

CHAPTER

27

FLIGHT CONTROLS



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| 27-80-20 | TEST EQUIPMENT - LE SLAT 5 AND 8, INBOARD OFFSET GEARBOX | A27117-1 |
| 27-80-21 | SLING - OUTBOARD SLAT PDU | A27116-1 |
| 27-80-22 | FIXTURE-HOLDING, GEAR ASSEMBLY, LE SLAT DRIVE | A27054-14 |
| 27-80-23 | TOOL SET - SEAL INSTALLATION | A27121-1 |

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27026-7

NAME: HOIST BRACKET - FISHPOLE HOIST FLAP PDU

AIRPLANE MAINTENANCE: YES

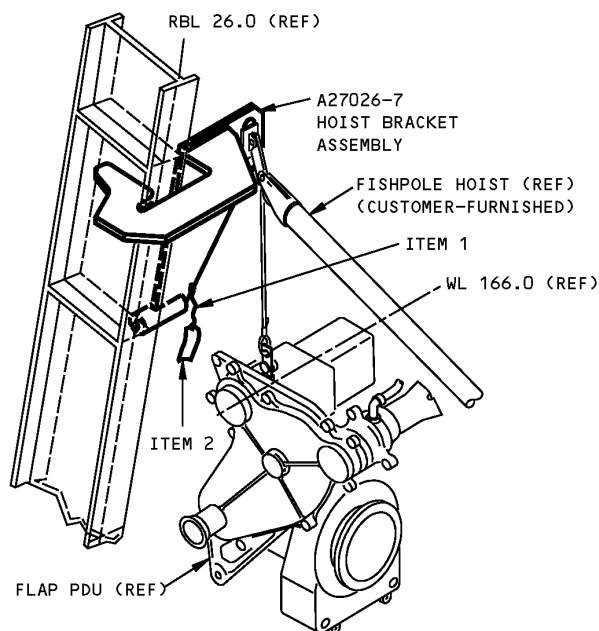
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is a welded steel bracket that provides a hoist point for a customer-furnished fishpole hoist for removal/ installation of the flap Power Drive Unit (PDU). This tool is used on all 767 airplanes. This tool consists of a bracket assembly and a box assembly. The bracket mounts on the adjoining aft wheel well hinge beam structure to provide a stable interface between the fishpole hoist, the cable assembly, and the PDU.

WEIGHT: 8 lbs (3.6 kg)

DIMENSIONS: 12 x 12 x 14 inches (305 x 305 x 356 mm)

NOTE: A27026-7 supersedes A27026-1.



Flap PDU Fishpole Hoist Hoist Bracket
Figure 1

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | CL-21-KA-4.0LR | LANYARD | V99862 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------|------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 2 | NAS1756-24 | WARNING STREAMER | |
| 3 | F70308-15 | PROOF LOAD TAG | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27039-1, -19, -26, -27

NAME: BREAKOUT BOX - BENCH TEST

AIRPLANE MAINTENANCE: NO

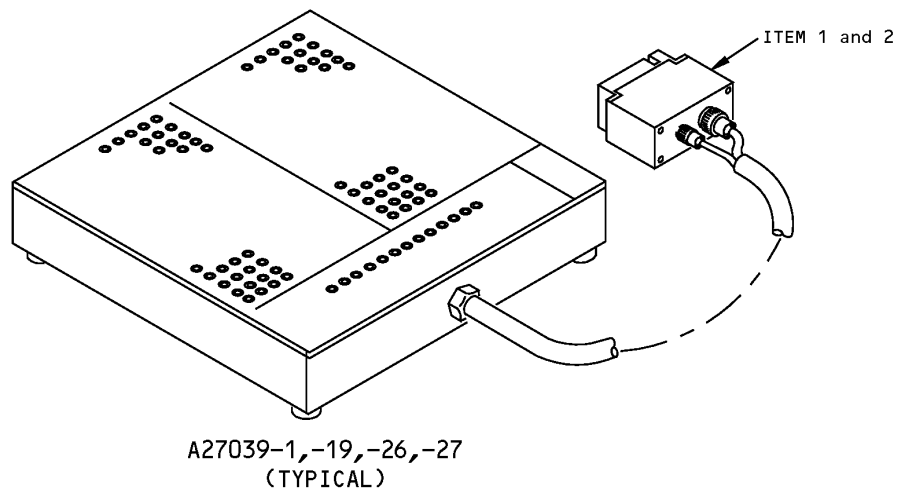
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool consists of two breakout boxes that are used to functionally test electronic equipment having ARINC 600 connectors. Breakout box A27039-1 and -26 are used for ARINC 600 size 2 connectors and A27039-19 and -27 are used for ARINC 600 size 1 connectors.

WEIGHT: A27039-1, -26 - 10 lbs (4.5 kg)
A27039-19, -27 - 8 lbs (3.6 kg)

DIMENSIONS: A27039-1, -26 - 3 x 17 x 17 inches (76 x 432 x 432 mm)
A27039-19, -27 - 3 x 12 x 12 inches (76 x 305 x 305 mm)

NOTE: A27039-26 and -27 replaces -1 and -19 respectively, for future procurement.
A27039-19 supersedes A27039-9.



**Bench Test Breakout Box
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------------|------------------------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | BKAD1-125-30001 | CONNECTOR | V71468 |
| 2 | BKAD2-313-30001 | CONNECTOR | V71468 |
| 2 | S612MG13W2 P0001 | CONNECTOR (OPT TO BKAD2-313-30001) | V59610 |

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27038-1, -6, -10, -20

NAME: BREAKOUT BOX - PRINTED CIRCUIT CARD

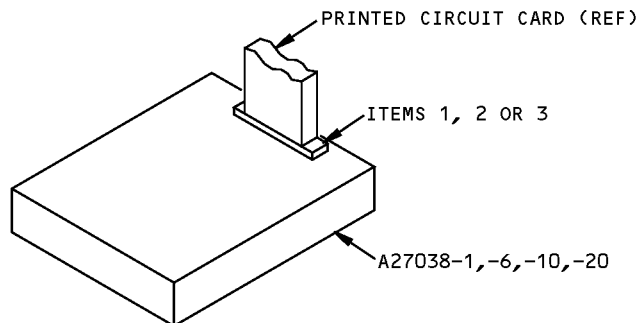
AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: These breakout boxes are used to functional test printed cards having common connectors. The -1 breakout box assembly test cards with 66-pin connectors, the -6 tests cards with 114-pin connectors, and the -10 tests cards with 41-pin connectors. The -1,-6, and -10 are applicable to all 767s. The -20 is used to test cards with 160-pin connectors and is applicable to the 767 general market freighter only.

WEIGHT:
A27038-1 - 2 lbs (0.9 kg)
A27038-6 - 3 lbs (1.4 kg)
A27038-10 - 1 lb (0.45 kg)
A27038-20 - 4 lbs (1.8 kg)

DIMENSIONS:
A27038-1 - 2 x 7 x 11 inches (51 x 178 x 279 mm)
A27038-6 - 3 x 12 x 12 inches (76 x 305 x 305 mm)
A27038-10 - 2 x 7 x 7 inches (51 x 178 x 178 mm)
A27038-20 - 3 x 10 x 14 inches (76 x 254 x 356 mm)



Printed Circuit Card Breakout Box
Figure 1

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | 300052-001 (-1 ASSY) | J1 CONNECTOR | V03877 |
| 2 | 300206-001 (-6 ASSY) | J1 CONNECTOR | V03877 |
| 3 | 300055-001 (-10 ASSY) | J1 CONNECTOR | V03877 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27030-66

NAME: TEST BOX - POWER SUPPLY, CSEU

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: The A27030 drawing has been transferred to BAE Systems and will no longer be revised by Boeing. The A27030 inclusion in the 767 ITEM is for information and historical purposes only.

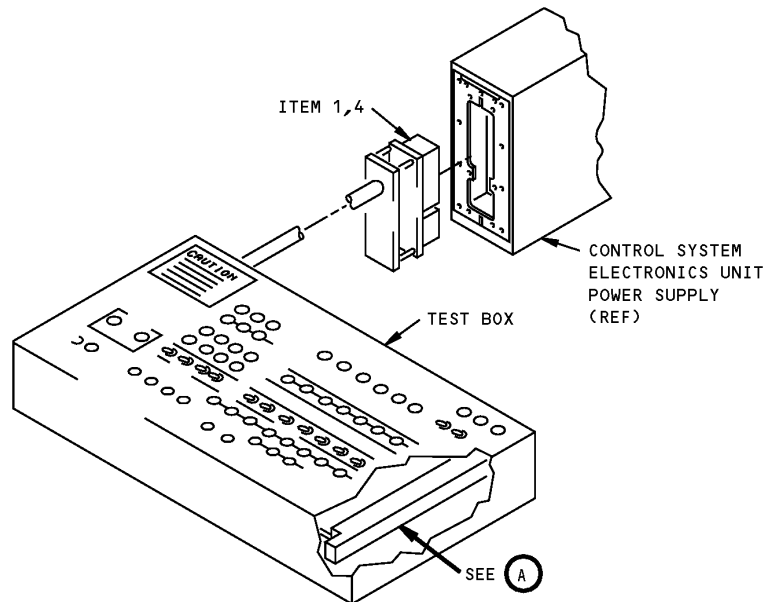
This tool is used to functionally test the circuitry and connections within the Control System Electronics Unit (CSEU) power supply assembly. This tool is used on 767-200 and -300 airplanes equipped with the 285T0017-1xx series CSEU, but not the 285T0017-2xx and on series CSEU. The equipment number references are M536, M537, M538 and M539. Refer to CMM 27-09-56 and CMM 27-09-57 for further usage instructions.

WEIGHT: 10 lbs (4.5 kg)

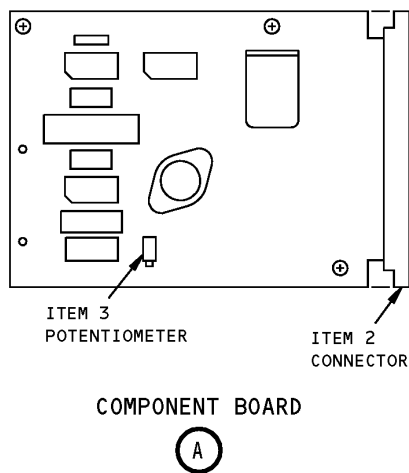
DIMENSIONS: 5 x 10 x 17 inches (127 x 254 x 432 mm)

NOTE: A27030-66 supersedes A27030-51.
A27030-51 supersedes A27030-48.
A27030-48 supersedes A27030-43.
A27030-43 supersedes A27030-42.
A27030-42 supersedes A27030-38.

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Control System Electronics Unit Power Supply Test Box
Figure 1 (Sheet 1 of 2)



Control System Electronics Unit Power Supply Test Box
Figure 1 (Sheet 2 of 2)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------------|---------------------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | BKAE2-313-30001 | CONNECTOR (OPT BKAD2-313-30001) | V71468 |
| 2 | R636-2 | CONNECTOR | V82893 |
| 3 | 68W-R100K | TRIM POTENTIOMETER | V05721 |
| 4 | BKAD2-313-30001 | CONNECTOR (OPT BKAE2-313-30001) | V71468 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27045-16

NAME: TEST BOX - NOISE, CSEU POWER SUPPLY

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: The A27045 drawing has been transferred to BAE Systems and will no longer be revised by Boeing. The A27045 inclusion in the 767 ITEM is for information and for historical purposes only.

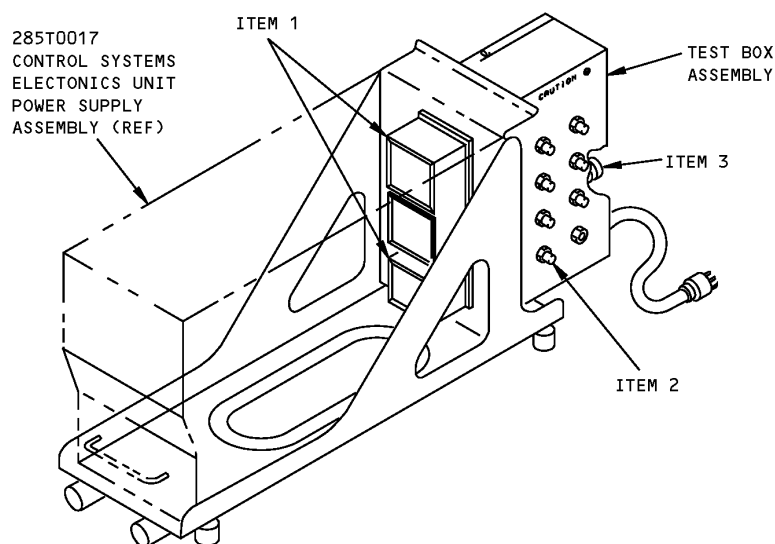
This tool is used to test for noise levels within the Control System Electronics Unit (CSEU) power supply assembly 285T0017. This tool is used on 767-200 and -300 airplanes equipped with the 285T0017-1xx series CSEU, but not the 285T0017-2xx and on series CSEU. The equipment number references are M536, M537, M538 and M539. Refer to CMM 27-09-56 and CMM 27-09-57 for further usage instructions. This tool consists of a box assembly, a box lid assembly, a tray assembly and related hardware.

WEIGHT: 8 lbs (3.6 kg)

DIMENSIONS: 4 x 9 x 22 inches (102 x 229 x 559 mm)

NOTE: A27045-16 supersedes A27045-1.

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Control System Electronics Unit Power Supply Noise Test Box
Figure 1

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | BKAE2-313-30001 | CONNECTOR | V71468 |
| 2 | 131-0258-00 | TEST JACK | V80009 |
| 3 | 313002 | FUSE | V75915 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27052-1

NAME: TEST BOX - REGULATOR, CSEU POWER SUPPLY

AIRPLANE MAINTENANCE: NO

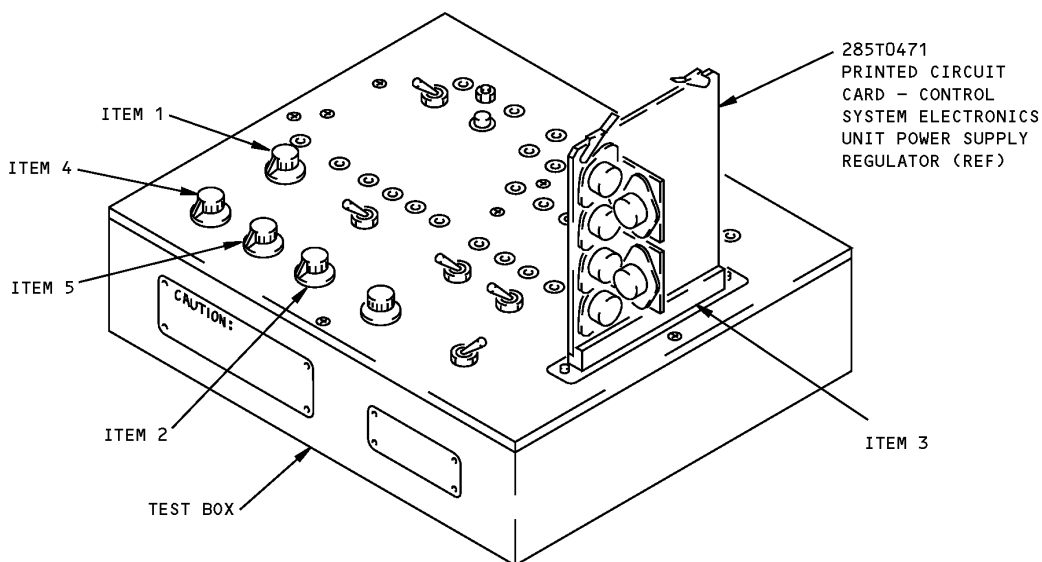
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: The A27052 drawing has been transferred to BAE Systems and will no longer be revised by Boeing. The A27052 inclusion in the 767 ITEM is for information and historical purposes only.

This tool is used to functionally test the control system electronics unit power supply regulator printed circuit card 285T0471. This tool is used on 767-200 and -300 airplanes equipped with the 285T0017-1xx series CSEU, but not the 285T0017-2xx and on series CSEU. The equipment number references are M536, M537, M538 and M539. Refer to CMM 27-09-56 and CMM 27-09-57 for further usage instructions.

WEIGHT: 9 lbs (4.1 kg)

DIMENSIONS: 5 x 12 x 15 inches (127 x 305 x 381 mm)



Control System Electronics Unit Power Supply Regulator Test Box
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|--------------|---------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | 7286R20KL.25 | POTENTIOMETER | V05721 |
| 2 | VWS200 | POTENTIOMETER | V37942 |
| 3 | 300052-003 | CONNECTOR | V03877 |
| 4 | VWS50 | POTENTIOMETER | V37942 |
| 5 | 7286R1KL.25 | POTENTIOMETER | V05721 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27053-26, -29, -32

NAME: TEST BOX - MONITOR, CSEU POWER SUPPLY

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: The A27053 drawing has been transferred to BAE Systems and will no longer be revised by Boeing. The A27053 inclusion in the 767 ITEM is for information and historical purposes only.

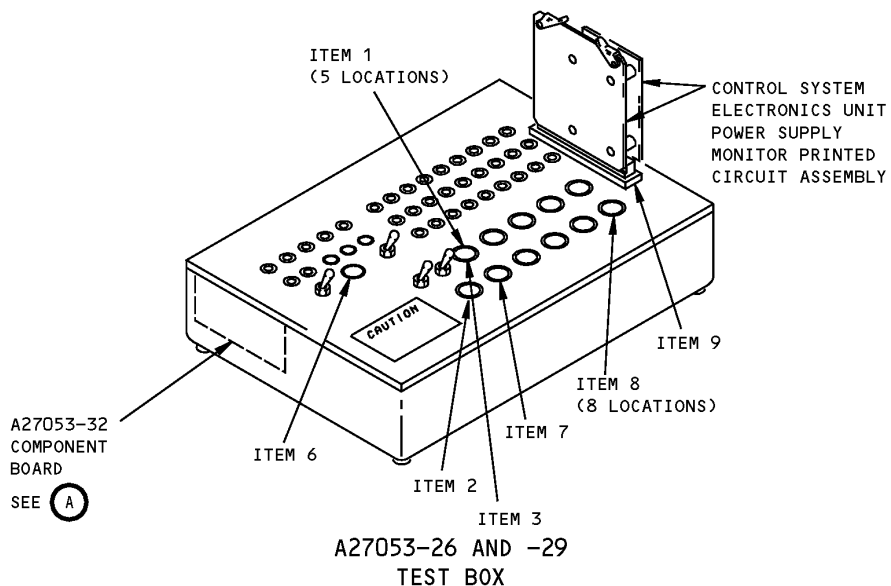
Test box is used to functionally test the Control System Electronics Unit (CSEU) monitor printed circuit assembly. This tool is used on 767-200 and -300 airplanes equipped with the 285T0017-1xx series CSEU, but not the 285T0017-2xx and on series CSEU. The equipment number references are M536, M537, M538 and M539. Refer to CMM 27-09-56 and CMM 27-09-57 for complete test instructions.

WEIGHT: 10 lbs (4.5 kg)

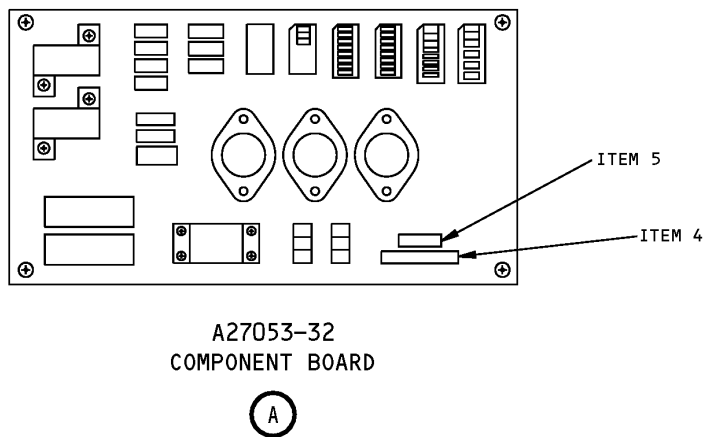
DIMENSIONS: 3 x 10 x 14 inches (76 x 254 x 356 mm)

NOTE: A27053-29 replaces A27053-26 for future procurement.
A27053-26 supersedes A27053-23.

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Control System Electronics Unit Power Supply Monitor Test Box
Figure 1 (Sheet 1 of 2)



Control System Electronics Unit Power Supply Monitor Test Box
Figure 1 (Sheet 2 of 2)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------|---------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | PS-57 | WAFER | V3V044 |
| 2 | PSA-221 | SWITCH | V3V044 |
| 3 | PSA-513 | SWITCH | V3V044 |
| 4 | 78PR100K | POTENTIOMETER | V05721 |
| 5 | 89XR10K | POTENTIOMETER | V05721 |
| 6 | 312 001 | FUSE | V0UA64 |
| 7 | 7286R10K | POTENTIOMETER | V05721 |
| 8 | 7286R500 | POTENTIOMETER | V05721 |
| 9 | 300052-003 | CONNECTOR | V82316 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27059-1

NAME: BREAKOUT BOX - CHOPPER/REGULATOR POWER SUPPLY, CSEU

AIRPLANE MAINTENANCE: NO

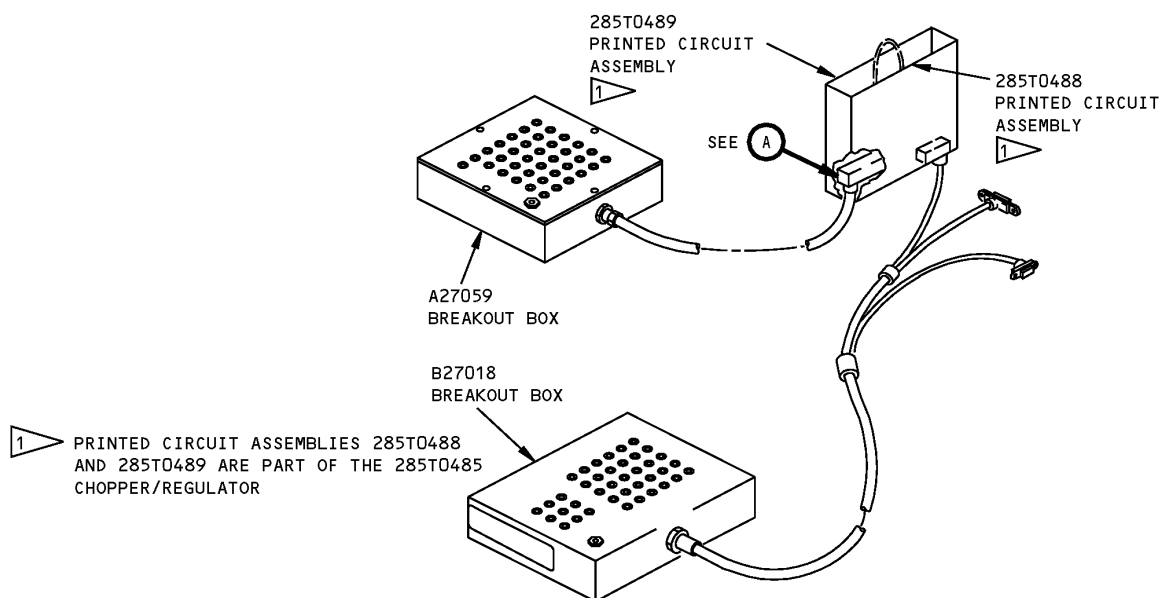
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: The A27059 drawing has been transferred to BAE Systems and will no longer be revised by Boeing. The A27059 inclusion in the 767 ITEM is for information and historical purposes only.

This tool is used in conjunction with B27018 FSEU/CSEU power supply breakout box to test the 285T0485 CSEU chopper/ regulator printed wiring assembly. This tool is used on 767-200 and -300 airplanes equipped with the 285T0017-1xx series CSEU, but not the 285T0017-2xx and on series CSEU. The equipment number references are M536, M537, M538 and M539. Refer to CMM 27-09-56 and CMM 27-09-57 for further usage instructions. This tool consists of a chassis assembly, related components and hardware.

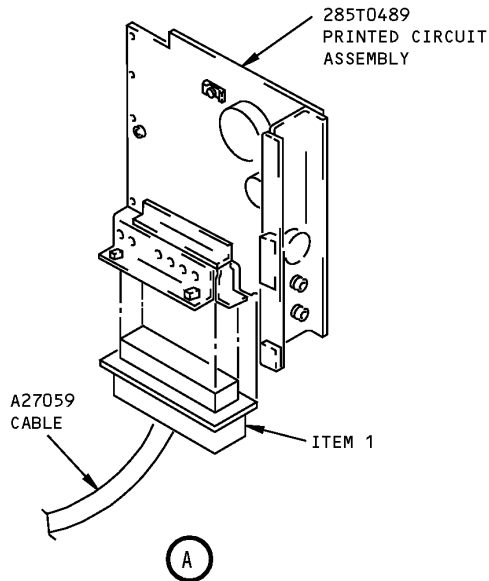
WEIGHT: 3 lbs (1.4 kg)

DIMENSIONS: 4 x 10 x 10 inches (102 x 254 x 254 mm)



CSEU Power Supply Chopper/Regulator Breakout Box
Figure 1 (Sheet 1 of 2)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



CSEU Power Supply Chopper/Regulator Breakout Box
Figure 1 (Sheet 2 of 2)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | DCC-37P | P1 CONNECTOR | V71468 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27063-71, -91

NAME: BREAKOUT BOX EQUIPMENT - POSITION SENSORS, FLIGHT CONTROLS RIGGING

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The A27063-91 breakout box equipment is used on all 767 airplanes. The A27063-71 is used on 767 airplanes prior to line number 403 and has been replaced for future procurement by the A27063-91. The A27063-91 breakout box and cable assemblies are used on the airplane to adjust position sensors during rigging of the flight control system and components.

The A27063 cable assemblies are used to connect the A27063 breakout box to the position sensor (option I) or between the sensor and airplane wiring (option II). The A27063-92 thru -97 cable assemblies are used on 767 airplane line numbers 403 and on. The A27063-107 cable assembly is limited to 767 airplanes equipped with General Electric CF6-80C2F engines (with FADEC). A27063-124,-125, -126 cable assemblies are typically used (but not all inclusive) on 767 airplanes, prior to line number 801, equipped with 253T4015-1 thru -6 transducers. A27063-124, -125,-126 cable assemblies also include those airplanes that incorporate service bulletin 767-31-0118 and 767-31-0120 but are not applicable to 767-400 airplanes. A27063-91 breakout box equipment includes the A27063-2 breakout box and applicable cables determined by the mate-with tables, model applicability tables and the procurement agency. The information included on this tool is for quick familiarity and should not be used as a purchasing aid. Refer to the current A27063 drawing and the applicable maintenance manual reference for complete usage and purchasing information.

A27063-91 consists of:

| A27063-91 | | |
|-----------|----------------|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | BREAKOUT BOX | A27063-2 |
| 1 | USAGE PLACARD | A27063-83 |
| 1 | DATA PACKAGE | A27063-123 |
| 1 | CABLE ASSEMBLY | A27063-18 |
| 1 | CABLE ASSEMBLY | A27063-19 |
| 1 | CABLE ASSEMBLY | A27063-20 |
| 1 | CABLE ASSEMBLY | A27063-21 |
| 1 | CABLE ASSEMBLY | A27063-22 |
| 1 | CABLE ASSEMBLY | A27063-23 |



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| A27063-91 | | |
|------------------|---------------------|--------------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | CABLE ASSEMBLY | A27063-24 |
| 1 | CABLE ASSEMBLY | A27063-25 |
| 1 | CABLE ASSEMBLY | A27063-26 |
| 1 | CABLE ASSEMBLY | A27063-27 |
| 1 | CABLE ASSEMBLY | A27063-28 |
| 1 | CABLE ASSEMBLY | A27063-29 |
| 1 | CABLE ASSEMBLY | A27063-30 |
| 1 | CABLE ASSEMBLY | A27063-31 |
| 1 | CABLE ASSEMBLY | A27063-32 |
| 1 | CABLE ASSEMBLY | A27063-33 |
| 1 | CABLE ASSEMBLY | A27063-34 |
| 1 | CABLE ASSEMBLY | A27063-35 |
| 1 | CABLE ASSEMBLY | A27063-36 |
| 1 | CABLE ASSEMBLY | A27063-37 |
| 1 | CABLE ASSEMBLY | A27063-40 |
| 1 | CABLE ASSEMBLY | A27063-41 |
| 1 | CABLE ASSEMBLY | A27063-76 |
| 1 | CABLE ASSEMBLY | A27063-77 |
| 1 | CABLE ASSEMBLY | A27063-92 |
| 1 | CABLE ASSEMBLY | A27063-93 |
| 1 | CABLE ASSEMBLY | A27063-94 |
| 1 | CABLE ASSEMBLY | A27063-95 |
| 1 | CABLE ASSEMBLY | A27063-96 |
| 1 | CABLE ASSEMBLY | A27063-97 |
| 1 | CABLE ASSEMBLY | A27063-107 |
| 1 | CABLE ASSEMBLY | A27063-113 |
| 1 | CABLE ASSEMBLY | A27063-114 |
| 1 | CABLE ASSEMBLY | A27063-115 |
| 1 | CABLE ASSEMBLY | A27063-116 |
| 1 | CABLE ASSEMBLY | A27063-124 |
| 1 | CABLE ASSEMBLY | A27063-125 |
| 1 | CABLE ASSEMBLY | A27063-126 |
| 1 | STORAGE BOX | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| CABLE ASSEMBLY USAGE TABLE | | | | |
|---|---------------------------------|---|--------------------------|------------|
| POSITION SENSOR AND MAINTENANCE MANUAL CHAPTER REFERENCE | AIRPLANE EQUIPMENT NUMBER | PART NUMBER (REF) | CABLE ASSEMBLY NUMBER | |
| | | | OPTION I | OPTION II |
| INBOARD AILERON POSITION TRANSMITTER, LEFT, 27-18 | M470 | 60B40042-3, -7 S250N104-1, -4, -6 | -19 | -18, -19 |
| INBOARD AILERON POSITION TRANSMITTER, RIGHT, 27-18 | M486 | | | |
| OUTBOARD AILERON POSITION TRANSMITTER, LEFT, 27-18 | M471 | | | |
| OUTBOARD AILERON POSITION TRANSMITTER, RIGHT, 27-18 | M487 | | | |
| ELEVATOR POSITION TRANSMITTER, LEFT, 27-31 | M517 | | | |
| ELEVATOR POSITION TRANSMITTER, RIGHT, 27-38 | M518 | | | |
| LATERAL CENTRAL CONTROL ACTUATOR, LEFT, 27-11, 22-12 | M274 | S252N105-2, -4, -5, -6, -7, - 9, -11 | -41 | -40, -41 |
| LATERAL CENTRAL CONTROL ACTUATOR, CENTER, 27-11, 22-12 | M275 | | | |
| LATERAL CENTRAL CONTROL ACTUATOR, RIGHT, 27-11, 22-12 | M276 | | | |
| POWER LEVER ANGLE TRANSDUCER, 22-33 | TS166 | 60B90034-2, -3 | -31 | -30, -31 |
| RUDDER POSITION TRANSMITTER, 27-28 | M516 | 60B40042-3, -7 S250N104-1, -4, -6 | -19 | -18, -19 |
| INBOARD SLAT PDU POSITION TRANSMITTER, 1, 27-81 | M483 | S256T002-1, -3 | -29 | -28, -29 |
| INBOARD SLAT PDU POSITION TRANSMITTER, 2, 27-81 | M549 | | | |
| OUTBOARD SLAT PDU POSITION TRANSMITTER, 1, 27-81 | M544 | | | |
| OUTBOARD SLAT PDU POSITION TRANSMITTER, 2, 27-81 | M548 | S256T002-1, -3 | -29 | -28, -29 |
| | | S256T002-11 | -93 | -92, -93 |
| CAPT CONTROL COLUMN POSITION TRANSDUCER, 27-31, 31-31 | TS353 | 253T4015-4 | -77 | -76, -77 |
| | | S250N104-6 | -19 | -18, -19 |
| CAPT CONTROL WHEEL POSITION TRANSDUCER, 27-11, 31-31 | TS354 | 253T4015-2, -5 | -125 | -124, -125 |
| | | S250N104-6 | -19 | -18, -19 |

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| CABLE ASSEMBLY USAGE TABLE | | | | | |
|---|------|---------------------------------|--------------------------------------|--------------------------|------------|
| POSITION SENSOR AND MAINTENANCE MANUAL CHAPTER REFERENCE | | AIRPLANE EQUIPMENT NUMBER | PART NUMBER (REF) | CABLE ASSEMBLY NUMBER | |
| | | | | OPTION I | OPTION II |
| CAPT CONTROL RUDDER PEDAL POSITION TRANSDUCER, 27-21, 31-31 | | TS355 | 253T4015-6 | -126 | -84, -126 |
| | | | S250N104-3, -6 | -19 | -18, -19 |
| CAPT CONTROL WHEEL SPOILER TRANSDUCER, 27-61 | | TS5081 | S251N119-3, -31 | -21 | -20, -21 |
| RUDDER RATIO CHANGER TRANSDUCER, 27-21 | | TS194 | S251T362-2, -3 | -27 | -26, -27 |
| F/O CONTROL WHEEL SPOILER TRANSDUCER, 27-61 | | TS5082 | S251N119-3, -31 | -21 | -20, -21 |
| SPOILER/SPEEDBRAKE TRANSDUCER, 1, 27-61 | TS35 | AE0107 | S253T404-2,-4,-5 | -21 | -20, -21 |
| | | AE0113 | | -33 | -32, -33 |
| | | | | -21 | -20, -21 |
| | | | | -33 | -32, -33 |
| SPOILER/SPEEDBRAKE TRANSDUCER, 2, 27-61 | TS36 | AE0107 | | -23 | -22, -23 |
| | | AE0113 | | -35 | -34, -35 |
| | | | | -21 | -20, -21 |
| | | | | -33 | -32, -33 |
| SPOILER/SPEEDBRAKE TRANSDUCER, 3, 27-61 | TS37 | AE0107 | | -25 | -24, -25 |
| | | AE0113 | | -37 | -36, -37 |
| | | | | -21 | -20, -21 |
| | | | | -33 | -32, -33 |
| THROTTLE LEVER ANGLE (TLA) RESOLVER PW, GE NON-FADEC, 73-21 | | TS170 RIGHT ENG | S331T001-5 253T7122-3, -4, -5, -6 | -77 | -76,-77 |
| | | TS171 LEFT ENG | | | |
| THROTTLE LEVER ANGLE (TLA) RESOLVER PW, GE, RR DUAL CHANNEL, FULL AUTHORITY (FADEC,EPCS), 73-21 | | TS170, TS171 CH A | S331T002-1, -4, -10 | -21 | -20, -21 |
| | | | S331T002-7, -13 | -25 | -24, -25 |
| | | | S254N101-4 | -35 | -34, -35 |
| | | TS170 TS171 | S331T002-1, -4, -10 | -23 | -22, -23 |
| | | CH B | S331T002-7, -13 | -116 | -115, -116 |
| | | | S254N101-4 | -114 | -113, -114 |



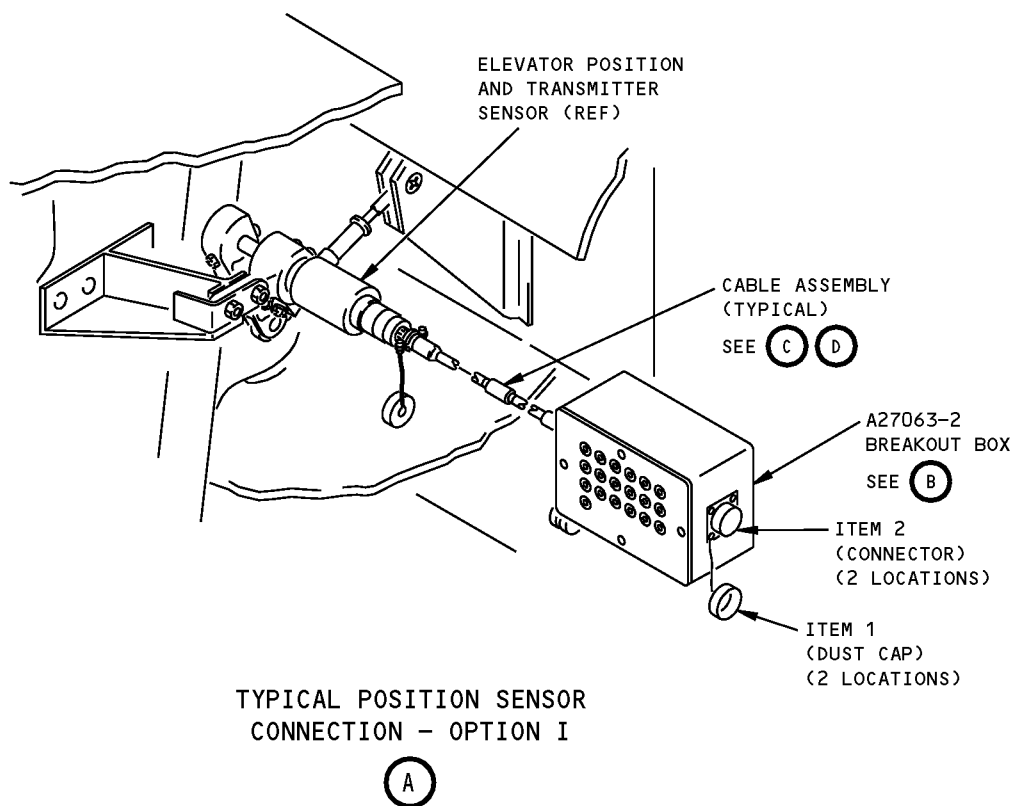
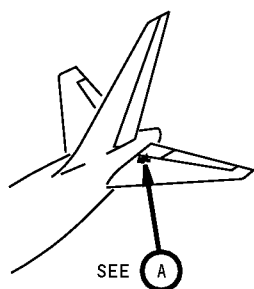
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| CABLE ASSEMBLY USAGE TABLE | | | | |
|---|---------------------------------|-------------------|--------------------------|-----------|
| POSITION SENSOR AND MAINTENANCE MANUAL CHAPTER REFERENCE | AIRPLANE EQUIPMENT NUMBER | PART NUMBER (REF) | CABLE ASSEMBLY NUMBER | |
| | | | OPTION I | OPTION II |
| THROTTLE LEVER ANGLE (TLA) INTERLOCK ACTUATOR, 73-21-16 | M1440 LEFT ENG | S253T402-3 | -107 | — |
| | M1441 RIGHT ENG | | | |

WEIGHT: 15 lbs (6.8 kg)

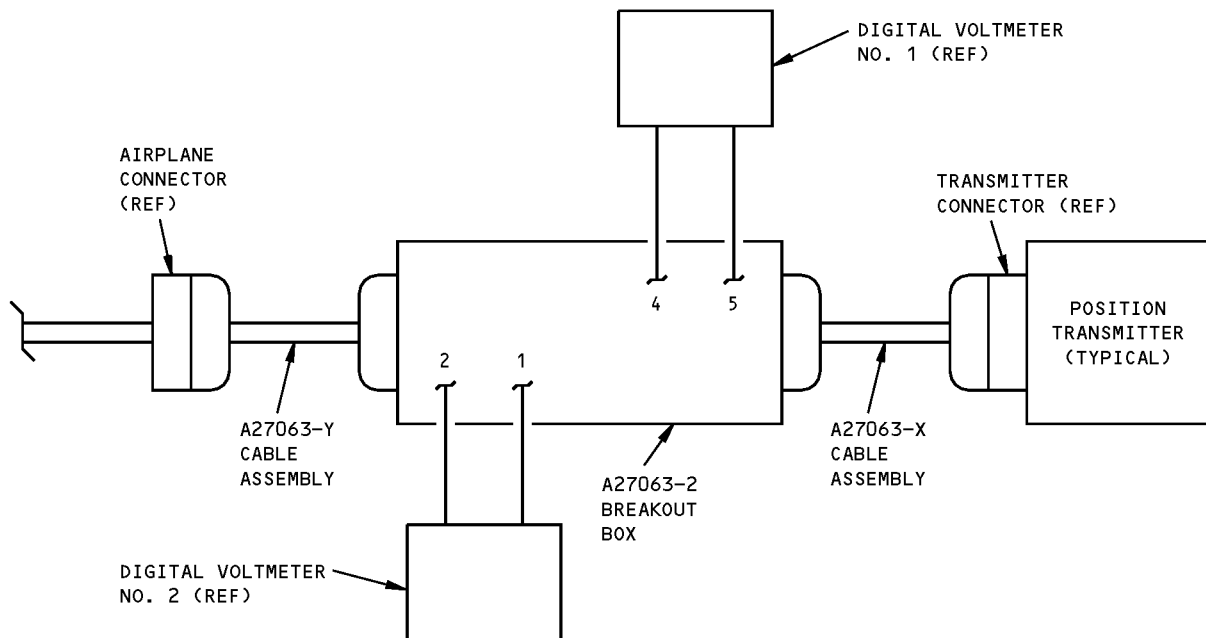
DIMENSIONS: 10 x 20 x 20 inches (254 x 508 x 508 mm)

NOTE: A27063-91 replaces A27063-71 for future procurement.

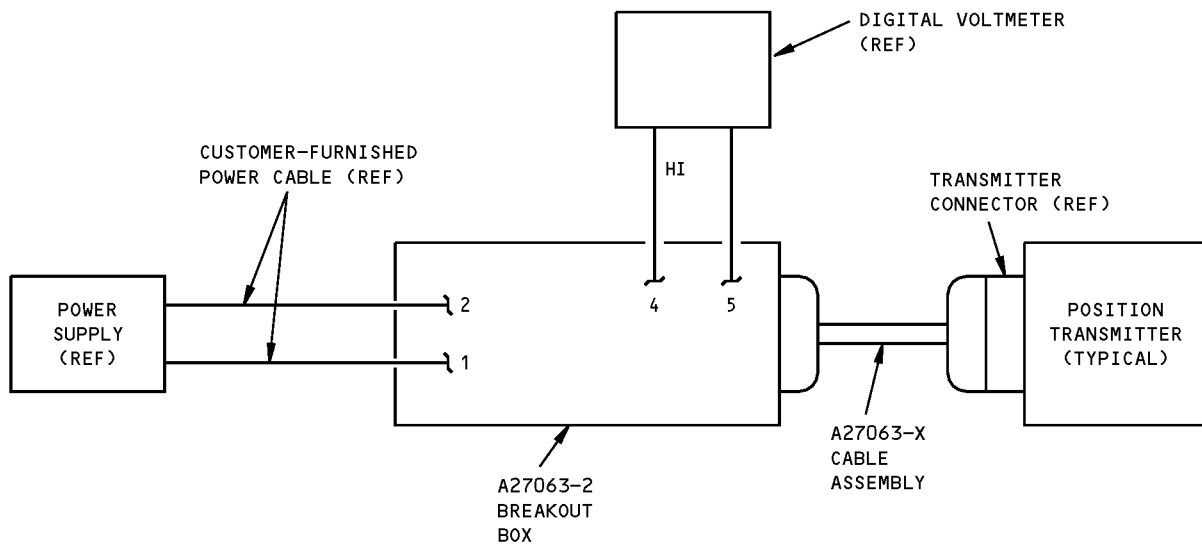


Typical Flight Controls Rigging Position Sensor Connections
Figure 1 (Sheet 1 of 2)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



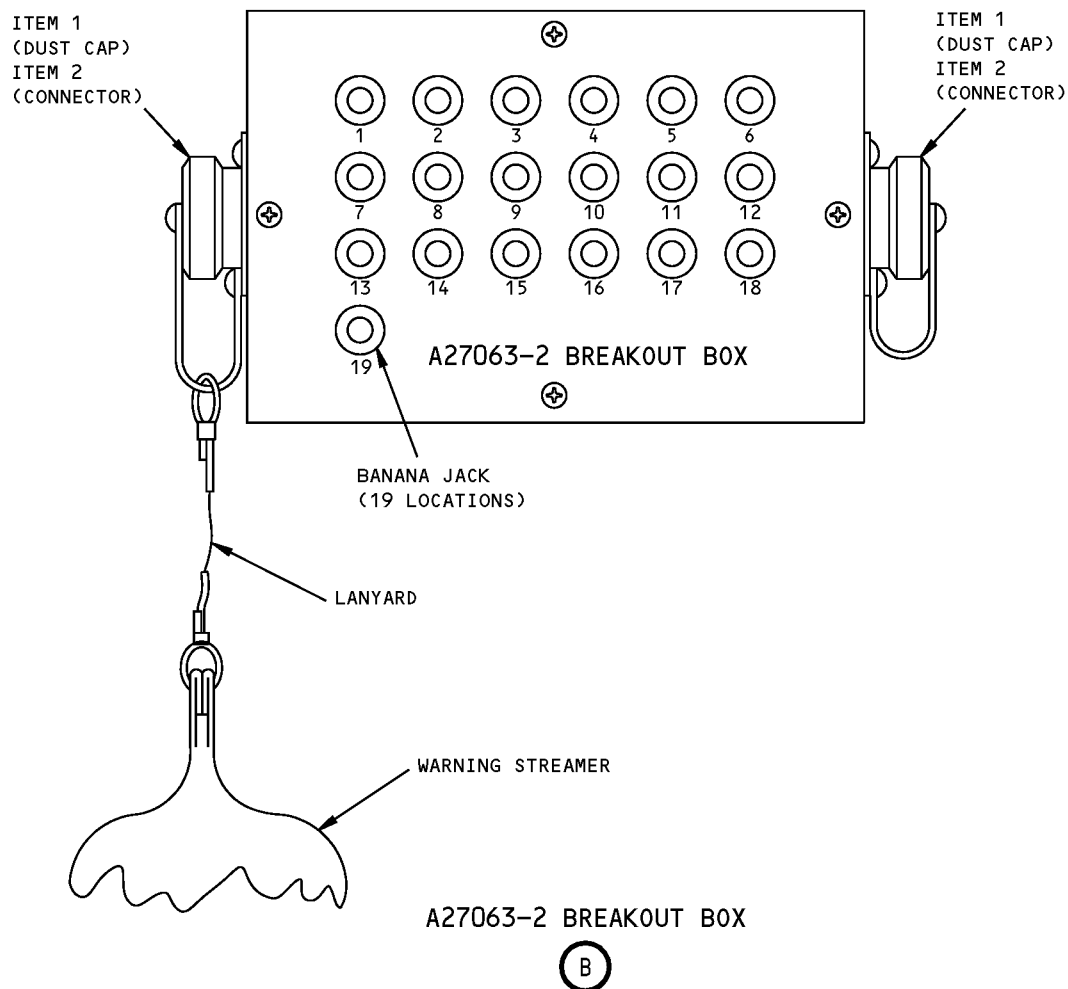
OPTION 1



OPTION 2

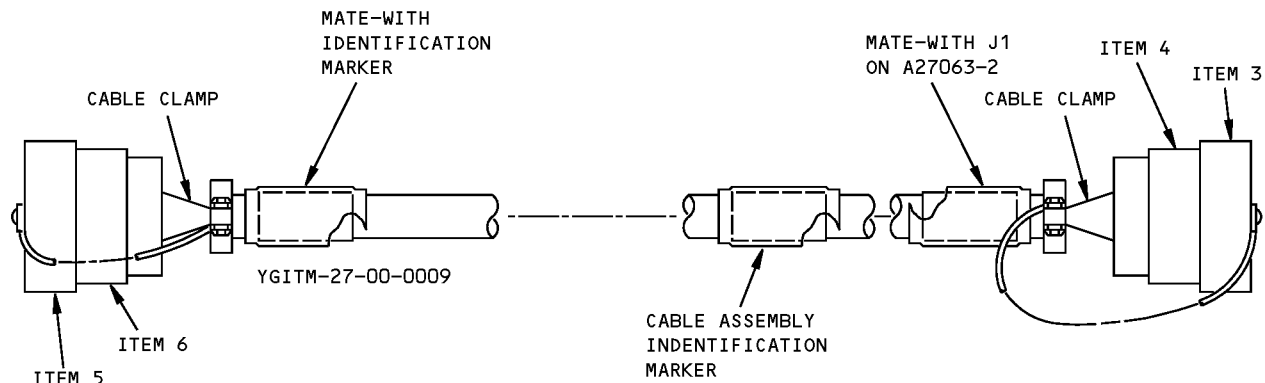
Typical Flight Controls Rigging Position Sensor Connections
Figure 1 (Sheet 2 of 2)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



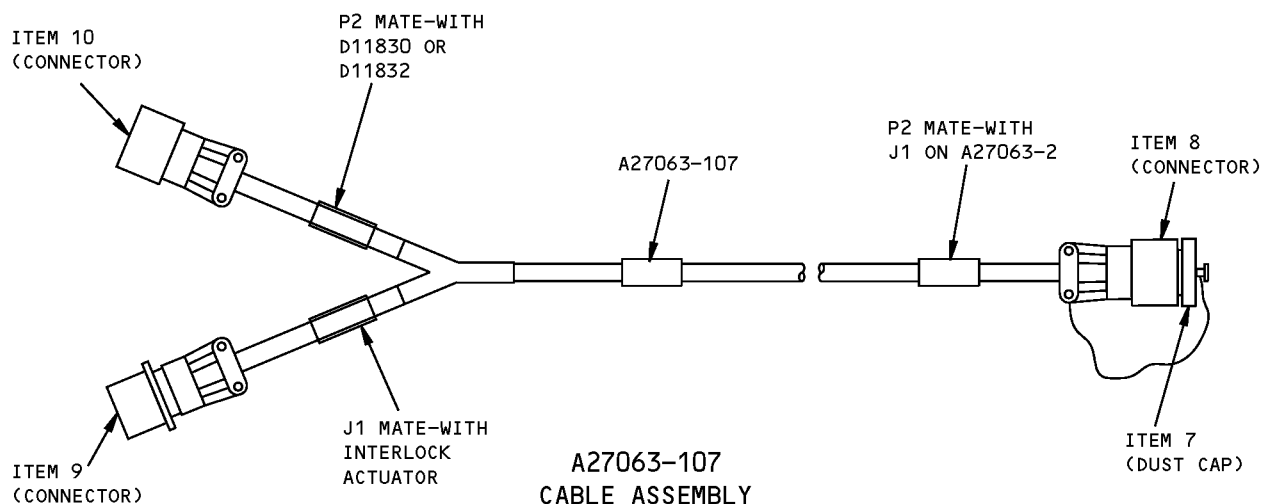
**Flight Controls Rigging Position Sensors Breakout Box - A27063-2
Figure 2**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A27063-18 THRU -37,-40,-41,-76,-77,-92 THRU -97,-113 THRU -116,-124 THRU -126
CABLE ASSEMBLIES

(C)



(D)

Flight Controls Rigging Position Sensors Breakout Box Cable Assemblies
Figure 3



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| A27063-2 BREAKOUT BOX ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|----------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 1 | MS27294-6 (OPT M83723/60-122AC) | DUST CAP | |
| 2 | MS24264R22 (OPT M83723/83R2219N) | CONNECTOR | |

| A27063-18 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27295-1 (OPT M83723/60-210AC) | DUST CAP | |
| 6 | MS24264R10B5PN (OPT M83723/72R105N) | CONNECTOR | |

| A27063-19 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27293-1 (OPT M83723/59-210AC) | DUST CAP | |
| 6 | MS24264R10B5SN (OPT M83723/72R105N) | CONNECTOR | |

| A27063-20 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27293-2 (OPT M83723/59-212AC) | DUST CAP | |
| 6 | MS24264R12B12PN (OPT M83723/76R1212N) | CONNECTOR | |

| A27063-21 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| A27063-21 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27295-2 (OPT M83723/60-212AC) | DUST CAP | |
| 6 | MS24264R12B12SN (OPT M83723/71R1212N) | CONNECTOR | |

| A27063-22 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27293-2 (OPT M83723/59-212AC) | DUST CAP | |
| 6 | MS24266R12B12P6 (OPT M83723/76R12126) | CONNECTOR | |

| A27063-23 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27295-2 (OPT M83723/60-212AC) | DUST CAP | |
| 6 | MS24264R12B12S6 (OPT M83723/71R12126) | CONNECTOR | |

| A27063-24 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27293-2 (OPT M83723/59-212AC) | DUST CAP | |
| 6 | MS24266R12B12P7 (OPT M83723/76R12127) | CONNECTOR | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| A27063-25 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27295-2 (OPT M83723/60-212AC) | DUST CAP | |
| 6 | MS24264R12B12S7 (OPT M83723/71R12127) | CONNECTOR | |

| A27063-26 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27295-3 (OPT M83723/59-114AC) | DUST CAP | |
| 6 | MS24266R14T7PN (OPT M83723/87R147N) | CONNECTOR | |

| A27063-27 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27294-3 (OPT M83723/60-114AC) | DUST CAP | |
| 6 | MS24264R14T7SN (OPT M83723/82R147N) | CONNECTOR | |

| A27063-28 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27294-3 (OPT M83723/60-114AC) | DUST CAP | |
| 6 | MS24264R14T7PN (OPT M83723/83R147N) | CONNECTOR | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| A27063-29 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27292-3 (OPT M83723/59-114AC) | DUST CAP | |
| 6 | MS24264R14T7SN (OPT M83723/86R147N) | CONNECTOR | |

| A27063-30 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27294-3 (OPT M83723/60-114AC) | DUST CAP | |
| 6 | MS24264R14T7P6 (OPT M83723/83R1476) | CONNECTOR | |

| A27063-31 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27292-3 (OPT M83723/59-114AC) | DUST CAP | |
| 6 | MS24266R14T7S6 (OPT M83723/86R1476) | CONNECTOR | |

| A27063-32 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27293-3 (OPT M83723/59-214AC) | DUST CAP | |
| 6 | MS24266R14T7S6 (OPT M83723/86R1476) | CONNECTOR | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| A27063-33 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27295-3 (OPT M83723/60-214AC) | DUST CAP | |
| 6 | MS24266R14B15SN (OPT M83723/71R1415N) | CONNECTOR | |

| A27063-34 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27293-3 (OPT M83723/59-214AC) | DUST CAP | |
| 6 | MS24266R14B15P6 (OPT M83723/76R14156) | CONNECTOR | |

| A27063-35 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27295-3 (OPT M83723/60-214AC) | DUST CAP | |
| 6 | MS24264R14B15S6 (OPT M83723/71R1415) | CONNECTOR | |

| A27063-36 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27293-3 (OPT M83723/59-214AC) | DUST CAP | |
| 6 | MS24266R14B15P7 (OPT M83723/76R14157) | CONNECTOR | |



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| A27063-37 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27295-3 (OPT M83723/60-214AC) | DUST CAP | |
| 6 | MS24264R14B15S7 (OPT M83723/71R14157) | CONNECTOR | |

| A27063-40 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27294-6 (OPT M83723/60-122AC) | DUST CAP | |
| 6 | MS24264R22T19PN (OPT M83723/83R2219N) | CONNECTOR | |

| A27063-41 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 6 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |

| A27063-76 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27293-1 (OPT M83723/59-210AC) | DUST CAP | |
| 6 | MS24266R10B195P (OPT M83723/76R105N) | CONNECTOR | |



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| A27063-77 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27295-1 (OPT M83723/60-210AC) | DUST CAP | |
| 6 | MS24266R10B5S (OPT M83723/71R105N) | CONNECTOR | |

| A27063-92 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|--------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT 83723/86R2219N) | CONNECTOR | |
| 5 | MS27294-3 (OPT M83723/60-114AC) | DUST CAP | |
| 6 | MS24266R14T7P7 (OPT M83723/83R1477) | CONNECTOR | |

| A27063-93 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27292-3 (OPT M83723/59-114AC) | DUST CAP | |
| 6 | MS24266R14T7S7 (OPT M83723/83R1477) | CONNECTOR | |

| A27063-94 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27293-2 (OPT M83723/59-212AC) | DUST CAP | |
| 6 | MS24266R12B12PN (OPT M83723/76R1212N) | CONNECTOR | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| A27063-95 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27295-2 (OPT M83723/60-212AC) | DUST CAP | |
| 6 | MS24266R12B12SN (OPT M83723/71R1212N) | CONNECTOR | |

| A27063-96 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27293-2 (OPT M83723/59-212AC) | DUST CAP | |
| 6 | MS24264R12B12P6 (OPT M83723/76R12126) | CONNECTOR | |

| A27063-97 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|--|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 5 | MS27295-2 (OPT M83723/60-212AC) | DUST CAP | |
| 6 | MS24266R12B12S6 (OPT M83723/71R12126) | CONNECTOR | |

| A27063-107 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|---|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 7 | MS27292-6 (OPT M83723/59-122AC) | DUST CAP | |
| 8 | MS24266R22T19SN (OPT M83723/86R2219N) | CONNECTOR | |
| 9 | MS24264R12B12SN (OPT M83723/71R1212N) | CONNECTOR | |
| 10 | MS24266R12B12PN (OPT M83723/76R1212N) | CONNECTOR | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| A27063-113 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|---|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AR) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86A2219N) | CONNECTOR | |
| 5 | MS27293-3 (OPT M83723/59-214AC) | DUST CAP | |
| 6 | MS24266R14B15P8 (OPT M83723/76A14158) | CONNECTOR | |

| A27063-114 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|---|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AR) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86A2219N) | CONNECTOR | |
| 5 | MS27295-3 (OPT M83723/60-214AR) | DUST CAP | |
| 6 | MS24264R12B15S8 (OPT M83723/71A14158) | CONNECTOR | |

| A27063-115 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|---|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AR) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86A2219N) | CONNECTOR | |
| 5 | MS27293-2 (OPT M83723/59-212AR) | DUST CAP | |
| 6 | MS24266R12B12P9 (OPT M83723/76A12129) | CONNECTOR | |

| A27063-116 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|---|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27292-6 (OPT M83723/59-122AR) | DUST CAP | |
| 4 | MS24266R22T19SN (OPT M83723/86A2219N) | CONNECTOR | |
| 5 | MS27295-2 (OPT M83723/60-212AR) | DUST CAP | |
| 6 | MS24266R12B12P9 (OPT M83723/76A12129) | CONNECTOR | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| A27063-124 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|---|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27293-1 (OPT M83723/59-210AR) | DUST CAP | |
| 4 | MS24266R10B5P6 (OPT M83723/76A1056) | CONNECTOR | |
| 5 | MS27292-6 (OPT M83723/59-122AR) | DUST CAP | |
| 6 | MS24266R22T19SN (OPT M83723/86A2219N) | CONNECTOR | |

| A27063-125 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|---|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27295-1 (OPT M83723/60-210AR) | DUST CAP | |
| 4 | MS24264R10B5S6 (OPT M83723/71A1056) | CONNECTOR | |
| 5 | MS27292-6 (OPT M83723/59-122AR) | DUST CAP | |
| 6 | MS24266R22T19SN (OPT M83723/86A2219N) | CONNECTOR | |

| A27063-126 CABLE ASSEMBLY REPAIRABLE/REPLACEABLE PARTS | | | |
|---|---------------------------------------|--------------|-------------|
| ITEM NO. | PART NUMBER | NOMENCLATURE | VENDOR CODE |
| 3 | MS27295-1 (OPT M83723/60-210AR) | DUST CAP | |
| 4 | MS24264R10B5S7 (OPT M83723/71A1057) | CONNECTOR | |
| 5 | MS27292-6 (OPT M83723/59-122AR) | DUST CAP | |
| 6 | MS24266R22T19SN (OPT M83723/86A2219N) | CONNECTOR | |

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: B27018-19

NAME: BREAKOUT BOX - FSEU/CSEU POWER SUPPLY

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

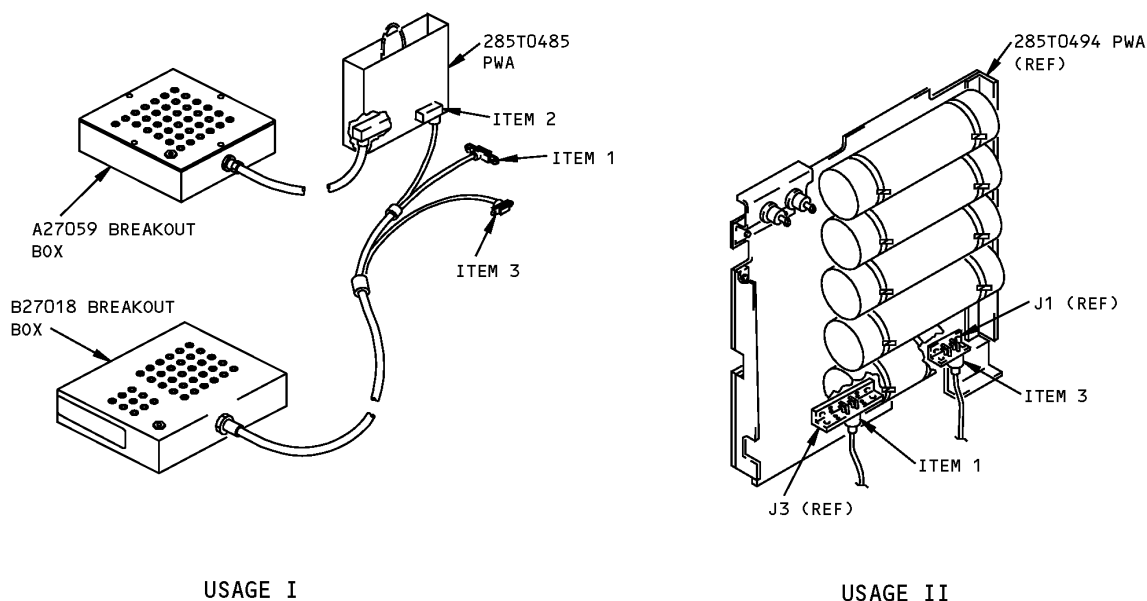
USAGE & DESCRIPTION: The B27018 drawing has been transferred to BAE Systems and will no longer be revised by Boeing. The B27018 inclusion in the 767 ITEM is for information and historical purposes only.

This tool with breakout box A27059 is used to test the control system electronics unit chopper/regulator/filter printed wiring assembly 285T0485. In addition, breakout box B27018 is used to test the power supply filter printed wiring assembly 285T0494. Breakout box B27018 consists of a 34 pin breakout box and three connector cable assembly.

WEIGHT: 4 lbs (1.8 kg)

DIMENSIONS: 4 x 10 x 12 inches (102 x 254 x 305 mm)

NOTE: B27018-19 supersedes B27018-1.



**FSEU/CSEU Power Supply Breakout Box
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | DBC-25P | P1 CONNECTOR | V74868 |
| 2 | DBC-25S | P2 CONNECTOR | V74868 |
| 3 | DE-9S | P3 CONNECTOR | V74868 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27044-53

NAME: TEST BOX - CONVERTER, CSEU POWER SUPPLY

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: The A27044 drawing has been transferred to BAE Systems and will no longer be revised by Boeing. The A27044 inclusion in the 767 ITEM is for information and historical purposes only.

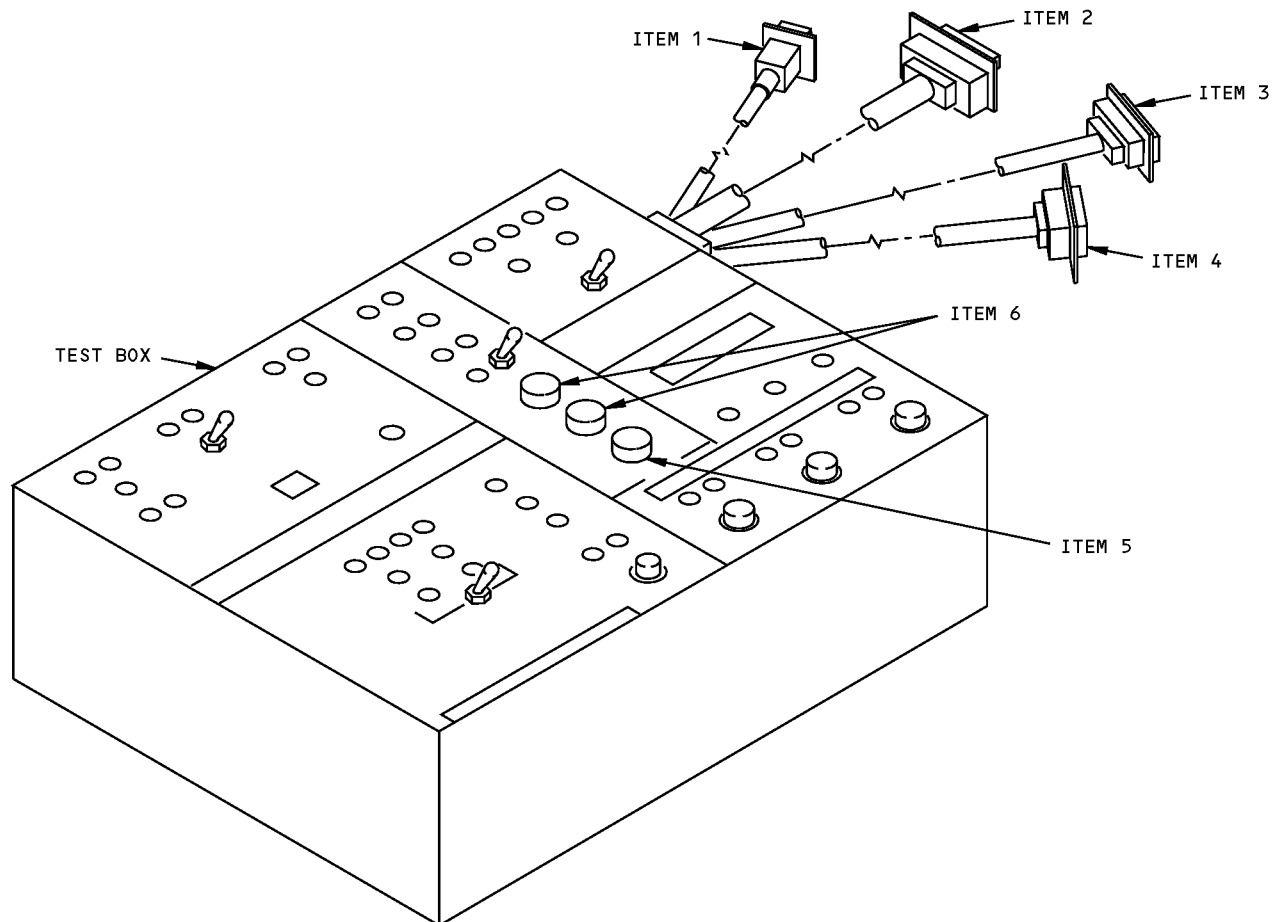
This test box is used to perform functional test and troubleshooting procedures on the Control System Electronics Unit (CSEU) power supply filter, chopper/regulator/filter and converter assemblies. This tool is used on 767-200 and -300 airplanes equipped with the 285T0017-1xx series CSEU, but not the 285T0017-2xx and on series CSEU. The equipment number references are M536, M537, M538 and M539. Refer to CMM 27-09-56 and CMM 27-09-57 for further usage instructions.

WEIGHT: 15 lbs (6.8 kg)

DIMENSIONS: 7 x 15 x 19 inches (178 x 381 x 483 mm)

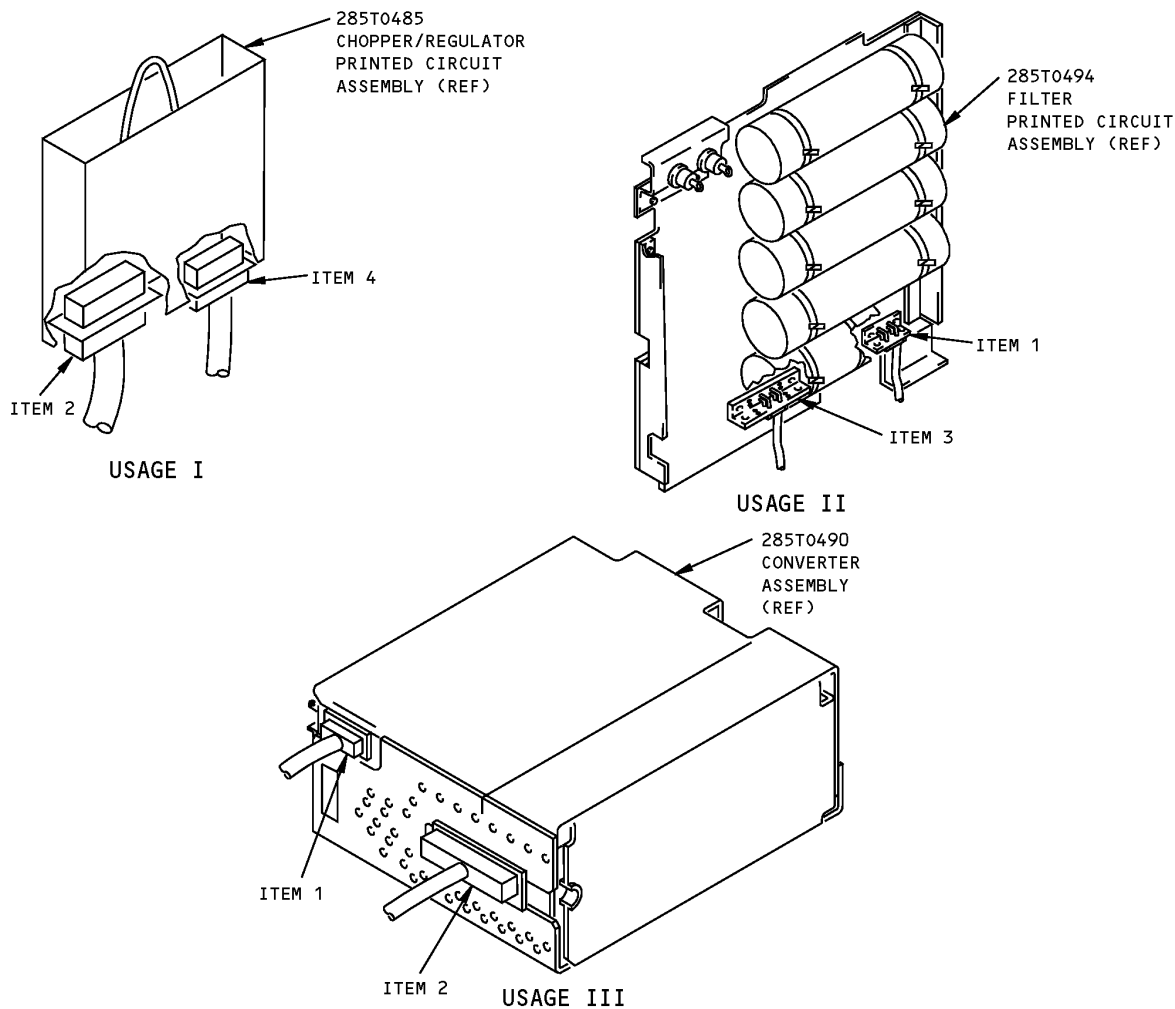
NOTE: A27044-53 supersedes A27044-44.
A27044-44 supersedes A27044-38.
A27044-38 supersedes A27044-33, -35.

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Control System Electronics Unit Power Supply Converter Test Box
Figure 1 (Sheet 1 of 2)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Control System Electronics Unit Power Supply Converter Test Box
Figure 1 (Sheet 2 of 2)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | DEMA-9S | P1 CONNECTOR | V71468 |
| 2 | DCMA-37P | P2 CONNECTOR | V71468 |
| 3 | DBMA-25P | P3 CONNECTOR | V71468 |
| 4 | DBMA-25S | P4 CONNECTOR | V71468 |
| 5 | 312.200 | 0.2A FUSE | V75915 |
| 6 | 312003 | 3A FUSE | V75915 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27081-1, -2

NAME: READOUT AND CONTROL EQUIPMENT - FUNCTIONAL TEST STANDS

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

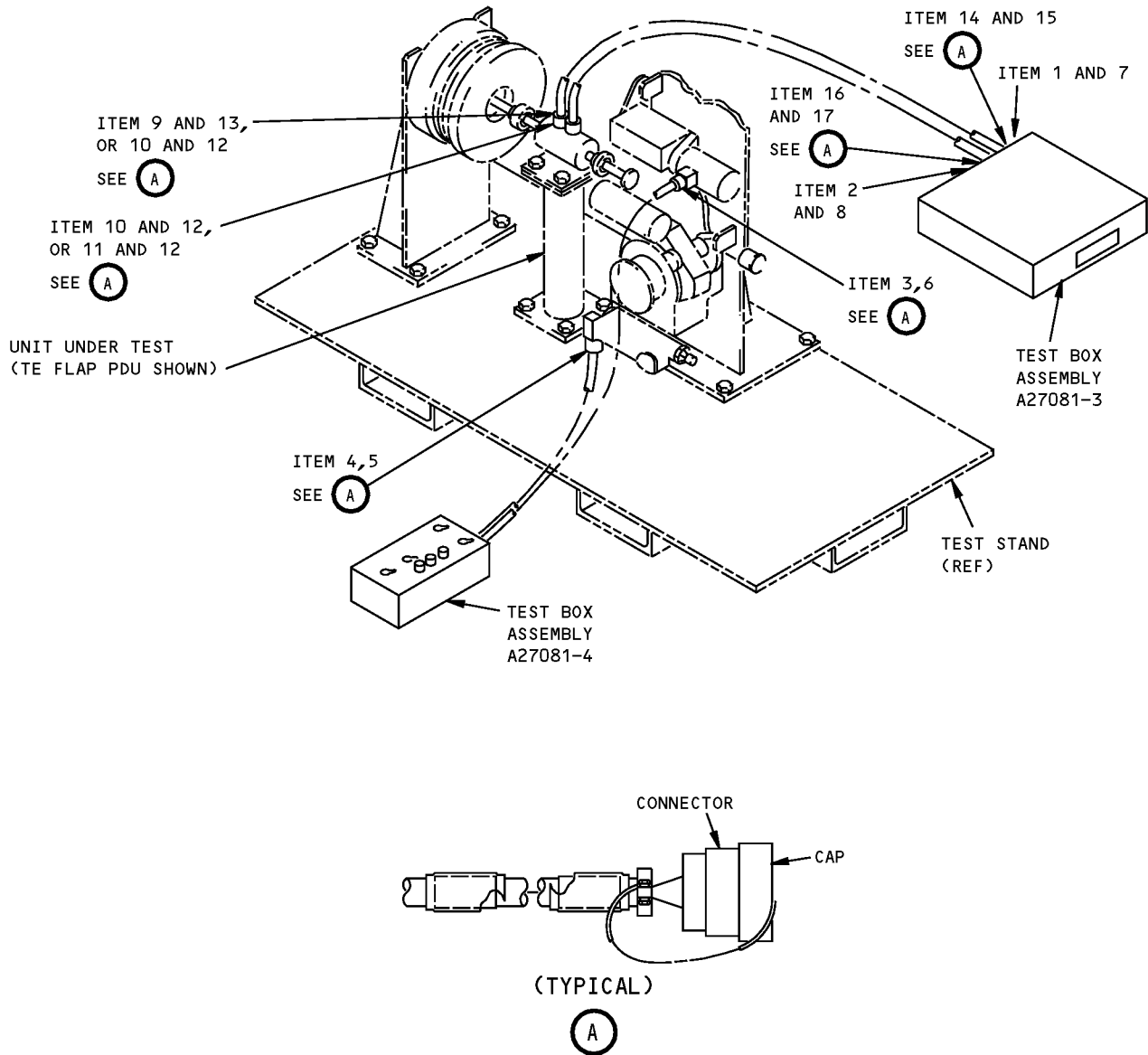
USAGE & DESCRIPTION: The A27081-1 and -2 readout and control equipment are used on all 767 airplanes. The A27081 is used to functionally test the elevator feel and centering unit, trailing edge flaps rotary actuator, trailing edge flaps power drive unit, inboard and outboard leading edge slats power drive unit, the overhead passenger door counterbalance gearbox assembly. This tool is used in conjunction with A27041, A27063, A27071, A27079, and A52017. For elevator feel and centering unit, refer to CMM 27-31-09. For trailing edge flaps rotary actuator, refer to CMM 27-51-08, CMM 27-51-10, CMM 27-51-48 and CMM 27-51-49. For trailing edge flaps PDU, refer to CMM 27-51-14. For inboard leading edge slats PDU, refer to CMM 27-81-41. For outboard leading edge slats PDU, refer to CMM 27-81-82 and CMM 27-81-83. For overhead passenger door counterbalance gearbox assembly, refer to CMM 52-11-71 for further usage instructions. Refer to current A27081 drawing for additional usage instructions. The -1 consists of a -3 test box assembly, four cable assemblies and a -11 storage box assembly. The -2 consists of a -4 test box assembly and a -12 storage box assembly.

| CABLE MATE - WITH AND USAGE TABLE | | |
|-----------------------------------|-----------|---|
| CONNECTOR | REF DESIG | MATE WITH INFORMATION |
| M83723/83R105N | P1 | M/W J1 ON A27081-3 |
| | P3 | M/W J1 ON A27081-3 |
| M83723/86R1212N | P5 | M/W J2 ON A27081-3 |
| | P7 | M/W J2 ON A27081-3 |
| M83723/86R1610N | P2 | M/W CONTROL VALVE MODULE |
| M83723/86R188N | P1 | M/W ALTERNATE DRIVE MOTOR MODULE |
| MS3106A14S5S | P2 | M/W 0600-0000 ANGULAR DISPLACEMENT XDCR |
| MS3106A10SL-4S | P4 | M/W MCRT9-02T TORQUE METER SPEED PICKUP |
| MS3106A14S-5S | P6 | M/W 2110 TORQUE SENSOR |
| MS3106A14S-6S | P8 | M/W MCRT9-02T TORQUE METER |

WEIGHT: A27081-1 - 10 lbs (4.5 kg)
A27081-2 - 7 lbs (3.2 kg)

DIMENSIONS: A27081-1 - 5 x 15 x 15 inches (127 x 381 x 381 mm)
A27081-2 - 5 x 9 x 15 inches (127 x 229 x 381 mm)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



**Functional Test Stands Readout and Control Equipment
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------------|--------------------------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | M83723/83R105N | CONNECTOR (J1)(OPT: MS24264R10T5PN) | |
| 2 | M83723/83R1212N | CONNECTOR (J2)(OPT: MS24264R12T12) | |
| 3 | M83723/86R188N | CONNECTOR (P1)(OPT: MS2466R18T8SN) | |
| 4 | M83723/86R1610N | CONNECTOR (P2)(OPT: MS24266R16T10SN) | |
| 5 | M83723/59-116AC | CAP (OPT: MS27292-4) | |
| 6 | M83723/59-118AC | CAP (OPT: MS27292-5) | |
| 7 | M83723/60-110AC | CAP (OPT: MS27292-1) | |
| 8 | M83723/60-112AC | CAP (OPT: MS27294-2) | |
| 9 | MS3106A10SL-4S | CONNECTOR | |
| 10 | MS3106A14S-5S | CONNECTOR | |
| 11 | MS3106A14S-6S | CONNECTOR | |
| 12 | MS25042-14D | CAP | |
| 13 | MS25042-10D | CAP | |
| 14 | M8372/86R105N | CONNECTOR (OPT: MS24266R10T5SN) | |
| 15 | M83723/59-110AC | CAP (OPT: MS27292-1) | |
| 16 | M83723/86R1212N | CONNECTOR (OPT: MS24266R12T12SN) | |
| 17 | M83723/59-112AC | CAP (OPT: MS27292-2) | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27085-1

NAME: TEST BOX - ANALOG PRINTED CIRCUIT, RUDDER RATIO

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

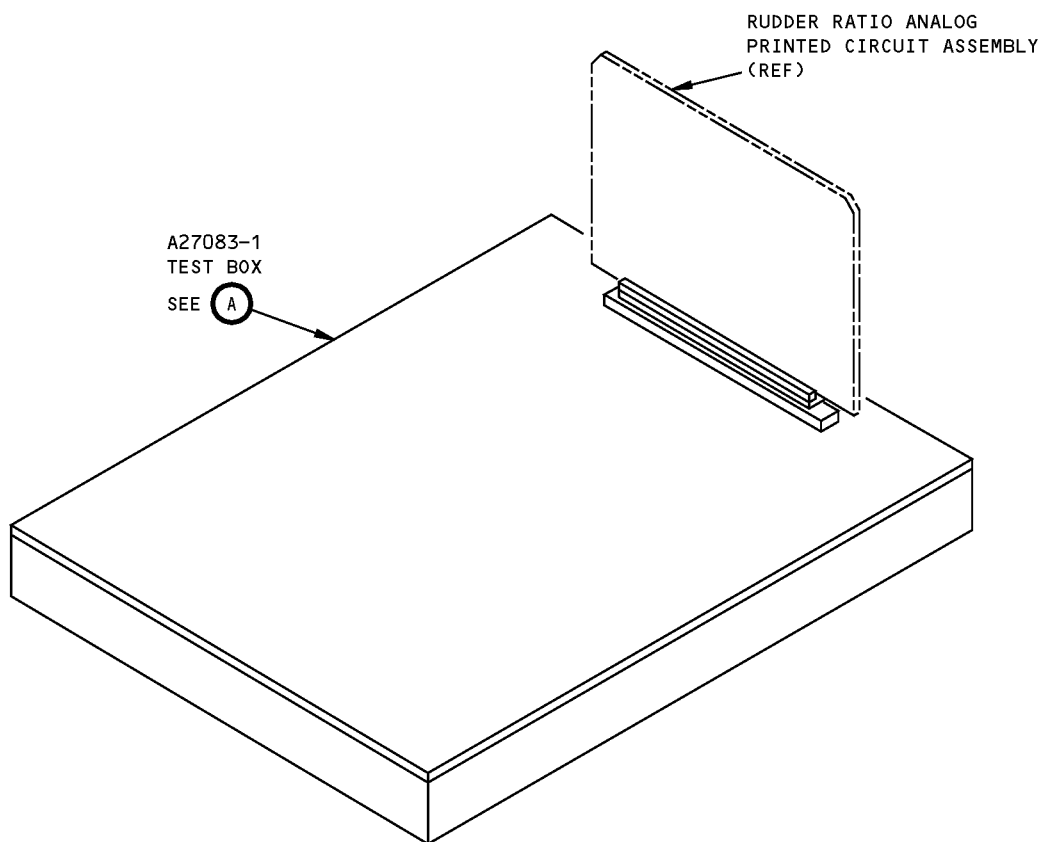
USAGE & DESCRIPTION: The A27085 drawing has been transferred to BAE Systems and will no longer be revised by Boeing. The A27085 inclusion in the 767 ITEM is for information and historical purposes only.

