

KSC TM-509A



**JOHN F. KENNEDY
SPACE CENTER**

TECHNICAL MANUAL

APOLLO/SATURN V

LAUNCH COMPLEX 39

MOBILE LAUNCHER SERVICE ARMS
OPERATIONS AND MAINTENANCE

* ACB3964

COMMAND MODULE ACCESS ARM SYSTEM

ENVIRONMENTAL CHAMBER

76K03414

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A

LIST OF SERVICE ARM RELATED MANUALS

First Level Maintenance:

TM-500 Service Arm Related Equipment
TM-501 S-IC Intertank Service Arm System
TM-502 S-IC Forward Service Arm System
TM-503 S-II Aft Service Arm System
TM-504 S-II Intermediate Service Arm System
TM-505 S-II Forward Service Arm System
TM-506 S-IVB Aft Service Arm System
TM-507 S-IVB Forward Service Arm System
TM-508 Service Module Service Arm System
TM-509 Command Module Access Arm System
TM-509A Environmental Chamber

Second Level Maintenance:

TM-439 Pressure Regulators Maintenance Manual
TM-440 Solenoid Valves Maintenance Manual
TM-441 Hydraulic and Pneumatic Cylinders Maintenance Manual
TM-442 Pilot-operated Valves Maintenance Manual
TM-443 Miscellaneous Components Maintenance Manual



SECTION I

DESCRIPTION

1.1 PURPOSE

The purpose of this manual is to provide pertinent operation and maintenance information on the Environmental Chamber as installed on the Apollo/Saturn V Command Module Access Arm.

1.2 ENVIRONMENTAL CHAMBER

1.2.1 GENERAL. The Environmental Chamber (Figure 1-1) is mounted on the vehicle end of the Access Arm and serves two important functions. The Chamber provides a work area with a partially controlled environment immediately adjacent to the Command Module and it provides the platform from which entry is made into the Module. The Chamber tracks vehicle motion while coupled to the launch vehicle. The pneumatic system of the Chamber is remotely actuated from the Portable Arm Control Console (PACC) on launcher level 320 or from the Launch Control Center (LCC) to control the connecting to or disconnecting and withdrawing from the vehicle. Connecting and disconnecting is accomplished even while the vehicle is oscillating under extreme conditions. The Environmental Chamber basically consists of the main enclosure assembly which is bolted to the Access Arm and the extension platform assembly.

1.2.2 CHAMBER. The main portion of the Chamber is an enclosure that provides a work area and contains the equipment necessary for support of the flight crew prior to launch. Figure 1-2 shows the equipment that is normally found in the Chamber. Circulation of conditioned air is ensured through the use of the exhaust fan. Excess air is "dumped" through the spring loaded doors on the arm side of the Chamber.

1.2.3 EXTENSION PLATFORM ASSEMBLY. The extension platform consists mainly of a pneumatically retractable floor, a bellows assembly, a hood adapter, the LES (Launch Escape System) coupler assembly, and the related pneumatic system. After the Access Arm is fully extended, the extension platform is then extended towards the vehicle. The LES coupler assembly functions to ensure proper positioning of the hood adapter against the Command Module. The bellows assembly permits extension and retraction of the platform while maintaining the controlled environment.

1.2.3.1 LES Coupler Assembly. The LES coupler assembly (Figure 1-3) positions and holds the hood adapter in physical contact with the Command Module. Horizontal positioning is accomplished mechanically by the guide arms. Vertical positioning is accomplished by a pneumatic actuator with a 21.50 inch stroke. The hooks of the LES coupler are pneumatically opened, spring-loaded closed, and hold the hood adapter in position at the access hatch in the Command Module by grasping the legs of the LES tower. A mechanical actuator and negator spring on opposite ends of the top of the extension platform frame serve to mechanically center the LES coupler assembly whenever the extension platform is retracted. The LES coupler assembly is commonly referred to as the adapter positioning device or APD.

1.2.3.2 Hood Adapter Assembly. The hood adapter assembly is that part of the extension platform that forms the seal around the Command Module access hatch to preserve the conditioned environment. The adapter is mounted on rollers and attached to the LES coupler assembly to permit proper vertical and horizontal positioning. A portion of the adapter is made of panels that are held in place by latches and may be quickly removed, if required, under emergency conditions. A soft rubber seal provides the padded faying surface between the hood and the Command Module.

