

**CHAPTER**

**51**

**STRUCTURES**



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ILLUSTRATED TOOL AND EQUIPMENT MANUAL

CHAPTER 51  
STRUCTURES

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## ILLUSTRATED TOOL AND EQUIPMENT MANUAL

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## ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: A51001-19**

**NAME:** SERVICE PLATFORM FORWARD OF THE AUXILIARY POWER UNIT (APU) DOOR

**AIRPLANE MAINTENANCE:** YES

**COMPONENT MAINTENANCE:** NO

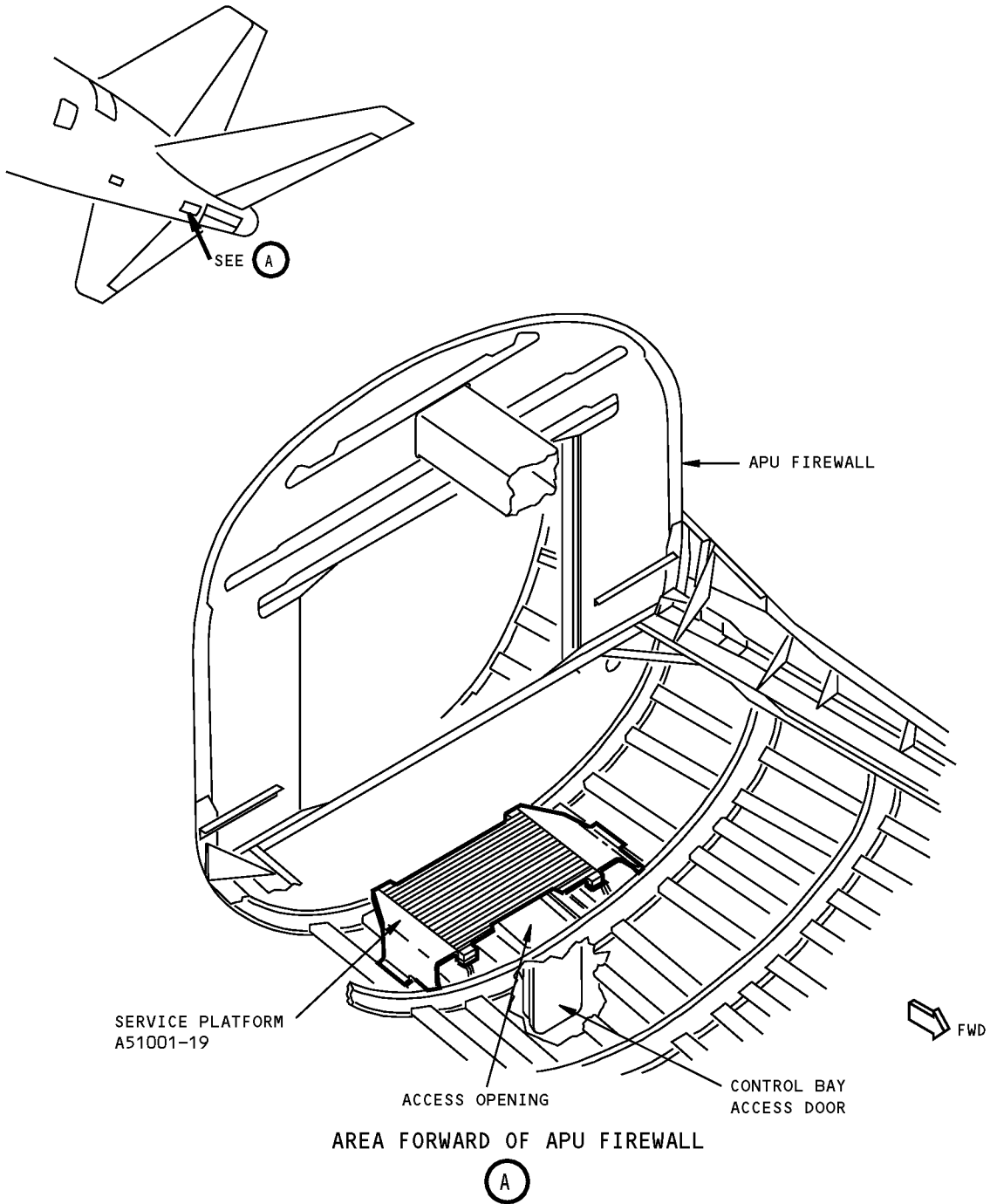
**USAGE & DESCRIPTION:** The A51001-19 service platform is used on all 767 airplanes. A51001 is used to provide a safe work platform over the control bay access door when the access door is open. Refer to AMM 22-12-01, AMM 26-22-01 and AMM 27-31-00 for complete usage instructions. A51001-19 consists of an A51001-20 support assembly and an A51001-21 support assembly, both contained in a storage box.

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

**DIMENSIONS:** 6 x 16 x 41 inches (152 x 406 x 1041 mm)

**NOTE:** A51001-19 supersedes A51001-1.

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**Service Platform Forward Of The APU Door  
Figure 1**



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**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**

**PART NUMBER: A51004-1**

**NAME:** LADDER SET - EMPENNAGE, PRESSURE BULKHEAD

**AIRPLANE MAINTENANCE:** YES

**COMPONENT MAINTENANCE:** NO

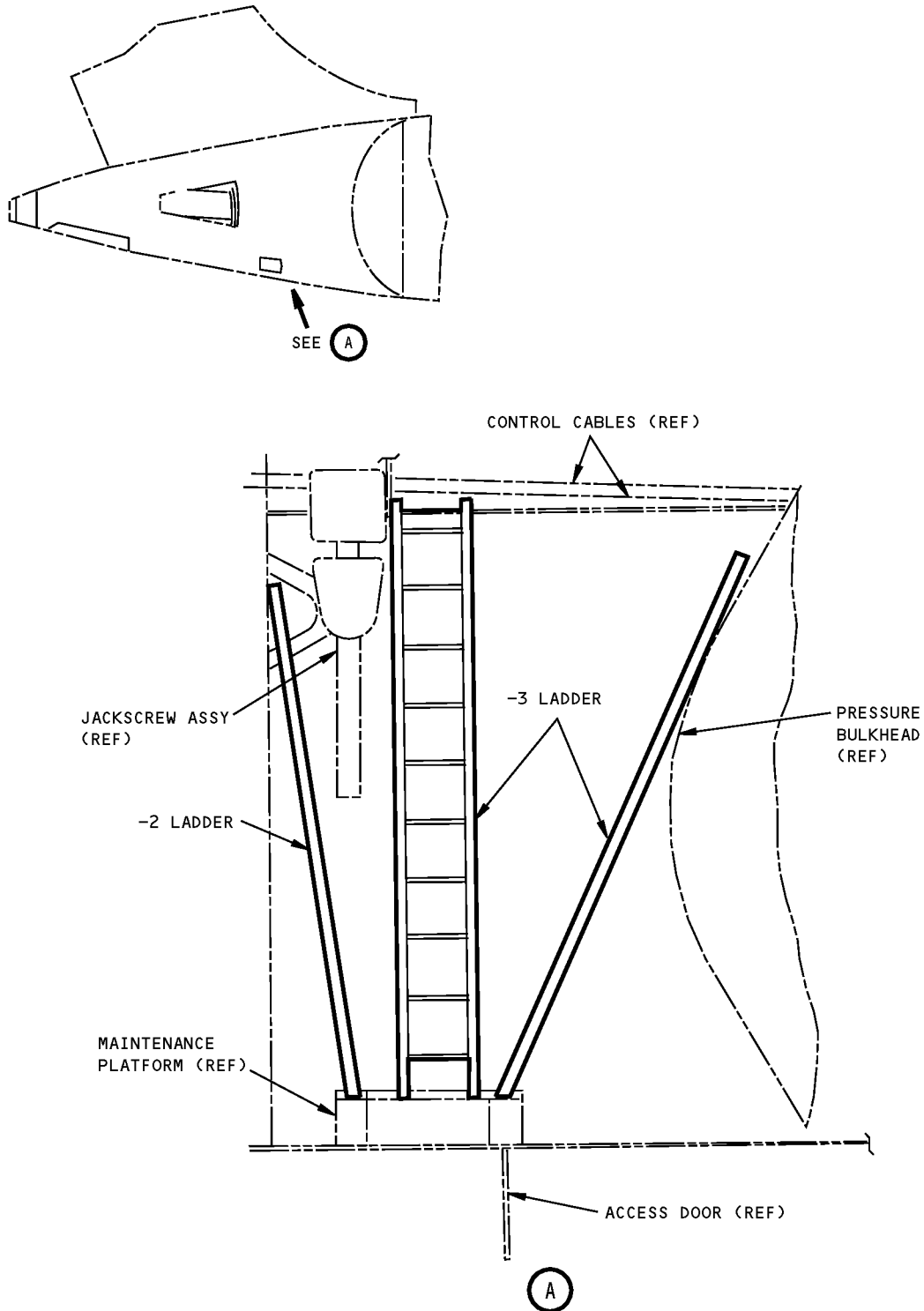
**USAGE & DESCRIPTION:** The A51004-1 ladder set is used on all 767 airplanes. This tool is used to provide access to the control cables in the 48 section aft of the pressure bulkhead. A51004-1 consists of an A51004-2 ladder and an A51004-3 ladder.

