

CHAPTER

28

FUEL



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

CHAPTER 28
FUEL

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PART NUMBER: MIT65B92408-1

NAME: ALIGNMENT FIXTURE - ADAPTER SHAFT

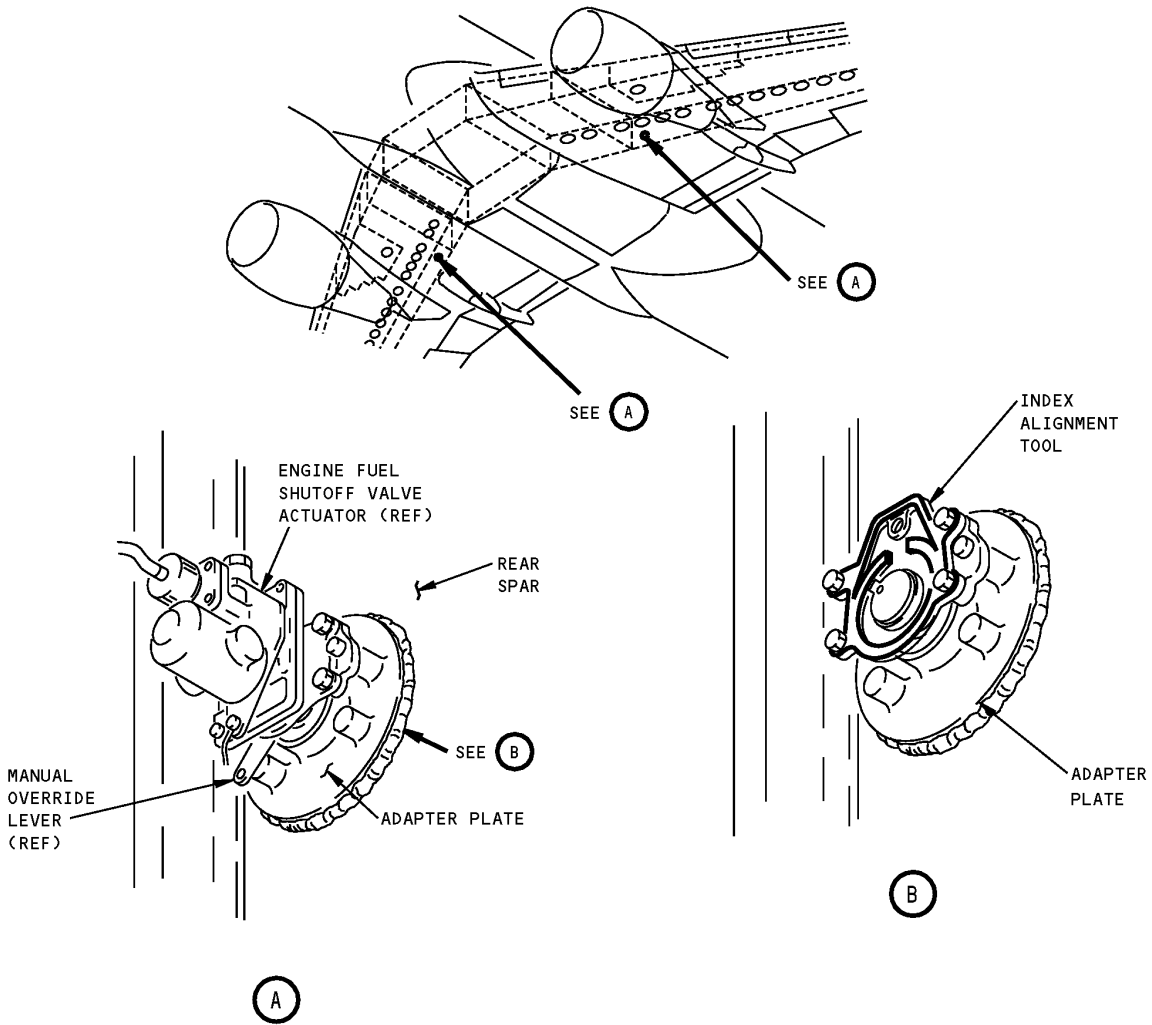
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: YES

USAGE & DESCRIPTION: This tool aligns the fuel feed valve body and the adapter shaft with the engine fuel shutoff valve actuator. The tool is made from a mounting plate and shaft from a fuel feed valve actuator.

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

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**Adapter Shaft Alignment Fixture
Figure 1**

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PART NUMBER: ST8709H

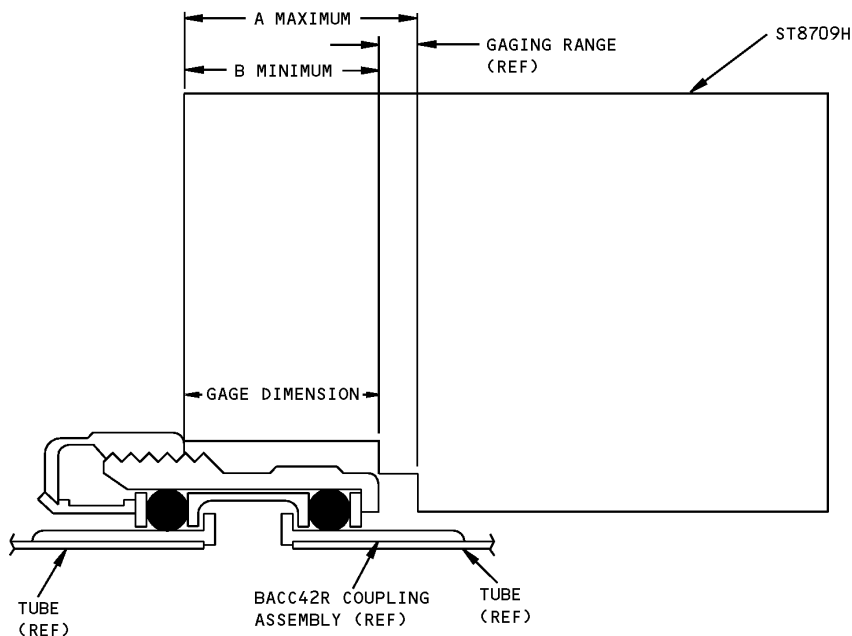
NAME: GO-NO-GO GAGE FOR ASSEMBLY OF WIGGINS BACC42R COUPLING

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to check closure of Wiggins Coupling installations to assure proper closure against seal per BAC5001. Refer to AMM 28-22-07 for further usage instructions. This gage is made of steel.

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



FLEXIBLE COUPLING WITH COUPLING GAGE

**Go-No-Go Gage for Assembly of Wiggins BACC42R Coupling
Figure 1**

TUBE DIAMETER INCHES	BACC42R SIZE	A	+ 0.000 -0.005 MAX	B	+ 0.005 -0.000 MIN	GAGE NO. ST8709H
1/2	08		0.590		0.470	-1
5/8	10		0.590		0.470	-1
3/4	12		0.690		0.550	-2
1	16		0.750		0.600	-3
1-1/4	20		0.750		0.600	-3



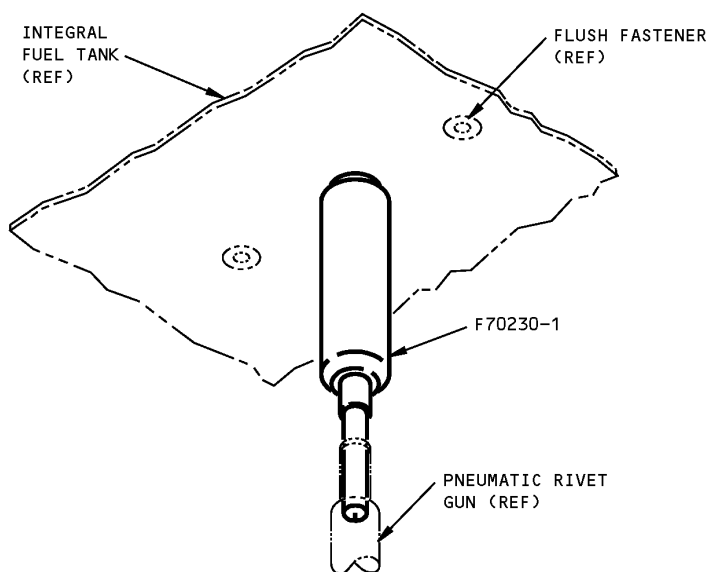
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TUBE DIAMETER INCHES	BACC42R SIZE	A	+ 0.000 -0.005	MAX	B	+ 0.005 -0.000	MIN	GAGE NO. ST8709H
1-1/2	24		0.930			0.760		-4
1-3/4	28		0.930			0.760		-4
2	32		0.930			0.760		-4
2-1/4	36		0.930			0.760		-4
2-1/2	40		0.930			0.760		-4
3	48		0.930			0.760		-4
3-1/2	56		1.030			0.880		-5
4	64		1.030			0.880		-5
4-1/2	72		1.160			0.990		-6
5	80		1.390			1.220		-7
5-1/2	88		1.390			1.220		-7

DIMENSIONAL REQUIREMENTS FOR ASSEMBLING FLEXIBLE FULL COUPLING

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PART NUMBER: F70230-1**NAME:** REPAIR TOOL - FUEL SYSTEM SELF-SEALING RIVETS**AIRPLANE MAINTENANCE:** YES**COMPONENT MAINTENANCE:** NO**USAGE & DESCRIPTION:** This tool is used to inject fuel tank sealant on integral fuel tank fasteners. The tool is a hollow steel rod and internal piston assembly. The piston base is machined to fit in a rivet gun. The top of the tool uses an O-ring seal to mate against the tank fastener. When the tool contains sealant, the rivet gun drives the sealant out around the fasteners.**DIMENSIONS:** 2 x 2 x 5 inches (51 x 51 x 127 mm)

Fuel System Self-Sealing Rivets Repair Tool
Figure 1

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PART NUMBER: A28001-1

NAME: HOSE SET - MAIN AND OVERRIDE PUMP DEFUELING

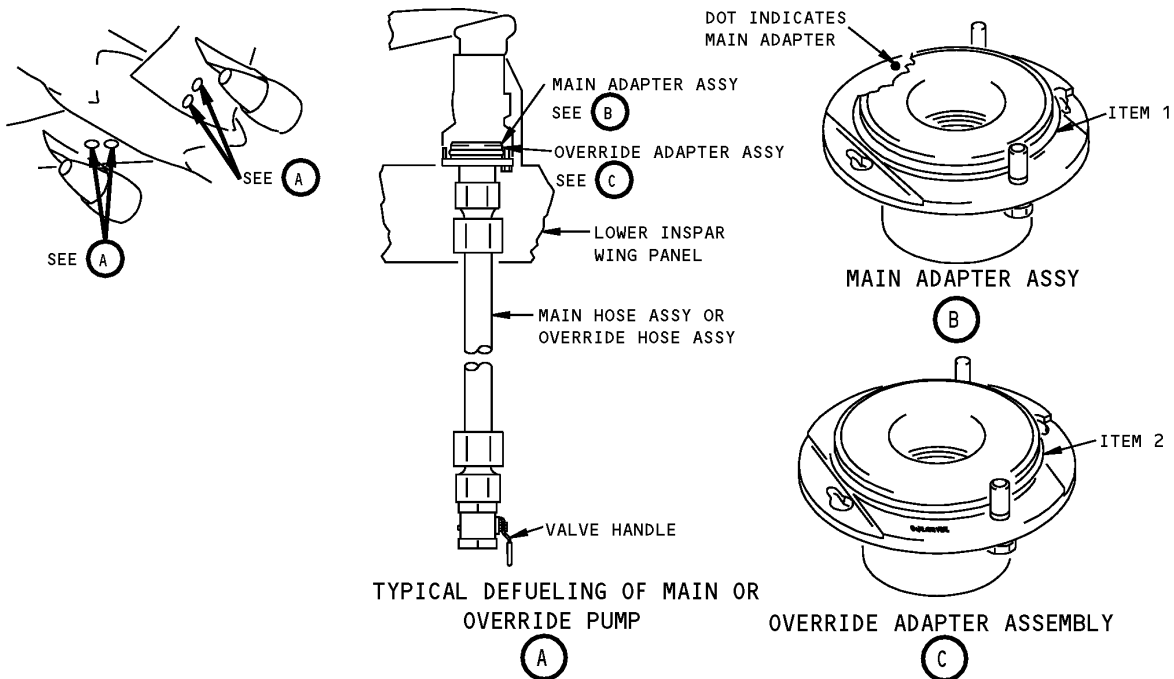
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to drain airplane fuel tanks through the main or override fuel pumps. This tool removes fuel through the pump sleeve valves when airplane power is not available. The hose set is composed of a main hose assembly and an override hose assembly.

WEIGHT: 33 Lbs (15 kg)

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



Main and Override Pump Defueling Hose Set
Figure 1

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
1	2-153N674-70	O-RING	V02697
2	2-154N674-70	O-RING	V02697



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PART NUMBER: A28002-6

NAME: DRAIN HOSE - FUEL SYSTEM SUMP

AIRPLANE MAINTENANCE: YES

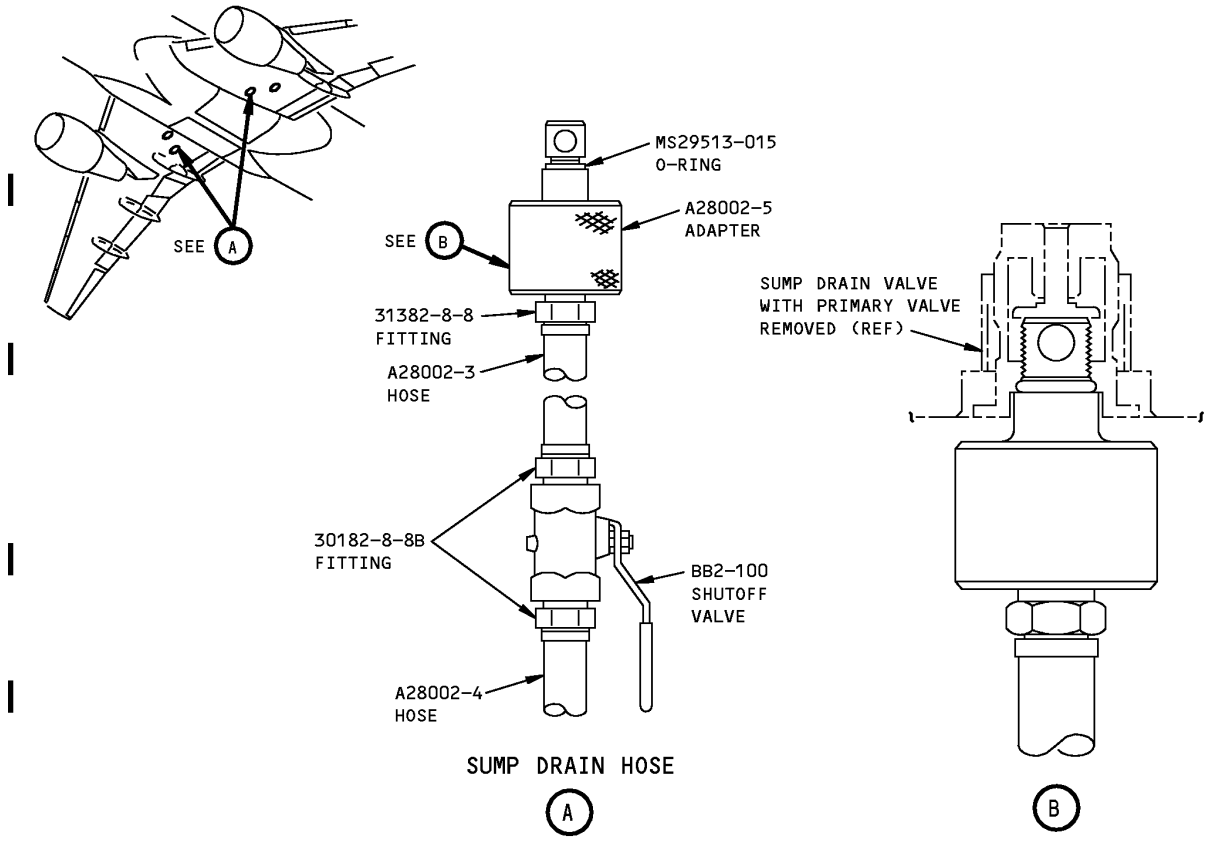
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The A28002-6 drain hose is used on 767-200/-200ER and 767-300/-300ER airplanes. A28002 is used to drain fuel from the fuel tank sumps. A28002-6 consists of an A28002-5 adapter, 12 feet of A28002-3 hose, 6 feet of A28002-4 hose, a BB2-100 shut-off valve, an MS29513-015 O-ring, a 31382-8-8 fitting and two 30182-8-8B fittings.

WEIGHT: 6 lbs (2.7 kg)

DIMENSIONS: 2 x 222 inches (51 x 5639 mm)

NOTE: A28002-6 supersedes A28002-1.



