figure 1 (Sheet 2 of 3)**
**27-30-18**

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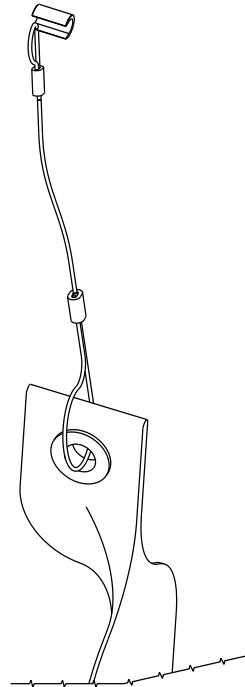
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**C27085-2**  
**AFT PIN PULLER ASSEMBLY**

**C**



**C27085-26**  
**SHORT PUNCH ASSEMBLY SHOWN**  
**C27085-27,-28 SIMILAR**

**D**

2038151 S0000408408\_V2

**Elevator Control Tab Removal and Installation Equipment Pin Removal**  
**Figure 1 (Sheet 3 of 3)**

**27-30-18**

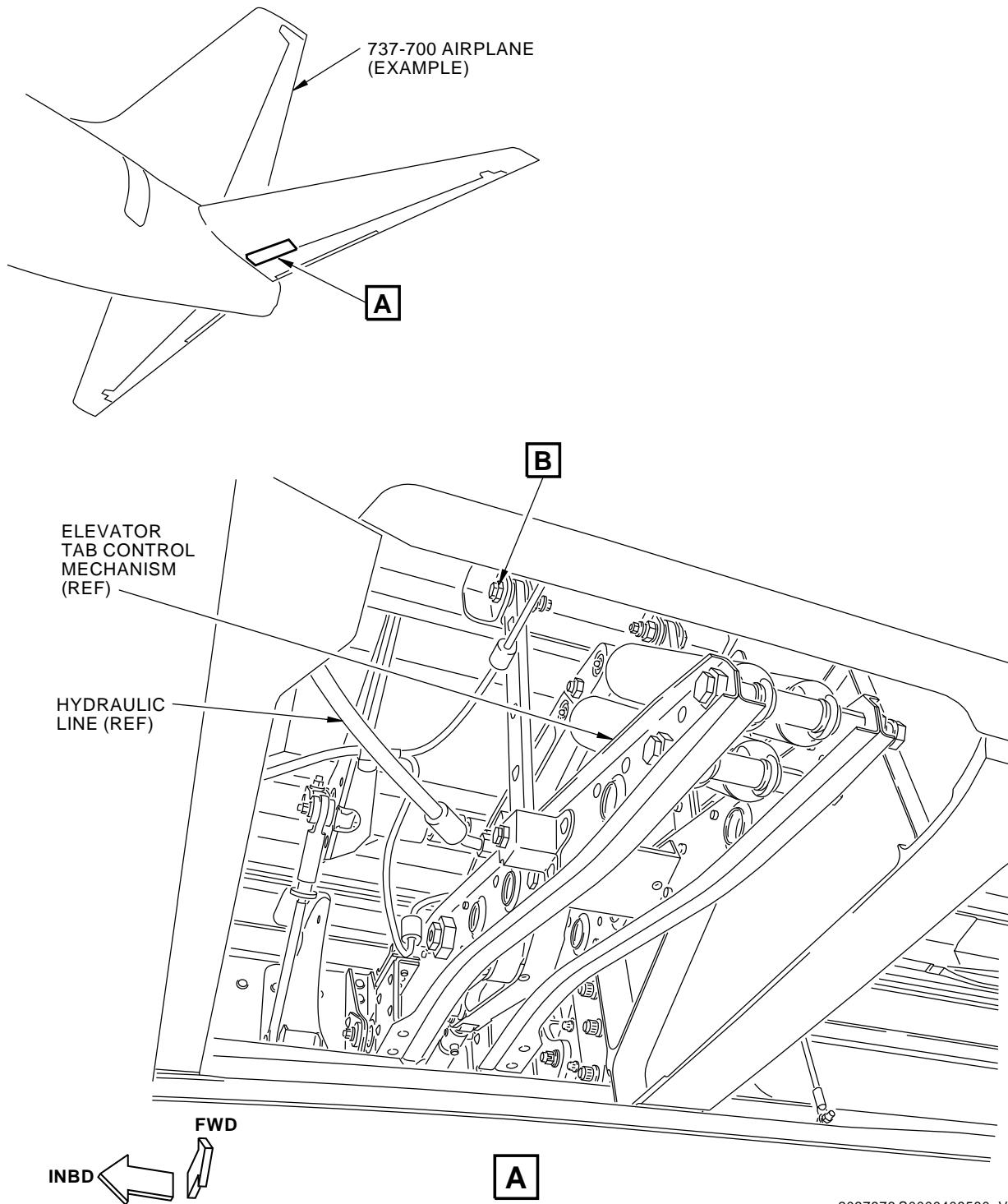
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**Elevator Control Tab Removal and Installation Equipment Bushing Removal**  
**Figure 2 (Sheet 1 of 3)**

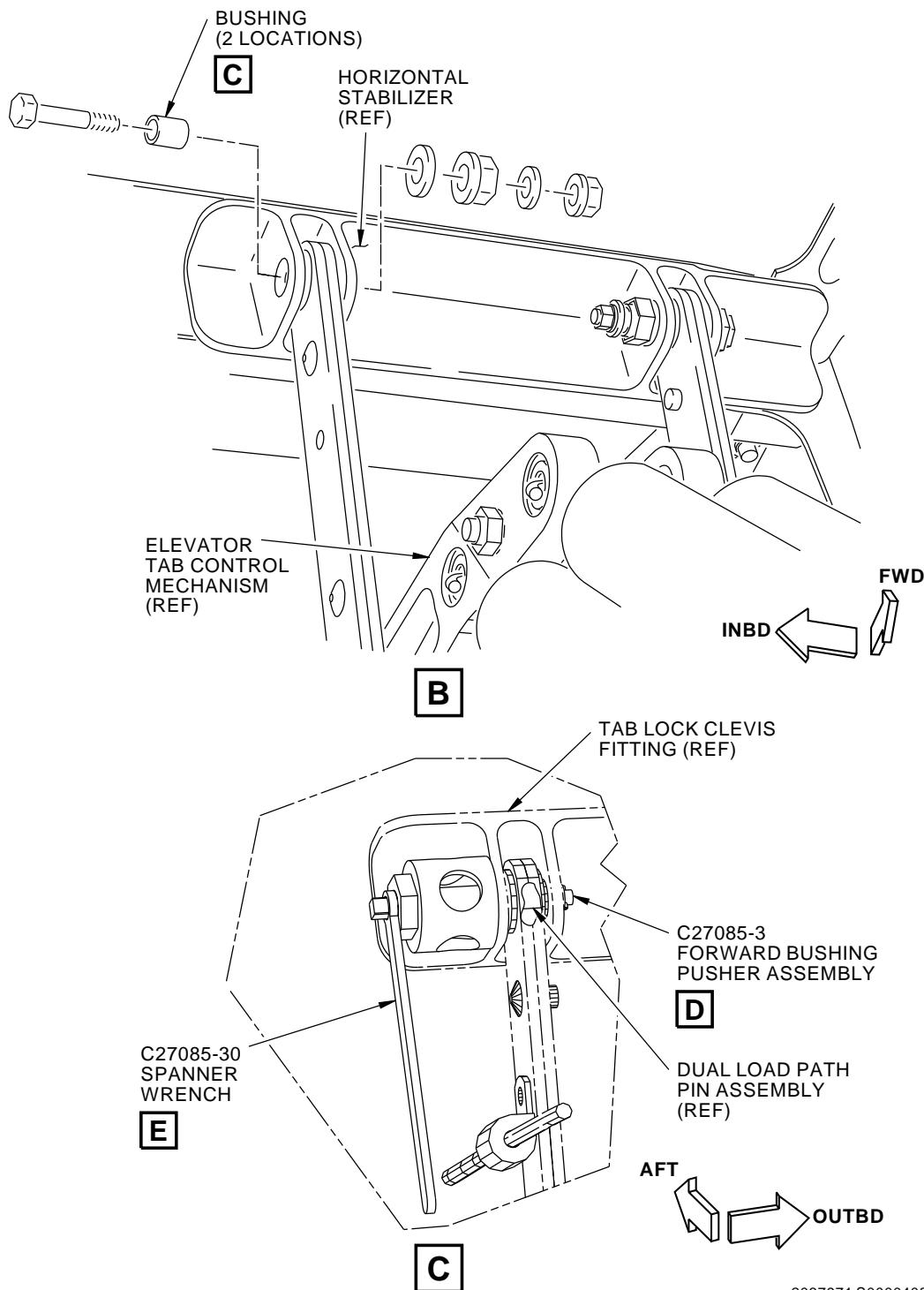
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2037971 S0000408556\_V2

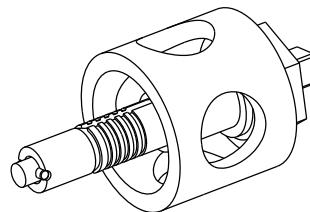
**Elevator Control Tab Removal and Installation Equipment Bushing Removal**  
**Figure 2 (Sheet 2 of 3)**

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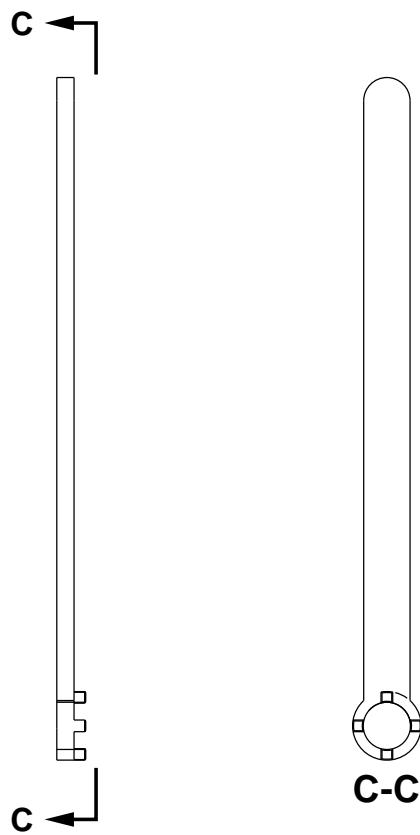
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**C27085-3**  
**FORWARD BUSHING PULLER ASSEMBLY**

**D**



**C27085-30**  
**WRENCH ASSEMBLY**

**E**

2037975 S0000408569\_V2

**Elevator Control Tab Removal and Installation Equipment Bushing Removal**  
**Figure 2 (Sheet 3 of 3)**

**27-30-18**



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**PART NUMBER: C27086-1**

**NAME:** SPRING REMOVAL/INSTALLATION EQUIPMENT - ELEVATOR TAB MECHANISM ASSEMBLY

**AIRPLANE MAINTENANCE:** YES

AMM 27-31-34

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27086-1 spring removal and installation equipment is used on 737-600 thru -900 airplanes.

C27086 is an adjustable coupling (fitting assembly) to compress elevator tab springs. C27086 is used for removal or installation of the elevator tab springs on the airplane.

Refer to AMM 27-31-34 and the current C27086 drawing for complete usage instructions.

C27086-1 consists of:

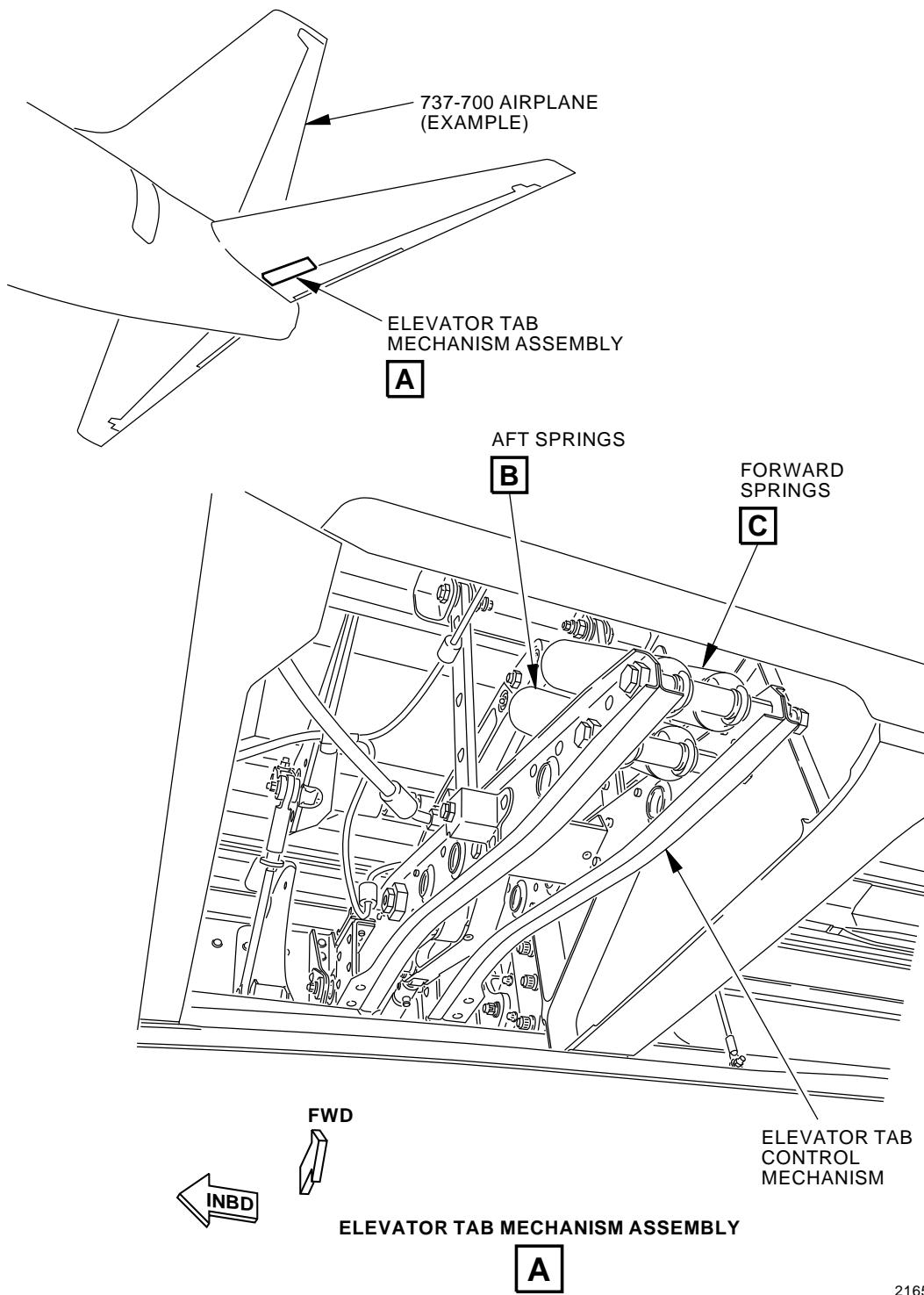
C27086-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	SHORT FITTING ASSEMBLY	C27086-2
1	LONG FITTING ASSEMBLY	C27086-3
1	STORAGE BOX	

**WEIGHT:** 12 lbs (5 kg)

**DIMENSIONS:** C27086-1 - 4 x 9 x 17 inches (102 x 229 x 432 mm)

**27-30-35**

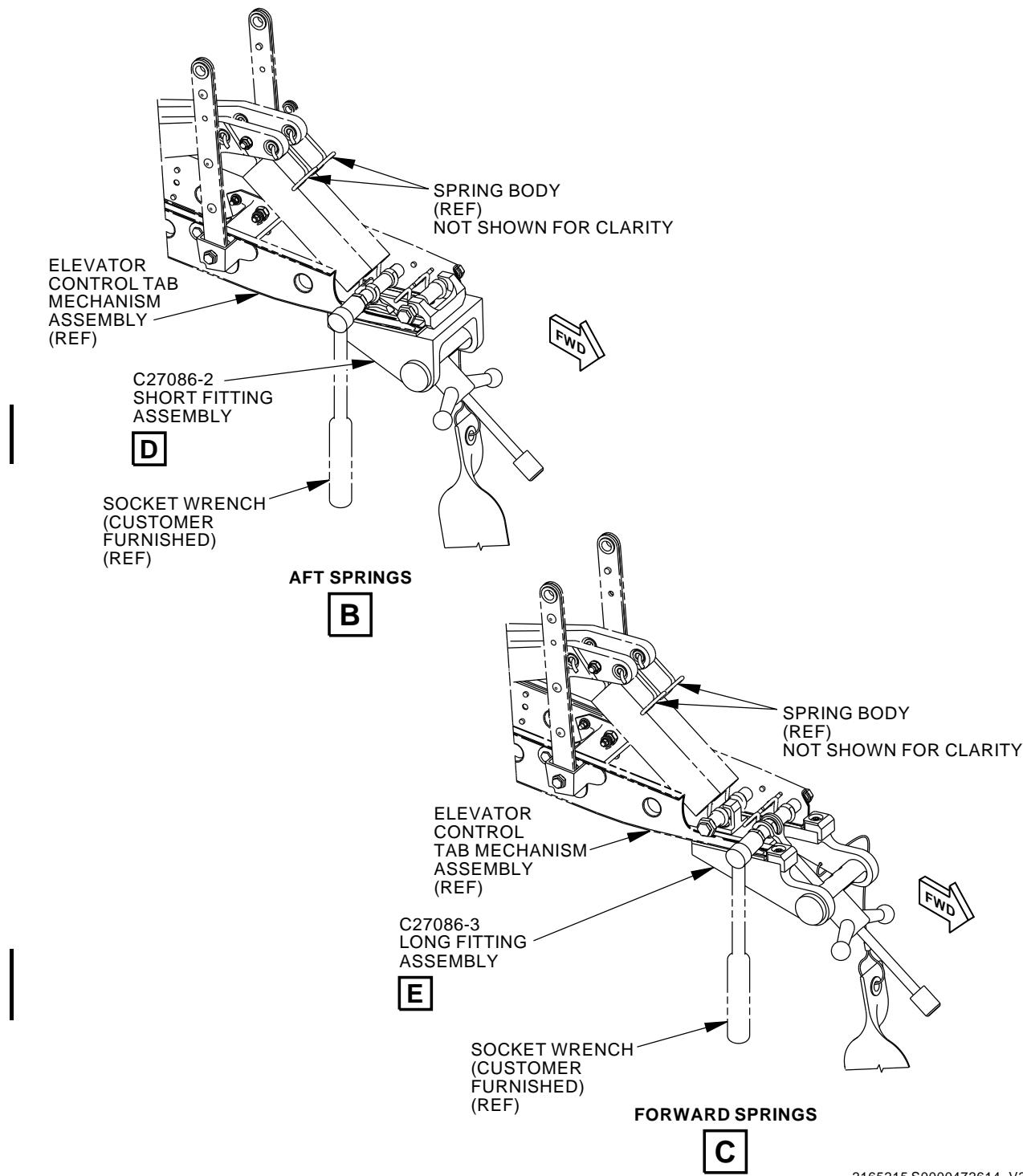
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2165214 S0000472612\_V2

**Elevator Tab Mechanism Assembly Spring Removal/Installation Equipment**  
**Figure 1 (Sheet 1 of 3)**

**27-30-35**



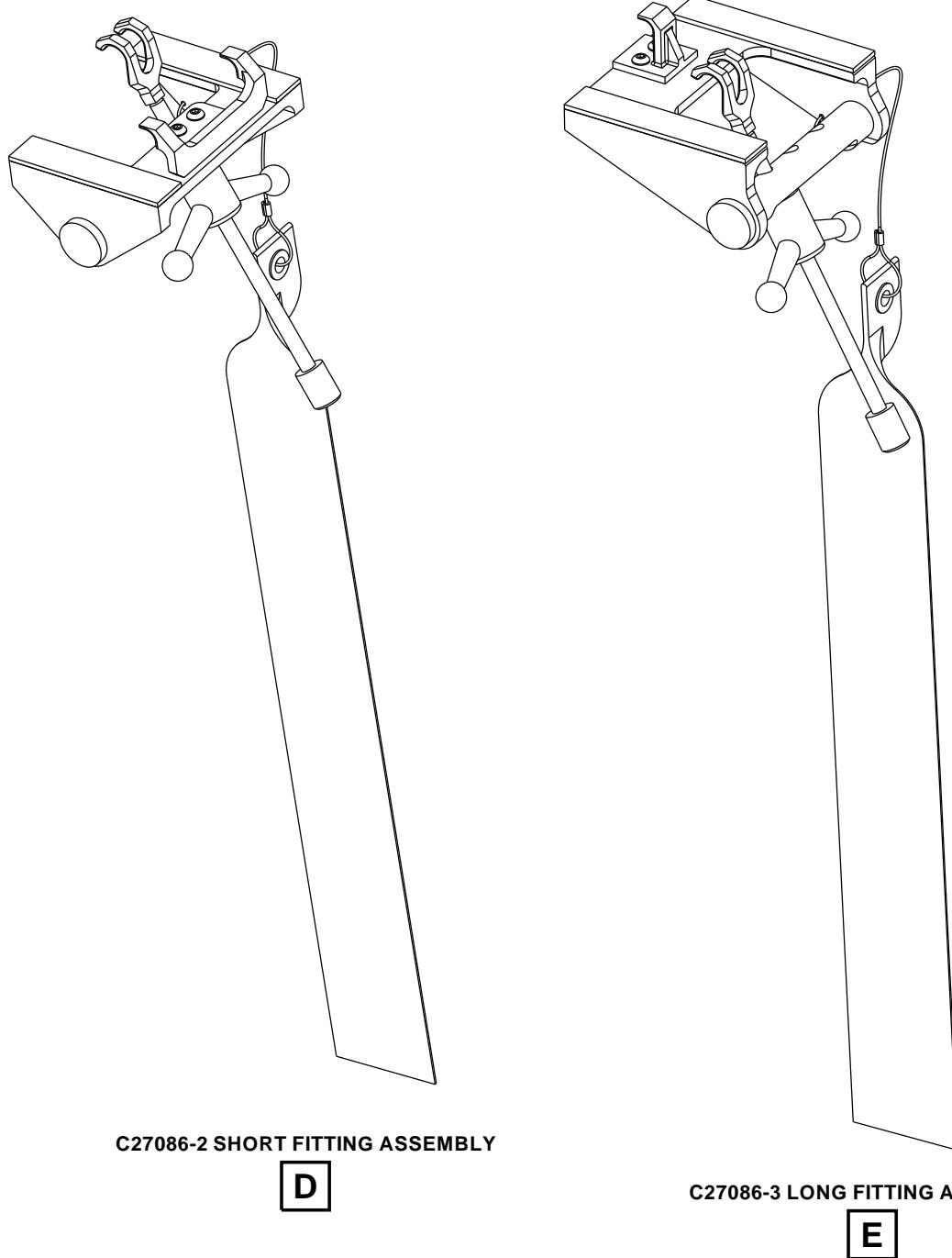
2165215 S0000472614\_V3

**Elevator Tab Mechanism Assembly Spring Removal/Installation Equipment**  
**Figure 1 (Sheet 2 of 3)**

**27-30-35**



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C27086-2 SHORT FITTING ASSEMBLY

D

C27086-3 LONG FITTING ASSEMBLY

E

2434756 S0000564624\_V2

**Elevator Tab Mechanism Assembly Spring Removal/Installation Equipment**  
**Figure 1 (Sheet 3 of 3)**

**27-30-35**

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PART NUMBER: F80027-18

**NAME:** LOCK EQUIPMENT - HORIZONTAL STABILIZER

**AIRPLANE MAINTENANCE:** YES

AMM 27-41-81

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The F80027-18 lock equipment is used on all 737-100 thru -900 airplanes.

F80027 is used to lock the horizontal stabilizer in position during removal or installation of the horizontal stabilizer jackscrew. F80027 attaches to the STA 1088 bulkhead.

Refer to AMM 27-41-81 and the current F80027 drawing for complete usage instructions.

F80027-18 consists of:

F80027-18		
QUANTITY	NOMENCLATURE	PART NUMBER
1	LOWER LOCK ASSEMBLY	F80027-19
1	UPPER LOCK ASSEMBLY	F80027-20
4	PLAIN WASHER	F80027-22
2	BOLT	NAS2813-6
2	BOLT	NAS2813-9
1	STORAGE BOX	

**WEIGHT:** 18 lbs (8.2 kg)

**DIMENSIONS:** 10 x 10 x 24 inches (254 x 254 x 610 mm)

**NOTE:** F80027-18 supersedes F80027-13.

**27-40-01**

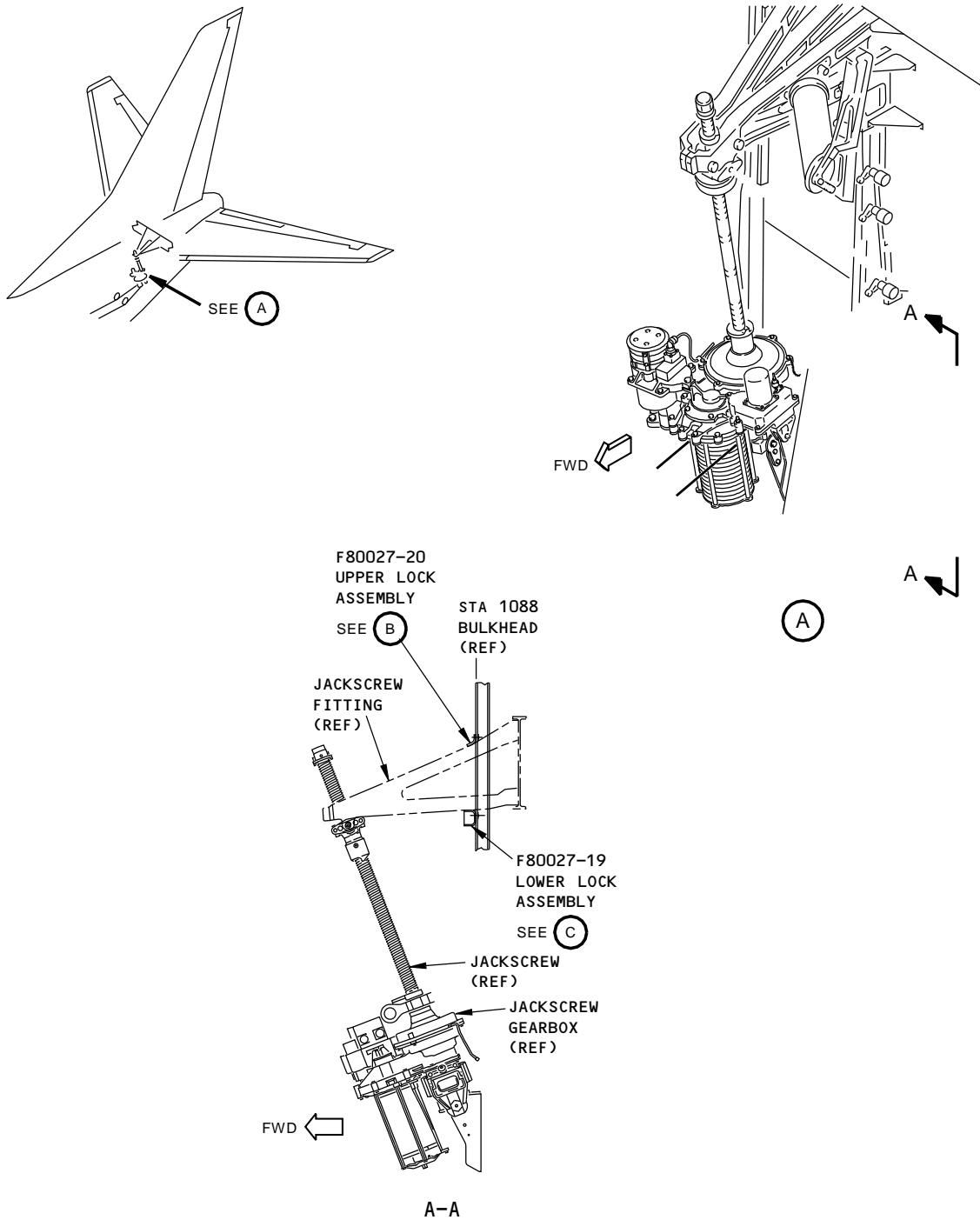
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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



H60759 S0006831575\_V4

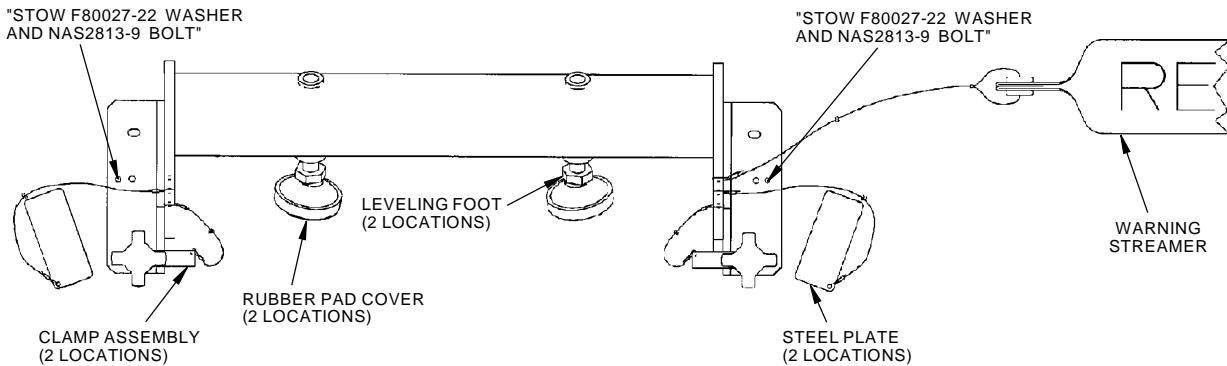
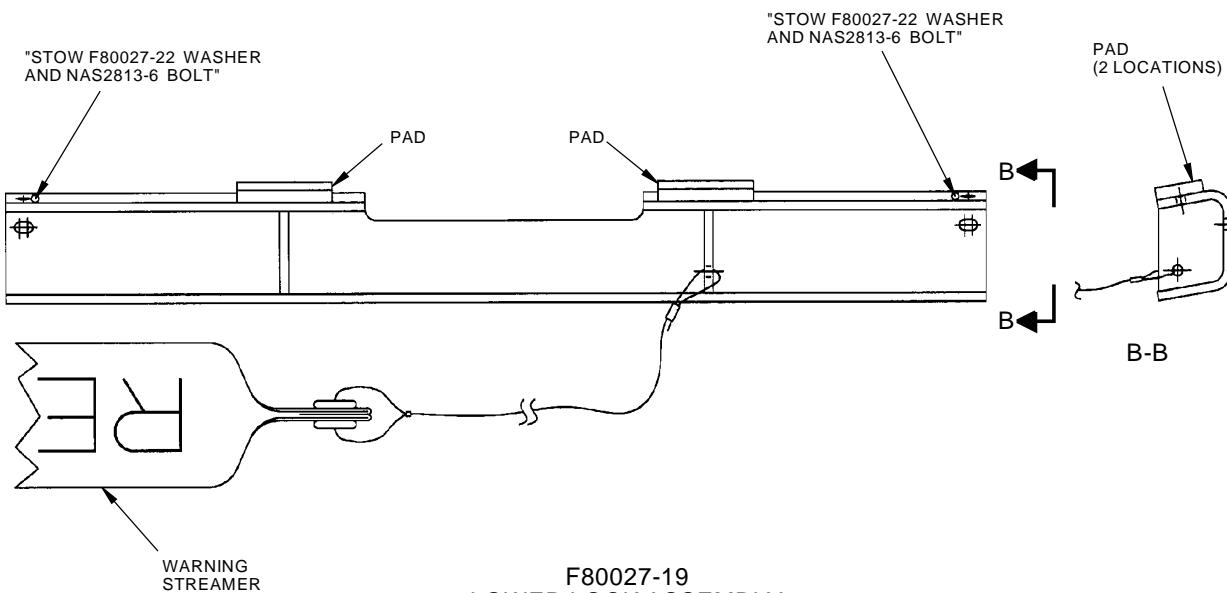
Horizontal Stabilizer Lock Assembly  
Figure 1 (Sheet 1 of 2)

**27-40-01**

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**F80027-20  
UPPER LOCK ASSEMBLY**
**(B)**

**F80027-19  
LOWER LOCK ASSEMBLY**
**(C)**

1755172 S0000316637\_V2

**Horizontal Stabilizer Lock Assembly**  
**Figure 1 (Sheet 2 of 2)**
**27-40-01**

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**PART NUMBER:** F71336-500, -501

**NAME:** LOCK ASSEMBLY - STABILIZER TRIM

**AIRPLANE MAINTENANCE:** YES

AMM 27-31-91, AMM 27-41-00, AMM 27-41-11, AMM 27-41-31, AMM 53-31-21, AMM 53-31-31, AMM 53-53-00, AMM 55-10-10

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The F71336-500 (option) F71336-501 (preferred) lock assembly is used on all 737 airplanes.

F71336 is used to hold the horizontal stabilizer trim wheel on the control stand in a fixed position. F71336 prevents injury from stabilizer movement during maintenance in the jackscrew compartment. A U-bracket secures the trim to an adjustable lock stand. A pin assembly locks the trim wheel into the stand.

Refer to AMM 27-31-91, AMM 27-41-00, AMM 27-41-11, AMM 27-41-31, AMM 53-31-21, AMM 53-31-31, AMM 53-53-00, AMM 55-10-10 and the current F71336 drawing for complete usage instructions.

Both F71336-500 and -501 consist of an adjustable stand, a U-bracket, a pin assembly and connecting hardware.

**WEIGHT:** 6 lbs (2.7 kg)

**DIMENSIONS:** 2 x 12 x 24 inches (51 x 305 x 610 mm)

**NOTE:** F71336-501 replaces F71336-500 for future procurement.

**27-40-02**

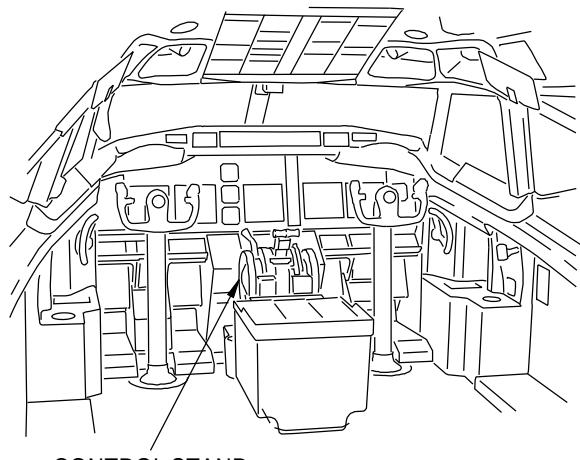
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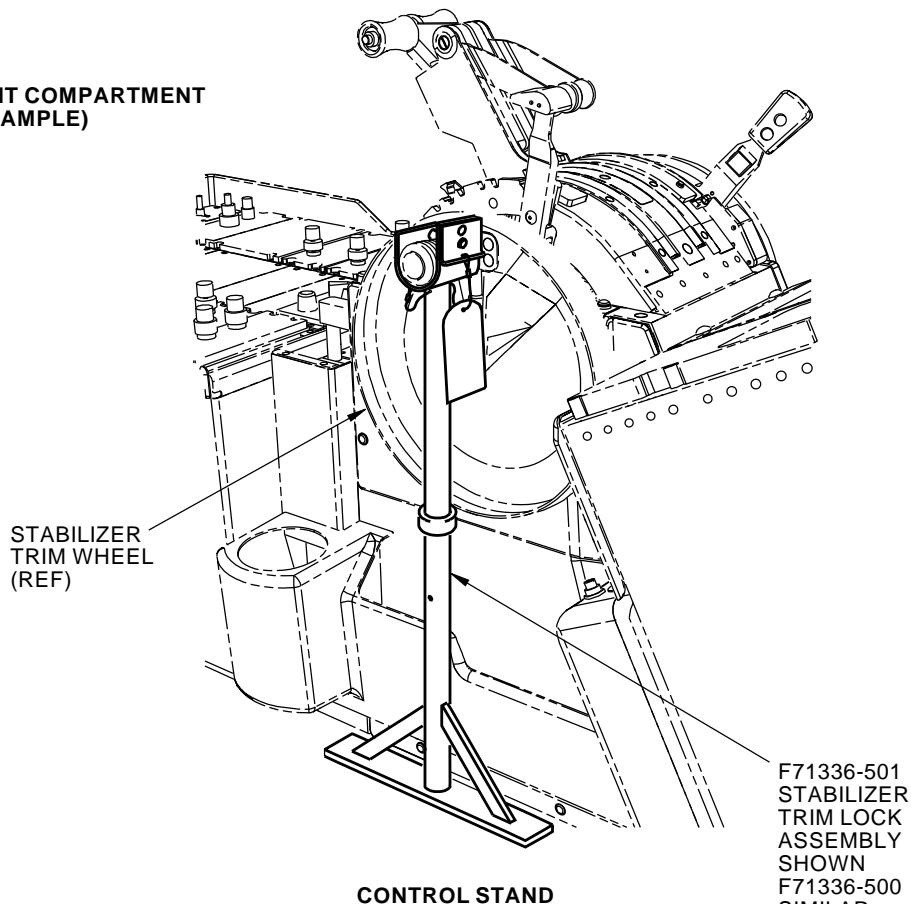
737-600/700/800/900  
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CONTROL STAND

**A**

737-700 FLIGHT COMPARTMENT  
(EXAMPLE)



STABILIZER  
TRIM WHEEL  
(REF)

CONTROL STAND

**A**

F71336-501  
STABILIZER  
TRIM LOCK  
ASSEMBLY  
SHOWN  
F71336-500  
SIMILAR

F76944 S0006831577\_V4

Stabilizer Trim Lock Assembly  
Figure 1

**27-40-02**

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**PART NUMBER: F80055-1, -10**

**NAME:** TRAMMEL BAR - STABILIZER TRIM ACTUATOR

**AIRPLANE MAINTENANCE:** YES

AMM 22-11-00, AMM 22-11-14, AMM 22-11-26, AMM 22-11-30, AMM 22-11-31, AMM 22-11-92, AMM 27-09-91, AMM 27-31-00, AMM 27-31-11, AMM 27-31-14, AMM 27-31-37, AMM 27-31-71, AMM 27-31-81, AMM 27-31-91, AMM 27-41-00, AMM 27-41-41, AMM 27-41-94, AMM 31-31-51, AMM 31-51-02

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The F80055-1 (option) or -10 (preferred) trammel bar are used on all 737 airplanes.

F80055 is used to measure rigging positions on the horizontal stabilizer trim actuator during functional testing.

Refer to AMM 22-11-00, AMM 22-11-14, AMM 22-11-26, AMM 22-11-30, AMM 22-11-31, AMM 22-11-92, AMM 27-09-91, AMM 27-31-00, AMM 27-31-11, AMM 27-31-14, AMM 27-31-37, AMM 27-31-71, AMM 27-31-81, AMM 27-31-91, AMM 27-41-00, AMM 27-41-41, AMM 27-41-94, AMM 31-31-51, AMM 31-51-02 and the current F80055 tool drawing for complete usage instructions.

F80055-1 and -10 consist of:

F80055-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	PLUG	F80055-2
1	SCALE	F80055-3
1	LOCATOR	F80055-4
1	INDICATOR	F80055-5
VARIOUS	CONNECTING HARDWARE	

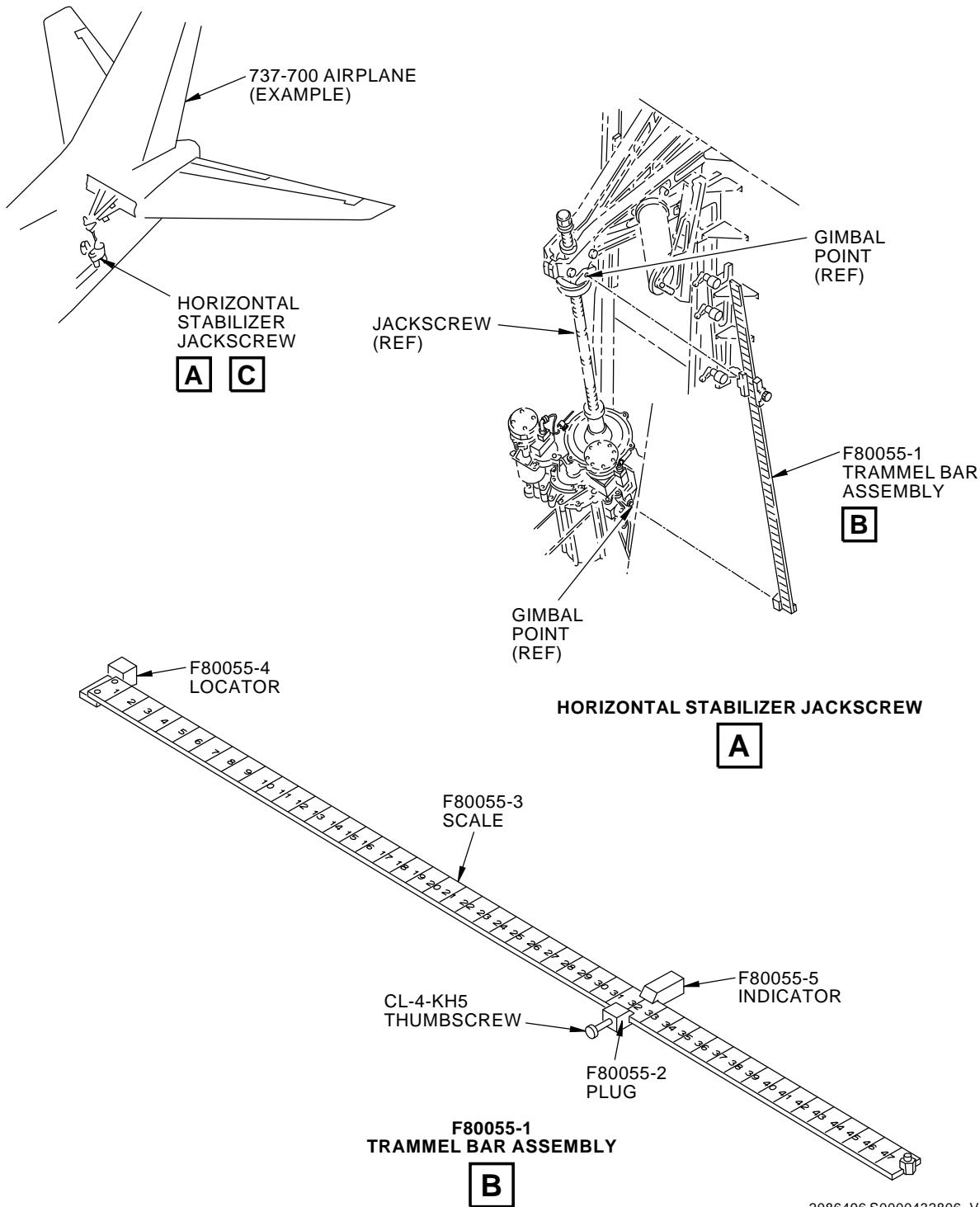
F80055-10		
QUANTITY	NOMENCLATURE	PART NUMBER
1	SCALE ASSEMBLY	F80055-11
1	INDEX ASSEMBLY	F80055-12
1	STORAGE BOX	

**WEIGHT:** F80055-1 - 5 lbs (2.3 kg)  
F80055-10 - 8 lbs (3.5 kg)

**DIMENSIONS:** F80055-1 - 49 x 6 x 1 inches (1245 x 152 x 25 mm)  
F80055-10 - 48 x 6 x 2 inches (1219 x 152 x 51 mm)

**NOTE:** F80055-10 replaces F80055-1 for future procurement.

**27-40-03**



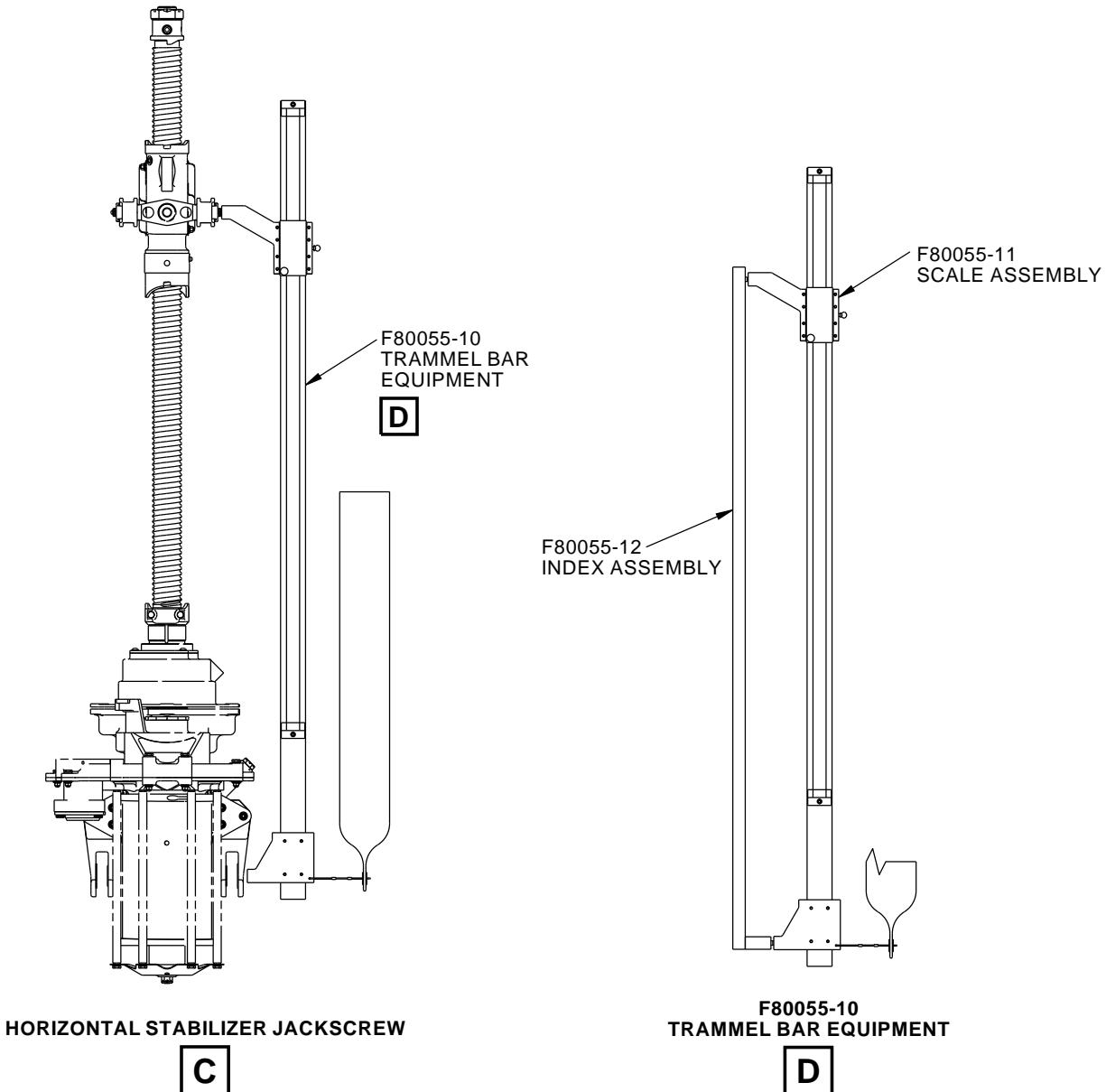
2086496 S0000432806\_V2

**Stabilizer Trim Actuator Trammel Bar Assembly**  
**Figure 1 (Sheet 1 of 2)**

**27-40-03**

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2331917 S0000530486\_V2

**Stabilizer Trim Actuator Trammel Bar Assembly**  
**Figure 1 (Sheet 2 of 2)**

**27-40-03**

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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: C27007-21, -26, -31**

**NAME:** TEST BOX - CUTOUT SWITCH, STABILIZER TRIM CONTROL (LINE MAINTENANCE)

**AIRPLANE MAINTENANCE:** YES

AMM 27-41-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27007-21 test box (option) is used on 737-300 thru -500 airplanes.

The C27007-26 test box (option) is used on 737-300 thru -500 airplanes. C27007-26 is also used on 737-600 thru -800 airplanes up to line number 202, except for airplanes incorporating Service Bulletin SB 737-27-1220.

The C27007-31 test box (preferred) is used on 737-300 thru -900 airplanes. C27007-31 is required for airplanes after line number 202. C27007-31 is used on 737-600 thru -800 airplanes built up to line number 202 that have incorporated Service Bulletin SB 737-27-1220.

C27007 is used to test the stabilizer trim cutout system, in conjunction with rapid control column movements required by AMM 27-41-00.

Refer to AMM 27-41-00 and the current C27007 tool drawing for complete usage instructions.

C27007-21, -26 and -31 test box consist of:

C27007-21		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TEST BOX ASSEMBLY	C27007-22
1	STORAGE BOX	

C27007-26		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TEST BOX ASSEMBLY	C27007-27
1	STORAGE BOX	

C27007-31		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TEST BOX ASSEMBLY	C27007-27
1	ADAPTER CABLE ASSEMBLY	C27007-32
1	STORAGE BOX	

**WEIGHT:** 2 lbs (0.9 kg)

**27-40-04**

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**DIMENSIONS:** 4 x 8 x 10 inches (102 x 204 x 254 mm)

**NOTE:** C27007-26 replaces C27007-21 for future procurement.

C27007-31 replaces C27007-21 and -26 for future procurement.

C27007-21 supersedes C27007-17.

**27-40-04**

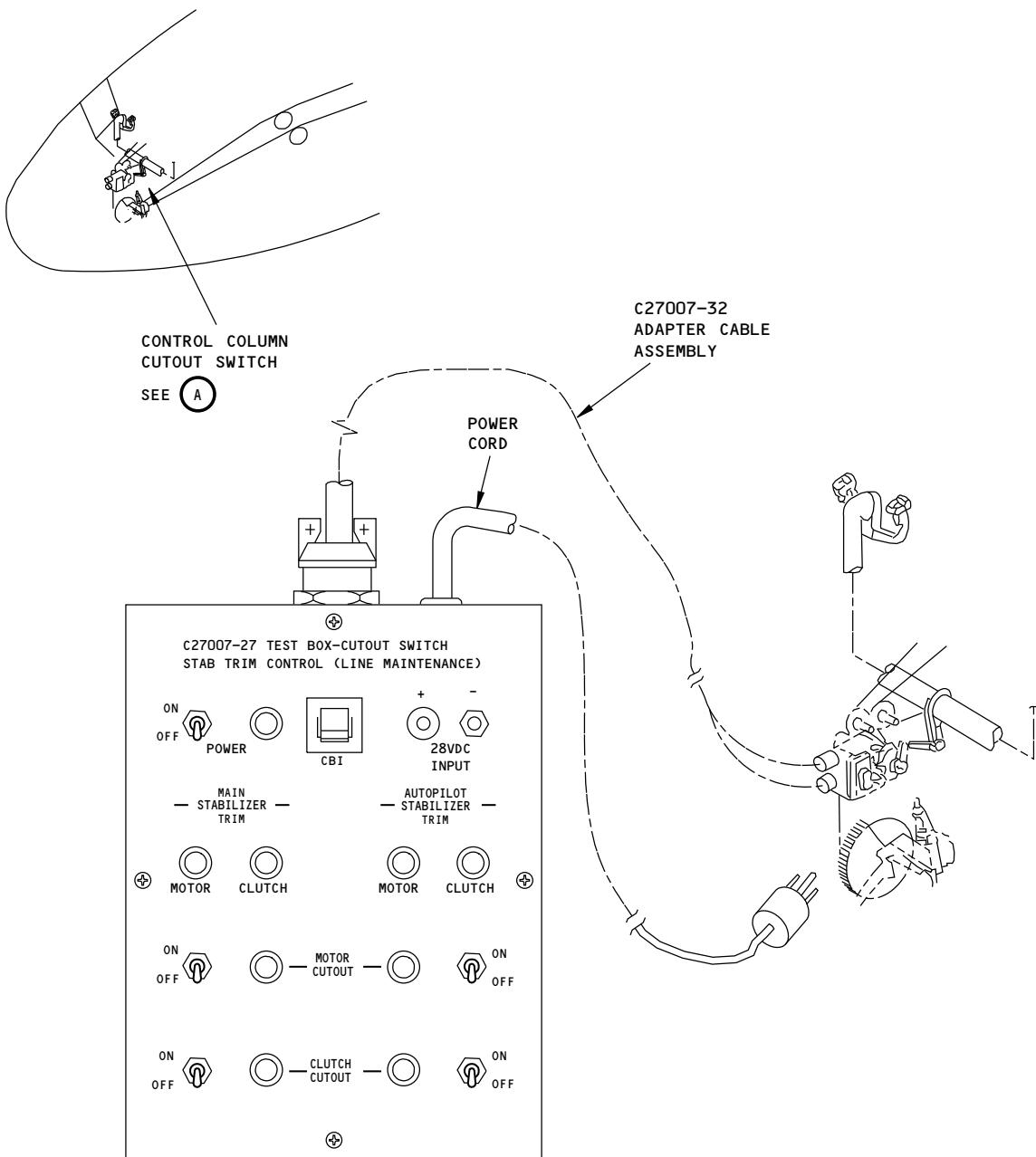
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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



C27007-27  
TEST BOX SHOWN  
C27007-22 SIMILAR

**A**

2086463 S0000432882\_V1

Stabilizer Trim Control Cutout Switch Test Box Assembly  
Figure 1

**27-40-04**

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737-600/700/800/900  
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PART NUMBER: F71267

**NAME:** WRENCH ASSEMBLY - PINION GEAR

**AIRPLANE MAINTENANCE:** YES

AMM 27-41-00, AMM 27-41-81, AMM 27-41-82

**COMPONENT MAINTENANCE:** YES

CMM 27-45-11, CMM 27-45-12

**USAGE & DESCRIPTION:** The F71267 wrench assembly is used on 737-100 thru -900 airplanes.

F71267 is used to stop the rotation of the pinion gear on the stabilizer trim actuator during manual operational testing.

Refer to AMM 27-41-00, AMM 27-41-81, AMM 27-41-82, CMM 27-45-11, CMM 27-45-12 and the current F71267 tool drawing complete usage instructions.

F71267 consists of:

F71267		
QUANTITY	NOMENCLATURE	PART NUMBER
1	SHAFT	F71267-1
1	HANDLE	F71267-2
1	COTTER PIN	MS24665-134

**WEIGHT:** 0.5 lbs (0.2 kg)

**DIMENSIONS:** 5 x 2 x 1 inches (127 x 51 x 25 mm)

**27-40-05**

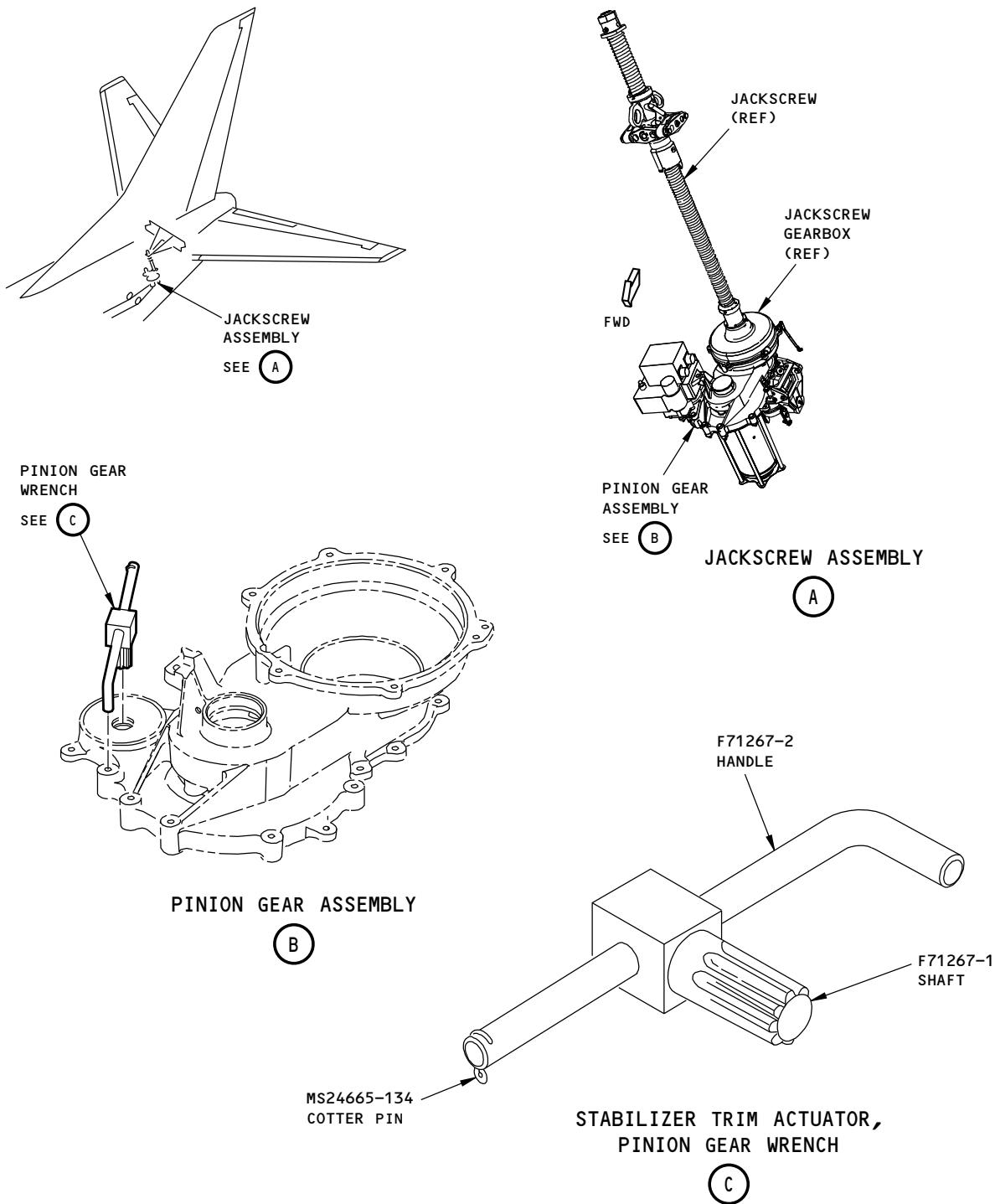
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737-600/700/800/900  
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2086342 S0000432145\_V1

Stabilizer Trim Actuator Pinion Gear Wrench  
Figure 1

**27-40-05**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: C27050-82, -125**

**NAME:** HANDLING EQUIPMENT - REMOVAL/INSTALLATION, STABILIZER JACKSCREW

**AIRPLANE MAINTENANCE:** YES

AMM 27-41-81

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27050-82 handling equipment is used on airplanes equipped with a domed aft pressure bulkhead, excluding 737-100 thru -500 airplanes, 737-900ER, 737-9 and any 737 airplanes with the flat pressure bulkhead option.

The C27050-125 handling equipment is used on 737-900ER, 737-9 and any 737 airplanes with the flat pressure bulkhead option.

C27050 is used in conjunction with a customer-furnished, fishpole hoist or chain hoist, and the F80027 horizontal stabilizer lock equipment. C27050 is mounting equipment for the fishpole hoist, used for removal or installation of the horizontal stabilizer jackscrew. The fishpole hoist is mounted on the C27050-84 or C27050-127 track assembly, allowing forward and aft movement of the horizontal stabilizer jackscrew.

Refer to AMM 27-41-81 and the current C27050 drawing for complete usage instructions.

C27050-82 and -125 consists of:

C27050-82		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BEAM ASSEMBLY RIGHT	C27050-2
1	BEAM ASSEMBLY LEFT	C27050-3
1	HOIST ADAPTER ASSEMBLY	C27050-5
1	TRACK ASSEMBLY	C27050-84
2	HALF COLLAR	C27050-89
1	STORAGE BOX	

C27050-125		
QUANTITY	NOMENCLATURE	PART NUMBER
1	HOIST ADAPTER ASSEMBLY	C27050-5
1	LOCATOR ASSEMBLY	C27050-85
2	HALF COLLAR	C27050-89
1	FORWARD SUPPORT ASSEMBLY	C27050-126
1	TRACK ASSEMBLY	C27050-127
1	STORAGE BOX	

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**WEIGHT:** C27050-82 - 25 lbs (11 kg)  
C27050-125 - 39 lbs (18 kg)

**DIMENSIONS:** C27050-82 - 10 x 10 x 55 inches (254 x 254 x 1397 mm)  
C27050-125 - 15 x 15 x 55 inches (381 x 381 x 1397 mm)

**NOTE:** C27050-125 supersedes C27050-83.  
C27050-82 supersedes C27050-32.

**27-40-06**

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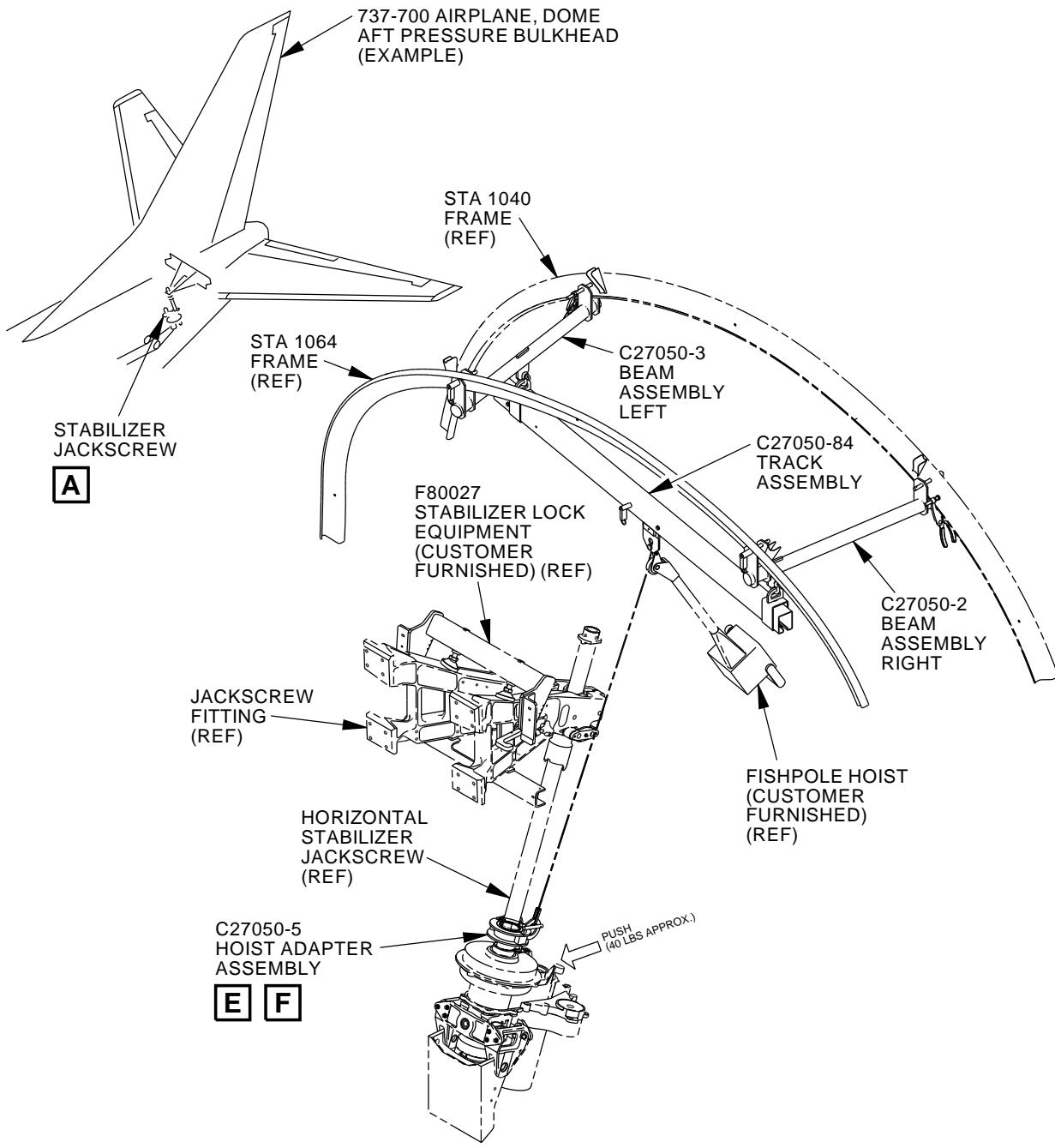
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# 737-600/700/800/900

## ILLUSTRATED TOOL AND EQUIPMENT MANUAL

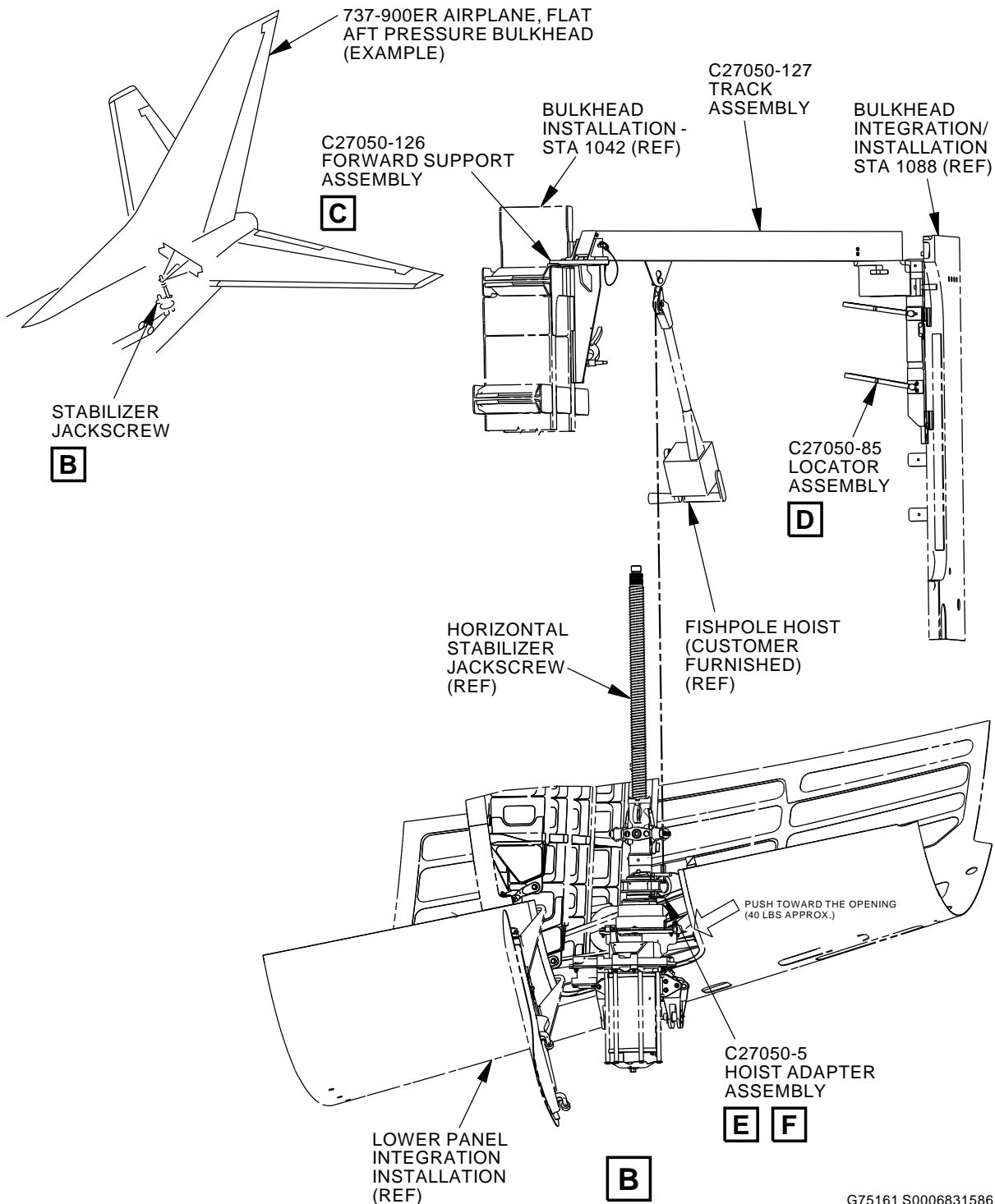


G75099 S0006831585 V6

**Stabilizer Jackscrew Removal/Installation Handling Equipment**  
**Figure 1 (Sheet 1 of 4)**

**27-40-06**

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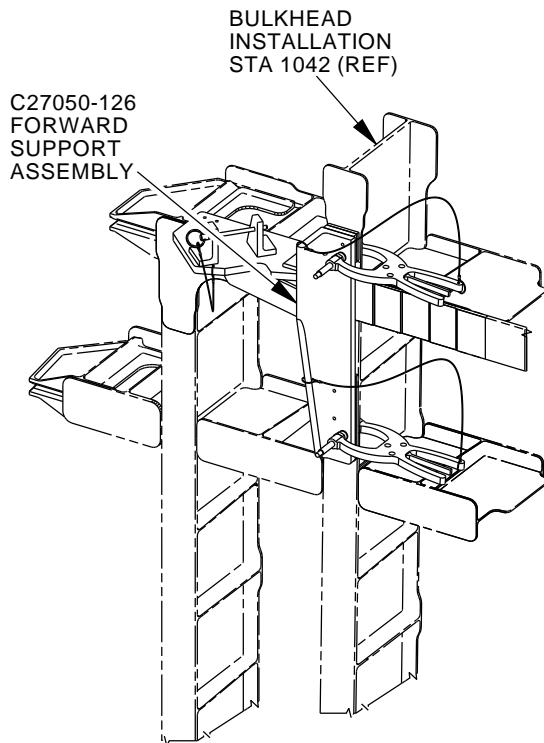
G75161 S0006831586\_V5

**Stabilizer Jackscrew Removal/Installation Handling Equipment**  
**Figure 1 (Sheet 2 of 4)**

**27-40-06**

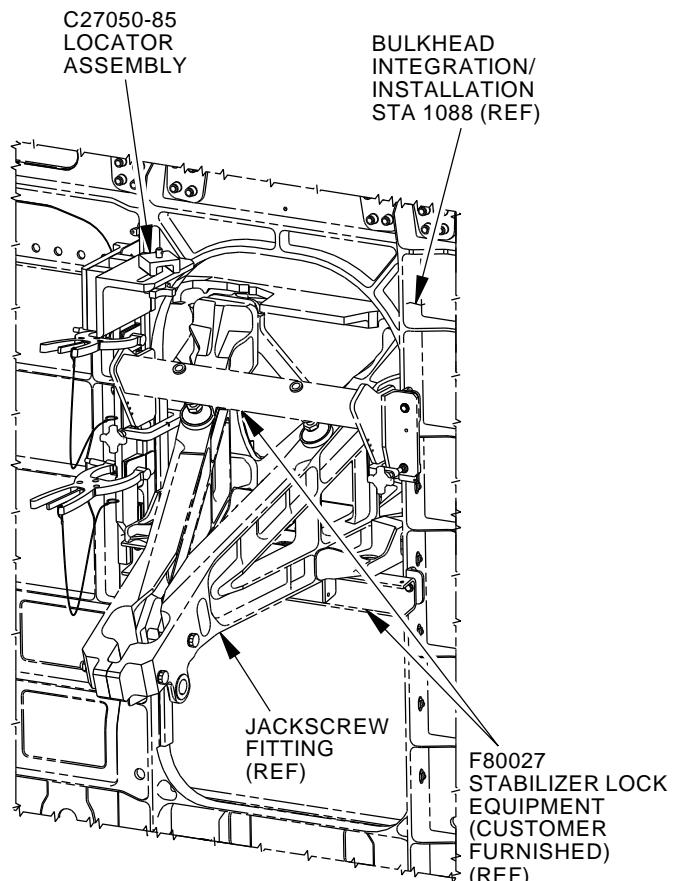
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**C27050-126  
FORWARD SUPPORT  
ASSEMBLY INSTALLATION**

**C**



**C27050-85  
LOCATOR ASSEMBLY  
INSTALLATION**

**D**

L40464 S0006831587\_V6

**Stabilizer Jackscrew Removal/Installation Handling Equipment**  
**Figure 1 (Sheet 3 of 4)**

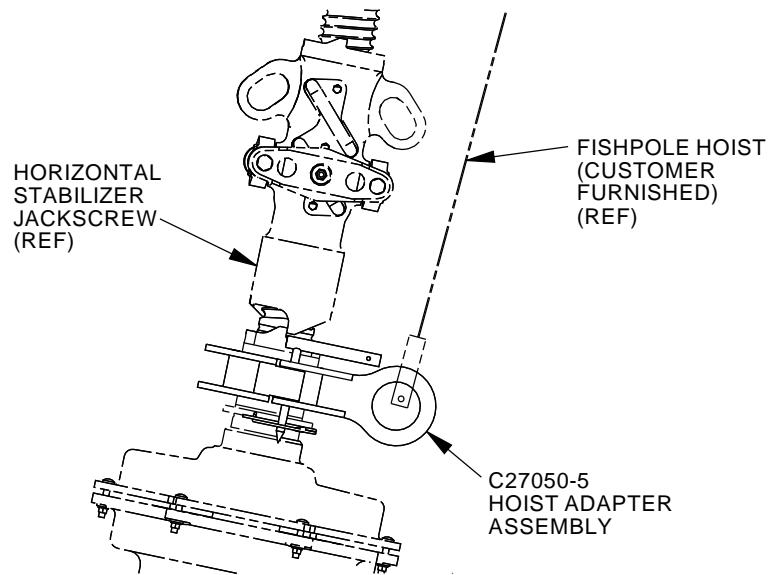
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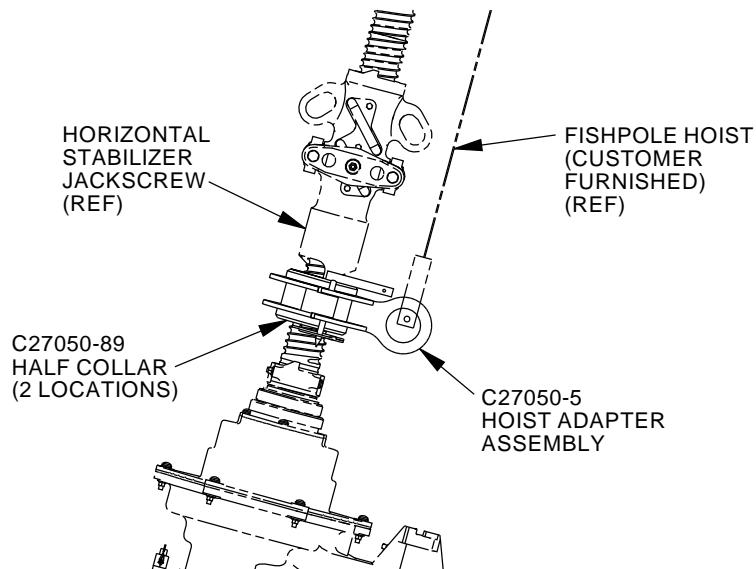


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VIEW SHOWN WITHOUT HALF COLLAR FOR  
251A4510-4 AND 251A4510-5 ACTUATORS

E



VIEW SHOWN WITH HALF COLLAR USE ON ALL  
ACTUATORS EXCLUDING 251A4510-4 AND 251A4510-5

F

1342740 S0000238756\_V5

Stabilizer Jackscrew Removal/Installation Handling Equipment  
Figure 1 (Sheet 4 of 4)

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**PART NUMBER: C27064-1**

**NAME:** TORQUE WRENCH ADAPTER - MANUAL STABILIZER TRIM WHEEL

**AIRPLANE MAINTENANCE:** YES

AMM 27-41-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27064-1 torque wrench adapter is used on 737-600 thru -900 airplanes.

C27064 is used to adapt a torque wrench to the stabilizer trim hand wheel to check manual control torque values.

Refer to AMM 27-41-00 and the current C27064 drawing for complete usage instructions.

C27064-1 consists of:

C27064-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ADAPTER ASSEMBLY	C27064-2
1	STORAGE BOX	

**WEIGHT:** 2 lbs (1 kg)

**DIMENSIONS:** 16 x 6 x 3 inches (406 x 152 x 76 mm)

**27-40-07**

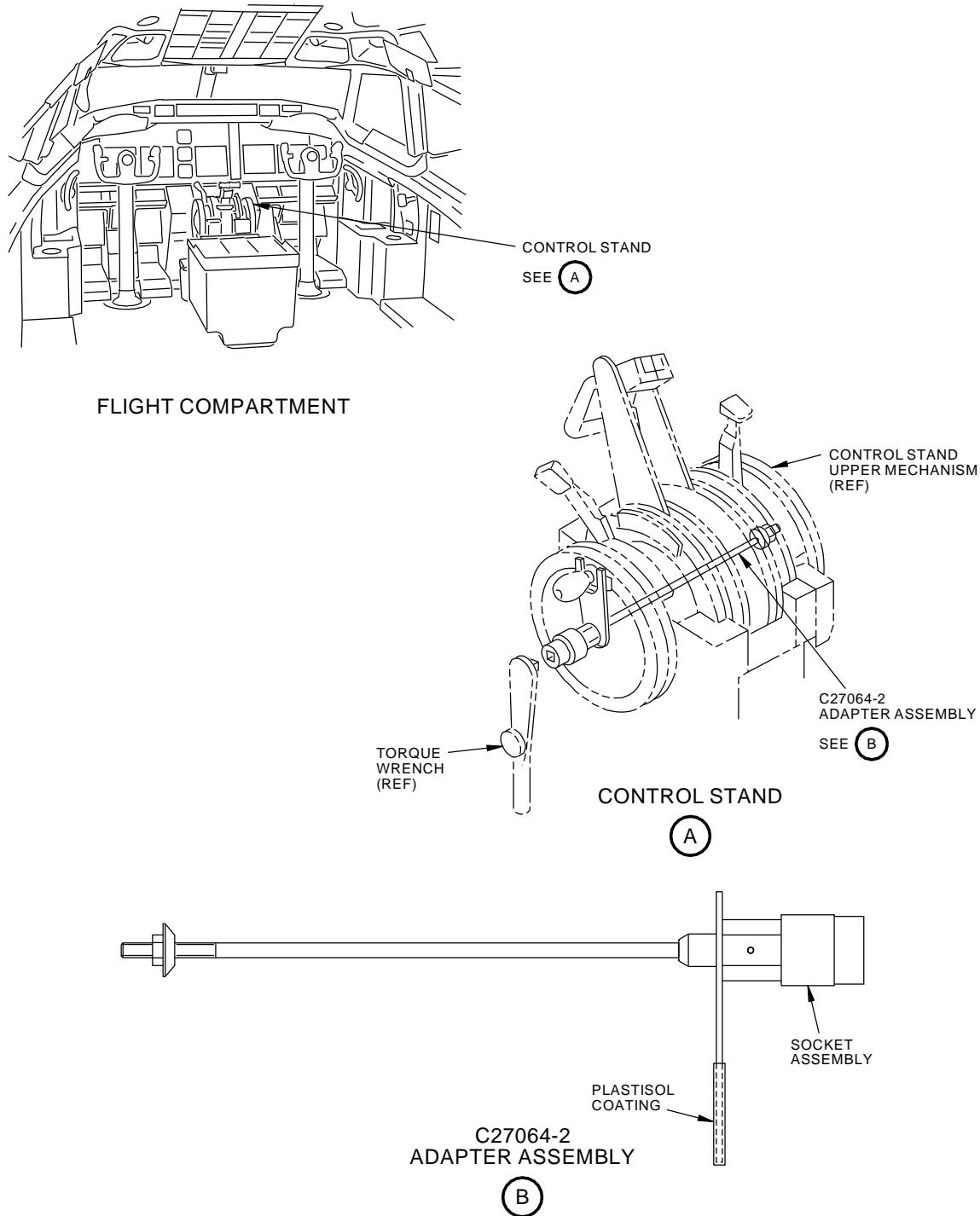
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G83154 S0006831589\_V3

Manual Stabilizer Trim Wheel Torque Wrench Adapter  
Figure 1

**27-40-07**



737-600/700/800/900  
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**PART NUMBER: C27065-1, -20**

**NAME:** CHECK EQUIPMENT - JACKSCREW BACKLASH, HORIZONTAL STABILIZER (CE)

**AIRPLANE MAINTENANCE:** YES

AMM 27-41-81

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27065-1 (option, non-CE qualified) check equipment is used on all 737-600 thru -900 airplanes.

The C27065-20 (preferred, CE qualified) check equipment is used on all 737 airplanes, except 737-100 thru -500 airplanes.

C27065-20 conforms with Article 3, Paragraph 3 of the Pressure Equipment Directive 97/23/EC.

C27065 is used in conjunction with a customer furnished dial indicator. C27065 is used to measure the horizontal stabilizer trim jackscrew actuator backlash.

Refer to AMM 27-41-81 and the current C27065 drawing for complete usage instructions.

C27065-1 and -20 consist of:

C27065-1		
QUANTITY	NOMENCLATURE	PART NUMBER
2	BULKHEAD PLATE ASSEMBLY	C27065-2
1	C CHANNEL & HYDRAULIC CYLINDER ASSEMBLY	C27065-4
1	HYDRAULIC ASSEMBLY	C27065-5
1	UPPER PLATE ASSEMBLY	C27065-6
1	LOWER PLATE ASSEMBLY	C27065-7
1	LOCK PIN (AN415-25)	C27065-27
1	MAGNETIC V-BLOCK (CM6416)	C27065-32
1	PIN (MS20392-9C49)	C27065-28
4	SMALL SCREW (NAS623-3-7)	C27065-29
4	LARGE SCREW (NAS1801-4-32)	C27065-31
1	STORAGE BOX	

C27065-20		
QUANTITY	NOMENCLATURE	PART NUMBER
2	BULKHEAD PLATE ASSEMBLY	C27065-21
1	C CHANNEL & HYDRAULIC CYLINDER ASSEMBLY	C27065-4
1	HYDRAULIC ASSEMBLY	C27065-5
1	UPPER PLATE ASSEMBLY	C27065-6

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(Continued)

C27065-20		
QUANTITY	NOMENCLATURE	PART NUMBER
1	LOWER PLATE ASSEMBLY	C27065-7
1	LOCK PIN (AN415-25)	C27065-27
1	MAGNETIC V-BLOCK (CM6416)	C27065-32
1	PIN (MS20392-9C49)	C27065-28
4	SMALL SCREW (NAS623-3-10)	C27065-30
4	LARGE SCREW (NAS1801-4-32)	C27065-31
1	STORAGE BOX	

**WEIGHT:** 35 lbs (77 kg)

**DIMENSIONS:** 10 x 20 x 36 inches (254 x 508 x 914 mm)

**NOTE:** C27065-20 replaces C27065-1 for future procurement.

**DECLARATION OF CONFORMITY:** C27065-20 requires a written Declaration of Conformity from the C27065-20 fabricator if it is to be used in the European Union. The design of C27065-20 meets the European requirements of Machinery Directive 2006/42/EC including its amendments. When used within the European Union, the fabricator of C27065-20 must also meet the requirements of that directive. At a minimum for the tool fabricator, this requires the retention of a technical file, a labeling of the equipment with the CE mark, and the completion of an EC Declaration of Conformity. If C27065-20 is to be used within the European Union and the Declaration of Conformity is missing, contact the fabricator of C27065-20 for a replacement Declaration of Conformity.

**OPERATING INSTRUCTIONS:** Refer to the current C27065 drawing and the AMM 27-41-81 procedures for detailed instructions on the use of this equipment. This equipment shall only be used in conjunction with Boeing maintenance procedures to maintain Boeing airplanes.

**MAINTENANCE:** General Cleaning: Basic care of the equipment includes cleaning the equipment of dirt, corrosives, or contaminants. Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and commercial soap or detergent, clean the components and wipe dry with a clean cloth. Hang the components freely to dry, but away from excessive heat or steam.

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**PROOF LOAD:** Proof load testing for the C27065-20 check equipment shall be performed per the current C27065 drawing proof load diagrams (example Figure 3) and:

- In conjunction with initial fabrication
- Subsequent to modification of this equipment (equipment shall only be modified in accordance with the C27065 drawing).
- After repair of load carrying components.
- After replacement of load carrying components (except for load carrying components such as shackles and hoist rings that carry their own certification).
- Continuing integrity/safety of the device to be assured by inspection.

**INSPECTION:** FREQUENT

General Inspection (before use):

1. Missing fasteners
2. Notes, Cautions and Warnings are legible
3. Usage placards are legible

PERIODIC

Welding Inspection:

1. Magnetic particle or dye penetrant inspection for all welds, after all proof load tests.
2. Inspect and evaluate per GSE Welding Document A00001 Inspection Requirements Tables 1 & 2, and Acceptance Criteria Table 3.
3. Reject cracked or deformed parts.

**STORAGE:** C27065 shall be stored clean, dry, and free of exposure to fumes or corrosive elements, indoors and in the furnished storage box.

**DECOMMISSIONING:** Part and assemblies of this equipment shall be permanently altered to prevent their unauthorized reuse. Recycling is the preferred manner of disposal for those materials where that option is available.

**27-40-08**

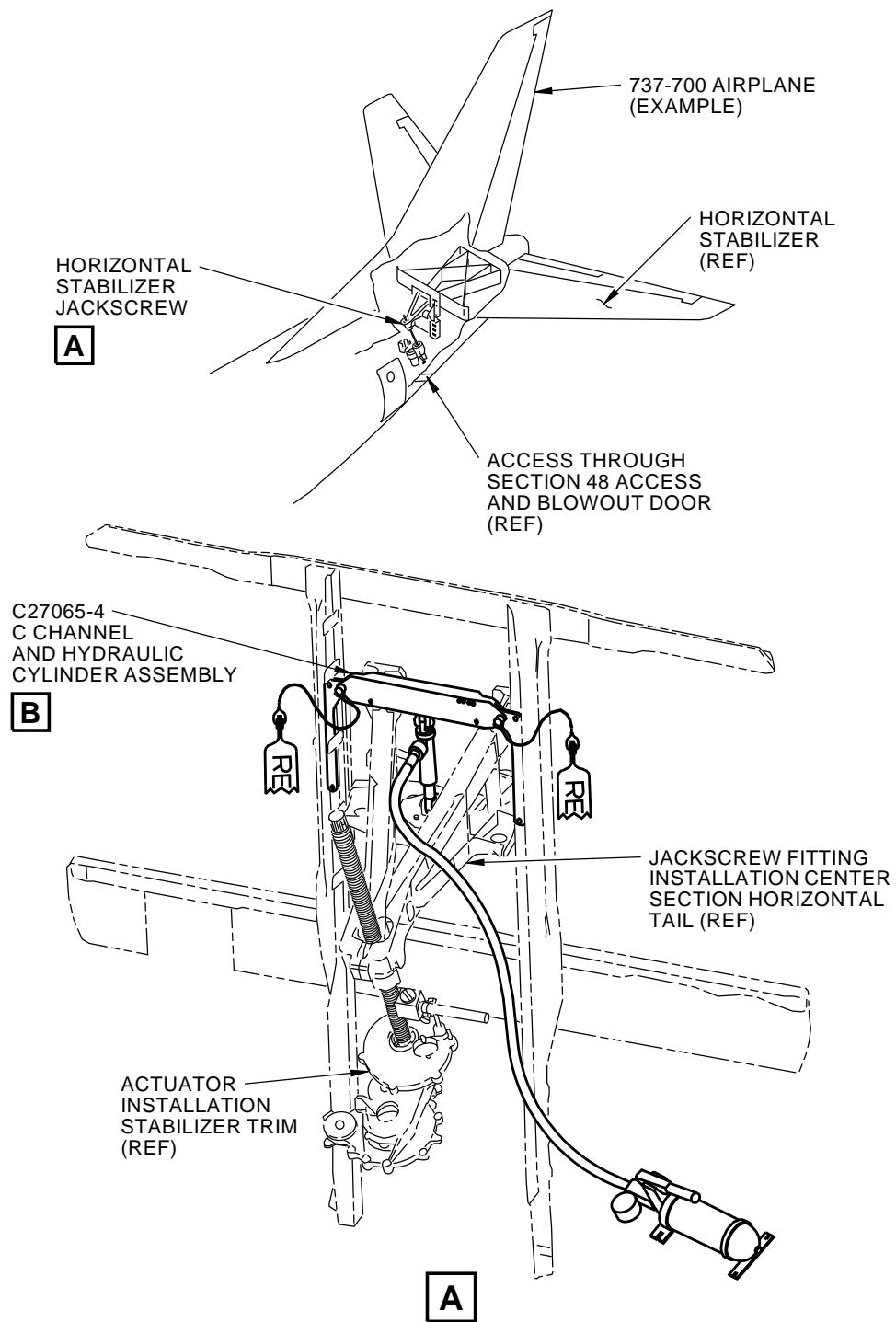
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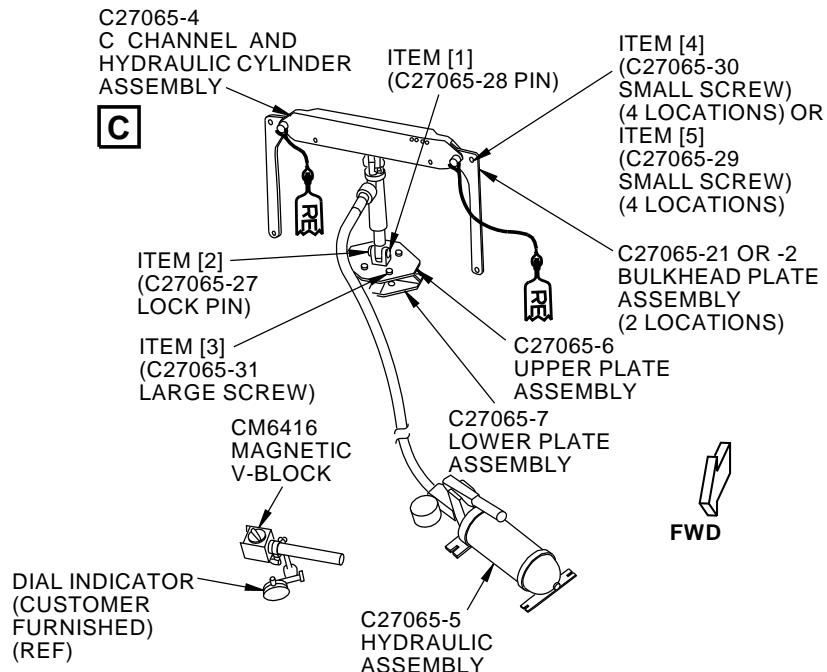
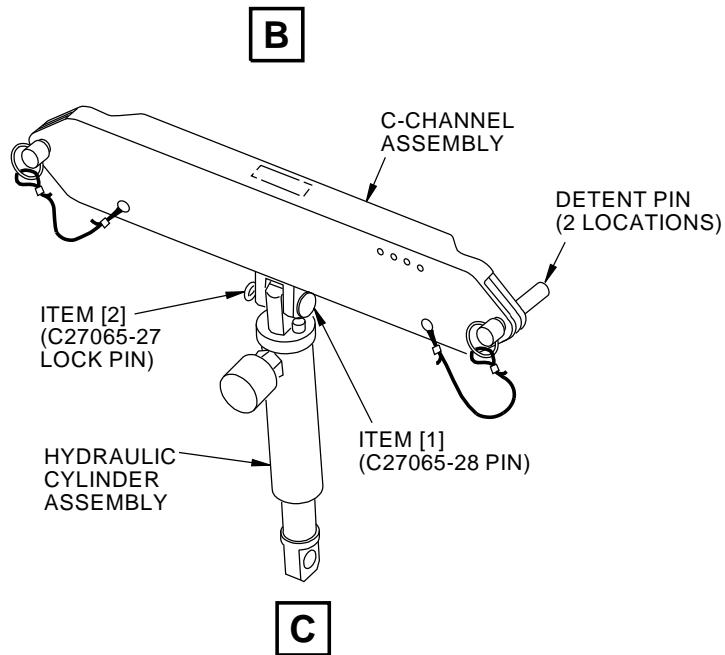
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**Horizontal Stabilizer Jackscrew Backlash Check Equipment**  
**Figure 1**

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**C27065-20 CHECK EQUIPMENT SHOWN  
C27065-1 SIMILAR**


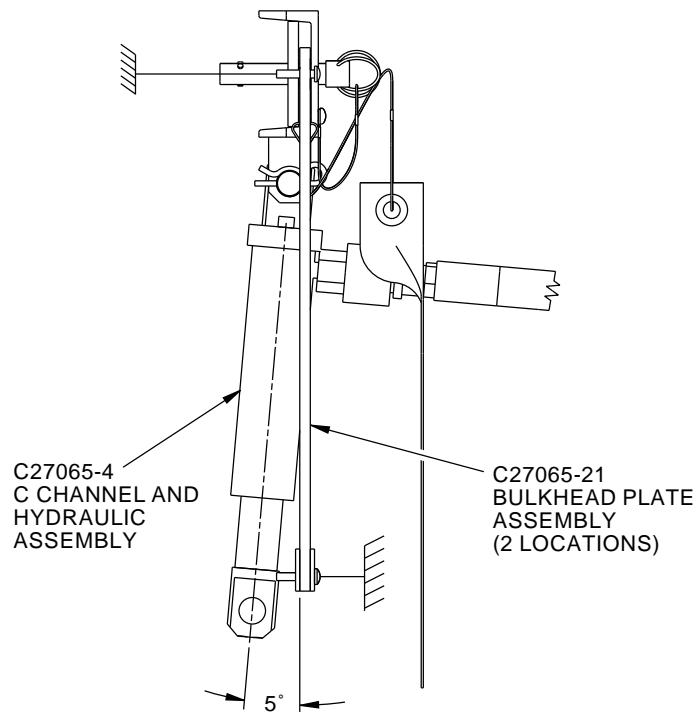
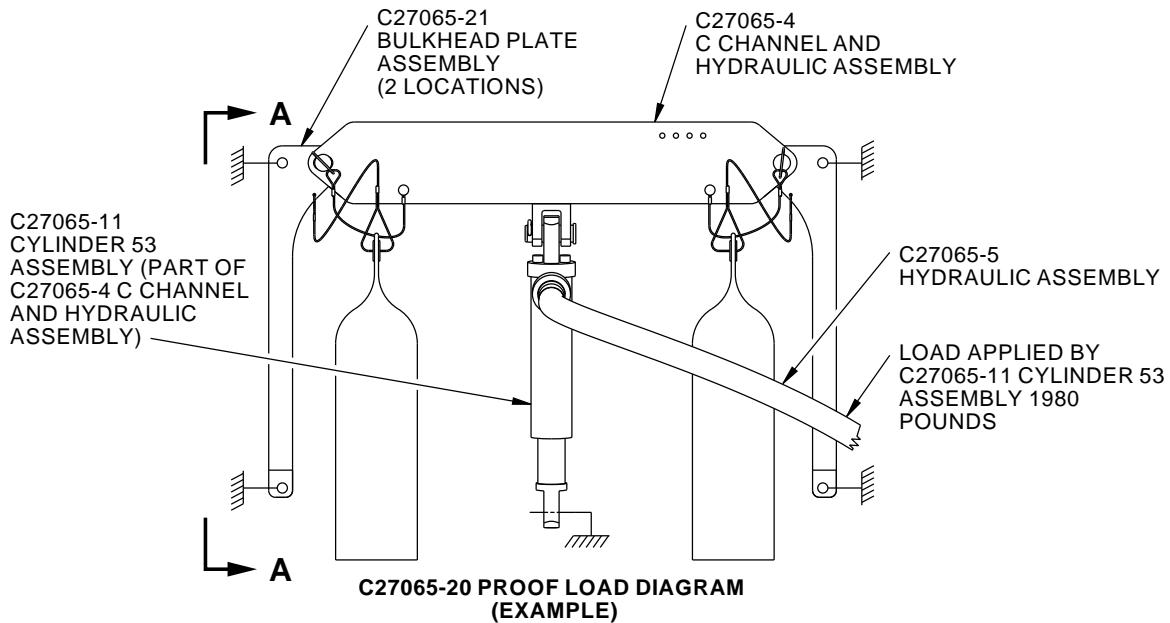
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**Horizontal Stabilizer Jackscrew Backlash Check Equipment**  
**Figure 2**
**27-40-08**

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**A-A**

2421185 S0000559913\_V1

**C27065-20 Proof Load Diagram (Example)**  
**Figure 3**

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NUMBER	PART NUMBER	NOMENCLATURE	VENDOR CODE
[1]	C27065-28 (MS20392-9C49)	PIN	---
[2]	C27065-27 (AN415-25)	LOCK PIN	---
[3]	C27065-31 (NAS1801-4-32)	LARGE SCREW	---
[4]	C27065-30 (NAS623-3-10)	SMALL SCREW	---
[5]	C27065-29 (NAS623-3-7)	SMALL SCREW	---

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**PART NUMBER: C27060-1**

**NAME:** ADAPTER EQUIPMENT - CONTROL WHEEL

**AIRPLANE MAINTENANCE:** YES

AMM 22-11-00, AMM 22-11-11, AMM 27-00-00, AMM 27-11-00, AMM 27-11-41, AMM 27-31-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27060-1 control wheel adapter is used on all 737 airplanes.

C27060 is used in conjunction with the customer furnished tools listed below, is used to measure control wheel angle and torque, control column angle and force.

The following items are customer furnished: Protractor - A27021 or 4MIT65B80307-1 for angle measurements. Torque wrench - 3/4 inch socket for wheel torque measurement. Push-pull force gauge - for column force measurement. Rig pin kit - F70207-109.

Refer to the current C27060 drawing, AMM 22-11-00, AMM 22-11-11, AMM 27-00-00, AMM 27-11-00, AMM 27-11-41 and AMM 27-31-00 for complete usage instructions.