**WEIGHT:** A51004-2 - 15 lbs (7 kg)  
A51004-3 - 23 lbs (10 kg)

**DIMENSIONS:** A51004-2 - 3 x 16 x 66 inches (76 x 406 x 1676 mm)  
A51004-3 - 3 x 13 x 110 inches (76 x 330 x 2794 mm)

**NOTE:** A51004-1 Supersedes A51003-1.

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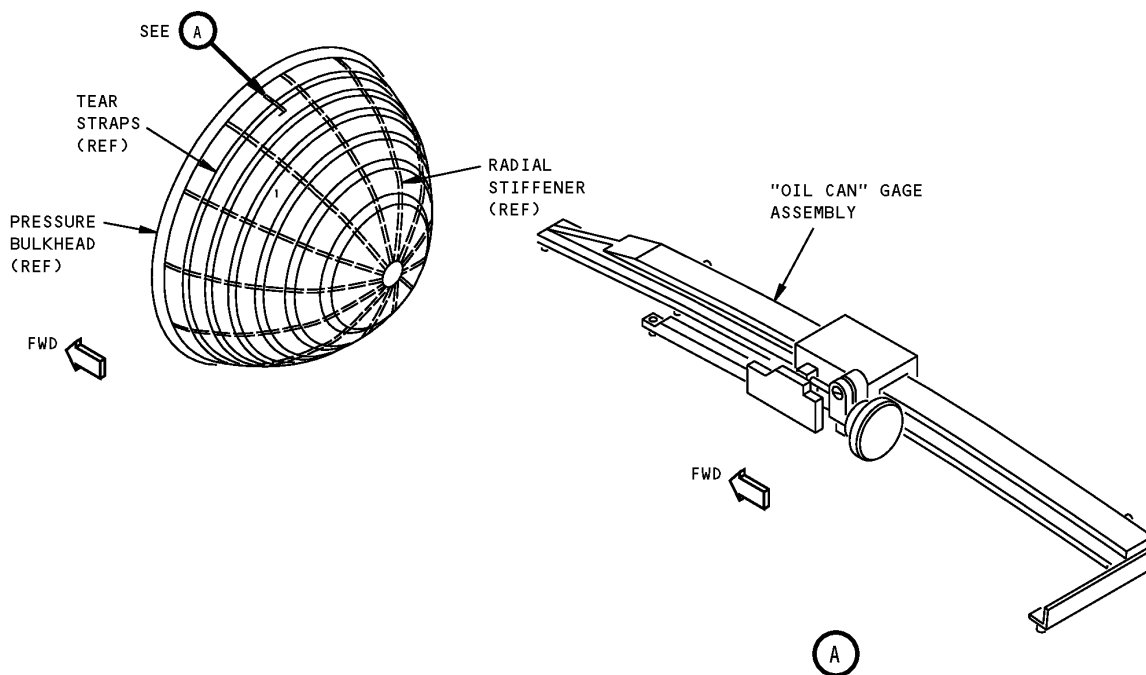


**Empennage Pressure Bulkhead Ladder Set  
Figure 1**

## ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: A51005-14****NAME:** "OIL CAN" GAGE - PRESSURE BULKHEAD**AIRPLANE MAINTENANCE:** YES**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The A51005-14 "oil can" gage is used on all 767 airplanes. A51005 is used to measure "oil can" depths on the aft pressure dome. Refer to the Structural Repair Manual 53-80-08 for complete usage instructions. A51005-14 consists of an A51005-15 "oil can" gage assembly contained in a storage box.

**WEIGHT:** 3 lbs. (1.4 kg)**DIMENSIONS:** 3 x 5 x 23 inches (76 x 127 x 584 mm)**NOTE:** A51005-14 supersedes A51005-1.

**Pressure Bulkhead "Oil Can" Gage  
Figure 1**





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## ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: A51006-26**

**NAME:** MEASUREMENT EQUIPMENT - CHECK, SKIN SMOOTHNESS

**AIRPLANE MAINTENANCE:** YES

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The A51006-26 measurement equipment is used on all 767 airplanes. A51006 is used to check the aerodynamic smoothness of the fuselage skin around the pitot-static probes. Refer to AMM 51-10-00 for complete usage instructions. A51006-26 consists of:

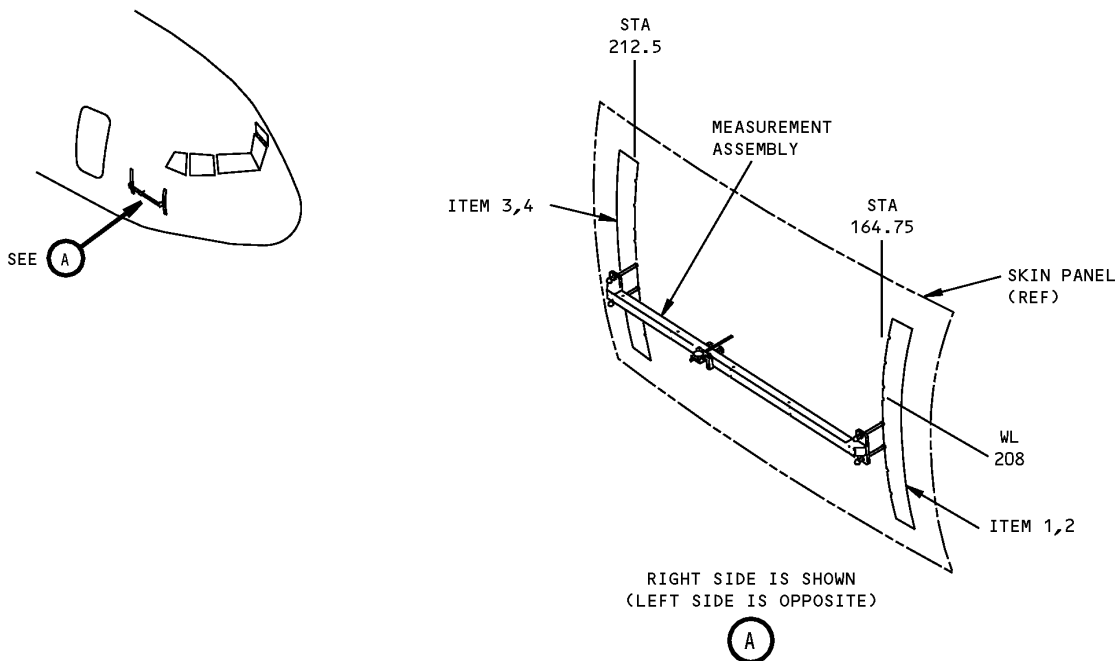
A51006-26		
QUANTITY	NOMENCLATURE	PART NUMBER
1	MEASUREMENT ASSEMBLY	A51006-27
1	FORWARD LEFT INDEX STRIP	A51006-22
1	FORWARD RIGHT INDEX STRIP	A51006-23
1	AFT LEFT INDEX STRIP	A51006-24
1	AFT RIGHT INDEX STRIP	A51006-25
1	STORAGE BOX	

**WEIGHT:** 13 lbs (6 kg)

**DIMENSIONS:** 5 x 9 x 53 inches (127 x 229 x 1372 mm)

**NOTE:** A51006-26 supersedes A51006-21.

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Skin Smoothness Check, Measurement Equipment  
Figure 1

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
1	A51006-22	FORWARD LEFT INDEX STRIP	
2	A51006-23	FORWARD RIGHT INDEX STRIP	
3	A51006-24	AFT LEFT INDEX STRIP	
4	A51006-25	AFT RIGHT INDEX STRIP	



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## ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: G51002-1**

**NAME:** FALL PROTECTION - OVERHEAD PERSONNEL SUPPORT

**AIRPLANE MAINTENANCE:** YES

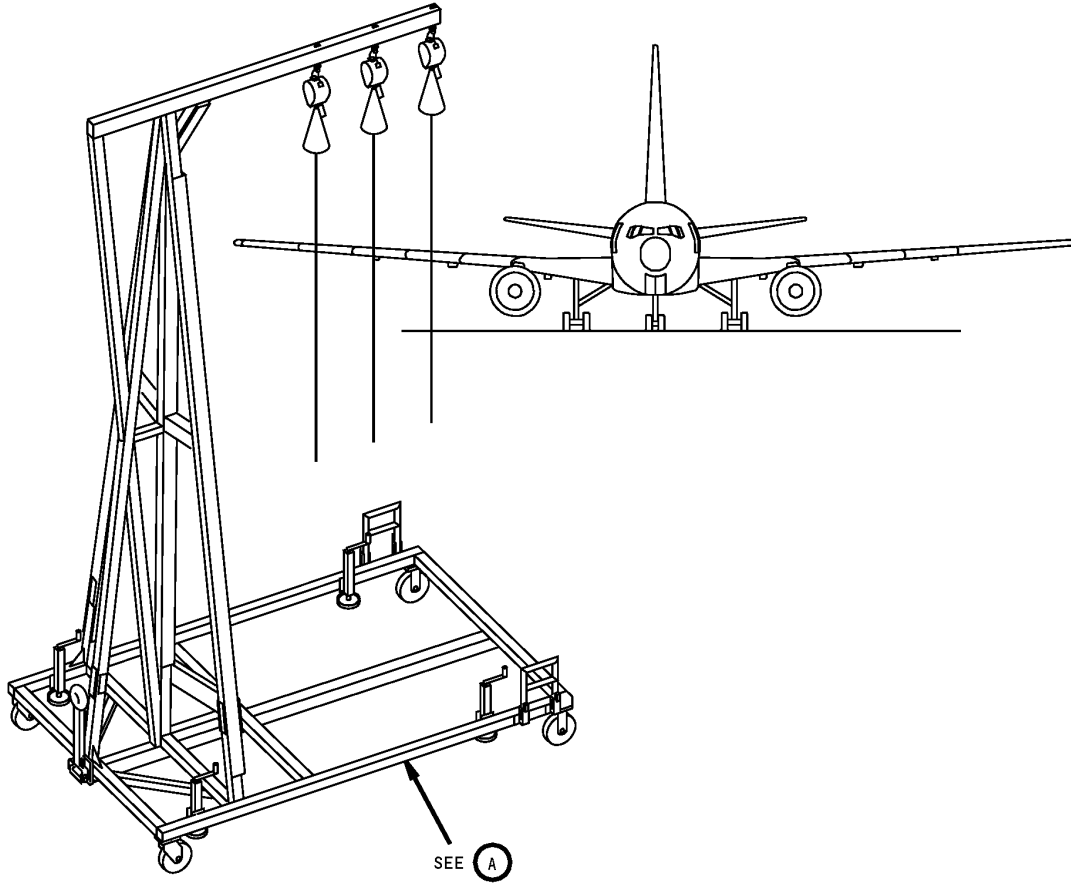
**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The G51002-1 fall protection is used on all 767 airplanes. G51002-1 is used to provide fall protection for personnel working on the aircraft engines. G51002 is a bolted aluminum frame, gantry-like structure that mounts three Ultralock, dynamic brakes attached to customer-furnished safety harnesses. G51002 includes casters, a trailer tongue for towing and caster jacks, to raise the gantry above the casters and stabilize the structure in place.