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**Drain Hose - Fuel System Sump
Figure 1**



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PART NUMBER: A28004-1

NAME: CHECK FIXTURE - SURGE TANK PRESSURE RELIEF VALVE

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The A28004-1 is used on all 767 airplanes. A28004, a pressure source of 0 to + 1.50 psig and a vacuum source of 0 to -3.00 psig are used to check the actuation pressure of the wing surge tank pressure relief valve. Refer to AMM 28-13-04 for complete usage instructions. The A28004-1 consists of:

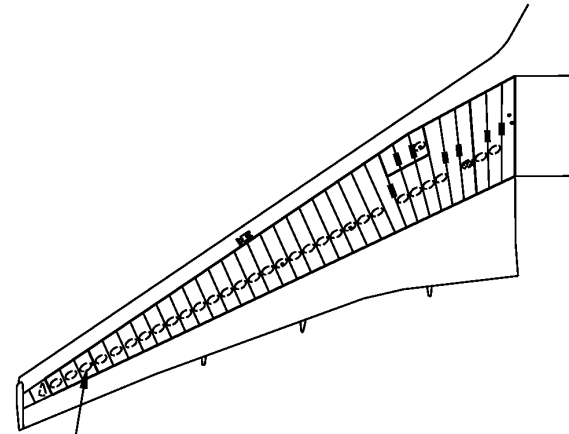
A28004-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	CHECK FIXTURE ASSEMBLY	A28004-2
1	STORAGE BOX	

WEIGHT: 5 lbs (2.3 kg)

DIMENSIONS: 7 x 9 x 10 inches (178 x 229 x 254 mm)

NOTE: G28005 replaces A28004 for future procurement.

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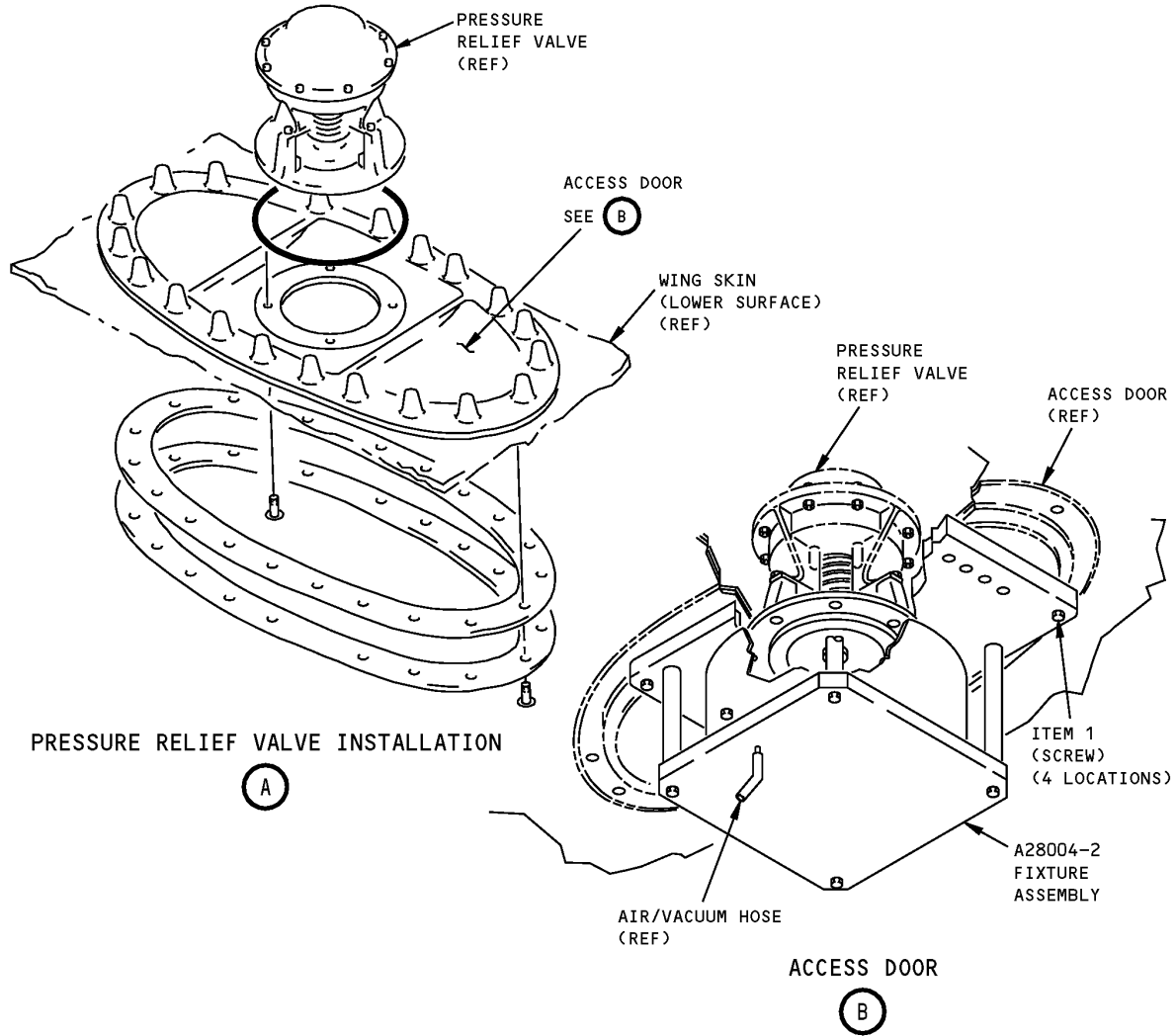


PRESSURE RELIEF VALVE
INSTALLATION

SEE 

**Surge Tank Pressure Relief Valve Check Fixture
Figure 1 (Sheet 1 of 2)**

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**Surge Tank Pressure Relief Valve Check Fixture
Figure 1 (Sheet 2 of 2)**

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
1	MS16998-48	SOCKET HEAD CAP SCREW	



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PART NUMBER: A28003-1, -43

NAME: VENTILATION EQUIPMENT - FUEL TANK

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

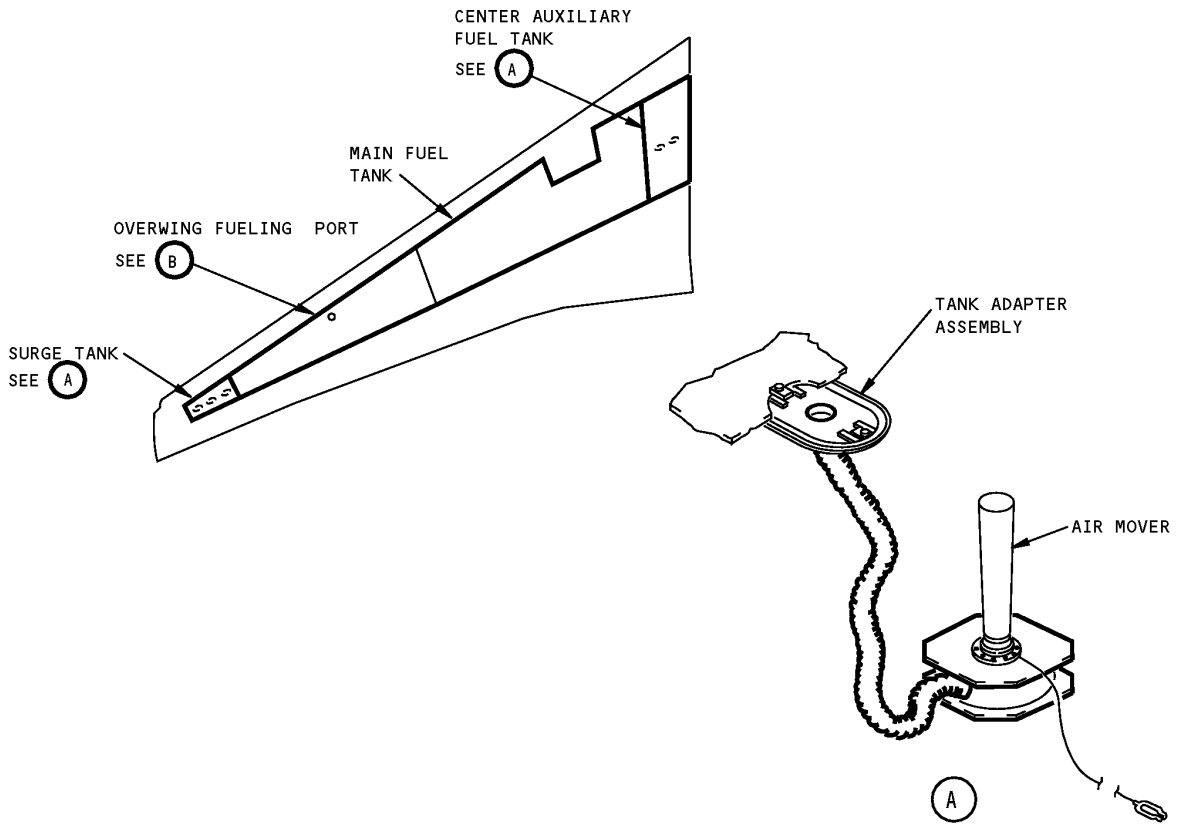
USAGE & DESCRIPTION: The A28003-1 ventilation equipment is used on all 767 airplanes. The base assembly with hose, air mover and tank adapter are used to ventilate the surge tank and center auxiliary fuel tank. The main fuel tank is ventilated using the air mover and adapter assembly on top of the overwing fueling port. Refer to AMM 28-11-00 and current A28003 drawing for additional usage instructions. The -1 tool consists of a -2 air mover assembly, a -30 air mover assembly, a -8 tank adapter assembly, and a storage box. The -43 tool consists of a -8 tank adapter, -45 air mover assembly, a -46 air mover assembly, and a storage box.

WEIGHT: A28003-2 & A28003-45 - 40 lbs (18 kg)
A28003-8, A28003-30, & A28003-46 - 20 lbs (9 kg)

DIMENSIONS: A28003-2 & A28003-45 - 40 x 40 x 40 inches (1016 x 1016 x 1016 mm)
A28003-8, A28003-30, & A28003-46 - 8 x 13 x 36 inches (203 x 330 x 914 mm)

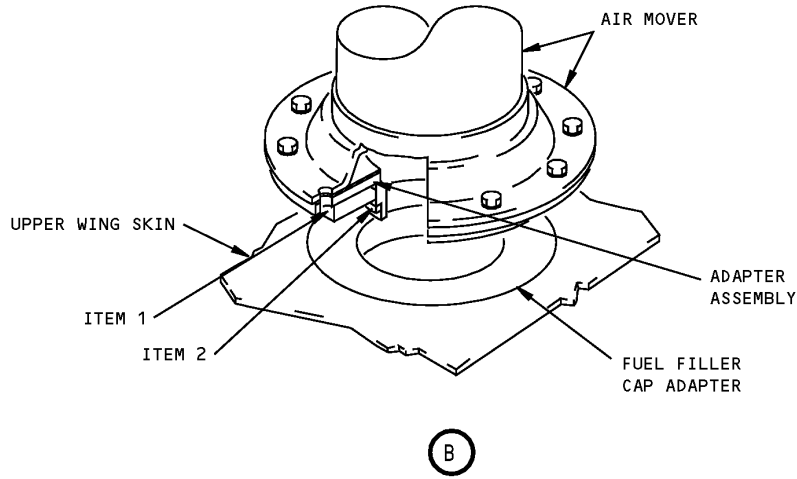
NOTE: A28003-43 replaces A28003-1 for future procurement

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**Fuel Tank Ventilation Equipment
Figure 1 (Sheet 1 of 2)**

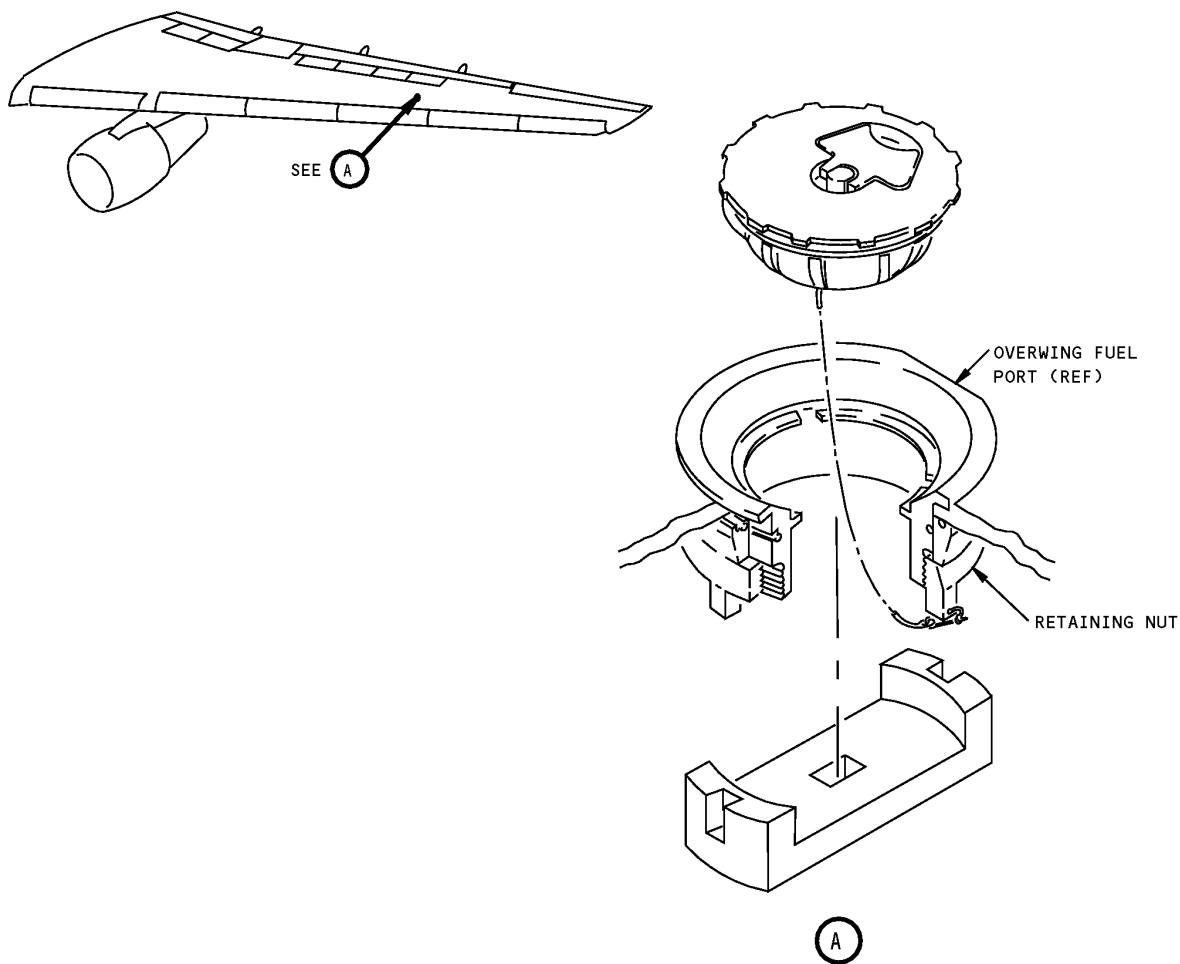
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Fuel Tank Ventilation Equipment
Figure 1 (Sheet 2 of 2)

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
1	-25	GASKET	
2	-26	GASKET	

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PART NUMBER: ST2580-302**NAME:** WRENCH - SPANNER**AIRPLANE MAINTENANCE:** YES**COMPONENT MAINTENANCE:** NO**USAGE & DESCRIPTION:** This tool is used with a customer-supplied 1/2-inch square-drive torque wrench to tighten retaining nut 10-3297-2 on the overwing fuel port.**DIMENSIONS:** 2 x 5-inch diameter (51 x 127 mm)

**Spanner Wrench
Figure 1**

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PART NUMBER: F70206-1

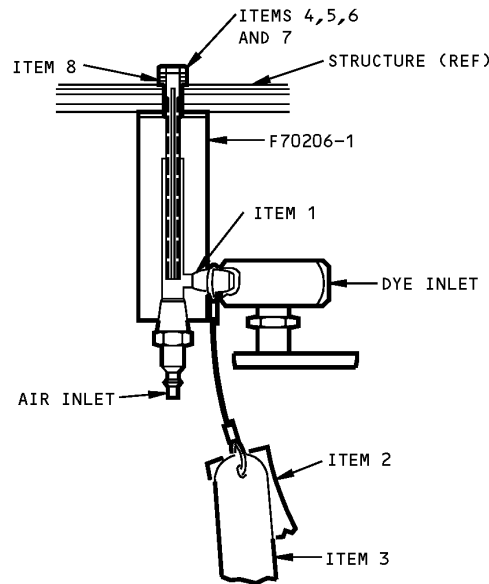
NAME: ADAPTER ASSEMBLY - FUEL LEAK TRACING HOLLOW BOLT

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool introduces dye and air pressure to the area of a suspected fuel tank leak, when used with an existing fastener hole for leak tracing. This tool consists of a body assembly, a valve, a slotted bolt and various sizes of gasket and washer sets. Remove an existing 1/4 to 3/4-inch diameter fastener from structure in the vicinity of a suspected leak. The slotted bolt, with NAS washer, gasket and washer sized for the hole, is inserted from the inside of the tank and screwed into the body on the outside of the tank. Bolt length will accommodate structure to 2-3/4-inch thick.