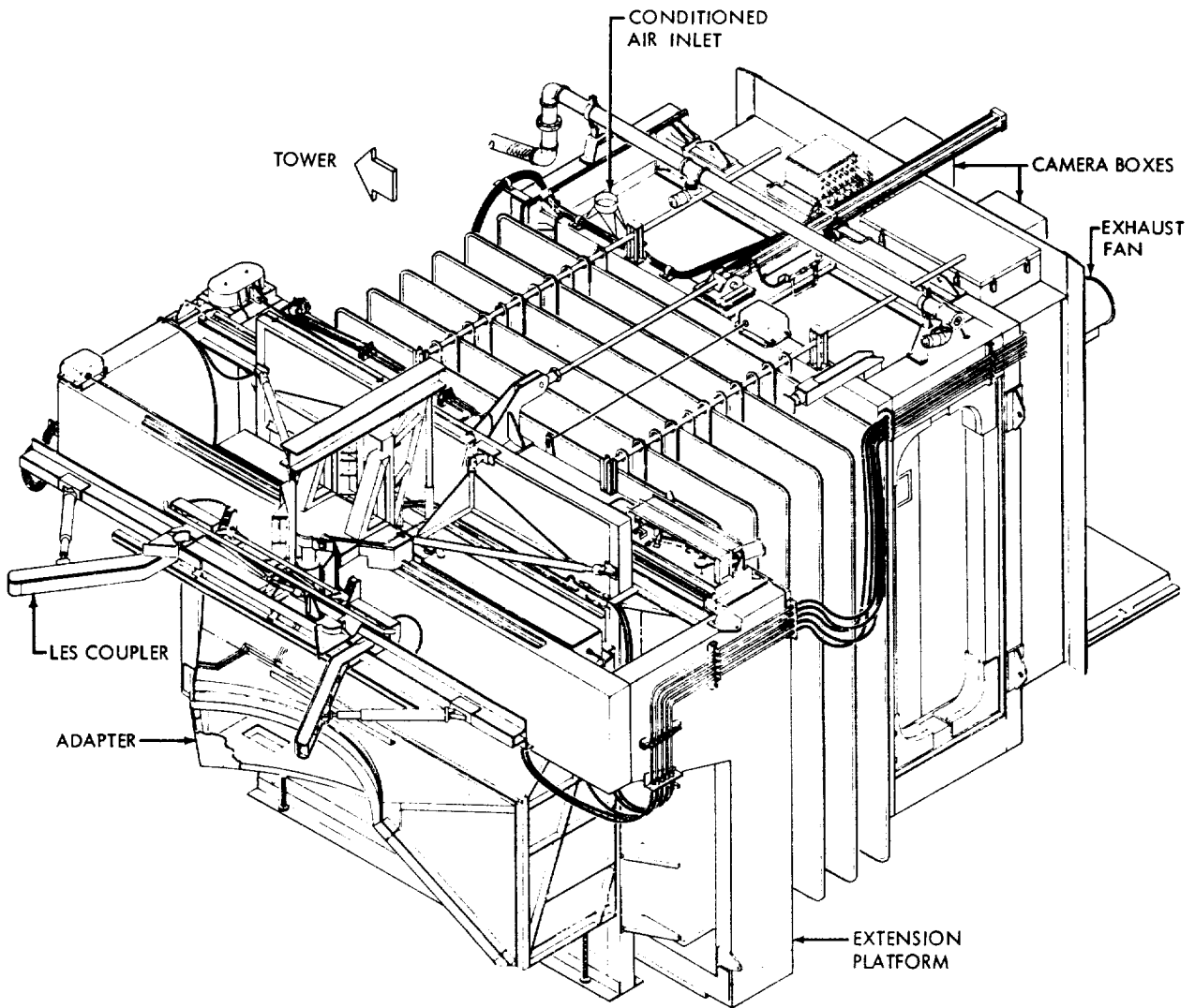


Figure 1-1. Environmental Chamber Assembly

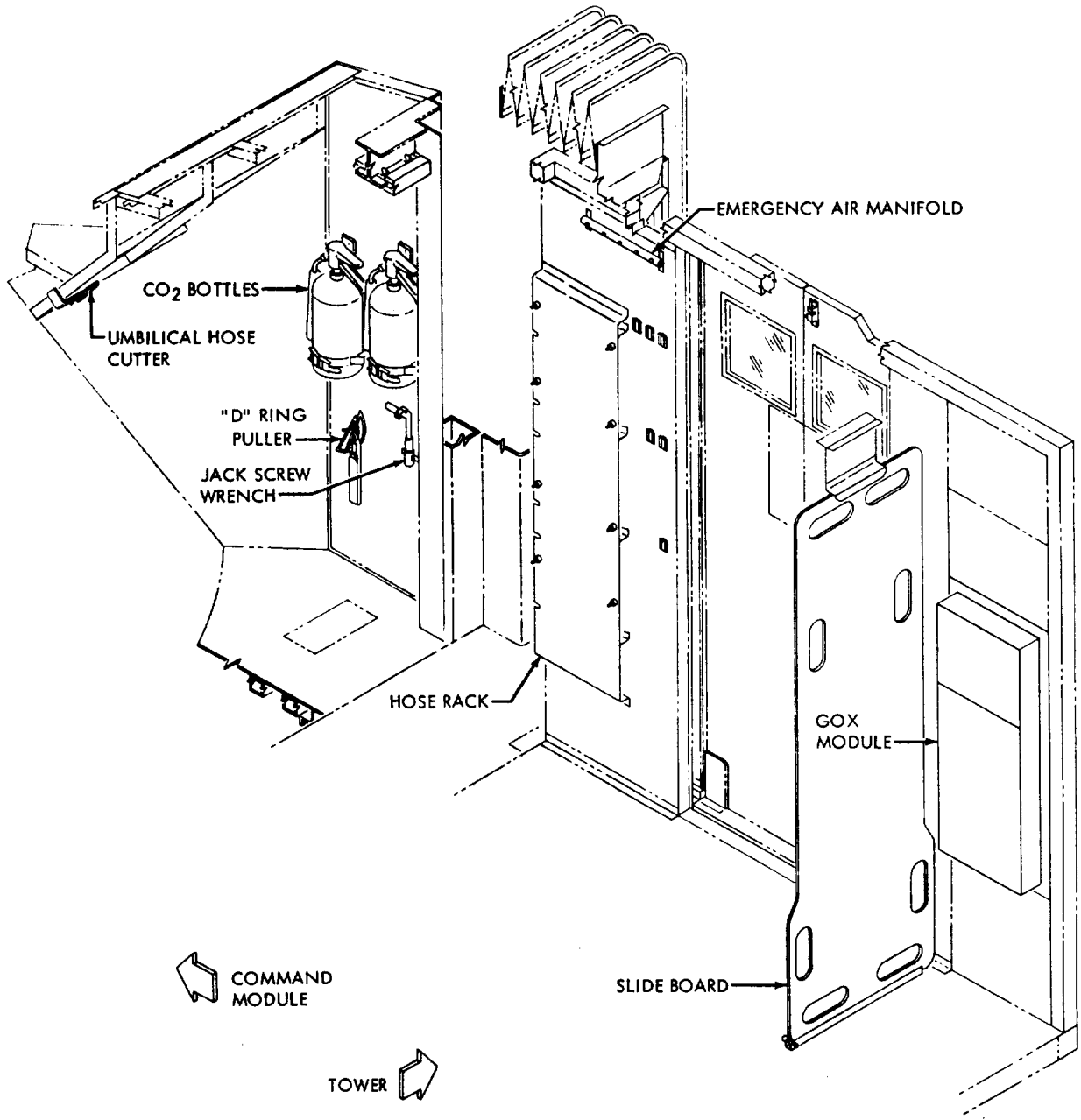


Figure 1-2. Equipment Location (Sheet 1 of 5)

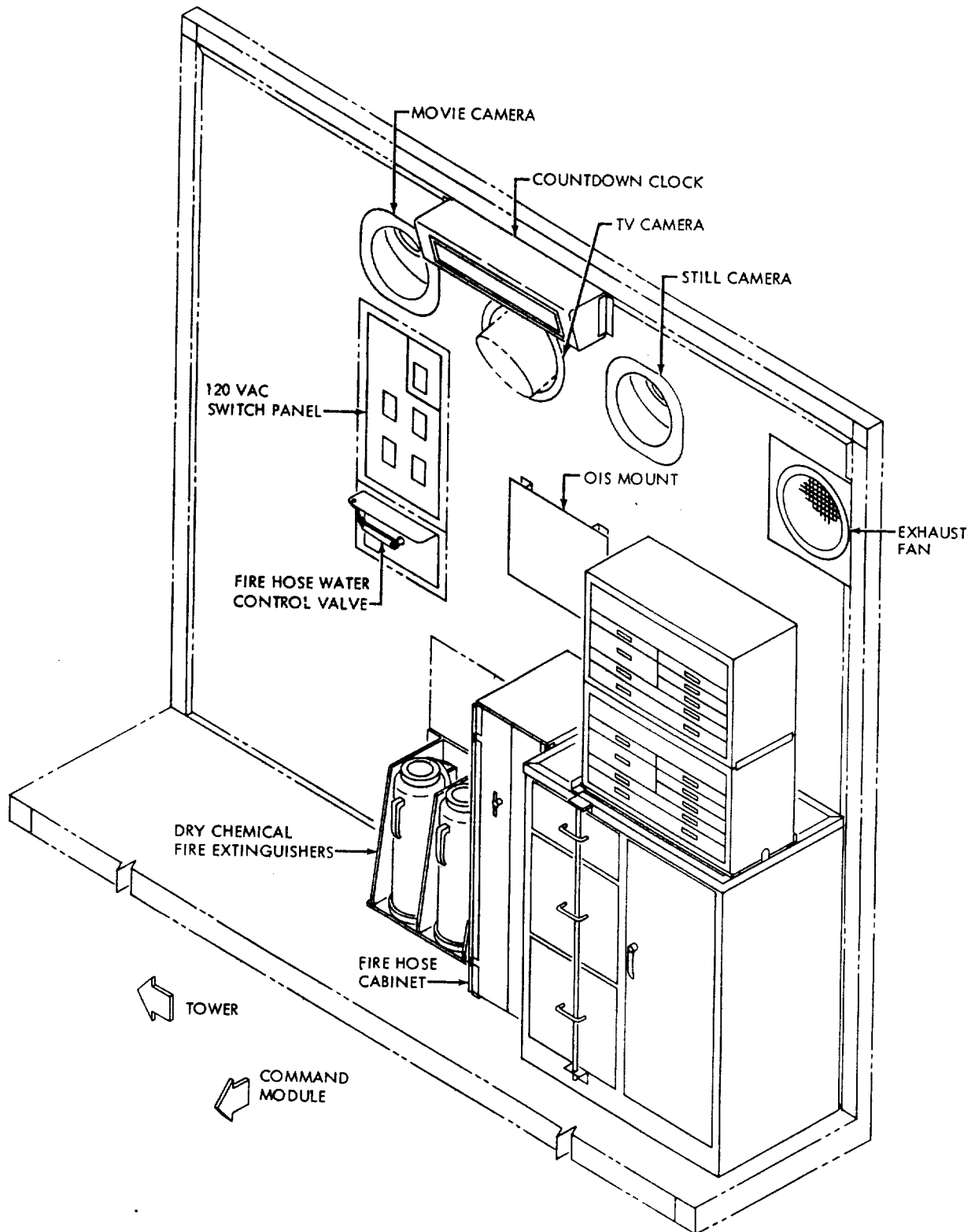


Figure 1-2. Equipment Location (Sheet 2 of 5)