**WEIGHT:** 1850 lbs (839 kg)

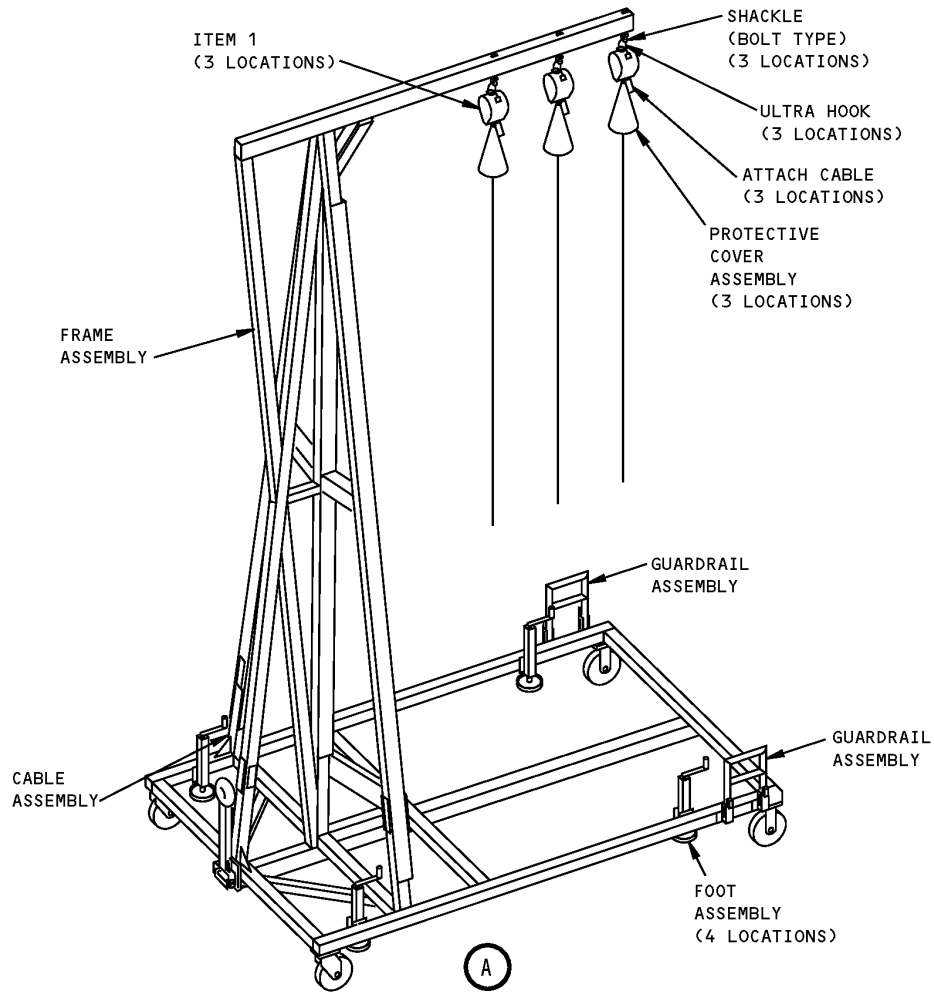
**DIMENSIONS:** 108 x 170 x 297 inches (2743 x 4318 x 7544 mm)

**NOTE:** G51003 replaces G51002 for future procurement.



**Overhead Personnel Support Fall Protection  
Figure 1 (Sheet 1 of 2)**

ILLUSTRATED TOOL AND EQUIPMENT MANUAL



Overhead Personnel Support Fall Protection  
Figure 1 (Sheet 2 of 2)

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
1	L3920G-20	LIFELINE (ULTRALOCK)	



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## ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: A51007-1**

**NAME:** MAINTENANCE PLATFORM EQUIPMENT - PRESSURE BULKHEAD ACCESS

**AIRPLANE MAINTENANCE:** YES

**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The A51007-1 maintenance platform equipment is used on all 767 airplanes. A51007 is used to provide access to the upper portion of the pressure dome during inspection and repair procedures. The A51007-1 maintenance platform equipment consists of the following:

A51007-1		
QUANTITY	NOMENCLATURE	PART NUMBER
21	AFT FOOT	A51007-2
1	FORWARD LEFT FOOT	A51007-3
1	FORWARD RIGHT FOOT	A51007-4
1	BEAM A	A51007-5
21	BEAM B	A51007-6
1	BEAM C	A51007-7
2	BEAM D	A51007-8
1	BEAM E	A51007-9
1	BEAM F	A51007-10
1	BEAM G	A51007-11
1	BEAM H	A51007-12
1	BEAM I	A51007-13
1	BEAM J	A51007-14
1	BEAM K	A51007-15
1	BEAM L	A51007-16
1	BEAM M	A51007-17
1	LEFT FLOOR PANEL	A51007-18
1	RIGHT FLOOR PANEL	A51007-19
1	CENTER FLOOR PANEL	A51007-20
1	LOWER LADDER	A51007-21
1	CENTER LADDER	A51007-22
1	SIDE LADDER	A51007-23
1	L - PIN	A51007-63
1	STORAGE BOX	

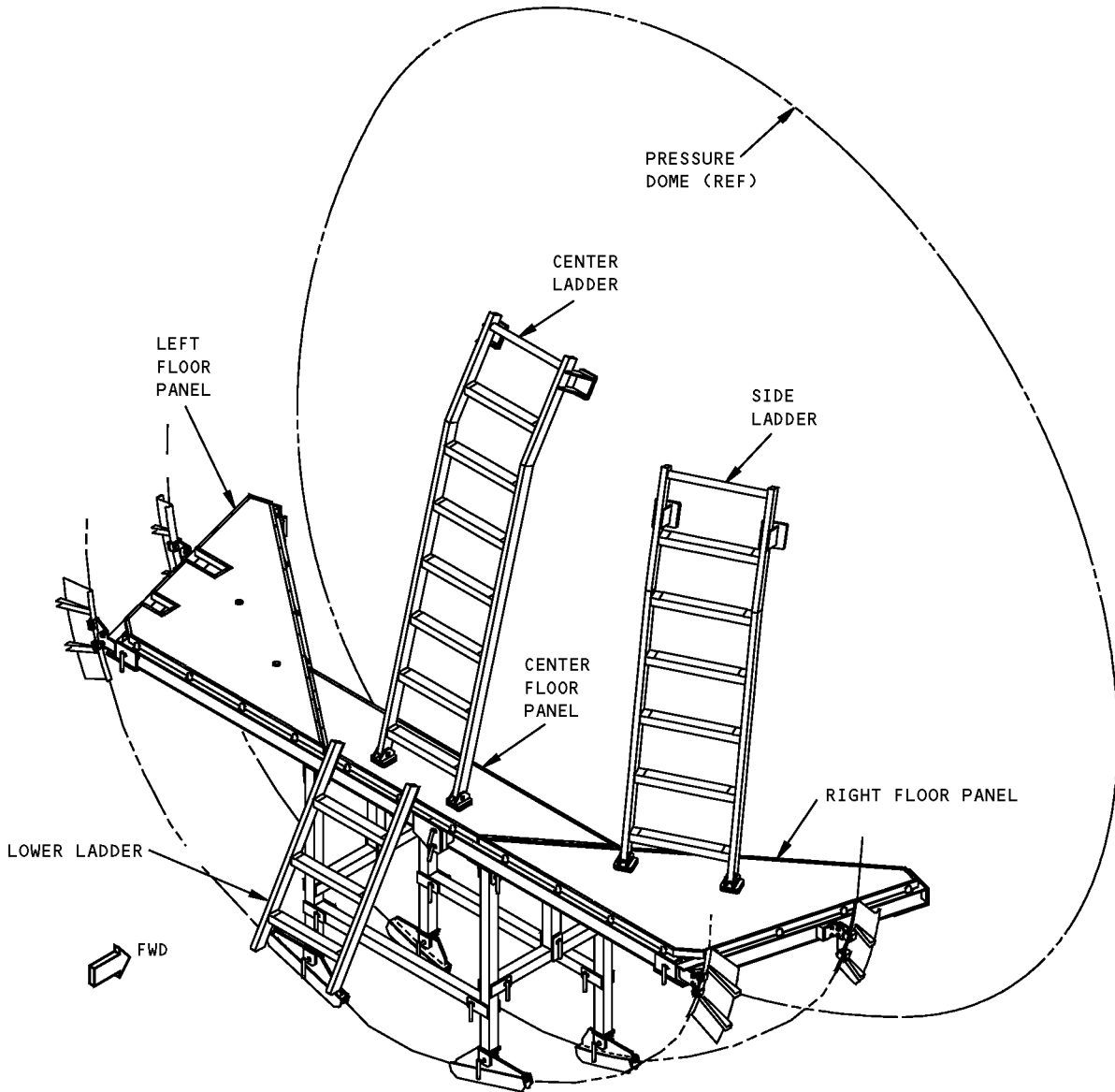


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**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**