The A27083-1 test box is used on 767-200/-300 airplanes equipped with the rudder ratio changer module M528 (285T0014), typically prior to line number 868. The A27083-1 is a breakout box used to test the rudder ratio analog printed circuit assembly (PCA). Refer to CMM 27-21-34 for complete usage instructions.

WEIGHT: 10 lbs (4.5 kg)

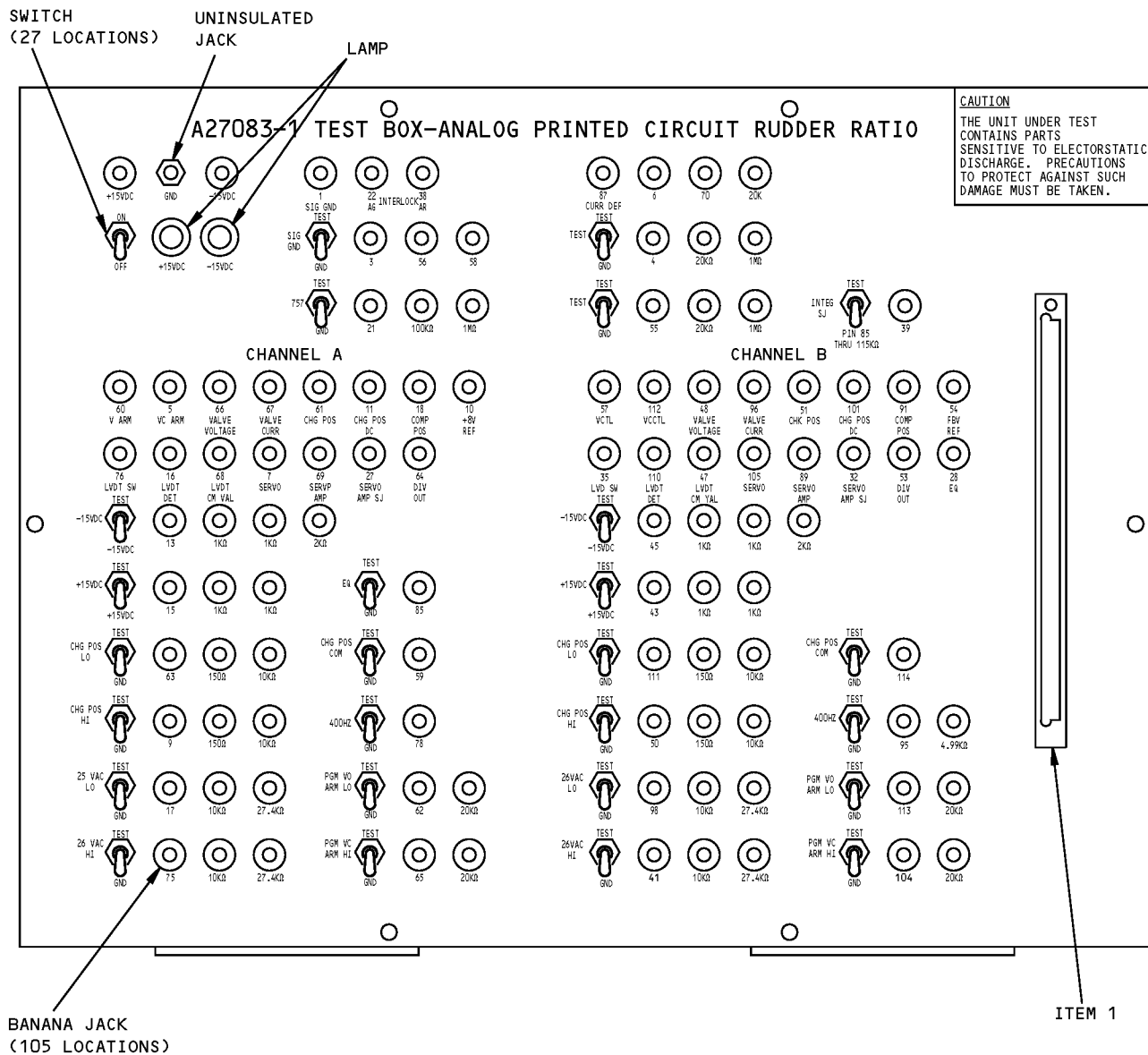
DIMENSIONS: 13 x 17 x 4 inches (330 x 432 x 102 mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Rudder Ratio Analog Printed Circuit Test Box
Figure 1

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A27083-1 TEST BOX

A

Rudder Ratio Analog Printed Circuit Test Box - A27083-1
Figure 2



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------|----------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | 300206-001 | CONNECTOR (J1) | V03877 |

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PART NUMBER: A27100-1

NAME: TEST BOX - STICK NUDGER

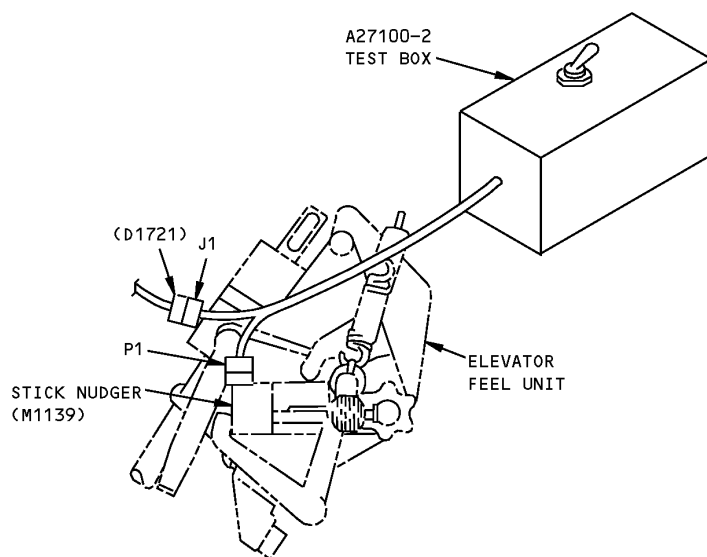
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: Use to extend/retract the stick nudger actuator during stall warning system test. The test box consists of a -2 test box assembly in a -3 box assembly.

WEIGHT: 10 lbs (4.5 kg) (excluding box)

DIMENSIONS: 16 x 16 x 4 inches (406 x 406 x 102 mm) (excluding box)



**Stick Nudger Test Box
Figure 1**

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | M83723/83R147N | RECEPTACLE | |
| 2 | M83723/86R147N | PLUG | |

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

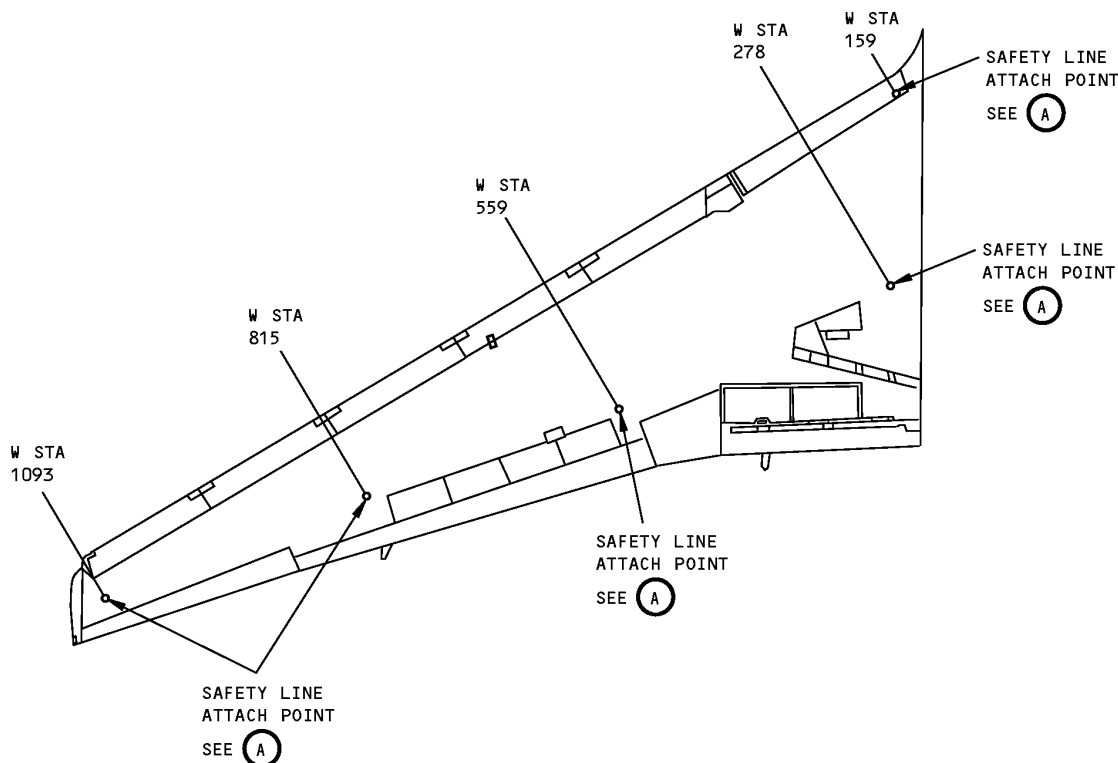
PART NUMBER: 2ME65B00002

NAME: WRENCH - SPANNER, SAFETY LANYARD, TIEDOWN LOCKS

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

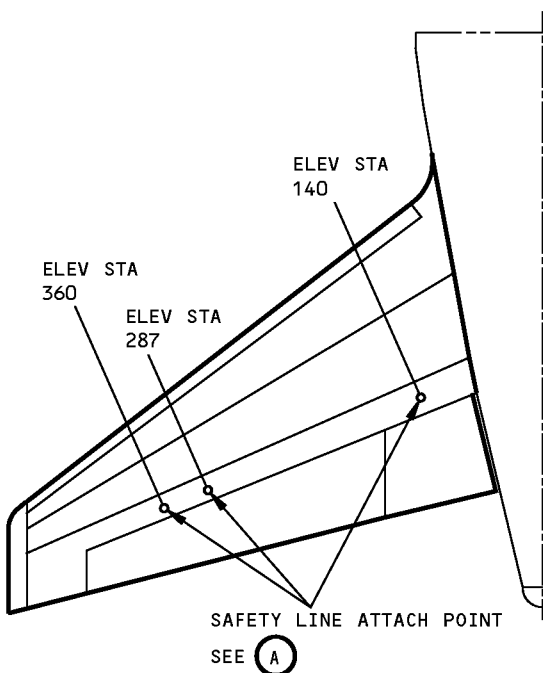
USAGE & DESCRIPTION: The 2ME65B00002 tool is used to remove/install and adjust safety lanyard tiedown lock receptacles flush with skin on wing and stabilizer. The tool is a steel spanner wrench approximately 1 inch by 1/2 inch. It has a 1/4 square drive and two pins which engage wrench holes in the tiedown receptacle.



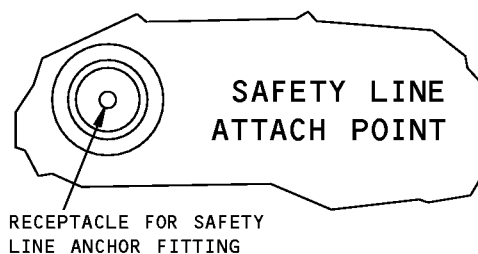
LEFT WING TOP SURFACE SHOWN
RIGHT WING TOP SURFACE OPPOSITE

**Wing Safety Line Attach Point Locations
Figure 1**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

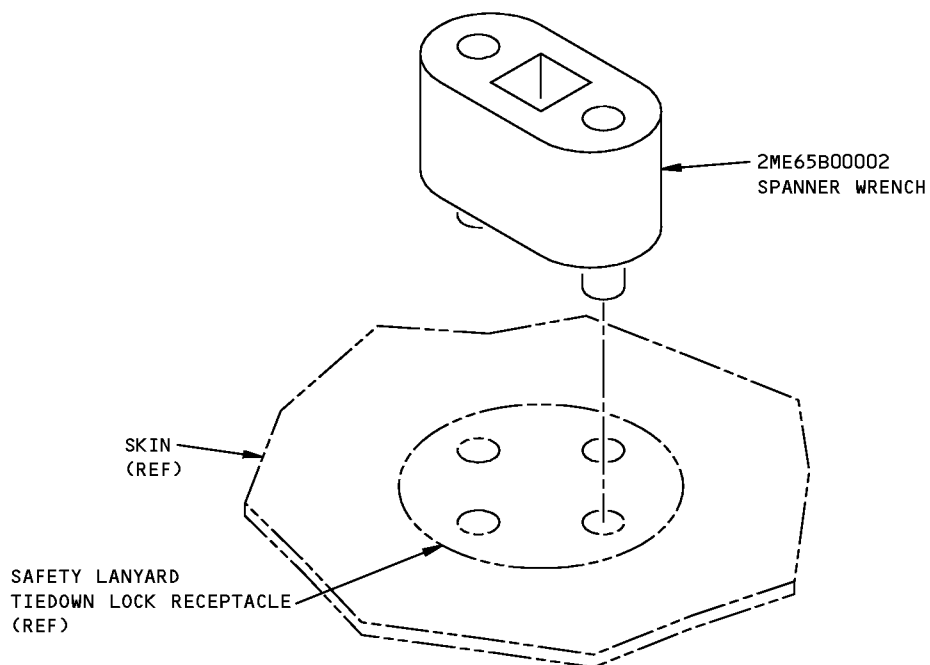


HORIZONTAL STABILIZER
TOP LEFT SURFACE SHOWN
TOP RIGHT SURFACE OPPOSITE



SAFETY LINE ATTACH POINT

(A)



**Safety Lanyard Tiedown Lock Spanner Wrench
Figure 2**

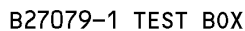


NAME: TEST BOX - POWER SUPPLY, CONTROL SYSTEM ELECTRONICS UNIT/
CSEU

COMPONENT MAINTENANCE: YES

This test equipment is used to bench test the 285T0017-201 and -201 MOD A, control system electronics unit (CSEU) power supply assembly, per CMM 27-09-58. Applicability is limited to airplanes equipped with the 285T0017-201 or -201 MOD A CSEU's.

DIMENSIONS: 18 x 22 x 5 inches (457 x 559 x 127 mm)



CSEU Power Supply Test Box - B27079-19
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | 312001 | FUSE | V7E222 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27125-1

NAME: MEASUREMENT TOOL - RUDDER AND ELEVATOR POWER CONTROL ACTUATOR

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

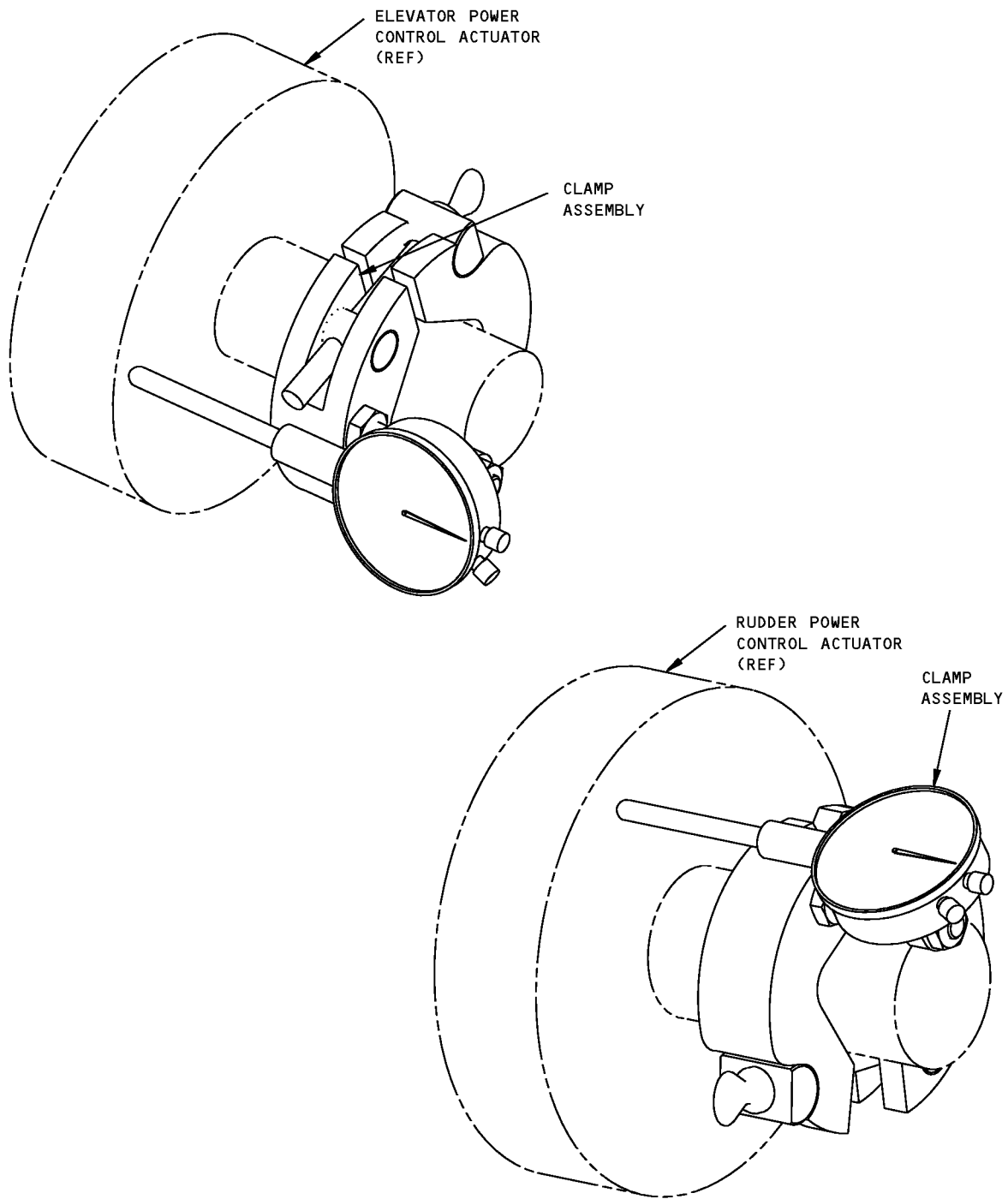
USAGE & DESCRIPTION: The A27125 -1 measurement tool is used to measure the freeplay of the elevator and rudder power control actuators.

The A27125-1 is clamped onto the power control actuator rod and provides a mounting point for a dial indicator. Install the dial indicator on the clamp assembly in hole "A" for the elevator power control actuator and hole "B" for the rudder power control actuator. Hole "A" and "B" markings on the clamp assembly are steel stamped, etched or engraved at hole locations. For complete usage instructions see AMM 27-02-00.

WEIGHT: 3 lbs (1.4 kg)

DIMENSIONS: 3 x 4 x 6 inches (76 x 102 x 152 mm)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



1552676 S0000284803_V1

Rudder and Elevator Power Control Actuator Measurement Tool
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27005-1

NAME: LOCK - OUTBOARD AILERON

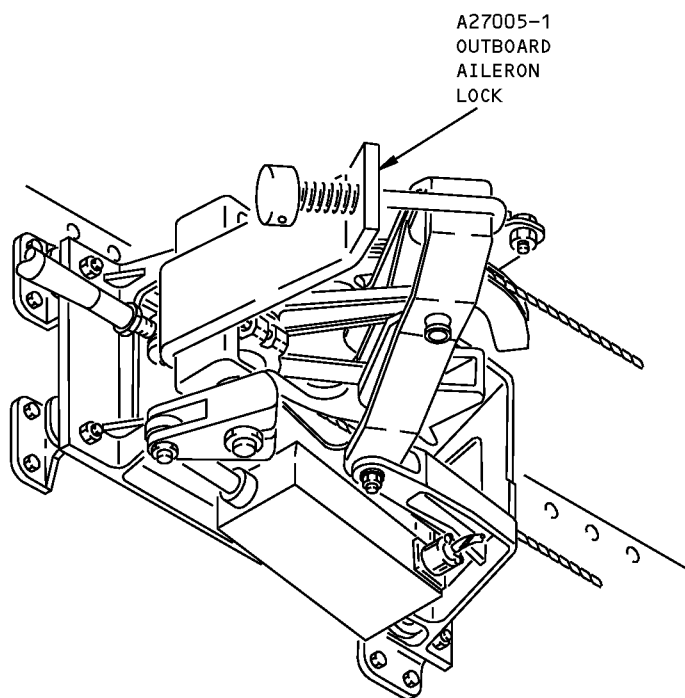
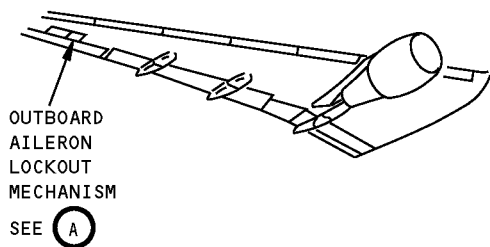
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The A27005-1 lock is used on all 767 airplanes. A27005 is used to lock the outboard aileron in the up position during maintenance of the outboard actuator power control actuator (PCA) reaction link removal/installation and PCA filter removal/installation. Refer to AMM 27-11-49 for complete usage instructions. The A27005-1 lock is a clamp-like assembly without a storage box.

WEIGHT: 1 lb (0.45 kg)

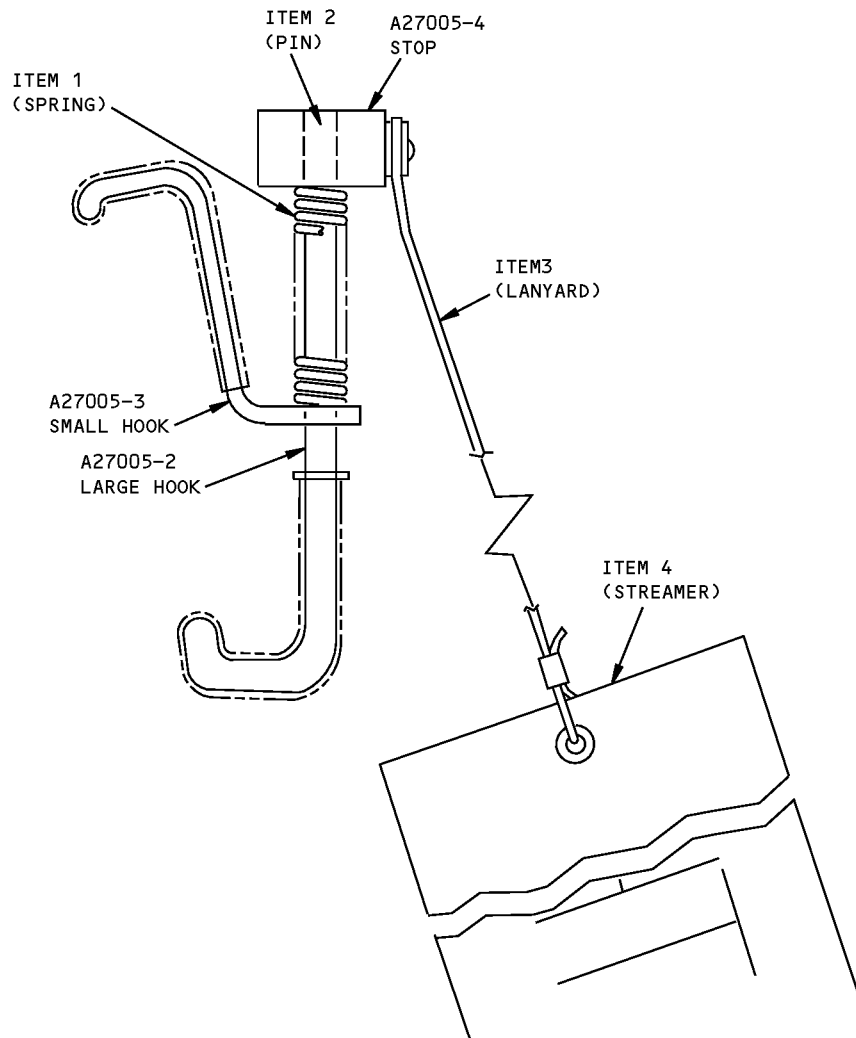
DIMENSIONS: 2 x 3 x 5 inches (51 x 76 x 127 mm)



OUTBOARD AILERON LOCKOUT MECHANISM

(A)

**Outboard Aileron Lock
Figure 1 (Sheet 1 of 2)**



Outboard Aileron Lock
Figure 1 (Sheet 2 of 2)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------------|--------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | A27005-5 | SPRING | |
| 2 | MS16562-218 | TUBULAR SPRING PIN | |
| 3 | CL-22-KA-10.0L | LANYARD | V99862 |
| 4 | NAS1756-24 | WARNING STREAMER | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27013-1

NAME: DEACTIVATION EQUIPMENT - INBOARD AILERON

AIRPLANE MAINTENANCE: YES

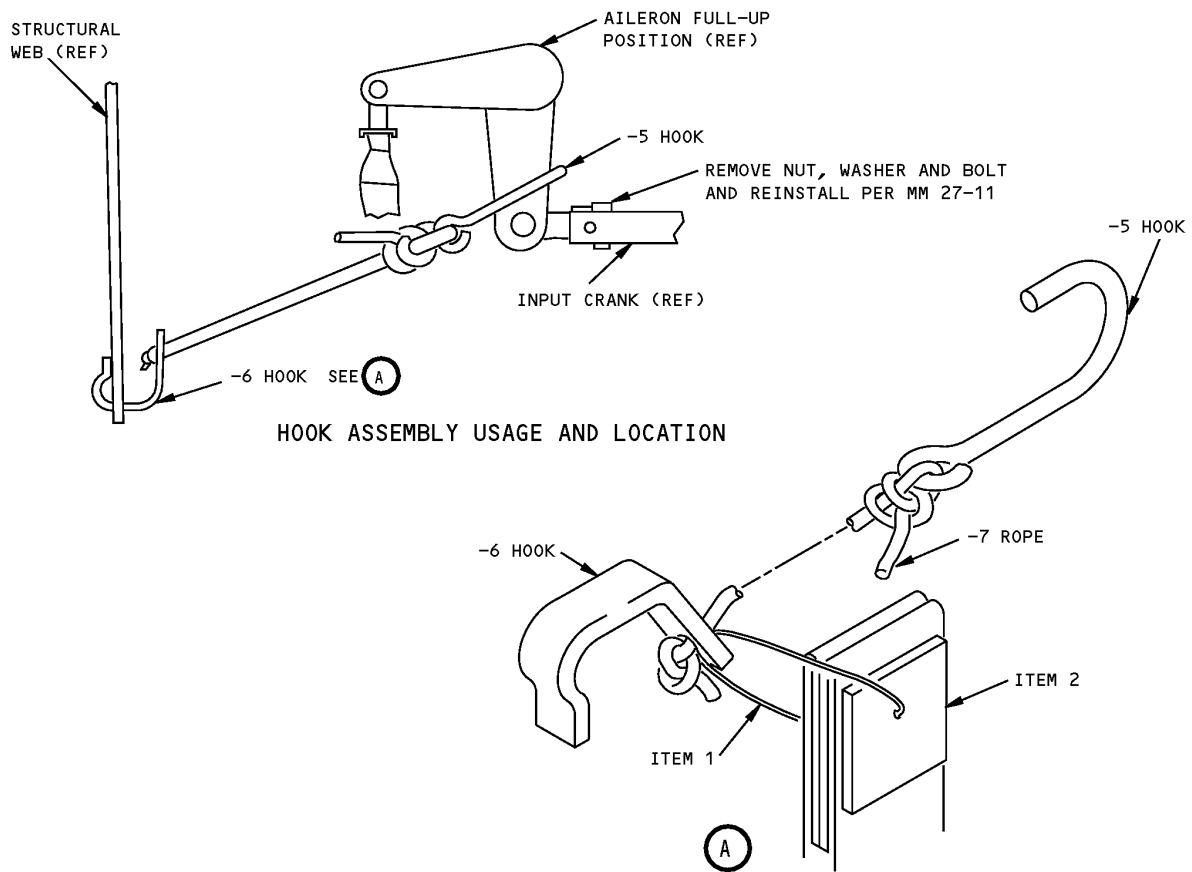
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool consists of a hook assembly to prevent accidental actuator valve opening during inboard aileron maintenance.

WEIGHT: 1 lb (0.45 kg)

DIMENSIONS: 6 x 8 x 8 inches (152 x 203 x 203 mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Inboard Aileron Deactivation Equipment
Figure 1

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------------|------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | CL-21-KA-04.0LR | LANYARD | V99862 |
| 2 | NAS1756-24 | WARNING STREAMER | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: 4MIT65B80307-1

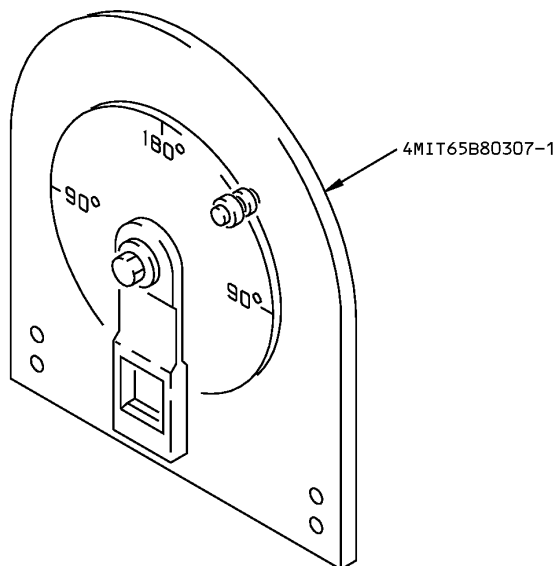
NAME: PROTRACTOR ASSEMBLY - CONTROL COLUMN

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to measure angular movement of various components of the control system. The protractor can be read accurately to within 1/2 degree. This tool is identical to the A27021-30 assembly (of the A27021-29 protractor kit) and can be used with A27021 adapter equipment.

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



Control Column Protractor Assembly
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27015-1

NAME: REMOVAL/INSTALLATION SLING EQUIPMENT - INBOARD/OUTBOARD AILERON

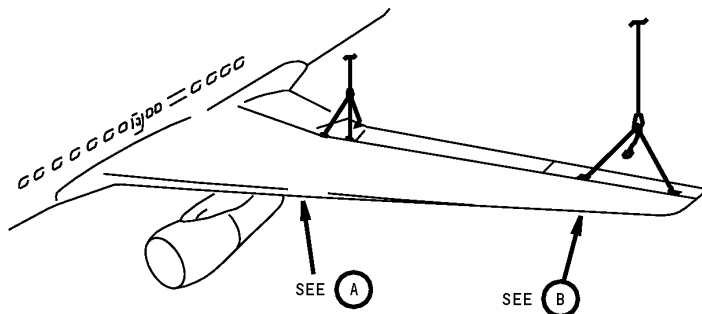
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is two sling assemblies which are used with an overhead lift device to remove or install ailerons. The -15 sling assembly is used for the inboard, and the -16 sling assembly is used for the outboard ailerons.

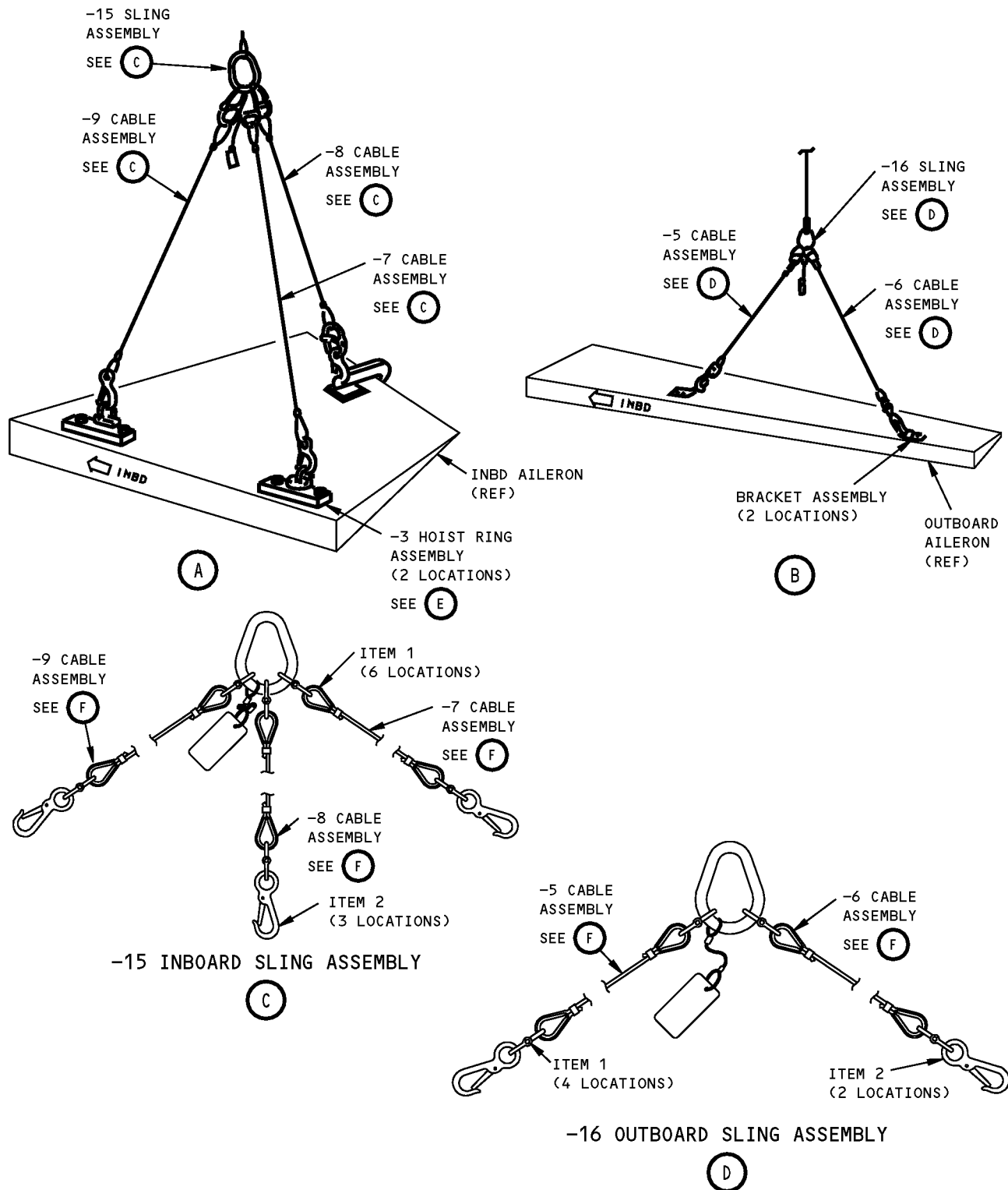
WEIGHT: 12 lbs (5.4 kg)

DIMENSIONS: 8 x 12 x 40 inches (203 x 305 x 1016 mm)



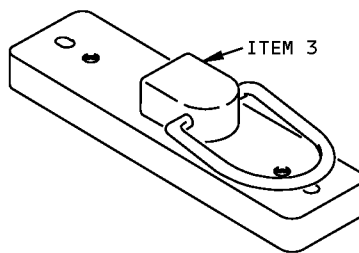
**Inboard/Outboard Aileron Removal/Installation Sling Equipment
Figure 1 (Sheet 1 of 2)**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



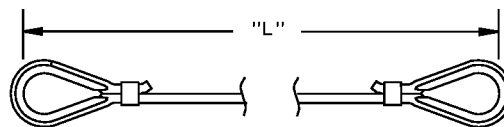
Inboard/Outboard Aileron Removal/Installation Sling Equipment
Figure 1 (Sheet 2 of 2)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



-3 HOIST RING ASSEMBLY

(E)



-5,-6,-7,-8-,9 CABLE ASSEMBLY

| CABLE ASSY | "L" ± 0.25 |
|---------------|----------------|
| -5 | 60.0 |
| -6 | 69.9 |
| -7 | 22.2 |
| -8 | 42.7 |
| -9 | 25.0 |

(F)

Inboard/Outboard Aileron Removal/Installation Sling Cable Assemblies
Figure 2



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-------------|-----------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | A-336-1/4 | CONNECTING LINK | V77535 |
| 2 | G-3315-9/16 | SNAP HOOK | V77535 |
| 3 | CL-10-SHR | HOIST RING | V99862 |
| 4 | F70308-2 | PROOF LOAD TAG | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27020-1

NAME: STRAIGHTEDGE - CONTROL WHEEL

AIRPLANE MAINTENANCE: YES

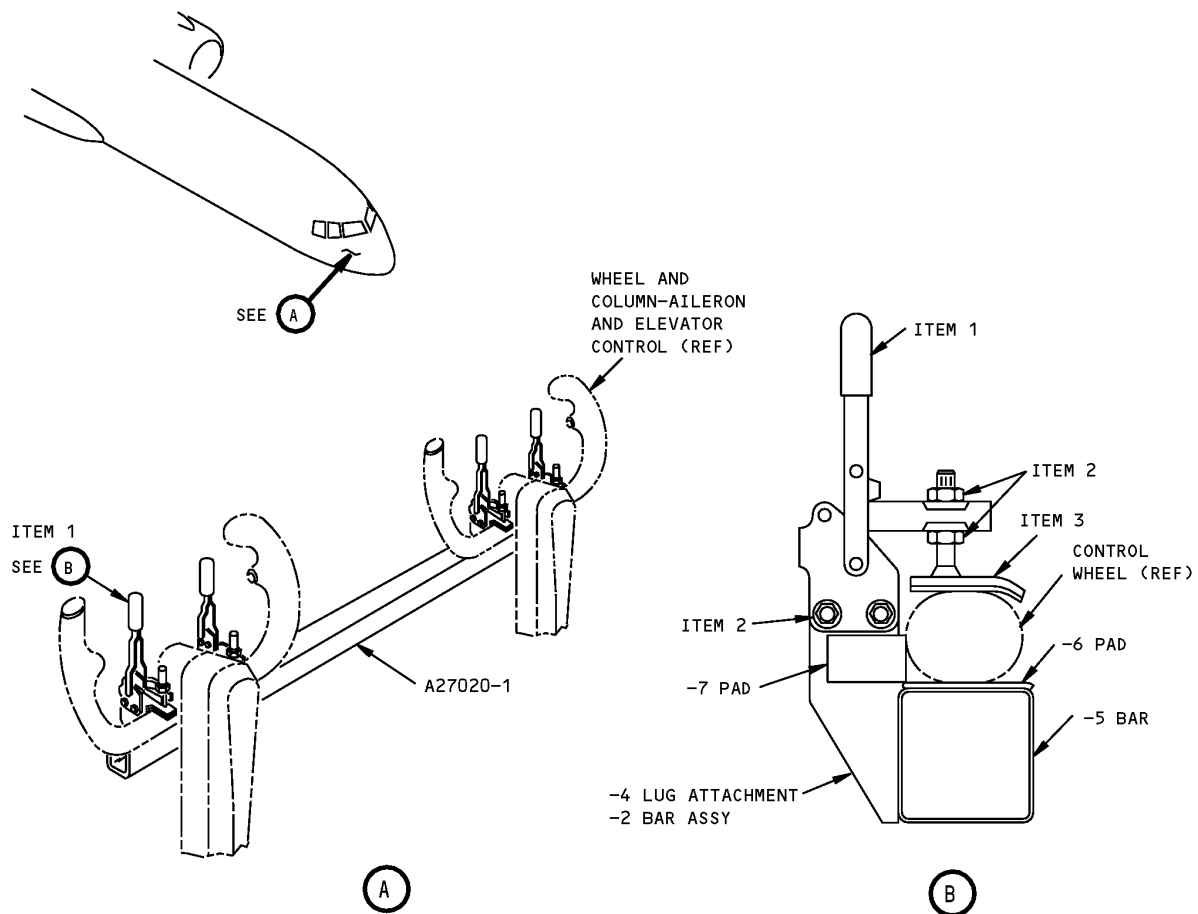
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to align the control wheels in a neutral position during 'power on' rigging. The straightedge clamps to the wheels by toggle clamps (ITEM 1).

WEIGHT: 6 lbs (2.7 kg)

DIMENSIONS: 3 x 6 x 52 inches (76 x 152 x 1321 mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Control Wheel Straightedge
Figure 1

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------|---------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | CL-151-VTC | TOGGLE CLAMP | V99862 |
| 2 | MS21044N08 | NUT | |
| 3 | -3 | FOOT ASSEMBLY | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27021-29, -96, -98

NAME: ADAPTER EQUIPMENT - CONTROL WHEEL

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

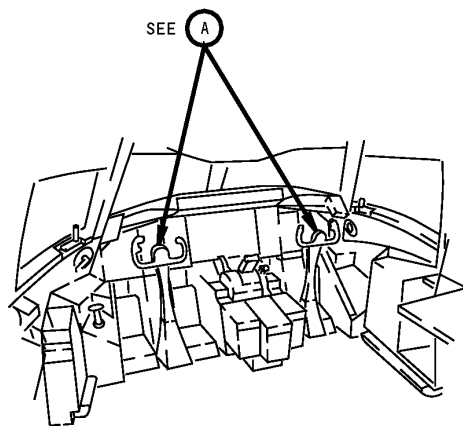
USAGE & DESCRIPTION: The adapter equipment is used to lock the control wheel in any attitude, and provide a means of attaching a protractor and torque wrench. The base assemblies are attached to the pilot and copilot control wheels, and are used as adapters for equipment to check the force and angular movement of the wheels and control columns. The A27021-98 adapter equipment is applicable on both 757/767 airplanes. The -96 and -98 adapter equipment have similar components for 767 application. The A27021-81 lock assembly used on A27021-98 adapter equipment is applicable only for 757 airplanes. The A27021-29 protractor kit is used with -96, -98 adapter equipment to measure the angular movement of the wheels.

WEIGHT:
A27021-29 - 5 lbs (2.3 kg)
A27021-96 - 15 lbs (6.8 kg)
A27021-98 - 17 lbs (7.7 kg)

DIMENSIONS:
A27021-29 - 4 x 8 x 8 inches (102 x 203 x 203 mm)
A27021-96 - 8 x 14 x 20 inches (203 x 356 x 508 mm)
A27021-98 - 8 x 14 x 20 inches (203 x 356 x 508 mm)

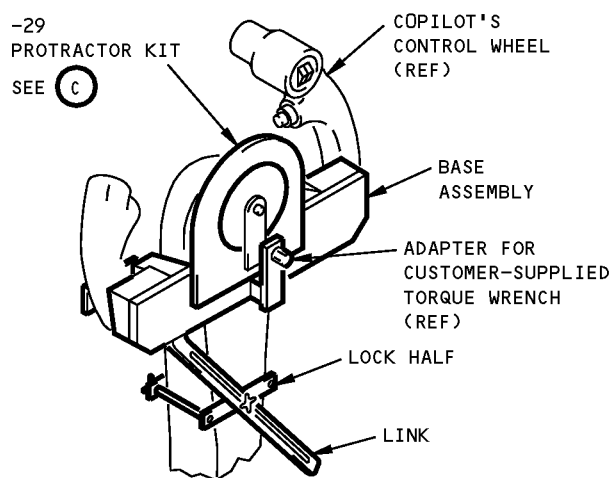
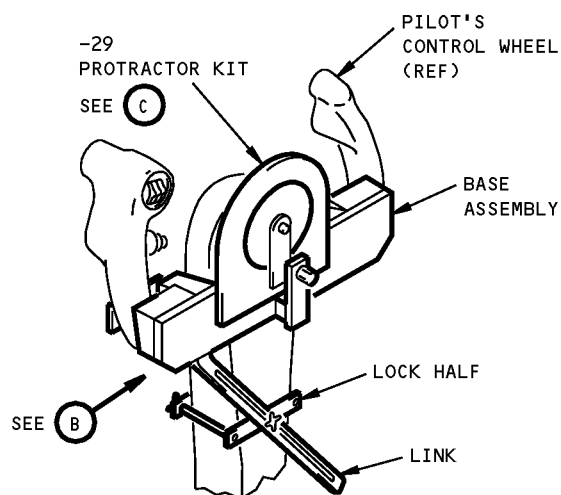
NOTE:
A27021-96 supersedes A27021-1.
A27021-98 supersedes A27021-83, -64, -55.

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



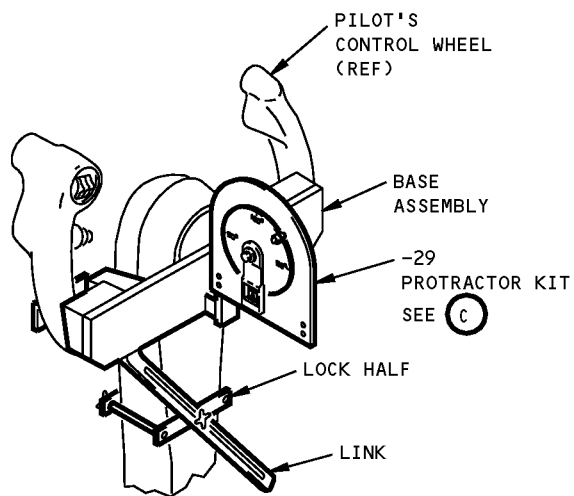
Control Wheel Adapter Equipment
Figure 1 (Sheet 1 of 2)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



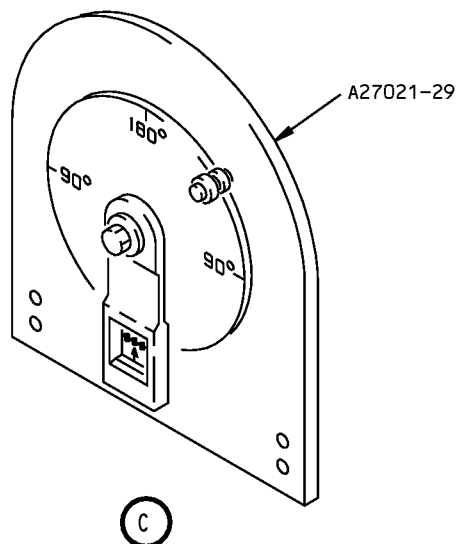
A27021-96,-98 SHOWN
(A27021-81 757 USAGE OMITTED)

(A)



A27021-96,-98 CONFIGURATION FOR MEASUREMENT
OF FORE AND AFT ANGULAR DISPLACEMENT
(USAGE ON COPILOT'S CONTROL WHEEL SIMILAR)

(B)



(C)

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



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27024-29, -31, -47, -55

NAME: RIGGING BAR - AILERON

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

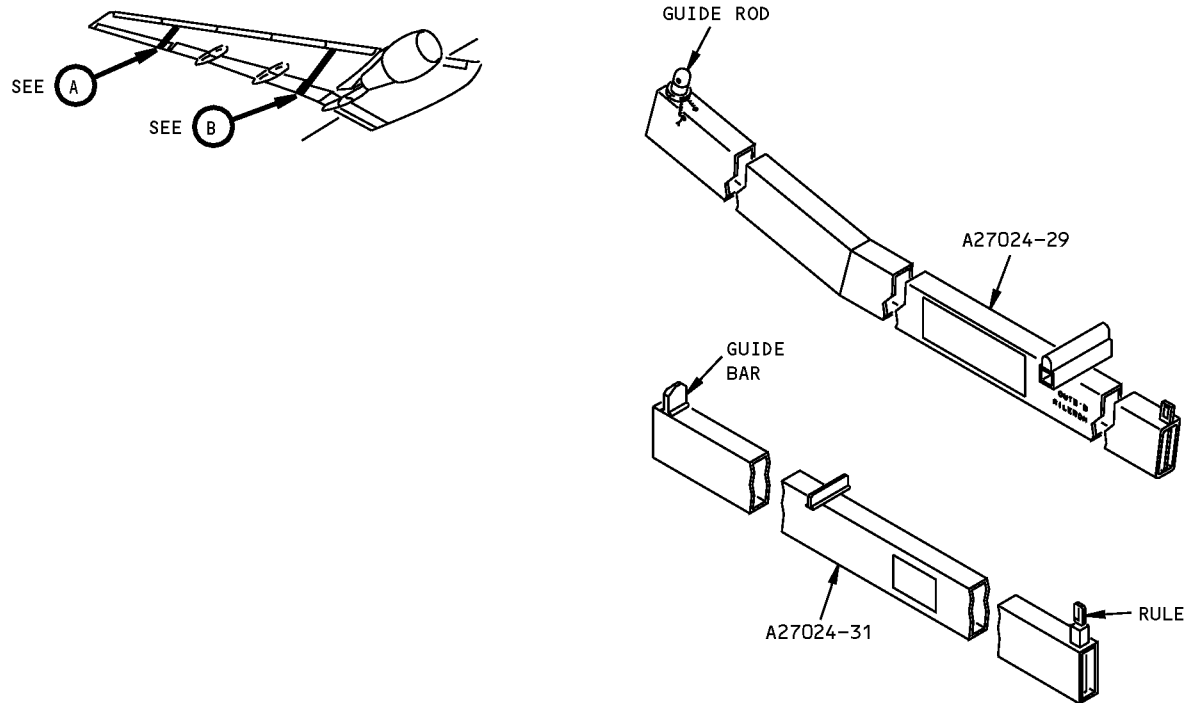
USAGE & DESCRIPTION: This tool is used to remove, install and adjust the inboard and outboard ailerons. This tool consists of two major assemblies. The -47, -55 is used to rig the inboard aileron and the -29, -31 is used to rig the outboard aileron when an aileron is replaced. The tool is a beam weldment used to align the ailerons into a neutral position. Refer to AMM 27-11-00, AMM 27-11-01, AMM 27-11-02, AMM 27-11-48 and AMM 27-11-49 for further usage instructions.

WEIGHT:
A27024-29 - 20 lbs (9 kg) (excluding box)
A27024-31 - 11 lbs (5 kg) (excluding box)
A27024-47 - 53 lbs (24 kg) (excluding box)
A27024-55 - 37 lbs (17 kg) (excluding box)

DIMENSIONS:
A27024-29 - 6 x 12 x 102 inches (152 x 305 x 2591 mm) (excluding box)
A27024-31 - 6 x 14 x 97 inches (152 x 356 x 2464 mm) (excluding box)
A27024-47 - 6 x 20 x 195 inches (152 x 508 x 4953 mm) (excluding box)
A27024-55 - 6 x 15 x 195 inches (152 x 381 x 4853 mm) (excluding box)

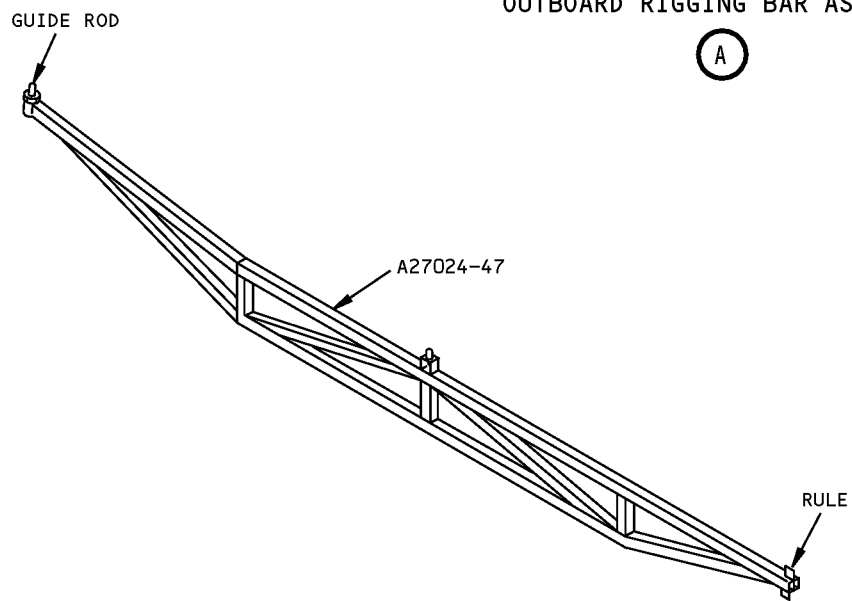
NOTE:
A27024-55 replaces A27024-47 for future procurement.
A27024-47 supersedes A27024-2.
A27024-31 replaces A27024-29 for future procurement.
A27024-29 supersedes A27024-1.

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



OUTBOARD RIGGING BAR ASSEMBLY

(A)



INBOARD RIGGING BAR ASSEMBLY

(B)

Aileron Rigging Bar
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27029-28

NAME: REMOVAL/INSTALLATION FIXTURE - LOAD LIMITER AILERON CONTROL SPRING

AIRPLANE MAINTENANCE: NO

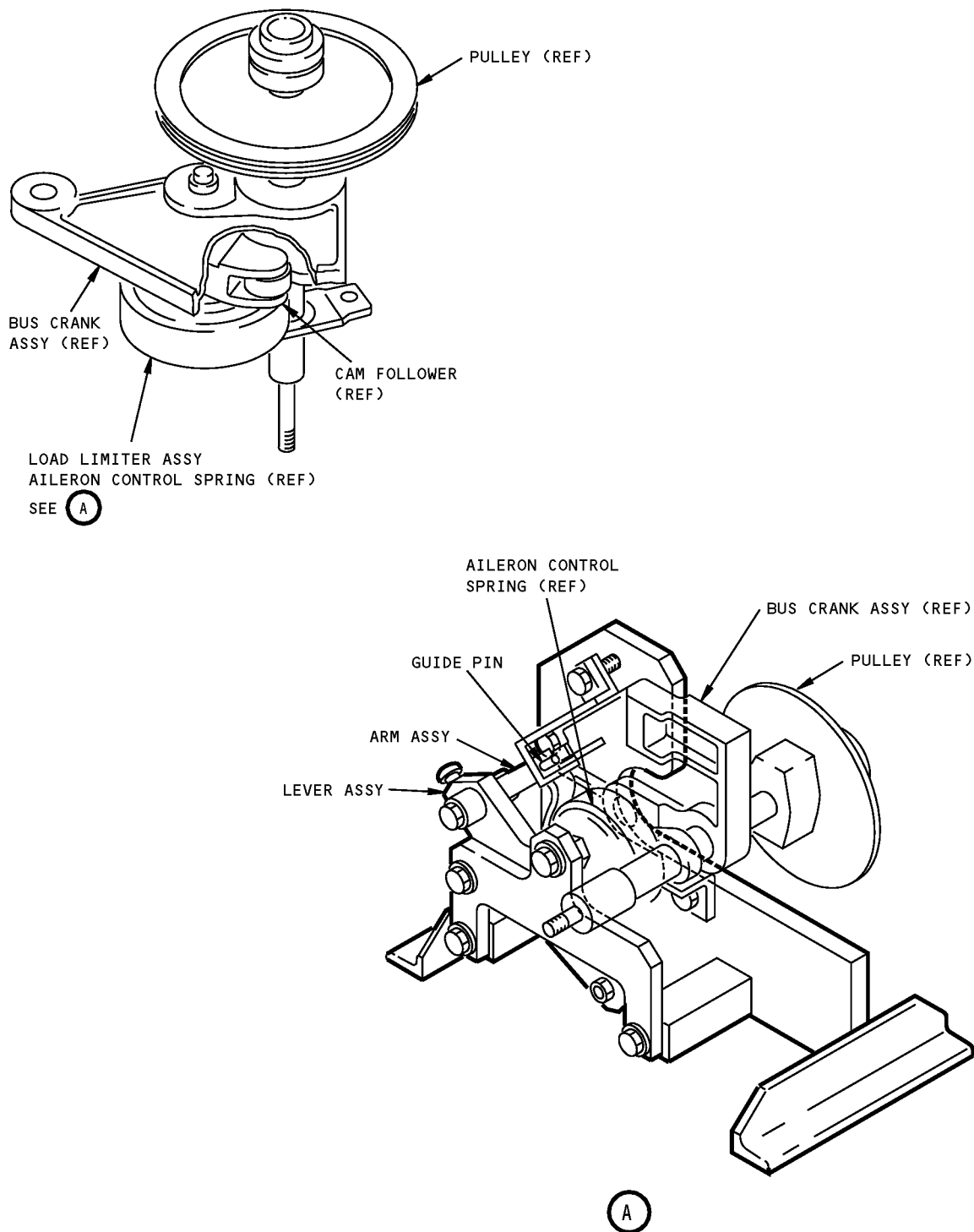
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is used to remove/install the heavily loaded spring on the aileron control load limiter drum assembly. The bus crank assembly is clamped in place while the spring is rotated to lock on the guide pin. As the spiral spring expands for removal, the tension is absorbed in the arm assembly (Ref CMM 27-11-08).

WEIGHT: 28 lbs (12.7 kg)

DIMENSIONS: 9 x 14 x 17 inches (229 x 356 x 432 mm)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



**Load Limiter Aileron Control Spring Removal/Installation Fixture
Figure 1**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27028-11

NAME: CHECK FIXTURE - AILERON CONTROL LOAD LIMITER SPRING

AIRPLANE MAINTENANCE: NO

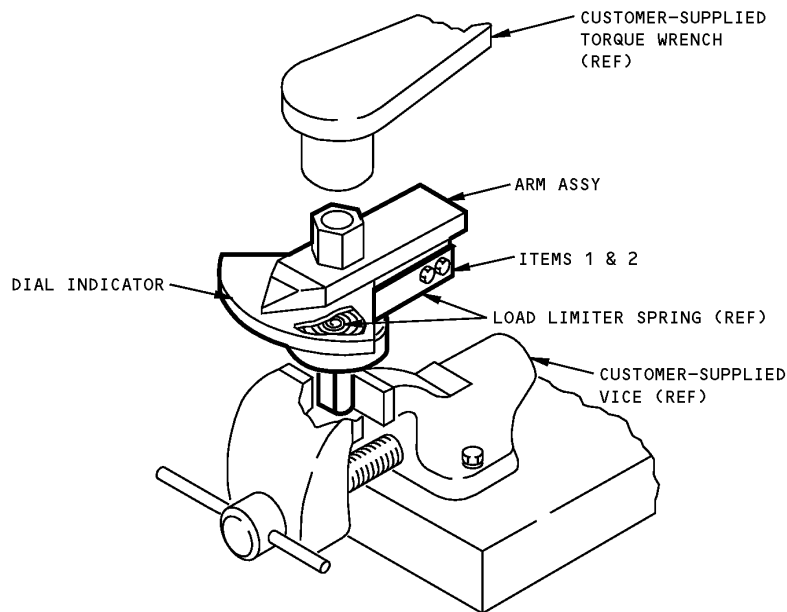
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is used to check the load deflection characteristics of the aileron control load limiter spring.

WEIGHT: 4 lbs (1.8 kg)

DIMENSIONS: 7 x 9 x 11 inches (178 x 229 x 279 mm)

NOTE: A27028-11 supersedes A27028-1.



**Aileron Control Load Limiter Spring Check Fixture
Figure 1**

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | MS21044N3 | NUT | |
| 2 | AN3-12A | BOLT | |

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27037-1

NAME: TEST EQUIPMENT - OUTBOARD AILERON LOCKOUT MECHANISM

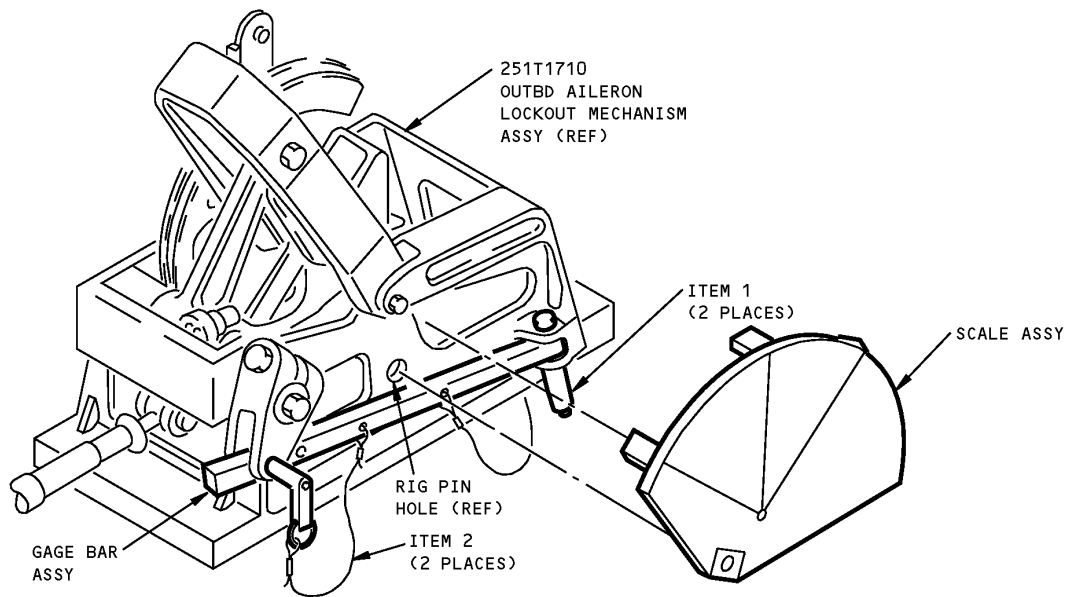
AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is used to check the rotational movement of the quadrant during assembly of the outboard aileron lockout mechanism. The tool consists of a gage bar with ball lockpins and a scale (Ref CMM 27-11-11).

WEIGHT: 3 lbs (1.4 kg)

DIMENSIONS: 1 x 9 x 15 inches (25 x 229 x 381 mm)



Outboard Aileron Lockout Mechanism Test Equipment
Figure 1

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | NAS1334A5C25D | BALL LOCKPIN | |
| 2 | CL-22-KA-10.0LR | LANYARD | V99862 |

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27088-6, -13

NAME: LINK - DUMMY TRIM ACTUATOR, AILERON

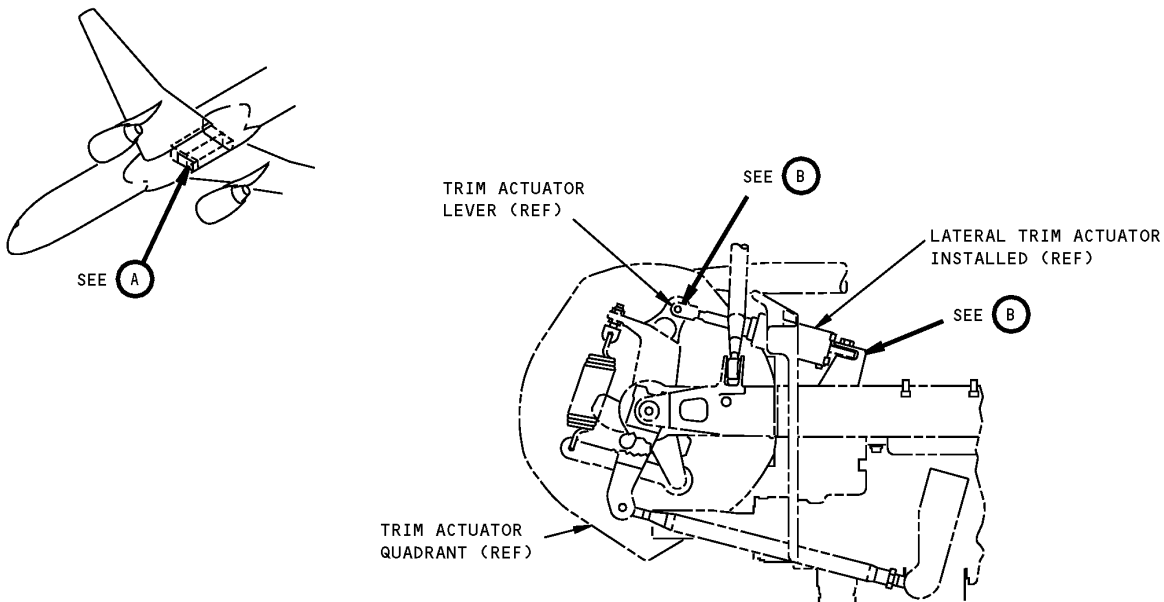
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

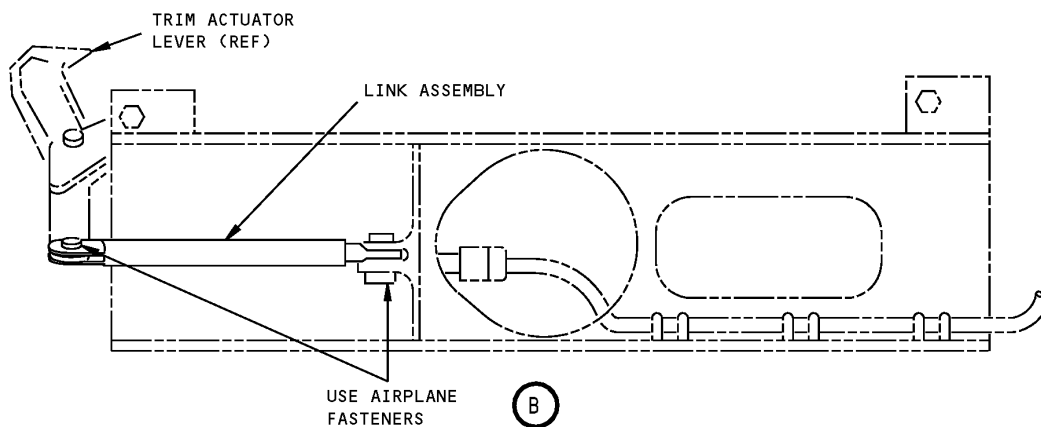
USAGE & DESCRIPTION: This tool is used for dispatching of an airplane with a inoperative aileron trim system covered in document D630T002 "Dispatch Deviations Guide". The -13 tool consists of a storage box assembly and a -14 link assembly, which is made up of an 5/8 x 7 inch bar that has a clevis machined in one end and a rod end assembly attached to the other.

WEIGHT: 1 lb (0.45 kg)

DIMENSIONS: 2 x 2 x 10 inches (51 x 51 x 254 mm)



**Aileron Dummy Trim Actuator Link
Figure 1 (Sheet 1 of 2)**



Aileron Dummy Trim Actuator Link
Figure 1 (Sheet 2 of 2)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27106-1

NAME: BUSHING PULLER - OUTBOARD AILERON ACTUATOR

AIRPLANE MAINTENANCE: YES

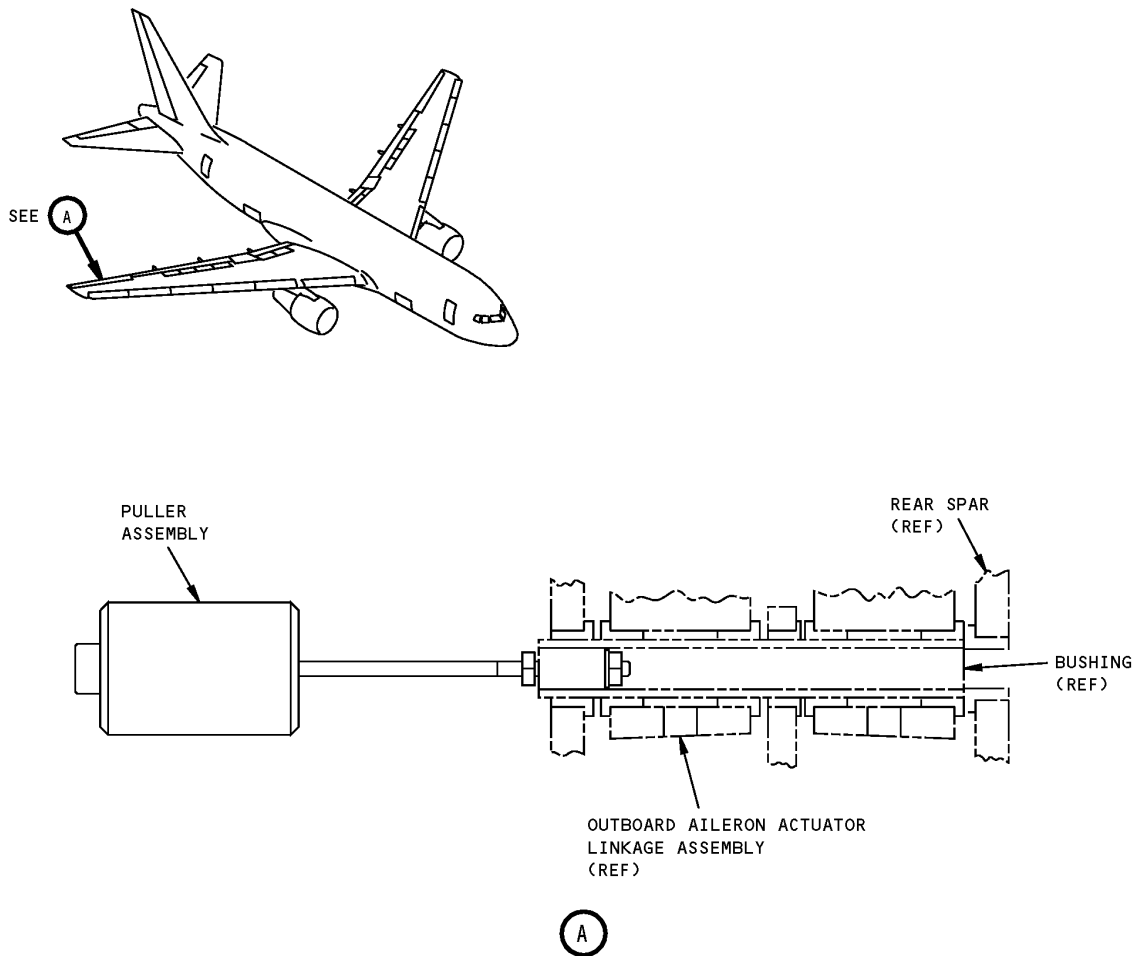
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to remove outboard aileron reaction link bushing. Refer to Maintenance Manual 27-11-49 for complete usage instructions. This tool consist of a -2 puller assembly and a -3 storage box assembly.

WEIGHT: 1 lb (0.45 kg)

DIMENSIONS: 1.5 x 1.5 x 4.2 inches (38 x 38 x 107 mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Outboard Aileron Actuator Bushing Puller
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27110-1, -20

NAME: MOUNT EQUIPMENT - INBOARD AILERON RIGGING BAR

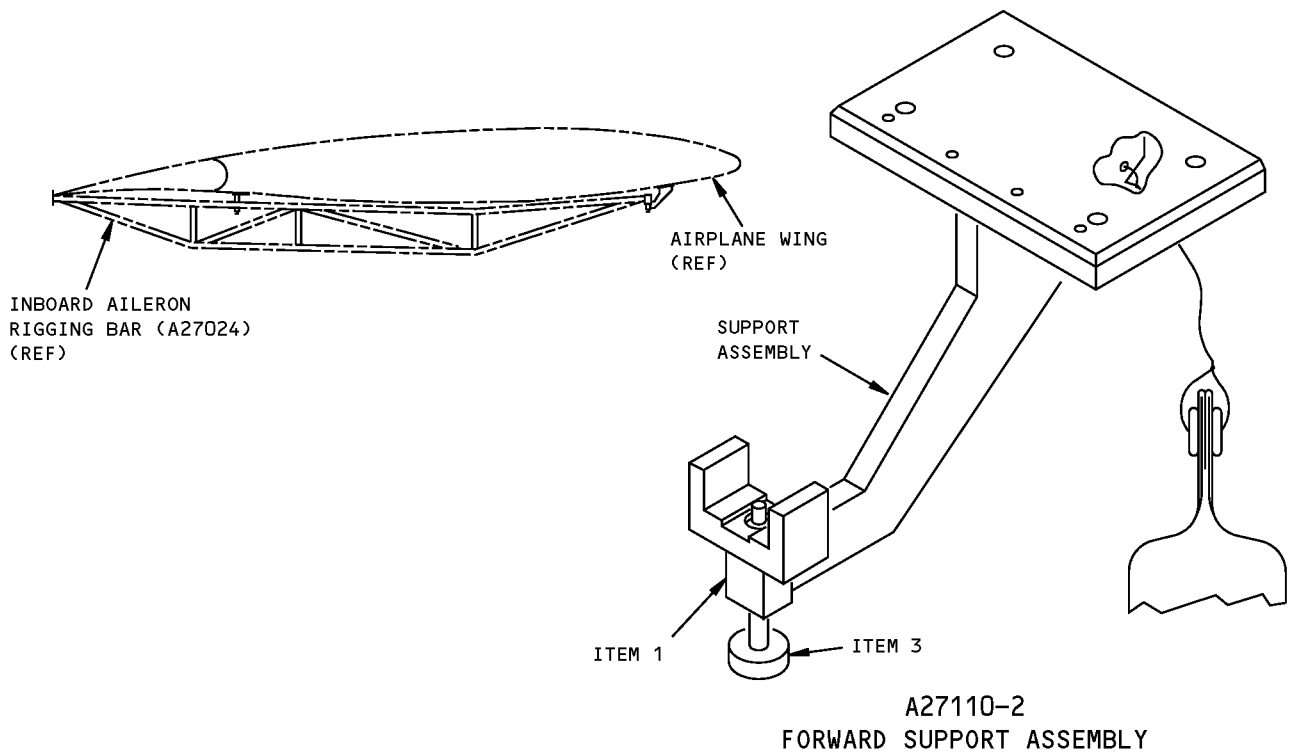
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This equipment is used to hold the inboard aileron rigging bar (A27024) to the underside of the airplane wing. The -1 is used with A27024-47 inboard rigging bar assembly. The -20 is used with A27024-56 inboard rigging bar assembly. Refer to AMM 27-11-00 for further usage information. The -1 consists of a -2 forward support assembly, a -3 aft support assembly, four forward support screws, four aft support screws, and a -4 storage box assembly. The -20 consists of a -2 forward support assembly, a -21 aft support assembly, four forward support screws, four aft support screws, and a -22 storage box assembly.

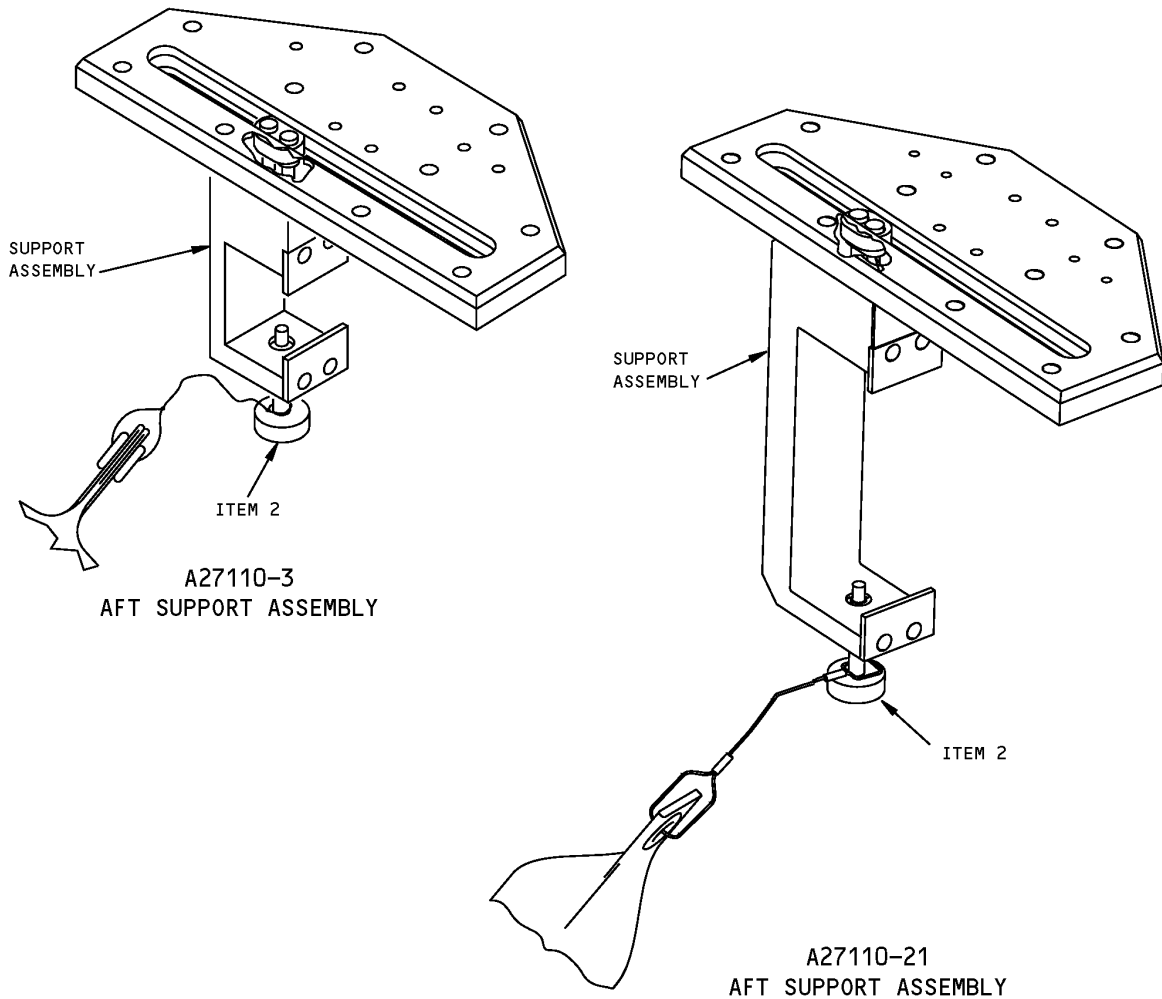
WEIGHT: A27110-1 - 6.5 lbs (2.9 kg) (excluding box)
A27110-20 - 7.2 lbs (3.3 kg) (excluding box)

DIMENSIONS: 5.5 x 11.8 x 14.5 inches (140 x 300 x 368 mm) (excluding box)



**Inboard Aileron Rigging Bar Mount Equipment
Figure 1 (Sheet 1 of 2)**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Inboard Aileron Rigging Bar Mount Equipment
Figure 1 (Sheet 2 of 2)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | CL-5-JN | JAM NUT | V99862 |
| 2 | CL-6-SHSN | THUMBSCREW | V99862 |
| 3 | CL-34-SHSN | THUMBSCREW | V99862 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: G27033-2

NAME: ADAPTER CABLE - OUTBOARD AILERON LOCKOUT

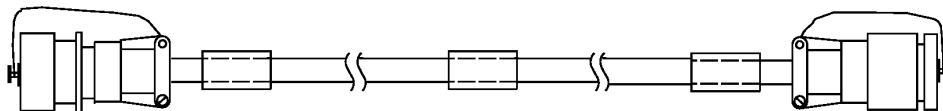
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The tool is used to allow the Outboard Aileron Lockout Actuator to be driven to the retracted (locked) position. This locks the outboard aileron in the neutral (faired) position. This tool consists of a cable assembly and a storage box assembly. Refer to AMM 27-11-00 for further usage information.

WEIGHT: 5 lbs (2.3 kg)

DIMENSIONS: 4 x 4 x 10 inches (102 x 102 x 254 mm)



**Outboard Aileron Lockout Adapter Cable
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27115-34, -41

NAME: TEST EQUIPMENT - OUTBOARD AILERON LOCKOUT ACTUATOR

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

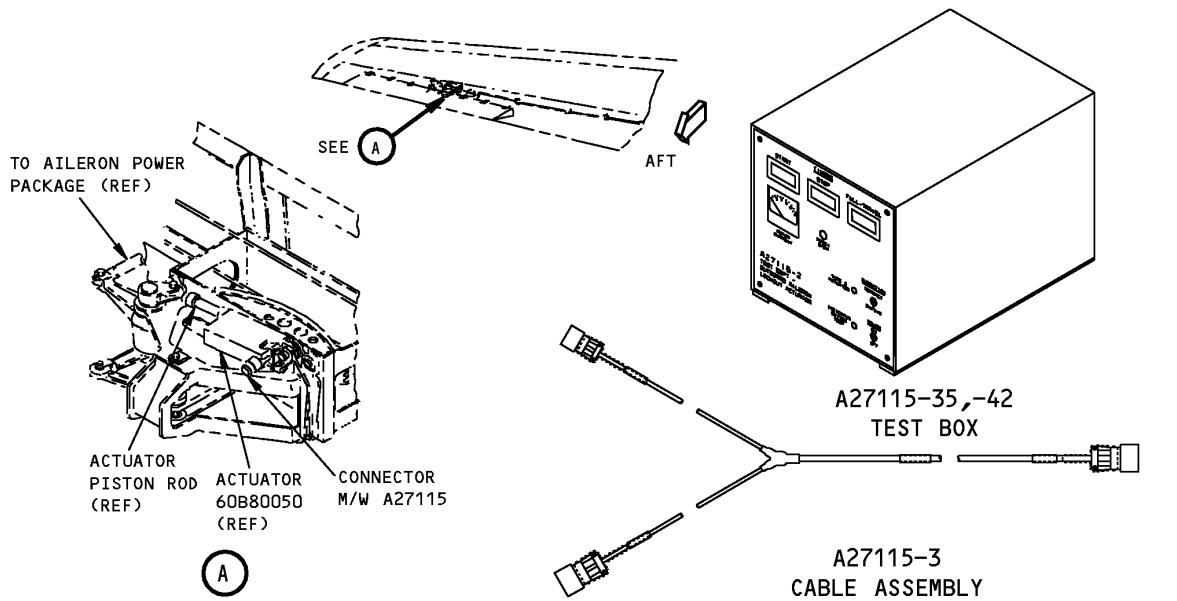
USAGE & DESCRIPTION: The A27115-34 or A27115-41 test equipment is used on 767 airplanes line numbers 1 through 830 that are equipped with 60B80050-1 through -7 outboard aileron lockout actuators. This tool detects degraded performance of actuator motorcontrol or limit switches in order to prevent a dispatch delay. The test equipment attaches directly to the actuator connector in place of the airplane electrical connector without removing the actuator from the lockout mechanism. Refer to 767 Maintenance Tip MT 27-024, AMM 27-11-16 and current A27115 drawing for complete instructions. The A27115-34 test equipment consists of a -35 test box, a -3 cable assembly and a storage box assembly. The A27115-41 consists of a -42 test box, a -3 cable assembly, and a storage box assembly.