C27060-1 control wheel adapter equipment consists of:

C27060-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	PLATE ASSEMBLY	C27060-2
1	CLAMP ASSEMBLY	C27060-3
1	CLAMP ASSEMBLY (OPPOSITE -3)	C27060-4
2	KNOB ASSEMBLY	C27060-5
2	BOLT	AN3-4A
1	STORAGE BOX	

**WEIGHT:** 6 lbs (3 kg)

**DIMENSIONS:** 5 x 5 x 13 inches (127 x 127 x 330 mm)

**NOTE:** C27060 replaces F72867 for future procurement.

**27-40-09**

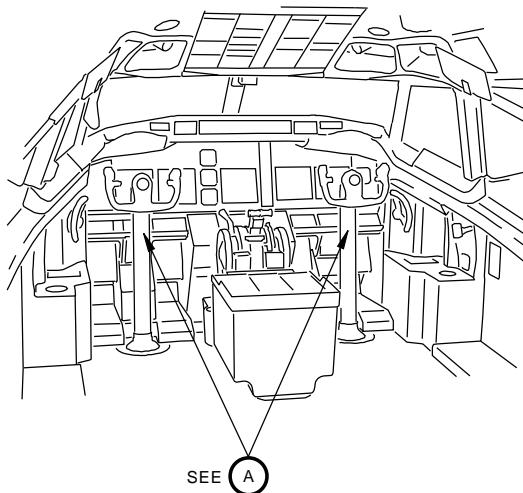
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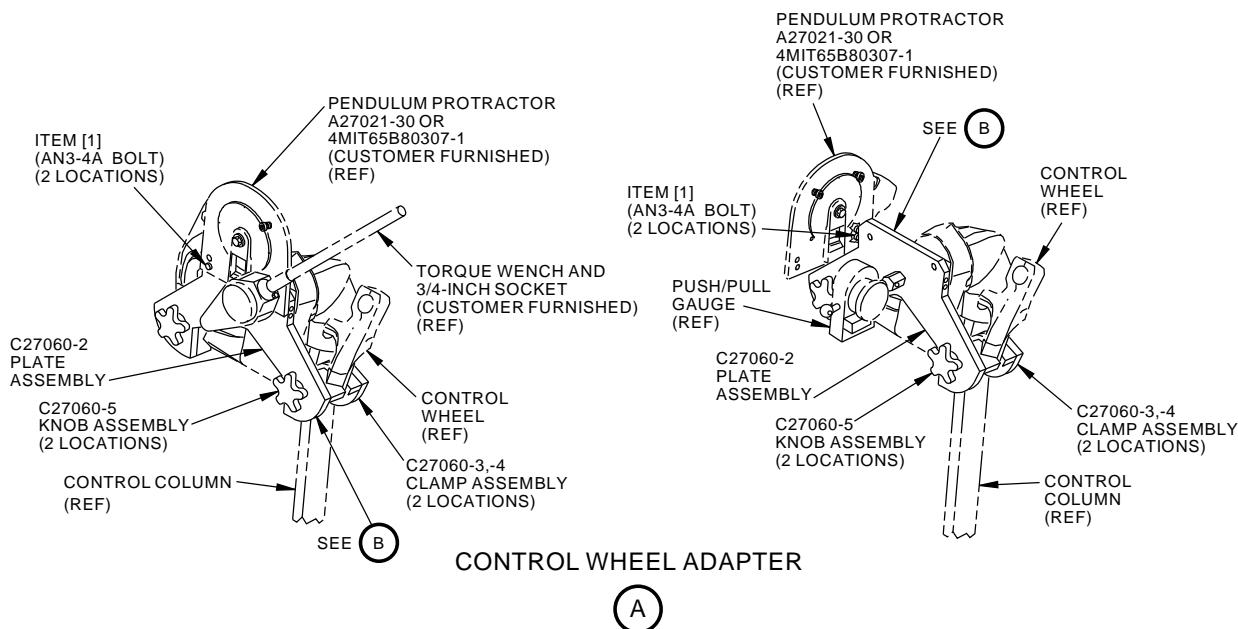
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FLIGHT COMPARTMENT



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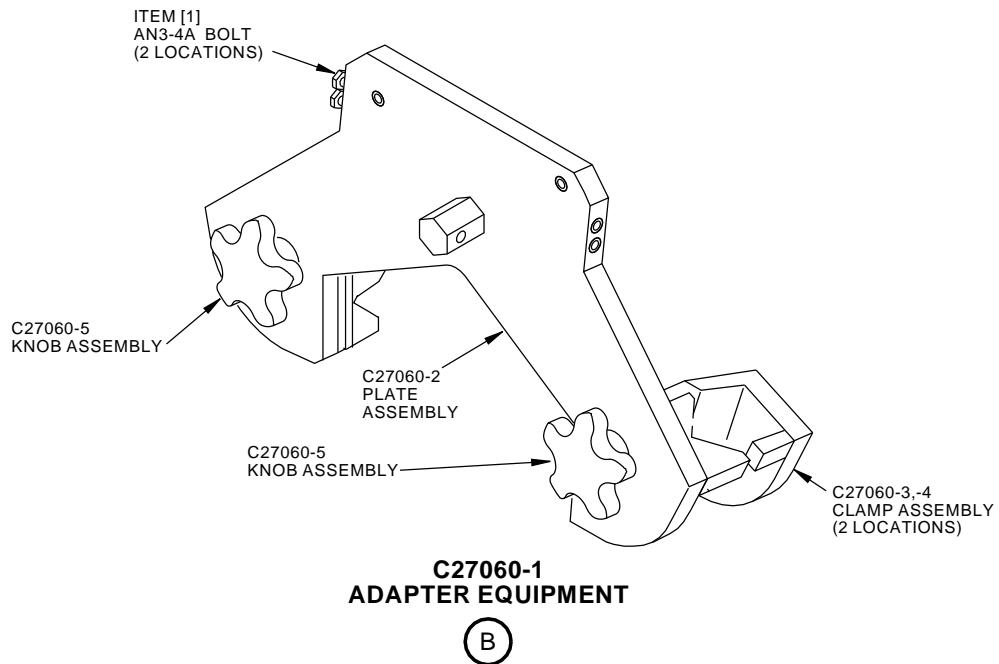
Control Wheel Adapter Equipment  
Figure 1 (Sheet 1 of 2)

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**Control Wheel Adapter Equipment**  
**Figure 1 (Sheet 2 of 2)**

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[1]	AN3-4A	BOLT	---

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**PART NUMBER: C27054-1**

**NAME:** THREAD PROTECTOR SET - HORIZONTAL STABILIZER HINGE PIN

**AIRPLANE MAINTENANCE:** YES

AMM 27-41-31

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27054-1 thread protector set is used on all 737 airplanes, except 737-100 thru -500 airplanes..

C27054 is used to protect and align the horizontal stabilizer hinge pin during installation or removal.

Refer to AMM 27-41-31 and the current C27054 drawing for complete usage instructions.

C27054-1 consists of:

C27054-1		
QUANTITY	NOMENCLATURE	PART NUMBER
2	THREAD PROTECTOR	C27054-2
1	STORAGE BOX	

**WEIGHT:** 2 lbs (0.9 kg)

**DIMENSIONS:** 1 x 3 x 3 inches (25 x 76 x 76 mm)

**27-40-10**

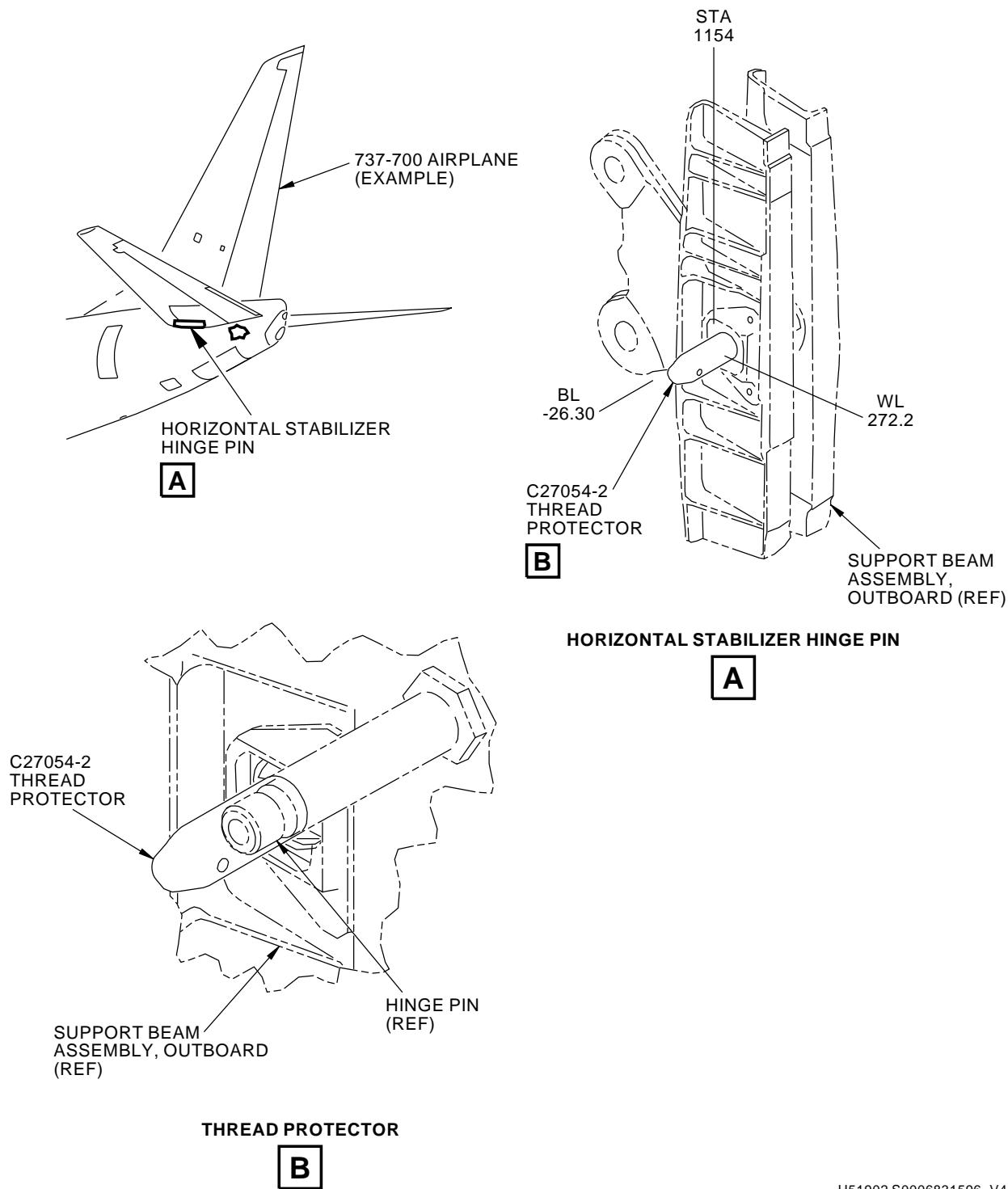
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Horizontal Stabilizer Hinge Pin Thread Protector Set  
Figure 1

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**PART NUMBER:** F71290-1, -2, -7, -10

**NAME:** WRENCH - SPANNER, BEARING RETAINER NUT

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-45-11, CMM 27-45-12, CMM 27-53-11

**USAGE & DESCRIPTION:** The F71290-1 and -7 bearing retainer nut spanner wrenches are used on all 737 airplanes.

The F71290-2 bearing retainer nut spanner wrench is used on 737-100 thru -500 airplanes.

The F71290-10 bearing retainer nut spanner wrench is used on 737-100 and -200 airplanes.

F71290-1, -2 and -7 are used to remove and install the bearing retainers nut, part numbers 60-3113, 60-3114, 60-3115 and 69-67128-1, used on the stabilizer trim actuator assembly.

F71290-10 is used to remove and install the trailing edge flap control valve assembly nut, part number 65-44821.

Refer to the current F71290 tool drawing, CMM 27-45-11, CMM 27-45-12 and CMM 27-53-11 for complete usage instructions.

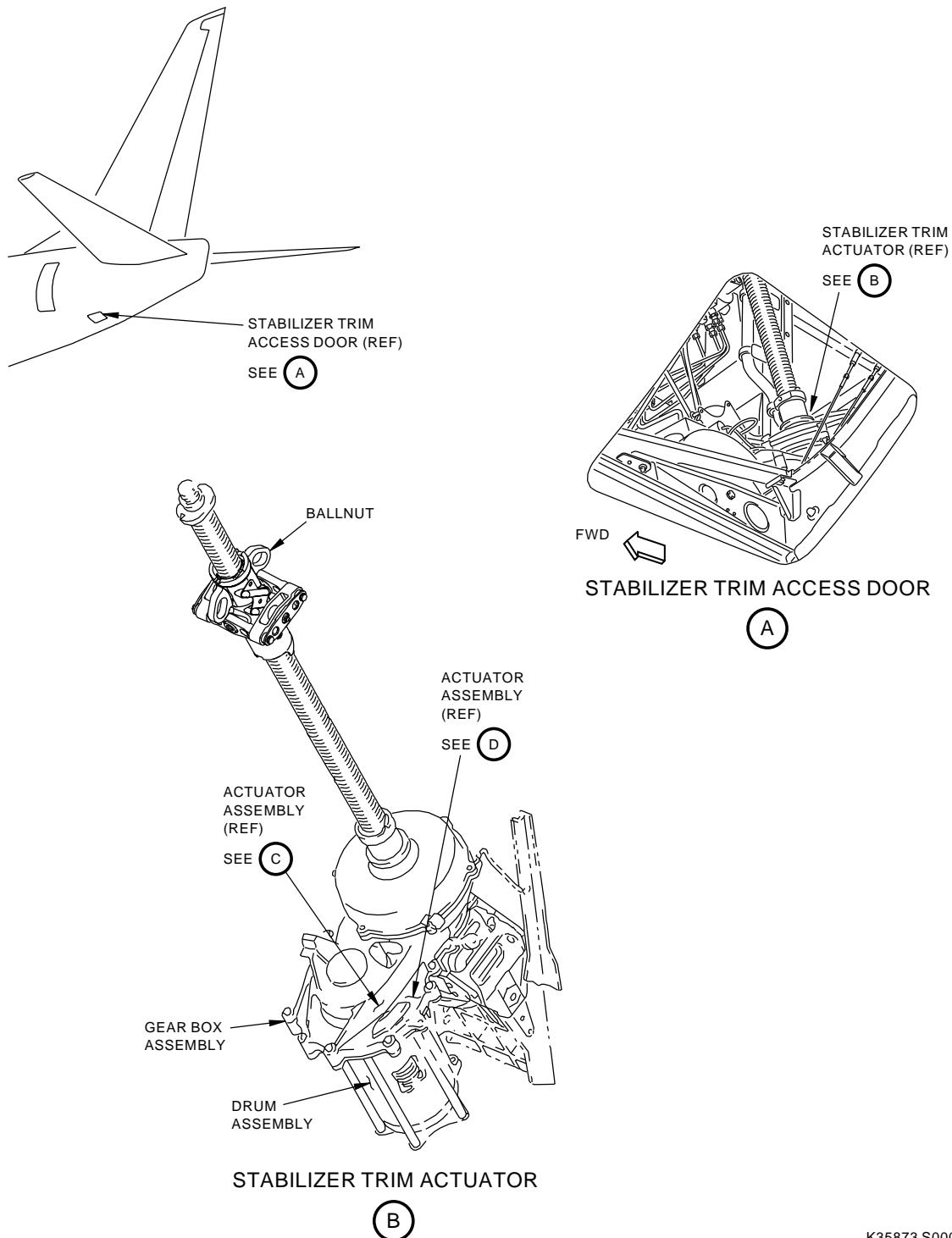
**DIMENSIONS:** 4 x 4 x 8 inches (102 x 102 x 204 mm)

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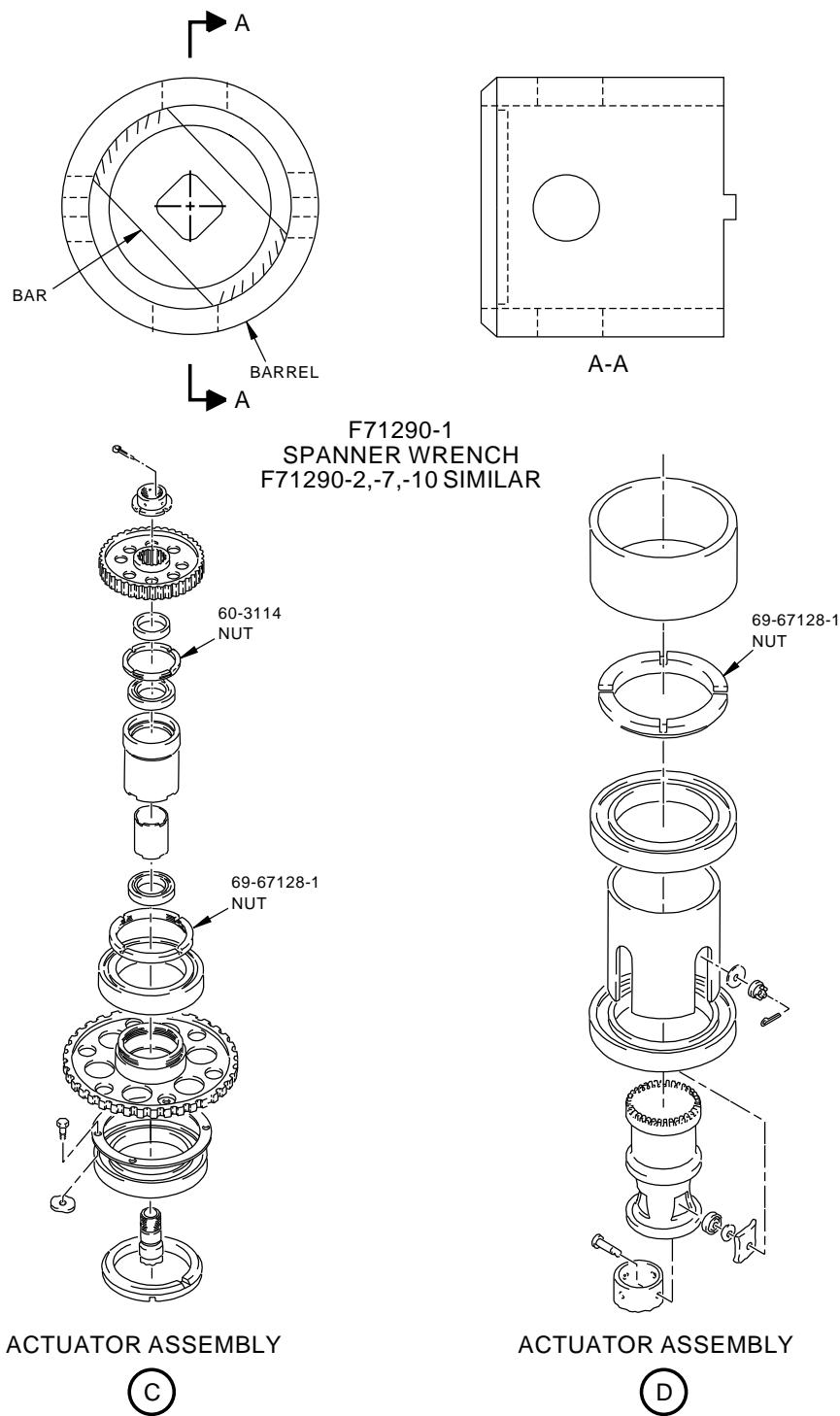
**Stabilizer Trim Actuator Location**  
**Figure 1**

**27-40-11**

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**F71290 Spanner Wrench and Nut Location**  
**Figure 2**

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**PART NUMBER: C55007-1, -29**

**NAME:** SLING EQUIPMENT - HORIZONTAL STABILIZER REMOVAL/INSTALLATION (CE)

**AIRPLANE MAINTENANCE:** YES

AMM 27-41-11

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C55007-1 (option, CE qualified) or C55007 -29 (option, CE qualified) sling equipment is used on 737-600 thru -900 airplanes.

C55007 is used in conjunction with a customer-furnished overhead lift to remove or install the horizontal stabilizer, with or without the elevator attached.

The C55007-1 includes all the equipment necessary to remove or install the horizontal stabilizer with or without the elevator attached.

The C55007-29 includes all the equipment included in C55007-1 and also includes a C55007-31 (low clearance) sling assembly to remove or install the horizontal stabilizer only with the elevator removed. The C55007-29 is optional to the C55007-1. The C55007-29 contains a low clearance sling to accommodate a customer request and is only used with the elevators removed.

Refer to AMM 27-41-11 and the current C55007 drawing for complete usage instructions.

C55007-1 and -29 consist of:

C55007-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	SLING ASSEMBLY	C55007-2
1	LEFT FITTING ASSEMBLY (BLUE)	C55007-3
1	RIGHT FITTING ASSEMBLY (BLUE)	C55007-4
1	LEFT FITTING ASSEMBLY (GREEN)	C55007-5
1	RIGHT FITTING ASSEMBLY (GREEN)	C55007-6
1	LEFT FITTING ASSEMBLY (RED)	C55007-7
1	RIGHT FITTING ASSEMBLY (RED)	C55007-8
3	SMALL SHACKLE (G-209-1/4)	C55007-36
1	LARGE SHACKLE (G-209-3/8)	C55007-37
44	BOLT (NAS1801-3-20)	C55007-35
1	STORAGE BOX	

C55007-29		
QUANTITY	NOMENCLATURE	PART NUMBER
1	SLING ASSEMBLY	C55007-2

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(Continued)

C55007-29		
QUANTITY	NOMENCLATURE	PART NUMBER
1	LEFT FITTING ASSEMBLY (BLUE)	C55007-3
1	RIGHT FITTING ASSEMBLY (BLUE)	C55007-4
1	LEFT FITTING ASSEMBLY (GREEN)	C55007-5
1	RIGHT FITTING ASSEMBLY (GREEN)	C55007-6
1	LEFT FITTING ASSEMBLY (RED)	C55007-7
1	RIGHT FITTING ASSEMBLY (RED)	C55007-8
3	SMALL SHACKLE (G-209-1/4)	C55007-36
1	LARGE SHACKLE (G-209-3/8)	C55007-37
44	BOLT (NAS1801-3-20)	C55007-35
1	SLING ASSEMBLY (LOW CLEARANCE)	C55007-31
1	STORAGE BOX	

**WEIGHT:** 65 lbs (29 kg)

**DIMENSIONS:** 12 x 24 x 36 inches (305 x 610 x 915 mm)

**DECLARATION OF CONFORMITY:** C55007 requires a written Declaration of Conformity from the C55007 fabricator if it is to be used in the European Union. The design of C55007 meets the European requirements of Machinery Directive 2006/42/EC including its amendments. When used within the European Union, the fabricator of C55007 must also meet the requirements of that directive. At a minimum for the tool fabricator, this requires the retention of a technical file, a labeling of the equipment with the CE mark, and the completion of an EC Declaration of Conformity. If C55007 is to be used within the European Union and the Declaration of Conformity is missing, contact the fabricator of C55007 for a replacement Declaration of Conformity.

**OPERATING INSTRUCTIONS:** Refer to the current C55007 drawing and AMM 27-41-11 maintenance procedures for detailed instructions on the use of this equipment. This equipment shall only be used in conjunction with Boeing maintenance procedures to maintain Boeing airplanes.

**MAINTENANCE:** General Cleaning: Basic care of the equipment includes cleaning the equipment of dirt, corrosives, or contaminants. Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and commercial soap or detergent, clean the components and wipe dry with a clean cloth. Hang the components freely to dry, but away from excessive heat or steam.

Slings, Wire Rope: Maintenance and inspection of wire rope shall be performed in accordance with EN 1492-1, Section 6, Section Annex B and ASME B-30.9, Chapter 9-2.

Structural and Mechanical Lifting Devices, (supporting lifters):

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1. Maintenance shall be done based on the recommendations made by the lifter manufacturer or qualified person.
2. Before adjustments and repairs are started on a lifter, the following precautions shall be taken:
  - All courses of power shall be disconnected, locked out, and tagged "Out of Service".
  - A lifter removed from service for repair shall be tagged "Out of Service".
3. Only a qualified person shall perform adjustments and tests when required.
4. Replacement parts shall be at least equal to the original manufacturer's specifications.
5. After adjustments and repairs have been made, the lifter shall not be returned to service until it has been inspected according to ASME B-30.2, para. 20-1.3.4.
6. Dated records of repairs and replacements shall be made.
7. Adjustments and repairs. Any hazardous conditions disclosed by the inspection requirements of ASME B-30.2, para. 21-1.3.1 shall be corrected before normal operations of the lifter is resumed. Adjustments and repairs shall be done under the direction of, or by, a qualified person.

**Swivel Hoist Rings:** Maintenance shall be done based on the recommendations made by the hoist ring manufacturer or qualified person.

**PROOF LOAD:** Proof load testing for the C55007-1 and C55007-19 sling equipment shall be performed per the current C55007 drawing proof load diagrams (example Figure 2) and:

- In conjunction with initial fabrication
- Subsequent to modification of this equipment (equipment shall only be modified in accordance with the C55007 drawing).
- After repair of load carrying components.
- After replacement of load carrying components (except for load carrying components such as shackles and hoist rings that carry their own certification).
- Continuing integrity/safety of the device to be assured by inspection.

**INSPECTION:** FREQUENT

General Inspection (before use):

1. Missing fasteners
2. Notes, Cautions and Warnings are legible
3. Usage placards are legible

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Slings, General: Prior to use, all new, altered, modified or repaired slings shall be inspected by a designated person to verify compliance with the applicable provisions of EN 1492-1, Section 6, Section Annex B and ASME B-30.9

Slings, Wire Ropes:

1. Visual inspection for damage shall be performed by the user or other designated person each day or shift the sling is used.
2. Condition such as those listed in EN 1492-1, Section 6, Section Annex B and ASME B-30.9, paragraph 9.2.9.4 or any other condition that may result in hazard shall cause the sling to be removed from service.
3. Slings shall not be returned to service until approved by a qualified person.

Structural and Mechanical Lifting Devices (supporting lifters):

1. Visual Inspection by the operator before and during each lift of the device. Records are not required. Inspect for:
  - Structural deformation, cracks or excessive wear of any parts of the lifting device.
  - Loose or missing guards, fasteners, covers, stops or nameplates.
  - All functional operational mechanisms and automatic hold and release mechanisms for misadjustments interfering with operation.

Swivel Hoist Rings:

1. Visual inspection shall be performed by the user or other designated person each shift before the links, rings, and swivels are used. Semipermanent and inaccessible locations where frequent inspections are not feasible shall have periodic inspections performed. Specifically check to make sure that:
  - Body can rotate freely on bushing.
  - Bail can swivel freely on shoulder pins.
  - Shoulder pins are secure and undamaged.
2. Conditions as those listed in ASME B-30.26, para. 26-4.8.4, or any other condition that may result in a hazard, shall cause the hardware to be removed from service. Links, rings, and swivels shall not be returned to service until approved by a qualified person.
3. Written records are not required.

PERIODIC

Welding Inspection:

1. Magnetic particle or dye penetrant inspection for all welds, after all proof load tests.

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2. Inspect and evaluate per GSE Welding Document A00001 Inspection Requirements Tables 1 & 2, and Acceptance Criteria Table 3.
3. Reject cracked or deformed parts.

**Slings, General:**

1. A complete inspection for damage to the sling shall be periodically performed by a designated person.
2. Each sling and component shall be examined individually, taking care to expose and examine all surfaces.
3. The sling shall be examined for the conditions noted in the frequent inspection and in ASME B-30.9 or any other conditions that may result in a hazard shall cause the sling to be removed from service.
4. Slings shall not be returned to service until approved by a qualified person.
5. A written record of the most recent periodic inspection shall be maintained and shall include the condition of the sling.

**Slings, Wire Ropes:**

1. Wire rope inspection shall be conducted on the entire length, including splices, end attachments and fittings.
2. Wire rope inspection shall be examined for conditions listed in EN 1492-1, Section 6, Section Annex B and ASME B-30.9, paragraph 9.2.9.4.
3. Deficiencies found during the inspection are analyzed and the wire rope shall not be used, if deficiencies are determined to be hazardous.

**Structural and Mechanical Lifting Devices (supporting lifters):**

1. A written record of a visual inspection, by a qualified person is required.
2. Inspection is made of external conditions for a continuing evaluation of the following factors:
  - Loose bolts or fasteners.
  - Excessive wear of linkages and other mechanical parts.
  - Excessive wear at hoist hooking points and load support clevises or pins.
  - Deficiencies found during the inspection are analyzed and the lifting device shall not be used, if deficiencies are determined to be hazardous.
  - The lifting device shall not be used until the hazardous deficiencies are corrected.

**Swivel Hoist Rings:**

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1. A complete inspection of the links, rings, and swivels shall be performed by a designated person. The hardware shall be examined for conditions such as those listed in ASME B-30.26, para. 26-4.8.4 and a determination made as to whether they constitute a hazard.
2. Period inspection interval shall not exceed one year. The frequency of periods inspection should be based on:
  - Frequency of use
  - Severity of service conditions
  - Experience gained on the service life of hardware used in similar circumstances
  - Guidelines for the time intervals are: Normal service – yearly; Severe service – monthly to quarterly; Special service – as recommended by a qualified person.
  - Written records are not required.

**STORAGE:** C55007 shall be stored clean, dry, and free of exposure to fumes or corrosive elements, indoors and in the furnished storage box.

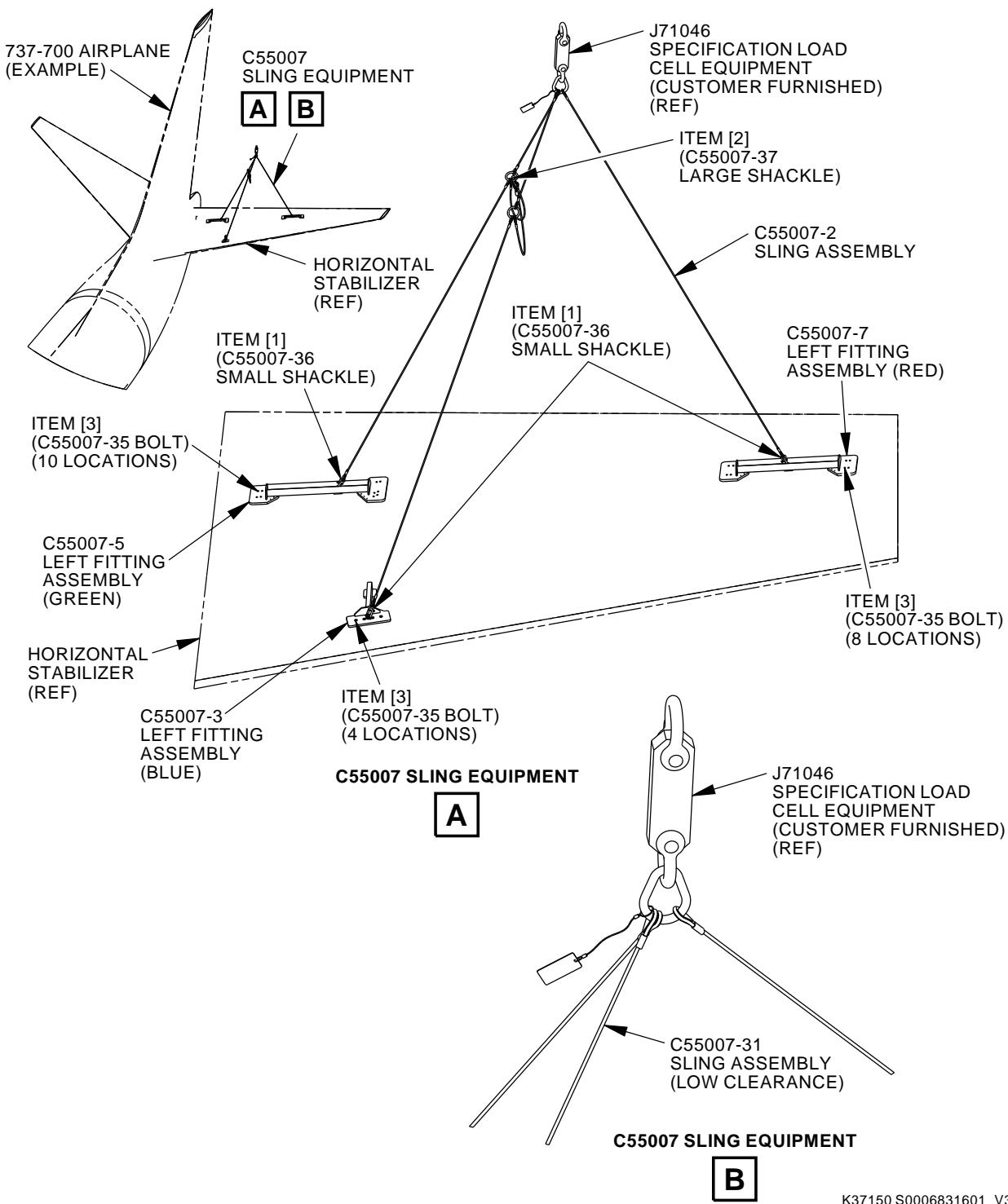
**DECOMMISSIONING:** Part and assemblies of this equipment, including wire ropes, shall be permanently altered to prevent their unauthorized reuse. Recycling is the preferred manner of disposal for those materials where that option is available.

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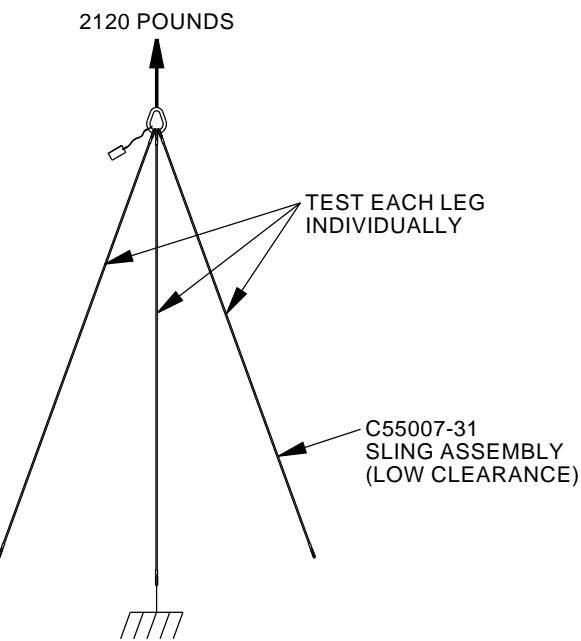
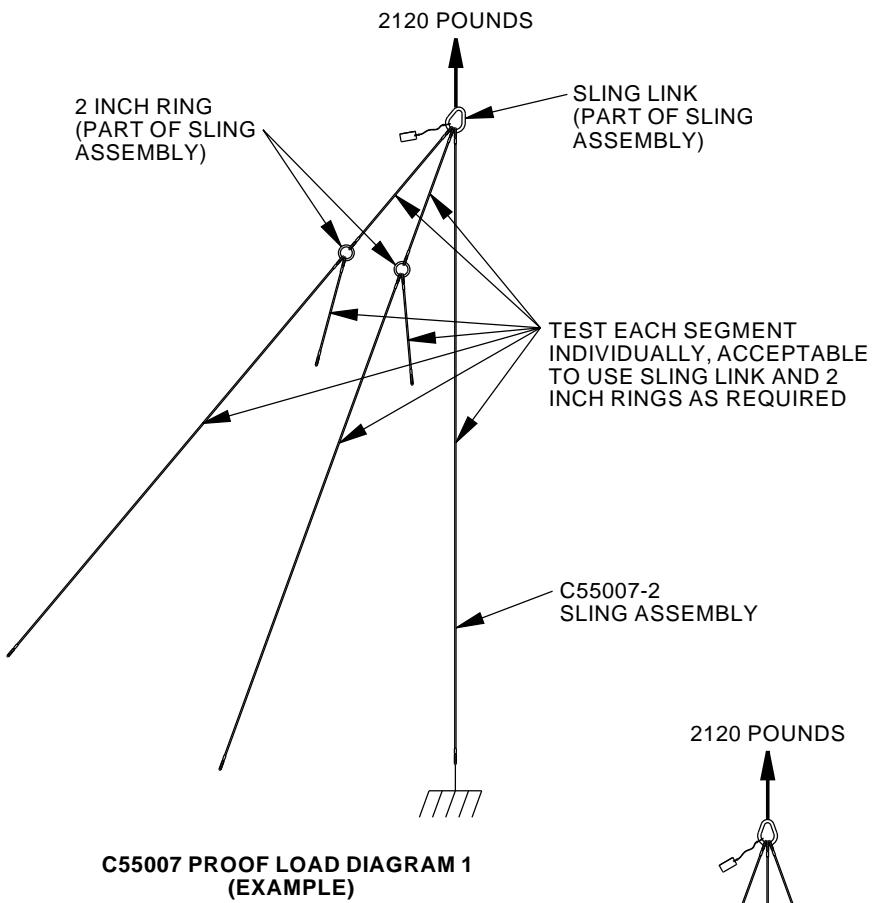


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**Horizontal Stabilizer Removal/Installation Sling Equipment**  
**Figure 1**

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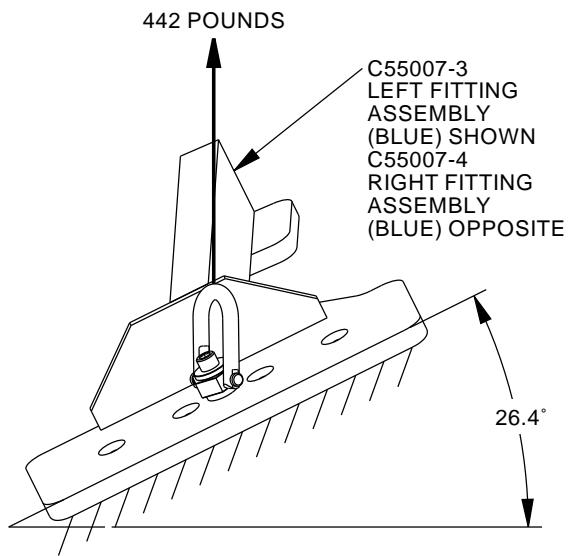
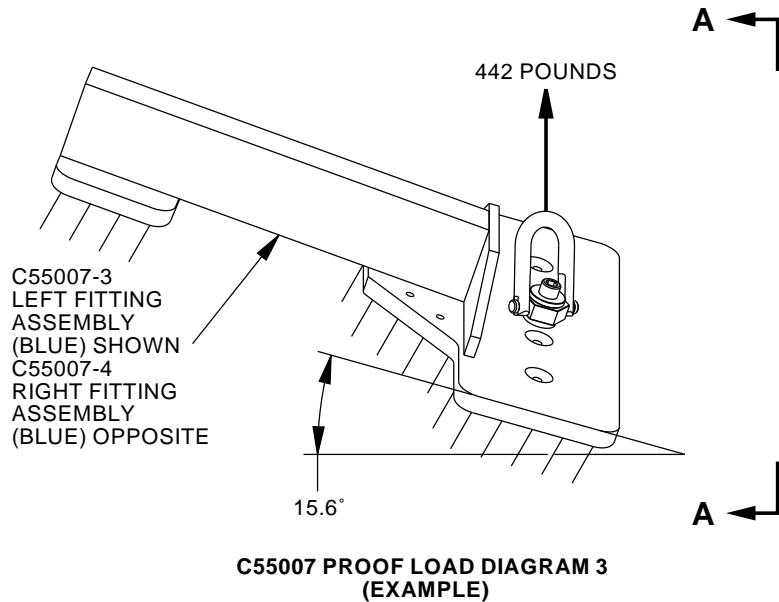
**C55007 Proof Load Diagrams (Example)**  
**Figure 2 (Sheet 1 of 4)**

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**C55007 Proof Load Diagrams (Example)**  
**Figure 2 (Sheet 2 of 4)**

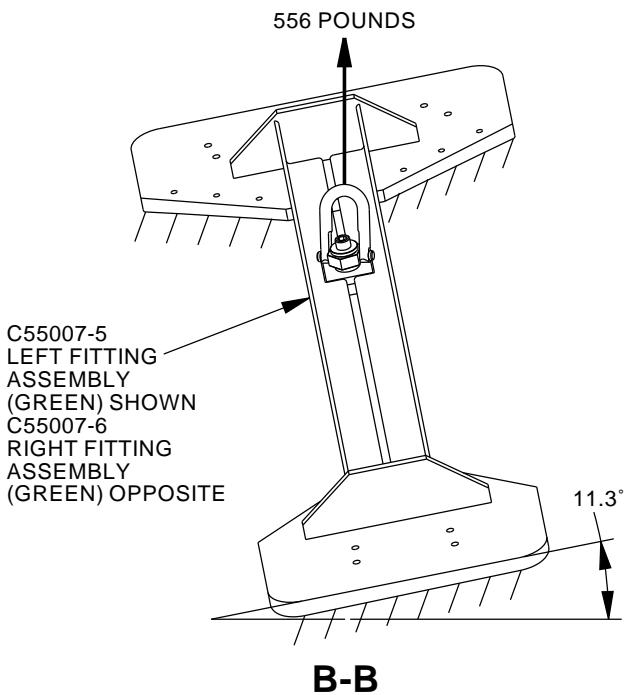
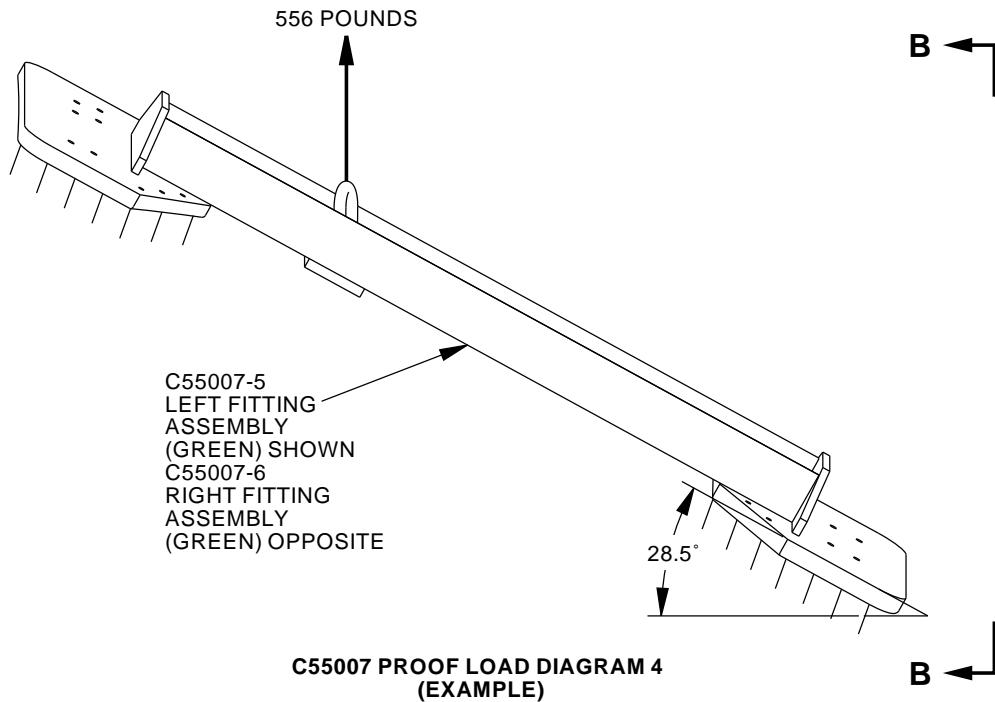
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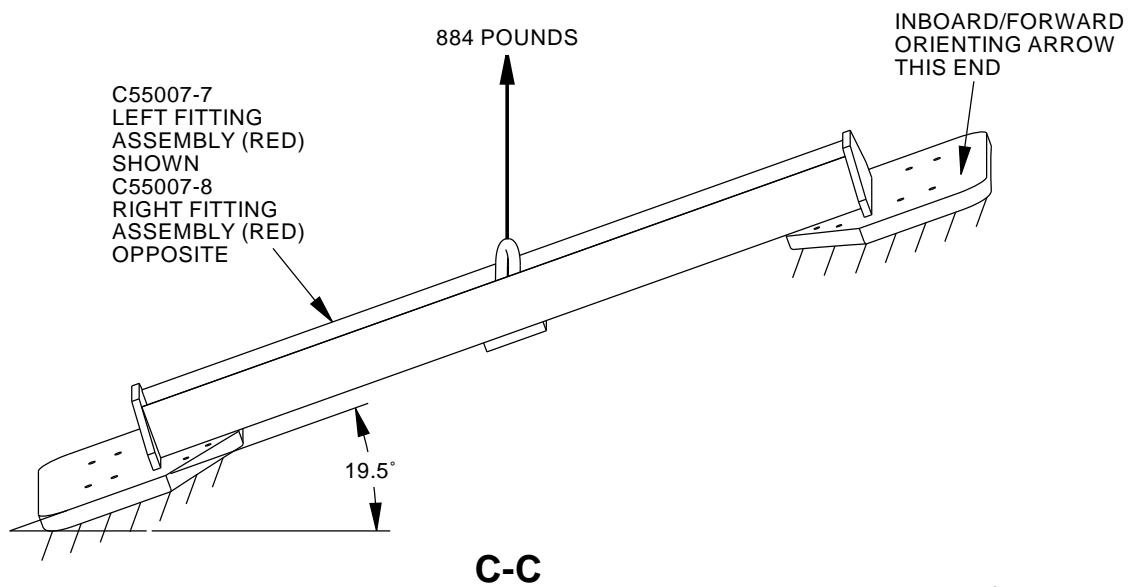
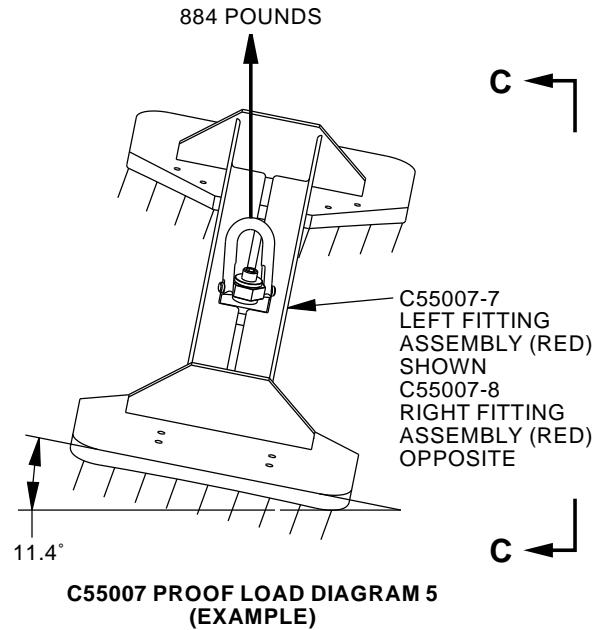
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2427993 S0000561519\_V1

**C55007 Proof Load Diagrams (Example)**  
**Figure 2 (Sheet 3 of 4)**

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2428011 S0000561520\_V1

**C55007 Proof Load Diagrams (Example)**  
**Figure 2 (Sheet 4 of 4)**

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NUMBER	PART NUMBER	NOMENCLATURE	VENDOR CODE
[1]	C55007-36 (G-209-1/4)	SHACKLE	75535
[2]	C55007-37 (G-209-3/8)	SHACKLE	75535
[3]	C55007-35 (NAS1801-3-20)	BOLT	---

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**PART NUMBER: C55008-1, -18**

**NAME:** ALIGNMENT EQUIPMENT - HORIZONTAL STABILIZER INSTALLATION

**AIRPLANE MAINTENANCE:** YES

AMM 27-41-11

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C55008-1 alignment equipment is used on 737-600 thru -900 airplanes,

The C55008-18 alignment equipment is used on all 737 airplanes, except 737-100 thru -500 airplanes.

C55008 is used to align the horizontal stabilizer attach bolts during the installation of the horizontal stabilizer.

Refer to AMM 27-41-11 and the current C55008 drawing for complete usage instructions.

C55008-1 consists of:

C55008-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	UPPER PIN ASSEMBLY	C55008-2
1	LOWER PIN ASSEMBLY	C55008-3
1	SHORT WRENCH	C55008-4
1	LONG WRENCH	C55008-5
2	THREAD PROTECTOR	C55008-6
1	STORAGE BOX	

C55008-18		
QUANTITY	NOMENCLATURE	PART NUMBER
1	UPPER PIN ASSEMBLY	C55008-2
1	LOWER PIN ASSEMBLY	C55008-3
1	SHORT WRENCH	C55008-20
1	LONG WRENCH	C55008-21
2	THREAD PROTECTOR	C55008-6
2	THREAD PROTECTOR	C55008-22
1	STORAGE BOX	

**WEIGHT:** 10 lbs (5.5 kg)

**DIMENSIONS:** 6 x 8 x 24 inches (152 x 203 x 610 mm)

**NOTE:** C55001-18 replaces C55001-1 for future procurement.

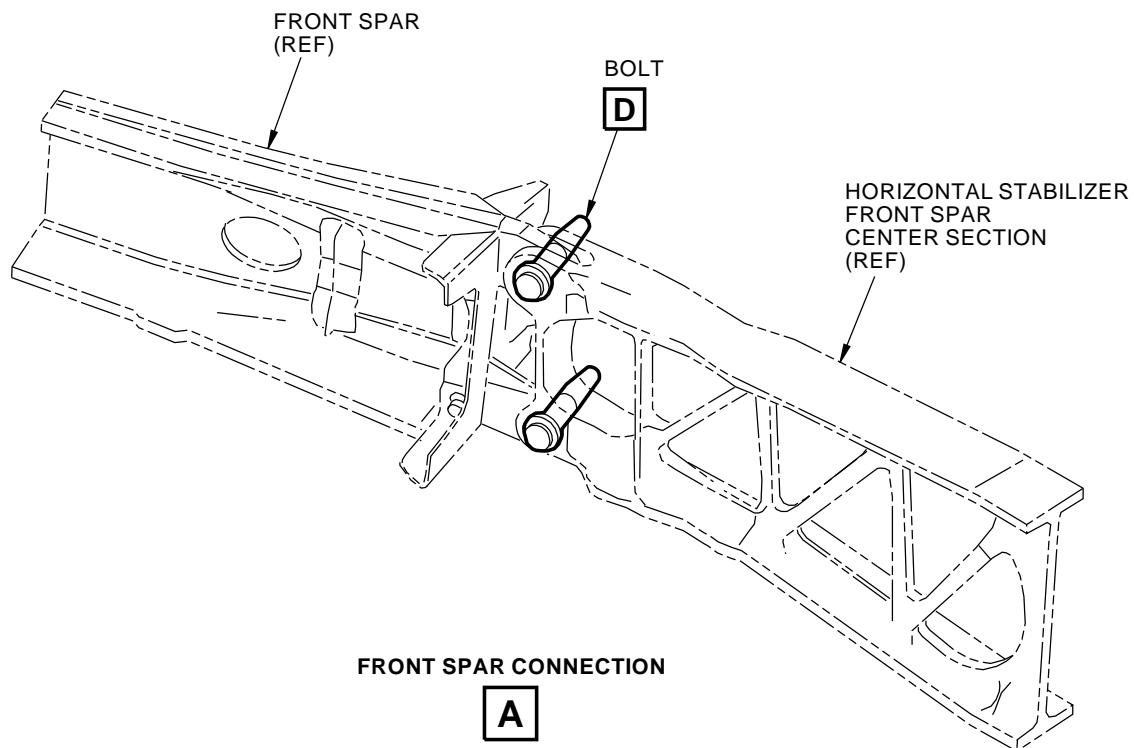
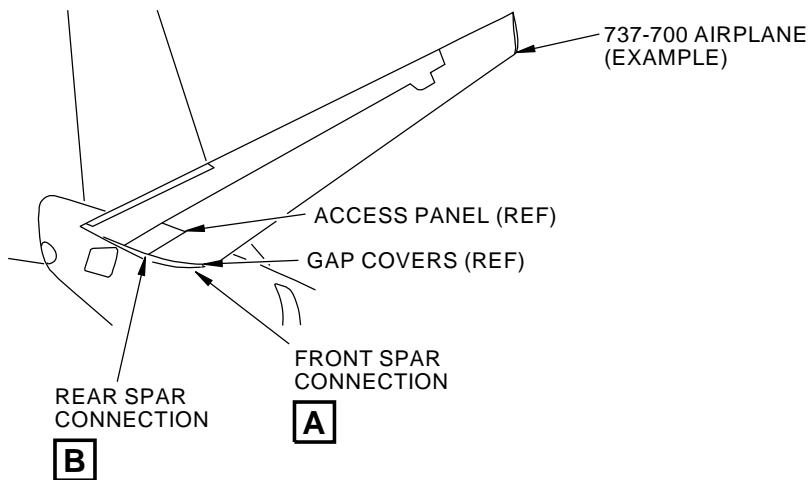
**27-40-13**

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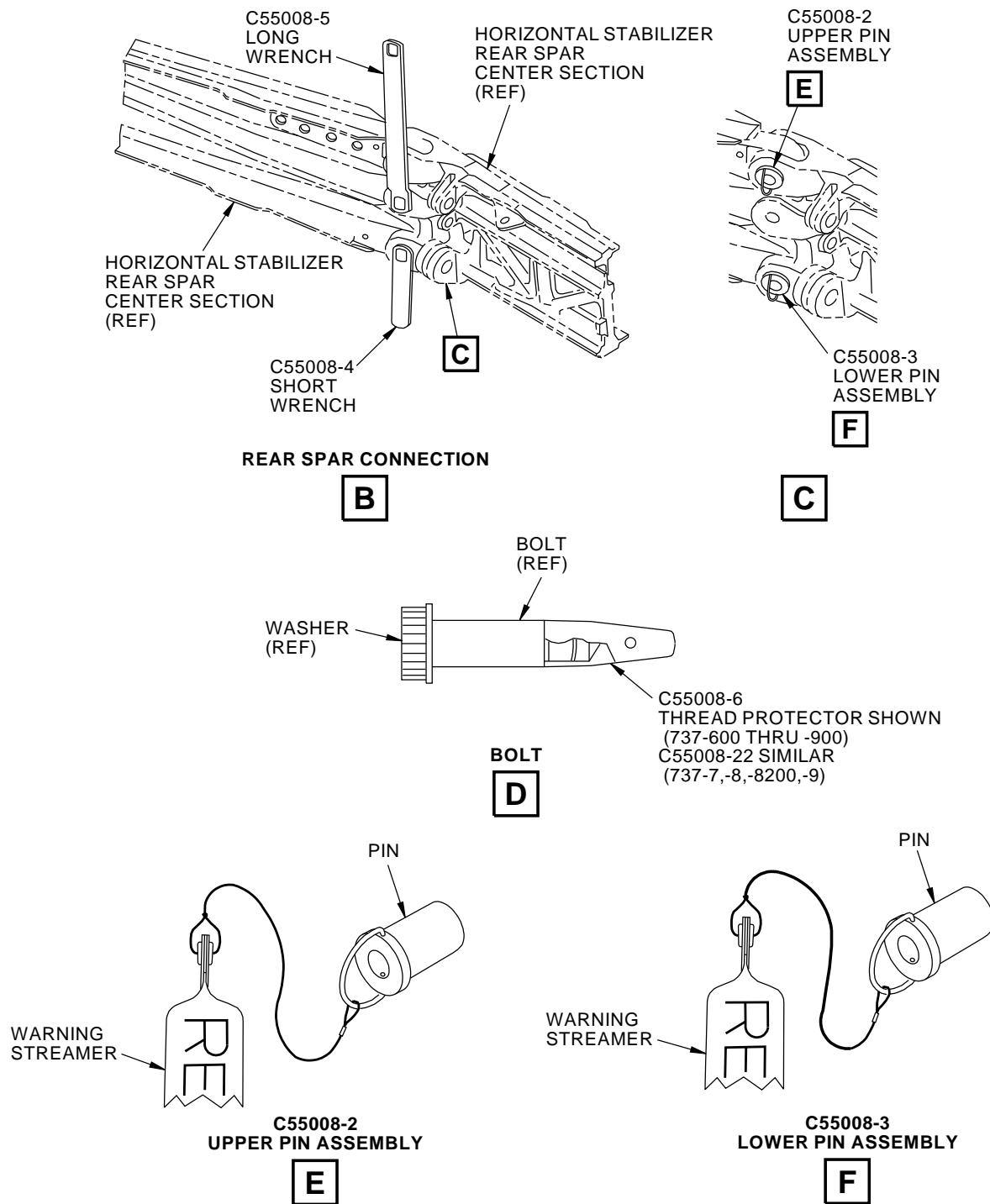


K40328 S0006831604\_V3

**Horizontal Stabilizer Installation Alignment Equipment -  
 Figure 1**

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K40367 S0006831605\_V4

**Stabilizer Alignment Tool Usage**  
**Figure 2**

**27-40-13**

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**PART NUMBER: F71422-829, -839, -844**

**NAME:** TEST JIG - CABLE TENSION, STABILIZER TRIM ACTUATOR

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-45-11, CMM 27-45-12

**USAGE & DESCRIPTION:** The F71422-829 (option) test jig is used during component maintenance on all 737-100 thru -500 airplane effectivities P1 and P8501 thru P9995.

The F71422-839 (option) test jig is used during component maintenance on all 737-100 thru -500 airplanes. F71422-839 is used on stabilizer trim actuator assemblies 65-49970 and 251A4510-4, -5.

The F71422-844 (preferred) test jig is used during component maintenance on 737-100 thru -900 airplanes. F71422-844 is used on stabilizer trim actuator assemblies 65-49970 and 251A4510-4, -5, -6, -9, -10.

F71422 provides loading to the stabilizer trim actuator for checking maximum allowable cable loading over a prescribed distance of cable travel.

Refer to CMM 27-45-11, CMM 27-45-12 and the current F71422 drawing for complete usage instructions.

F71422-829, F71422-839 and F714844 consist of:

F71422-829		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TEST JIG ASSEMBLY	F71422-10

F71422-839		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TENSION/COMPRESSION JIG	F71422-840
1	STORAGE DRUM ASSEMBLY	F71422-29
1	STAND ASSEMBLY	F71422-4

F71422-844		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TENSION/COMPRESSION JIG	F71422-840
1	STORAGE DRUM ASSEMBLY	F71422-29
1	STAND ASSEMBLY	F71422-4

**WEIGHT:** 2500 lbs (1134 kg)

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**DIMENSIONS:** 69 x 110 x 47 inches (1753 x 2794 x 1194 mm)

**NOTE:** F71422-844 replaces both F71422-829 and -839 for future procurement.

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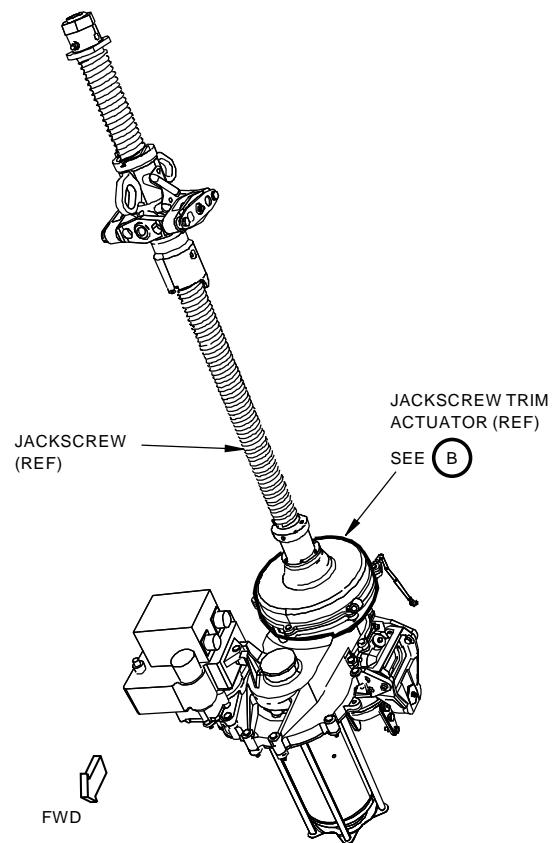
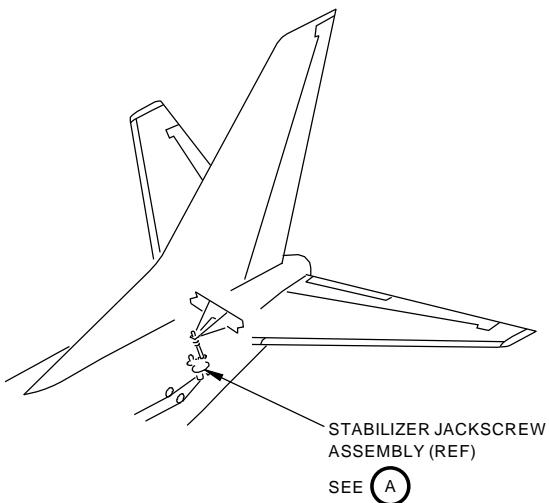
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STABILIZER JACKSCREW ASSEMBLY

A

L33298 S0006831607\_V2

Stabilizer Trim Actuator Location  
Figure 1

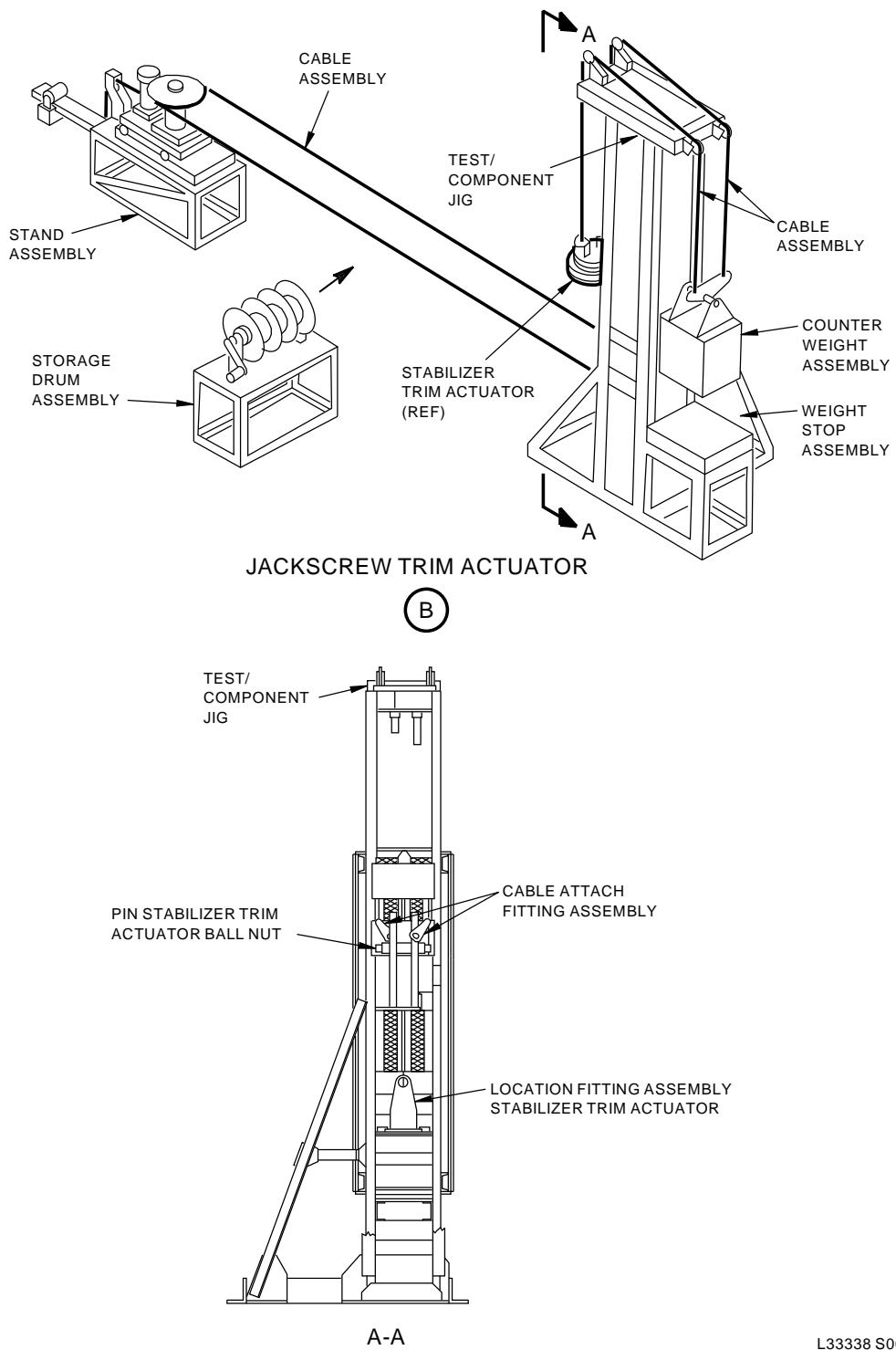
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L33338 S0006831608\_V2

**Test Apparatus Stand Assemblies**  
**Figure 2**

**27-40-14**

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737-600/700/800/900  
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**PART NUMBER: C27006-42, -47, -48**

**NAME:** TEST EQUIPMENT - CUTOUT SWITCH, STABILIZER TRIM CONTROL

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-41-91, CMM 27-41-94, CMM 27-41-95

**USAGE & DESCRIPTION:** The C27006-42 test equipment is used on 737-300 thru -500 airplanes.

The C27006-47 test equipment is used on 737-300 thru -800 airplanes up to line number 202, except airplanes that incorporate service bulletin 737-27-1220.

The C27006-48 (preferred) test equipment is used on 737-600 thru -900 airplanes line number 203 and on and for those airplanes that incorporate service bulletin 737-27-1220.

C27006 is used to perform functional tests on the stabilizer trim cutout switch assemblies.

Refer to CMM 27-41-91, CMM 27-41-94, CMM 27-41-95 and the current C27006 tool drawing for complete usage instructions.

C27006-42, -47 and -48 consist of:

C27006-42		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TEST BOX ASSEMBLY	C27006-43
1	TEST FIXTURE ASSEMBLY	C27006-13
1	STORAGE BOX	

C27006-47		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TEST BOX ASSEMBLY	C27006-43
1	TEST FIXTURE ASSEMBLY	C27006-24
1	POINTER ASSEMBLY	C27006-33
1	STORAGE BOX	

C27006-48		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TEST BOX ASSEMBLY	C27006-43
1	TEST FIXTURE ASSEMBLY	C27006-24
1	POINTER ASSEMBLY	C27006-33
1	ADAPTER CABLE ASSEMBLY	C27006-35
1	STORAGE BOX	

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**WEIGHT:** C27006-43 - 2 lbs (0.9 kg)  
C27006-24 - 34 lbs (15 kg)

**DIMENSIONS:** C27006-43 - 6 x 10 x 14 inches (152 x 254 x 356 mm)  
C27006-34 - 6 x 14 x 17 inches (152 x 356 x 432 mm)

**NOTE:** C27006-47, C27006-48 and C27006-42 supersede C27006-22,  
C27006-34 and C27006-12 respectively.  
C27006-48 replaces C27006-47 for future procurement.

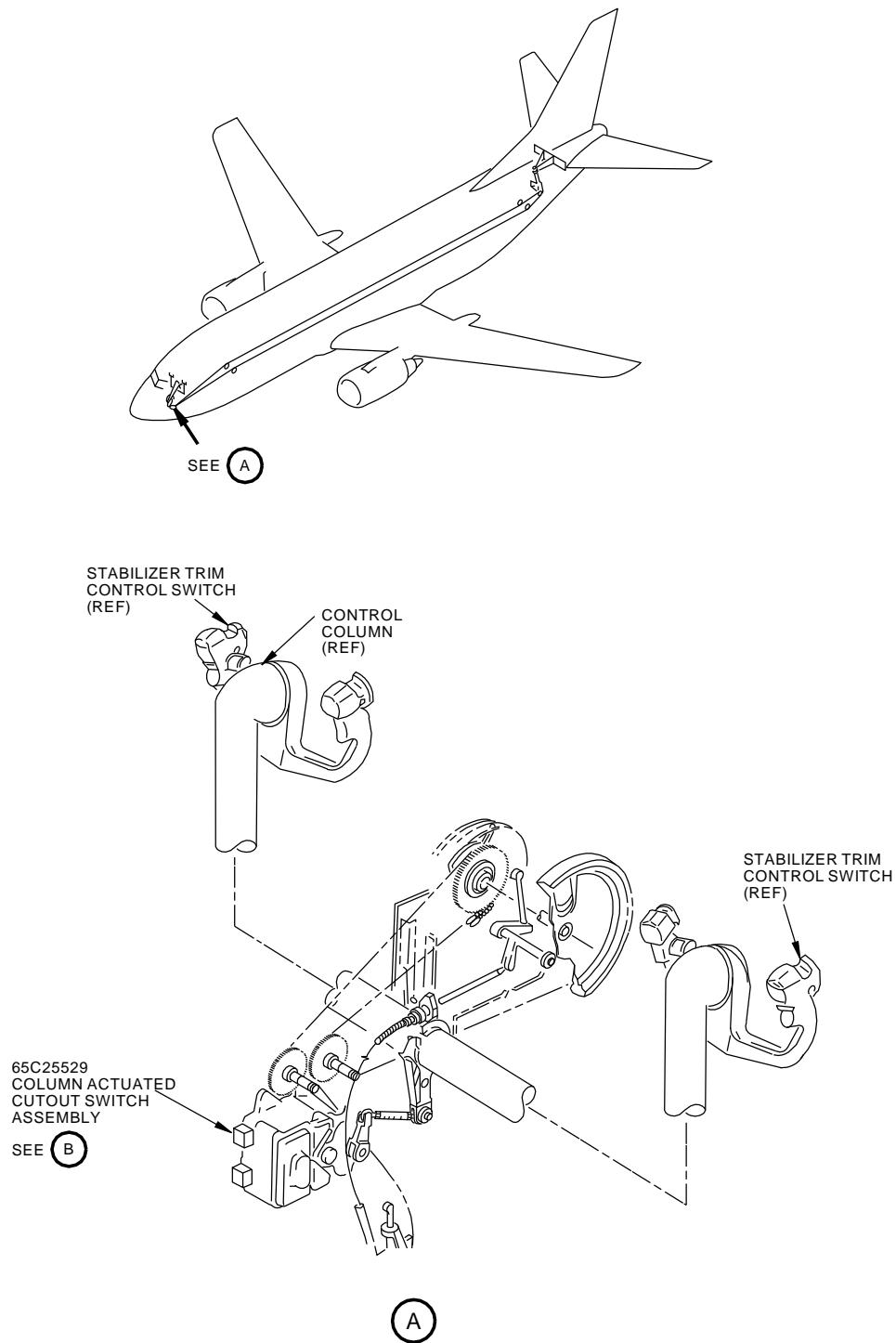
**27-40-15**

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L76212 S0006831610\_V3

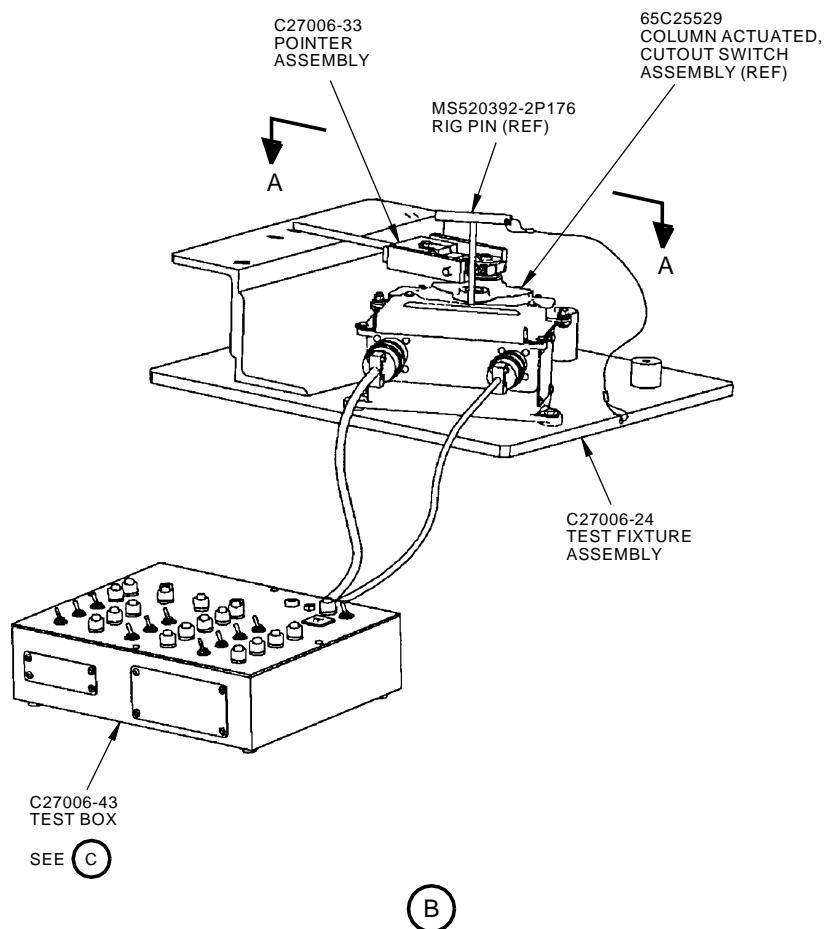
**Stabilizer Trim Control Cutout Switch Test Equipment**  
**Figure 1 (Sheet 1 of 4)**

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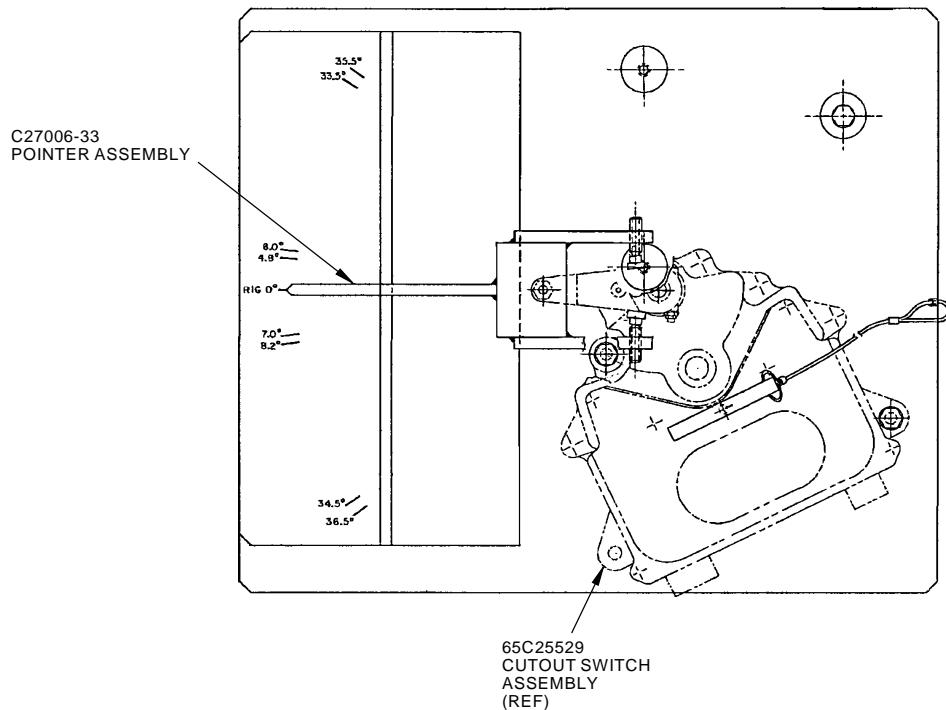
**Stabilizer Trim Control Cutout Switch Test Equipment**  
**Figure 1 (Sheet 2 of 4)**

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C27006-24  
TEST FIXTURE ASSEMBLY SHOWN  
C22006-13 SIMILAR

A-A

2086149 S0000432784\_V1

**Stabilizer Trim Control Cutout Switch Test Equipment**  
**Figure 1 (Sheet 3 of 4)**

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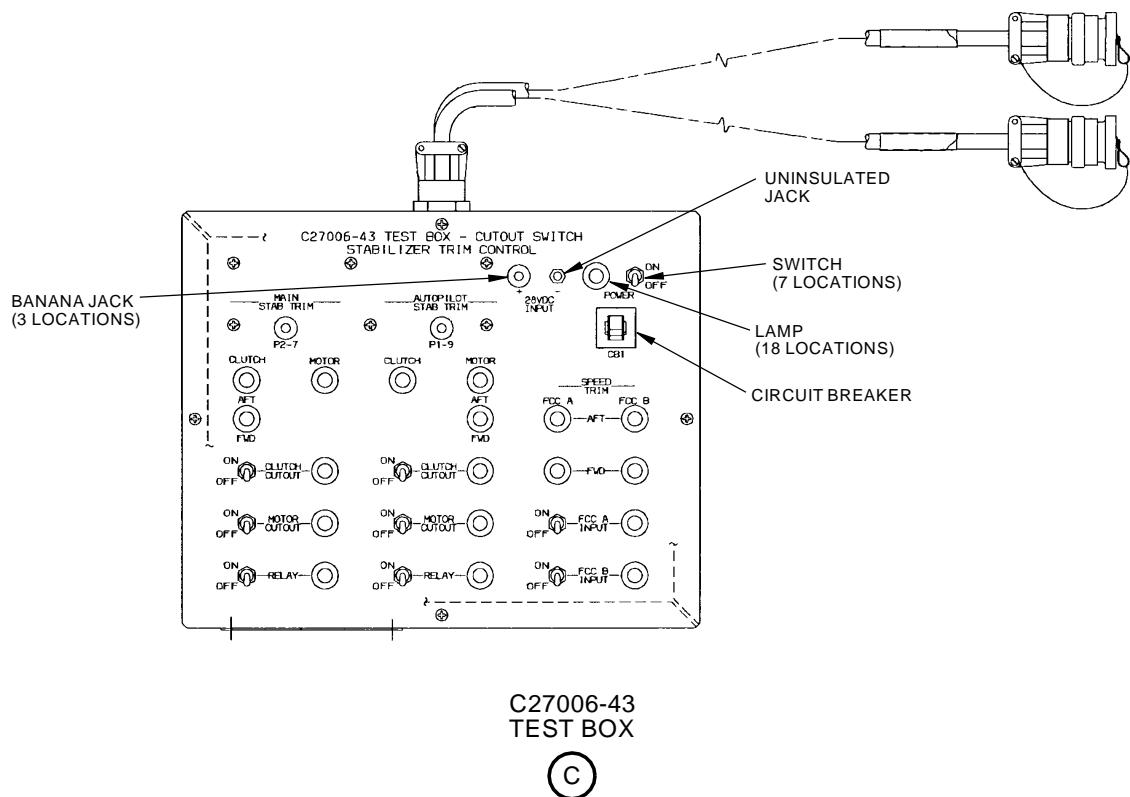
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2086151 S0000432787\_V1

**Stabilizer Trim Control Cutout Switch Test Equipment**  
**Figure 1 (Sheet 4 of 4)**

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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER:** C27026-1, -14, -24

**NAME:** TEST FIXTURE - BRAKE ASSEMBLY, STABILIZER TRIM ACTUATOR

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-45-11, CMM 27-45-12

**USAGE & DESCRIPTION:** The C27026-1 (option), or -14 (option) test fixture is used during component maintenance on 737-100 thru -500 airplanes.

The C27026-24 (preferred) test fixture is used during component maintenance on all 737 airplanes.

C27026 is used in conjunction with a customer-furnished torque wrench. C27026 is used during component maintenance assembly to apply torque to the 65C34616 brake stator assembly of the horizontal stabilizer trim actuator.

Refer to CMM 27-45-11, CMM 27-45-12 and the current C27026 drawing for complete usage instructions.

C27026-1, -14 and -24 consist of:

C27026-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	FIXTURE ASSEMBLY	C27026-2
1	STORAGE BOX	

C27026-14		
QUANTITY	NOMENCLATURE	PART NUMBER
1	FIXTURE ASSEMBLY	C27026-15
1	STORAGE BOX	

C27026-24		
QUANTITY	NOMENCLATURE	PART NUMBER
1	FIXTURE ASSEMBLY	C27026-25
1	STORAGE BOX	

**WEIGHT:** 46 lbs (21 kg)

**DIMENSIONS:** 10 x 11 x 12 inches (254 x 279 x 305 mm)

**NOTE:** C27026-24 replaces C27026-1 and -14 for future procurement.

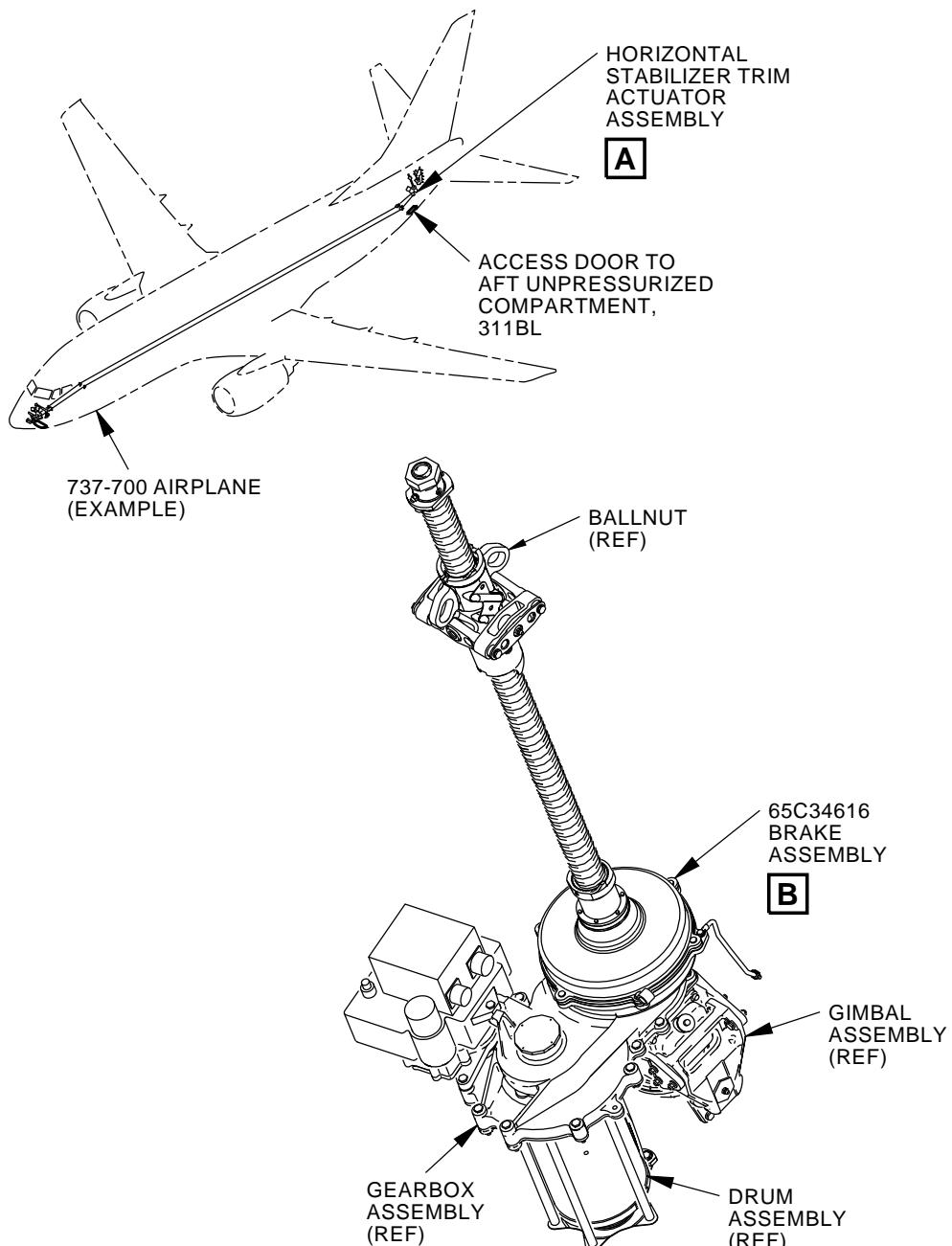
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**STABILIZER TRIM ACTUATOR ASSEMBLY**

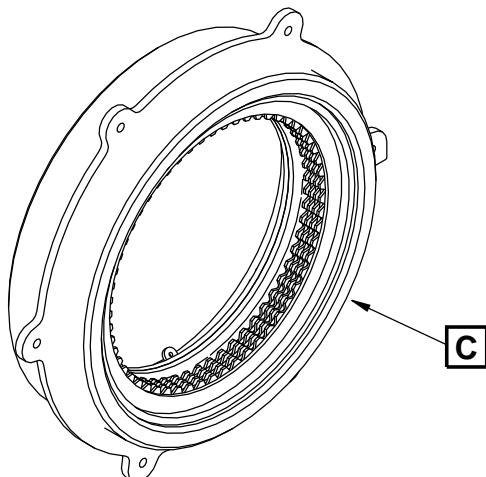
**A**

2422183 S0000559597\_V1

**Stabilizer Trim Actuator Brake Assembly Test Fixture**  
**Figure 1 (Sheet 1 of 2)**

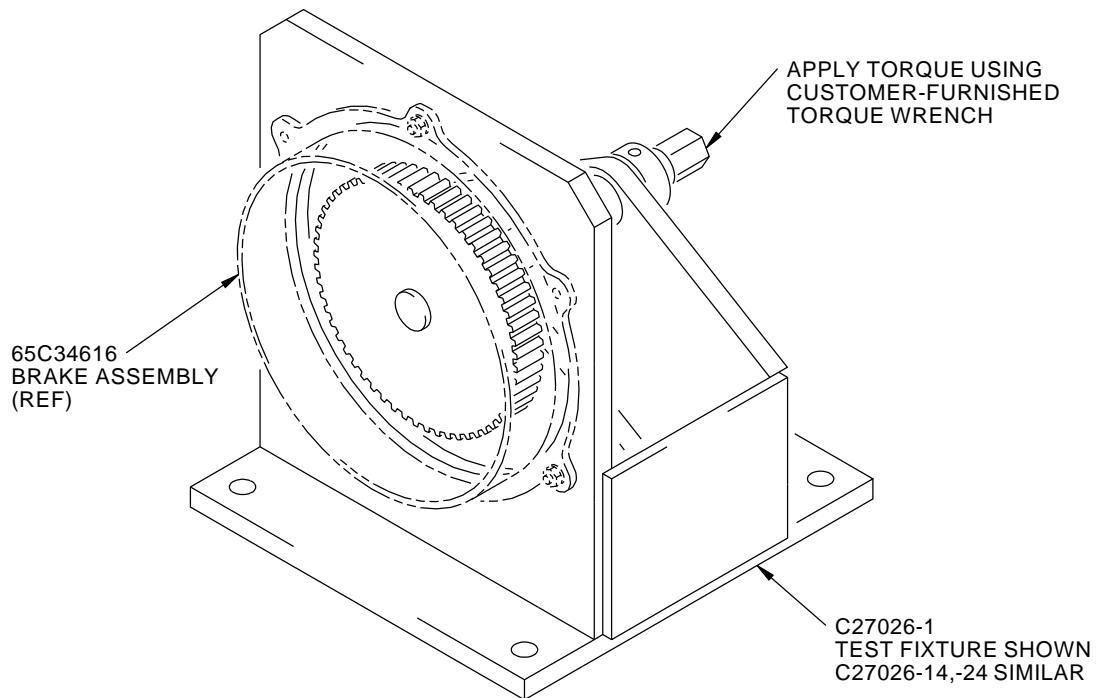
**27-40-16**

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65C34616  
BRAKE ASSEMBLY

**B**



**C**

2086501 S0000432793\_V2

Stabilizer Trim Actuator Brake Assembly Test Fixture  
Figure 1 (Sheet 2 of 2)

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PART NUMBER: 7MIT5-88439 WAS DELETED

**27-40-17**



737-600/700/800/900  
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**PART NUMBER:** C27033-1, -5, -6

**NAME:** WRENCH - RETAINING NUT, STABILIZER TRIM ACTUATOR

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-45-11, CMM 27-45-12

**USAGE & DESCRIPTION:** The C27033-1 wrench is used on 737-100 thru -500 airplanes.

The C27033-5 and -6 wrenches are used on all 737-600 thru -900 airplanes.

C27033 wrenches are used, in conjunction with a customer-furnished 3/8-inch drive torque wrench, to remove or install the retaining nut or the plug nut on the stabilizer trim actuator.

Refer to CMM 27-45-11, CMM 27-45-12 and the current C27033 drawing for complete usage instructions.

C27033-1, -5 and -6 consist of:

C27033-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	WRENCH	C27033-2
1	STORAGE BOX	

C27033-5		
QUANTITY	NOMENCLATURE	PART NUMBER
1	WRENCH	C27033-7
1	STORAGE BOX	

C27033-6		
QUANTITY	NOMENCLATURE	PART NUMBER
1	WRENCH	C27033-10
1	STORAGE BOX	

**WEIGHT:** C27033-2 - 0.42 lbs (0.19 kg)  
C27033-7 - 0.39 lbs (0.18 kg)  
C27033-10 - 0.28 lbs (0.15 kg)

**DIMENSIONS:** C27033-2 - 0.4 x 3.2 x 4.2 inches (10 x 81 x 107 mm)  
C27033-7 - 0.7 x 2.9 x 4.2 inches (18 x 74 x 107 mm)  
C27033-10 - 0.5 x 3.5 x 4.2 inches (13 x 89 x 107 mm)

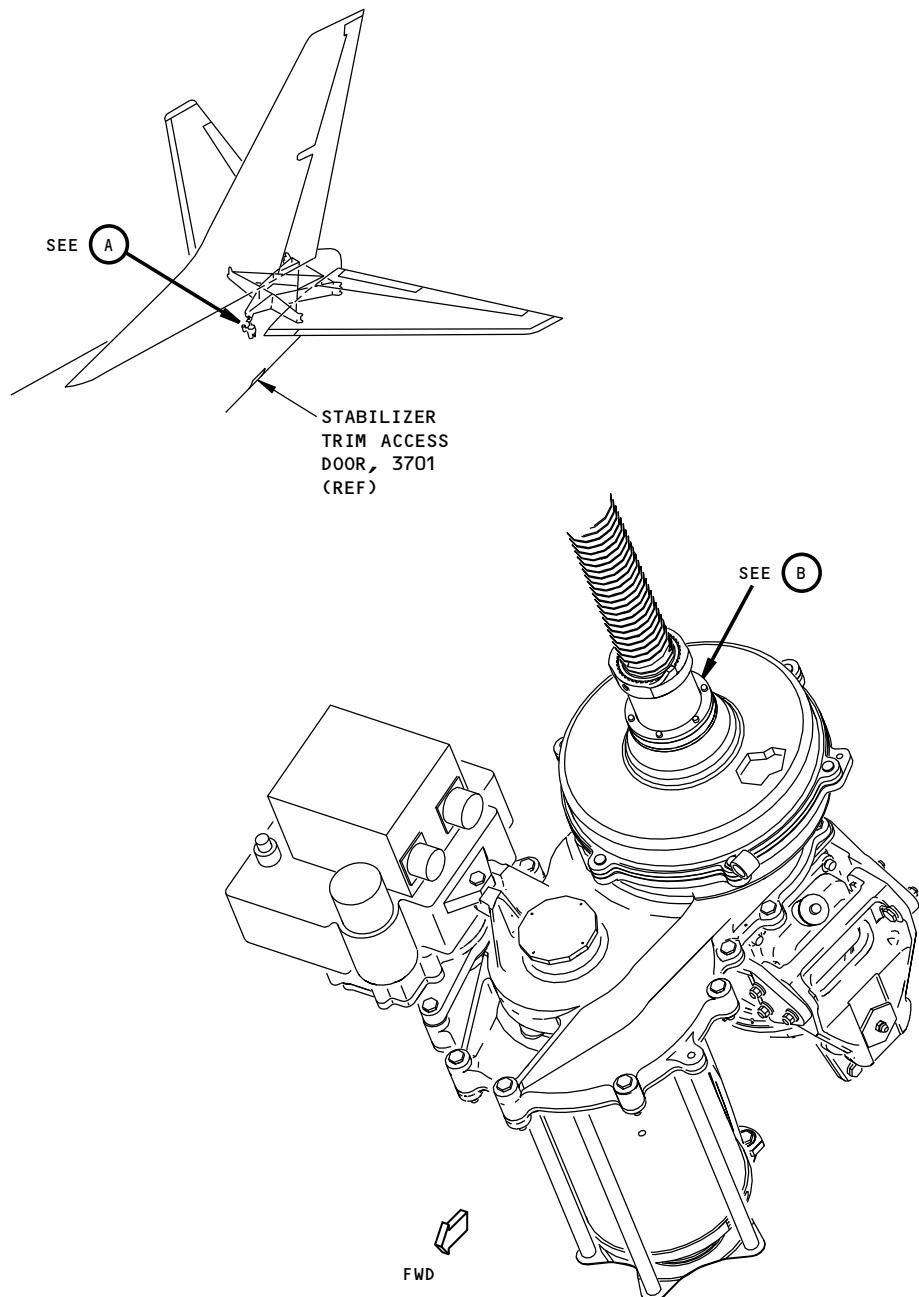
**27-40-18**

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STABILIZER TRIM ACTUATOR ASSEMBLY

(A)

2086163 S0000433194\_V1

**Stabilizer Trim Actuator Retaining Nut Wrench**  
**Figure 1 (Sheet 1 of 3)**

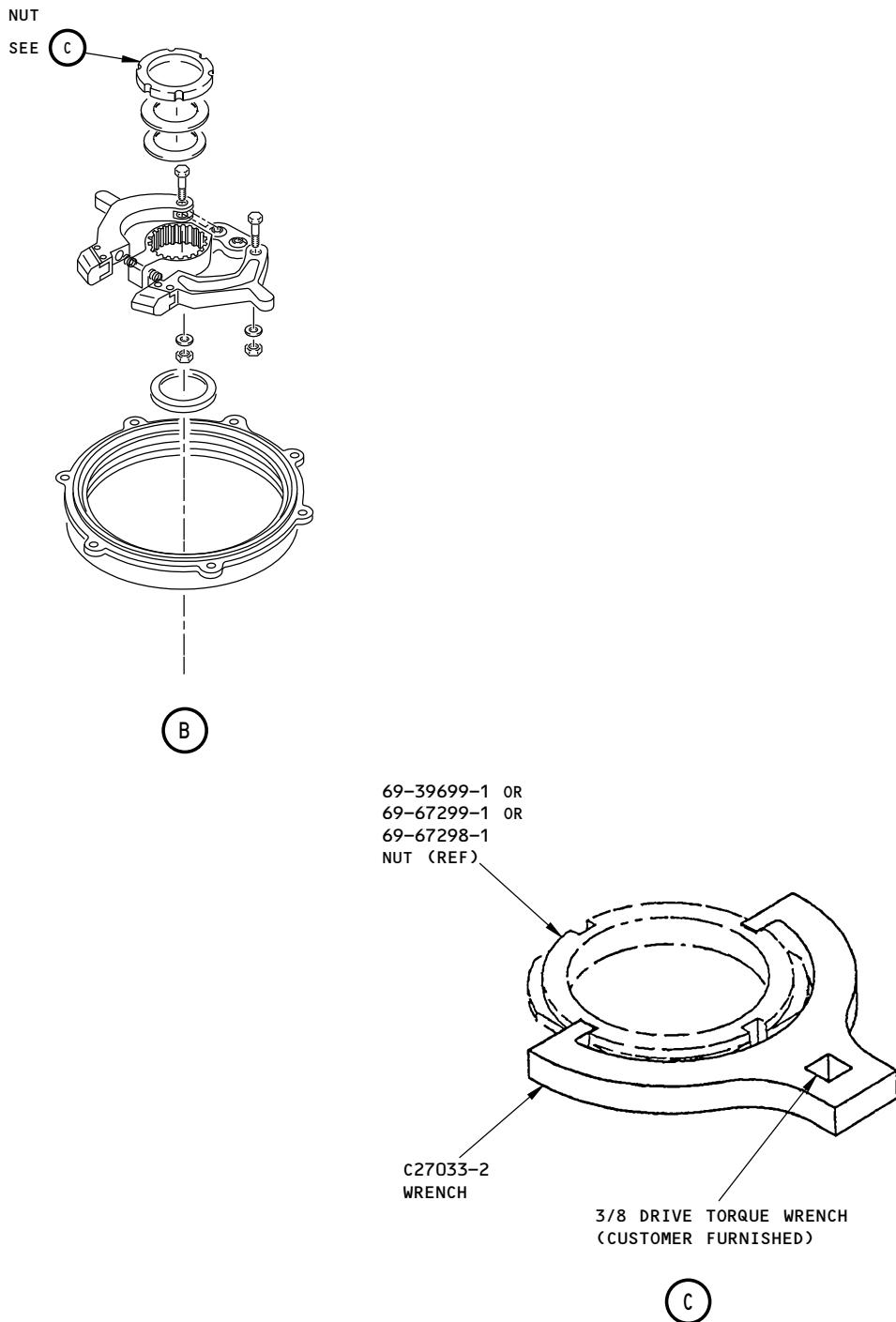
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2086168 S0000433200\_V1

**Stabilizer Trim Actuator Retaining Nut Wrench**  
**Figure 1 (Sheet 2 of 3)**

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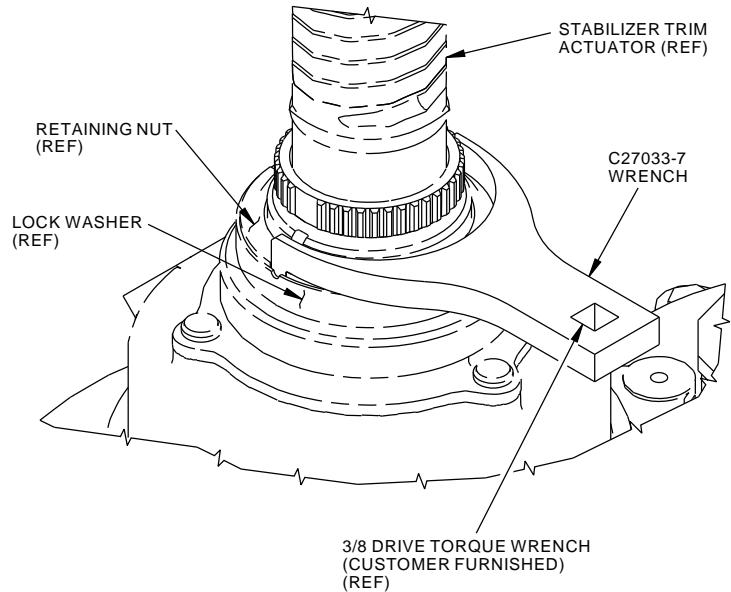
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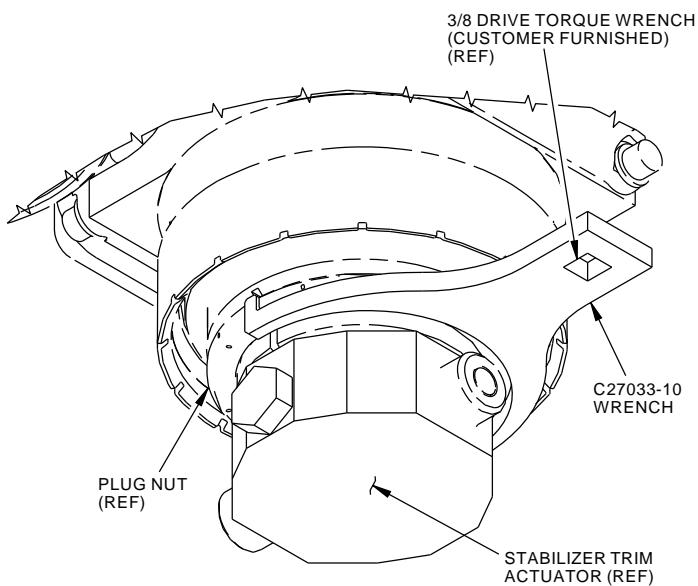
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**C27033-7**



**C27033-10**

L98072 S0006831616\_V3

**Stabilizer Trim Actuator Retaining Nut Wrench**  
**Figure 1 (Sheet 3 of 3)**

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**PART NUMBER: C55005-1, -11, -19**

**NAME:** PIN REMOVAL EQUIPMENT - HORIZONTAL STABILIZER

**AIRPLANE MAINTENANCE:** YES

AMM 27-41-11

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C55005-1 pin removal equipment is an option for use on 737-100 thru -500 airplanes.