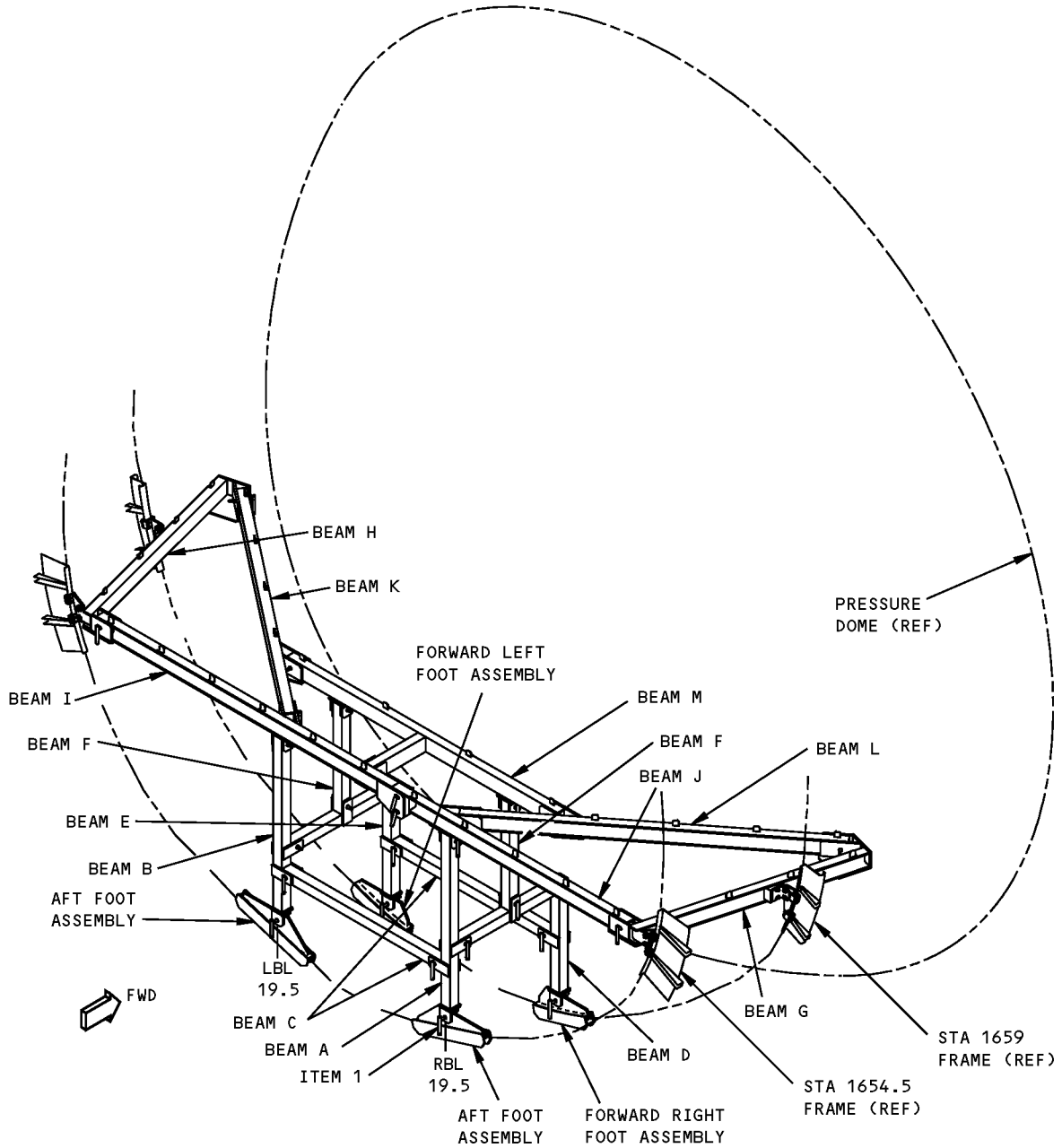
**WEIGHT:** 280 lbs (127 kg)

**DIMENSIONS:** 48 x 48 x 84 inches (1219 x 1219 x 2134 mm)



**Pressure Bulkhead Access Pressure Bulkhead Access**  
**Figure 1 (Sheet 1 of 2)**





**Pressure Bulkhead Access Pressure Bulkhead Access  
Figure 1 (Sheet 2 of 2)**



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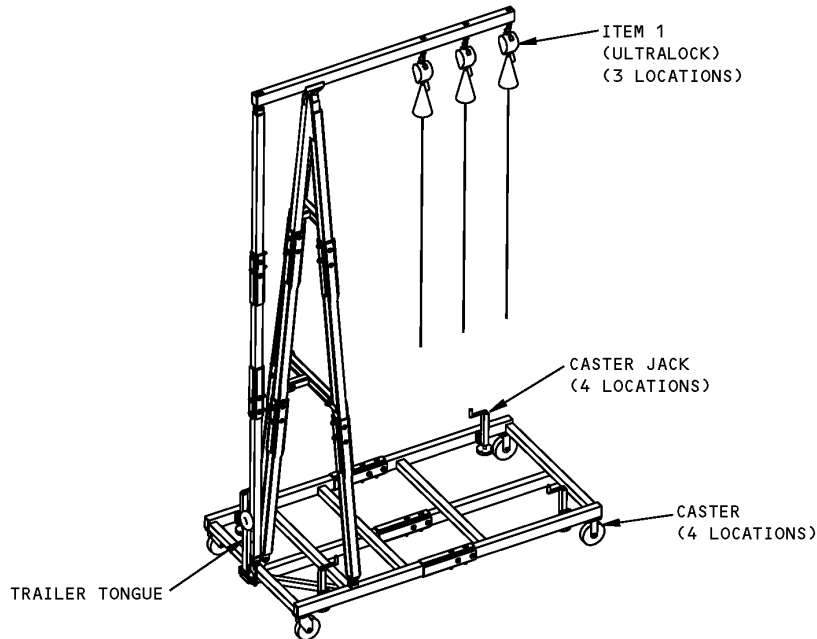
ILLUSTRATED TOOL AND EQUIPMENT MANUAL

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
1	A51007-63	L - PIN	V99862

## ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: G51003-1****NAME:** FALL PROTECTION - OVERHEAD PERSONNEL SUPPORT**AIRPLANE MAINTENANCE:** YES**COMPONENT MAINTENANCE:** NO

**USAGE & DESCRIPTION:** The G51003-1 fall protection is used on all 767 airplanes. The G51003 is used to provide fall protection for personnel working on airplane engines. The G51003-1 is a bolted-aluminum frame, gantry-like structure that mounts three Ultralock, dynamic brakes, attached to customer-furnished safety harnesses. The G51003 includes casters, a trailer tongue for towing and caster jacks, to raise the gantry above the casters and stabilize the structure in place.

**WEIGHT:** 2500 lbs (1134 kg)**DIMENSIONS:** 108 x 170 x 297 inches (2743 x 4318 x 7544 mm)**NOTE:** G51003 replaces G51002 for future procurement.