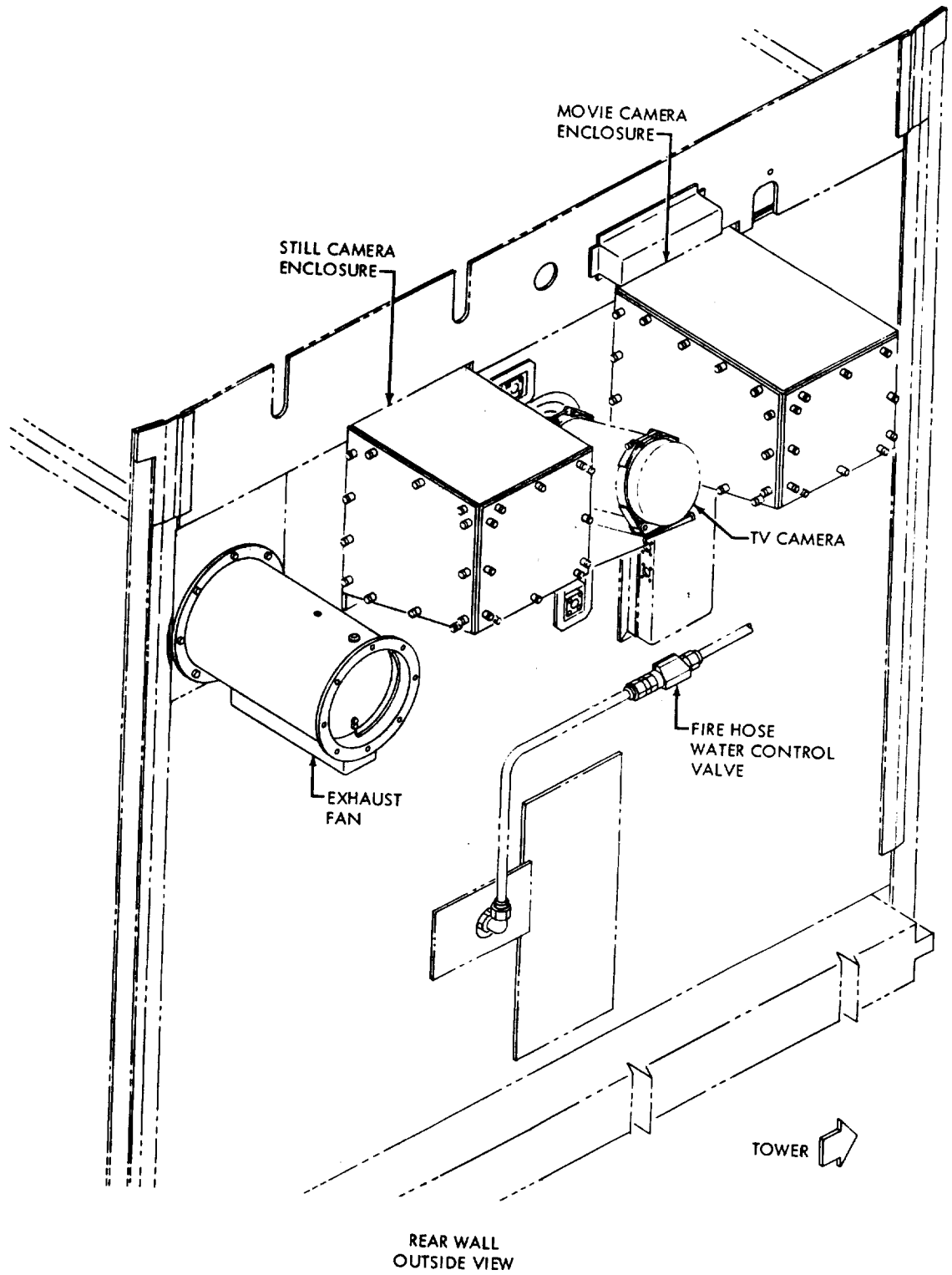


Figure 1-2. Equipment Location (Sheet 5 of 5)

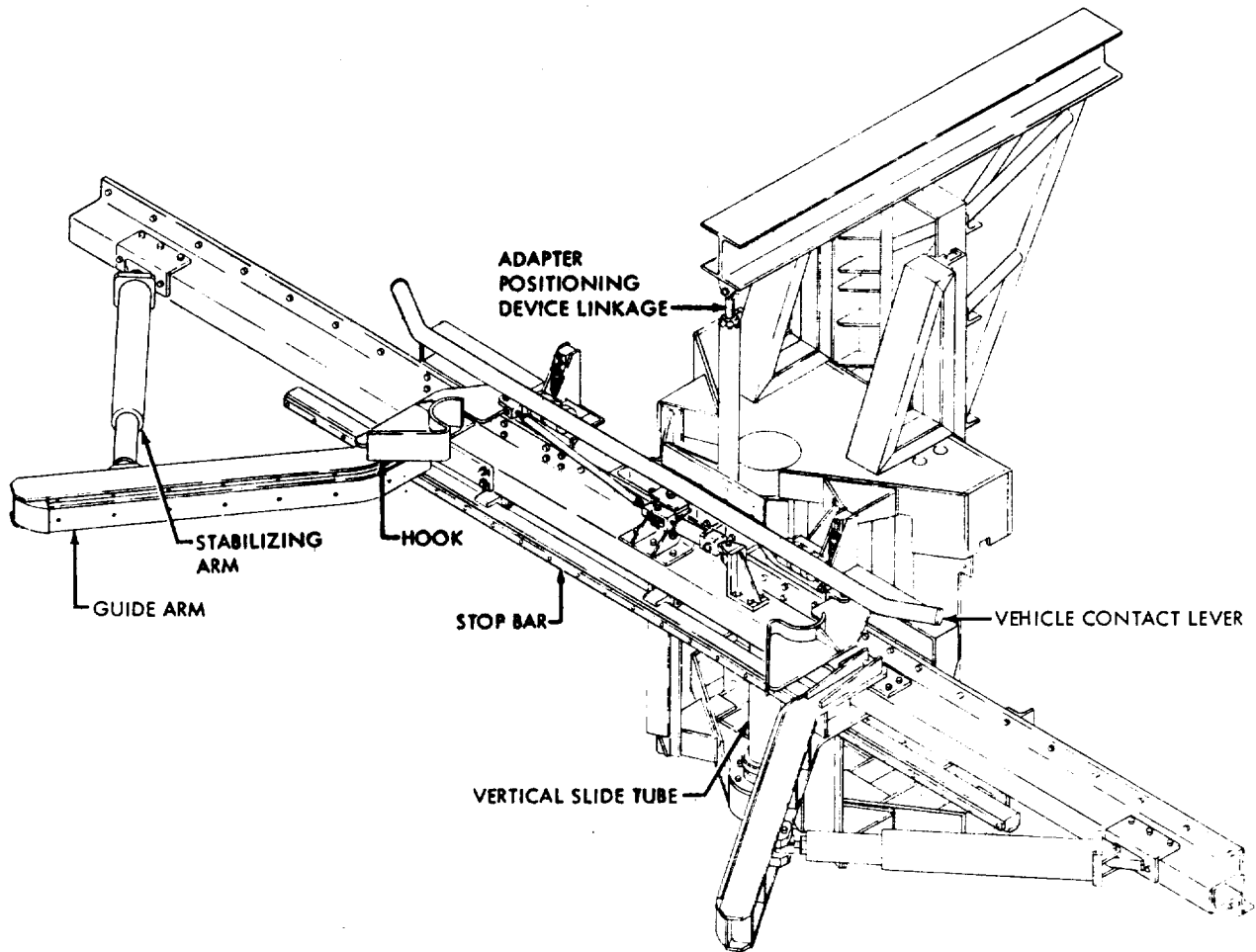


Figure 1-3. LES Coupler Assembly

SECTION III
OPERATION

3.1 GENERAL

Operation of the systems of the Environmental Chamber must be performed in accordance with approved procedures. A partial list of approved procedures includes:

- V-26336 Command Module Access Arm
Environmental Chamber Operation
- V-26034 Command Module Service Arm
System Functional Test
- V-21166 Command Module Access Arm
Electrical Functional Checkout and
Support for Mechanical Tests

3.2 TROUBLE ANALYSIS

Table 3-1 presents some of the possible malfunctions that may be encountered during operation of the various systems of the Environmental Chamber. Section VI contains schematics and a table of component identification by mechanical find number to further aid in trouble analysis. Refer to TM-509 for more complete coverage of the Access Arm related systems.

Table 3-1. Trouble Analysis

TROUBLE	PROBABLE CAUSE	REMEDY
750 psi GN ₂ system No pressure	Valve A34803-9 closed (EC pneumatic inlet)	Open valve (Control Console No. 1)
	Line 9101 not connected	Verify proper line connections
Low pressure	Excessive pressure drop across filter A34749-9	Service filter (Control Console No. 1)
	Relief valve A34797-9 set too low or malfunctioning	Set at 950 (±50) psi or replace with serviceable unit.
	Valve A34804-9 not fully closed (EC pneumatic vent)	Completely close valve.
Extension platform extend time not correct	Pressure regulator A34964-9 improperly adjusted or malfunctioning	Adjust to 250 psi or replace with serviceable unit
Slow or erratic movement of pneumatic cylinders	Cylinders damaged or leaking internally	Replace with serviceable unit
	Mechanical linkage binding	Inspect. Adjust or repair as necessary

SECTION IV
SPECIAL TOOLS AND EQUIPMENT

4.1 PURPOSE

This section provides descriptive information on the special tools and equipment used to accomplish maintenance of the Environmental Chamber. Table 4-1 lists the equipment part number, nomenclature, and application.

4.2 ENVIRONMENTAL CHAMBER HANDLING EQUIPMENT

The Environmental Chamber handling equipment (Figure 4-1) basically comprises a spreader beam, cable assemblies, and turnbuckles. This equipment is used with an overhead crane to lift the Chamber. The spreader beam is attached to a crane hook by a four-legged cable assembly. A turnbuckle in each leg of the cable assembly provides leveling adjustment. Three short cable assemblies and one turnbuckle extend down from the spreader beam lifting lugs to the Chamber lifting lugs.