WEIGHT: 8 lbs (3.6 kg)

DIMENSIONS: 9 x 9 x 12 inches (229 x 229 x 305 mm)

NOTE: A27115-41 supersedes A27115-36.
A27115-41 replaces A27115-34 for future procurement.
A27115-34 supersedes A27115-26.

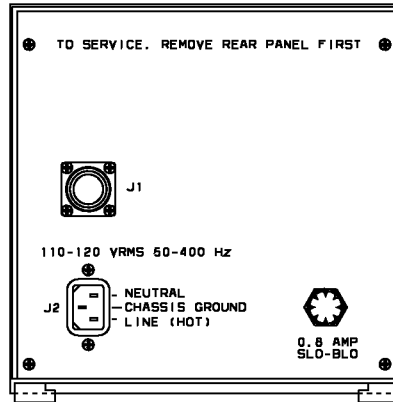
767
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



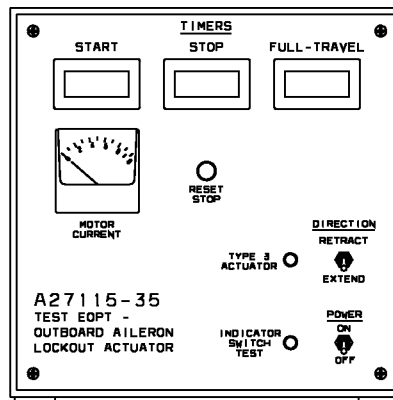
L79380 S0000189765_V3

Outboard Aileron Lockout Actuator Test Equipment
Figure 1

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A27115-35,-42
ASSEMBLY
(REAR VIEW)



A27115-35
ASSEMBLY SHOWN
A27115-42
ASSEMBLY NOTED

1312640 S0000225434_V2

Test Equipment - Outboard Aileron Lockout Actuator
Figure 2

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27003-23

NAME: LOCK SET - ACTUATOR, RUDDER

AIRPLANE MAINTENANCE: YES

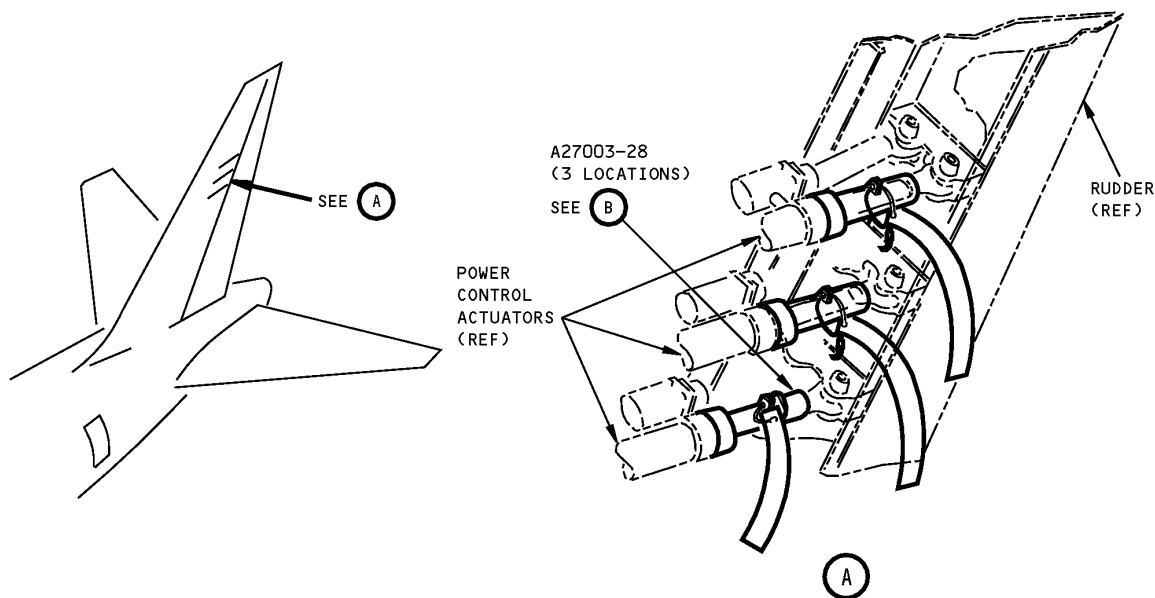
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The A27003-23 lock set is used on all 767 airplanes. A27003 is used to hold the rudder power control actuator (PCA) nearly in full extension. A27003 locks the PCA during PCA filter removal, when removing a PCA reaction link and during hydraulic leak checks. Refer to AMM 27-21-02 and AMM 29-11-00 for complete usage instructions. The A27003-23 lock set consists of three A27002-28 lock assemblies contained in a storage box.

WEIGHT: 3 lbs (1.4 kg)

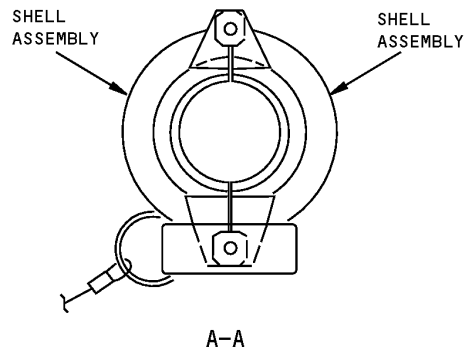
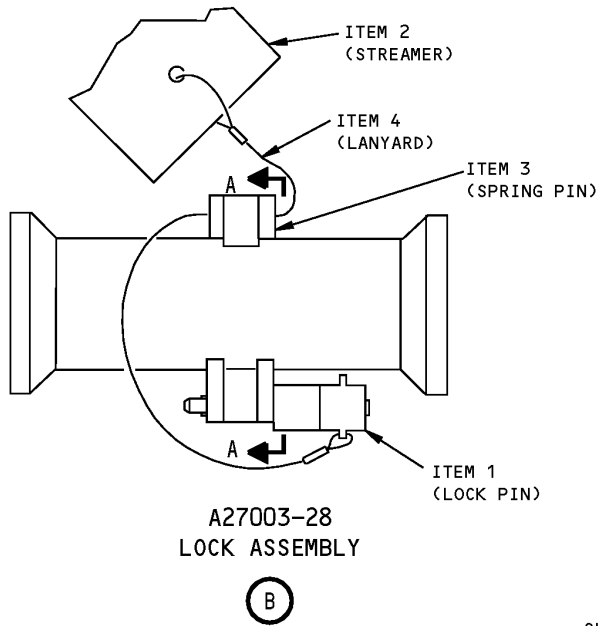
DIMENSIONS: 4 x 8 x 10 inches (102 x 203 x 254 mm)

NOTE: A27003-23 supersedes A27003-13, -16 for future procurement.



**Rudder Actuator Lock Set
Figure 1 (Sheet 1 of 2)**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Rudder Actuator Lock Set
Figure 1 (Sheet 2 of 2)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | NAS1334-C2C12D | BALL LOCKPIN | |
| 2 | NAS1089-24 | STREAMER | |
| 3 | MS16562-252 | SPRING PIN | |
| 4 | CL-21-KA-18LR | LANYARD | V99862 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: F80212-30

NAME: ADAPTER - RUDDER PEDAL FORCE CHECK

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

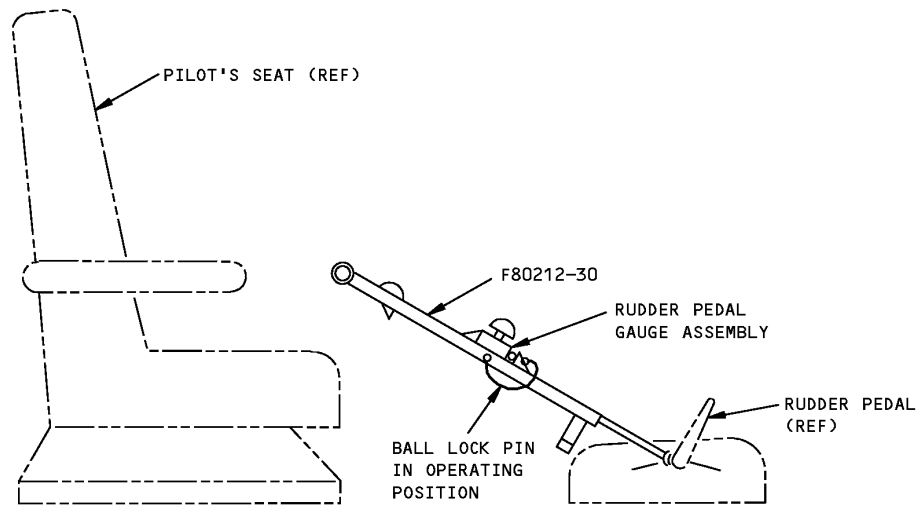
USAGE & DESCRIPTION: This tool is used to check the force required to move the rudder pedals. Refer to AMM 27-21-00 for further usage instructions. The - 30 consists of a -31 gauge assembly and a box assembly. The tool is a pogo-stick type arrangement with a handle assembly and an extension assembly. The handle assembly is a tube equipped with a T-shaped handle, an angle measuring device, a compression gage, and a foot brace. The extension assembly is a mating shaft with two plates, one cushioned to interface with the rudder pedal on one end, and telescoping through the lower end of the handle assembly to contact the compression gage on the other. A ball lock pin on a lanyard is used to hold the two assemblies to each other when the tool is not in use.

WEIGHT: 8 lbs (3.7 kg) (excluding box)

DIMENSIONS: 7 x 11 x 26 inches (178 x 280 x 661 mm) (excluding box)

NOTE: F80212-30 supersedes F80212-19.
F80212-19 supersedes F80212-1.

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



27-20-1

L79383 S0000189780_V2

Rudder Pedal Force Check Adapter
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27022-75, -81

NAME: SLING EQUIPMENT - RUDDER INSTALLATION/REMOVAL

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: A27022-75 or -81 sling equipment is used on all 767 airplanes. A27022 is used to remove or install the airplane's rudder. The A27022 sling equipment is equipped with rope assemblies (tag lines) that allow for horizontal positioning of the rudder and sling. The A27022 sling equipment allows the rudder to be rotated from the vertical to the horizontal position during rudder removal. When using A27022-81 sling equipment, a customer-furnished load positioner is required to provide for precise vertical positioning. The A27022-75 sling equipment includes a load positioner with the A27022-76 spreader bar assembly. In both A27022-75 and -81 sling equipment, the spreader bar assembly is not contained in the storage box. Refer to AMM 27-21-01 for complete usage instructions. The A27022 sling equipment consists of:

| A27022-75 | | |
|-----------|-----------------------|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 4 | FITTING ASSEMBLY | A27022-3 |
| 2 | ROPE ASSEMBLY | A27022-14 |
| 1 | SPREADER BAR ASSEMBLY | A27022-76 |
| 1 | STORAGE BOX | |

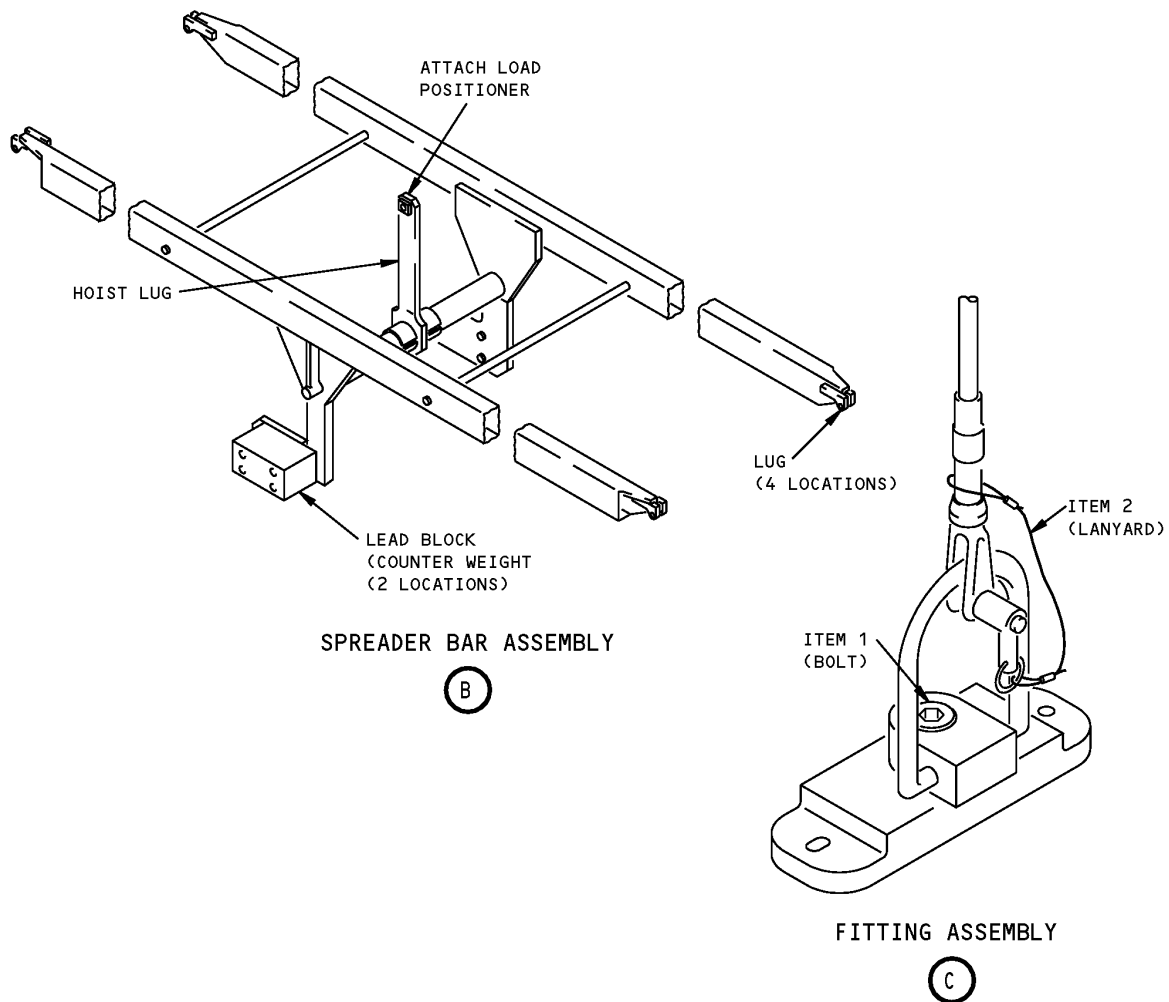
| A27022-81 | | |
|-----------|-----------------------|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 4 | FITTING ASSEMBLY | A27022-3 |
| 2 | ROPE ASSEMBLY | A27022-14 |
| 1 | SPREADER BAR ASSEMBLY | A27022-82 |
| 1 | STORAGE BOX | |

WEIGHT: 485 lbs (220 kg)

DIMENSIONS: 33 x 42 x 131 inches (838 x 1067 x 3327 mm)

NOTE: A27022-81 replaces A27022-75 for future procurement.

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Rudder Installation/Removal Sling Spreader Bar and Fitting Assemblies
Figure 2

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | MS16998-46 | BOLT | |
| 2 | CL-42-KA-12.0LR | LANYARD | V99862 |

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27057-1, -9, -13

NAME: PROTRACTOR BRACKET EQUIPMENT - FEEL CENTERING AND TRIM INSTALLATION, RUDDER CONTROL

AIRPLANE MAINTENANCE: YES

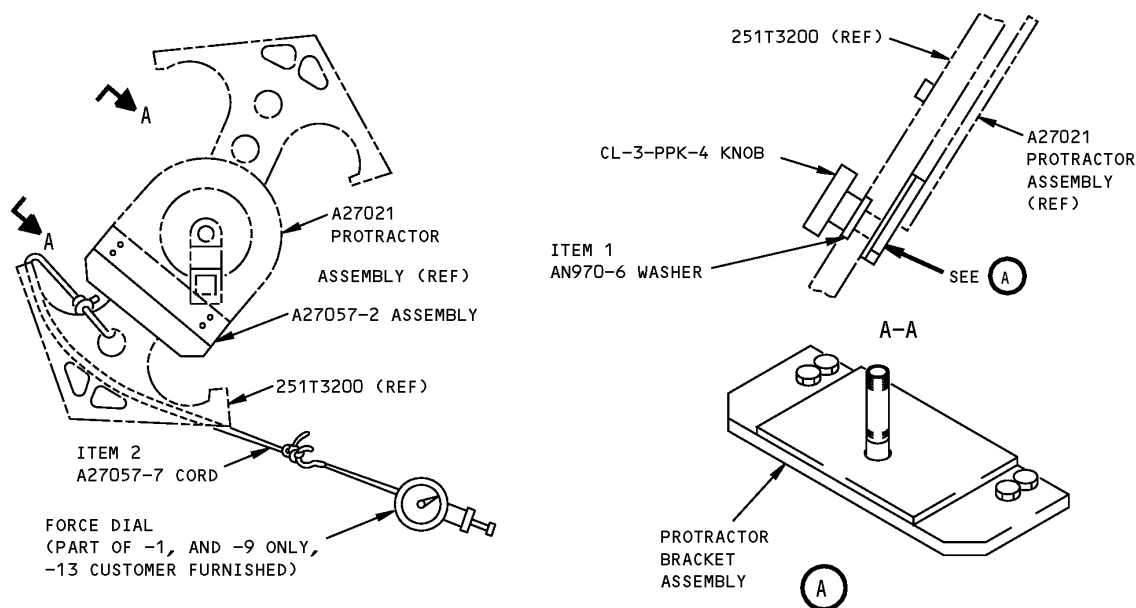
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This equipment is used to measure tangential load at the aft quadrant upper and lower cable guard pin. The 1,-9,-13 each consists of a protractor bracket assembly, a cord, and a storage box assembly. The -1 and -9 "force and angle equipment" with force dial, the -13 "protractor bracket equipment" does not include a force dial.

WEIGHT: 2 lbs (0.9 kg)

DIMENSIONS: 3 x 3 x 7 inches (76 x 76 x 178 mm)

NOTE: A27057-13 replaces A27057-1, and -9 for future procurement.
A27057-9 replaces A27057-1 for future procurement.



**Rudder Control Feel Centering and Trim Instl. Protractor Bracket Equip
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | AN970-6 | WASHER | |
| 2 | -7 | CORD | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27109-1

NAME: RIGGING BAR - RATIO CHANGER INSTALLATION, RUDDER CONTROL

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

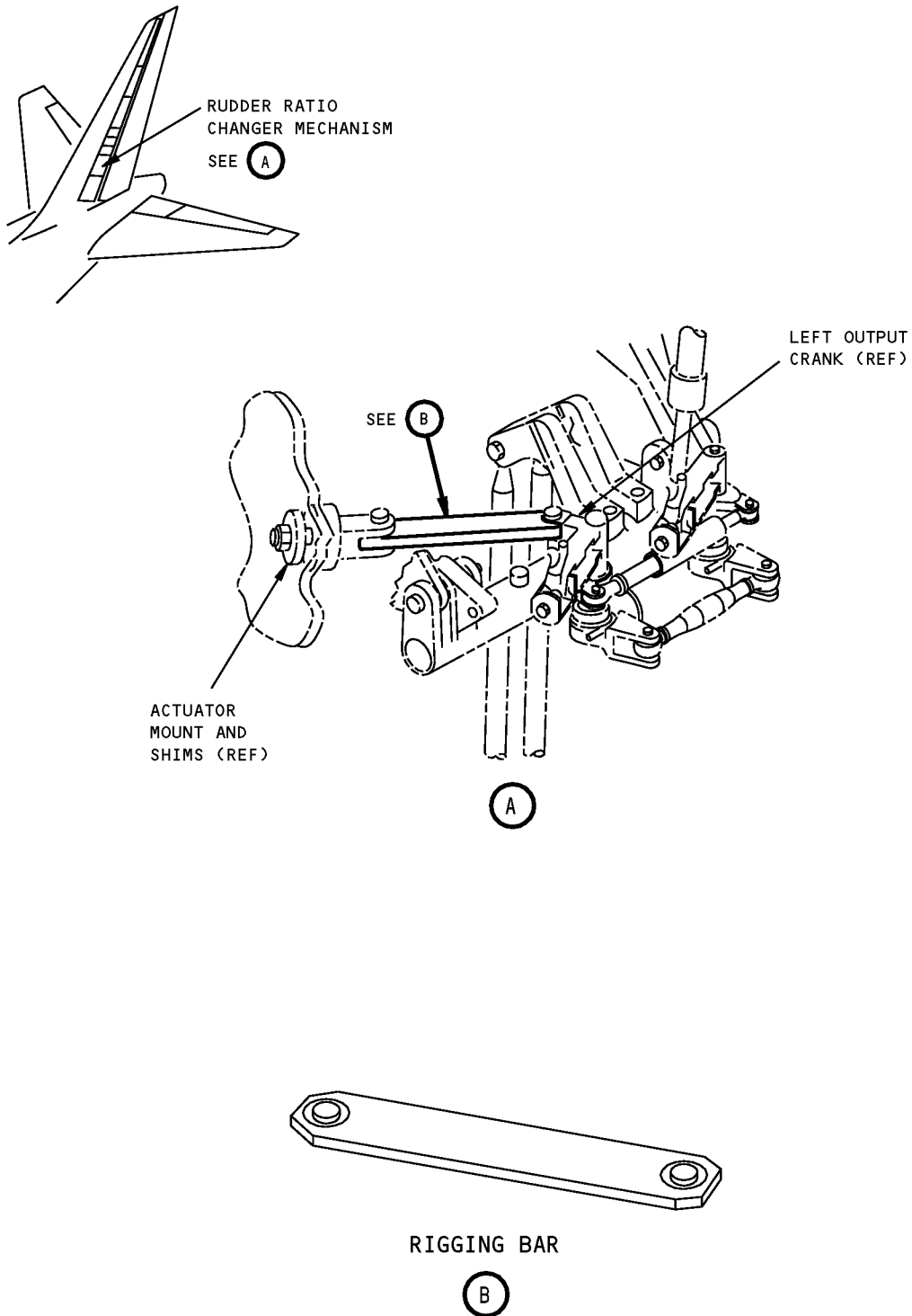
USAGE & DESCRIPTION: This tool is used to determine the correct thickness of shims needed under the actuator mount assembly. This tool consists of an aluminum bar (with a bearing installed in both ends) and a storage box assembly. Refer to AMM 27-21-15 for further usage information.

WEIGHT: 0.5 lbs (0.2 kg)

DIMENSIONS: 0.4 x 1 x 8.2 inches (10 x 25 x 208 mm)

NOTE: A27109 supersedes A27056.

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



**Rudder Control Ratio Changer Installation Rigging Bar
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27124-1

NAME: FORCE EQUIPMENT - RUDDER FREEPLAY CHECK

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The A27124-1 force equipment is used on all 757, 767 and 777 airplanes.

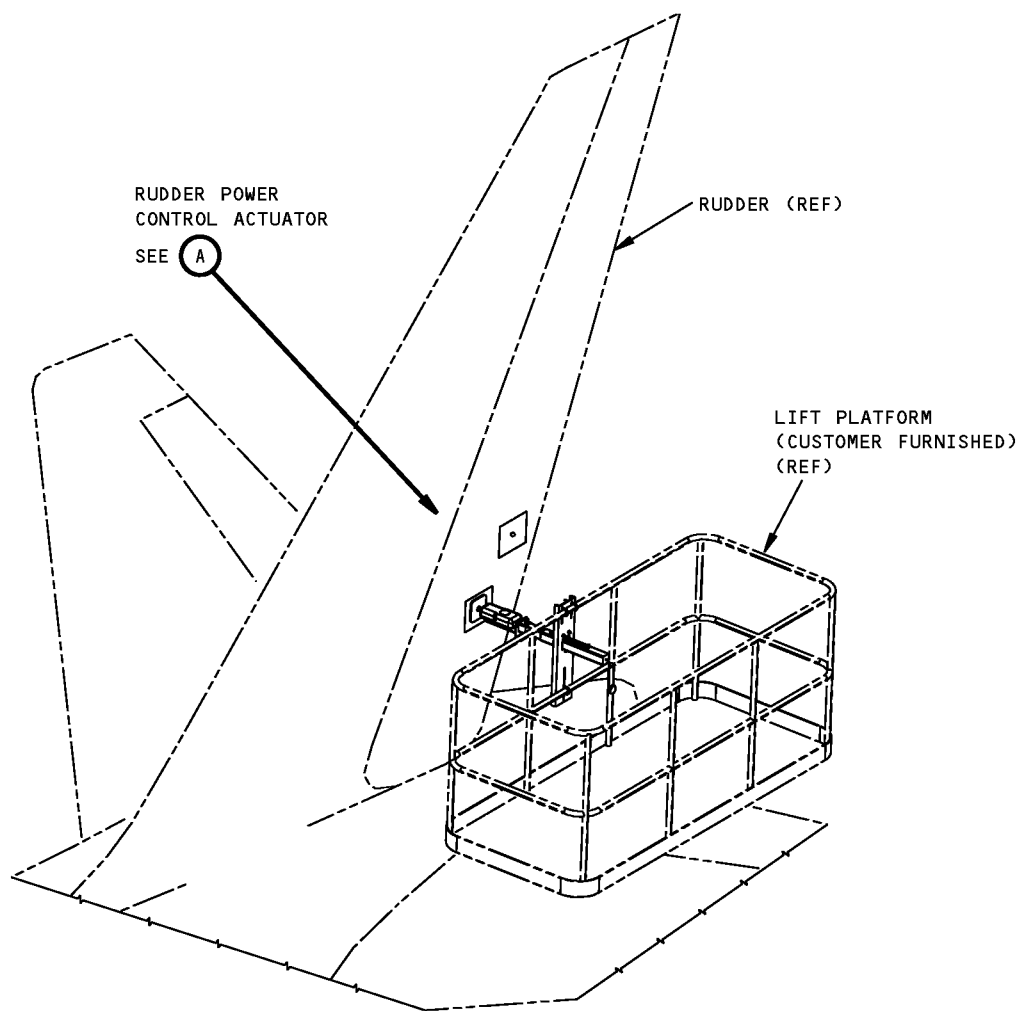
A27124 is used to apply a constant force to the rudder to measure the freeplay of the rudder actuators. Refer to the current A27124 drawing and AMM 27-02-00 for complete usage.

A27124-1 consists of:

| A27124-1 | | |
|----------|------------------------|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | ADAPTER PLATE ASSEMBLY | A27124-2 |
| 1 | JACK ASSEMBLY | A27124-3 |
| 1 | GAUGE ASSEMBLY | A27124-4 |
| 3 | U-BOLT | 30555T42 |
| 3 | U-BOLT | 30555T43 |
| 3 | U-BOLT | 30555T44 |
| 1 | STORAGE BOX | |

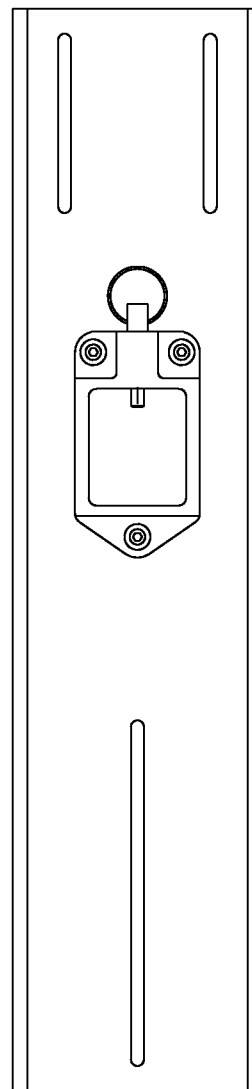
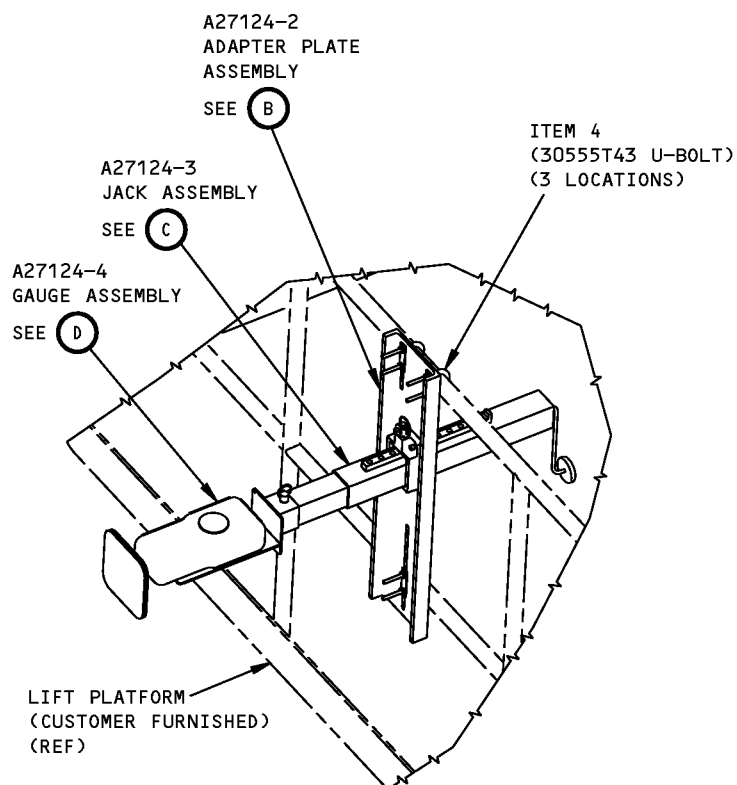
WEIGHT: 30 lbs (14 kg)

DIMENSIONS: 6 x 15 x 26 inches (15 x 38 x 66)



1669085 S0000304603_V1

**Force Equipment - Rudder Freeplay Check
Figure 1 (Sheet 1 of 3)**



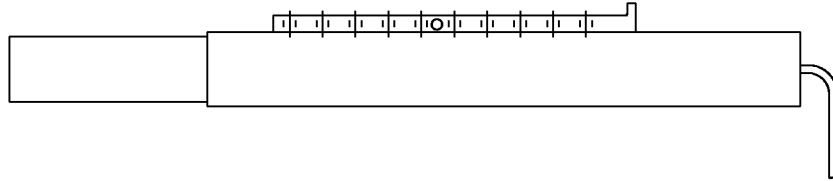
**A27124-2
ADAPTER PLATE ASSEMBLY**

(B)

1669089 S0000304608_V1

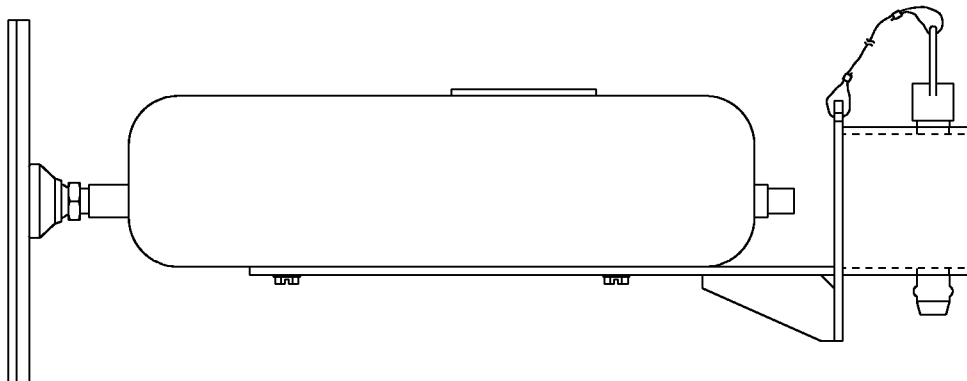
**Force Equipment - Rudder Freeplay Check
Figure 1 (Sheet 2 of 3)**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A27124-3
JACK ASSEMBLY

(C)



A27124-4
GAUGE ASSEMBLY

(D)

1669093 S0000304609_V1

Force Equipment - Rudder Freeplay Check
Figure 1 (Sheet 3 of 3)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27111-11

NAME: LOCK EQUIPMENT - ELEVATOR ACTUATOR

AIRPLANE MAINTENANCE: YES

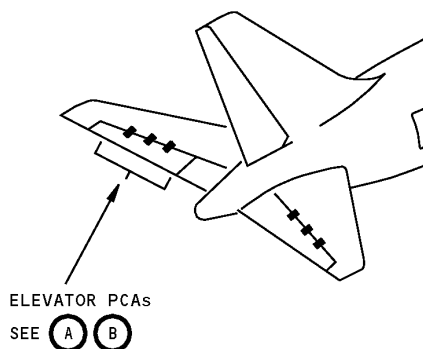
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The lock assemblies contained in this tool are attached to the elevator Power Control Actuators (PCAs) to hold the elevator in the full up position for actuator replacement or while performing inspections. These locks have been designed to withstand system pressure. Refer to AMM 27-31-05 for further usage instructions. The lock equipment consists of six lock assemblies, two bushing assemblies and a storage box assembly.

WEIGHT: 8 lbs (3.6 kg) (excluding box)

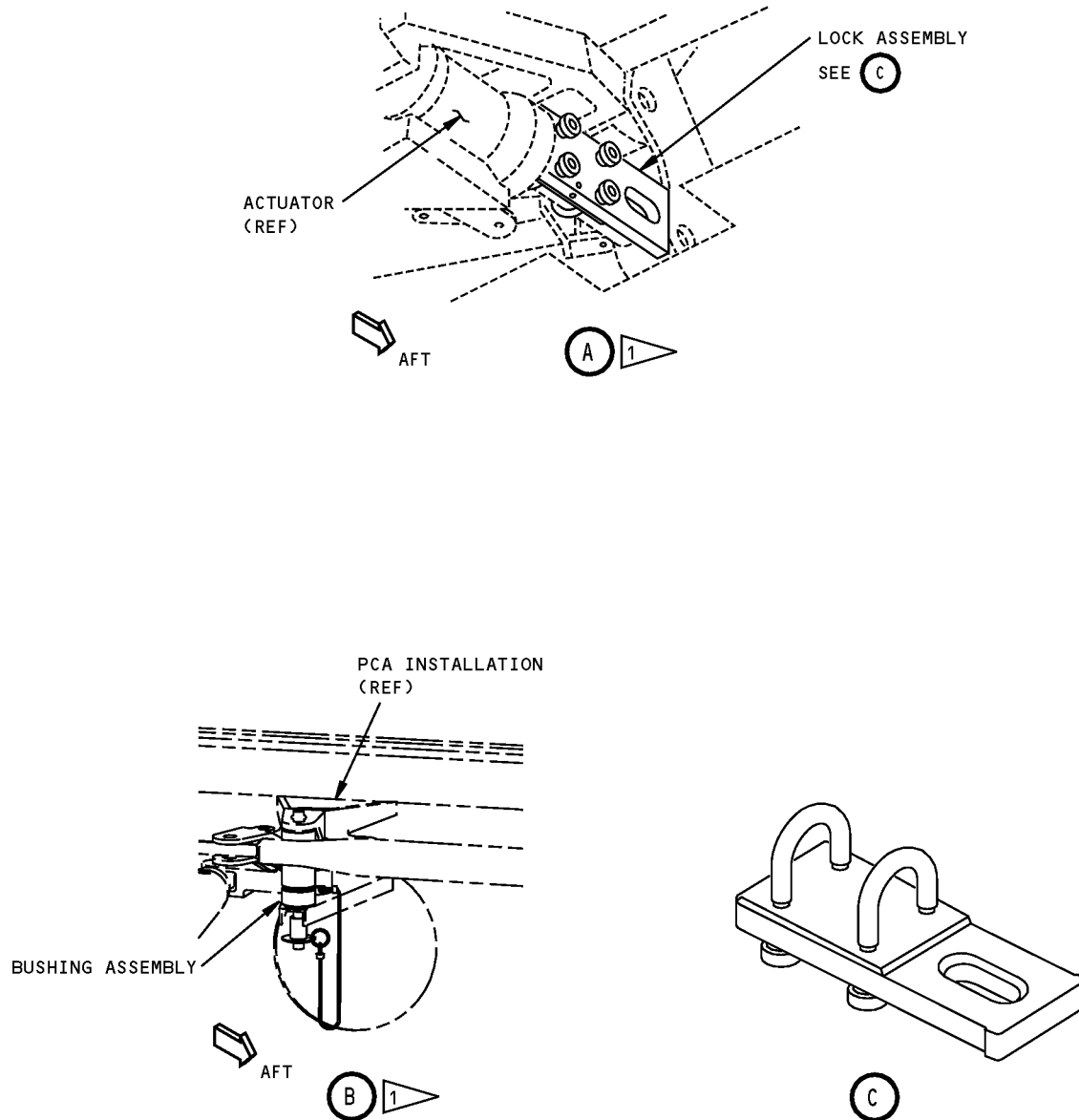
DIMENSIONS: 10 x 15 x 25 inches (254 x 381 x 635 mm) (excluding box)

NOTE: A27111-11 supersedes A27111-1.
A27111 supersedes A27008 and A27104.



**Elevator Power Control Actuators
Figure 1**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



1 LOCK MUST BE INSTALLED ON EACH ACTUATOR

Elevator Power Control Actuator Lock
Figure 2



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27098-1

NAME: TEST BOX - BITE DISPLAY PCA, WARNING ELECTRONIC UNIT (WEU)

AIRPLANE MAINTENANCE: NO

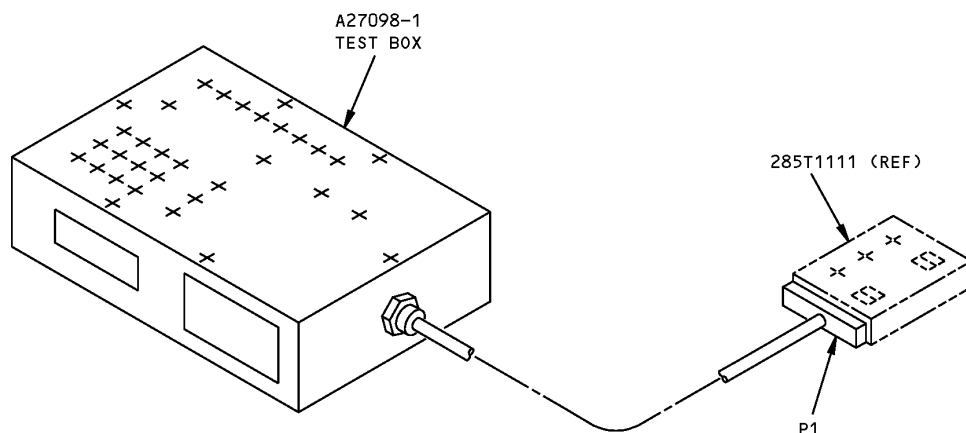
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: The A27098 drawing has been transferred to BAE Systems and will no longer be revised by Boeing. The A27098 inclusion in the 767 ITEM is for information and historical purposes only.

The A27098 test box is used to test the WEU Bite Display PCA. The test box is composed of a chassis assembly, panel, terminal board, and attaching parts.

WEIGHT: 5 lbs (2.3 kg)

DIMENSIONS: 12 x 8 x 4 inches (305 x 203 x 102 mm)



**WEU Bite Display PCA Test Box
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27012-30

NAME: SLING EQUIPMENT - INBOARD/OUTBOARD ELEVATOR SEGMENT

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

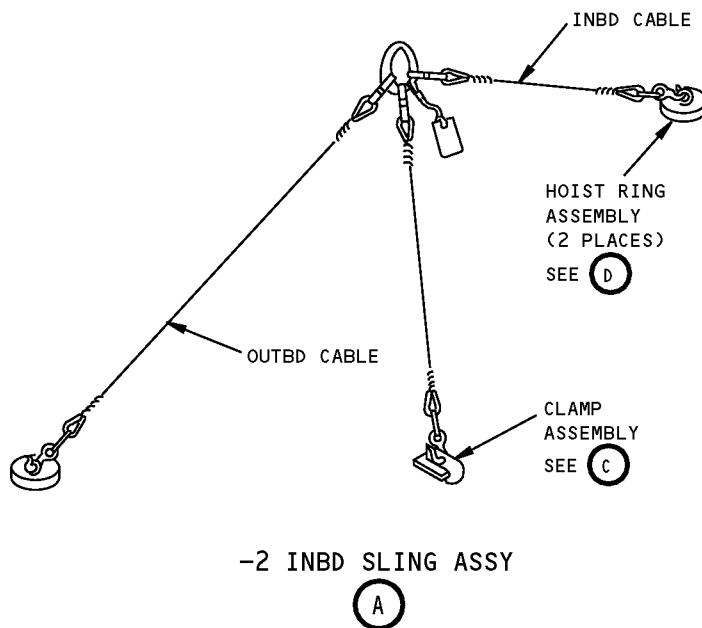
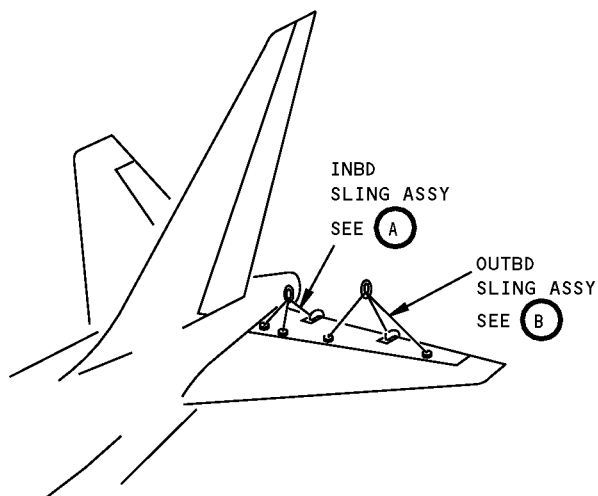
USAGE & DESCRIPTION: This tool consists of two cable and sling assemblies. The -2 sling assembly is used for removal/installation of the inboard elevator while the -3 sling assembly is used on the outboard elevator.

WEIGHT: 29 lbs (13.2 kg)

DIMENSIONS: 5 x 10 x 65 inches (127 x 254 x 1651 mm)

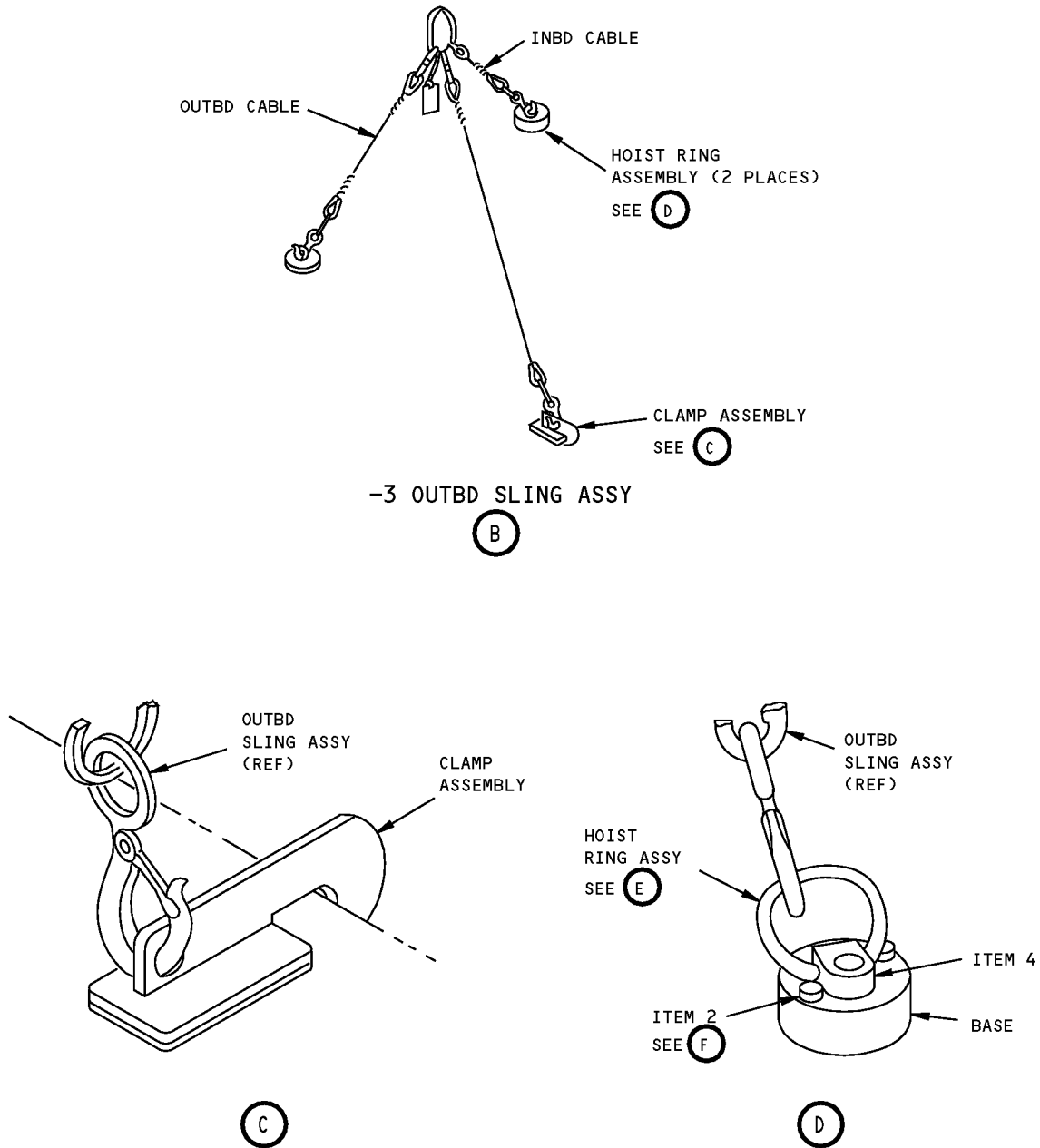
NOTE: A27012-30 supersedes A27012-20

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



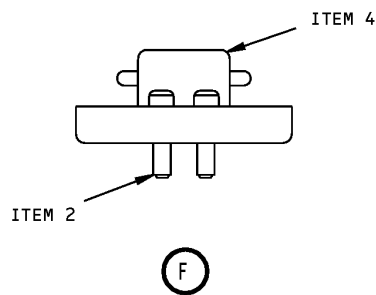
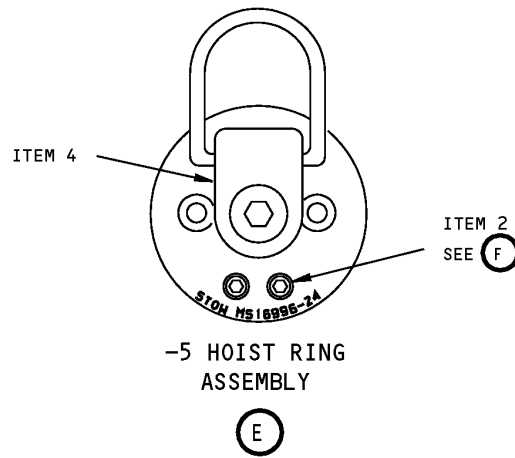
**Inboard/Outboard Elevator Segment Sling Equipment
Figure 1 (Sheet 1 of 3)**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Inboard/Outboard Elevator Segment Sling Equipment
Figure 1 (Sheet 2 of 3)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Inboard/Outboard Elevator Segment Sling Equipment
Figure 1 (Sheet 3 of 3)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------------|---------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | CL-24-KA-4.0 LR | LANYARD | V99862 |
| 2 | MS16996-24 | SOCKET HD CAP SCREW | |
| 3 | F70308-2 | PROOF LOAD TAG | |
| 4 | -17 | HOIST RING | V99862 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27001-1, -2, -3, -4

NAME: PCA GAGES - INBD/OUTBD AILERON, RUDDER, ELEVATOR

AIRPLANE MAINTENANCE: YES

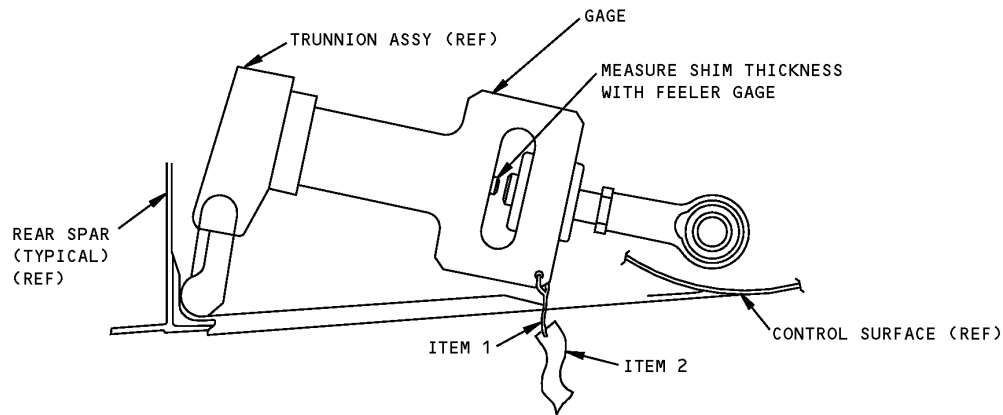
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool consists of four gage assemblies used to measure shim thicknesses for the Power Control Actuator (PCA) installations. The A27001-1 gage assembly is used on the rudder, the A27001-2 is used on the inboard aileron, the A27001-3 is used on the elevator and the A27001-4 is used on the outboard aileron. One gage assembly is used to hold the control surface in a neutral position while a second gage is used for measurements at other actuator installation locations.

WEIGHT:
A27001-1 - 12 lbs (5.4 kg)
A27001-2 - 11 lbs (5 kg)
A27001-3 - 8 lbs (3.6 kg)
A27001-4 - 7 lbs (3.2 kg)

DIMENSIONS:
A27001-1 - 5 x 5 x 19 inches (127 x 127 x 483 mm)
A27001-2 - 5 x 5 x 16 inches (127 x 127 x 406 mm)
A27001-3 - 5 x 5 x 15 inches (127 x 127 x 381 mm)
A27001-4 - 4 x 4 x 12 inches (102 x 102 x 305 mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Inboard/Outboard Aileron, Rudder, Elevator PCA Gages
Figure 1

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------------|------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | CL-22-KA-10.0LR | LANYARD | V99862 |
| 2 | NAS1756-36 | WARNING STREAMER | |

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PART NUMBER: A27025-1

NAME: RIGGING EQUIPMENT - FORCE TRANSDUCER, ELEVATOR CONTROL

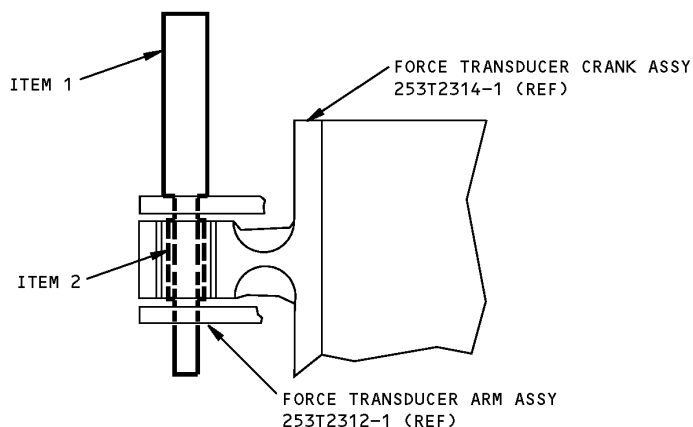
AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is used to set the force transducer of the elevator control assembly to a neutral or 'zero load' condition.

WEIGHT: 1 lb (0.45 kg)

DIMENSIONS: 3 x 4 x 6 inches (76 x 102 x 152 mm)



**Force Transducer Rigging Set
Figure 1**

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | -2 | ROD | |
| 2 | -3 | BUSHING | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A55002-1

NAME: WRENCH - RETAINER NUT, BUSHING, ELEVATOR HINGE

AIRPLANE MAINTENANCE: NO

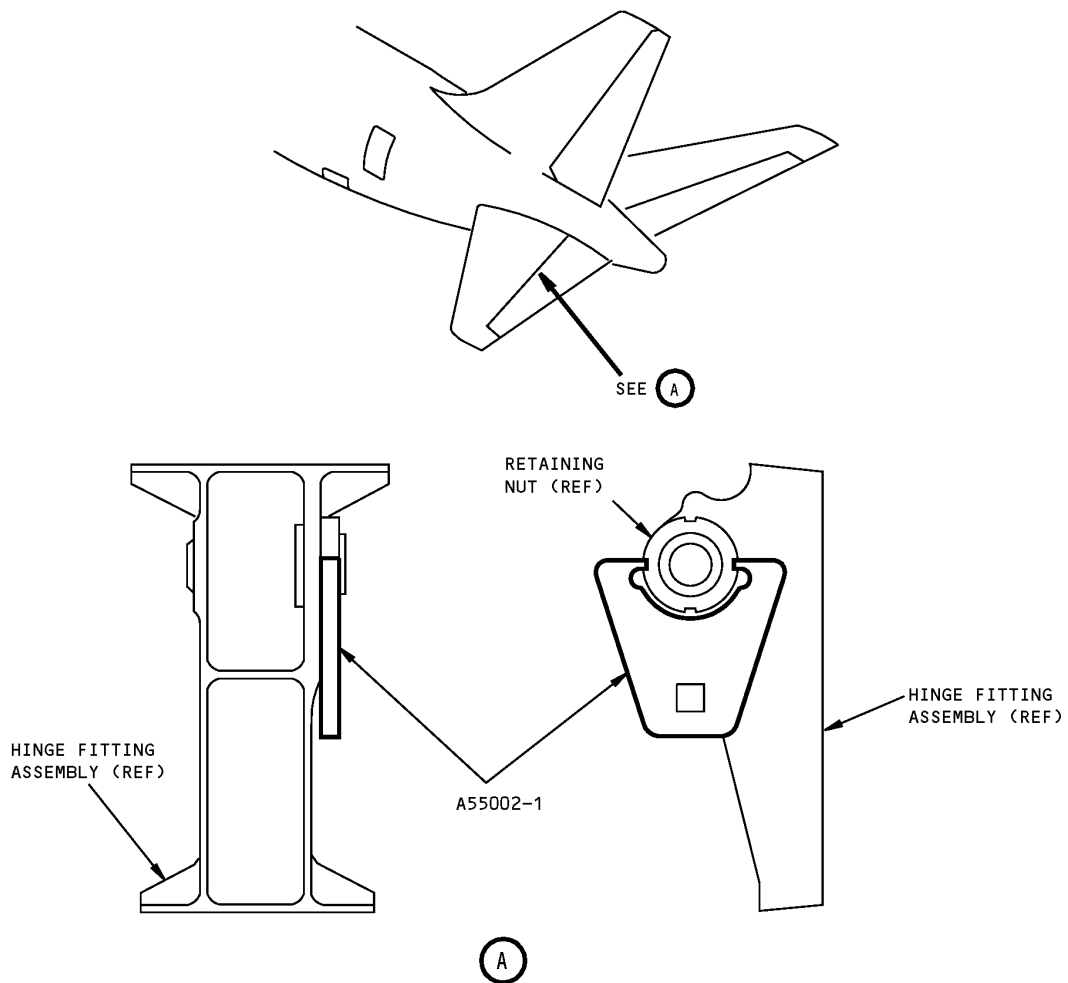
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is a spanner wrench that is used with a customer-supplied torque wrench to adjust the elevator hinge bushing retainer nut. Refer to CMM 55-20-22 for further usage instructions.

WEIGHT: 1 lb (0.45 kg)

DIMENSIONS: 1 x 4 x 4 inches (25 x 102 x 102 mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Elevator Hinge Bushing Retainer Nut Wrench
Figure 1

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27035-1

NAME: ADAPTER - RUDDER/ELEVATOR FEEL ACTUATOR CYLINDER

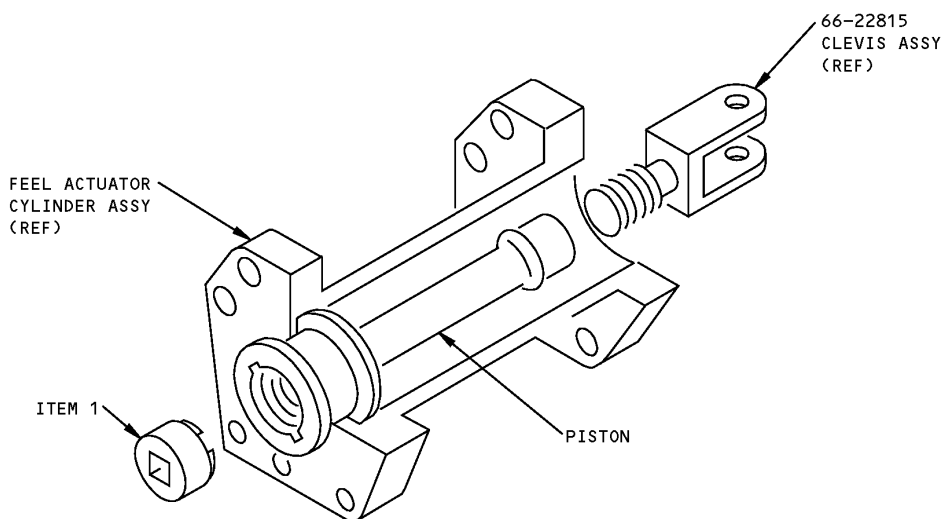
AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is a steel torque wrench adapter that is used with a customer-supplied 3/8-inch square drive torque wrench (260-280 in/lbs) to secure the feel actuator cylinder piston to the actuator clevis assembly.

WEIGHT: .125 lbs (0.06 kg)

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



Rudder/Elevator Feel Actuator Cylinder Adapter
Figure 1

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | -1 | ADAPTER | |

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: F80085-1, -12

NAME: TEST FIXTURE - FEEL ACTUATOR CYLINDER ASSEMBLY

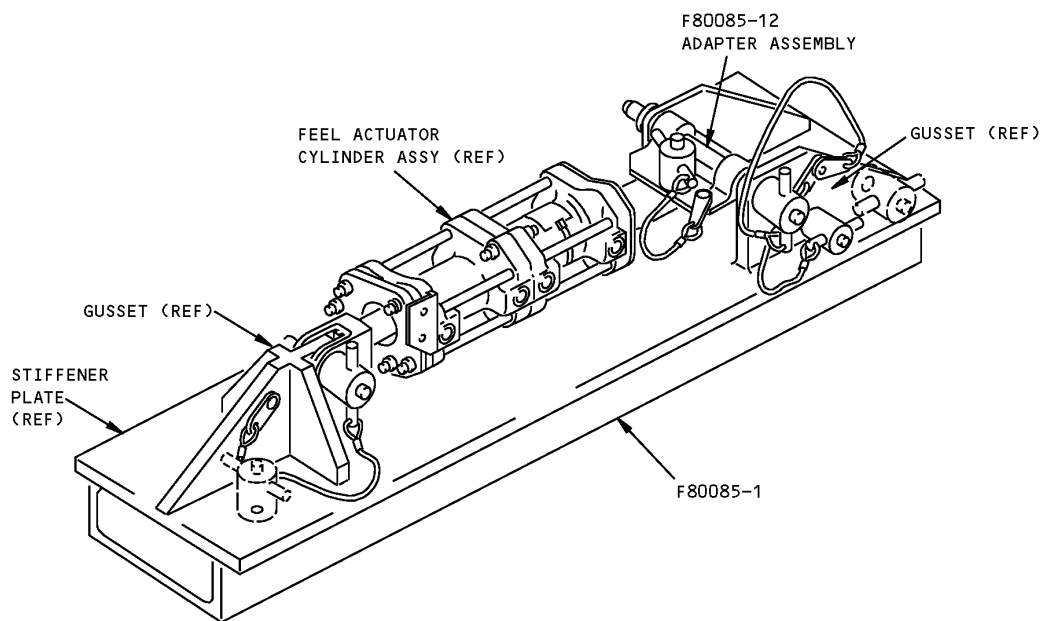
AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: The F80085-1 fixture plus -12 adapter assembly is used to hold the feel actuator cylinder at a fixed center distance, and to allow the body of the unit to move freely during functional test. The tool consists of steel upright gussets with ball lockpins mounted at each end of the stiffener plate.

WEIGHT: 43 lbs (19.5 kg)

DIMENSIONS: 5 x 6 x 25 inches (127 x 152 x 635 mm)



**Feel Actuator Cylinder Assembly Test Fixture
Figure 1**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27041-177

NAME: TEST EQUIPMENT - ELEVATOR FEEL AND CENTERING UNIT

AIRPLANE MAINTENANCE: NO

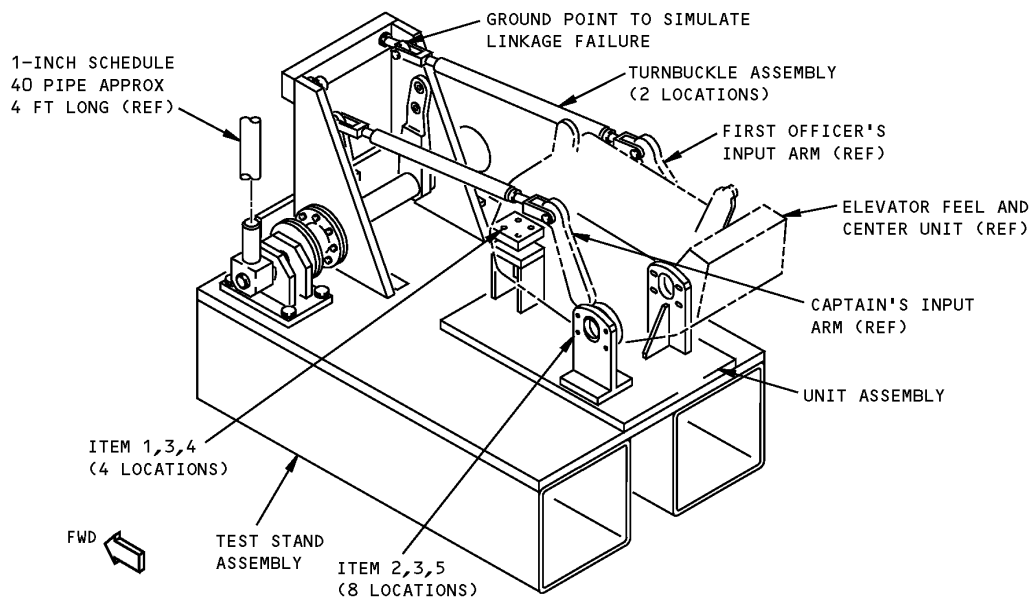
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is used in conjunction with test set A27081 to functionally test the elevator feel and centering unit. Refer to CMM 27-31-09 for complete usage instructions. This tool consists of a test stand assembly, a unit assembly two turnbuckle assemblies and a box assembly.

WEIGHT: 410 lbs (186 kg)

DIMENSIONS: 24 x 24 x 34 inches (610 x 610 x 864 mm)

NOTE: A27041-177 supersedes A27041-142 and -170.
A27041-170 replaces A27041-142 for future procurement.
A27041-142 supersedes A27041-104.
A27041-104 supersedes A27041-34.
A27041-34 supersedes A27041-1.



Elevator Feel and Centering Unit Test Equipment
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | AN4-11 | BOLT | |
| 2 | AN4-13 | BOLT | |
| 3 | AN960-416 | WASHER | |
| 4 | AN315-4 | NUT | |
| 5 | MS21044-C4 | NUT | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27058-60

NAME: JIG EQUIPMENT - ELEVATOR FEEL AND CENTERING UNIT

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

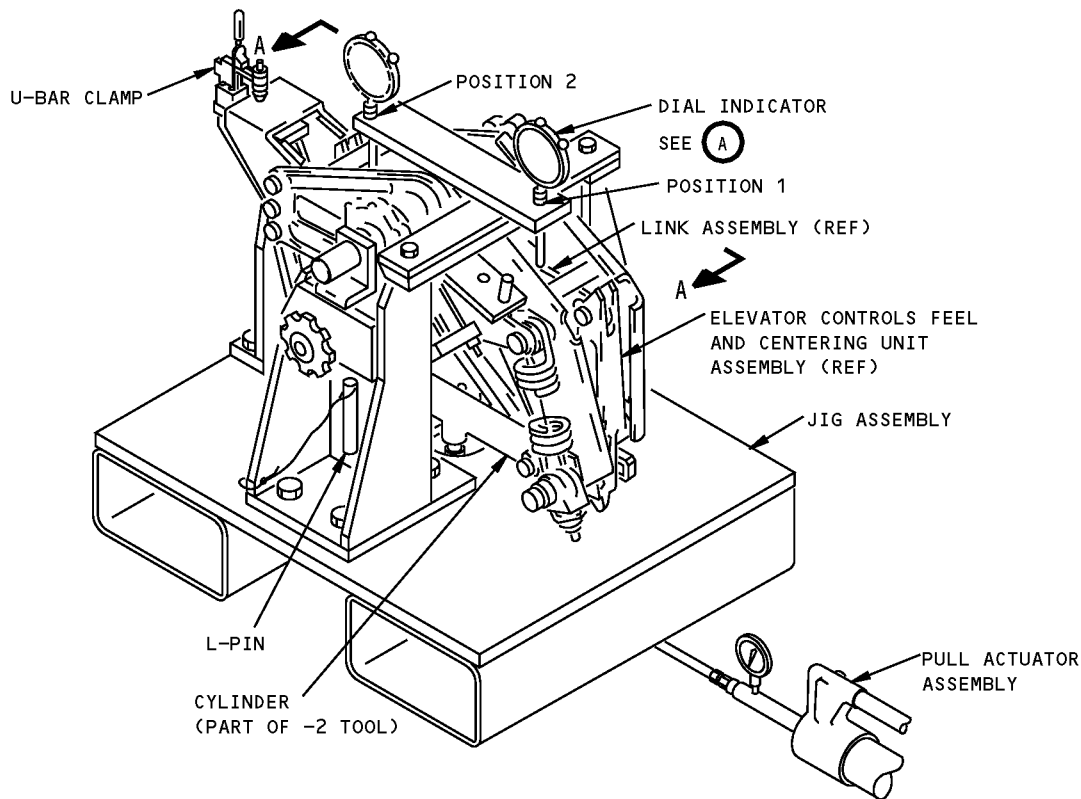
USAGE & DESCRIPTION: This tool is used to disassemble, assemble and test the elevator feel and centering unit assembly. The pull actuator assembly with the jig and dial indicators in positions 1 and 2 ensure that the two halves of the unit are centered. The dial indicator in position 3 centers the cam assembly with the arm assembly bearing. Refer to CMM 27-31-09 for further usage instructions. The tool consists of a pull actuator assembly, a jig assembly, a dial indicator, a split collett, a contact extension, four drill bushings, four reamer bushings, two bushing blocks, a contact point and a box assembly. The drills and reamers are used as guides for accurate drilling and reaming operations on new parts installed into the unit assembly.

WEIGHT: 160 lbs (73 kg)

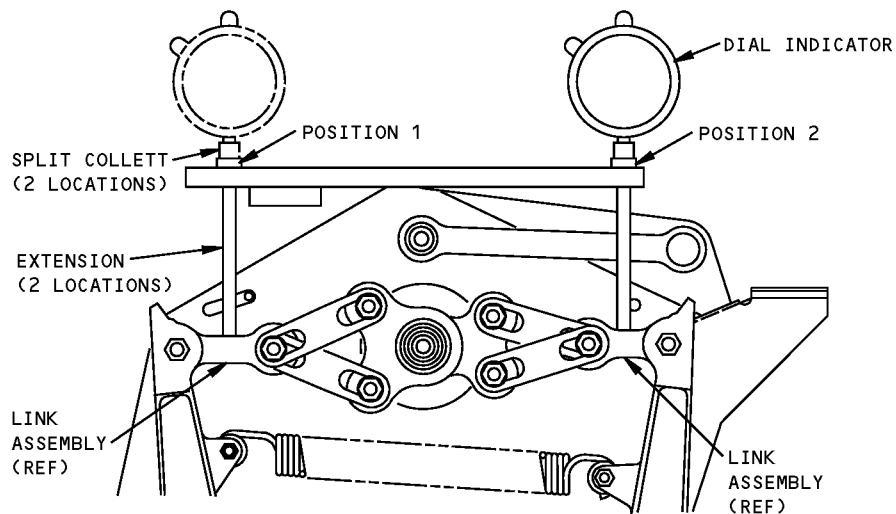
DIMENSIONS: 16 x 20 x 24 inches (406 x 508 x 610 mm)

NOTE: A27058-60 supersedes -57.

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



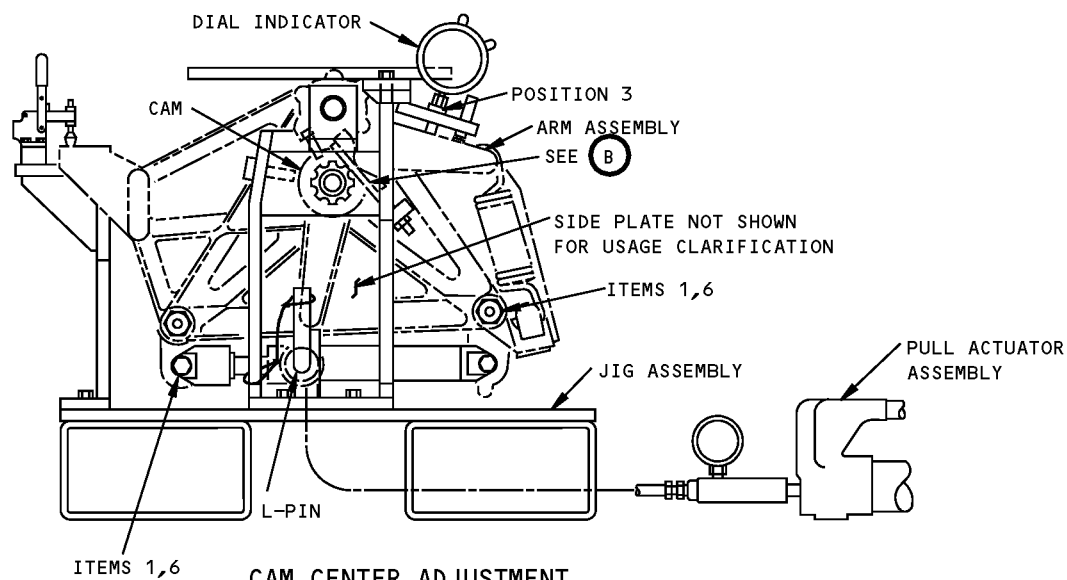
**ELEVATOR FEEL CENTER ADJUSTMENT
USAGE I**



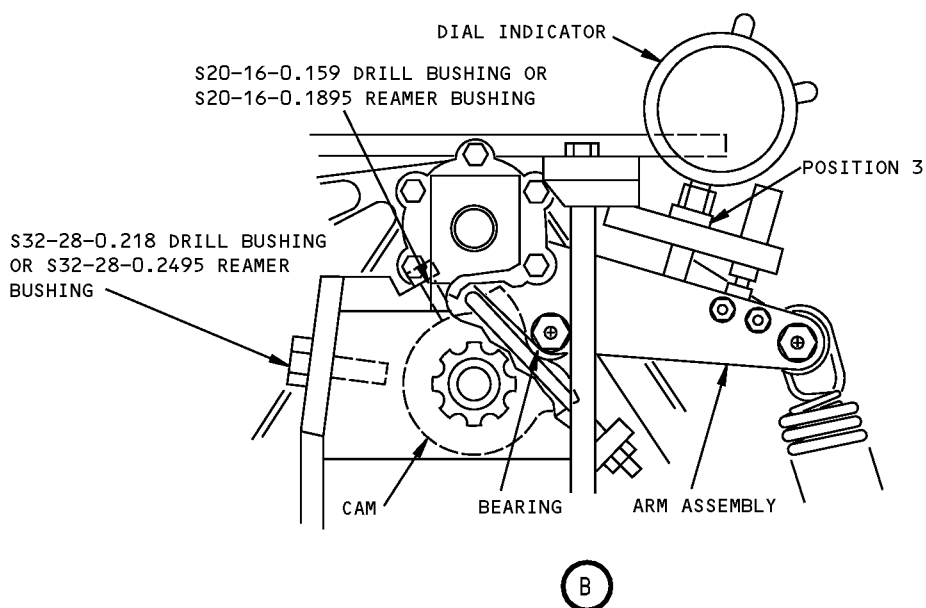
A

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

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

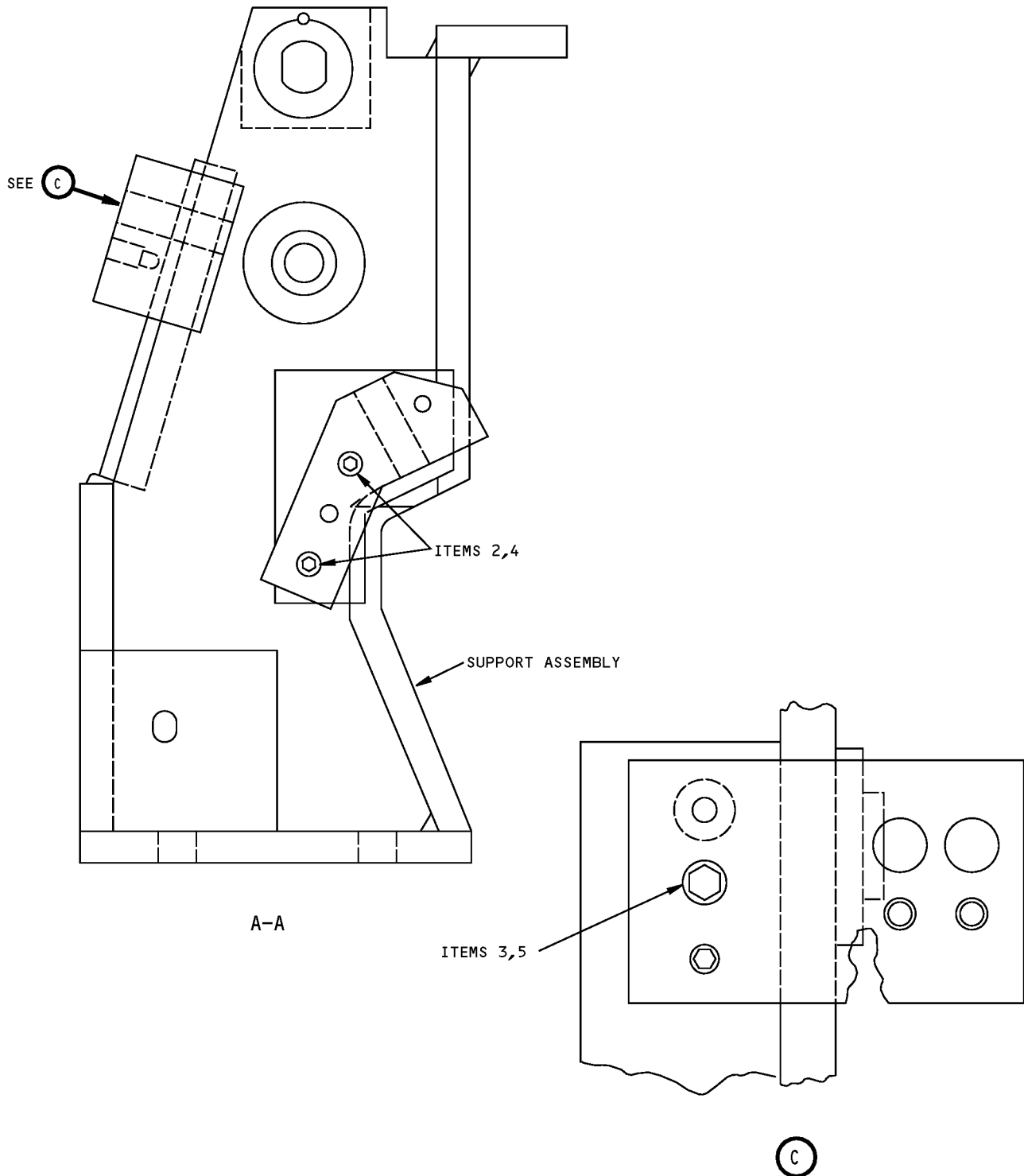


**CAM CENTER ADJUSTMENT
USAGE II**



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

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



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

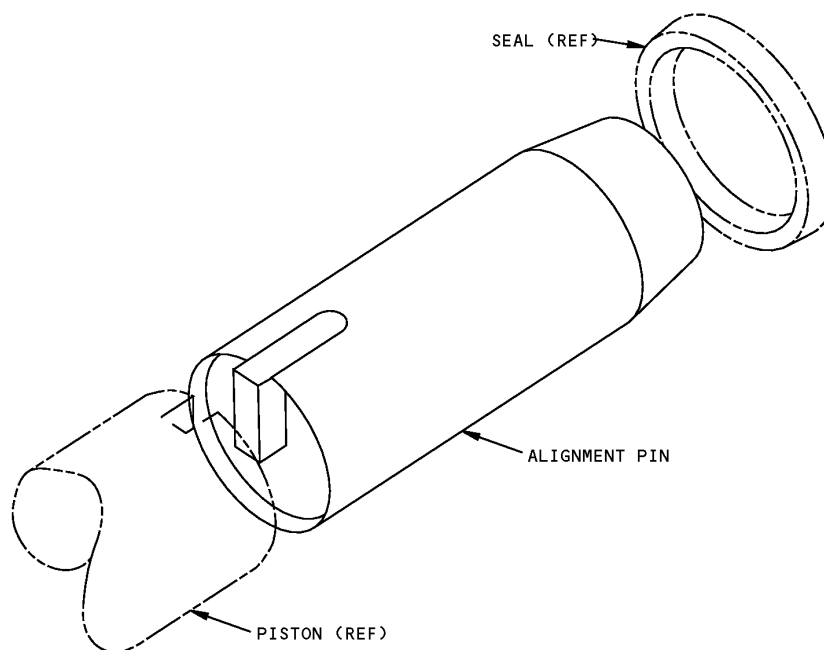


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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | AN6-13A | BOLT | |
| 2 | AN960-416L | WASHER | |
| 3 | AN960-616L | WASHER | |
| 4 | MS16998-48 | CAP SCREW | |
| 5 | MS16998-76 | CAP SCREW | |
| 6 | MS51968-8 | NUT | |
| 6 | MS51968-9 (OPTIONAL) | NUT | |

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: B27070-1**NAME:** ALIGNMENT PIN - FEEL ACTUATOR PISTON**AIRPLANE MAINTENANCE:** NO**COMPONENT MAINTENANCE:** YES**USAGE & DESCRIPTION:** Use to align piston during installation of seals in feel actuator assemblies. This tool consists of a -2 pin assembly located in a -5 box assembly.**WEIGHT:** 1.5 lbs (0.7 kg)**DIMENSIONS:** 1 x 1 x 2 inches (25 x 25 x 51 mm)

Feel Actuator Piston Alignment Pin
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27086-10

NAME: SUPPORT FIXTURE - ELEVATOR SLAVE LINKAGE

AIRPLANE MAINTENANCE: NO

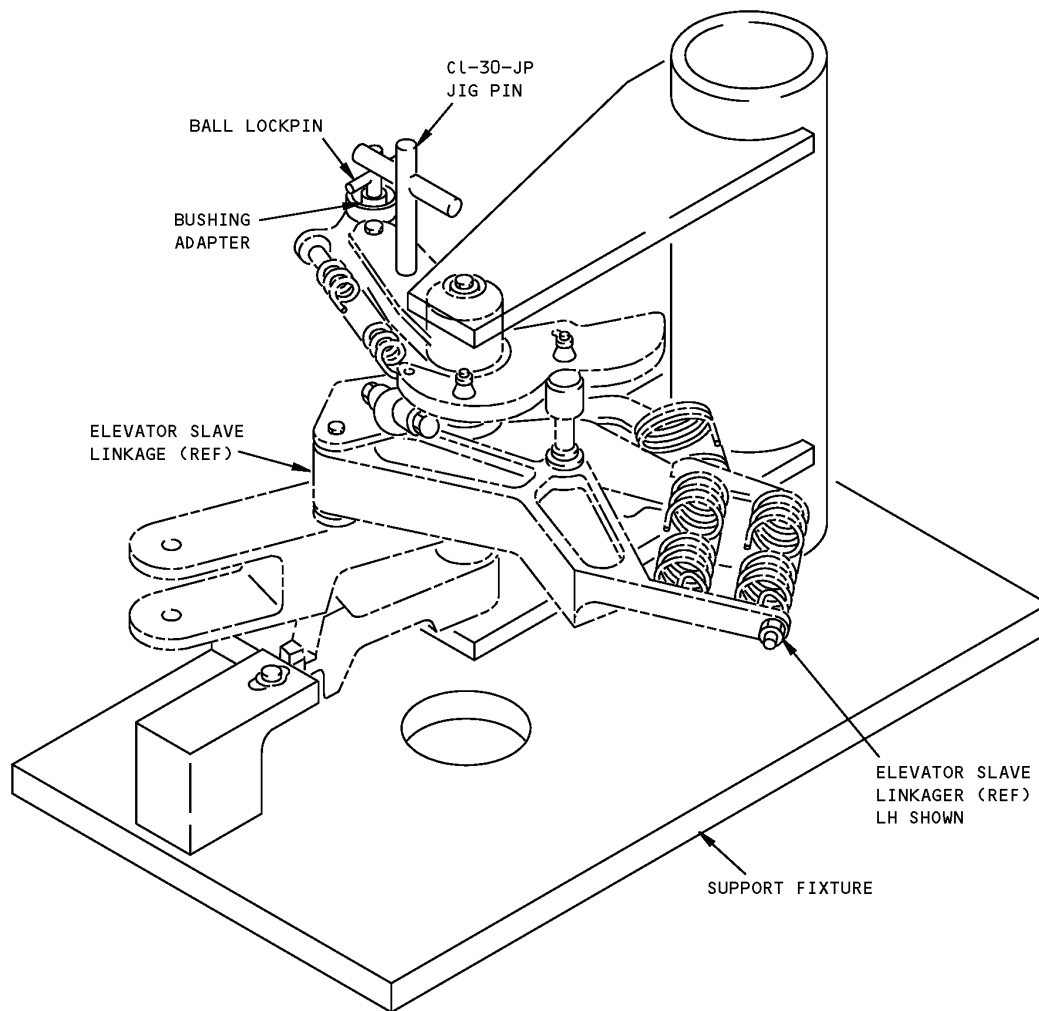
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is used to hold elevator slave linkage during spring tension adjustment. Refer to CMM 27-31-55 for further usage instructions. This tool consists of a bushing adapter, a support fixture assembly, a jig pin and a storage box assembly.