DIMENSIONS: 6 x 9 x 9 inches (152 x 229 x 229 mm)



Fuel Leak Tracing Hollow Bolt Adapter Assembly
Figure 1

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
1	43F2	VALVE	
2	BACS39A-24	WARNING STREAMER	



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REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
3	-21	WARNING TAG	
4	-4	WASHER SEAL ASSY	
5	-5	WASHER SEAL ASSY	
6	-6	WASHER SEAL ASSY	
7	-7	WASHER SEAL ASSY	
8	-9	GASKET	



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PART NUMBER: F71329

NAME: LEAKAGE TRACING DEVICE - INTEGRAL TANK LEAKAGE TEST

AIRPLANE MAINTENANCE: YES

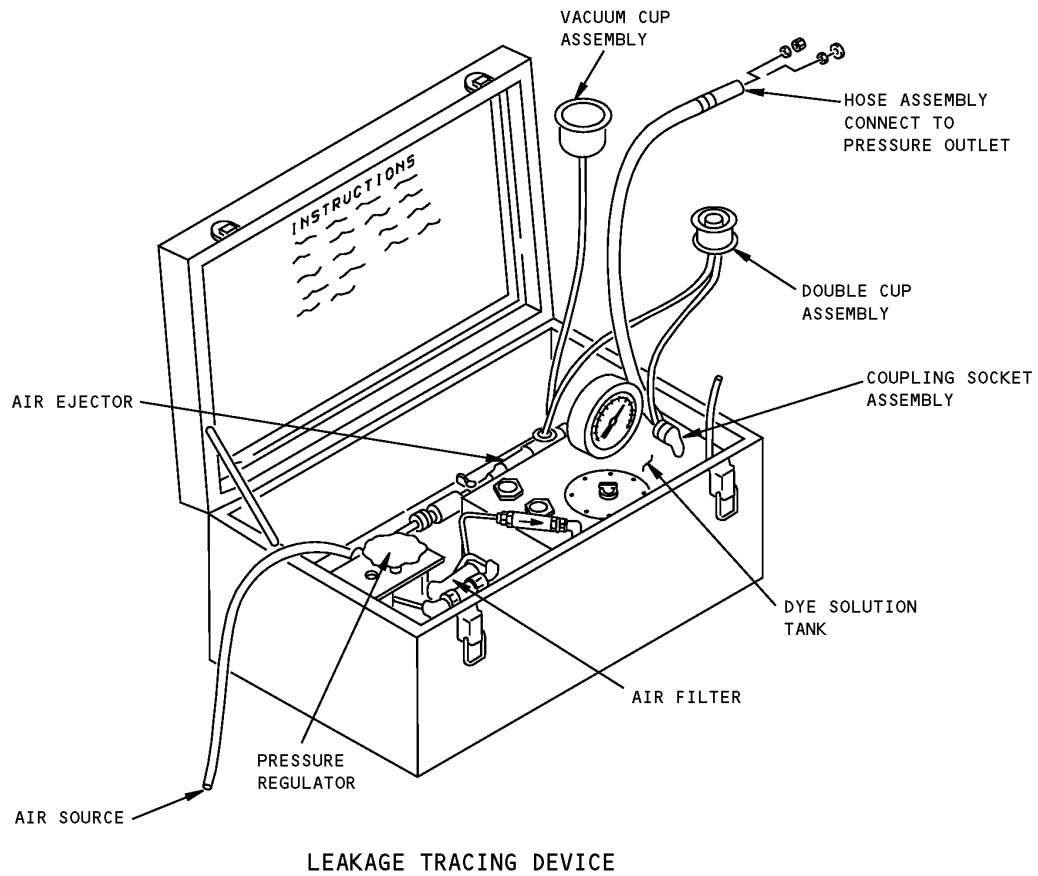
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This device is used to apply a pressurized tracing medium to the exterior surface of the integral tank at the point of leakage. Leak detection is then accomplished on the inside of the tank and closing the tank is not necessary. The device consists of an air filter, a pressure regulator, a dye solution tank, an air ejector, a hose assembly, a vacuum cup assembly, a double cup assembly and a fastener assembly.

WEIGHT: 40 lbs (18 kg)

DIMENSIONS: 10 x 14 x 18 inches (254 x 356 x 356 mm)

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**Integral Tank Leakage Test Leakage Tracing Device
Figure 1**



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PART NUMBER: A28008 WAS MOVED TO 12-10-05



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PART NUMBER: F72951-1

NAME: TEST EQUIPMENT - WATER MANOMETER

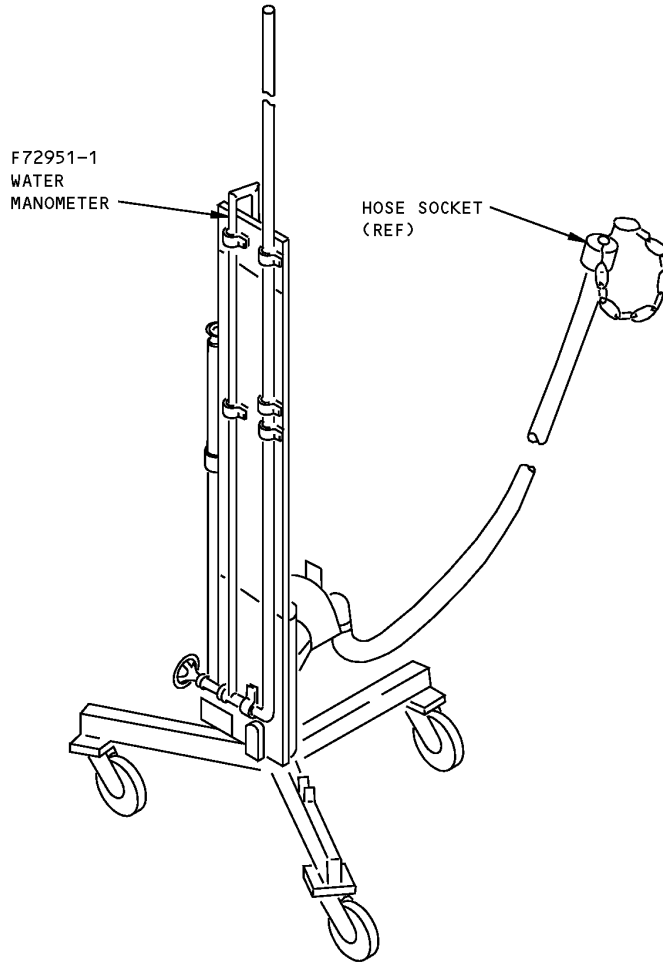
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This manometer is used to provide pressure and vacuum relief protection during hydrostatic testing of certain pressure retaining components, structures and systems. During fuel system testing, the manometer should be used with the fuel system pressure plug equipment B28005-1 (ref). The test unit consists of a manometer mounted on a caster equipped base. The 180-inch high manometer can be pivoted 90 degrees to a 104-inch height for easier transportability.

DIMENSIONS: 41 x 62 x 109 inches (1041 x 1575 x 2769 mm)

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**Water Manometer - Test Equipment
Figure 1**



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PART NUMBER: G28005-14, -18, -23, -29, -35, -42,

NAME: CHECK FIXTURE EQUIPMENT - PRESSURE RELIEF VALVE

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The G28005-14,-18,-23,-29, -35 or -42 are used on all 767 airplanes. The G28005-42 is preferred for future procurement. The G28005-42, together with a pressure source of 0 to + 1.50 psig and a vacuum source of 0 to -3.00 psig, is used to check the actuating pressure of the wing surge tank pressure relief valve. Refer to AMM 28-13-04 for complete usage instructions. G28005-14, -18, -23, -29, -35 and -42 consists of:

G28005-14		
QUANTITY	NOMENCLATURE	PART NUMBER
1	CHECK FIXTURE ASSEMBLY	G28005-15
4	SOCKET HEAD CAP SCREW	MS16998-48
1	STORAGE BOX	

G28005-18		
QUANTITY	NOMENCLATURE	PART NUMBER
1	CHECK FIXTURE ASSEMBLY	G28005-19
4	SOCKET HEAD CAP SCREW	MS16998-48
1	STORAGE BOX	

G28005-23		
QUANTITY	NOMENCLATURE	PART NUMBER
1	CHECK FIXTURE ASSEMBLY	G28005-24
4	SOCKET HEAD CAP SCREW	MS16998-48
1	STORAGE BOX	

G28005-29		
QUANTITY	NOMENCLATURE	PART NUMBER
1	CHECK FIXTURE ASSEMBLY	G28005-30
4	SOCKET HEAD CAP SCREW	MS16998-48
1	STORAGE BOX	



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G28005-35		
QUANTITY	NOMENCLATURE	PART NUMBER
1	CHECK FIXTURE ASSEMBLY	G28005-36
4	PAN HEAD SCREW	G28005-39
4	SOCKET HEAD CAP SCREW	MS16998-48
1	STORAGE BOX	

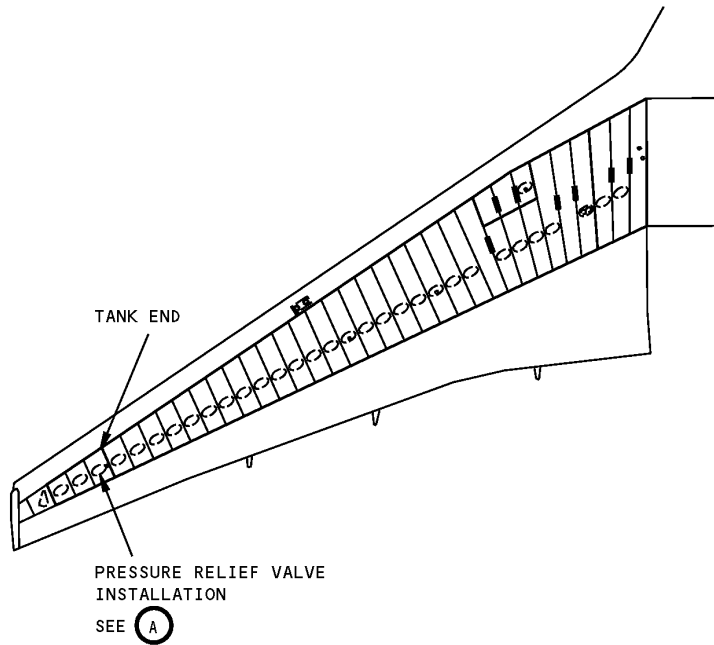
G28005-42		
QUANTITY	NOMENCLATURE	PART NUMBER
4	PAN HEAD SCREW	G28005-39
1	CHECK FIXTURE ASSEMBLY	G28005-43
4	SOCKET HEAD CAP SCREW	MS16998-48
1	STORAGE BOX	

WEIGHT: 10 lbs (4.5 kg)

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

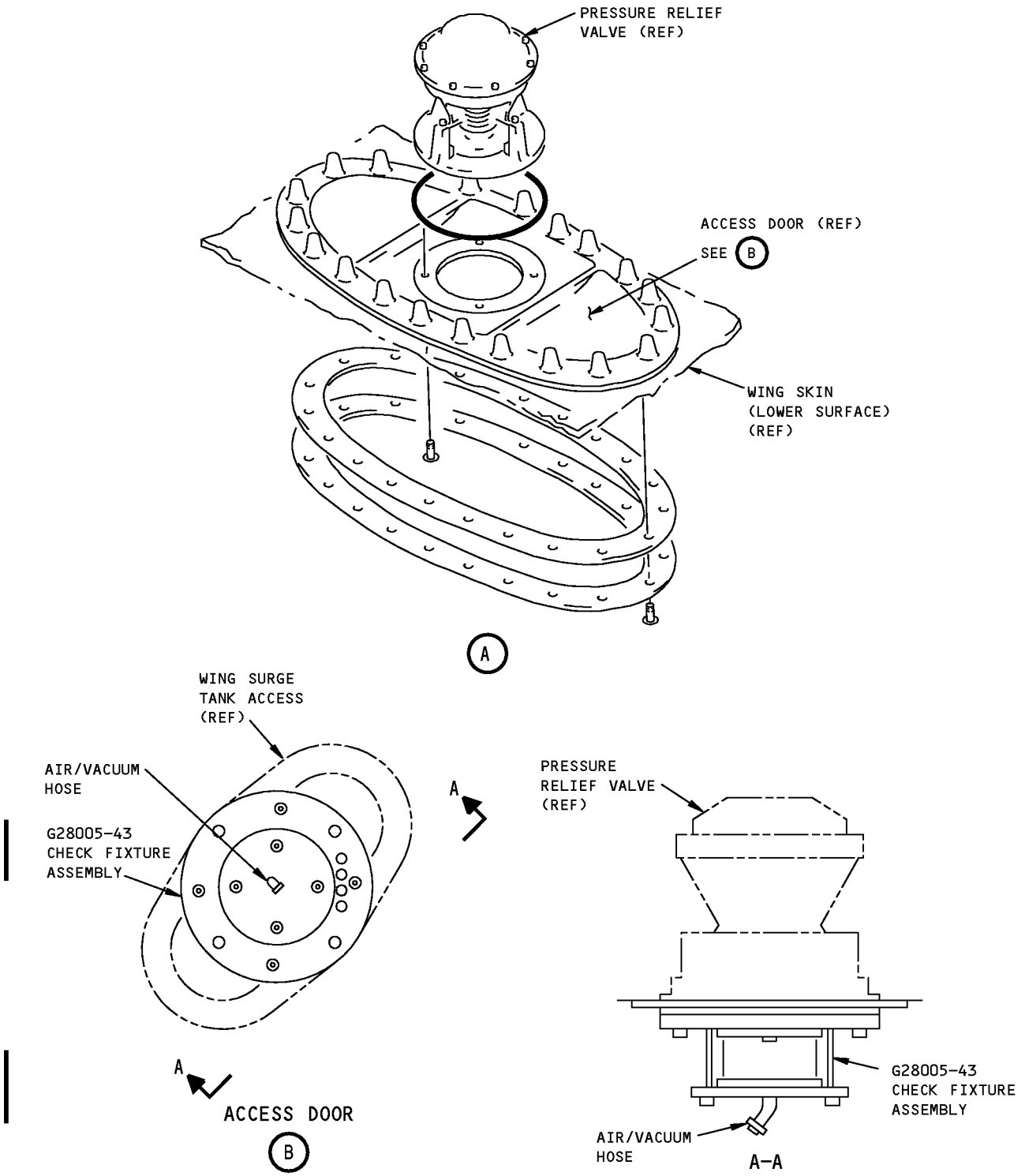
NOTE: G28005-42 replaces G28005-14, -18, -23, -29 and -35 for future procurement.
G28005 replaces G28004 for future procurement.

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**Pressure Relief Valve Check Fixture Equipment
Figure 1 (Sheet 1 of 2)**

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**Pressure Relief Valve Check Fixture Equipment
Figure 1 (Sheet 2 of 2)**



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PART NUMBER: A28010-1, -2

NAME: SPANNER WRENCH - FUEL SUMP DRAIN VALVE

AIRPLANE MAINTENANCE: YES

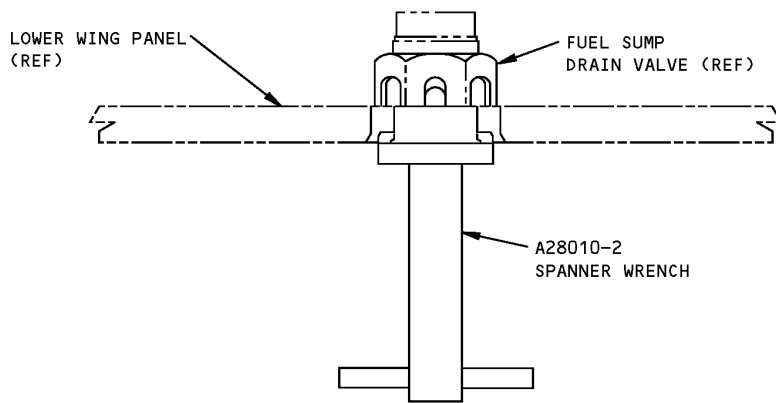
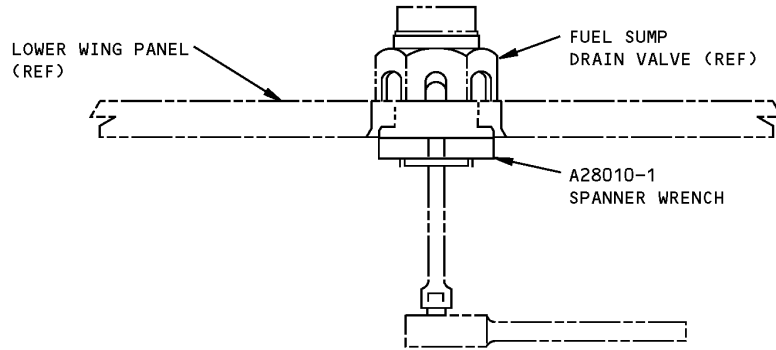
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to install or remove the sump drain valve. The A28010-1 wrench is a reversible wrench for use on valves with either 1/16 or 1/8 inch diameter keyways. Refer to AMM 28-11-05 for further usage instructions. The A28010-2 wrench set consists of two wrenches. The -4 is used on valves with 1/16 inch diameter keyways and the -17 is used on valves with 1/8 inch diameter keyways.