4.3 FIXTURE ASSEMBLY

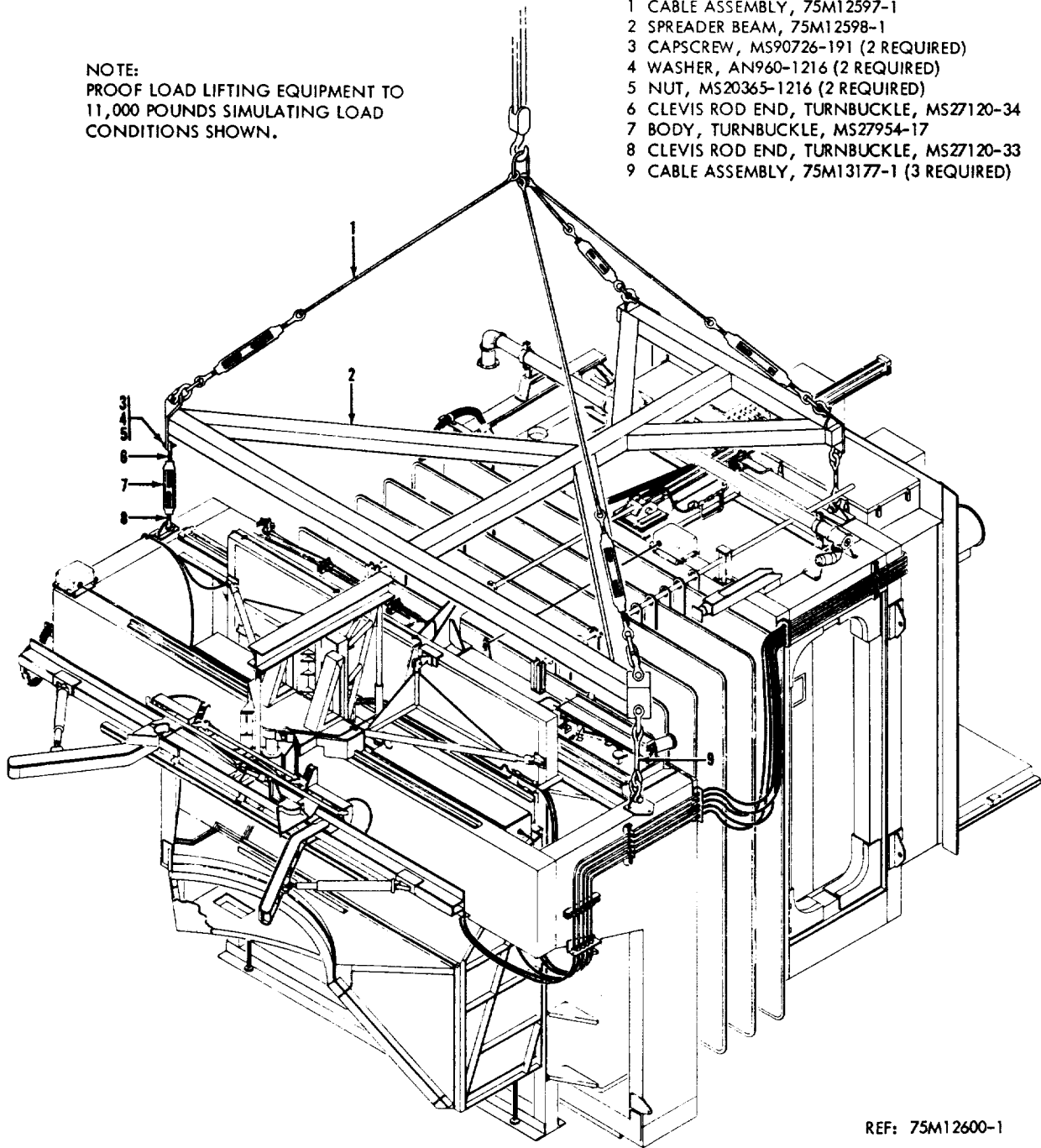
The fixture assembly (Figure 4-2) is used to properly position the actuating arm in the mechanical actuator of the hood adapter centering device during cable and negator spring adjustment. After adjustment, the fixture is removed from the pivot bracket and bolted to the actuator base in a place provided for this purpose.

Table 4-1. Special Tools and Equipment

FIGURE NUMBER	PART NUMBER	NOMENCLATURE	APPLICATION
4-1	75M12600-1	Handling equipment	Provides spreader beam with adjustable cable assemblies for lifting Chamber prior to installation on or during removal from the Command Module Access Arm
4-2	76K03503-1	Fixture assembly	Provides positioning lock for mechanical actuator during adjustment of centering device cables

NOTE:
PROOF LOAD LIFTING EQUIPMENT TO
11,000 POUNDS SIMULATING LOAD
CONDITIONS SHOWN.

- 1 CABLE ASSEMBLY, 75M12597-1
- 2 SPREADER BEAM, 75M12598-1
- 3 CAPSCREW, MS90726-191 (2 REQUIRED)
- 4 WASHER, AN960-1216 (2 REQUIRED)
- 5 NUT, MS20365-1216 (2 REQUIRED)
- 6 CLEVIS ROD END, TURNBUCKLE, MS27120-34
- 7 BODY, TURNBUCKLE, MS27954-17
- 8 CLEVIS ROD END, TURNBUCKLE, MS27120-33
- 9 CABLE ASSEMBLY, 75M13177-1 (3 REQUIRED)



REF: 75M12600-1

Figure 4-1. Environmental Chamber Lifting Equipment

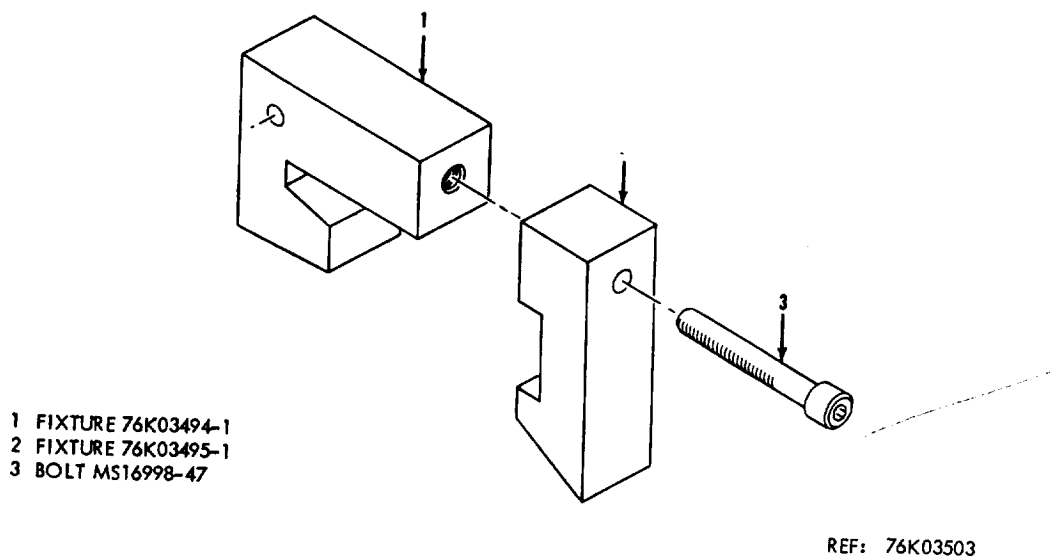


Figure 4-2. Actuator Locking Fixture Assembly



- i. Attach Chamber to arm with the following hardware:
 - (1) Upper shim (75M19717-1), 2 required, narrow end up
 - (2) Lower shim (75M19718-1), 2 required, narrow end up
 - (3) Cap screws, MS90727-115 through MS90727-121, 24 required
 - (4) Washers, AN960-816, 48 required
 - (5) Nuts, MS20365-820, 24 required

NOTE

One upper and one lower shim are used between the Chamber and each side of the Arm. Exact screw length is determined on installation. MS90727-118 is the longest screw that is to be used in the uppermost holes and MS90727-121 is the longest screw for the bottom holes.

- j. Install MSS seal panel from Arm to Chamber using bolts (AN5DD7A), washers (AN960PD516, two per bolt), and nuts (MS21044-D5).

5.1.3 FLUID SERVICE LINE CONNECTION. Connect the fluid service lines from the Access Arm to the Environmental Chamber as listed in Table 5-1. Observe the following:

- a. Tubing and fittings are to be installed in accordance with KSC-SPEC-Z-0008.
- b. Tubing is to be color coded in accordance with KSC-STD-S-0004.
- c. When working with open lines, use care to avoid system contamination. Line openings are to be plugged or capped at all times except when connected to system.

Table 5-1. Arm-to-Chamber Fluid Service Connections

LINE CODE	CHAMBER INTERFACE	SERVICE
9001	A11092/A16035	250 psi conditioned oxygen
9004	A11141	100 psi emergency air
9005	A11135/A16036	O ₂ sensing
9006	A11139/A16055	150 psi GHe (purge)
9007	A11084	Environmental control
9008	A11137	50 psi GN ₂ (purge)
9009	A11222/A16048	150 psi GN ₂ (purge)
9011	A34659	200 psi H ₂ O (fire protection)
9101	A6354-9	750 psi GN ₂ (actuation)
9102	A36209	100 psi H ₂ O (LES cooling)

5.1.3.1 Environmental Duct. The environmental duct (75M15599-1) completes line 9007 from the Arm to the Environmental Chamber. Use care to avoid system contamination whenever the duct is disconnected or removed from the system. The duct is installed as follows:

- a. Secure flanged end of duct to arm duct with a gasket (75M10675-3), 12 bolts (AN4-10A), 12 washers (AN960-416), and 12 nuts (AN363-428).
- b. Secure sleeve end to Chamber duct with a clamp (MARMAN 550-C-100-625-M).