WEIGHT: 25 lbs (11.3 kg)

DIMENSIONS: 7.5 x 8 x 14.5 inches (191 x 203 x 381 mm)

NOTE: A27086-10 supersedes A27086-1.



**Elevator Slave Linkage Support Fixture
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: J27079-31

NAME: INSPECTION EQUIPMENT - ELEVATOR FREEPLAY

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

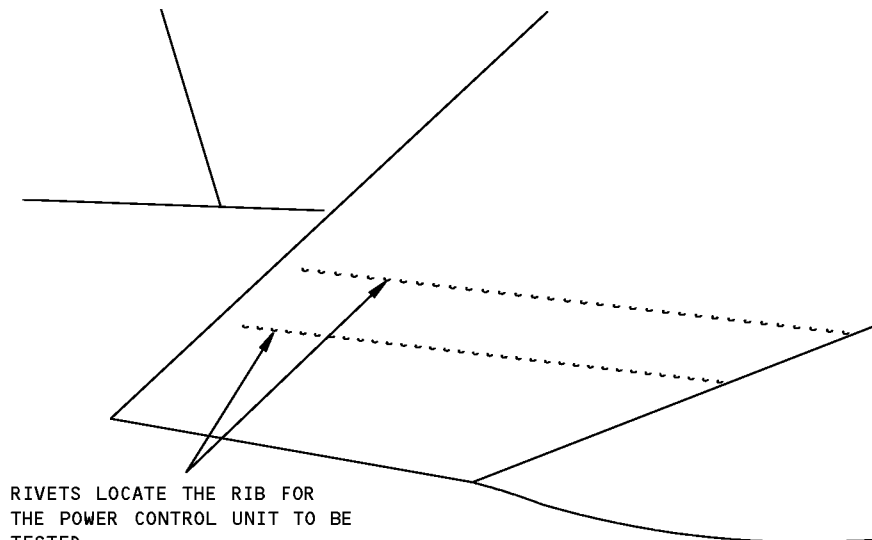
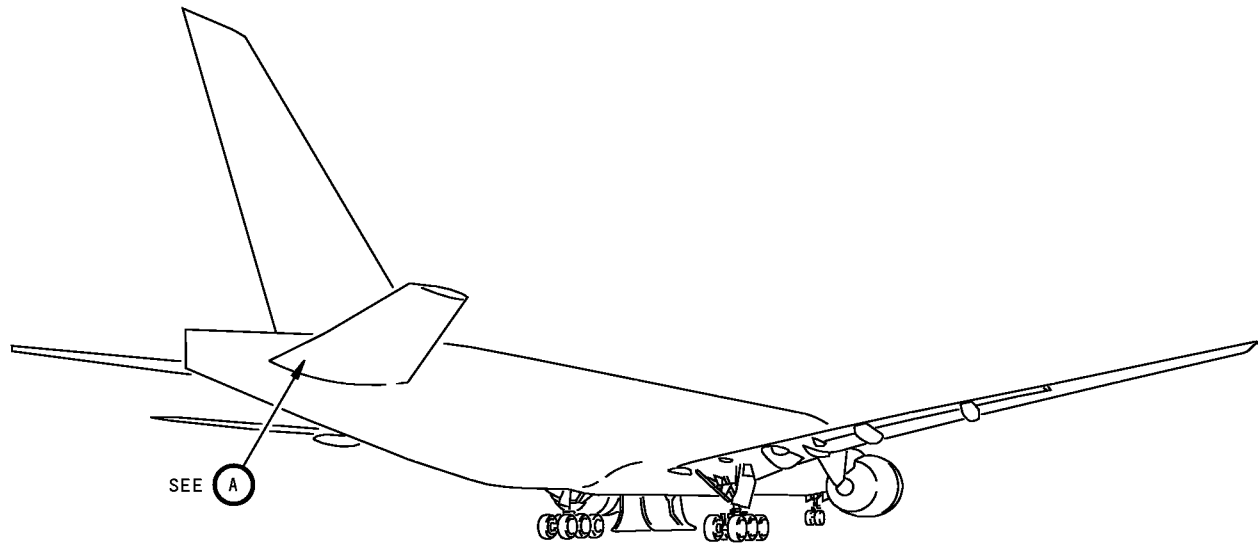
USAGE & DESCRIPTION: The J27079-31 inspection equipment is used on all 767 airplanes. J27079 is used to perform the "freeplay" inspection of the elevator power control units. Refer to AMM 27-31-09 for complete usage instructions. J27079-31 consists of:

| J27079-31 | | |
|------------------|----------------------|--------------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | JACK ASSEMBLY | J27079-2 |
| 1 | PAD ASSEMBLY | J27079-3 |
| 1 | SUCTION PAD ASSEMBLY | J27079-4 |
| 1 | UPRIGHT BASE POST | 665B |
| 1 | SWIVEL POST SNUG | 665D |
| 1 | GAGE HOLDING ROD | PT06784A |
| 1 | INDICATOR | 25-631J |
| 1 | STORAGE BOX | |

WEIGHT: 27 lbs (12 kg)

DIMENSIONS: 7 x 15 x 15 inches (178 x 381 x 381 mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



SEE (B)

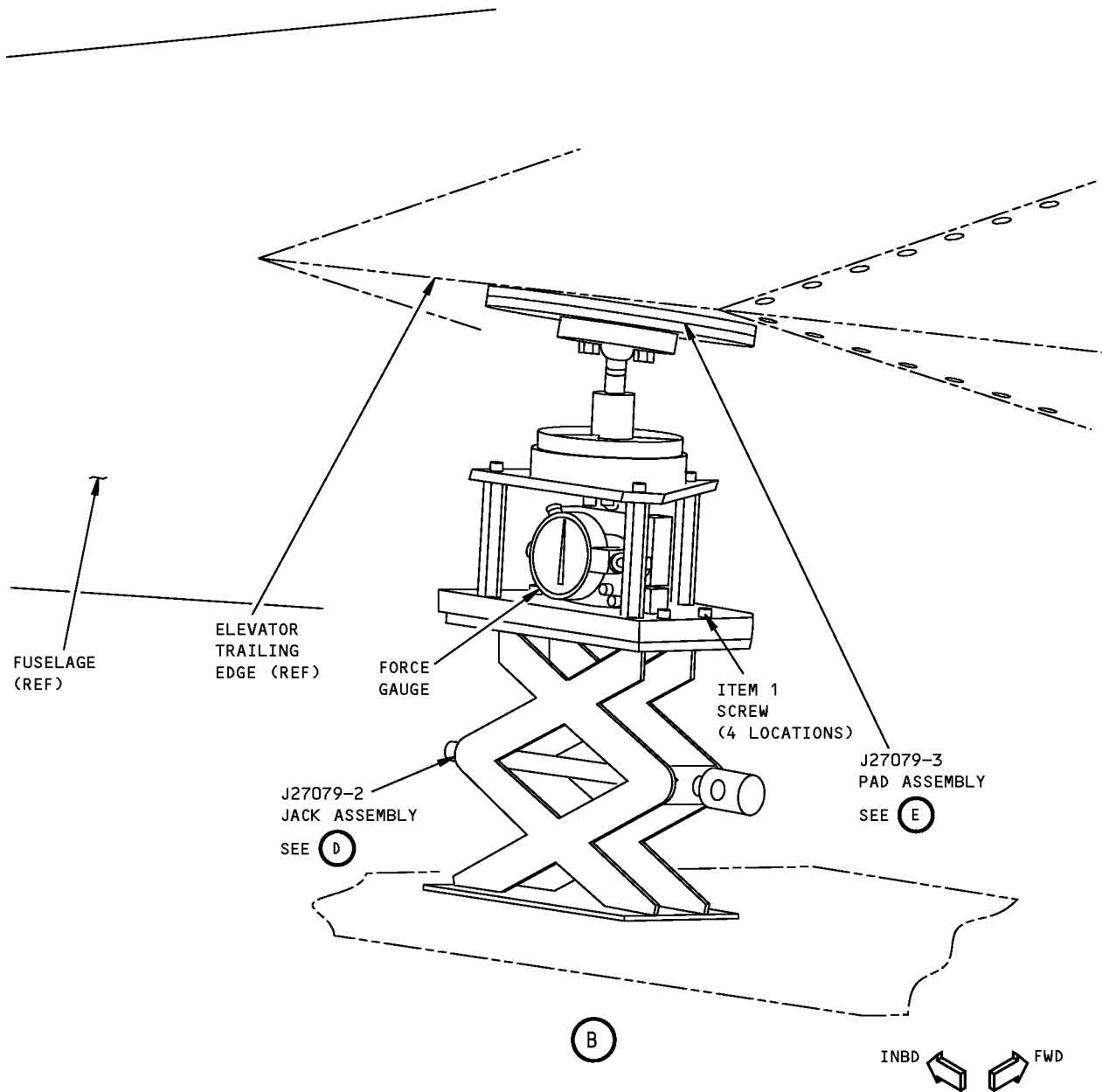
⇒ FWD

(A)

1552708 S0000285547_V1

Elevator Freeplay Inspection Equipment
Figure 1 (Sheet 1 of 5)

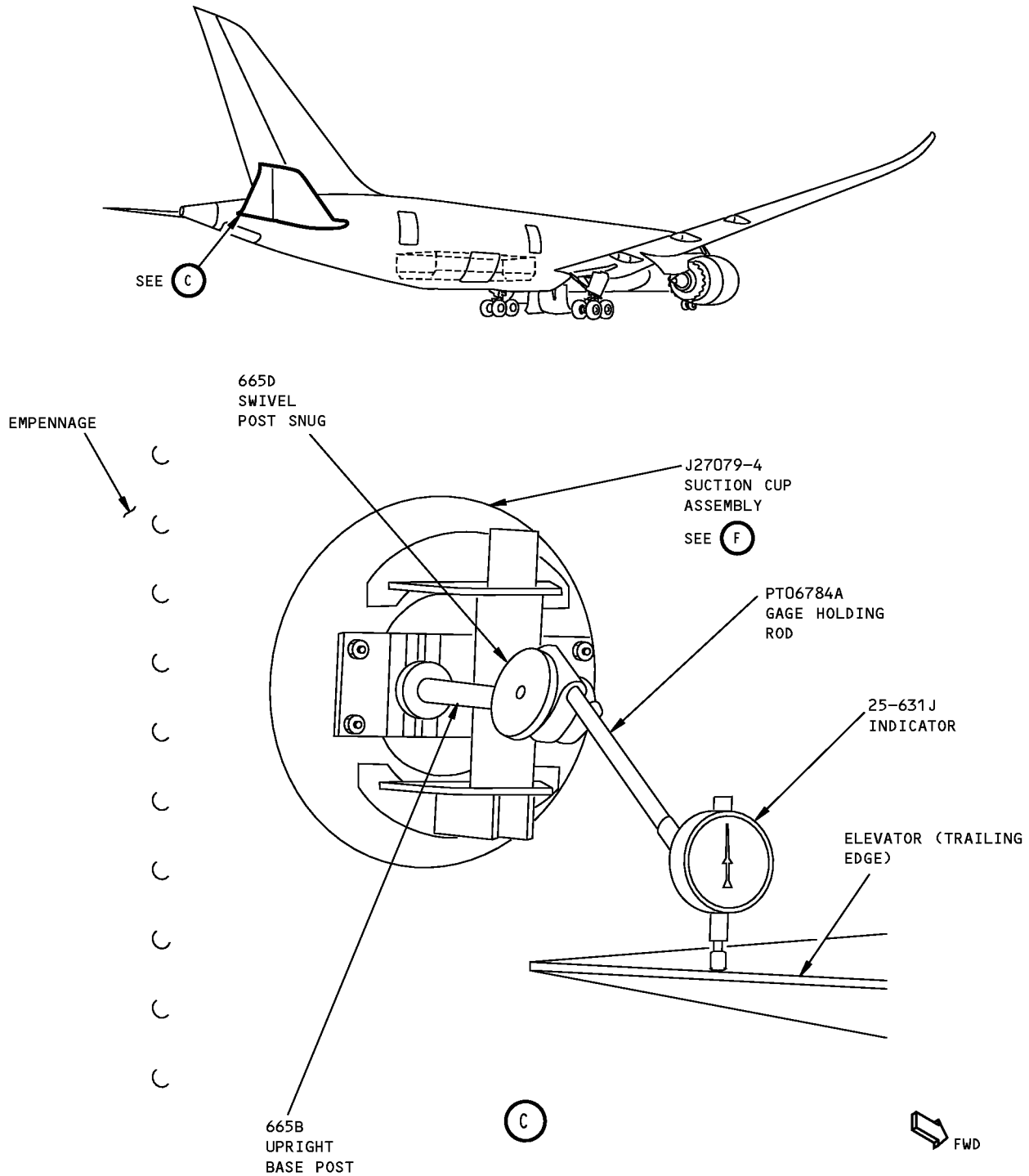
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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



1552741 S0000285552_V1

Elevator Freeplay Inspection Equipment
Figure 1 (Sheet 2 of 5)

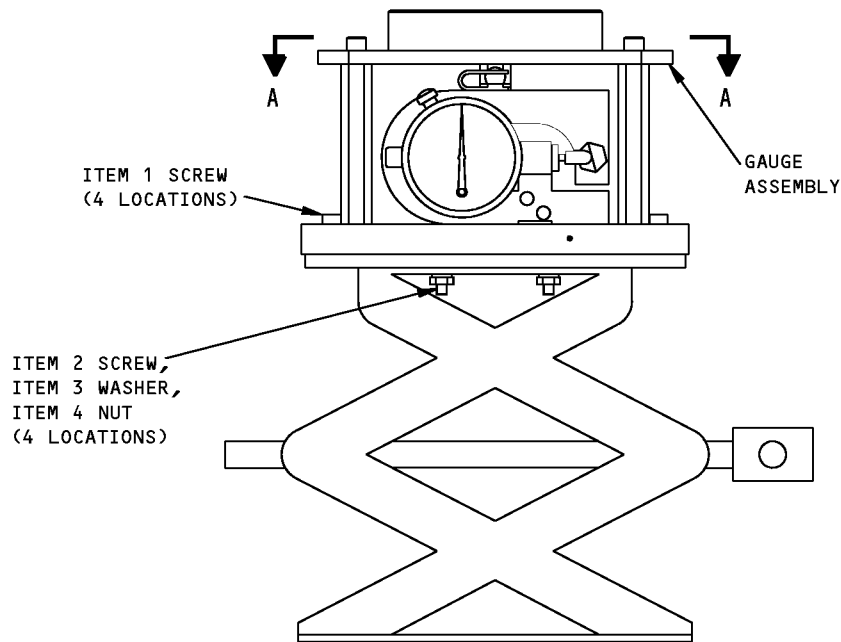
767
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



1552746 S0000285553_V1

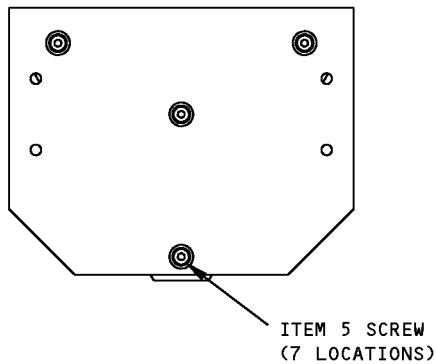
Elevator Freeplay Inspection Equipment
Figure 1 (Sheet 3 of 5)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

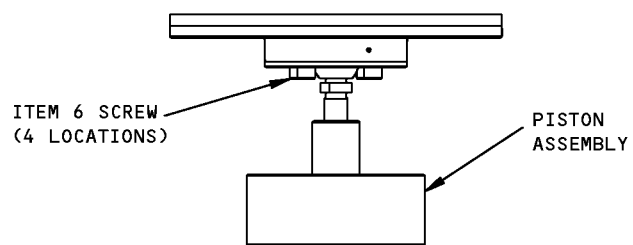


J27079-2
JACK ASSEMBLY

(D)



GAUGE ASSEMBLY
A-A



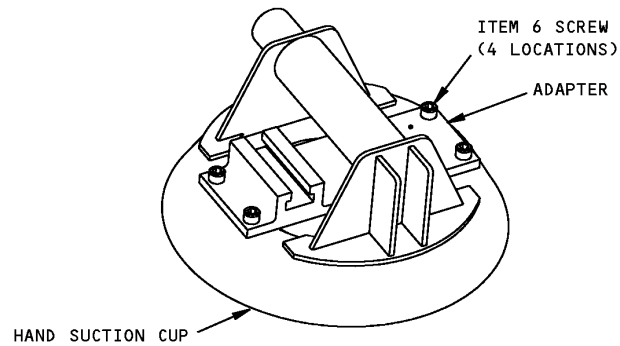
J27079-3
PAD ASSEMBLY

(E)

1552754 S0000285555_V1

Elevator Freeplay Inspection Equipment
Figure 1 (Sheet 4 of 5)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



J27079-3
SUCTION CUP ASSEMBLY

(F)

1552765 S0000285560_V1

Elevator Freeplay Inspection Equipment
Figure 1 (Sheet 5 of 5)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| [1] | J27079-8 | SCREW | |
| [2] | J27079-10 | SCREW | |
| [3] | J27079-11 | WASHER | |
| [4] | J27079-12 | NUT | |
| [5] | J27079-16 | SCREW | |
| [6] | J27079-23 | SCREW | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27006-41

NAME: HOIST EQUIPMENT - HORIZONTAL STABILIZER TRIM ACTUATOR

AIRPLANE MAINTENANCE: YES

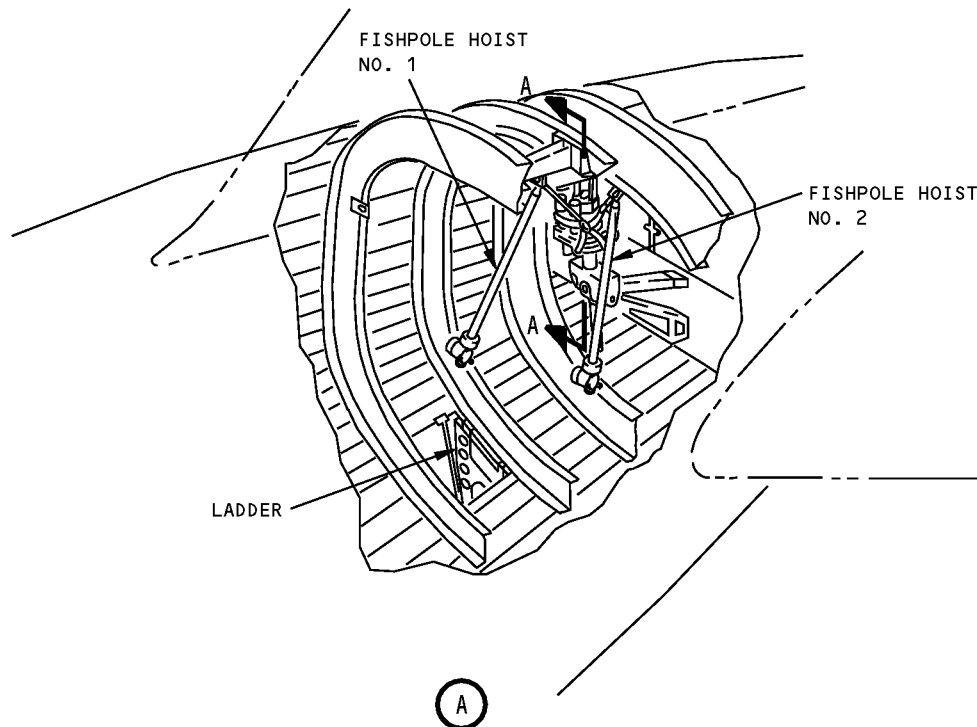
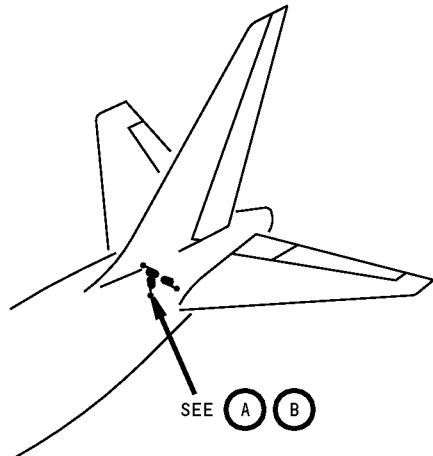
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is a welded structural holder in which the horizontal stabilizer trim actuator nests during removal/ installation. The tool uses two customer-supplied fishpole hoists. The major tool components are the holder assembly, the bracket assembly, the keeper, the sheave assembly and the -42, -43, -44 and -45 strap assemblies.

WEIGHT: 15 lbs (7 kg)

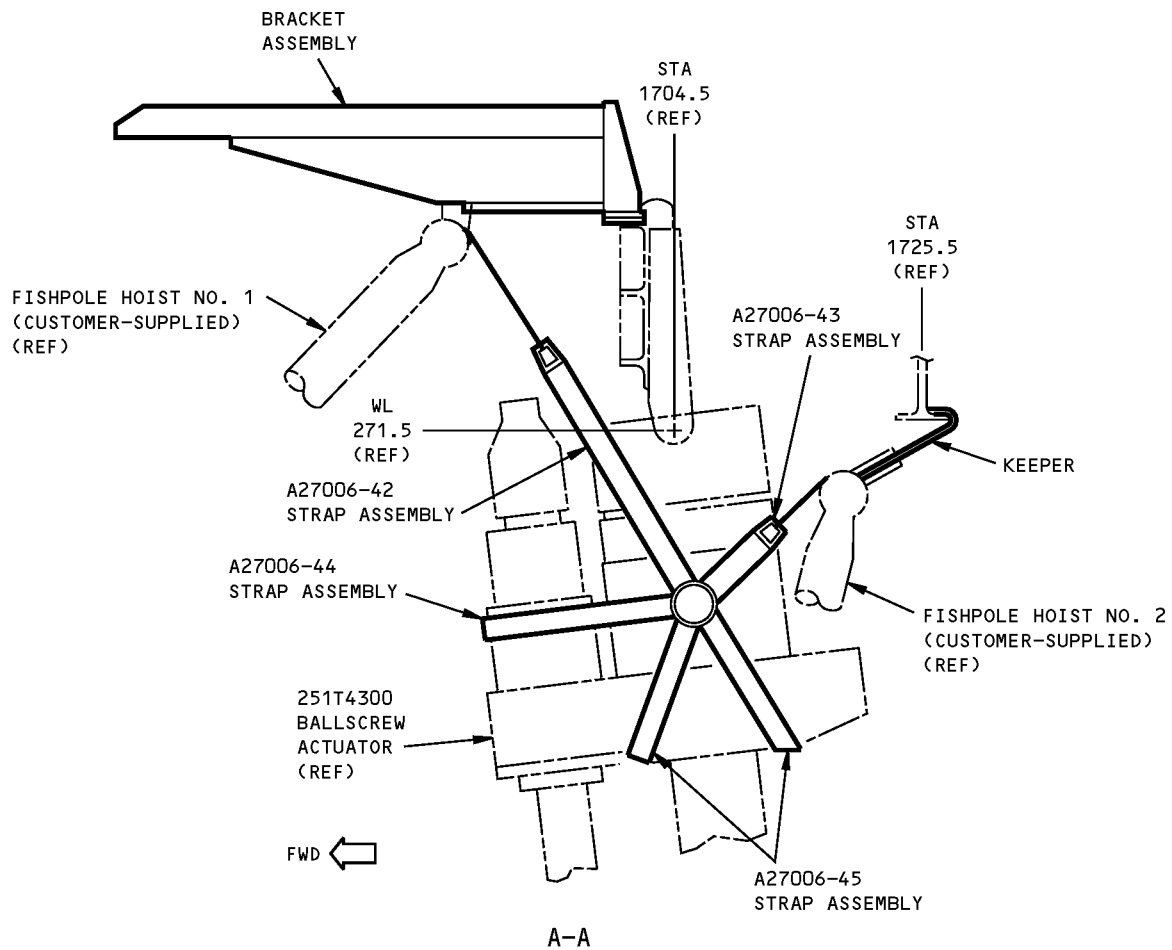
DIMENSIONS: 12 x 20 x 28 inches (205 x 508 x 711 mm)

NOTE: A27006-41 supersedes A27006-33 and -17. fit

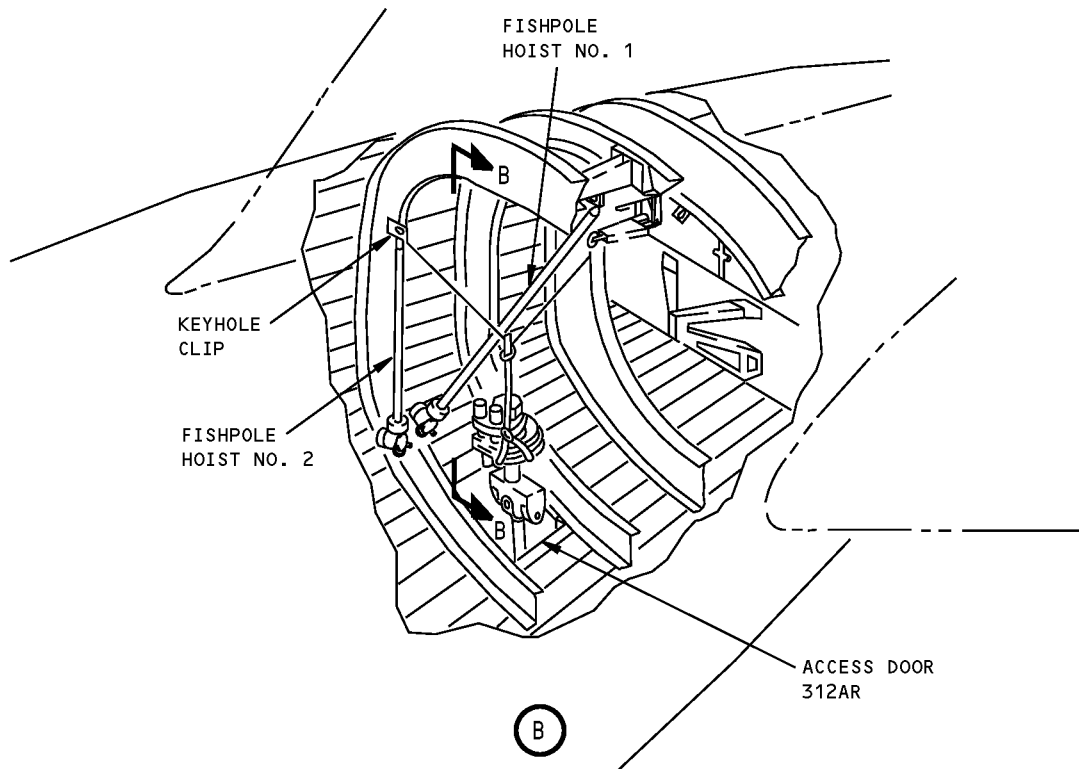


Horizontal Stabilizer Trim Actuator Hoist Equipment
Figure 1 (Sheet 1 of 5)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

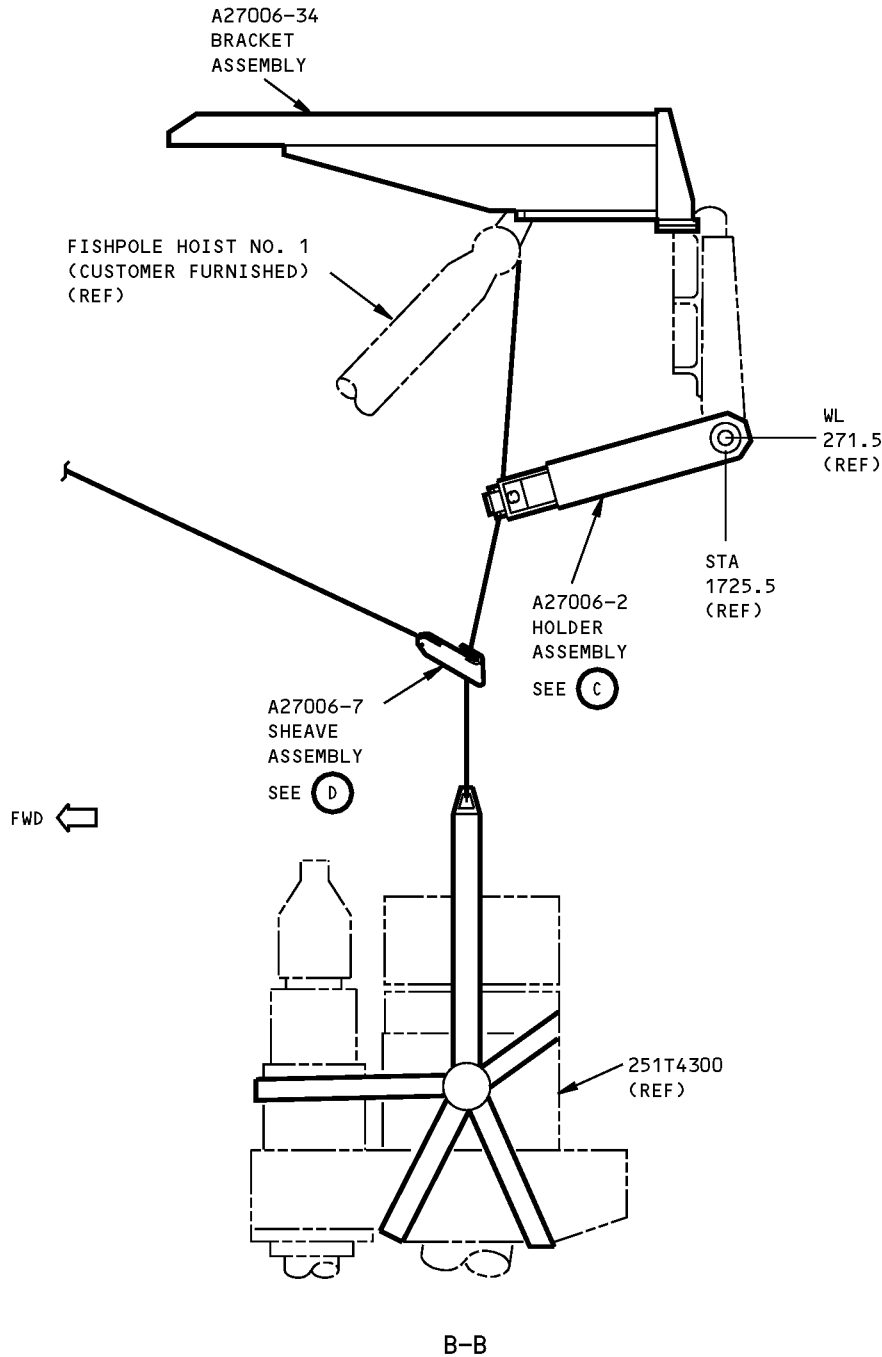


Horizontal Stabilizer Trim Actuator Hoist Equipment
Figure 1 (Sheet 2 of 5)



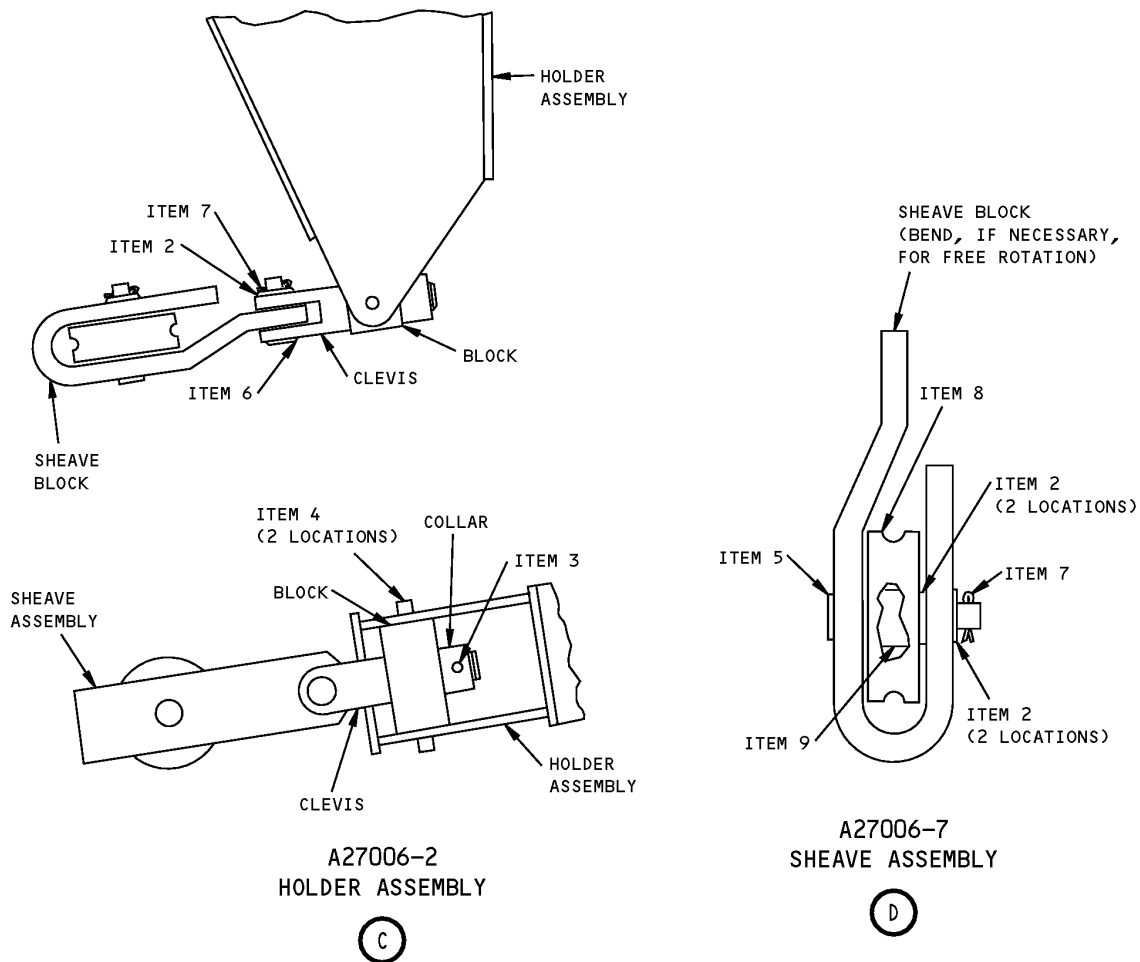
**Horizontal Stabilizer Trim Actuator Hoist Equipment
Figure 1 (Sheet 3 of 5)**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



**Horizontal Stabilizer Trim Actuator Hoist Equipment
Figure 1 (Sheet 4 of 5)**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Horizontal Stabilizer Trim Actuator Hoist Equipment
Figure 1 (Sheet 5 of 5)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|--------------|------------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | F70308-15 | PROOF LOAD TAG | |
| 2 | AN960-C416L | WASHER | |
| 3 | MS16562-229 | SPRING PIN | |
| 4 | MS16562-236 | SPRING PIN | |
| 5 | MS20392-3C37 | PIN | |
| 6 | MS20392-3C23 | PIN | |
| 7 | MS24665-132 | COTTER PIN | |
| 8 | 00158 | SHEAVE ^{*[1]} | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------|------------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 9 | 05014 | SPACER ^{*[1]} | |

^{*[1]} BLOCK DIVISION INC. - 618 FRONT ST. P.O. BOX 1297 - WICHITA FALLS, TX 76307

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27062-1

NAME: TOOL SET - STABILIZER TRIM DRIVE

AIRPLANE MAINTENANCE: NO

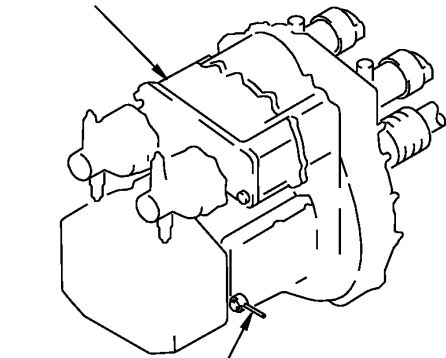
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is used for disassembling and assembling the stabilizer trim actuator. The tool set consists of an adapter, test adapter assembly, spanner assembly, bolt retention assembly, rod assembly, tube assembly, rest, guide, drive adapter assembly, wrench, gage assembly, socket, spanner adapter assembly, nylon washers and a plastic knob.

WEIGHT: 43 lbs (20 kg)

DIMENSIONS: 8 x 25 x 30 inches (203 x 635 x 762 mm)

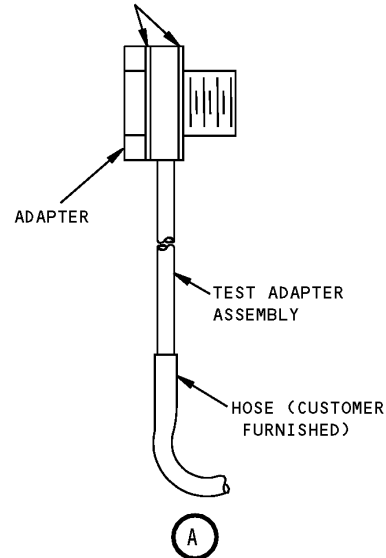
251T4310
STAB TRIM BALLSCREW
ACTUATOR ASSEMBLY (REF)



ADAPTER AND TEST ADAPTER
SEE (A)

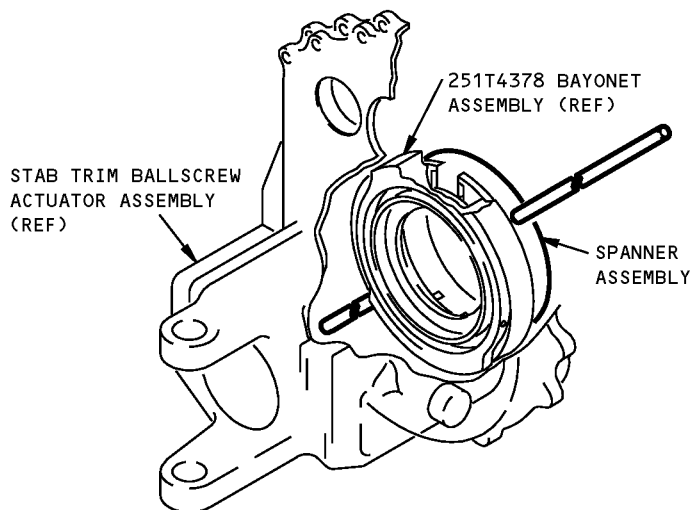
PRESSURE TESTING
USAGE I

NAS515H7L WASHERS -
ITEM 1

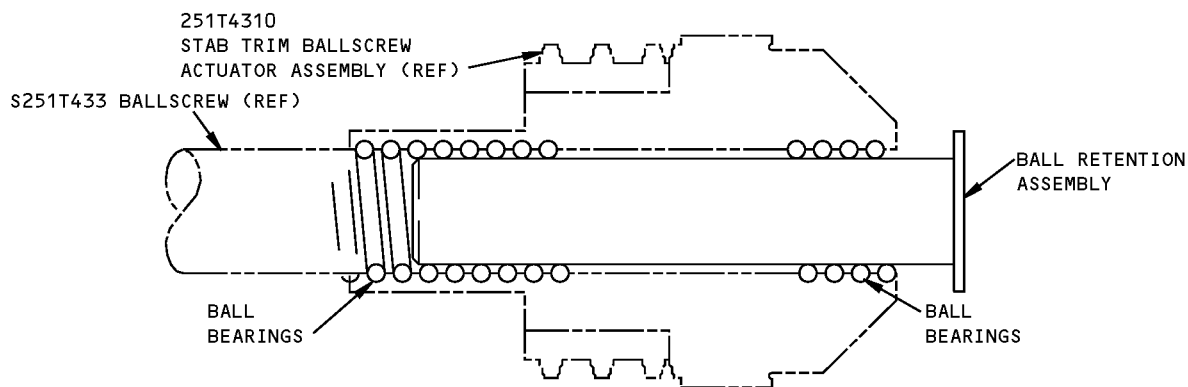


**Stabilizer Trim Drive Tool Set Usage
Figure 1 (Sheet 1 of 5)**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



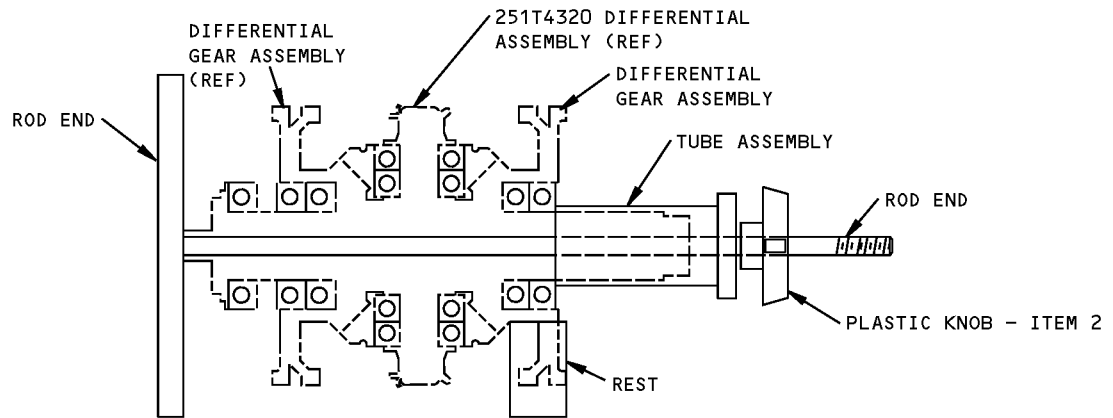
**BAYONET ASSEMBLY REMOVAL/INSTALLATION
USAGE II**



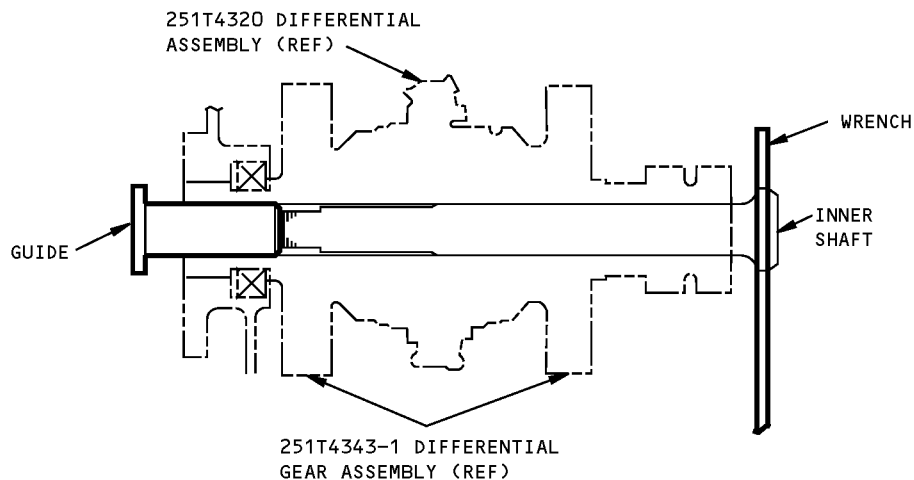
**BALL RETENTION
USAGE III**

**Stabilizer Trim Drive Tool Set Usage
Figure 1 (Sheet 2 of 5)**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



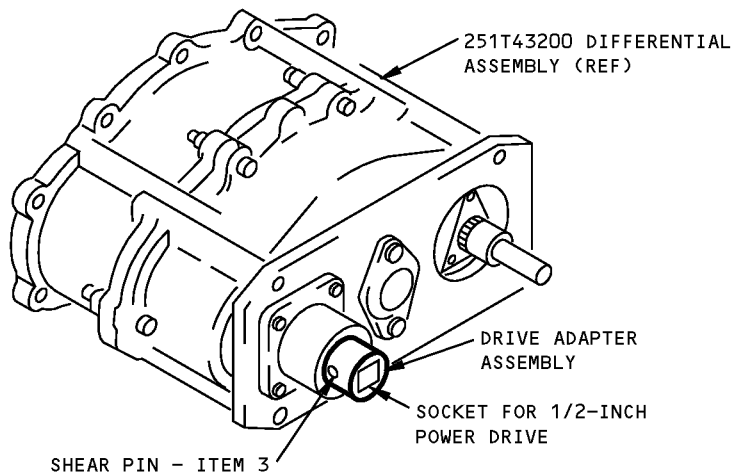
**REVERSE TOOL INSTALLATION
USAGE IV**



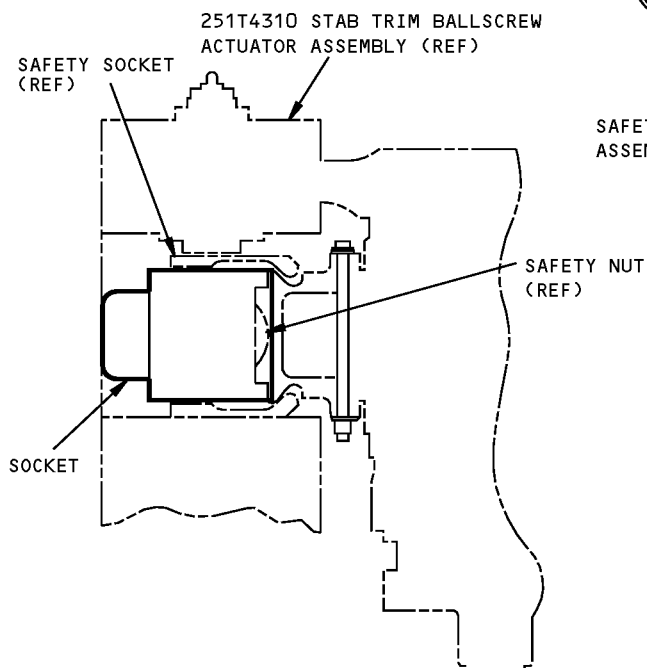
**INNER SHAFT ALIGNMENT
USAGE V**

**Stabilizer Trim Drive Tool Set Usage
Figure 1 (Sheet 3 of 5)**

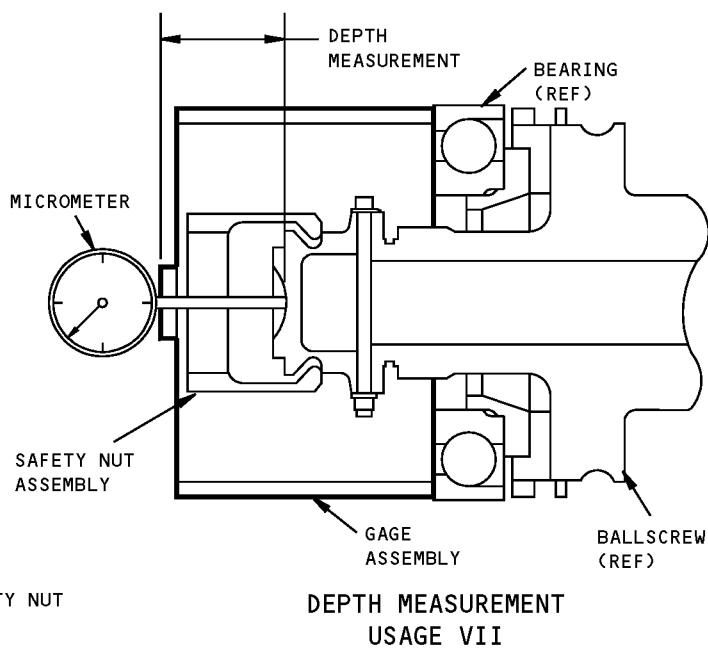
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



DIFFERENTIAL ASSEMBLY TESTING
USAGE VI

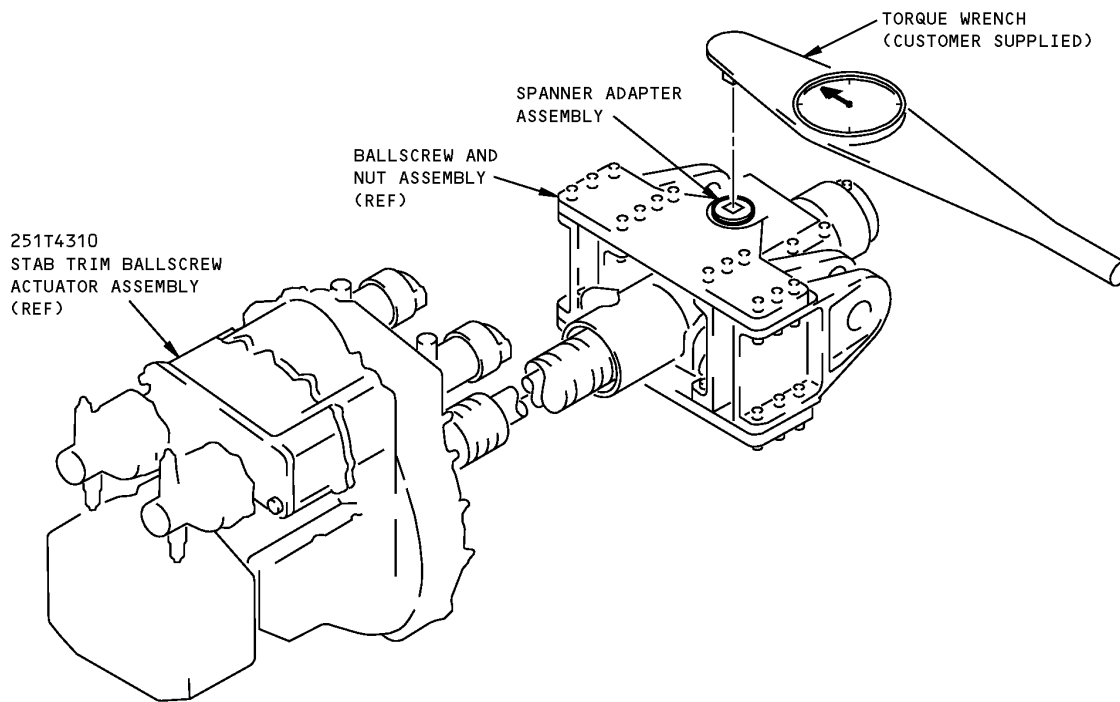


SAFETY NUT REMOVAL/INSTALLATION
USAGE VIII



Stabilizer Trim Drive Tool Set Usage
Figure 1 (Sheet 4 of 5)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



SPANNER NUT REMOVAL/INSTALLATION
USAGE IX

Stabilizer Trim Drive Tool Set Usage
Figure 1 (Sheet 5 of 5)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | NAS1515H7L | WASHER | |
| 2 | CL-4-PPK-4 | PLASTIC KNOB | |
| 3 | -28 | SHEAR PIN | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27072-55

NAME: TEST FIXTURE - STABILIZER TRIM DRIVE MECHANISM

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: The A27072-55 test fixture is used for component maintenance testing on all 767 airplanes. A27072 is used in conjunction with an A27062 drive adapter to hold the 251T4310 ballscrew actuator assembly during functional tests. The 251T4310 ballscrew is mounted in the A27072-55 test fixture using the A27072-27 clevis attached to the A27072-5 clevis assembly. The A27072-48 clevis is used for testing the 777 ballscrew actuator. The A27072-36 lock is used in a functional test to lock one motor shaft. Refer to CMM 27-41-01 for complete usage instructions. Due to the large size of the A27072-56 fixture assembly, it is not contained in storage box. The other A27072 test fixture components are contained in a storage box. The storage box contents are:

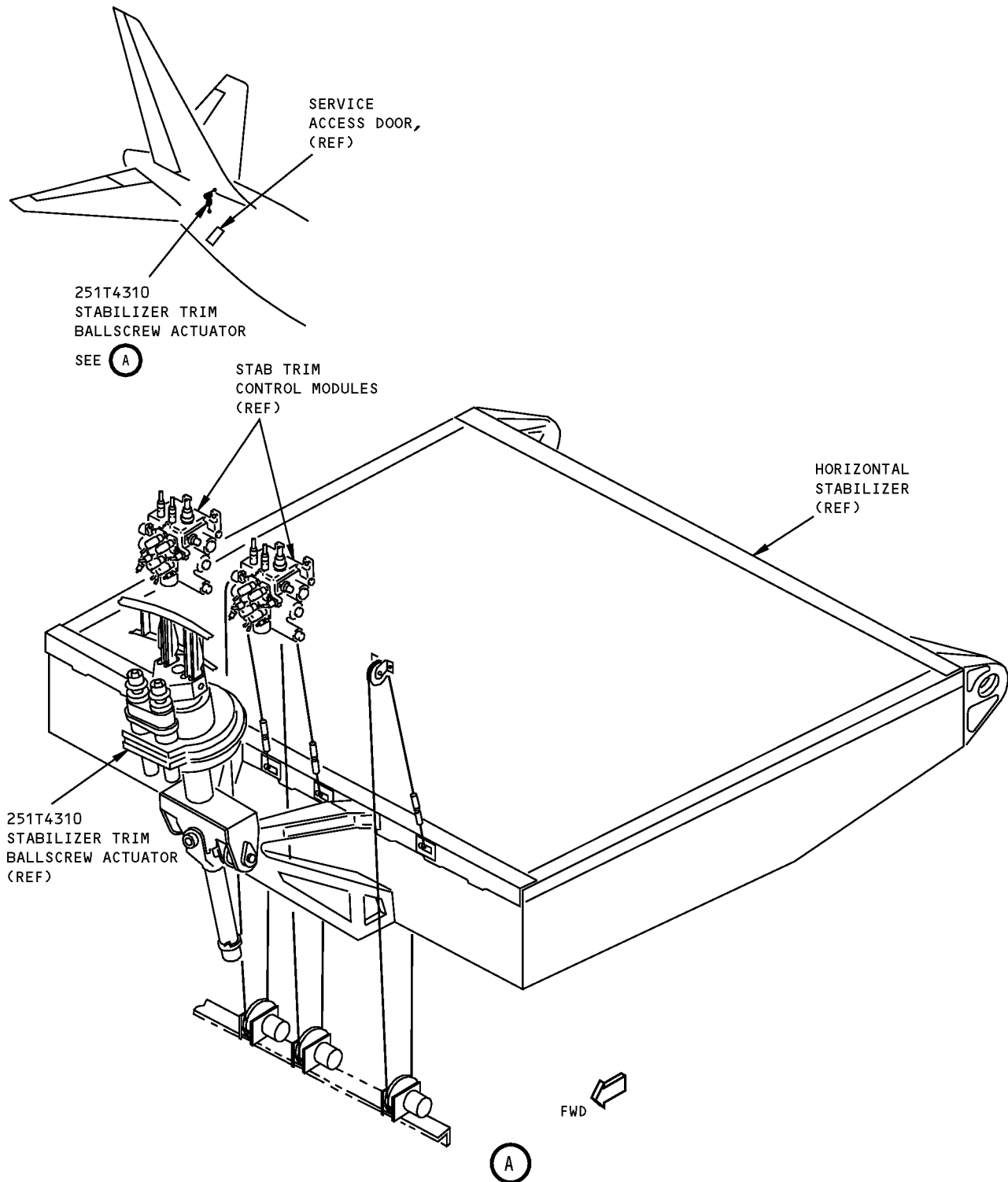
| A27072-55 | | |
|-----------|-----------------|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | CLEVIS ASSEMBLY | A27072-5 |
| 1 | DRIVE ASSEMBLY | A27072-29 |
| 1 | UPPER ASSEMBLY | A27072-33 |
| 1 | CLEVIS | A27072-27 |
| 1 | LOCK | A27072-36 |
| 1 | CLEVIS | A27072-48 |
| 1 | STORAGE BOX | |

WEIGHT: 716 lbs (325 kg) (excluding box)

DIMENSIONS: 16 x 24 x 36 inches (406 x 610 x 914 mm) (boxed parts) (excluding box)

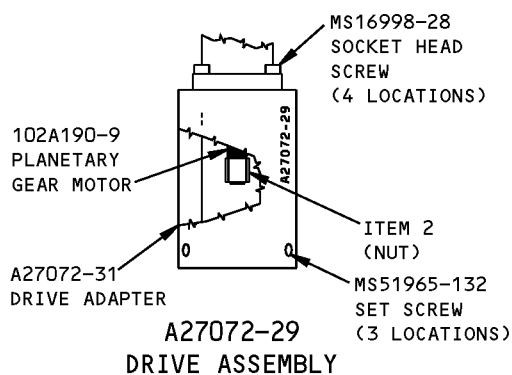
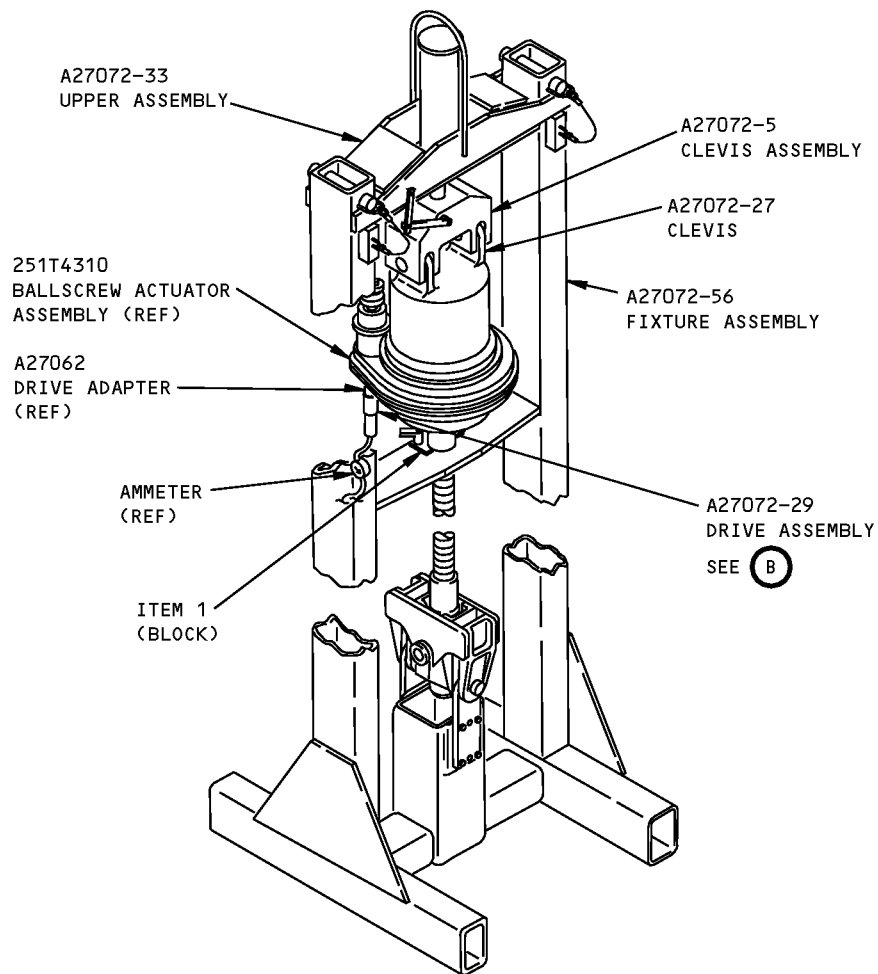
NOTE: A27072-55 supersedes A27072-42, -43, -44, -53.

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Stabilizer Trim Ballscrew Actuator
Figure 1

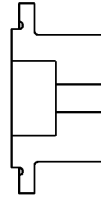
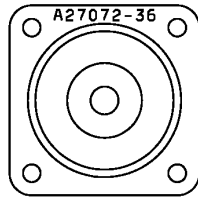
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



(B)

**Stabilizer Trim Drive Mechanism Test Fixture
Figure 2 (Sheet 1 of 2)**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A27072-36
LOCK

Stabilizer Trim Drive Mechanism Test Fixture
Figure 2 (Sheet 2 of 2)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------|---|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | A27072-28 | BLOCK (STEEL, 0.625 X 1.3 X 6.2 INCHES) | |
| 2 | A27072-35 | NUT | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27085-1

NAME: SLING ASSEMBLY - STABILIZER TRIM DRIVE MECHANISM

AIRPLANE MAINTENANCE: NO

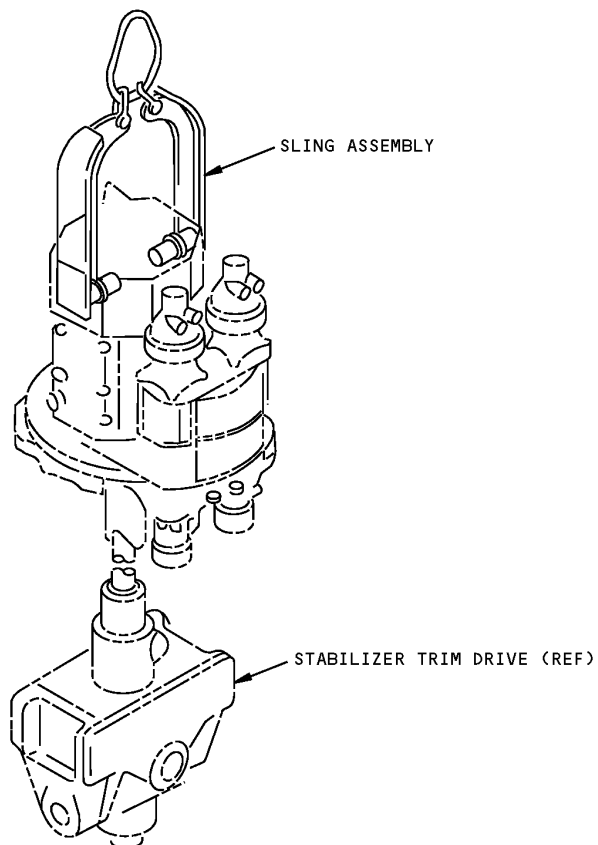
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is used to lift and rotate the stabilizer trim drive mechanism assembly.

WEIGHT: 18 lbs (8.2 kg)

DIMENSIONS: 3 x 16 x 16 inches (76 x 406 x 406 mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Stabilizer Trim Drive Mechanism Sling Assembly
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27095-10

NAME: SCALE - CONTROL COLUMN ANGLE

AIRPLANE MAINTENANCE: YES

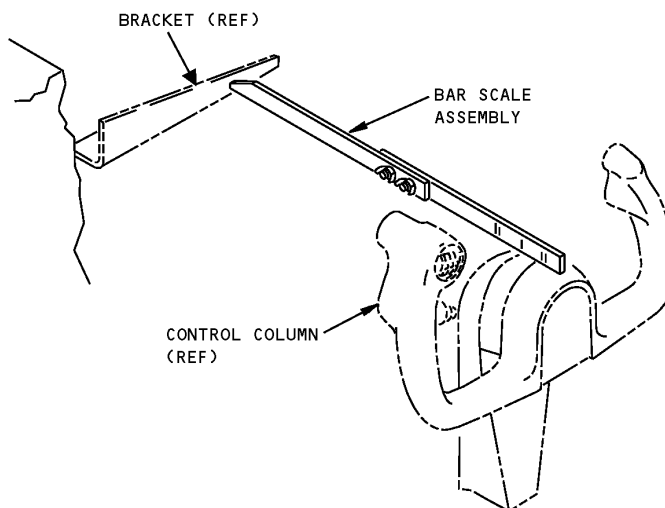
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to measure the control column angles during stabilizer trim functional test. The tool consists of a two-piece steel weldment, usage placard, and storage box. Refer to AMM 27-41-00 for further usage instructions.

WEIGHT: 1 lb (0.45 kg)

DIMENSIONS: 1 x 3 x 17 inches (25 x 76 x 432 mm)

NOTE: A27095-10 supersedes A27095-1.



**Control Column Angle Scale
Figure 1**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27123-1

NAME: MEASUREMENT EQUIPMENT BEVEL GEAR TEETH, STABILIZER TRIM ACTUATOR

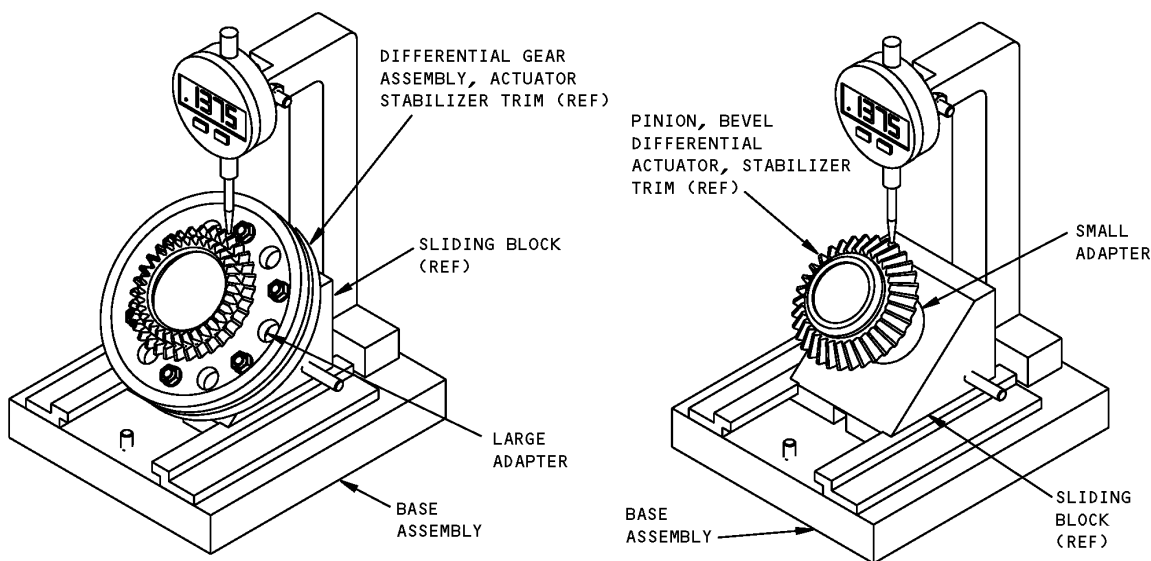
AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is used to check the tooth thickness of the bevel gear teeth on the stabilizer trim actuator assemblies. Refer to CMM 27-41-01 for further usage instructions. This tool consists of a base assembly, a large adapter, a small adapter, a set block and a storage box assembly.

WEIGHT: 21 lbs (9.5 kg)

DIMENSIONS: 6 x 7 x 10.2 inches (152 x 178 x 259 mm)



**Stabilizer Trim Actuator Bevel Gear Teeth Measurement Equipment
Figure 1**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27009-7

NAME: LOCK - TRAILING EDGE FLAPS

AIRPLANE MAINTENANCE: YES

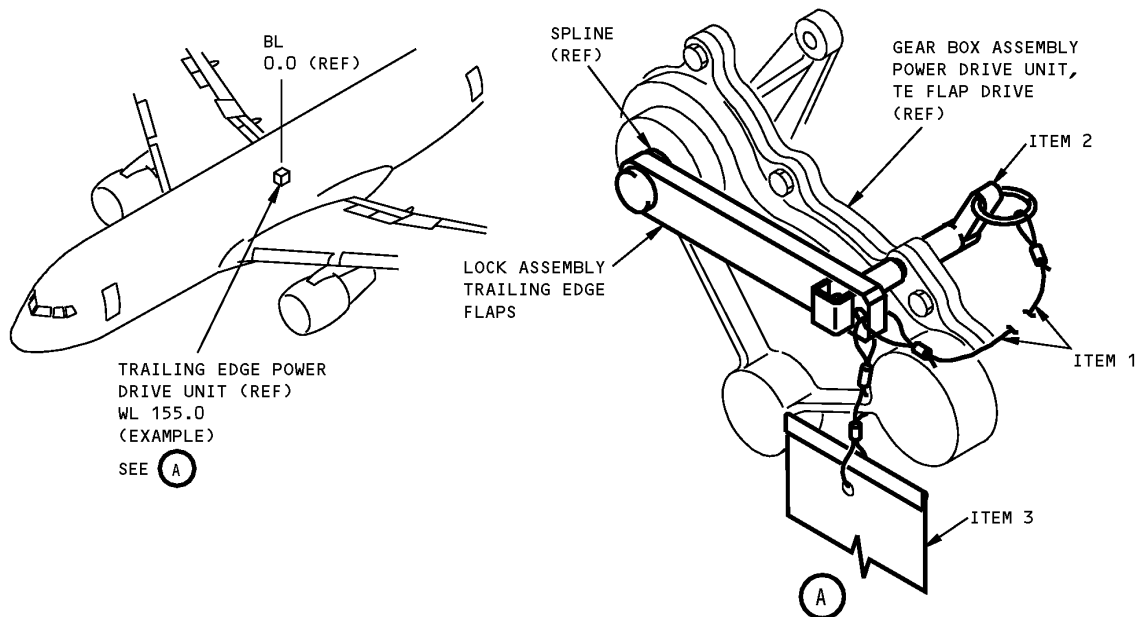
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is a piece of bar stock to which a boss and a spline are welded. These mate to hard points in the Power Drive Unit (PDU) to lock the Trailing Edge (TE) Flaps in extended position for maintenance or in a parked, extended-flap wind load condition. Refer to AMM 27-51-00 for specific usage instructions.

WEIGHT: 4 lbs (1.8 kg) (excluding box)

DIMENSIONS: 3 x 6 x 8 inches (76 x 152 x 203 mm) (excluding box)

NOTE: A27009-7 supersedes A27009-1.



**Trailing Edge Flaps Lock
Figure 1**

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | CL-21-KA-12.0 LR | LANYARD | V99862 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|--------------|------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 2 | NAS1334C5C25 | BALL LOCKPIN | |
| 3 | NAS1756-24 | WARNING STREAMER | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27016-27

NAME: SLING EQUIPMENT - INBOARD TRAILING EDGE FLAP

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The A27016-27 sling equipment is used on all 767 airplanes. The A27016-27 is used in the installation and removal of the inboard trailing edge flap with provision to remove the inboard trailing edge flap only. This tool is used with restraining tool, A27019. The A27016-22 sling equipment can be reworked into the A27016-27 by using the instructions in the current A27016 drawing. Refer to AMM 27-51-03 and current A27016 for further usage instructions. The A27016 sling equipment consists of the following:

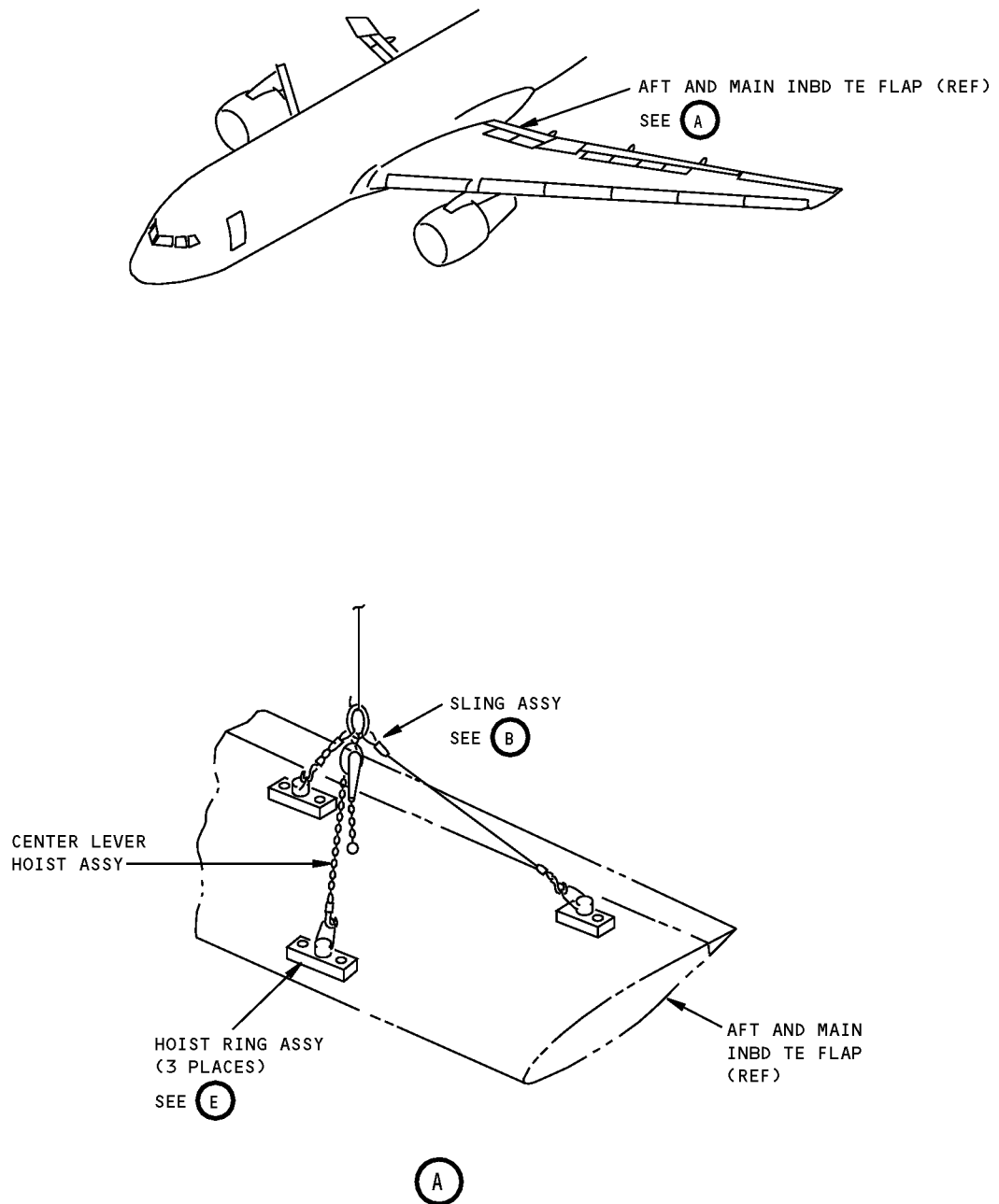
| A27016-27 | | |
|------------------|----------------------|--------------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | BRACKET ASSEMBLY | A27016-2 |
| 1 | BRACKET ASSEMBLY | A27016-3 |
| 3 | HOIST RING ASSEMBLY | A27016-5 |
| 1 | LOCATOR PIN ASSEMBLY | A27016-14 |
| 1 | SLING ASSEMBLY | A27016-28 |
| 1 | STORAGE BOX | |

WEIGHT: 27 lbs (12 kg)

DIMENSIONS: 2 x 12 x 21 inches (51 x 305 x 533 mm)

NOTE: A27016-27 supersedes A27016-22.
A27016-22 Supersedes A27016-21.
A27016-21 Supersedes A27016-1.