**Overhead Personnel Support Fall Protection  
Figure 1**

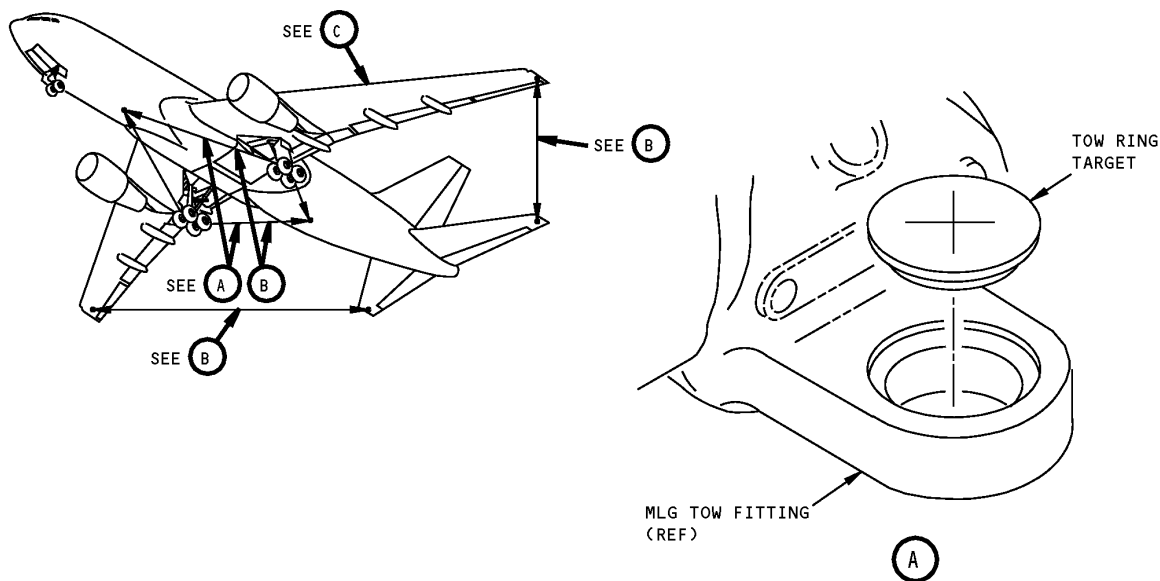


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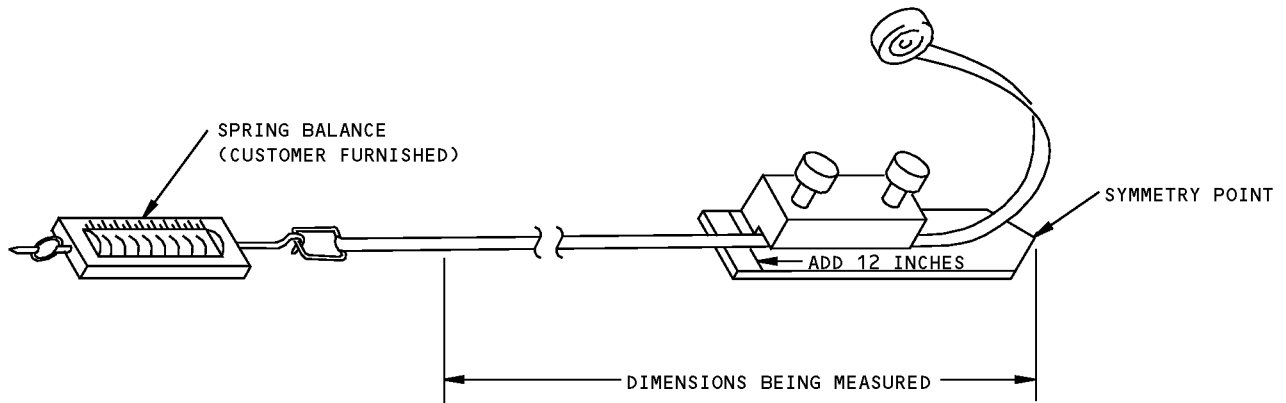
REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
1	L3920G-20	ULTRALOCK	DBI SALA

## ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: A51002-1****NAME:** ALIGNMENT EQUIPMENT - AIRPLANE STRUCTURAL REPAIR**AIRPLANE MAINTENANCE:** YES**COMPONENT MAINTENANCE:** NO**USAGE & DESCRIPTION:** The A51002-1 alignment equipment is used on all 767 airplanes. A51002 is used to aid in evaluating structural deformations that may have occurred on the airplane. Refer to the 767 Structural Repair Manual 51-50-01 for complete usage instructions. The tool consists of a tow ring target, a pointer assembly, a 36 inch inclinometer support, and a 72 inch inclinometer support**WEIGHT:** 45 lbs (20 kg)**DIMENSIONS:** 4 x 12 x 73 inches (102 x 305 x 1854 mm)

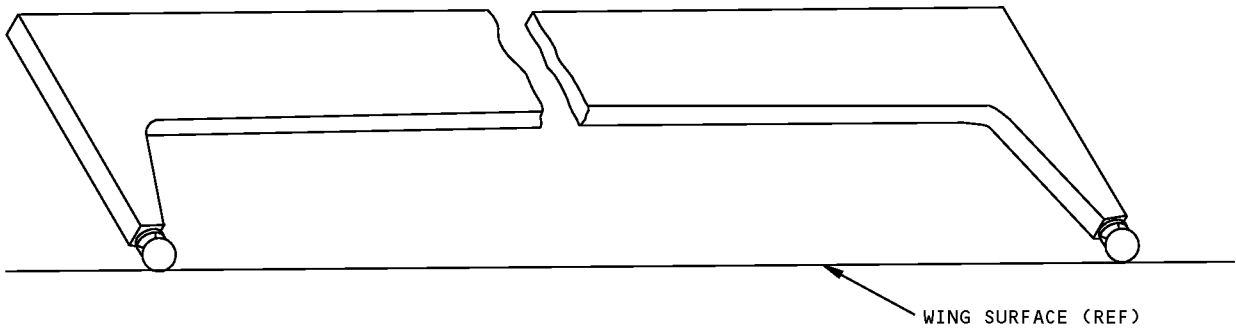
**Airplane Structural Repair Alignment Equipment  
Figure 1 (Sheet 1 of 2)**

**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**



POINTER ASSY

(B)



-8,-9 INCLINOMETER SUPPORT

(C)

**Airplane Structural Repair Alignment Equipment  
Figure 1 (Sheet 2 of 2)**



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## ILLUSTRATED TOOL AND EQUIPMENT MANUAL