5.1.4 ELECTRICAL CABLE CONNECTION. Connect the electrical cables from the Access Arm to the Environmental Chamber as listed in Table 5-2. Observe the following:

- a. Electrical cables are fabricated in accordance with KSC-E-165.
- b. Electrical cables are installed in accordance with KSC-E-166.
- c. Where cable diameter is too small for cable clamp, wrap cables as required with asbestos (P/N 87M94, McMaster-Carr, 39428) and tape (P/N 405-1165C-PSA, Minnesota Mining & Mfg. Co., 76381). Firm clamping is essential to prevent chafing and to keep cables in a bundle where slack is provided.
- d. Protection caps must be installed on connectors at all times except when connectors are mated with each other.

Table 5-2. Arm-to-Chamber Electrical Connections

CABLE	CONNECTOR	CONNECTS TO	FUNCTION
57A55A27W1	P1	57A55A27J1	OIS Unit #1
57A55A27W2	P1	57A55A27J2	OIS Unit #2
57A55A27W3	P1	57A55A27J3	OIS Unit #3
57A55A27W4	P1	57A55A27J4	CDC Display Unit
9075A324W1	P2	57A55A16J1	16 MM Camera
9075A325W1	P2	57A55A17J1	35 MM Camera
9048A30W4	P2	57A55A28J1	OTV Camera
9048A32AW2	P2	57A55A29J1	OTV Camera Plugs
6327A6W1	P2	57A55A18J3	Remote Exhaust Fan Switch
6327A2W1	P2	57A55A18J1	120 VAC Input
6357A55A2W1	P2	57A55A2J1	Control Distributor
6320A1W5 (W0727)	P2	6320A1J5	Terminal Distributor
6320W7 (W0231)	P2	6320A1J7	Terminal Distributor
6320W9 (W0402)	P2	6320A1J9	Terminal Distributor
32C06		Linear Potentiometer	
32C07		Linear Potentiometer	

5.2 MAINTENANCE

5.2.1 ADJUSTMENTS. In-service adjustments necessary for proper positioning and operation of the Environmental Chamber are listed in Table 5-3.

5.2.2 TORQUE VALVES. Threaded fasteners are normally torqued in accordance with ABMA-STD-18. Exceptions are listed in Table 5-4.

5.2.3 SPECIAL MATERIALS. Table 5-5 lists special materials that are used in maintaining the Environmental Chamber.

5.2.4 STANDARD PRACTICES. The following listed design standards are to be observed in the performance of system and equipment maintenance.

- a. Lockwire is to be installed per MS33540.
- b. Helical coil threaded inserts are to be installed per MS33646.

Table 5-3. Mechanical Adjustments

COMPONENT	ADJUST TO	FIGURE REFERENCE	DRAWING REFERENCE
LES coupler (APD)	Correct distance between centerline of pivot (76K03248-1) and aft face of bumper (76K03251-1) is obtained by shimming as required.	5-2	76K03242
APD linkage (76K03243-1)	22.50 (± 03) inches between centers of upper and lower attaching bolts.	5-3	76K03242
APD positioning cylinder (A34988-9)	Retracted: 30.18 (± 03) inches between centers of upper and lower attaching bolts.	5-3	76K03242
Hood linkage	77.75 (± 03) inches from underside of APD down bar to extension platform floor 43-58 (± 03) inches between center of bolt attaching upper end of hood linkage to lift beam and lower surface of hood adapter cross-beam. Final adjustment of clevis bracket (76K03405-1) is made during test.	5-3	76K03384
Adapter positioning device	APD centered with fixture (76K03503-1) holding actuator arm in position. Negator spring (76K03855-1) extension is 5.00 (± 03) inches from outside of cover to centerline of cable attach hold in spring end plates. Final length of centering cables (76K03401 and 76K03848-1) is determined during installation and adjustment.	5-4	76K03384

Table 5-4. Torque Values

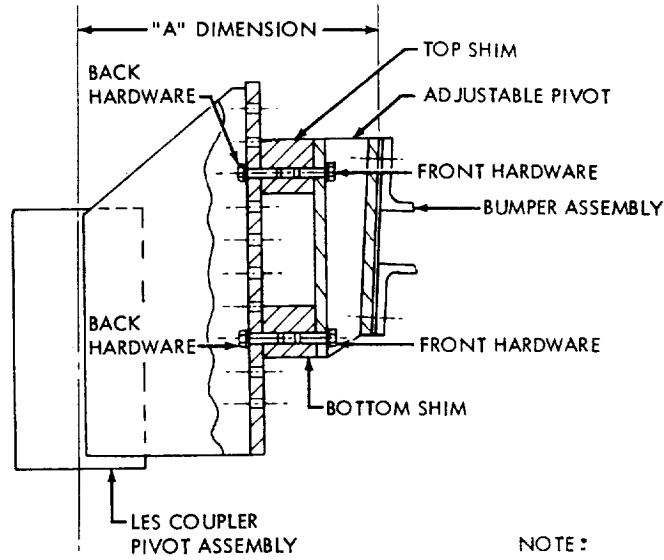
PART NUMBER	DESCRIPTION	TORQUE
MS90727-62	Capscrew, attaches 76K03251-1 bumper assembly to guide arm (16 required)	50 ft. lbs.
12521 (Code 91796)	Wire rope clamps, used on 76K0340-1 and 76K03848-1 cable assemblies	20 ft. lbs.

Table 5-5. Special Materials (Sheet 1 of 2)

MATERIAL	SOURCE	USE
RTV731 Silastic Sealant	Dow Corning Corp. (Code Ident: 71984)	Seal all structural mating surfaces
Loctite Sealant #84 Grade "C"	Loctite Corp. (Code Ident: 05972)	Applied to threads of capscrews prior to installation in rivnuts.
A-4000 Adhesive	Dow Corning Corp. (Code Ident: 71984)	Bonding gaskets and lacings in place
12-007 Hysol	Hysol Corp. (Code Ident: 04347)	Clear, protective coating
MIL-S-40083		Coat nut threads of grounding lug in distributor box 57A55A2
Primer: Super Koropon High Temperature #34127 green 910-174 curing solution 515-019 Primer Base Enamel: Silicone Hi Heat Enamel, white 761-100 Enamel Base 910-023 Activator	Desoto Chemical Coatings, Inc. (Code Ident: 22873)	Interior finish of Environmental Chamber
Primer: MIL-P-8585, MIL-P-15930, or MIL-P-52192 Top Coat: TT-E-489 (Color No. 17875 (White))		Exterior finish for Environmental Chamber - two coat full gloss alkyd enamel. (Ref. MIL-STD-171, finish 22.2)

Table 5-5. Special Materials (Sheet 2 of 2)

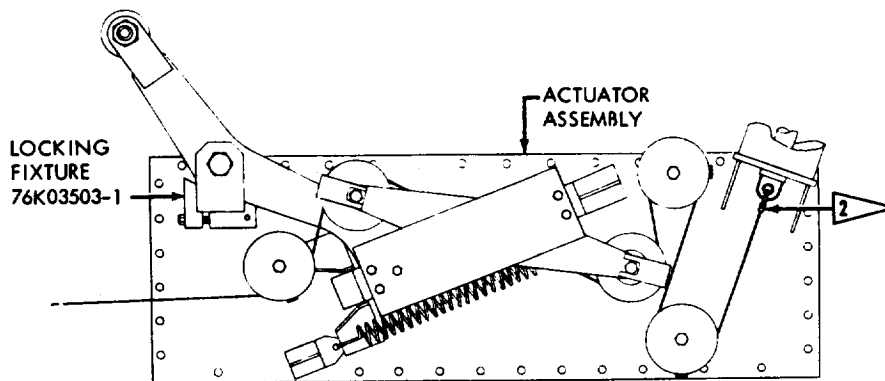
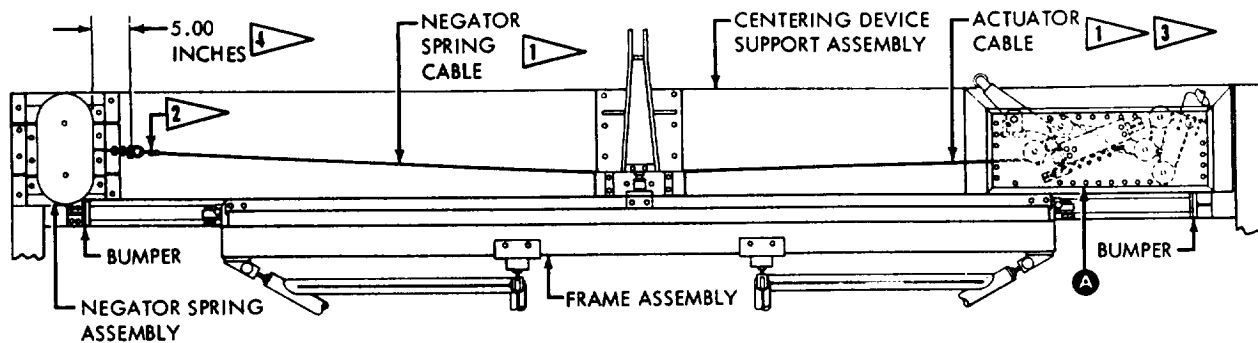
MATERIAL	SOURCE	USE
<p>Adhesive, seal kote NB1-99</p> <p>Insulation, flexible, vaporseal NB1-60 1 inch thick</p> <p>Aluminum jacketing NB1-93 .016 thick</p> <p>Tape, aluminum foil NB1-140 2 inches wide</p> <p>Clip NB1-152 3/8 inch</p> <p>Strapping NB1-151 3/8 X .020</p>	<p>North Brothers, Inc. Birmingham, Ala.</p>	<p>Insulates transition duct between air conditioning flex duct from Access Arm and Chamber conditioned, air inlet duct. (See Figure 5-4)</p>



NOTE :
FINAL DETERMINATION OF SHIMS
USED IS MADE FROM "A"
DIMENSION WHEN SYSTEMS ARE
IN OPERATION.