The C55005-11 pin removal equipment is an option for use on 737-100 thru -900 airplanes.

The C55005-19 (preferred) pin removal equipment is used on all 737 airplanes.

C55005 is used to aid in removing frozen horizontal stabilizer attach bolts.

Refer to AMM 27-41-11 and the current C55005 drawing for complete usage instructions.

C55005-1, -11 and -19 consist of:

C55005-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	CLAMP	C55005-3
1	CLAMP	C55005-4
1	SCREW	C55005-5
1	SCREW	C55005-6
1	SCREW	C55005-7
1	THREAD PROTECTOR	C55005-8
1	THREAD PROTECTOR	C55005-9
1	STORAGE BOX	

C55005-11		
QUANTITY	NOMENCLATURE	PART NUMBER
1	CLAMP	C55005-3
1	CLAMP	C55005-4
1	SCREW	C55005-5
1	SCREW	C55005-6
1	SCREW	C55005-7
1	THREAD PROTECTOR	C55005-8
1	THREAD PROTECTOR	C55005-9
1	PLUG ASSEMBLY	C55005-13
1	STORAGE BOX	

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C55005-19		
QUANTITY	NOMENCLATURE	PART NUMBER
1	CLAMP	C55005-3
1	CLAMP	C55005-4
1	SCREW	C55005-5
1	SCREW	C55005-6
1	SCREW	C55005-7
1	THREAD PROTECTOR	C55005-8
1	THREAD PROTECTOR	C55005-9
1	PLUG ASSEMBLY	C55005-13
1	CLAMP	C55005-20
1	SCREW	C55005-21
1	THREAD PROTECTOR	C55005-22
1	STORAGE BOX	

**WEIGHT:** C55005-1 or -11 - 10 lbs (4.5 kg)  
C55005-19 - 8 lbs (3.6 kg)

**DIMENSIONS:** 6 x 10 x 12 inches (152 x 254 x 305 mm)

**NOTE:** C55005-19 replaces C55005-1 and C55005-11 for future procurement.

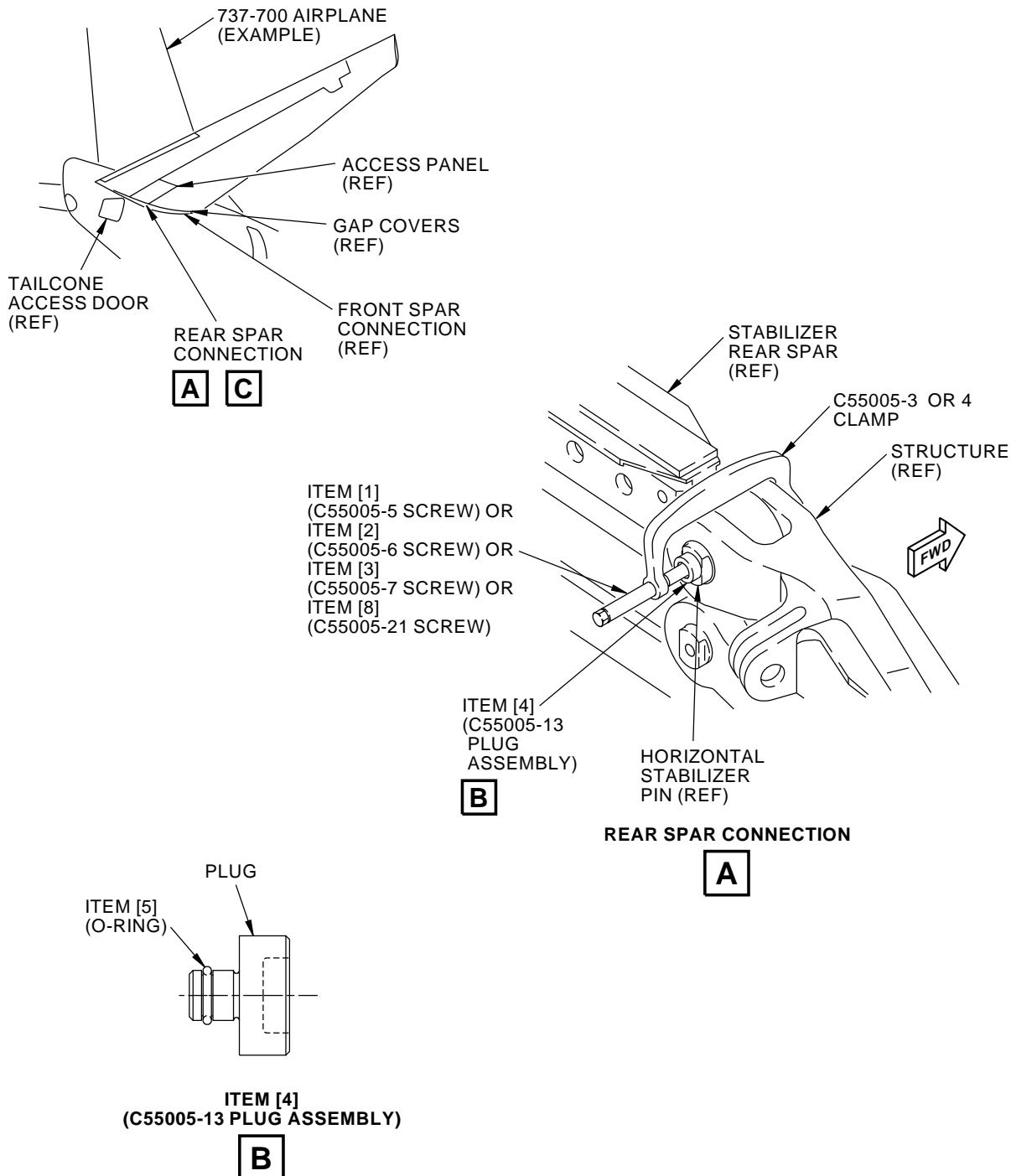
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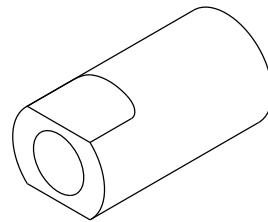
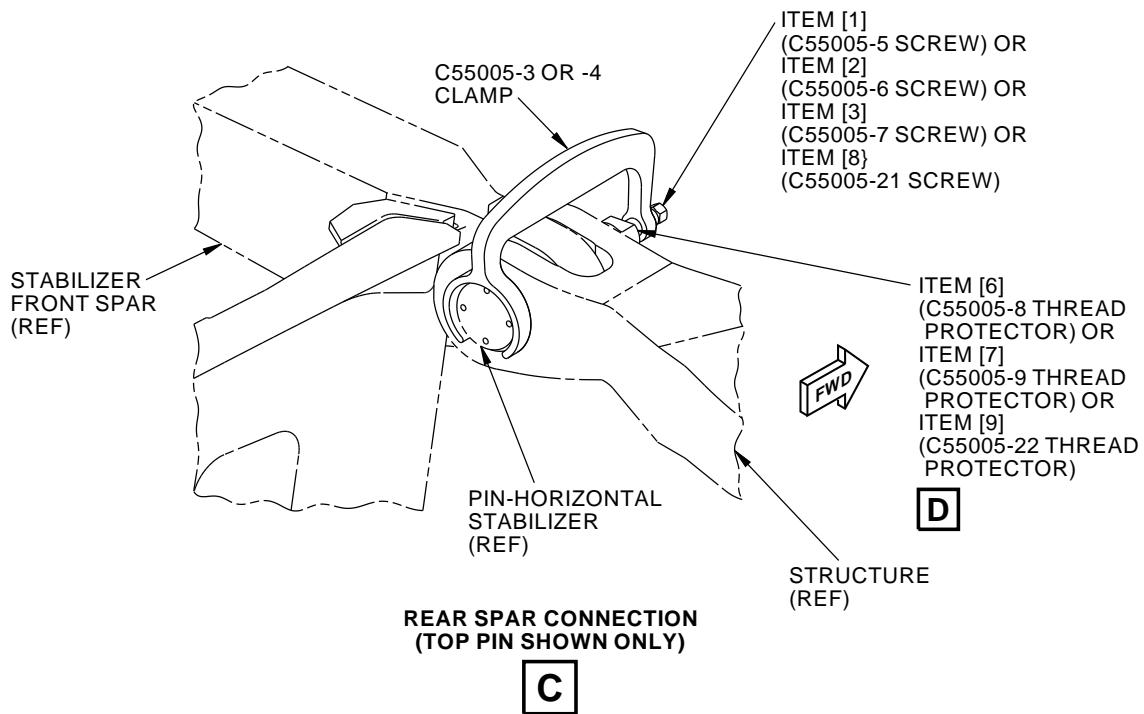
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**Horizontal Stabilizer Pin Removal Equipment**  
**Figure 1 (Sheet 1 of 2)**

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**ITEM [6]  
(C55005-8 THREAD PROTECTOR) SHOWN  
C55005-9 AND -22 SIMILAR**



2424462 S0000560602\_V1

**Horizontal Stabilizer Pin Removal Equipment**  
**Figure 1 (Sheet 2 of 2)**

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NUMBER	PART NUMBER	NOMENCLATURE	VENDOR CODE
[1]	C55005-5	SCREW	---
[2]	C55005-6	SCREW	---
[3]	C55005-7	SCREW	---
[4]	C55005-13	PLUG ASSEMBLY	---
[5]	C55005-18 (2-110)	O-RING	7A473
[6]	C55005-8	THREAD PROTECTOR	---
[7]	C55005-9	THREAD PROTECTOR	---
[8]	C55005-21	SCREW	---
[9]	C55005-22	THREAD PROTECTOR	---

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**PART NUMBER: C27080-1**

**NAME:** DRUM WRENCH - STABILIZER TRIM ACTUATOR

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-45-11, CMM 27-45-12

**USAGE & DESCRIPTION:** The C27080-1 drum wrench is used during component maintenance on 737-100 thru -900 airplanes.

C27080 is used in conjunction with a customer-furnished torque wrench, to apply test loads to the 251A4550 drum assembly during functional testing of the stabilizer trim actuator assembly.

Refer to CMM 27-45-11, CMM 27-45-12 and the current C27080 drawing for complete usage instructions.

C27080-1 consists of:

C27080-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	WRENCH ASSEMBLY	C27080-2
1	STORAGE BOX	

**WEIGHT:** 4 lbs (2 kg)

**DIMENSIONS:** 5 x 5 x 6 inches (127 x 127 x 152 mm)

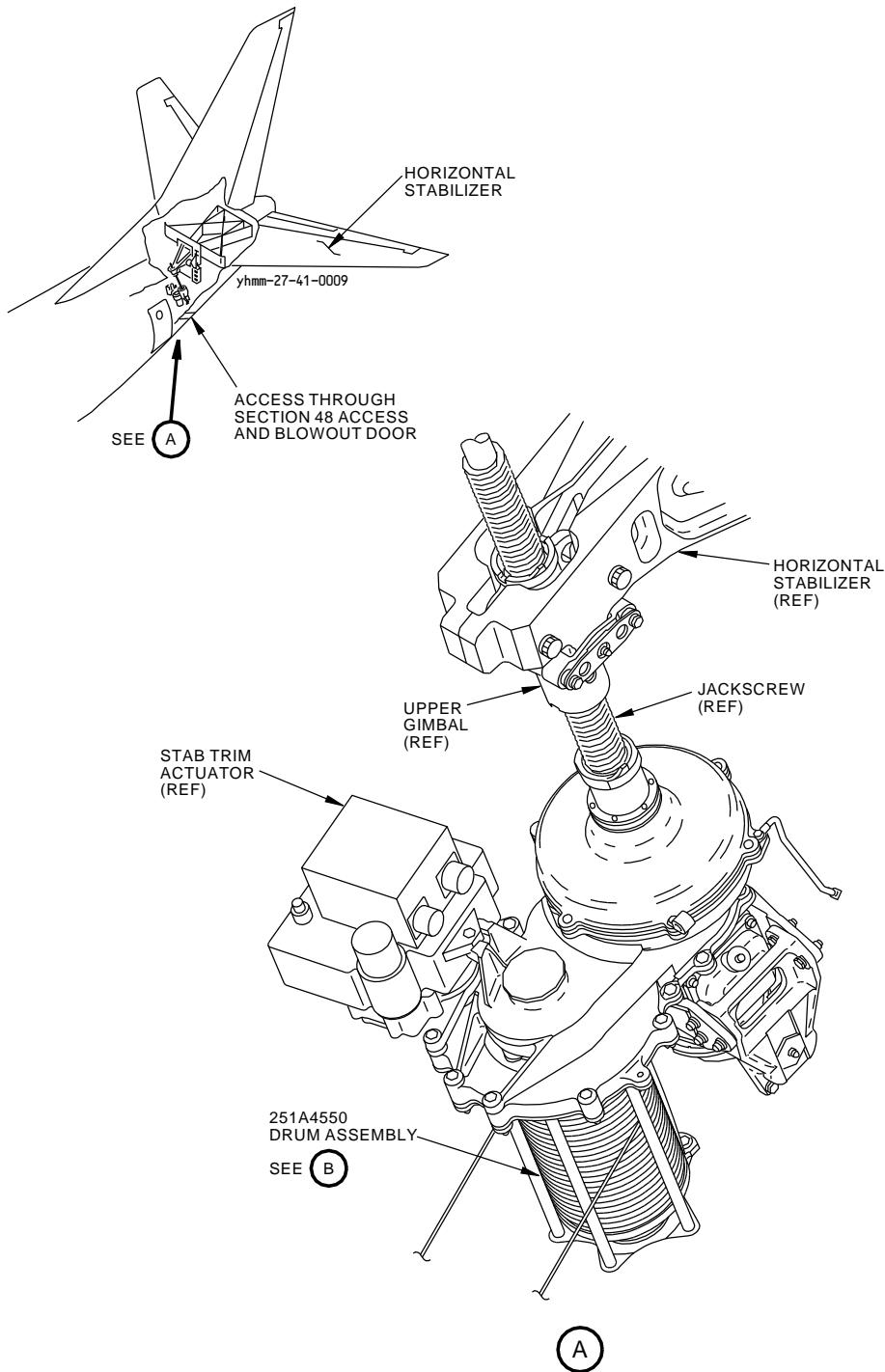
**NOTE:** C27080 replaces F70109 for future procurement.

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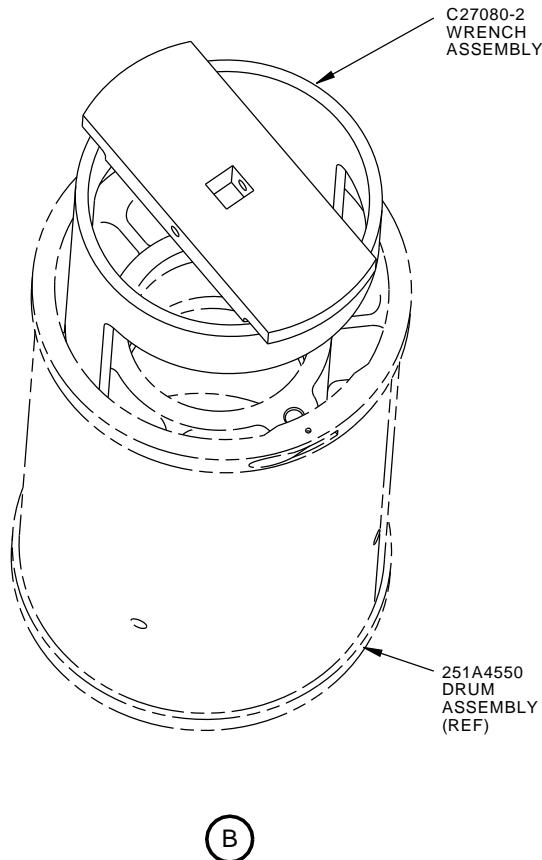
**Stabilizer Trim Actuator Drum Wrench**  
**Figure 1 (Sheet 1 of 2)**

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**BOEING**  
737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



1508768 S0000276608\_V2

**Stabilizer Trim Actuator Drum Wrench**  
**Figure 1 (Sheet 2 of 2)**

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**PART NUMBER: C27078-1**

**NAME:** MEASUREMENT TOOL - STABILIZER SYSTEM TEST

**AIRPLANE MAINTENANCE:** YES

AMM 27-41-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27078-1 measurement tool is used on 737-600 thru -900 airplanes.

C27078 is a protractor manufactured from either 304 or 316 stainless steel. C27078 is used to measure the angle of rotation during the "stabilizer trim secondary brake system test" of the horizontal stabilizer trim actuator.

Refer to AMM 27-41-00 and the current C27078 drawing for complete usage instructions.

C27078-1 consists of:

C27078-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	PROTRACTOR ASSEMBLY	C27078-2
1	STORAGE BOX	

**WEIGHT:** 0.8 lbs (0.36 kg)

**DIMENSIONS:** 2 x 5 x 8 inches (51 x 127 x 203 mm)

**27-40-21**

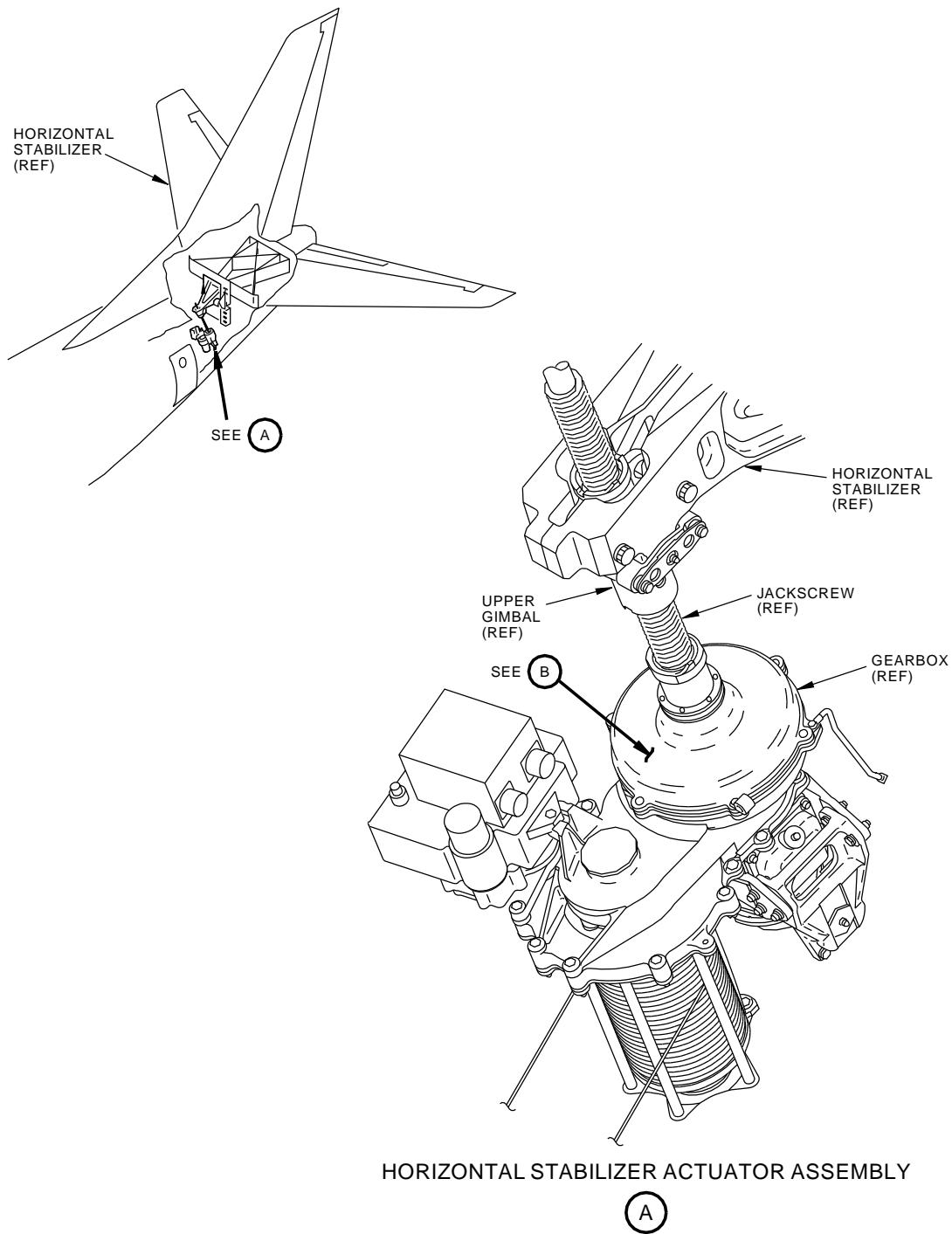
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1570354 S0000291686\_V1

**Stabilizer System Test Measurement Tool**  
**Figure 1 (Sheet 1 of 2)**

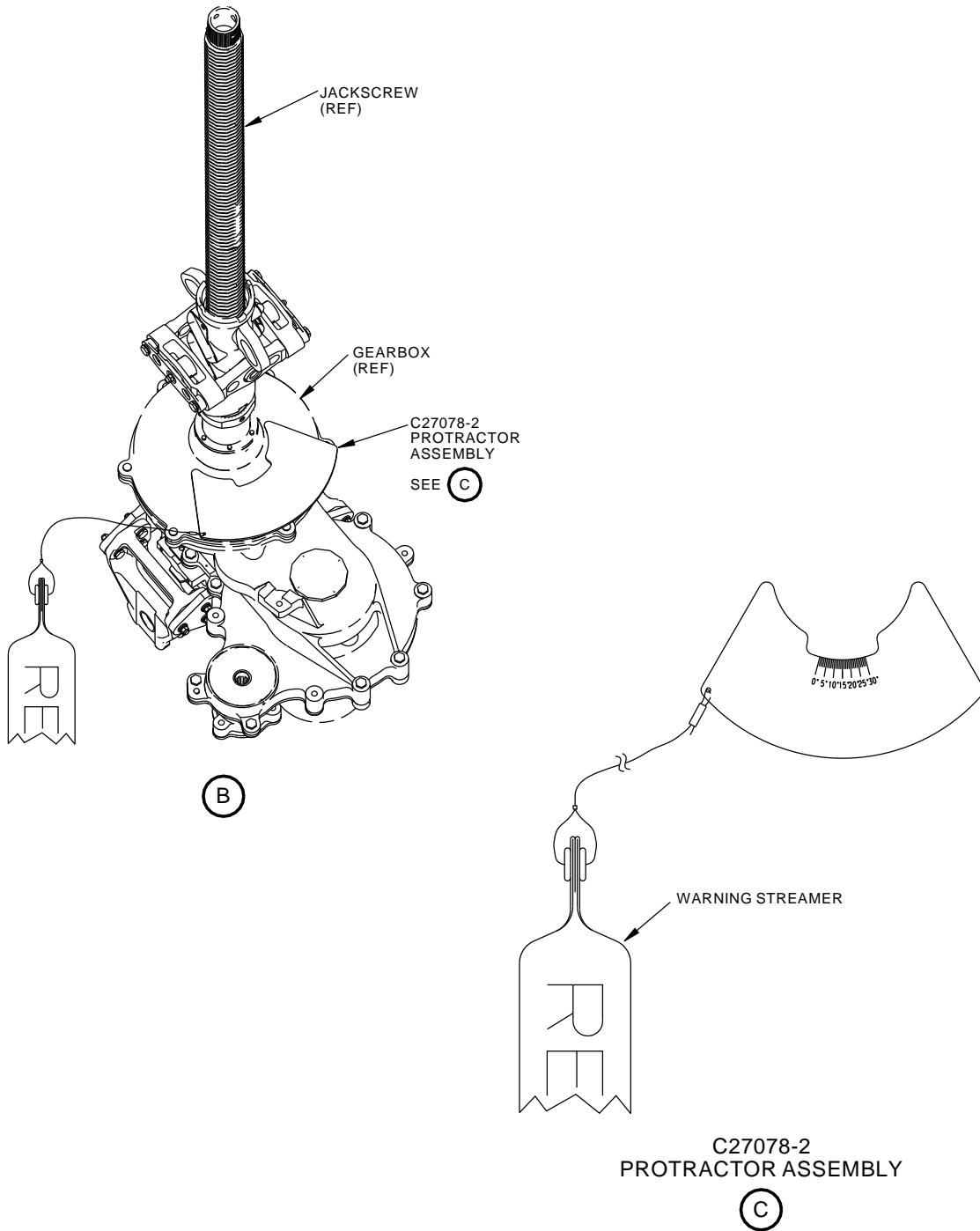
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C27078-2  
PROTRACTOR ASSEMBLY

**C**

1570357 S0000291689\_V1

**Stabilizer System Test Measurement Tool**  
**Figure 1 (Sheet 2 of 2)**

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**PART NUMBER: C27075-1, -9**

**NAME:** SPANNER WRENCH - BRAKE NUT, STABILIZER TRIM ACTUATOR

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

**USAGE & DESCRIPTION:** The C27075-1 or -9 spanner wrench is used during component maintenance on all 737 airplanes.

C27075-1 is used to remove or install the stabilizer trim actuator brake nut.

C27075-9 is used to remove or install the stabilizer trim actuator retainer ring-brake.

Refer to CMM 27-45-12 and the current C27075 drawing for complete usage instructions.

C27075-1 and -9 consist of:

C27075-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	WRENCH ASSEMBLY	C27075-2
1	STORAGE BOX	

C27075-9		
QUANTITY	NOMENCLATURE	PART NUMBER
1	WRENCH	C27075-10
1	STORAGE BOX	

**WEIGHT:** C27075-1 - 2 lbs (0.9 kg)

C27075-9 - 1 lb (0.45 kg)

**DIMENSIONS:** C27075-1 - 1 x 6 x 9 inches (25 x 152 x 229 mm)

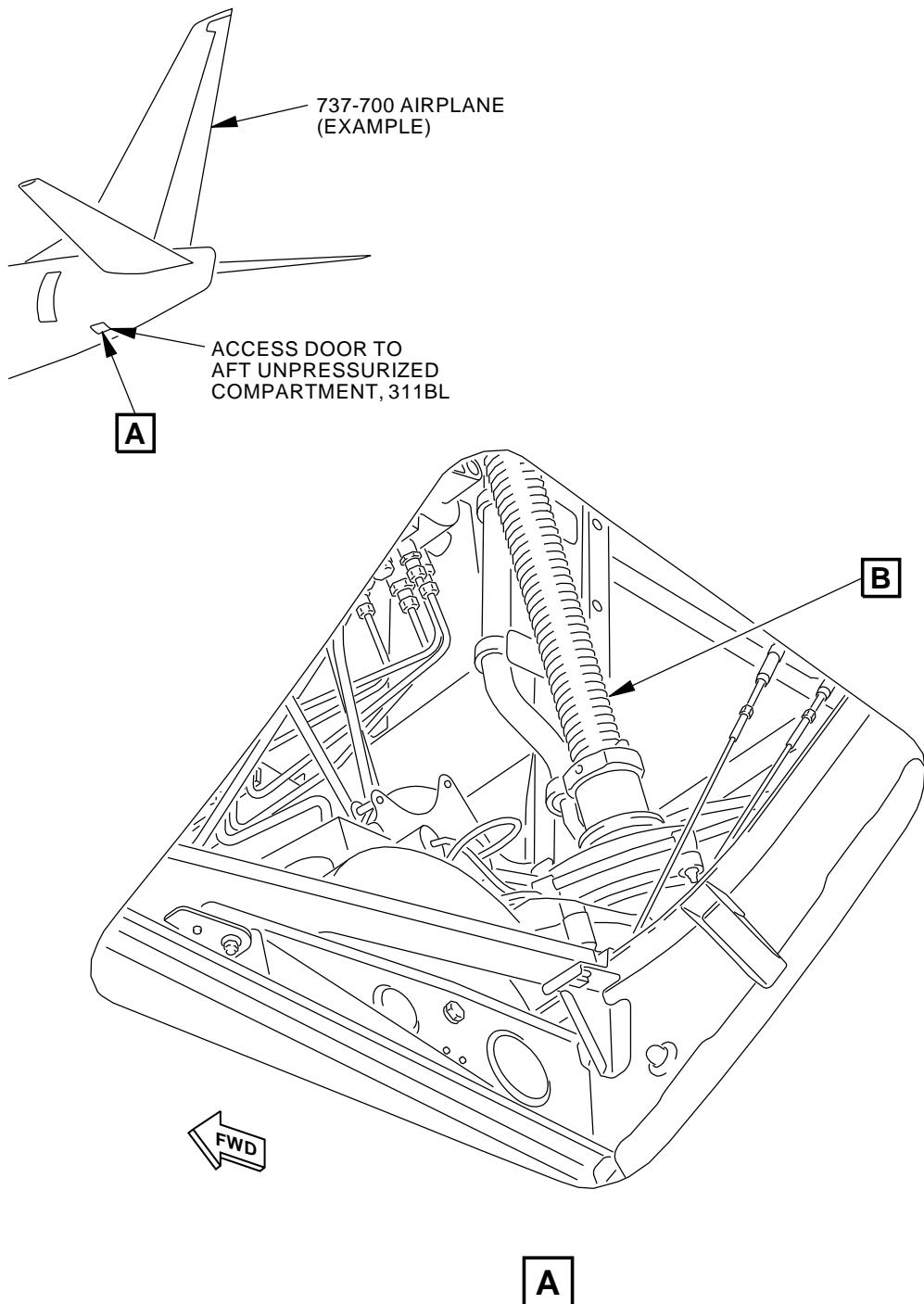
C27075-9 - 0.5 x 5 x 6 inches (13 x 127 x 152 mm)

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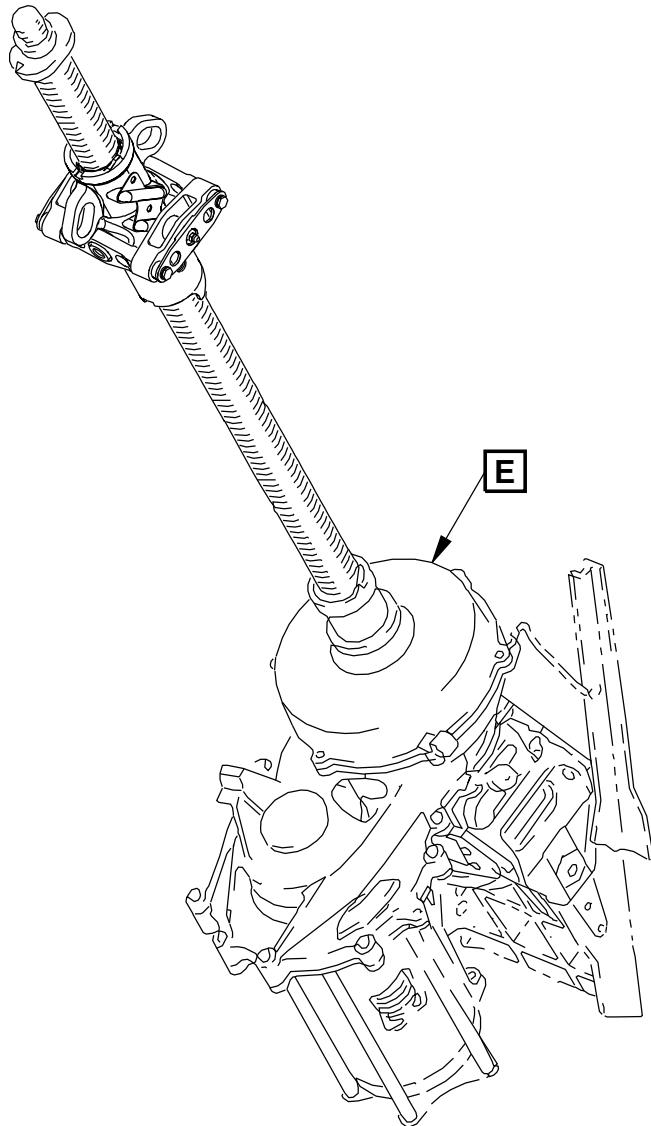


1571054 S0000293050\_V2

**Stabilizer Trim Actuator Brake Nut Spanner Wrench**  
**Figure 1 (Sheet 1 of 4)**

**27-40-22**

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**251A4510**  
**STABILIZER TRIM ACTUATOR ASSEMBLY**  
**(EXAMPLE)**

**B**

1571056 S0000293051\_V3

**Stabilizer Trim Actuator Brake Nut Spanner Wrench**  
**Figure 1 (Sheet 2 of 4)**

**27-40-22**

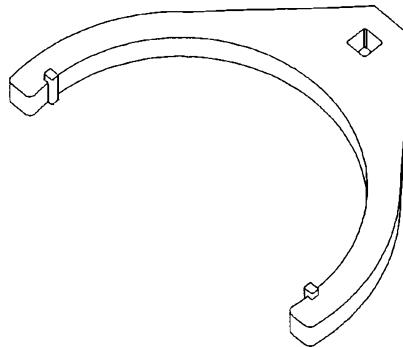
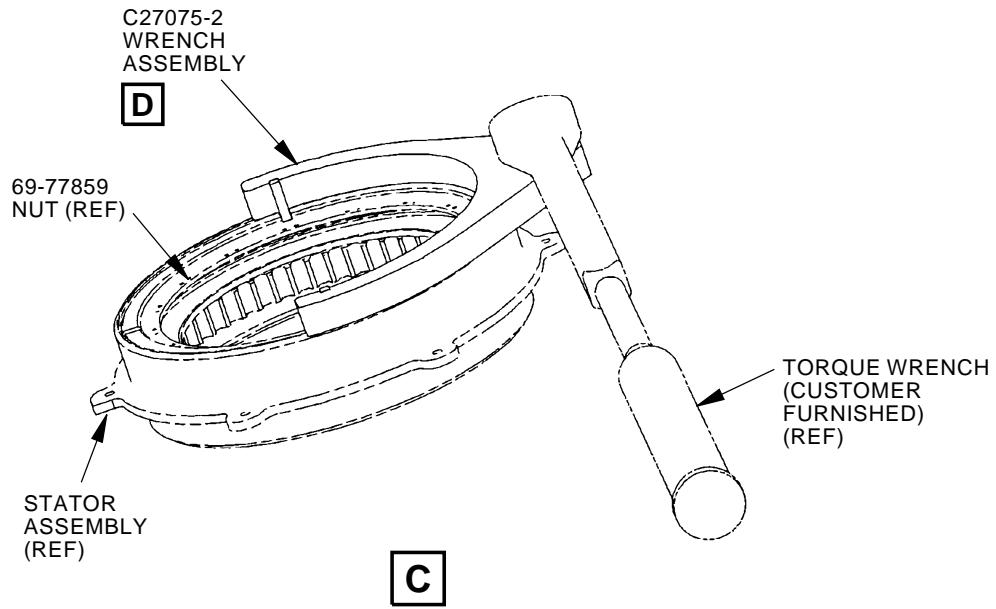
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C27075-2  
WRENCH ASSEMBLY

D

1571064 S0000293053\_V3

Stabilizer Trim Actuator Brake Nut Spanner Wrench  
Figure 1 (Sheet 3 of 4)

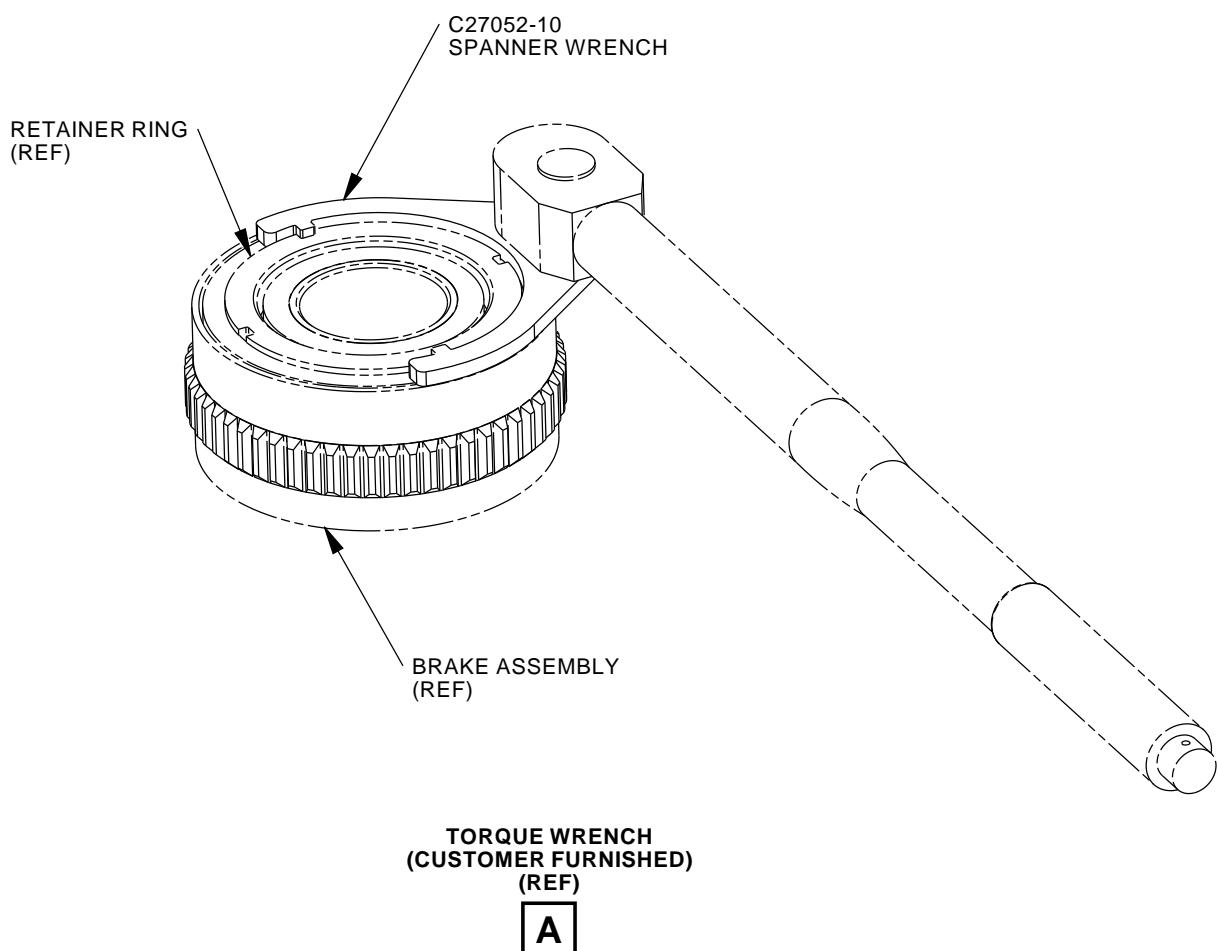
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1571061 S0000293052\_V3

Stabilizer Trim Actuator Brake Nut Spanner Wrench  
Figure 1 (Sheet 4 of 4)

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**PART NUMBER: F70109**

**NAME:** WRENCH ASSEMBLY - STABILIZER TRIM ACTUATOR

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-45-12

**USAGE & DESCRIPTION:** The F70109 wrench assembly is used during component maintenance on 737-100 thru -900 airplanes.

F70109 is used in conjunction with a customer-furnished torque wrench to apply test loads to the 251A4554 drum assembly during a functional test.

Refer to CMM 27-45-12 and the current F70109 drawing for complete usage instructions.

F70109 is a steel bar welded to a machined steel tube.

**NOTE:** C27080 replaces F70109 for future procurement.

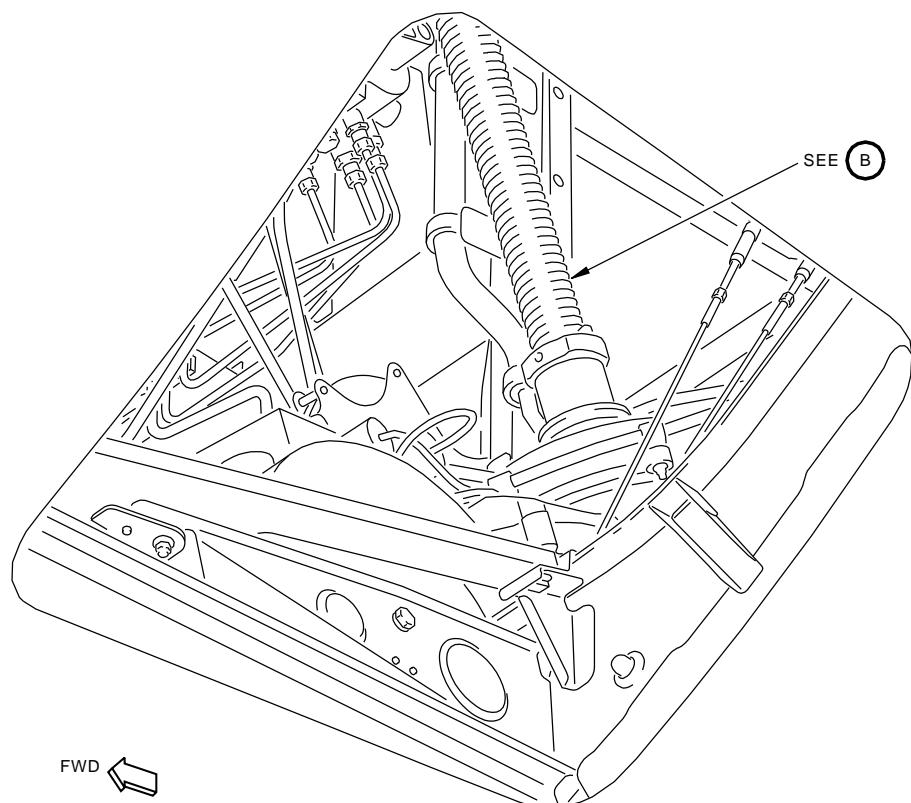
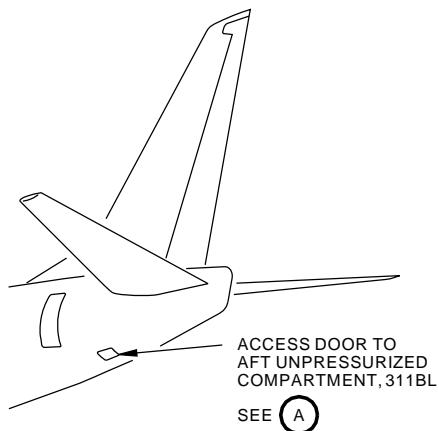
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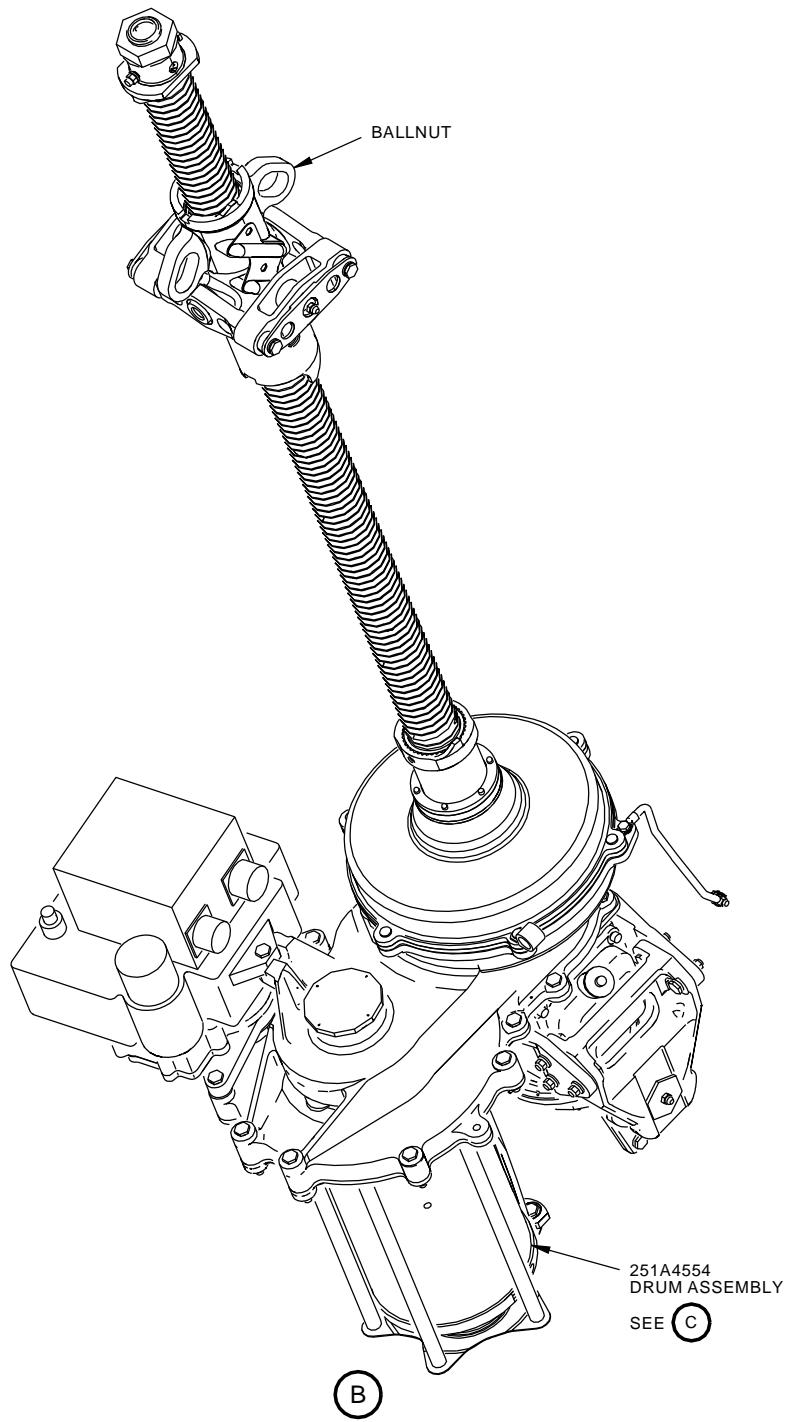
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1571779 S0000293208\_V1

**Stabilizer Trim Actuator Wrench Assembly**  
**Figure 1 (Sheet 1 of 3)**

**27-40-23**

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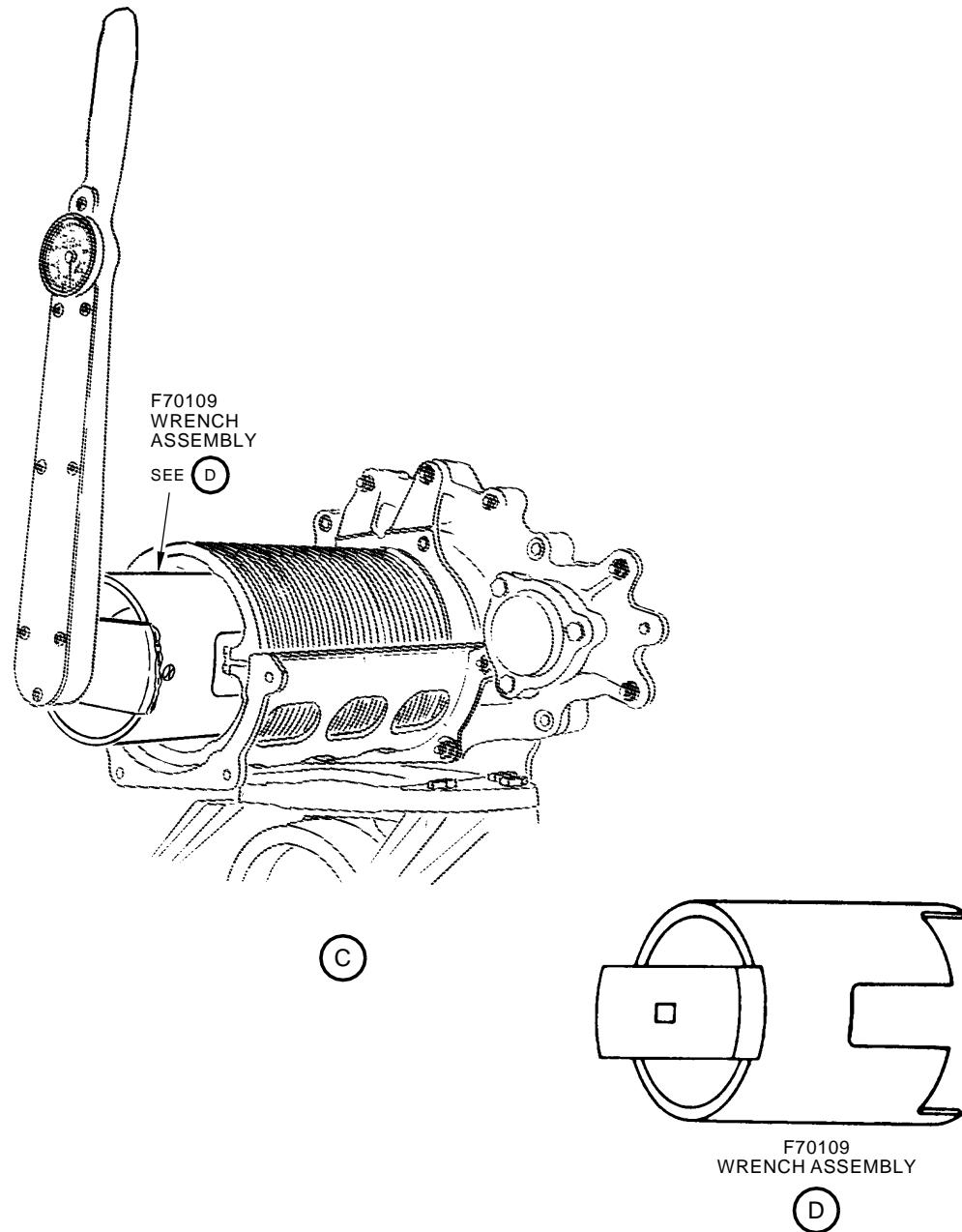
1571783 S0000293210\_V1

**Stabilizer Trim Actuator Wrench Assembly**  
**Figure 1 (Sheet 2 of 3)**

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1571794 S0000293213\_V1

**Stabilizer Trim Actuator Wrench Assembly**  
**Figure 1 (Sheet 3 of 3)**

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**PART NUMBER: F70167-1**

**NAME:** ASSEMBLY JIG - STABILIZER TRIM ACTUATOR

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-45-12

**USAGE & DESCRIPTION:** The F70167-1 assembly jig is used during component maintenance on 737-100 thru -900 airplanes.

F70167 is used during assembly or disassembly of the 251A4510 stabilizer trim actuator assembly. Hinged mounts allow the actuator to be rotated 90 degrees, allowing installation of the stabilizer jackscrew.

Refer to CMM 27-45-12 and the current F70167 drawing for complete usage instructions.

F70167-1 consists of a base plate and two hinged mounting plates for actuator attachment.

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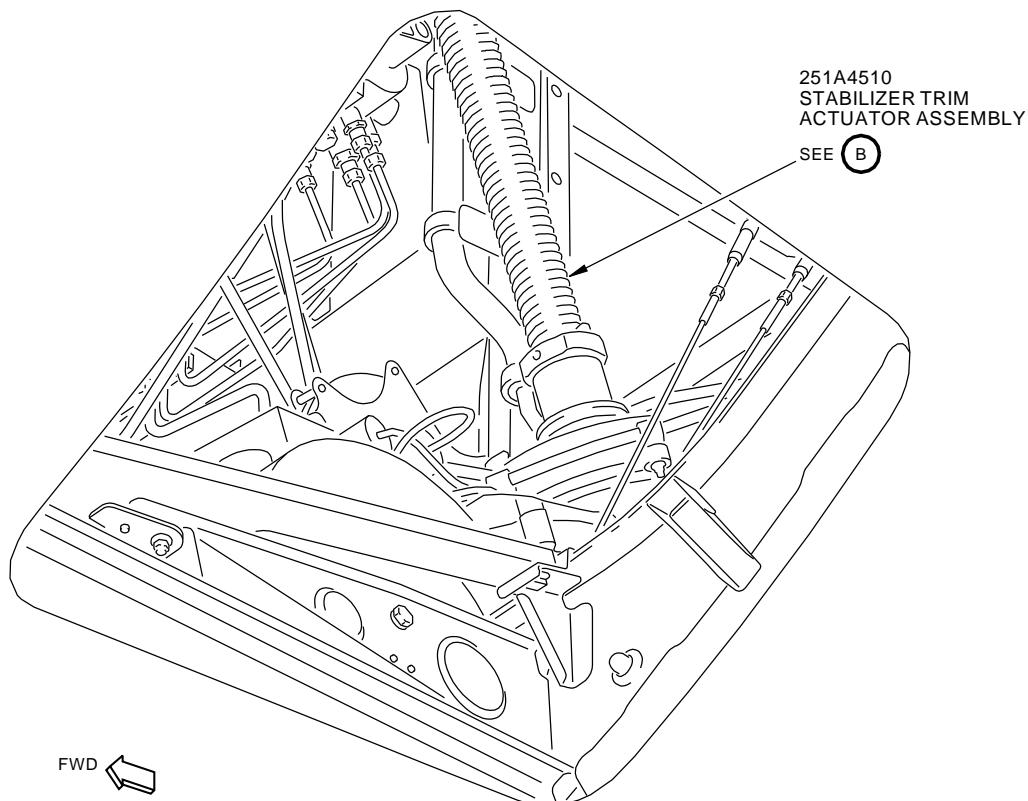
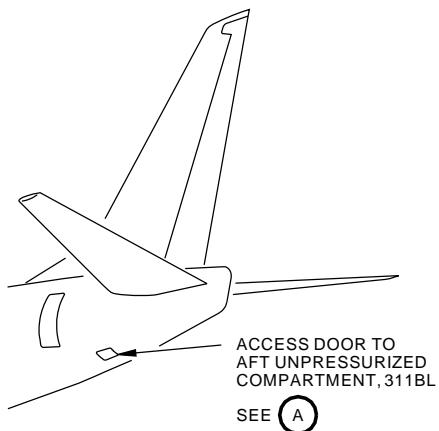
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1571803 S0000293231\_V1

Stabilizer Trim Actuator Assembly Jig  
Figure 1 (Sheet 1 of 2)

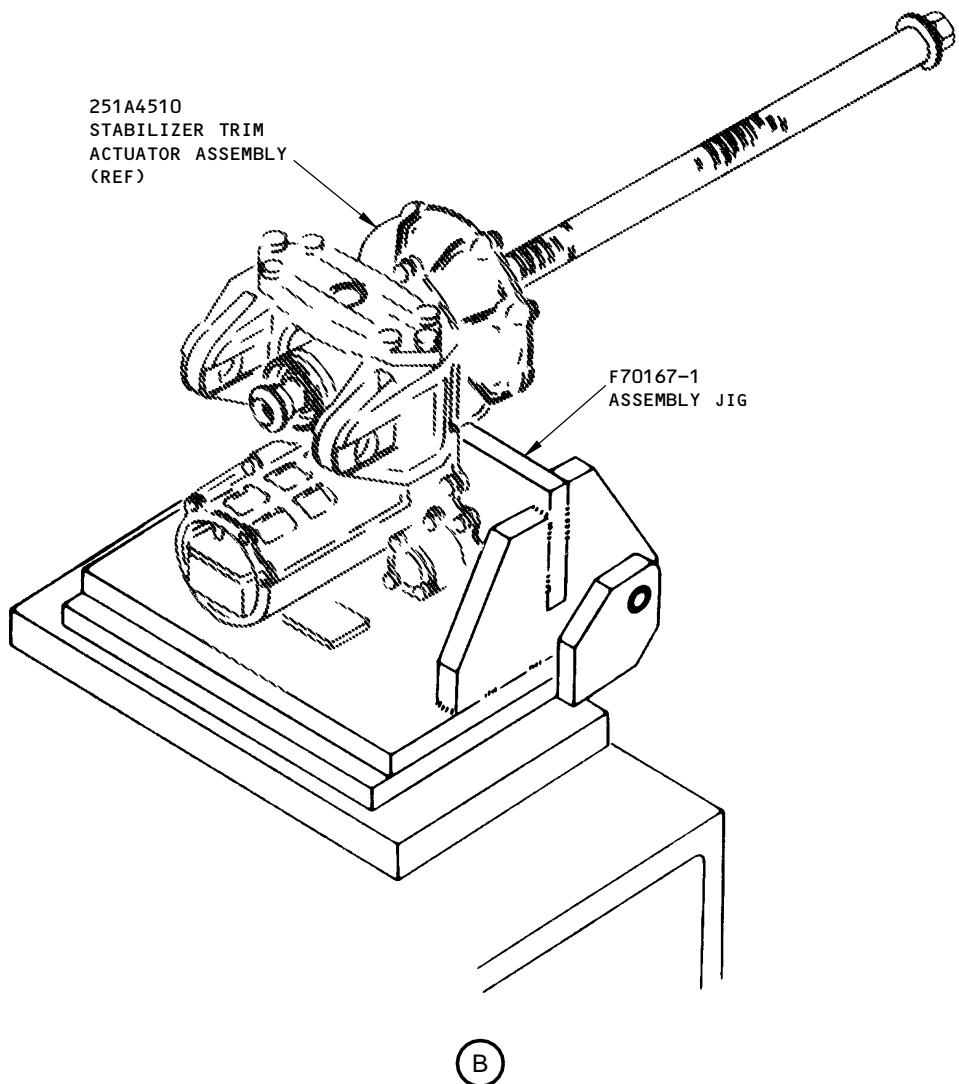
**27-40-24**

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1571811 S0000293234\_V1

**Stabilizer Trim Actuator Assembly Jig**  
**Figure 1 (Sheet 2 of 2)**

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**PART NUMBER: F71291-500**

**NAME:** COMPRESSOR - ACTUATOR SPRING, STABILIZER TRIM

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-45-12

**USAGE & DESCRIPTION:** The F71291-500 compressor is used during component maintenance on 737-100 thru -900 airplanes.

F71291 is used to compress the stabilizer trim actuator compression springs during installation or removal of the spring retaining nut and washer.

Refer to CMM 27-45-12 and the current F71291 drawing for complete usage instructions.

F71291-500 consists of:

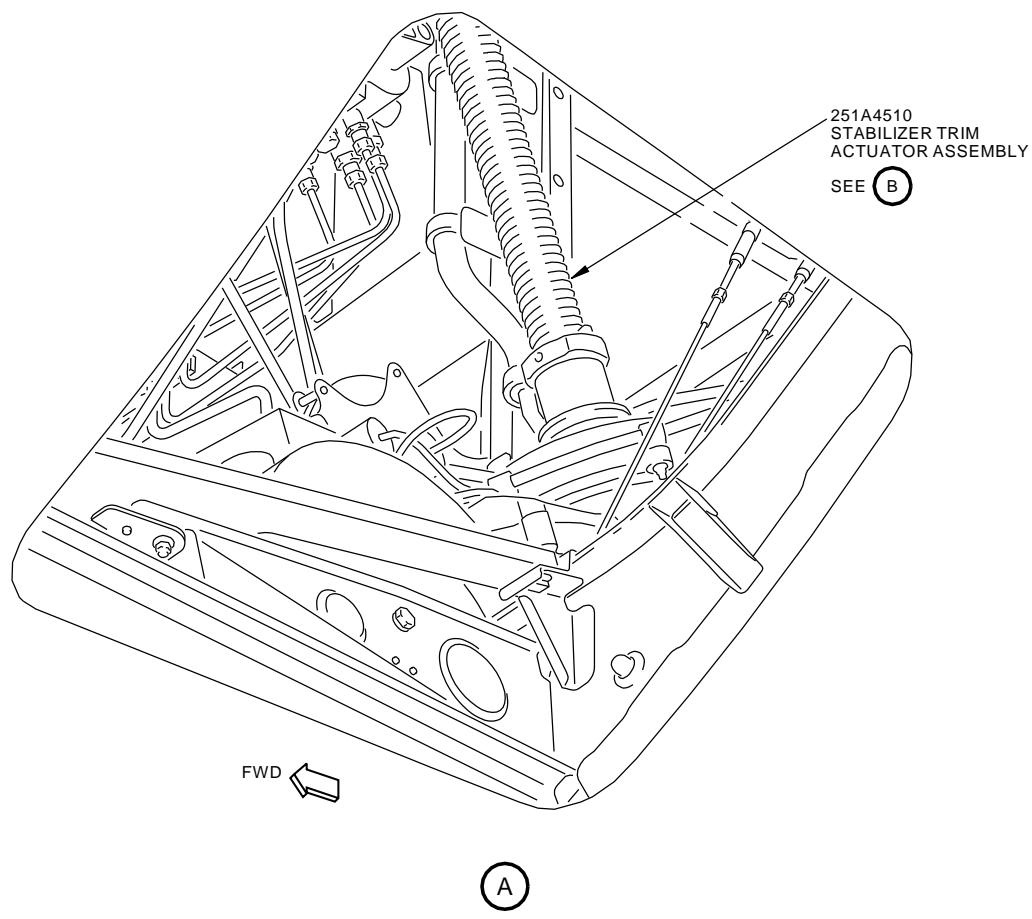
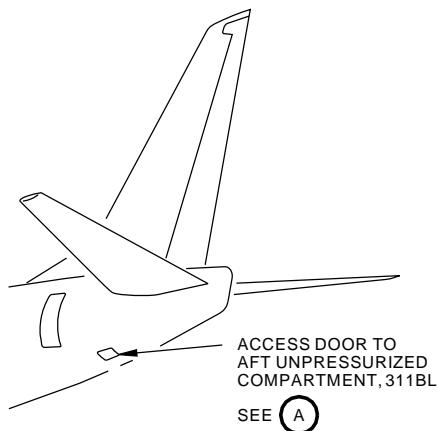
F71291-500		
QUANTITY	NOMENCLATURE	PART NUMBER
1	SLEEVE ASSEMBLY	F71291-2
1	BUSHING	F71291-5

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1571684 S0000293275\_V1

**Stabilizer Trim Actuator Spring Compressor**  
**Figure 1 (Sheet 1 of 5)**

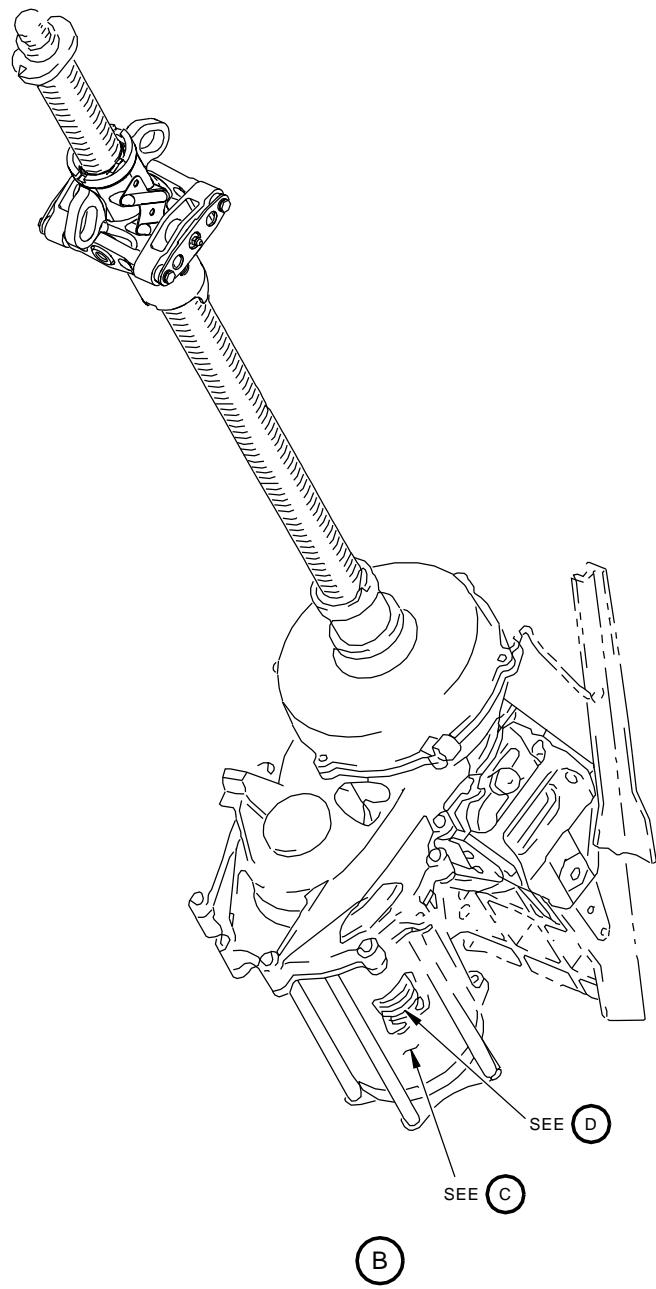
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1571702 S0000293276\_V1

**Stabilizer Trim Actuator Spring Compressor**  
**Figure 1 (Sheet 2 of 5)**

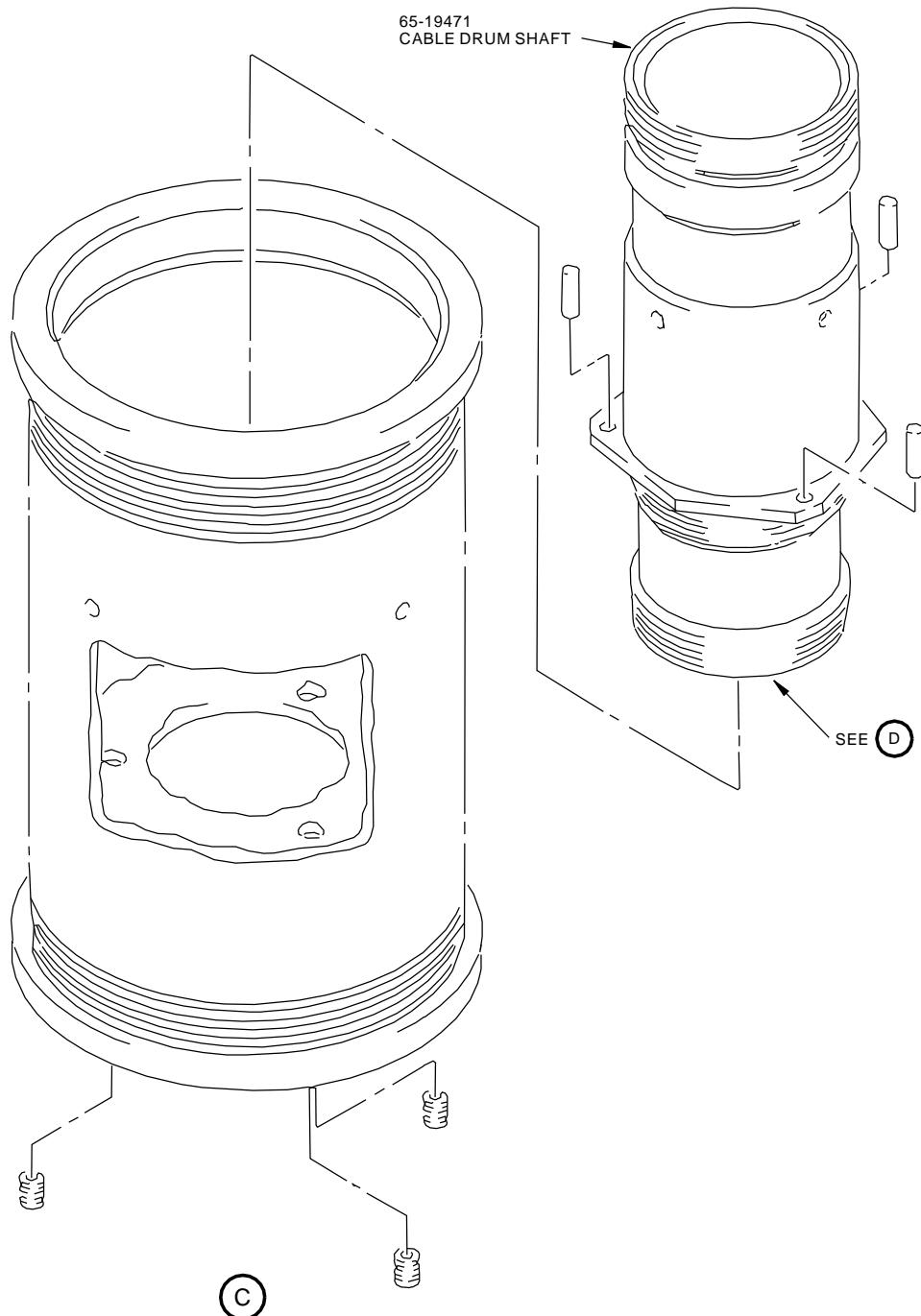
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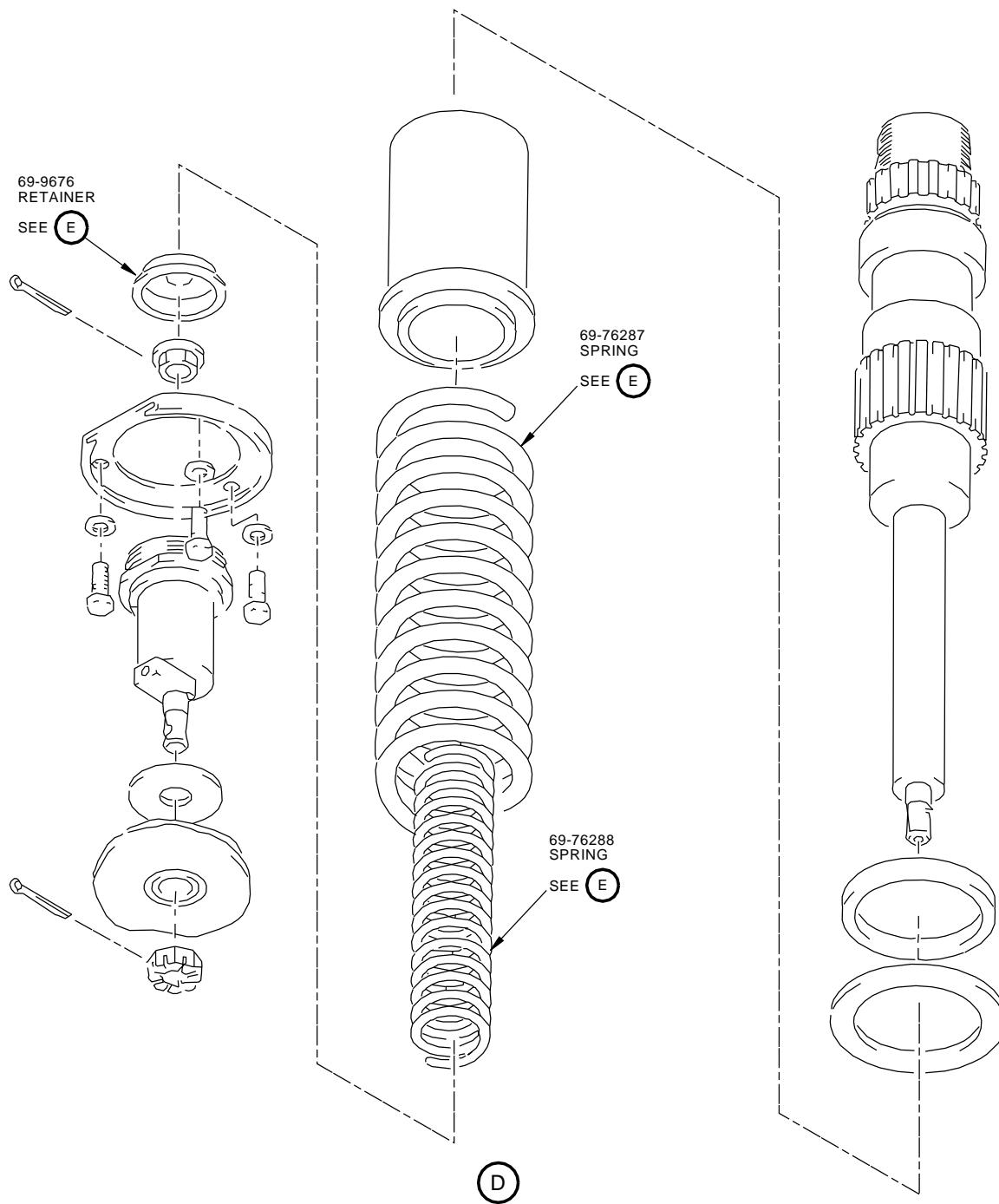
1571716 S0000293277\_V1

**Stabilizer Trim Actuator Spring Compressor**  
**Figure 1 (Sheet 3 of 5)**

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1571749 S0000293278\_V1

Stabilizer Trim Actuator Spring Compressor  
Figure 1 (Sheet 4 of 5)

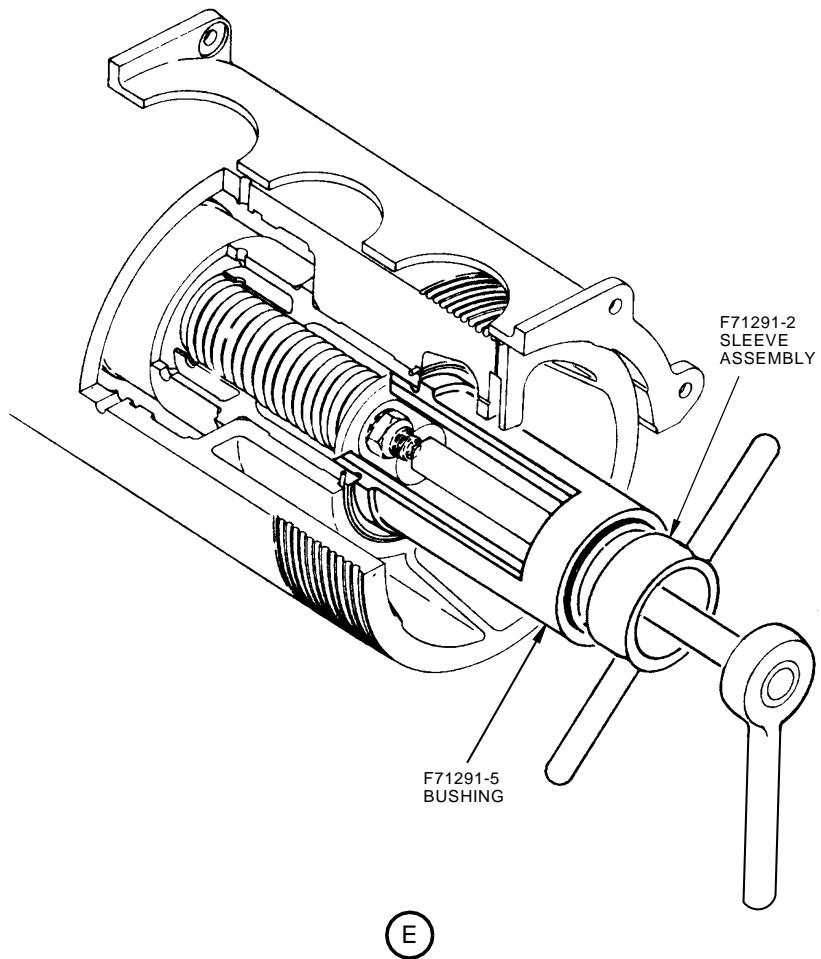
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1571744 S0000293280\_V1

**Stabilizer Trim Actuator Spring Compressor**  
**Figure 1 (Sheet 5 of 5)**

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**PART NUMBER: F71421-500, -501**

**NAME:** FIXTURE - END PLAY CHECKING, STABILIZER TRIM ACTUATOR

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-45-12

**USAGE & DESCRIPTION:** The F71421-500 (option) or -501 (preferred) fixture is used during component maintenance on 737-100 thru -900 airplanes.

The F71421 is used to apply loads to the stabilizer trim actuator jackscrew for end play checks.

F71421-500 is pneumatically powered and requires a customer-furnished air source, a (suggested) Norgren FR 2-2/Model 000-031 filter-regulator and a KTB cylinder for testing.

F71421-501 is hydraulically powered and requires a customer-furnished (suggested) P-51 Enerpac hydraulic pump and a pressure gauge for testing.

Refer to CMM 27-45-12 and the current F71421 drawing for complete usage instructions.

F71421-500 and -501 both include plumbing, controls, an integral power source and a dial indicator for free play measurement.

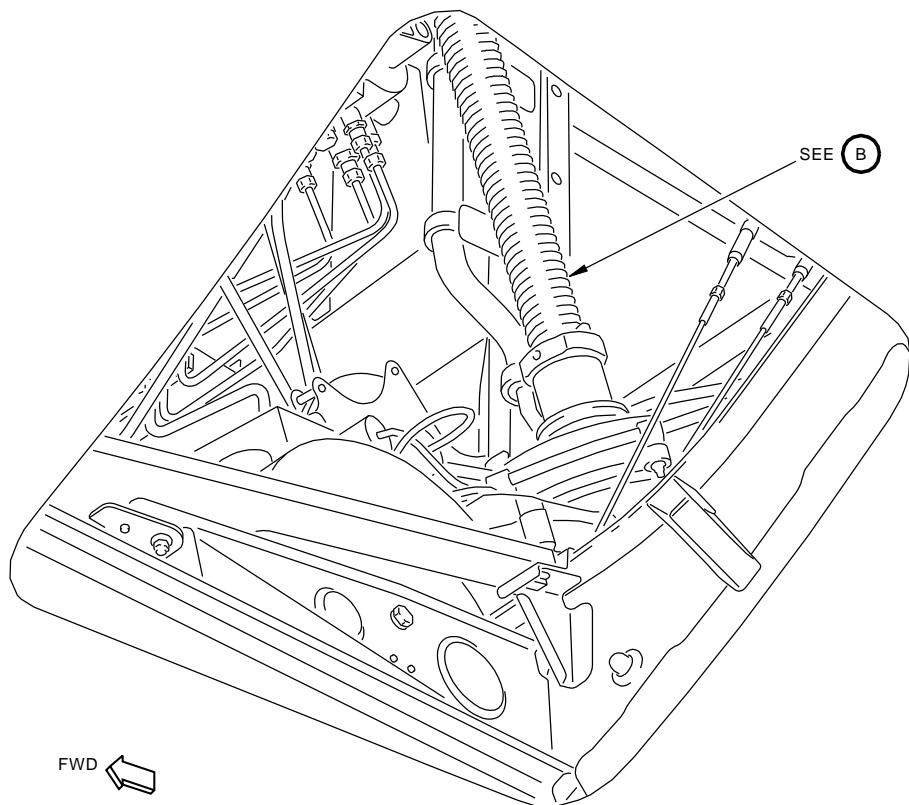
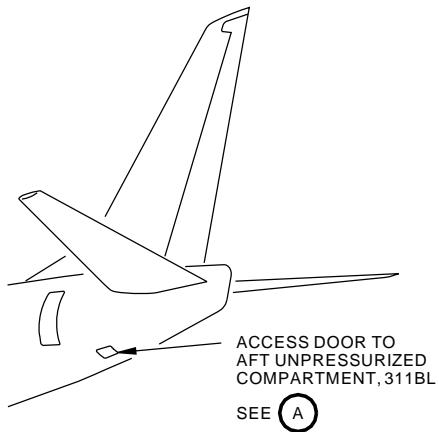
**NOTE:** F71421-501 replaces F71421-500 for future procurement.

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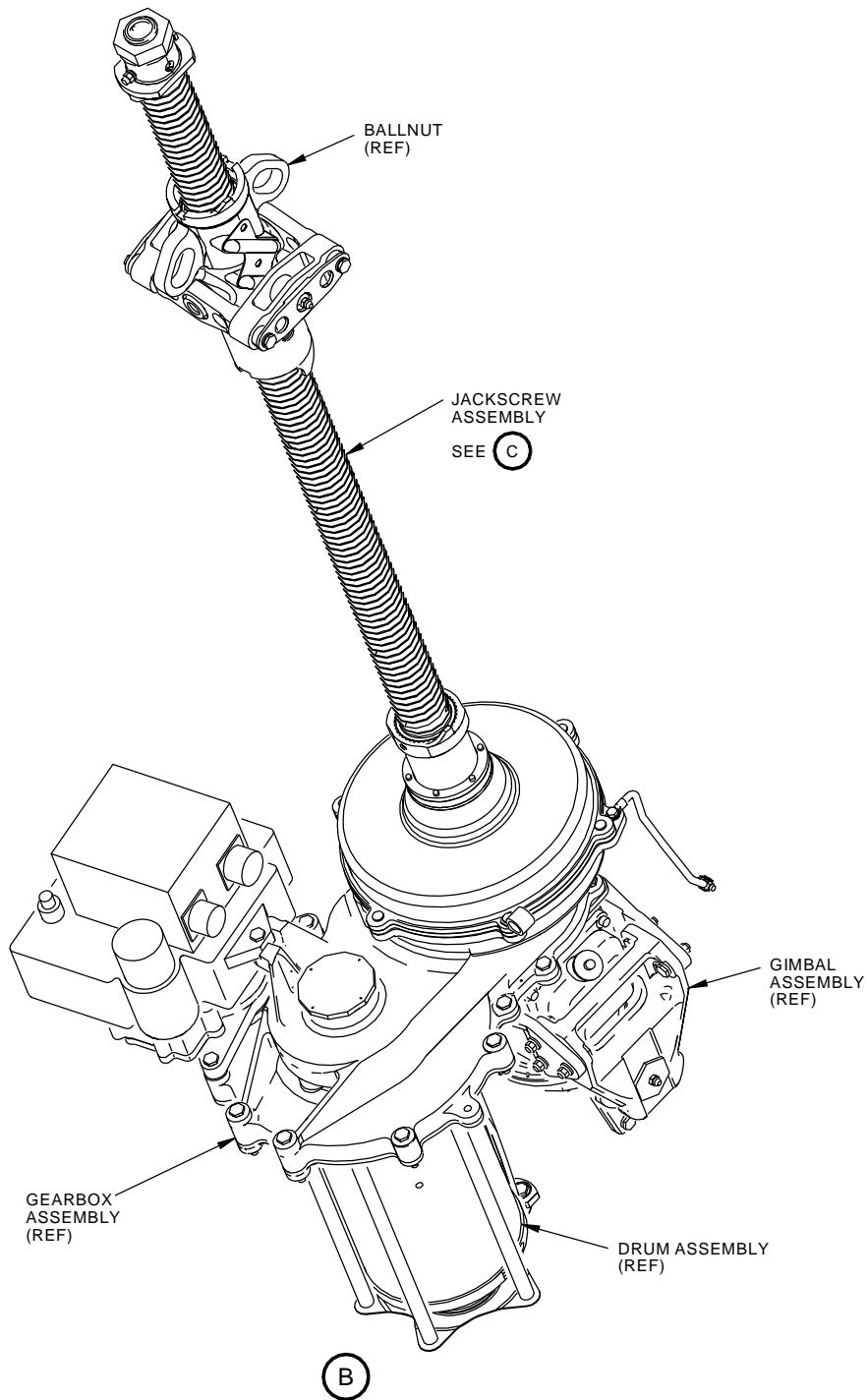
1571816 S0000293387\_V1

**Stabilizer Trim Actuator End Play Checking Fixture**  
**Figure 1 (Sheet 1 of 3)**

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1571826 S0000293388\_V1

**Stabilizer Trim Actuator End Play Checking Fixture**  
**Figure 1 (Sheet 2 of 3)**

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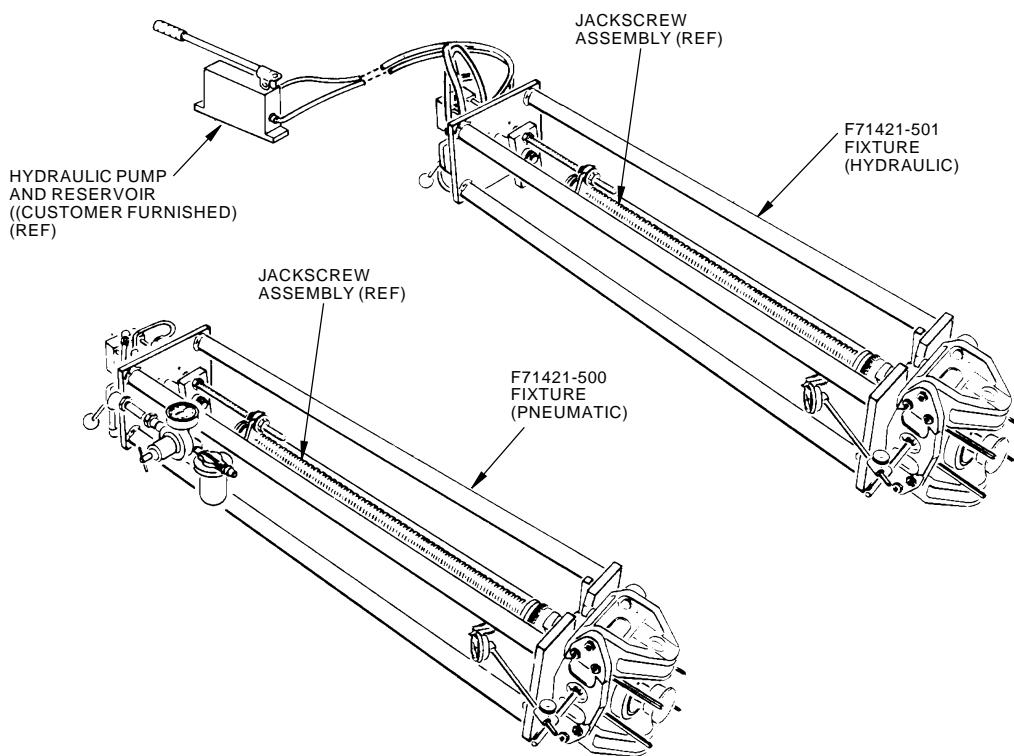
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(C)

1571836 S0000293389\_V1

Stabilizer Trim Actuator End Play Checking Fixture  
Figure 1 (Sheet 3 of 3)

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**PART NUMBER: F72924-1**

**NAME:** HOLDER - STABILIZER TRIM JACKSCREW BALLNUT AND SCREW ASSEMBLY

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-45-11, CMM 27-45-12

**USAGE & DESCRIPTION:** The F72924-1 holder is used during component maintenance on 737-100 thru -900 airplanes.

F72924 is used to hold the ball while the ballnut is removed from the jackscrew. As the ballnut is disengaged from the ball screw, the F72924-2 plug is inserted into the ball nut and displaces the ball screw until the ball nut is completely disengaged. The F72924 plug is threaded into the F72924-3 tube and prevents the F72924-3 tube from being removed from the ballnut.

Refer to CMM 27-45-11, CMM 27-45-12 and the current F72924 drawing for complete usage instructions.

F72924-1 consists of:

F72924-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	PLUG	F72924-2
1	TUBE	F72924-3
1	STORAGE BOX	

**NOTE:** F72924-1 replaces the cancelled SE27-4503 for future procurement.

**27-40-27**

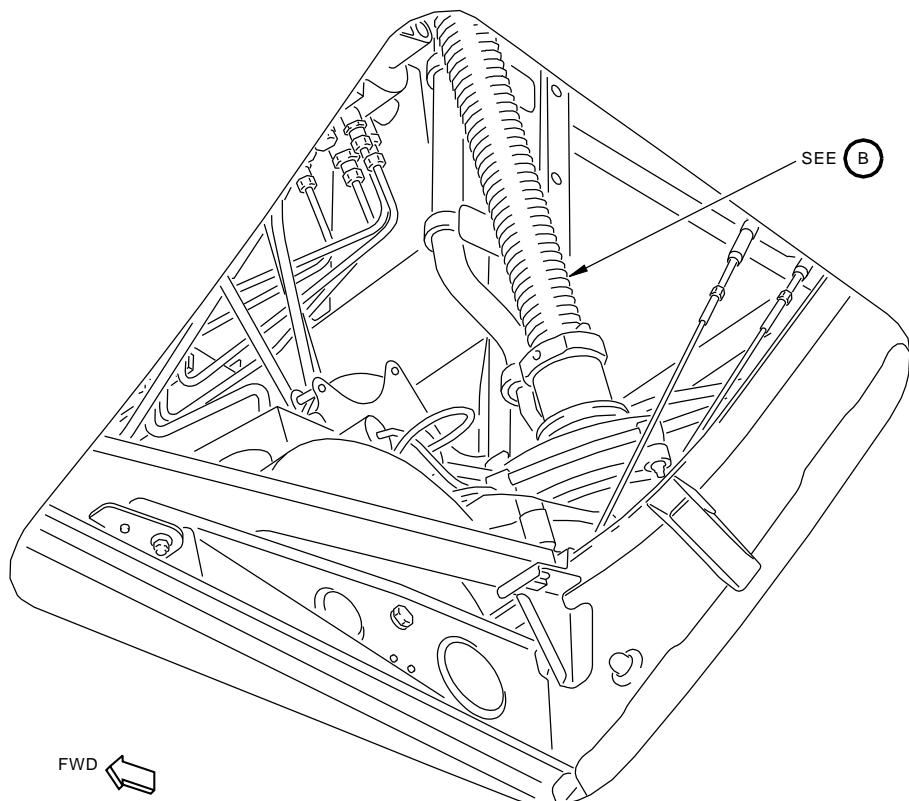
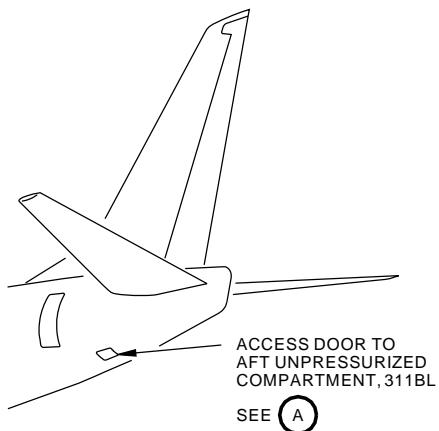
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(A)

1571860 S0000293481\_V1

**Stabilizer Trim Jackscrew Ballnut and Screw Assembly Holder**  
**Figure 1 (Sheet 1 of 3)**

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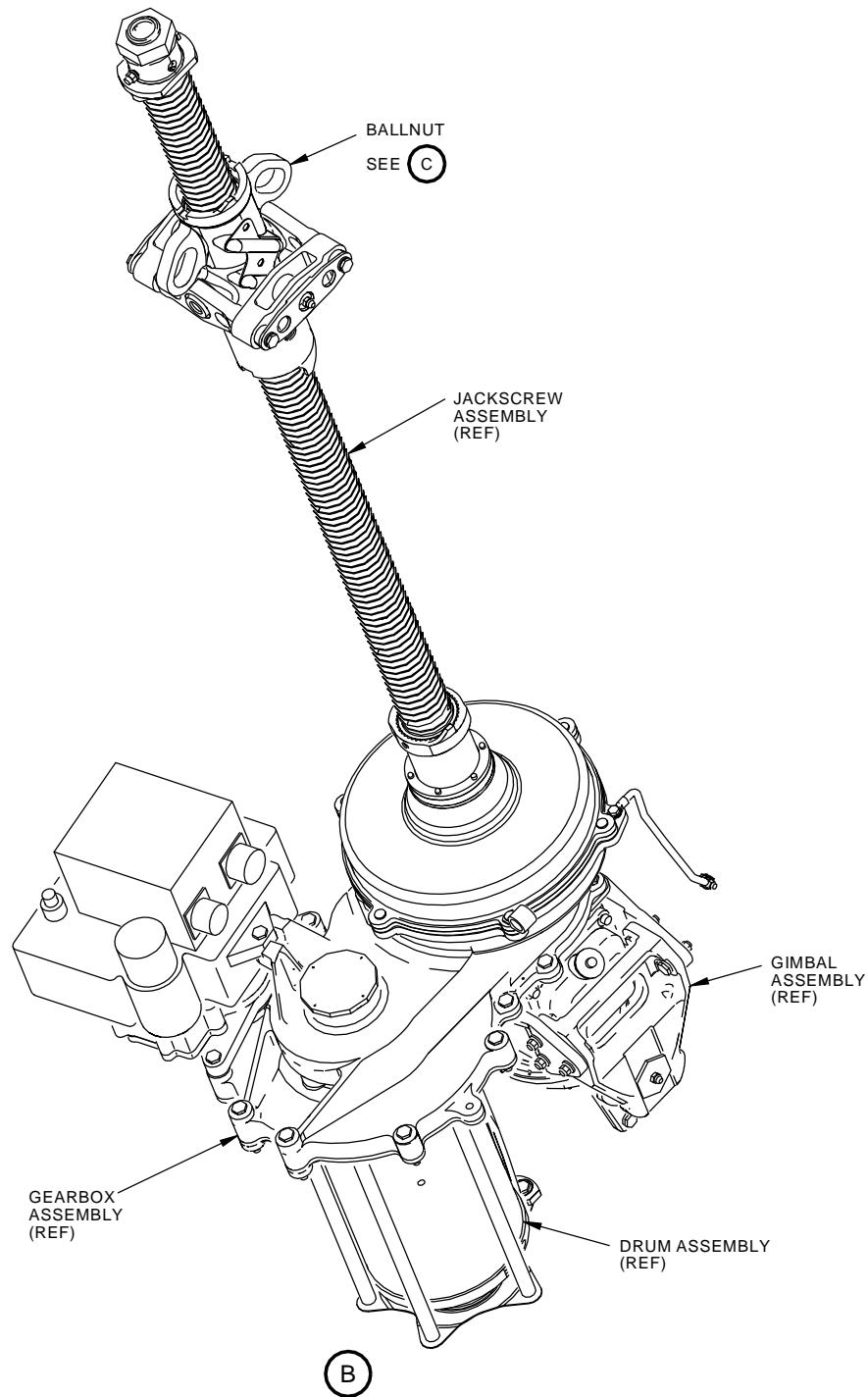
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1571863 S0000293484\_V1

Stabilizer Trim Jackscrew Ballnut and Screw Assembly Holder  
Figure 1 (Sheet 2 of 3)

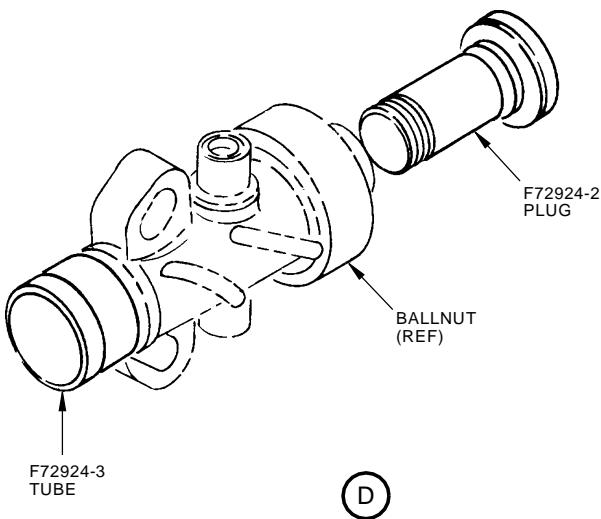
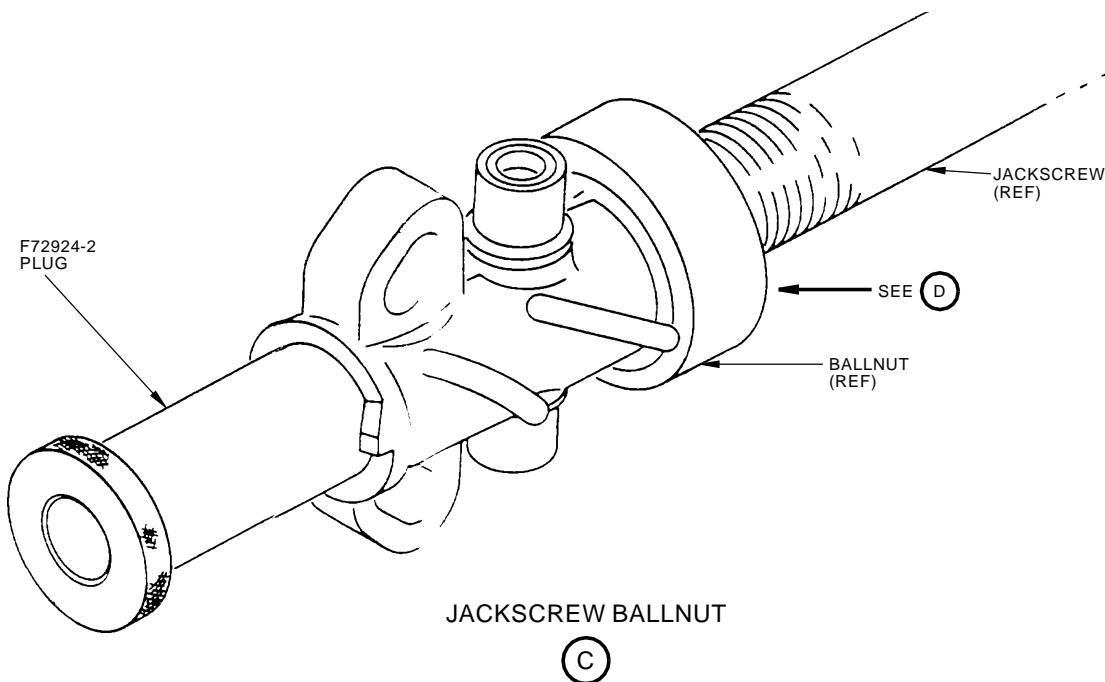
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1571871 S0000293487\_V1

**Stabilizer Trim Jackscrew Ballnut and Screw Assembly Holder**  
**Figure 1 (Sheet 3 of 3)**

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**PART NUMBER: F80053-1**

**NAME:** WRENCH ASSEMBLY - FACE SPANNER, LUG

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-45-11, CMM 27-45-12

**USAGE & DESCRIPTION:** The F80053-1 wrench assembly is used during component maintenance on 737-100 thru -900 airplanes.

F80053 is used to remove or install 69-39652 nuts from the 251A4510 stabilizer trim actuator assembly.

Refer to CMM 27-45-11, CMM 27-45-12 and the current F80053 drawing for complete usage instructions.