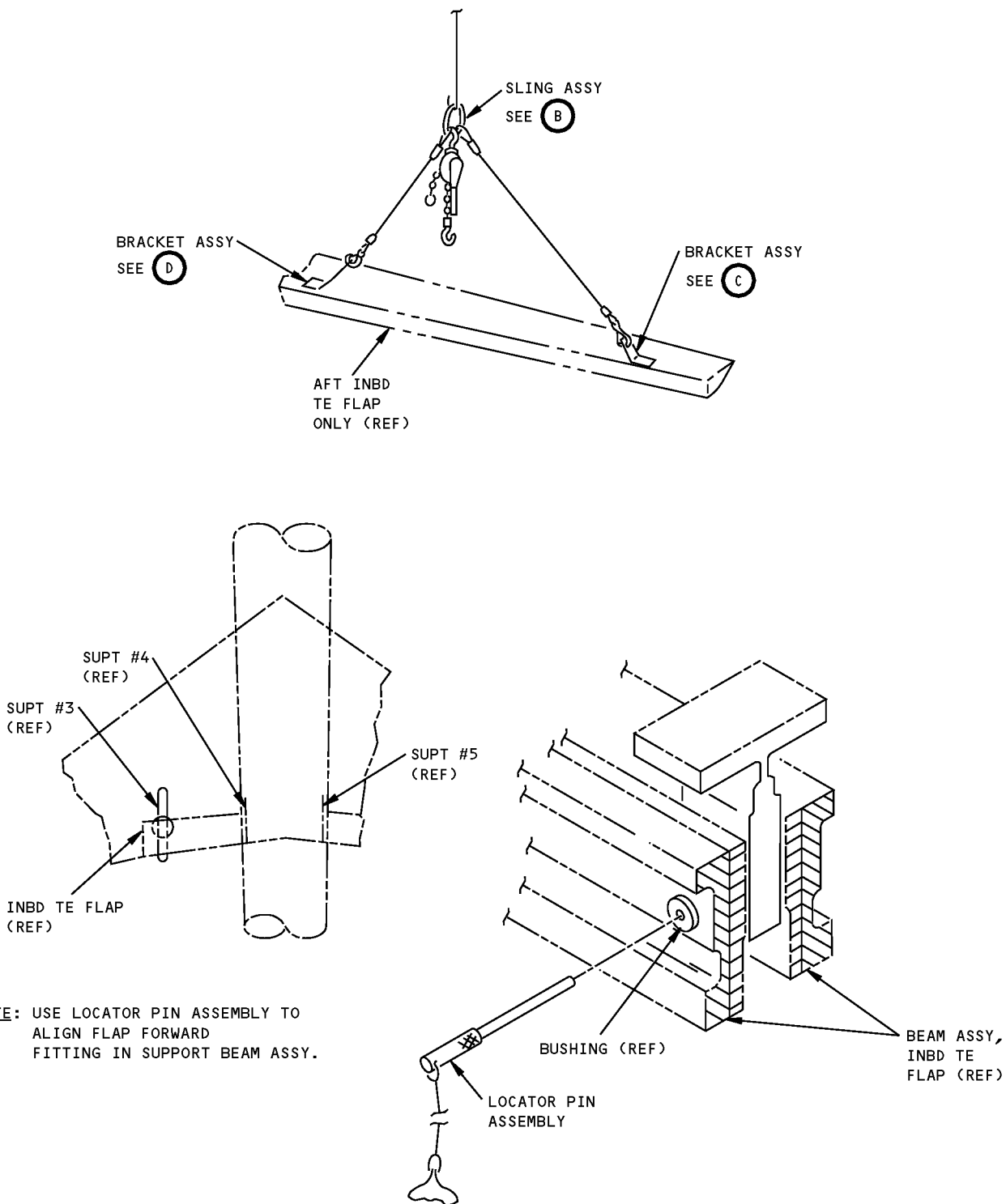
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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Inboard Trailing Edge Flap Sling Equipment
Figure 1 (Sheet 1 of 3)

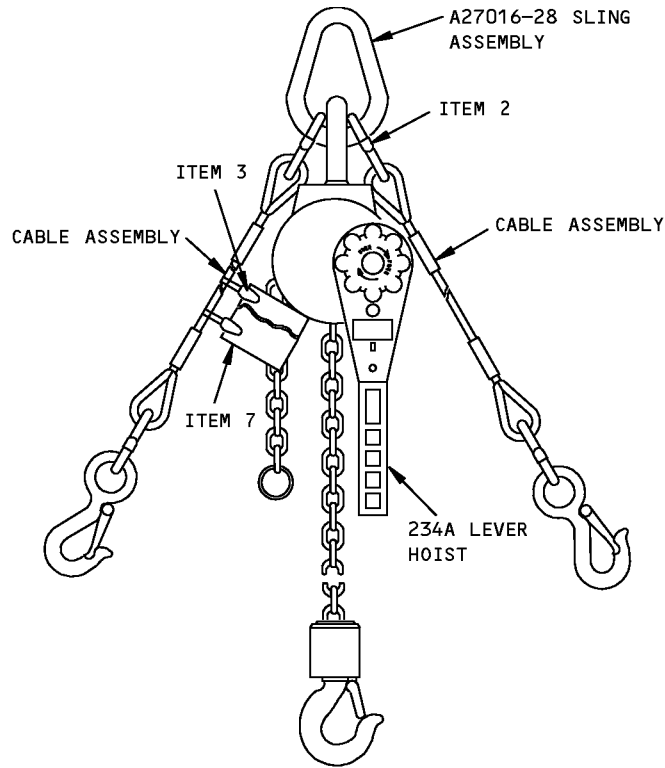
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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



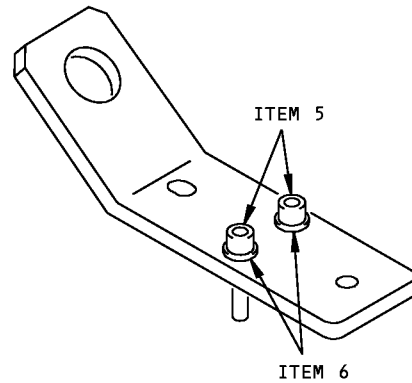
Inboard Trailing Edge Flap Sling Equipment
Figure 1 (Sheet 2 of 3)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



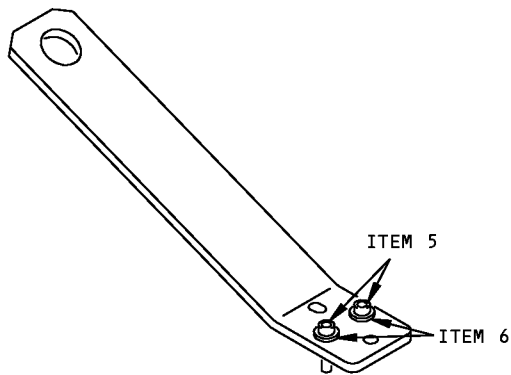
SLING ASSEMBLY

(B)



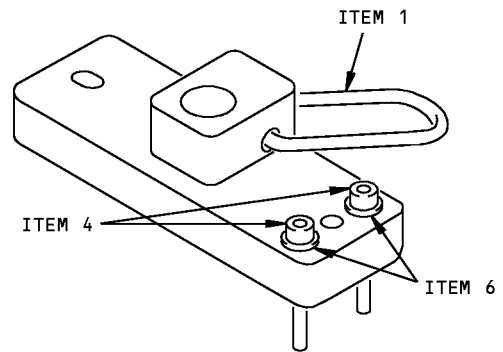
A27016-2 BRACKET ASSEMBLY

(C)



A27016-3 BRACKET ASSEMBLY

(D)



HOIST RING ASSEMBLY

(E)

Inboard Trailing Edge Flap Sling Equipment
Figure 1 (Sheet 3 of 3)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------|-----------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | CL-10-SHR | HOIST RING | V99862 |
| 2 | A-336-1/4 | CONNECTING LINK | V75535 |
| 3 | SSC2S-S6 | CABLE TIE | V06383 |
| 4 | MS16998-48 | CAP SCREW | |
| 5 | MS16998-46 | CAP SCREW | |
| 6 | AN960-416 | WASHER | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27027-53, -54

NAME: SLING EQUIPMENT - OUTBOARD TRAILING EDGE FLAP

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The A27027-53 sling equipment is used on 767-200 and -300 airplanes. The A27027-54 sling equipment is used on all 767 airplanes and is preferred for future procurement.. These tools are used for removal and installation of the outboard trailing edge flaps. Refer to AMM 27-51-20 and current A27027 drawing for further usage instructions. The A27027-53 and -54 tools consist of the following:

| A27027-53 | | |
|-----------|----------------------|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | HOIST RING ASSEMBLY | A27027-36 |
| 2 | HOIST RING ASSEMBLY | A27027-37 |
| 1 | HOIST RING ASSEMBLY | A27027-50 |
| 1 | SLING ASSEMBLY | A27027-55 |
| 1 | STORAGE BOX ASSEMBLY | |

| A27027-54 | | |
|-----------|----------------------|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | HOIST RING ASSEMBLY | A27027-36 |
| 2 | HOIST RING ASSEMBLY | A27027-37 |
| 1 | HOIST RING ASSEMBLY | A27027-42 |
| 1 | HOIST RING ASSEMBLY | A27027-43 |
| 1 | HOIST RING ASSEMBLY | A27027-50 |
| 1 | SLING ASSEMBLY | A27027-55 |
| 1 | STORAGE BOX ASSEMBLY | |

WEIGHT: 49 lbs (22 kg)

DIMENSIONS: 8 x 12 x 25 inches (203 x 305 x 635 mm)



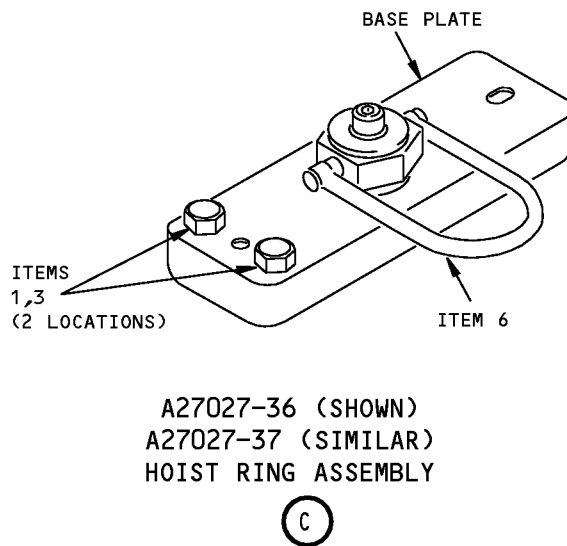
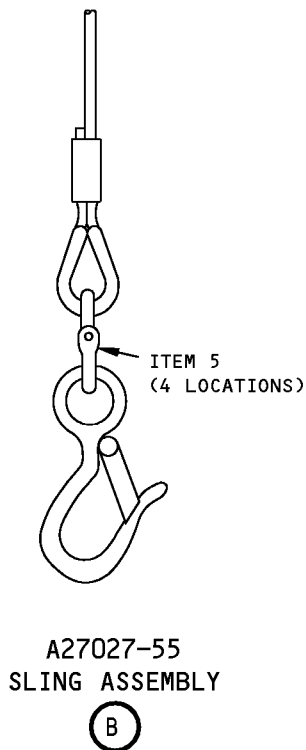
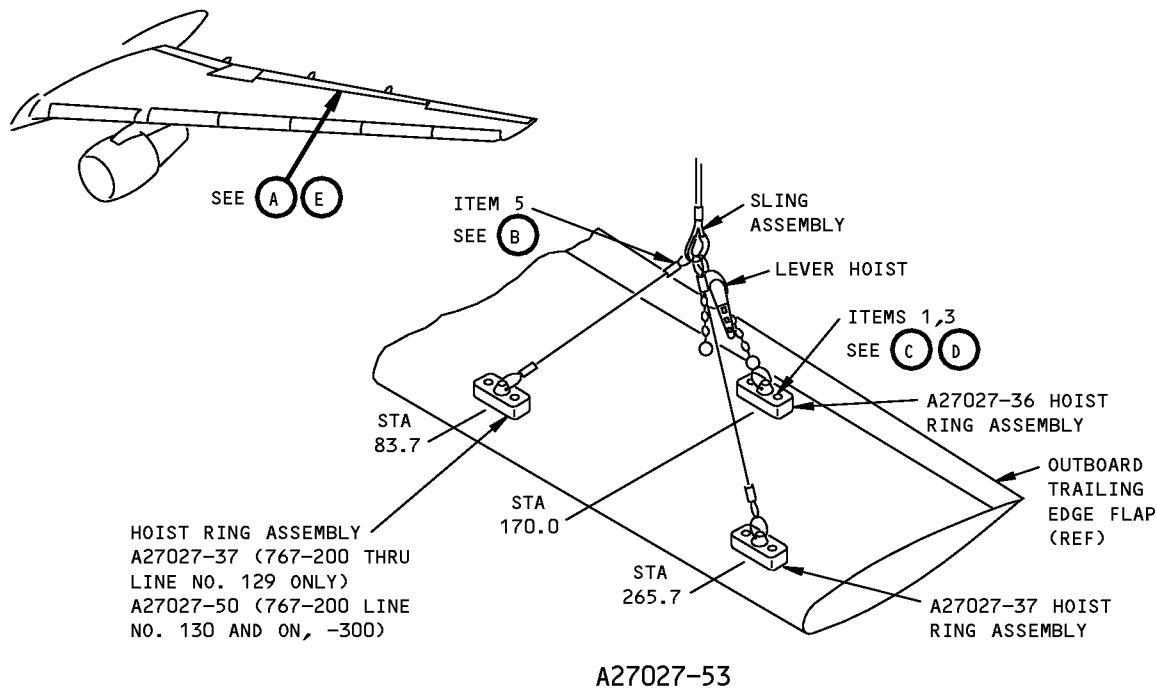
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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

NOTE:

A27027-53 supersedes A27027-47
A27027-54 supersedes A27027-48
A27027-48 supersedes A27027-40
A27027-47 supersedes A27027-34
A27027-40 replaces A27027-34
A27027-34 supersedes A27027-30
A27027-30 supersedes A27027-21
A27027-21 supersedes A27027-14
A27027-14 supersedes A27027-1

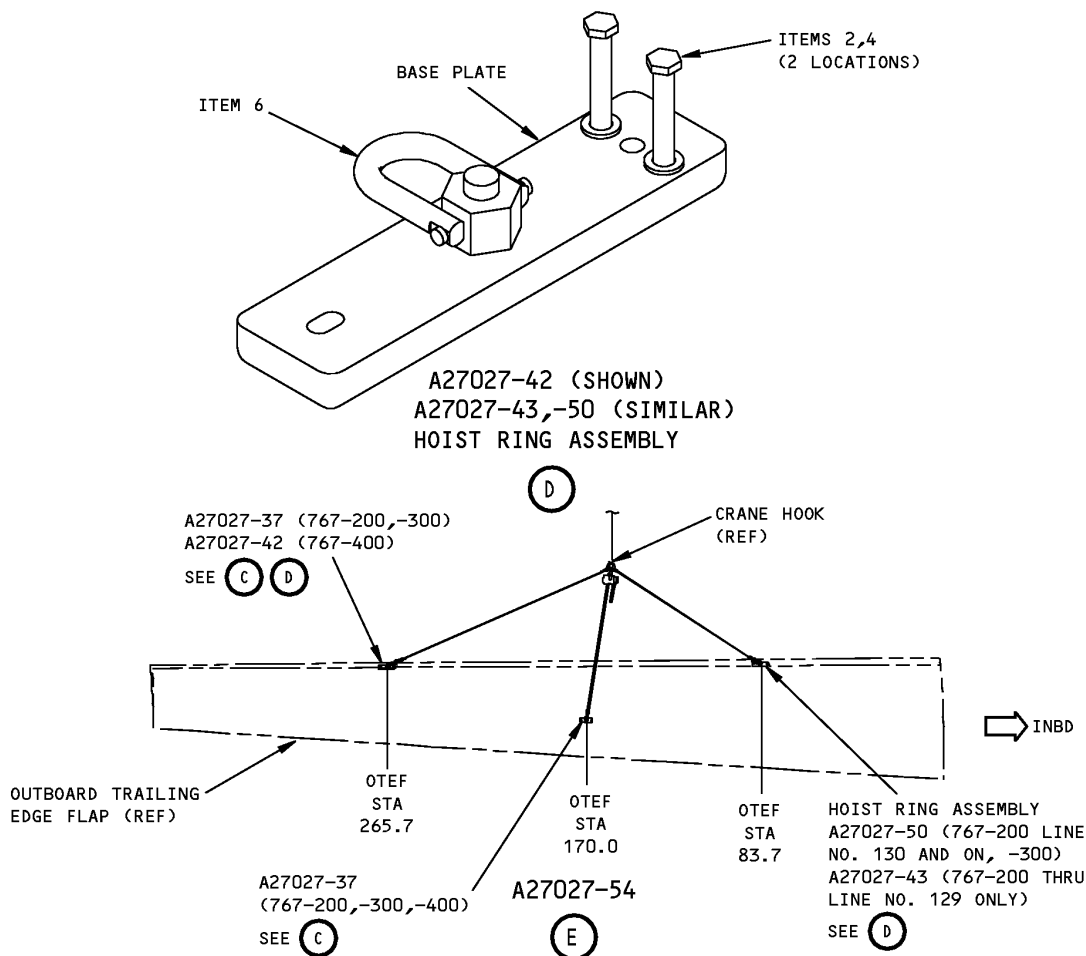
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Outboard Trailing Edge Flap Sling Equipment
Figure 1 (Sheet 1 of 2)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Outboard Trailing Edge Flap Sling Equipment
Figure 1 (Sheet 2 of 2)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|---------------|-----------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | NAS1304-25 | BOLT | |
| 2 | NAS6605-20 | BOLT | |
| 3 | AN960-416 | WASHER | |
| 4 | AN960-516 | WASHER | |
| 5 | A-336-1/4 | CONNECTING LINK | V75535 |
| 6 | CL-1000-SHR-1 | HOIST RING | V99862 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27036-22

NAME: TEST BOX - FLAP/SLAT ELECTRONIC UNIT (FSEU) POWER SUPPLY/YAW DAMPER ELECTROMAGNETIC INTERFACE (EMI) FILTER

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

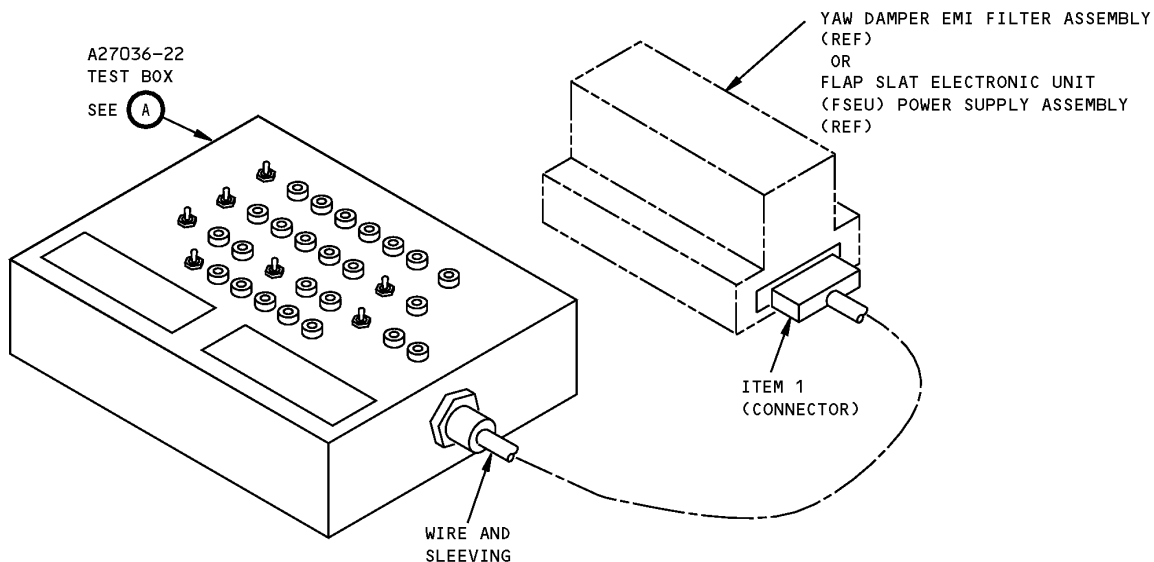
USAGE & DESCRIPTION: The A27036 drawing has been transferred to BAE Systems and will no longer be revised by Boeing. The A27036 inclusion in the 767 ITEM is for information and historical purposes only.

The A27036-22 test box is used on 767-200/300 airplanes equipped with the yaw damper electromagnetic interference (EMI) filter assembly (285T0374), typically prior to line number 242. The A27036-22 is also used on 767-200/300 airplanes equipped with the flap/slat electronic unit (FSEU) printed circuit assembly (PCA) (285T0287), typically prior to line number 794. The A27036-22 is a breakout box used to test the yaw damper EMI filter and the FSEU power supply for voltage tolerance and continuity. Refer to CMM 27-21-65 and CMM 27-51-65 for complete usage instructions.

WEIGHT: 2 lbs (0.9 kg)

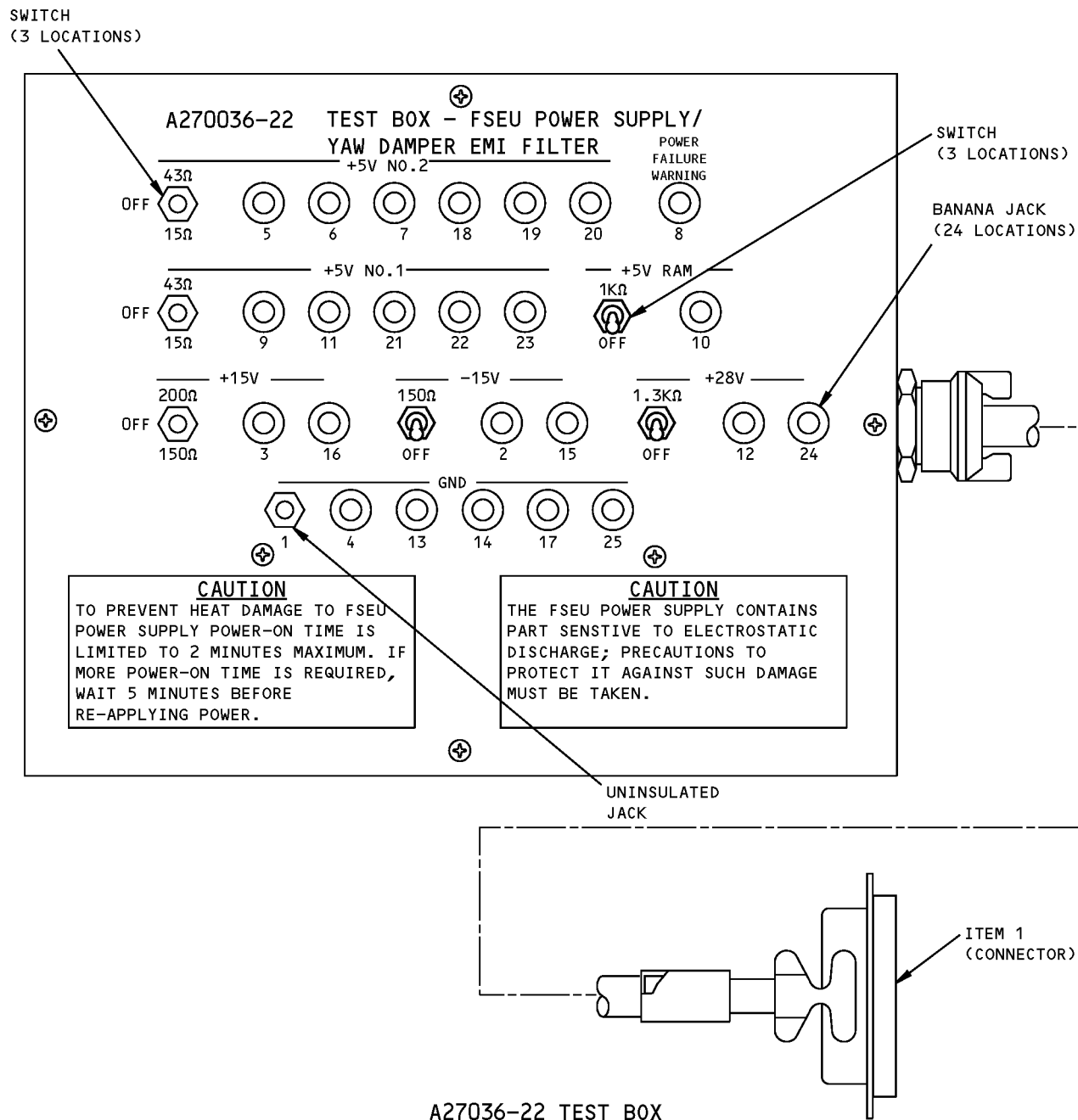
DIMENSIONS: 6 x 10 x 14 inches (152 x 254 x 356 mm)

NOTE: A27036-22 supersedes A27036-16 for 767 usage.



FSEU Power Supply/Yaw Damper EMI Filter Test Box
Figure 1 (Sheet 1 of 2)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



FSEU Power Supply/Yaw Damper EMI Filter Test Box
Figure 1 (Sheet 2 of 2)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | M24308/3-3 | CONNECTOR J1 | V71468 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27040-18

NAME: CHECK EQUIPMENT - BEARING WIDTH

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This equipment is used to preload and measure the preloaded width of bearings. Refer to CMM 27-51-22, CMM 27-51-25, CMM 27-51-34, CMM 27-51-35, CMM 27-51-37, CMM 27-51-39, CMM 27-51-40 AND CMM -27-51-44 for further usage instructions. This equipment consists of the following:

| QUANTITY | NOMENCLATURE | PART NUMBER |
|----------|---------------------------|-------------|
| 1 | WEIGHT ASSEMBLY | A27040-2 |
| 1 | OUTER RACE SUPPORT | A27040-8 |
| 1 | OUTER RACE SUPPORT | A27040-9 |
| 1 | OUTER RACE SUPPORT | A27040-10 |
| 1 | INNER RACE SUPPORT | A27040-19 |
| 1 | INNER RACE SUPPORT | A27040-20 |
| 1 | INNER RACE SUPPORT | A27040-21 |
| 1 | INNER RACE SUPPORT | A27040-22 |
| 1 | OUTER RACE SUPPORT | A27040-23 |
| 1 | INSIDE MICROMETER CALIPER | 700A |
| 1 | STORAGE BOX ASSEMBLY | A27040-29 |

| APPLICATION BLOCK | | | |
|-------------------|--------------------|-----------------------------|--------------|
| WEIGHT ASSEMBLY | OUTER RACE SUPPORT | INNER RACE SUPPORT ASSEMBLY | BEARING |
| A27040-2 | A27040-23 | A27040-19 | BACB10AZ30PP |
| A27040-2 | A27040-8 | A27040-19 | BACB10BA30PP |
| A27040-2 | A27040-9 | A27040-20 | BACB10BB45PP |
| A27040-2 | A27040-10 | A27040-21 | BACB10BA25PP |
| A27040-2 | A27040-23 | A27040-22 | BACB10BA35PP |

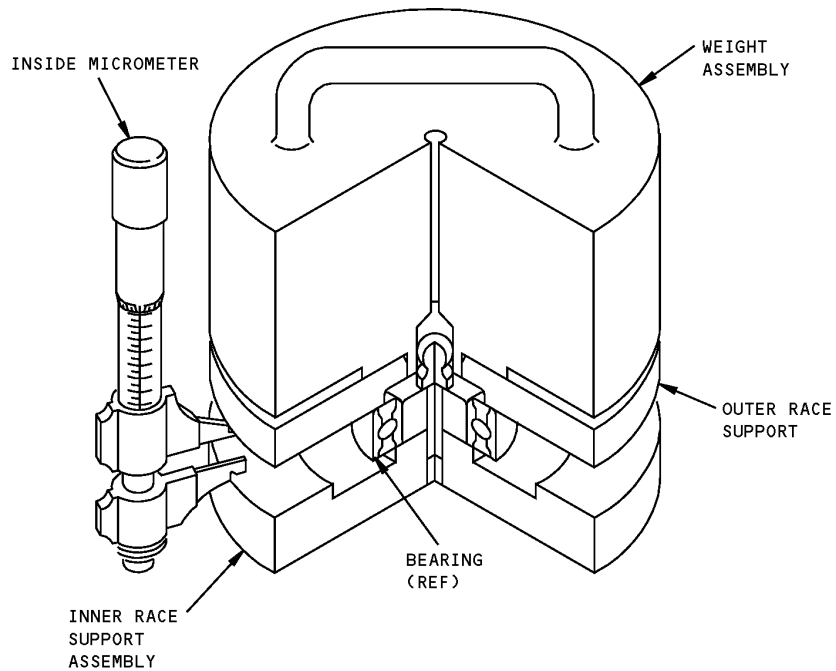
WEIGHT: 80 Lbs (36 kg)

DIMENSIONS: 7 x 14 x 24 inches (178 x 356 x 610 mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

NOTE:

A27040-18 supersedes A27040-1.



CHECKING EQUIPMENT

**Bearing Width Check Equipment
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27055-1

NAME: FIXTURE - TRAILING EDGE FLAP DRIVE WORM GEAR SHIM THICKNESS

AIRPLANE MAINTENANCE: NO

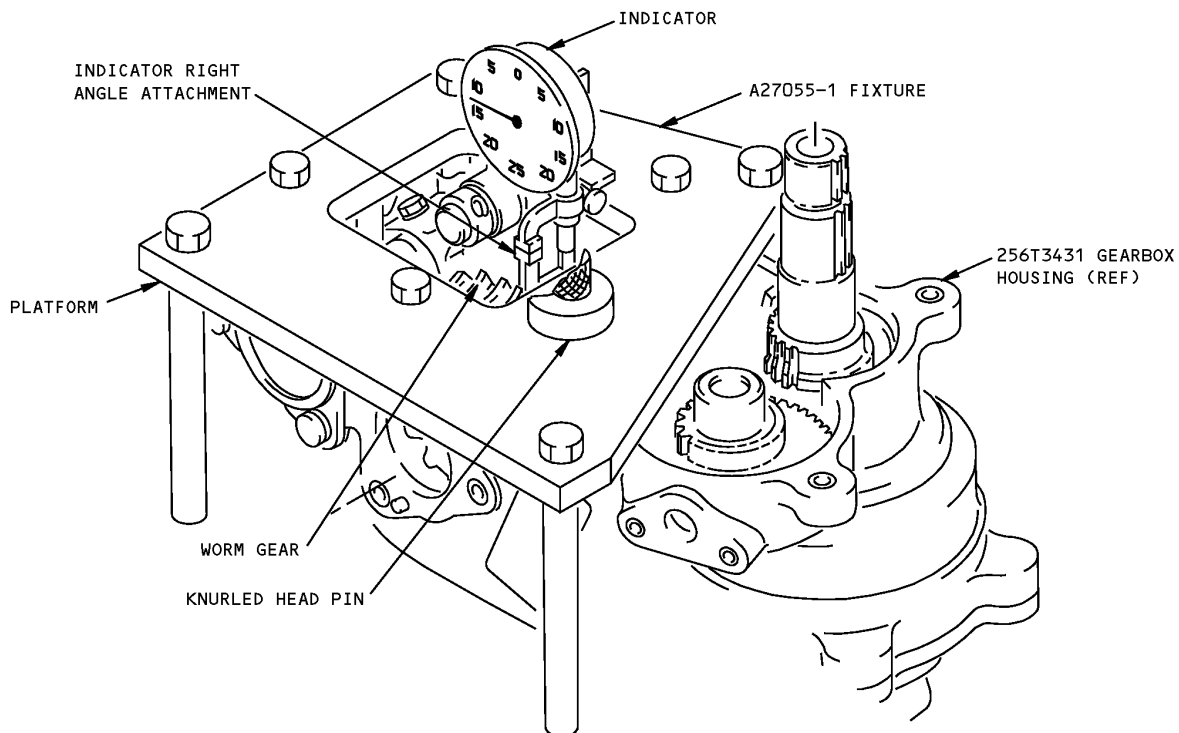
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool consists of a platform, indicator, and knurled head pin. The trailing edge flap drive angle gearbox is secured to the fixture. The dial and knurled head pin are used to measure the required amount of shim material to provide proper mating of the worm gear and the worm gear shaft (not shown).

WEIGHT: 16 lbs (7 kg)

DIMENSIONS: 9 x 13 x 13 inches (229 x 330 x 330 mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Trailing Edge Flap Drive Worm Gear Shim Thickness Fixture
Figure 1

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | MS16998-45 | SCREW | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27019-8

NAME: RESTRAINT - AFT FLAP TO INBD TRAILING EDGE FLAP

AIRPLANE MAINTENANCE: YES

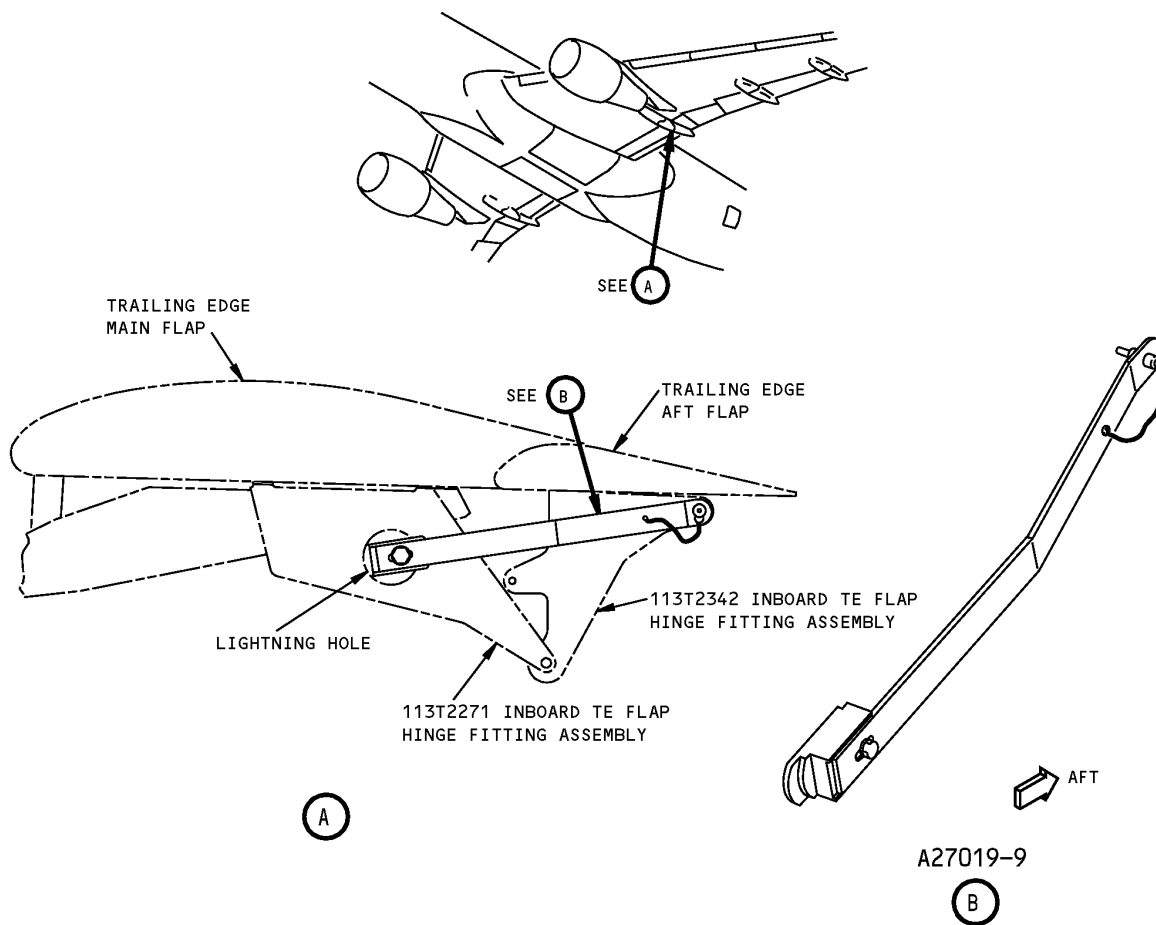
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to secure the aft flap to the inboard main trailing edge flap to maintain both on the same plane during handling. The tool consists of a -9 restraint assembly and a storage box.

WEIGHT: 5 lbs (2.2 kg)

DIMENSIONS: 3 x 5 x 27 inches (76 x 127 x 686 mm)

NOTE: A27019-8 supersedes A27019-1.



**Aft Flap to Inboard Trailing Edge Flap Restraint
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: F70300-1

NAME: ADAPTER - FLAP DRIVE

AIRPLANE MAINTENANCE: YES

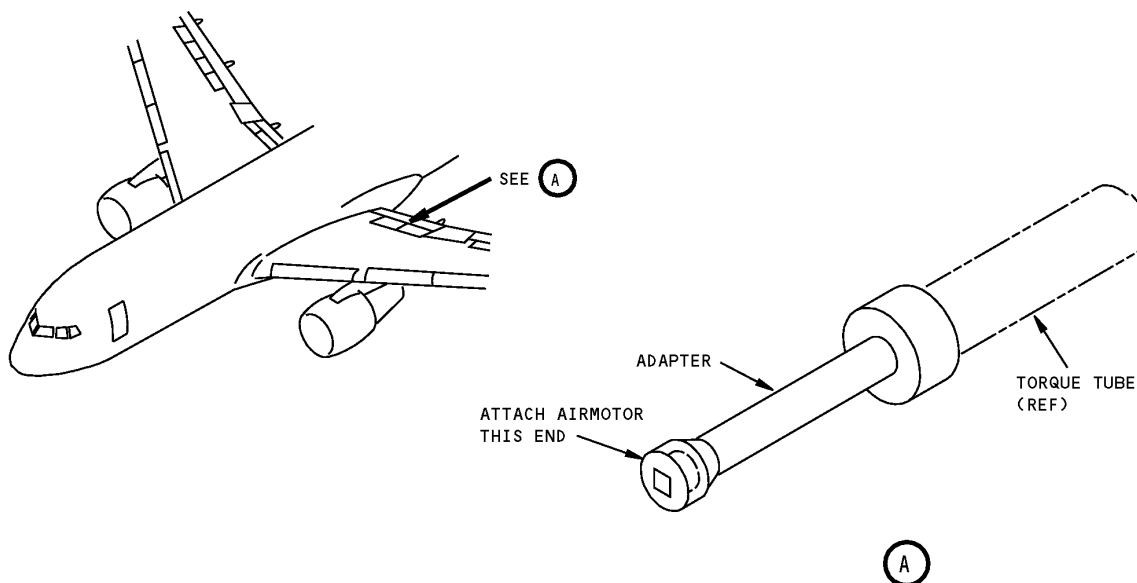
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used with a customer furnished airmotor to fit on spline of torque tube to extend or retract the trailing edge flaps when airplane power is not available.

The adapter is a modified 1/2-inch square drive extension bar with splined sleeve weldment.

DIMENSIONS: 3 x 11 inches (76 x 279 mm)

NOTE: F70300-1 replaces ST2583-1 for future procurement.



**Flap Drive Adapter
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27061-44, -46, -54

NAME: TOOL SET - TRAILING EDGE ROTARY ACTUATOR

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

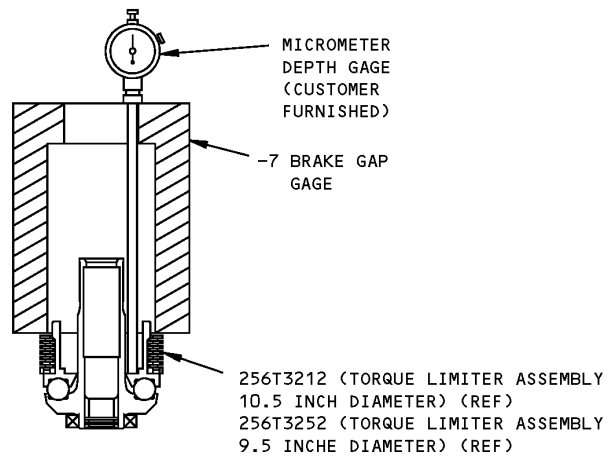
USAGE & DESCRIPTION: The -44 tool set is used during assembly and disassembly of the trailing edge rotary actuator. The -46 and -54 torque brake equipment is used to check the torque limiter lockout on airplanes having PRR B12390 or SB 767-27-0115 incorporated. The -46 is applicable for the 9.5 inch torque limiter assembly only. The -54 is applicable for the 9.5 inch and 10.5 inch torque limiter assemblies. Refer to CMM 27-51-08 and CMM 27-51-10 for further usage instructions. This tool is used on all models of the 767-200,-300. The -44 tool set consists of 11 separate tools which are used as alignment tools, wrench adapters, fixtures and holding tools. The usage illustrations show each tool with the appropriate rotary actuator part(s). The -46 tool consists of a -47 spline adapter (9.5), a -48 support plate assembly, and a -49 storage box. The -54 tool consists of a -47 spline adapter(9.5), a -55 spline adapter assembly (10.5), a -48 support plate assembly, and a -56 storage box.

WEIGHT: A27061-44 - 73 lbs (33 kg)
A27061-46 - 3 lbs (1.4 kg)
A27061-54 - 4 lbs (1.8 kg)

DIMENSIONS: A27061-44 - 7 x 16 x 26 inches (178 x 406 x 660 mm)
A27061-46 - 1 x 6 x 8 inches (25 x 152 x 203 mm)
A27061-54 - 1 x 6 x 10 inches (25 x 152 x 254 mm)

NOTE: A27061-54 replaces A27061-46 for future procurement.
A27061-44 replaces A27061-1 for future procurement.

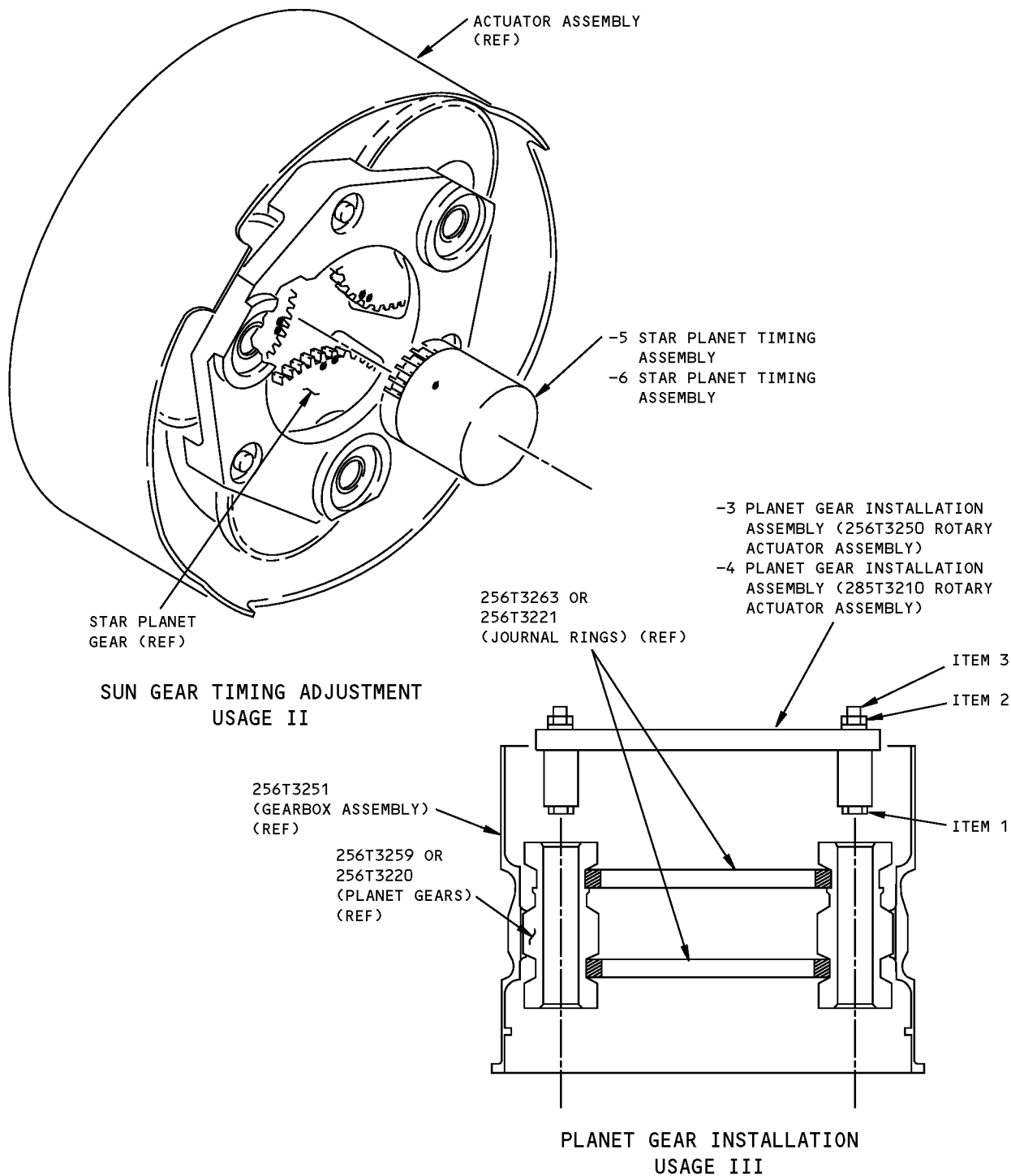
767
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



BRAKE PLATE MEASUREMENT USAGE I

Trailing Edge Rotary Actuator Tool Set Usage
Figure 1 (Sheet 1 of 5)

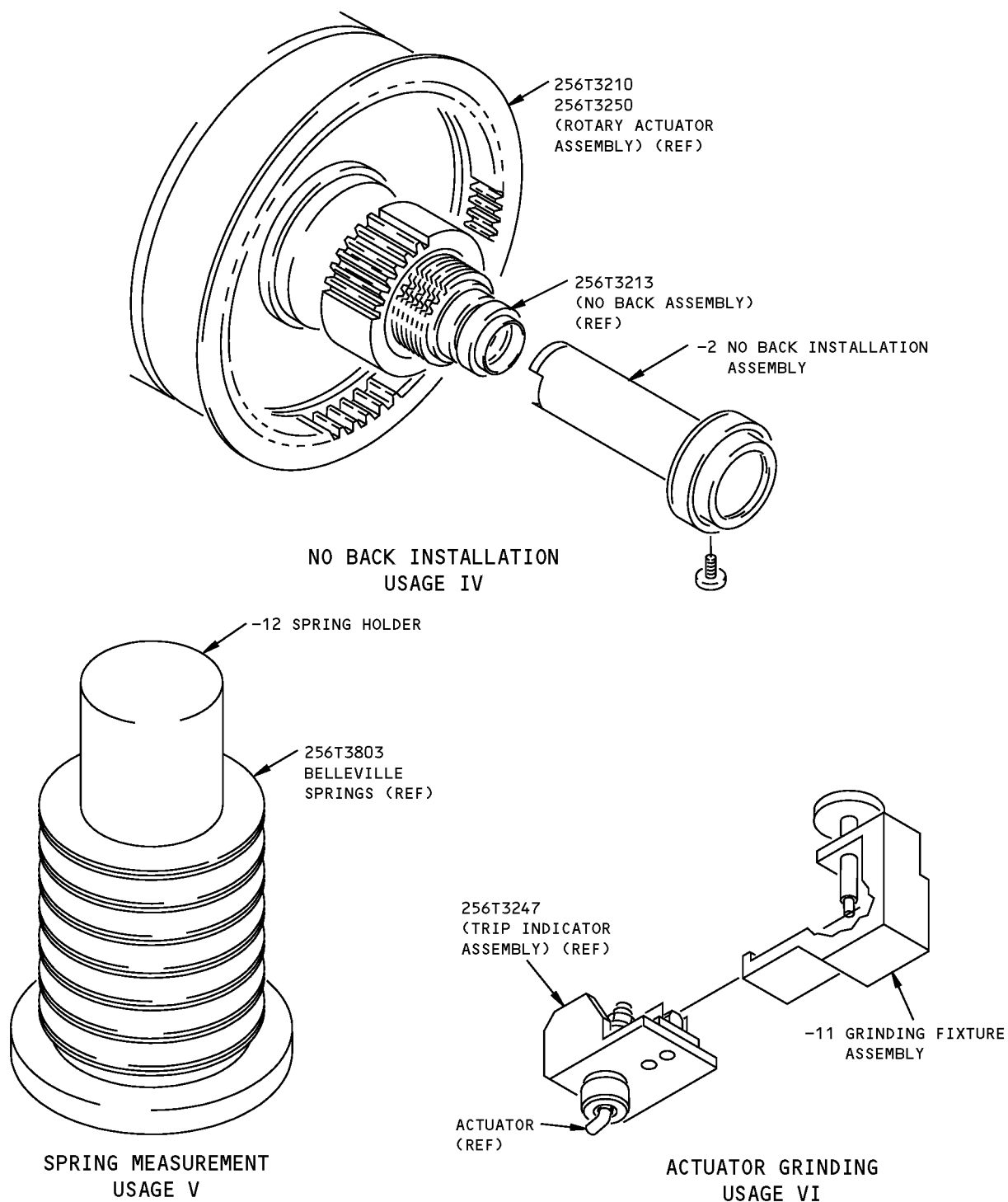
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A27061-44 TOOL SET

**Trailing Edge Rotary Actuator Tool Set Usage
Figure 1 (Sheet 2 of 5)**

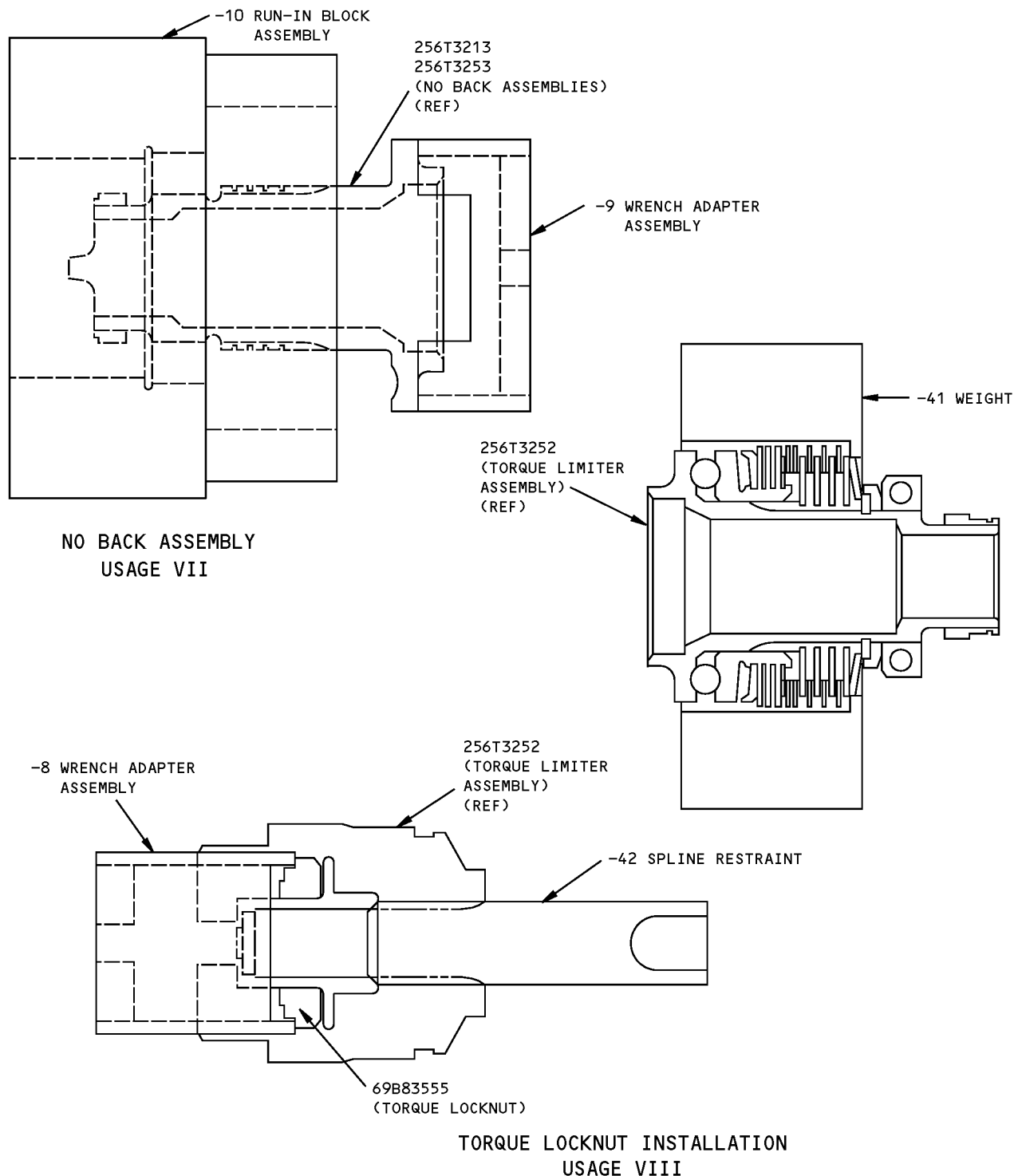
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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A27061-44 TOOL SET

Trailing Edge Rotary Actuator Tool Set Usage
Figure 1 (Sheet 3 of 5)

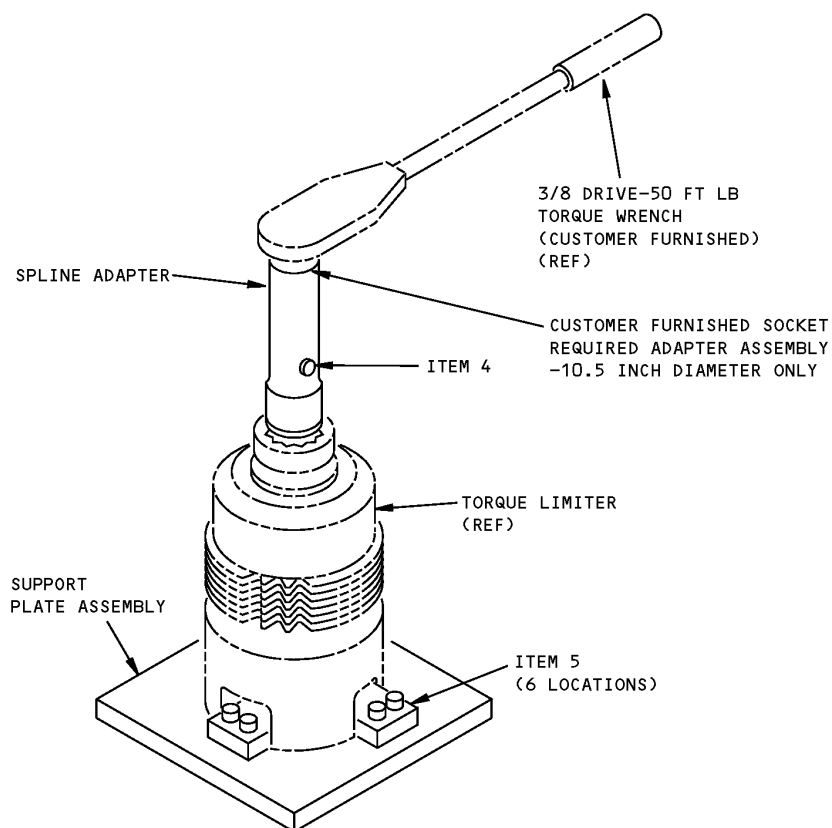
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A27061-44 TOOL SET

**Trailing Edge Rotary Actuator Tool Set Usage
Figure 1 (Sheet 4 of 5)**

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A27061-46,-54 TORQUE BRAKE EQUIPMENT

Trailing Edge Rotary Actuator Tool Set Usage
Figure 1 (Sheet 5 of 5)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|--------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | AN4-20 | BOLT | |
| 2 | AN960-416 | WASHER | |
| 3 | MS21044N4 | NUT | |
| 4 | MS16562-37 | SPRING PIN | |
| 5 | NAS1352-3-10 | CAP SCREW | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27046-3, -4, -8, -99, -140, -141, -160, -163, -176, -177, -191, -192

NAME: TEST FIXTURE - POWER DRIVE COMPONENTS FLIGHT CONTROL

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is used for the backlash check of the TE flap drive gearbox assemblies. Refer to CMM 27-51-22, CMM 27-51-25, CMM 27-51-34, CMM 27-51-35, CMM 27-51-37, CMM 27-51-39, CMM 27-51-40 and CMM 27-51-44 for further usage instructions. The -8 test equipment is used in conjunction with -3, -4, -99, -140, -141, -160, -163, -176, -177, -191 and -192 test fixtures. The -141 and -163 are used on the 767-200/-300 airplanes. This tool consists of -8 test equipment, -3, -4, -99, -140, -141, -160, -163, -176, -177, -191 and -192 test fixtures. The -8 test equipment consists of two -53 tower assemblies, a -54 crank assembly, two -55 brackets, a -56 clamp assembly, a -57 bracket, -58 clamp assembly, a -59 collet assembly, two -126 weight assemblies, a -113 clamp assembly, a -118 clamp assembly, a -123 collar, a -124 collar and four hand knobs.

WEIGHT:

- A27046-3 - 30 lbs (13.6 kg)
- A27046-4 - 31 lbs (14.1 kg)
- A27046-8 - 75 lbs (34 kg)
- A27046-99 - 50 lbs (22.6 kg)
- A27046-140 - 28 lbs (12.7 kg)
- A27046-141 - 45 lbs (20.4 kg)
- A27046-160 - 37 lbs (16.7 kg)
- A27046-163 - 50 lbs (22.6 kg)
- A27046-176 - 30 lbs (13.6 kg)
- A27046-177 - 30 lbs (13.6 kg)
- A27046-191 - 45 lbs (20.4 kg)
- A27046-192 - 50 lbs (22.6 kg)

DIMENSIONS:

- A27046-3 - 7 x 15 x 17 inches (178 x 381 x 432 mm)
- A27046-4 - 10 x 17 x 17 inches (254 x 432 x 432 mm)
- A27046-8 - 5 x 18 x 18 inches (127 x 457 x 457 mm)
- A27046-99 - 10 x 20 x 30 inches (254 x 508 x 762 mm)
- A27046-140 - 7 x 10 x 23 inches (178 x 254 x 584 mm)
- A27046-141 - 9 x 15 x 26 inches (229 x 381 x 660 mm)
- A27046-160 - 10 x 16 x 19 inches (254 x 406 x 483 mm)
- A27046-163 - 10 x 17 x 27 inches (254 x 432 x 686 mm)
- A27046-176 - 12 x 15 x 26 inches (305 x 381 x 660 mm)
- A27046-177 - 12 x 15 x 26 inches (305 x 381 x 660 mm)
- A27046-191 - 9 x 15 x 26 inches (229 x 381 x 660 mm)
- A27046-192 - 10 x 17 x 27 inches (254 x 432 x 686 mm)



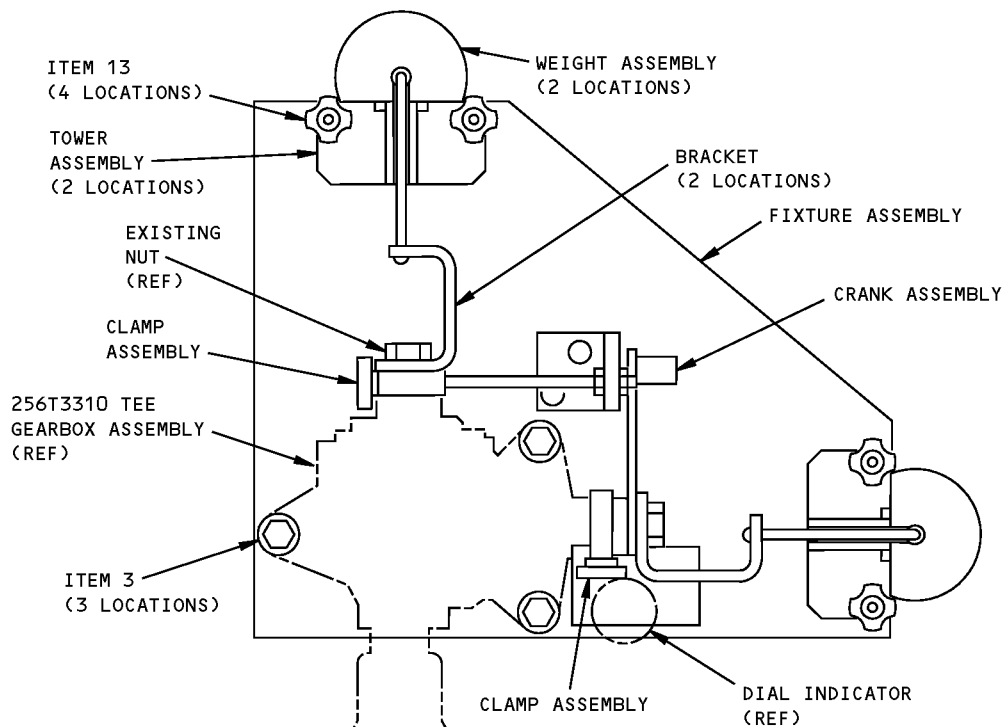
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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

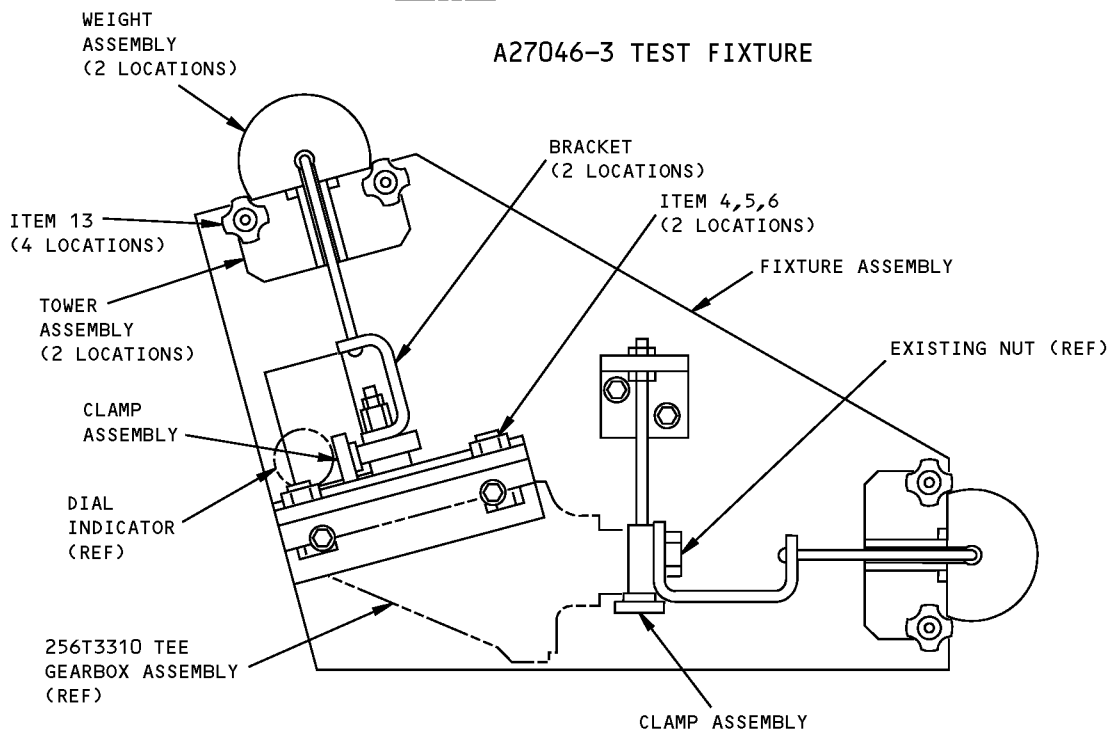
NOTE:

A27046-192 replaces A27046-163 for future procurement.
A27046-191 replaces A27046-141 for future procurement.
A27046-177 supersedes A27046-162.
A27046-176 supersedes A27046-161.
A27046-163 supersedes A27046-81.
A27046-160 supersedes A27046-7.
A27046-141 supersedes A27046-1.
A27046-140 supersedes A27046-2.
A27046-99 supersedes A27046-5.

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



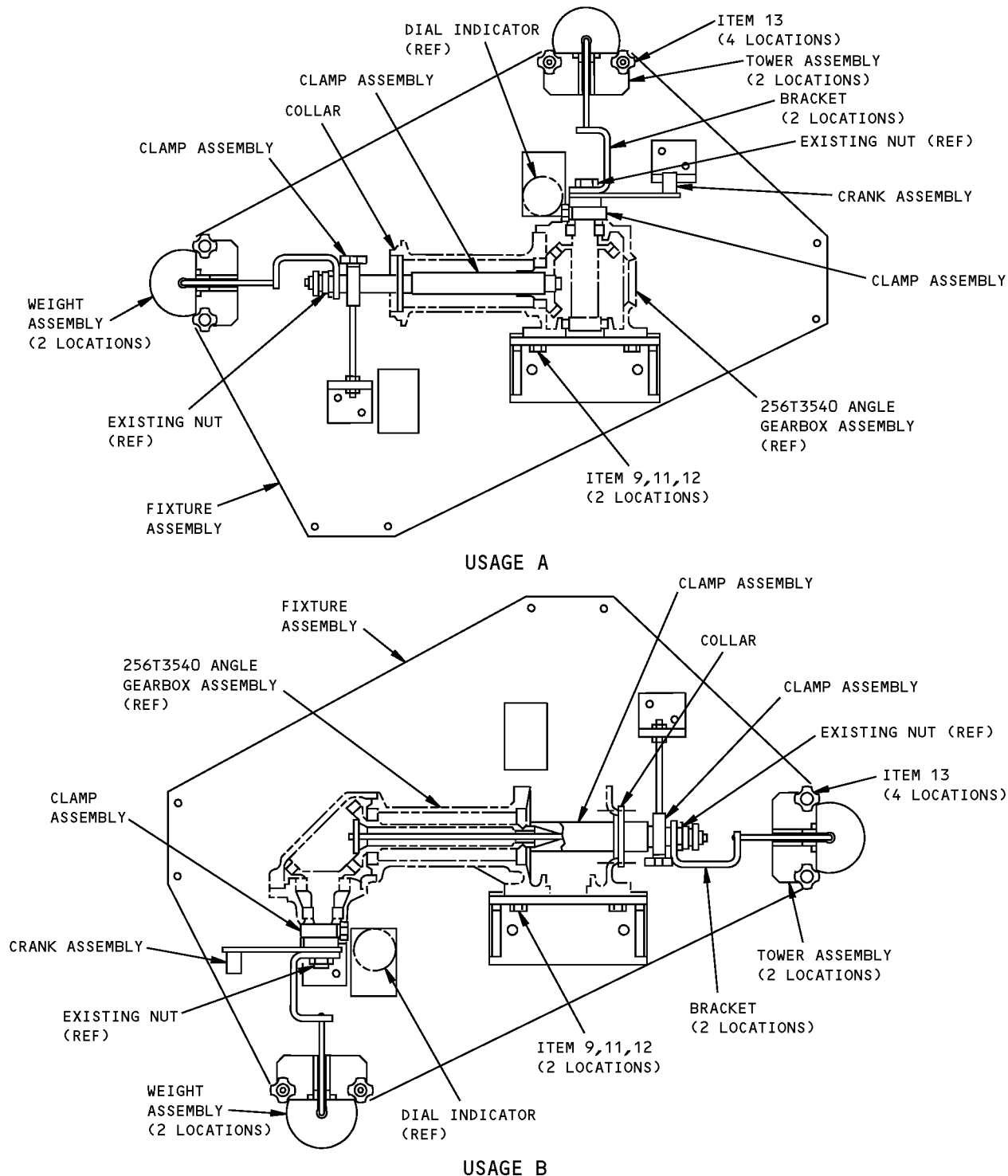
A27046-3 TEST FIXTURE



A27046-4 TEST FIXTURE

Flight Control Power Drive Components Test Fixture
Figure 1 (Sheet 1 of 6)

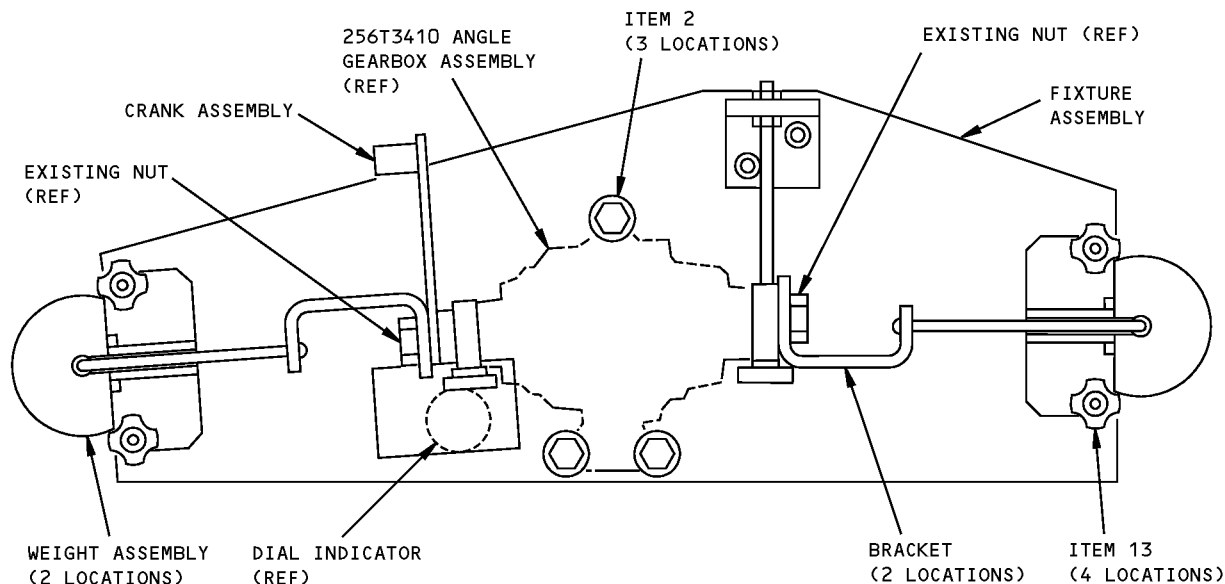
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



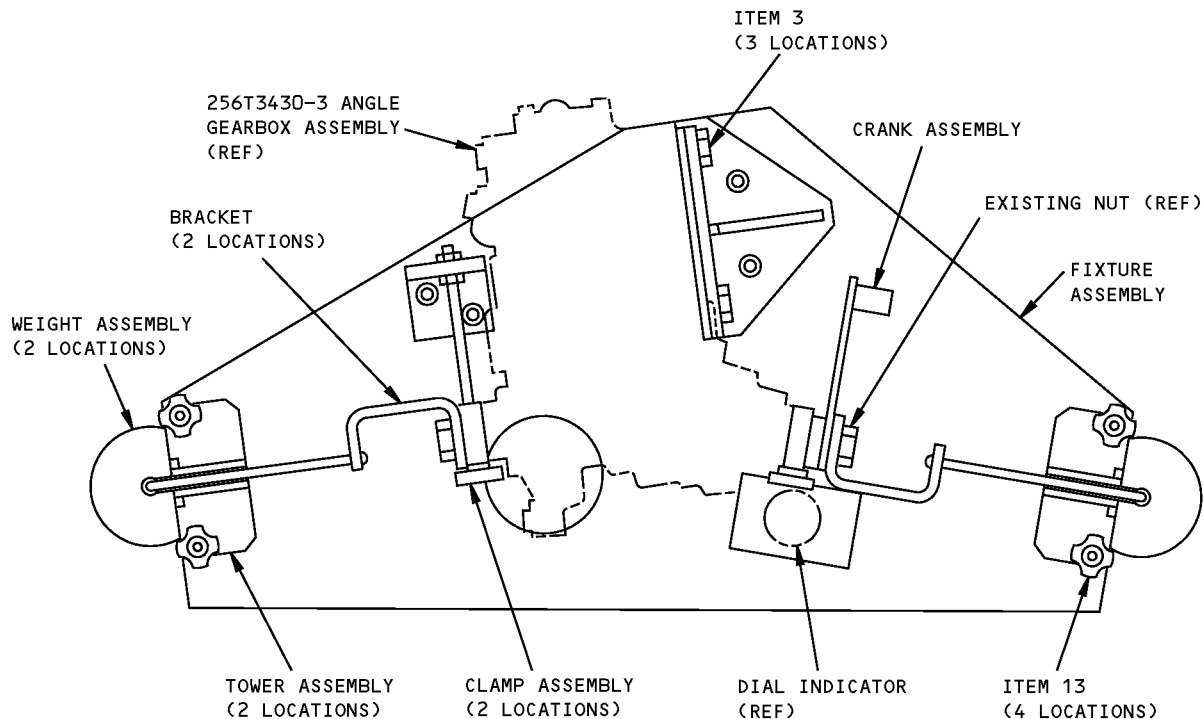
A27046-99 TEST FIXTURE

**Flight Control Power Drive Components Test Fixture
Figure 1 (Sheet 2 of 6)**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



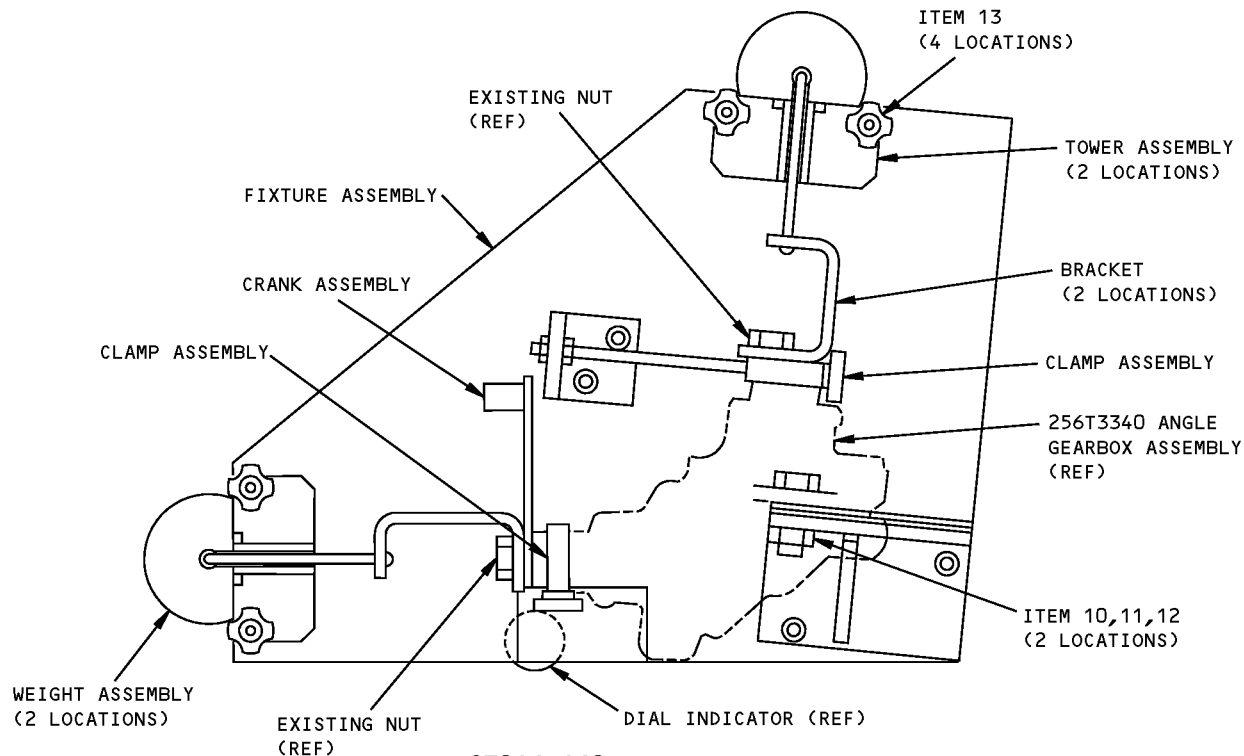
A27046-140 TEST FIXTURE



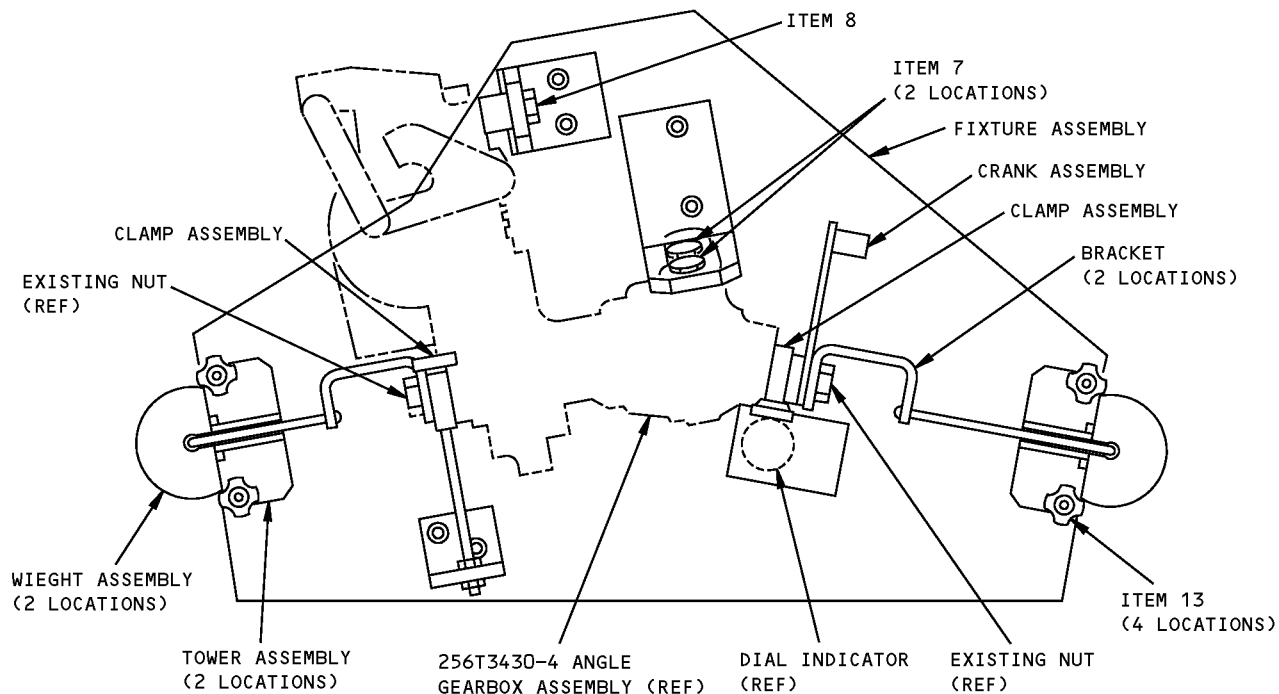
A27046-141,-191 TEST FIXTURE

Flight Control Power Drive Components Test Fixture
Figure 1 (Sheet 3 of 6)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



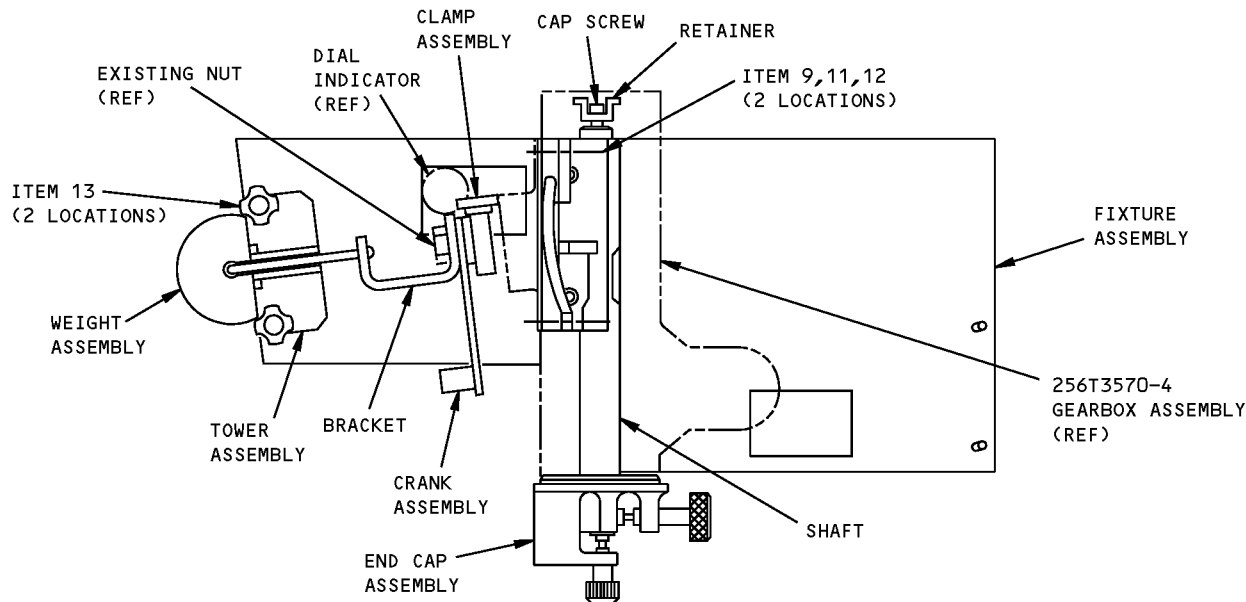
A27046-160 TEST FIXTURE



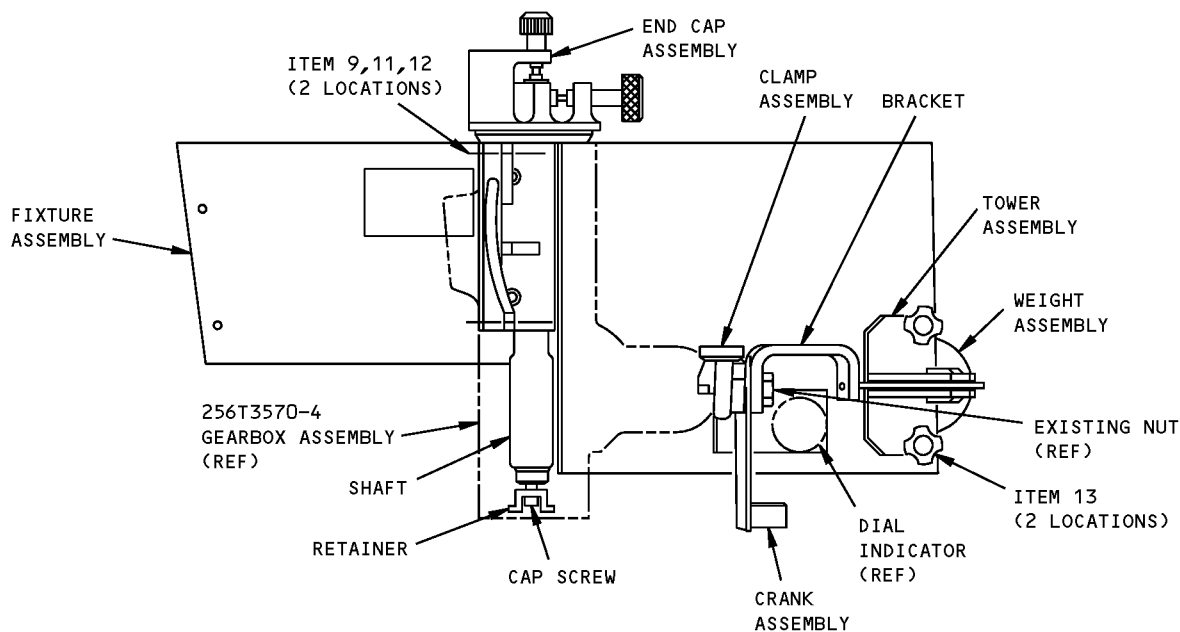
A27046-163,-192 TEST FIXTURE

Flight Control Power Drive Components Test Fixture
Figure 1 (Sheet 4 of 6)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



**MEASUREMENT A
BACKLASH MEASUREMENT
(OUTPUT SIDE)**

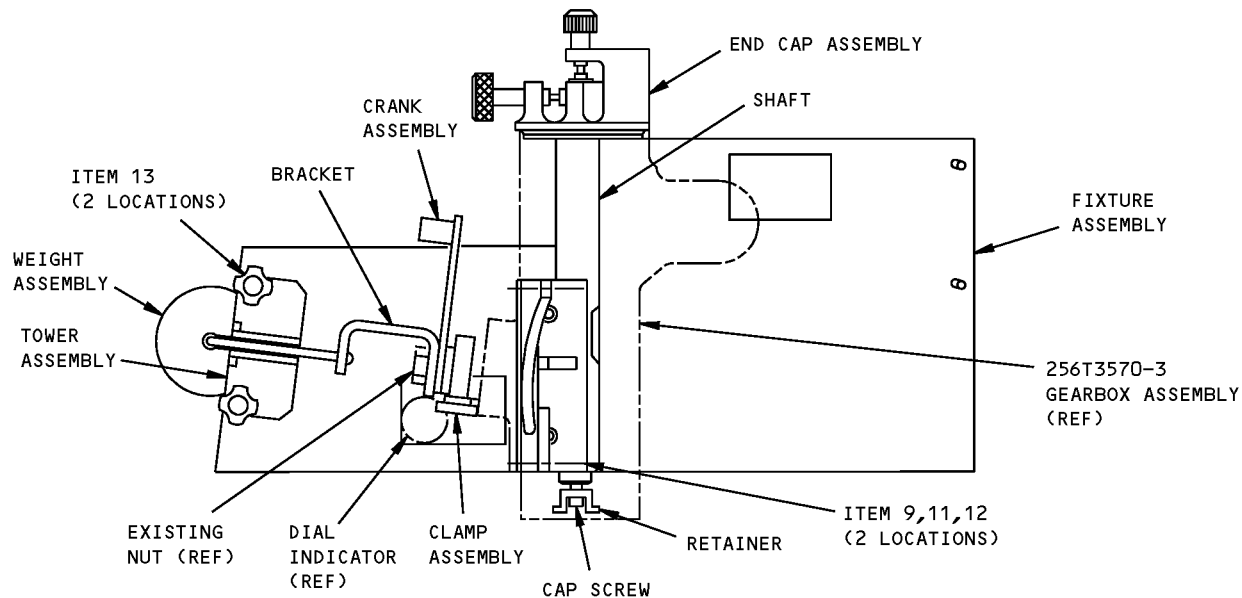


**MEASUREMENT B
BACKLASH MEASUREMENT
(INPUT SIDE)**

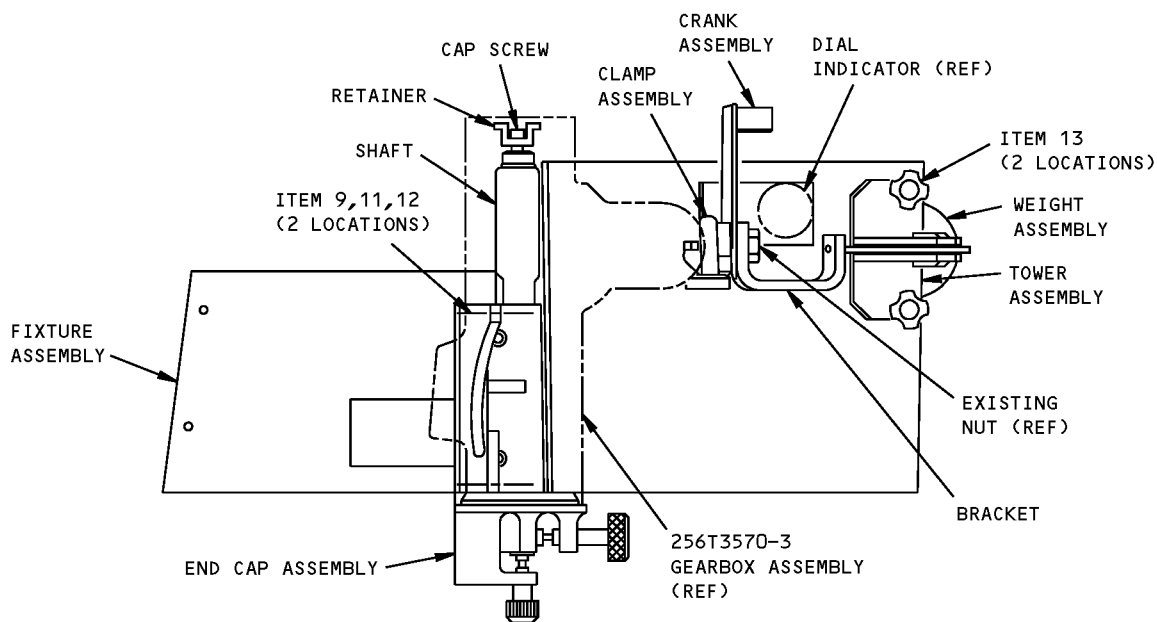
A27046-176 TEST FIXTURE

**Flight Control Power Drive Components Test Fixture
Figure 1 (Sheet 5 of 6)**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



**MEASUREMENT A
BACKLASH MEASUREMENT
(OUTPUT SIDE)**



**MEASUREMENT B
BACKLASH MEASUREMENT
(INPUT SIDE)**

A27046-177 TEST FIXTURE

**Flight Control Power Drive Components Test Fixture
Figure 1 (Sheet 6 of 6)**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|--------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | AN4-7A | BOLT | |
| 2 | AN5-6A | BOLT | |
| 3 | AN5-7A | BOLT | |
| 4 | AN4-13A | BOLT | |
| 5 | MS35650-3252 | NUT | |
| 6 | AN960-416L | WASHER | |
| 7 | AN4-5A | BOLT | |
| 8 | AN4-14A | BOLT | |
| 9 | AN5-11A | BOLT | |
| 10 | AN5-12A | BOLT | |
| 11 | MS35650-3312 | NUT | |
| 12 | AN960-516L | WASHER | |
| 13 | CL-8-HK-8 | HAND KNOB | V96027 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27074-128, -146

NAME: LOCK SET - INBOARD AND OUTBOARD FLAP LINKAGE, TE

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

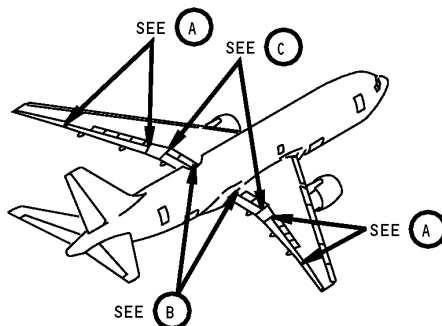
USAGE & DESCRIPTION: This tool is used to lock the inboard and outboard flaps during flap drive linkage removal or other maintenance operations. This tool is used on 767-200 and -300 air planes. Refer to AMM 27-51 for further usage instructions. Each of -128 and -146 consists of a -2 outboard flap outboard linkage lock assembly, a -3 outboard flap inboard linkage lock assembly, a -6 inboard flap outboard linkage lock assembly, a -7, a -8, a -10 and a -115 bracket assemblies, and a -129 catch assembly. Also -128 includes a -123 and a -124 inboard flap inboard linkage lock assemblies, a -11 left hand wing bracket assembly, a -109 right wing bracket assembly, and 2 -141 c-clamp assemblies. Also -146 includes a -147 and a -148 inboard flap inboard linkage lock assemblies, a -150 left wing bracket assembly, a -151 right wing bracket assembly, 2 -152 c-clamp assemblies and has a -149 storage box assembly.