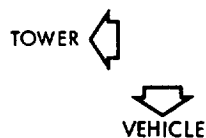
"A"	SHIM		ATTACHING HARDWARE				
	TOP	BOTTOM	FRONT	NO. REQD	BACK	NO. REQD	ITEM
12.00	76K03231-8	76K03231-7	MS90727-59	8 EA	MS90727-61	8 EA	BOLT
	2.500	2.500	MS35338-46		MS35338-46		LOCK WASHER
11.50	76K03231-6	76K03231-5	MS90727-59	8 EA	MS90727-61	8 EA	BOLT
	2.000	2.000	MS35338-46		MS35338-46		LOCK WASHER
11.00	76K03231-4	76K03231-3	MS90727-59	8 EA	MS90727-61	8 EA	BOLT
	1.500	1.500	MS35338-46		MS35338-46		LOCK WASHER
10.62	76K03231-2	76K03231-1	MS90727-59	8 EA	MS90727-61	8 EA	BOLT
	1.125	1.125	MS35338-46		MS35338-46		LOCK WASHER
10.00	76K03217-2	0.500	MS35961-21	8 EA	NAS184-6-616L	8 EA	STUD
			JAM NUT		AN960-616L		FLAT WASHER
					MS21044N6		LOCK NUT
9.50			MS90727-64	8 EA	MS21044N6	8 EA	LOCK NUT
			CAP SCREW		AN960-616		FLAT WASHER

Figure 5-2. LES Coupler Shim Installation



A

NOTES:



- 1 FINAL CABLE LENGTH IS DETERMINED AT INSTALLATION
- 2 TORQUE CLAMP TO 20 FT LBS AFTER INSTALLATION OF CABLE
- 3 ADJUST ACTUATOR CABLE WITH FRAME ASSEMBLY CENTERED AND SYSTEMS IN OPERATION. AFTER ADJUSTMENT, REMOVE AND STORE LOCKING FIXTURE.
- 4 AT INSTALLATION, ADJUST NEGATOR SPRING TO DIMENSION SHOWN WITH FRAME ASSEMBLY CENTERED.
- 5 APPLY LOCTITE TO THREADS OF CAPSCREWS.

Figure 5-3. Centering Device Adjustment

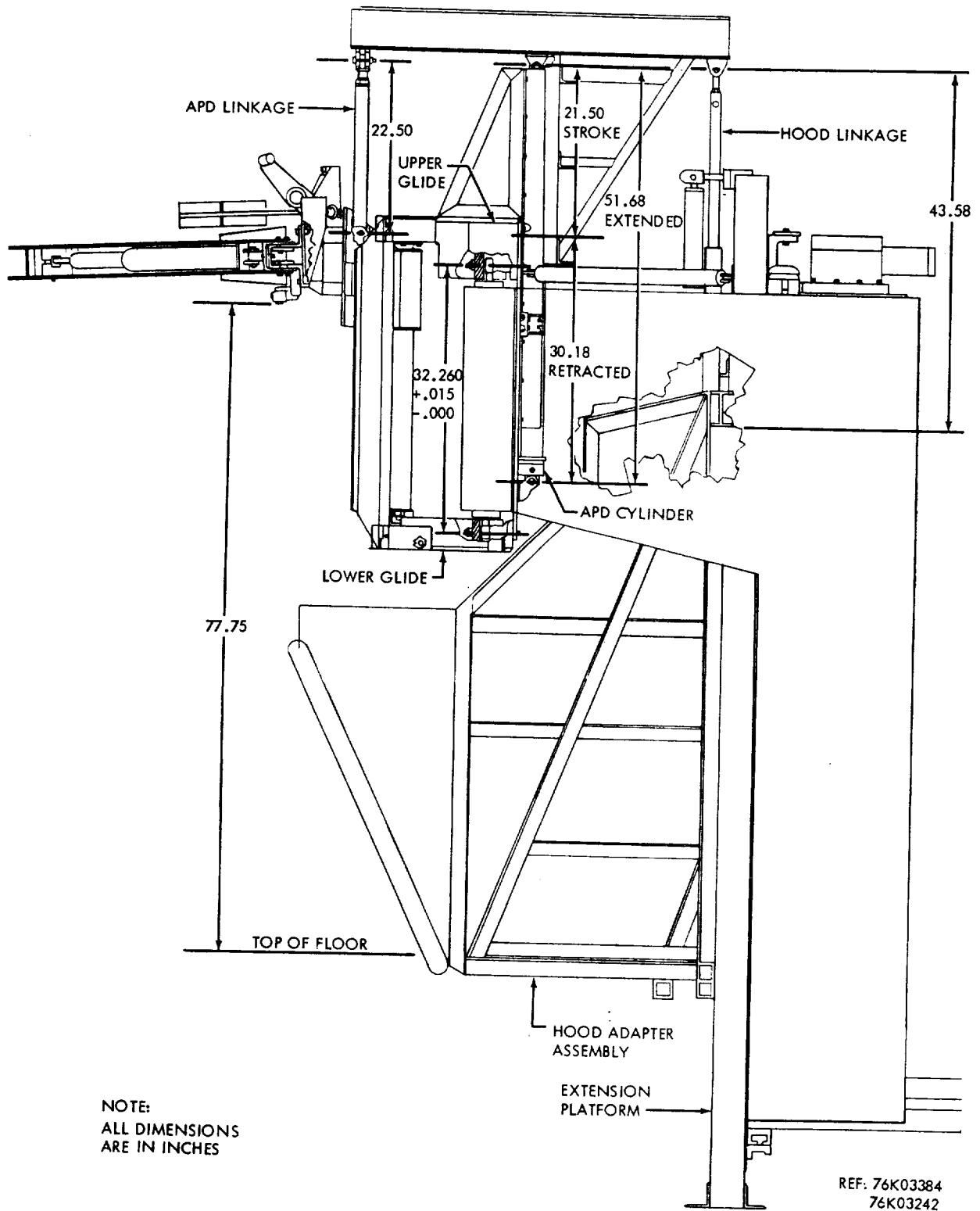
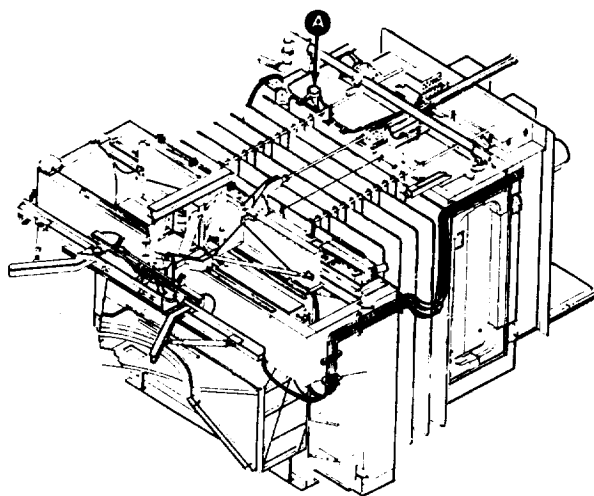
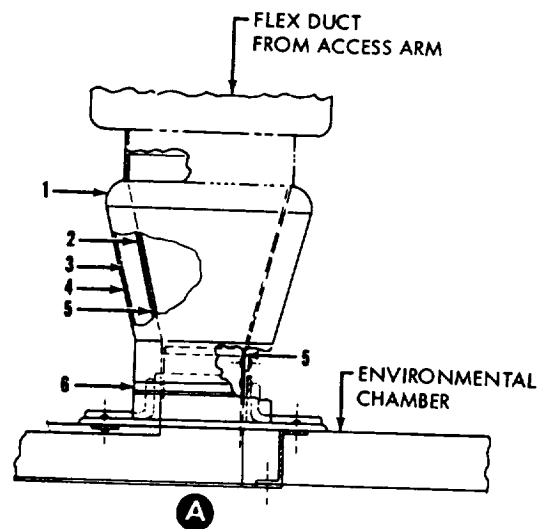