WEIGHT: A28010-1 - 0.25 lb (0.11 kg) (excluding box)
A28010-2 - 2.0 lbs (0.9 kg) (excluding box)

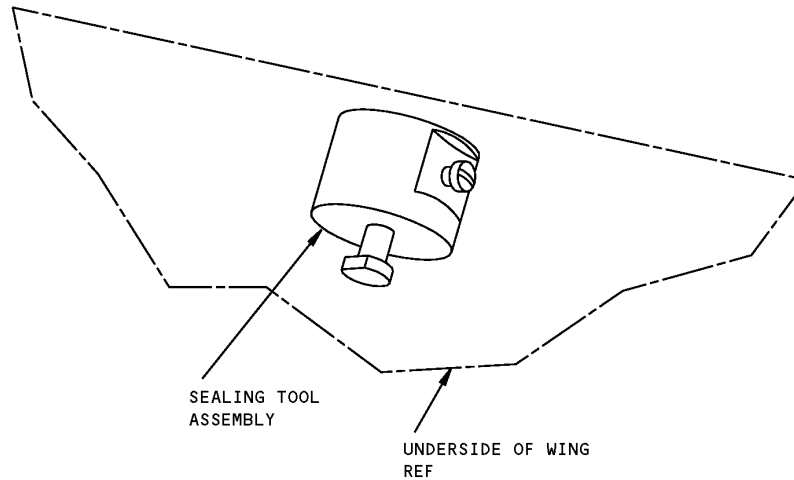
DIMENSIONS: A28010-1 - 1 x 2 x 2 inches (25 x 51 x 51 mm) (excluding box)
A28010-2 - 3 x 4 x 6 inches (76 x 102 x 152 mm) (excluding box)

NOTE: A28012 replaces A28010 for future procurement.



**Fuel Sump Drain Valve Spanner Wrench
Figure 1**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: J28006-1**NAME:** SEALING TOOL - RIVET, FUEL TANK**AIRPLANE MAINTENANCE:** YES**COMPONENT MAINTENANCE:** NO**USAGE & DESCRIPTION:** This tool is used to apply sealant when making a temporary repair of integral fuel tank rivets. For complete usage instructions see AMM 28-11-00. This tool consist of a -2 sealing tool assembly, and a storage box assembly.**WEIGHT:** 1 lb (0.45 kg) (excluding box)**DIMENSIONS:** 1 x 2 x 2 inches (25 x 51 x 51 mm) (excluding box)

**Fuel Tank Rivet Sealing Tool
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A28012-1

NAME: SPANNER WRENCH - FUEL SUMP DRAIN VALVE

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

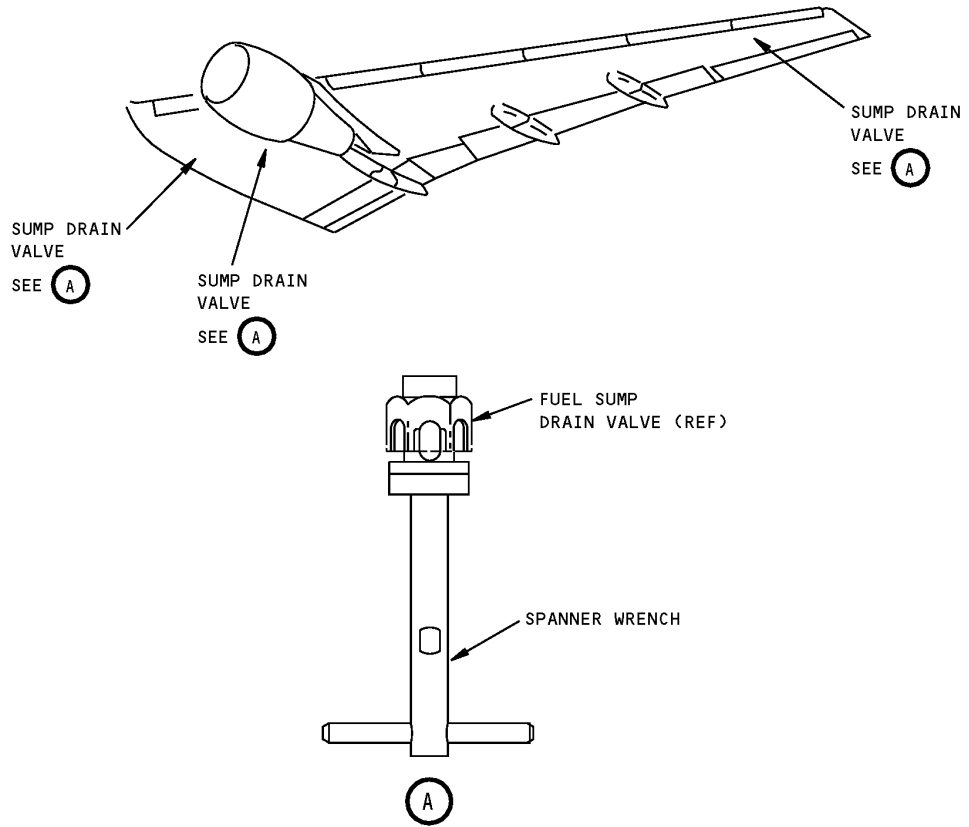
USAGE & DESCRIPTION: The spanner wrench is used to remove/install the sump drain valve for left and right center auxiliary tanks, main fuel tanks and surge tanks. Refer to AMM 28-11-05 for further usage instructions. This tool consists of a wrench assembly and a storage box assembly.

WEIGHT: 1 lb (0.45 kg)

DIMENSIONS: 3 x 6 x 8 inches (64 x 152 x 203 mm)

NOTE: A28012 replaces A28010 for future procurement.

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



**Fuel Sump Drain Valve Spanner Wrench
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: B28001-18

NAME: ADAPTER - SUMP DRAIN VALVE REMOVAL/INSTALLATION

AIRPLANE MAINTENANCE: YES

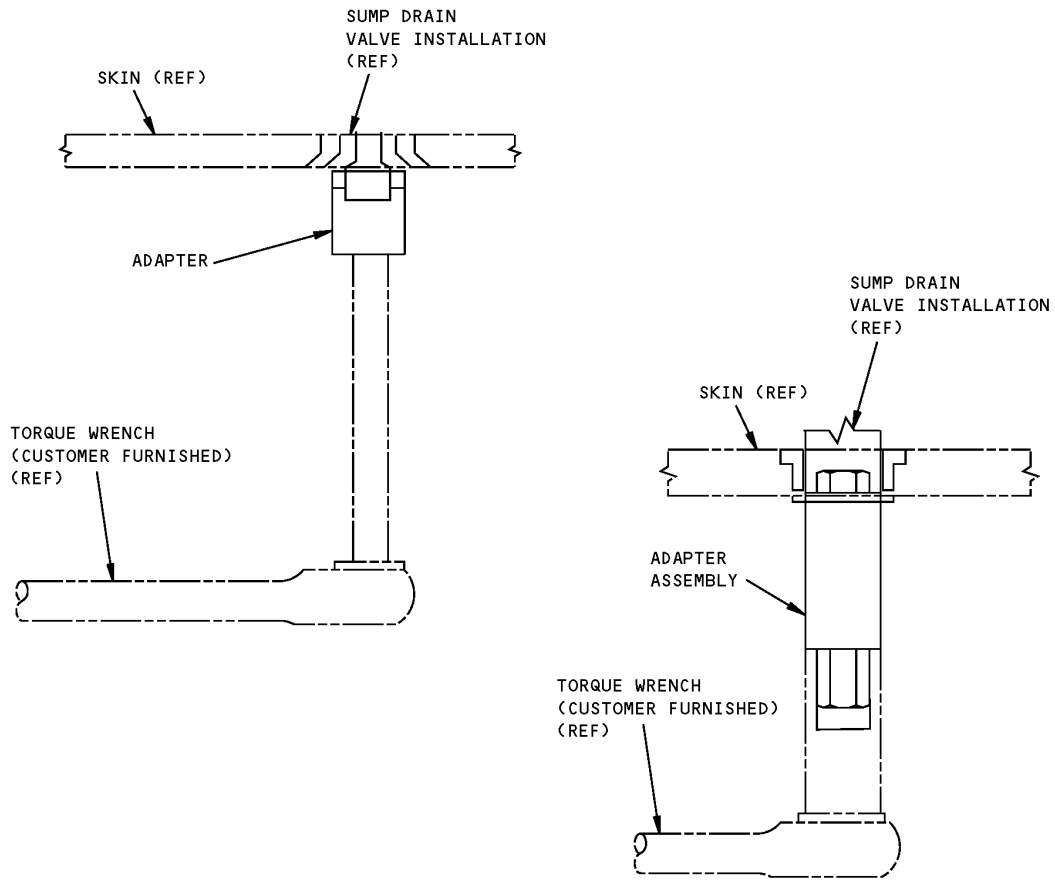
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to remove and install the surge tank fuel sump drain valves. This tool consists of an adapter assembly, an adapter and a storage box.

WEIGHT: 1.5 lbs (0.7 kg) (excluding box)

DIMENSIONS: 2 x 9 x 12 inches (51 x 229 x 305 mm)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



**Sump Drain Valve Removal/Installation Adapter
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A28013-10, -11

NAME: ADAPTER EQUIPMENT - AIR SUPPLY, SURGE TANK

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

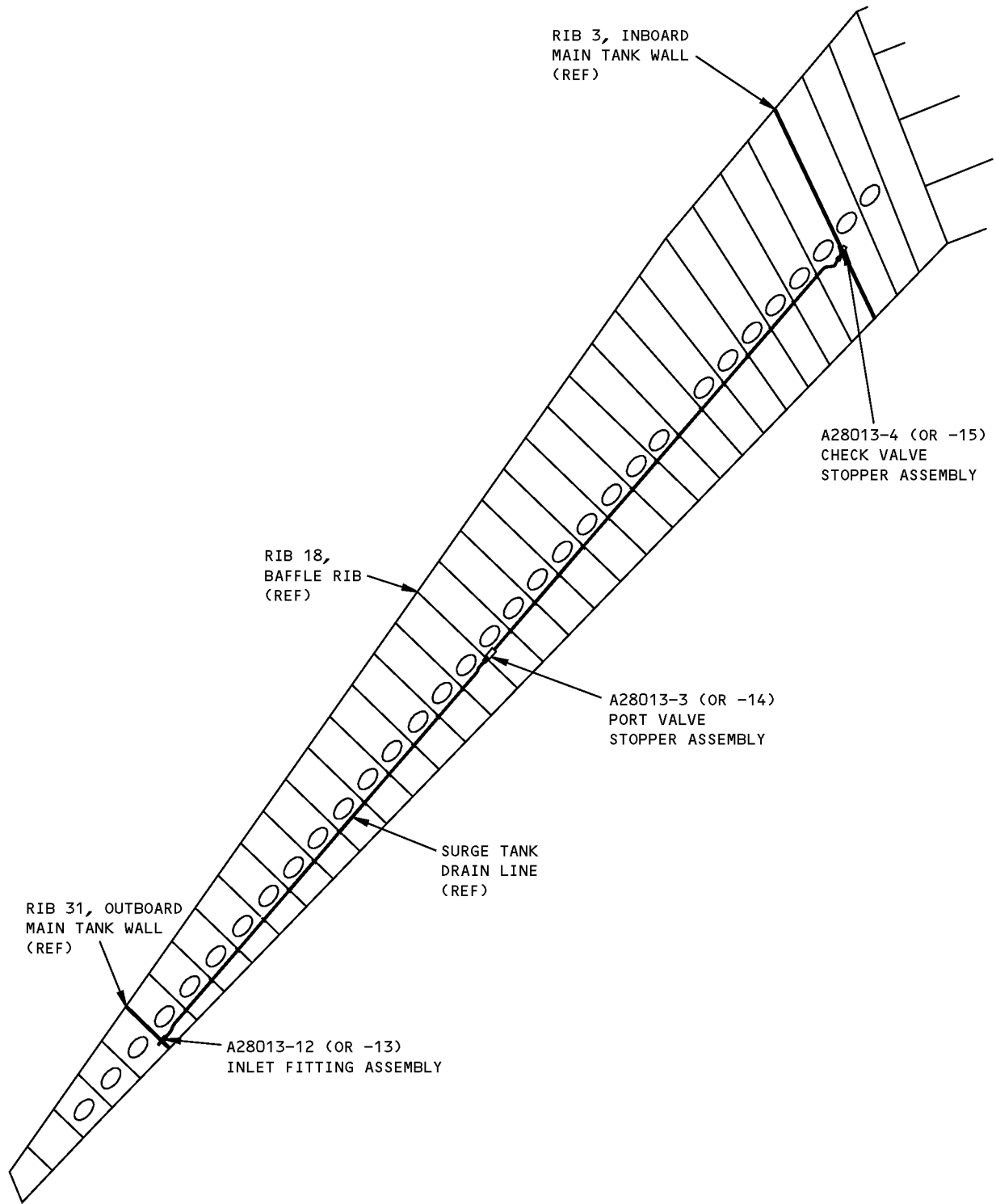
USAGE & DESCRIPTION: The A28013-10 adapter equipment is used on all 767-200/-300 airplanes and 767-400 airplanes prior to line number 813. The A28013-11 adapter equipment is used on 767-400 airplanes from line number 813 and on. The A28013 adapter equipment is used during a leak check on the surge tank drain line. Other tools used in conjunction with the A28013 adapter equipment are an F72951 manometer and a regulated, 0 to 10 psi air pressure source. Refer to AMM 28-13-07 for complete usage information. A28013-10 consists of an A28013-12 inlet fitting assembly, an A281013-3 port valve stopper assembly and an A28013-4 check valve stopper assembly. All equipment is contained in a storage box. A28013-11 consists of an A28013-13 inlet fitting assembly, an A28013-14 port valve stopper assembly and an A28013-15 check valve stopper assembly. All equipment is contained in a storage box.