WEIGHT: 170 lbs (77 kg)

DIMENSIONS: 18 x 36 x 36 inches (457 x 914 x 914 mm)

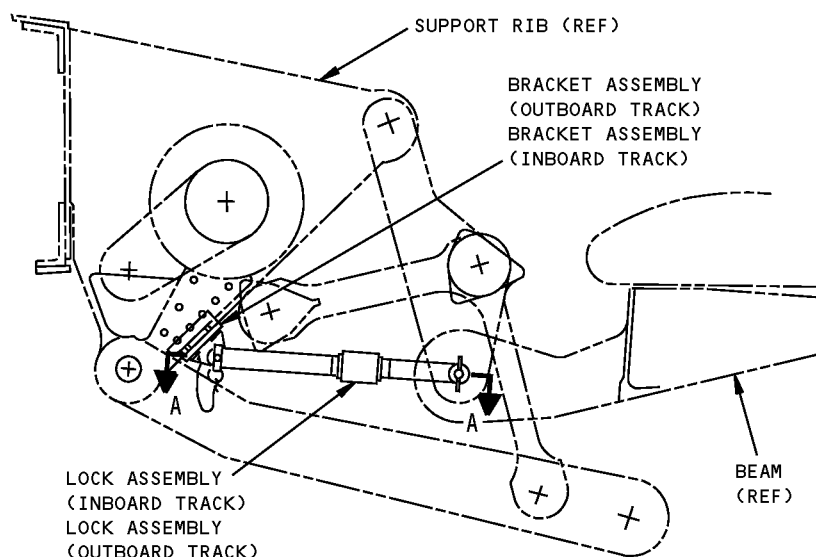
NOTE: A27074-146 replaces A27074-128 for future procurement.
A27074-128 supersedes A27074-1, -120.

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



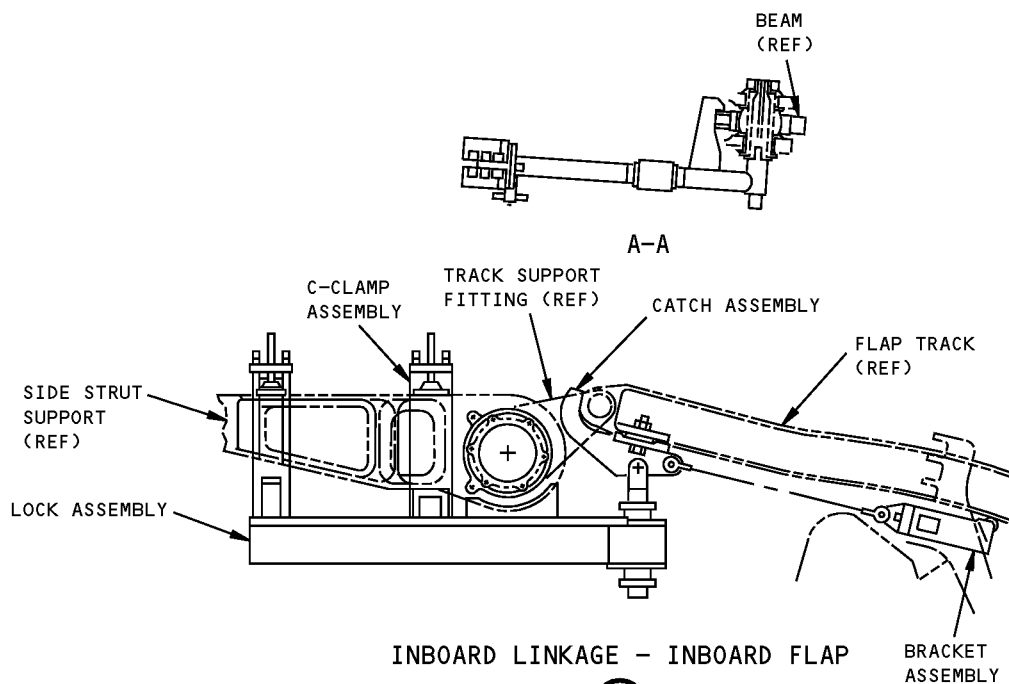
Inboard and Outboard Trailing Edge Flap Linkage Lock Set
Figure 1 (Sheet 1 of 3)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



INBOARD AND OUTBOARD LINKAGE - OUTBOARD FLAP

A

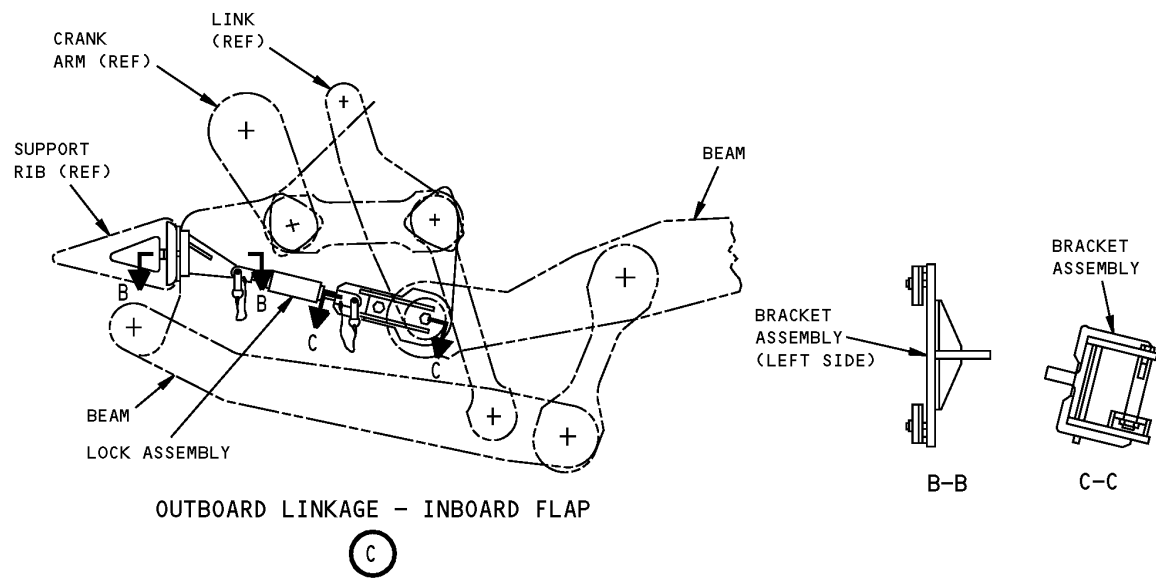


INBOARD LINKAGE - INBOARD FLAP

B

**Inboard and Outboard Trailing Edge Flap Linkage Lock Set
Figure 1 (Sheet 2 of 3)**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Inboard and Outboard Trailing Edge Flap Linkage Lock Set
Figure 1 (Sheet 3 of 3)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | AN960-516 | WASHER | |
| 2 | AN960-616 | WASHER | |
| 3 | AN960-815 | WASHER | |
| 4 | CL-21-KA-10.0LR | LANYARD | V99862 |
| 5 | CL-21-KA-12.0LR | LANYARD | V99862 |
| 6 | MS16997-62 | BOLT | |
| 7 | MS35650-3382 | NUT | |
| 8 | MS35650-3392 | NUT | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|---------------|---------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 9 | MS90725-40 | BOLT | |
| 10 | MS90725-66 | BOLT | |
| 11 | MS90725-115 | DELETED | |
| 11A | AN8-17A | BOLT | |
| 12 | NAS1336C2C13 | BALL LOCK PIN | |
| 13 | NAS1336C2C15 | BALL LOCK PIN | |
| 14 | NAS1336C5C11D | BALL LOCK PIN | |
| 15 | NAS1354C2C10 | BALL LOCK PIN | |
| 16 | NAS1354C2C12 | BALL LOCK PIN | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27079-78, -89, -96

NAME: TEST EQUIPMENT - POWER DRIVE UNIT, TE FLAP AND LE SLAT DRIVE

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: The A27079-78 test equipment is used on all 767-200 and -300 airplanes. The A27079-89 is used on 767-200 and -300 airplanes using 256T2710 outboard leading edge slat power drive unit. The A27079-96 is used on 767-200, -300, and -400 airplanes using 256T5505 and 256T2710 outboard leading edge slat power drive unit. This tool is used in conjunction with A27081 test set to functionally test trailing edge flap power drive units, and inboard and outboard leading edge slat power drive units. Refer to CMM 27-51 -14, CMM 27-81-41, CMM 27-81-82, CMM 27-81-83, and current A27079 drawing for further usage instructions.

The A27079-78, -89, and -96 consists of the following:

| A27079-78 | | |
|-----------|--|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | SUPPORT ASSEMBLY - POWER DRIVE UNIT, INBOARD LE SLAT | A27079-3 |
| 1 | LEVER SUPPORT ASSEMBLY | A27079-4 |
| 1 | SUPPORT ASSEMBLY-POWER DRIVE UNIT, OUTBOARD LE SLAT | A27079-5 |
| 1 | LEVER SUPPORT ASSEMBLY | A27079-6 |
| 1 | SUPPORT ASSEMBLY-POWER DRIVE UNIT, TE FLAP | A27079-7 |
| 1 | SPLINE | A27079-10 |
| 1 | SPLINE | A27079-11 |
| 1 | COUPLING | A27079-18 |
| 1 | FIXTURE ASSEMBLY (NOT BOXED) | A27079-79 |
| 1 | GAUGE ASSEMBLY | A27079-85 |
| 2 | KEY-MACHINE | MS20066-257 |
| 1 | STORAGE BOX | |

| A27079-89 | | |
|-----------|--|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | SUPPORT ASSEMBLY - POWER DRIVE UNIT, INBOARD LE SLAT | A27079-3 |
| 1 | LEVER SUPPORT ASSEMBLY | A27079-4 |
| 1 | SUPPORT ASSEMBLY-POWER DRIVE UNIT, OUTBOARD LE SLAT | A27079-5 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| A27079-89 | | |
|-----------|---|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | LEVER SUPPORT ASSEMBLY | A27079-6 |
| 1 | SUPPORT ASSEMBLY-POWER DRIVE UNIT TE FLAP | A27079-7 |
| 1 | SPLINE | A27079-10 |
| 1 | SPLINE | A27079-11 |
| 1 | COUPLING | A27079-18 |
| 1 | GAUGE ASSEMBLY | A27079-85 |
| 1 | FIXTURE ASSEMBLY (NOT BOXED) | A27079-90 |
| 2 | KEY-MACHINE | MS20066-257 |
| 1 | STORAGE BOX | |

| A27079-96 | | |
|-----------|--|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | SUPPORT ASSEMBLY - POWER DRIVE UNIT, INBOARD LE SLAT | A27079-3 |
| 1 | LEVER SUPPORT ASSEMBLY | A27079-4 |
| 1 | SUPPORT ASSEMBLY-POWER DRIVE UNIT, OUTBOARD LE SLAT | A27079-5 |
| 1 | LEVER SUPPORT ASSEMBLY | A27079-6 |
| 1 | SUPPORT ASSEMBLY-POWER DRIVE UNIT, TE FLAP | A27079-7 |
| 1 | SPLINE | A27079-10 |
| 1 | SPLINE | A27079-11 |
| 1 | COUPLING | A27079-18 |
| 1 | GAUGE ASSEMBLY | A27079-85 |
| 1 | FIXTURE ASSEMBLY | A27079-90 |
| 1 | SUPPORT ASSEMBLY-POWER DRIVE UNIT, OUTBOARD LE SLAT | A27079-97 |
| 8 | WASHER | A27079-98 |
| 2 | KEY-MACHINE | MS20066-257 |
| 4 | NUT | MS51967-20 |
| 1 | STORAGE BOX | |

WEIGHT:

A27079-79, -90 fixture assembly - 616 lbs (279 kg)
Remaining parts (excluding box) - 430 lbs (195 kg)

DIMENSIONS:

A27079-79, -90 fixture assembly - 27 x 31 x 67 inches (686 x 787 x 1702 mm)
Remaining parts (boxed) - 20 x 50 x 70 inches (508 x 1270 x 1778 mm)



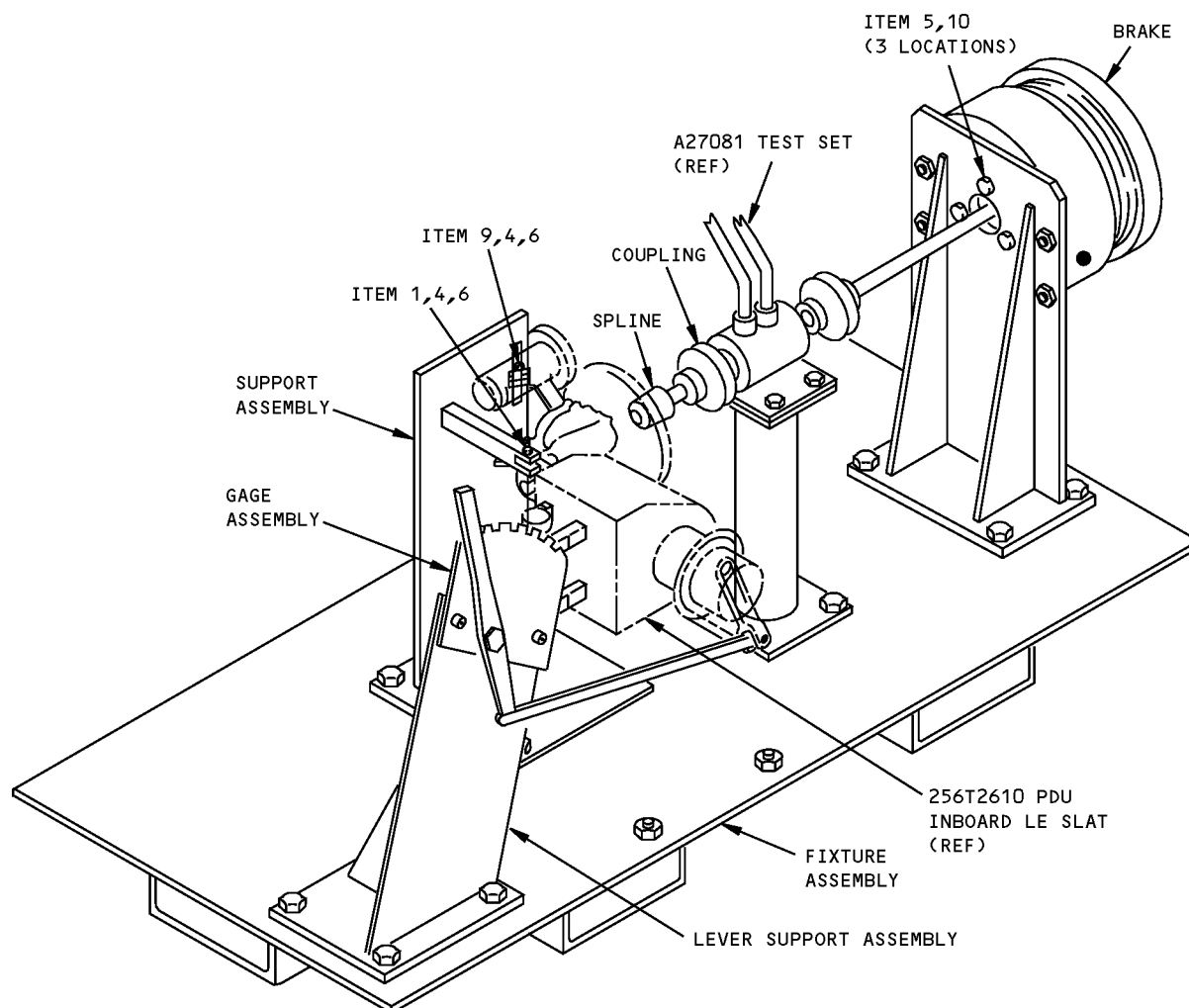
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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

NOTE:

A27079-96 replaces A27079-89 for future procurement.
A27079-89 replaces A27079-78 for future procurement.
A27079-78 supersedes A27079-71.
A27079-71 supersedes A27079-1.

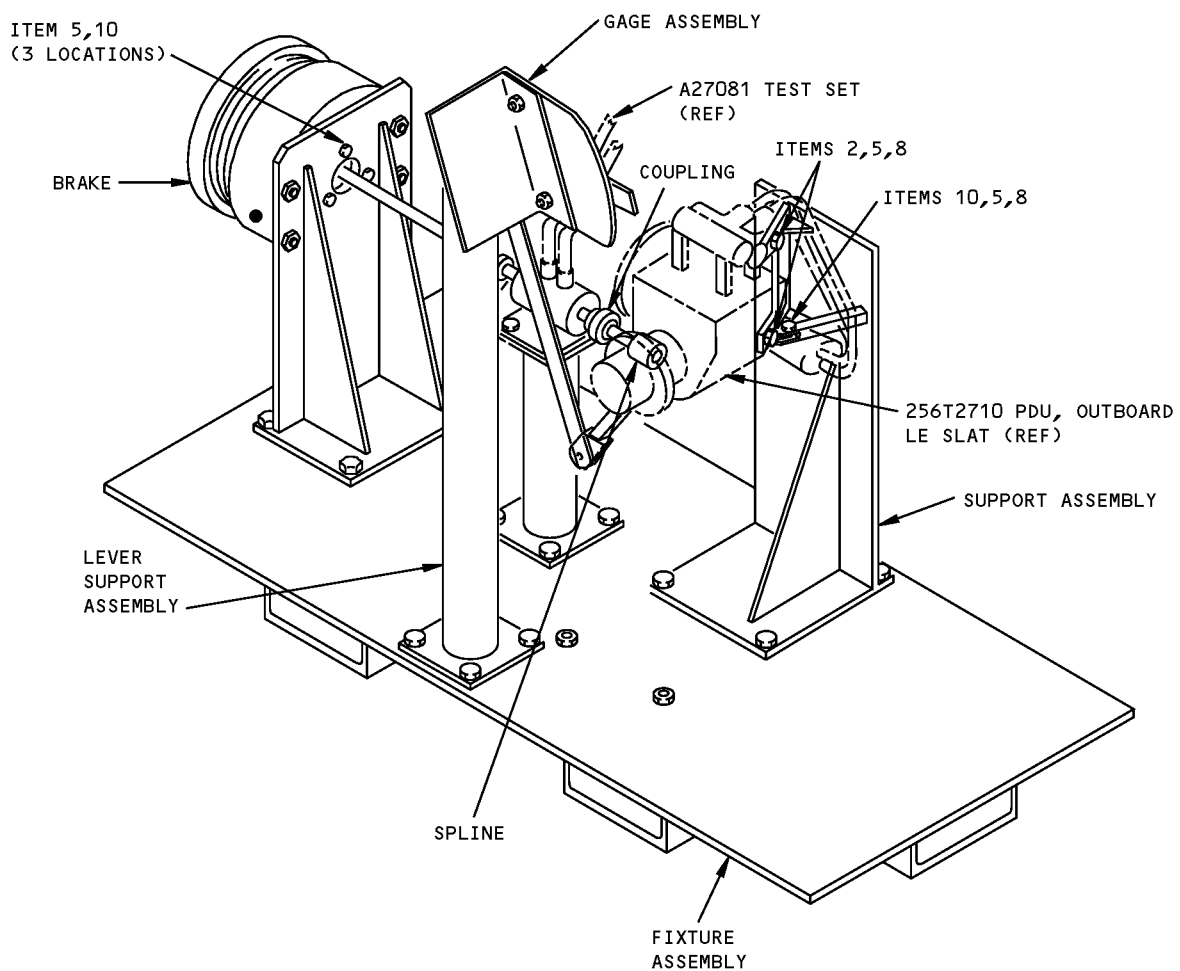
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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A27079-78,-89,-96
INBOARD LEADING EDGE SLAT POWER DRIVE UNIT

Inboard Leading Edge Slat Power Drive Unit Test Equipment - A27079-78, -89, -96
Figure 1

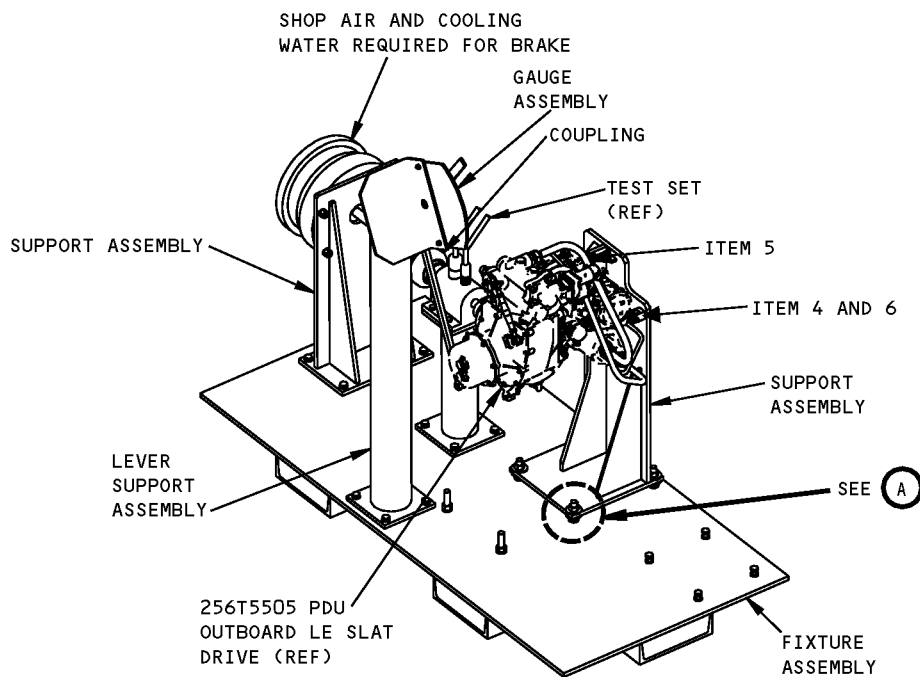
767
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A27079-78, -89
OUTBOARD LEADING EDGE SLAT POWER DRIVE UNIT

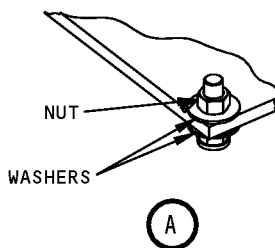
Outboard Leading Edge Slat Power Drive Unit Test Equipment - A27079-78, -89
Figure 2

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



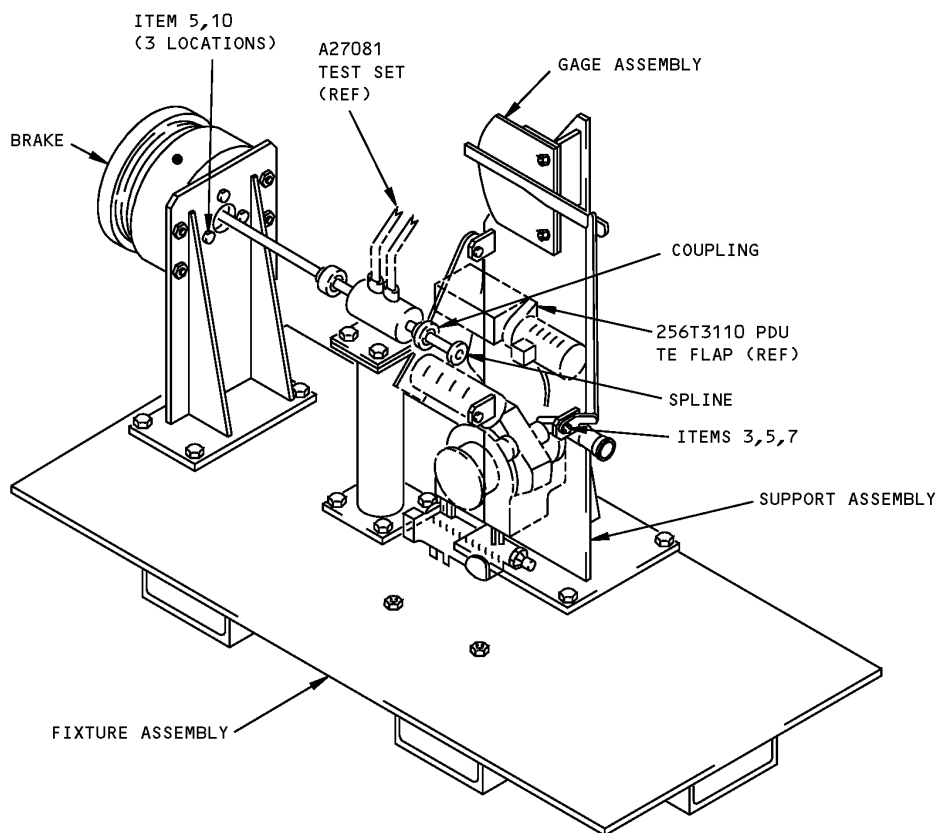
A27079-96

OUTBOARD LEADING EDGE SLAT POWER DRIVE UNIT



Outboard Leading Edge Slat Power Drive Unit Test Equipment - A27079-96
Figure 3

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A27079-78,-96
TE FLAP POWER DRIVE UNIT

TE Flap Power Drive Unit Test Equipment Test Equipment - A27079-78, -96
Figure 4

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | AN4-11A | BOLT | |
| 2 | AN5-12A | BOLT | |
| 3 | AN5-17A | BOLT | |
| 4 | AN960-416 | FLAT WASHER | |
| 5 | AN960-516 | FLAT WASHER | |
| 6 | MS51968-3 | NUT | |
| 7 | MS51968-5 | NUT | |
| 8 | MS51968-6 | NUT | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 9 | AN4-12A | BOLT | |
| 10 | AN5-11A | BOLT | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27071-48, -84, -123

NAME: TEST EQUIPMENT - ROTARY ACTUATOR TRAILING EDGE FLAP

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: The A27071-48 or A27071-84 test equipment is used on 767-200 and -300 airplanes. The A27071-123 test equipment is used on all 767 airplanes. These tools are used in conjunction with the A27081 readout and control equipment to test trailing rotary edge actuators (9.5 diameter, 10.5 diameter, and 10.6 diameter). Refer to CMM 27-51-08, CMM 27-51-10, CMM 27-51-48, CMM 27-51-49, and current A27071 drawing for additional usage instructions. The A27071-48, -84, and -123 tools consists of the following:

| A27071-48 | | |
|-----------|------------------------------------|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | FIXTURE ASSEMBLY (NOT BOXED) | A27071-49 |
| 1 | RING BRACKET ASSEMBLY (10.5) | A27071-3 |
| 1 | RING BRACKET ASSEMBLY (9.5) | A27071-4 |
| 1 | SPLINE ASSEMBLY (4.0 PITCH) (10.5) | A27071-54 |
| 1 | SPLINE ASSEMBLY (3.75 PITCH) (9.5) | A27071-55 |
| 4 | CLAMP | A27071-33 |
| 4 | BOLT | AN8-15 |
| 4 | WASHER | AN960-816 |
| 1 | MACHINE KEY | A27071-75 |
| 1 | STORAGE BOX ASSEMBLY | A27071-7 |

| A27071-84 | | |
|-----------|------------------------------------|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | FIXTURE ASSEMBLY (NOT BOXED) | A27071-85 |
| 1 | RING BRACKET ASSEMBLY (10.5) | A27071-3 |
| 1 | RING BRACKET ASSEMBLY (9.5) | A27071-4 |
| 1 | SPLINE ASSEMBLY (4.0 PITCH) (10.5) | A27071-54 |
| 1 | SPLINE ASSEMBLY (3.75 PITCH) (9.5) | A27071-55 |
| 4 | CLAMP | A27071-33 |
| 4 | BOLT | AN8-15 |
| 4 | WASHER | AN960-816 |
| 1 | MACHINE KEY | A27071-75 |



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| A27071-84 | | |
|-----------|----------------------|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | STORAGE BOX ASSEMBLY | A27071-86 |

| A27071-123 | | |
|------------|------------------------------------|--------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | FIXTURE ASSEMBLY (NOT BOXED) | A27071-85 |
| 1 | RING BRACKET ASSEMBLY (10.5) | A27071-3 |
| 1 | RING BRACKET ASSEMBLY (9.5) | A27071-4 |
| 1 | SPLINE ASSEMBLY (4.0 PITCH) (10.5) | A27071-54 |
| 1 | SPLINE ASSEMBLY (3.75 PITCH) (9.5) | A27071-55 |
| 1 | MACHINE KEY | A27071-75 |
| 1 | FIXTURE ASSEMBLY | A27071-91 |
| 1 | MOUNTING PLATE ASSEMBLY | A27071-92 |
| 1 | MOUNTING PLATE ASSEMBLY | A27071-93 |
| 1 | RING BRACKET ASSEMBLY | A27071-94 |
| 1 | RING BRACKET ASSEMBLY | A27071-95 |
| 1 | INPUT ADAPTER ASSEMBLY | A27071-96 |
| 4 | CLAMP | A27071-33 |
| 4 | CAP SCREW | NAS1352-8-24 |
| 1 | OUTPUT ADAPTER | A27071-97 |
| 1 | OUTPUT ADAPTER | A27071-98 |
| 4 | BOLT | AN8-15 |
| 4 | WASHER | AN960-816 |
| 1 | STORAGE BOX ASSEMBLY | A27071-124 |

WEIGHT:

A27071-48 and A27071-84 - 200 lbs (91 kg)

A27071-123 - 610 lbs (277 kg)

DIMENSIONS:

A27071-48 - 20 x 20 x 64 inches (508 x 508 x 1626 mm)

A27071-84 - 27 x 64 x 69 inches (686 x 1626 x 1753 mm)

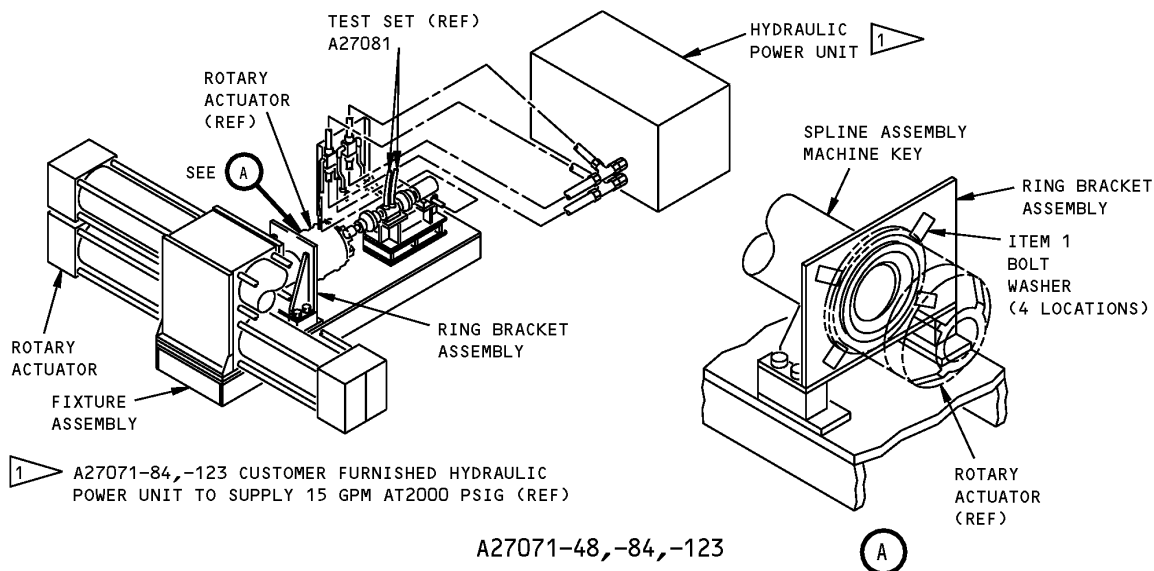
A27071-123 -18 x 24 x 50 inches (457 x 610 x 1270 mm)

NOTE:

A27071-84 replaces A27027-48 for future procurement

A27071-123 supersedes A27027-90 for future procurement

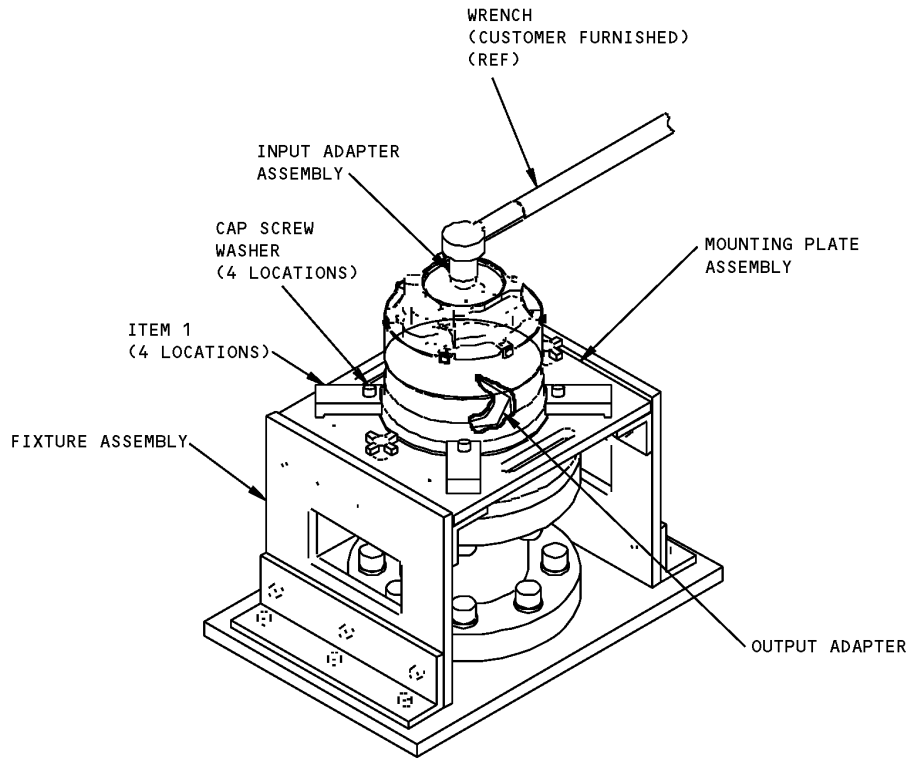
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



**Trailing Edge Flap Rotary Actuator Test Equipment
Figure 1 (Sheet 1 of 2)**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A27071-123

Trailing Edge Flap Rotary Actuator Test Equipment
Figure 1 (Sheet 2 of 2)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | A27071-33 | CLAMP | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27093-1, -27

NAME: TEST EQUIPMENT - TE FLAPS ASYMMETRY FAULT ISOLATION

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

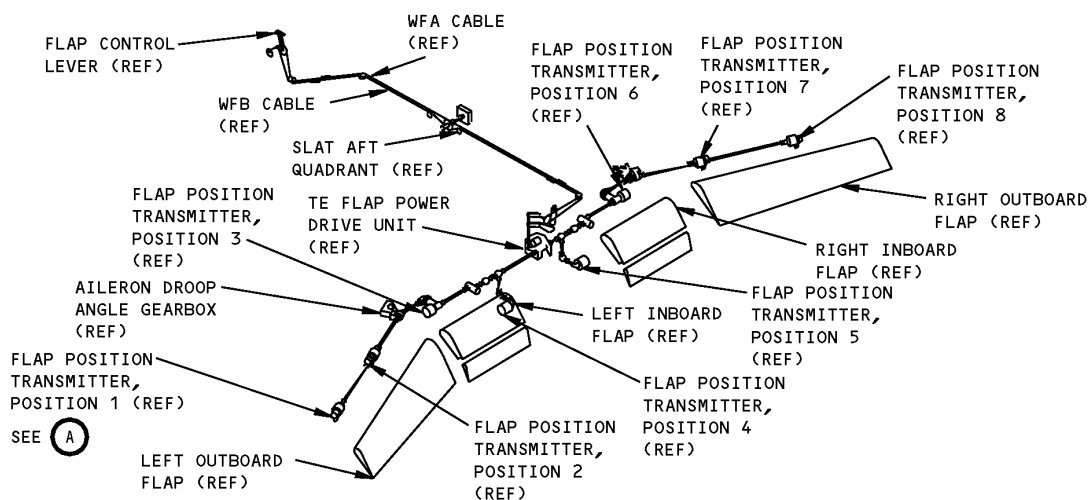
USAGE & DESCRIPTION: The A27093-1 is used on 767-200,-200ER,-300 airplanes with a flap slat electronic unit (FSEU) part number 285T0049-28 or lower dash number. The A27093-1 consists of a -2 test box, a -5 cable assembly and a -6 cable assembly and a storage box. The -2 test box and -5 cable assembly are used to test transmitters 1, 3 or 4. The -2 test box and -6 cable assembly are used to test transmitter 2. The A27093-27 consists of a -34 test box and a -28 cable assembly and storage box. The -34 test box and -28 cable assembly are used to test transmitters 1, 4, 5 and 8. The A27093-27 is used on 767 airplanes with a FSEU part number 285T0049-32 through -53. After 767 airplane line number 798, all 767's (built with FSEU 285T0049-63) incorporate a built-in flap skew detection circuitry and do not require the A27093 test equipment. The A27093-1 and -27 equipment are used during installation of the flap position transmitter and transmitter gearbox. They are also used for fault isolation during trailing edge flap asymmetry problems. Refer to AMM 27-51-00 OR AMM 27-51-45 for complete usage information.

WEIGHT: 3 lbs (1.4 kg)

DIMENSIONS: 12 x 12 x 24 inches (305 x 305 x 610 mm)

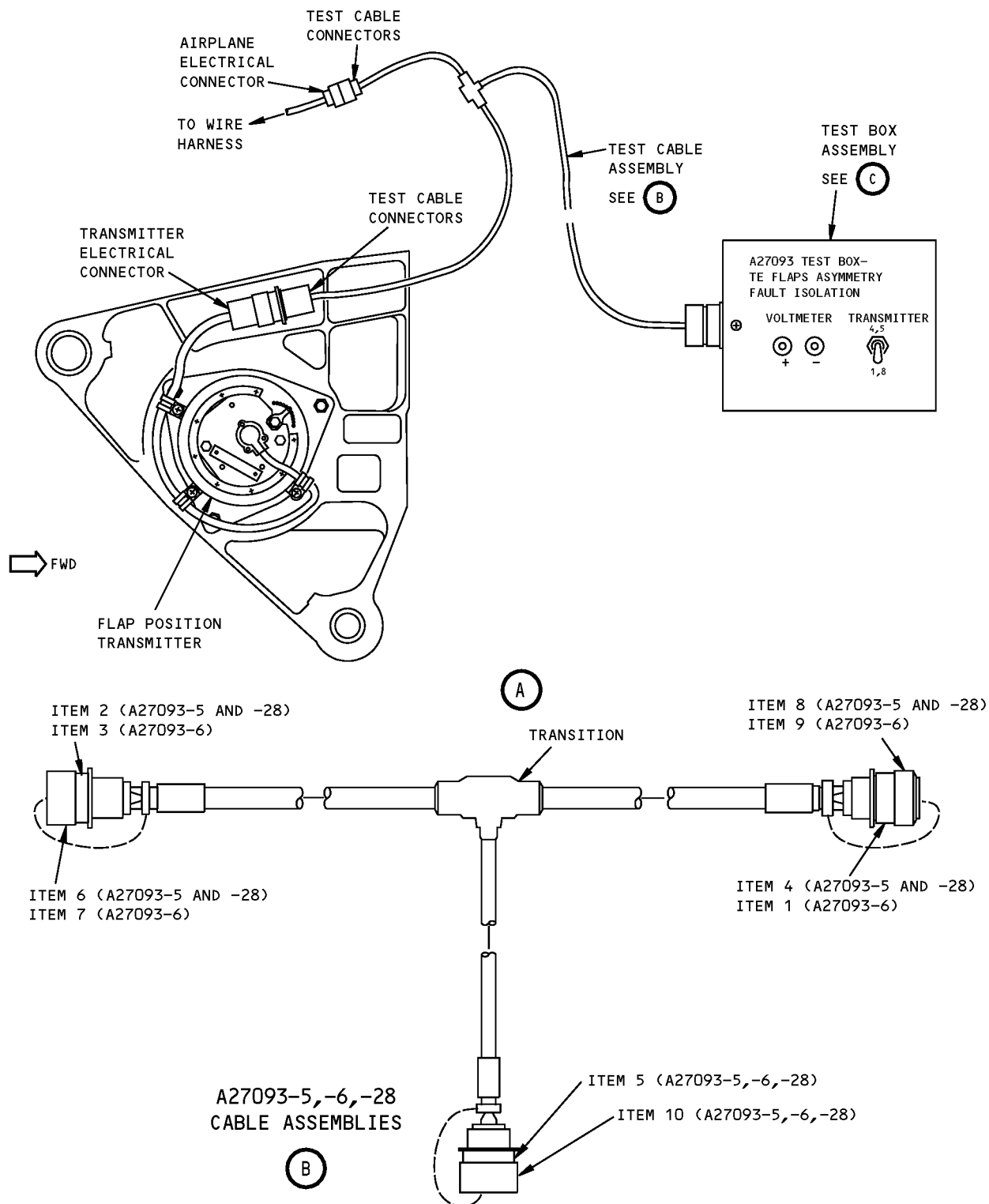
NOTE: A27093-27 supersedes A27093-23.

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



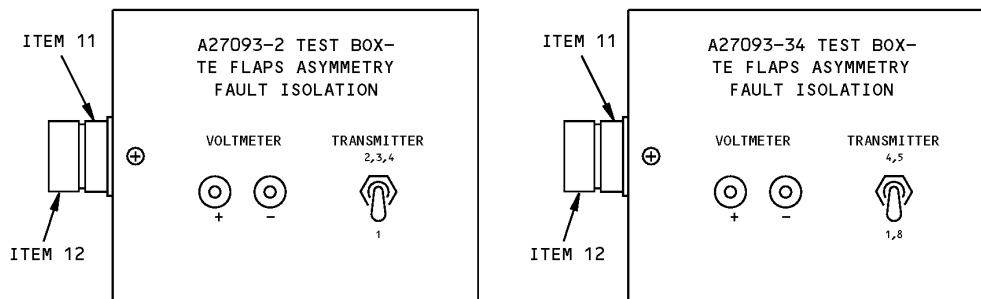
TE Flaps Asymmetry Fault Isolation Test Equipment
Figure 1 (Sheet 1 of 3)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



TE Flaps Asymmetry Fault Isolation Test Equipment
Figure 1 (Sheet 2 of 3)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL


A27093-2 AND -34
TEST BOX ASSEMBLIES

C

TE Flaps Asymmetry Fault Isolation Test Equipment
Figure 1 (Sheet 3 of 3)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------------|------------------------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | M83723/87R147N | CONNECTOR (OPT TO MS24266R14T7PN) | |
| 2 | M83723/82R1814N | CONNECTOR (OPT TO MS24264R18T14SN) | |
| 3 | M83723/82R147N | CONNECTOR (OPT TO MS24264R14T7SN) | |
| 4 | M83723/87R1814N | CONNECTOR (OPT TO MS24266R18T14PN) | |
| 5 | M83723/75R147N | CONNECTOR (OPT TO MS24266R14B7S) | |
| 6 | M83723/60-118AC | CAP | |
| 7 | M83723/60-114AC | CAP | |
| 8 | M83723/59-118AC | CAP | |
| 9 | M83723/59-114AC | CAP | |
| 10 | M83723/59-214AC | CAP | |
| 11 | M83723/72R147N | CONNECTOR (OPT TO MS24264R14B7P) | |
| 12 | M83723/60-214AC | CAP | |

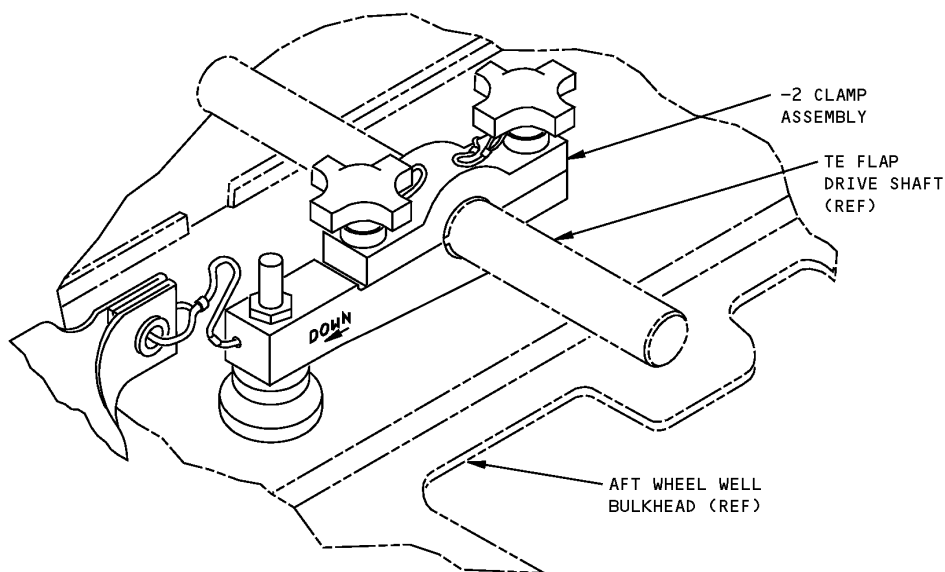
ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27099-1**NAME:** SHAFT CLAMP - TE FLAP DRIVE**AIRPLANE MAINTENANCE:** YES**COMPONENT MAINTENANCE:** NO

USAGE & DESCRIPTION: Clamps to prevent the flap drive shafts from rotating after removal and before installation of the flap power drive unit or the power drive unit gearbox. The shaft clamp consists of 2 -2 clamp assemblies contained in a box assembly.

WEIGHT: 1 lb (0.45 kg) (excluding box)

DIMENSIONS: 2 x 4 x 9 inches (51 x 102 x 229 mm) (excluding box)



**TE Flap Drive Shaft Clamp
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27105-9

NAME: AUXILIARY DETENT - FLAP ADJUSTMENT ASSEMBLY

AIRPLANE MAINTENANCE: YES

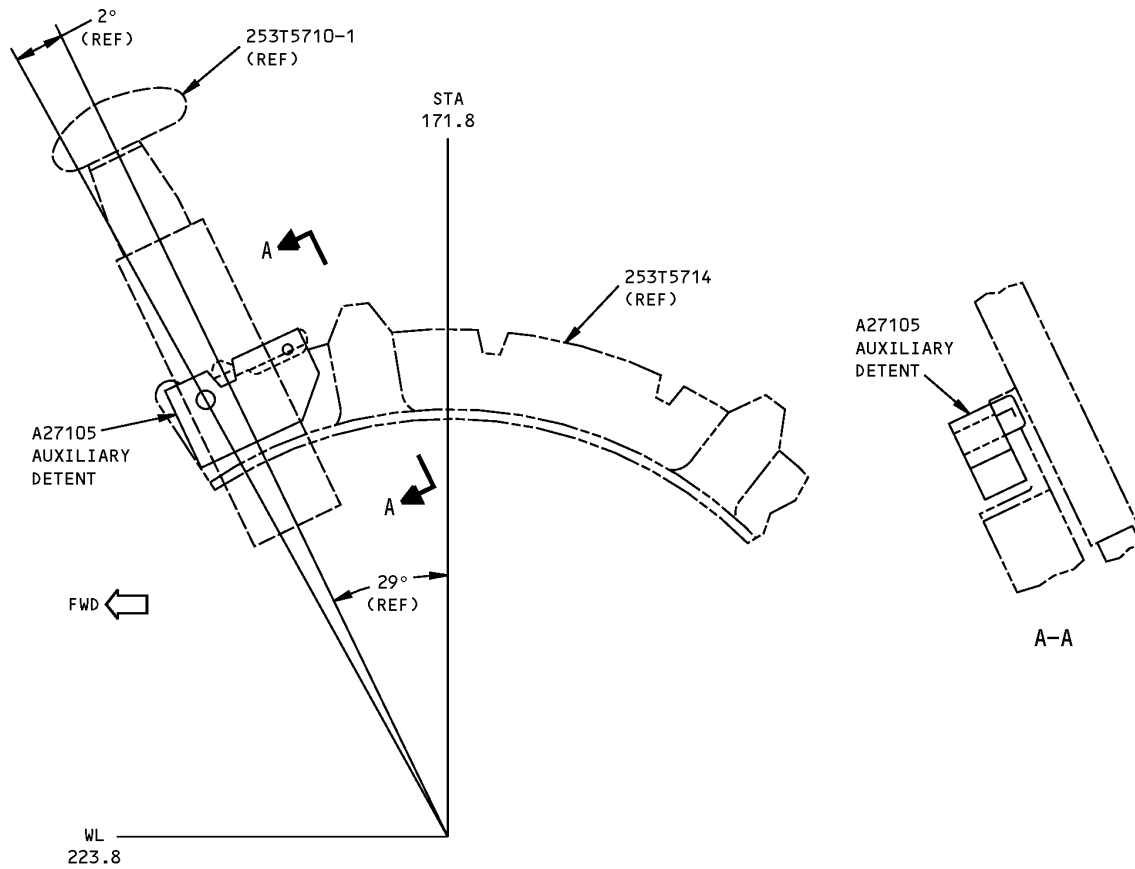
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to set flap control lever at 2° aft of zero detent for adjustment of flap rigging. Refer to Airplane Maintenance Manual 27-51-00 for complete usage instructions. This tool consists of a -10 auxiliary detent assembly and -3 storage box assembly.

WEIGHT: 5 oz (0.14 kg) (excluding box)

DIMENSIONS: .75 x .75 x 1.56 inches (19 x 19 x 40 mm)

NOTE: A27105-9 supersedes A27105-6
A27105-6 supersedes A27105-1



**Flap Adjustment Assembly Auxiliary Detent
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27107-1

NAME: DUMMY LINK SET - FLAP LOAD RELIEF ACTUATOR

AIRPLANE MAINTENANCE: YES

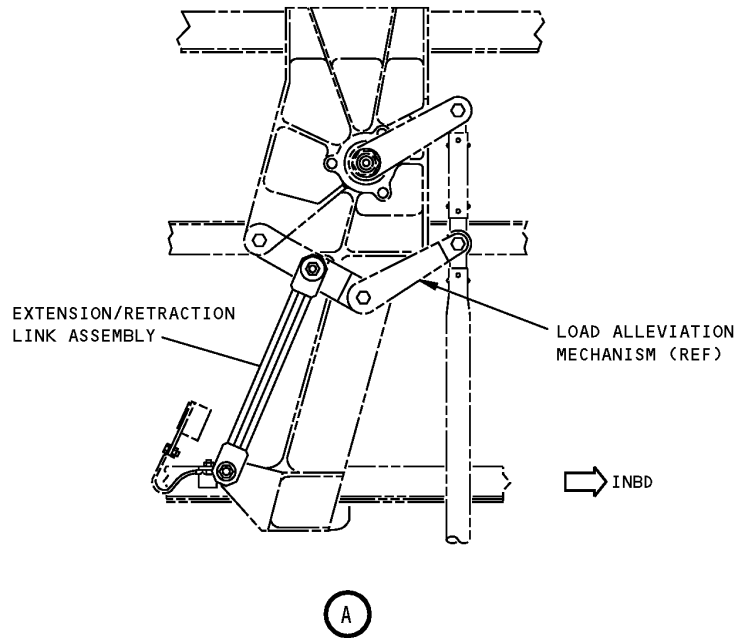
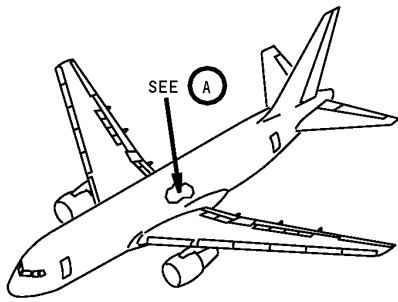
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to replace inoperable T.E. flap load relief actuator. This tool is comprised of an extension and retraction link assemblies and a storage box assembly.

WEIGHT: 1 lb (0.45 kg)

DIMENSIONS: .75 x 2.5 x 11.1 inches (19 x 63 x 282 mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Flap Load Relief Actuator Dummy Link Set
Figure 1

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PART NUMBER: J27054-1

NAME: TEST EQUIPMENT - LEAKAGE TEST

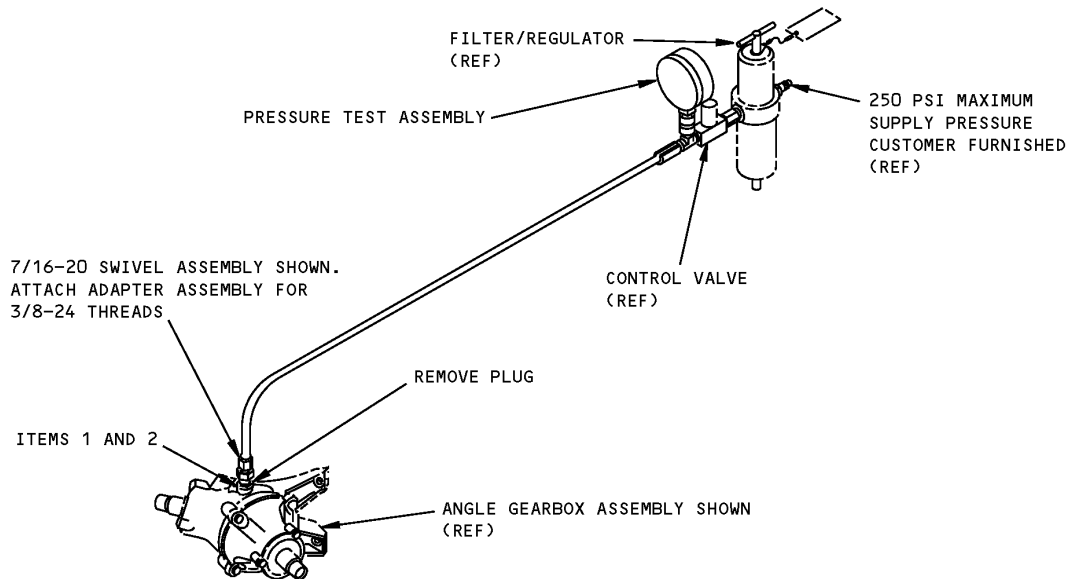
AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is used to test the pressure of actuator transmission gearbox assemblies. Refer to CMM 27-51-48, CMM 27-51-49, CMM 27-81-44 and CMM 27-81-62. This tool is used on 767-200/-300 airplanes line number 758 and on. This tool is also used on 767-400ER. This tool consists of a pressure test assembly, an adapter assembly and a storage box.

WEIGHT: 5 lbs (2.3 kg) (excluding box)

DIMENSIONS: 15 x 19 inches (381 x 483 mm) (excluding box)



**Leakage Test - Test Equipment
Figure 1**

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | NAS1612-3 | PACKING | |
| 2 | NAS1612-4 | PACKING | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27118-90

NAME: LOCK EQUIPMENT - INBOARD AND OUTBOARD TE, FLAP LINKAGE

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to lock the inboard and outboard flaps during flap drive linkage removal or other maintenance operations. Refer to AMM 27-51-02, AMM 27-51-04, AMM 27-51-21 and current A27118 drawing for further usage instructions. This tool is used on the 767-400 airplanes line number 758 and on. This tool consists of the following:

| QUANTITY | NOMENCLATURE | PART NUMBER |
|----------|-------------------------|---------------------------|
| 1 | INBOARD BLOCK ASSEMBLY | A27118-6 |
| 1 | OUTBOARD BLOCK ASSEMBLY | A27118-92 |
| 1 | OUTBOARD BLOCK ASSEMBLY | A27118-93 |
| 1 | INBOARD BLOCK ASSEMBLY | A27118-94 |
| 1 | INBOARD BLOCK ASSEMBLY | A27118-100 |
| 1 | OUTBOARD BLOCK ASSEMBLY | A27118-95 |
| 1 | END ASSEMBLY | A27118-96 |
| 1 | END ASSEMBLY | A27118-97 |
| 2 | BOLT | A27118-53 ^{*[1]} |
| 2 | WASHER | A27118-60 ^{*[1]} |
| 2 | TOP PLATE ASSEMBLY | A27118-99 |
| 1 | CLAMP ASSEMBLY | A27118-72 |
| 1 | ROD ASSEMBLY | A27118-71 |
| 1 | ROD ASSEMBLY | A27118-73 |
| 1 | ROD ASSEMBLY | A27118-74 |
| 1 | ROLLER ASSEMBLY | A27118-77 |
| 1 | CENTER ASSEMBLY | A27118-78 |
| 1 | TURNBUCKLE ASSEMBLY | A27118-52 |
| 1 | ARM ASSEMBLY | A27118-30 |
| 1 | STORAGE BOX | |

^{*[1]} STOW -53 BOLTS AND -60 WASHERS ON -95

WEIGHT: 25 lbs (11.3 kg) (excluding box)

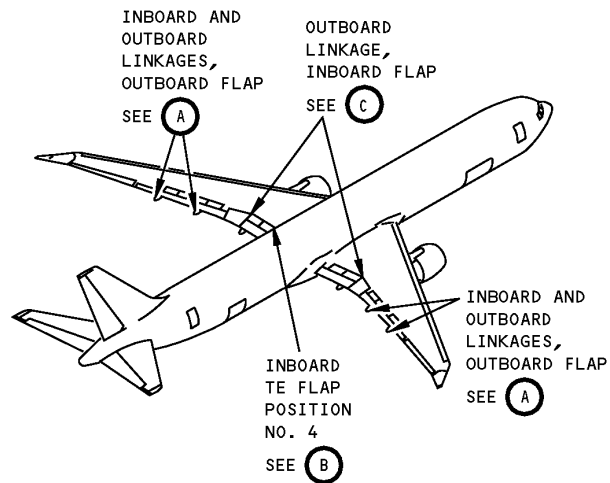


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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

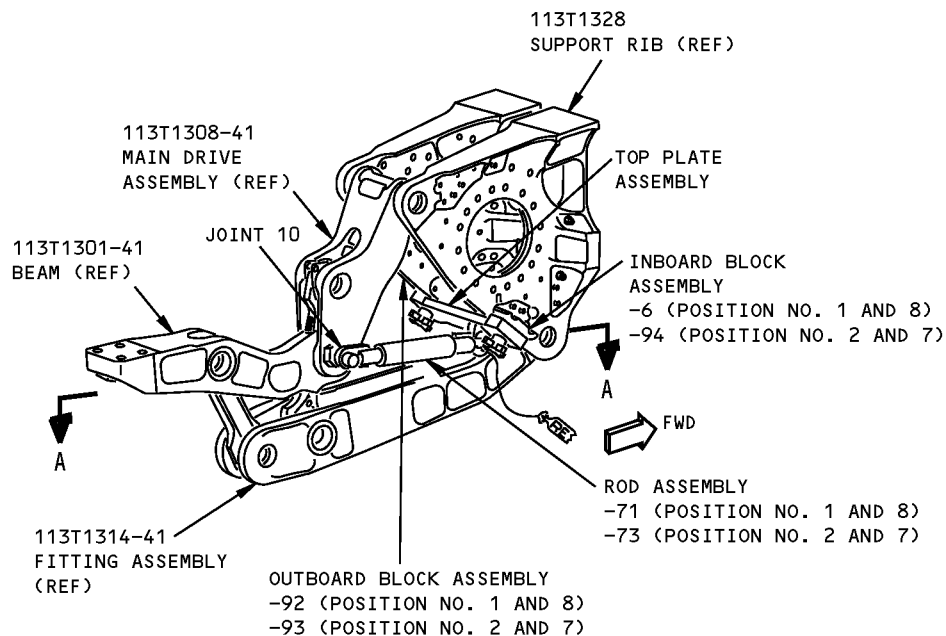
DIMENSIONS: 12 x 20 x 30 inches (305 x 508 x 762 mm) (excluding box)

NOTE: A27118-90 supersedes A27118-1.



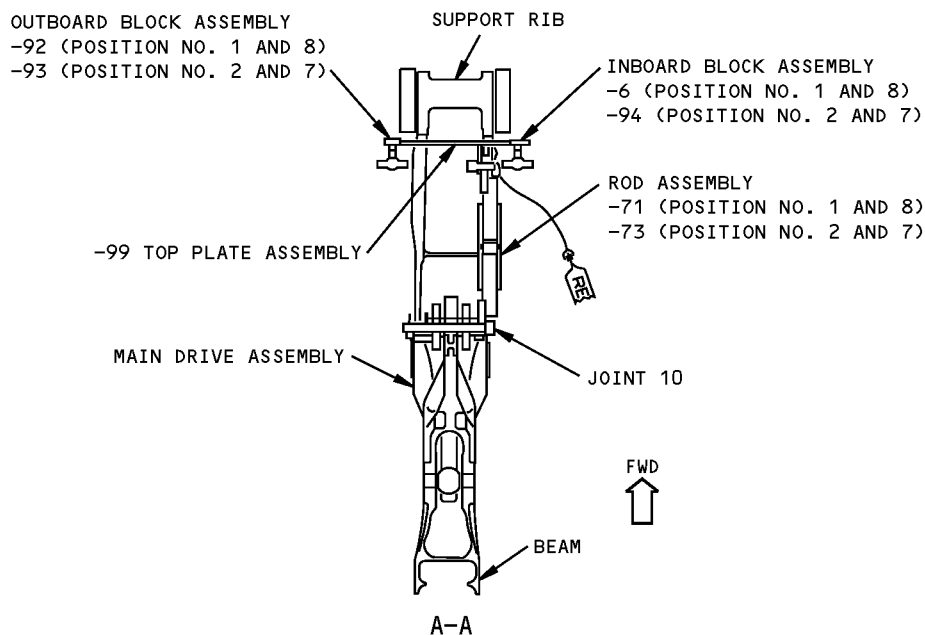
**Flap Linkage Inboard and Outboard Trailing Edge Lock Equipment
Figure 1 (Sheet 1 of 4)**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



INBOARD AND OUTBOARD LINKAGE - OUTBOARD FLAP

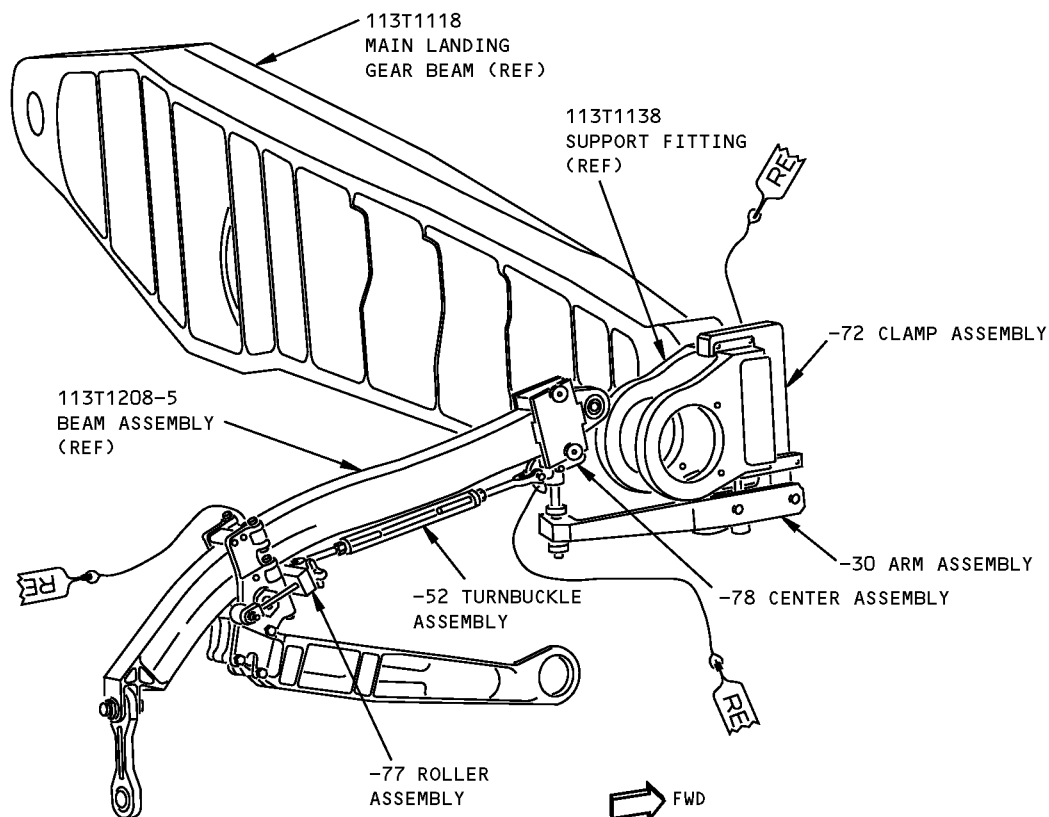
(A)



POSITION NO. 1 AND 8 AND,
POSITION NO. 2 AND 7 SHOWN

Flap Linkage Inboard and Outboard Trailing Edge Lock Equipment
Figure 1 (Sheet 2 of 4)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

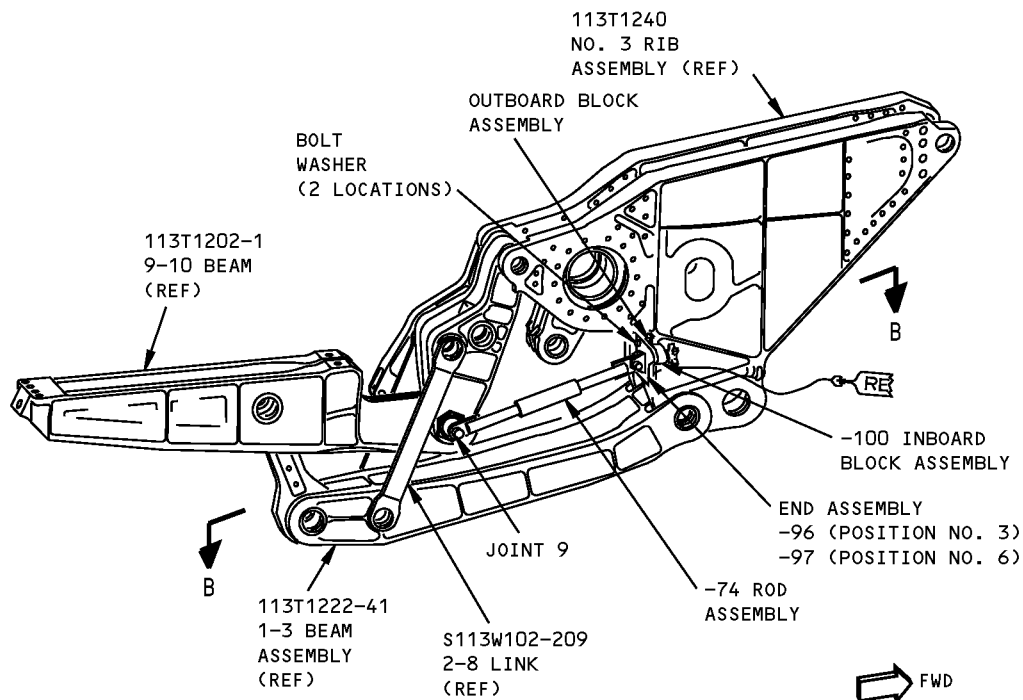


INBOARD TE FLAP
POSITION NO. 4 SHOWN

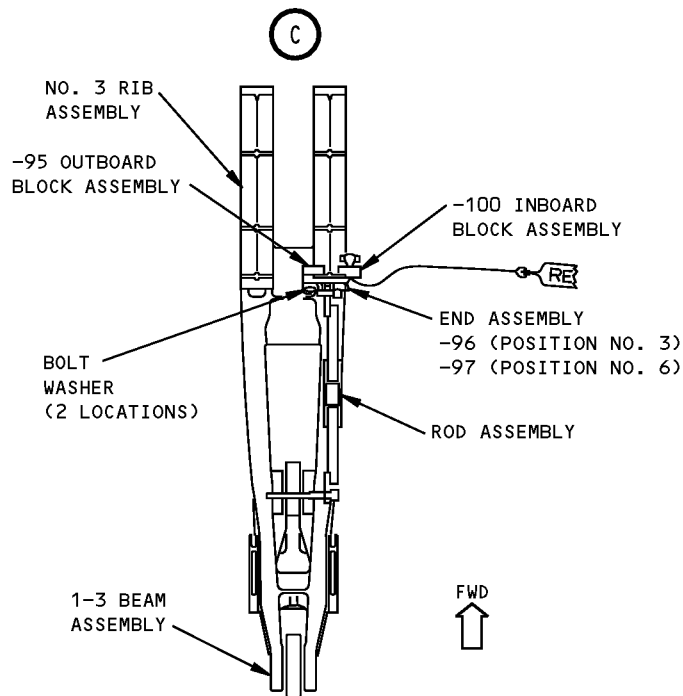
(B)

Flap Linkage Inboard and Outboard Trailing Edge Lock Equipment
Figure 1 (Sheet 3 of 4)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



OUTBOARD LINKAGE - INBOARD FLAP



B-B
POSITION NO. 3 AND 6 SHOWN

Flap Linkage Inboard and Outboard Trailing Edge Lock Equipment
Figure 1 (Sheet 4 of 4)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27120-43

NAME: ASSEMBLY/DISASSEMBLY EQUIPMENT - ROTARY ACTUATOR TRAILING
EDGE FLAP

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is used to aid in assembling and disassembling the trailing edge flap rotary actuator. Refer to CMM 27-51-48 and CMM 27-51-49 for further usage instructions. This tool is used on 767-400 airplanes. This tool consists of the following:

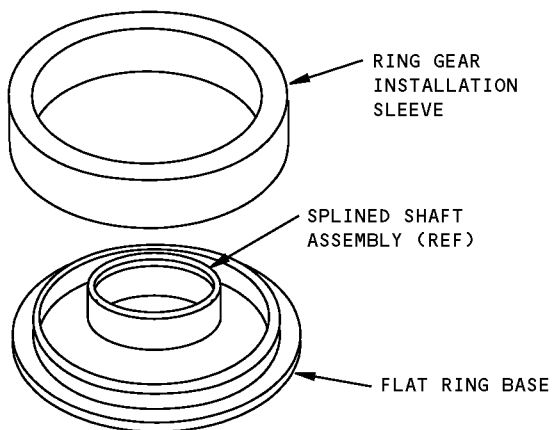
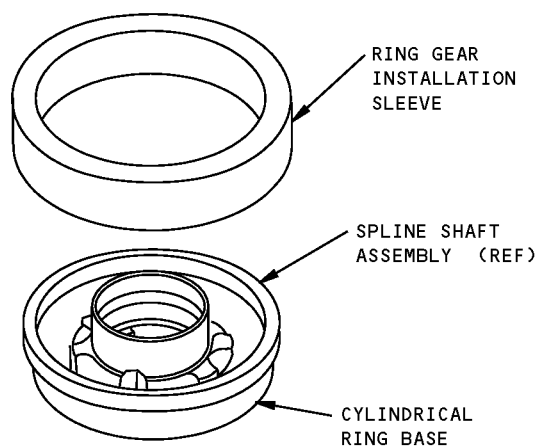
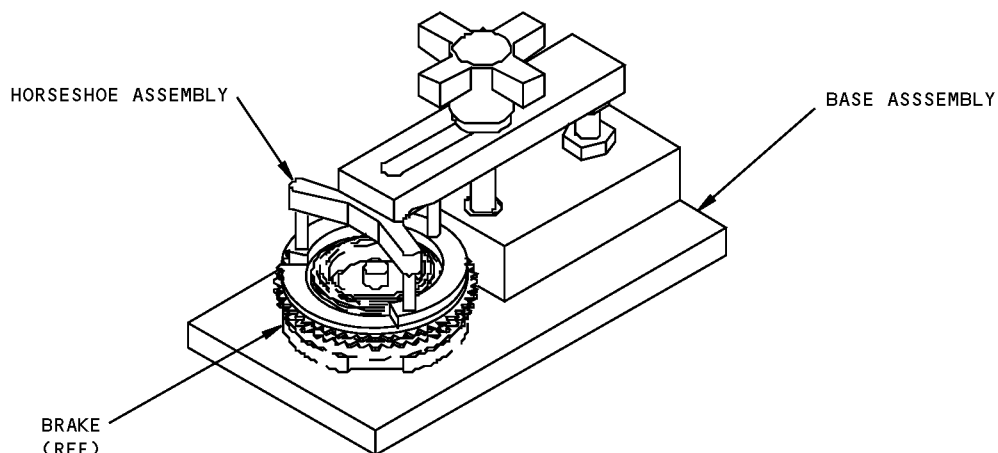
| QUANTITY | NOMENCLATURE | PART NUMBER |
|----------|---------------------------------|-------------|
| 1 | BACN SOCKET | A27120-2 |
| 1 | PLANET GEAR COVER ASSEMBLY 9.5 | A27120-3 |
| 1 | PLANET GEAR BASE ASSEMBLY 9.5 | A27120-4 |
| 1 | SPRING COMPRESSION CUP | A27120-5 |
| 1 | SPRING COMPRESSION DISC | A27120-6 |
| 1 | IN-SITU SOCKET | A27120-7 |
| 1 | CYLINDRICAL RING BASE 9.5 | A27120-8 |
| 1 | FLAT RING BASE | A27120-9 |
| 1 | CYLINDERICAL RING BASE 10.6 | A27120-10 |
| 3 | RING GEAR INSTALLATION SLEEVE | A27120-11 |
| 1 | PLANET GEAR COVER ASSEMBLY 10.6 | A27120-14 |
| 1 | PLANET GEAR ALIGN ASSEMBLY 10.6 | A27120-15 |
| 3 | GUIDE PIN | A27120-16 |
| 1 | BASE ASSEMBLY | A27120-44 |
| 1 | HORSESHOE ASSEMBLY | A27120-45 |
| 1 | STORAGE BOX ASSEMBLY | A27120-17 |

WEIGHT: 85 lbs (39 kg) (excluding box)

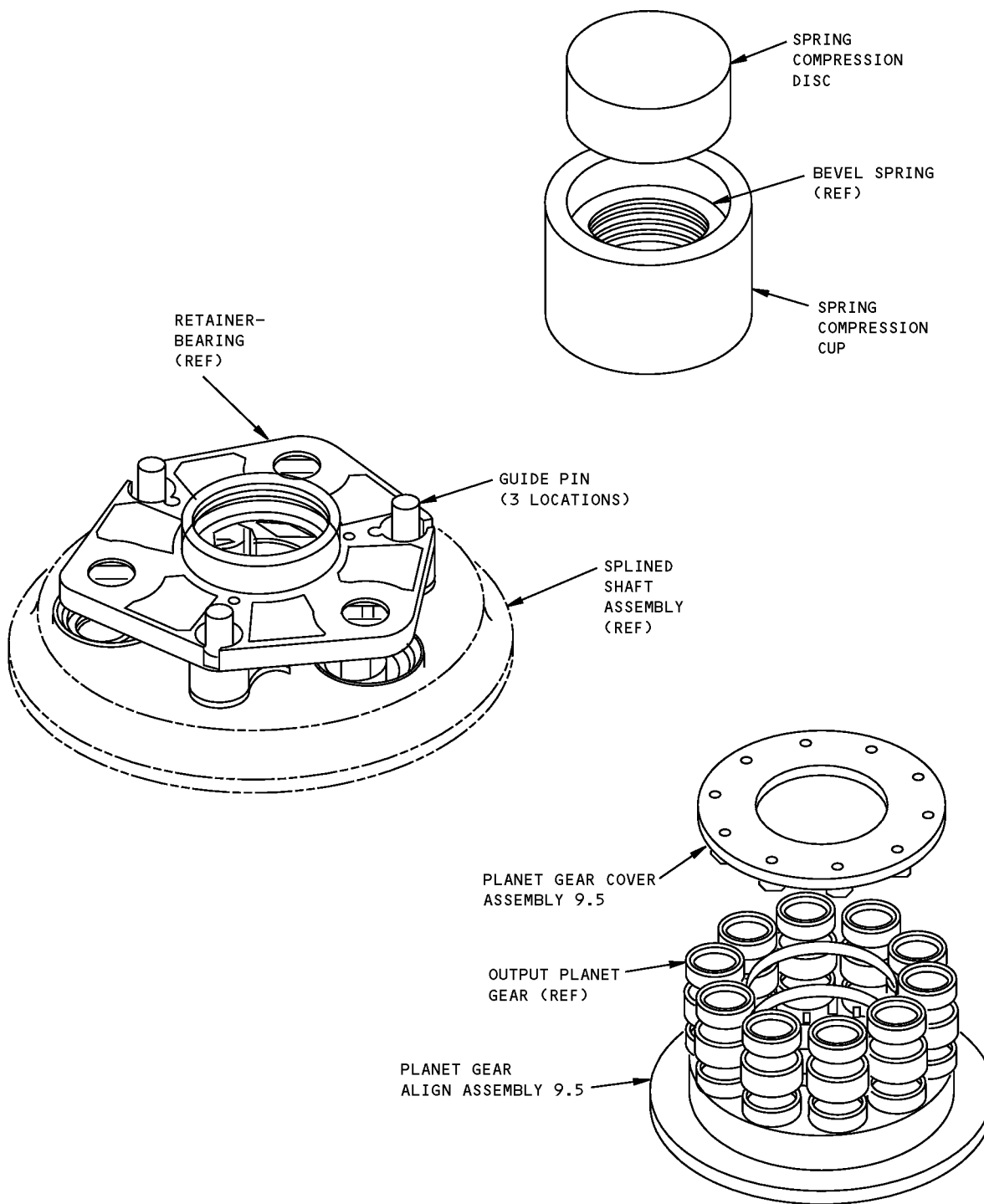
DIMENSIONS: 10 x 75 x 75 inches (254 x 1905 x 1905 mm) (excluding box)

NOTE: A27120-43 supersedes A27120-1.