F80053-1 consists of:

F80053-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	HANDLE	F80053-2
2	LUG	F80053-3

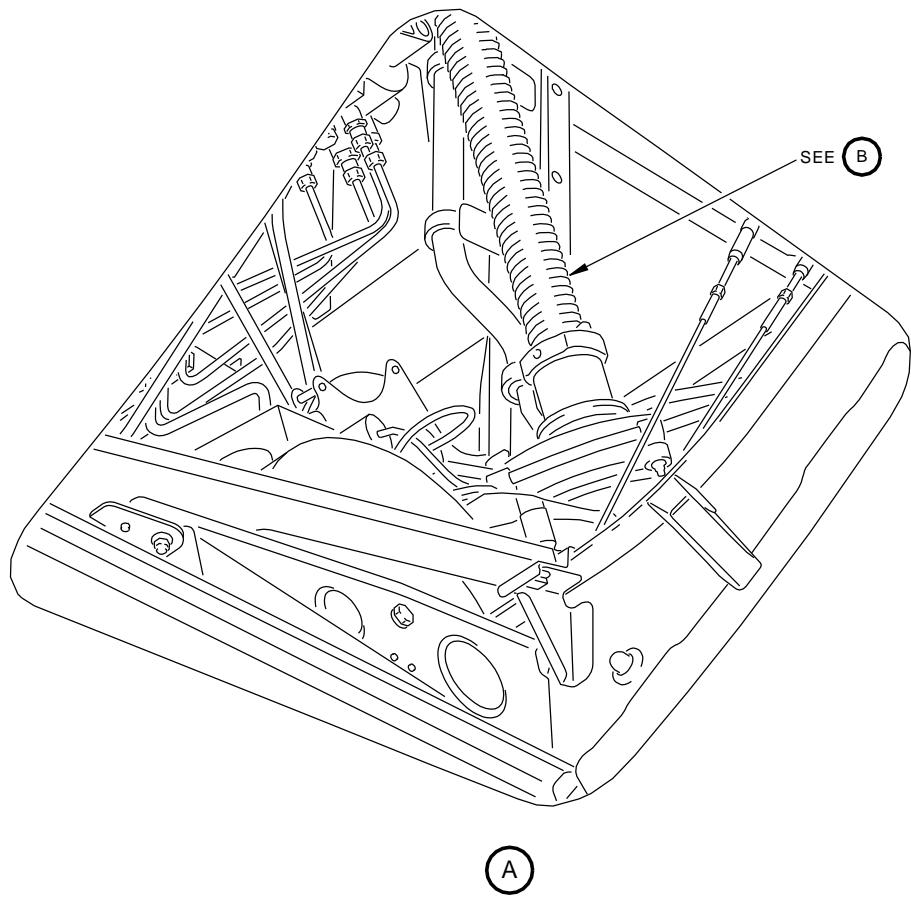
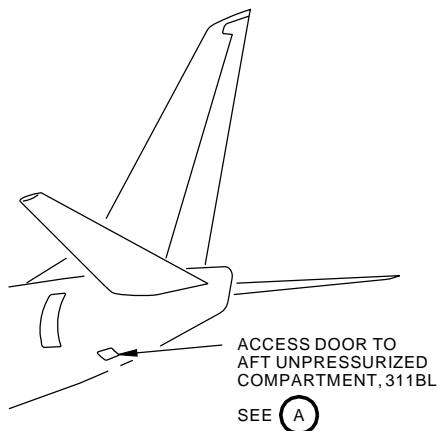
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1572758 S0000293550\_V1

**Lug Face Spanner Wrench Assembly**  
**Figure 1 (Sheet 1 of 5)**

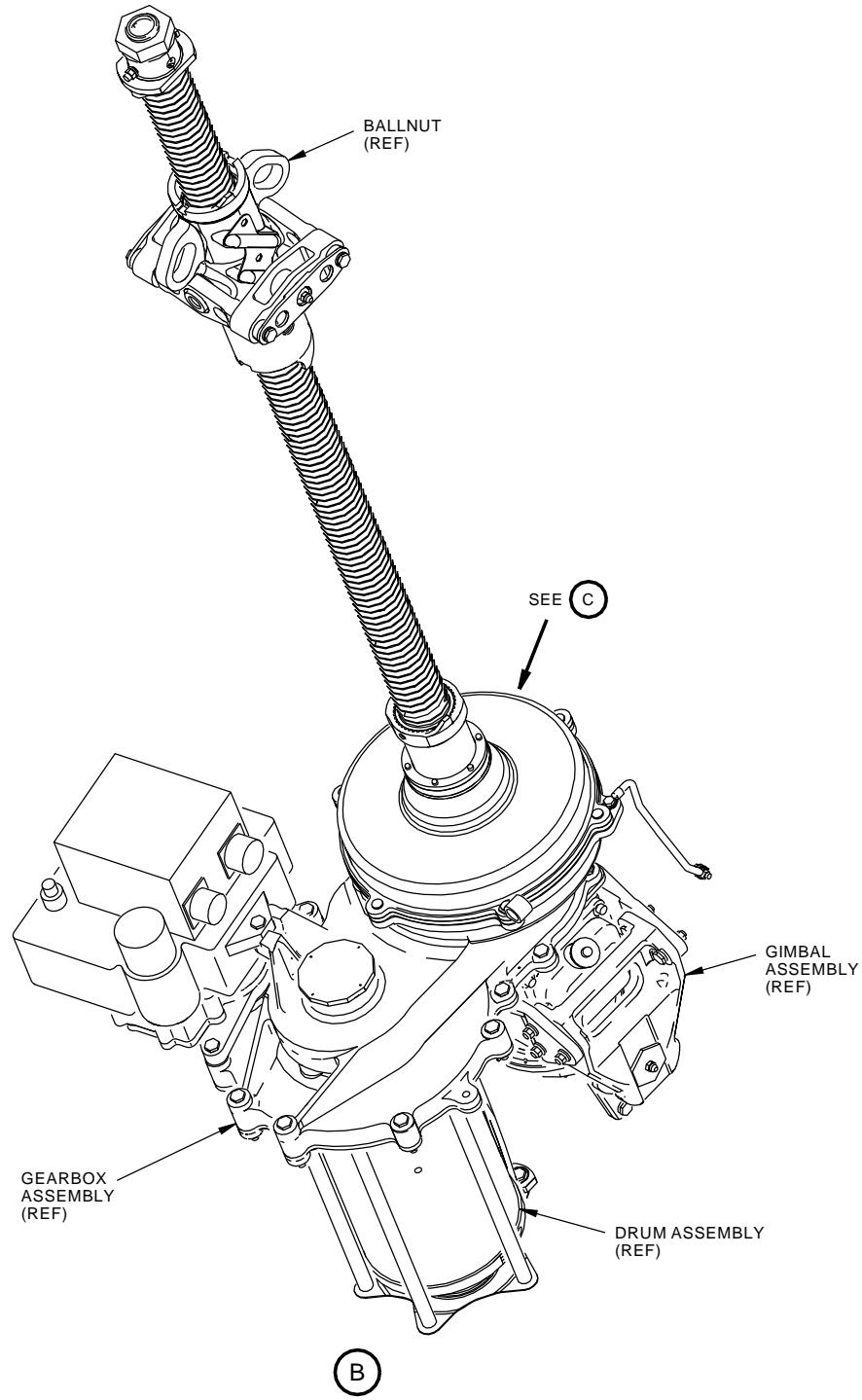
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**Lug Face Spanner Wrench Assembly**  
**Figure 1 (Sheet 2 of 5)**

**27-40-28**

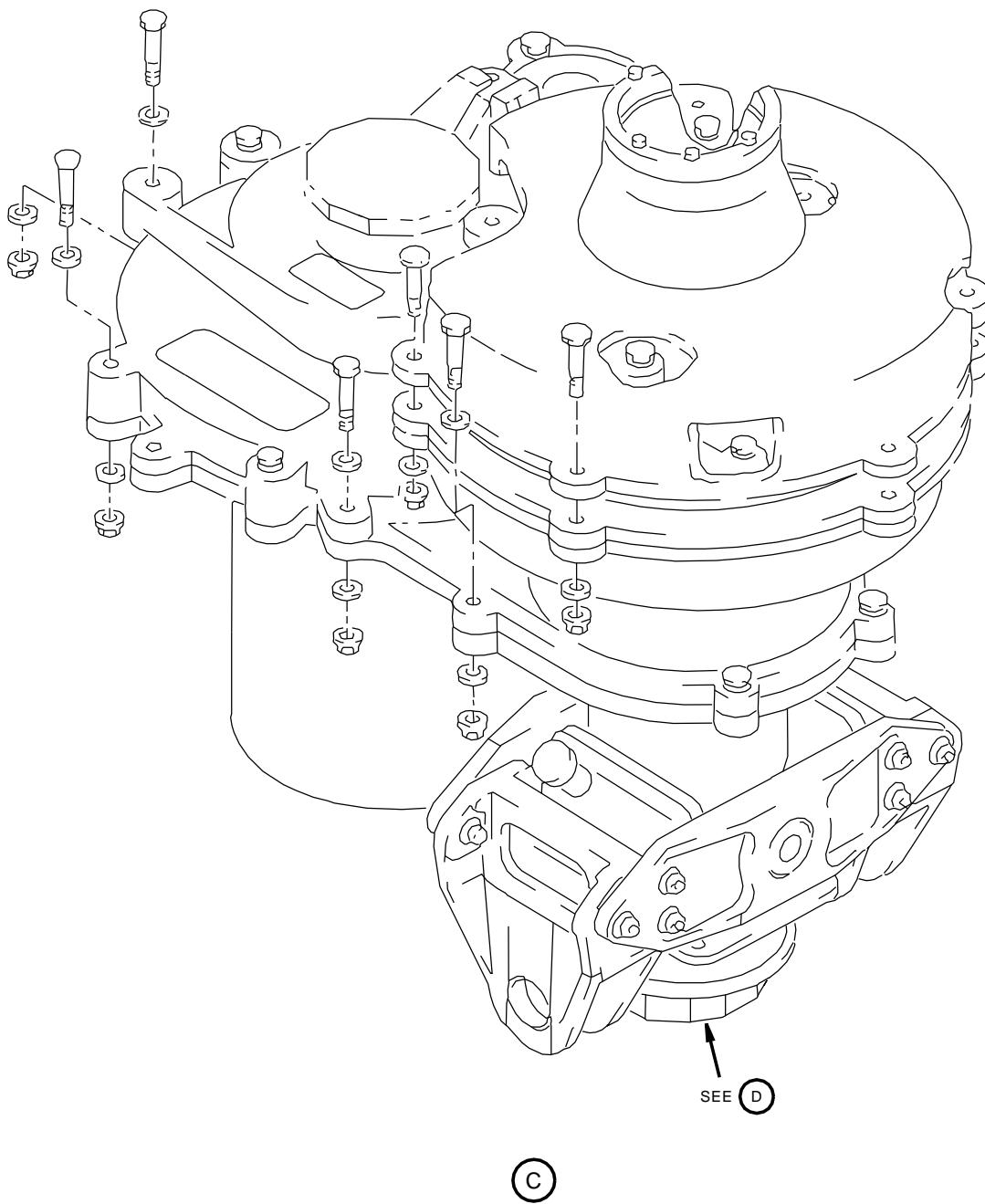
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1572764 S0000293552\_V1

**Lug Face Spanner Wrench Assembly**  
**Figure 1 (Sheet 3 of 5)**

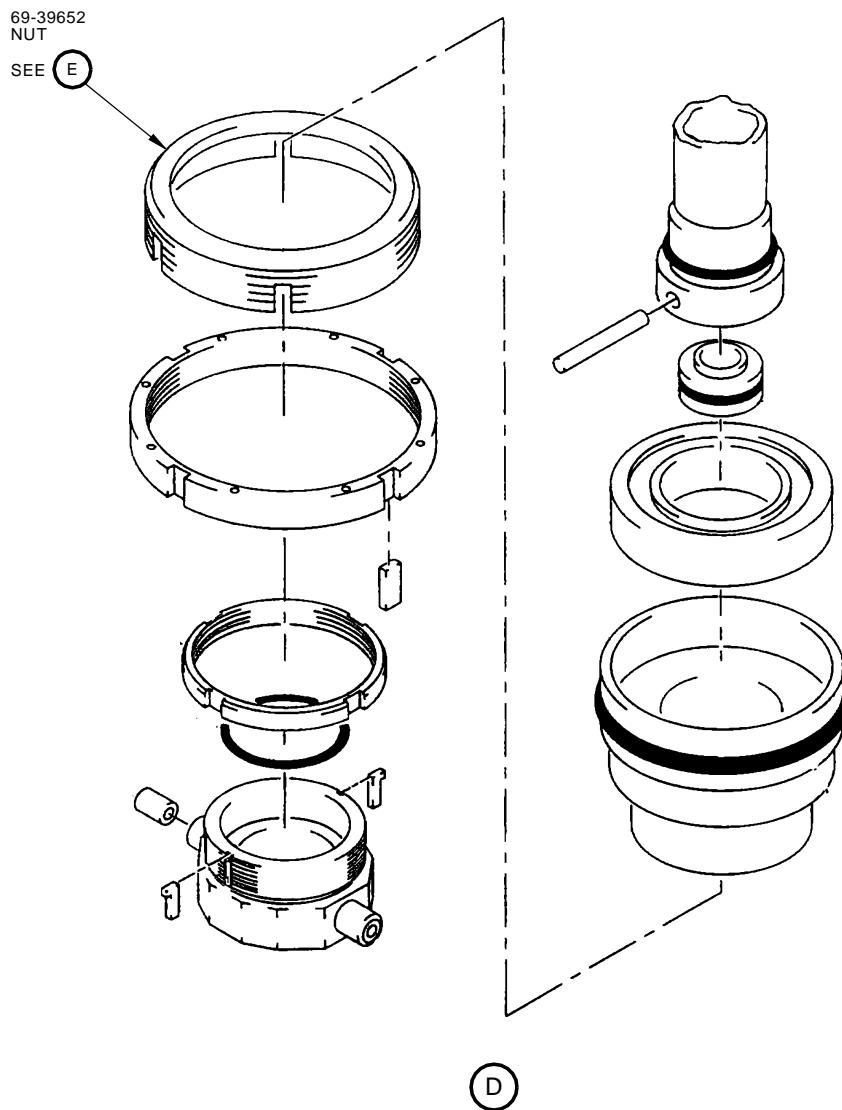
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**Lug Face Spanner Wrench Assembly**  
**Figure 1 (Sheet 4 of 5)**

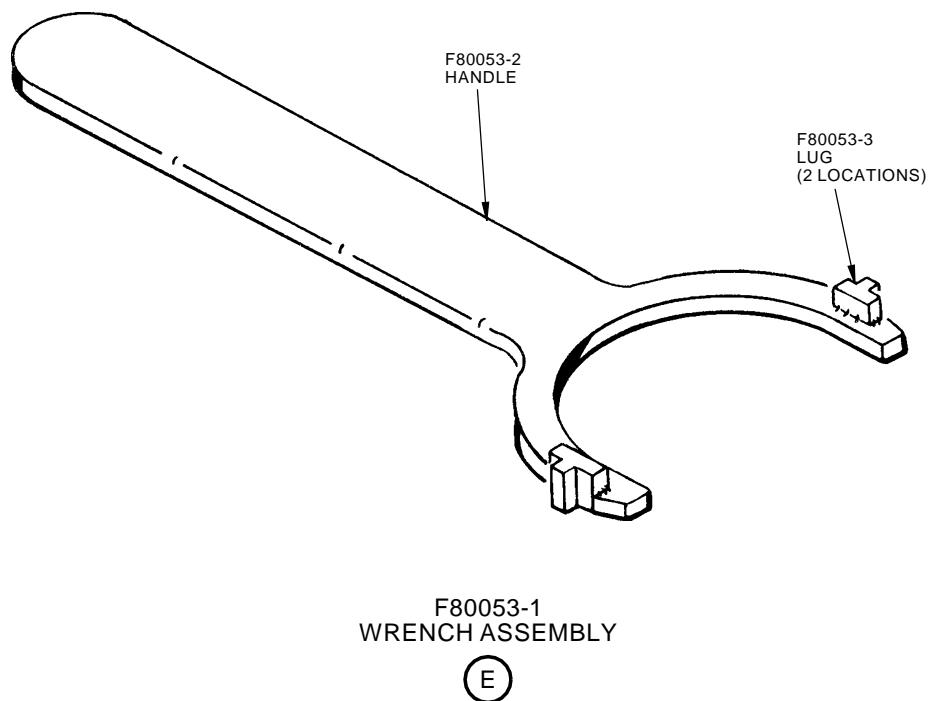
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**Lug Face Spanner Wrench Assembly**  
**Figure 1 (Sheet 5 of 5)**

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**PART NUMBER: F80249-7**

**NAME:** TORQUE SOCKET - BALL NUT/SCREW ASSEMBLY, STABILIZER TRIM

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-45-11, CMM 27-45-12

**USAGE & DESCRIPTION:** The F80249-7 torque socket is used during component maintenance on 737-100 thru -900 airplanes.

F80249 is used on the 251A4510 stabilizer trim actuator assembly during an auxiliary brake slippage check.

Refer to CMM 27-45-11, CMM 27-45-12 and the current F80249 drawing for complete usage instructions.

F80249-7 consists of:

F80249-7		
QUANTITY	NOMENCLATURE	PART NUMBER
1	SOCKET	F80249-8
1	STORAGE BOX	

**WEIGHT:** 3 lbs (1.4 kg)

**DIMENSIONS:** 2.5 (diameter) x 3.2 inches (63.5 (diameter) x 81.3 mm)

**NOTE:** F80249-7 supersedes F80249-4.

**27-40-29**

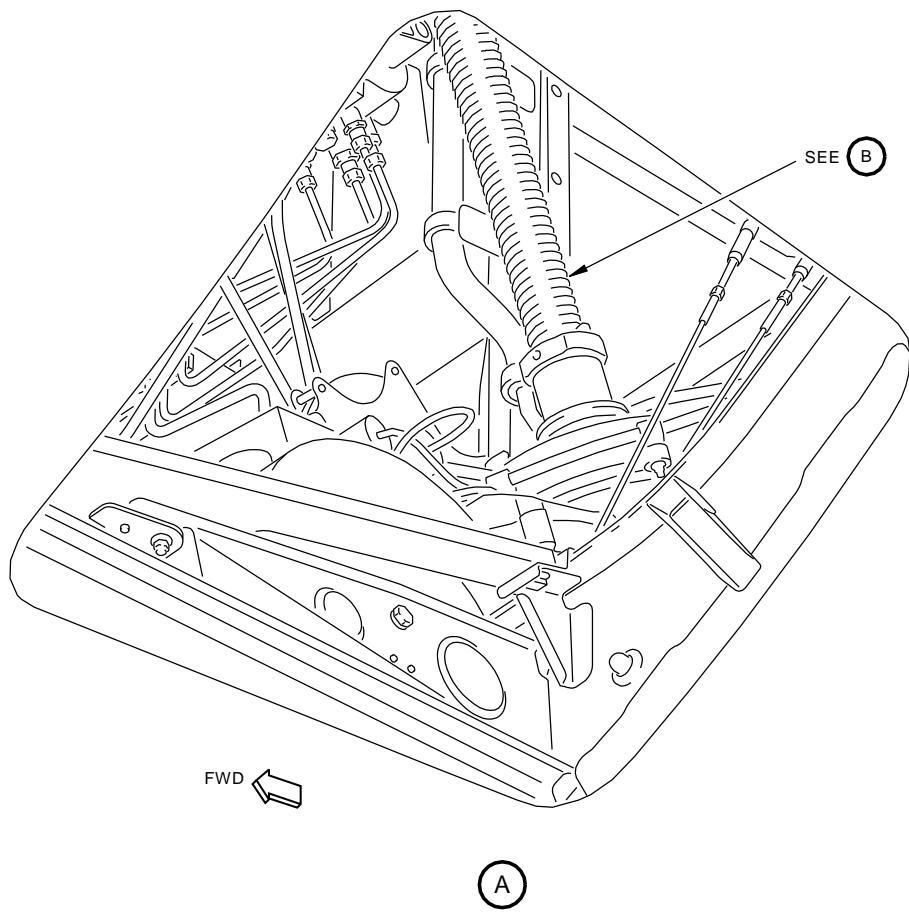
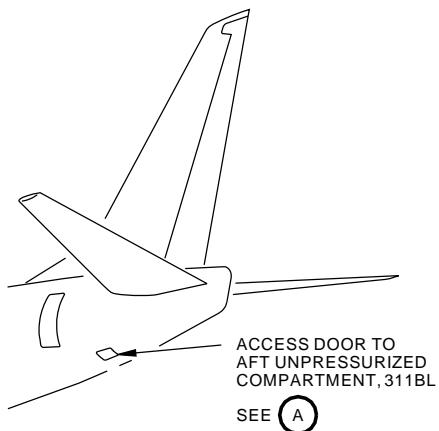
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1572848 S0000293792\_V1

Stabilizer Trim Ball Nut/Screw Assembly Torque Socket  
Figure 1 (Sheet 1 of 2)

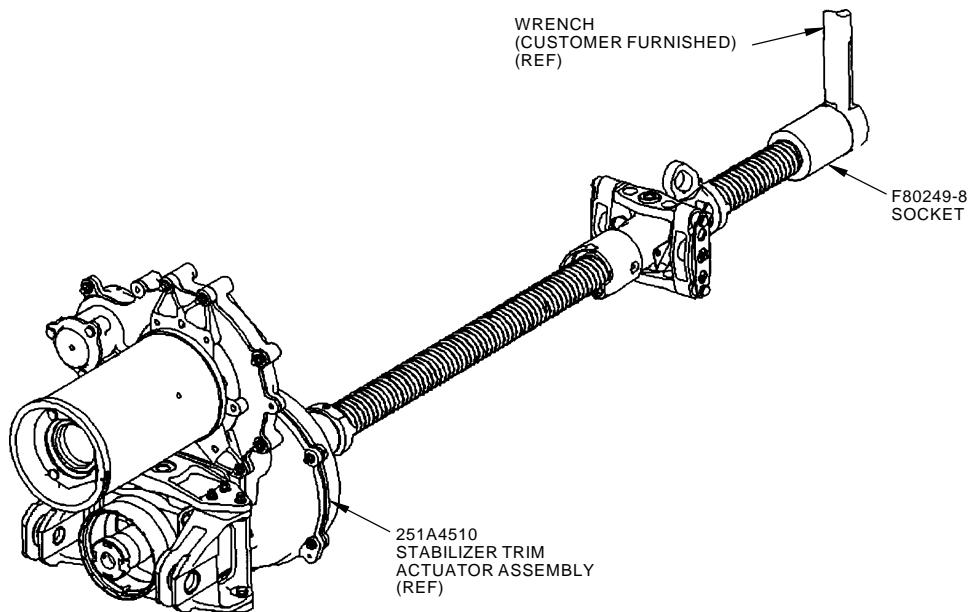
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(B)

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**Stabilizer Trim Ball Nut/Screw Assembly Torque Socket**  
**Figure 1 (Sheet 2 of 2)**

**27-40-29**

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**PART NUMBER: C27090-1**

**NAME:** TORQUE SOCKET - UPPER STOP, STABILIZER TRIM JACK SCREW

**AIRPLANE MAINTENANCE:** YES

AMM 27-41-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27090-1 torque socket is used on all 737 airplanes.

C27090 is used in conjunction with a customer furnished torque wrench to apply torque to the upper stop of the horizontal stabilizer trim actuator while testing the secondary brake system.

Refer to AMM 27-41-00 and the current C27090 drawing for complete usage instructions.

C27090-1 consists of:

C27090-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TORQUE SOCKET ASSEMBLY	C27090-2
1	STORAGE BOX	

**WEIGHT:** 2 lbs (1 kg)

**DIMENSIONS:** 3 x 3 x 3 inches (76 x 76 x 76 mm)

**27-40-41**

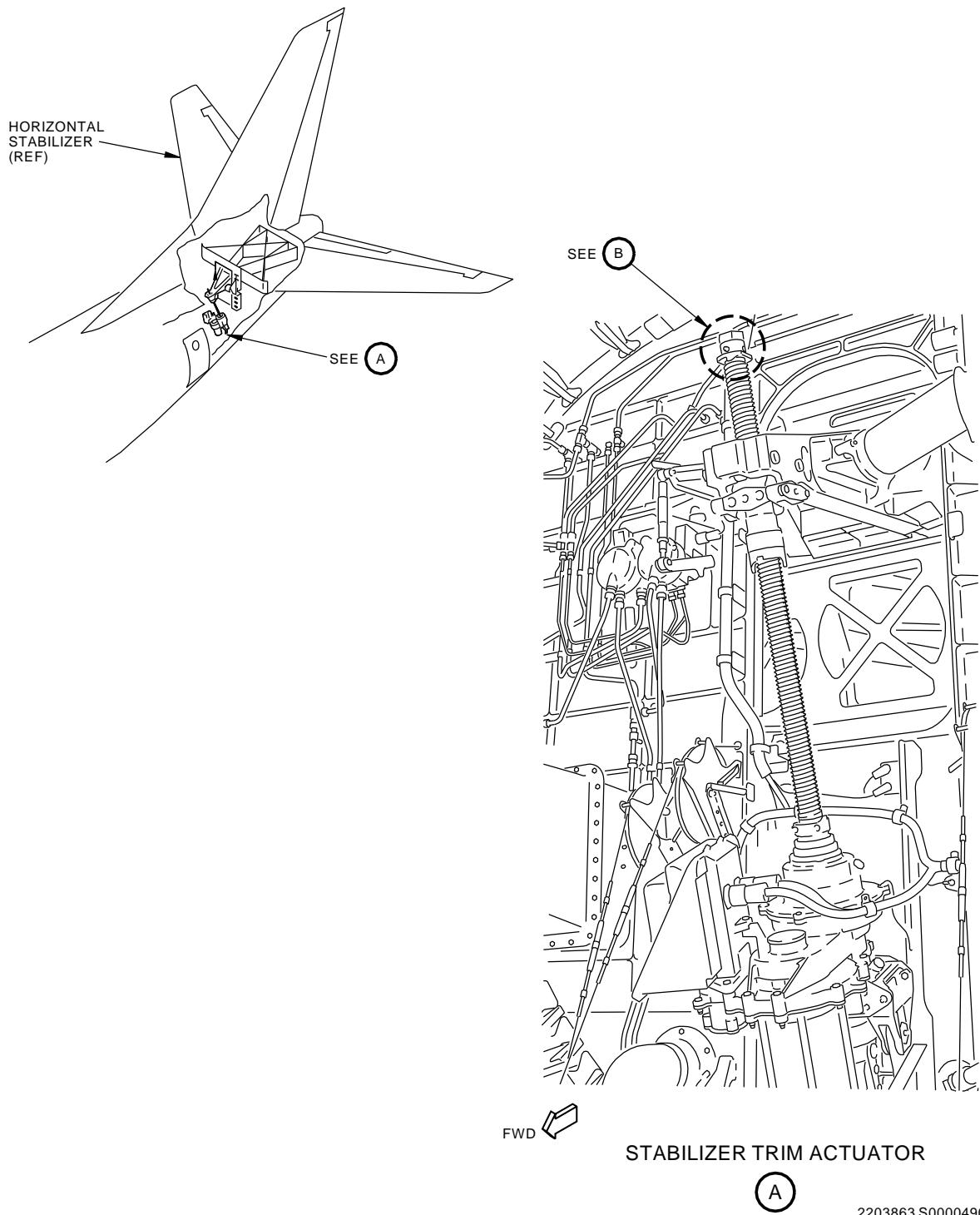
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**Stabilizer Trim Jack Screw Torque Socket**  
**Figure 1 (Sheet 1 of 2)**

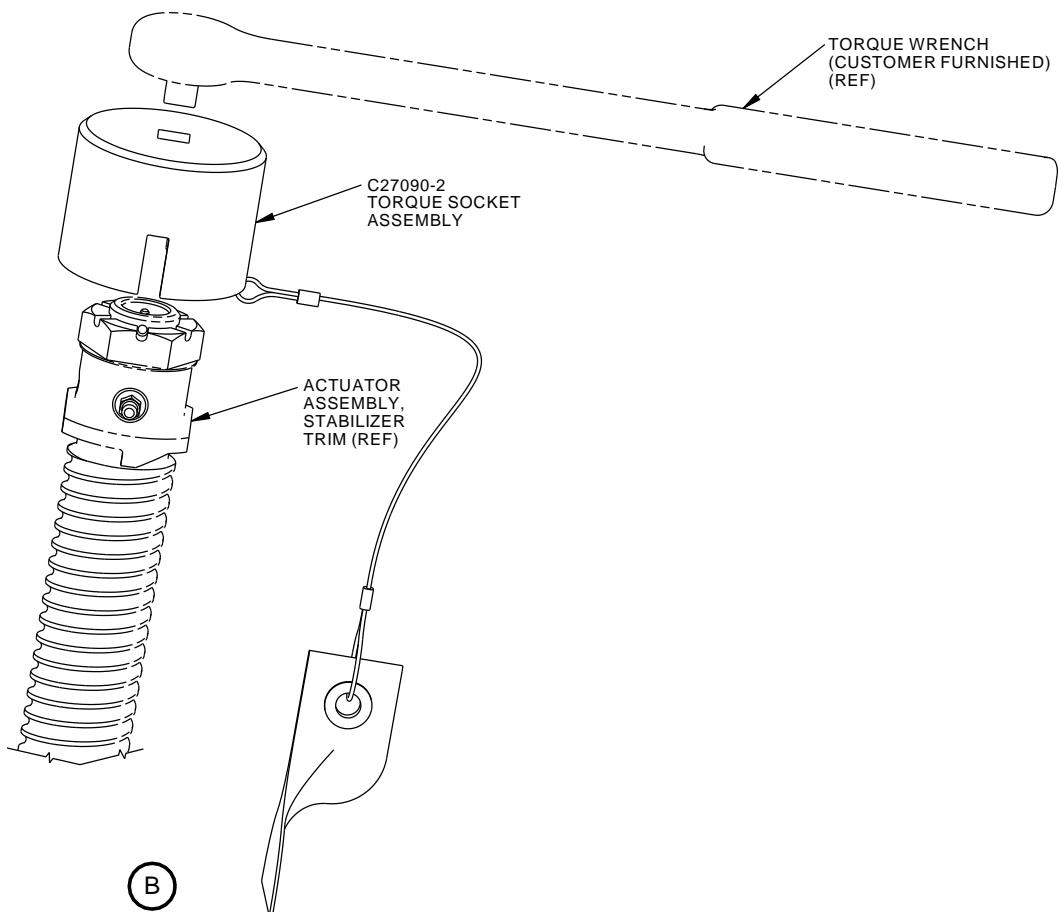
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**Stabilizer Trim Jack Screw Torque Socket**  
**Figure 1 (Sheet 2 of 2)**

**27-40-41**

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**PART NUMBER: F70300-1**

**NAME:** ADAPTER - FLAP DRIVE

**AIRPLANE MAINTENANCE:** YES

AMM 27-51-00, AMM 27-51-11, AMM 27-59-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The F70300-1 flap drive adapter is used on all 737-100 thru -900 airplanes.

F70300 is used with a customer furnished air motor to extend or retract trailing edge flaps when airplane power is not available.

Refer to the current F70300 tool drawing, AMM 27-51-00, AMM 27-51-11 and AMM 27-59-00 for complete usage instructions.

F70300 is a modified 1/2-inch square extension bar with splined sleeve welded to it.

**WEIGHT:** 1 lb (0.45 kg)

**DIMENSIONS:** 11 x 3 x 3 inches (279 x 76 x 76 mm)

**NOTE:** F70300 replaces ST2583-1 for future procurement.

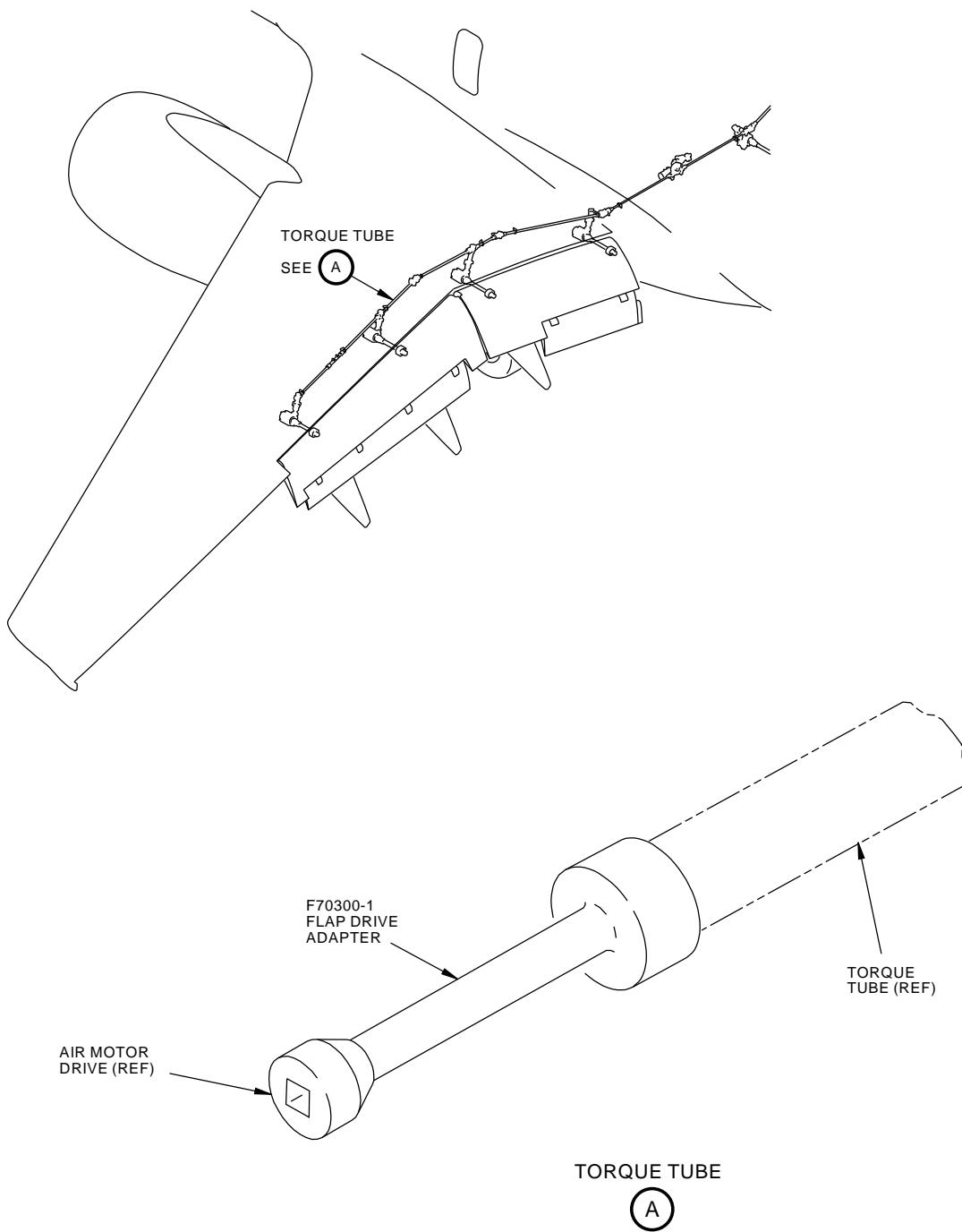
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F90633 S0006831621\_V3

**Flap Drive Adapter**  
**Figure 1**

**27-50-01**

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**PART NUMBER: C27040-1, -29**

**NAME:** HOIST ADAPTER - INSTALLATION/REMOVAL, FLAP TRACK (CE)

**AIRPLANE MAINTENANCE:** YES

AMM 27-51-15, AMM 27-51-25

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27040-1 (option, non-CE qualified) or C27040-29 (preferred, CE qualified) hoist adapter is used on all 737 airplanes except 737-100 thru -500 airplanes.

C27040 is added to a customer-furnished jack and used to remove or install the flap tracks.

Refer to AMM 27-51-15, AMM 27-51-25 and the current C27040 drawing for complete usage instructions.

C27040-1 and -29 consist of:

C27040-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ADAPTER ASSEMBLY	C27040-2
1	STORAGE BOX	C27040-3

C27040-29		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ADAPTER ASSEMBLY	C27040-2
1	STORAGE BOX	C27040-3

**WEIGHT:** 20 lbs (9 kg)

**DIMENSIONS:** 7 x 12 x 16 inches (178 x 305 x 406 mm)

**NOTE:** C27040-29 replaces C27040-1 for future procurement.

**DECLARATION OF CONFORMITY:** C27040-29 requires a written Declaration of Conformity from the C27040-29 fabricator if it is to be used in the European Union. The design of C27040-29 meets the European requirements of Machinery Directive 2006/42/EC including its amendments. When used within the European Union, the fabricator of C27040-29 must also meet the requirements of that directive. At a minimum for the tool fabricator, this requires the retention of a technical file, a labeling of the equipment with the CE mark, and the completion of an EC Declaration of Conformity. If C27040-29 is to be used within the European Union and the Declaration of Conformity is missing, contact the fabricator of C27040-29 for a replacement Declaration of Conformity.

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**OPERATING INSTRUCTIONS:** Refer to the current C27040 drawing, AMM 27-51-15 and , AMM 27-51-25 maintenance procedures for detailed instructions on the use of this equipment. This equipment shall only be used in conjunction with Boeing procedures to maintain Boeing airplanes.

Adapter equipment, the following safety messages shall be included in the information for use and follow the form as denoted on the engineering drawing (they should mimic decals on the drawing or notes on the usage placard):

- Study, understand, and follow all instructions before operating this device. This includes instructions furnished by the vendors for subcomponents of this equipment.
- Do not exceed rated capacity.
- Use only on hard level surfaces.
- Failure to heed these markings may result in personal injury and/or property damage.
- Do not use for general transportation of load.
- Use only attachments specifically identified by Boeing for use with this equipment.
- No alterations shall be made to this product unless shown in Boeing Tool Change Bulletin (TCB) application to the respective drawings.
- This equipment is only to be used in the support of Boeing aircraft.

**MAINTENANCE:** General Cleaning: Basic care of the equipment includes cleaning the equipment of dirt, corrosives, or contaminants. Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and commercial soap or detergent, clean the components and wipe dry with a clean cloth. Hang the components freely to dry, but away from excessive heat or steam.

Structural and Mechanical Lifting Devices, (supporting lifter):

1. Maintenance shall be done based on the recommendations made by the lifter manufacturer or qualified person.
2. Before adjustments and repairs are started on a lifter, the following precautions shall be taken:
  - All courses of power shall be disconnected, locked out, and tagged "Out of Service".
  - A lifter removed from service for repair shall be tagged "Out of Service".
3. Only a qualified person shall perform adjustments and tests when required.
4. Replacement parts shall be at least equal to the original manufacturer's specifications.
5. After adjustments and repairs have been made, the lifter shall not be returned to service until it has been inspected according to ASME B-30.20, para. 20-1.3.4.

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6. Dated records of repairs and replacements shall be made.
7. Adjustments and repairs. Any hazardous conditions disclosed by the inspection requirements of ASME B-30.20, para. 20-1.3.1 shall be corrected before normal operations of the lifter is resumed. Adjustments and repairs shall be done under the direction of, or by, a qualified person.

**PROOF LOAD:** Proof load testing for the C27040-29 hoist adapter shall be performed per the current C27040 drawing proof load diagrams (example Figure 2) and:

- In conjunction with initial fabrication
- Subsequent to modification of this equipment (equipment shall only be modified in accordance with the C27040 drawing).
- After repair of load carrying components.
- After replacement of load carrying components (except for load carrying components such as shackles and hoist rings that carry their own certification).
- Continuing integrity/safety of the device to be assured by inspection.

**INSPECTION:** FREQUENT

General Inspection (before use):

1. Missing fasteners
2. Notes, Cautions and Warnings are legible
3. Usage placards are legible

Structural and Mechanical Lifting Devices (supporting lifter):

1. Visual Inspection by the operator before and during each lift of the device. Records are not required. Inspect for:
  - Structural deformation, cracks or excessive wear of any parts of the lifting device.
  - Loose or missing guards, fasteners, covers, stops or nameplates.
  - All functional operational mechanisms and automatic hold and release mechanisms for misadjustments interfering with operation.

PERIODIC

Welding Inspection:

1. Magnetic particle or dye penetrant inspection for all welds, after all proof load tests.
2. Inspect and evaluate per GSE Welding Document A00001 Inspection Requirements Tables 1 & 2, and Acceptance Criteria Table 3.
3. Reject cracked or deformed parts.

Structural and Mechanical Lifting Devices (supporting lifters):

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1. A written record of a visual inspection, by a qualified person is required.
2. Inspection is made of external conditions for a continuing evaluation of the following factors:
  - Loose bolts or fasteners.
  - Excessive wear of linkages and other mechanical parts.
  - Excessive wear at hoist hooking points and load support clevises or pins.
  - Deficiencies found during the inspection are analyzed and the lifting device shall not be used, if deficiencies are determined to be hazardous.
  - The lifting device shall not be used until the hazardous deficiencies are corrected.

**STORAGE:** C27040-29 shall be stored clean, dry, and free of exposure to fumes or corrosive elements, indoors and in the furnished storage box.

**DECOMMISSIONING:** Part and assemblies of this equipment shall be permanently altered to prevent their unauthorized reuse. Recycling is the preferred manner of disposal for those materials where that option is available.

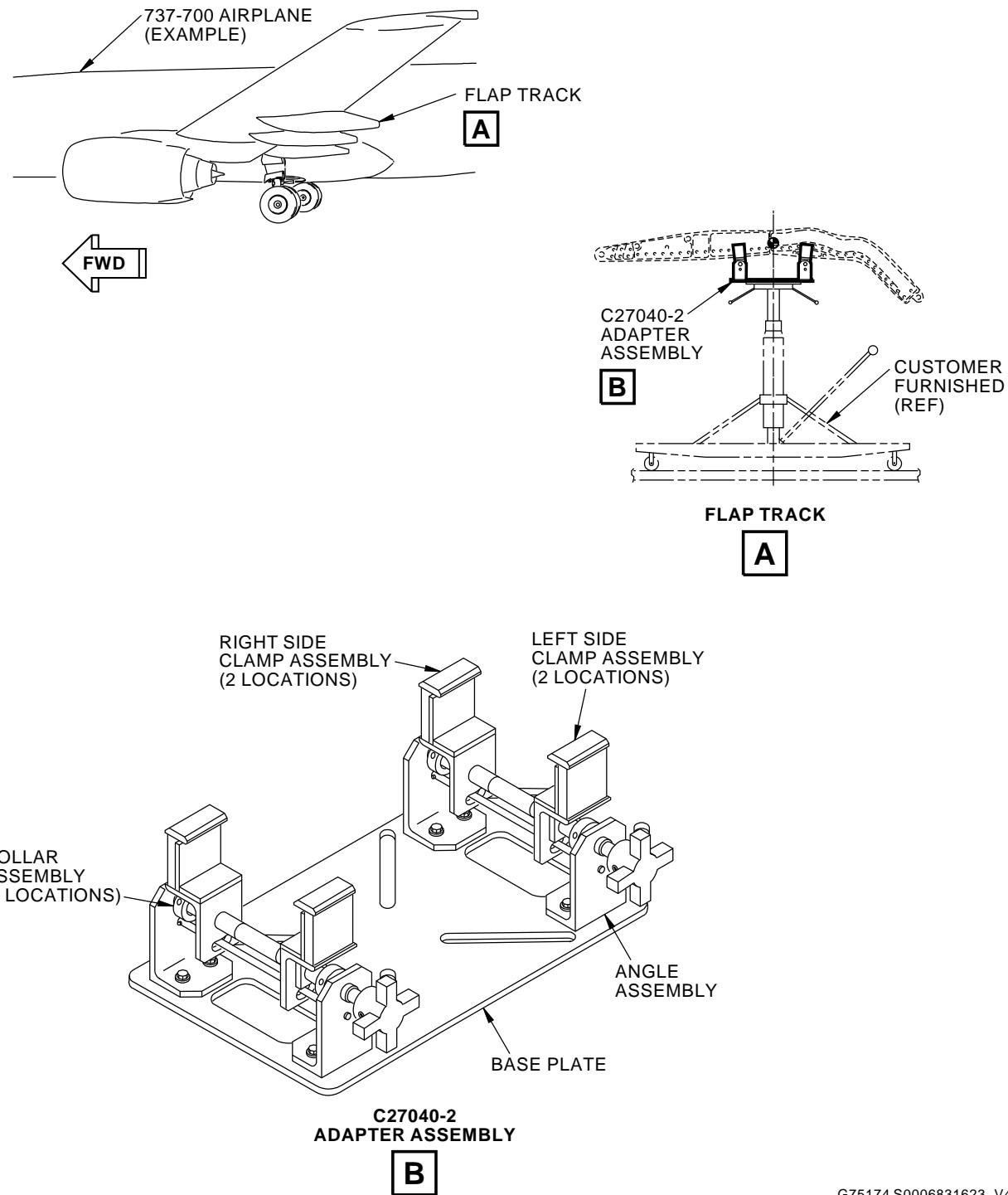
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**Flap Track Installation/Removal Hoist Adapter**  
**Figure 1**

**27-50-02**

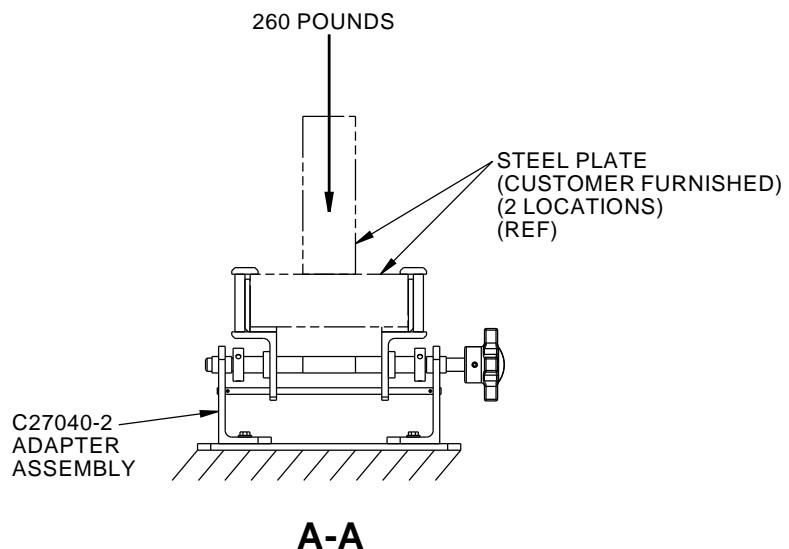
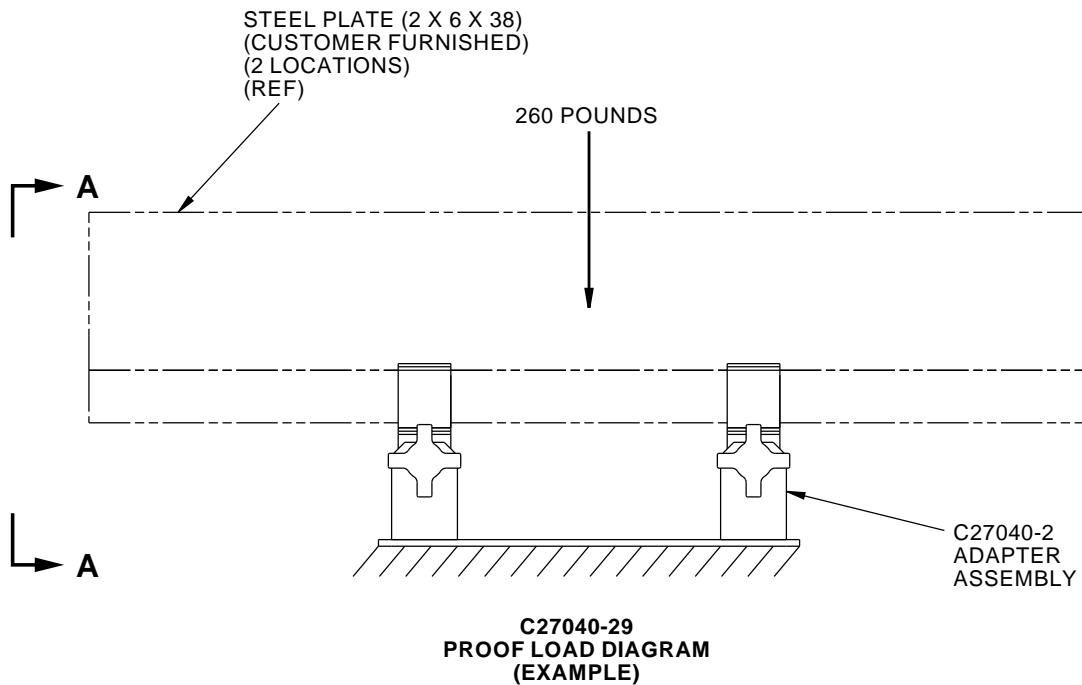
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**PART NUMBER: C27052-25, -39**

**NAME:** SLING EQUIPMENT - TRAILING EDGE FLAPS (CE)

**AIRPLANE MAINTENANCE:** YES

AMM 27-51-11, AMM 27-51-21

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27052-25 (option, CE qualified) sling equipment is used on all 737-600 thru -900 airplanes.

The C27052-39 (preferred, CE qualified) sling equipment is used on all 737 airplanes except 737-100 thru -500 airplanes.

C27052 is used in conjunction with a customer-furnished overhead lift and J71046 specification load cell equipment. C27052 is used for installation or removal of the outboard and inboard trailing edge flaps.

Refer to AMM 27-51-11, AMM 27-51-21 and the current C27052 drawing for complete usage instructions.

C27052-25 and -39 consists of:

C27052-25		
QUANTITY	NOMENCLATURE	PART NUMBER
1	INBOARD SLING ASSEMBLY	C27052-2
1	OUTBOARD SLING ASSEMBLY	C27052-26
2	STRAP ASSEMBLY	C27052-4
8	SHORT SCREW	C27052-31
4	LONG SCREW	C27052-32
1	STORAGE BOX	

C27052-39		
QUANTITY	NOMENCLATURE	PART NUMBER
1	INBOARD SLING ASSEMBLY	C27052-40
1	OUTBOARD SLING ASSEMBLY	C27052-41
2	STRAP ASSEMBLY	C27052-4
8	SHORT SCREW	C27052-31
4	LONG SCREW	C27052-32
1	STORAGE BOX	

**WEIGHT:** 9 lbs (4.1 kg)

**DIMENSIONS:** 8 x 8 x 12 inches (203 x 203 x 305 mm)

**NOTE:** C27052-25 supersedes C27052-21.

C27052-39 replaces C27052-25 for future procurement.

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**DECLARATION OF CONFORMITY:** C27052 requires a written Declaration of Conformity from the C27052 fabricator if it is to be used in the European Union. The design of C27052 meets the European requirements of Machinery Directive 2006/42/EC including its amendments. When used within the European Union, the fabricator of C27052 must also meet the requirements of that directive. At a minimum for the tool fabricator, this requires the retention of a technical file, a labeling of the equipment with the CE mark, and the completion of an EC Declaration of Conformity. If C27052 is to be used within the European Union and the Declaration of Conformity is missing, contact the fabricator of C27052 for a replacement Declaration of Conformity.

**OPERATING INSTRUCTIONS:** Refer to the current C27052 drawing, AMM 27-51-11 and AMM 27-51-21 procedures for detailed instructions on the use of this equipment. This equipment shall only be used in conjunction with Boeing maintenance procedures to maintain Boeing airplanes.

**MAINTENANCE:** General Cleaning: Basic care of the equipment includes cleaning the equipment of dirt, corrosives, or contaminants. Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and commercial soap or detergent, clean the components and wipe dry with a clean cloth. Hang the components freely to dry, but away from excessive heat or steam.

Slings, Synthetic: Maintenance and inspection of synthetic shall be performed in accordance with ASME B-30.9, Chapter 9-5 and 9-6.

Swivel Hoist Rings: Maintenance shall be done based on the recommendations made by the hoist ring manufacturer or qualified person.

**PROOF LOAD:** Proof load testing for the C27052 sling equipment shall be performed per the current C27052 drawing proof load diagrams (example Figure 2) and:

- In conjunction with initial fabrication
- Subsequent to modification of this equipment (equipment shall only be modified in accordance with the C27052 drawing).
- After repair of load carrying components.
- After replacement of load carrying components (except for load carrying components such as shackles and hoist rings that carry their own certification).
- Continuing integrity/safety of the device to be assured by inspection.

**INSPECTION:** FREQUENT

General Inspection (before use):

1. Missing fasteners
2. Notes, Cautions and Warnings are legible
3. Usage placards are legible

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Slings, General: Prior to use, all new, altered, modified or repaired slings shall be inspected by a designated person to verify compliance with the applicable provisions of EN 1492-1, Section 6, Section Annex B and ASME B-30.9

Slings, Webbing:

1. Visual inspection for damage shall be performed by the user or other designated person each day or shift the sling is used.
2. Slings shall not be returned to service until approved by a qualified person.
3. A written record of frequent inspections is not required.
4. Conditions detailed below and in EN 1492-1, Section 6, Section Annex B and ASME B-30.9, or conditions that may result in a hazard shall cause the sling to be removed from service.
  - Red warning yarns visible.
  - Acid or caustic burns.
  - Melting or charring of any part of the sling surface.
  - Snags, punctures, tears or cuts.
  - Broken or worn stitches in load bearing splices.
  - Excessive abrasive wear.
  - Knots in any part of the sling.
  - Discoloration and brittle or stiff areas on any part of the sling.
  - Distortion of fittings.
  - Missing or illegible sling tag.

Swivel Hoist Rings:

1. Visual inspection shall be performed by the user or other designated person each shift before the links, rings, and swivels are used. Semipermanent and inaccessible locations where frequent inspections are not feasible shall have periodic inspections performed. Specifically check to make sure that:
  - Body can rotate freely on bushing.
  - Bail can swivel freely on shoulder pins.
  - Shoulder pins are secure and undamaged.
2. Conditions as those listed in ASME B-30.26, para. 26-4.8.4, or any other condition that may result in a hazard, shall cause the hardware to be removed from service. Links, rings, and swivels shall not be returned to service until approved by a qualified person.
3. Written records are not required.

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Slings, General:

1. A complete inspection for damage to the sling shall be periodically performed by a designated person.
2. Each sling and component shall be examined individually, taking care to expose and examine all surfaces.
3. The sling shall be examined for the conditions noted in the frequent inspection and in ASME B-30.9 or any other conditions that may result in a hazard shall cause the sling to be removed from service.
4. Slings shall not be returned to service until approved by a qualified person.
5. A written record of the most recent periodic inspection shall be maintained and shall include the condition of the sling.

Slings, Synthetic: The straps shall be examined for the conditions noted in the frequent inspection and in ASME B-30.9 or any other conditions that may result in a hazard shall cause the sling to be removed from service.

Swivel Hoist Rings:

1. A complete inspection of the links, rings, and swivels shall be performed by a designated person. The hardware shall be examined for conditions such as those listed in ASME B-30.26, para. 26-4.8.4 and a determination made as to whether they constitute a hazard.
2. Period inspection interval shall not exceed one year. The frequency of periods inspection should be based on:
  - Frequency of use
  - Severity of service conditions
  - Experience gained on the service life of hardware used in similar circumstances
  - Guidelines for the time intervals are: Normal service – yearly; Severe service – monthly to quarterly; Special service – as recommended by a qualified person.
  - Written records are not required.

**STORAGE:** C27052 shall be stored clean, dry, and free of exposure to fumes or corrosive elements, indoors and in the furnished storage box.

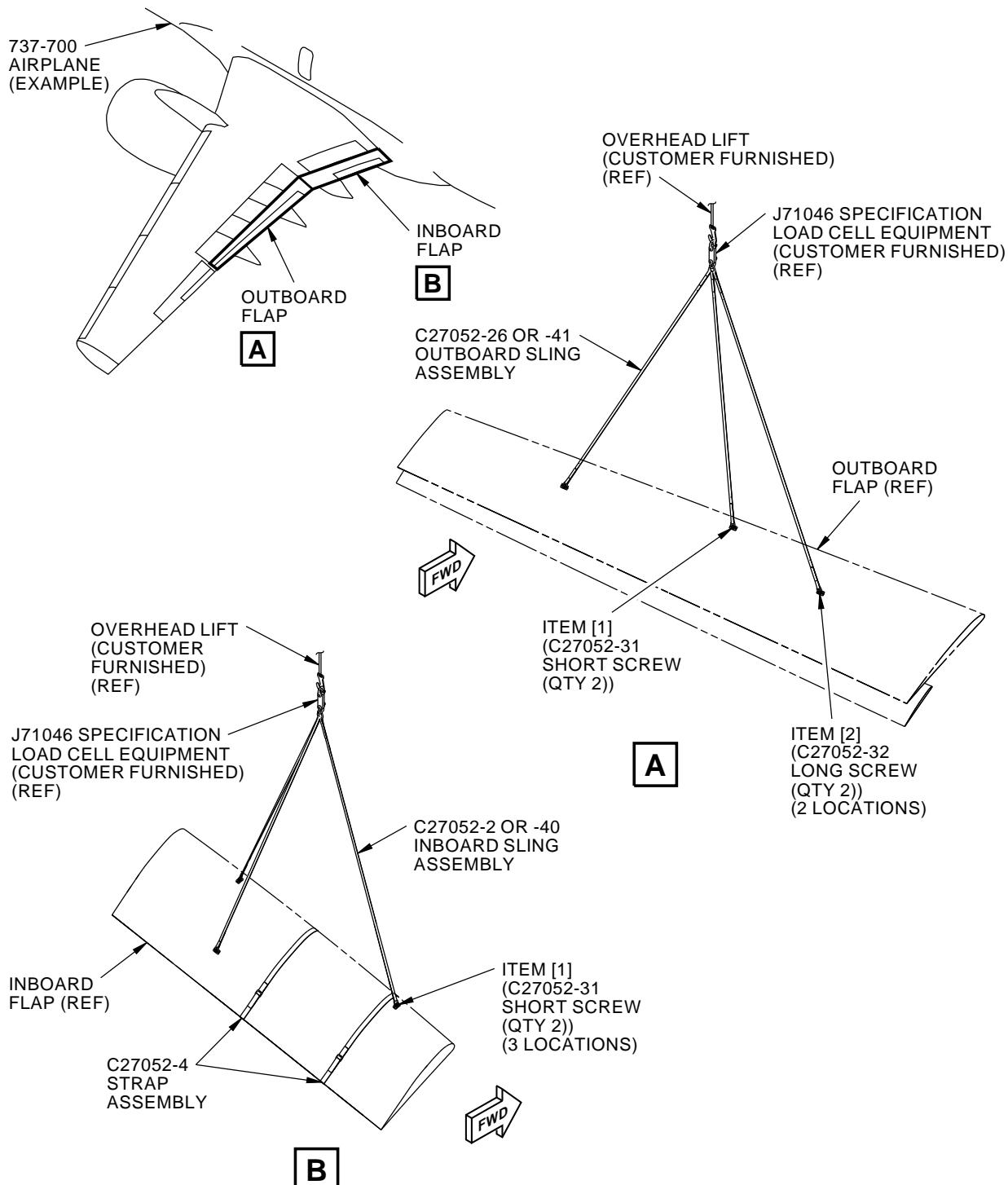
**DECOMMISSIONING:** Part and assemblies of this equipment including textile components shall be permanently altered to prevent their unauthorized reuse. Recycling is the preferred manner of disposal for those materials where that option is available.

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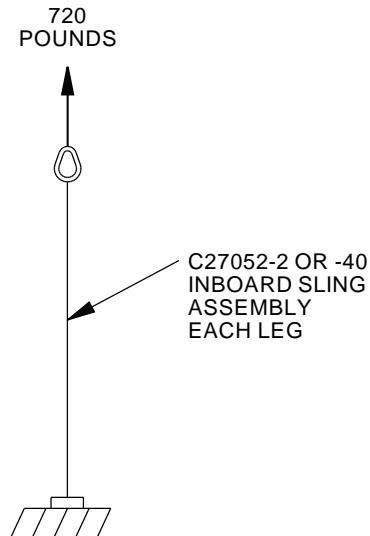


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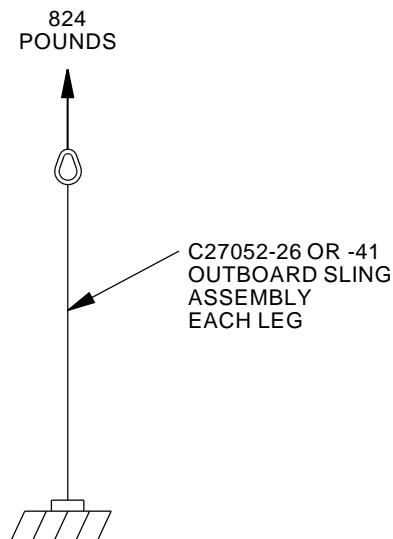
**Trailing Edge Flaps Sling Equipment**  
**Figure 1**

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**C27052 PROOF LOAD DIAGRAM 1  
(EXAMPLE)**



**C27052 PROOF LOAD DIAGRAM 2  
(EXAMPLE)**

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**C27052 Proof Load Diagrams (Examples)  
Figure 2**

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NUMBER	PART NUMBER	NOMENCLATURE	VENDOR CODE
[1]	C27052-31 (NAS1351-4-20)	SHORT SCREW	---
[2]	C27052-32 (NAS1351-5-24)	LONG SCREW	---

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**PART NUMBER: C27008-20, -22**

**NAME:** LOCK EQUIPMENT - ACTUATION CONTROL, FLAP

**AIRPLANE MAINTENANCE:** YES

AMM 27-51-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27008-20 lock equipment is used on 737-300 thru -500 airplanes.

The C27008-22 lock equipment is used on all 737 airplanes except 737-100 thru -500 airplanes.

C27008 is used to prevent actuation of the flaps when they are fully retracted.

Refer to AMM 27-51-00 and the current C27008 drawing for complete usage instructions.

C27008-20 and -22 consist of:

C27008-20		
QUANTITY	NOMENCLATURE	PART NUMBER
1	CONTROL HANDLE LOCKOUT ASSEMBLY	C27008-14
2	CIRCUIT BREAKER LOCKOUT ASSEMBLY	C27008-15
1	STORAGE BOX	

C27008-22		
QUANTITY	NOMENCLATURE	PART NUMBER
1	CONTROL HANDLE LOCKOUT ASSEMBLY	C27008-14
3	CIRCUIT BREAKER LOCKOUT ASSEMBLY	C27008-15
1	STORAGE BOX	

**WEIGHT:** 2 lbs (0.9 kg)

**DIMENSIONS:** 4 x 8 x 6 inches (102 x 204 x 152 mm)

**NOTE:** C27008-20 supersedes C27008-1

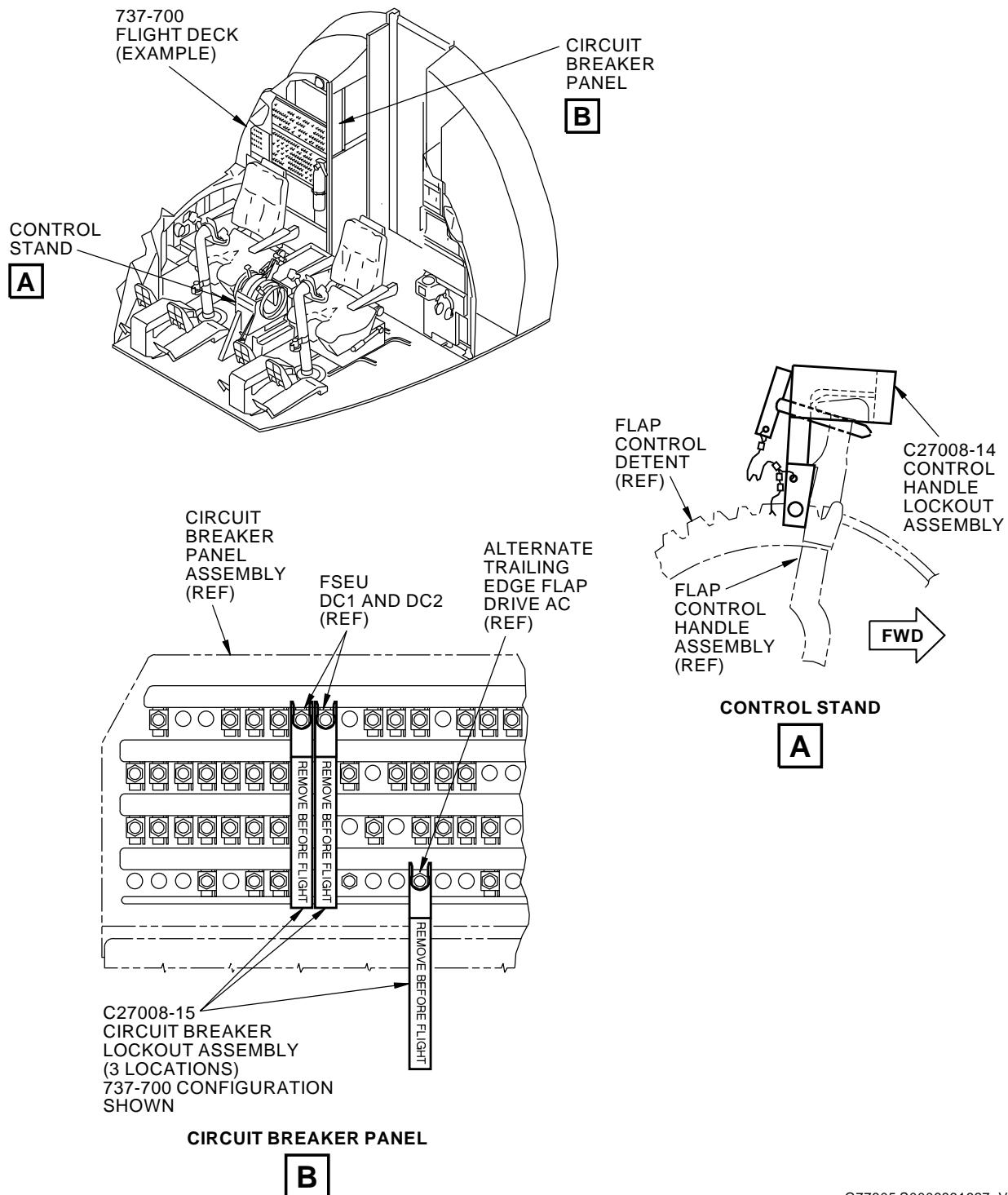
**27-50-04**

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**737-600/700/800/900**  
**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**



G77305 S0006831627\_V4

**Flap Actuation Control Lock Equipment**  
**Figure 1**

**27-50-04**

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**737-600/700/800/900**  
**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**

**PART NUMBER: C27022-1**

**NAME:** CLAMP SET - TRAILING EDGE FLAP TORQUE TUBE

**AIRPLANE MAINTENANCE:** YES

AMM 27-51-00, AMM 27-51-51, AMM 27-51-55, AMM 27-51-56, AMM 27-51-57, AMM 27-51-58, AMM 27-51-59, AMM 27-59-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27022-1 clamp set is used on all 737 airplanes except 737-100 thru -500 airplanes.

C27022 is used to prevent the trailing edge flap drive system from rotating when the torque tubes are disconnected or removed for maintenance. The C27022-2, clamp assembly - 1.25 attaches to the airplane's 1.25-inch outside diameter tubes. The C27022-3, clamp assembly - 0.875 attaches to the airplane's 0.875-inch outside diameter tubes.

Refer to AMM 27-51-00, AMM 27-51-51, AMM 27-51-55, AMM 27-51-56, AMM 27-51-57, AMM 27-51-58, AMM 27-51-59, AMM 27-59-00 and the current C27022 drawing for complete usage instructions.

C27022-1 consists of:

C27022-1		
QUANTITY	NOMENCLATURE	PART NUMBER
2	CLAMP ASSEMBLY - 1.25	C27022-2
2	CLAMP ASSEMBLY - 0.875	C27022-3
1	STORAGE BOX	

**WEIGHT:** 8 lbs (3.6 kg)

**DIMENSIONS:** 16 x 16 x 6 inches (406 x 406 x 152 mm)

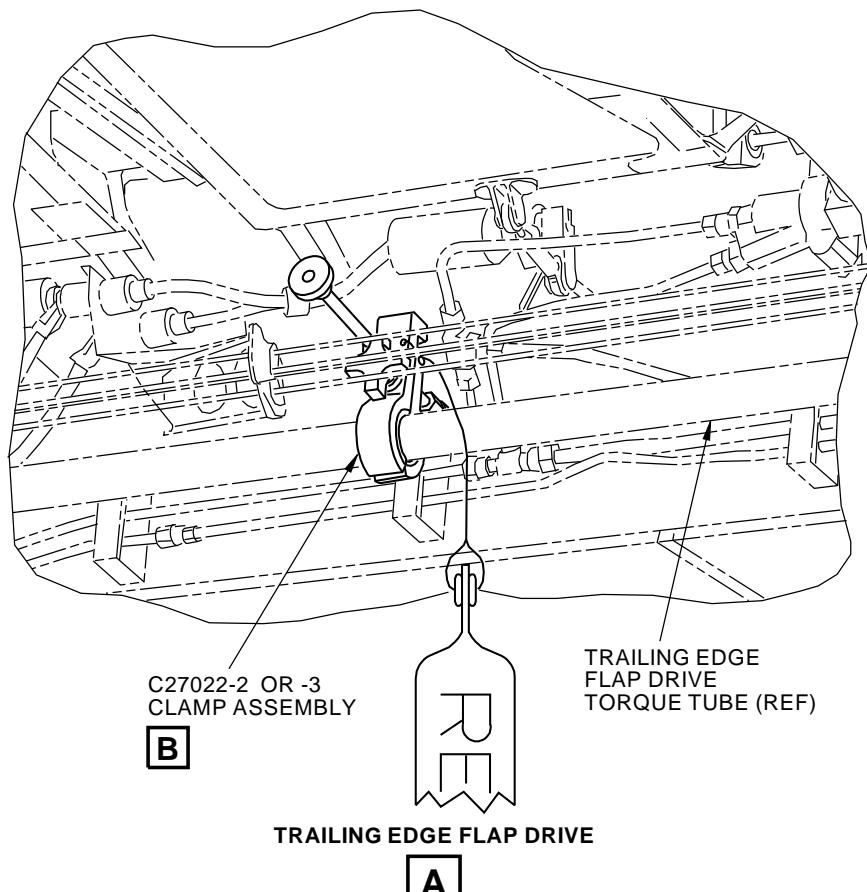
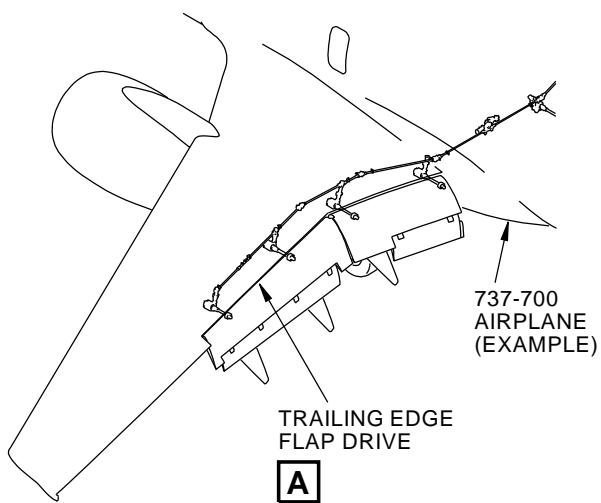
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G77415 S0006831629\_V4

Trailing Edge Flap Torque Tube Clamp Set  
Figure 1

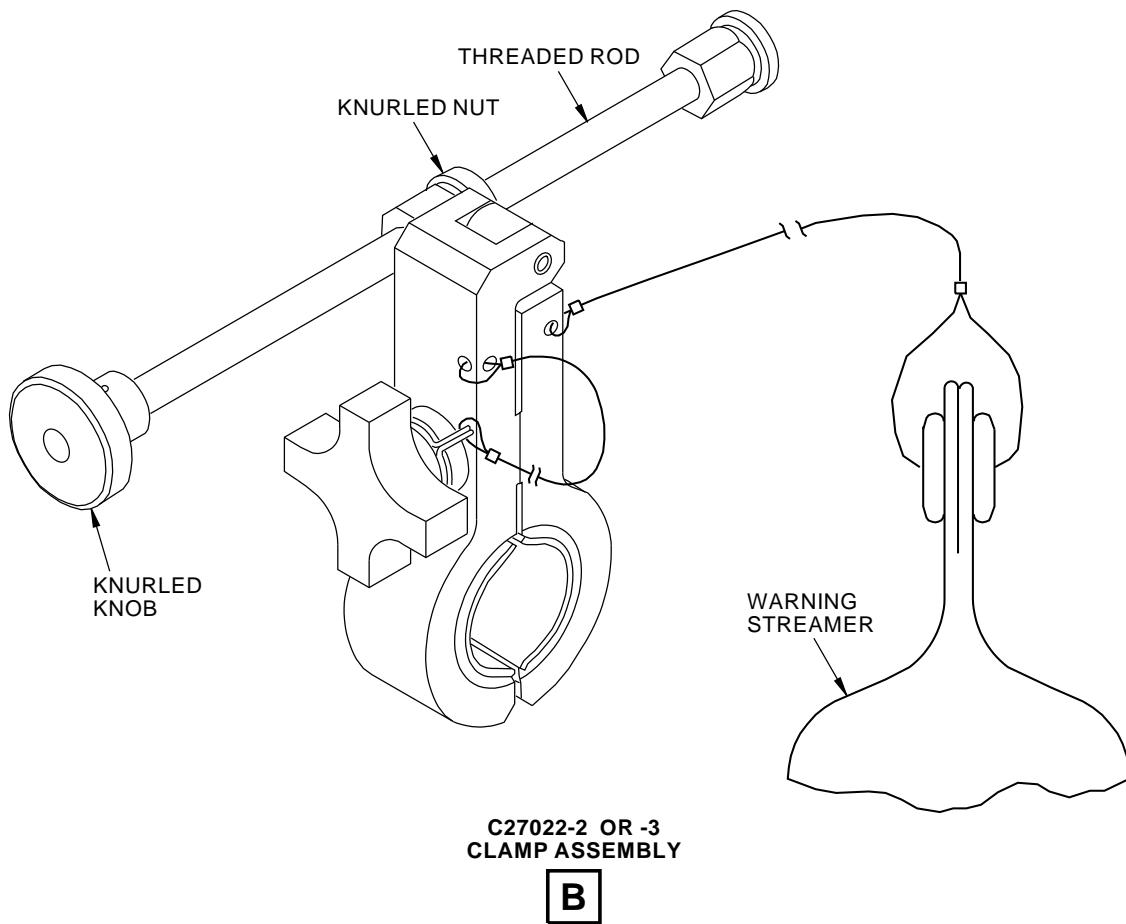
**27-50-05**

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G77439 S0006831630\_V4

Trailing Edge Torque Tube Clamp Set  
Figure 2

**27-50-05**

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**737-600/700/800/900**  
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**PART NUMBER: C27041-1**

**NAME:** WRENCH - COUPLING SLEEVE, FLAP ACTUATION

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-57-05, CMM 27-57-31, CMM 27-57-34, CMM 27-57-37, CMM 27-57-39, CMM 27-57-50, CMM 27-57-71, CMM 27-57-72, CMM 27-57-73, CMM 27-57-74

**USAGE & DESCRIPTION:** The C27041-1 wrench is used during component maintenance on 737-600 thru -900 airplanes.

C27041 is used during removal or installation of the flap actuation coupling sleeve. C27041 holds the coupling sleeve stationary while the retaining nut is being tightened or loosened.

Refer to CMM 27-57-05, CMM 27-57-31, CMM 27-57-34, CMM 27-57-37, CMM 27-57-39, CMM 27-57-50, CMM 27-57-71, CMM 27-57-72, CMM 27-57-73, CMM 27-57-74 and the current C27041 drawing for complete usage instructions.

C27041-1 consists of:

C27041-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	WRENCH ASSEMBLY	C27041-2
1	STORAGE BOX	

**WEIGHT:** 1 lb (0.45 kg)

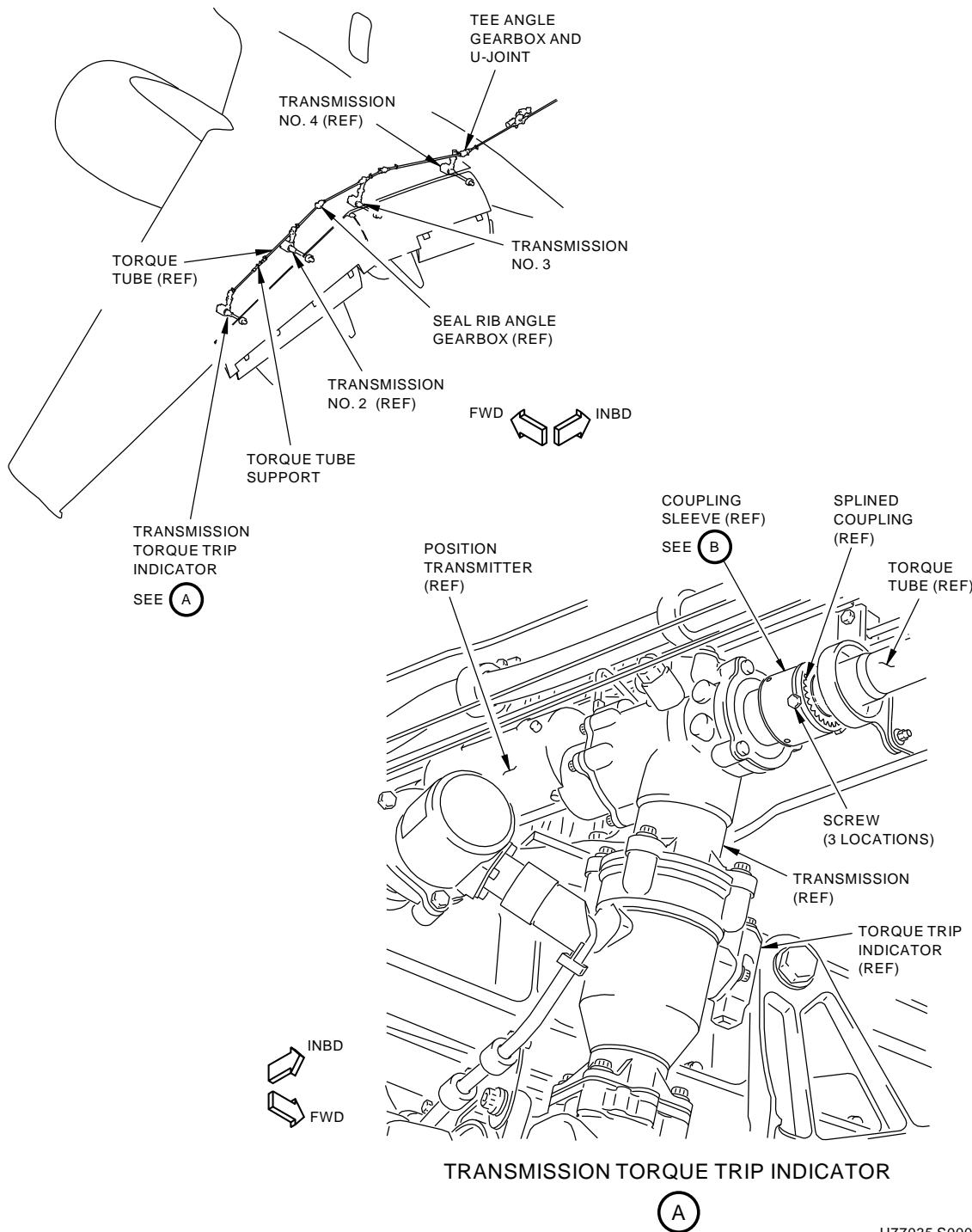
**DIMENSIONS:** 2.5 x 1.5 x 1.5 inches (64 x 38 x 38 mm)

**27-50-06**

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H77035 S0006831632\_V2

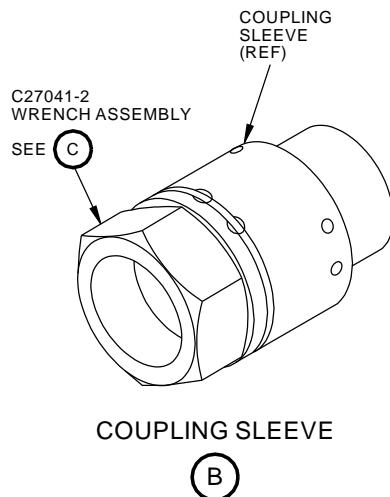
**Coupling Sleeve Location**  
**Figure 1**

**27-50-06**

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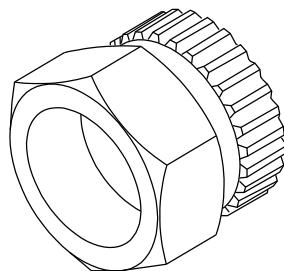
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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



COUPLING SLEEVE

(B)



C27041-2  
WRENCH ASSEMBLY

(C)

H36533 S0006831633\_V3

**Flap Actuation Coupling Sleeve Wrench  
Figure 2**

**27-50-06**

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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: J27056-43, -44, -45, -46, -71, -72, -155, -156**

**NAME: TEST EQUIPMENT - RUN-IN, VARIABLE DRIVE**

**AIRPLANE MAINTENANCE: NO**

**COMPONENT MAINTENANCE: YES**

CMM 27-55-81, CMM 27-55-87, CMM 27-55-75, CMM 27-55-78

**USAGE & DESCRIPTION:** The J27056-43, -45, -71 or -155 (preferred) test equipment is used during component maintenance on all 737-600 thru -900 airplanes. The J27056-43, -45, -71 or -155 test equipment requires 115VAC, 50/60 HZ power.

The J27056-44, -46, -72 or -156 (preferred) test equipment is used during component maintenance on all 737-600 thru -900 airplanes. The J27056-44, -46, -72 or -156 test equipment requires 230VAC, 50/60 HZ power.

J27056 is used in conjunction with customer-furnished test fixtures to accomplish run-in tests. Equipment output speed is adjustable from 0 to 700 rpm and the direction of rotation is reversible. The maximum operating torque is 45 in-lbs.

J27056 is used on the following components: 256A3650, tee gearbox assembly, refer to CMM 27-55-81 for complete usage instructions; 256A3515, flap actuation gearbox assembly, refer to CMM 27-55-87 for complete usage instructions; 256A3640, angle gearbox assembly, refer to CMM 27-55-75 for complete usage instructions; 256A3630, angle gearbox assembly, refer to CMM 27-55-78 for complete usage instructions.

J27056-43, -44, -45, -46, -71, -72, -155 and -156 consist of:

J27056-43		
QUANTITY	NOMENCLATURE	PART NUMBER
1	MOTOR ASSEMBLY	J27056-47
1	MOTOR CONTROLLER ASSEMBLY	J27056-49
1	TACHOMETER ASSEMBLY	J27056-7
1	FIXTURE ASSEMBLY	J27056-9
8	WASHER	AN960-516
8	SOCKET HEAD SCREW	MS16997-78
1	STORAGE BOX	

J27056-44		
QUANTITY	NOMENCLATURE	PART NUMBER
1	MOTOR ASSEMBLY	J27056-48
1	MOTOR CONTROLLER ASSEMBLY	J27056-50
1	TACHOMETER ASSEMBLY	J27056-8
1	FIXTURE ASSEMBLY	J27056-9

**27-50-07**

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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL

(Continued)

J27056-44		
QUANTITY	NOMENCLATURE	PART NUMBER
8	WASHER	AN960-516
8	SOCKET HEAD SCREW	MS16997-78
1	STORAGE BOX	

J27056-45		
QUANTITY	NOMENCLATURE	PART NUMBER
1	MOTOR ASSEMBLY	J27056-47
1	MOTOR CONTROLLER ASSEMBLY	J27056-51
1	TACHOMETER ASSEMBLY	J27056-53
1	FIXTURE ASSEMBLY	J27056-9
8	WASHER	AN960-516
8	SOCKET HEAD SCREW	MS16997-78
1	STORAGE BOX	

J27056-46		
QUANTITY	NOMENCLATURE	PART NUMBER
1	MOTOR ASSEMBLY	J27056-48
1	MOTOR CONTROLLER ASSEMBLY	J27056-52
1	TACHOMETER ASSEMBLY	J27056-54
1	FIXTURE ASSEMBLY	J27056-9
8	WASHER	AN960-516
8	SOCKET HEAD SCREW	MS16997-78
1	STORAGE BOX	

J27056-71		
QUANTITY	NOMENCLATURE	PART NUMBER
1	MOTOR ASSEMBLY	J27056-47
1	MOTOR CONTROLLER ASSEMBLY	J27056-73
1	TACHOMETER ASSEMBLY	J27056-53
1	FIXTURE ASSEMBLY	J27056-9
8	WASHER	NAS1149F0563P
8	SOCKET HEAD SCREW	MS16997-78
1	STORAGE BOX	

J27056-72		
QUANTITY	NOMENCLATURE	PART NUMBER
1	MOTOR ASSEMBLY	J27056-48
1	MOTOR CONTROLLER ASSEMBLY	J27056-74

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

(Continued)

J27056-72		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TACHOMETER ASSEMBLY	J27056-54
1	Fixture Assembly	J27056-9
8	WASHER	NAS1149F0563P
8	SOCKET HEAD SCREW	MS16997-78
1	STORAGE BOX	

J27056-155		
QUANTITY	NOMENCLATURE	PART NUMBER
1	MOTOR ASSEMBLY	J27056-47
1	MOTOR CONTROLLER ASSEMBLY	J27056-157
1	TACHOMETER ASSEMBLY	J27056-53
1	Fixture Assembly	J27056-9
8	WASHER	NAS1149F0563P
8	SOCKET HEAD SCREW	MS16997-78
1	STORAGE BOX	

J27056-156		
QUANTITY	NOMENCLATURE	PART NUMBER
1	MOTOR ASSEMBLY	J27056-48
1	MOTOR CONTROLLER ASSEMBLY	J27056-158
1	TACHOMETER ASSEMBLY	J27056-54
1	Fixture Assembly	J27056-9
8	WASHER	NAS1149F0563P
8	SOCKET HEAD SCREW	MS16997-78
1	STORAGE BOX	

**WEIGHT:** 80 lbs (36.4 kg)

**DIMENSIONS:** 20 x 20 x 34 inches (508 x 508 x 864 mm)

**NOTE:** J27056-155 and -156 replace J27056-71 and -72 respectively for future procurement.

J27056-71 and -72 replace J27056-45 and -46 respectively for future procurement.

J27056-45 and -46 replace J27056-43 and -44 respectively for future procurement.

J27056-43 supersedes J27056-38.

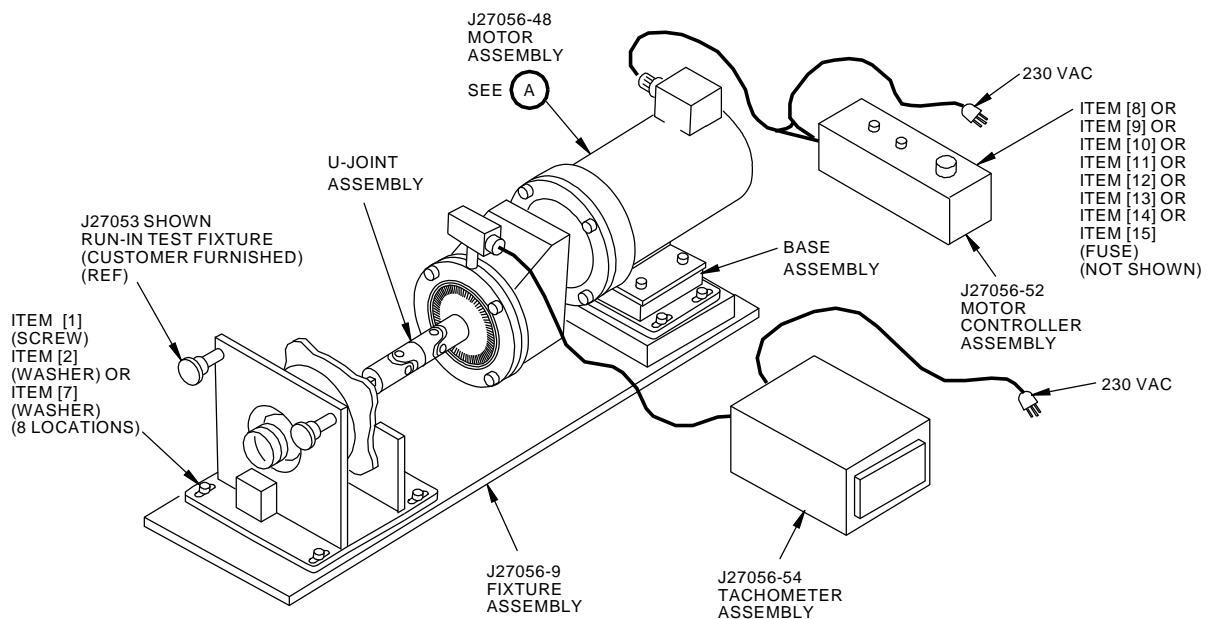
J27056-44 supersedes J27056-39.

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**737-600/700/800/900**  
**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**



**J27056-46 TEST EQUIPMENT SHOWN**  
**J27056-43,-44,-45,-71,-72,-155,-156SIMILAR**

H56593 S0006831635\_V5

**Run-In Variable Drive Test Equipment**  
**Figure 1**

**27-50-07**

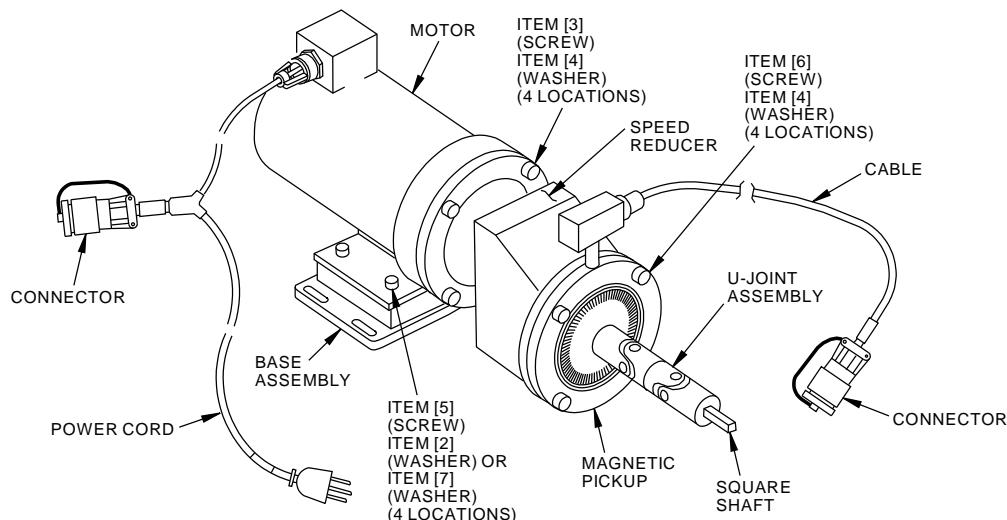
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J27056-48 MOTOR ASSEMBLY SHOWN  
J27056-47 SIMILAR

(A)

H56582 S0006831636\_V4

Tester Components  
Figure 2

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[1]	MS 16997-78	SOCKET HEAD SCREW	---
[2]	AN 960-516	WASHER	---
[3]	MS 16997-98	SOCKET HEAD SCREW	---
[4]	MS 35338-46	LOCK WASHER	---
[5]	MS 16997-76	SOCKET HEAD SCREW	---
[6]	MS 16997-100	SOCKET HEAD SCREW	---
[7]	NAS1149F0563P	WASHER	---
[8]	31303.2	FUSE	---
[9]	313007	FUSE	---
[10]	MDA-10	FUSE	---
[11]	KTK-10	FUSE	---
[12]	ABC-15	FUSE	---
[13]	313008.ID	FUSE	---
[14]	313007.ID	FUSE	---
[15]	312007	FUSE	---
NOT SHOWN	NAS114DN832K	WASHER	---
NOT SHOWN	MS51957-45	SCREW	---

27-50-07

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**737-600/700/800/900**  
**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**

**PART NUMBER: F80197-5**

**NAME:** WRENCH SET - LIMIT SWITCH, FLAP CONTROL UNIT

**AIRPLANE MAINTENANCE:** YES

AMM 27-51-201, AMM 27-51-87, AMM 27-88-21, AMM 31-26-12, AMM 31-26-23, AMM 22-21-31, AMM 27-51-74, AMM 27-88-31, AMM 33-51-01

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The F80197-5 flap control unit limit switch wrench set is used on all 737-100 thru -900 airplanes.

F80197 is used to tighten retention nuts on the flap limit switches during final adjustment.

The F80197 wrench set is fabricated from a commercial combination 12-point box and open end wrench. The wrench is cut in half, providing a separate box and open end wrench. The two half wrenches are further modified for limited space usage in adjusting the flap control limit switches. Refer to the current F80197 tool drawing, AMM 27-51-201, AMM 27-51-87, AMM 27-88-21, AMM 31-26-12, AMM 31-26-23, AMM 22-21-31, AMM 27-51-74, AMM 27-88-31 and AMM 33-51-01 for complete usage instructions.

The F80197-5 flap control unit limit switch wrench set consists of:

F80197-5		
QUANTITY	NOMENCLATURE	PART NUMBER
1	WRENCH	F80197-6
1	WRENCH	F80197-7
1	STORAGE BOX	

**NOTE:** F80197-5 supersedes F80197-1.

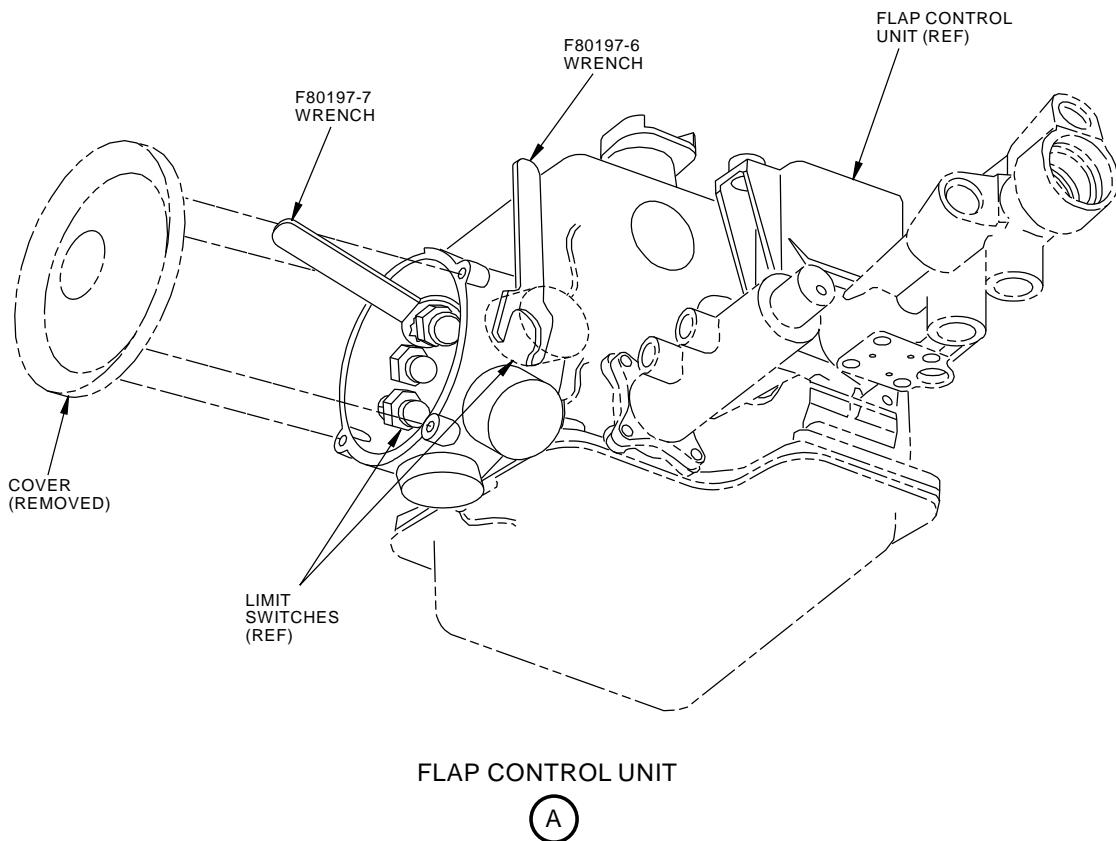
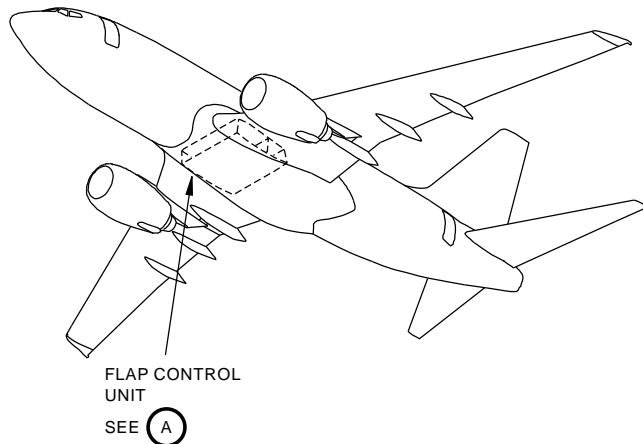
**27-50-08**

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H76802 S0006831638\_V3

**Flap Control Unit Limit Switch Wrench Set**  
**Figure 1**

**27-50-08**

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**PART NUMBER: C27068-65**

**NAME:** TEST EQUIPMENT - TRAILING EDGE FLAP DRIVE GEARBOXES

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-55-75

**USAGE & DESCRIPTION:** The C27068-65 test equipment is used during component maintenance on 737-600 thru -900 airplanes.

C27068 is used to functionally test the trailing edge flap drive gearbox assemblies 256A3630, 256A3640, 256A3650 and 256A3515. Testing requires the use of customer furnished J27056 tachometer assembly, motor controller, motor assembly, a torque wrench, 7/8" socket and a dial indicator.

Refer to CMM 27-55-75 and the current C27068 drawing for complete usage instructions.