WEIGHT: 1 lb (0.45 kg)

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

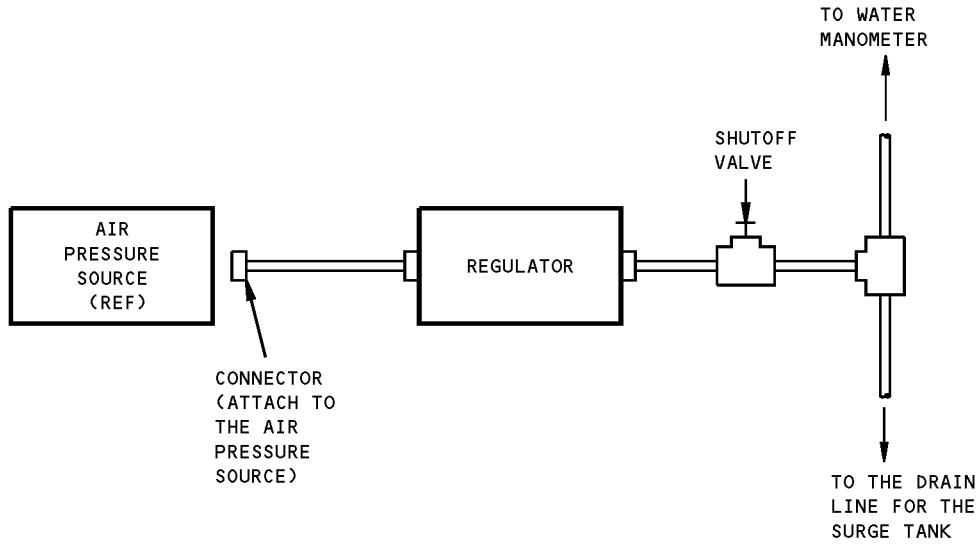
NOTE: A28013-10 or -11 supersedes A28013-1

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

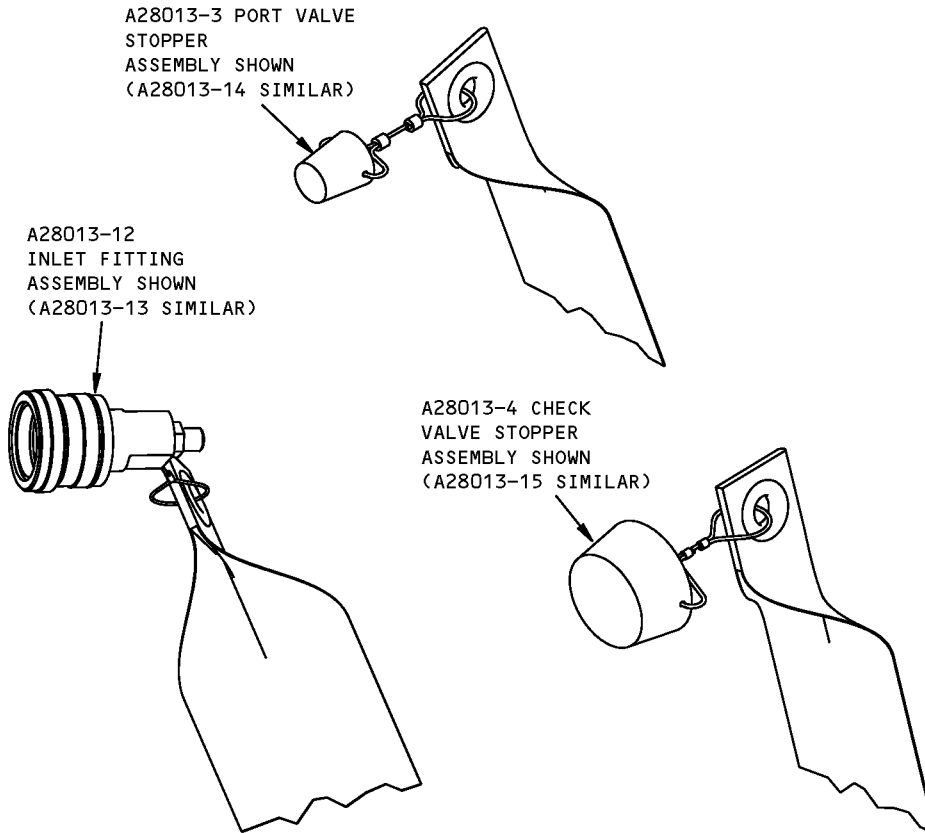


**Surge Tank Air Supply Adapter Equipment
Figure 1 (Sheet 1 of 2)**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



SURGE TANK LEAK TEST SET-UP



**Surge Tank Air Supply Adapter Equipment
Figure 1 (Sheet 2 of 2)**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: J28007-1

NAME: PRESSURIZATION EQUIPMENT - WING DRY BAY, FUEL LEAK DETECTION

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

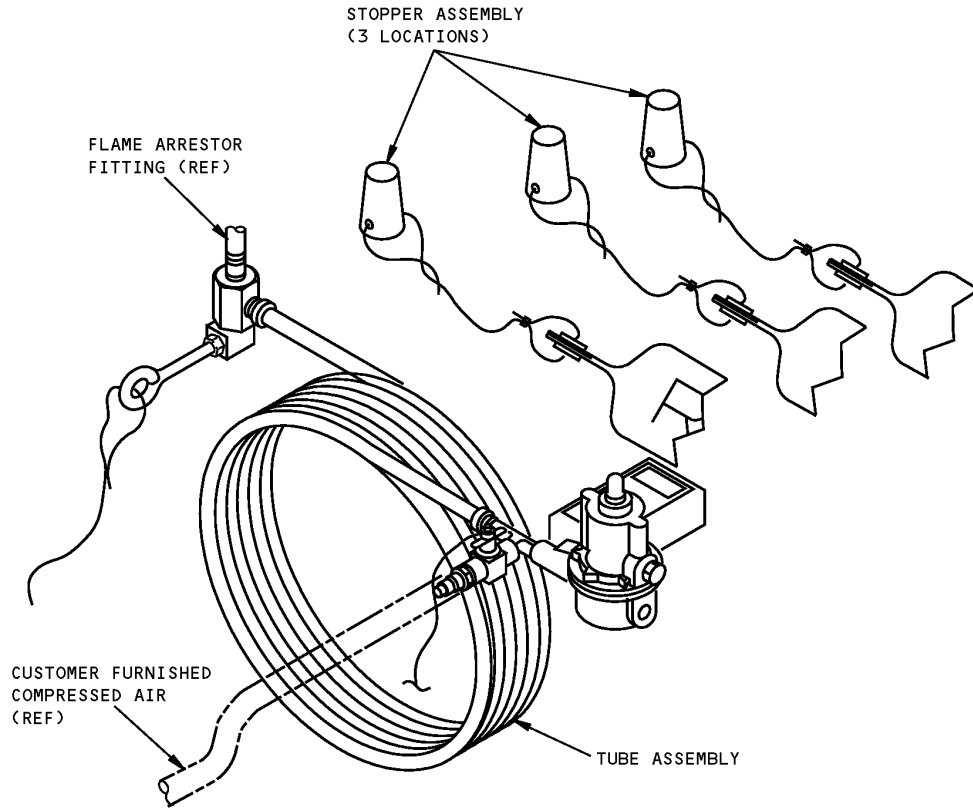
USAGE & DESCRIPTION: This equipment is used to pressurize the wing dry bay to check for leaks through any flame arrestor fitting in lower wing surface and by plugging the other(s). Refer to AMM 28-11-00 for further usage information. This equipment consists of a tube assembly, a stopper assembly and a storage box assembly.

NOTE: One stopper assembly is required for 747, 767 and 777 test and three stopper assemblies are required for 757 test.

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

DIMENSIONS: 12 x 14 x 22 inches (305 x 356 x 559 mm) (excluding box)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



**Fuel Leak Detection Wing Dry Bay Pressurization Equipment
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: J28010-1

NAME: CONSOLE - SHOP AIR SUPPLY

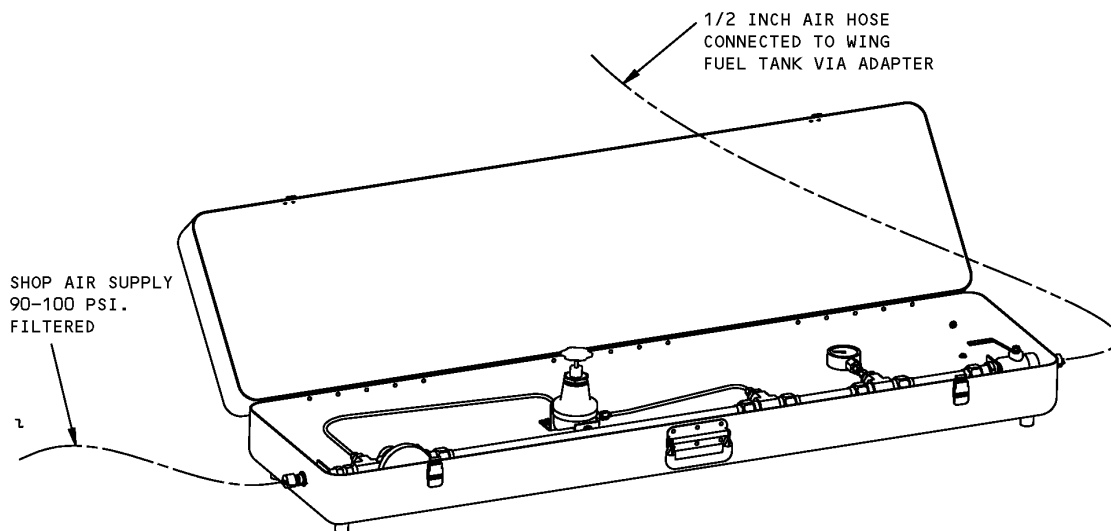
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The J28010-1 shop air supply is used on all 767 airplanes. J280101 is used to perform fuel tank leak inspections. It is used in conjunction with G28005-29 pressure relief valve check fixture equipment. Refer to AMM 28-13-04 for complete usage instructions. The tool consists of a pneumatic valve and pressure gauge and various pneumatic and plumbing components.

WEIGHT: 22 lbs (10 kg)

DIMENSIONS: 10 x 18 x 66 inches (254 x 457 x 1676 mm)



**Shop Air Supply Console
Figure 1**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: B28009-1

NAME: ALIGNMENT EQUIPMENT - FUEL SHUTOFF VALVE

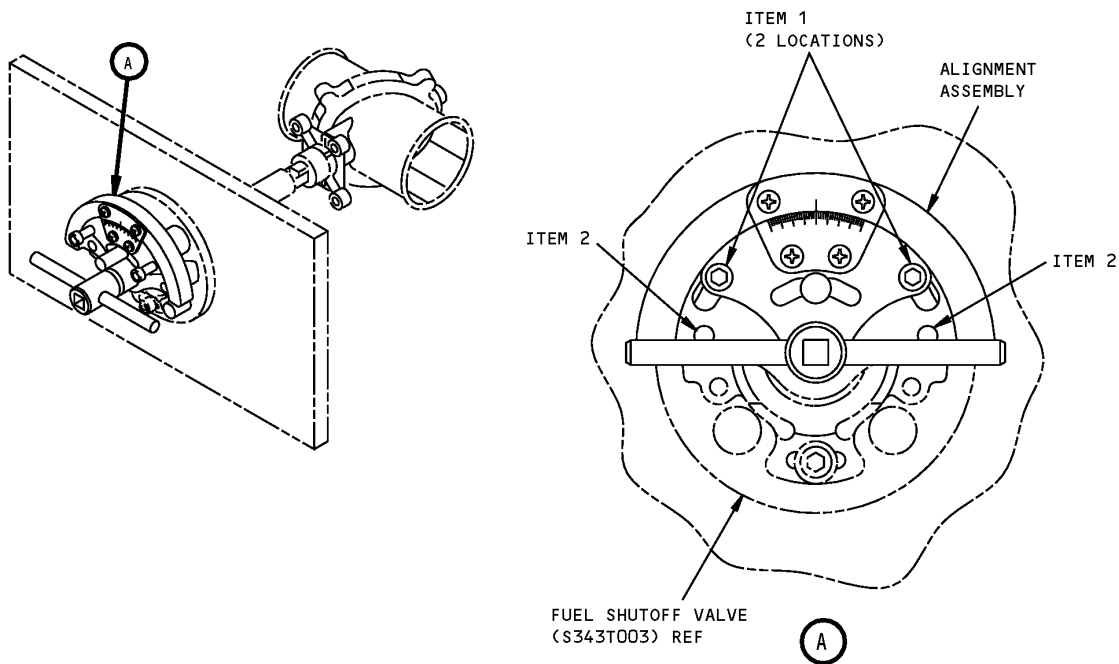
AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to install and align the actuator with the valve body and adapter shaft of the fuel shutoff valve (S343T003) without entering the fuel tank. The alignment consists of an alignment assembly, (2) alignment screws, and a storage box assembly. Refer to AMM 28-22-00, AMM 28-25-00, AMM 28-26-00, and AMM 28-31-00 for further usage information.

WEIGHT: 0.5 lb (0.2 kg)

DIMENSIONS: 2.5 x 2.6 x 3.8 inches (64 x 66 x 97 mm)



**Fuel Shutoff Valve Alignment Equipment
Figure 1**

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR
1	MS16997-36	ALIGNMENT SCREW	
2	-13	MOUNT PIN	



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A28006-1, -22, -27

NAME: TEST BOX - FUEL LEVEL SENSORS SURGE TANK

AIRPLANE MAINTENANCE: YES

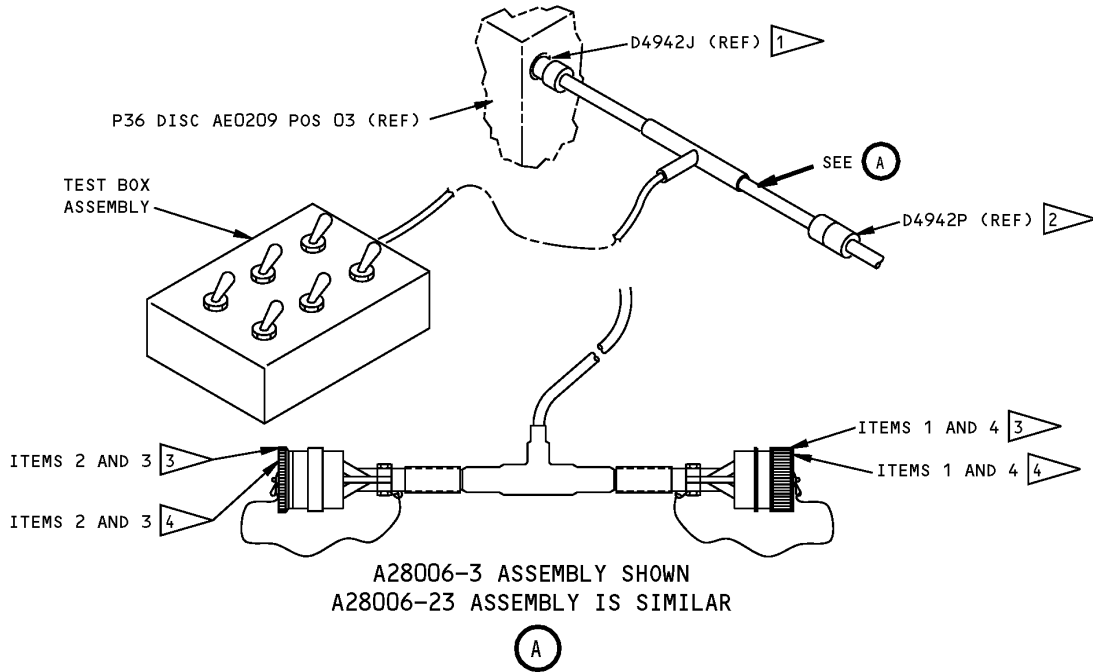
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: This tool is used to test the surge tank fuel level sensor during test of the pressure fueling system. Refer to AMM 28-21-00 for further usage instructions. The -1 is used on 767 line number 1 through 388. The -22 is used on 767 line number 389 and on. This tool is applicable if SB 767-28-0031 has been incorporated. The -1 and -22 are used on all 767 airplanes except the 767-400. The -27 is used on the 767-400 airplanes. The -1 consists of a -3 test box assembly and a -5 storage box assembly. The -22 consists of a -23 test box assembly and a -24 storage box assembly. The -27 consists of a -28 test box assembly and a -29 storage box assembly.

WEIGHT:
A28006-1 - 4 lbs (1.8 kg)
A28006-22 - 5 lbs (2.3 kg)
A28006-27 - 7 lbs (3.2 kg)

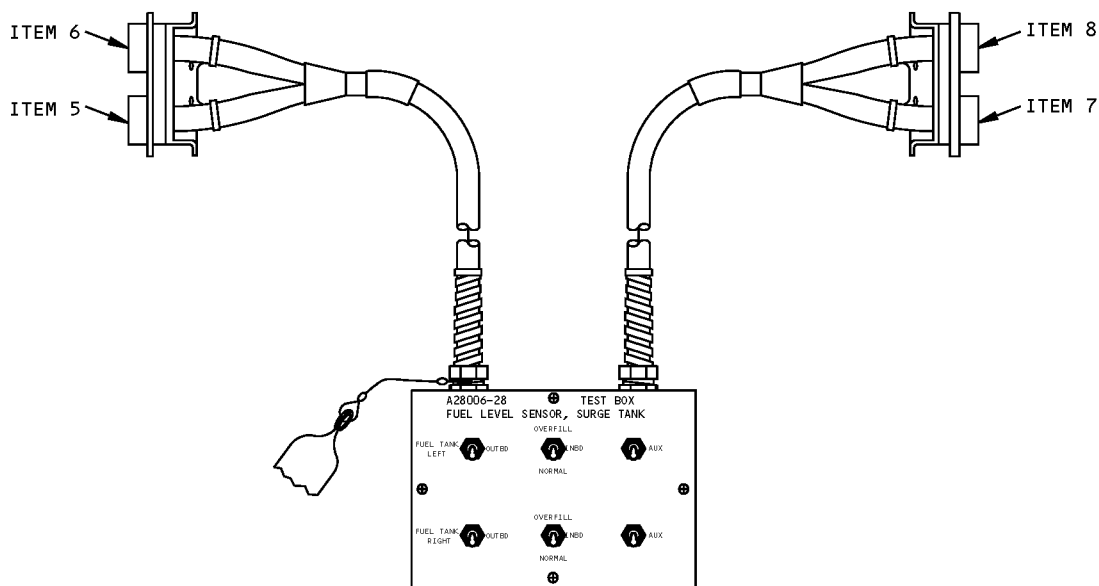
DIMENSIONS:
A28006-1 - 6 x 8 x 14 inches (152 x 203 x 356 mm)
A28006-22 - 6 x 8 x 14 inches (152 x 203 x 356 mm)
A28006-27 - 8 x 10 x 16 inches (152 x 254 x 406 mm)

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Fuel Level Sensors Surge Tank Test Box
Figure 1 (Sheet 1 of 2)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