PART NUMBER: F70330-4, -87

**NAME:** STATIC BALANCE EQUIPMENT - CONTROL SURFACES

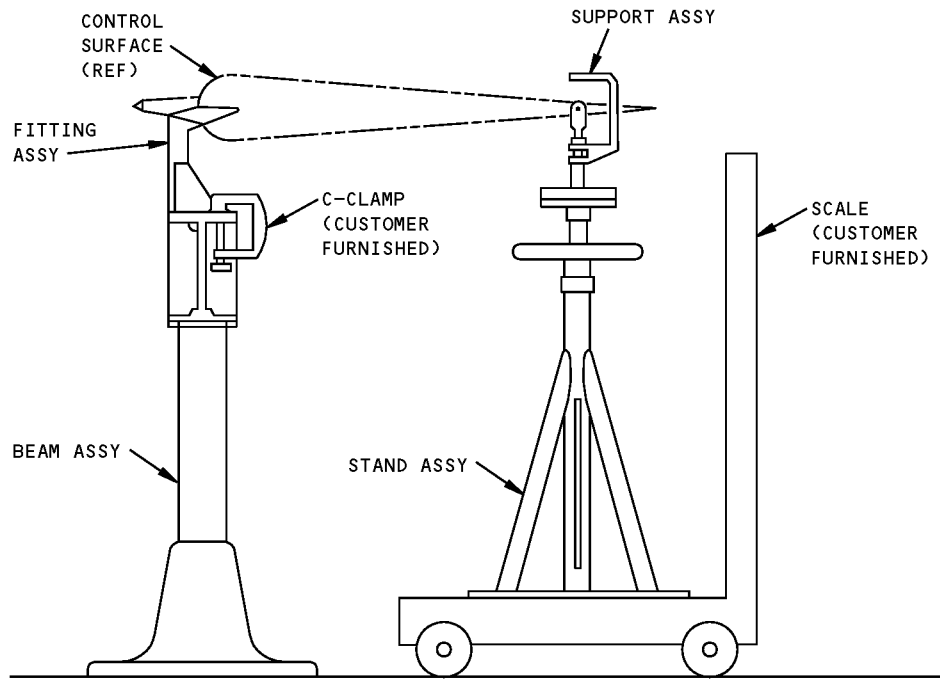
**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

**USAGE & DESCRIPTION:** The F70330-4 and -87 static balance equipment are used together on all 767 airplanes. F70330-4 and -87 are used to support control surfaces for balancing. These components are used with a customer-furnished scale and C-clamps to perform the required static balancing. refer to the current D6T11186 (767) Control Surface Balance Requirements Documents and the current F70330 drawing for complete usage instructions. The F70330-4 consists of the "beam and accessories package." F70330 -87, "767 kit," is comprised of fittings and attachments for the applicable airplane control surfaces.

**NOTE:** F70330 replaces 5ME65-73788

**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**



TYPICAL ARRANGEMENT

**Control Surfaces Static Balance Equipment  
Figure 1**





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## ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: J51003-1**

**NAME:** STATIC BALANCE EQUIPMENT - FLIGHT CONTROL SURFACES

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

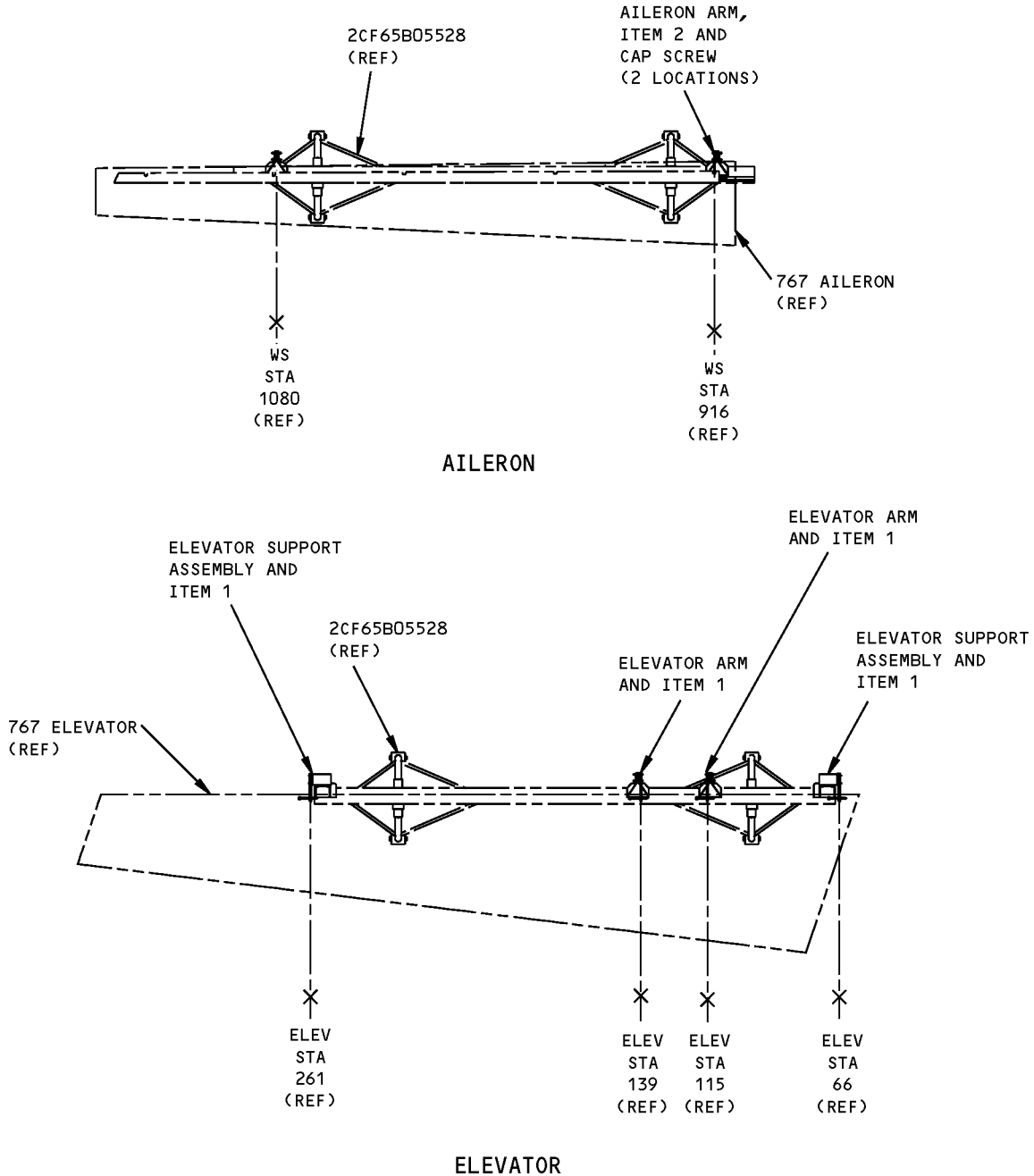
**USAGE & DESCRIPTION:** The J51003 static balance equipment is used on all 767 airplanes. J51003 is used in conjunction with the 2CF65B05528-1 balance stand to support control surfaces (rudder, elevators, ailerons, etc.) for balancing. Refer to Structure Repair Manual SRM 51-60-02, SRM 51-60-03, SRM 51-60-04 and the current J51003 and 2CF65B05528-1 drawings for complete usage instructions. J51003-1 consists of:

J51003-1		
QUANTITY	NOMENCLATURE	PART NUMBER
1	ELEVATOR SUPPORT ASSEMBLY	J51003-3
2	ELEVATOR ASSEMBLY	J51003-4
4	PIN	J51003-5
2	AILERON ARM	J51003-6
2	PIN	J51003-7
4	CAP SCREW	J51003-8
2	TOWER ASSEMBLY	J51003-9
2	RUDDER ARM	J51003-10
1	ELEVATOR SUPPORT ASSEMBLY	J51003-26
1	STORAGE BOX	