C27068-65 consists of:

C27068-65		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BASE ASSEMBLY	C27068-2
1	BASE ASSEMBLY	C27068-3
1	BASE ASSEMBLY (OPPOSITE C27068-3)	C27068-4
1	BASE ASSEMBLY	C27068-7
1	INDICATOR ASSEMBLY	C27068-8
1	INDICATOR ASSEMBLY	C27068-9
1	LOCK ASSEMBLY	C27068-10
1	LOCK ASSEMBLY	C27068-11
1	AXIAL LOCK ASSEMBLY	C27068-12
2	THUMB SCREW ASSEMBLY	C27068-13
1	SPLINE ADAPTER	C27068-15
1	BASE ASSEMBLY	C27068-66
1	BASE ASSEMBLY (OPPOSITE C27068-66)	C27068-67
1	BASE ASSEMBLY	C27068-68
1	BASE ASSEMBLY (OPPOSITE C27068-68)	C27068-69
2	WEIGHT ASSEMBLY	C27068-70
2	ROPE ASSEMBLY	C27068-71
2	HOOK ASSEMBLY	C27068-72
VARIOUS	CONNECTING HARDWARE	
1	STORAGE BOX	

**WEIGHT:** 15 lbs (7 kg)

**27-50-09**

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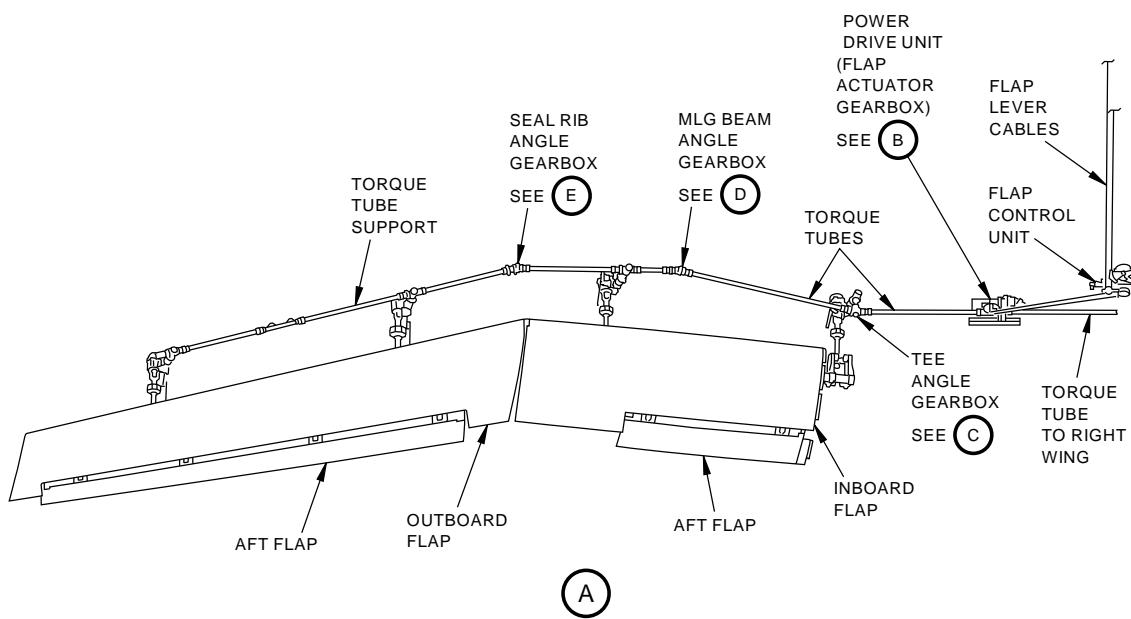
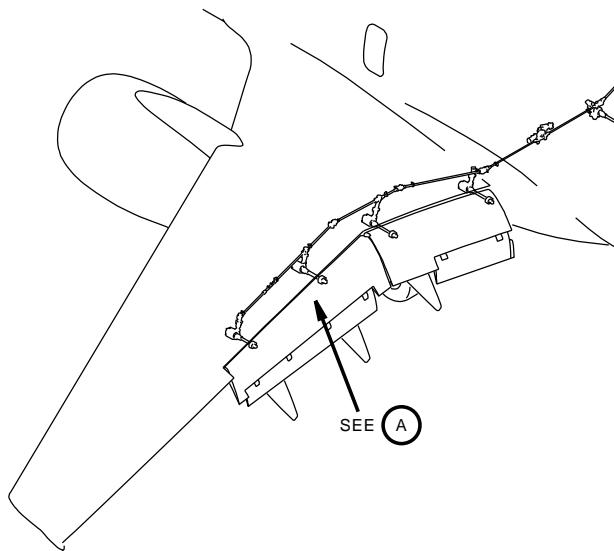


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**DIMENSIONS:** 15 x 15 x 15 inches (381 x 381 x 381 mm)

**NOTE:** C27068-65 supersedes C27068-1

**27-50-09**



H81444 S0006831640\_V2

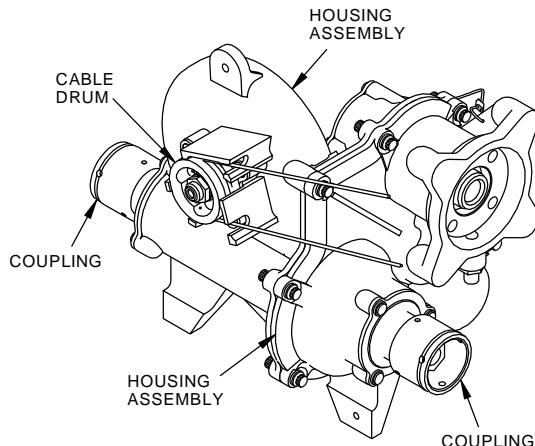
**Flap Drive Gearbox Locations**  
**Figure 1**

**27-50-09**

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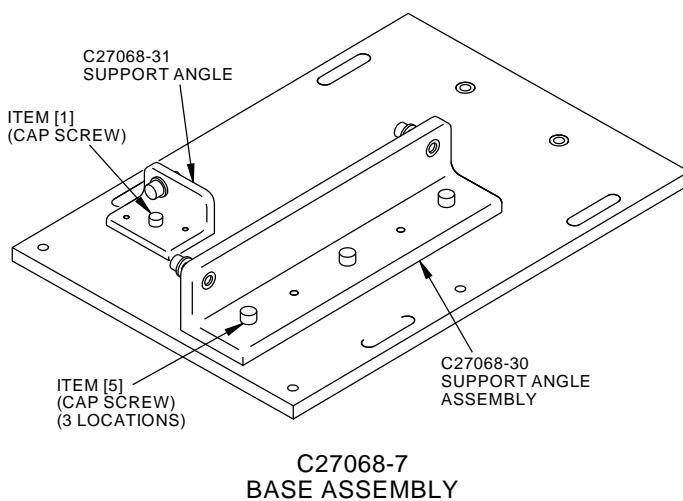
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256A3515

POWER DRIVE UNIT  
(FLAP ACTUATOR GEARBOX)

(B)



H81466 S0006831641\_V3

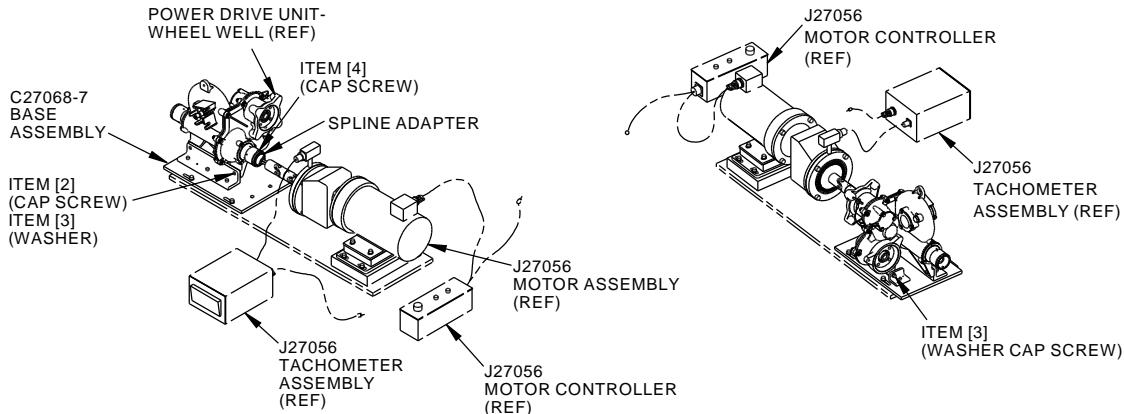
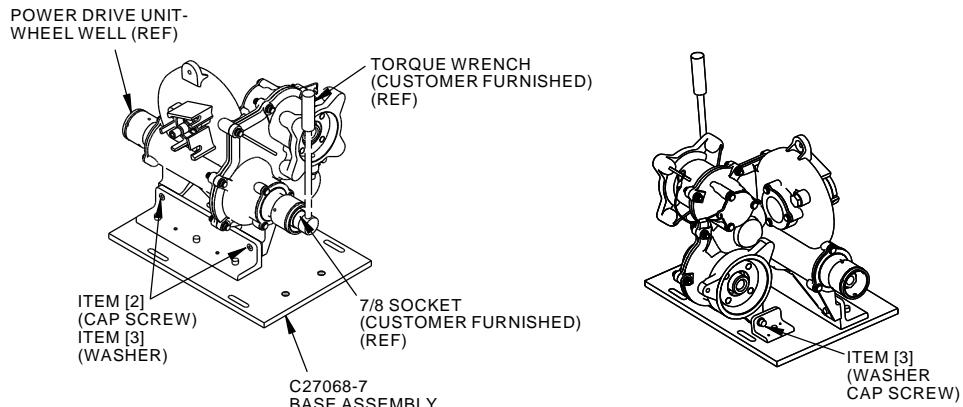
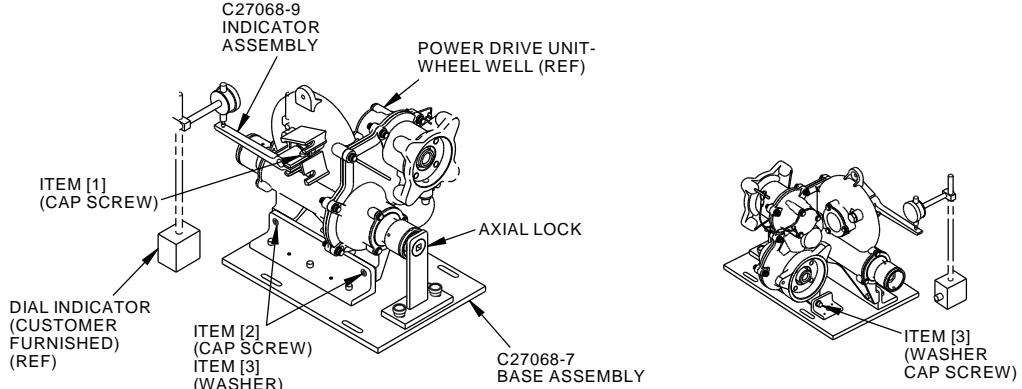
256A3515 Flap Actuator Gearbox and Test Equipment  
Figure 2

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**256A3515**  
**RUN-IN TEST**

**256A3515**  
**TORQUE TEST**

**256A3515**  
**BACKLASH TEST**

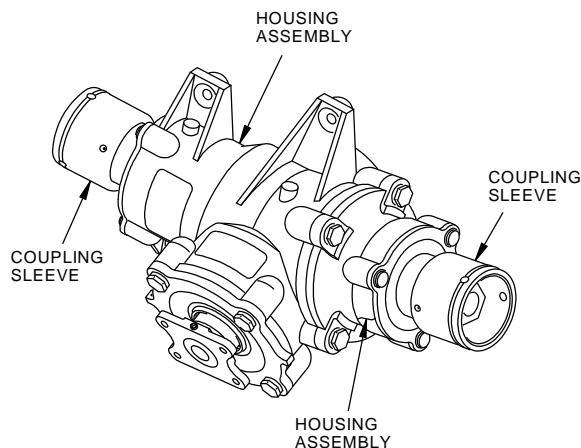
H81641 S0006831642\_V3

**256A3515 Flap Actuator Gearbox Testing and Test Equipment Components**  
**Figure 3**
**27-50-09**

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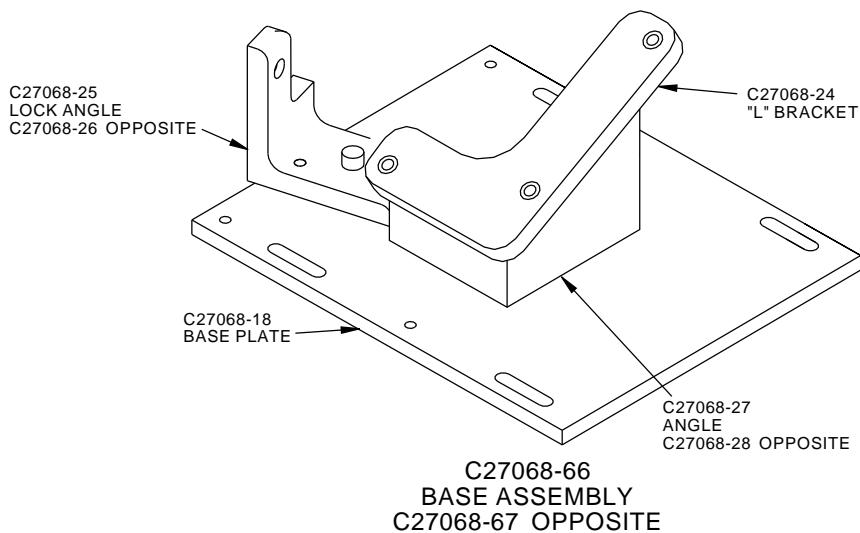
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256A3650

TEE GEARBOX ASSEMBLY

(C)



**256A3650 Tee Gearbox and Test Equipment**  
**Figure 4**

H81642 S0006831643\_V3

**27-50-09**

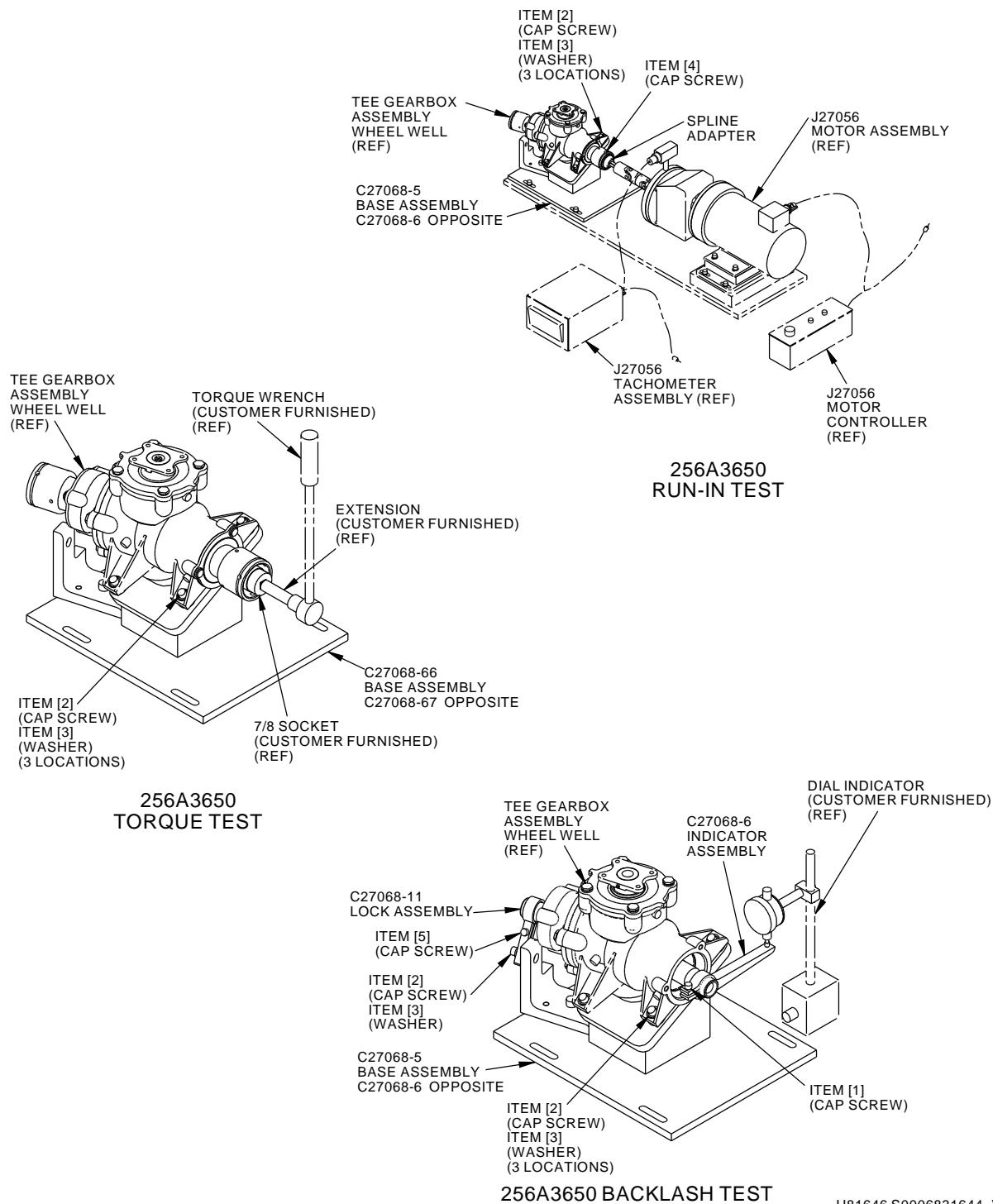
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H81646 S0006831644\_V3

256A3650 Tee Gearbox Testing and Test Equipment Components  
Figure 5

**27-50-09**

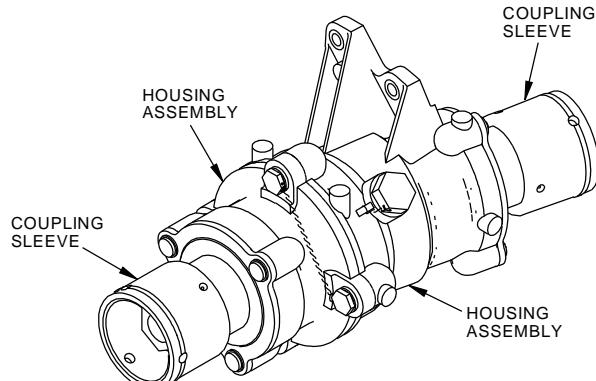
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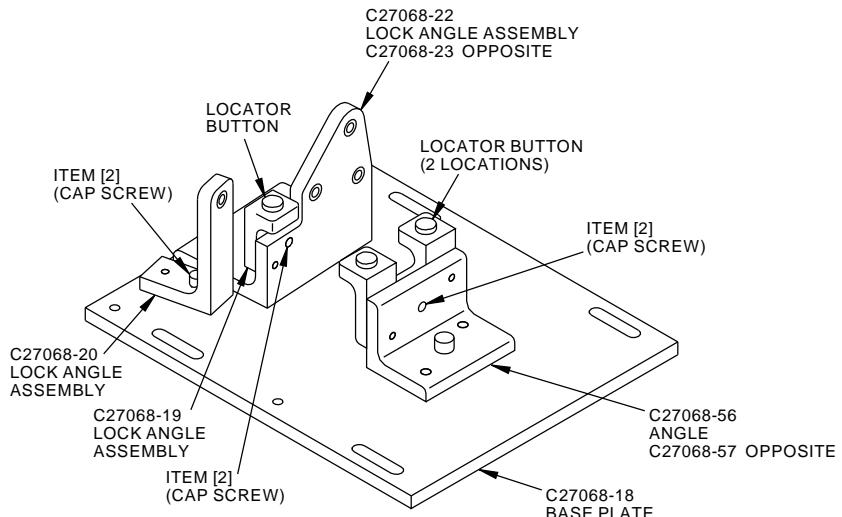
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256A3640

MAIN LANDING GEAR  
BEAM ANGLE GEARBOX ASSEMBLY

(D)



C27068-3  
BASE ASSEMBLY  
C27068-4 OPPOSITE

H81648 S0006831645\_V3

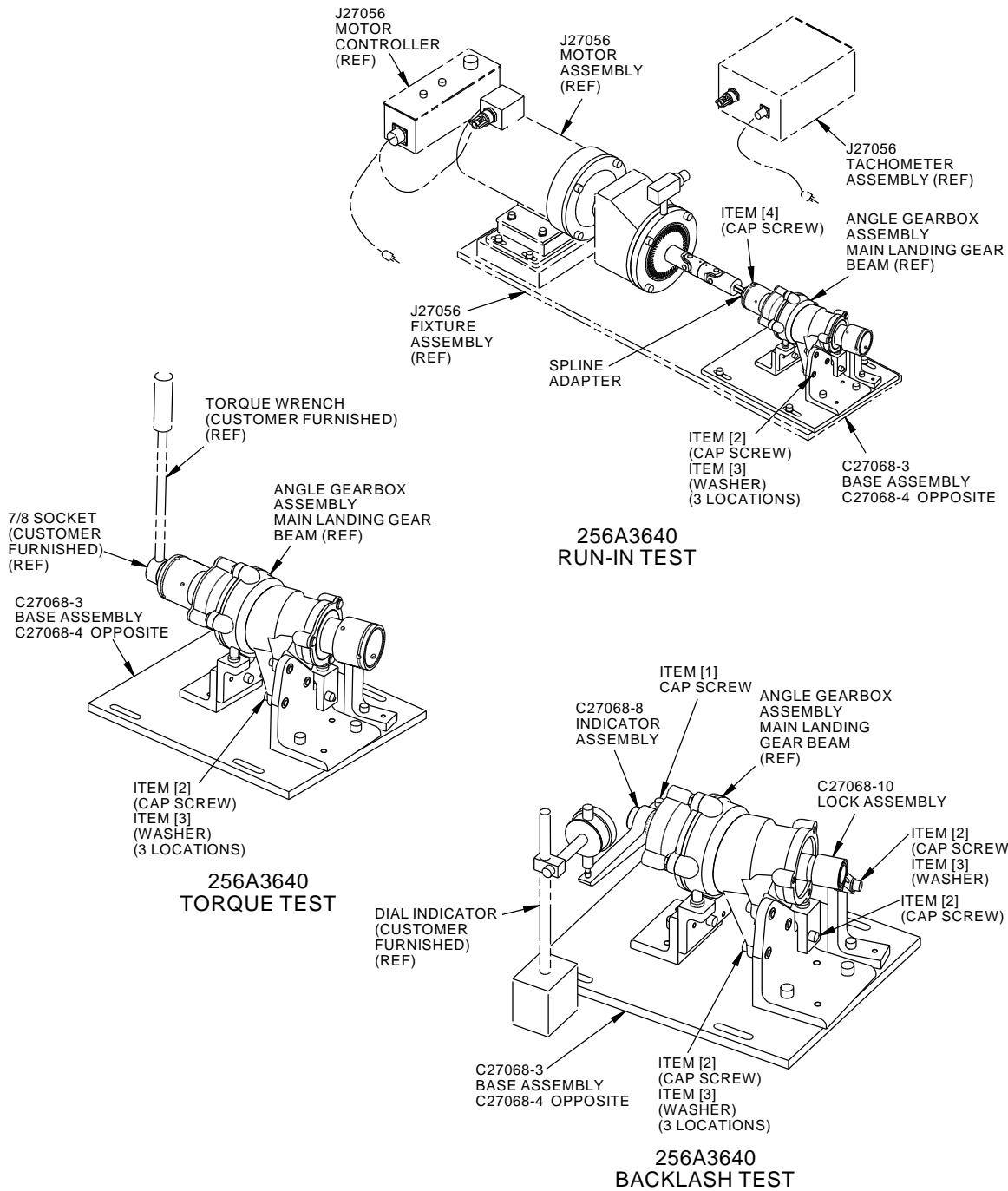
256A3640 Main Landing Gear Angle Gearbox and Test Equipment  
Figure 6

**27-50-09**

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H81649 S0006831646\_V3

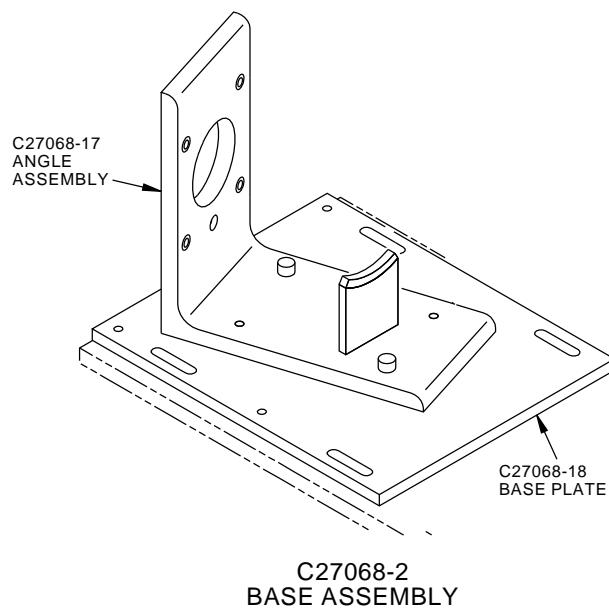
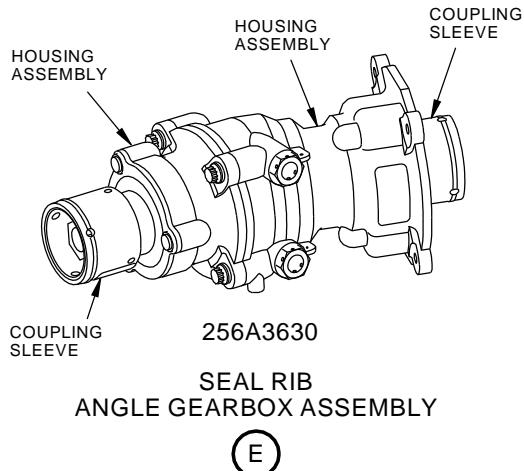
**256A3640 Main Landing Gear Angle Gearbox Testing and Test Equipment Components**  
**Figure 7**

**27-50-09**

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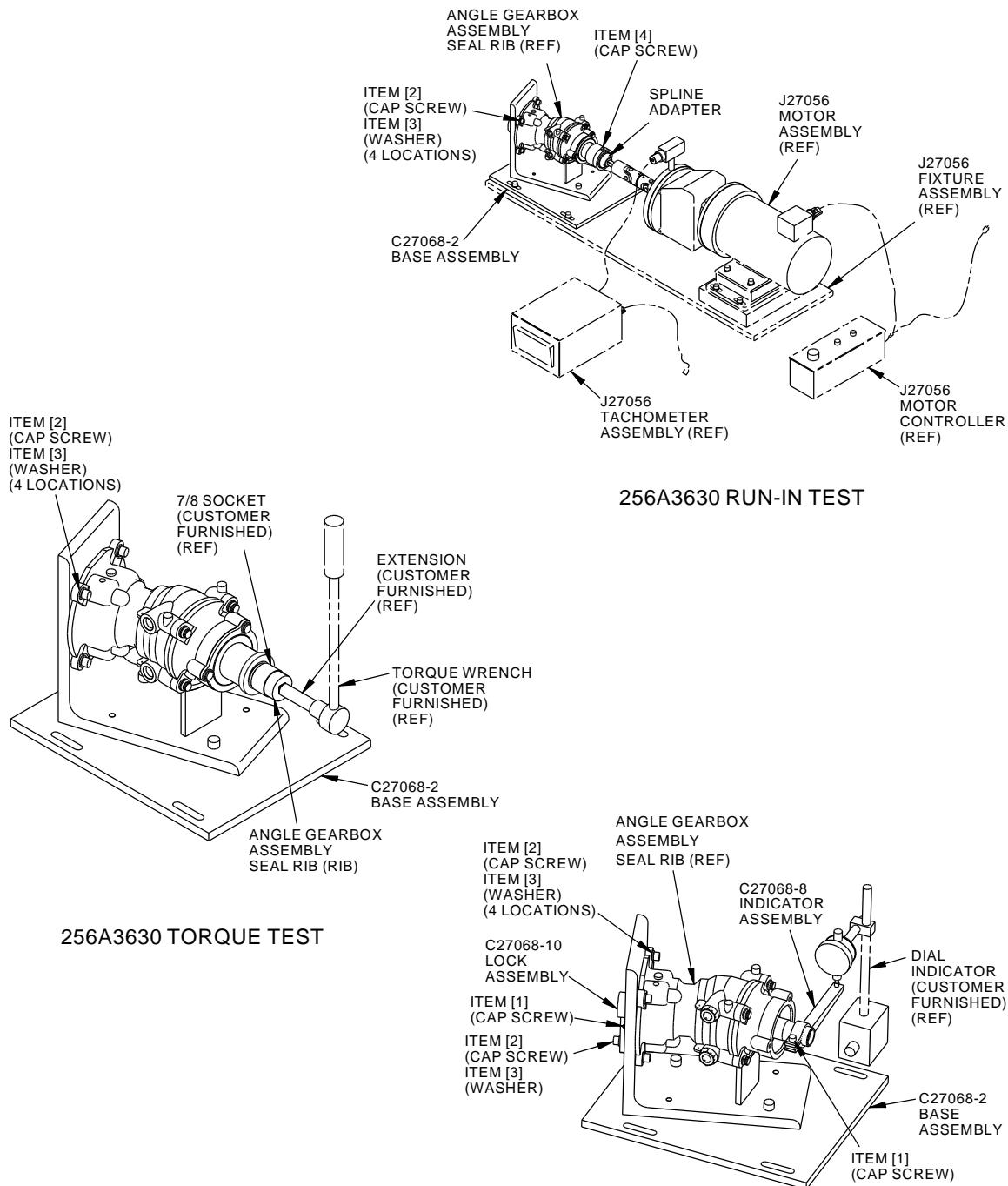
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H81650 S0006831647\_V3

**256A3630 Seal Rib Angle Gearbox and Test Equipment**  
**Figure 8**

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**256A3630 BACKLASH TEST**

H81652 S0006831648\_V3

**256A3630 Seal Rib Angle Gearbox Testing and Test Equipment Components**  
**Figure 9**
**27-50-09**

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[1]	NAS1352N3-8P	CAP SCREW	---
[2]	NAS1352N4-12B	CAP SCREW	---
[3]	NAS1149F0463P	WASHER	---
[4]	AN502-10-8	CAP SCREW	---
[5]	NAS1352N4-10B	CAP SCREW	---

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**PART NUMBER: C27030-33, -94**

**NAME:** TEST EQUIPMENT - FLAP SCREW BACKLASH

**AIRPLANE MAINTENANCE:** YES

AMM 27-51-32, AMM 27-51-42

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27030-33 flap screw backlash test equipment is used only on 737-100 thru -500 airplanes.

The C27030-94 flap screw backlash test equipment is used on all 737 airplanes except 737-100 thru -500 airplanes.

C27030 is used to measure backlash in the flap ballscrew nuts.

On 737-600, -700, -800, -900, -7, -8, -8200 and -9 airplanes, the C27030-95 backlash tool assembly is used with:

- The C27030-57 large top clevis on ballscrew numbers 2 and 7.
- The C27030-59 small top clevis on ballscrew numbers 1, 3, 4, 5, 6 and 8.

Refer to AMM 27-51-32, AMM 27-51-42 and the current C27030 drawing for complete usage instructions.

C27030-94 and -33 consist of:

C27030-33		
QUANTITY	NOMENCLATURE	PART NUMBER
1	MEASURE ASSEMBLY	C27030-3
1	BACKLASH TOOL ASSEMBLY	C27030-34
1	STORAGE BOX	

C27030-94		
QUANTITY	NOMENCLATURE	PART NUMBER
1	MEASURE ASSEMBLY	C27030-3
1	LARGE TOP CLEVIS	C27030-57
1	SMALL TOP CLEVIS	C27030-59
1	BACKLASH TOOL ASSEMBLY	C27030-95
1	STORAGE BOX	

**WEIGHT:** 10 lbs (5 kg)

**DIMENSIONS:** C27030-33 - 3 x 6 x 22 inches (76 x 152 x 559 mm)  
C27030-94 - 6 x 7 x 23 inches (152 x 178 x 584 mm)

**NOTE:** C27030-33 supersedes C27030-1.

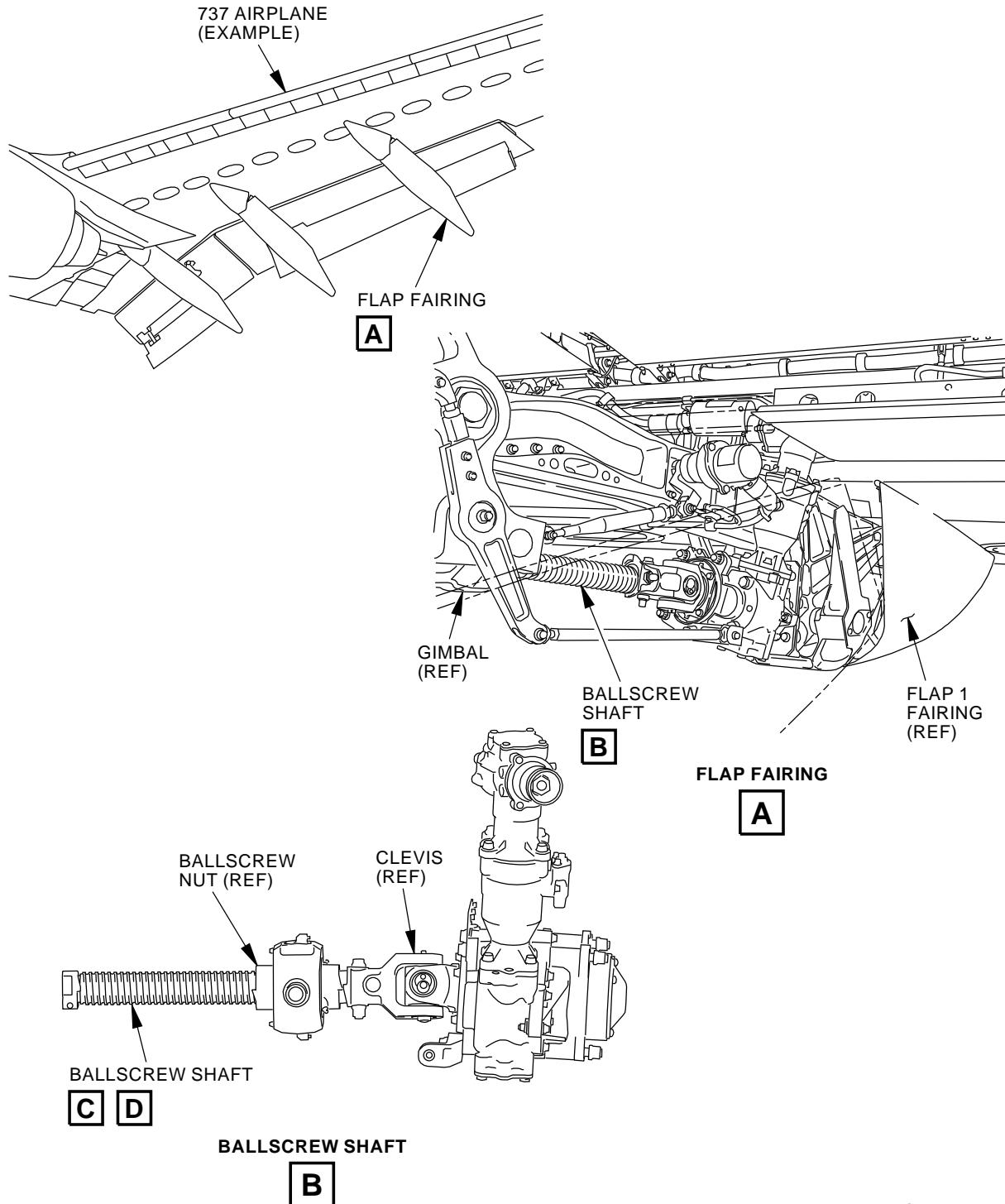
C27030-94 supersedes C27030-49.

**27-50-10**

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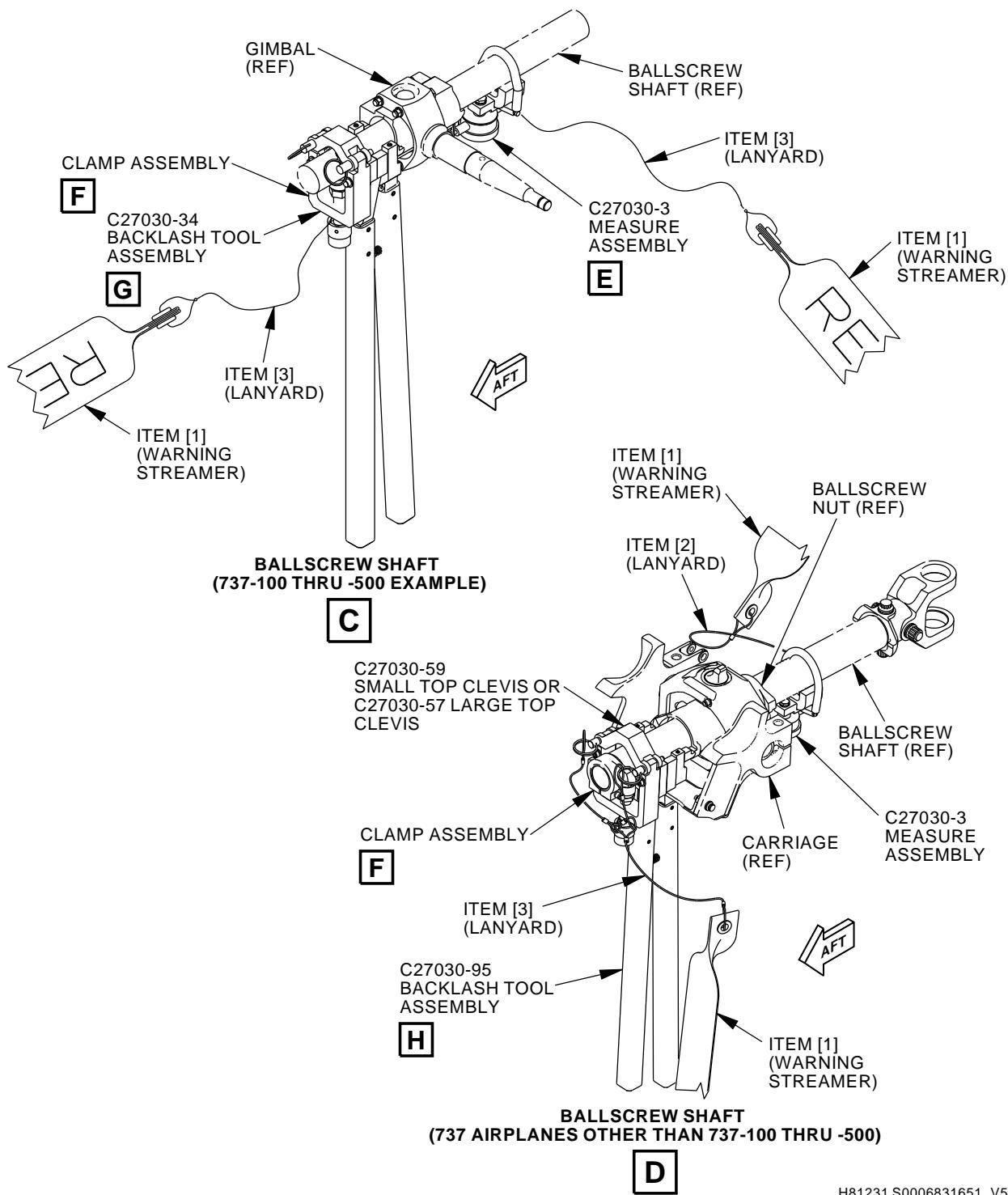
H81197 S0006831650\_V4

**Flap Screw Backlash Test Equipment**  
**Figure 1 (Sheet 1 of 5)**

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H81231 S0006831651\_V5

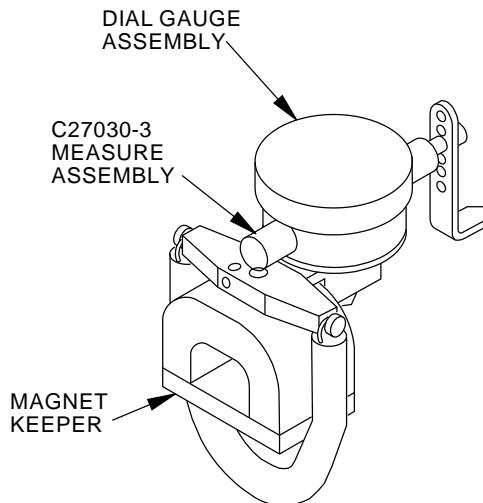
**Flap Screw Backlash Test Equipment**  
**Figure 1 (Sheet 2 of 5)**

**27-50-10**

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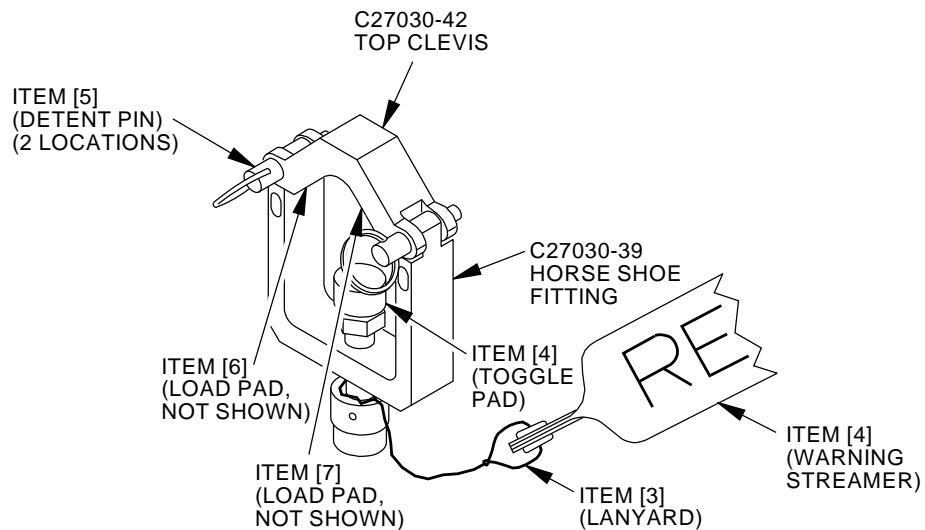
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C27030-3 MEASURE ASSEMBLY (STOWED)

**E**



CLAMP ASSEMBLY

**F**

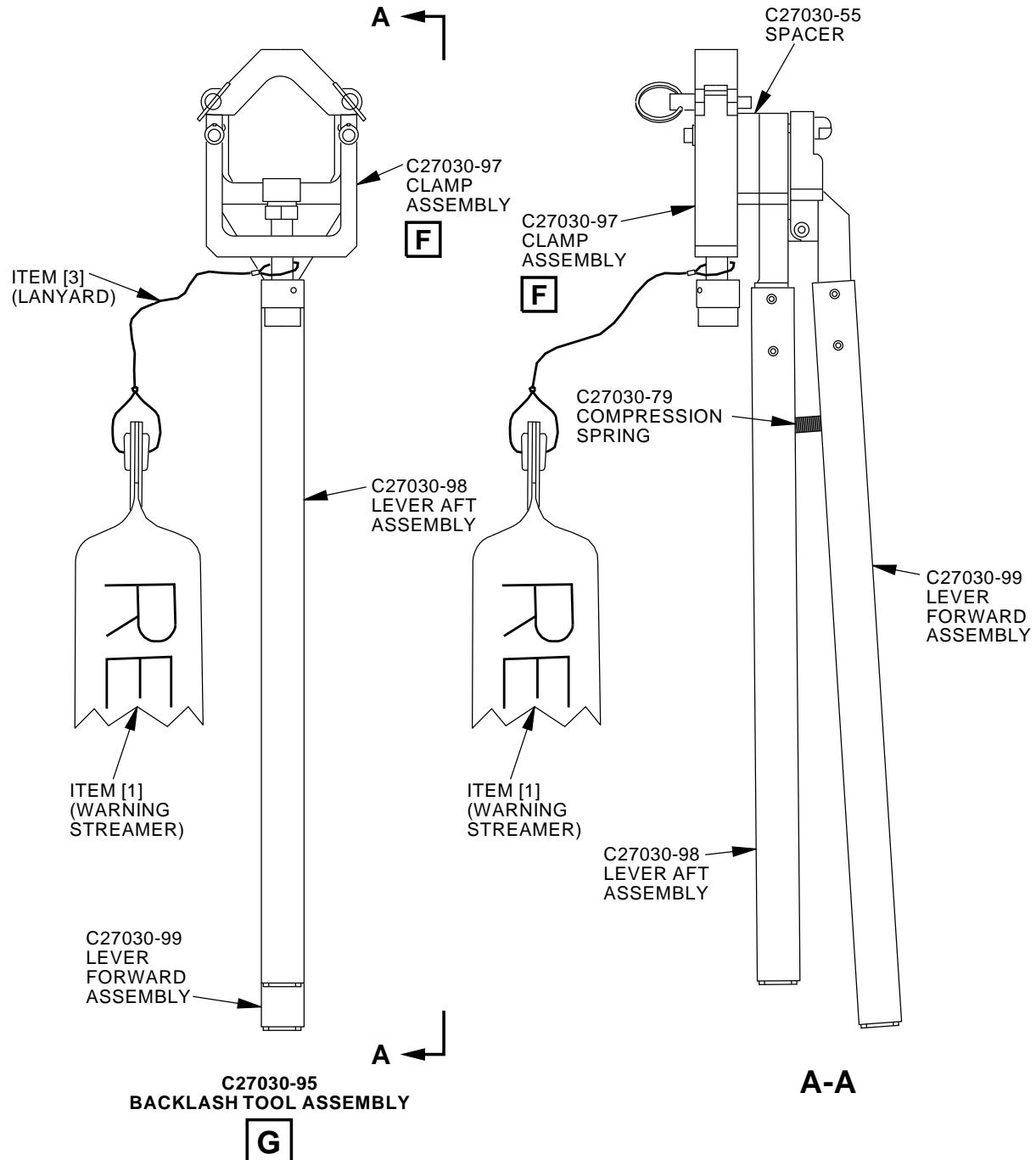
H81318 S0006831652\_V6

Flap Screw Backlash Test Equipment  
Figure 1 (Sheet 3 of 5)

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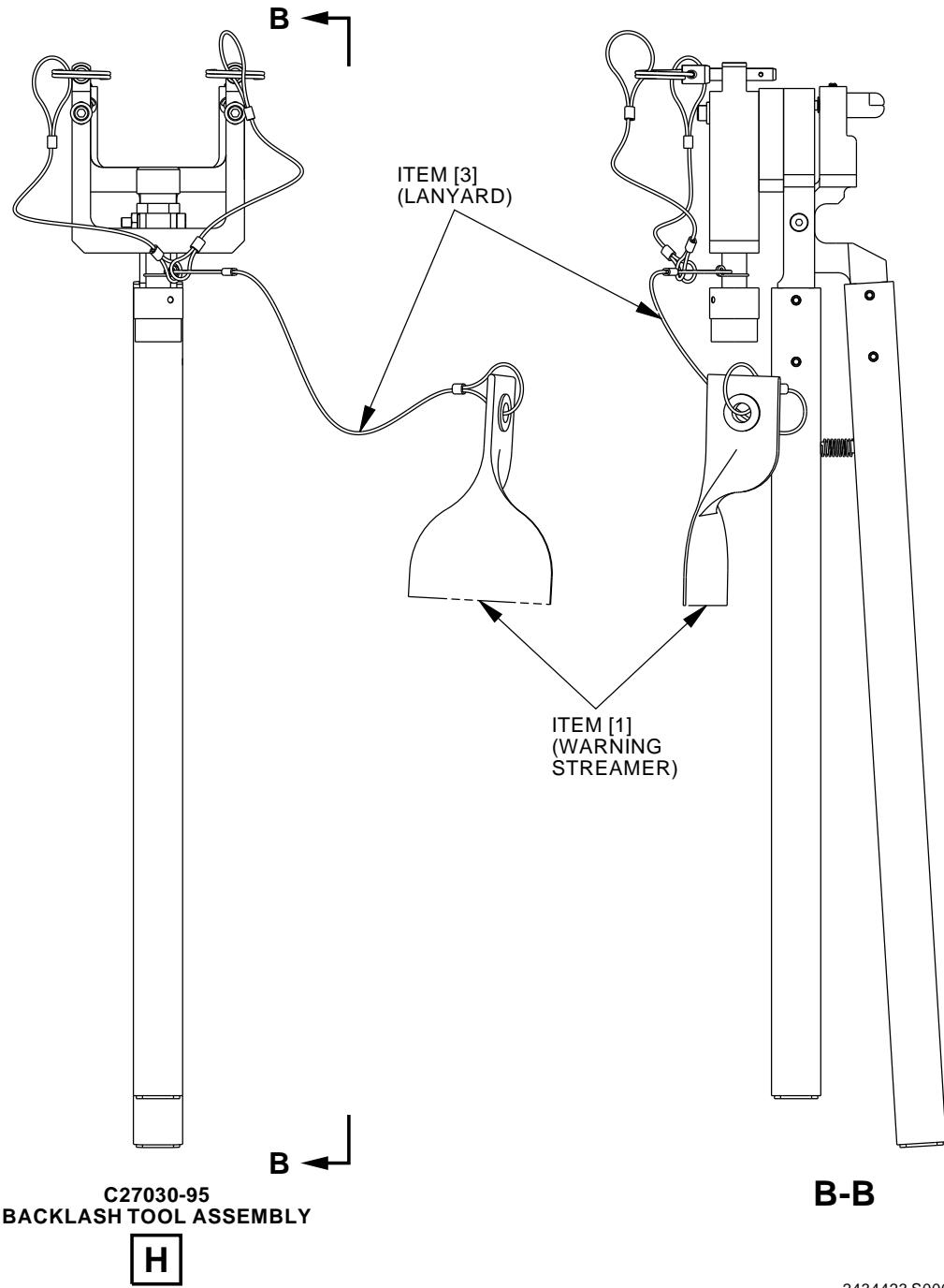


H81351 S0006831653\_V7

**Flap Screw Backlash Test Equipment**  
**Figure 1 (Sheet 4 of 5)**

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2434423 S0000564269\_V1

**Flap Screw Backlash Test Equipment**  
**Figure 1 (Sheet 5 of 5)**

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NUMBER	PART NUMBER	NOMENCLATURE	VENDOR CODE
[1]	C27030-71 (NAS1756-24)	WARNING STREAMER	---
[2]	C27030-75 (CL-22-KA-12.0-LR)	CABLE ASSEMBLY	99862
[3]	C27030-83 (CL-22-KA-8.0-LR)	CABLE ASSEMBLY	99862
[4]	C27030-81 (CL-8-SPFN)	TOGGLE PAD	02064
[5]	C27030-82 (CL-4-DEP-1.00)	DETENT PIN	99862
[6]	C27030-43	LOAD PAD	---
[7]	C27030-44	LOAD PAD	---

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**PART NUMBER: C27058-1**

**NAME:** AXIAL LOAD EQUIPMENT - FLAP ACTUATION, TORQUE BRAKE

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-55-82, CMM 27-55-84

**USAGE & DESCRIPTION:** The C27058-1 axial load equipment is used during component maintenance on all 737 airplanes, except 737-100 thru -500 airplanes. C27058 is used to apply an axial load on the 256A3150 and 256A3151 flap actuation torque brake for proper rigging during assembly. Refer to CMM 27-55-82, CMM 27-55-84 and the current C27058 drawing for complete usage instructions.

C27058-1 consists of:

C27058-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	Fixture Assembly	C27058-2
1	Weight Assembly	C27058-11
1	Storage Box	

**WEIGHT:** 14.5 lbs (6.6 kg)

**DIMENSIONS:** 4 x 8 x 16 inches (102 x 203 x 406 mm)

**27-50-11**

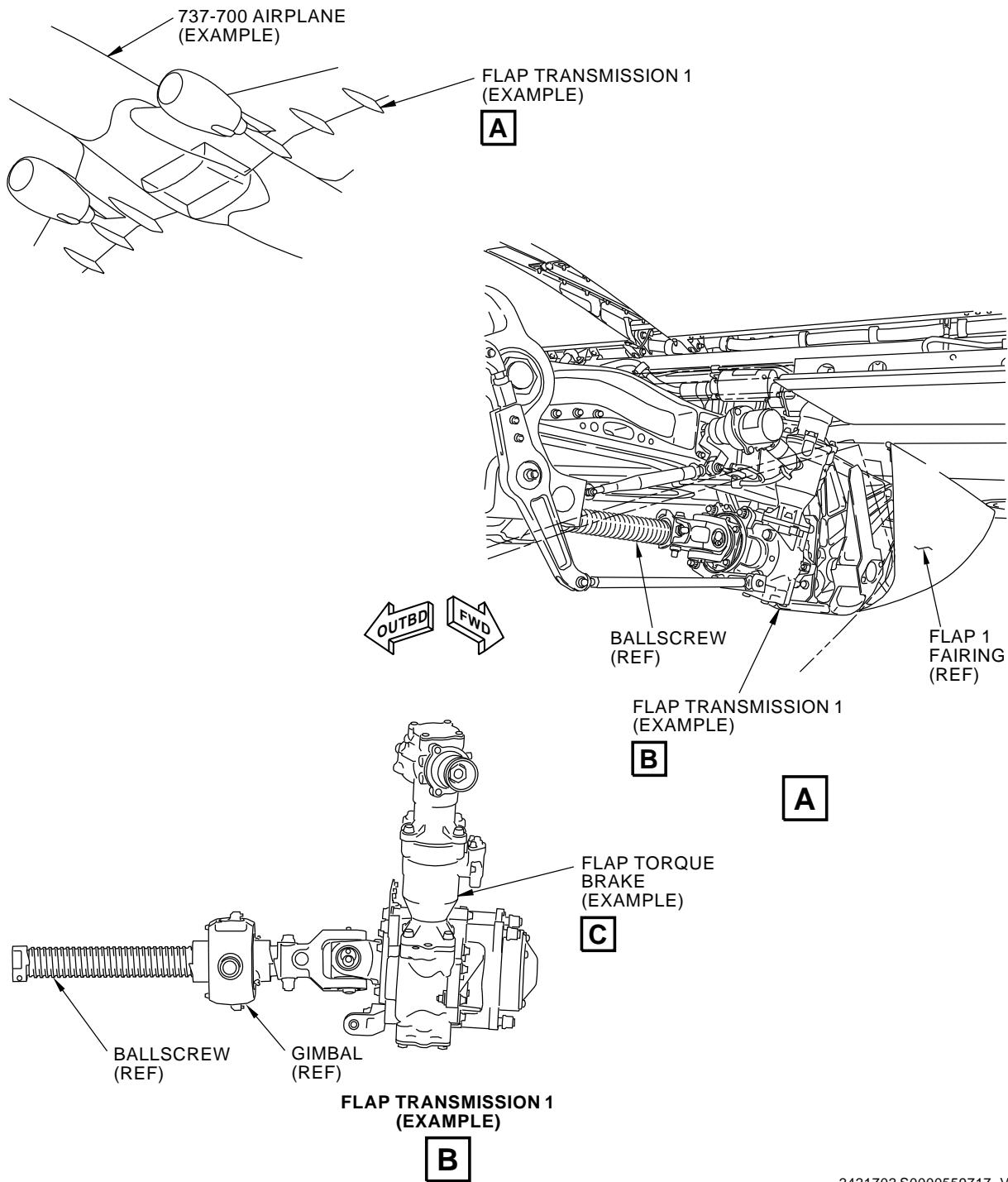
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2421702 S0000559717\_V1

Axial Load Equipment  
Figure 1 (Sheet 1 of 2)

**27-50-11**

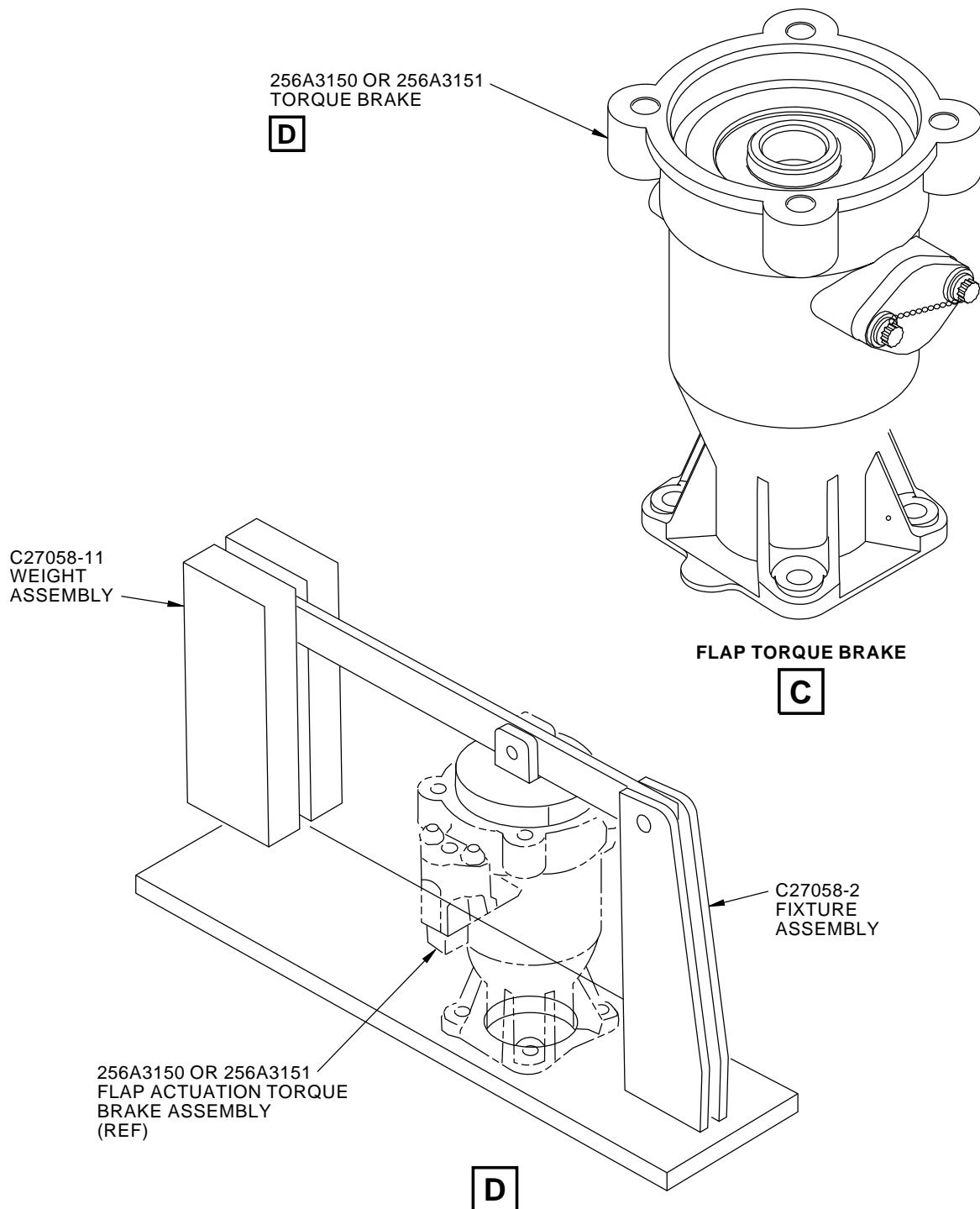
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Axial Load Equipment  
Figure 1 (Sheet 2 of 2)

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**PART NUMBER: C27067-81, -82, -87, -88**

**NAME:** TEST EQUIPMENT - TORQUE LIMITER, TRANSMISSION, TRAILING EDGE FLAP

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-55-82, CMM 27-55-84

**USAGE & DESCRIPTION:** The C27067-81, -82, -87 (preferred) and -88 (preferred) test equipment are used on all 737-600 thru -900 airplanes.

C27067 is used to measure the input vs output torque of the trailing edge flap torque brake assemblies (256A3150 and 256A3151). C27067 is used in conjunction with a customer furnished strain meter (DP25-S preferred) and a sensor (T0103-600 preferred).

Refer to CMM 27-55-82, CMM 27-55-84 and the current C27067 drawing for complete usage instructions.

C27067-81, -82, -87 and -88 consist of:

C27067-81		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BASE ASSEMBLY	C27067-84
1	INPUT ADAPTER, SMALL	C27067-56
1	INPUT ADAPTER, LARGE	C27067-57
1	OUTPUT ADAPTER ASSEMBLY, LARGE	C27067-52
1	INPUT ADAPTER (757 ONLY)	C27067-58 *[1]
1	OUTPUT ADAPTER ASSEMBLY, SMALL (757 ONLY)	C27067-53 *[1]
1	HOUSING ASSEMBLY	C27067-30
1	STATOR ASSEMBLY	C27067-33
1	T-HANDLE	C27067-41
1	COVER PLATE	C27067-46
4	SCREW	C27067-47 *[2]
4	WASHER	C27067-90 (NAS1149F0463P) *[2]
8	WASHER	C27067-91 (NAS1149F0563P) *[2]
3	WASHER	C27067-92 (NAS1149F0663P) *[2]
3	SHOULDER SCREW	C27067-95 (CL-14-SS) *[2]
4	SOCKET HEAD SCREW	C27067-93 (NAS1352N4-14B) *[2]

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C27067-81		
QUANTITY	NOMENCLATURE	PART NUMBER
4	SOCKET HEAD SCREW	C27067-94 (NAS1352N5-12B) <sup>[2]</sup>
1	STORAGE BOX	

\*[1] C27067-53 AND C27067-58 ARE ONLY APPLICABLE TO 757 AIRPLANES.

\*[2] SCREWS AND WASHERS ARE STOWED ON C27067-84 AND C27067-30.

C27067-82		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BASE ASSEMBLY	C27067-84
1	INPUT ADAPTER, SMALL	C27067-56
1	INPUT ADAPTER, LARGE	C27067-57
1	OUTPUT ADAPTER ASSEMBLY, LARGE	C27067-52
1	HOUSING ASSEMBLY	C27067-30
1	STATOR ASSEMBLY	C27067-33
1	T-HANDLE	C27067-41
1	COVER PLATE	C27067-46
4	SCREW	C27067-47 <sup>[1]</sup>
4	WASHER	C27067-90 (NAS1149F0463P) <sup>[1]</sup>
8	WASHER	C27067-91 (NAS1149F0563P) <sup>[1]</sup>
3	WASHER	C27067-92 (NAS1149F0663P) <sup>[1]</sup>
3	SHOULDER SCREW	C27067-95 (CL-14-SS) <sup>[1]</sup>
4	SOCKET HEAD SCREW	C27067-93 (NAS1352N4-14B) <sup>[1]</sup>
4	SOCKET HEAD SCREW	C27067-94 (NAS1352N5-12B) <sup>[1]</sup>
1	STORAGE BOX	

\*[1] SCREWS AND WASHERS ARE STOWED ON C27067-84 AND C27067-30.

C27067-87		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BASE ASSEMBLY	C27067-84
1	INPUT ADAPTER, SMALL	C27067-56
1	INPUT ADAPTER, LARGE	C27067-57
1	OUTPUT ADAPTER ASSEMBLY, LARGE	C27067-52
1	INPUT ADAPTER (757 ONLY)	C27067-58 <sup>[1]</sup>
1	OUTPUT ADAPTER ASSEMBLY, SMALL (757 ONLY)	C27067-53 <sup>[1]</sup>

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C27067-87		
QUANTITY	NOMENCLATURE	PART NUMBER
1	HOUSING ASSEMBLY	C27067-89
1	STATOR ASSEMBLY	C27067-33
1	T-HANDLE	C27067-41
1	COVER PLATE	C27067-46
4	SCREW	C27067-47 <sup>*[2]</sup>
4	WASHER	C27067-90 (NAS1149F0463P) <sup>*[2]</sup>
8	WASHER	C27067-91 (NAS1149F0563P) <sup>*[2]</sup>
3	WASHER	C27067-92 (NAS1149F0663P) <sup>*[2]</sup>
3	SHOULDER SCREW	C27067-95 (CL-14-SS) <sup>*[2]</sup>
4	SOCKET HEAD SCREW	C27067-93 (NAS1352N4-14B) <sup>*[2]</sup>
4	SOCKET HEAD SCREW	C27067-94 (NAS1352N5-12B) <sup>*[2]</sup>
1	STORAGE BOX	

\*[1] C27067-53 AND C27067-58 ARE ONLY APPLICABLE TO 757 AIRPLANES.

\*[2] SCREWS AND WASHERS ARE STOWED ON C27067-84 AND C27067-30.

C27067-88		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BASE ASSEMBLY	C27067-84
1	INPUT ADAPTER, SMALL	C27067-56
1	INPUT ADAPTER, LARGE	C27067-57
1	OUTPUT ADAPTER ASSEMBLY, LARGE	C27067-52
1	HOUSING ASSEMBLY	C27067-89
1	STATOR ASSEMBLY	C27067-33
1	T-HANDLE	C27067-41
1	COVER PLATE	C27067-46
4	SCREW	C27067-47 <sup>*[1]</sup>
4	WASHER	C27067-90 (NAS1149F0463P) <sup>*[1]</sup>
8	WASHER	C27067-91 (NAS1149F0563P) <sup>*[1]</sup>
3	WASHER	C27067-92 (NAS1149F0663P) <sup>*[1]</sup>
3	SHOULDER SCREW	C27067-95 (CL-14-SS) <sup>*[1]</sup>

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C27067-88		
QUANTITY	NOMENCLATURE	PART NUMBER
4	SOCKET HEAD SCREW	C27067-93 (NAS1352N4-14B) <sup>[1]</sup>
4	SOCKET HEAD SCREW	C27067-94 (NAS1352N5-12B) <sup>[1]</sup>
1	STORAGE BOX	

<sup>[1]</sup> SCREWS AND WASHERS ARE STOWED ON C27067-84 AND C27067-30.

**WEIGHT:** 50 lbs (23 kg)

**DIMENSIONS:** 12 x 12 x 50 inches (305 x 305 x 1270 mm)

**NOTE:** C27067-87 and C27067-88 replace C27067-81 and C27067-82 respectively for future procurement.

C27067-81 and C27067-82 supersede C27067-62 and C27067-63 respectively.

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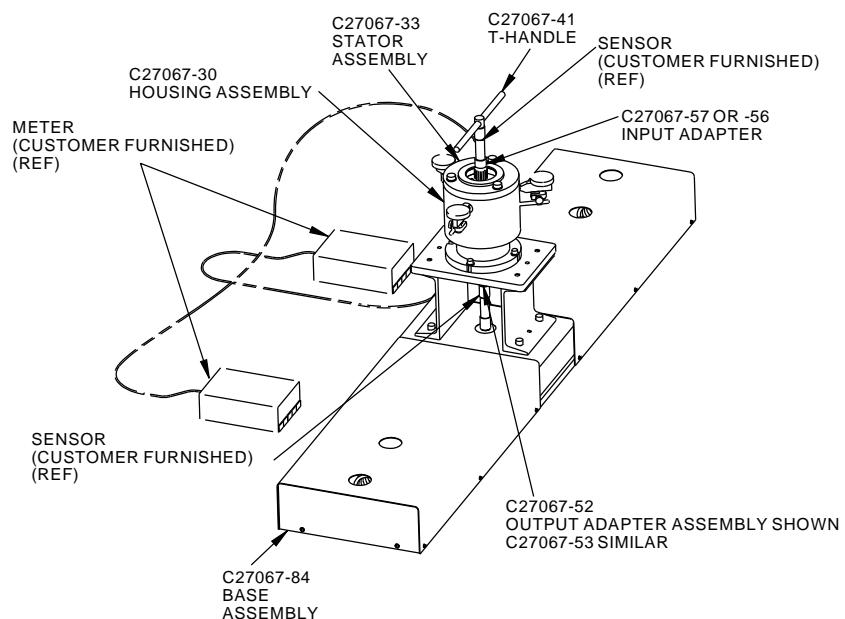
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C27067-81  
737/757 TEST EQUIPMENT SHOWN  
C27067-87 SIMILAR

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Transmission Torque Limiter Test Equipment  
Figure 1 (Sheet 1 of 2)

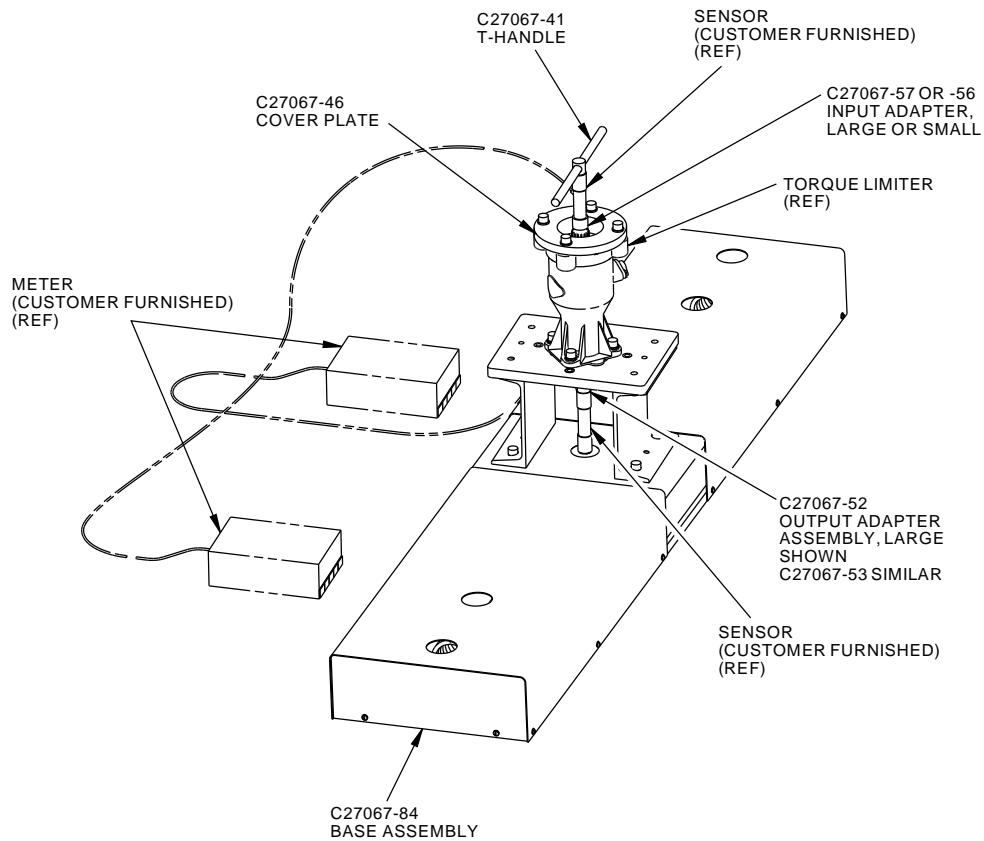
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C27067-82  
737 TEST EQUIPMENT SHOWN  
C27067-88 SIMILAR

2173793 S0000478345\_V1

Transmission Torque Limiter Test Equipment  
Figure 1 (Sheet 2 of 2)

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**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**

**PART NUMBER: C27072-178, -179**

**NAME:** TEST EQUIPMENT - TRAILING EDGE FLAP TRANSMISSION, AFT U-JOINT AND BALLSCREW (CE)

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-55-67, CMM 27-55-68, CMM 27-55-70, CMM 27-55-80

**USAGE & DESCRIPTION:** The C27072-178 or -179 test equipment is used on all 737-600 thru -900 airplanes.

The C27072-178 is used on 737-600 thru -900 and 757 airplanes.

The C27072-179 is used on 737-600 thru -900 airplanes only.

C27072 is used to hold the Trailing Edge Transmissions, Aft U-Joint and Ballscrew Assembly during functional testing. C27072 may be used to do a Torque Brake Test and a Backlash Test on the 737 Trailing Edge Flap Transmissions.

Refer to the current C27072 tool drawing, CMM 27-55-67, CMM 27-55-68, CMM 27-55-70 and CMM 27-55-80 for complete usage instructions.

C27072-178, -179 test equipment and C27072-181 test stand assembly consist of:

C27072-178		
QUANTITY	NOMENCLATURE	PART NUMBER
1	OUTPUT LOCK ASSEMBLY	C27072-182
1	ADAPTER PLATE ASSEMBLY	C27072-7
1	ADAPTER PLATE	C27072-8
1	SMALL ADAPTER ASSEMBLY	C27072-9
1	LARGE POINTER	C27072-12
2	SHORT BOSS	C27072-13
2	LONG BOSS	C27072-14
1	RETAINING CAP	C27072-15
4	SOCKET HEAD CAP SCREW	C27072-16
1	PAN HEAD SCREW	C27072-18
4	LONG BOLT	C27072-19
8	SHORT BOLT	C27072-20
13	NUT	C27072-21
22	WASHER	C27072-22
3	PAN HEAD SCREW	C27072-76
3	WASHER	C27072-77
3	PAN HEAD SCREW	C27072-78
1	50K LOAD CELL ASSEMBLY	C27072-96

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C27072-178		
QUANTITY	NOMENCLATURE	PART NUMBER
1	2K LOAD CELL ASSEMBLY	C27072-97
1	50K LOAD METER ASSEMBLY	C27072-98
1	2K LOAD METER ASSEMBLY	C27072-99
1	600 LB-IN TORQUE MEASURING SYSTEM ASSEMBLY	C27072-100
4	BOLT	C27072-108
4	NUT	C27072-109
4	WASHER	C27072-110
2	HAND KNOB ASSEMBLY	C27072-145
1	INPUT DRIVE ASSEMBLY	C27072-183
1	CLAMP HALF ASSEMBLY	C27072-184
1	DIGITAL PROTRACTOR ASSEMBLY	C27072-185
1	3600 LB-IN TORQUE MEASURING SYSTEM ASSEMBLY	C27072-186
1	5K TORSION ROD	C27072-191
1	BRONZE SLEEVE	C27072-192
1	CLAMP BAR	C27072-193
1	DIGITAL PROTRACTOR ADAPTER	C27072-194
1	INPUT DRIVE ADAPTER	C27072-195
2	PAN HEAD SCREW	C27072-196
2	MACHINE NUT	C27072-197
1	BOLT	C27072-198
2	BOLT	C27072-199
2	NUT	C27072-200
4	WASHER	C27072-201
1	STORAGE BOX	

C27072-179		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ADAPTER PLATE ASSEMBLY	C27072-7
2	SHORT BOSS	C27072-13
2	LONG BOSS	C27072-14
4	LARGE SCREW	C27072-16
1	PAN HEAD SCREW	C27072-18
4	LONG BOLT	C27072-19
8	SHORT BOLT	C27072-20
13	NUT	C27072-21
22	WASHER	C27072-22
3	PAN HEAD SCREW	C27072-78

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C27072-179		
QUANTITY	NOMENCLATURE	PART NUMBER
1	50K LOAD CELL ASSEMBLY	C27072-96
1	2K LOAD CELL ASSEMBLY	C27072-97
1	50K LOAD METER ASSEMBLY	C27072-98
1	2K LOAD METER ASSEMBLY	C27072-99
1	TORQUE MEASURING SYSTEM ASSEMBLY	C27072-100
4	5/8 INCH BOLT	C27072-108
4	5/8 INCH NUT	C27072-109
4	5/8 INCH WASHER	C27072-110
2	HAND KNOB ASSEMBLY	C27072-145
1	OUTPUT LOOK ASSEMBLY	C27072-182
1	INPUT DRIVE ASSEMBLY	C27072-183
1	CLAMP HALF ASSEMBLY	C27072-184
1	DIGITAL PROTRACTOR ASSEMBLY	C27072-185
1	3600 LB-IN TORQUE MEASURING SYSTEM ASSEMBLY	C27072-186
1	5K TORSION ROD	C27072-191
1	BRONZE SLEEVE	C27072-192
1	CLAMP BAR	C27072-193
1	DIGITAL PROTRACTOR ADAPTER	C27072-194
1	INPUT DRIVE ADAPTER	C27072-195
2	PAN HEAD SCREW	C27072-196
2	MACHINE NUT	C27072-197
1	BOLT	C27072-198
2	BOLT	C27072-199
2	NUT	C27072-200
4	WASHER	C27072-201
1	STORAGE BOX	

C27072-181		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TEST STAND ASSEMBLY	C27072-181 <sup>[1]</sup>
1	STORAGE BOX	

\*[1] C27072-181 IS STORED SEPARATELY FROM C27072-178 AND -179 .

**WEIGHT:** C27072-178 - 750 lbs (340 kg)  
C27072-179 - 730 lbs (331 kg)

**27-50-13**

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**737-600/700/800/900**  
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**DIMENSIONS:** C27072-181 test stand assembly - 15 x 20 x 87 inches (381 x 508 x 2210 mm)

C27072-178 all parts except C27072-181 test stand assembly - 10 x 30 x 64 inches (254 x 762 x 1626 mm)

C27072-179 all parts except C27072-181 test stand assembly - 10 x 30 x 52 inches (254 x 762 x 1321 mm)

**NOTE:** C27072-178 and -179 supersede C27072-92 and -93 respectively.

**DECLARATION OF CONFORMITY:** The design of C27072 meets the requirements of the machinery directive 2006/42/EC including its amendments. For use within the European Union, the manufacture of this equipment must also meet the requirements of that directive. At a minimum for the manufacturer, this entails the retention of a technical file, the labeling of the equipment with the CE mark, and the completion of an EC declaration of conformity.

**OPERATING INSTRUCTIONS:** Refer to the current C27072 and the CMM procedures for detailed instructions on the use of this equipment. This equipment shall only be used in conjunction with Boeing CMM procedures to maintain Boeing airplanes.

**MAINTENANCE:** Basic care of the equipment includes cleaning the equipment of dirt, corrosives, or contaminants. Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and commercial soap or detergent clean and wipe dry with a clean cloth. Hang freely to dry, but away from excessive heat or steam.

Swivel Hoist Rings: Maintenance shall be done based on the recommendations made by the hoist ring manufacturer or qualified person.

**INSPECTION:** FREQUENT

General Inspection (before use):

1. Missing fasteners
2. Notes, Cautions and Warnings are legible
3. Usage placards are legible

Swivel Hoist Rings:

1. A visual inspection shall be performed by the user or other designated person each shift before the links, rings, and swivels are used. Semi-permanent and inaccessible locations where frequent inspections are not feasible shall have periodic inspections performed. Specifically check to make sure that:
  - Body can rotate freely on bushing.
  - Bail can swivel freely on shoulder pins.
  - Shoulder pins are secure and undamaged.

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2. Conditions as those listed in ASME B30.26, para. 26-4.8.4, or any other condition that may result in a hazard, shall cause the hardware to be removed from service. Links, rings, and swivels shall not be returned to service until approved by a qualified person.
3. Written records are not required.

**PERIODIC**

**Welding Inspection:**

1. Magnetic particle or dye penetrant inspection for all welds, after all proof load tests.
2. Inspect and evaluate per GSE Welding Document A00001 Inspection Requirements Tables 1 & 2, and Acceptance Criteria Table 3.
3. Reject cracked or deformed parts.

**Swivel Hoist Rings:**

1. A complete inspection of the links, rings, and swivels shall be performed by a designated person. The hardware shall be examined for conditions such as those listed in ASME B30.26, para. 26-4.8.4 and a determination made as to whether they constitute a hazard.
2. Period inspection interval shall not exceed one year. The frequency of periods inspection should be based on:
  - Frequency of use
  - Severity of service conditions
  - Experience gained on the service life of hardware used in similar circumstances
  - Guidelines for the time intervals are
  - Normal service - yearly
  - Severe service - monthly to quarterly
  - Special service - as recommended by a qualified person
  - Written records are not required.

**STORAGE:** C27072 shall be stored clean, dry, free of exposure to fumes or corrosive elements, indoors and in the furnished storage box (if provided).

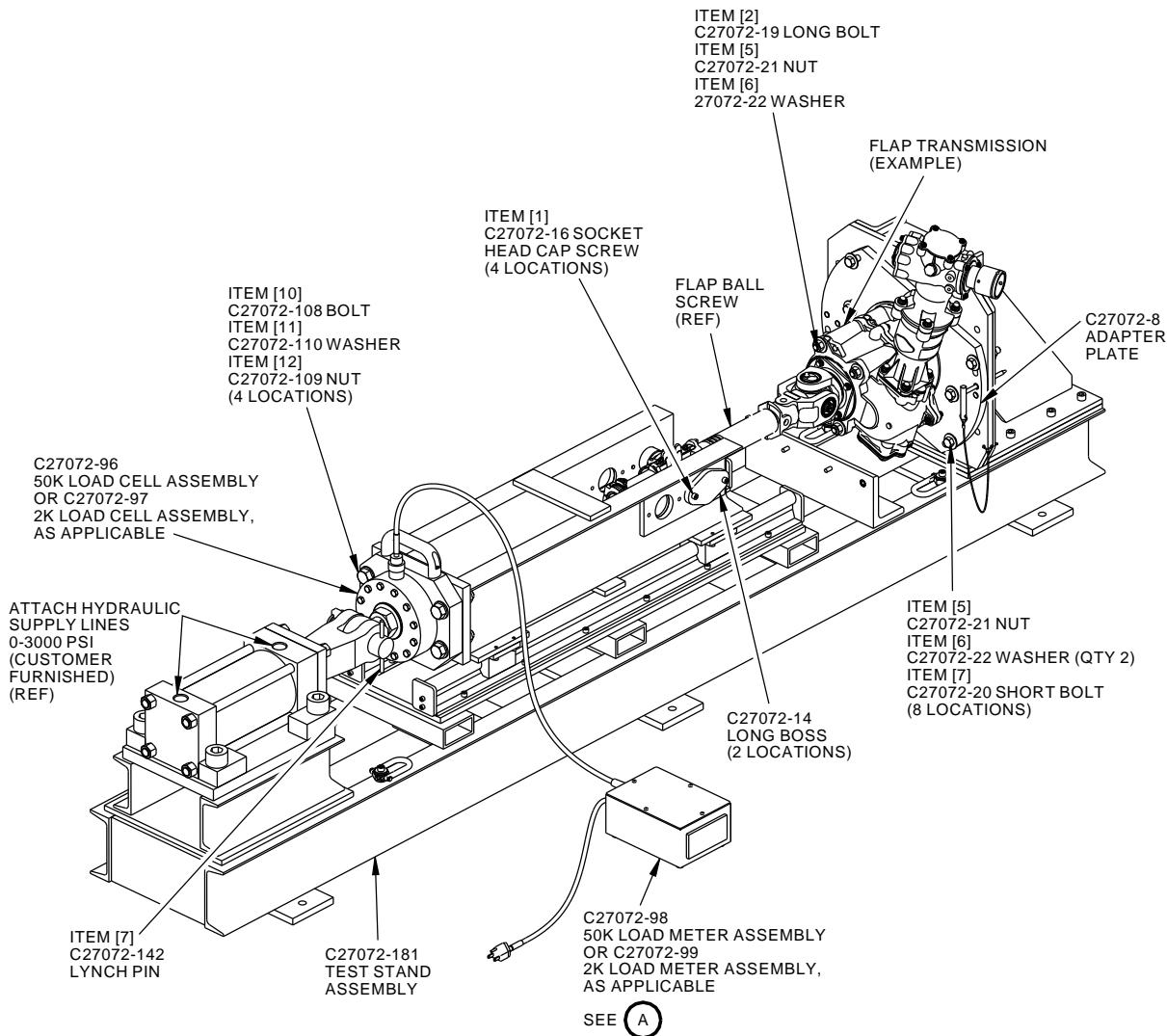
**DECOMMISSIONING:** C27072 Parts and assemblies shall be permanently altered to prevent their unauthorized re-use. Recycling is the preferred manner of disposal for those materials where that option is available.

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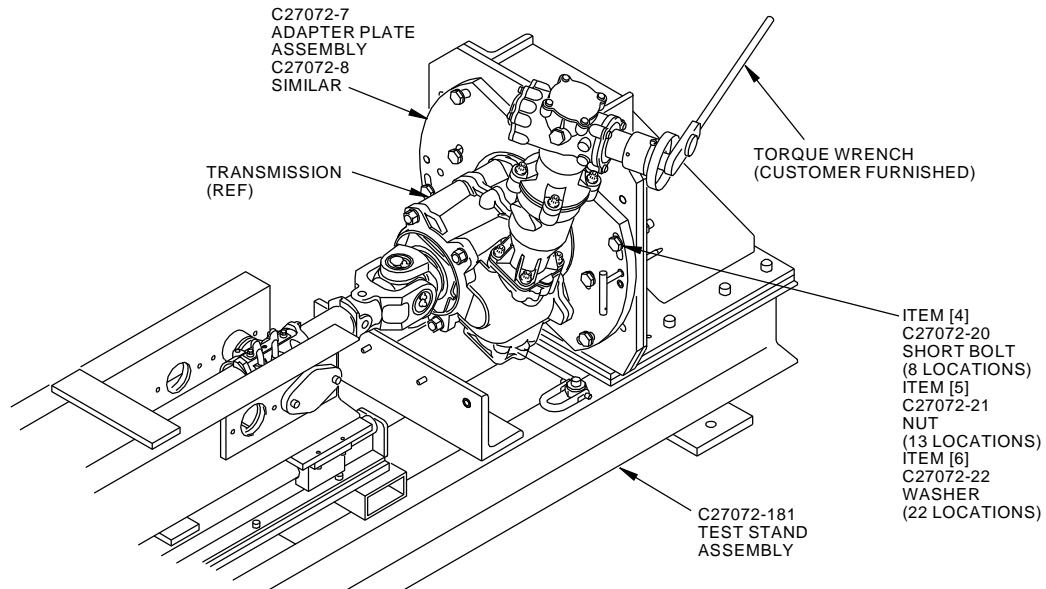
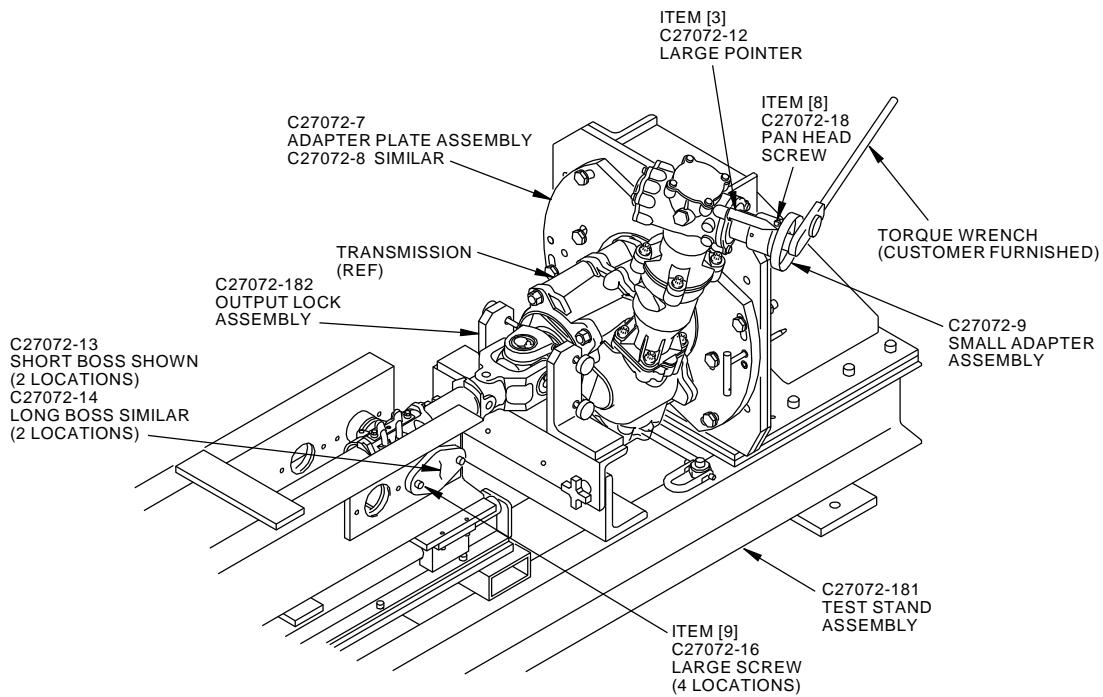
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**737 AXIAL TENSION/COMPRESSION TEST**

2263150 S0000507709\_V1

**Axial Tension/Compression Test**  
**Figure 1**

**27-50-13**

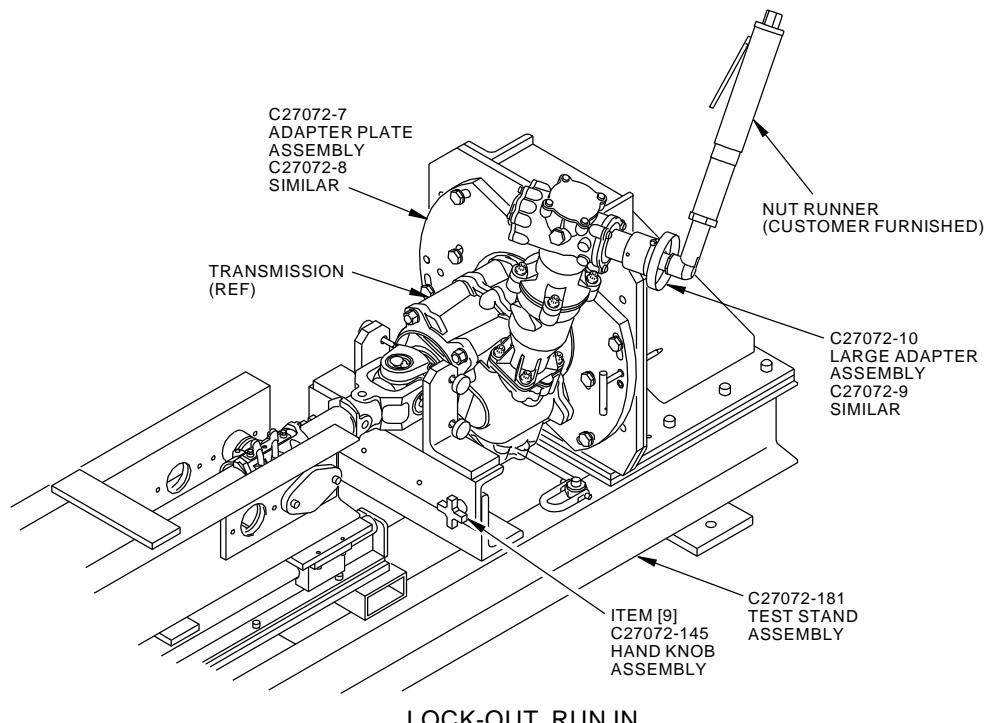
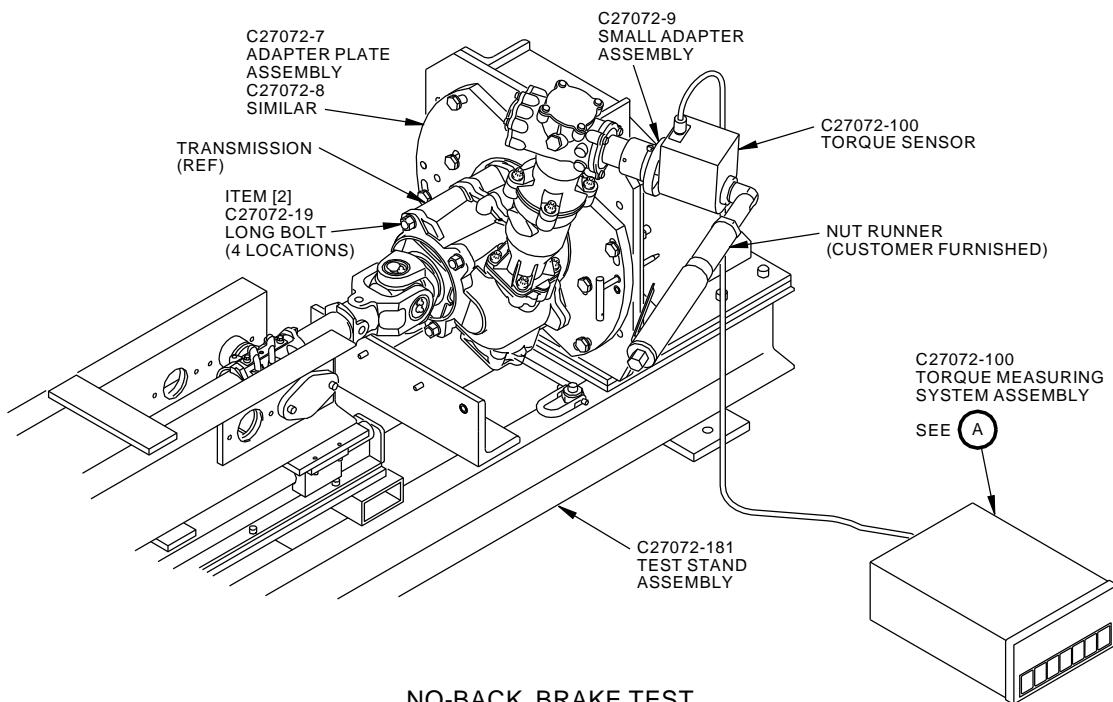

**TORQUE BRAKE TEST SET-UP**

**BACKLASH TEST SET-UP**

W27935 S0006831660\_V4

**Torque Brake and Backlash Test Set-ups**  
**Figure 2**
**27-50-13**

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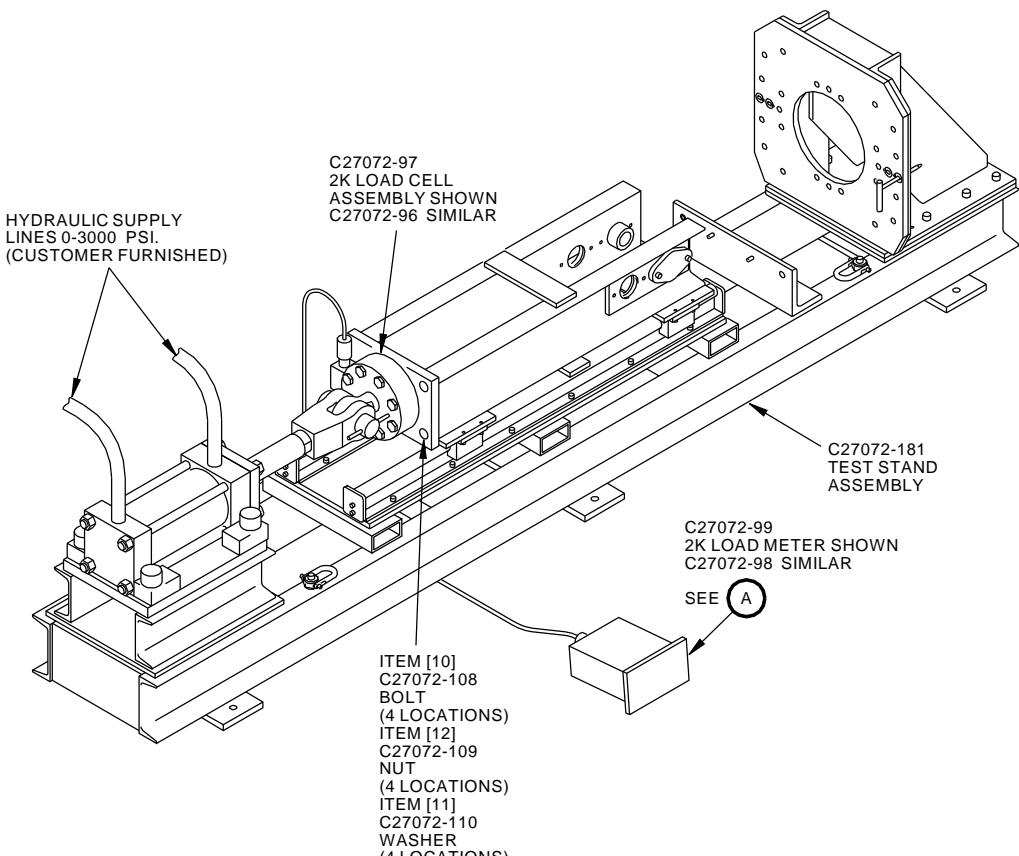

**LOCK-OUT RUN IN**

**NO-BACK BRAKE TEST**

W27947 S0006831661\_V4

**Lock-Out Run In and No-Back Brake Test Set-ups**  
**Figure 3**
**27-50-13**



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TEST STAND ASSEMBLY

W27593 S0006831659\_V4

Test Stand Assembly  
Figure 4

**27-50-13**

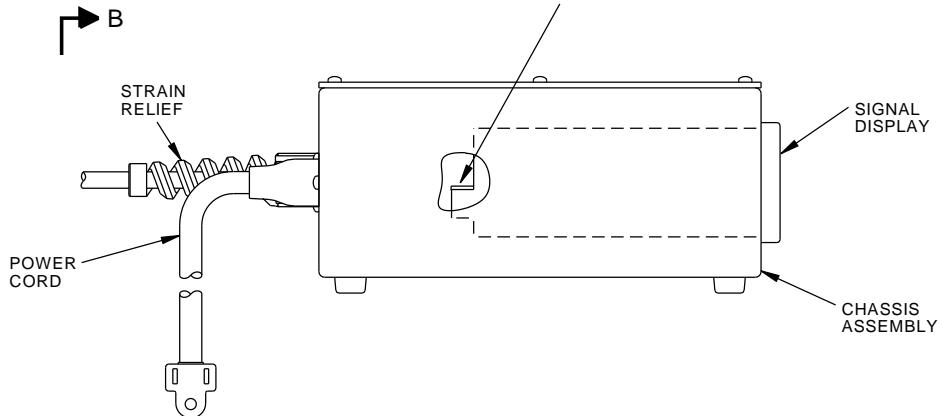
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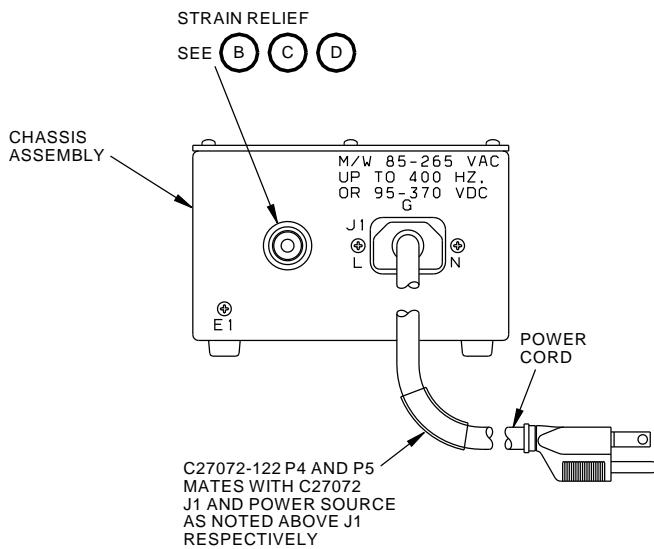
ITEM [13] C27072-168, 93-PLUG2P-DP (P6) PLUG CONNECTOR  
ITEM [14] C27072-169, 93-PLUG6P-DR (P7) PLUG CONNECTOR  
ITEM [15] C27072-170, 93-PLUG5P-DR (P8) PLUG CONNECTOR



└→ B

C27072-98 50K LOAD METER ASSEMBLY  
C27072-99 2K LOAD METER ASSEMBLY  
C27072-100 TORQUE MEASURING SYSTEM ASSEMBLY

(A)



B-B

2263498 S0000507712\_V1

Load Meter and Torque Measuring Equipment  
Figure 5

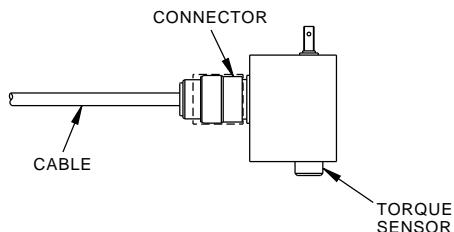
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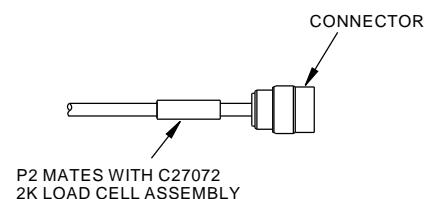
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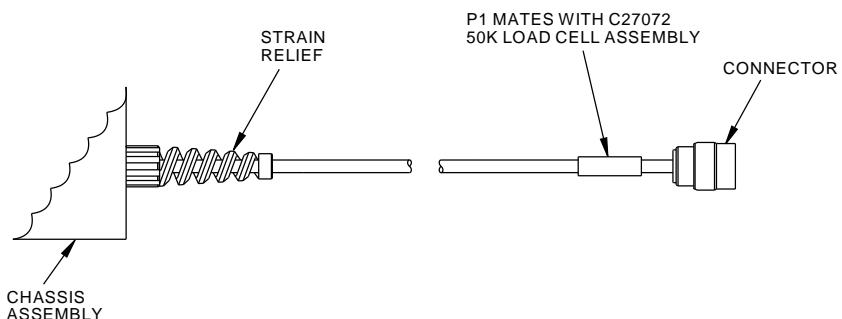
C27072-100  
TORQUE MEASURING SYSTEM ASSEMBLY

(B)



C27072-99  
2K LOAD METER ASSEMBLY

(C)



C27072-98  
50K LOAD METER ASSEMBLY

(D)

2263529 S0000507713\_V1

**Load Meter Equipment**  
**Figure 6**

**27-50-13**

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REPAIRABLE/REPLACEABLE			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[1]	C27072-16	SOCKET HEAD CA SCREW	---
[2]	C27072-19	LONG BOLT	---
[3]	C27072-12	LARGE POINTER	---
[4]	C27072-20	SHORT BOLT	---
[5]	C27072-21	NUT	---
[6]	C27072-22	WASHER	---
[7]	C27072-142	LYNCH PIN	---
[8]	C27072-18	PAN HEAD SCREW	---
[9]	C27072-145	HAND KNOB ASSEMBLY	---
[10]	C27072-108	BOLT	---
[11]	C27072-110	WASHER	---
[12]	C27072-109	NUT	---
[13]	C27072-168	PLUG CONNECTOR	---
[14]	C27072-169	PLUG CONNECTOR	---
[15]	C27072-170	PLUG CONNECTOR	---
NOT SHOWN	C27072-196	PAN HEAD SCREW	---
NOT SHOWN	C27072-197	MACHINE NUT	---
NOT SHOWN	C27072-198	BOLT	---
NOT SHOWN	C27072-199	BOLT	---
NOT SHOWN	C27072-200	NUT	---
NOT SHOWN	C27072-201	WASHER	---

**27-50-13**

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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: C27079-1**

**NAME:** HOLDING EQUIPMENT - TRAILING EDGE INBOARD FLAP

**AIRPLANE MAINTENANCE:** YES

AMM 27-51-15

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27079-1 flap holding equipment is used on all 737-600 thru -900 airplanes.