A28006-28

REPAIRABLE/REPLACEABLE PARTS				
ITEM NO.	PART NO.		NOMENCLATURE	VENDOR CODE
1	M83723/71A24439	3	CONNECTOR (OPT: MS24264R24B43S9)	
1	M83723/71A24619	4	CONNECTOR (OPT: MS24264R24B61S9)	
2	M83723/76A24439	3	CONNECTOR (OPT: MS24266R24B43P9)	
2	M83723/76A24619	4	CONNECTOR (OPT: MS24266R24B61P9)	
3	M83723/59-224AC	3	CAP (OPT: MS27293-9)	3
3	M83723/59-224AR	4	CAP	
4	M83723/60-224AC	3	CAP (OPT: MS27295-9)	3
4	M83723/60-224AR	4	CAP	
5	617 200 002	5	PIN - SIZE 22	
6	617 221 001	5	PIN - SIZE 20	
7	617 300 001	5	SOCKET - SIZE 22	
8	617 320 001	5	SOCKET - SIZE 20	

- 1 M/W D4942J P36 DISC AE0209 POS 03
- 2 M/W D4942P P36 DISC AE0209 POS 03
- 3 USED ON A28006-1 TOOL
- 4 USED ON A28006-22 TOOL
- 5 USED ON A28006-27 TOOL

Fuel Level Sensors Surge Tank Test Box
Figure 1 (Sheet 2 of 2)



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A28011-48, -49, -50

NAME: TEST EQUIPMENT - PRESSURE/LEAKAGE, FUEL LINES AND FITTINGS

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

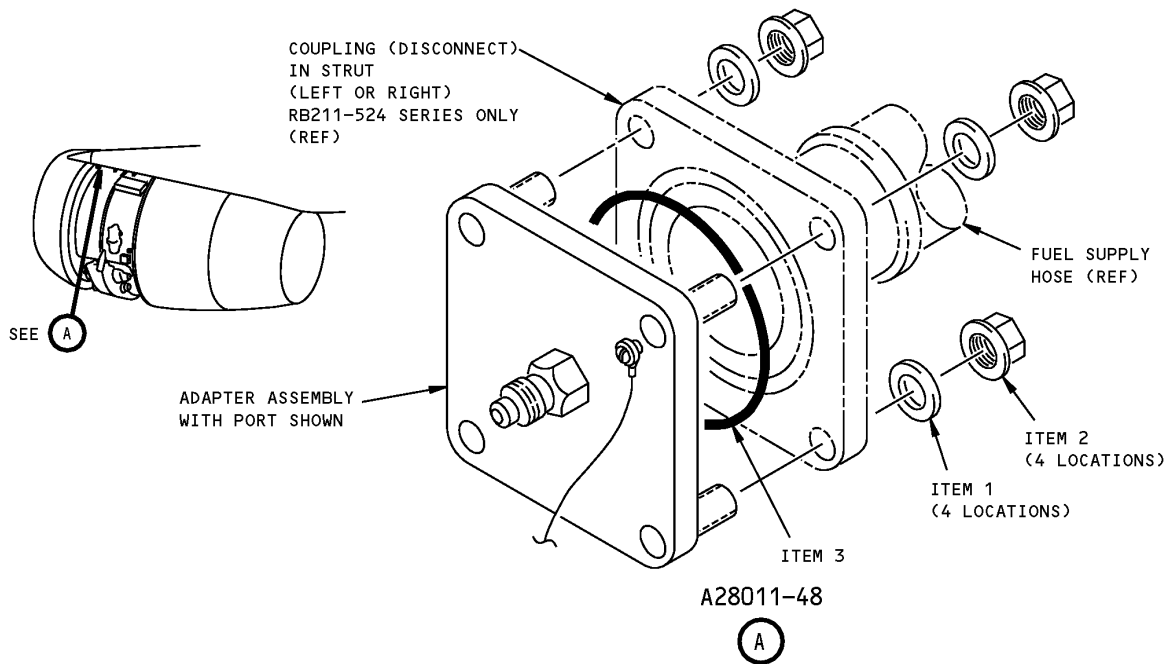
USAGE & DESCRIPTION: This tool is a set of adapters required to perform the engine fuel feed manifold pressure leak test. One is connected to each engine's fuel feed line quick disconnect, one with and one without a port. The -48 set is used on the RB211-524 engine, the -49 set is used on the PW4000, and CF6-80C2B engines, and the -50 set is used on the CF6-80A engine. For complete usage instructions see AMM 28-22-07. Each set consist of two adapter assemblies and a storage box.

WEIGHT: A28011-48 - 5 lbs (2.3 kg)
A28011-49 - 12 lbs (5.4 kg)
A28011-50 - 8 lbs (3.6 kg)

DIMENSIONS: A28011-48 - 1 x 3 x 6 inches (25 x 76 x 152 mm)
A28011-49 - 4 x 5 x 6 inches (102 x 127 x 152 mm)
A28011-50 - 3 x 3 x 5 inches (76 x 76 x 127 mm)

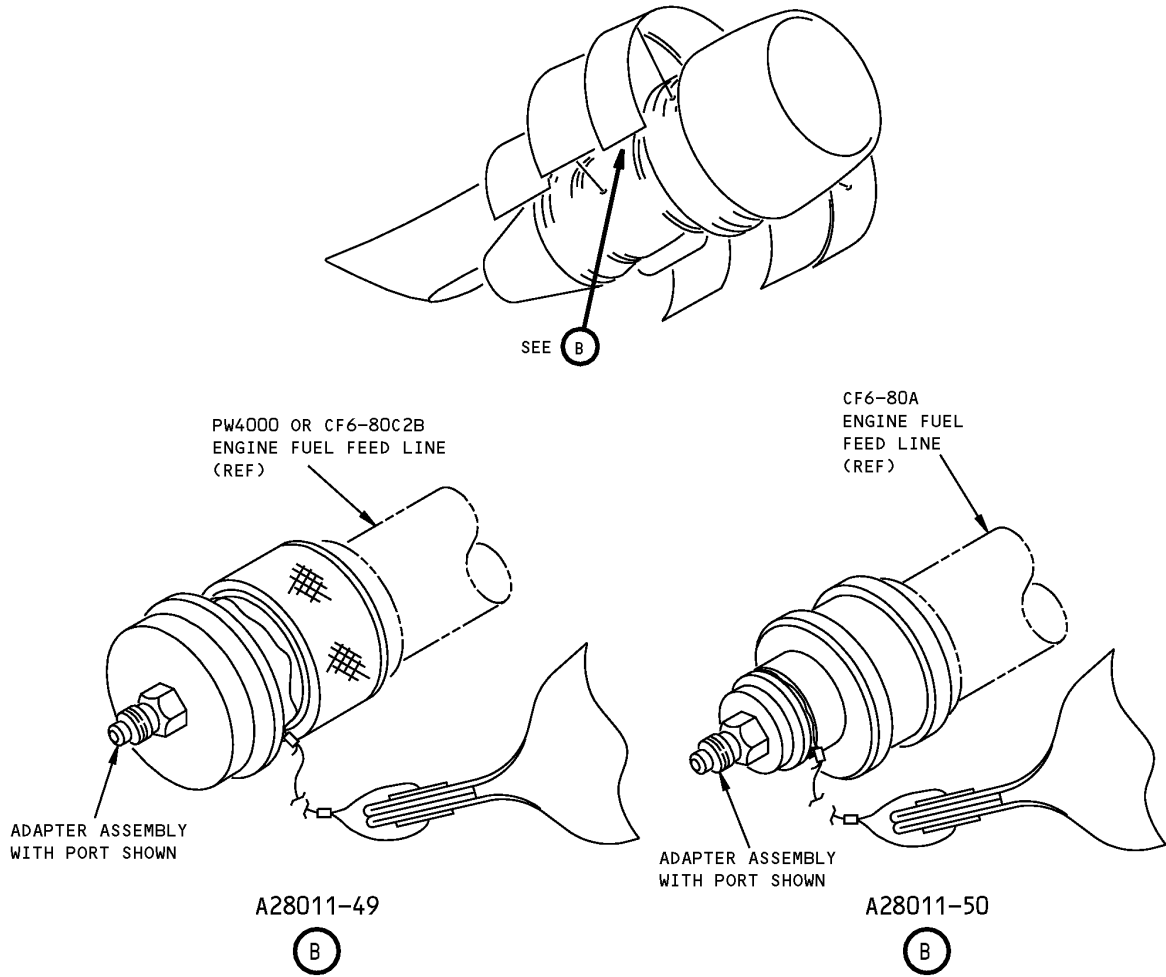
NOTE: G28018 replaces A28011 for future procurement.
A28011-48 , -49, -50 supersedes A28011-1

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



**Fuel Line and Fitting Pressure/Leakage Test Equipment
Figure 1 (Sheet 1 of 2)**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Fuel Line and Fitting Pressure/Leakage Test Equipment
Figure 1 (Sheet 2 of 2)

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
1	AN960-516L	WASHER	
2	MS21042-5	SCREW	
3	MS29513-226	O-RING	



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: G28018-3, -4, -5, -6, -26, -28, -29

NAME: TEST EQUIPMENT - ENGINE FUEL FEED MANIFOLD

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: G28018 test equipment is used on all 767 airplanes. 767 airplanes equipped with JT9D engines require either one G28018-26 fuel feed test equipment and two G28018-3 JT9D fitting assemblies or the preferred combination, one G28018-28 fuel feed test equipment and two G28018-29 JT9D fitting assemblies. 767 airplanes equipped with CF6-80A engines require either one G28018-26 fuel feed test equipment and two G28018-5 80A fitting assemblies or the preferred combination, one G28018-28 fuel feed test equipment and two G28018-5 80A fitting assemblies. 767 airplanes equipped with CF6-80C or PW4000 engines require either one G28018-26 fuel feed test equipment and two G28018-6 80C/PW fitting assemblies or the preferred combination, one G28018-28 fuel feed test equipment and two G28018-6 80C/PW fitting assemblies. 767 airplanes equipped with RB211 engines require either one G28018-26 fuel feed test equipment and two G28018-4 RB211 fitting assemblies or the preferred combination, one G28018-28 fuel test equipment and two G28018-4 RB211 fitting assemblies. G28018 test equipment is used to pressure leak test the engine fuel feed manifold in the strut area. The leak check requires a regulated 40 psi air pressure source, the fuel spar valve closed and the fuel line pressurized for a prescribed period of time. The test setup is generally as noted on the schematic below. Refer to AMM 28-22-07 and current G28018 drawing for further usage instructions. G28018 test equipment is ordered with the components and quantities specific to the engine to be tested. The G28018-26 and -28 fuel feed test equipment consists of:

G28018-26		
QUANTITY	NOMENCLATURE	PART NUMBER
1	PRESSURE HOSE ASSEMBLY	G28018-10
3	OUTLET HOSE ASSEMBLY	G28018-11

G28018-28		
QUANTITY	NOMENCLATURE	PART NUMBER
1	PRESSURE HOSE ASSEMBLY	G28018-10
1	OUTLET HOSE ASSEMBLY	G28018-11

WEIGHT: 35 lbs (16 kg)

DIMENSIONS: 10 x 25 x 25 inches (254 x 635 x 635 mm)



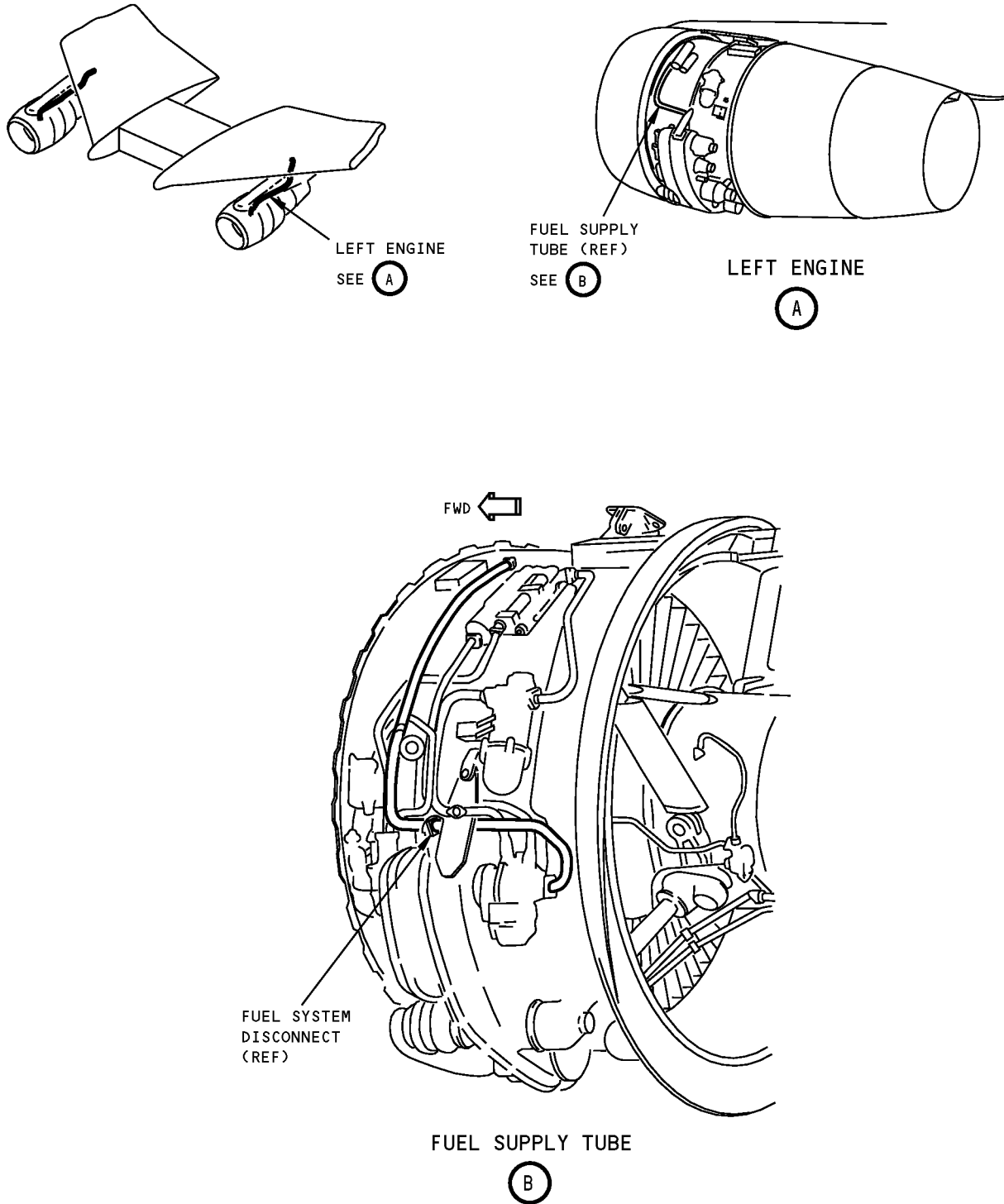
767

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

NOTE:

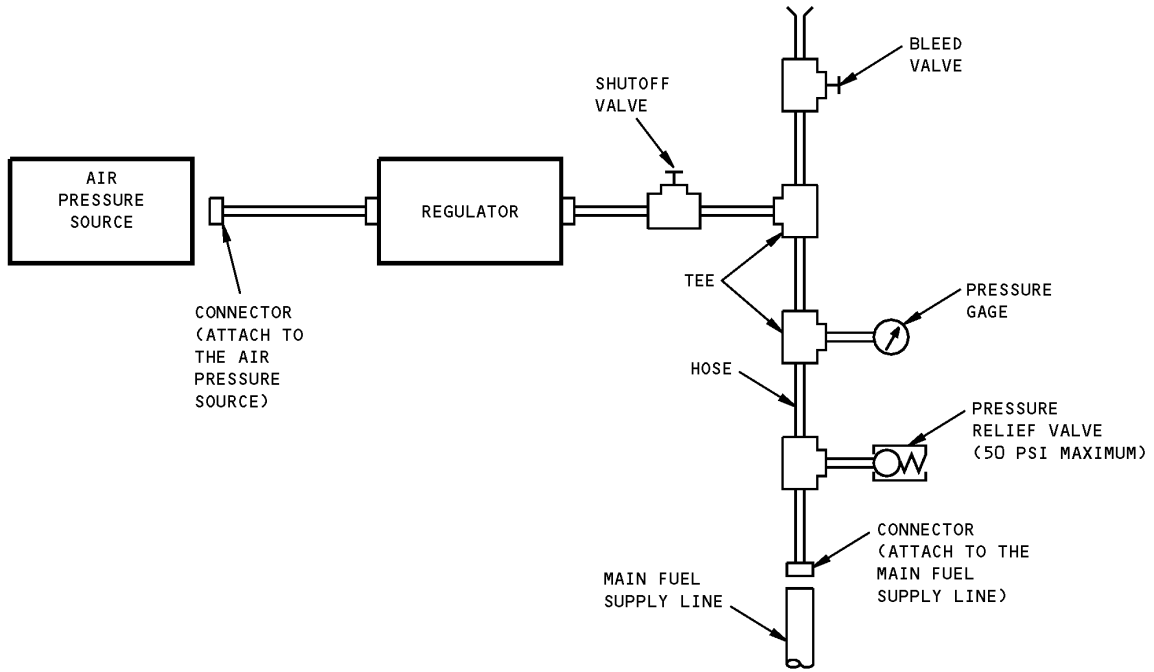
G28018-29 replaces G28018-3 for future procurement.
G28018-28 replaces G28018-26 for future procurement.
G28018-26 supersedes G28018-1.
G28018 replaces A28011 for future procurement.