Figure 5-4. LES Coupler and APD Adjustments



- 1 ALUMINUM FOIL TAPE, 2 INCHES WIDE
- 2 SEAL KOTE ADHESIVE, APPLIED TO 5
- 3 FLEXIBLE VAPORSEAL INSULATION, 1 INCH THICK
- 4 ALUMINUM JACKETING, .016 INCH THICK
- 5 TRANSITION DUCT, 76K03167-1
- 6 CLIP, 3/8 INCH
- 7 STRAPPING, 3/8 INCH X .020 INCH



REF: 76K03148 REV B

Figure 5-5. Transition Duct Insulation

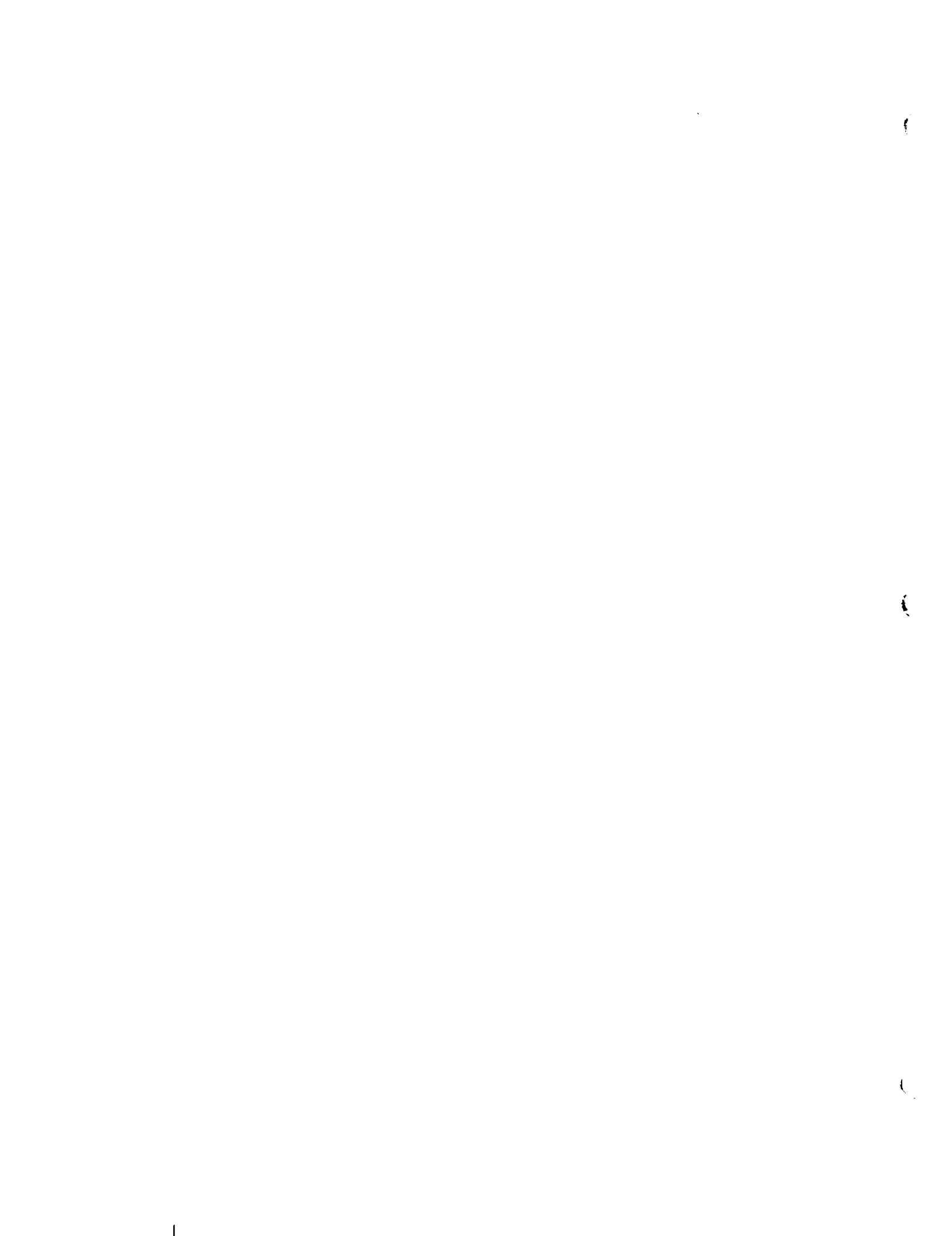


Table 6-1. Component Designator List (Sheet 2 of 7)

FIND NUMBER	ELEC REF DES	PART NUMBER	DESCRIPTION	REMARKS AND REFERENCE FIGURE NUMBER
A16055		MC164C4	Union, bulkhead	Helium supply
A16056		75M51088-4	Gage, pressure, 0 - 300 psi Glassco Instrument Co., Pasadena, Calif. G2300-300	Helium supply
A16057		75M01305-1	Valve, manual Robbins Aviation, Los Angeles, Calif. SSNA250-4C-787	Helium vent
A16058		75M01305-1	Valve, manual Robbins Aviation, Los Angeles, Calif. SSNA250-4C-787	Helium supply
A16059		MC164C8	Union, bulkhead	Helium supply
A16060		75M50450-3	Cap assembly	Helium supply
A16061		75M51313-1 (75M51630-434)	Valve, vent check James, Pond & Clark, Pasadena, Calif. P4-698T1	Helium vent
PNEUMATIC SYSTEM				
A34932-9		75M50562-1	Orifice, bulkhead union A. U. Stone, New York, N. Y. H228-031	Environmental Chamber distributor box purge
A34933-9		75M02047	Plate, calibrated bleed Del Manufacturing, Los Angeles, Calif. 10023	Distributor purge vent
A34934-9		76K03230-1	Cylinder assembly, pneumatic operating pressure, 750 psi	Hooks open
A34935-9		76K03230-1	Cylinder assembly, pneumatic operating pressure, 750 psi	Hooks open
A34936-9				Pneumatic reservoir
A34937-9	57A55 A1A5	10425701-2	Valve, 3/8-inch solenoid operated, Marotta Valve Corp., Boonton, N. J. MV123K	Hooks open control valve No. 1
A34938-9	57A55	10425701-2	Valve, 3/8-inch solenoid operated, Marotta Valve Corp., Boonton, N. J. MV123K	Hooks open control valve No. 2
A34939-9		75M51630-634	Valve, check, vent Marotta Valve Corp., Boonton, N. J. 232783-634	Hooks open cylinder vent
A34940-9		75M50562-1	Orifice, bulkhead union A. U. Stone Co., New York, N. Y. H228-031	Pneumatic box purge control

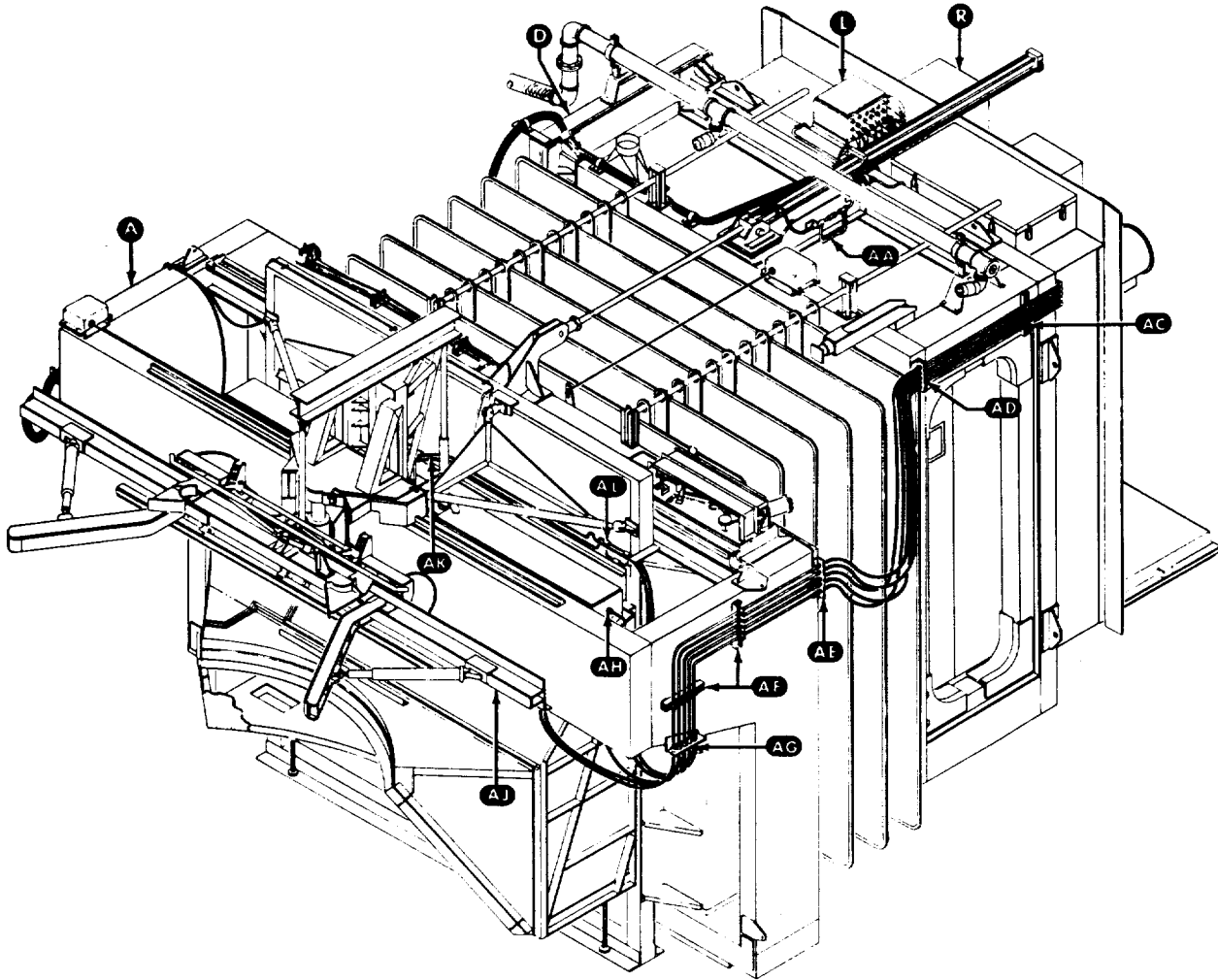
Table 6-1. Component Designator List (Sheet 3 of 7)