C27079 is used to hold the inboard end of the flap while removing the number 4 and 5 flap tracks for inspection or maintenance.

The flap holding equipment is made of three braces that attach to the main landing gear strut and support the inboard end of the trailing edge flap.

Refer to AMM 27-51-15 and the C27079 tool drawing for complete usage instructions.

C27079-1 consists of:

C27079-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	LOWER BRACE ASSEMBLY	C27079-2
1	UPPER BRACE ASSEMBLY	C27079-3
1	SIDE BRACE ASSEMBLY	C27079-4
2	HEX BOLT	C27079-5
2	HEX BOLT	C27079-6
2	HEX BOLT	C27079-7
2	HEX BOLT	C27079-8
2	PLAIN WASHER	C27079-9
2	PLAIN WASHER	C27079-10
1	STORAGE BOX	

**WEIGHT:** 90 lbs (41 kg)

**DIMENSIONS:** 16 x 20 x 80 inches (406 x 508 x 2032 mm)

**27-50-14**

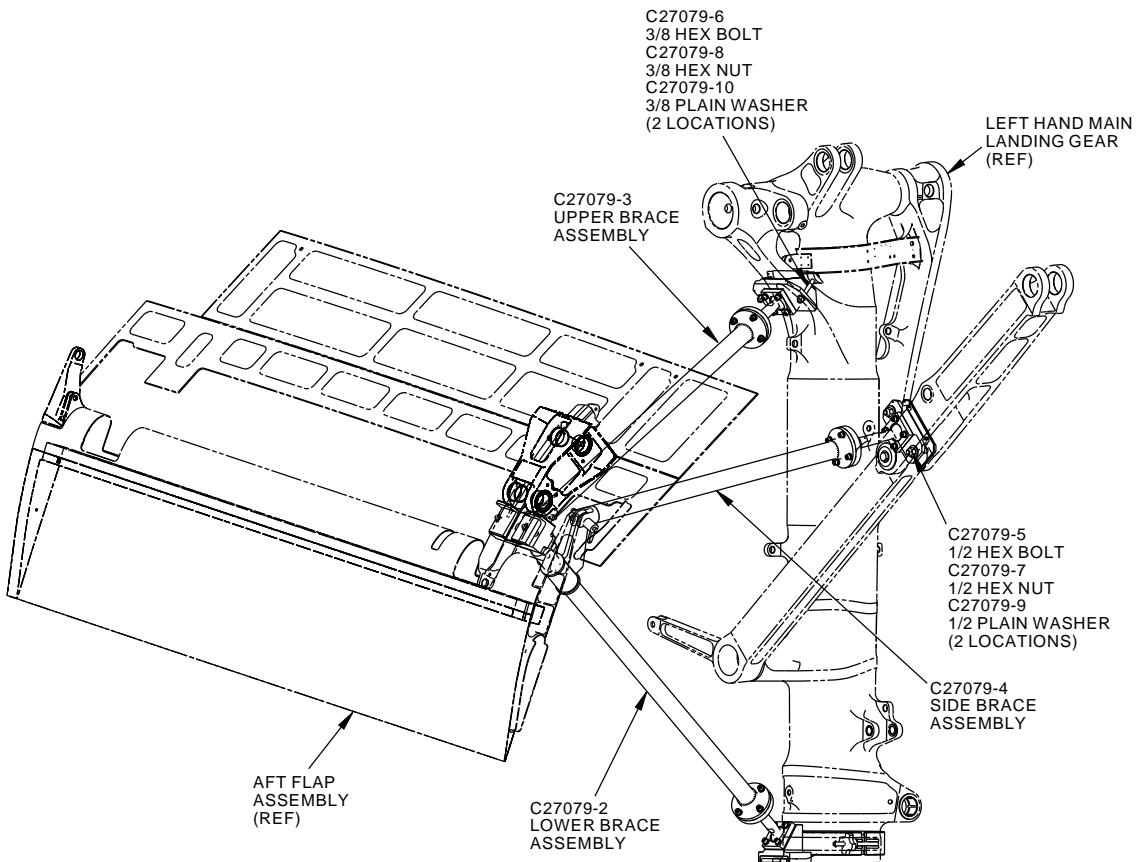
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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



1508767 S0000276594\_V2

Trailing Edge Flap Holding Equipment  
Figure 1

**27-50-14**



737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: C27043-1, -16**

**NAME:** SEAL INSTALLATION EQUIPMENT - TRAILING EDGE FLAP DRIVE

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-55-67, CMM 27-55-68, CMM 27-55-70, CMM 27-55-75, CMM 27-55-78, CMM 27-55-80, CMM 27-55-81, CMM 27-55-87

**USAGE & DESCRIPTION:** The C27043-1 or -16 (preferred) seal installation equipment is used during component maintenance on all 737-600 thru -900 airplanes.

C27043 is a set of mandrels and anvils that are used to install shaft seals during assembly of rotary actuators, gearbox assemblies and transmissions.

Refer to the current C27043 drawing and CMM 27-55-67, CMM 27-55-68, CMM 27-55-70, CMM 27-55-75, CMM 27-55-78, CMM 27-55-80, CMM 27-55-81 and CMM 27-55-87 for complete usage instructions.

C27043-1 and -16 consist of:

C27043-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	MANDREL	C27043-2
1	MANDREL	C27043-3
1	MANDREL	C27043-4
1	MANDREL	C27043-5
1	MANDREL	C27043-6
1	ANVIL	C27043-7
1	ANVIL	C27043-8
1	ANVIL	C27043-9
1	ANVIL	C27043-10
1	ANVIL	C27043-11
1	STORAGE BOX	

C27043-16		
QUANTITY	NOMENCLATURE	PART NUMBER
1	MANDREL	C27043-2
1	MANDREL	C27043-3
1	MANDREL	C27043-4
1	MANDREL	C27043-5
1	MANDREL	C27043-6
1	ANVIL	C27043-7
1	ANVIL	C27043-8

**27-50-15**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

(Continued)

C27043-16		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ANVIL	C27043-9
1	ANVIL	C27043-10
1	ANVIL	C27043-11
1	MANDREL	C27043-17
1	MANDREL	C27043-18
1	MANDREL	C27043-19
1	STORAGE BOX	

**WEIGHT:** 30 lbs (14 kg)

**DIMENSIONS:** 3 x 7 x 21 inches (76 x 178 x 533 mm)

**NOTE:** C27043-16 replaces C27043-1 for future procurement.

**27-50-15**

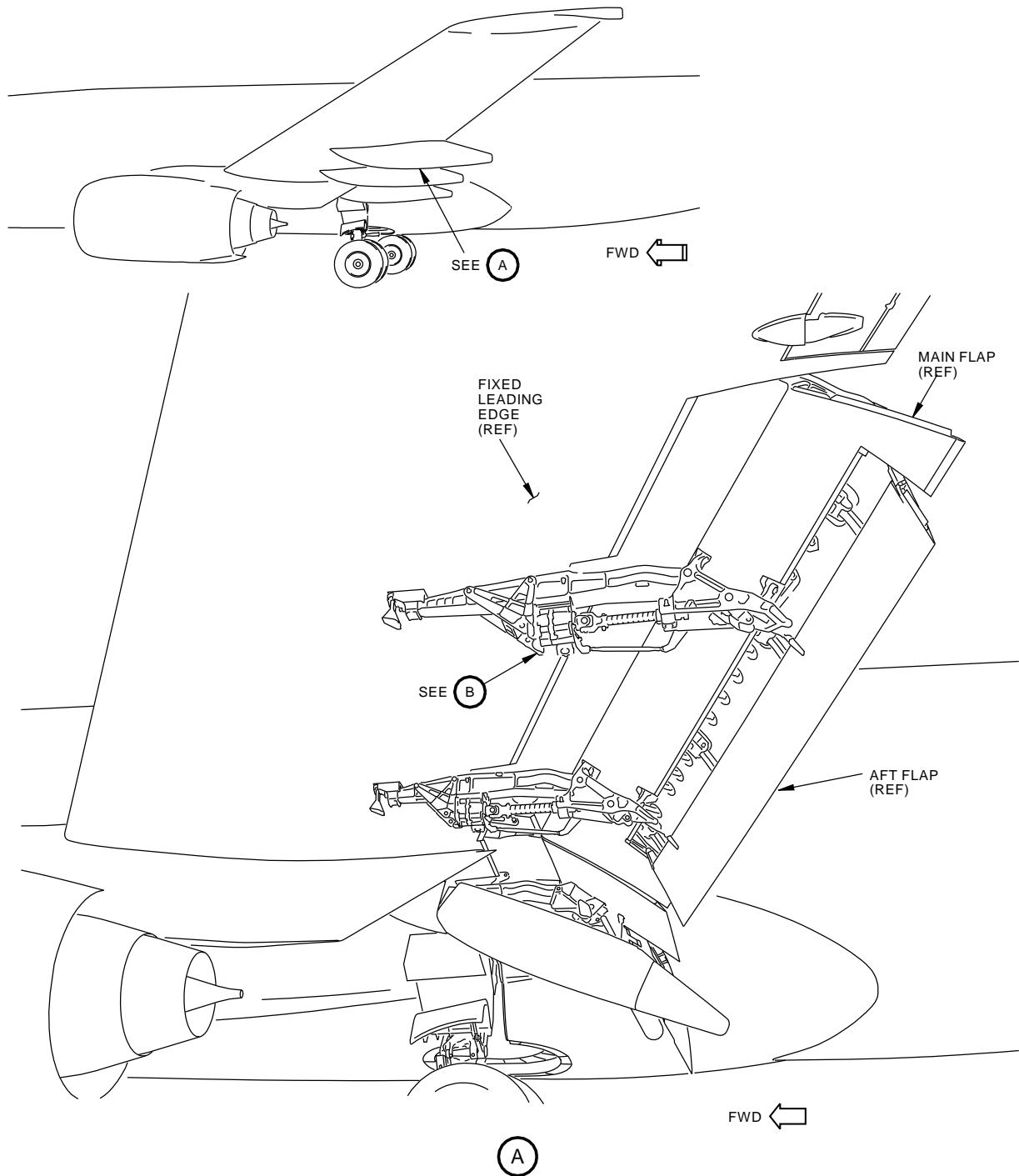
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737-600/700/800/900  
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1559220 S0000287888\_V1

Trailing Edge Flap Drive Seal Installation Equipment  
Figure 1 (Sheet 1 of 3)

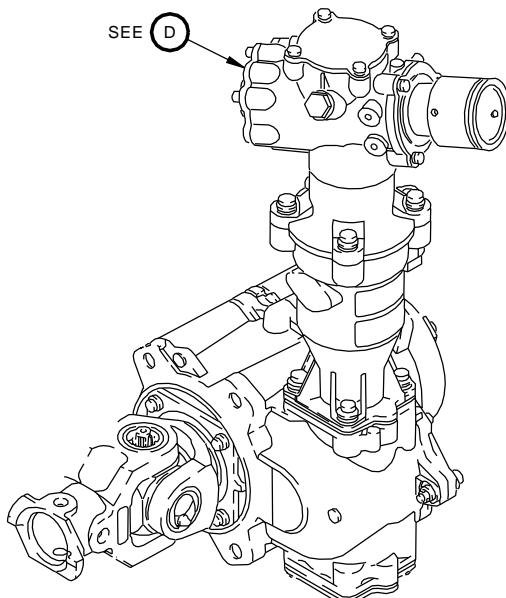
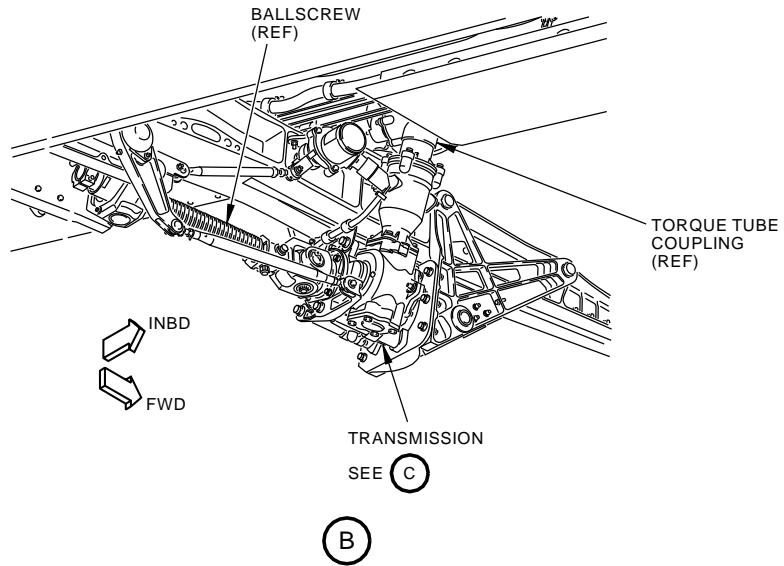
**27-50-15**

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**256A3110**  
**TRAILING EDGE FLAP TRANSMISSION**  
**ASSEMBLY NO. 1 AND 8**

(C)

1559238 S0000287891\_V1

**Trailing Edge Flap Drive Seal Installation Equipment**  
**Figure 1 (Sheet 2 of 3)**

**27-50-15**

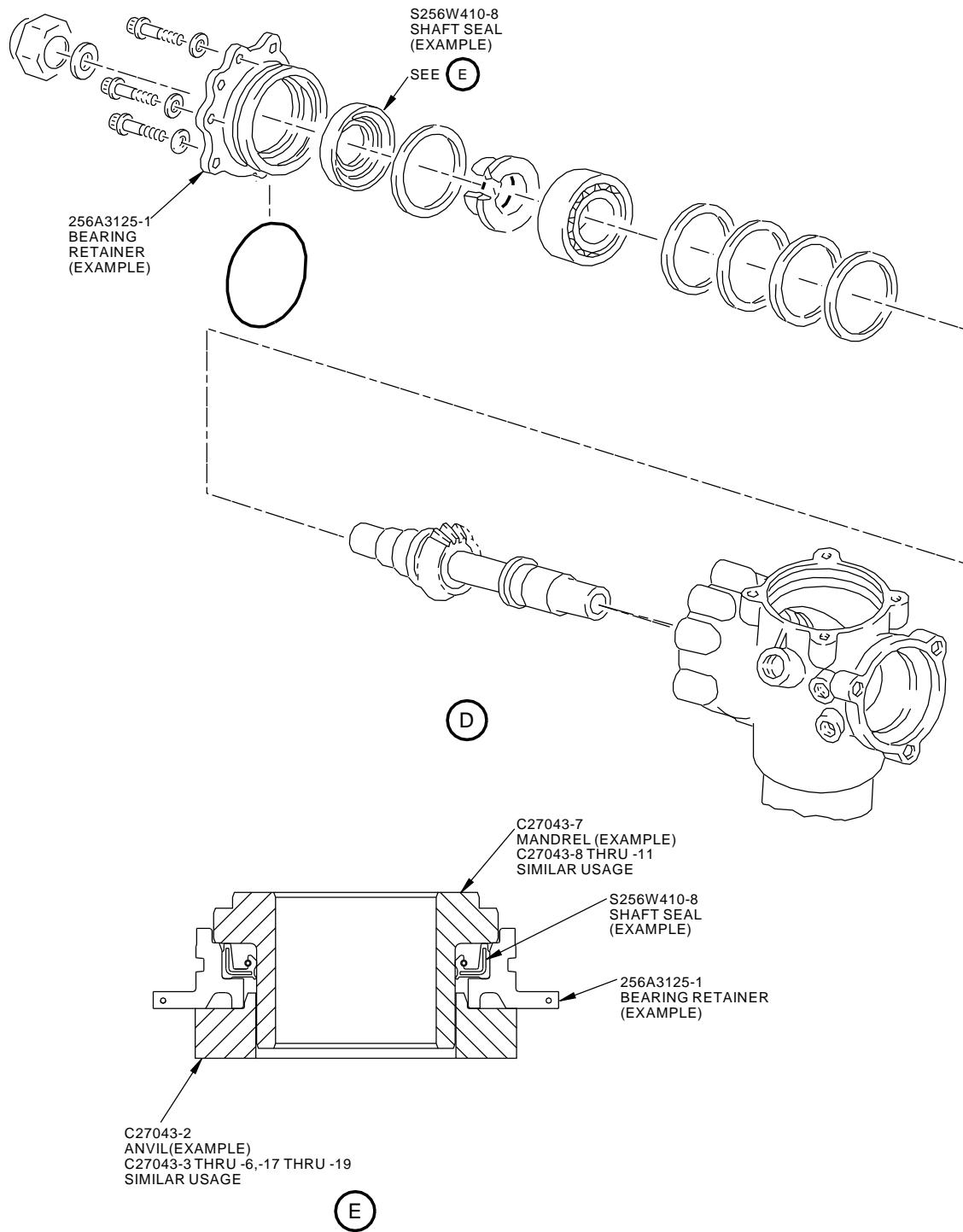
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1559257 S0000287892\_V1

Trailing Edge Flap Drive Seal Installation Equipment  
Figure 1 (Sheet 3 of 3)

**27-50-15**

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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: J27054-1**

**NAME:** TEST EQUIPMENT - LEAKAGE TEST

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-55-67, CMM 27-55-68, CMM 27-55-70, CMM 27-55-75, CMM 27-55-78, CMM 27-55-80, CMM 27-55-81, CMM 27-55-87

**USAGE & DESCRIPTION:** The J27054-1 test equipment is used during component maintenance on all 737-600 thru -900 airplanes.

J27054 is used in conjunction with a customer-furnished air source to pressure test the flap actuator, transmission and gearbox assemblies after assembly.

Refer to the current J27054 drawing, CMM 27-55-67, CMM 27-55-68, CMM 27-55-70, CMM 27-55-75, CMM 27-55-78, CMM 27-55-80, CMM 27-55-81 and CMM 27-55-87 for complete usage instructions.

J27054-1 consists of:

J27054-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	PRESSURE TEST ASSEMBLY	J27054-2
1	ADAPTER ASSEMBLY	J27054-3
1	STORAGE BOX	

**WEIGHT:** 5 lbs (2.3 kg)

**DIMENSIONS:** 15 x 19 inches (381 x 483 mm)

**27-50-16**

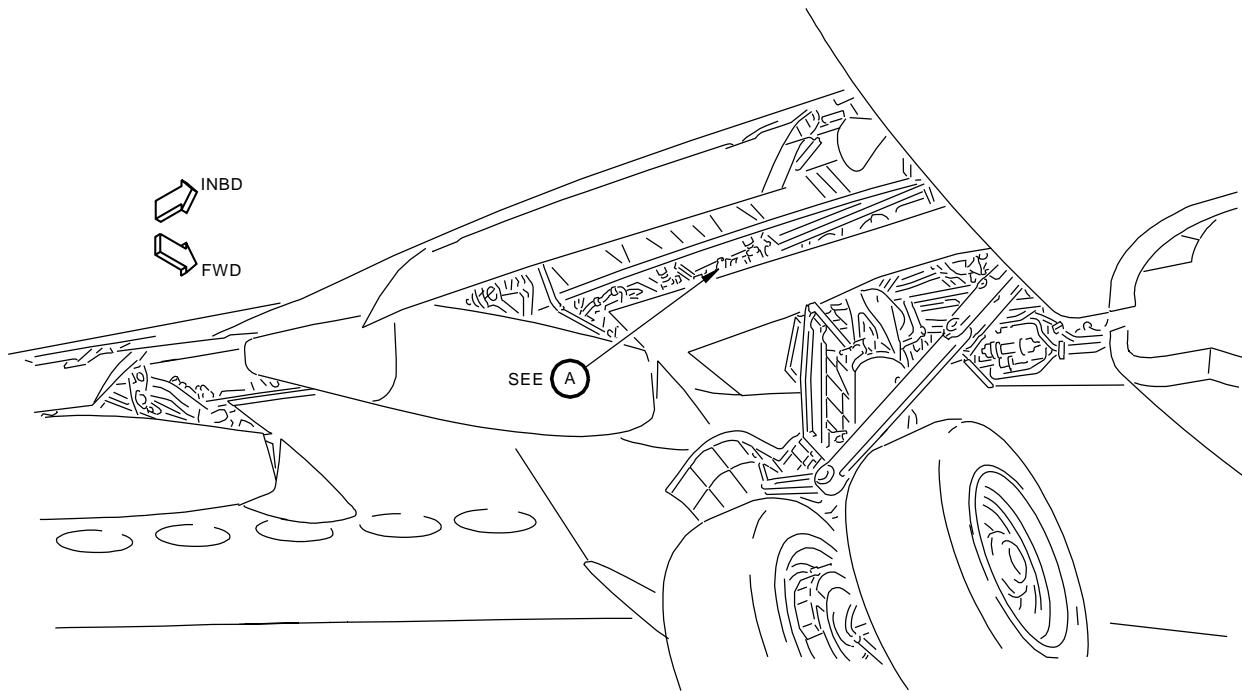
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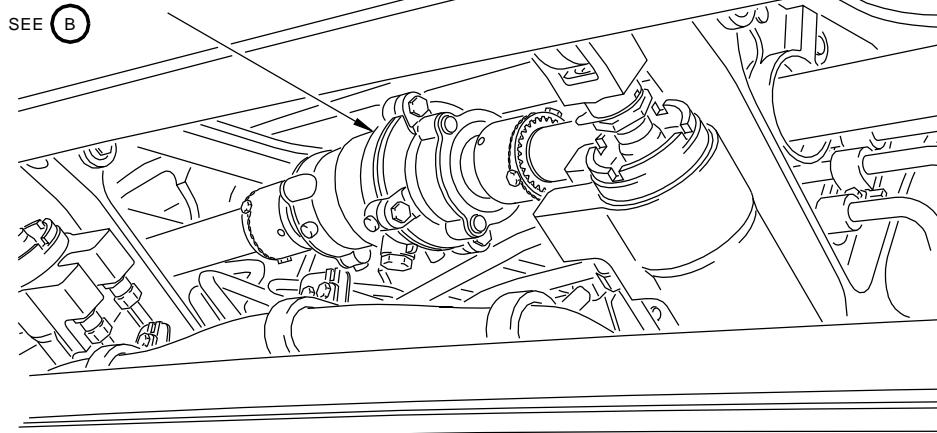
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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



256A3640  
MAIN LANDING GEAR BEAM  
ANGLE GEARBOX

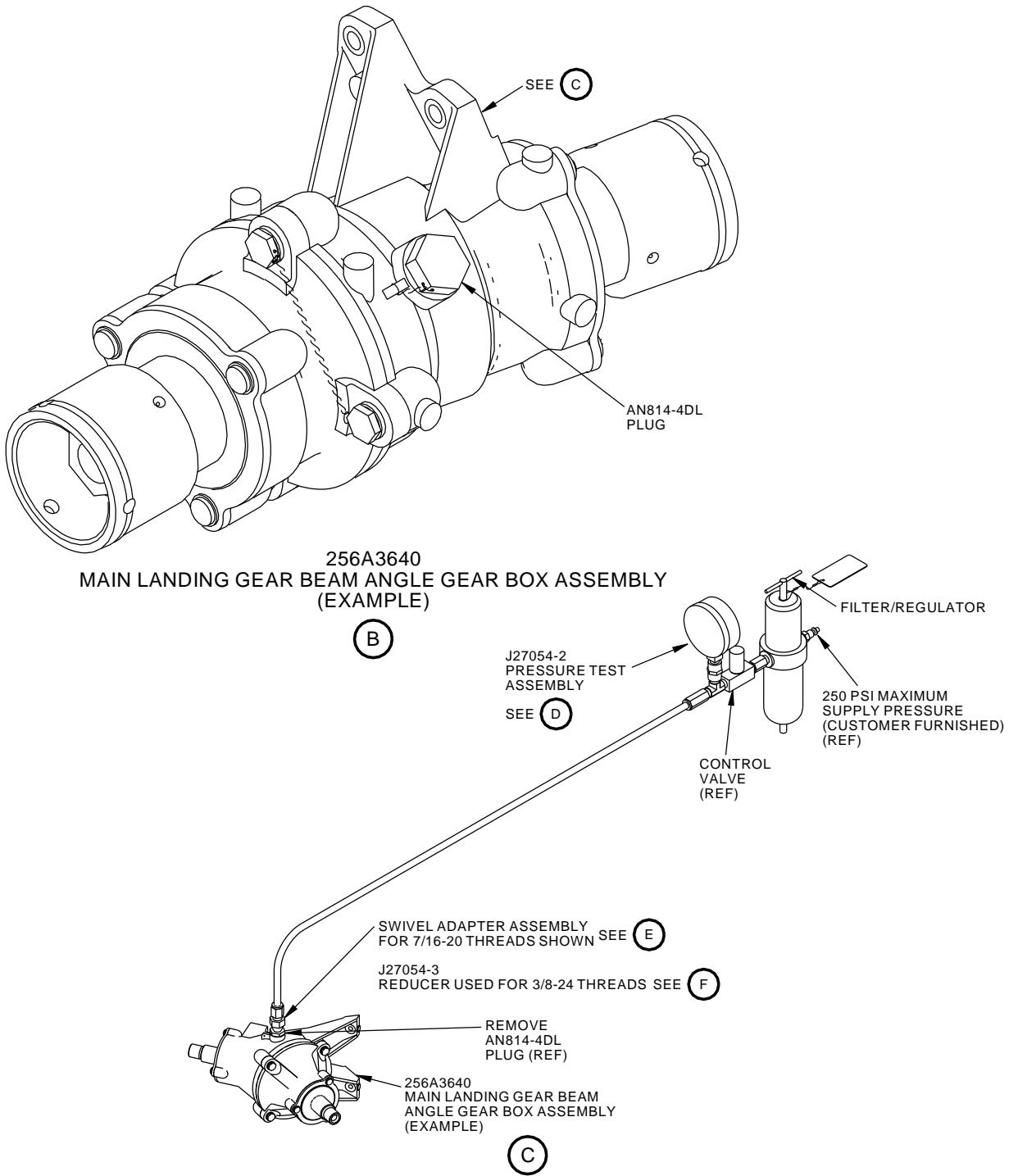


(A)

1560236 S0000288692\_V1

Leakage Test Equipment  
Figure 1 (Sheet 1 of 3)

**27-50-16**



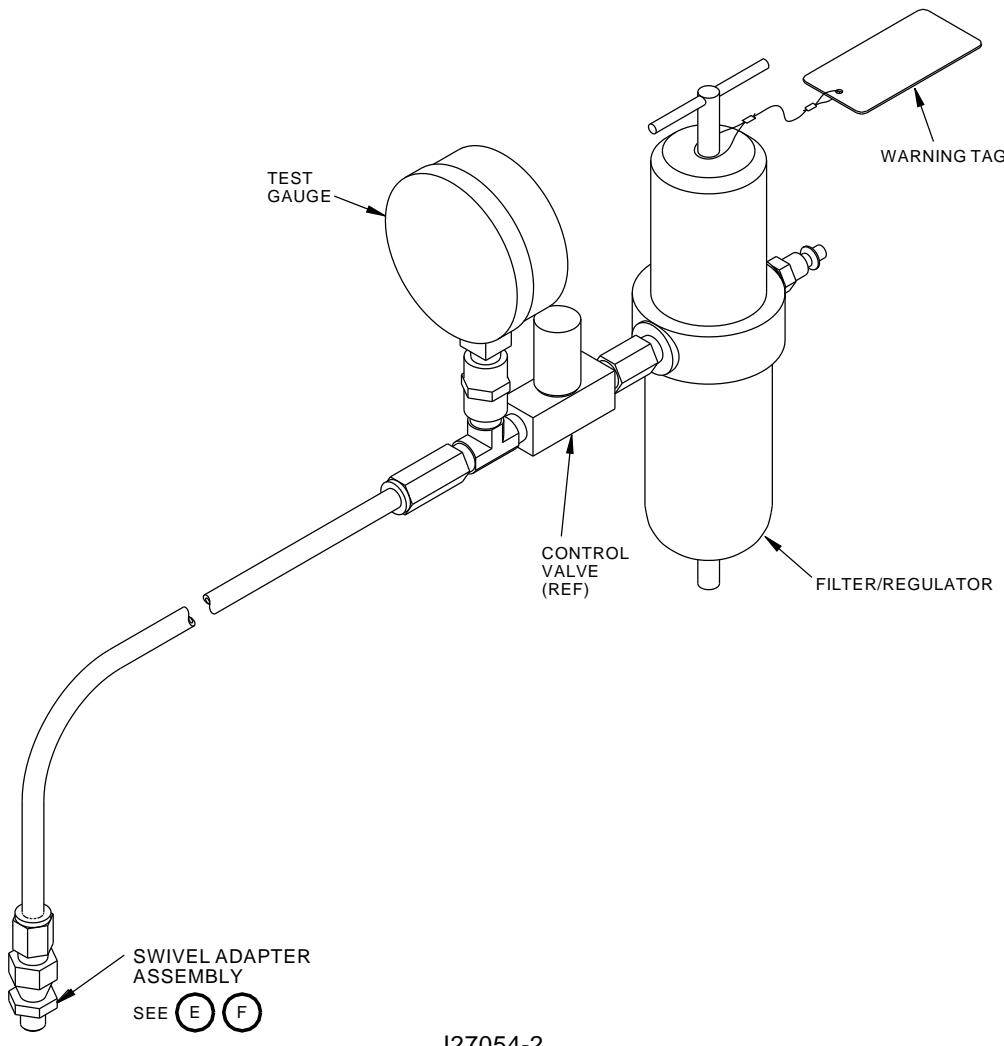
1560299 S0000288693\_V1

**Leakage Test Equipment**  
**Figure 1 (Sheet 2 of 3)**
**27-50-16**

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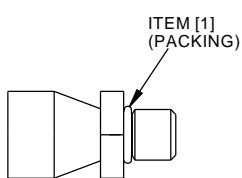


J27054-2  
PRESSURE TEST ASSEMBLY

(D)

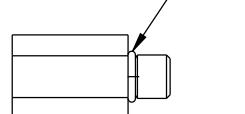
SWIVEL ADAPTER ASSEMBLY

(E)



J27054-3  
ADAPTER ASSEMBLY

(F)



1560324 S0000288696\_V1

**Leakage Test Equipment**  
**Figure 1 (Sheet 3 of 3)**

**27-50-16**



737-600/700/800/900  
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REPAIRABLE/REPLACEABLE			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[1]	NAS1612-4	PACKING	
[2]	NAS1612-3	PACKING	

**27-50-16**

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737-600/700/800/900  
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**PART NUMBER: C27074-1**

**NAME:** OVERHAUL EQUIPMENT, SPRING STACK, TRAILING EDGE FLAP  
TRANSMISSION

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-55-82, CMM 27-55-84

**USAGE & DESCRIPTION:** The C27074-1 overhaul equipment is used during component maintenance on 737-600 thru -900 airplanes.

737 airplanes are equipped with eight trailing edge flap transmissions. Each transmission contains a spring-loaded torque brake to stop flap movement in either the up or down travel of the flaps. C27074 is used in conjunction with a customer-furnished Rimac model SD compression spring tester to compress the brake's Belleville (disc) springs to a solid height during component maintenance.

Refer to the current C27074 drawing, CMM 27-55-82 and CMM 27-55-84 for complete usage instructions.

C27074-1 consists of:

C27074-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	CUP	C27074-2
1	PRESS	C27074-3
1	STORAGE BOX	

**WEIGHT:** 3 lbs (1.4 kg)

**DIMENSIONS:** 2 x 3 x 3 inches (51 x 76 x 76 mm)

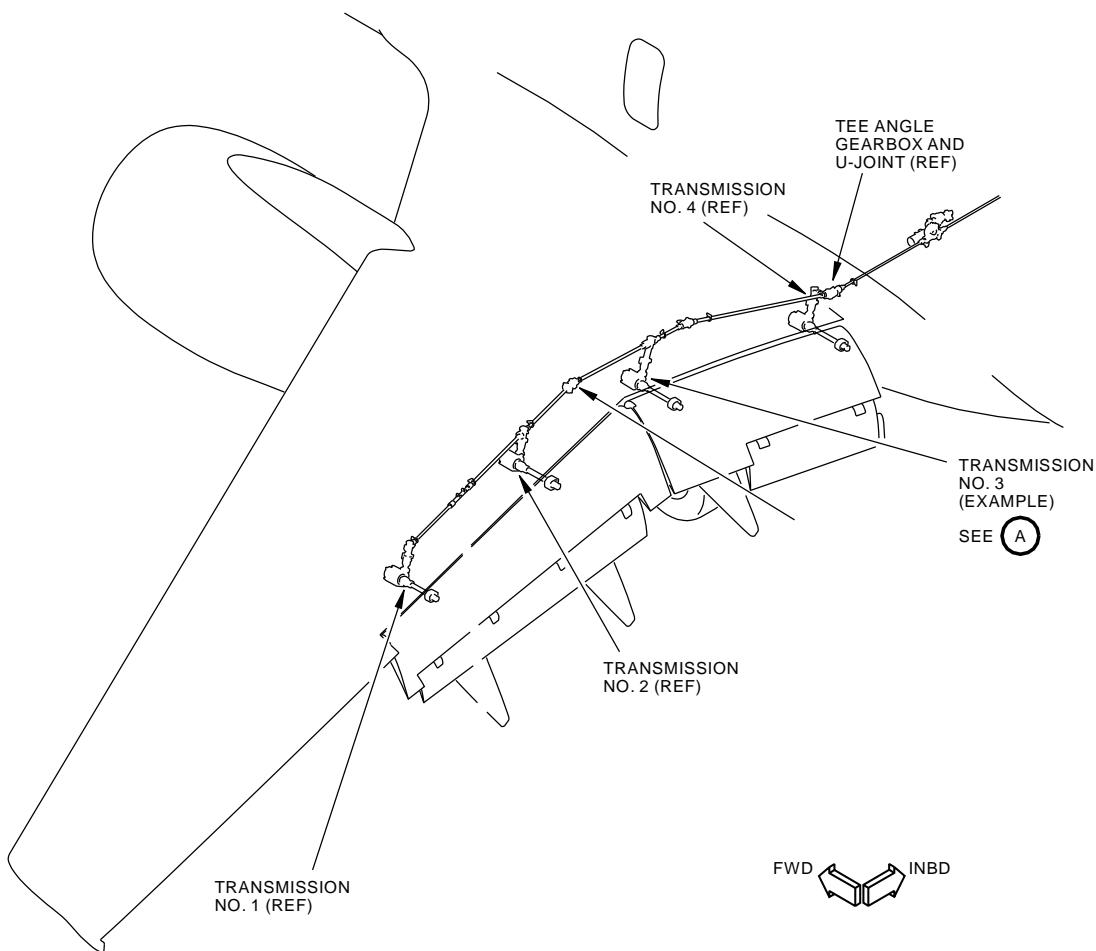
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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



LEFT WING  
(RIGHT WING IS EQUIVALENT)

1571021 S0000293031\_V1

Trailing Edge Flap Transmission Spring Stack Overhaul Equipment  
Figure 1 (Sheet 1 of 5)

**27-50-17**

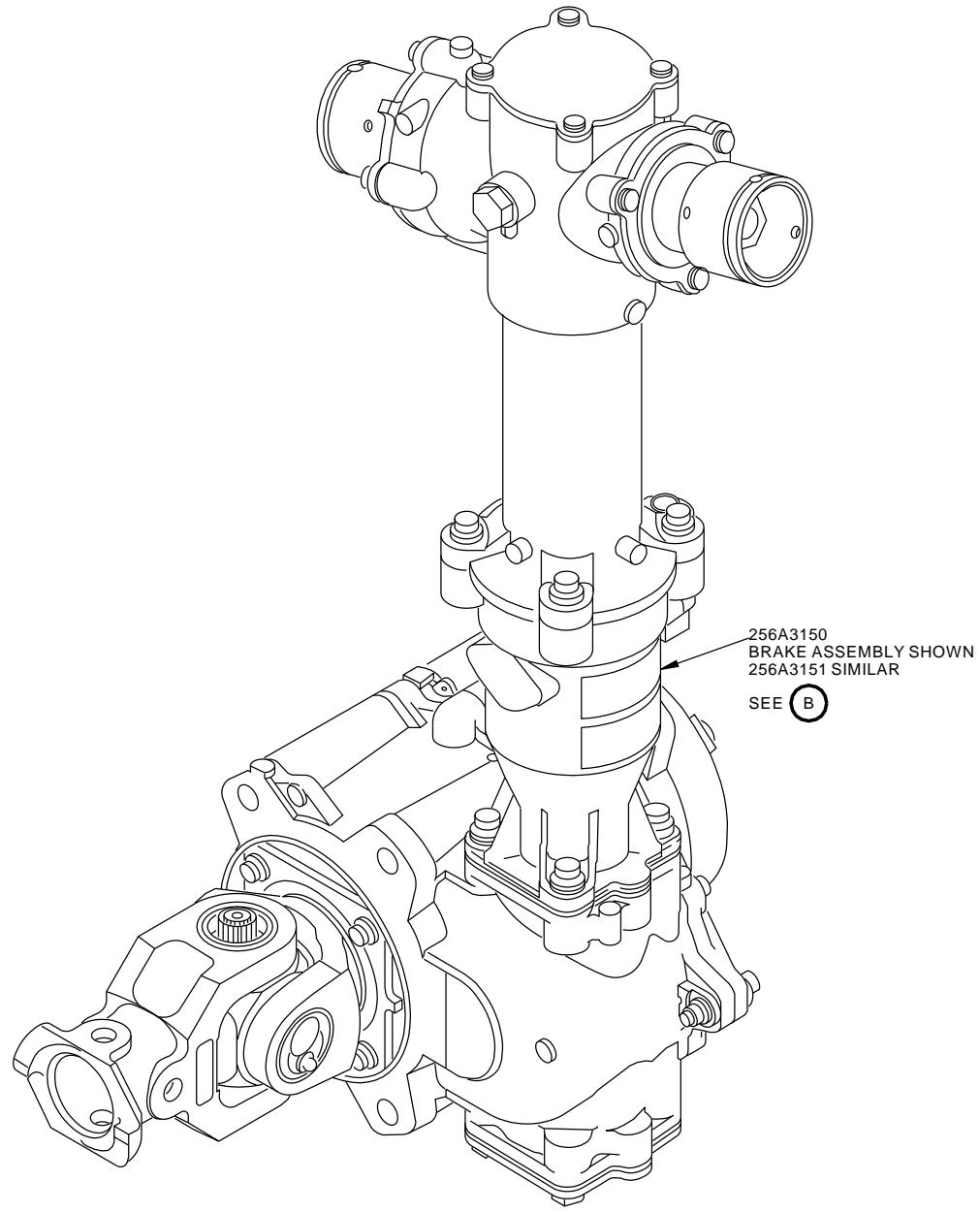
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TRANSMISSION ASSEMBLY NO. 3 SHOWN

(A)

1571030 S0000293032\_V1

Trailing Edge Flap Transmission Spring Stack Overhaul Equipment  
Figure 1 (Sheet 2 of 5)

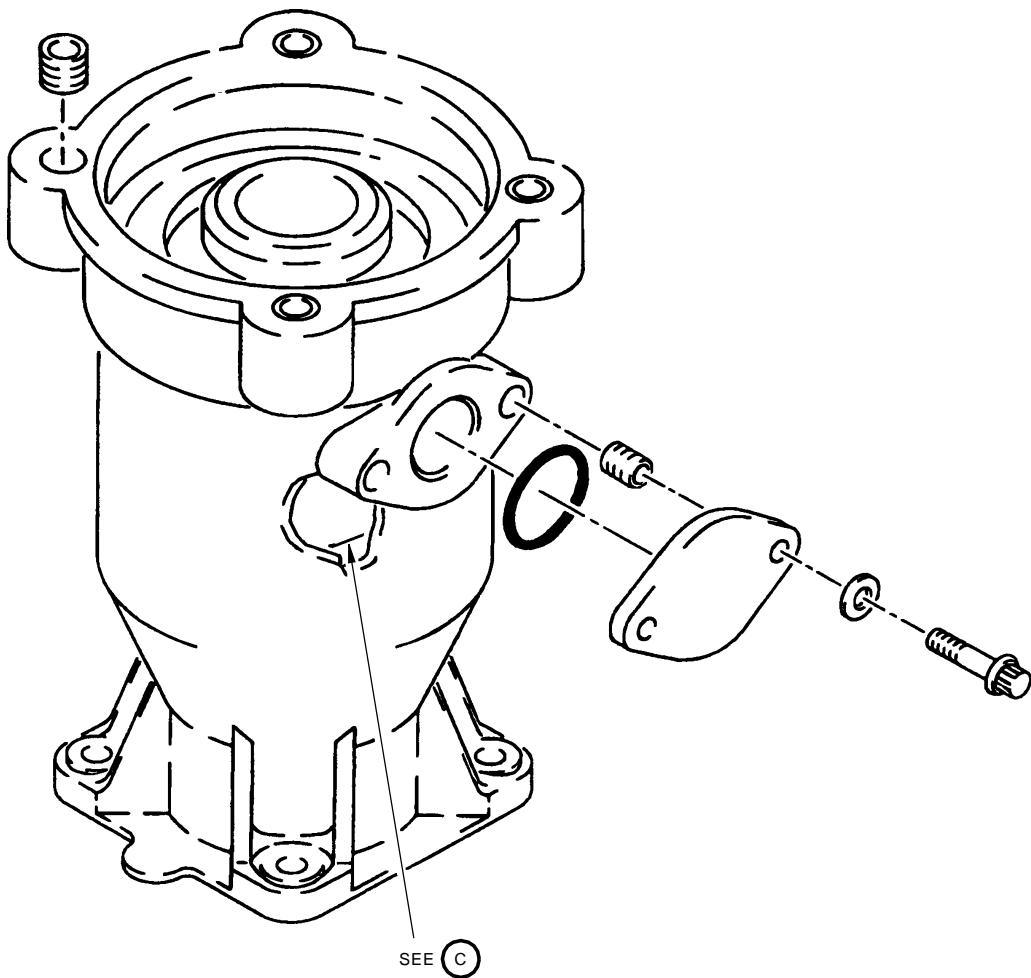
**27-50-17**

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256A3150  
BRAKE ASSEMBLY SHOWN  
256A3151 SIMILAR

(B)

1571031 S0000293034\_V1

Trailing Edge Flap Transmission Spring Stack Overhaul Equipment  
Figure 1 (Sheet 3 of 5)

**27-50-17**

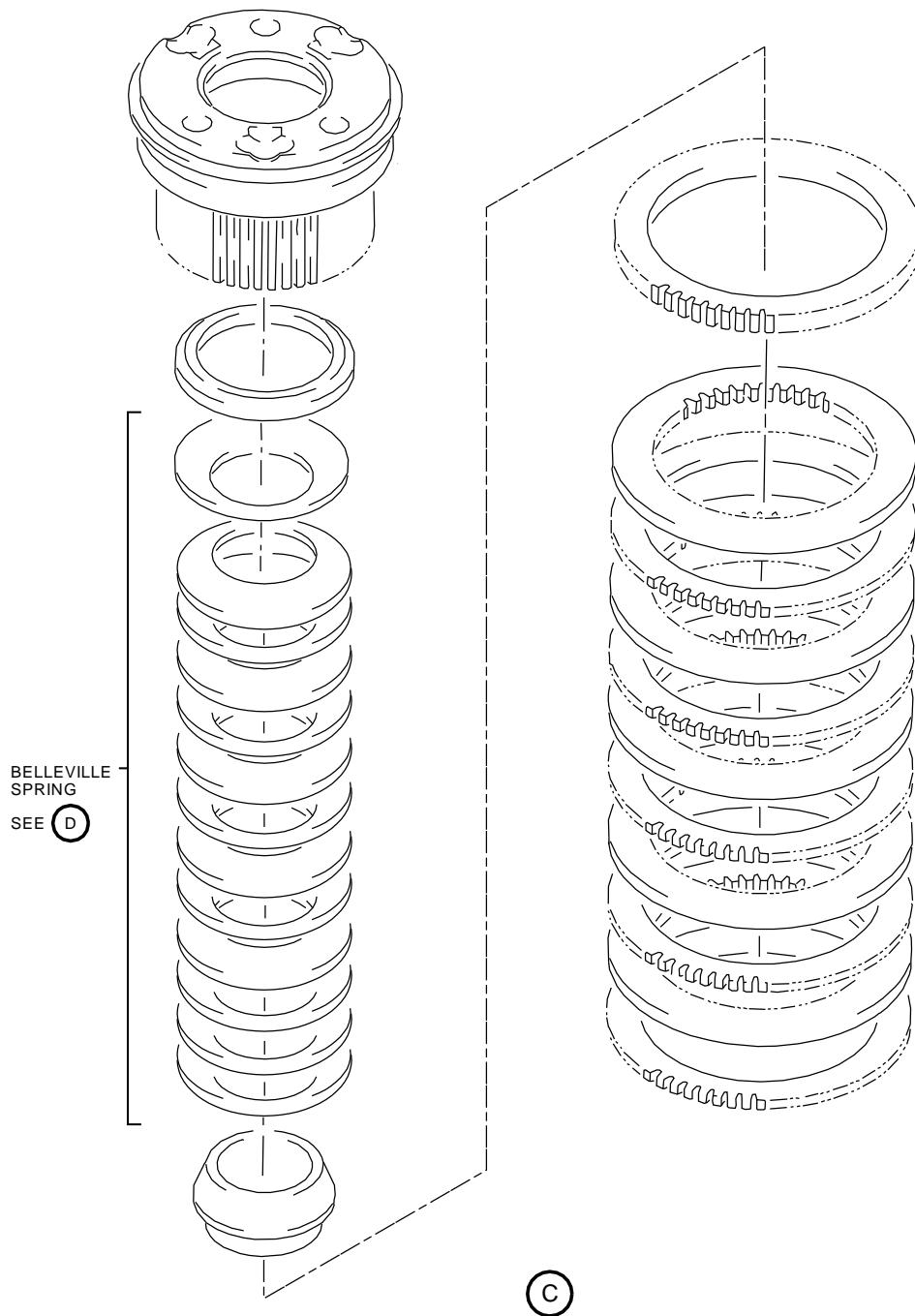
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1571039 S0000293035\_V1

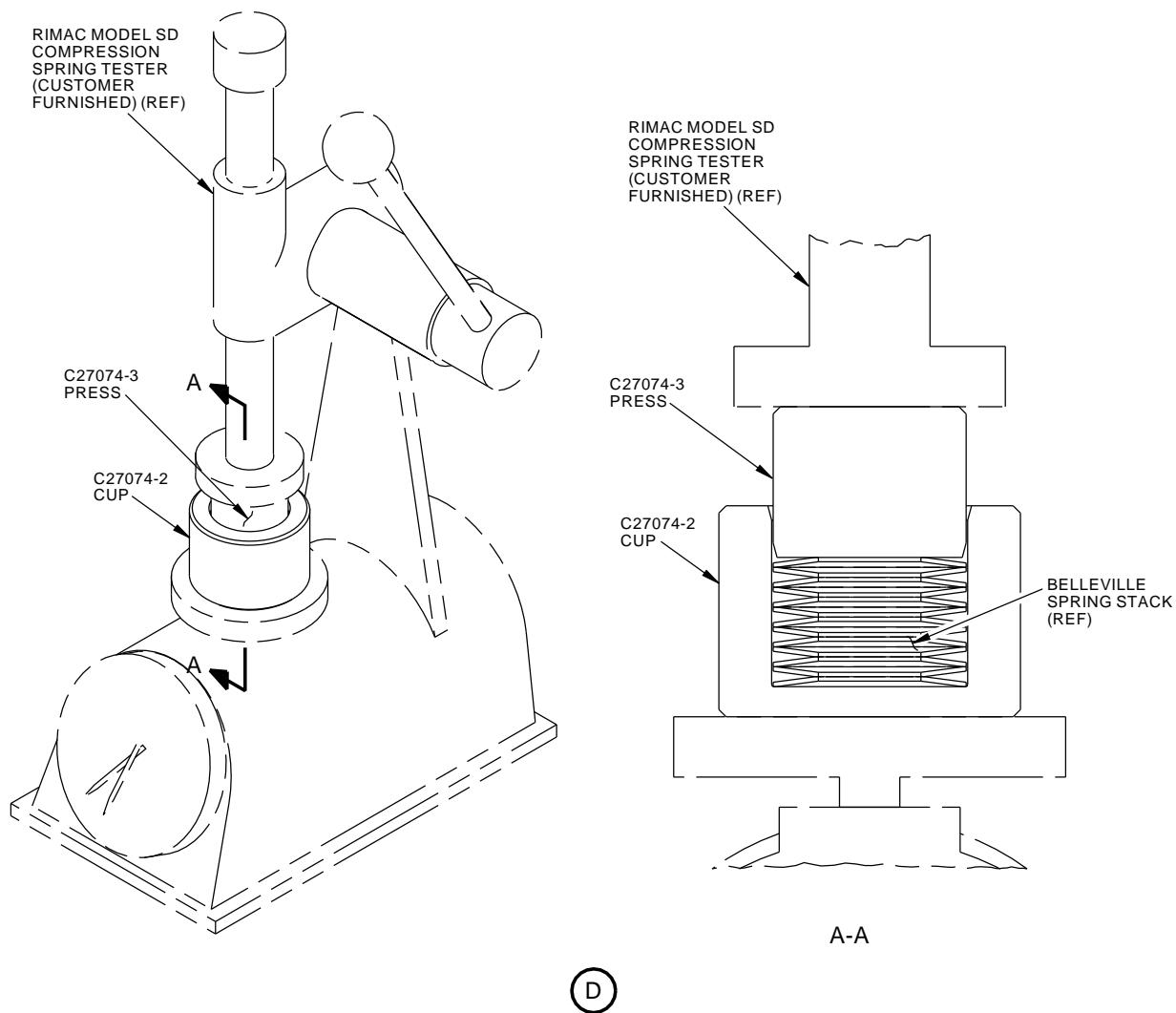
Trailing Edge Flap Transmission Spring Stack Overhaul Equipment  
Figure 1 (Sheet 4 of 5)

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1571045 S0000293036\_V1

**Trailing Edge Flap Transmission Spring Stack Overhaul Equipment**  
**Figure 1 (Sheet 5 of 5)**

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**PART NUMBER: F80232-1**

**NAME:** TEST FIXTURE - CONTROL VALVE ASSEMBLY, TRAILING EDGE FLAP

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-55-85

**USAGE & DESCRIPTION:** The F80232-1 trailing edge flap control valve assembly test fixture is used during component maintenance on all 737-100 thru -900 airplanes.

F80232 is used to hold the 65-44631, 65-44821 or 256A3580 control valve assembly to check slide movement during functional testing.

Refer to the current F80232 drawing, CMM 27-53-11, CMM 27-53-12 and CMM 27-55-85 for complete usage instructions.

F80232-1 consists of:

F80232-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	PLATE ASSEMBLY	F80232-2
1	LOCK PLATE ASSEMBLY	F80232-3
1	KNOB ASSEMBLY	F80232-4
1	STORAGE BOX	

**DIMENSIONS:** 4 x 6 x 21 inches (102 x 152 x 533 mm)

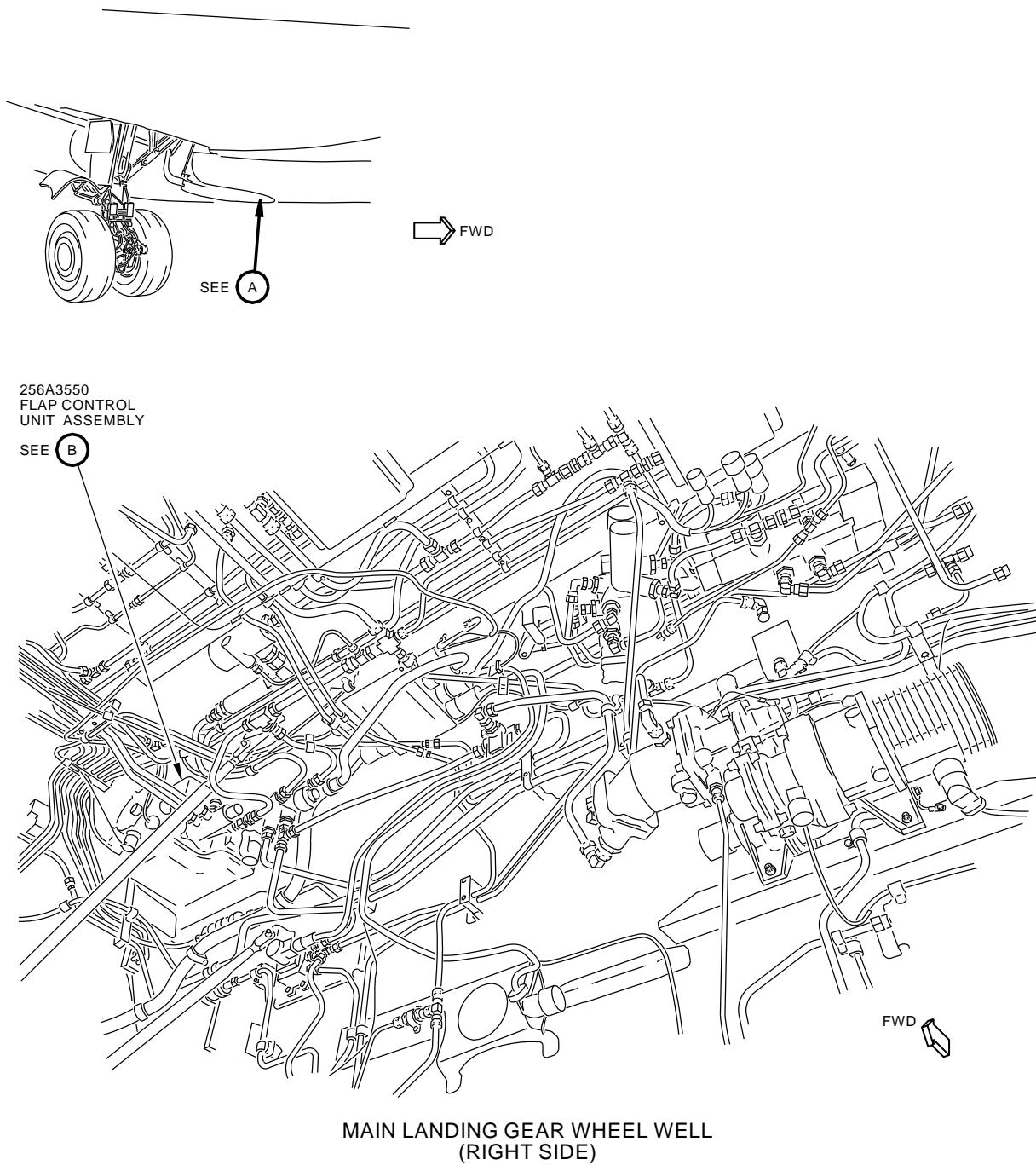
**27-50-18**

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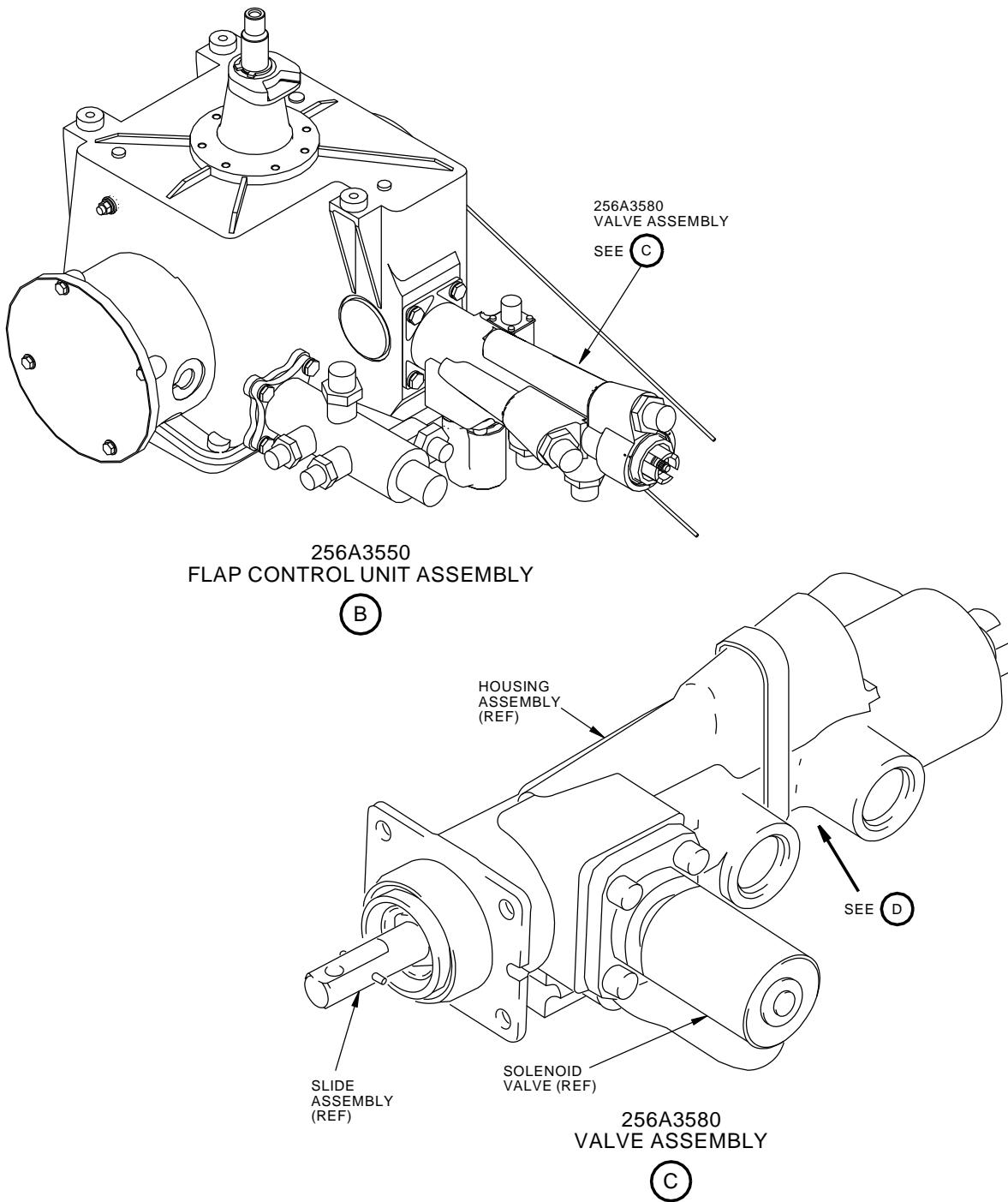


1572868 S0000293775\_V1

Trailing Edge Flap Control Valve Assembly Test Fixture  
Figure 1 (Sheet 1 of 3)

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1572872 S0000293777\_V1

Trailing Edge Flap Control Valve Assembly Test Fixture  
Figure 1 (Sheet 2 of 3)

**27-50-18**

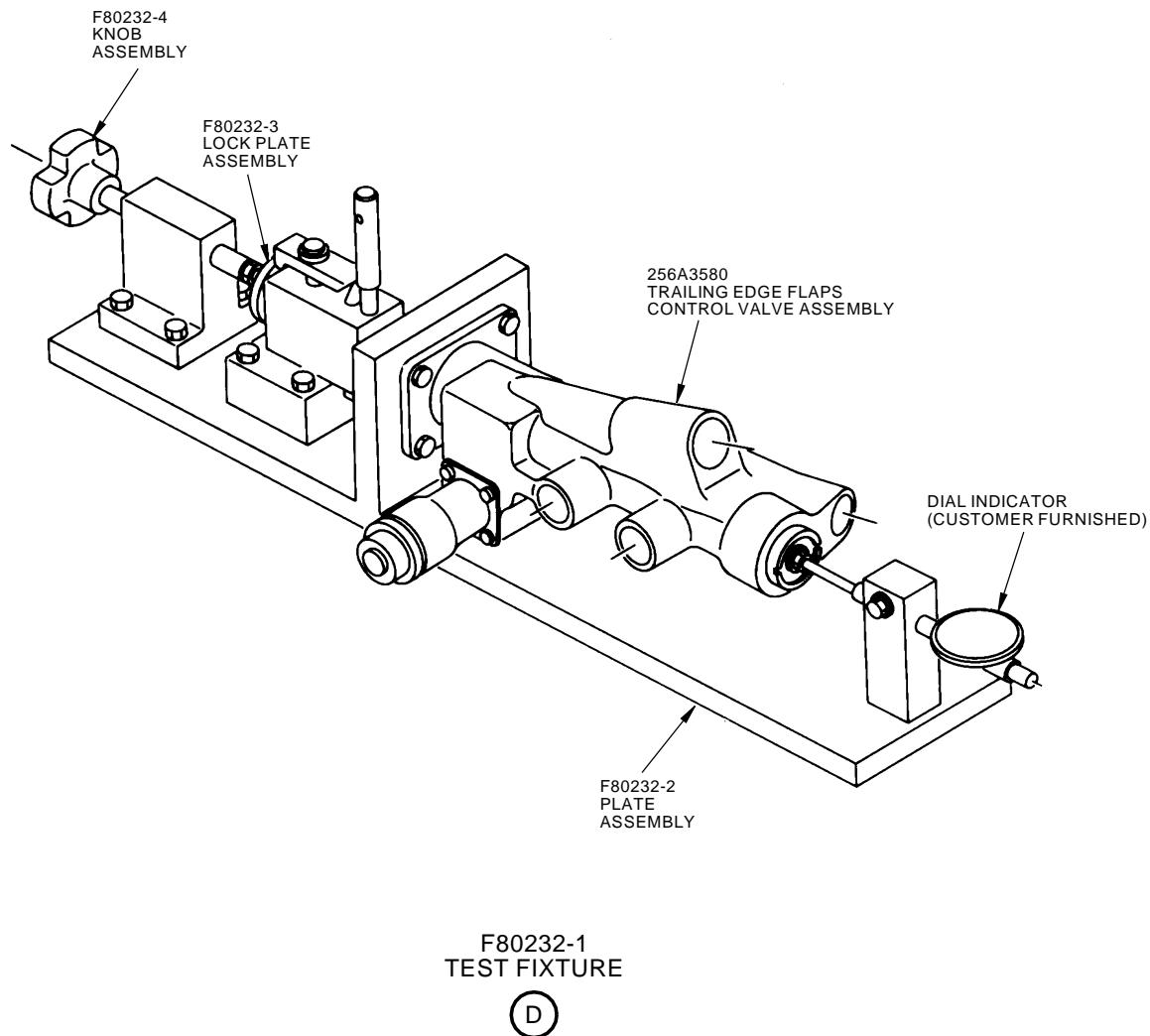
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1572873 S0000293781\_V2

Trailing Edge Flap Control Valve Assembly Test Fixture  
Figure 1 (Sheet 3 of 3)

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**PART NUMBER: J27057-22, -29**

**NAME:** MEASUREMENT EQUIPMENT - BEARING WIDTH

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-55-67, CMM 27-55-68, CMM 27-55-70, CMM 27-55-75, CMM 27-55-78, CMM 27-55-80, CMM 27-55-81

**USAGE & DESCRIPTION:** The J27057-22 (option) or -29 (preferred) measurement equipment is used during component maintenance on all 737-600 thru -900 airplanes.

J27057 is used to measure the width of bearings under a 5 to 10 pound axial preload using customer-furnished dial indicator or depth gauge. Bearings BACB10BA35C, BACB10BA40C, use the J27057-12, small piston assembly (side A). Bearings BACB10BA25C, BACB10BA30C, BACB10BB30C, BACB10AZ30C use the J27057-13, extra-small piston with the liner assembly installed.

Refer the current J27057 drawing, CMM 27-55-67, CMM 27-55-68, CMM 27-55-70, CMM 27-55-75, CMM 27-55-78, CMM 27-55-80 and CMM 27-55-81, for complete usage instructions.

J27057-22 and -29 consist of:

J27057-22		
QUANTITY	NOMENCLATURE	PART NUMBER
1	SMALL PISTON ASSEMBLY	J27057-12
1	EXTRA-SMALL PISTON ASSEMBLY	J27057-13
1	LINER ASSEMBLY	J27057-14
1	FIXTURE ASSEMBLY	J27057-16
2	L-PIN	CL-10-LP
2	TOGGLE CLAMP	CL-150-VTC
1	SPRING	LC-063L-6
1	STORAGE BOX	

J27057-29		
QUANTITY	NOMENCLATURE	PART NUMBER
1	SMALL PISTON ASSEMBLY	J27057-12
1	EXTRA-SMALL PISTON ASSEMBLY	J27057-13
1	LINER ASSEMBLY	J27057-14
1	FIXTURE ASSEMBLY	J27057-30
2	L-PIN	CL-10-LP
2	TOGGLE CLAMP	CL-150-VTC
1	SPRING	LC-063L-6
1	STORAGE BOX	

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**WEIGHT:** 20 lbs (9 kg)

**DIMENSIONS:** 8 x 9 x 9 inches (203 x 229 x 229 mm)

**NOTE:** J27057-29 replaces J27057-22 for future procurement.

J27057-22 supersedes J27057-10, -11, -12, -13 and -14 combined.

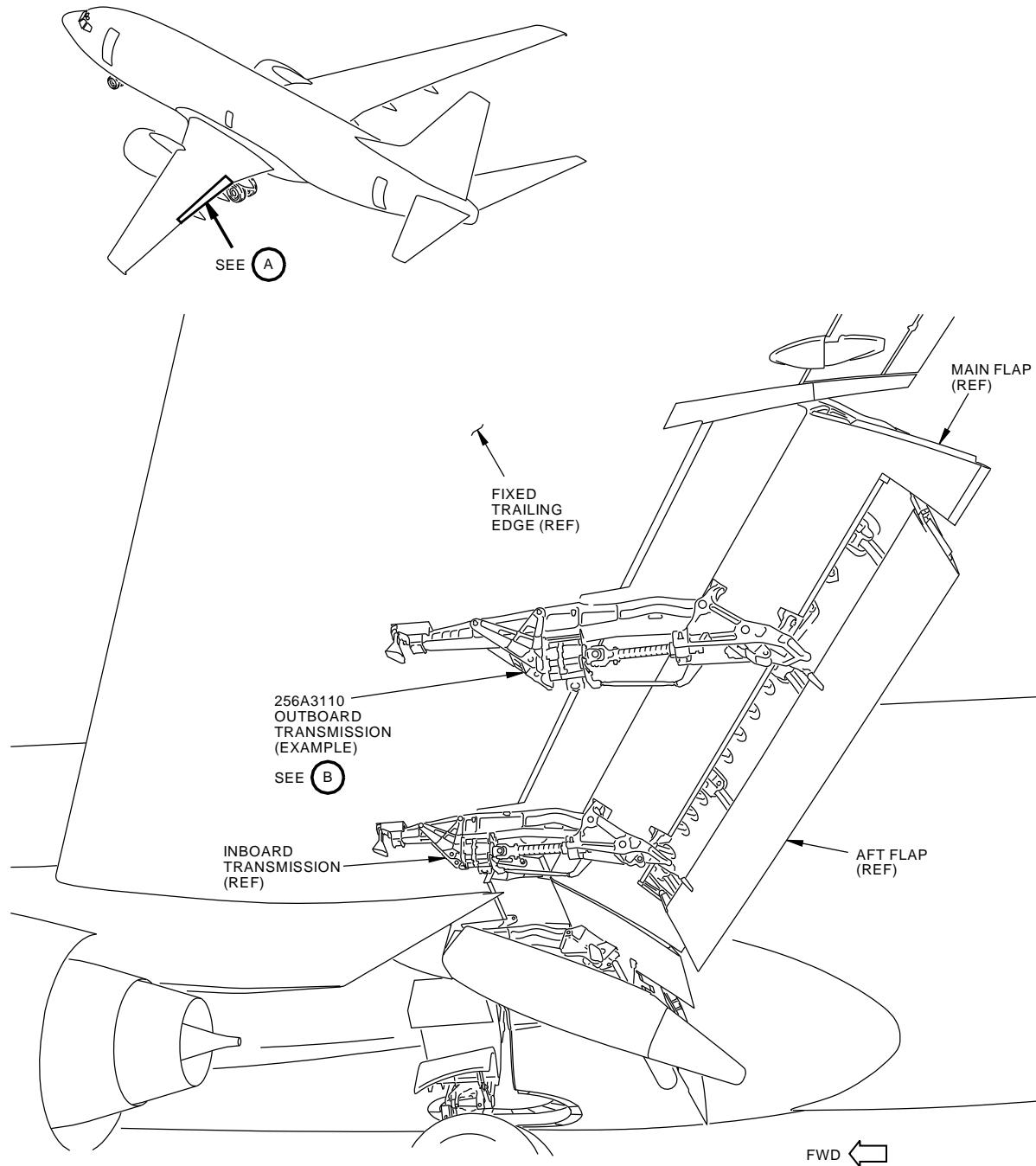
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1572811 S0000294066\_V1

**Bearing Width Measurement Equipment**  
**Figure 1 (Sheet 1 of 5)**

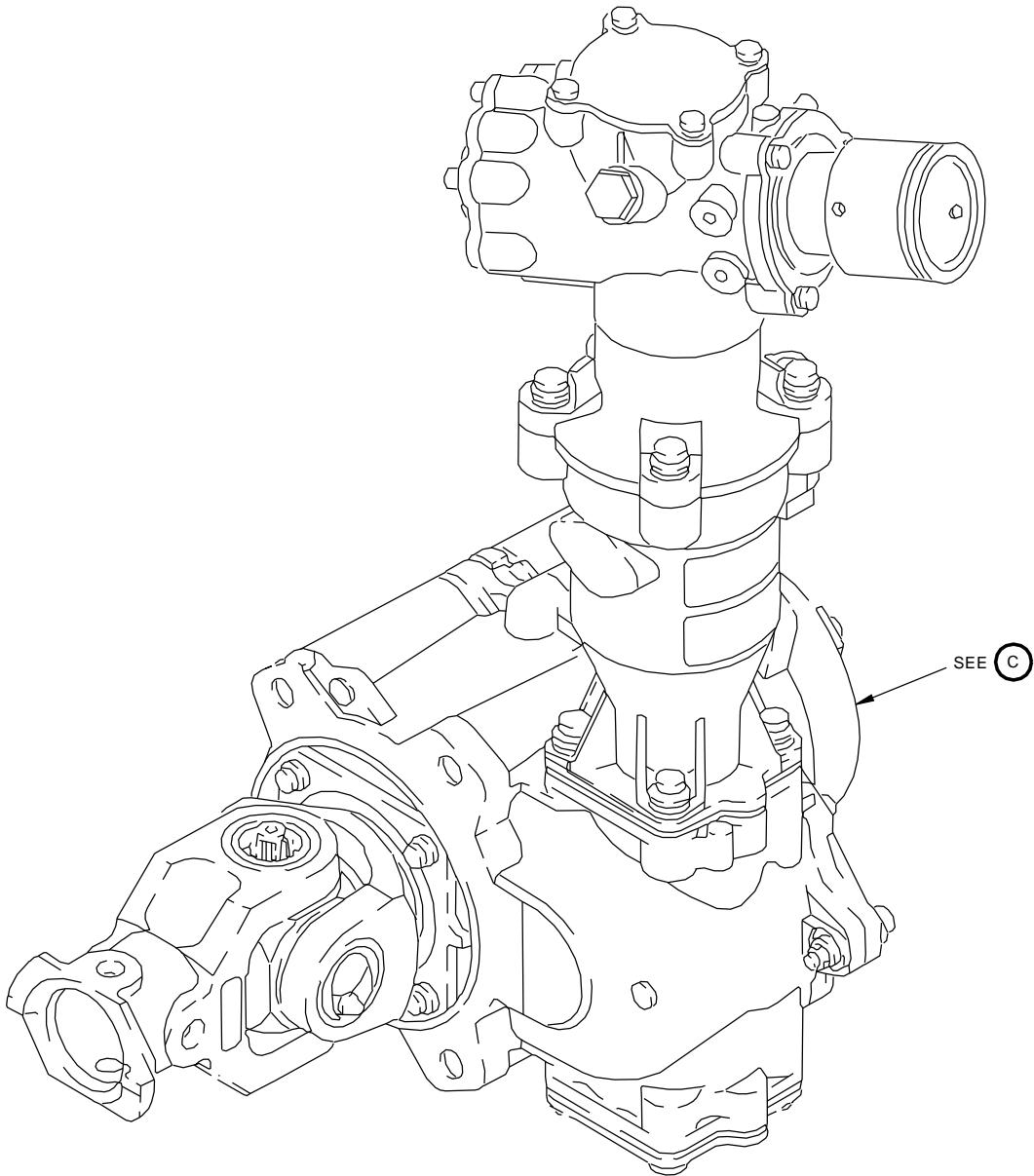
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256A3110  
TRAILING EDGE FLAP TRANSMISSION ASSEMBLY NO. 1 AND 8  
(EXAMPLE)

© B

1572814 S0000294068\_V1

**Bearing Width Measurement Equipment**  
**Figure 1 (Sheet 2 of 5)**

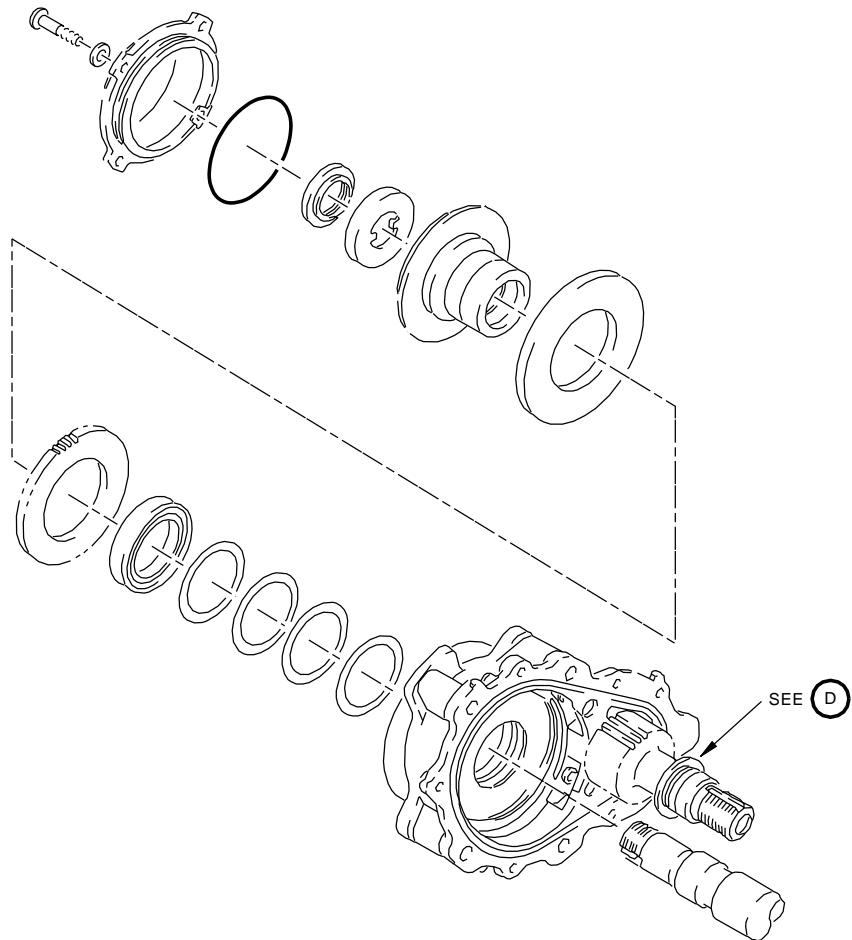
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(C)

1572816 S0000294071\_V1

**Bearing Width Measurement Equipment**  
**Figure 1 (Sheet 3 of 5)**

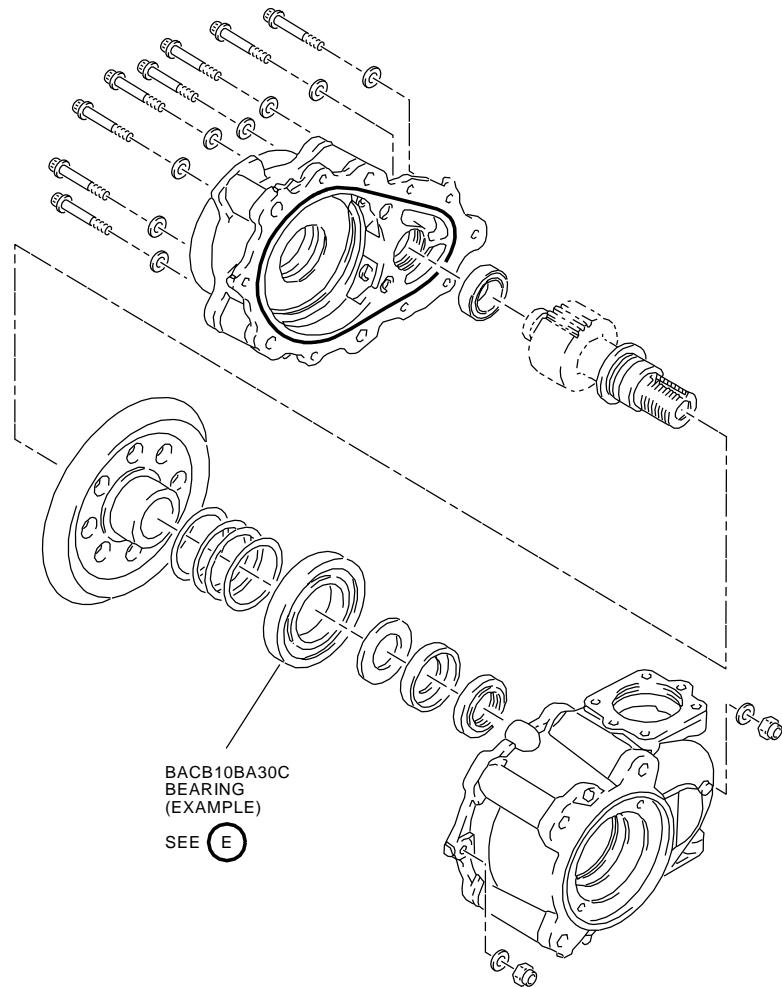
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(D)

1572821 S0000294073\_V1

**Bearing Width Measurement Equipment**  
**Figure 1 (Sheet 4 of 5)**

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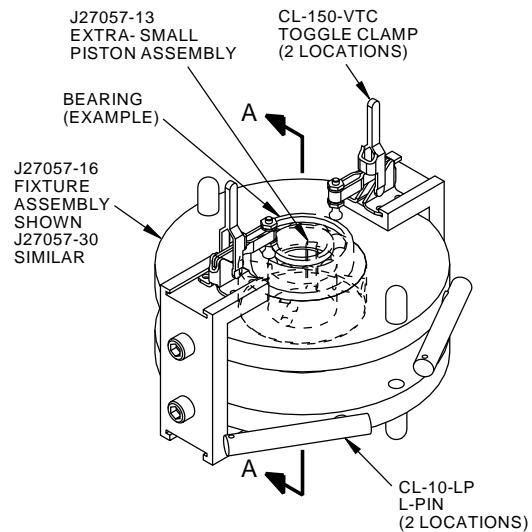
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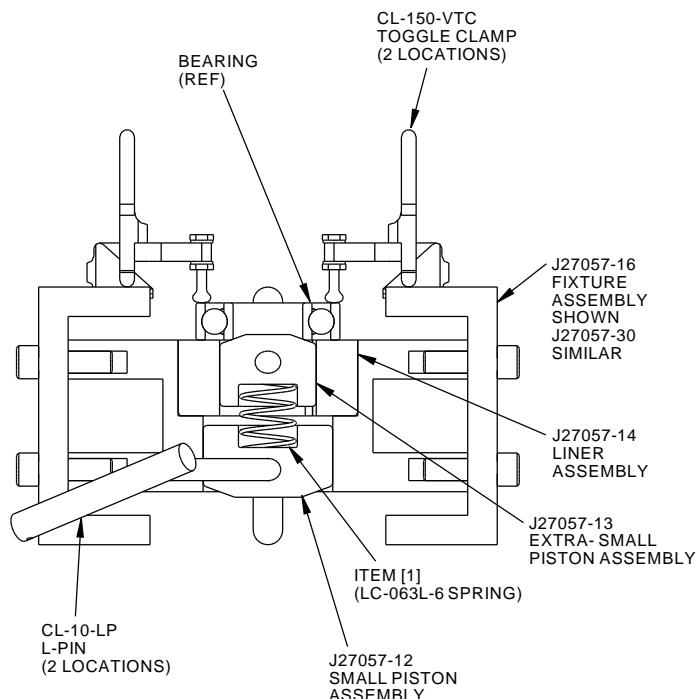


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BACB10BA30 C BEARING  
(EXAMPLE)

(E)



A-A

1572844 S0000294074\_V2

Bearing Width Measurement Equipment  
Figure 1 (Sheet 5 of 5)

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[1]	LC-063L-6	SPRING	1A750

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**PART NUMBER: C27084-1**

**NAME:** TEST EQUIPMENT - OUTBOARD TRAILING EDGE FLAP  
TRANSMISSION, NO-BACK BRAKE OPERATIONAL TEST

**AIRPLANE MAINTENANCE:** YES

AMM 27-51-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27084-1 test equipment is used on all 737 airplanes except 737-100 thru -500 airplanes.

C27084 is used to create a compression load on the outboard trailing edge flap ballscrew positions 1, 2, 7 and 8 to make the ratchet sound audible during no-back brake operational tests.

Refer to AMM 27-51-00 and the current C27084 drawing for complete usage instructions.

C27084-1 consists of:

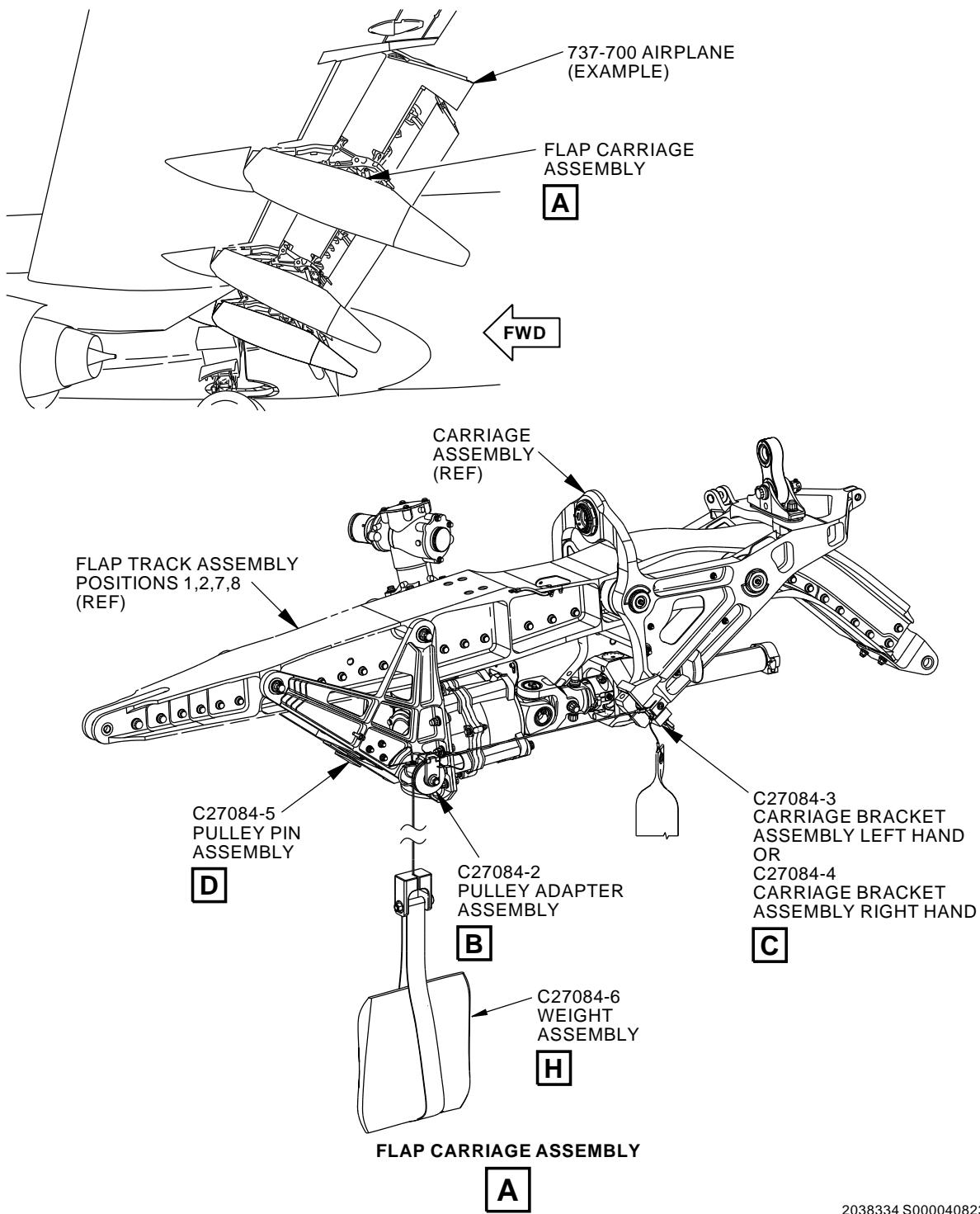
C27084-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	PULLEY ADAPTER ASSEMBLY	C27084-2
1	CARRIAGE BRACKET ASSEMBLY, LEFT HAND	C27084-3
1	CARRIAGE BRACKET ASSEMBLY, RIGHT HAND	C27084-4
1	PULLEY PIN ASSEMBLY	C27084-5
1	WEIGHT ASSEMBLY	C27084-6
1	STORAGE BOX	

**WEIGHT:** 34 lbs (15 kg)

**DIMENSIONS:** 4 x 11 x 13 inches (102 x 279 x 330 mm)

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2038334 S0000408235\_V2

**No-Back Brake Operational Test Outboard Trailing Edge Flap Transmission Test Equipment**  
**Figure 1 (Sheet 1 of 6)**

**27-50-20**

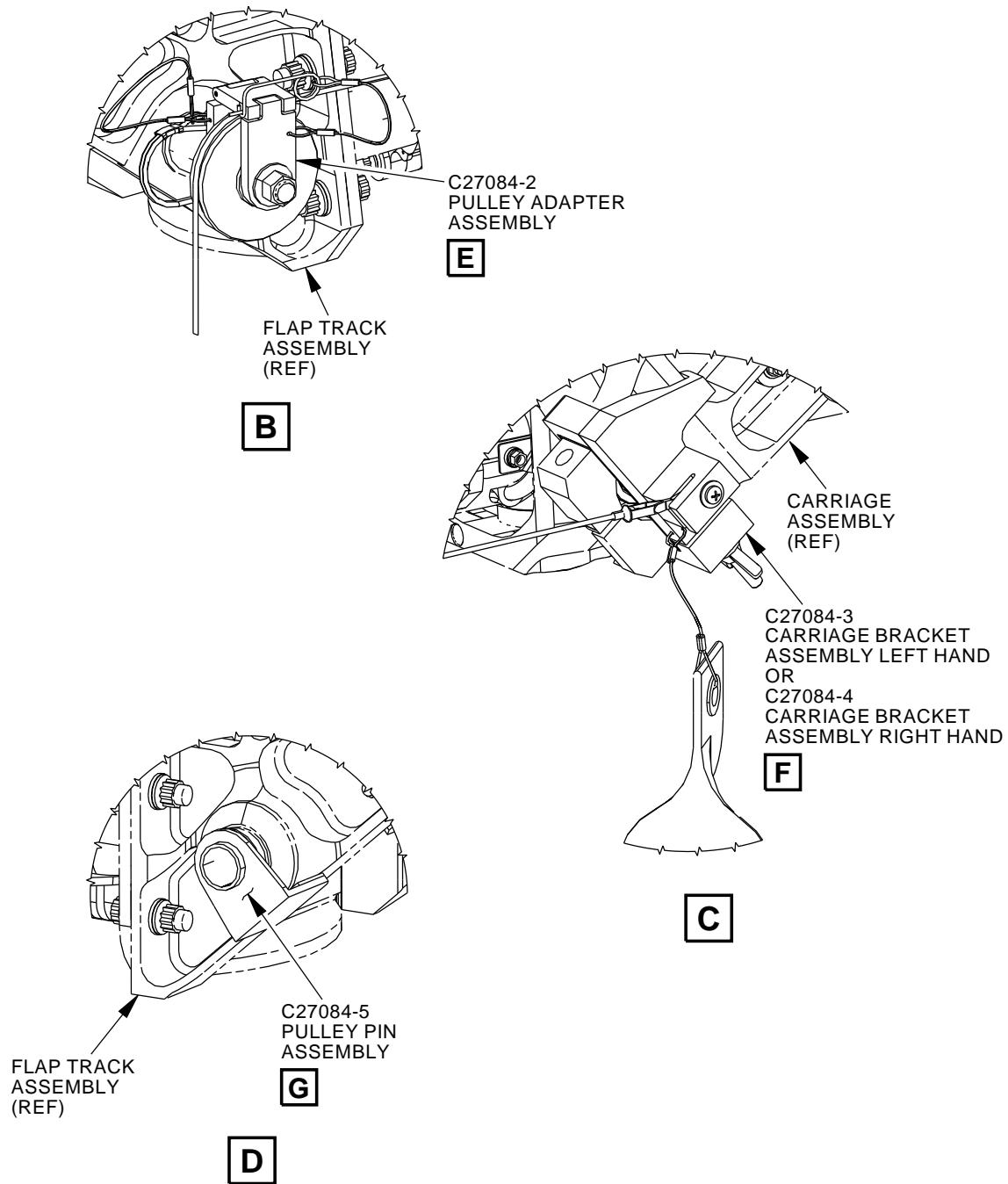
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2038435 S0000408248\_V2

No-Back Brake Operational Test Outboard Trailing Edge Flap Transmission Test Equipment  
Figure 1 (Sheet 2 of 6)

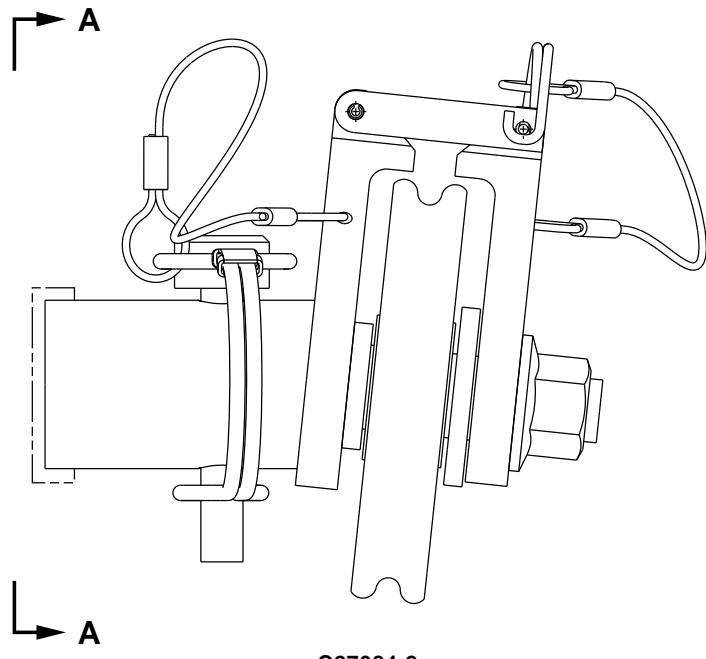
**27-50-20**

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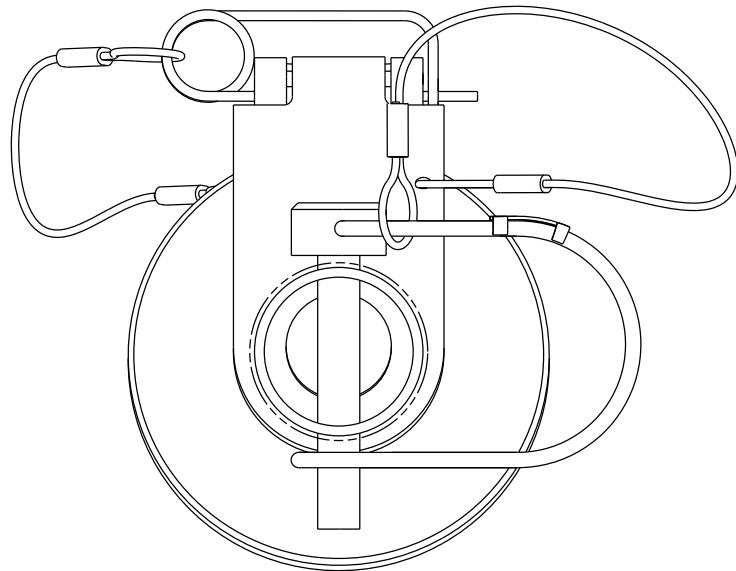
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**C27084-2**  
**PULLER ADAPTER ASSEMBLY**

**E**



**A-A**

2038438 S0000408249\_V2

**No-Back Brake Operational Test Outboard Trailing Edge Flap Transmission Test Equipment**  
**Figure 1 (Sheet 3 of 6)**

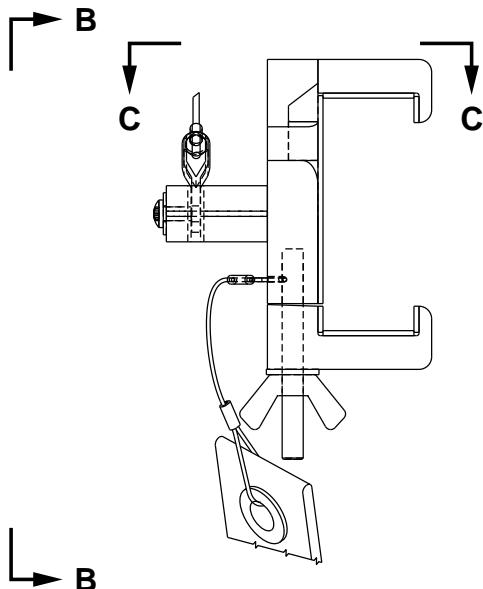
**27-50-20**

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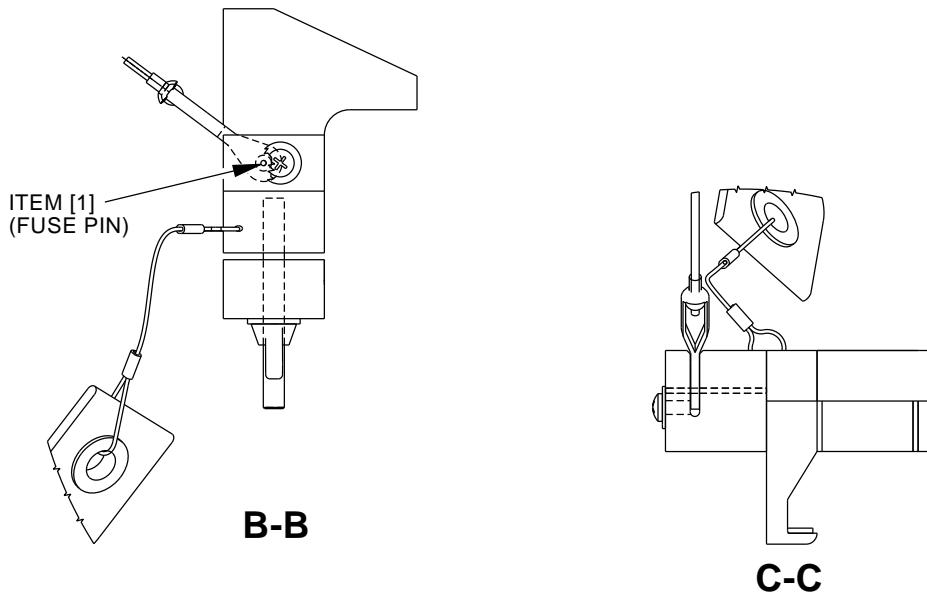
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**C27084-3**  
**CARRIAGE BRACKET ASSEMBLY**  
**LEFT HAND SHOWN**  
**OR**  
**C27084-4 CARRIAGE ASSEMBLY**  
**RIGHT HAND OPPOSITE**

**F**



2038457 S0000408251\_V2

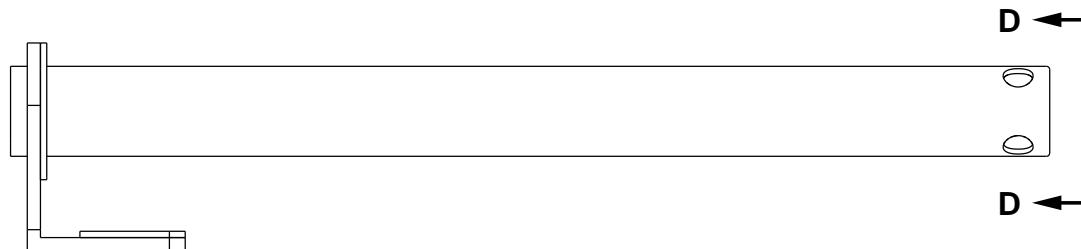
**No-Back Brake Operational Test Outboard Trailing Edge Flap Transmission Test Equipment**  
**Figure 1 (Sheet 4 of 6)**

**27-50-20**

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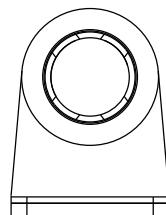
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**C27084-5**  
**PULLEY PIN ASSEMBLY**

**G**



**D-D**

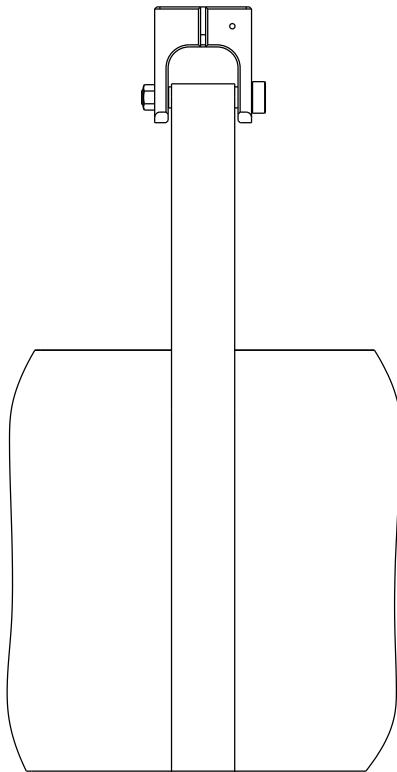
2038462 S0000408253\_V2

**No-Back Brake Operational Test Outboard Trailing Edge Flap Transmission Test Equipment**  
**Figure 1 (Sheet 5 of 6)**

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C27084-6  
WEIGHT ASSEMBLY

**H**

2038469 S0000408254\_V2

**No-Back Brake Operational Test Outboard Trailing Edge Flap Transmission Test Equipment**  
**Figure 1 (Sheet 6 of 6)**

REPAIRABLE/REPLACEABLE PARTS			
ITEM NUMBER	PART NUMBER	NOMENCLATURE	VENDOR CODE
[1]	C27084-28	FUSE PIN	---

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**PART NUMBER: C27089-1**

**NAME:** AXIAL LOAD EQUIPMENT - TORQUE BRAKE ASSEMBLY, TRAILING EDGE FLAP

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-55-82, CMM 27-55-84

**USAGE & DESCRIPTION:** The C27089-1 axial load equipment is used during component maintenance on all 737 airplanes.

C27089 is to apply axial loads to the 256A3150 and 256A3151 torque brake assemblies at various stages of assembly.