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



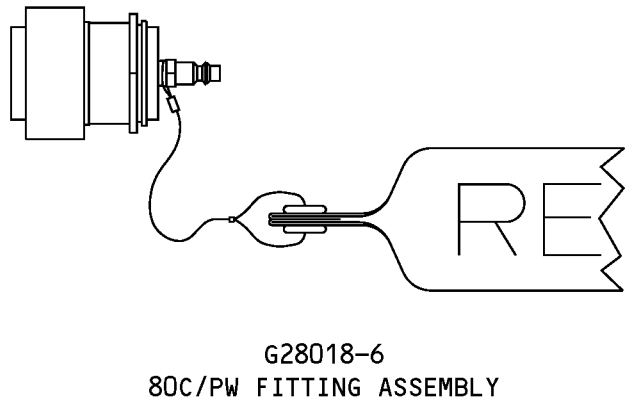
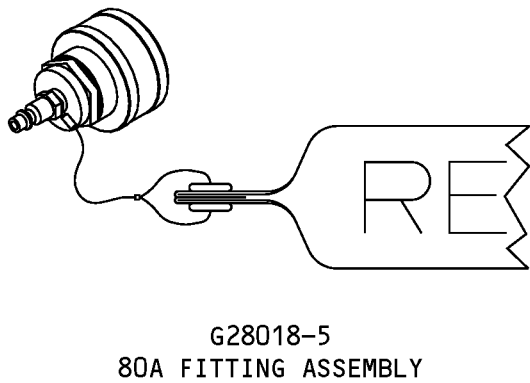
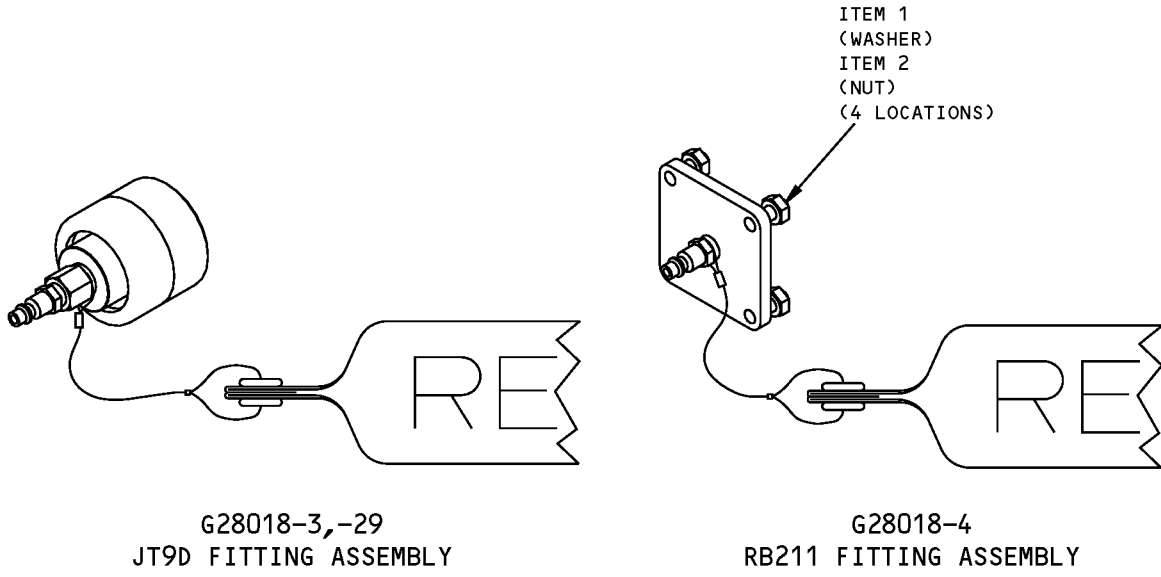
**Engine Fuel Feed Manifold Test Equipment
Figure 1 (Sheet 1 of 4)**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



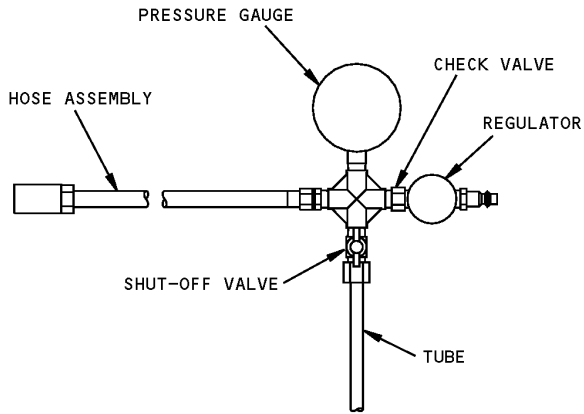
**Engine Fuel Feed Manifold Test Equipment
Figure 1 (Sheet 2 of 4)**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

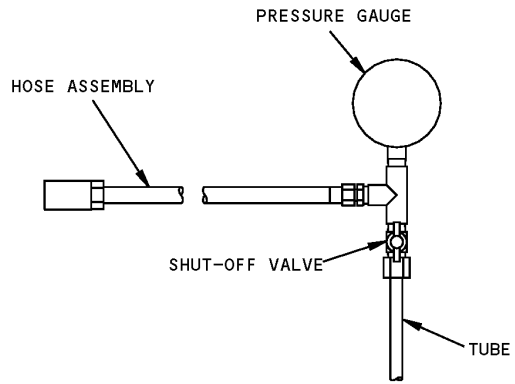


**Engine Fuel Feed Manifold Test Equipment
Figure 1 (Sheet 3 of 4)**

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ILLUSTRATED TOOL AND EQUIPMENT MANUAL



G28018-10
PRESSURE HOSE ASSEMBLY



G28018-11
OUTLET HOSE ASSEMBLY

Engine Fuel Feed Manifold Test Equipment
Figure 1 (Sheet 4 of 4)

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
1	AN960-516L	WASHER	
2	MS35650-3314	NUT	



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A28005-24, -35, -42, -50

NAME: TEST EQUIPMENT - LEAK AND PRESSURE, APU FUEL LINE SHROUD

AIRPLANE MAINTENANCE: YES

COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: The A28005-50 (preferred) or A28005-42 test hose (option to A28005-50) and the A28005-24 767 adapter assembly (preferred) are used on all 767 airplanes. Another option, the A28005-35 test equipment is used on all 767 airplanes. The A28005 equipment is used to perform a pressure decay test (leak test) of the shroud for the APU fuel line and drain line tubing. To perform the test, (A28005-50 and -24) or (A28005-42 and -24) or (A28005-35) is connected to the APU drain mast. The shroud is pressurized with dry, regulated, 0 - 50 psig air. The air source is then removed and the shroud is monitored for leaks over a period of time. Refer to AMM 28-25-00 for complete usage instructions. The A28005 test equipment consists of:

A28005-24 767 ADAPTER ASSEMBLY		
QUANTITY	NOMENCLATURE	PART NUMBER
1	FILLING CONNECTOR	H2077-57-M5-V16
1	FILLING CONNECTOR (OPTION TO H2077-57-M5-V16)	A28005-11
1	QUICK DISCONNECT COUPLER	B22
1	QUICK DISCONNECT COUPLER (OPTION TO B22)	#22

A28005-50 TEST HOSE		
QUANTITY	NOMENCLATURE	PART NUMBER
1	HOSE ASSEMBLY	A28005-51
1	STORAGE BOX	

A28005-35 TEST EQUIPMENT		
QUANTITY	NOMENCLATURE	PART NUMBER
1	767 ADAPTER ASSEMBLY	A28005-24
1	HOSE ASSEMBLY	A28005-38
1	STORAGE BOX	

A28005-42 TEST HOSE		
QUANTITY	NOMENCLATURE	PART NUMBER
1	HOSE ASSEMBLY	A28005-38
1	STORAGE BOX	



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

WEIGHT:

A28005-24 Adapter Assembly - 1 lb (0.45 kg)
A28005-35 Test Equipment - 5 lbs (2.3 kg)
A28005-42 Test Hose - 4 lbs (1.8 kg)
A28005-50 Test Hose - 4 lbs (1.8 kg)

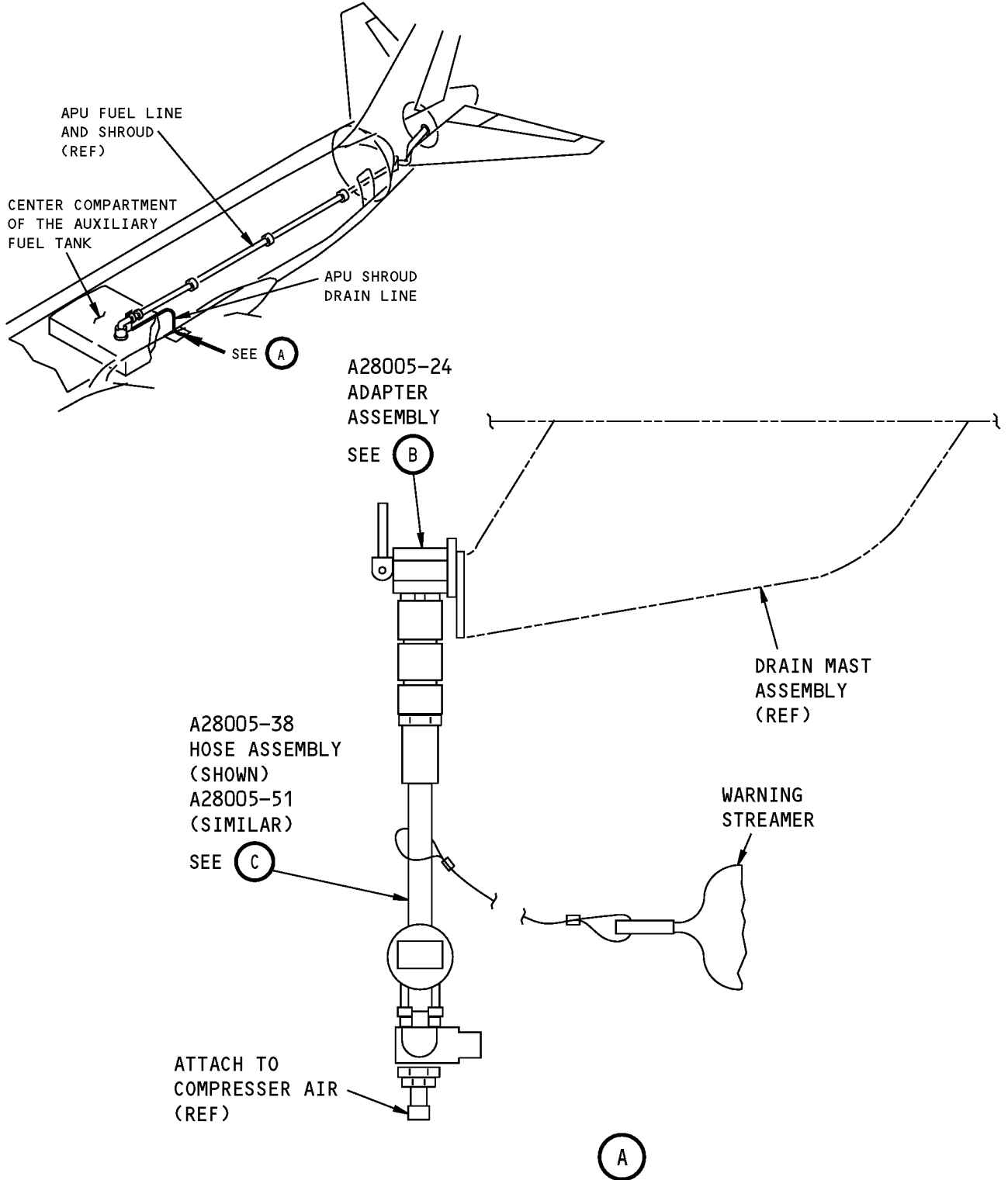
DIMENSIONS:

A28005-24 Adapter Assembly - 1 x 3 x 4 inches (25 x 76 x 102 mm)
A28005-35 Test Equipment - 6 x 6 x 18 inches (152 x 152 x 457 mm)
A28005-42 Test Hose - 6 x 6 x 14 inches (152 x 152 x 356 mm)
A28005-50 Test Hose - 6 x 6 x 14 inches (152 x 152 x 356 mm)

NOTE:

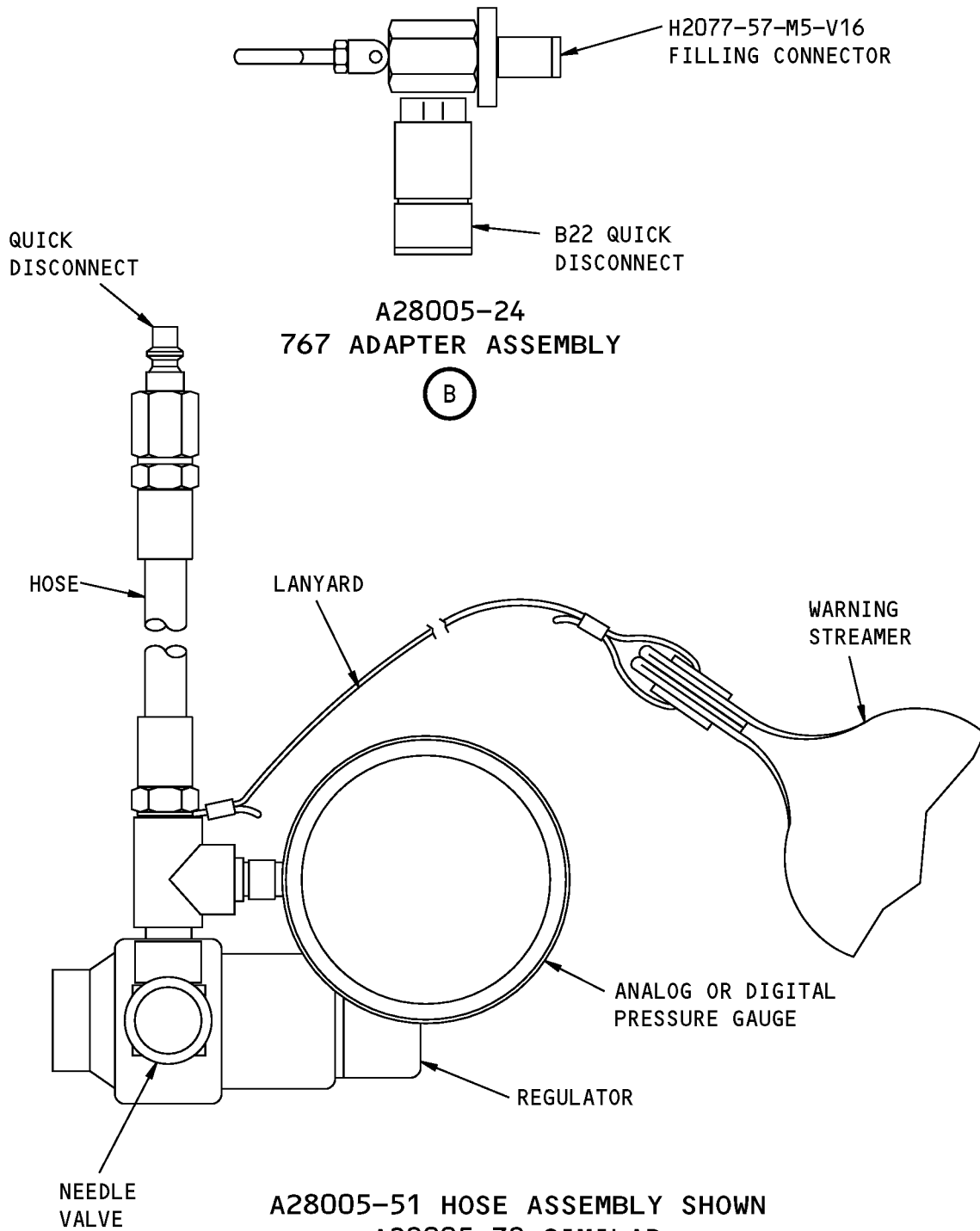
A28005-50 replaces A28005-42 for future procurement.
A28005-24 plus A28005-50 replaces A28005-35 for future procurement.
A28005-35 supersedes A28005-8 and -22.