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

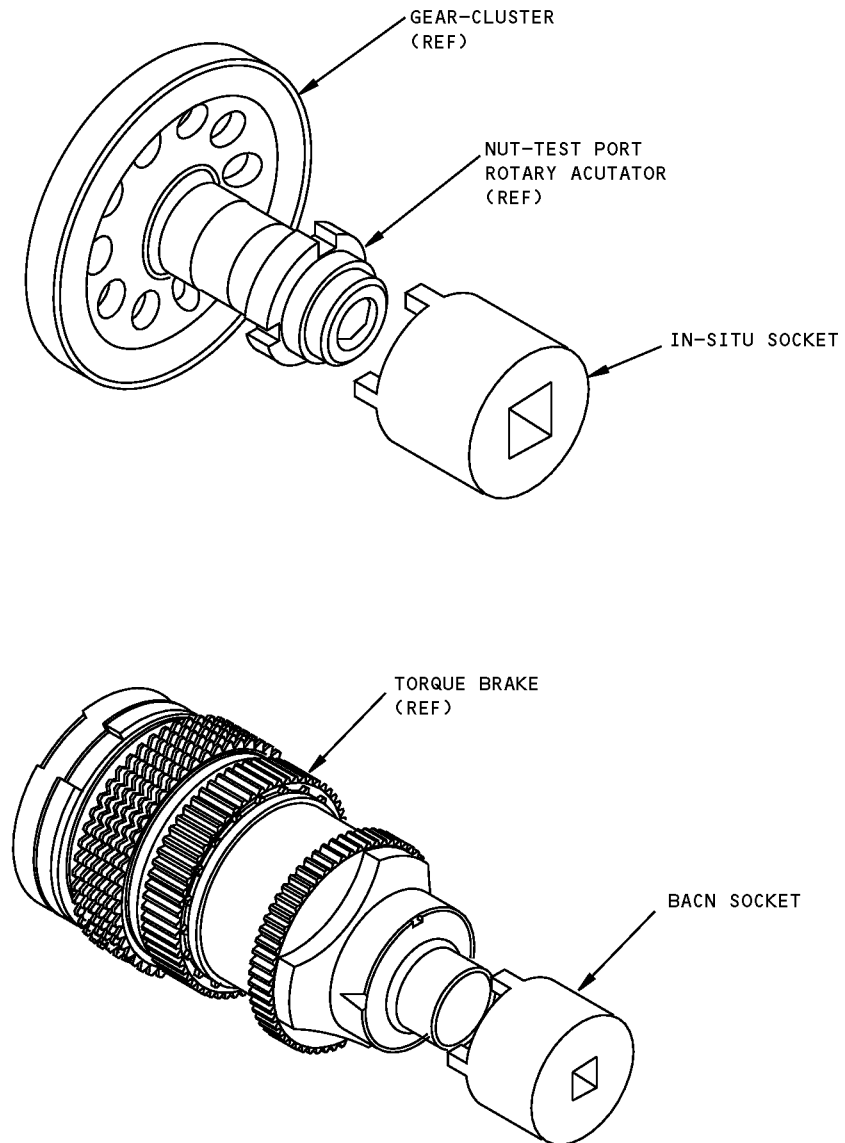


Rotary Actuator Trailing Edge Flap Assembly/Disassembly Equipment
Figure 1 (Sheet 1 of 3)



Rotary Actuator Trailing Edge Flap Assembly/Disassembly Equipment
Figure 1 (Sheet 2 of 3)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Rotary Actuator Trailing Edge Flap Assembly/Disassembly Equipment
Figure 1 (Sheet 3 of 3)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27122-1

NAME: WRENCH EQUIPMENT - BEARING RETAINING NUT, INBOARD FLAP LINKAGE

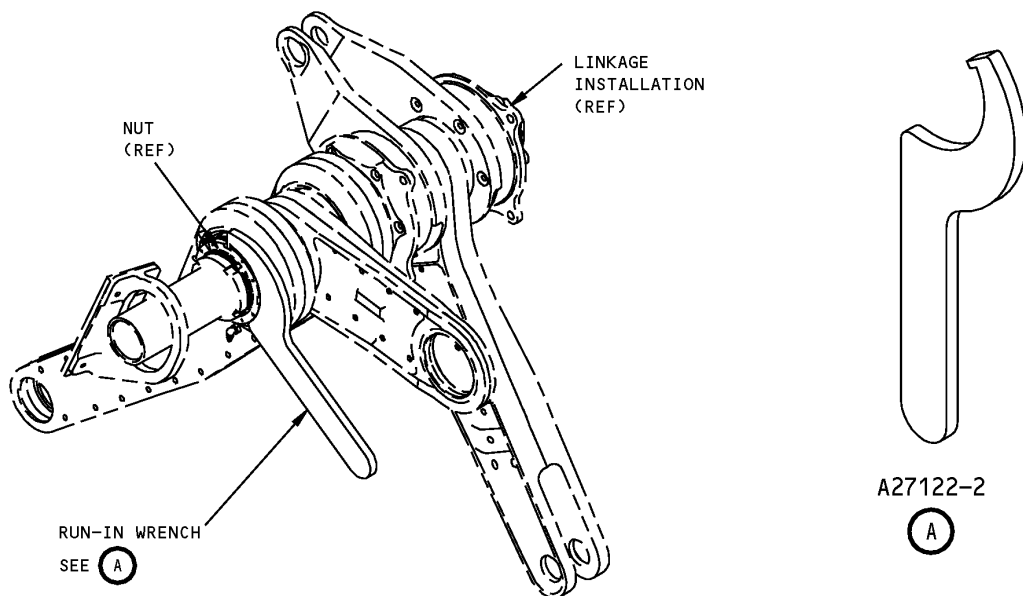
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The wrench equipment is used to remove and install the bearing retaining nut on the inboard trailing edge flap. Refer to AMM 27-51-04 for further usage instructions. The wrench equipment consists of a -2 run-in wrench, a -3 spanner wrench and a storage box assembly.

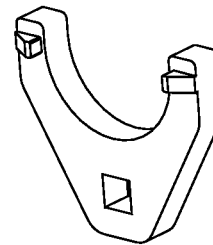
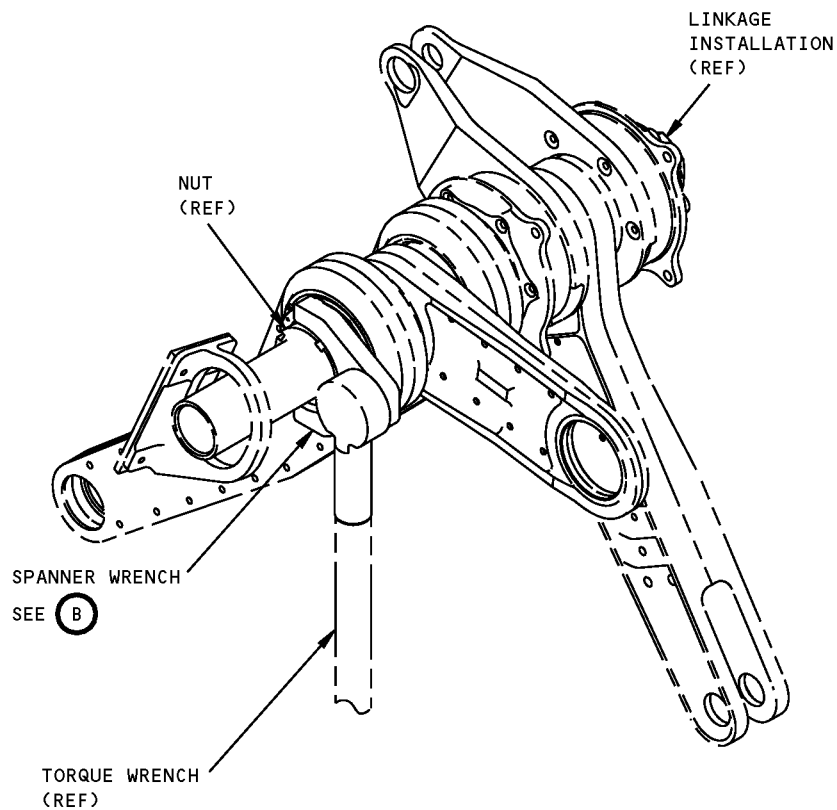
WEIGHT: 5 lbs (2.3 kg) (excluding box)

DIMENSIONS: 5 x 6 x 13 inches (127 x 152 x 330 mm) (excluding box)



**Bearing Retaining Nut Inboard Flap Linkage Wrench Equipment
Figure 1 (Sheet 1 of 2)**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A27122-3

(B)

NOTE: INSTALL TORQUE WRENCH AT 90° TO SPANNER WRENCH OR USE A 3.00 INCH OFFSET.

Bearing Retaining Nut Inboard Flap Linkage Wrench Equipment
Figure 1 (Sheet 2 of 2)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27108-13

NAME: LOCK SET - SPOILER ACTUATOR

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

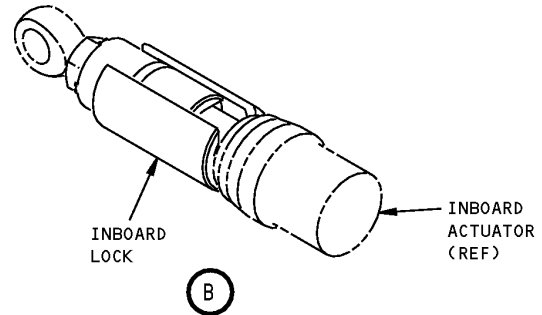
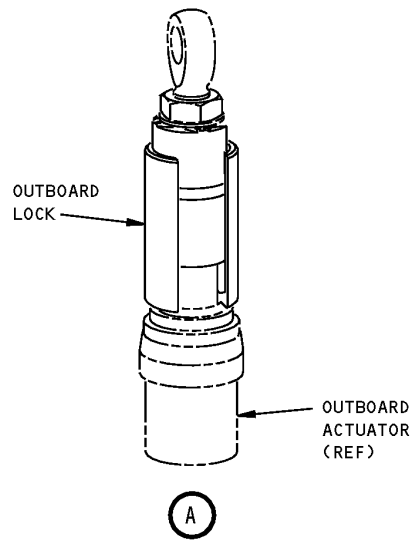
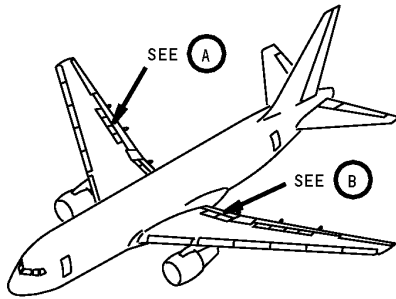
USAGE & DESCRIPTION: This tool is used to hold spoilers open against system pressure during maintenance and/or rigging. One lock set will lock all inboard and outboard spoilers on both wings. Refer to AMM 27-61-00 for complete usage instructions. This tool consists of 4 inboard lock assemblies, 8 outboard lock assemblies and a storage box assembly.

WEIGHT: 27 lbs. (12.2 kg)

DIMENSIONS: 3 x 11 x 14 inches (76 x 279 x 356 mm)

NOTE: A27108-13 supersedes A27108-10.
A27108-10 supersedes A27108-1.
A27108 supersedes A27011.

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Spoiler Actuator Lock Set
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27042-1

NAME: FUNCTIONAL TEST EQUIPMENT - SPOILER ACTUATOR

AIRPLANE MAINTENANCE: NO

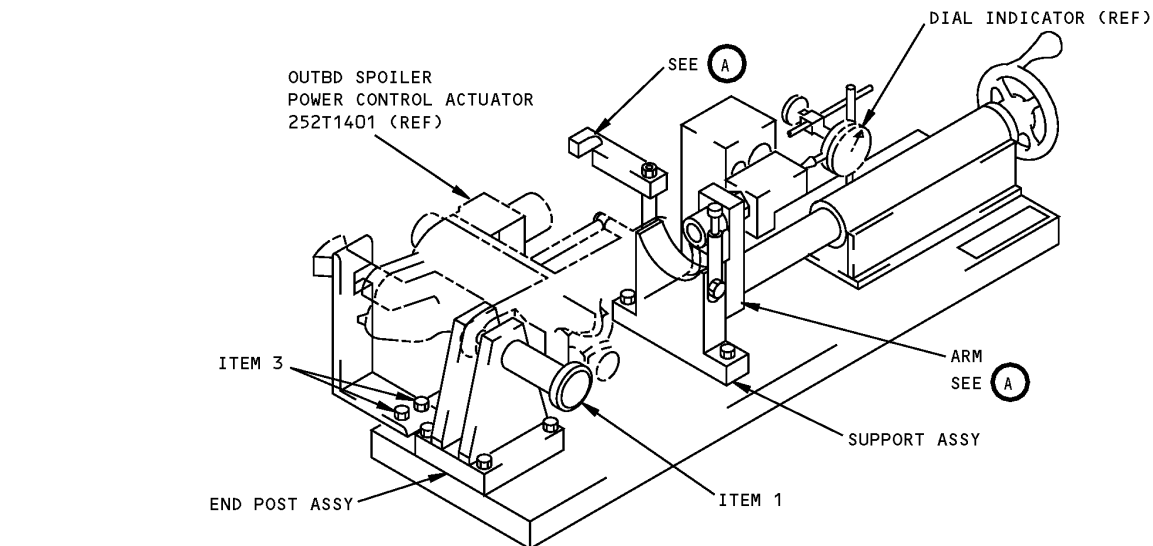
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool consists of a base assembly with locating posts, blocks, and guides. These components secure the inboard and outboard spoiler power control actuators during rigging, buildup, and testing procedures.

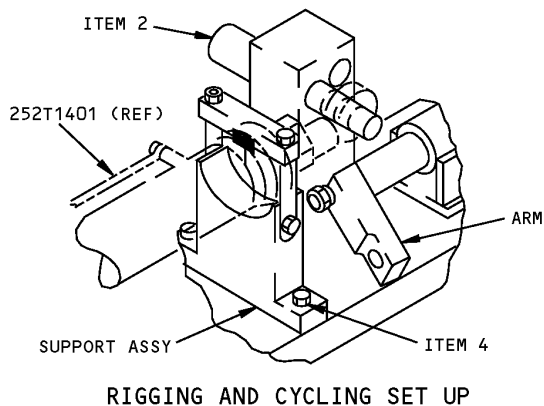
WEIGHT: 90 Lbs (41 kg)

DIMENSIONS: 10 x 12 x 32 inches (254 x 305 x 813 mm)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



OUTBD SPOILER TRANSDUCER NULL ADJUSTMENT SET UP

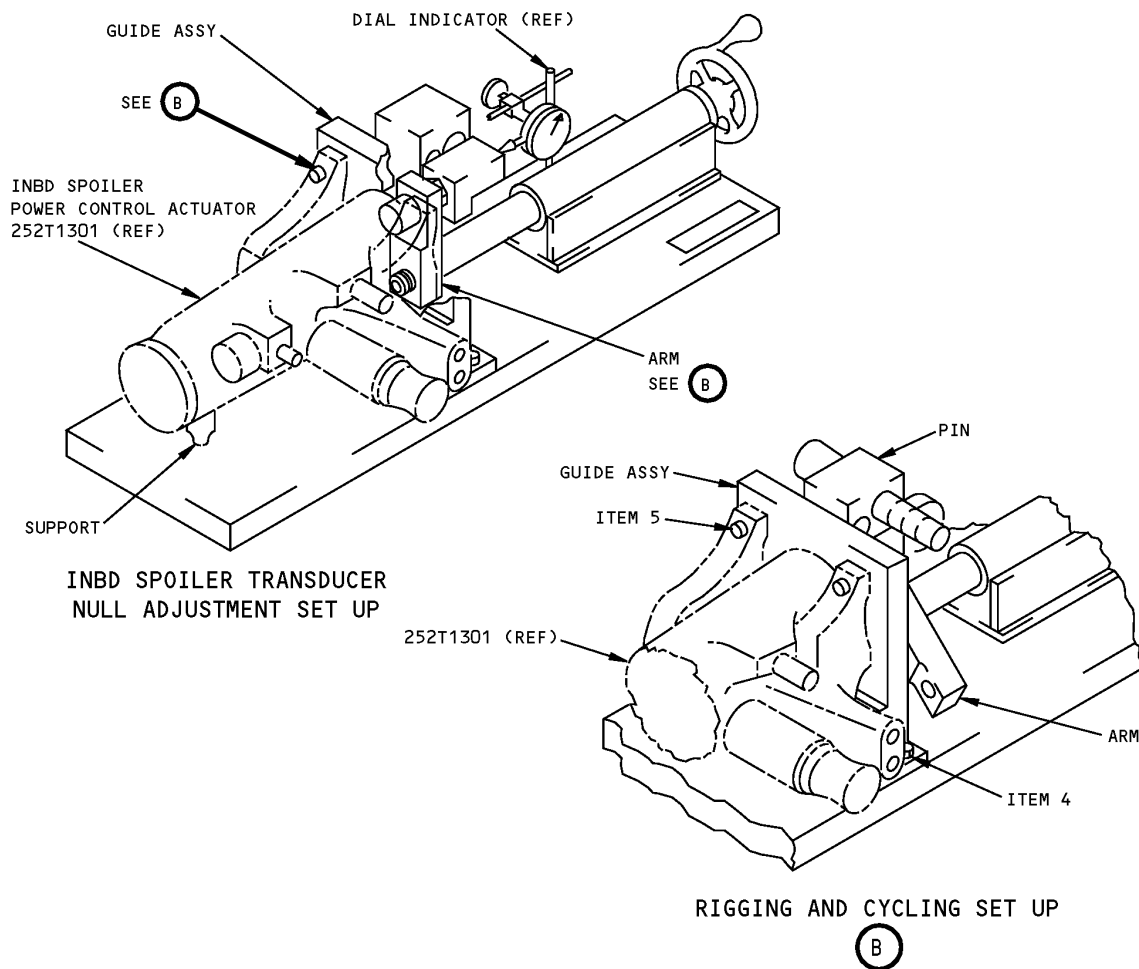


RIGGING AND CYCLING SET UP

(A)

Spoiler Actuator Functional Test Equipment
Figure 1 (Sheet 1 of 2)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Spoiler Actuator Functional Test Equipment
Figure 1 (Sheet 2 of 2)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | -23 | PIN | |
| 2 | -26 | PIN | |
| 3 | MS16997-60 | SCREW | |
| 4 | MS16997-142 | SCREW | |
| 5 | MS35691-29 | NUT | |

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27043-1

NAME: TEST EQPMT FIXTURE - INBD/OUTBD SPOILER ACTUATOR

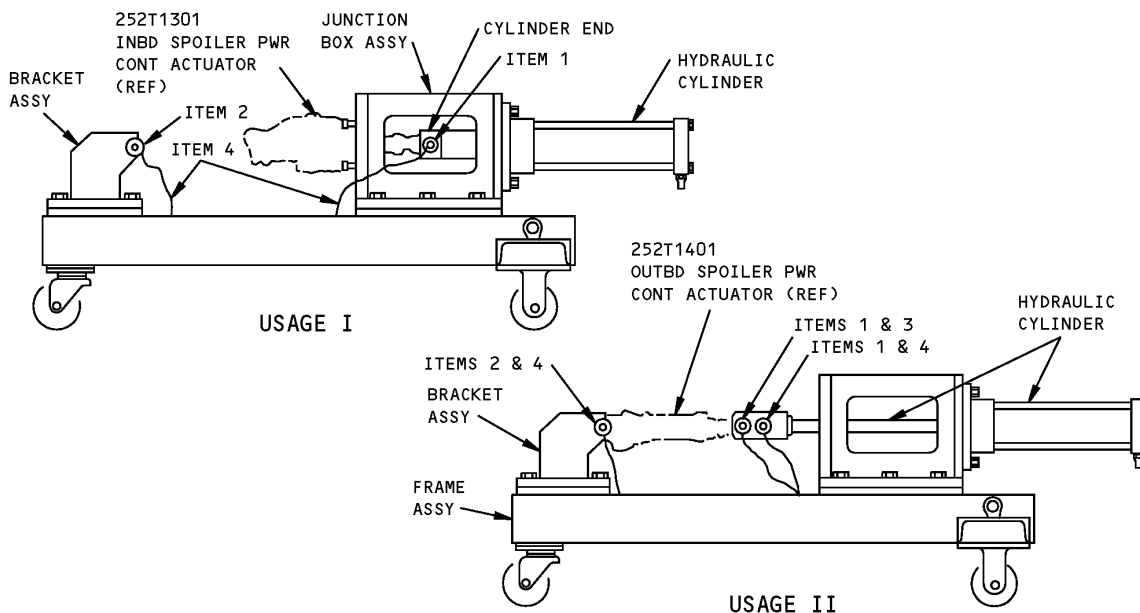
AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool consists of a bracket assembly and junction box. The bracket assembly nests either the inboard or outboard spoiler control actuator. The junction box, with cylinder end, secures the actuator under test to the hydraulic cylinder. The tool is used for leak testing the inboard and outboard spoiler actuator check valves.

WEIGHT: 220 lbs (100 kg)

DIMENSIONS: 20 x 22 x 60 inches (508 x 559 x 1524 mm)



**Inbd/Outbd Spoiler Actuator Test Equipment Fixture
Figure 1**

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|---------------|-------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | NAS1340C3C30D | QUICK-RELEASE PIN | |
| 2 | NAS1341C3C30D | QUICK-RELEASE PIN | |
| 3 | NAS1342C3C30D | QUICK-RELEASE PIN | |

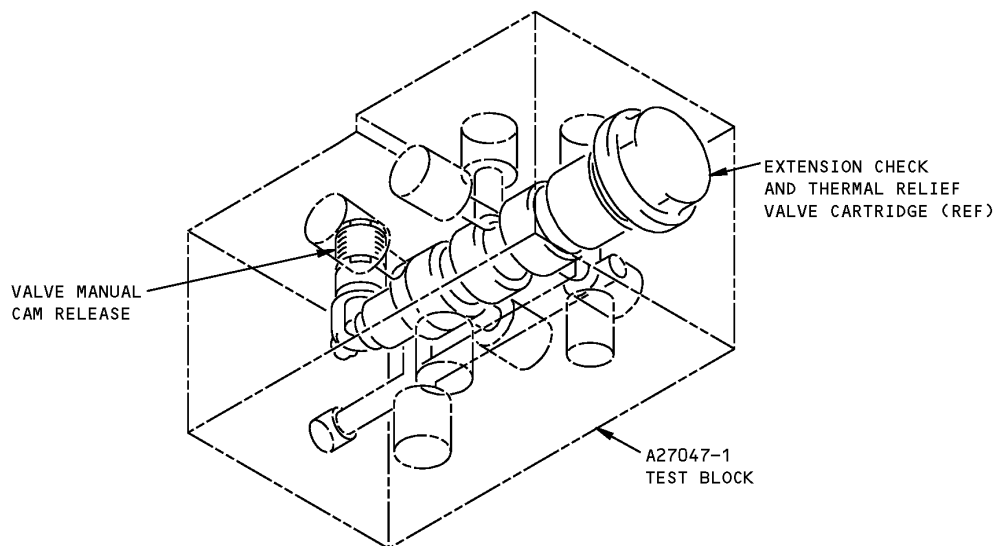


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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

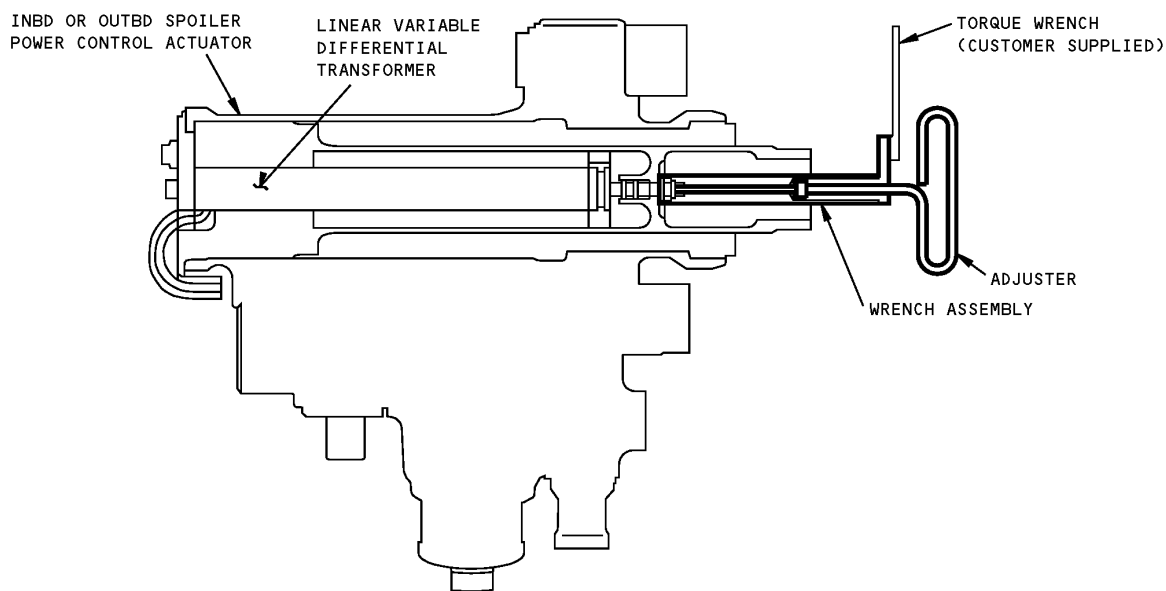
| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------------|----------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 4 | CL-22-KA-12.0L | CABLE ASSEMBLY | V99862 |

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27047-1**NAME:** TEST BLOCK - SPOILER ACTUATOR VALVE CARTRIDGE**AIRPLANE MAINTENANCE:** NO**COMPONENT MAINTENANCE:** YES**USAGE & DESCRIPTION:** This tool is used to test the extension check and thermal relief valve cartridge used on the spoiler power control actuators.**WEIGHT:** 4 lbs (1.8 kg)**DIMENSIONS:** 3 x 3 x 6 inches (76 x 76 x 152 mm)

**Spoiler Actuator Valve Cartridge Test Block
Figure 1**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27075-1**NAME:** WRENCH - SPOILER ACTUATOR ASSEMBLY ADJUSTMENT**AIRPLANE MAINTENANCE:** NO**COMPONENT MAINTENANCE:** YES**USAGE & DESCRIPTION:** This tool is used to perform transducer null adjustments on the linear variable differential transformer (LVDT) within the inboard or outboard spoiler power control actuator.**WEIGHT:** 1 lb (0.45 kg)**DIMENSIONS:** 4 x 4 x 10 inches (102 x 102 x 254 mm)

Spoiler Actuator Assembly Adjustment Wrench
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27087-1

NAME: WRENCH - CONTROL LEVER, SPEED BRAKE

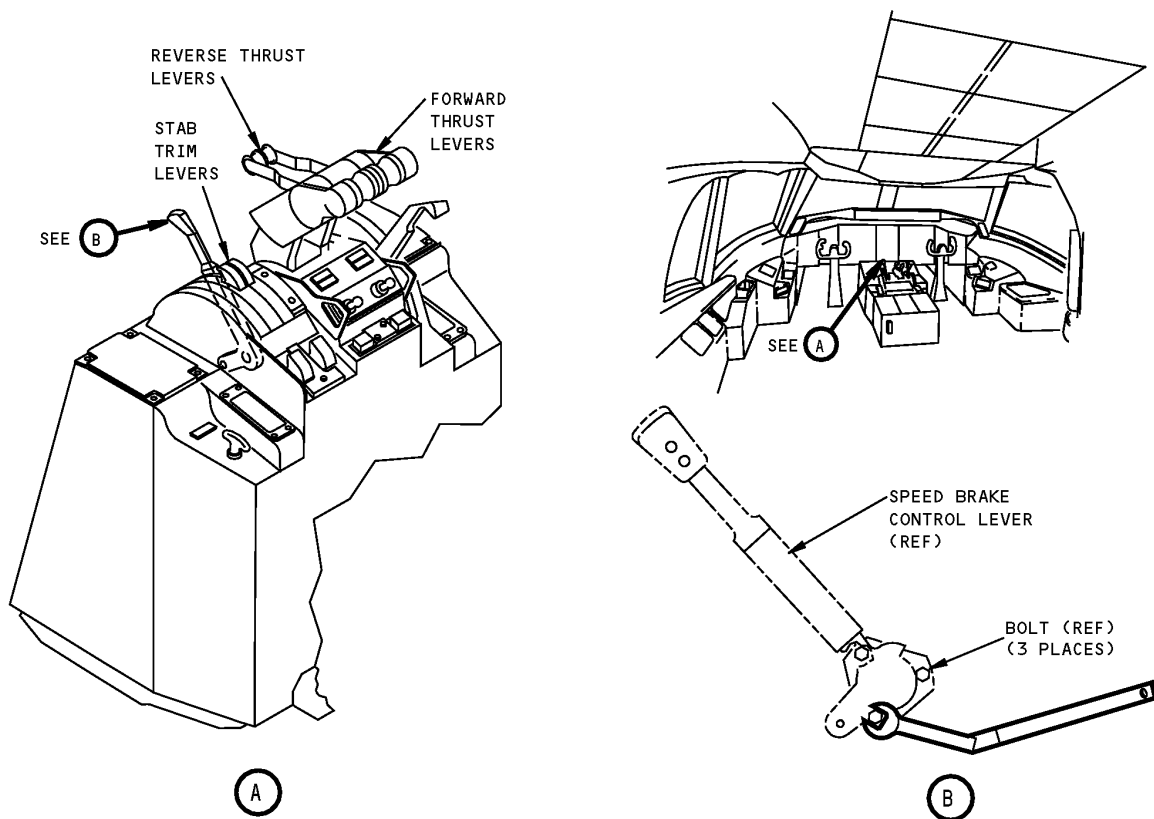
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to remove and install the speed brake control lever. Refer to AMM 27-61-08 for further usage instructions.

WEIGHT: 2 lbs (0.9 kg)

DIMENSIONS: 7 x 3 x 3 inches (178 x 76 x 76 mm)



Speed Brake Control Lever Wrench
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27096-1

NAME: BREAKOUT BOX - SPOILER PANEL POSITION MONITOR AND RELAY CIRCUIT PCA'S

AIRPLANE MAINTENANCE: NO

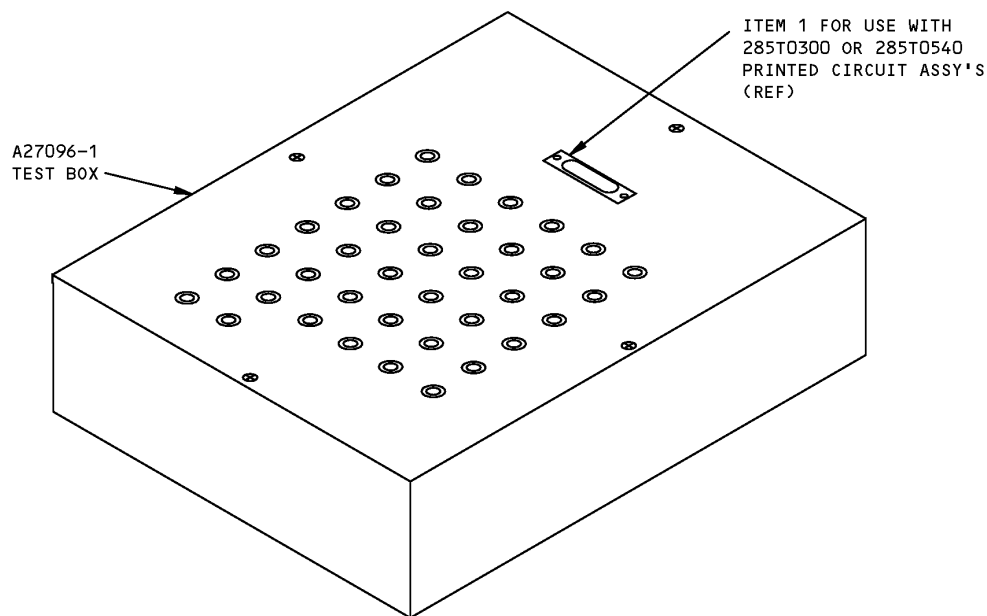
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: The A27096 drawing has been transferred to BAE Systems and will no longer be revised by Boeing. The A27096 inclusion in the 767 ITEM is for information and historical purposes only.

The tool is used to test the spoiler position monitor Printed Circuit Assembly and spoiler relay Printed Circuit Assembly. The test box consists of a -2 chassis assembly, -3 panel, -4 schematic and -5 wire.

WEIGHT: 3 lbs (1.4 kg)

DIMENSIONS: 9 x 7 x 2 inches (229 x 178 x 51 mm)



**Spoiler Panel Position Monitor and Relay Circuit PCA's Breakout Box
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|---------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | MDM-37SSL39-F | CONNECTOR | V08051 |

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27004-1, -2

NAME: HOIST ADAPTER - LEADING EDGE SLAT DRIVE

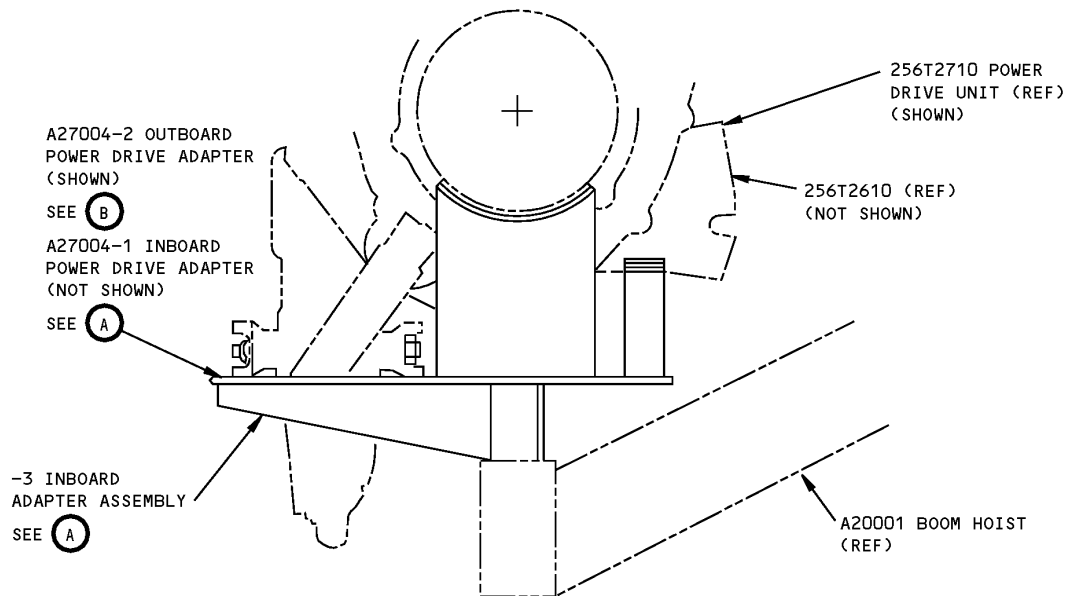
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: These hoist adapters are used in conjunction with the boom hoist A20001 for the removal and installation of both the inboard and outboard power drive units for the leading edge slats. The -1 is used on the inboard power drive unit. The -2 is used on the outboard power drive unit. Refer to AMM 27-81-10 for further usage instructions. The A27004-1 is used on all 767 airplanes. The A27004-2 is used on 767-200 and 767-300 airplanes. These tools are welded structures built up to nest the Power Drive Unit (PDU) components. Neoprene rubber pads absorb vibration and protect the PDU's.

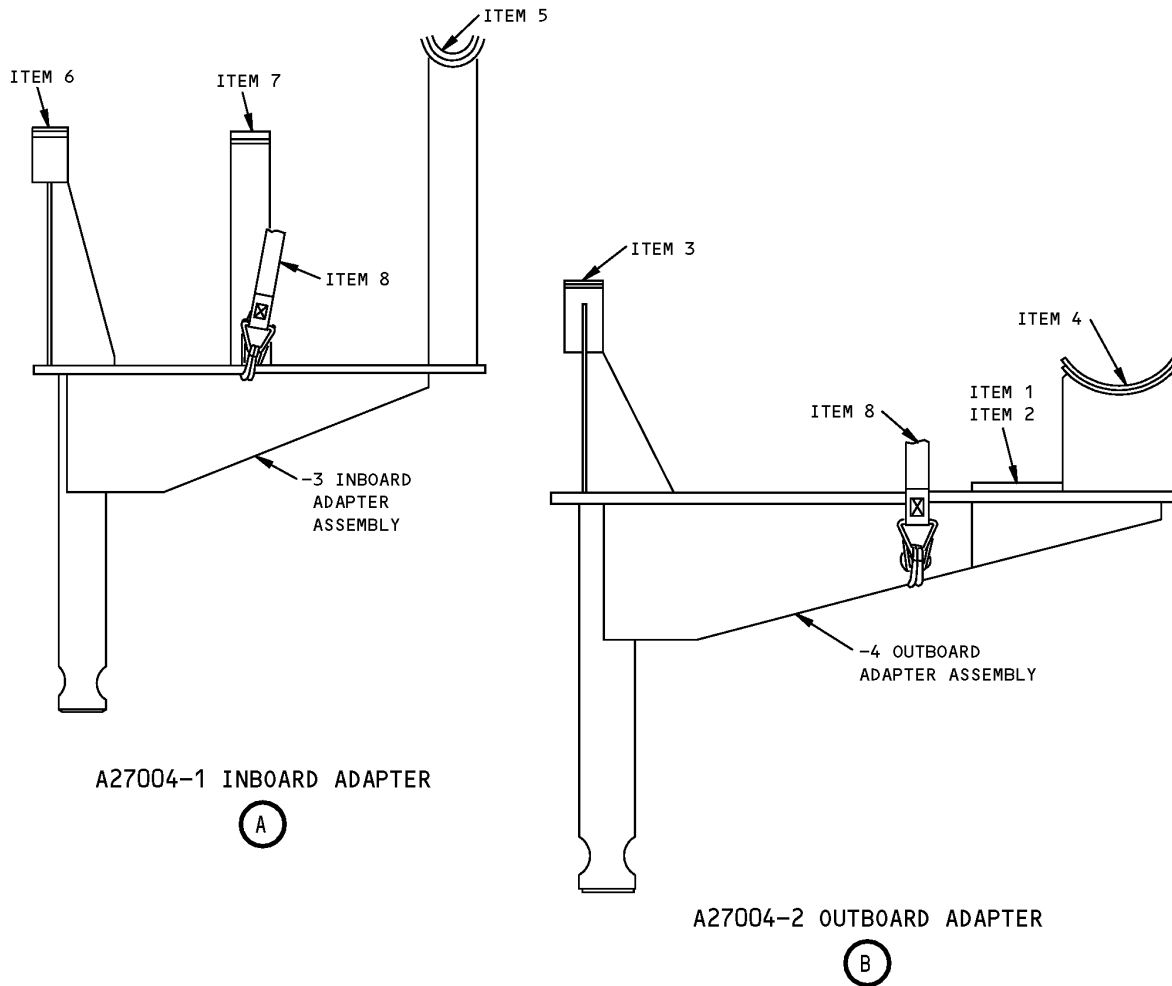
WEIGHT: A27004-1 - 67 lbs (30.4 kg)
A27004-2 - 82 lbs (37.2 kg)

DIMENSIONS: A27004-1 - 13 x 18 x 22 inches (330 x 457 x 559 mm)
A27004-2 - 17 x 17 x 17 inches (432 x 432 x 432 mm)



**Leading Edge Slat Drive Hoist Adapter
Figure 1 (Sheet 1 of 2)**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Leading Edge Slat Drive Hoist Adapter
Figure 1 (Sheet 2 of 2)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-------------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | -16 | RUBBER PAD | |
| 2 | -28 | RUBBER PAD | |
| 3 | -29 | RUBBER PAD | |
| 4 | -30 | RUBBER PAD | |
| 5 | -31 | RUBBER PAD | |
| 6 | -32 | RUBBER PAD | |
| 7 | -33 | RUBBER PAD | |
| 8 | 3101006-L-060-010 | STRAP | V01276 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27007-1

NAME: GROUND LOCK - LEADING EDGE SLATS

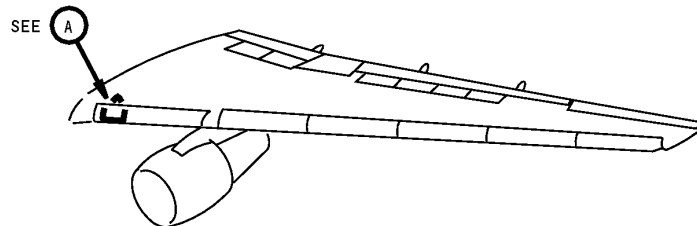
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to lock the inboard and outboard leading edge (LE) slats in position for maintenance operations. Both inboard and outboard slats are simultaneously locked by 2 lock assemblies. The spline fits into the LE slat gearbox assembly and is held in place by a ball lockpin inserted through the boss and the gearbox assembly.

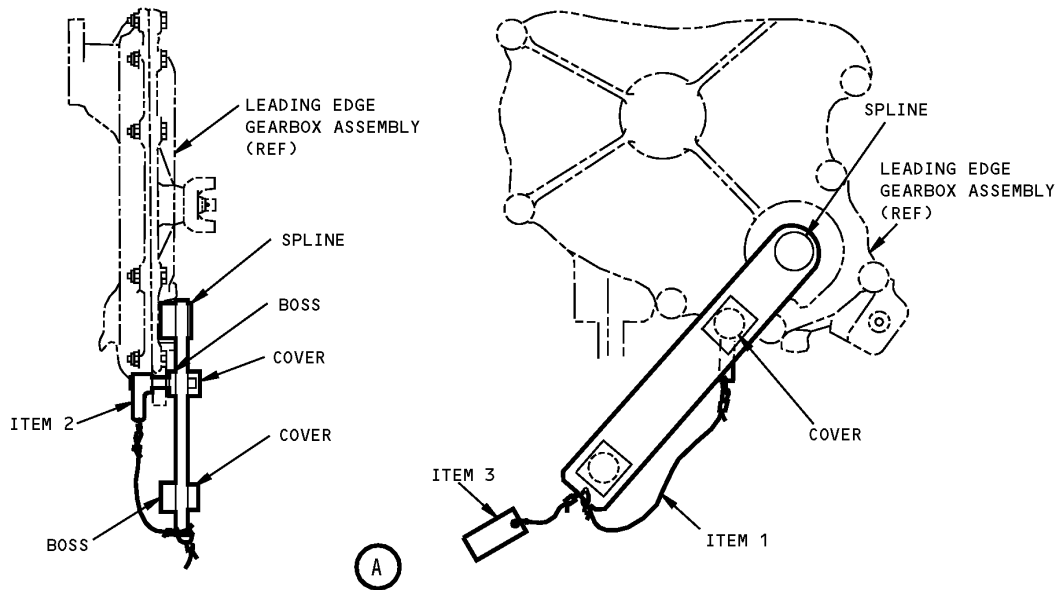
WEIGHT: 4 lbs (1.8 kg)

DIMENSIONS: 6 x 6 x 12 inches (152 x 152 x 305 mm)



**Leading Edge Slats Ground Lock
Figure 1 (Sheet 1 of 2)**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Leading Edge Slats Ground Lock
Figure 1 (Sheet 2 of 2)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------------|------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | CL-21-KA-12.0LR | LANYARD | V99862 |
| 2 | NAS1334C5C15 | BALL LOCKPIN | |
| 3 | NAS1756-24 | WARNING STREAMER | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27017-41

NAME: SLING EQUIPMENT - LEADING EDGE SLAT

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

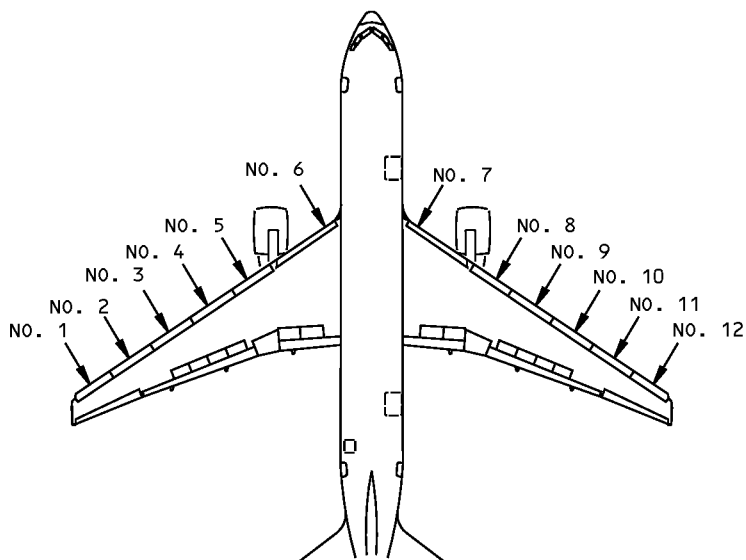
USAGE & DESCRIPTION: The A27017-41 sling equipment is used on all 767 airplanes. This equipment is a beam and cable assembly that is used with overhead lifting equipment to remove/install the inboard/outboard leading edge slats. Refer to AMM 27-81-01, AMM 27-81-02, AMM 27-81-36, and current A27017 drawing for additional usage instructions. The A27017-41 tool consist of a -42 spreader bar assembly, two -3 outboard slat arm assemblies, a -4 inboard slat arm assembly, a -5 inboard slat arm assembly, two -6 belt assemblies and a storage box assembly.

WEIGHT: 55 lbs (25 kg)

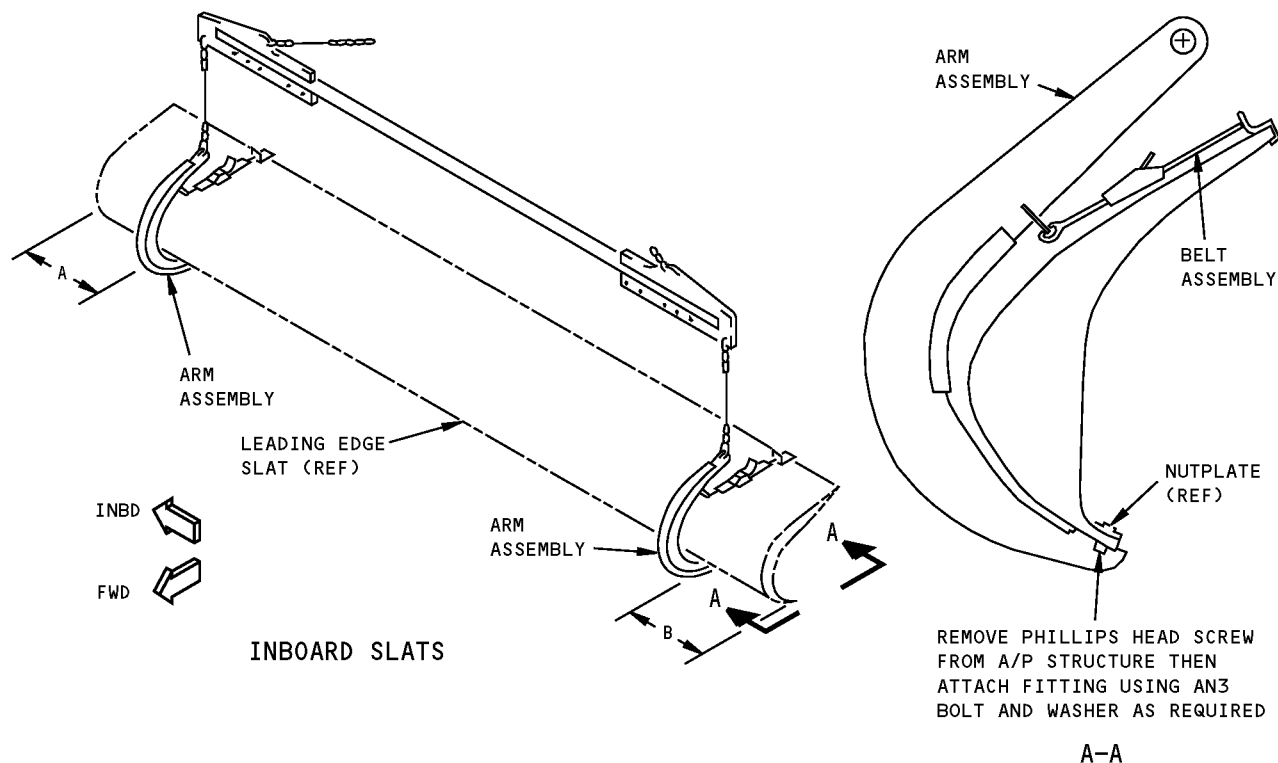
DIMENSIONS: (detached) 2 x 5 x 112 inches (51 x 127 x 2845 mm)

NOTE: A27017-41 supersedes A27017-1

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



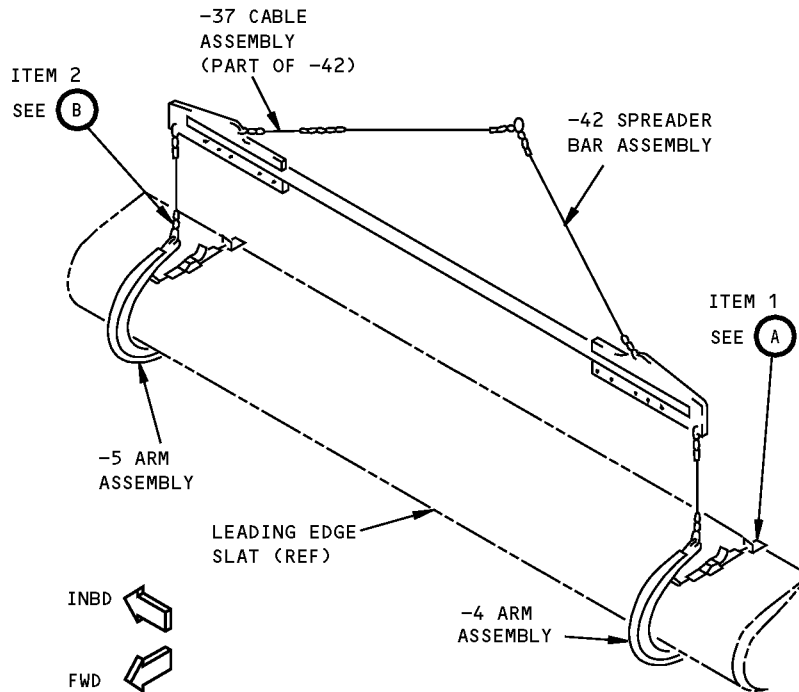
| SLAT NUMBER | A (INCHES) | B (INCHES) |
|----------------|---------------|---------------|
| 1 AND 12 | 22 | 22 |
| 2 AND 11 | 27 | 27 |
| 3 AND 10 | 31 | 31 |
| 4 AND 9 | 35 | 35 |
| 5 AND 8 | 26 | 32 |
| 6 AND 7 | 26 | 61 |



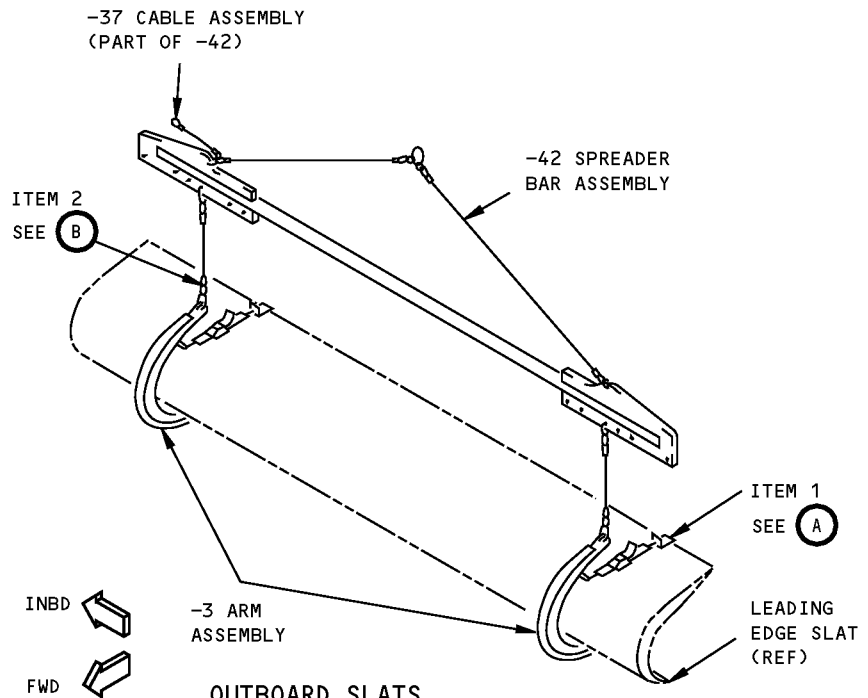
Leading Edge Slat Sling Equipment

Figure 1 (Sheet 1 of 3)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



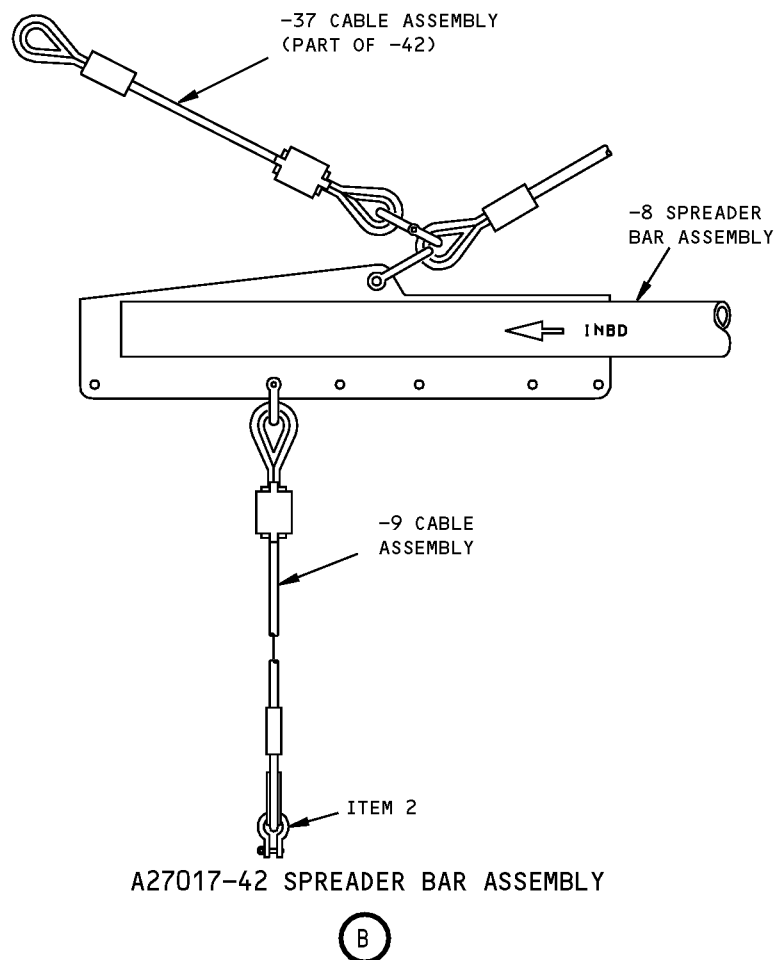
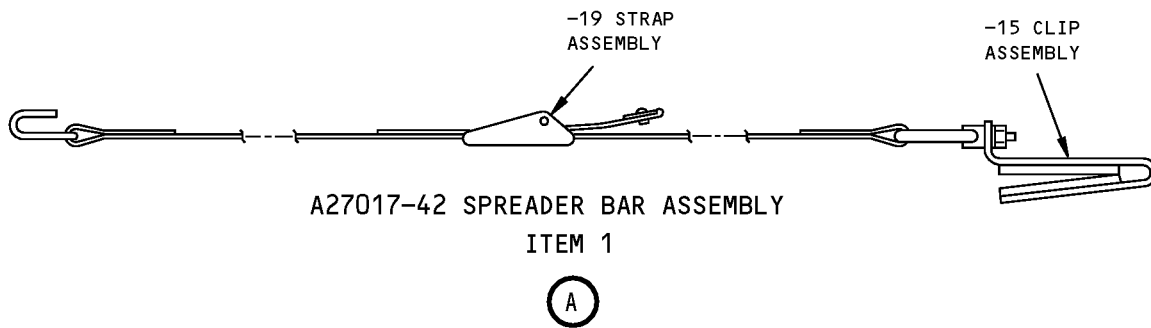
INBOARD SLATS
(LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE)



OUTBOARD SLATS
(LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE)

Leading Edge Slat Sling Equipment
Figure 1 (Sheet 2 of 3)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Leading Edge Slat Sling Equipment
Figure 1 (Sheet 3 of 3)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------|---------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | A27017-6 | BELT ASSEMBLY | |
| 2 | G-209-3/16 | SHACKLE | V75535 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27023-22

NAME: SPACER KIT - INBOARD/OUTBOARD SLAT INSTALLATION

AIRPLANE MAINTENANCE: YES

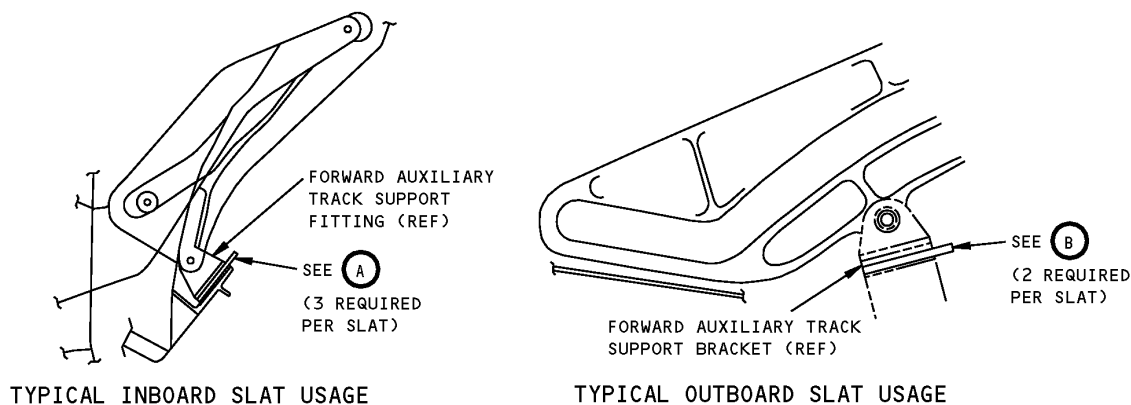
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used for rigging of three inboard/two outboard slats during installation. Refer to AMM 27-81-02 for further usage instructions. This tool consists of two -19 double slot spacer assembly, three -3 single slot spacer assembly and a storage box assembly.

WEIGHT: 3 lbs (1.4 kg) (excluding box)

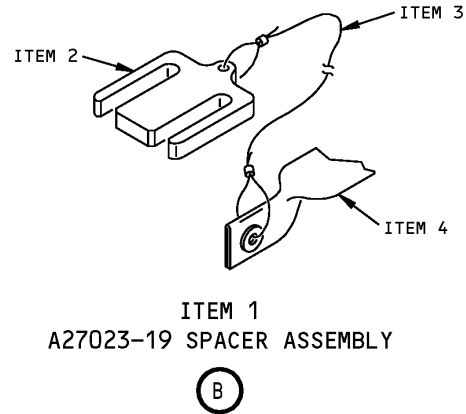
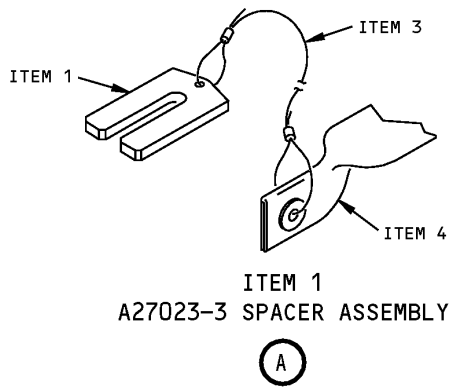
DIMENSIONS: 4 x 6 x 15 inches (102 x 152 x 381 mm) (excluding box)

NOTE: A27023-22 supersedes A27023-18.
A27023-18 supersedes A27023-17.
A27023-17 replaces A27023-11.
A27023-11 supersedes A27023-1.
A27023-19 is functionally equivalent to 2MIT114T4000.
A27023-3 is functionally equivalent to MIT114T3000.



**Inboard/Outboard Slat Installation Spacer Kit
Figure 1 (Sheet 1 of 2)**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Inboard/Outboard Slat Installation Spacer Kit
Figure 1 (Sheet 2 of 2)

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------------|------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | -3 | SPACER ASSEMBLY | |
| 2 | -19 | SPACER ASSEMBLY | |
| 3 | CL-21-KA-8.0LR | ATTACH CABLE | V99862 |
| 4 | NAS1756-24 | WARNING STREAMER | |

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27049-1

NAME: CHECK FIXTURE - LEADING EDGE SLAT ANGLE GEARBOX BACKLASH

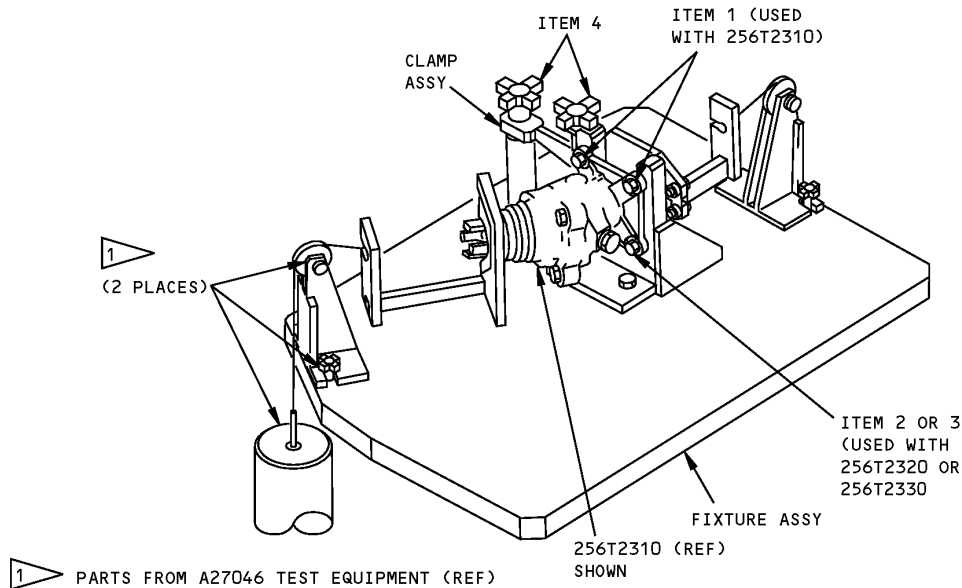
AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool consists of a base plate with three portable fixture assemblies, two adapter assemblies, and a clamp assembly. These parts adapt to the configurations of three slat drive angle gearbox assemblies and secure them for backlash checking procedures. This tool is used with components of A27046 test fixture.

WEIGHT: 60 Lbs (27 kg)

DIMENSIONS: 9 x 16 x 24 inches (229 x 406 x 610 mm)



Leading Edge Slat Angle Gearbox Backlash Check Fixture
Figure 1

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------|---------------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | MS16997-63 | SOCKET HD CAP SCREW | |
| 2 | MS16997-64 | SOCKET HD CAP SCREW | |
| 3 | MS35691-66 | SOCKET HD CAP SCREW | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 4 | CL-25-AK-2 | HAND KNOB | V99862 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27101-5

NAME: WRENCH - ADJUSTMENT, INBOARD LEADING EDGE SLATS

AIRPLANE MAINTENANCE: YES

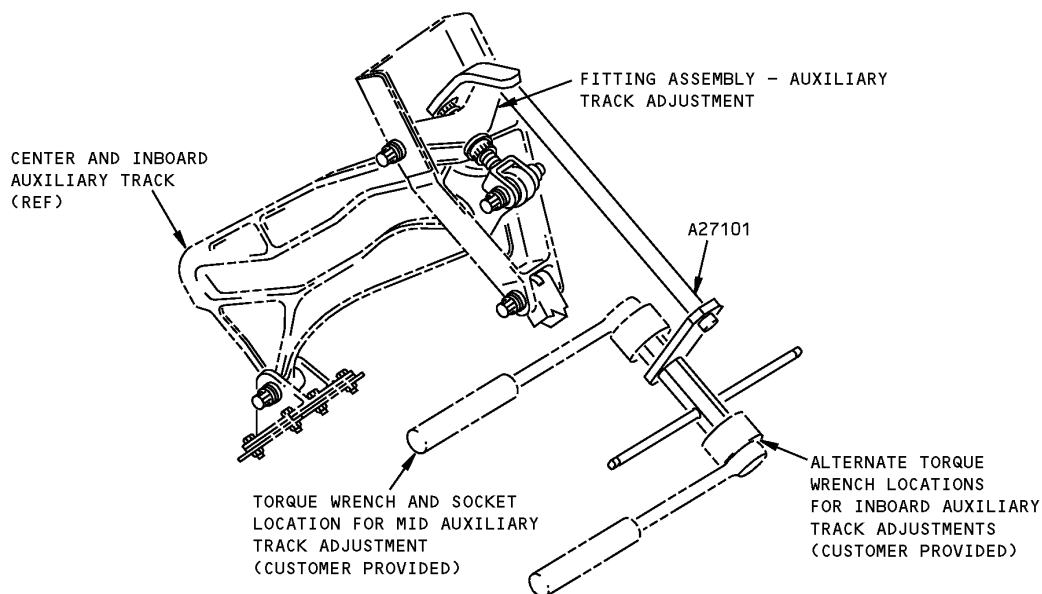
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: Use to tighten the center and inboard auxiliary track support link upper nuts. This tool consists of a -6 wrench and a -7 box assembly.

WEIGHT: 2 lbs (0.9 kg) (excluding box)

DIMENSIONS: 3.8 x 8.0 x 13.1 inches (97 x 203 x 333 mm) (excluding box)

NOTE: A27101-5 supersedes A27101-1



**Inboard Leading Edge Slats Adjustment Wrench
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27048-1, -2, -3, -40

NAME: FIXTURE - CHECK, GEARBOX BACKLASH

AIRPLANE MAINTENANCE: NO

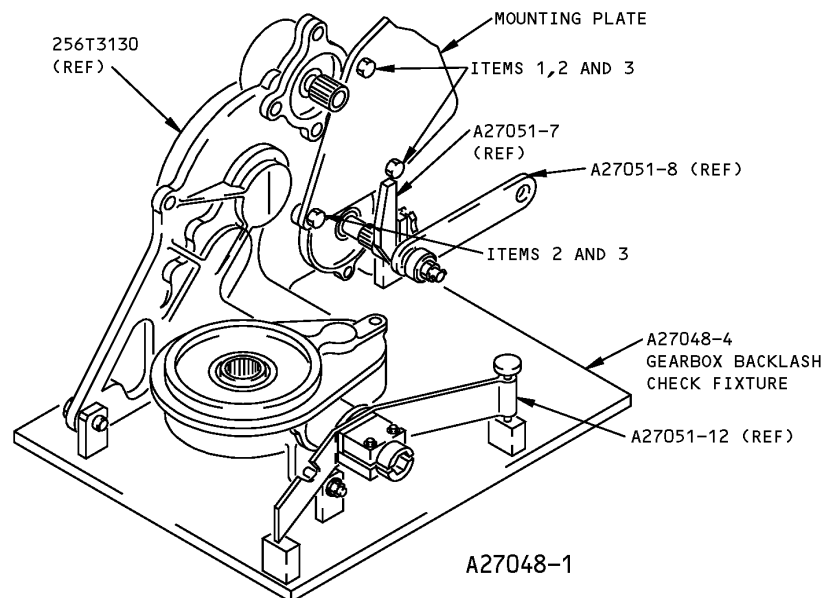
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is used to check backlash of the leading edge slat and trailing edge flap power drive units. Refer to CMM 27-51-50, CMM 27-81-21, CMM 27-81-72, CMM 27-81-73 and current A27048 drawing for further usage instructions. This tool consists of three check fixture assemblies and one fixture equipment. The -1 consists of a base assembly, mounting plate and two blocks. The -2 and -3 contain a base assembly, mounting plate, clevis and two posts. The -40 consists of a base assembly, a stand assembly and two posts. All three fixtures are used in conjunction with the A27051 Gearbox Tool Set and a customer furnished dial indicator.

WEIGHT:
A27048-1 - 41 lbs (19 kg)
A27048-2 - 36 lbs (16 kg)
A27048-3 - 20 lbs (9 kg)
A27048-40 - 12 lbs (5 kg)

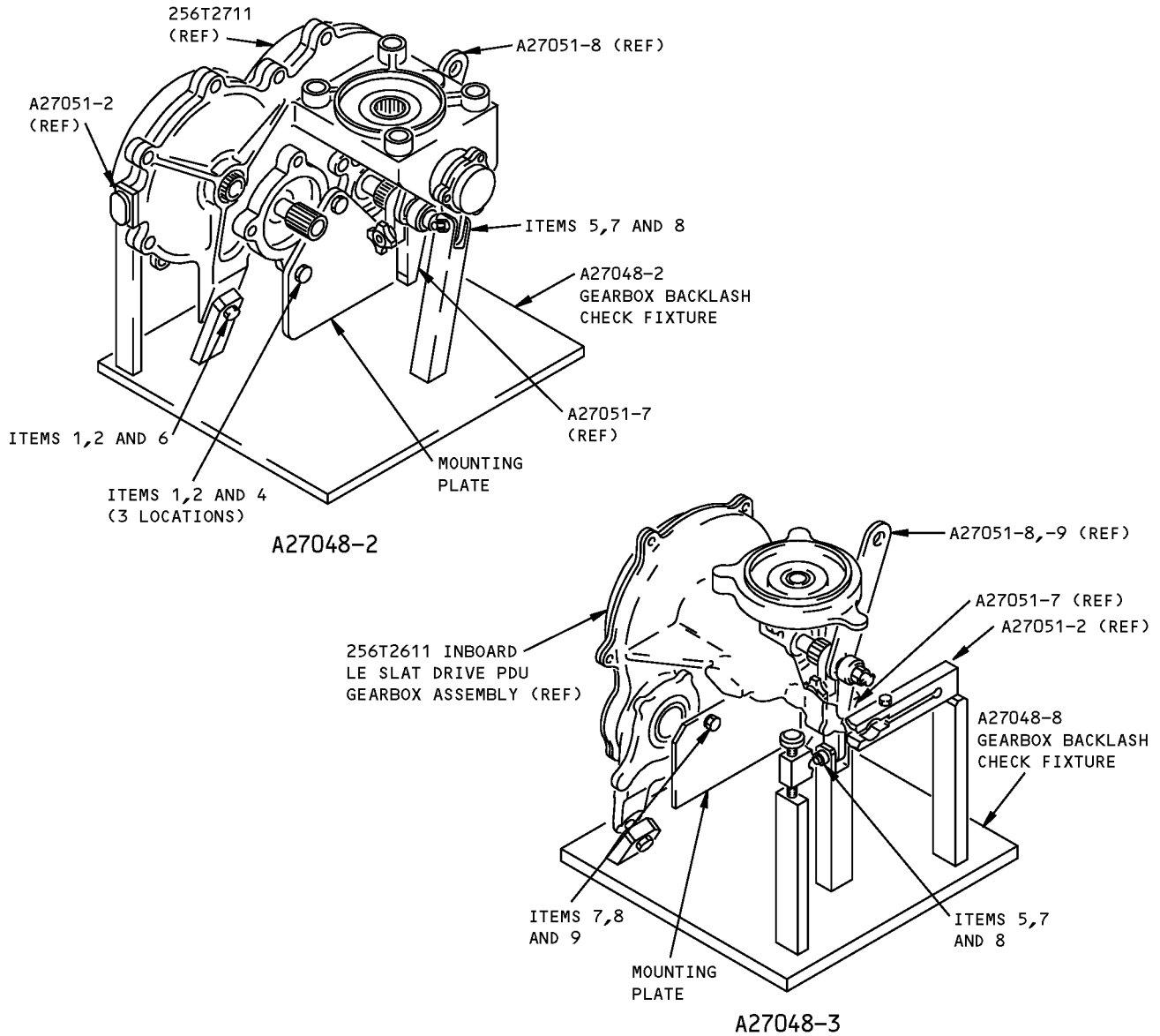
DIMENSIONS:
A27048-1 - 4 x 17 x 19 inches (102 x 432 x 483 mm)
A27048-2 - 9 x 16 x 17 inches (229 x 406 x 432 mm)
A27048-3 - 8 x 11 x 12 inches (203 x 279 x 305 mm)
A27048-40 - 3 x 12 x 17 inches (76 x 305 x 432 mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



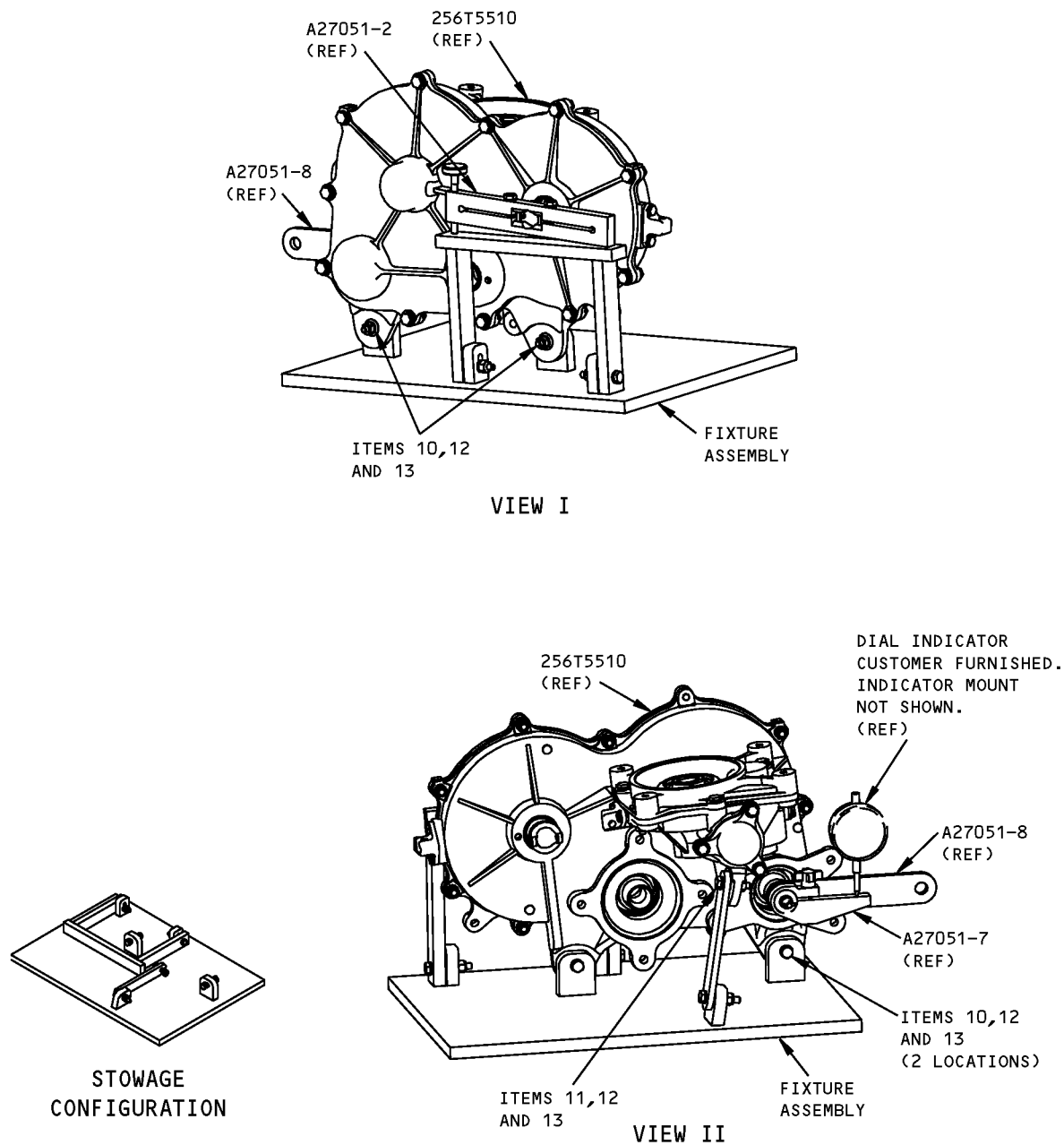
Gearbox Backlash Check Fixture - A27048-1
Figure 1 (Sheet 1 of 3)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Gearbox Backlash Check Fixture - A27048-1
Figure 1 (Sheet 2 of 3)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A27048-40

Gearbox Backlash Check Fixture - A27048-1
Figure 1 (Sheet 3 of 3)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|--------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | MS35650-3312 | NUT | |
| 2 | AN960-516L | WASHER | |
| 3 | AN5-5A | BOLT | |
| 4 | AN5-11A | BOLT | |
| 5 | AN4-13A | BOLT | |
| 6 | AN5-12A | BOLT | |
| 7 | AN960-416L | WASHER | |
| 8 | MS35650-3252 | NUT | |
| 9 | AN4-11A | BOLT | |
| 10 | -43 | BOLT | |
| 11 | -44 | BOLT | |
| 12 | -45 | WASHER | |
| 13 | -46 | NUT | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27051-1, -31

NAME: TOOL SET - TE FLAP DRIVE AND LE SLAT DRIVE GEARBOXES

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

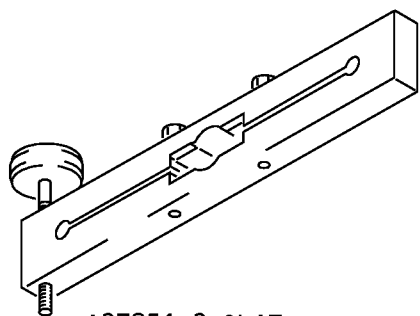
USAGE & DESCRIPTION: This tool is used in conjunction with A27048 and A27049 backlash test fixtures to check gearbox backlash of the leading edge slat and trailing edge flap gearboxes. Refer to CMM 27-51-50, CMM 27-81-15, CMM 27-81-21, CMM 27-81-25, CMM 27-81-31, CMM 27-81-72 and CMM 27-81-73 for further usage instructions. This tool consists of a slat drive lock assembly, 4 different spanner adapters, a clamp assembly, 2 different input crank assemblies, a flap drive lock assembly, a wrench and a box.

WEIGHT: 15 lbs (7 kg)

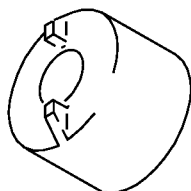
DIMENSIONS: 4 x 15 x 15 inches (102 x 381 x 381 mm)

NOTE: A27051-31 replaces A27051-1 for future procurement.