**WEIGHT:** 127 lbs (58 kg)

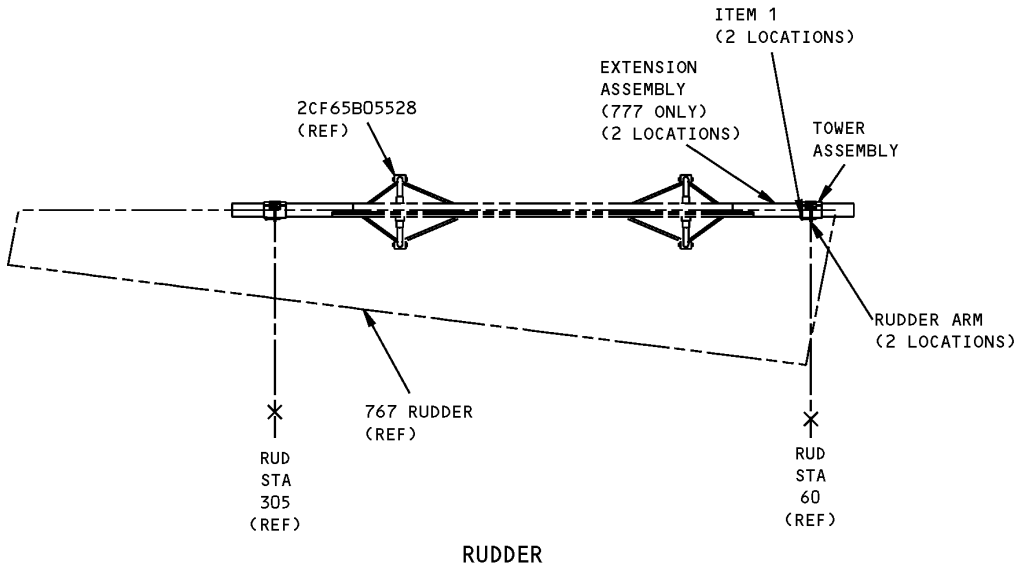
**DIMENSIONS:** 20 x 20 x 55 inches (508 x 508 x 1397 mm)

**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**



**Flight Control Surfaces Static Balance Equipment  
Figure 1 (Sheet 1 of 2)**

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**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**



**Flight Control Surfaces Static Balance Equipment**  
**Figure 1 (Sheet 2 of 2)**

<b>REPAIRABLE/REPLACEABLE PARTS</b>			
<b>ITEM NO.</b>	<b>PART NO.</b>	<b>NOMENCLATURE</b>	<b>VENDOR CODE</b>
1	J51002-5	PIN	
2	J51003-7	PIN	



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## ILLUSTRATED TOOL AND EQUIPMENT MANUAL

**PART NUMBER: 2CF65B05528-1**

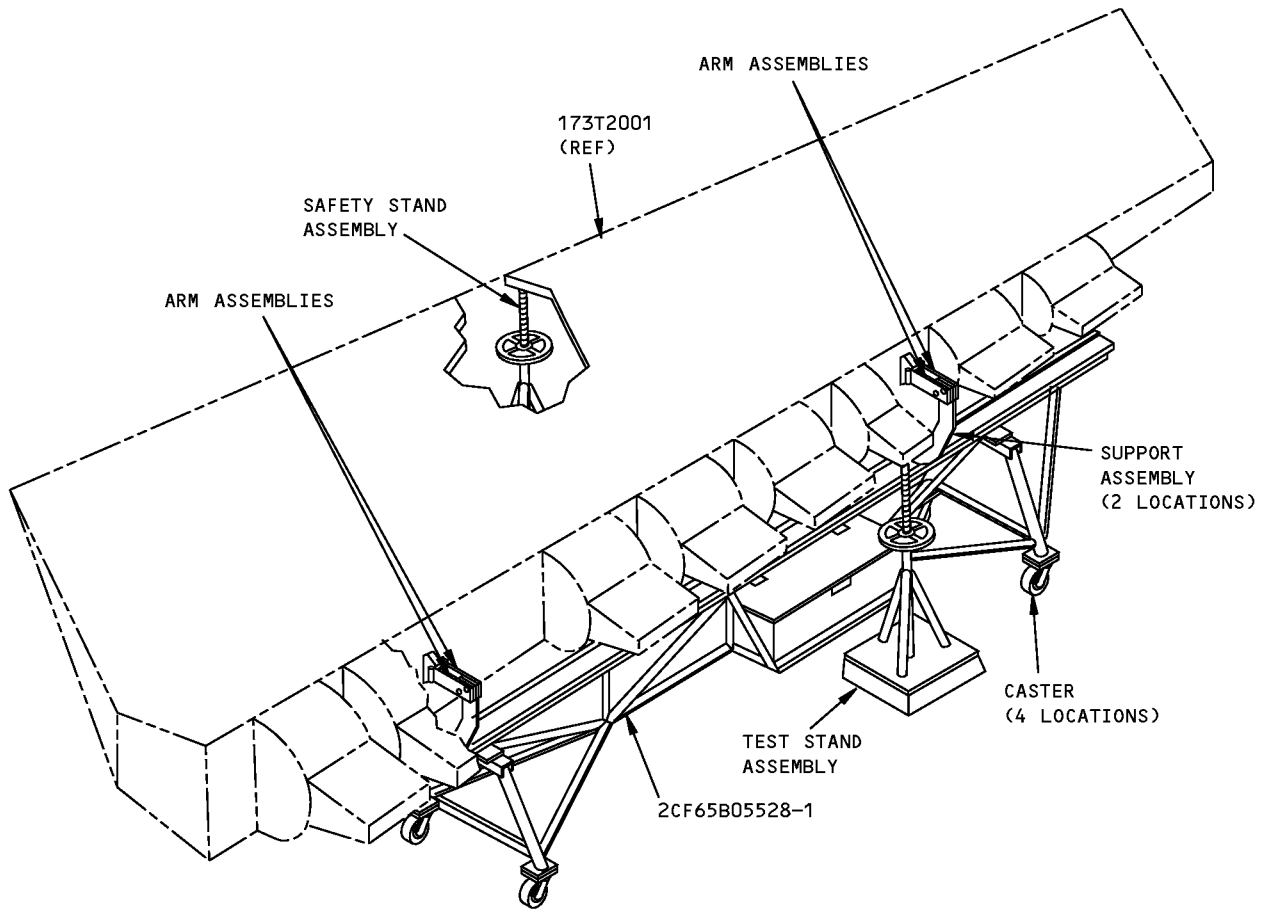
**NAME:** BALANCE STAND - OUTBOARD AILERON, UPPER RUDDER AND OUTBOARD ELEVATOR

**AIRPLANE MAINTENANCE:** NO

**COMPONENT MAINTENANCE:** YES

**USAGE & DESCRIPTION:** 2CF65B05528-1 balance stand is used on all 767 airplanes. 2CF65B05528-1 in conjunction with the J51003 static balance equipment is used to provide support for rudder, elevator, and aileron assemblies during balancing. Refer to Structural Repair Manual (SRM) 51-60-02, SRM 51-60-03, SRM 51-60-04, and the current 2CF65B05528-1 and J51003 drawings for complete usage instructions. 2CF65B05528-1 consists of a steel weldment with a pipe support frame mounted on wheels, special adapter arm assemblies, and two stand assemblies (safety stand assembly and test stand assembly). The safety stand assembly serves as a safety support. The test stand assembly is used to react the unbalanced load to a platform scale, which is not part of this tool. The support frame has an overall length of 193 inches, a wheel base of 131 inches, and tread of 30 inches. The adapter arm assemblies, which are clamped to the platform face, provide for control surface attachment.

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**ILLUSTRATED TOOL AND EQUIPMENT MANUAL**



**Outboard Aileron, Upper Rudder And Outboard Elevator Balance Stand**  
**Figure 1**