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



APU Fuel Line Shroud Leak and Pressure Test Equipment
Figure 1 (Sheet 1 of 2)

**767
ILLUSTRATED TOOL AND EQUIPMENT MANUAL**

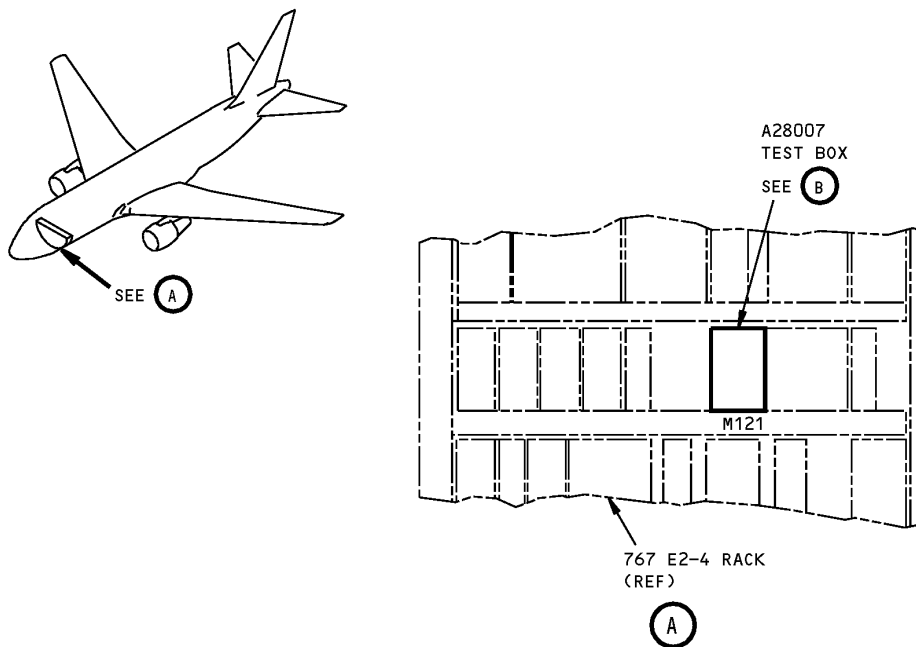


**APU Fuel Line Shroud Leak and Pressure Test Equipment
Figure 1 (Sheet 2 of 2)**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

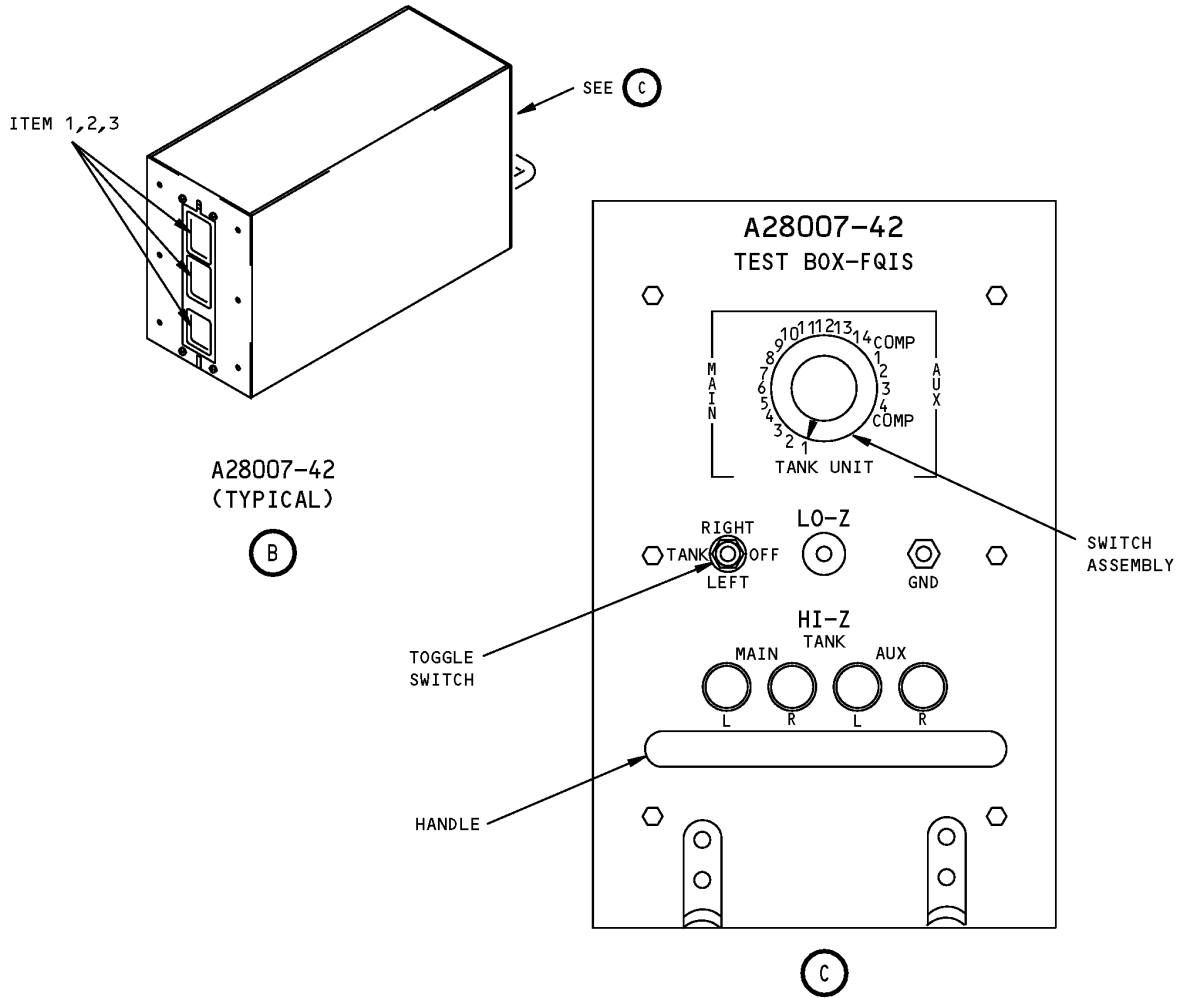
PART NUMBER: A28007-39, -40**NAME:** TEST BOX - FUEL QUANTITY INDICATING SYSTEM**AIRPLANE MAINTENANCE:** YES**COMPONENT MAINTENANCE:** NO

USAGE & DESCRIPTION: This tool is used in place of fuel quantity processor unit when performing fuel quantity indicating system test. Refer to AMM 28-41-00 for complete usage instructions. This tool is used on 767 airplanes with Honeywell FQIS systems only. This tool is used on 767 airplanes line number 1 through 430 only. The -39 is used on 767-200 and -300 airplanes. The -40 is used on 767-200ER and -300ER airplanes. The -39 consists of a -42 test box assembly and a -7 box assembly. The -40 consists of a -43 test box assembly and a -8 box assembly.

WEIGHT: 15 lbs (6.8 kg)**DIMENSIONS:** 8 x 13 x 5 inches (203 x 330 x 127 mm)**NOTE:** A28007-39,-40 supersede A28007-1, -2, -27, -28.

Fuel Quantity Indicating System Test Box
Figure 1 (Sheet 1 of 2)

**767
ILLUSTRATED TOOL AND EQUIPMENT MANUAL**



**Fuel Quantity Indicating System Test Box
Figure 1 (Sheet 2 of 2)**

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
1	031-1287-000	CONTACT	V71468
2	030-2280-000	CONTACT	V71468
3	249-1767-001	CONTACT	V71468



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: B28004-1

NAME: SOCKET - COLLIMATOR SLEEVE INSTALLATION/REMOVAL

AIRPLANE MAINTENANCE: YES

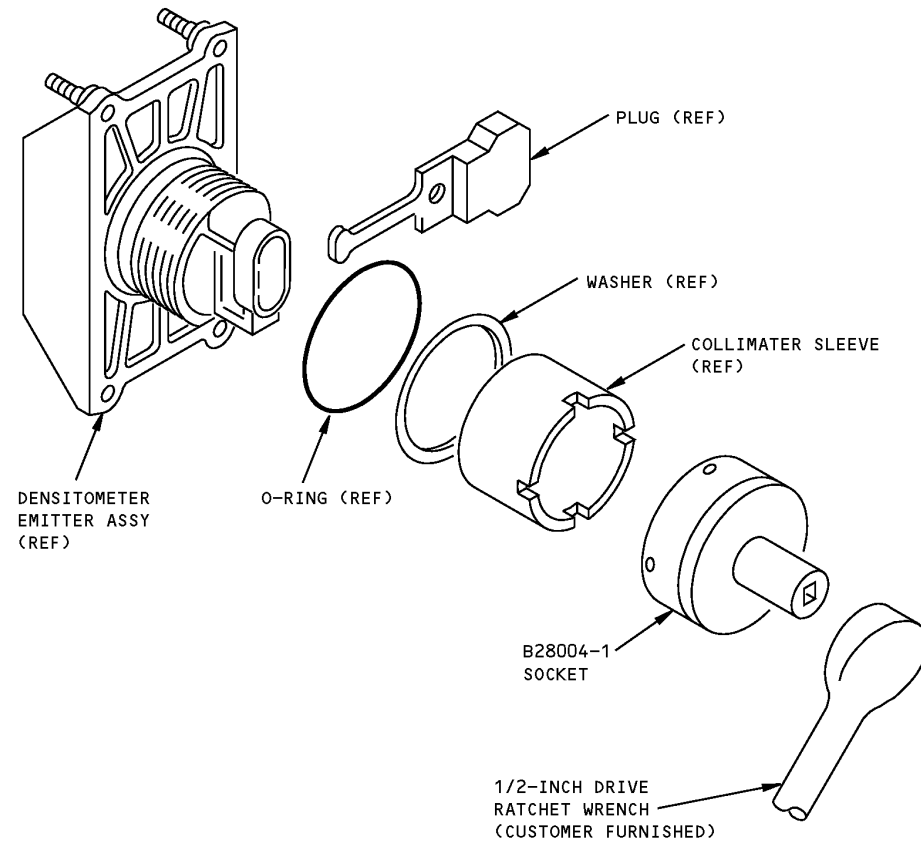
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: Used for installation/removal of the collimator sleeve from the densitometer emitter.

WEIGHT: 1 lb (0.45 kg)

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

**767
ILLUSTRATED TOOL AND EQUIPMENT MANUAL**



**Collimator Sleeve Installation/Removal Socket
Figure 1**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: A28009-8, -13

NAME: EXTENDER BOARD - SURGE TANK FUEL LEVEL SENSOR

AIRPLANE MAINTENANCE: YES

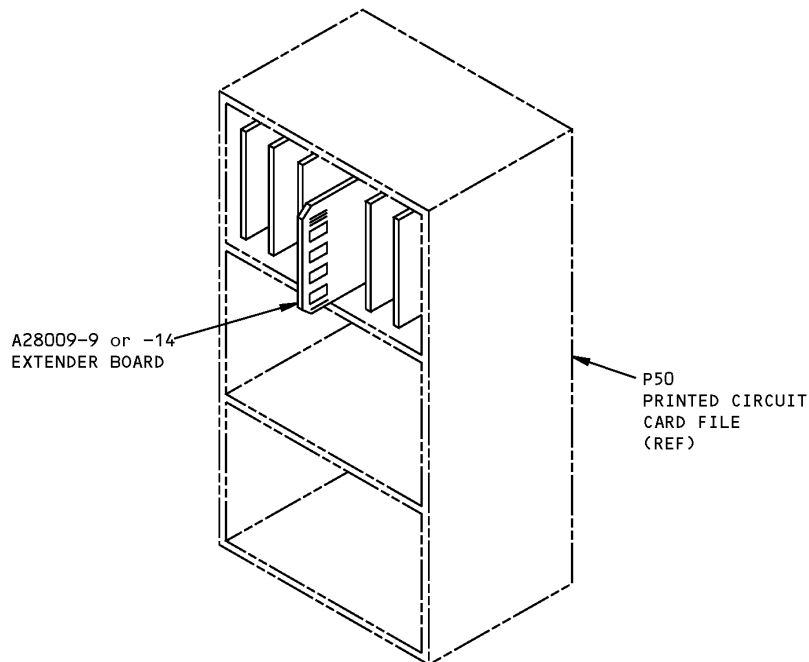
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: Used for continuity checking of surge tank level sensor from the fuel level sensor control card connector. For A28009-8 refer to AMM 28-21-00 and for A28009-13 refer to Fault Isolation Manual 28-21-00 for complete usage instructions. The A28009-8 tool consists of -9 Extender Board Assembly in a -3 storage box assembly. The A28009-13 tool consists of -14 Extender Board Assembly in a -16 storage box assembly.

WEIGHT: 0.5 lb (0.2 kg)

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

NOTE: A28009-13 replaces A28009-8 for future procurement.
A28009-8 supersedes A28009-1



**Surge Tank Fuel Level Sensor Extender Board
Figure 1**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: B28005-2

NAME: PRESSURE PLUG EQUIPMENT - FUEL SYSTEM

AIRPLANE MAINTENANCE: YES

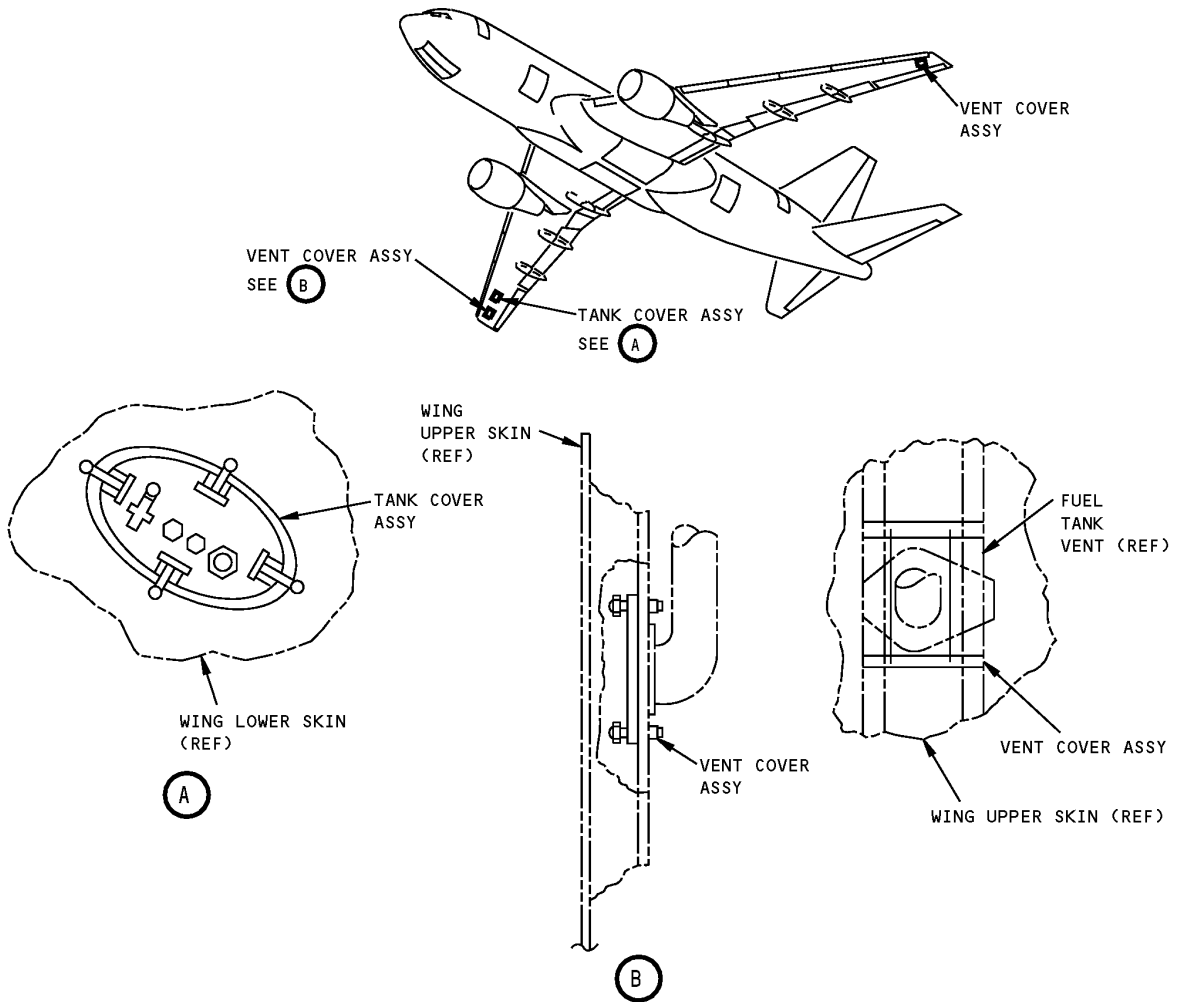
COMPONENT MAINTENANCE: NO

USAGE & DESCRIPTION: Use to plug pressure relief valve door openings and surge tank vents in lower outboard wing between W.S. 990.2 and 1018.2 for 4-psi fuel pressure seal test in all tanks. Use in conjunction with F72951 water manometer. This tool consists of a -3 tank cover assy and a -5 vent cover assy in a -10 box assembly.

WEIGHT: 15 lbs (7 kg)

DIMENSIONS: 22 x 20 x 10 inches (559 x 508 x 254 mm)

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



**Fuel System Pressure Plug Equipment
Figure 1**