Refer to CMM 27-55-82, CMM 27-55-84 and the current C27089 drawing for complete usage instructions.

C27089-1 consists of:

C27089-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BASE ASSEMBLY	C27089-2
1	PRESS FITTING	C27089-4
1	PRESS FITTING	C27089-5
1	STORAGE BOX	

**WEIGHT:** 7 lbs (3 kg)

**DIMENSIONS:** 3 x 7 x 7 inches (76 x 178 x 178 mm)

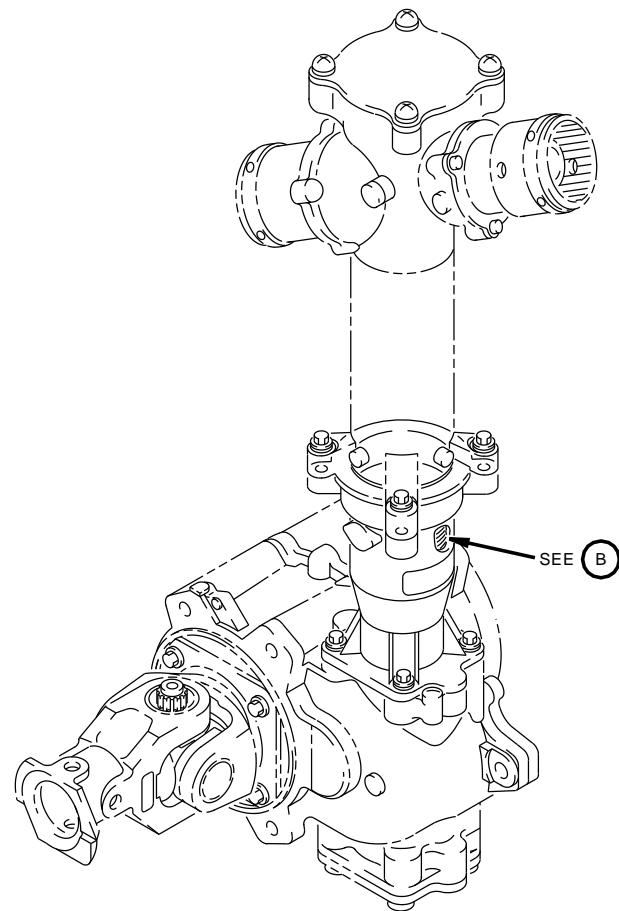
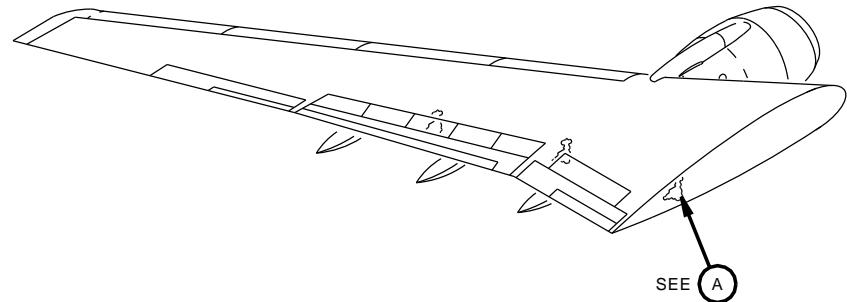
**27-50-39**

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(A)

2200511 S0000489755\_V1

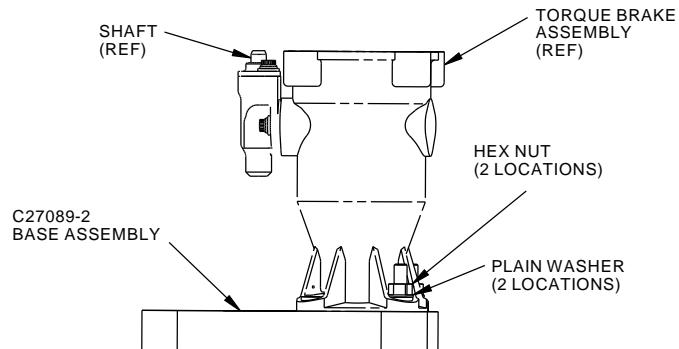
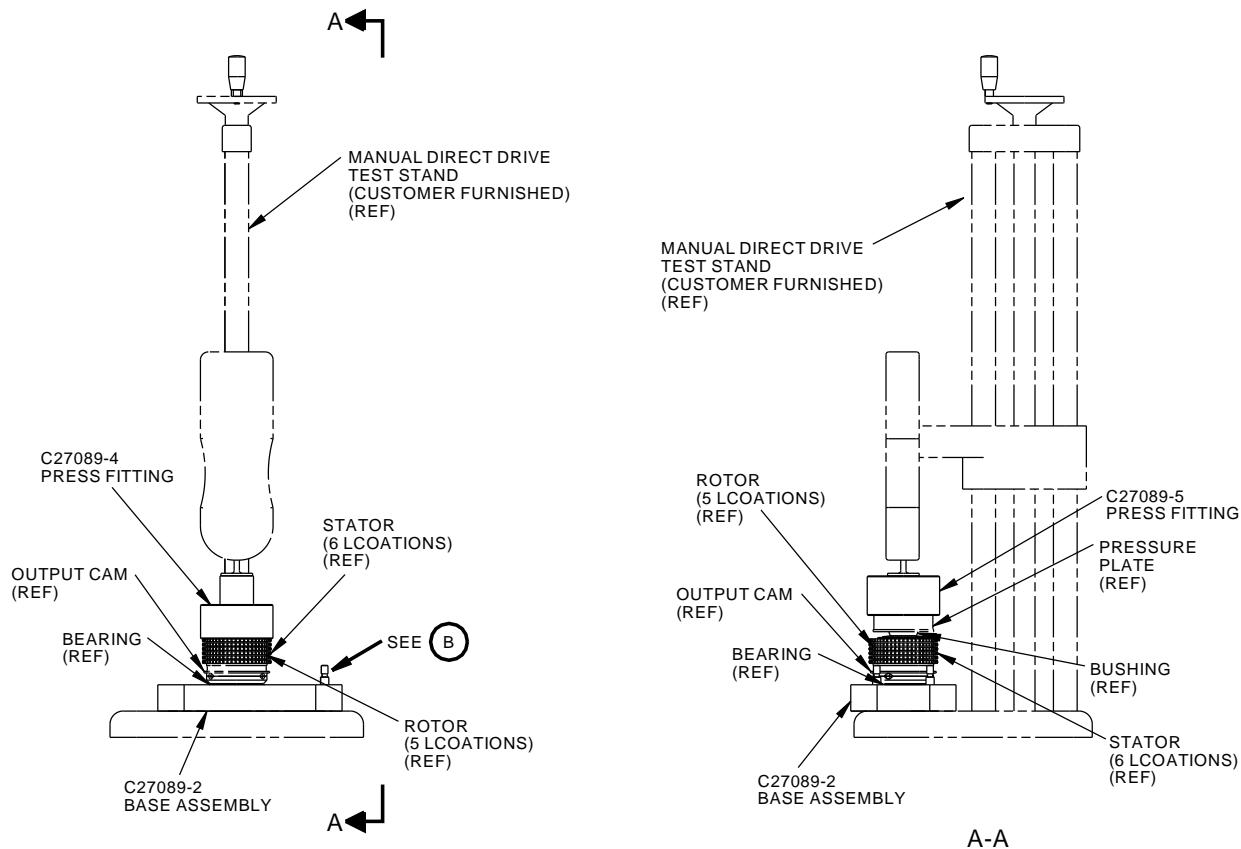
**Trailing Edge Flap Torque Brake Assembly Axial Load Equipment**  
**Figure 1 (Sheet 1 of 2)**

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**(B)**

2200509 S0000489756\_V1

**Trailing Edge Flap Torque Brake Assembly Axial Load Equipment**  
**Figure 1 (Sheet 2 of 2)**

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**PART NUMBER: C27088-1**

**NAME:** TEST FIXTURE - HYPOID GEAR BACKLASH

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-55-67, CMM 27-55-68, CMM 27-55-70, CMM 27-55-80

**USAGE & DESCRIPTION:** The C27088-1 test fixture is used during component maintenance on 737-600 thru -900 airplanes.

C27088 is used to apply loads and measure backlash in the hypoid gear on the flap transmission during overhaul.

Refer to CMM 27-55-67, CMM 27-55-68, CMM 27-55-70, CMM 27-55-80 and the current C27088 drawing for complete usage instructions.

C27088-1 consists of:

C27088-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	BASE ASSEMBLY	C27088-2
1	LOAD ASSEMBLY	C27088-3
1	INDICATOR ASSEMBLY	C27088-4
1	TORQUE LOAD ASSEMBLY	C27088-5
1	CAP	C27088-6
1	CLAMP PLATE	C27088-7
4	HEX FLANGE NUT	C27088-8
2	RETAINER BOLT	C27088-9
2	RETAINER NUT	C27088-10
1	GEAR ADAPTER	C27088-11
1	SMALL EXPANDING BUSHING	C27088-44
1	LARGE EXPANDING BUSHING	C27088-45
1	EXPANDING PIN	C27088-46
1	BOLT	C27088-47
1	STORAGE BOX	

**WEIGHT:** 43 lbs (20 kg)

**DIMENSIONS:** 12 x 12 x 24 inches (305 x 305 x 610 mm)

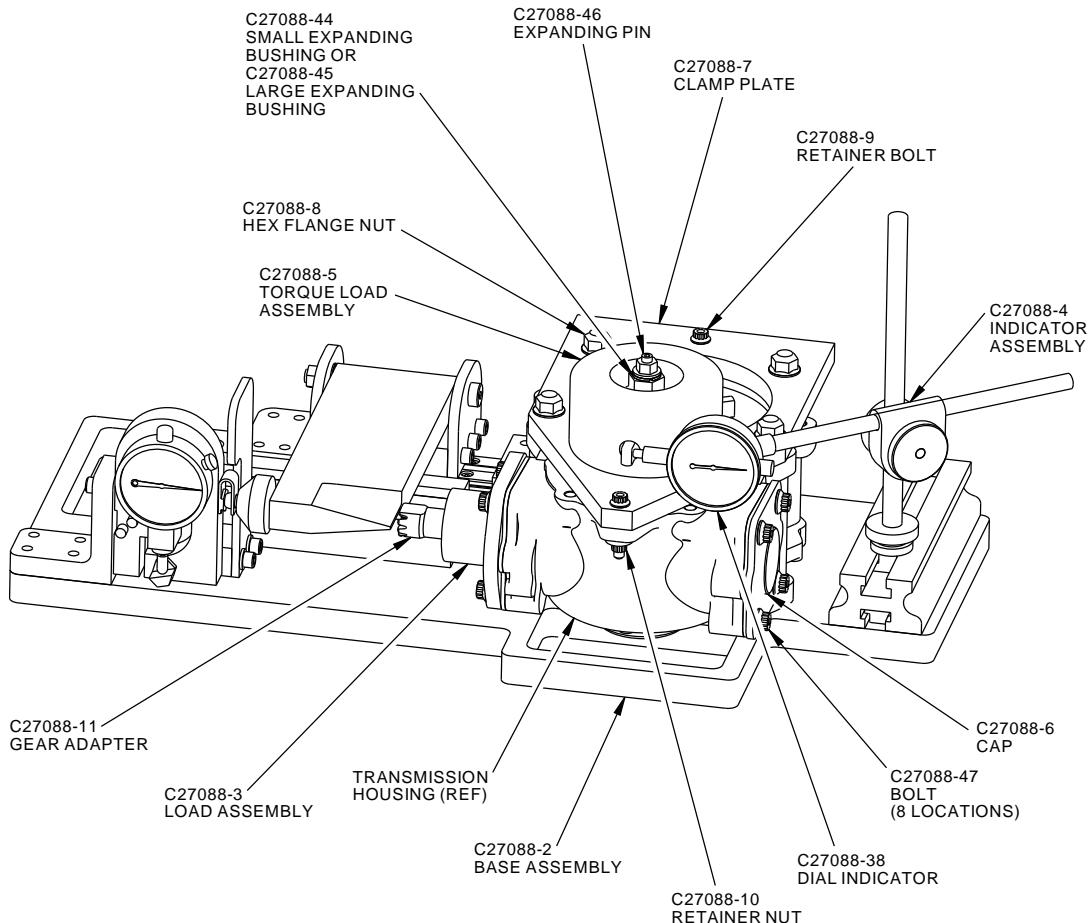
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2296895 S0000520742\_V1

**Hypoid Gear Backlash Test Fixture**  
**Figure 1**

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**PART NUMBER: C57004-1**

**NAME:** REMOVAL EQUIPMENT - SECONDARY TORQUE TUBE, INBOARD  
MAIN FLAP ASSEMBLY

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 57-50-44

**USAGE & DESCRIPTION:** The C57004-1 removal equipment is used during component maintenance on 737-600 thru -900 airplanes.

C57004 is used to remove the secondary torque tube from the inboard main flap assembly.

Refer to CMM 57-50-44 and the current C57004 drawing for complete usage instructions.

C57004-1 consists of:

C57004-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	REMOVAL ASSEMBLY	C57004-2
1	PULL ASSEMBLY	C57004-3
1	STORAGE BOX	

**WEIGHT:** 12 lbs (5.4 kg)

**DIMENSIONS:** 5 x 5 x 33 inches (127 x 127 x 838 mm)

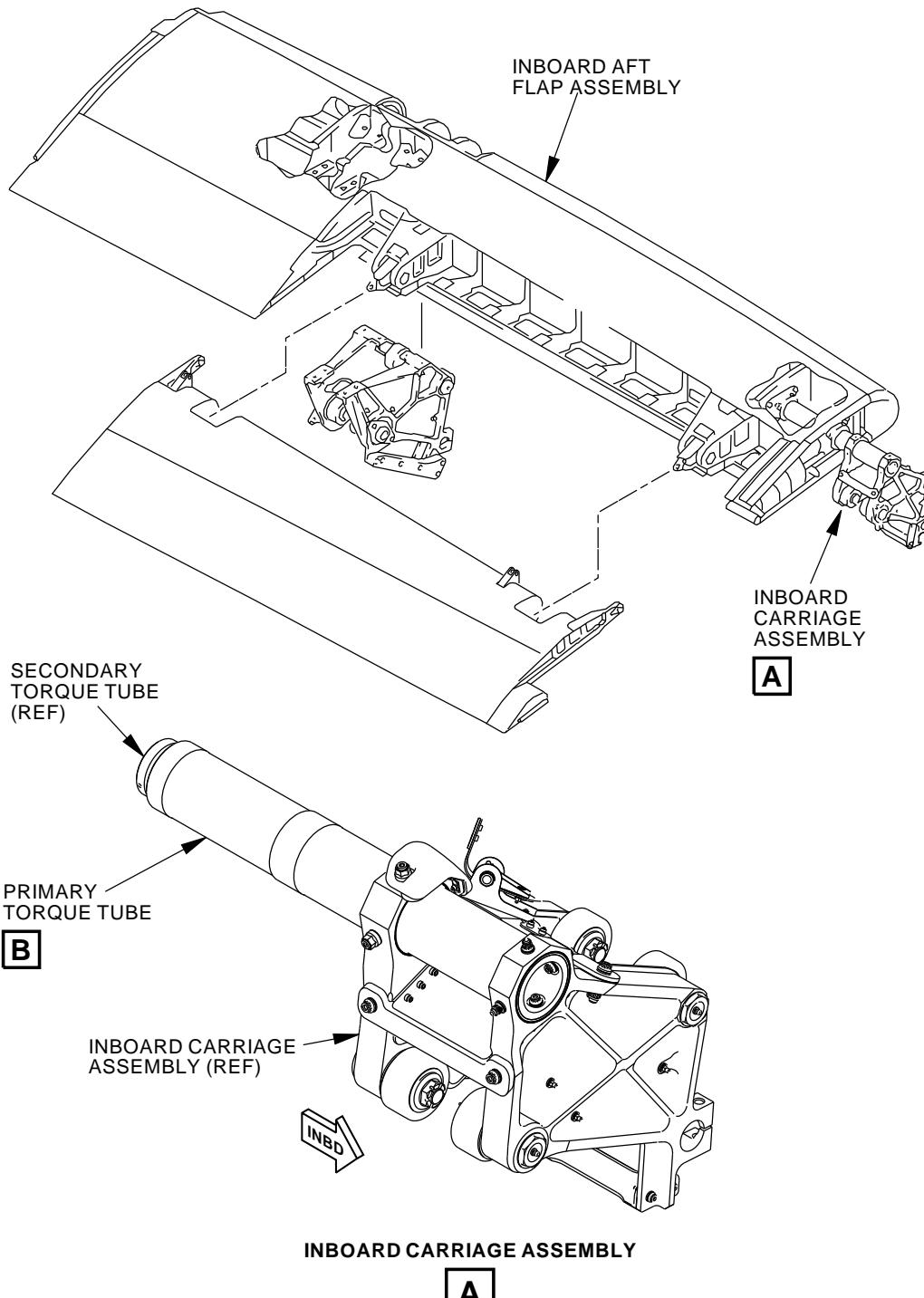
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2428317 S0000561648\_V1

**Inboard Main Flap Assembly Secondary Torque Tube Removal Equipment**  
**Figure 1 (Sheet 1 of 3)**

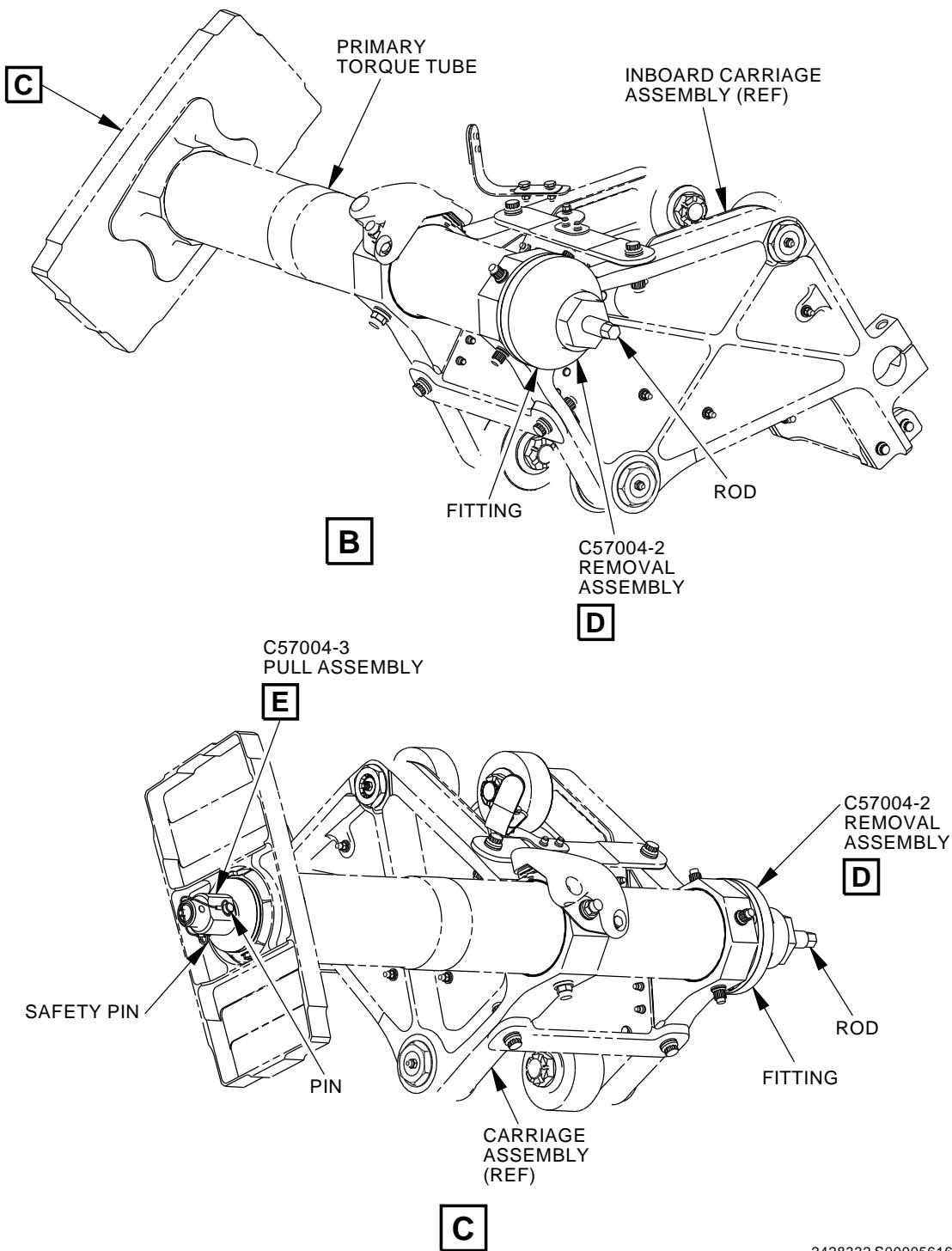
**27-50-41**

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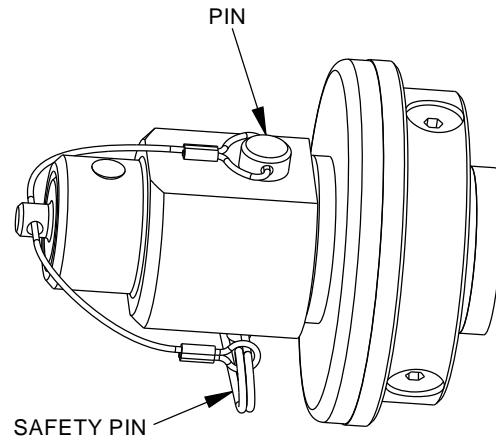
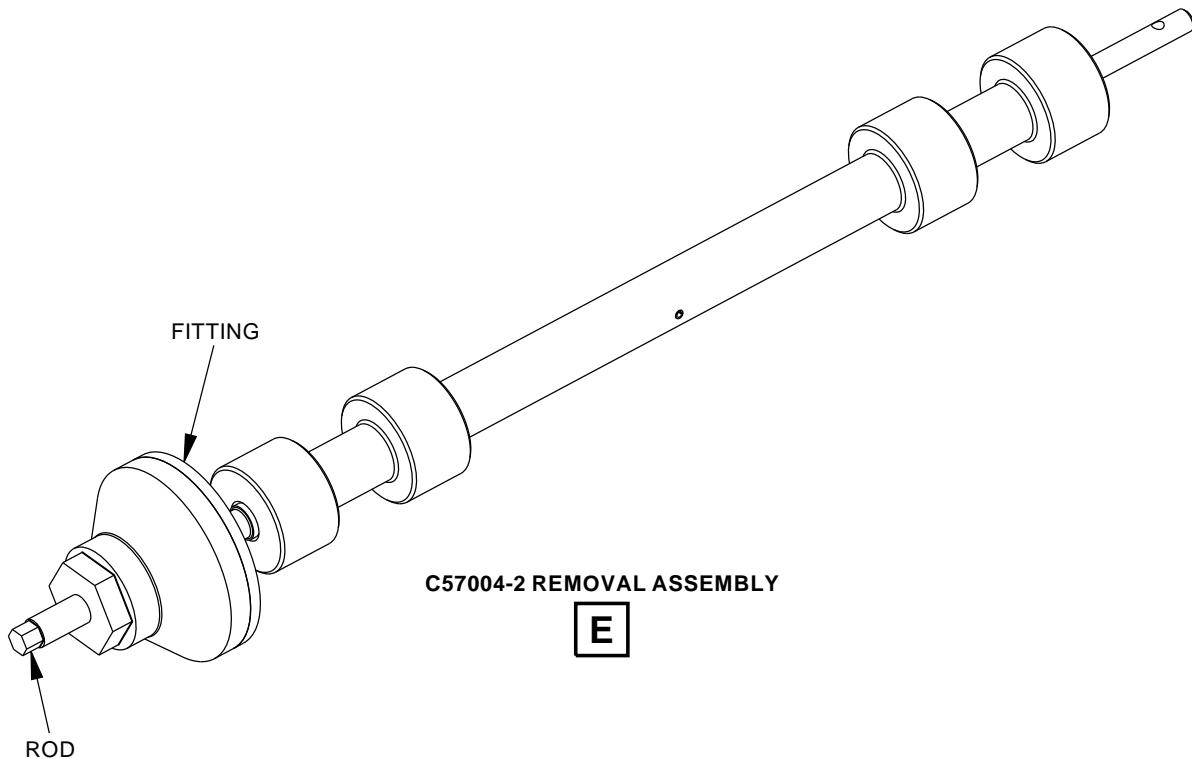
**Inboard Main Flap Assembly Secondary Torque Tube Removal Equipment**  
**Figure 1 (Sheet 2 of 3)**

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**Inboard Main Flap Assembly Secondary Torque Tube Removal Equipment**  
**Figure 1 (Sheet 3 of 3)**

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**PART NUMBER: C27001-16, -41, -42, -51**

**NAME:** GROUND LOCK SET - OUTBOARD SPOILER ACTUATORS (CE)

**AIRPLANE MAINTENANCE:** YES

AMM 12-22-61, AMM 57-50-01, AMM 27-62-15, AMM 27-62-91

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27001-16 (non-CE qualified) ground lock set is used on all 737-100 and -200 airplanes.

The C27001-41 (non-CE qualified) ground lock set is used on all 737-300 thru -500 airplanes.

The C27001-42 (option to C27001-51, CE qualified) ground lock set is used on all 737-600 thru -900 airplanes.

The C27001-51 (preferred over C27001-42, CE qualified) ground lock set is used on all 737 airplanes except 737-100 thru -500 airplanes.

C27001-16 is used to lock the number 1 and 8 outboard ground spoilers in the 40 degree fully extended position. C27001-16 is used in conjunction with a customer-furnished F80017 or C27047 for spoilers 2, 3, 6 and 7 and a customer-furnished F80040 for spoilers 4 and 5 with double actuators.

C27001-41 is used to lock the number 0, 1, 8 and 9 outboard ground spoilers in the 60 degree fully extended position. C27001-42 is used in conjunction with a customer-furnished F80017 for spoilers 2, 3, 6 and 7 and a customer-furnished F80040 for spoilers 4 and 5 with double actuators.

C27001-42 is used to lock the number 1 and 12 outboard ground spoilers in the 60 degree fully extended position. C27001-42 is used in conjunction with a customer-furnished C27047 lock set to lock flight spoilers 2 thru 5 and 8 thru 11. A customer-furnished C27046 lock set is required to lock the number 6 and 7 inboard ground spoilers.

C27001-51 is used to lock the number 1 and 12 outboard ground spoilers in the 60 degree fully extended position. C27001-51 is used in conjunction with a customer-furnished C27047 lock set to lock flight spoilers 2 thru 5 and 8 thru 11. A customer-furnished C27046 lock set is required to lock the number 6 and 7 inboard ground spoilers.

Each C27001 spoiler lock consists of a slotted screw and nut assembly. The assembly is slipped over the extended actuator and the nut is then rotated to lock the unit in place on the actuator.

Refer to AMM 12-22-61, AMM 57-50-01, AMM 27-62-15, AMM 27-62-91 and the current C27001 drawing for complete usage instructions.

C27001-16, -41, -42 and -51 ground lock set consist of:

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C27001-16		
QUANTITY	NOMENCLATURE	PART NUMBER
2	LOCK ASSEMBLY	C27001-17
1	STORAGE BOX	C27001-21

C27001-41		
QUANTITY	NOMENCLATURE	PART NUMBER
4	LOCK ASSEMBLY	C27001-43
1	STORAGE BOX	C27001-38

C27001-42		
QUANTITY	NOMENCLATURE	PART NUMBER
2	LOCK ASSEMBLY	C27001-43
1	STORAGE BOX	C27001-39

C27001-51		
QUANTITY	NOMENCLATURE	PART NUMBER
2	LOCK ASSEMBLY	C27001-43
1	STORAGE BOX	C27001-52

**WEIGHT:** 2 lbs (1 kg)

**DIMENSIONS:** 6 x 6 x 6 inches (152 x 152 x 152 mm)

**NOTE:** C27001-41 supersedes C27001-33 and -34.

C27001-42 supersedes C27001-35.

C27001-51 replaces C27001-42 for future procurement.

**DECLARATION OF CONFORMITY:** C27001-42 or C27001-51 require a written Declaration of Conformity from the C27001-42 or C27001-51 fabricator if it is to be used in the European Union. The design of C27001-42 or C27001-51 meet the European requirements of Machinery Directive 2006/42/EC including its amendments. When used within the European Union, the fabricator of C27001-42 or C27001-51 must also meet the requirements of that directive. At a minimum for the tool fabricator, this requires the retention of a technical file, a labeling of the equipment with the CE mark, and the completion of an EC Declaration of Conformity. If C27001-42 or C27001-51 is to be used within the European Union and the Declaration of Conformity is missing, contact the fabricator of C27001-42 or C27001-51 for a replacement Declaration of Conformity.

**OPERATING INSTRUCTIONS:** Refer to the current C27001 drawing and AMM 12-22-61, AMM 57-50-01, AMM 27-62-15, AMM 27-62-91 maintenance procedures for detailed instructions on the use of this equipment. This equipment shall only be used in conjunction with Boeing maintenance procedures to maintain Boeing airplanes.

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**MAINTENANCE:** General Cleaning: Basic care of the equipment includes cleaning the equipment of dirt, corrosives, or contaminants. Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and commercial soap or detergent, clean the components and wipe dry with a clean cloth. Hang the components freely to dry, but away from excessive heat or steam.

**INSPECTION:** FREQUENT

General Inspection (before use):

1. Missing fasteners
2. Notes, Cautions and Warnings are legible
3. Usage placards are legible

**STORAGE:** C27001-42 or C27001-51 shall be stored clean, dry, and free of exposure to fumes or corrosive elements, indoors and in the furnished storage box.

**DECOMMISSIONING:** Part and assemblies of this equipment shall be permanently altered to prevent their unauthorized reuse. Recycling is the preferred manner of disposal for those materials where that option is available.

**27-60-01**

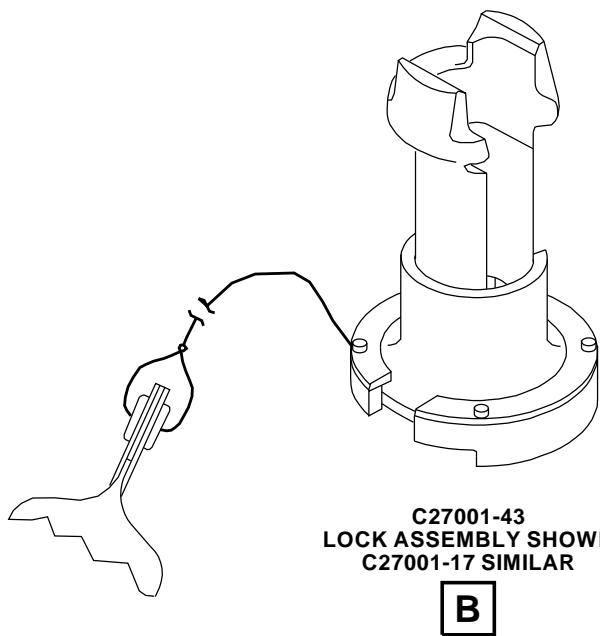
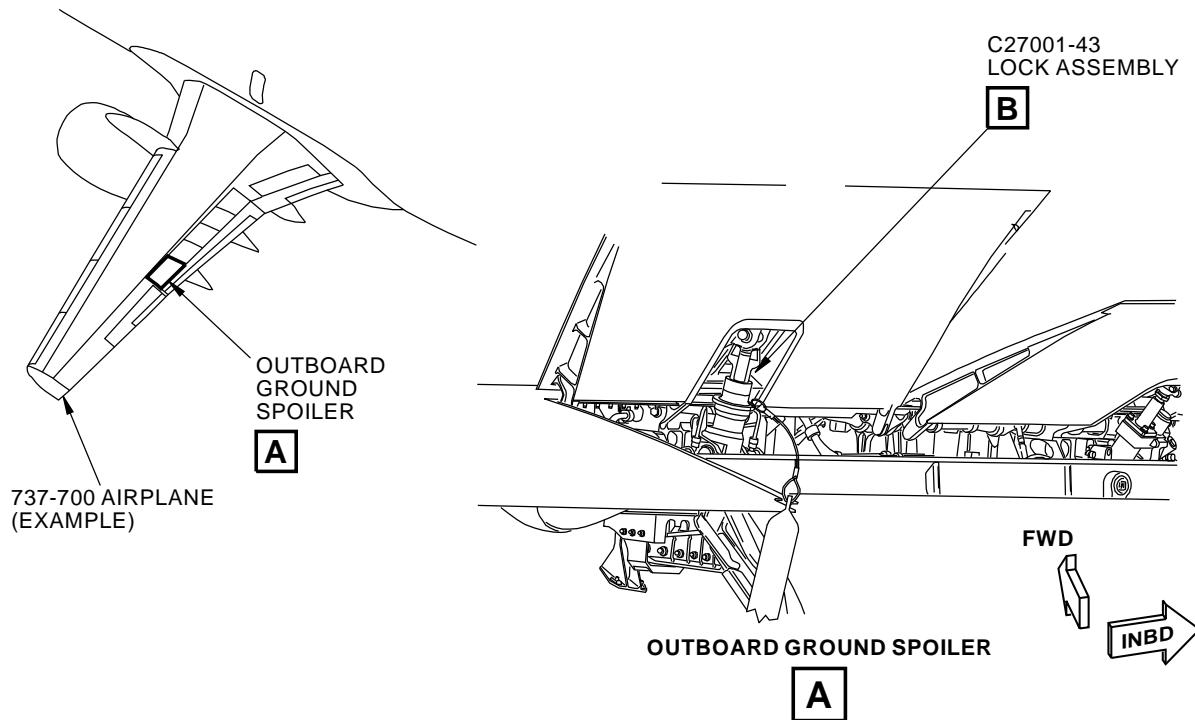
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C27001-43  
LOCK ASSEMBLY SHOWN  
C27001-17 SIMILAR

**B**

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Outboard Ground Spoiler Actuator Lock Set  
Figure 1

**27-60-01**

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**PART NUMBER: C27046-1, -13**

**NAME:** LOCK SET - INBOARD GROUND SPOILER ACTUATOR (CE)

**AIRPLANE MAINTENANCE:** YES

AMM 05-00-00, AMM 27-62-12, AMM 27-62-15, AMM 32-11-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27046-1 (option, non-CE qualified) or C27046-13 (preferred, CE qualified) lock set is used on all 737 airplanes except 737-100 thru -500 airplanes.

C27046 is used to hold the number 6 and 7 inboard ground spoilers in the deployed position during ground maintenance. One lock assembly is used on each of the four extended actuators. C27046 is installed in a clamshell fashion over each actuator rod. The two clamshell halves are held together via a hinge pin and a locking pin. A customer-furnished C27001 lock set is used to lock the number 1 and 12 outboard ground spoilers. A customer-furnished C27047 lock set is required to lock flight spoilers 2 thru 5 and 8 thru 11.

Refer to AMM 05-00-00, AMM 27-62-12, AMM 27-62-15, AMM 32-11-00 and the current C27046 drawing for complete usage instructions.

C27046-1 and -13 consist of:

C27046-1		
QUANTITY	NOMENCLATURE	PART NUMBER
4	LOCK ASSEMBLY	C27046-2
1	STORAGE BOX	

C27046-13		
QUANTITY	NOMENCLATURE	PART NUMBER
4	LOCK ASSEMBLY	C27046-14
1	STORAGE BOX	

**WEIGHT:** 11 lbs (5 kg)

**DIMENSIONS:** 4 x 4 x 10 inches (102 x 102 x 254 mm)

**NOTE:** C27046-13 supersedes C27046-21.

C27046-13 replaces C27046-1 for future procurement.

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**DECLARATION OF CONFORMITY:** C27046-13 requires a written Declaration of Conformity from the C27046-13 fabricator if it is to be used in the European Union. The design of C27046-13 meets the European requirements of Machinery Directive 2006/42/EC including its amendments. When used within the European Union, the fabricator of C27046-13 must also meet the requirements of that directive. At a minimum for the tool fabricator, this requires the retention of a technical file, a labeling of the equipment with the CE mark, and the completion of an EC Declaration of Conformity. If C27046-13 is to be used within the European Union and the Declaration of Conformity is missing, contact the fabricator of C27046-13 for a replacement Declaration of Conformity.

**OPERATING INSTRUCTIONS:** Refer to the current C27046-13 and AMM 05-00-00, AMM 27-62-12, AMM 27-62-15, AMM 32-11-00 procedures for detailed instructions on the use of this equipment. This equipment shall only be used in conjunction with Boeing maintenance procedures to maintain Boeing airplanes.

**MAINTENANCE:** General Cleaning: Basic care of the equipment includes cleaning the equipment of dirt, corrosives, or contaminants. Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and commercial soap or detergent, clean the components and wipe dry with a clean cloth. Hang the components freely to dry, but away from excessive heat or steam.

**INSPECTION:** FREQUENT

General Inspection (before use):

1. Missing fasteners
2. Notes, Cautions and Warnings are legible
3. Usage placards are legible

PERIODIC

Welding Inspection:

1. Magnetic particle or dye penetrant inspection for all welds, after all proof load tests.
2. Inspect and evaluate per GSE Welding Document A00001 Inspection Requirements Tables 1 & 2, and Acceptance Criteria Table 3.
3. Reject cracked or deformed parts.

**STORAGE:** C27035-13 shall be stored clean, dry, and free of exposure to fumes or corrosive elements, indoors and in the furnished storage box.

**DECOMMISSIONING:** Part and assemblies of this equipment shall be permanently altered to prevent their unauthorized reuse. Recycling is the preferred manner of disposal for those materials where that option is available.

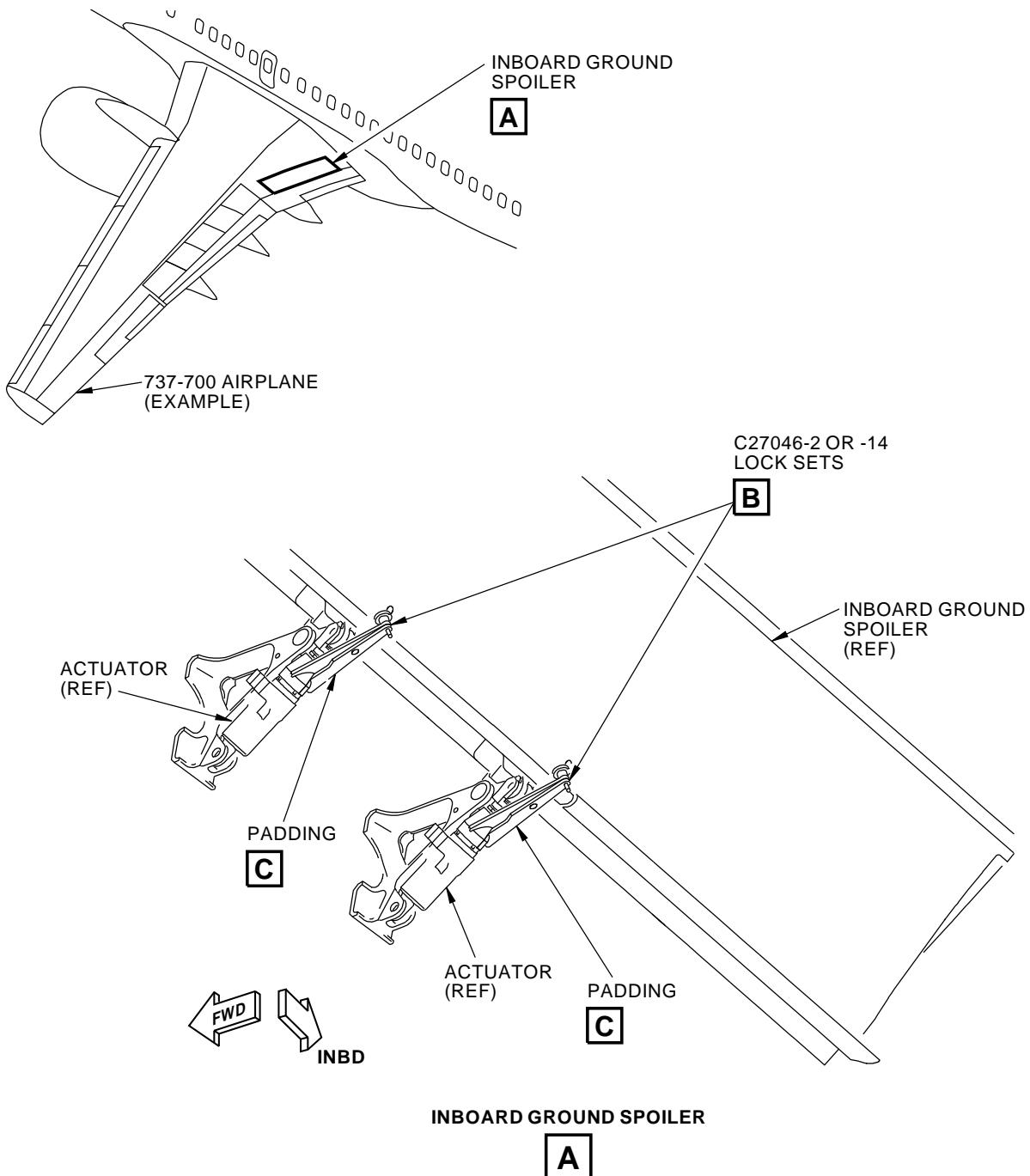
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G42475 S0006831666\_V4

**Inboard Ground Spoiler Actuator Lock Set**  
**Figure 1**

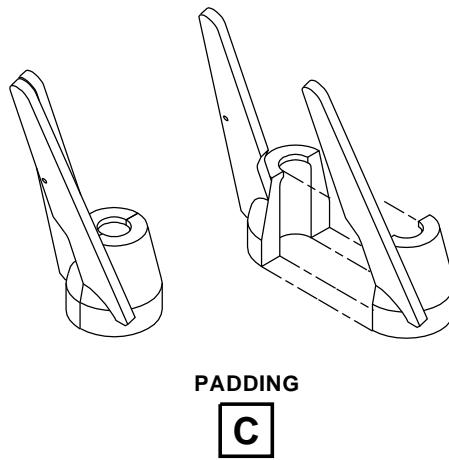
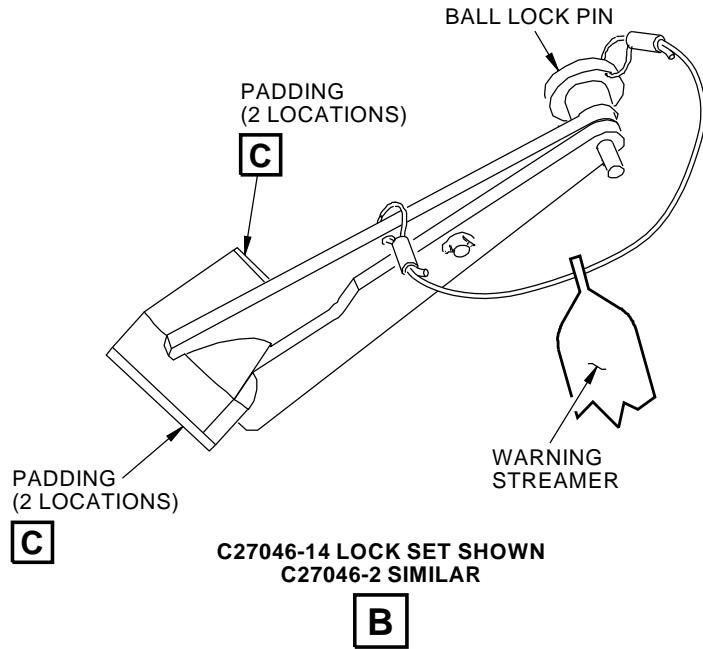
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M55468 S0006831667\_V4

**Lock Set Components**  
**Figure 2**

**27-60-02**

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**PART NUMBER: C27047-19, -20, -41, -42, -43**

**NAME: LOCK SET - FLIGHT SPOILER ACTUATOR**

**AIRPLANE MAINTENANCE: YES**

AMM 05-55-08, AMM 22-11-27, AMM 27-61-04, AMM 27-61-11, AMM 27-61-15, AMM 27-51-73

**COMPONENT MAINTENANCE: NO**

**USAGE & DESCRIPTION:** The C27047-43 flight spoiler actuator lock set is used on 737-600/-700/-800/-900 airplanes with the short field performance option (SFP).

The C27047-19 or -41 (preferred) flight spoiler actuator lock set are used on all other 737-600/-700/-800/-900 airplanes.

The C27047-20 or -42 (preferred) flight spoiler actuator lock set are used on all 737-100/-200/-300/-400/-500 airplanes.

C27047-19, -41 or -43 are used on 737-600/-700/-800/-900 airplanes to hold the number 2 thru 5 or 8 thru 11 flight spoilers in the deployed position during ground maintenance. One lock assembly is used on each of the eight extended actuators. The locks are installed in clamshell fashion over each actuator rod; the two clamshell halves are held together via a hinge pin and a locking pin. A customer-furnished C27001 ground lock set is required to lock the number 1 and 12 outboard ground spoilers. A customer-furnished C27046 lock set is required to lock the number 6 and 7 inboard ground spoilers.

C27047-20 or -42 are used on 737-100/-200/-300/-400/-500 with a rounded flight spoiler clevis. The C27047 lock set locks the number 2, 3, 6 and 7 flight spoilers in the deployed position during ground maintenance. A customer-furnished C27001 lock set is required to lock the number 0, 1, 8 and 9 outboard ground spoilers. A customer-furnished F80040 lock set is required to lock the number 4 and 5 inboard ground spoilers. C27047 is a two-piece, clam-shell type lock that is designed to withstand full hydraulic system pressure.

Refer to the current C27047 drawing, AMM 05-55-08, AMM 22-11-27, AMM 27-61-04, AMM 27-61-11, AMM 27-61-15 and AMM 27-51-73 for complete usage instructions.

The C27047-19, -20, -41, -42 and -43 lock sets consist of:

C27047-19		
QUANTITY	NOMENCLATURE	PART NUMBER
8	SHORT LOCK ASSEMBLY	C27047-22
1	STORAGE BOX	

C27047-41		
QUANTITY	NOMENCLATURE	PART NUMBER
8	SHORT LOCK ASSEMBLY	C27047-44

**27-60-03**

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(Continued)

C27047-41		
QUANTITY	NOMENCLATURE	PART NUMBER
1	STORAGE BOX	

C27047-43		
QUANTITY	NOMENCLATURE	PART NUMBER
4	SHORT LOCK ASSEMBLY	C27047-44
4	LONG LOCK ASSEMBLY	C27047-45
1	STORAGE BOX	

C27047-20		
QUANTITY	NOMENCLATURE	PART NUMBER
4	SHORT LOCK ASSEMBLY	C27047-22
1	STORAGE BOX	

C27047-42		
QUANTITY	NOMENCLATURE	PART NUMBER
4	SHORT LOCK ASSEMBLY	C27047-44
1	STORAGE BOX	

**WEIGHT:** C27047-19 or -41 - 30 lbs (14 kg)  
C27047-43 - 43 lbs (20 kg)  
C27047-20 or -42 - 15 lbs (7 kg)

**DIMENSIONS:** C27047-19 or -41 - 5 x 10 x 20 inches (127 x 254 x 508 mm)  
C27047-43 - 5 x 10 x 24 inches (127 x 254 x 610 mm)  
C27047-20 or -42 - 5 x 10 x 12 inches (127 x 254 x 305 mm)

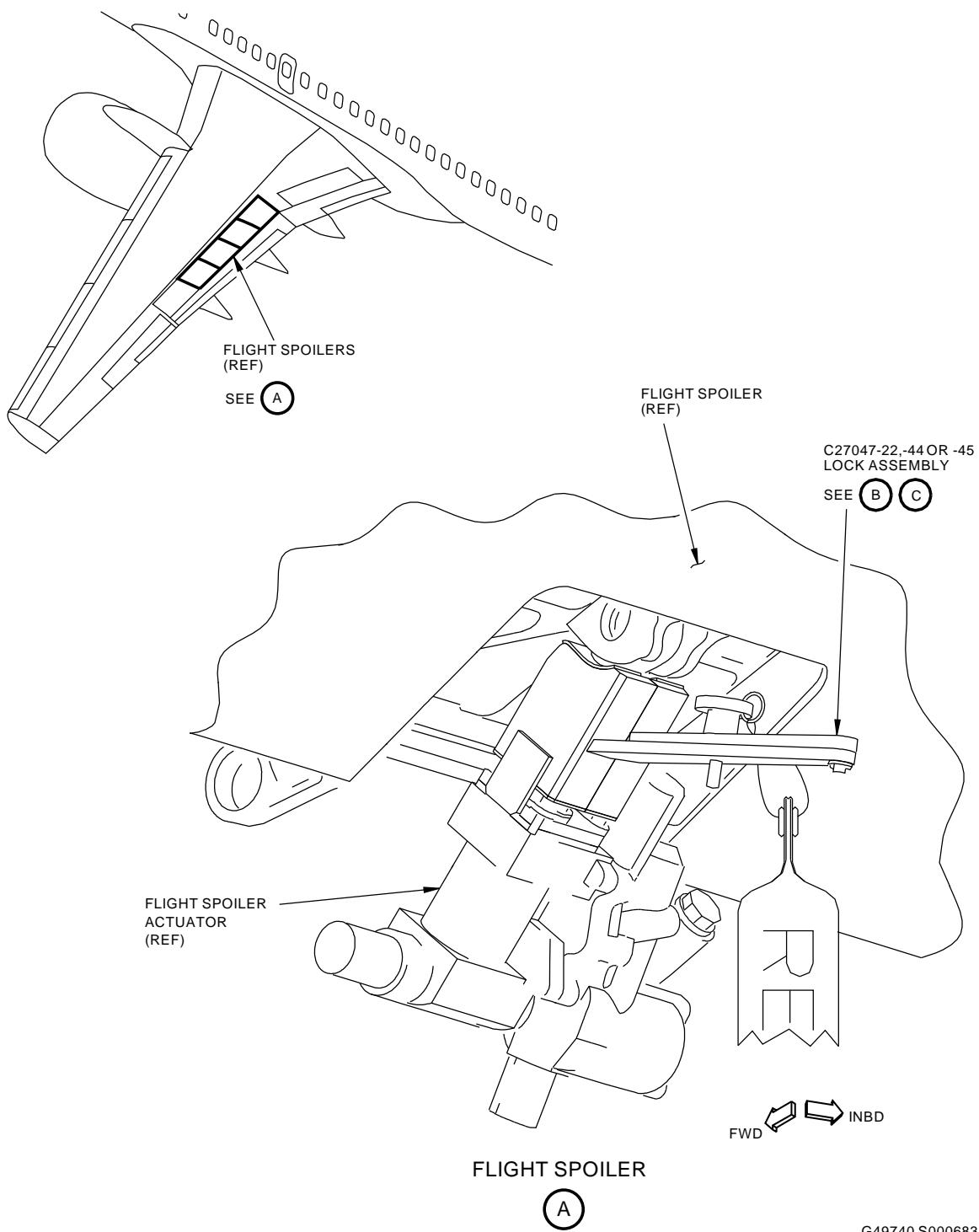
**NOTE:** C27047-43 supersedes C27047-21  
C27047-19 supersedes C27047-1.  
C27047-41 and -42 replace C27047-19 and -20 respectively for future procurement.

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G49740 S0006831669\_V4

**Flight Spoiler Actuator Lock Set**  
**Figure 1**

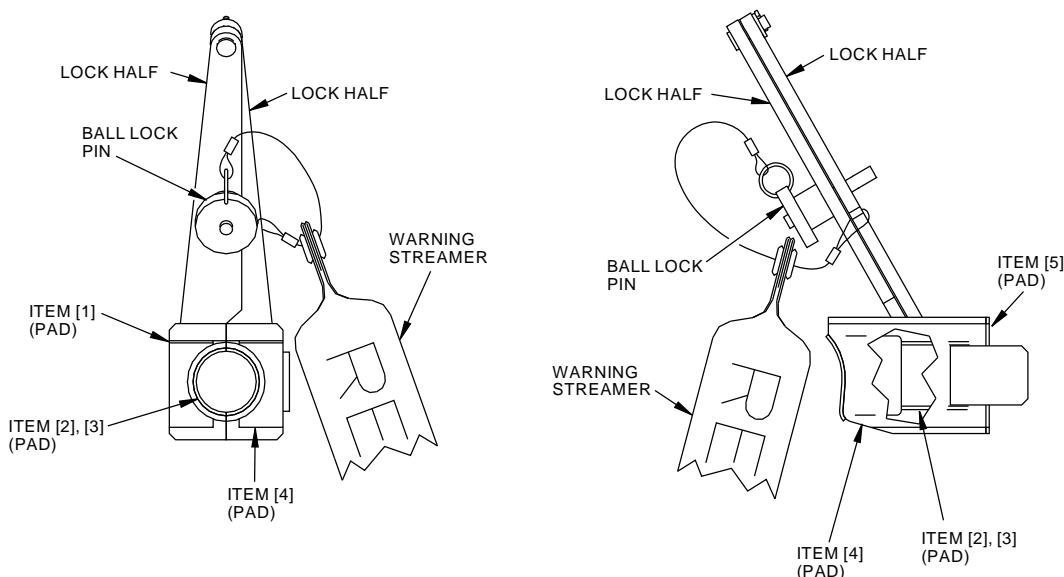
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C27047-44 SHORT LOCK ASSEMBLY SHOWN  
C27047-45 SIMILAR

(B)

G49841 S0006831670\_V4

Flight Spoiler Actuator Lock Set Components  
Figure 2 (Sheet 1 of 2)

**27-60-03**

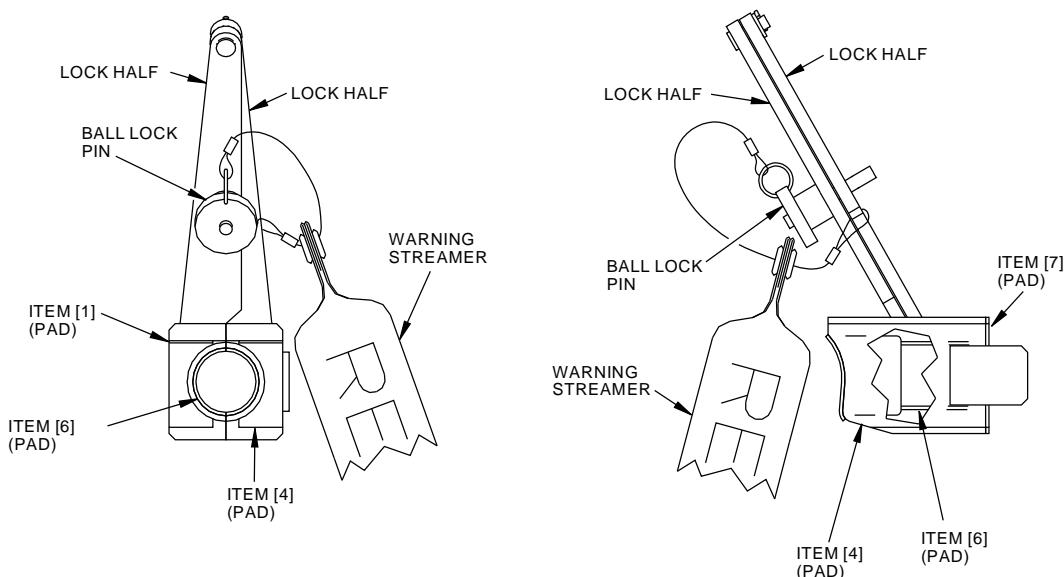
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C27047-22  
SHORT LOCK ASSEMBLY

(C)

1559370 S0000287932\_V2

Flight Spoiler Actuator Lock Set Components  
Figure 2 (Sheet 2 of 2)

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[1]	C27047-32	PAD	---
[2]	C27047-53	PAD	---
[3]	C27047-55	PAD	---
[4]	C27047-33	PAD	---
[5]	C27047-54	PAD	---
[6]	C27047-6	PAD	---
[7]	C27047-9	PAD	---

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**PART NUMBER: F80106-1, -2**

**NAME:** WRENCH - LUG SPANNER

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-62-71, CMM 27-60-32, CMM 27-60-33

**USAGE & DESCRIPTION:** The F80106-2 lug spanner wrench is used during component maintenance on 737-100 thru -900 airplanes.

The F80106-1 lug spanner wrench is used during component maintenance on 737-100 thru -500 airplanes.

F80106-1 is used on the 65-44851 ground spoiler actuator.

F80106-2 is used on the 65-44961 and 65C26864 ground spoiler actuators. The ground spoiler actuator nut 69-55410 or 69-35962 are torqued to 1000 to 1200 inch-pounds. F80106 uses a 1/2 inch square drive and has two lugs 180 degrees apart.

Refer to the current F80106 drawing, CMM 27-62-71, CMM 27-60-32 and CMM 27-60-33 for complete usage instructions.

**WEIGHT:** F80106-1 or -2 - 0.5 lbs (0.23 kg)

**DIMENSIONS:** F80106-1 or -2 - 0.5 x 1.9 x 1.9 inches (13 x 48 x 48 mm)

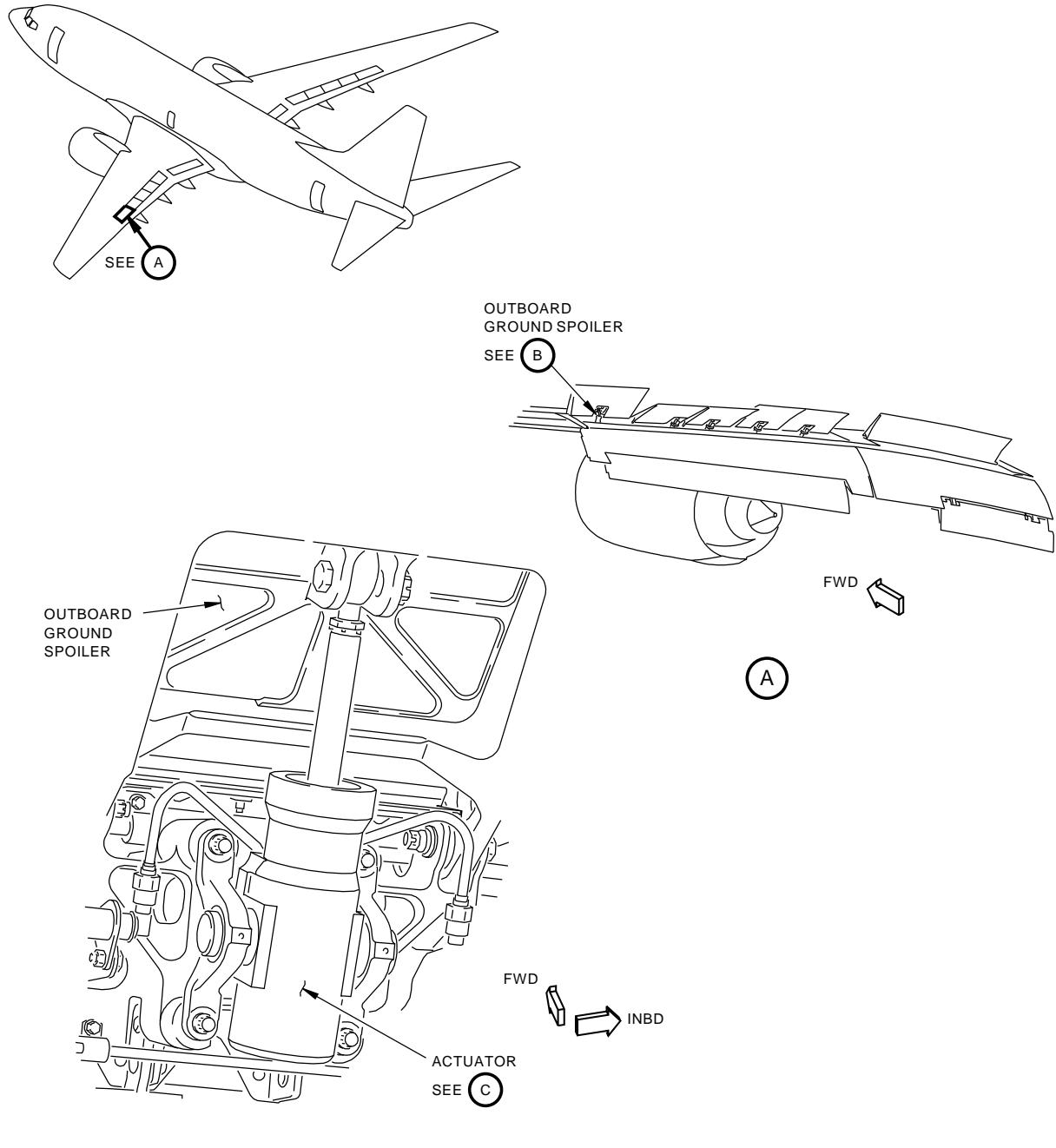
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H51947 S0006831672\_V1

**Outboard Ground Spoiler Actuator Location**  
**Figure 1**

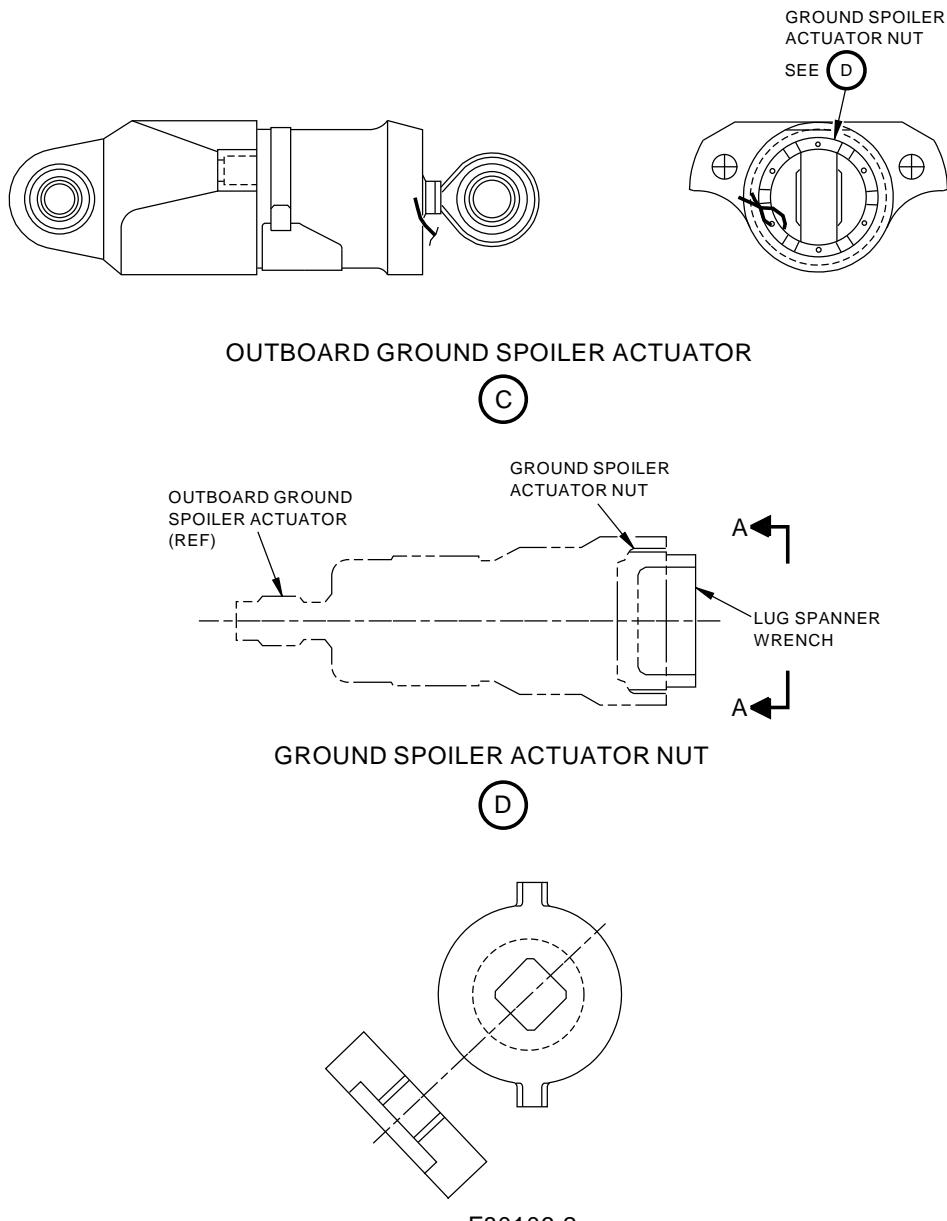
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**Details - Lug Spanner Wrench**  
**Figure 2**

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**PART NUMBER: F80224-60, -79**

**NAME:** TEST EQUIPMENT - FLIGHT SPOILER POWER CONTROL UNIT

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-60-41, CMM 27-60-42

**USAGE & DESCRIPTION:** The F80224-79 (preferred) flight spoiler power control unit test equipment is used during component maintenance on all 737-100 thru -900 airplanes.

The F80224-60 flight spoiler power control unit test equipment is used during component maintenance on all 737-100 thru -500 airplanes.

F80224 is used to conduct functional tests of positional accuracy and resolution, tension/flow curve tests and valves/leakage tests after overhaul of the spoiler power control unit.

Refer to the current F80224 drawing, CMM 27-60-41 and CMM 27-60-42 for complete usage information.

F80224-79 and -60 flight spoiler power control unit test equipment consists of:

F80224-79		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TEST FIXTURE ASSEMBLY	F80224-80
2	TEST PORT ASSEMBLY	F80224-75
1	INDICATOR ASSEMBLY	F80224-90
1	STORAGE BOX	

F80224-60		
QUANTITY	NOMENCLATURE	PART NUMBER
1	TEST FIXTURE ASSEMBLY	F80224-71
2	TEST PORT ASSEMBLY	F80224-75
1	STORAGE BOX	

**WEIGHT:** F80224-79 - 159 lbs (72 kg)  
F80224-60 - 156 lbs (71 kg)

**DIMENSIONS:** F80224-79 or -60 - 11 x 15 x 31 inches (279 x 381 x 787 mm)

**NOTE:** F80224-79 supersedes F80224-60 for 737-600/-700/-800/-900 airplanes.  
F80224-60 supersedes F80224-58.  
F80224-79 replaces F80224-60 for 737-100/-200/-300/-400/-500 airplanes  
for future procurement.

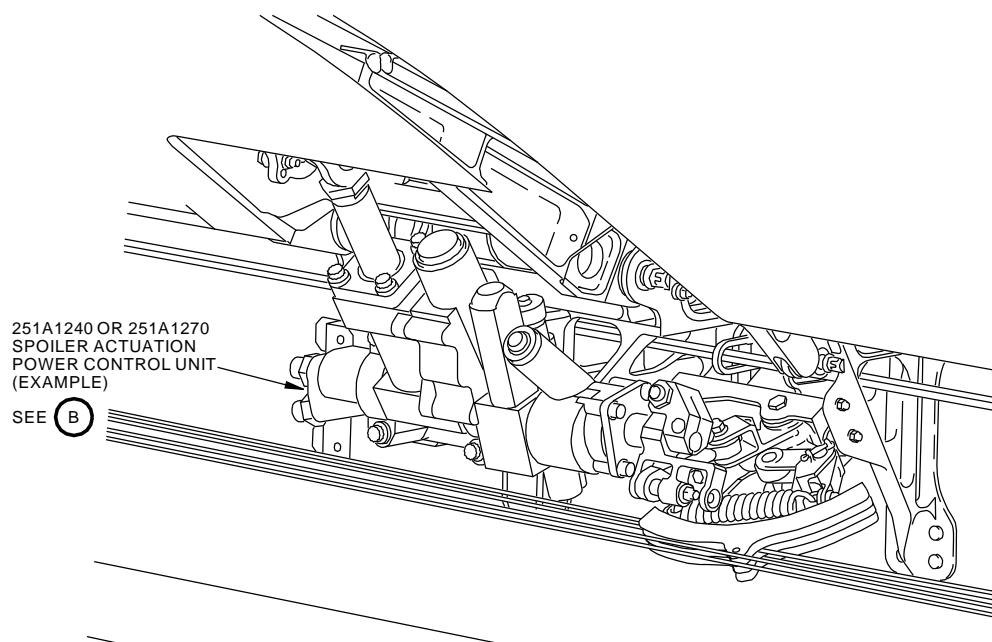
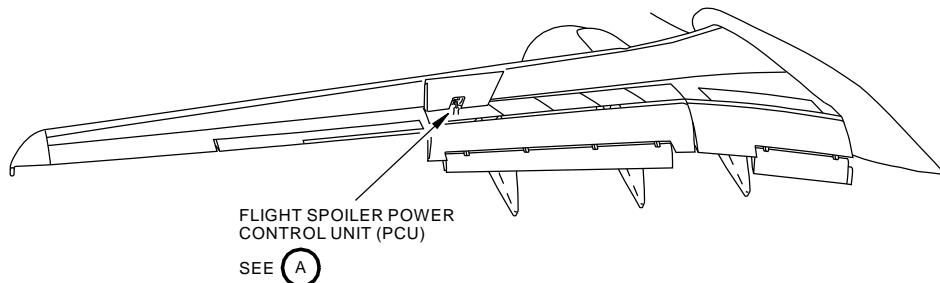
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FLIGHT SPOILER POWER CONTROL UNIT (PCU)

**A**

K12687 S0006831675\_V3

**Flight Spoiler Power Control Unit (PCU) Location**  
**Figure 1**

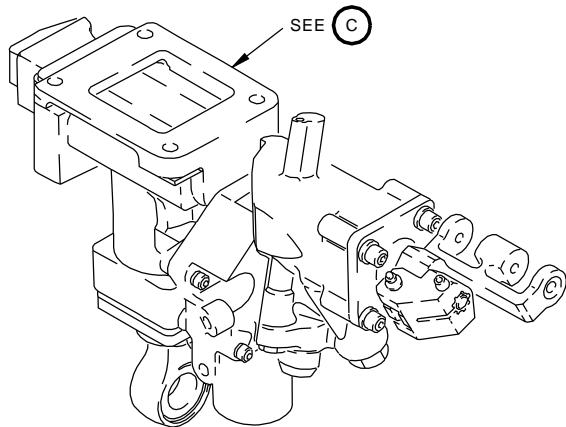
**27-60-05**

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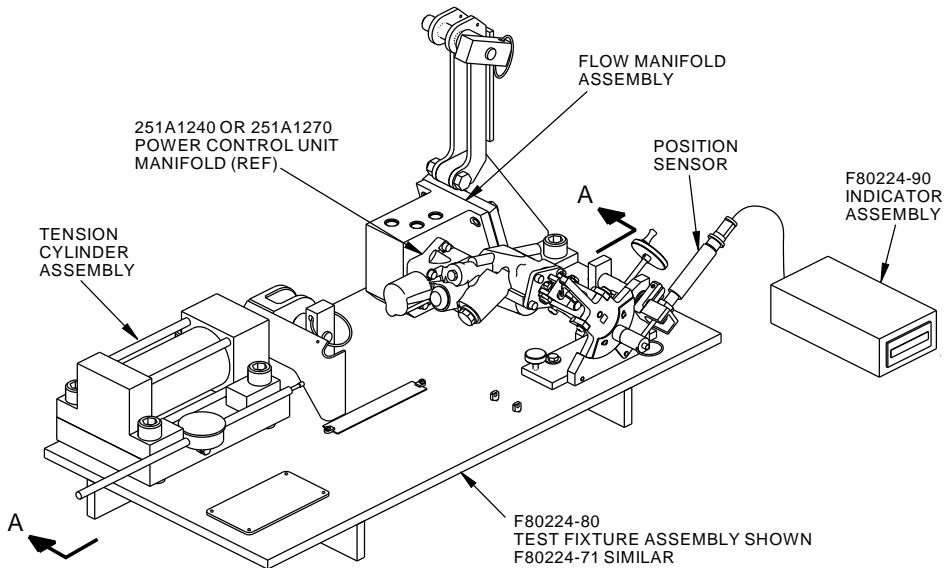
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**737-600/700/800/900**  
**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**



**251A1240 OR 251A1270**  
**SPOILER ACTUATOR POWER CONTROL UNIT**

(B)



**FLOW CURVE, VALVES AND LEAKAGE TEST**  
**(EXAMPLE)**

(C)

M57928 S0006831676\_V5

**Flight Spoiler PCU Test Equipment**  
**Figure 2 (Sheet 1 of 2)**

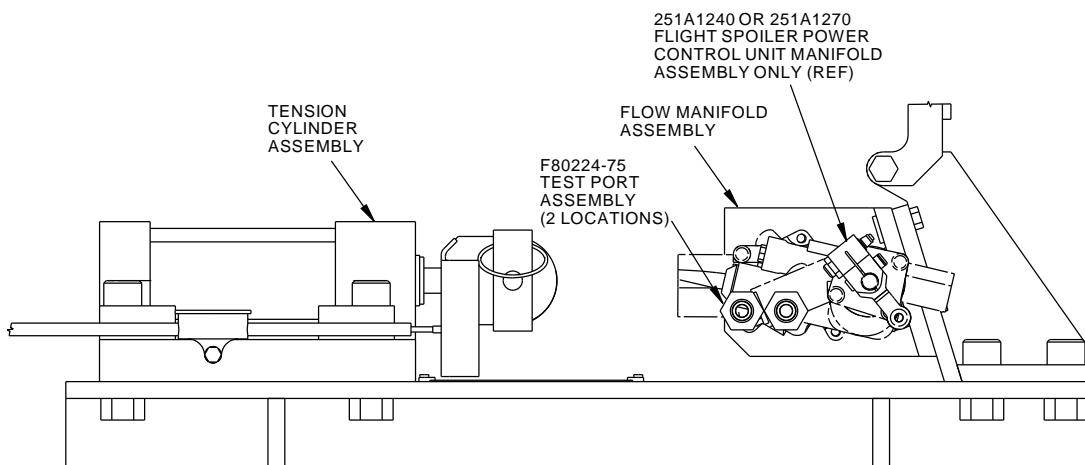
**27-60-05**

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FLOW CURVE, VALVES AND LEAKAGE TEST  
(EXAMPLE)

A-A

1570374 S0000291580\_V1

Flight Spoiler PCU Test Equipment  
Figure 2 (Sheet 2 of 2)

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**PART NUMBER: C27061-1**

**NAME:** ADAPTER - WRENCH, FLIGHT SPOILER ACTUATOR POWER CONTROL UNIT

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-62-42

**USAGE & DESCRIPTION:** The C27061-1 adapter is used during component maintenance on 737-600 thru -900 airplanes.

C27061-1 requires a customer furnished 3/8-inch drive wrench and is used in component maintenance to install or remove the valve assembly from the flight spoiler actuator power control unit.

Refer to CMM 27-62-42 and the current C27061 drawing for complete usage instructions.

C27061-1 consists of:

C27061-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ADAPTER WRENCH ASSEMBLY	C27061-2
1	STORAGE BOX	

**WEIGHT:** 2 lbs (0.9 kg)

**DIMENSIONS:** 1.5 x 1.5 x 1 inches (38 x 38 x 25 mm)

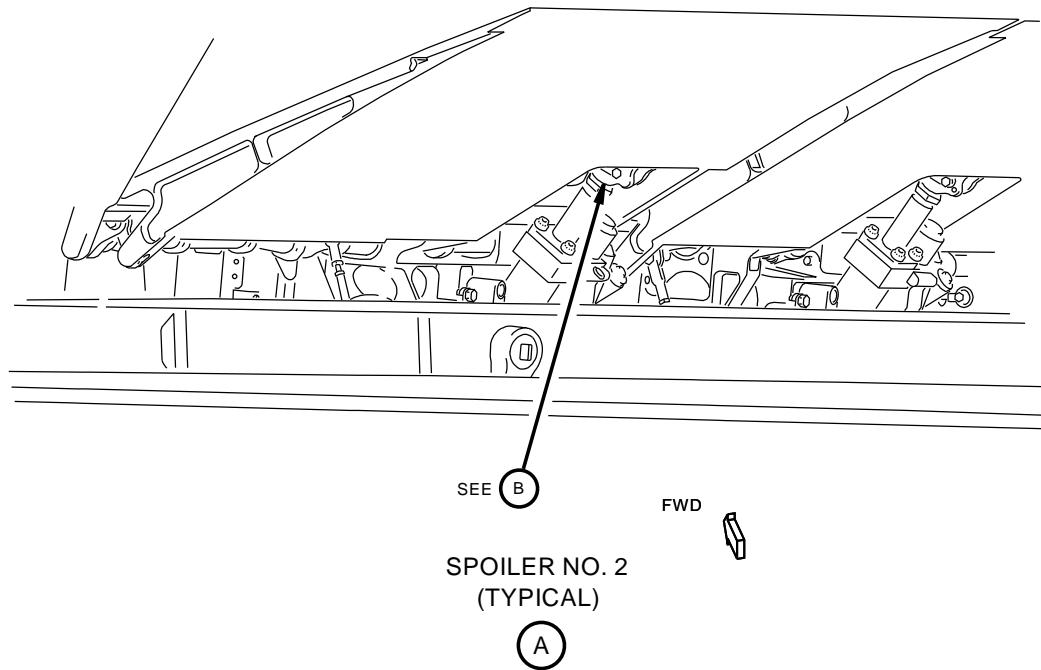
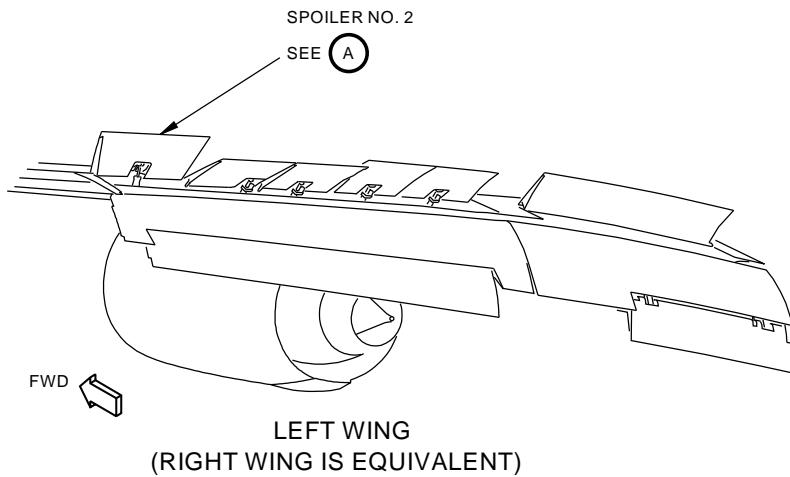
**27-60-06**

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H75556 S0006831678\_V2

**Flight Spoiler Power Control Unit Location**  
**Figure 1**

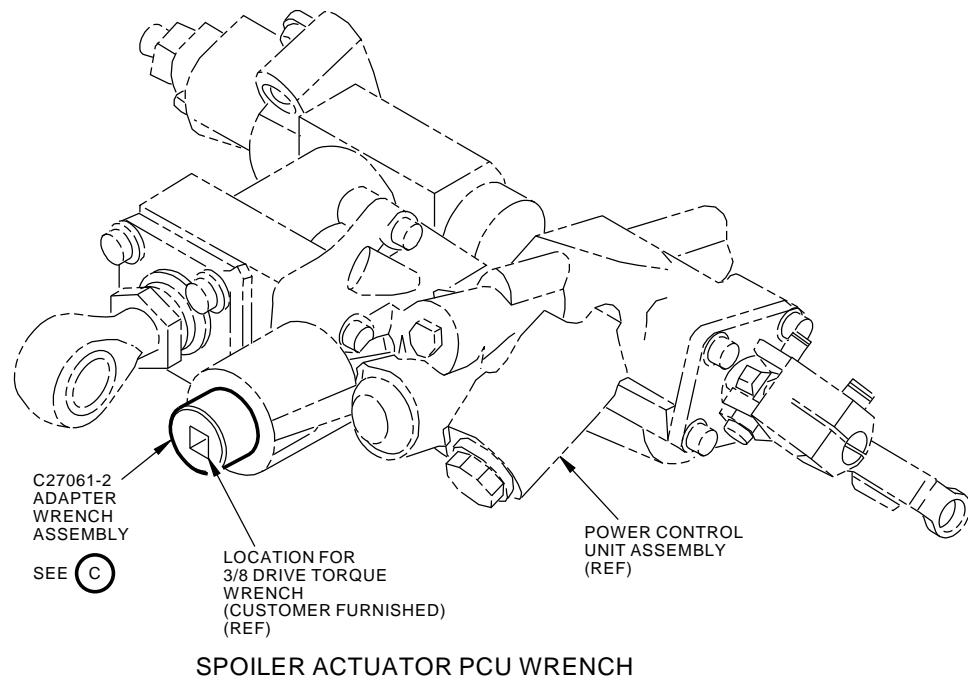
**27-60-06**

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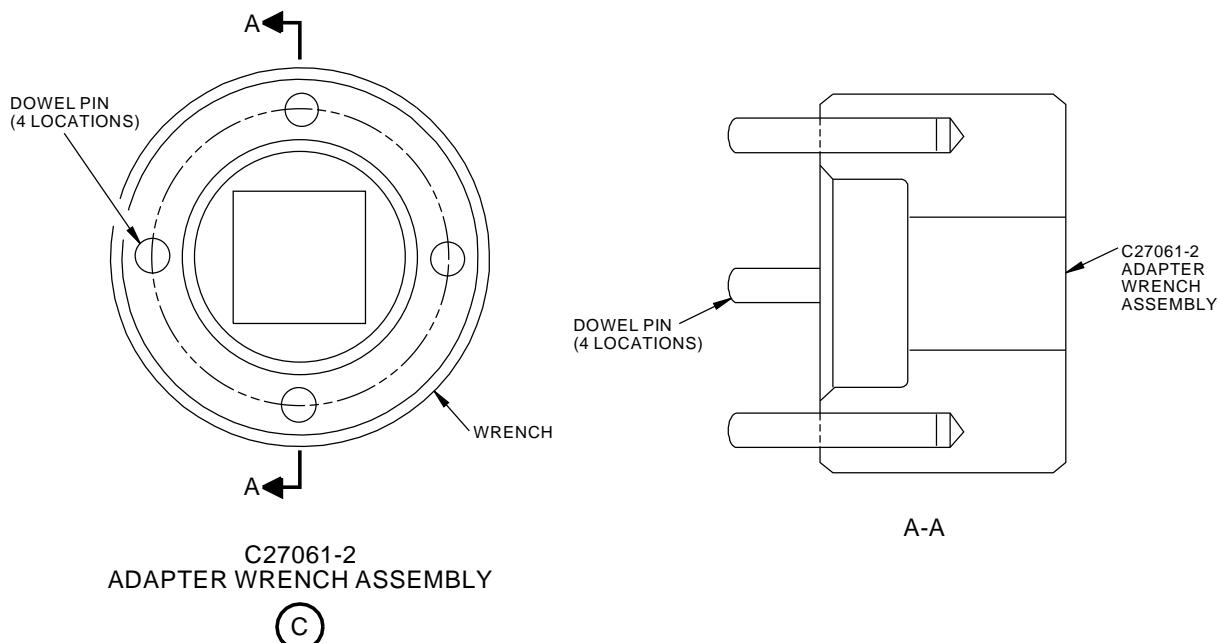
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**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**



(B)



**C27061-2  
ADAPTER WRENCH ASSEMBLY**

(C)

H75586 S0006831679\_V3

**Flight Spoiler Power Control Unit Wrench and Components**  
**Figure 2**

**27-60-06**

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**PART NUMBER: C27069-12, -20**

**NAME:** RIGGING EQUIPMENT - INTERLOCK VALVE CABLE, GROUND SPOILER

**AIRPLANE MAINTENANCE:** YES

AMM 27-62-00, AMM 27-62-61

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27069-12, -20 (preferred) ground spoiler interlock valve cable rigging equipment is used on 737-600/-700/-800/-900 airplanes.

C27069-12 is not used on the 737-900ER.

C27069 rigging equipment is used to rig the ground spoiler interlock system without jacking the airplane. Refer to the current C27069 tool drawing, AMM 27-62-00 and AMM 27-62-61 for complete usage instructions.

The C27069-12, -20 ground spoiler interlock valve cable rigging equipment consists of:

C27069-12		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ARM ASSEMBLY	C27069-13
1	POSITION ASSEMBLY	C27069-14
1	INSERT	C27069-5
1	STORAGE BOX	

C27069-20		
QUANTITY	NOMENCLATURE	PART NUMBER
1	POSITION ASSEMBLY	C27069-14
1	ARM ASSEMBLY	C27069-21
1	INSERT	C27069-5
1	LARGE INSERT	C27069-23 <sup>[1]</sup>
1	STORAGE BOX	

<sup>[1]</sup> THE C27069-23 IS ONLY USED ON THE 737-900ER.

**WEIGHT:** C27069-12 - 4 lbs (1.8 kg)  
C27069-20 - 5 lbs (2.3 kg)

**DIMENSIONS:** C27069-12 or -20 - 3 x 8 x 17.5 inches (76 x 203 x 445 mm)

**NOTE:** C27069-12 supersedes C27069-1.  
C27069-20 replaces C27069-12 for future procurement.

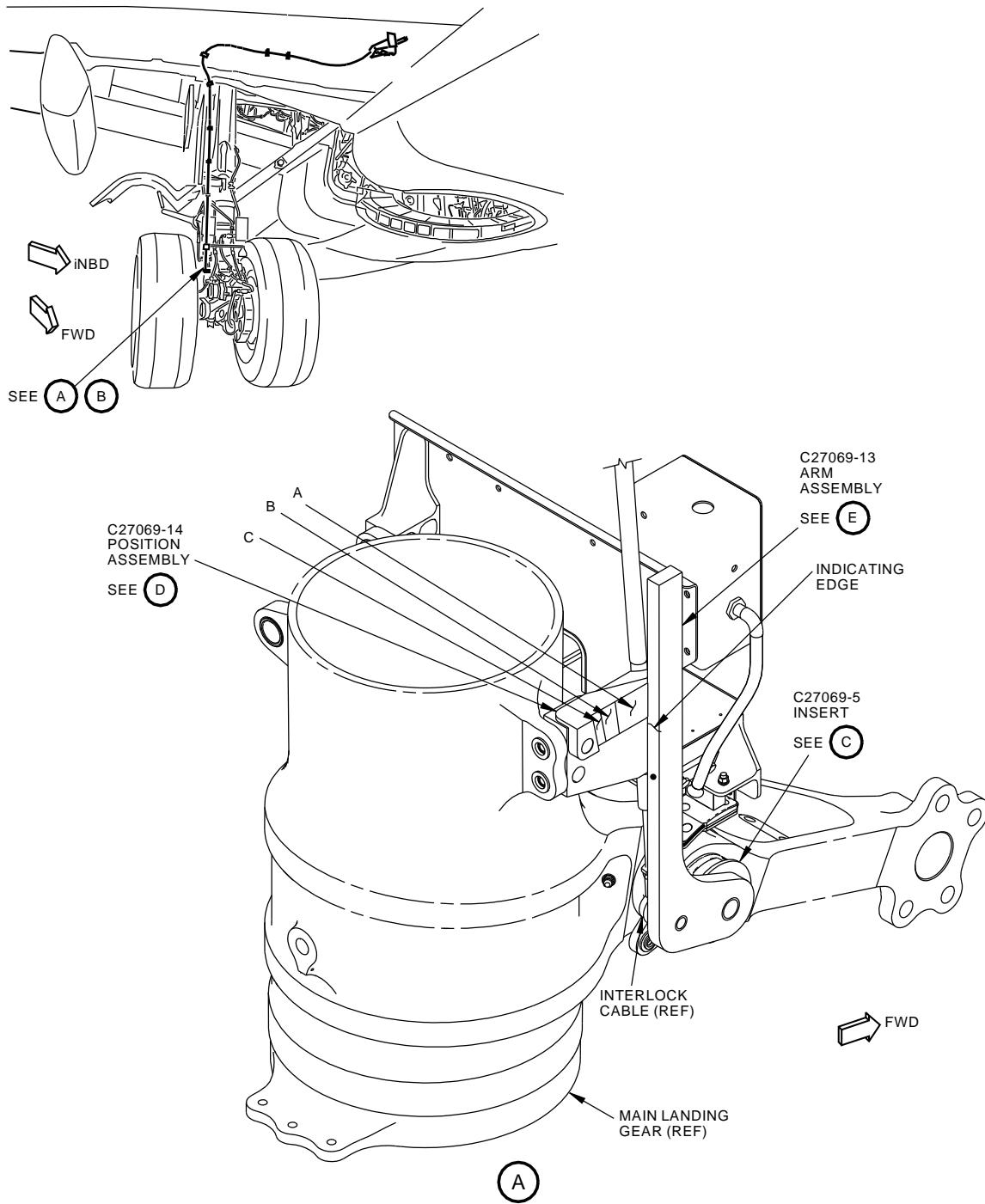
**27-60-07**

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**737-600/700/800/900**  
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L33030 S0006831681\_V5

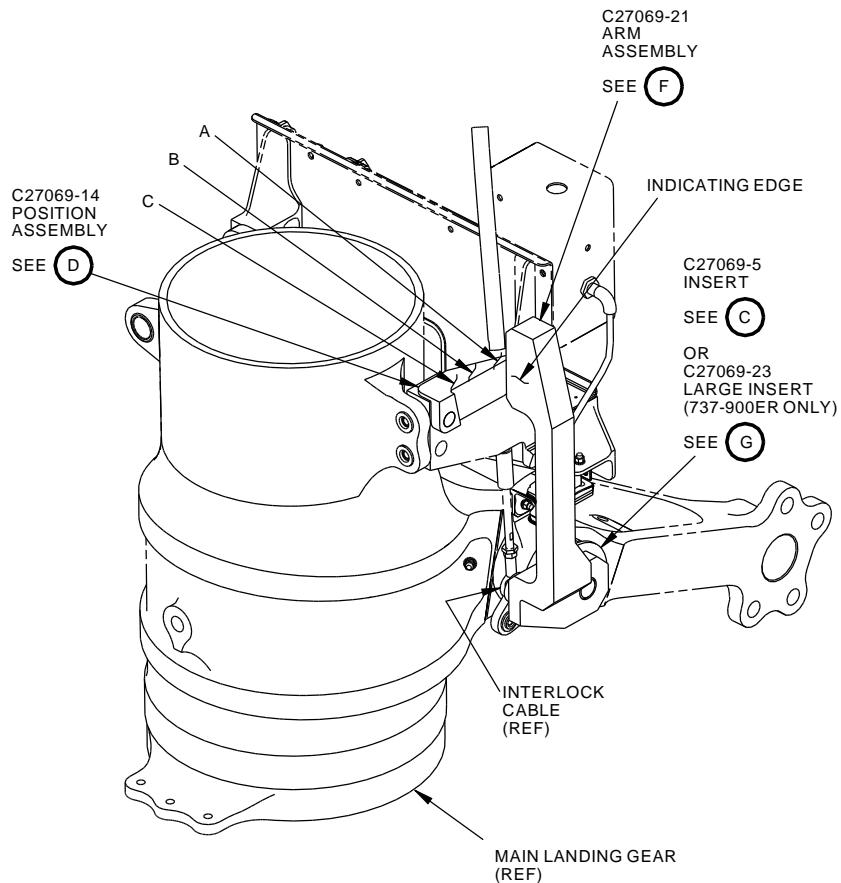
**Rigging Equipment Location and Usage**  
**Figure 1 (Sheet 1 of 2)**

**27-60-07**

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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



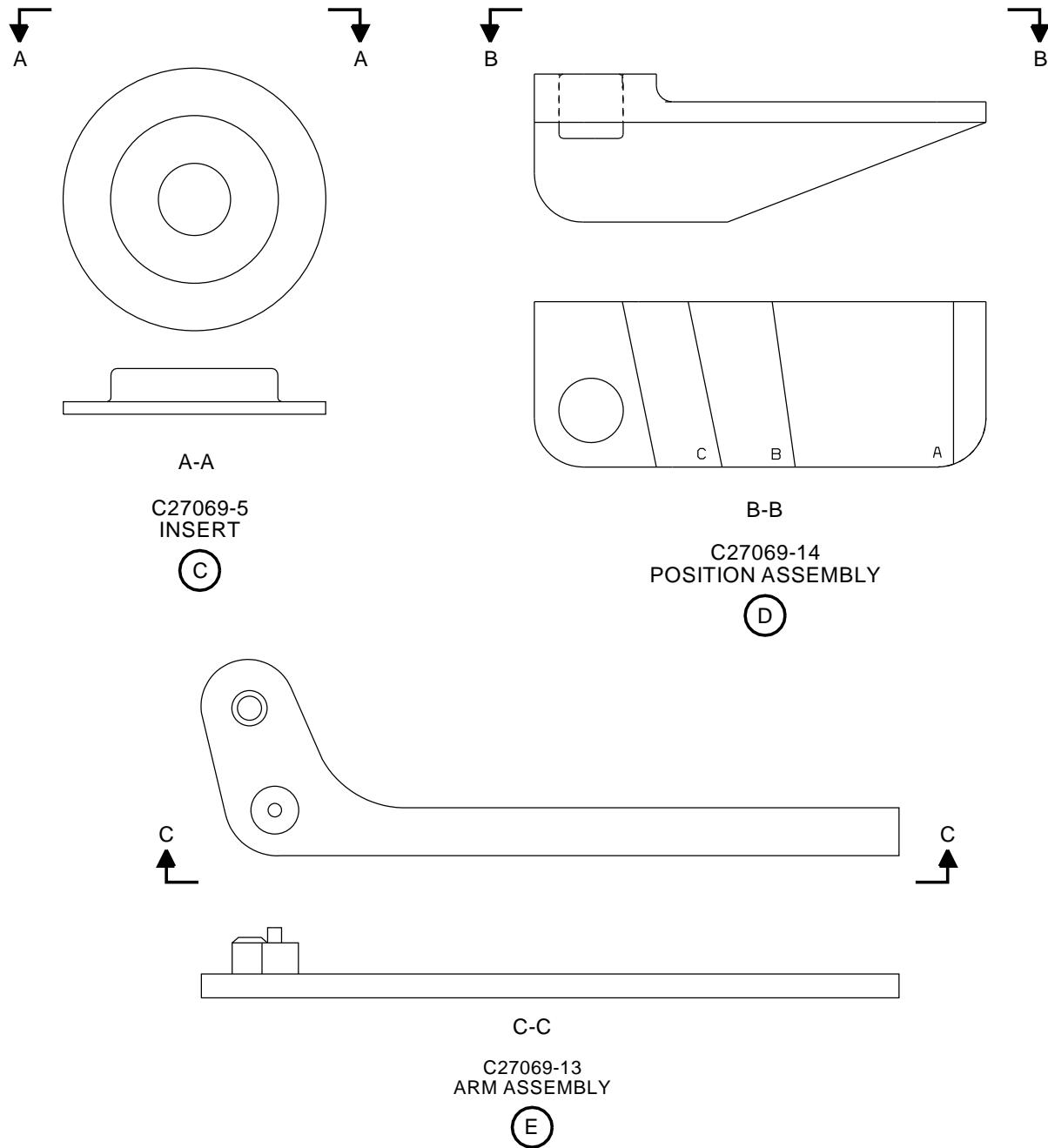
B

2038288 S0000408190\_V1

**Rigging Equipment Location and Usage**  
**Figure 1 (Sheet 2 of 2)**

**27-60-07**

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737-600/700/800/900  
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L33086 S0006831682\_V6

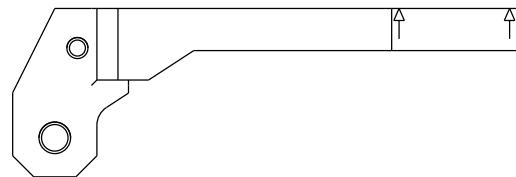
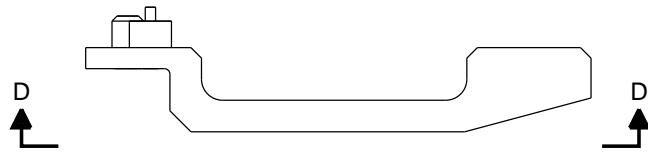
**Rigging Equipment Components**  
**Figure 2 (Sheet 1 of 2)**

**27-60-07**

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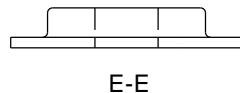
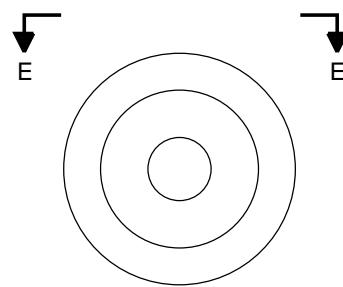
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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



D-D  
C27069-21  
ARM ASSEMBLY

(F)



C27069-23  
LARGE INSERT

(G)

2038313 S0000408193\_V1

Rigging Equipment Components  
Figure 2 (Sheet 2 of 2)

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737-600/700/800/900  
**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**

**PART NUMBER: C27062-1**

**NAME:** TEST BLOCK - CARTRIDGE VALVE, FLIGHT SPOILER ACTUATOR

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

CMM 27-60-42

**USAGE & DESCRIPTION:** The C27062-1 test block is used during component maintenance on 737-600 thru -900 airplanes. C27062 is used to test the 251A1250 hold down check and relief valve cartridge used on 251A1240 or 251A1270 spoiler power control actuators. Refer to the current C27062 drawing and CMM 27-60-42 for complete usage instructions. C27062-1 consists of a C27062-2 manifold assembly contained in a storage box.