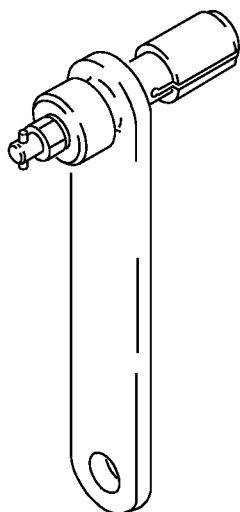
ILLUSTRATED TOOL AND EQUIPMENT MANUAL



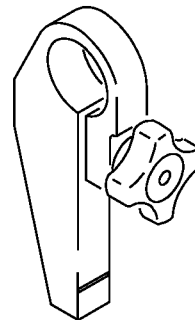
A27051-2 SLAT
DRIVE LOCK ASSEMBLY



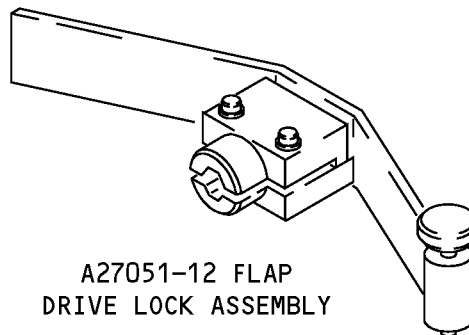
A27051-3, -4, -5 AND -6
SPANNER ADAPTER (TYPICAL)



A27051-8, -9
INPUT CRANK ASSEMBLY



A27051-7
CLAMP ASSEMBLY



A27051-12 FLAP
DRIVE LOCK ASSEMBLY

TE Flap Drive and LE Slat Drive Gearboxes Tool Set
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27119-1

NAME: HOLDING FIXTURE EQUIPMENT - GEAR ASSEMBLY, LE SLAT DRIVE

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

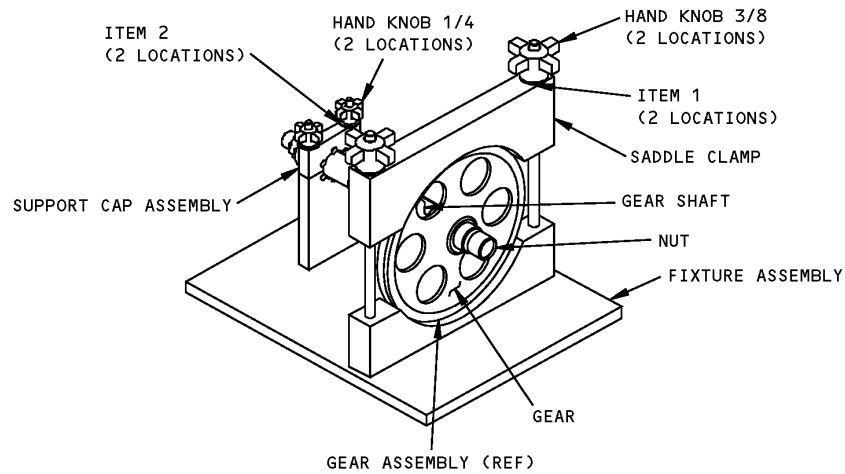
USAGE & DESCRIPTION: This tool is used to secure the leading edge slat drive gear assembly to remove or install BACN10RF14 nut. The gear assembly consists of 256T5525-1 shaft and 256T5526-1 gear. Refer to CMM 27-81-73 for further usage instructions. This tool is used on the 767-400 airplanes. This tool consists of the following:

| QUANTITY | NOMENCLATURE | PART NUMBER |
|----------|----------------------|-------------|
| 1 | FIXTURE ASSEMBLY | A27119-2 |
| 1 | SUPPORT CAP ASSEMBLY | A27119-3 |
| 1 | SADDLE CLAMP | A27119-5 |
| 2 | HAND KNOB 3/8 | A27119-6 |
| 2 | HAND KNOB 1/4 | A27119-7 |
| 2 | WASHER 3/8 | A27119-8 |
| 2 | WASHER 1/4 | A27119-9 |
| 1 | STORAGE BOX ASSEMBLY | A27119-4 |

WEIGHT: 10 lbs (4.5 kg)

DIMENSIONS: 9.5 x 10.75 x 11.75 inches (241 x 273 x 298 mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Leading Edge Slat Drive Gear Assembly Holding Fixture Equipment
Figure 1

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | -8 | WASHER 3/8 | |
| 2 | -9 | WASHER 1/4 | |



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PART NUMBER: A27073-1

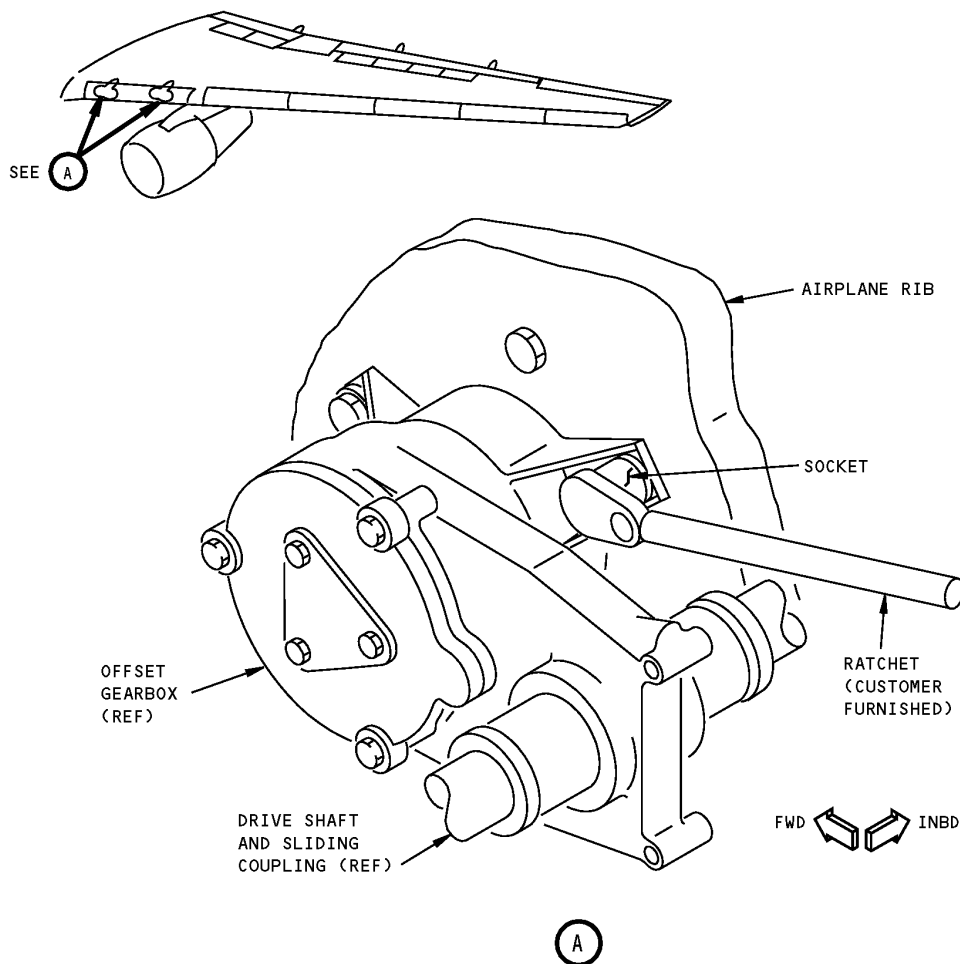
NAME: SOCKET - THIN WALL, GEARBOX, INBOARD LEADING EDGE SLAT DRIVE

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is applicable to 767-200 and -300 airplanes only. This tool is used to remove and install the inboard leading edge No. 6 slat drive offset gearbox from the wing.

DIMENSIONS: 1 x 1 x 1 inch (25 x 25 x 25 mm)



**Inboard Leading Edge Slat Drive Gearbox Thin Wall Socket
Figure 1**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27060-11

NAME: JIG EQUIPMENT - INBOARD AND OUTBOARD LEADING EDGE SLAT DRIVE AND TRAILING EDGE FLAP DRIVE POWER CONTROL UNIT

AIRPLANE MAINTENANCE: NO

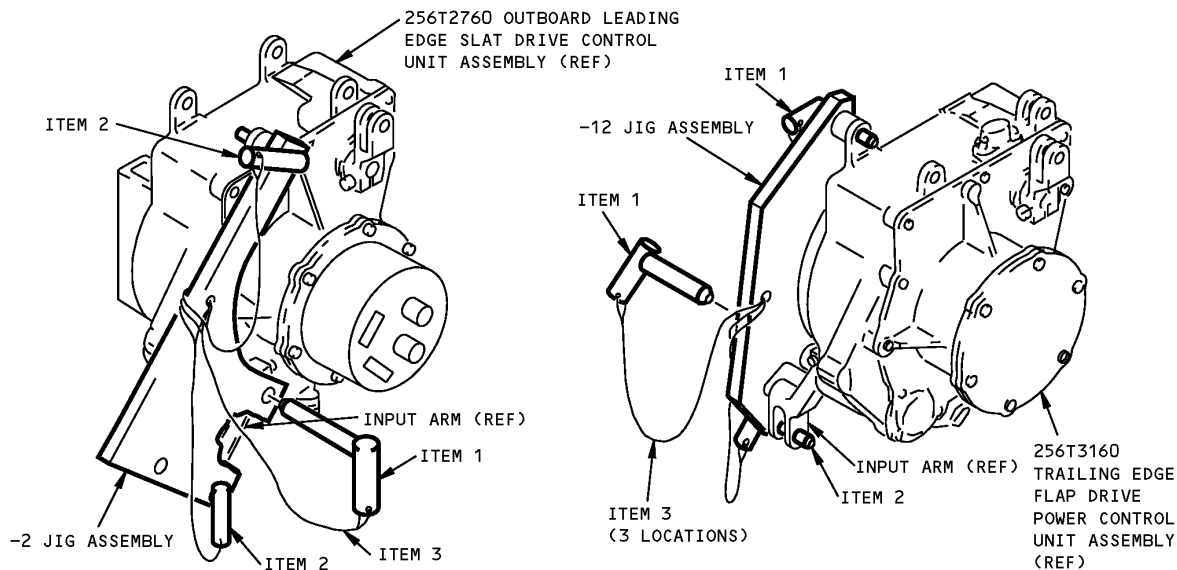
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool consists of a -2 and -12 jig assembly. The -2 tool is used on both the inboard and outboard LE slat drive power control units. The -12 tool is used on the TE flap drive power control unit. The jig assemblies verify angular attitude of the input arms relative to the power control unit assemblies. Each jig assembly is made up of a jig assembly plate and three L-pins of varying sizes.

WEIGHT: 10 lbs (4.5 kg)

DIMENSIONS: 3 x 10 x 15 inches (76 x 254 x 381 mm)

NOTE: A27060-11 supersedes A27060-1.



**Inbd and Outbd LE Slat Drives and TE Flap Drive Power Control Unit
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------------|----------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | CL-10-LP | L - PIN | 99862 |
| 2 | CL-6-LP | L - PIN | 99862 |
| 3 | CL-22-KA-10.0LR | CABLE ASSEMBLY | 99862 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27070-48, -61, -65, -80

NAME: BEARING INSTALLATION EQUIPMENT - ROTARY BEARING INSTALLATION EQUIPMENT - ROTARY LEADING EDGE SLAT DRIVE

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: The A27070-48 is used to install the DU bearings into the output rotary actuator arm assemblies of the LE slat drive. Refer to CMM 27-81-51 and CMM 27-81-01 for further usage instructions. The -48 and -61 are applicable to 767-200, -300 line number 1 through 758. The -65 and -80 are applicable to all 767 airplanes. The -48 consists of a -50 anvil, a -51 press, a -52 spacer and a -49 storage box assembly. Each of -61 and -65 consists of a -4 bearing puller assembly, a -62 assembly tool, a -63 assembly tool, a -24 backlash test fixture, a -45 bushing, a -46 bushing, a -55 input crank assembly and a -56 input crank assembly. The -65 also includes a -66 bearing puller assembly and a -68 bushing. The -61 has a -23 storage box assembly. The -65 has a -67 storage box assembly. The -80 consists of a -50 small anvil, a -51 small press, a -52 small spacer, a -70 large press, a -81 large spacer, a -84 large anvil and a -82 storage box assembly.

| A27070-61 | | |
|-----------|-------------------------|---|
| PART NO. | NOMENCLATURE | USAGE |
| -4 | BEARING PULLER ASSEMBLY | USED TO REMOVE BACB10BA17 BEARING FROM 256T2253 SECOND STAGE GEAR USED IN 256T2210 AND 256T2220 GEAR BOX ASSEMBLIES. SEE CMM 27-81-12 AND 27-81-61. |
| -62 | ASSEMBLY TOOL | USED TO ASSEMBLE 256T2152 PLANET GEAR TO 256T2153 SUN GEAR TO FACILITATE ASSEMBLY INTO 256T2120 ROTARY ACTUATOR. SEE CMM 27-81-51. |
| -63 | ASSEMBLY TOOL | USED TO ASSEMBLE 256T2113 PLANET GEAR TO 256T2114 SUN GEAR TO FACILITATE ASSEMBLY INTO 256T2110 ROTARY ACTUATOR. SEE CMM 27-81-01. |
| -24 | BACKLASH CHECK FIXTURE | USED TO HOLD THE INBOARD ROTARY ACTUATOR (256T2110) OR THE OUTBOARD ROTARY ACTUATOR (256T2120), APPLY A LOAD TO THE PLANETARY GEARSET AND TO MEASURE THE ACCUMULATIVE GEAR BACKLASH. SEE CMM 27-81-01 AND CMM 27-81-51. |
| -55 | INPUT CRANK ASSEMBLY | USED TO PREVENT THE ACTUATOR SUN GEAR FROM MOVING DURING BACKLASH MEASUREMENTS. THE ASSEMBLY RETAINS THE SUN GEAR ON THE FOLLOWING ACTUATORS: 256T2110-1 AND 256T2110-2. |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| A27070-61 | | |
|-----------|----------------------|--|
| PART NO. | NOMENCLATURE | USAGE |
| -56 | INPUT CRANK ASSEMBLY | USED TO PREVENT THE ACTUATOR SUN GEAR FROM MOVING DURING BACKLASH MEASUREMENTS. THE ASSEMBLY RETAINS THE SUN GEAR ON THE FOLLOWING ACTUATORS: 256T2120-1, 256T2120-2, 256T2120-3 AND 256T2120-4. |
| -45 | BUSHING | USED ON THE OUTPUT CLEVIS OF THE ROTARY ACTUATOR ARM. THIS BUSHING IS USED ON THE FOLLOWING ACTUATORS: 256T110-1 AND 256T2110-2. |
| -46 | BUSHING | USED ON THE OUTPUT CLEVIS OF THE ROTARY ACTUATOR ARM. THIS BUSHING IS USED ON THE FOLLOWING ACTUATORS: 256T2120-1, 256T2120-2, 256T2120-3 AND 234T2120-4. |

| A27070-65 | | |
|-----------|-------------------------|--|
| PART NO. | NOMENCLATURE | USAGE |
| -4 | BEARING PULLER ASSEMBLY | USED TO REMOVE BACB10BA17 BEARING FROM 256T2253 SECOND STAGE GEAR USED IN 256T2210 AND 256T2220 GEAR BOX ASSEMBLIES. SEE CMM 27-81-12 AND 27-81-61. |
| -66 | BEARING PULLER ASSEMBLY | USED TO REMOVE BACB108825 BEARING FROM 256T5215 SECOND STAGE GEAR USED IN 256T5210, 256T5220 AND 256T5240 GEAR BOX ASSEMBLIES. SEE CMM 27-81-44 AND CMM 27-81-62. |
| -62 | ASSEMBLY TOOL | USED TO ASSEMBLE 256T2152 PLANET GEAR TO 256T2153 SUN GEAR TO FACILITATE ASSEMBLY INTO 256T2120 ROTARY ACTUATOR, SEE CMM 27-81-51, AND TO ASSEMBLE 256T5122 PLANET GEAR TO 256T2153 SUN GEAR TO FACILITATE ASSEMBLY IN 256T5120 ROTARY ACTUATOR, SEE CMM 27-81-54. |
| -63 | ASSEMBLY TOOL | USED TO ASSEMBLE 256T2113 PLANET GEAR TO 256T2114 SUN GEAR TO FACILITATE ASSEMBLY INTO 256T2110 ROTARY ACTUATOR. SEE CMM 27-81-01. |
| -24 | BACKLASH CHECK FIXTURE | USED TO HOLD THE INBOARD ROTARY ACTUATOR (256T2110) OR THE OUTBOARD ROTARY ACTUATOR (256T2120) AND 256T5120, APPLY A LOAD TO THE PLANETARY GEARSET AND TO MEASURE THE ACCUMULATIVE GEAR BACKLASH. SEE CMM 27-81-01, CMM 27-81-51 AND CMM 27-81-54. |



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| A27070-65 | | |
|------------------|----------------------|---|
| PART NO. | NOMENCLATURE | USAGE |
| -55 | INPUT CRANK ASSEMBLY | USED TO PREVENT THE ACTUATOR SUN GEAR FROM MOVING DURING BACKLASH MEASUREMENTS. THE ASSEMBLY RETAINS THE SUN GEAR ON THE FOLLOWING ACTUATORS: 256T2110-1 THROUGH 256T2110-4. |
| -56 | INPUT CRANK ASSEMBLY | USED TO PREVENT THE ACTUATOR SUN GEAR FROM MOVING DURING BACKLASH MEASUREMENTS. THE ASSEMBLY RETAINS THE SUN GEAR ON THE FOLLOWING ACTUATORS: 256T2120-1 THROUGH 256T2120-6 AND 256T2120-9 THROUGH 256T2120-12. |
| -45 | BUSHING | USED ON THE OUTPUT CLEVIS OF THE ROTARY ACTUATOR ARM. THIS BUSHING IS USED ON THE FOLLOWING ACTUATORS: 256T110-1 THROUGH 256T2110-4. |
| -46 | BUSHING | USED ON THE OUTPUT CLEVIS OF THE ROTARY ACTUATOR ARM. THIS BUSHING IS USED ON THE FOLLOWING ACTUATORS: 256T2120-1 THROUGH 256T2120-6 AND 256T2120-9 THROUGH 256T2120-12. |
| -68 | BUSHING | USED ON THE OUTPUT CLEVIS OF THE ROTARY ACTUATOR ARM. THIS BUSHING IS USED ON THE FOLLOWING ACTUATOR: 256T5120-1. |

WEIGHT:

A27070-48 - 6 lbs
A27070-61 - 30 lbs
A27070-65 - 30 lbs
A27070-80 - 30 lbs

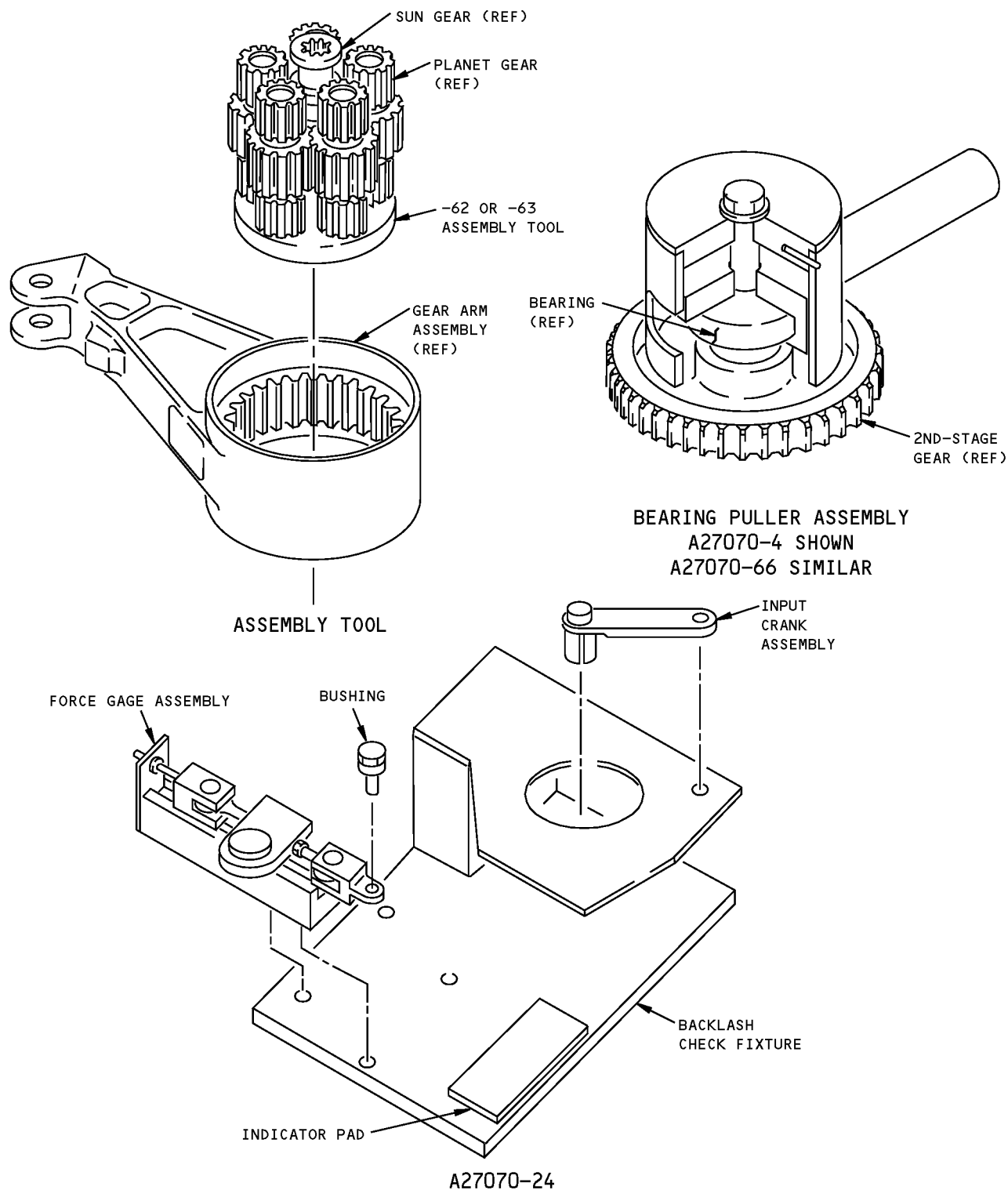
DIMENSIONS:

A27070-48 - 4 x 5 x 5 inches
A27070-61 - 10 x 25 x 30 inches
A27070-65 - 10 x 25 x 30 inches
A27070-80 - 10 x 25 x 30 inches

NOTE:

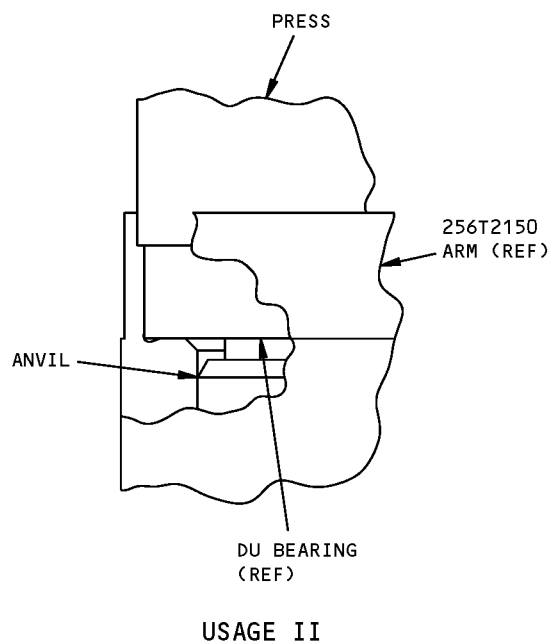
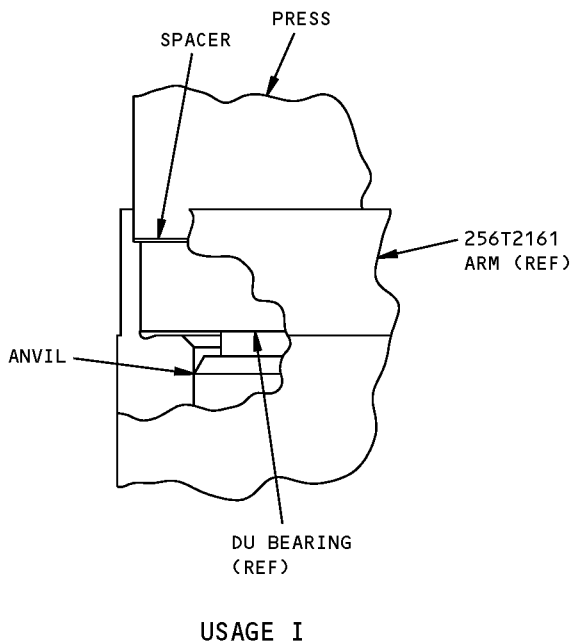
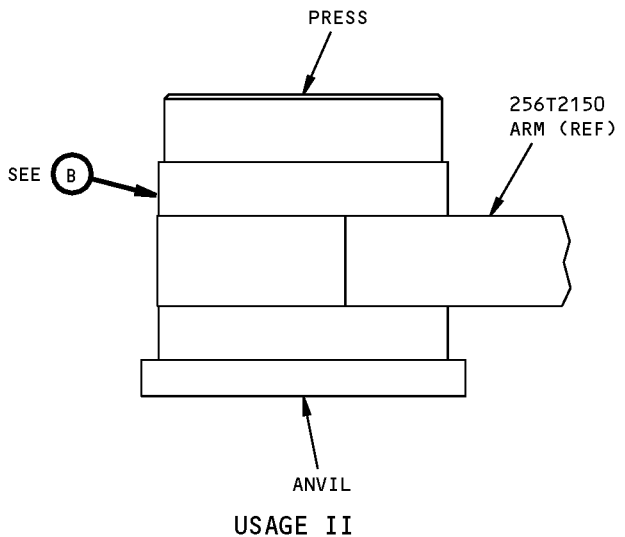
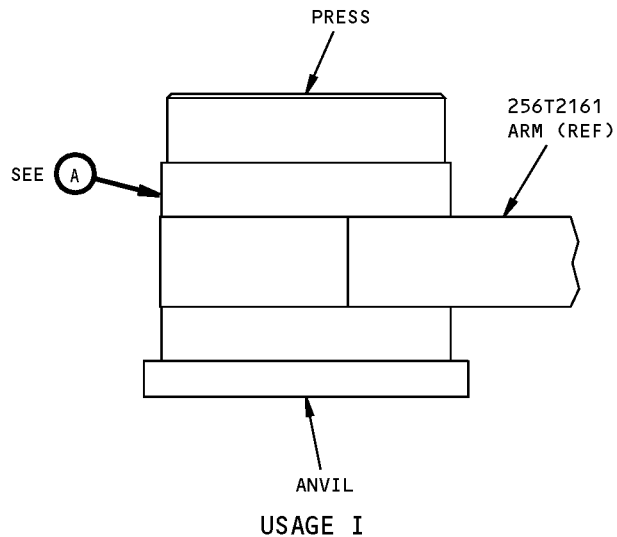
A27070-80 supersedes A27070-76.
A27070-61 supersedes A27070-54.
A27070-54 supersedes A27070-18.
A27070-18 supersedes A27070-1.

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Leading Edge Slat Drive Rotary Actuator/Offset Gearbox Bearing Installation Equipment
Figure 1 (Sheet 1 of 3)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



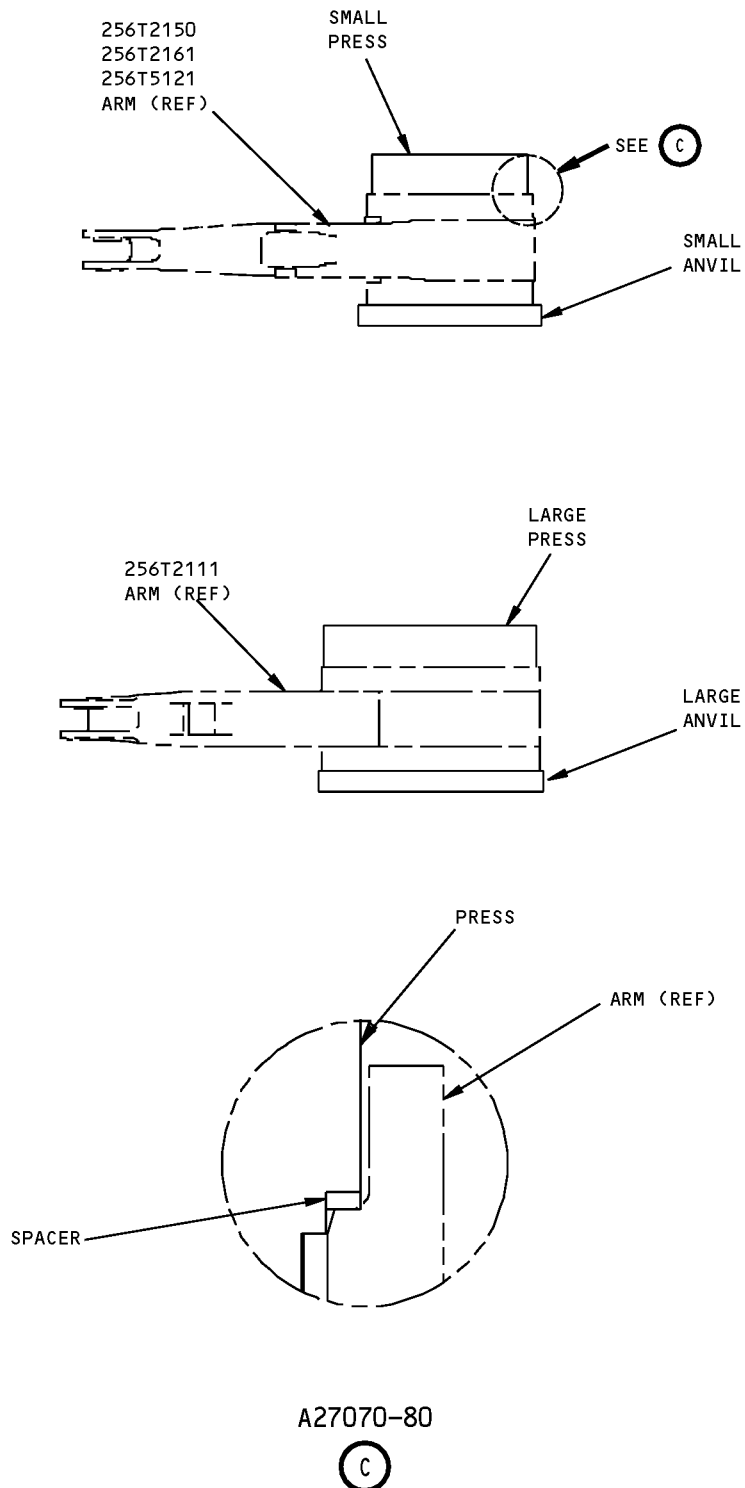
(A)

(B)

A27070-48

Leading Edge Slat Drive Rotary Actuator/Offset Gearbox Bearing Installation Equipment
Figure 1 (Sheet 2 of 3)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Leading Edge Slat Drive Rotary Actuator/Offset Gearbox Bearing Installation Equipment
Figure 1 (Sheet 3 of 3)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27112-1

NAME: RIGGING EQUIPMENT - LEADING EDGE SLAT POSITION SENSOR SWITCH

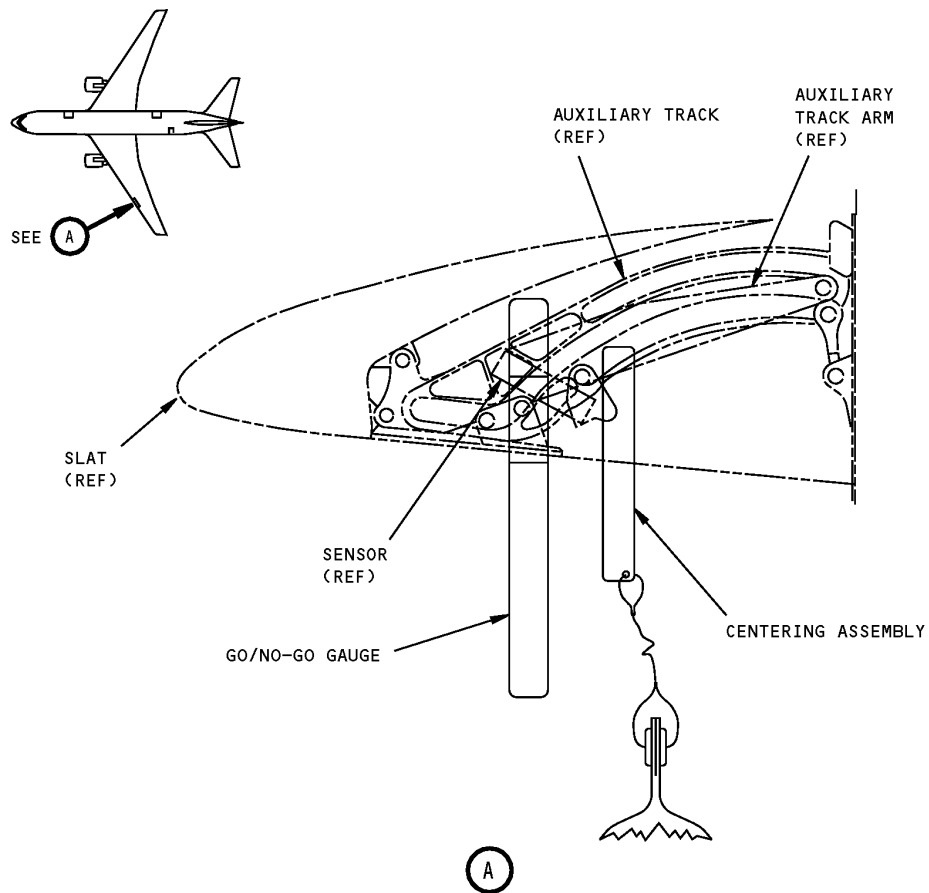
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This equipment is used to set and maintain proper gap between the auxiliary arm target and sensor switch on the inboard and outboard slats during rigging of the position sensor switches. This equipment consists of outboard and inboard centering assemblies, two go/no-go gauges, and a storage box assembly. Refer to AMM 27-81-01 and AMM 27-88-01 for further usage information.

WEIGHT: 3 lbs (1.4 kg) (excluding box)

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



**Leading Edge Slat Position Sensor Switch Rigging Equipment
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27077-1

NAME: ADAPTER - LEADING EDGE SLAT DRIVE

AIRPLANE MAINTENANCE: YES

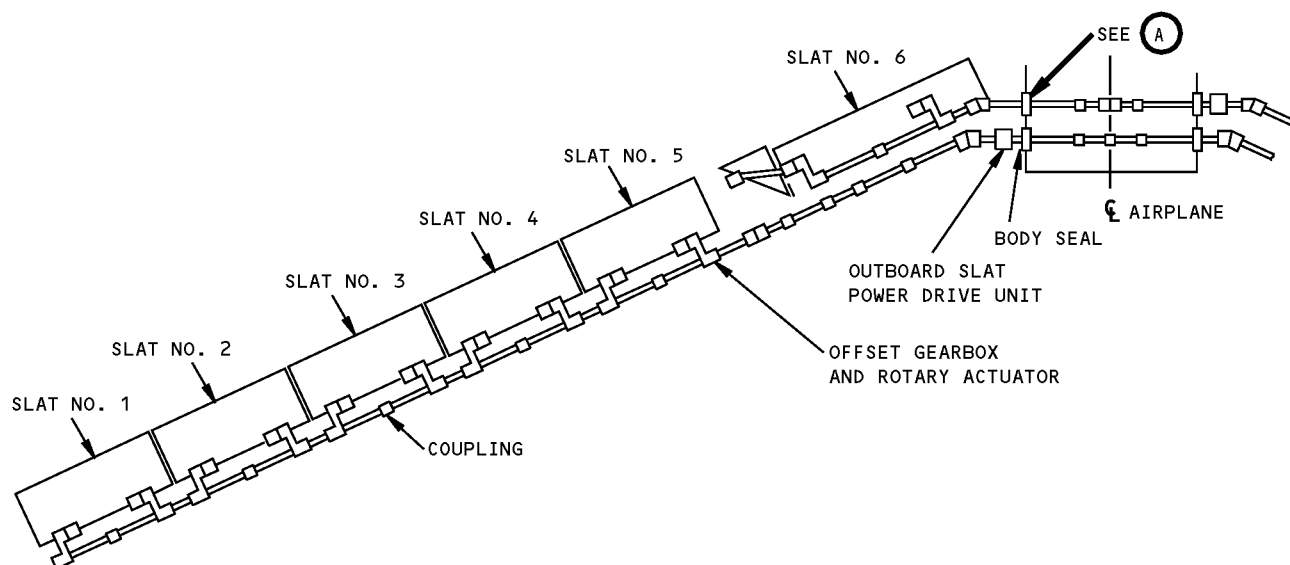
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The adapter is used with a customer supplied air supply to check out the slat operation without airplane power. The tool is a simple 1/2-inch square drive adapter that fits on the spline of the torque tube at a coupling at various locations in the power train.

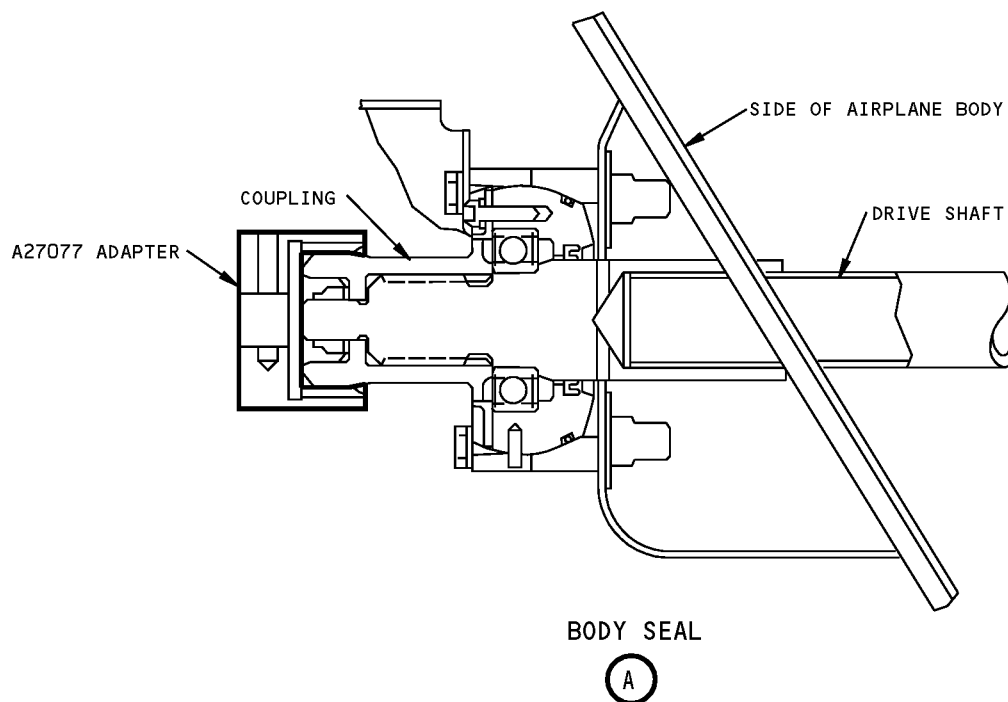
WEIGHT: 1 lb (0.45 kg)

DIMENSIONS: 1.20 x 1.75 dia inches (31 x 45 dia mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



LEADING EDGE SLAT DRIVE TRAIN



Leading Edge Slat Drive Adapter
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27078-7

NAME: SPLINE ADAPTERS - LEADING EDGE SLAT DRIVE ROTARY ACTUATORS AND GEARBOXES

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool consisting of four spline adapters is used to functionally test various leading edge slat drive rotary actuators and offset gearboxes. Refer to the table below for the proper spline adapter.

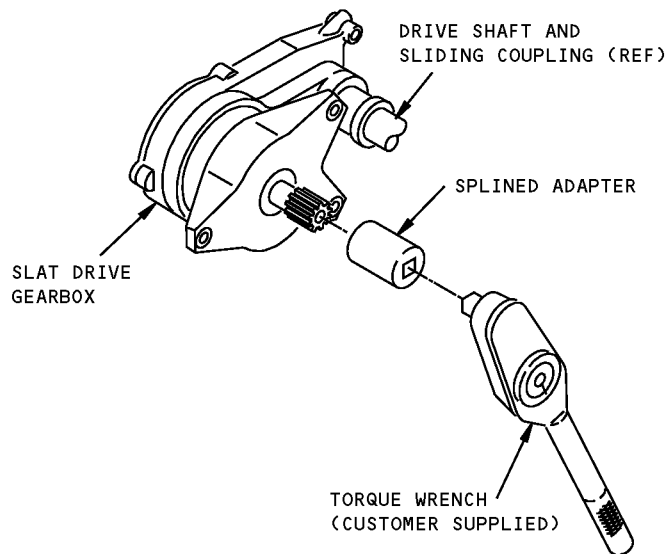
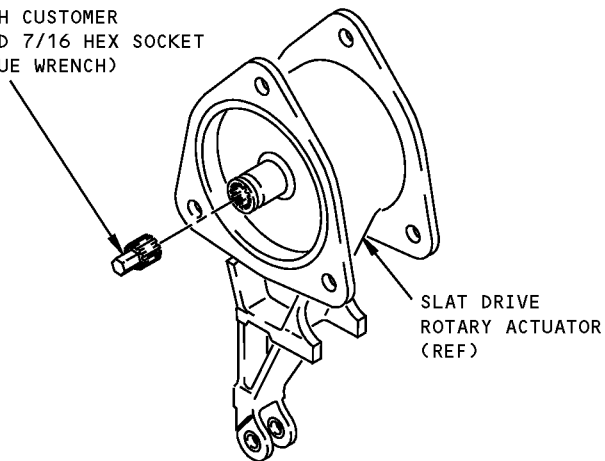
| TOOL PART NUMBER | MATING PART (REF) | A/P ASSEMBLY USED ON (REF) |
|------------------|------------------------------|-------------------------------------|
| A27078-2 | SUN GEAR SHAFT (256T2114) | ROTARY ACTUATOR (256T2110) |
| A27078-3 | OUTPUT SHAFT (256T2213) | GEARBOX (256T2210) |
| A27078-4 | SUN GEAR SHAFT (256T2153) | ROTARY ACTUATOR (256T2120) |
| A27078-5 | OUTPUT SHAFT (256T2256) | GEARBOX (256T2220) |
| A27078-8 | INPUT SHAFT | GEARBOX (256T2210) (256T2220) |

WEIGHT: 6 lbs (2.7 kg)

DIMENSIONS: 4 x 12 x 12 inches (102 x 305 x 305 mm)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

-2 OR -4 SPLINED ADAPTER
(USE WITH CUSTOMER
FURNISHED 7/16 HEX SOCKET
AND TORQUE WRENCH)



Leading Edge Slat Drive Rotary Actuator and Gearbox Spline Adapters
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27089-9

NAME: GAGE - RIGGING, LEADING EDGE SLAT OUTBOARD WING

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The A27089-9 slat rigging gage is used on all 767 airplanes. The A27089-9 consists of an A27089-2 gage, and A27089-10 gage and an A27089-11 gage, all contained in a storage box.

Prior to slat track replacement, the A27089-2 gage is used on 767-200, -200ER, -300 and -300ER airplanes slats 1 thru 5 and 8 thru 12 from line number 1 thru 757. After slat track replacement, the A27089-11 gage is used on 767-200, -200ER, -300 and -300ER airplanes slats 2 thru 5 and 8 thru 11 from line number 1 thru 757. After slat track replacement, the A27089-2 gage is used on 767-200, -200ER, -300 and -300ER airplanes slats 1 thru 12 from line number 1 thru 757.

From line 759 and on, the A27089-10 gage is used on 767-200, -200ER, -300 and -300ER airplanes slats 2 thru 5 and 8 thru 11 from line number 1 thru 757. The A27089-2 gage is used on slats 1 and 12.

On 767-400 airplanes, the A27089-10 gage is used on slats 2 thru 5 and 8 thru 11. The A27089-2 gage is used on slats 1 and 12.

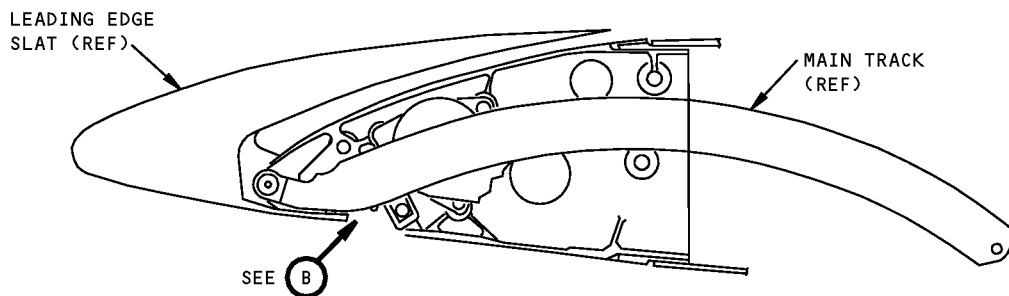
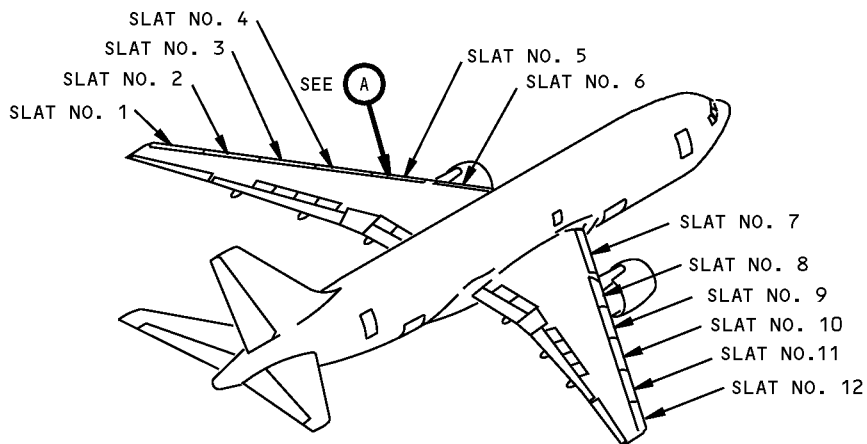
The A27089 rigging gages are a "U" shaped steel gage. The A27089 gages are used to set the fair of the leading edge slats. A27089 is used to check the slat's main roller track clearance. Refer to AMM 27-81-00, AMM 27-81-02 and AMM 27-81-20 for complete usage instructions.

WEIGHT: 1.5 lbs (0.7 kg)

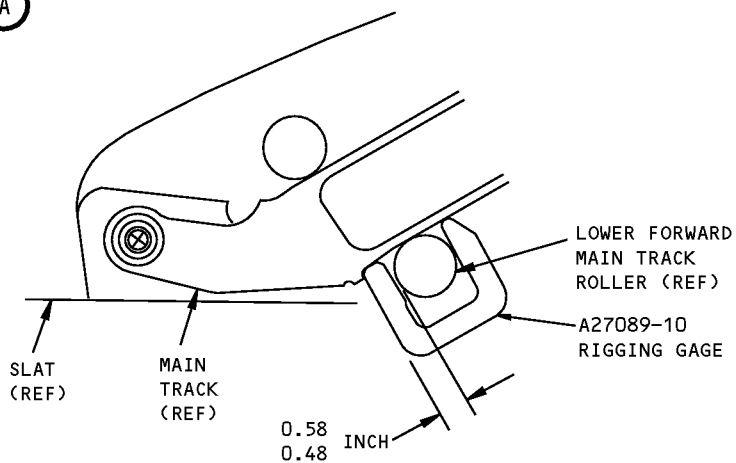
DIMENSIONS: 2 x 3 x 3 inches (51 x 76 x 76 mm)

NOTE: A27089-9 supersedes A27089-5.

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A



SLAT SHOWN FULLY RETRACTED

B

**Leading Edge Slat Outboard Wing Rigging Gage
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27092-84, -106

NAME: ACTUATOR/DEACTUATOR SET - PROXIMITY SENSORS

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The A27092-84 actuator/deactuator set is used on all 767 airplanes. Proximity sensors are used in the flight controls, indicating recording, landing gear and door systems. A27092-84 and A27092-106 set is used to actuate or deactuate 10-61226, S283T006 or 60B40018 specification proximity sensors during sensor test procedures. The actuator assembly switches "on" proximity sensors, the deactuator set switches them "off." Refer to AMM 27-81-00, AMM 31-31-00, AMM 31-51-00, AMM 32-09-02, AMM 32-09-07, AMM 32-42-00, AMM 32-61-00, AMM 32-61-02, AMM 32-61-03, AMM 32-71-00, AMM 52-35-00, AMM 52-71-02 and current A27092 drawing for additional usage instructions. The A27092-84 and A27092-106 sets consists of:

| A27092-84 | | |
|-----------|----------------------------|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | ACTUATOR ASSEMBLY | A27092-26 |
| 1 | ACTUATOR ASSEMBLY | A27092-27 |
| 1 | ACTUATOR ASSEMBLY | A27092-29 |
| 4 | ACTUATOR ASSEMBLY | A27092-31 |
| 4 | DEACTUATOR ASSEMBLY | A27092-32 |
| 4 | ACTUATOR ASSEMBLY | A27092-33 |
| 4 | DEACTUATOR ASSEMBLY | A27092-34 |
| 1 | DEACTUATOR ASSEMBLY | A27092-62 |
| 1 | DEACTUATOR ASSEMBLY | A27092-63 |
| 1 | DEACTUATOR ASSEMBLY | A27092-64 |
| 4 | ACTUATOR (MAGNET) ASSEMBLY | A27092-85 |
| 1 | STORAGE BOX | |

| A27092-106 | | |
|------------|---------------------|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 1 | ACTUATOR ASSEMBLY | A27092-26 |
| 1 | ACTUATOR ASSEMBLY | A27092-27 |
| 1 | ACTUATOR ASSEMBLY | A27092-29 |
| 10 | ACTUATOR ASSEMBLY | A27092-31 |
| 10 | DEACTUATOR ASSEMBLY | A27092-32 |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

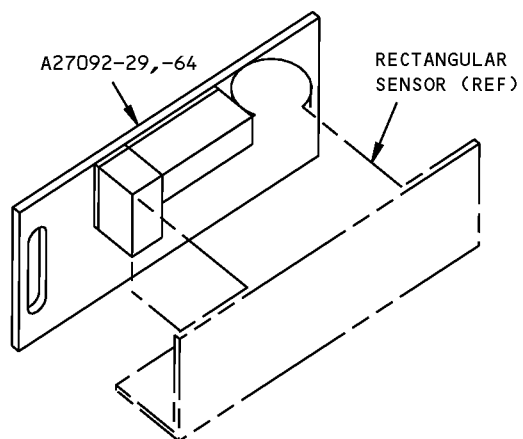
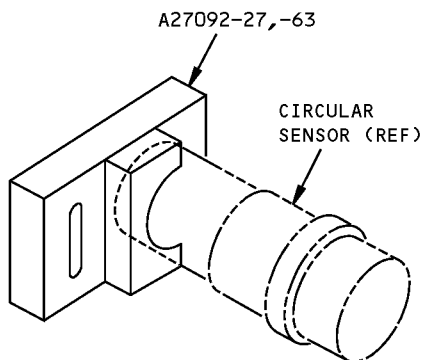
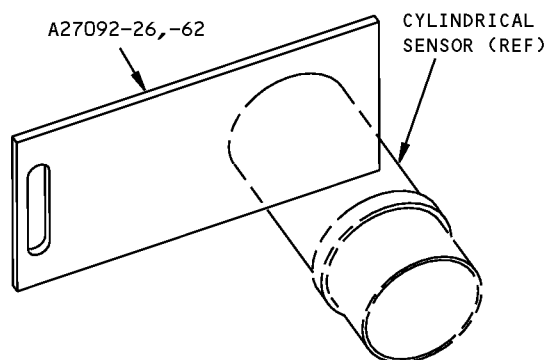
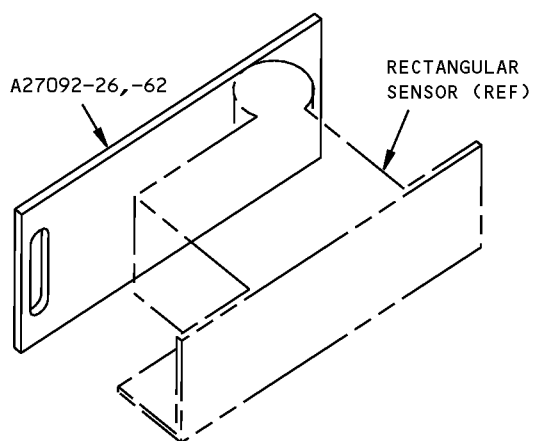
| A27092-106 | | |
|------------|----------------------------|-------------|
| QUANTITY | NOMENCLATURE | PART NUMBER |
| 4 | ACTUATOR ASSEMBLY | A27092-33 |
| 4 | DEACTUATOR ASSEMBLY | A27092-34 |
| 1 | DEACTUATOR ASSEMBLY | A27092-62 |
| 1 | DEACTUATOR ASSEMBLY | A27092-63 |
| 6 | DEACTUATOR ASSEMBLY | A27092-64 |
| 4 | ACTUATOR (MAGNET) ASSEMBLY | A27092-85 |
| 1 | STORAGE BOX | |

WEIGHT: A27092-84 - 10 lbs (4.5 kg)
A27092-106 - 15 lbs (7 kg)

DIMENSIONS: 6 x 20 x 20 inches (152 x 508 x 508 mm) (excluding box)

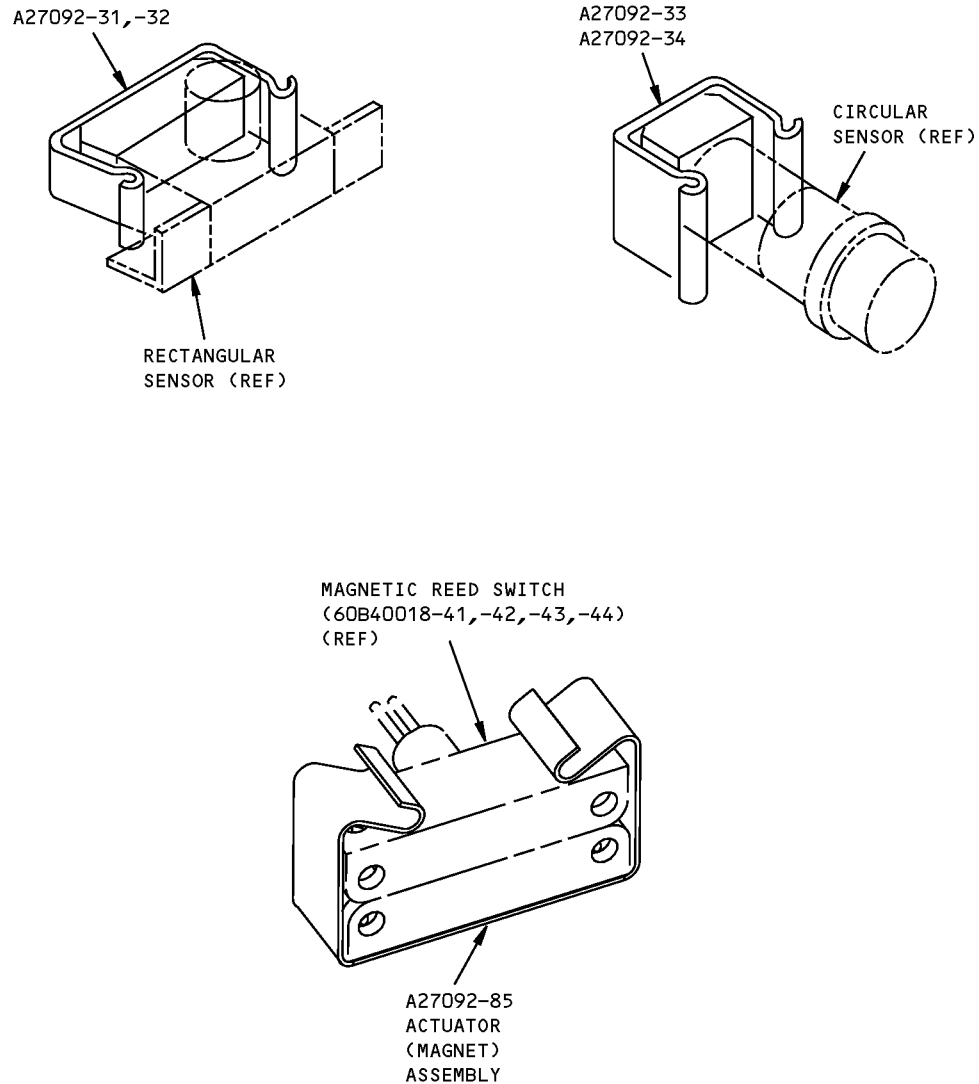
NOTE: A27092-106 replaces A27092-84 for future procurement.
A27092-84 supersedes A27092-61.
A27092 replaces G32002 for future procurement.

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Proximity Sensors Actuator/Deactuator Set
Figure 1 (Sheet 1 of 2)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Proximity Sensors Actuator/Deactuator Set
Figure 1 (Sheet 2 of 2)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27094-1, -5

NAME: SPACER SET - PRELOAD, LEADING EDGE SLAT RIGGING

AIRPLANE MAINTENANCE: YES

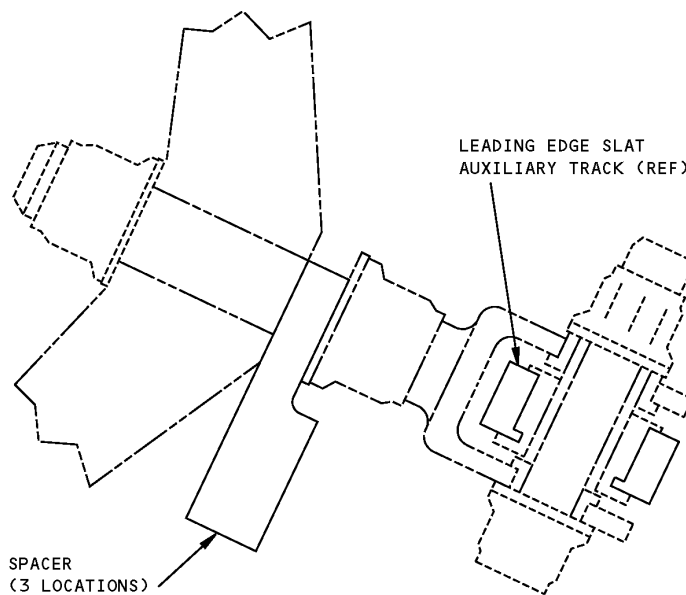
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to set preload on aft links of aft auxiliary arms during rigging of leading edge slats. For complete usage instructions see AMM 27-81-01. The -1 tool consist of 1 spacer and a storage box. The -5 tool consists of 3 spacers and a storage box.

WEIGHT: A27094-1 - 0.25 lbs (0.12 kg) (excluding box)
A27094-5 - 0.75 lbs (0.34 kg) (excluding box)

DIMENSIONS: A27094-1 - 0.5 X 1 X 2 inches (13 x 25 x 51 mm) (excluding box)
A27094-5 - 0.5 x 2 x 3 inches (13 x 51 x 76 mm) (excluding box)

NOTE: A27094-5 replaces A27094-1 for future procurement.



**Leading Edge Slat Rigging Preload Spacer
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27102-7

NAME: ADAPTER - LEADING EDGE SLAT AND TRAILING EDGE FLAP, MANUAL DRIVE

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used with an air motor to fit on the spline of power drive unit to move leading edge slats and trailing edge flaps up and down when power is not available from the airplane. Adapter will move slats and flaps through power drive units. Re-rigging is not required. Refer to AMM 27-51-00 and AMM 27-81-00 for specific usage instructions. This tool consists of a -2 adapter and a -8 storage box.

CAUTION:

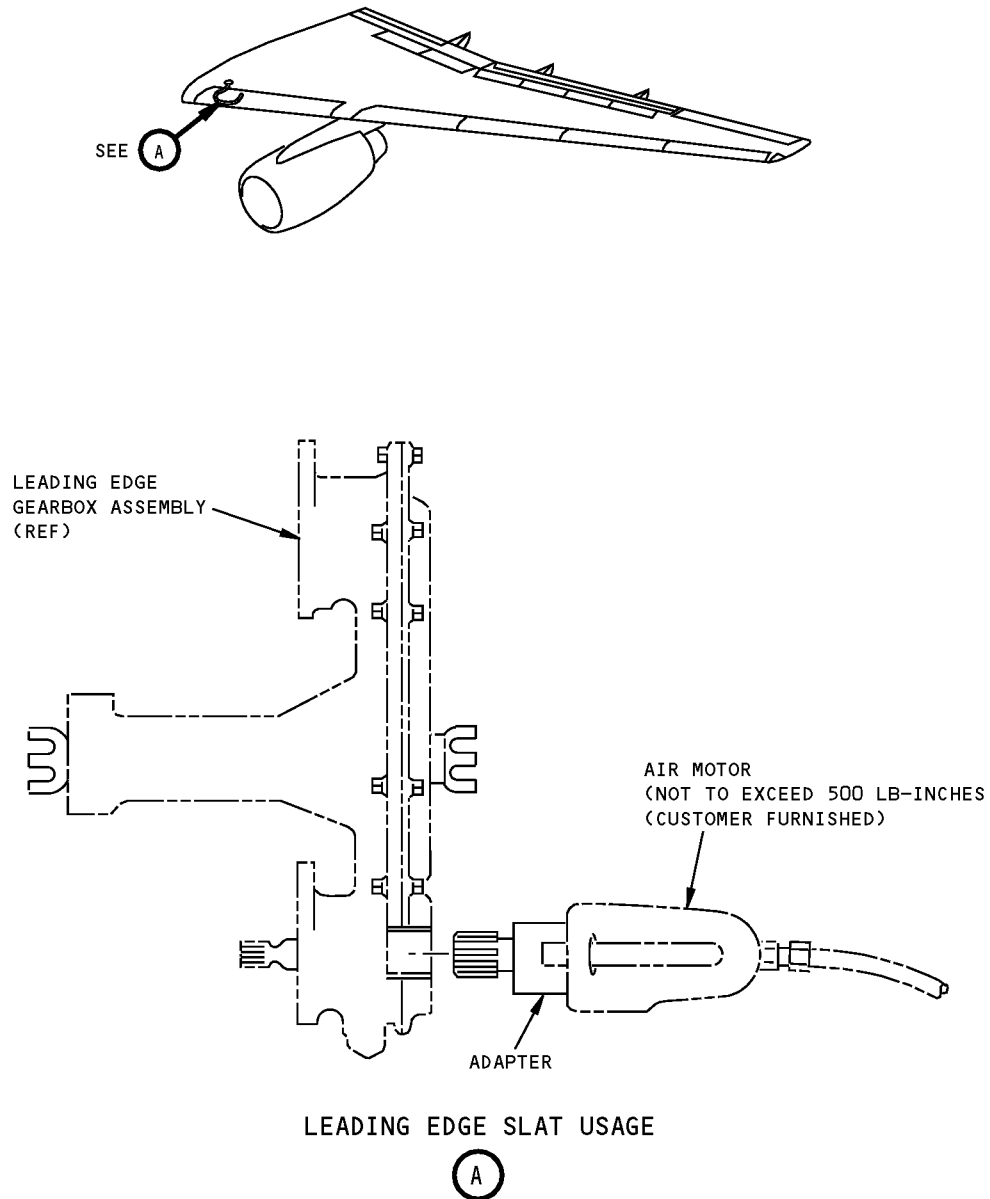
DO NOT USE AN AIR MOTOR WHICH HAS AN OUTPUT TORQUE GREATER THAN 500 IN-LB TO PREVENT DAMAGE TO EQUIPMENT. DO NOT LET THE DRIVE SYSTEM HIT THE EXTEND OR RETRACT OVERTRAVEL STOPS AT FAST SPEED TO PREVENT DAMAGE.

WEIGHT: 1 lb (0.45 kg)

DIMENSIONS: 3.5 x 3.5 x 4 inches (89 x 89 x 102 mm)

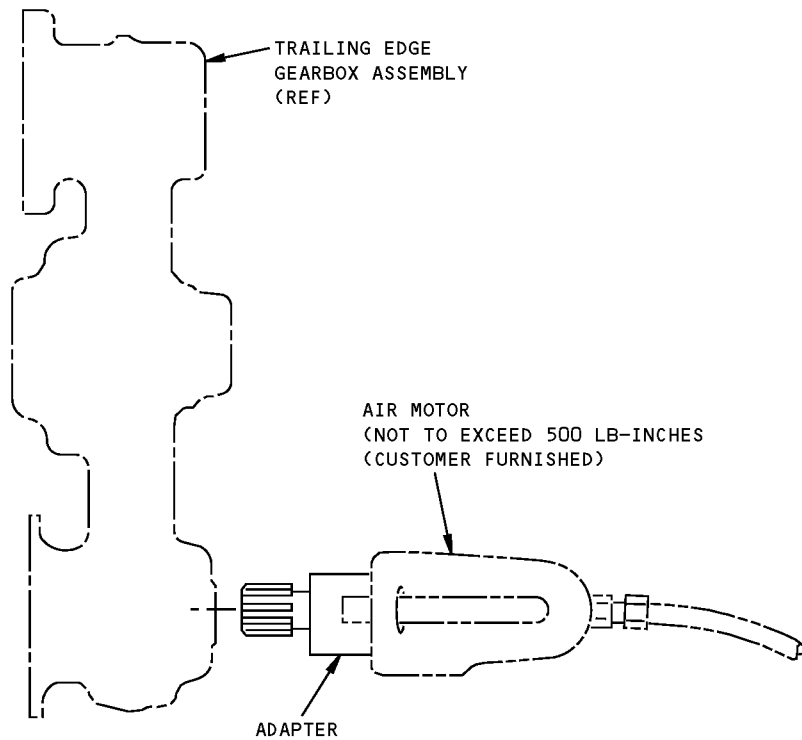
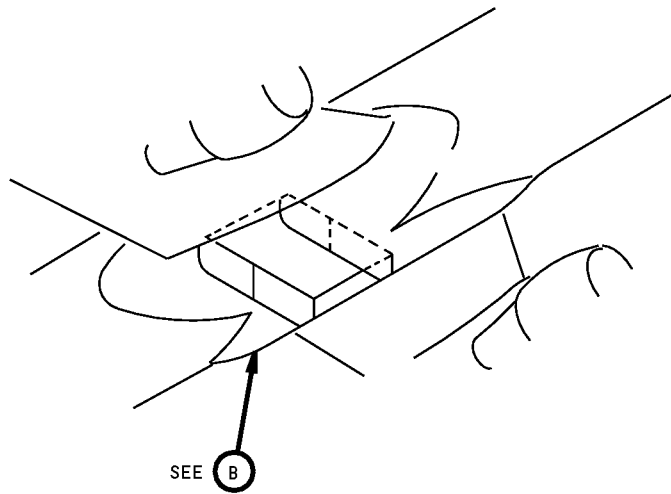
NOTE: A27102-7 supersedes A27102-5.
A27102-5 supersedes A27102-1.

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Leading Edge Slat and Trailing Edge Flap Manual Drive Adapter
Figure 1 (Sheet 1 of 2)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



TRAILING EDGE FLAP USAGE

(B)

Leading Edge Slat and Trailing Edge Flap Manual Drive Adapter
Figure 1 (Sheet 2 of 2)

767 ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27117-1

NAME: TEST EQUIPMENT - LE SLAT 5 AND 8, INBOARD OFFSET GEARBOX

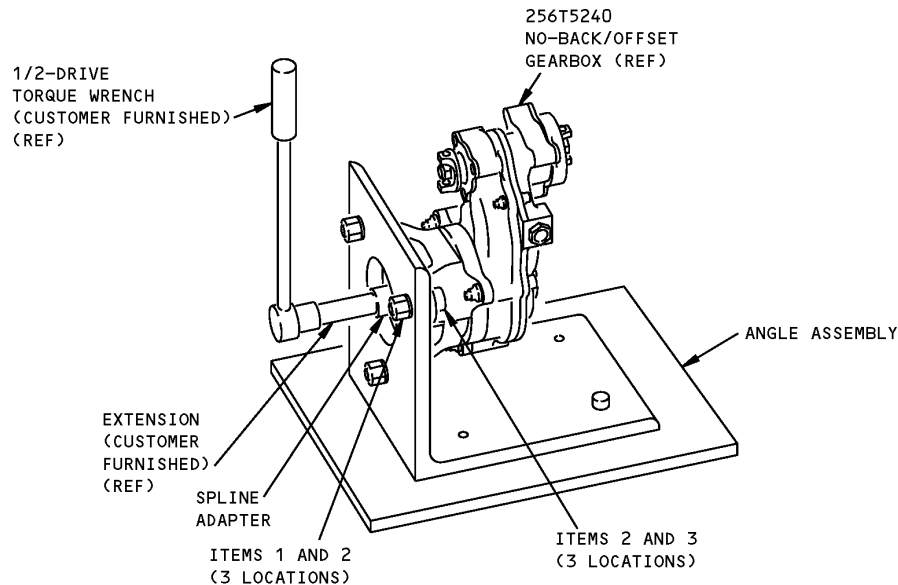
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool is used for the no-back brake test on leading edge slat number 5 and 8, inboard offset gearbox. Refer to AMM 27-81-20 and CMM 27-81-62 for further usage instructions. This tool is used on 767-200,-300 line number 758 and on and 767-400 airplanes. This tool consists of an angle assembly, a spline adapter, related hardware and a storage box assembly.

WEIGHT: 15 lbs (7 kg) (excluding box)

DIMENSIONS: 8 x 9 x 12 inches (203 x 229 x 305 mm) (excluding box)



**Leading Edge Slat 5 and 8 Inboard Offset Gearbox Test Equipment
Figure 1**

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|---------------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | MS51967-8 | NUT | |
| 2 | NAS1149F0663P | WASHER | |
| 3 | NAS1352-6-24B | SCREW | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27116-1

NAME: SLING - OUTBOARD SLAT PDU

AIRPLANE MAINTENANCE: YES

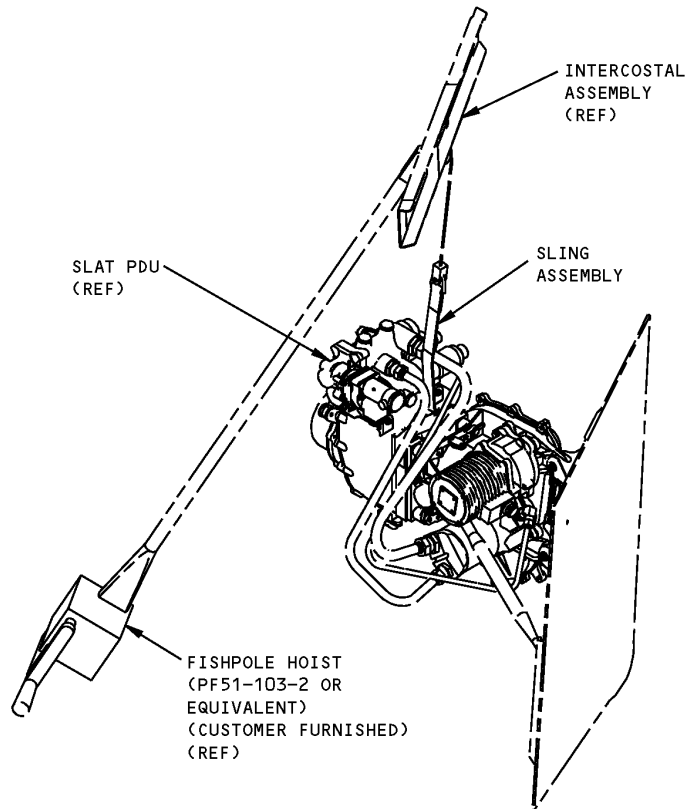
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used with a customer furnished fishpole hoist to remove and install the outboard slat PDU. Refer to AMM 27-81-10 for further usage instructions. This tool is used on 767-400 airplanes. This tool consists of a sling assembly and a storage box assembly.

WEIGHT: 3 lbs (1.4 kg) (excluding box)

DIMENSIONS: 8 x 8 x 8 inches (203 x 203 x 203 mm) (excluding box)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Outboard Slat PDU Sling
Figure 1



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27054-14

NAME: FIXTURE-HOLDING, GEAR ASSEMBLY, LE SLAT DRIVE

AIRPLANE MAINTENANCE: NO

COMPONENT MAINTENANCE: YES

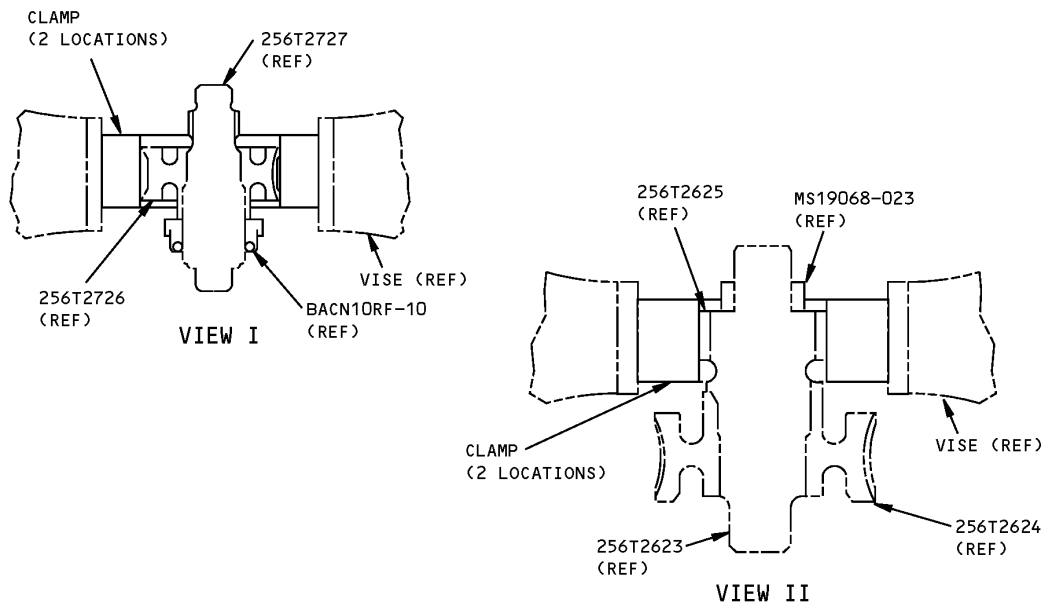
USAGE & DESCRIPTION: This tool is used to hold 256T2625 and 256T2727, gear shafts when MS19068-023 and BACN10RF-10 nuts are being tightened. See view I and II. This tool is used to hold the 256T2721 gear shaft when BACN10RF-10 and BACN10RF-14 nuts are being tightened. See View III. This tool is used on the 767-200 and -300 airplanes. This tool is also used on the 767-400 airplanes for the Inboard Slat PDU only. See A27119 for 767-400 Outboard Slat PDU. Refer to CMM 27-81-21 and CMM 27-81-72 for further usage instructions. This tool consists of a -2 fixture assembly, two -10 clamps, two -11 clamps and a box. The -2 consists of a saddle clamp, a support clamp, a base and stud assembly, two different washers (two of each), two bolts and two knobs.

WEIGHT: 9 lbs (4 kg)

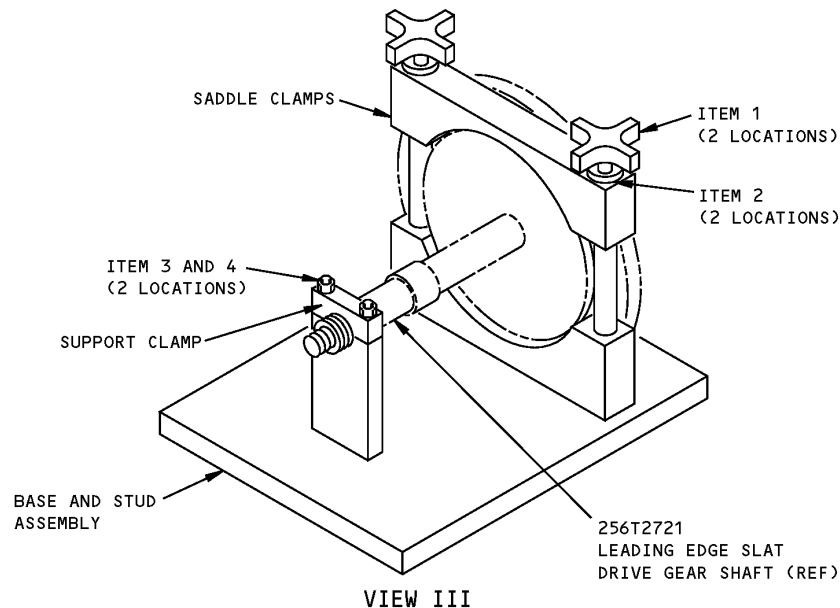
DIMENSIONS: 10 x 11 x 16 inches (254 x 279 x 406 mm)

NOTE: A27054-14 supersedes A27054-1.

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Leading Edge Slat Drive Gear Assembly Holding Fixture
Figure 1 (Sheet 1 of 2)



Leading Edge Slat Drive Gear Assembly Holding Fixture
Figure 1 (Sheet 2 of 2)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

| REPAIRABLE/REPLACEABLE PARTS | | | |
|------------------------------|-----------|--------------|-------------|
| ITEM NO. | PART NO. | NOMENCLATURE | VENDOR CODE |
| 1 | CL-3-HK-4 | KNOB | V99862 |
| 2 | AN960-616 | WASHER | |
| 3 | AN960-516 | WASHER | |
| 4 | AN5-11 | BOLT | |



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A27121-1

NAME: TOOL SET - SEAL INSTALLATION

AIRPLANE MAINTENANCE: NO

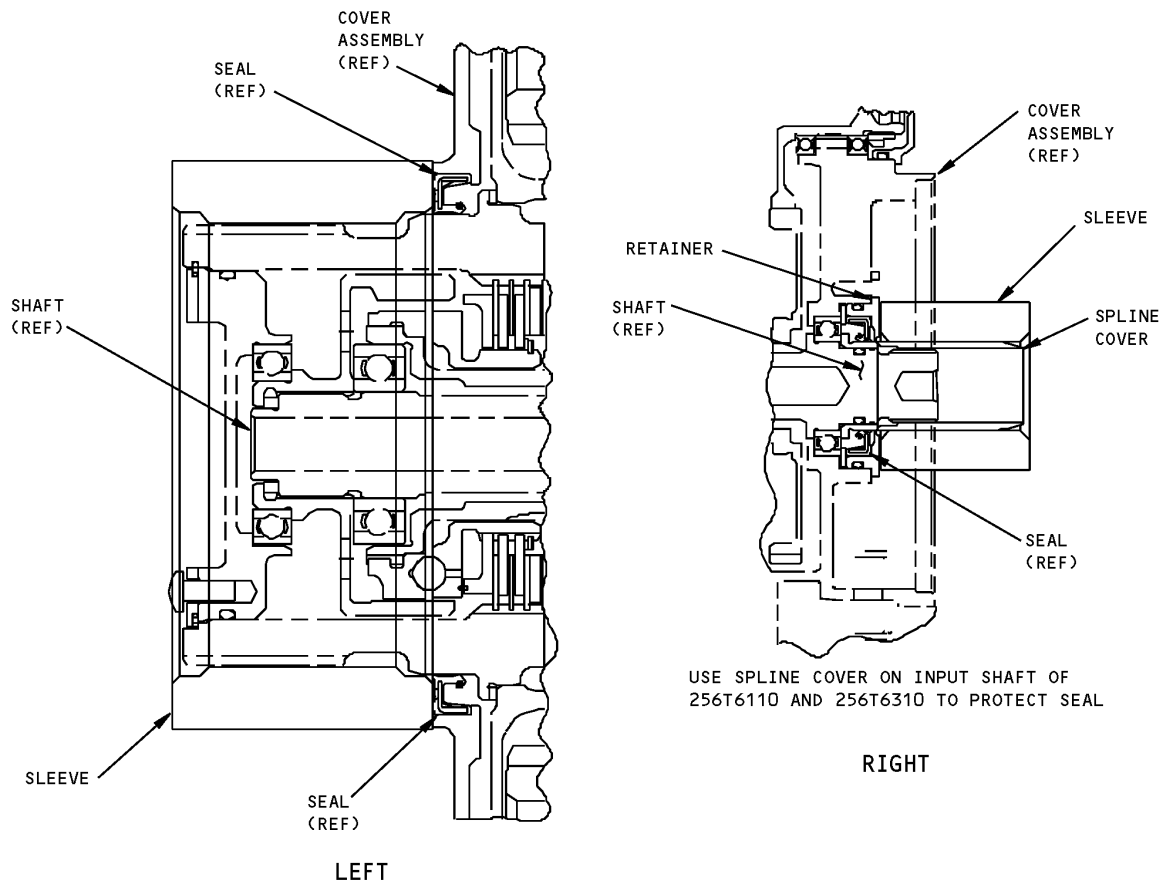
COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: The A27121 seal installation tool set is used on 767-200/-300 airplanes after line number 758 only and on 767-400 airplanes. This tool is used to install the seals on the trailing edge flap drive rotary actuators, and the leading edge slat drive no-back/offset gearbox assemblies. Refer to CMM 27-51-48, CMM 27-51-49, CMM 27-81-44 and CMM 27-81-62 for further usage instructions. This tool consists of a -2 sleeve, a -3 sleeve, a -4 sleeve, a -5 sleeve, a -6 sleeve, a -7 spline cover, a -8 guide and a -9 storage box assembly.

WEIGHT: 8 lbs (3.6 kg)

DIMENSIONS: 3 x 9 x 20 inches (76 x 229 x 508 mm)

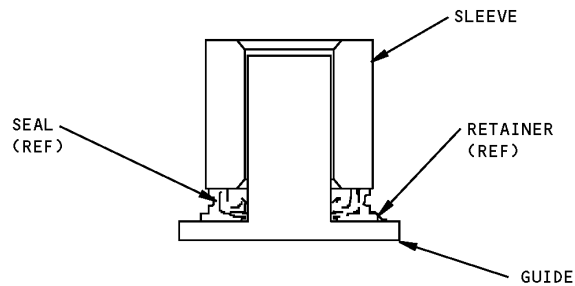
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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Seal Installation Tool Set
Figure 1 (Sheet 1 of 2)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



USE GUIDE TO INSTALL SEALS INTO
RETAINER ON 256T6110 AND 256T6310

Seal Installation Tool Set
Figure 1 (Sheet 2 of 2)

| GEARBOX ASSEMBLY | SEAL | SLEEVE |
|----------------------------------|-------------|--------|
| 256T5210 256T5220 256T5240 | S256W410-1 | -3 |
| 256T5210 256T5220 | S256W410-2 | -3 |
| 256T5210 256T5220 256T5240 | S256W410-3 | -4 |
| 256T6110 256T6310 | S256W410-7 | -2 |
| 256T6110 | S256W410-22 | -6 |
| 256T6310 | S256W410-23 | -5 |