**WEIGHT:** 4 lbs (1.8 kg)

**DIMENSIONS:** 4 x 4 x 5 inches (102 x 102 x 127 mm)

**27-60-08**

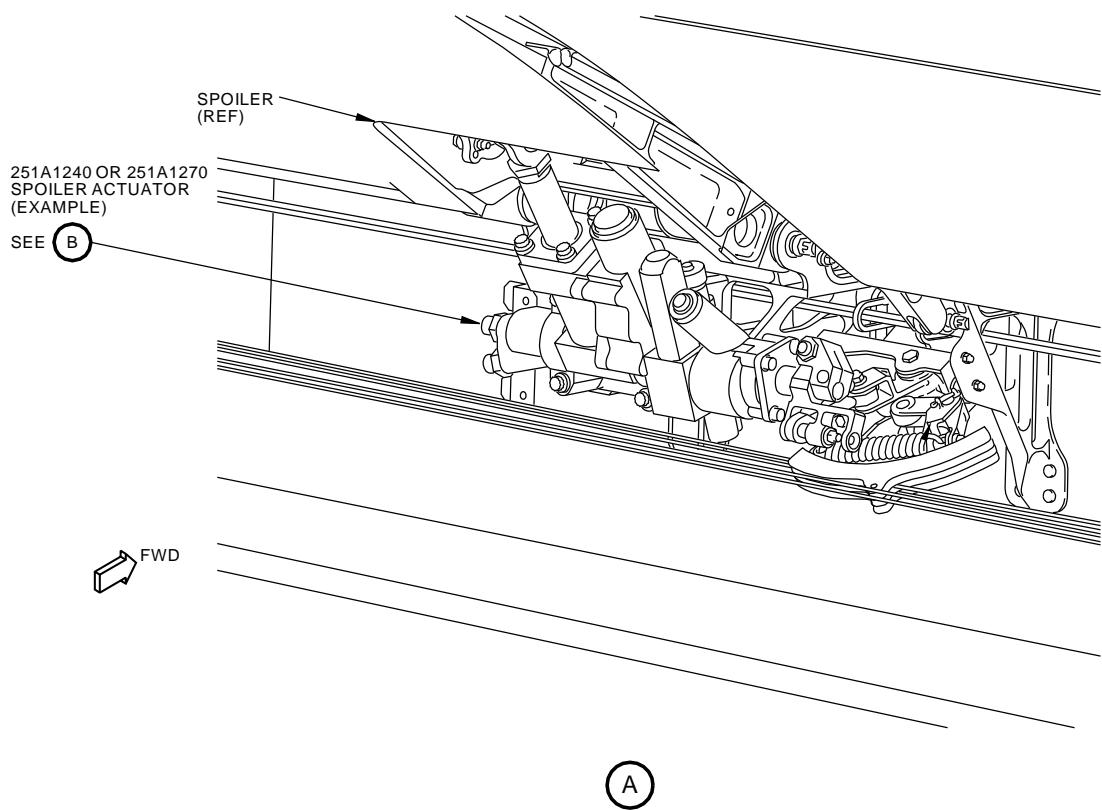
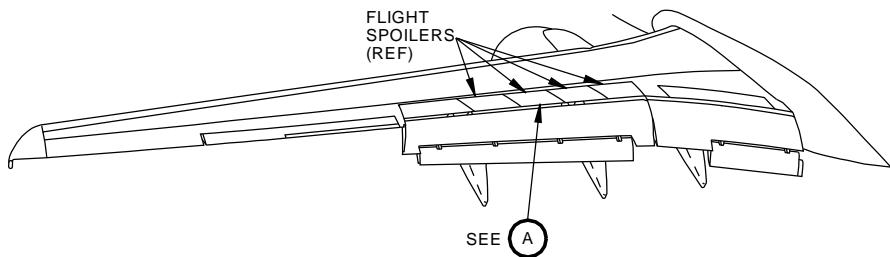
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737-600/700/800/900  
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



1570978 S0000292908\_V1

Flight Spoiler Actuator Cartridge Valve Test Block  
Figure 1 (Sheet 1 of 4)

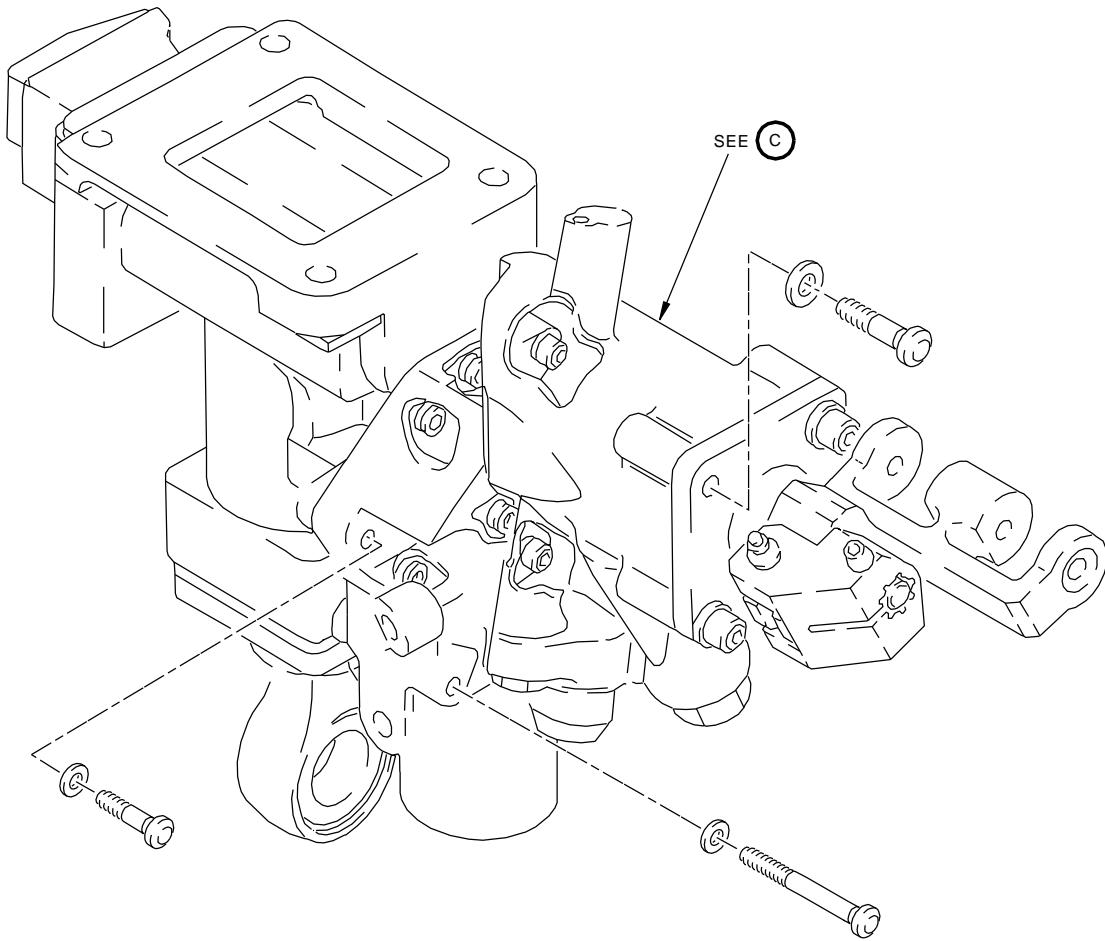
**27-60-08**

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251A1240 OR 251A1270  
SPOILER ACTUATOR  
(EXAMPLE)

(B)

1570995 S0000292909\_V1

Flight Spoiler Actuator Cartridge Valve Test Block  
Figure 1 (Sheet 2 of 4)

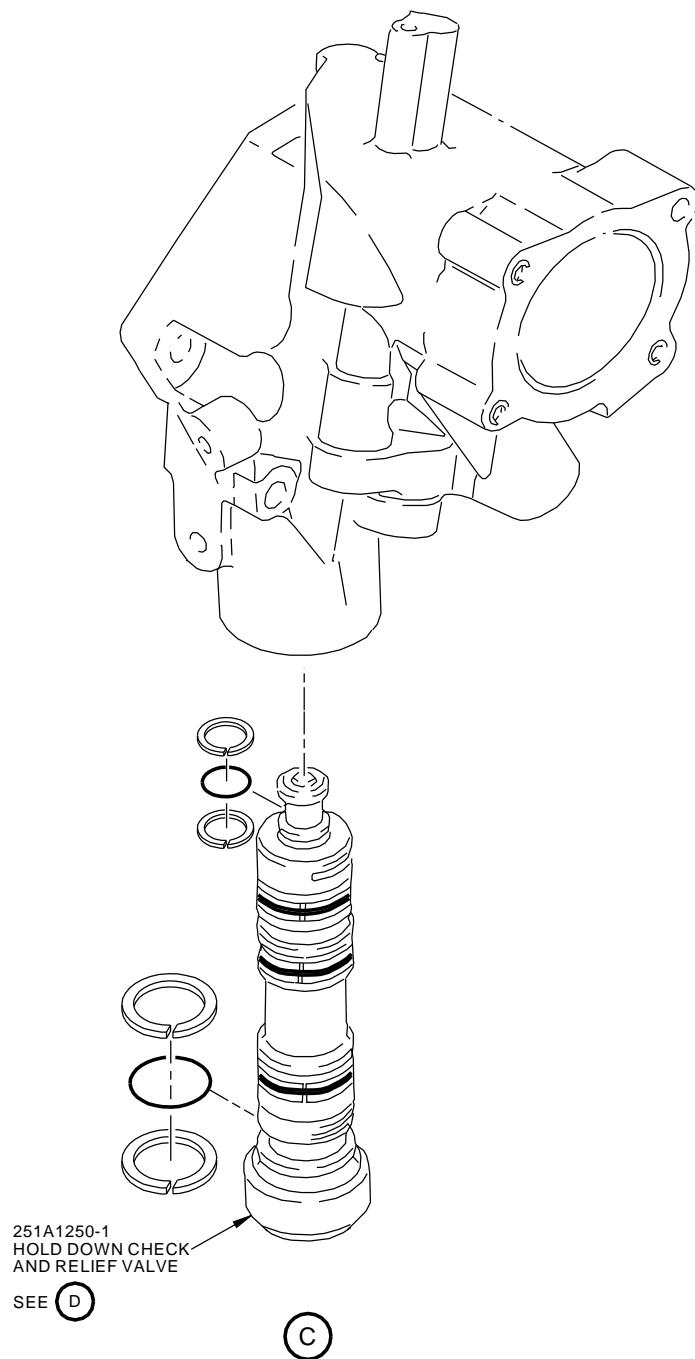
**27-60-08**

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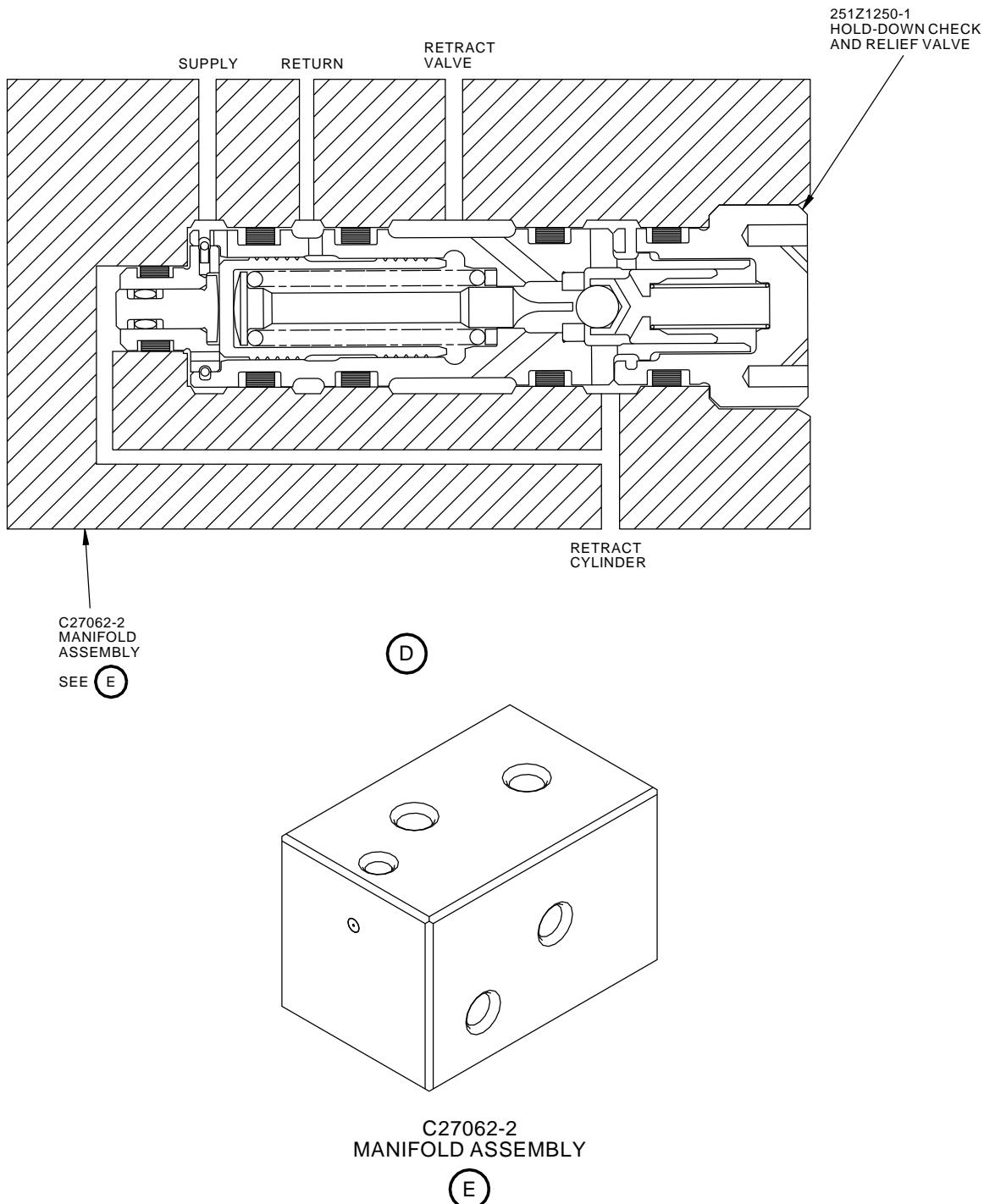
1571005 S0000292914\_V1

**Flight Spoiler Actuator Cartridge Valve Test Block**  
**Figure 1 (Sheet 3 of 4)**

**27-60-08**



737-600/700/800/900  
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1571017 S0000292917\_V1

Flight Spoiler Actuator Cartridge Valve Test Block  
Figure 1 (Sheet 4 of 4)

**27-60-08**

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**PART NUMBER: C27045-1**

**NAME:** KIT - RIGGING EQUIPMENT, SLAT

**AIRPLANE MAINTENANCE:** YES

AMM 27-81-00, AMM 27-81-21, AMM 27-81-41

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27045-1 kit is used on 737-600 thru -900 airplanes.

C27045 is used during rigging of the leading edge slats. C27045 includes a C27045-5 preload shim, used when adjusting the auxiliary track forward support, the C27045-2 gage assembly, used in conjunction with the C27045-4 gage pin to determine if the preload on the slat actuator is correct.

Refer to AMM 27-81-00, AMM 27-81-21, AMM 27-81-41 and the current C27045 drawing for complete usage instructions.

C27045-1 consists of:

C27045-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	GAUGE ASSEMBLY	C27045-2
1	GAUGE PIN	C27045-4
1	PRELOAD SHIM ASSEMBLY	C27045-5
1	STORAGE BOX	

**WEIGHT:** 2 lbs (1 kg)

**DIMENSIONS:** 1 x 3 x 7 inches (25 x 76 x 178 mm)

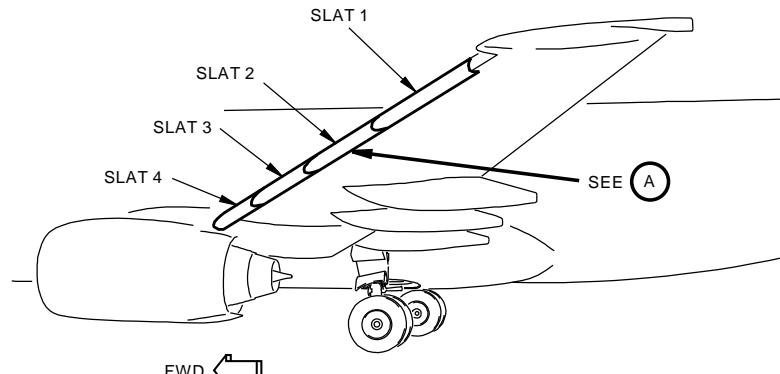
**27-80-01**

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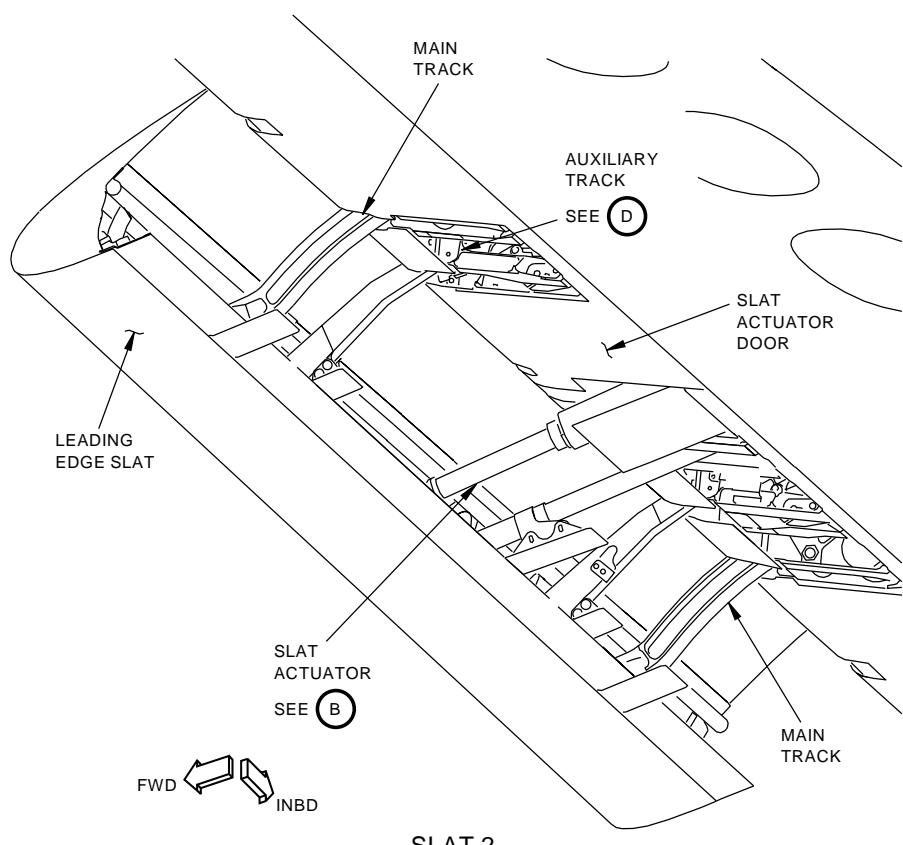
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**LEFT WING**  
 (RIGHT WING IS OPPOSITE)



M60827 S0006831685\_V2

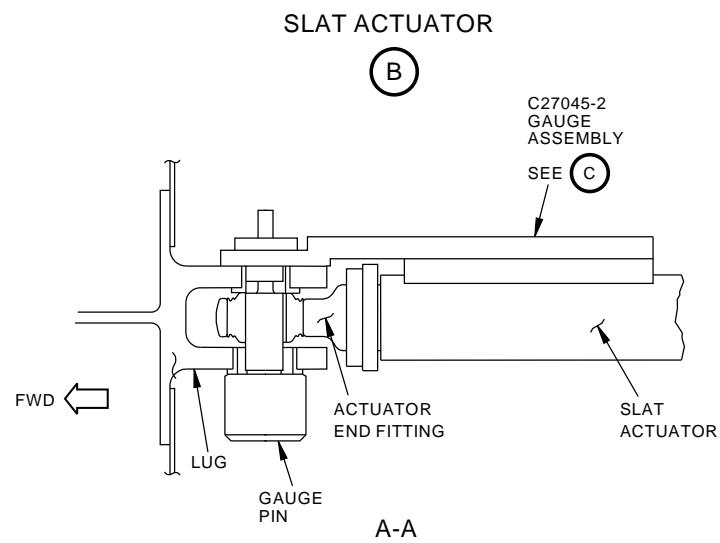
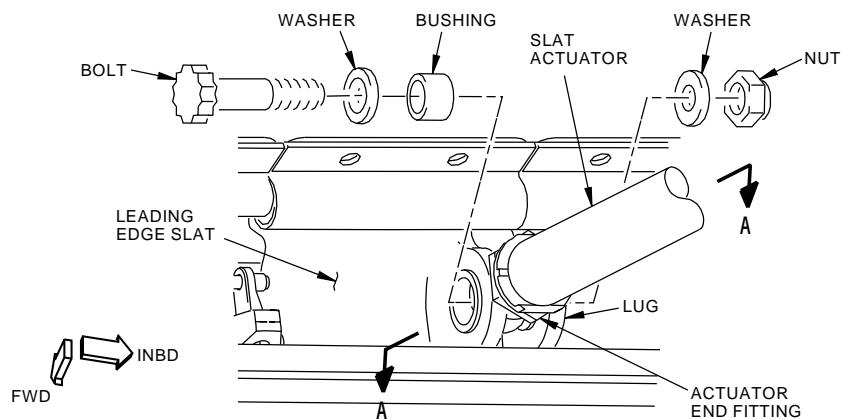
**Slat Actuator Location**  
**Figure 1**

**27-80-01**

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**C27045-2  
GAUGE ASSEMBLY**

**(C)**

G45349 S0006831686\_V3

**Auxiliary Track Preload Shim  
Figure 2**

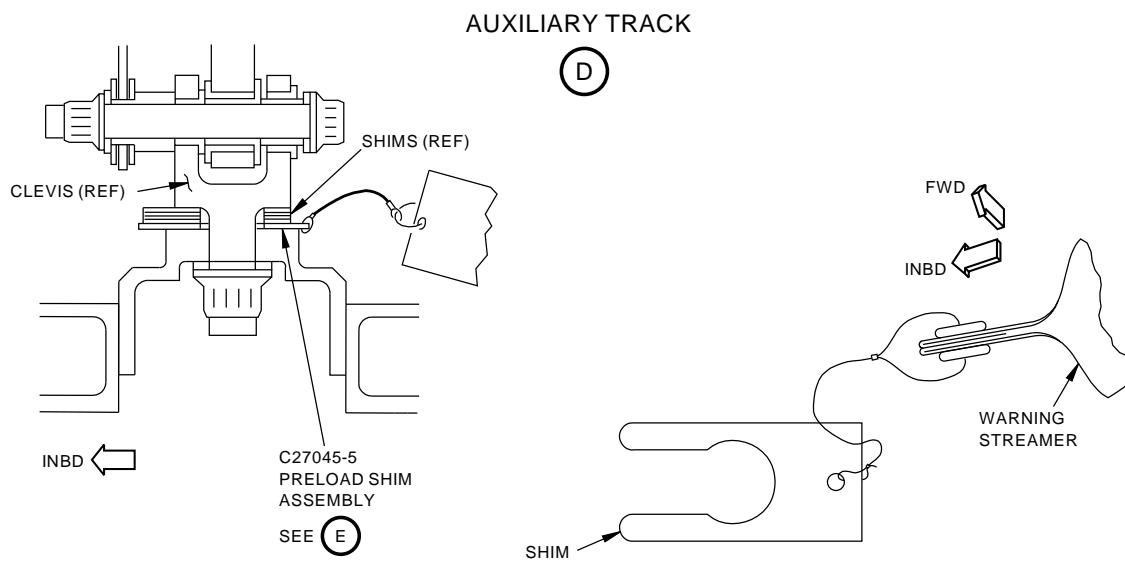
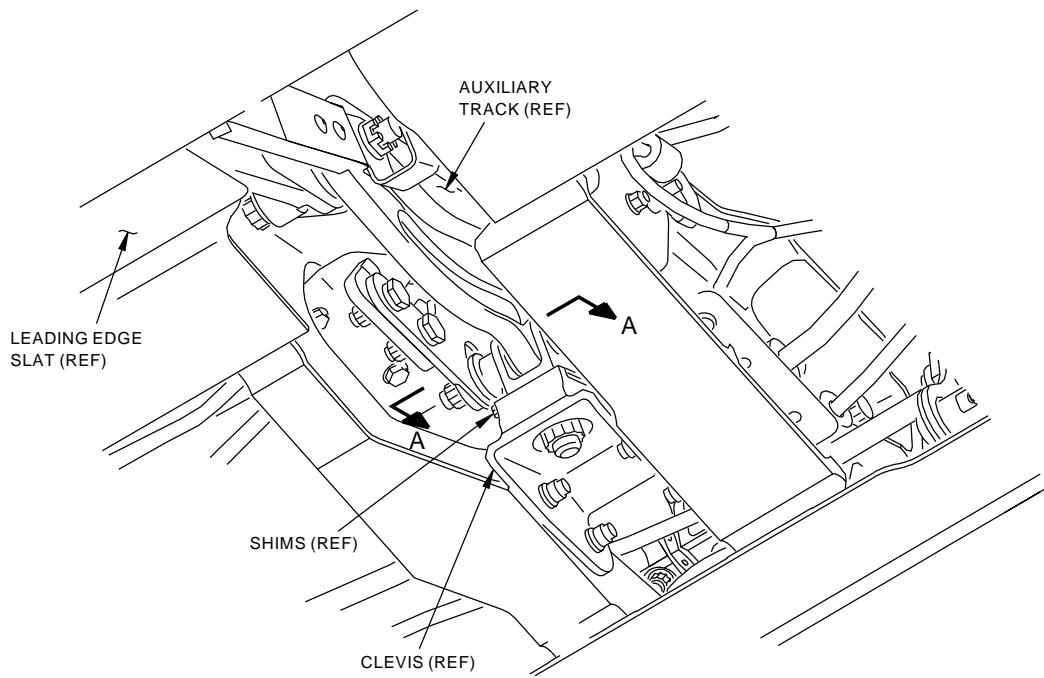
**27-80-01**

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M60828 S0006831687\_V3

**Preload Shim Location**  
**Figure 3**

**27-80-01**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: F70207-109, -128, -135, -139**

**NAME: KIT - RIGGING PIN**

**AIRPLANE MAINTENANCE: YES**

AMM 27-11-00, AMM 27-11-14, AMM 27-11-24, AMM 27-11-41, AMM 27-11-51, AMM 27-11-61, AMM 27-11-81, AMM 27-21-00, AMM 27-21-24, AMM 27-21-31, AMM 27-21-51, AMM 27-21-61, AMM 27-21-71, AMM 27-21-82, AMM 27-21-87, AMM 27-21-91, AMM 27-31-00, AMM 27-31-11, AMM 27-31-14, AMM 27-31-31, AMM 27-31-34, AMM 27-31-37, AMM 27-31-41, AMM 27-31-51, AMM 27-31-54, AMM 27-31-61, AMM 27-31-64, AMM 27-31-67, AMM 27-31-71, AMM 27-31-74, AMM 27-31-91, AMM 27-41-51, AMM 27-61-00, AMM 27-61-21, AMM 27-61-41, AMM 27-61-61, AMM 27-62-00, AMM 27-62-31, AMM 27-62-37, AMM 32-34-21, AMM 32-51-81

**COMPONENT MAINTENANCE: NO**

**USAGE & DESCRIPTION:** The F70207-109 rigging pin kit is used on 737-600 thru -900 airplanes up to and including line number 1375. F70207-109 and F70207-128 rigging pin kits are both required for 737-600 thru -900 airplanes manufactured after line number 1375.

The F70207-135 rigging pin kit is used on 737-100 and -200 airplanes. F70207-135 is the source for all the pins required to immobilize rotational components during the control installation, calibration and adjustment on 737-100 and -200 airplanes.

The F70207-139 rigging pin kit is used on 737-300 thru -500 airplanes. F70207-135 is the source for all the pins required to immobilize rotational components during the control installation, calibration and adjustment on 737-300 thru -500 airplanes.

F70207-128 rigging pin kit is an additional rigging tool assembly supplement for the F70207-109 rigging pin kit, for use on 737-600 thru -900 airplanes manufactured after line number 1375. F70207-109 and F70207-128 rigging pin kits are both required for 737-600 thru -900 airplanes manufactured after line number 1375. F70207-109 and F70207-128 are a source for all the pins required to immobilize rotational components during the control installation, calibration and adjustment on 737-600 thru -900 airplanes.

F70207-109 * <sup>[1]</sup> USAGE TABLE			
F70207 ASSEMBLY NUMBER	MAINTENANCE MANUAL REFERENCE	MAINTENANCE MANUAL NOMENCLATURE	RIGGING DRAWING
F70207-4	27-41-51	ST-4	251A4001
F70207-7	27-11-00, 27-61-00, 27-31-00, 32-51-00, 32-31-00, 32-44-00	A/S-1, E-4, LGE1, NS4, LGP2	251A1001, 251A2001, 273A3100, 275A5500, 251A3190, 273A3300
F70207-8	27-21-00, 27-81-00	R-5	251A3001, 256A2008, 256A2009

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(Continued)

<b>F70207-109 *<sup>[1]</sup> USAGE TABLE</b>			
<b>F70207 ASSEMBLY NUMBER</b>	<b>MAINTENANCE MANUAL REFERENCE</b>	<b>MAINTENANCE MANUAL NOMENCLATURE</b>	<b>RIGGING DRAWING</b>
F70207-9	27-11-00, 27-61-00, 27-31-00, 27-41-51, 32-34-00	A/S-4, A/S-15, E-1, E-5, LGEA1, LGEA2, LGEA3	251A1001, 251A2001, 251A4001, 273A4100, 273A4700
F70207-10	27-61-00	A/S-14	251A1001
F70207-14	27-21-00, 32-41-00, 32-44-00	R-1, R-2, LGB1, LGB2, LGP1	251A3001, 274A2800, 251A3190
F70207-66	27-31-00	E-2, E-3	251A2001
F70207-85	27-62-00, 32-51-00	S/B-1, S/B-3, NS2, NS5	251A1001, 275A5500
F70207-88	27-11-00, 27-61-00, 27-51-22, 32-51-00, 32-41-00	A/S-3, NS1, LGB3 LGB4	251A1001, 113A3017, 275A5500, 274A2800
F70207-101	27-61-00, 27-62-00	S/B-2	251A1001
F70207-113	27-51-14, 27-61-00	A/S-8, A/S-9, A/S-10, A/S-11	113A3017, 251A1001
F70207-114	27-51-14	-	113A3017
F70207-115	27-21-00, 32-51-00	R-3, R-4	251A3001, 275A5500
F70207-116	27-51-00	-	256A3001
F70207-117	27-11-00, 27-61-00	A/S-1A	251A1001

\*<sup>[1]</sup> THE F70207-109 IS USED ON 737-600 THRU -900 AIRPLANES MANUFACTURED PRIOR TO LINE NUMBER 1376.

<b>F70207-109 AND F70207-128 *<sup>[1]</sup> (737-600, -700, -800 AND -900) USAGE TABLE</b>			
<b>F70207 ASSEMBLY NUMBER</b>	<b>MAINTENANCE MANUAL REFERENCE</b>	<b>MAINTENANCE MANUAL NOMENCLATURE</b>	<b>RIGGING DRAWING</b>
F70207-4	27-41-51	ST-4	251A4001
F70207-7	27-11-00, 27-61-00, 27-31-00, 32-51-00, 32-31-00, 32-44-00	A/S-1, E-4, LGE1, NS4, LGP2	251A1001, 251A2001, 273A3100, 275A5500, 251A3190, 273A3300
F70207-8	27-21-00, 27-81-00	R-5	251A3001, 256A2008, 256A2009
F70207-9	27-11-00, 27-61-00, 27-31-00, 27-41-51, 32-34-00	A/S-4, A/S-15, E-1, E-5, LGEA1, LGEA2, LGEA3	251A1001, 251A2001, 251A4001, 273A4100, 273A4700
F70207-10	27-61-00	A/S-14	251A1001
F70207-14	27-21-00, 32-41-00, 32-44-00	R-1, R-2, LGB1, LGB2, LGP1	251A3001, 274A2800, 251A3190
F70207-66	27-31-00	E-2, E-3	251A2001
F70207-85	27-62-00, 32-51-00	S/B-1, S/B-3, NS2, NS5	251A1001, 275A5500

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(Continued)

**F70207-109 AND F70207-128 \*[1] (737-600, -700, -800 AND -900) USAGE TABLE**

F70207 ASSEMBLY NUMBER	MAINTENANCE MANUAL REFERENCE	MAINTENANCE MANUAL NOMENCLATURE	RIGGING DRAWING
F70207-88	27-11-00, 27-61-00, 27-51-22, 32-51-00, 32-41-00	A/S-3, NS1, LGB3 LGB4	251A1001, 113A3017, 275A5500, 274A2800
F70207-101	27-61-00, 27-62-00	S/B-2	251A1001
F70207-113	27-51-14, 27-61-00	A/S-8, A/S-9, A/S-10, A/S-11	113A3017, 251A1001
F70207-114	27-51-14	-	113A3017
F70207-115	27-21-00, 32-51-00	R-3, R-4	251A3001, 275A5500
F70207-116	27-51-00	-	256A3001
F70207-117	27-11-00, 27-61-00	A/S-1A	251A1001
F70207-129 *[1]	32-41-00		274A2800

\*[1] F70207-129 RIGGING TOOL ASSEMBLY IS PART OF THE F70207-128 KIT, USED ONLY ON 737-600 THRU -900 AIRPLANES MANUFACTURED AFTER LINE NUMBER 1375.

**F70207-135 \*[1] USAGE TABLE**

F70207 ASSEMBLY NUMBER	MAINTENANCE MANUAL REFERENCE	MAINTENANCE MANUAL NOMENCLATURE	RIGGING DRAWING
F70207-8	27-11, -51, -58, -61 32-31, -51, 76-11, 78-34	A/S-3, A/S-13, -7, F-2, F-3 TYPE 1 S/B-1 NS-2, 3, 5, 6, 7	66-45101, 105 108, 109, 110, 111
F70207-11	27-11, -21, -31, -41, -61, -62, -32 32-09, -34, -35, -44, -51, 21-52	A/S-4 A/S-14, E1, E-4, E-5, E-6, R-3, R-4, R-5, 1, 2, 4, 5, 6, S/B-3 NS-1	5-45101, 102, 103, 106, 111, 104, 112, 116, 65-54458, 65-51200
F70207-136	27-51, 27-11	F-1, A/S-1	65-45101, 107
F70207-14	27-21, 32-41, -43, -51	R-1, R-2, 3 NS-4	65-45103, 113, 111
F70207-16	27-31, -41	ST-2, ST-1	65-45104
F70207-17	27-31, -191	ALIGNMENT PINS	---
F70207-18	32-34	---	---
F70207-19	27-11	A/S-1A	65-45101
F70207-23	27-51, -61, 76-11	F-5, F-6, A/S-8, A/S-9, A/S-10, A/S-11, TYPE 3	65-45101, 109, 65-55540
F70207-50	76-11	TYPE 2	65-45109
F70207-57	32-43	---	---
F70207-59	32-43	---	---
F70207-4	52-14	---	65-67303
F70207-70	21-52	---	65-51201
F70207-66	27-31	E-2, E-3	65-45102
F70207-101	27-61, -62	S/B-2	65-45116

\*[1] F70207-135 IS USED ON 737-100 AND -200 AIRPLANES.

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<b>F70207-139 *<sup>[1]</sup> USAGE TABLE</b>			
<b>F70207 ASSEMBLY NUMBER</b>	<b>MAINTENANCE MANUAL REFERENCE</b>	<b>MAINTENANCE MANUAL NOMENCLATURE</b>	<b>RIGGING DRAWING</b>
F70207-8	27-11, -61, 32-31, 32-34, 76-11,	A/S-3 L/G-2, EN-2, EN-4, EN-5, S/B-1, NS-2, 3	65-45101, 65C25509, 6545112, 65-45110
F70207-11	27-11, 21, 31, 41, 61, 62, 32-09, 35, 51, 76-11, 21-52 22-11-92 78-31-03	A/S-4 A/S-14, R-4, R-3 R-5, E-1, E-4 E-5, ST-1 S/B-3 L/G-3, B-4, 1, 2, 5 TYPE 1, TR-1, NS-1	65-45101, 02, 03, 04, 111, 110, 112, 113, 116, 65C25509, 315A1801, 65-54458, 65-51200, 64-67949
F70207-88	27-51, 81	F-1 A/S-1	65-45101, 107
F70207-14	32-35, 41, 43, 44, 51	R-2, B-1, 3 NS-4	65-45113, 65-45111
F70207-16	27-41	ST-4	65-45104
F70207-18	32-34	L/G-4	65-45112
F70207-19	27-11	A/S1A	65-45101
F70207-23	27-11, 51, 61 76-11	A/S-8, -9, -10, -11 F-5, F-6, EN-1, EN-3	65-45101, 07, 08 65C25509, 65C26315 65-55540
F70207-50	76-11	TYPE 2	65C25509
F70207-57	32-43	B-3	65-45113
F70207-59	32-43	B-2	65-45113
F70207-66	27-31, 22-11-92	E-2, E-3	65-45102, 104
F70207-70	21-52	---	65-51201
F70207-85	27-11	A/S-16	65-45101
F70207-94	27-61, 62	S/B-7	65-45116
F70207-101	27-61, 62	S/B-2	65-45116
F70207-102	78-34	---	65C25509
F70207-140	27-21	R-1	65-45103

\*[1] F70207-139 IS USED ON 737-300 THRU -500 AIRPLANES.

Refer to AMM 27-11-00, AMM 27-11-14, AMM 27-11-24, AMM 27-11-41,  
 AMM 27-11-51, AMM 27-11-61, AMM 27-11-81, AMM 27-21-00, AMM  
 27-21-24, AMM 27-21-31, AMM 27-21-51, AMM 27-21-61, AMM 27-21-71,  
 AMM 27-21-82, AMM 27-21-87, AMM 27-21-91, AMM 27-31-00, AMM  
 27-31-11, AMM 27-31-14, AMM 27-31-31, AMM 27-31-34, AMM 27-31-37,  
 AMM 27-31-41, AMM 27-31-51, AMM 27-31-54, AMM 27-31-61, AMM  
 27-31-64, AMM 27-31-67, AMM 27-31-71, AMM 27-31-74, AMM 27-31-91,  
 AMM 27-41-51, AMM 27-61-00, AMM 27-61-21, AMM 27-61-41, AMM  
 27-61-61, AMM 27-62-00, AMM 27-62-31, AMM 27-62-37, AMM 32-34-21,  
 AMM 32-51-81 and the current F70207 drawing for complete usage  
 instructions.

F70207-109, -128, -135 and -139 consist of:

<b>F70207-109</b>		
<b>QUANTITY</b>	<b>NOMENCLATURE</b>	<b>PART NUMBER</b>
1	RIGGING PIN ASSEMBLY	F70207-4
1	RIGGING PIN ASSEMBLY	F70207-7

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F70207-109		
QUANTITY	NOMENCLATURE	PART NUMBER
1	RIGGING PIN ASSEMBLY	F70207-8
3	RIGGING PIN ASSEMBLY	F70207-9
1	RIGGING PIN ASSEMBLY	F70207-10
2	RIGGING PIN ASSEMBLY	F70207-14
2	RIGGING PIN ASSEMBLY	F70207-66
2	RIGGING PIN ASSEMBLY	F70207-85
2	RIGGING PIN ASSEMBLY	F70207-88
1	RIGGING PIN ASSEMBLY	F70207-101
4	RIGGING PIN ASSEMBLY	F70207-113
2	RIGGING PIN ASSEMBLY	F70207-114
2	RIGGING PIN ASSEMBLY	F70207-115
1	RIGGING PIN ASSEMBLY	F70207-116
1	RIGGING PIN ASSEMBLY	F70207-117
1	STORAGE BOX	

F70207-128		
QUANTITY	NOMENCLATURE	PART NUMBER
1	RIGGING TOOL ASSEMBLY	F70207-129
1	STORAGE BOX	

F70207-135		
QUANTITY	NOMENCLATURE	PART NUMBER
2	RIGGING PIN ASSEMBLY	F70207-4
3	RIGGING PIN ASSEMBLY	F70207-8
3	RIGGING PIN ASSEMBLY	F70207-11
4	RIGGING PIN ASSEMBLY	F70207-14
1	RIGGING PIN ASSEMBLY	F70207-16
2	RIGGING PIN ASSEMBLY	F70207-17
1	RIGGING PIN ASSEMBLY	F70207-18
1	RIGGING PIN ASSEMBLY	F70207-19
4	RIGGING PIN ASSEMBLY	F70207-23
1	RIGGING PIN ASSEMBLY	F70207-50
2	RIGGING PIN ASSEMBLY	F70207-57
2	RIGGING PIN ASSEMBLY	F70207-59
2	RIGGING PIN ASSEMBLY	F70207-66
1	RIGGING PIN ASSEMBLY	F70207-70
1	RIGGING PIN ASSEMBLY	F70207-101
2	RIGGING PIN ASSEMBLY	F70207-136

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F70207-135		
QUANTITY	NOMENCLATURE	PART NUMBER
1	STORAGE BOX	
F70207-139		
QUANTITY	NOMENCLATURE	PART NUMBER
4	RIGGING PIN ASSEMBLY	F70207-8
3	RIGGING PIN ASSEMBLY	F70207-11
4	RIGGING PIN ASSEMBLY	F70207-14
1	RIGGING PIN ASSEMBLY	F70207-16
1	RIGGING PIN ASSEMBLY	F70207-18
1	RIGGING PIN ASSEMBLY	F70207-19
4	RIGGING PIN ASSEMBLY	F70207-23
1	RIGGING PIN ASSEMBLY	F70207-50
1	RIGGING PIN ASSEMBLY	F70207-57
1	RIGGING PIN ASSEMBLY	F70207-59
2	RIGGING PIN ASSEMBLY	F70207-66
1	RIGGING PIN ASSEMBLY	F70207-70
1	RIGGING PIN ASSEMBLY	F70207-85
1	RIGGING PIN ASSEMBLY	F70207-88
1	RIGGING PIN ASSEMBLY	F70207-94
1	RIGGING PIN ASSEMBLY	F70207-101
1	RIGGING PIN ASSEMBLY	F70207-102
4	RIGGING PIN ASSEMBLY	F70207-140
1	STORAGE BOX	

NOTE: F70307-139 supersedes F70207-107.

F70307-135 supersedes F70207-108.

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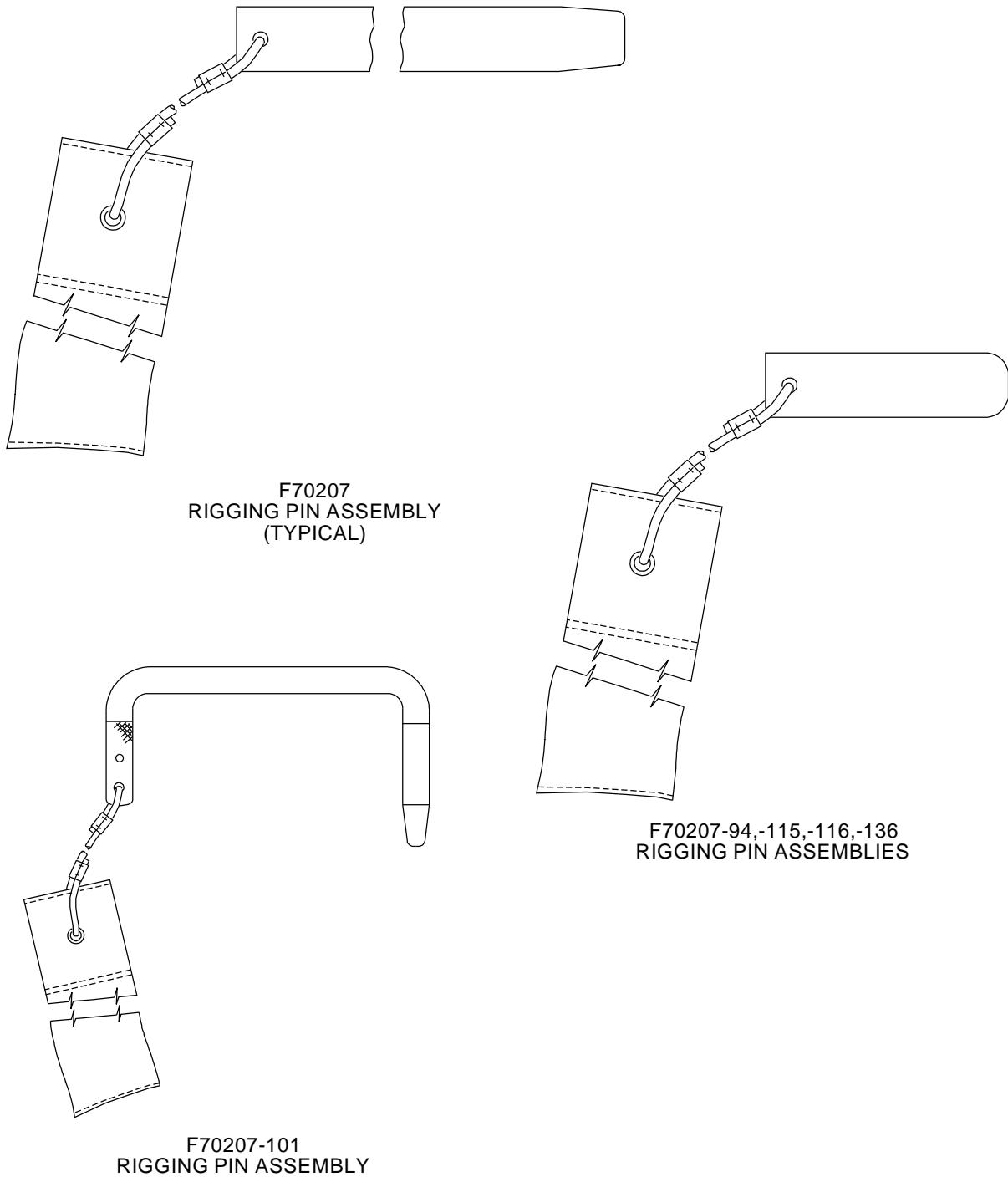
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G77560 S0006831689\_V4

Rigging Pin Kit  
Figure 1 (Sheet 1 of 3)

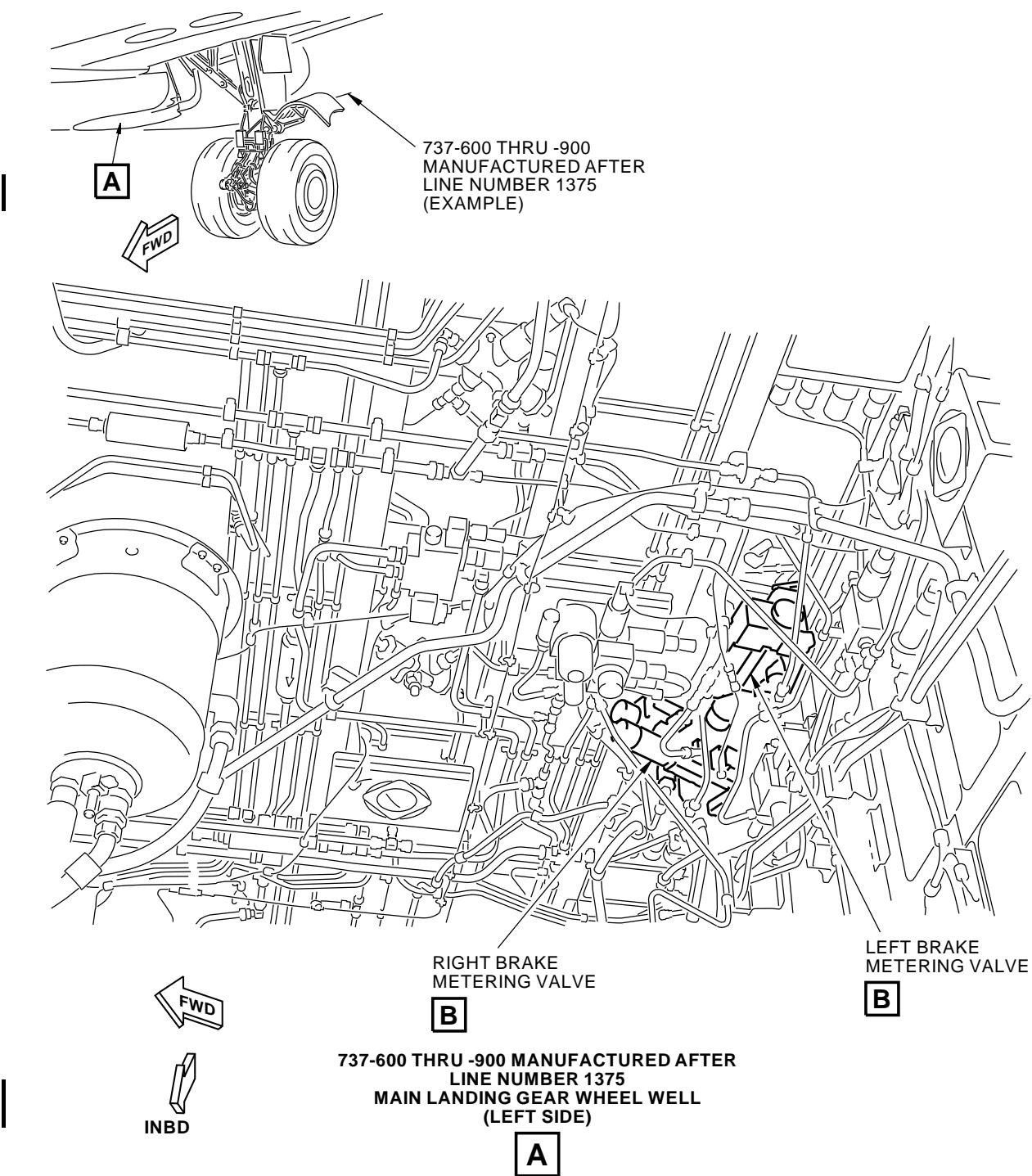
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1563512 S0000289709\_V3

Rigging Pin Kit  
Figure 1 (Sheet 2 of 3)

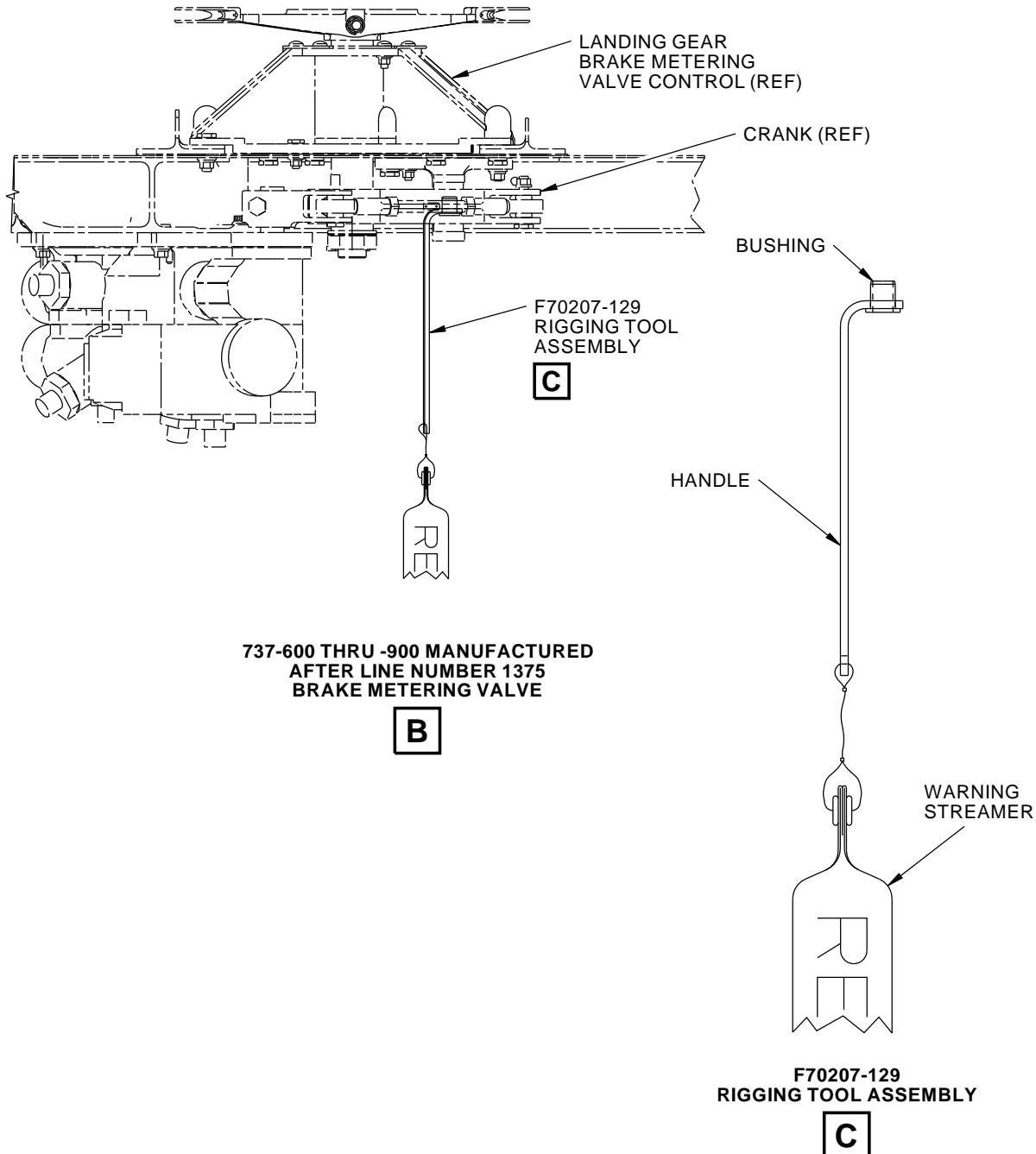
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Rigging Pin Kit  
Figure 1 (Sheet 3 of 3)

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**PART NUMBER: C27051-1, -29**

**NAME:** LOCK SET - LEADING EDGE SLAT AND KRUEGER FLAP ACTUATORS

**AIRPLANE MAINTENANCE:** YES

AMM 05-05-00, AMM 05-55-08, AMM 27-81-00, AMM 27-81-11, AMM 27-81-21, AMM 27-81-31, AMM 27-81-32, AMM 27-81-41, AMM 27-88-00, AMM 27-88-11

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27051-1 (option) lock set is used on all 737-600, -700, -800, and -900 airplanes except the 737-900ER airplane.

The C27051-29 (preferred) lock set is used on all 737 airplanes except the 737-100 thru -500 airplanes.

C27051 is used to lock the leading edge slat and Krueger flap actuators in the extended position during ground maintenance.

Refer to AMM 05-05-00, AMM 05-55-08, AMM 27-81-00, AMM 27-81-11, AMM 27-81-21, AMM 27-81-31, AMM 27-81-32, AMM 27-81-41, AMM 27-88-00, AMM 27-88-11 and the current C27051 drawing for complete usage instructions.

C27051-1 and -29 lock sets consist of:

C27051-1		
QUANTITY	NOMENCLATURE	PART NUMBER
4	FLAP LOCK ASSEMBLY	C27051-2
8	SLAT LOCK ASSEMBLY	C27051-3
1	STORAGE BOX	

C27051-29		
QUANTITY	NOMENCLATURE	PART NUMBER
4	FLAP LOCK ASSEMBLY	C27051-2
8	SLAT LOCK ASSEMBLY	C27051-30
1	STORAGE BOX	

**WEIGHT:** 65 lbs (29 kg)

**DIMENSIONS:** 22 x 52 x 5 inches (559 x 1321 x 127 mm)

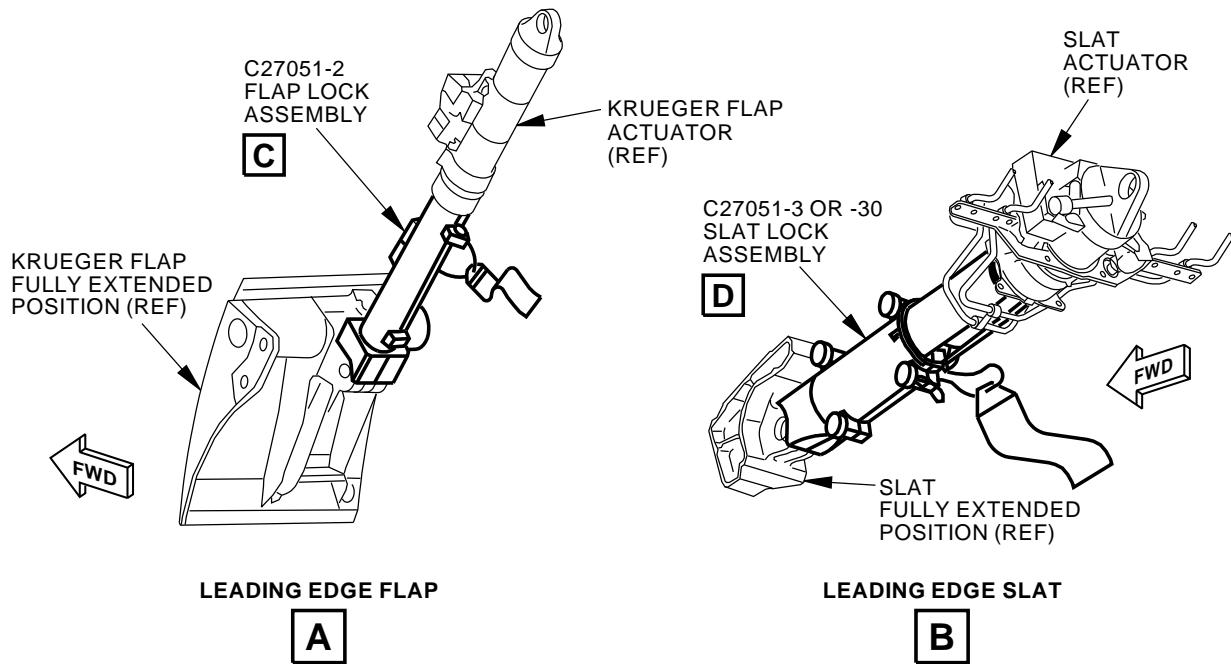
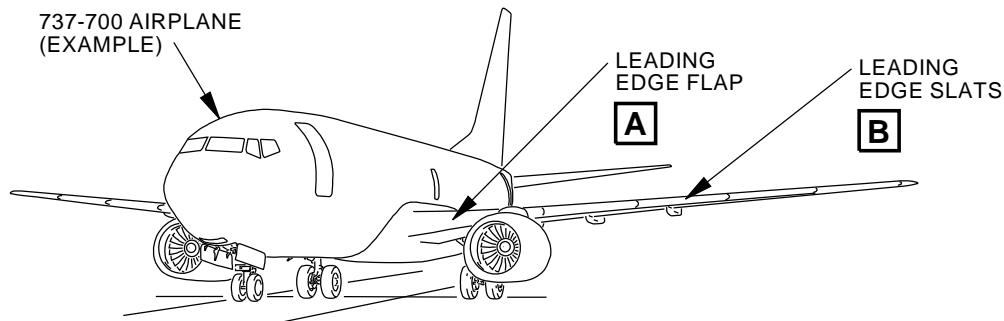
**NOTE:** C27051-29 replaces C27051-1 for future procurement.

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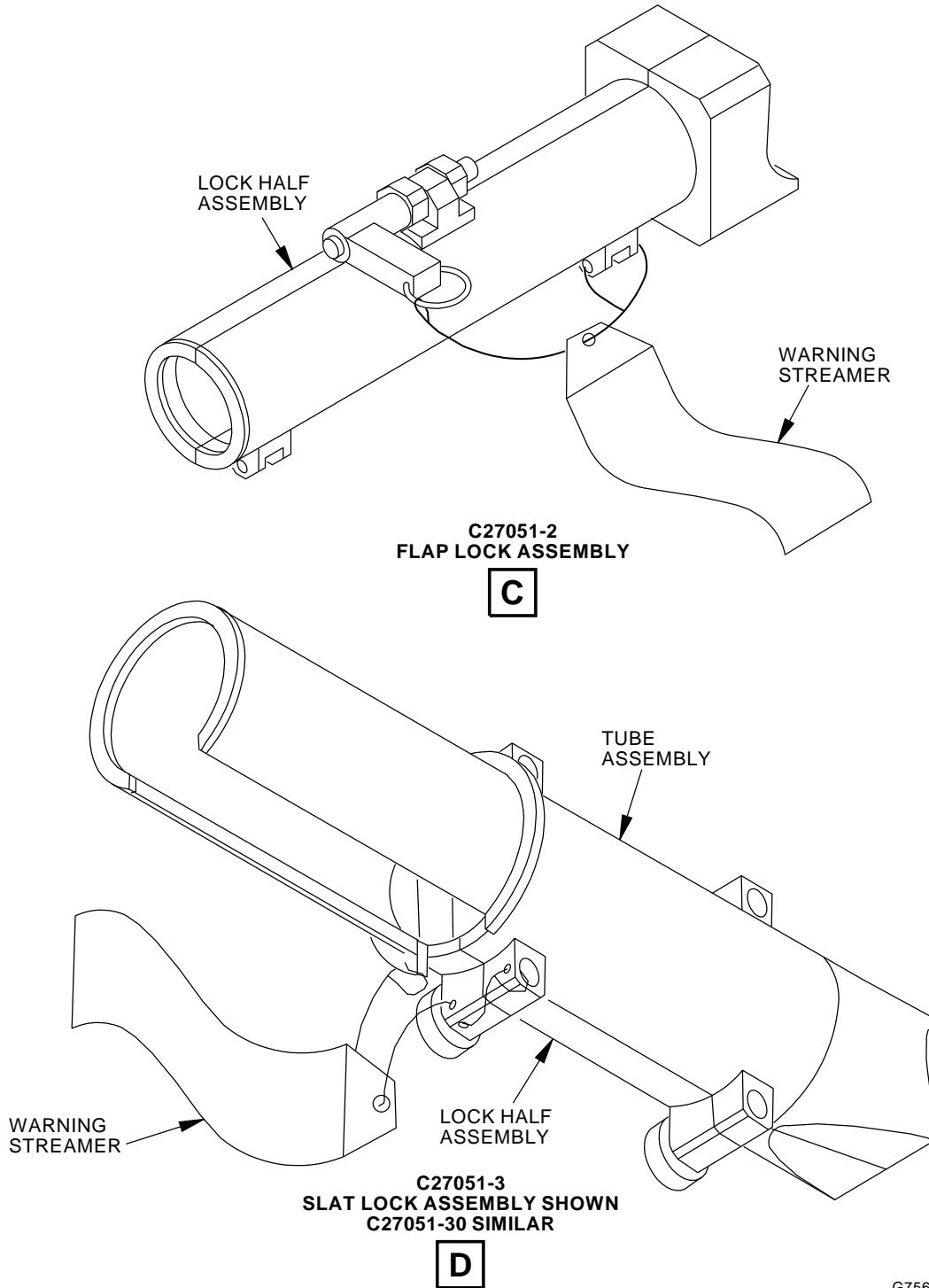
**Leading Edge Slat and Krueger Flap Actuators Lock Set**  
**Figure 1**

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**Leading Edge Slat and Krueger Flap Actuators Lock Set**  
**Figure 2**

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**PART NUMBER: C27056-19, -35**

**NAME:** SLING EQUIPMENT - LEADING EDGE SLAT, REMOVAL AND  
INSTALLATION (CE)

**AIRPLANE MAINTENANCE:** YES

AMM 27-81-21

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27056-19 (option, non-CE qualified) sling equipment is used on 737-600 thru -900 airplanes.

The C27056-35 (preferred, CE qualified) sling equipment is used on all 737 airplanes, except for 737-100 thru -500 airplanes.

C27056 is used in conjunction with a customer-furnished overhead lift and J71046 specification load cell equipment. C27056 is used to hold, lift and position the leading edge slats during installation or removal.

Refer to AMM 27-81-21 and the current C27056 drawing for complete usage instructions.

C27056-19 consists of:

C27056-19		
QUANTITY	NOMENCLATURE	PART NUMBER
1	SPREADER BAR ASSEMBLY	C27056-2
2	WEDGE ASSEMBLY	C27056-20
2	LOWER FITTING ASSEMBLY	C27056-4
2	UPPER FITTING ASSEMBLY	C27056-5
8	SPECIAL SCREW	C27056-18
4	NUT (MS35650-302)	C27056-21
12	WASHER (NAS1149C0332R)	C27056-22
2	STRAP (EE1-602)	C27056-23
1	STORAGE BOX	

C27056-35		
QUANTITY	NOMENCLATURE	PART NUMBER
1	SPREADER BAR ASSEMBLY	C27056-36
2	WEDGE ASSEMBLY	C27056-20
2	LOWER FITTING ASSEMBLY	C27056-4
2	UPPER FITTING ASSEMBLY	C27056-5
8	SPECIAL SCREW	C27056-18
4	NUT (MS35650-302)	C27056-21
12	WASHER (NAS1149C0332R)	C27056-22
2	STRAP (EE1-602)	C27056-23

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C27056-35		
QUANTITY	NOMENCLATURE	PART NUMBER
1	STORAGE BOX	

**WEIGHT:** 40 lbs (18 kg)

**DIMENSIONS:** 6 x 6 x 88 inches (152 x 152 x 2235 mm)

**NOTE:** C27056-19 supersedes C27056-1.

C27056-35 replaces C27056-19 for future procurement.

**DECLARATION OF CONFORMITY:** C27056-35 requires a written Declaration of Conformity from the C27056-35 fabricator if it is to be used in the European Union. The design of C27056-35 meets the European requirements of Machinery Directive 2006/42/EC including its amendments. When used within the European Union, the fabricator of C27056-35 must also meet the requirements of that directive. At a minimum for the tool fabricator, this requires the retention of a technical file, a labeling of the equipment with the CE mark, and the completion of an EC Declaration of Conformity. If C27056-35 is to be used within the European Union and the Declaration of Conformity is missing, contact the fabricator of C27056-35 for a replacement Declaration of Conformity.

**OPERATING INSTRUCTIONS:** Refer to the current C27056 drawing and AMM 27-81-21 procedures for detailed instructions on the use of this equipment. This equipment shall only be used in conjunction with Boeing maintenance procedures to maintain Boeing airplanes.

**MAINTENANCE:** General Cleaning: Basic care of the equipment includes cleaning the equipment of dirt, corrosives, or contaminants. Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and commercial soap or detergent, clean the components and wipe dry with a clean cloth. Hang the components freely to dry, but away from excessive heat or steam.

Slings, Synthetic: Maintenance and inspection of synthetic shall be performed in accordance with ASME B-30.9, Chapter 9-5 and 9-6.

Structural and Mechanical Lifting Devices, (spreader bars):

1. Maintenance shall be done based on the recommendations made by the lifter manufacturer or qualified person.
2. Before adjustments and repairs are started on a lifter, the following precautions shall be taken:
  - All courses of power shall be disconnected, locked out, and tagged "Out of Service".
  - A lifter removed from service for repair shall be tagged "Out of Service".

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3. Only a qualified person shall perform adjustments and tests when required.
4. Replacement parts shall be at least equal to the original manufacturer's specifications.
5. After adjustments and repairs have been made, the lifter shall not be returned to service until it has been inspected according to ASME B-30.20, para. 20-1.3.4.
6. Dated records of repairs and replacements shall be made.
7. Adjustments and repairs. Any hazardous conditions disclosed by the inspection requirements of ASME B-30.20, para. 20-1.3.1 shall be corrected before normal operations of the lifter is resumed. Adjustments and repairs shall be done under the direction of , or by, a qualified person.

**PROOF LOAD:** Proof load testing for the C27056- 35 sling equipment shall be performed per the current C27035 drawing proof load diagrams (example Figure 4) and:

- In conjunction with initial fabrication
- Subsequent to modification of this equipment (equipment shall only be modified in accordance with the C27035 drawing).
- After repair of load carrying components.
- After replacement of load carrying components (except for load carrying components such as shackles and hoist rings that carry their own certification).
- Continuing integrity/safety of the device to be assured by inspection.

**INSPECTION:** FREQUENT

General Inspection (before use):

1. Missing fasteners
2. Notes, Cautions and Warnings are legible
3. Usage placards are legible

Slings, General: Prior to use, all new, altered, modified or repaired slings shall be inspected by a designated person to verify compliance with the applicable provisions of EN 1492-1, Section 6, Section Annex B and ASME B-30.9

Slings, Webbing:

1. Visual inspection for damage shall be performed by the user or other designated person each day or shift the sling is used.
2. Slings shall not be returned to service until approved by a qualified person.
3. A written record of frequent inspections is not required.

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4. Conditions detailed below and in EN 1492-1, Section 6, Section Annex B and ASME B-30.9, or conditions that may result in a hazard shall cause the sling to be removed from service.
  - Red warning yarns visible.
  - Acid or caustic burns.
  - Melting or charring of any part of the sling surface.
  - Snags, punctures, tears or cuts.
  - Broken or worn stitches in load bearing splices.
  - Excessive abrasive wear.
  - Knots in any part of the sling.
  - Discoloration and brittle or stiff areas on any part of the sling.
  - Distortion of fittings.
  - Missing or illegible sling tag.

Structural and Mechanical Lifting Devices (spreader bar):

1. Visual Inspection by the operator before and during each lift of the device. Records are not required. Inspect for:
  - Structural deformation, cracks or excessive wear of any parts of the lifting device.
  - Loose or missing guards, fasteners, covers, stops or nameplates.
  - All functional operational mechanisms and automatic hold and release mechanisms for misadjustments interfering with operation.

PERIODIC

Welding Inspection:

1. Magnetic particle or dye penetrant inspection for all welds, after all proof load tests.
2. Inspect and evaluate per GSE Welding Document A00001 Inspection Requirements Tables 1 & 2, and Acceptance Criteria Table 3.
3. Reject cracked or deformed parts.

Slings, General:

1. A complete inspection for damage to the sling shall be periodically performed by a designated person.
2. Each sling and component shall be examined individually, taking care to expose and examine all surfaces.
3. The sling shall be examined for the conditions noted in the frequent inspection and in ASME B-30.9 or any other conditions that may result in a hazard shall cause the sling to be removed from service.
4. Slings shall not be returned to service until approved by a qualified person.

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5. A written record of the most recent periodic inspection shall be maintained and shall include the condition of the sling.

**Slings, Synthetic:** The straps shall be examined for the conditions noted in the frequent inspection and in ASME B-30.9 or any other conditions that may result in a hazard shall cause the sling to be removed from service.

Structural and Mechanical Lifting Devices (spreader bar):

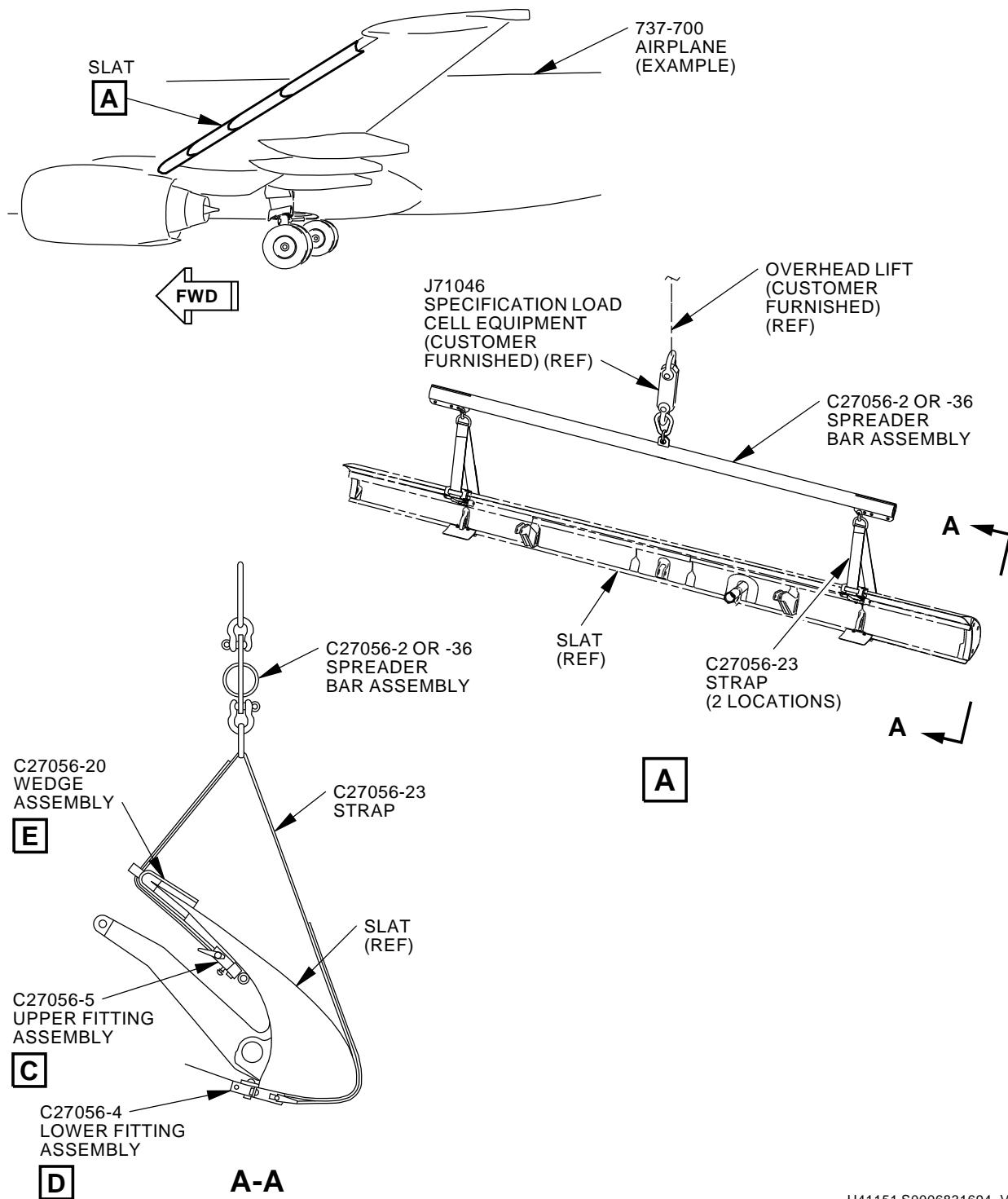
1. A written record of a visual inspection, by a qualified person is required.
2. Inspection is made of external conditions for a continuing evaluation of the following factors:
  - Loose bolts or fasteners.
  - Excessive wear of linkages and other mechanical parts.
  - Excessive wear at hoist hooking points and load support clevises or pins.
  - Deficiencies found during the inspection are analyzed and the lifting device shall not be used, if deficiencies are determined to be hazardous.
  - The lifting device shall not be used until the hazardous deficiencies are corrected.

**STORAGE:** C27035 shall be stored clean, dry, and free of exposure to fumes or corrosive elements, indoors and in the furnished storage box.

**DECOMMISSIONING:** Part and assemblies of this equipment, including textile components, shall be permanently altered to prevent their unauthorized reuse. Recycling is the preferred manner of disposal for those materials where that option is available.

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**Leading Edge Slat Removal/Installation Sling Equipment**  
**Figure 1**

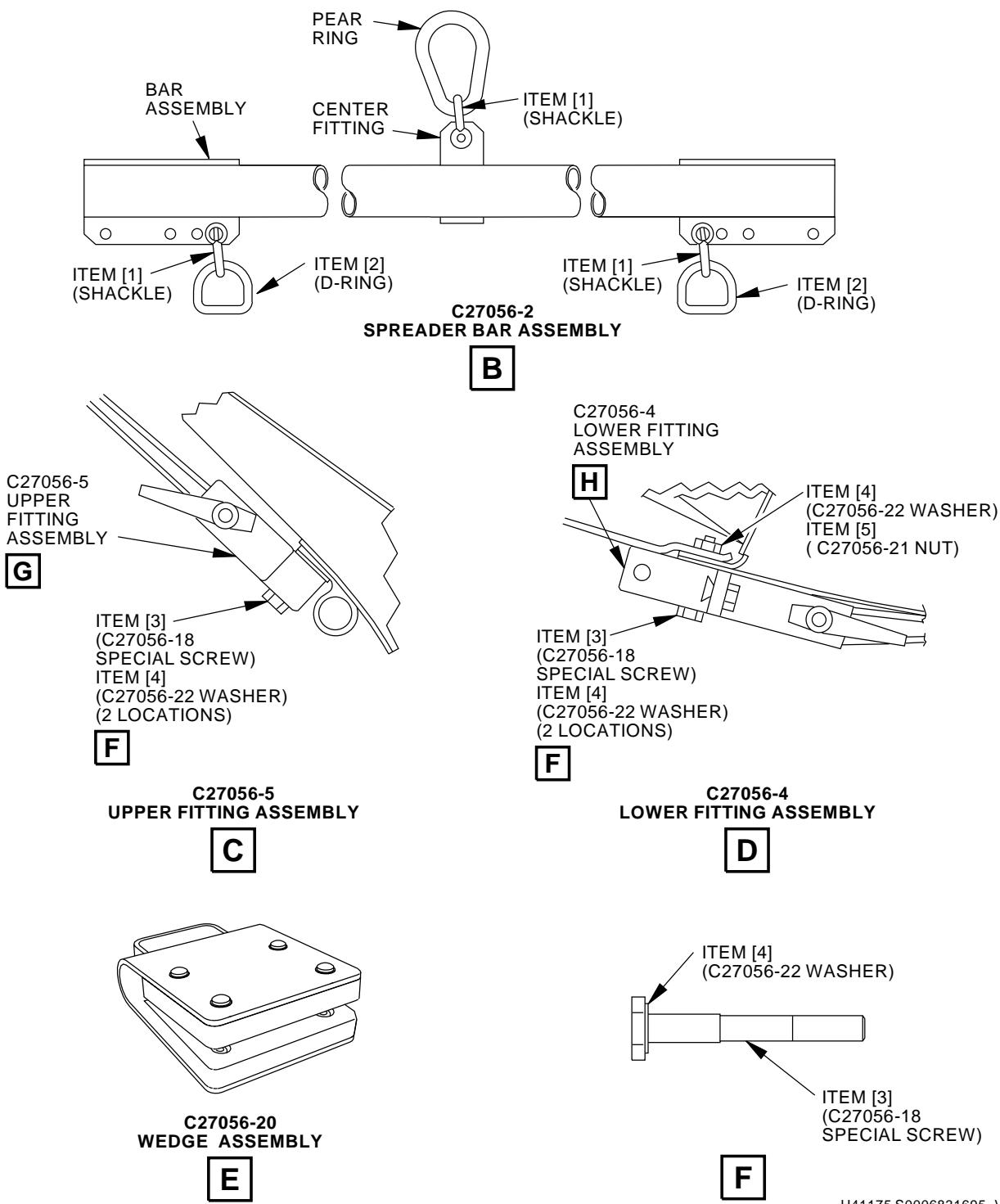
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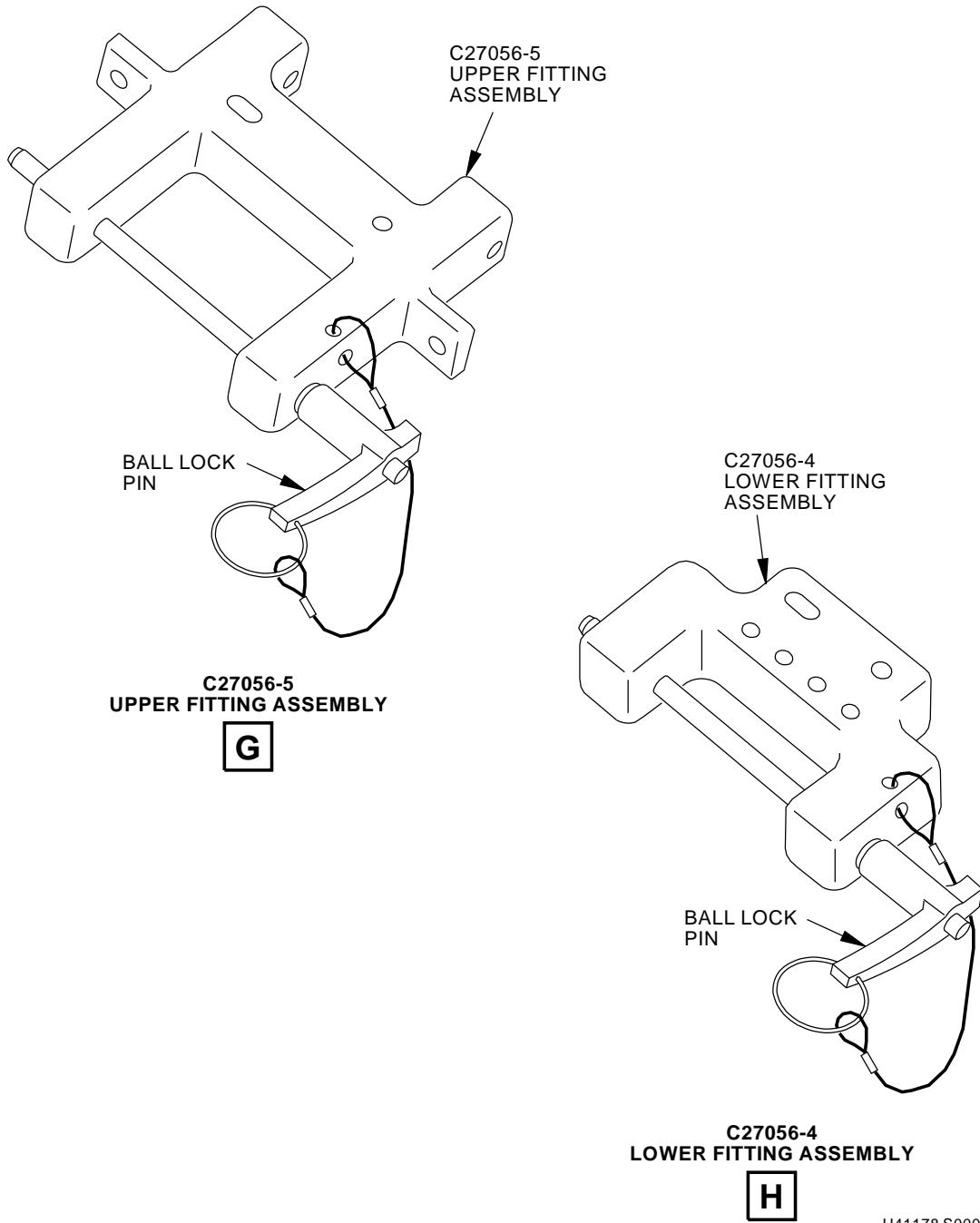
**Leading Edge Slat Removal/Installation Sling Equipment**  
**Figure 2**

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**Leading Edge Slat Removal/Installation Sling Equipment**  
**Figure 3**

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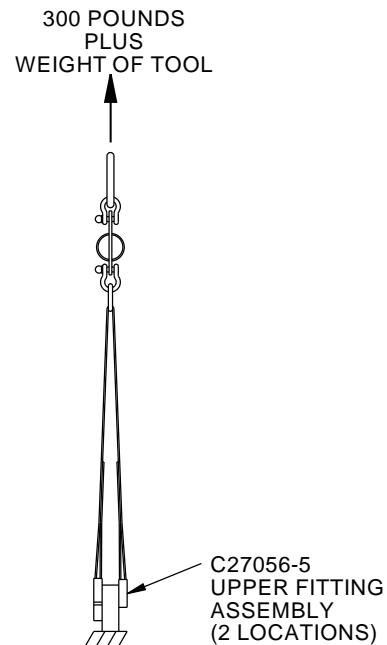
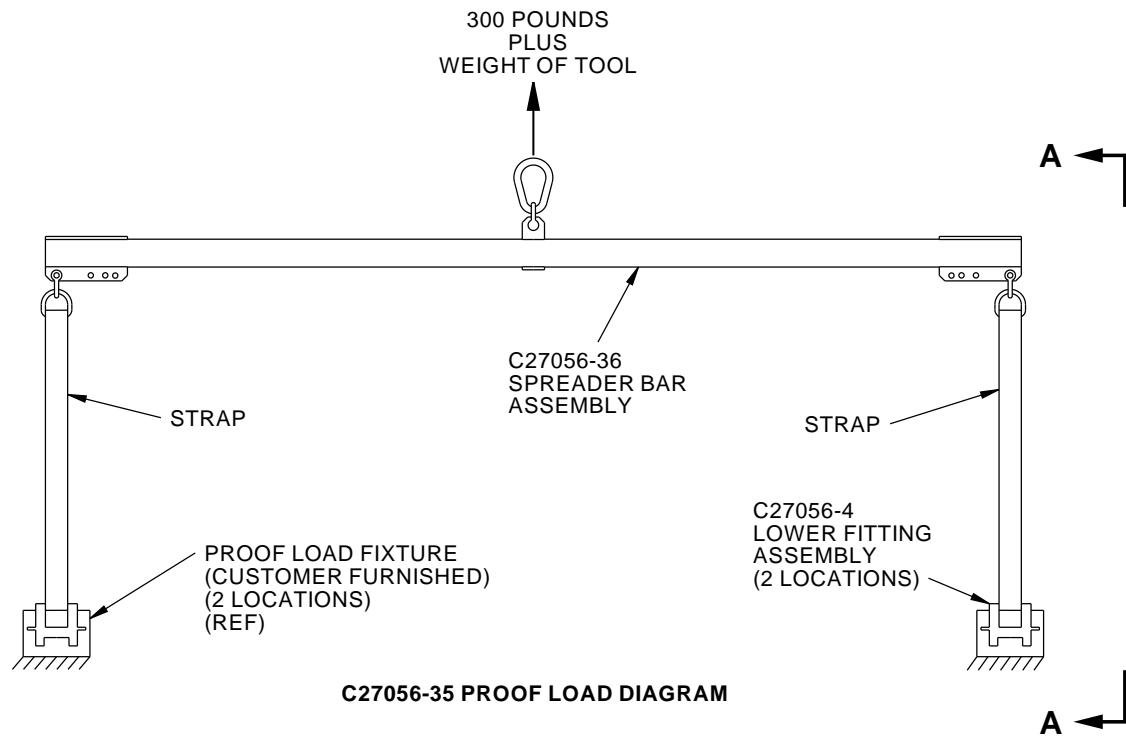
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**C27056-35 Proof Load Diagram (Example)**  
**Figure 4**

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NUMBER	PART NUMBER	NOMENCLATURE	VENDOR CODE
[1]	C27056-24 (G-209 3/8)	SHACKLE	75535
[2]	C27056-26 (1027)	D-RING	0KHZ6
[3]	C27056-18 (AN3-14A)	SPECIAL SCREW	---
[4]	C27056-22 (NAS1149CO332R)	WASHER	---
[5]	C27056-21 (MS35650-302)	NUT	---

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**PART NUMBER: C27038-6**

**NAME:** LOCKOUT PIN - LEADING EDGE CRUISE DEPRESSURIZATION VALVE (CE)

**AIRPLANE MAINTENANCE:** YES

AMM 05-00-00, AMM 27-81-00

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The C27038-6 (CE qualified) lockout pin is used on all 737 airplanes except for 737-100 thru -500 airplanes.

C27038 is a pin which is used to lock the cruise depressurization valve in the "OFF" position. This prevents movement of the leading edge flap and slats, during maintenance operations.

Refer to AMM 05-00-00, AMM 27-81-00 and the current C27038 drawing for complete usage instructions.

C27038-6 consists of:

C27038-6		
QUANTITY	NOMENCLATURE	PART NUMBER
1	PIN ASSEMBLY	C27038-7
1	STORAGE BOX	

**WEIGHT:** 0.1 lb (0.045 kg)

**DIMENSIONS:** 1 x 4 x 1 inches (25 x 102 x 25 mm)

**NOTE:** C27038-6 supersedes C27038-1.

**DECLARATION OF CONFORMITY:** C27038 requires a written Declaration of Conformity from the C27038 fabricator if it is to be used in the European Union. The design of C27038 meets the European requirements of Machinery Directive 2006/42/EC including its amendments. When used within the European Union, the fabricator of C27038 must also meet the requirements of that directive. At a minimum for the tool fabricator, this requires the retention of a technical file, a labeling of the equipment with the CE mark, and the completion of an EC Declaration of Conformity. If C27038 is to be used within the European Union and the Declaration of Conformity is missing, contact the fabricator of C27038 for a replacement Declaration of Conformity.

**OPERATING INSTRUCTIONS:** Refer to the current C27038 drawing and AMM 05-00-00, AMM 27-81-00 maintenance procedures for detailed instructions on the use of this equipment. This equipment shall only be used in conjunction with Boeing maintenance procedures to maintain Boeing airplanes.

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**MAINTENANCE:** General Cleaning: Basic care of the equipment includes cleaning the equipment of dirt, corrosives, or contaminants. Wipe off all surface dirt with a sponge dampened in plain water. Squeeze the sponge dry. Dip the sponge in a mild solution of water and commercial soap or detergent, clean the components and wipe dry with a clean cloth. Hang the components freely to dry, but away from excessive heat or steam.

**INSPECTION:** FREQUENT

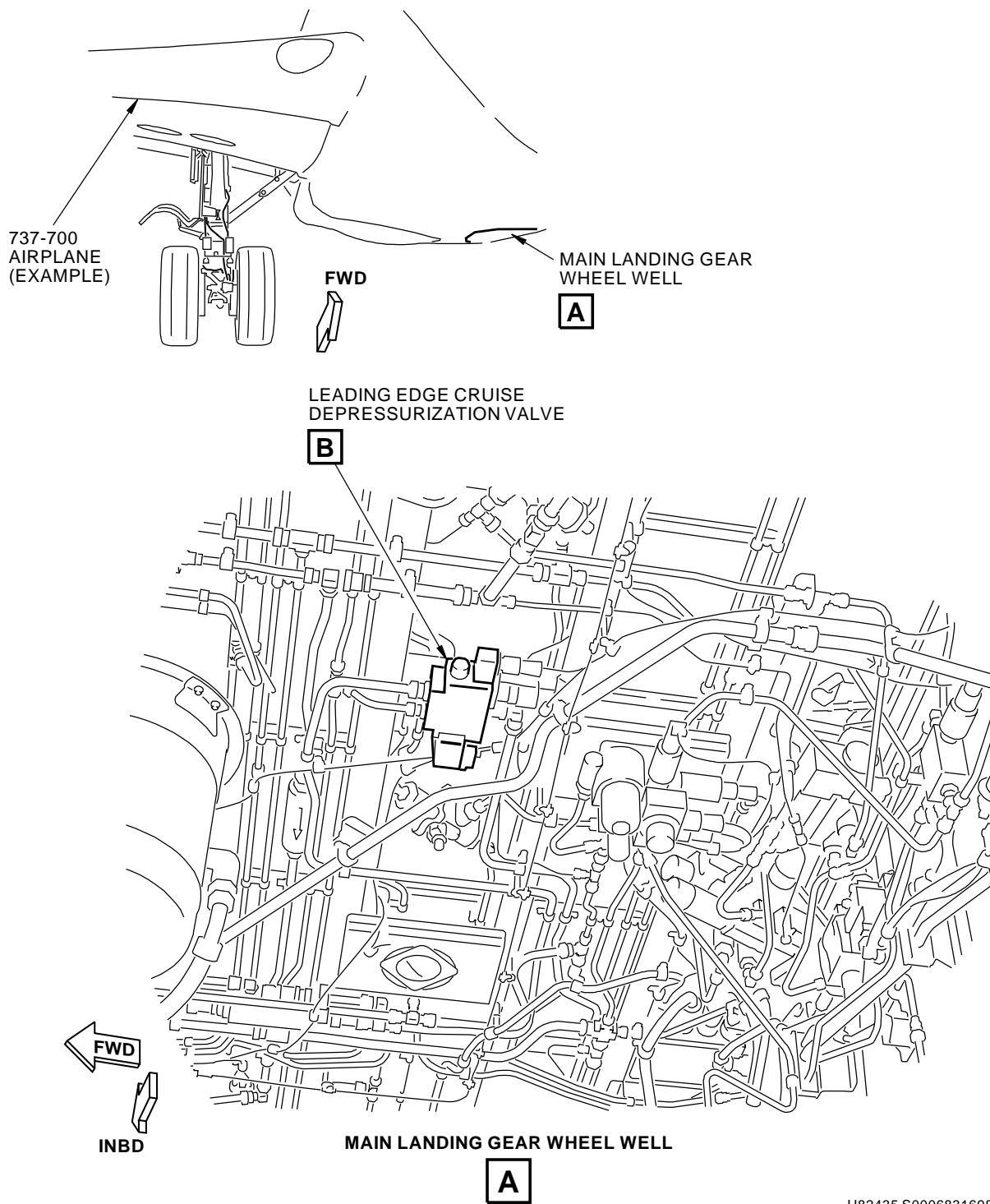
General Inspection (before use):

1. Missing fasteners
2. Notes, Cautions and Warnings are legible
3. Usage placards are legible

**STORAGE:** C27038 shall be stored clean, dry, and free of exposure to fumes or corrosive elements, indoors and in the furnished storage box.

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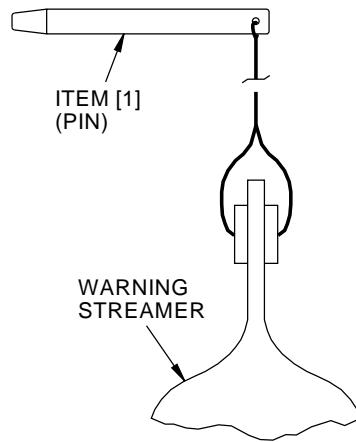
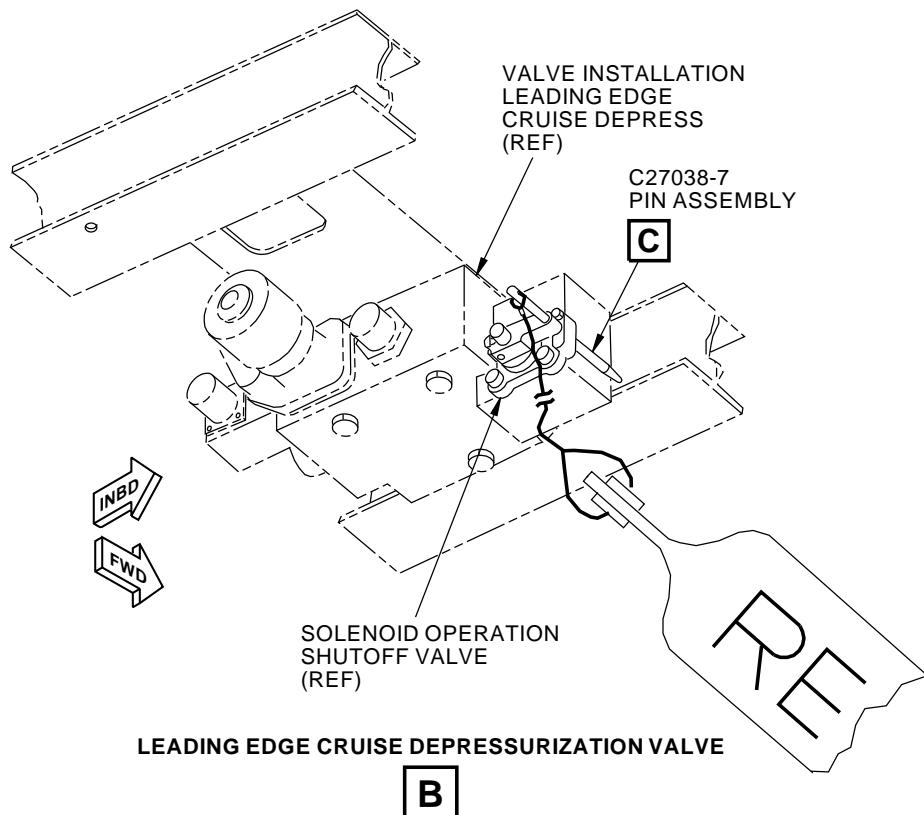
**Leading Edge Cruise Depressurization Valve Location**  
**Figure 1**

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**C27038-7  
PIN ASSEMBLY**

**C**

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**Lockout Pin Usage  
Figure 2**

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REPAIRABLE/REPLACEABLE PARTS			
ITEM NUMBER	PART NUMBER	NOMENCLATURE	VENDOR CODE
[1]	C27038-4	PIN (5/16" DIA X 3.8", A2 TOOL STEEL)	---

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