FIND NUMBER	ELEC REF DES	PART NUMBER	DESCRIPTION	REMARKS AND REFERENCE FIGURE NUMBER
A34941-9		75M51695-2	Orifice, flow restricting Ausco, Inc., New York, N. Y. P881-2	Purge linear potentiometer 32C07
A34942-9		75M51695-2	Orifice, flow restricting Ausco, Inc., New York, N. Y. P881-2	Purge linear potentiometer 32C06
A34943-9		76K03084	Valve, ball, 1-inch firehose Jamesbury Corp., Worcester, Mass.	Firewater shutoff
A34944-9		75M51630-634	Valve, check, vent Marotta Valve Corp., Boonton, N. J. 232783-634	Hooks open cylinder vent
A34945-9			Nozzle, mystor fog Miami Fire Equipment Co., Miami, Fla. S-200	Firewater spray
A34946-9		75M02047	Plate, calibrated bleed Del Manufacturing, Los Angeles, Calif. 10023	Countdown timer purge vent
A34947-9		75M50562-1	Orifice, bulkhead union A. U. Stone Co., New York, N. Y. H228-031	Countdown timer purge
A34948-9		75M02047	Plate, calibrated bleed Del Manufacturing, Los Angeles, Calif. 10023	Still camera purge vent
A34949-9	57A55 A1A1	10425701-2	Valve, 3/8-inch solenoid operated, Marotta Valve Corp., Boonton, N. J. MV123K	Extension platform retract supply valve No. 1
A34950-9		10426693	Valve, 1/4-inch check, circle seal James, Pond & Clark, Pasadena, Calif. P279T1-4TT	Extension cylinder control
A34951-9		76K03578-1	Orifice, flow restricting A. U. Stone Co., New York, N. Y. H92C-047	Extension cylinder flow control
A34952-9		76K03824	Cylinder, pneumatic, operating pressure 750 psi Miller Fluid Power Division, Bensenville, Ill.	Retract extension platform
A34953-9	57A55 A1A10	10425701-2	Valve, 3/8-inch solenoid operated, Marotta Valve Corp., Boonton, N. J. MV123K	Extension platform retract block valve
A34954-9		75M51630-634	Valve, check, vent Marotta Valve Corp., Boonton, N. J. 232783-634	Valve, block vent

SECTION VII
PARTS AND COMPONENT ASSEMBLIES

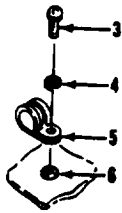
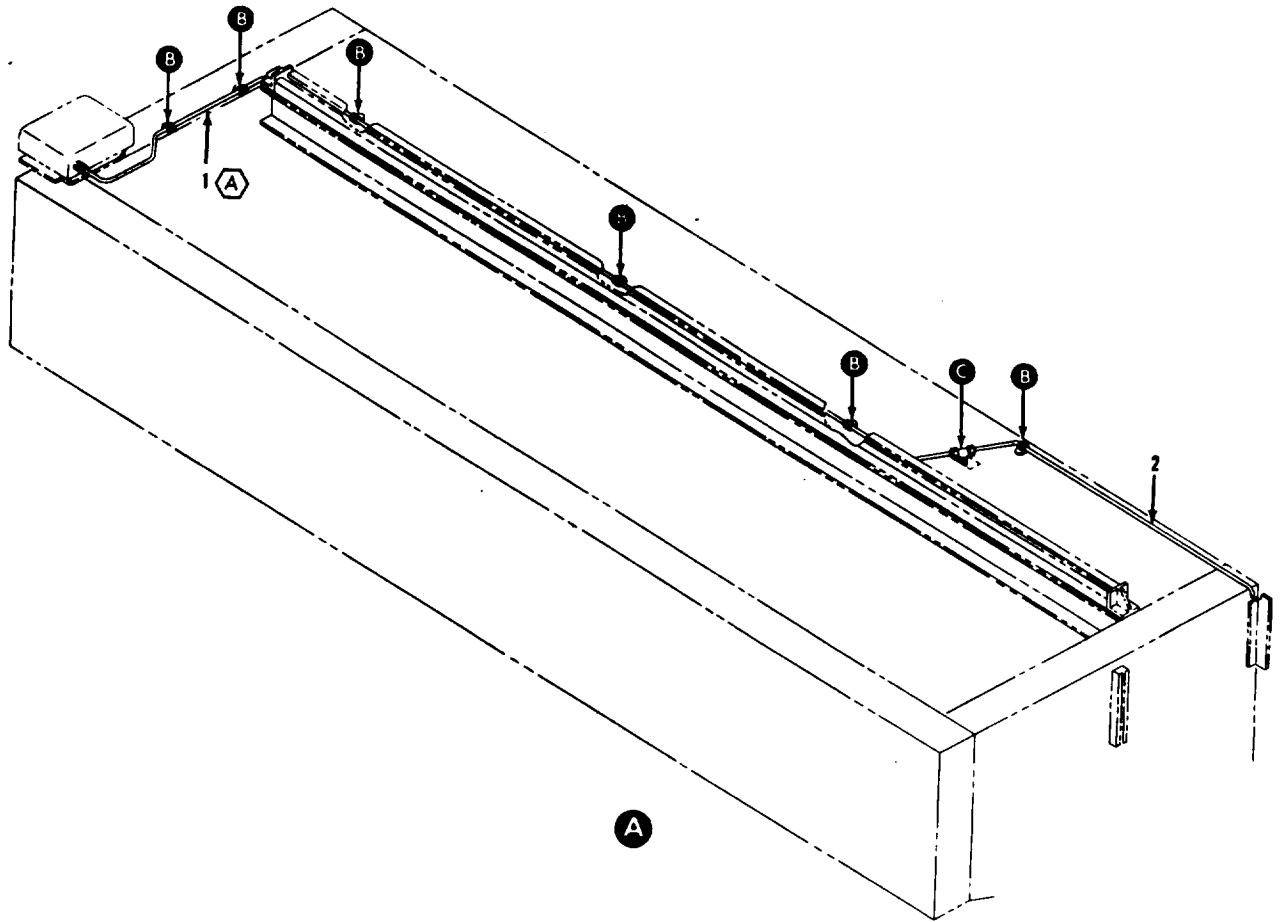
7.1 GENERAL

This section contains illustrated parts breakdowns. Parts purchased from approved manufacturers are identified by the manufacturer's part number. The manufacturer's federal supply code (FSC) is listed in parentheses in the Description column. Refer to Cataloging Handbook H4-2. Code to Name, for the manufacturer's name and address. Equivalent substitutions of standard parts are authorized per 76K04427.

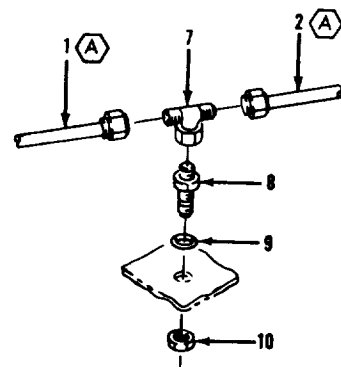


LINE CODE	LINE	LINE SIZE	OPERATING PRESSURE - PSIG
(A)	GN ₂ PURGE	3/8 & 1/4	50
(F)	EMERGENCY AIR	1/2	400
(G)	GN ₂ ACTUATION	3/8	750
(M)	WATER, FIRE HOSE	1	100
(R)	PLATFORM, RETRACT	3/8	750
(S)	PLATFORM, EXTEND	3/8	250
(T)	APD DOWN	1/4	750
(U)	APD UP	1/4	750
(V)	HOOKS OPEN	1/4	750
(W)	HOOKS OPEN	1/4	750

Figure 7-1. Tubing Installation (Sheet 1 of 17)



B



C

Figure 7-1. Tubing Installation (Sheet 2 of 17)

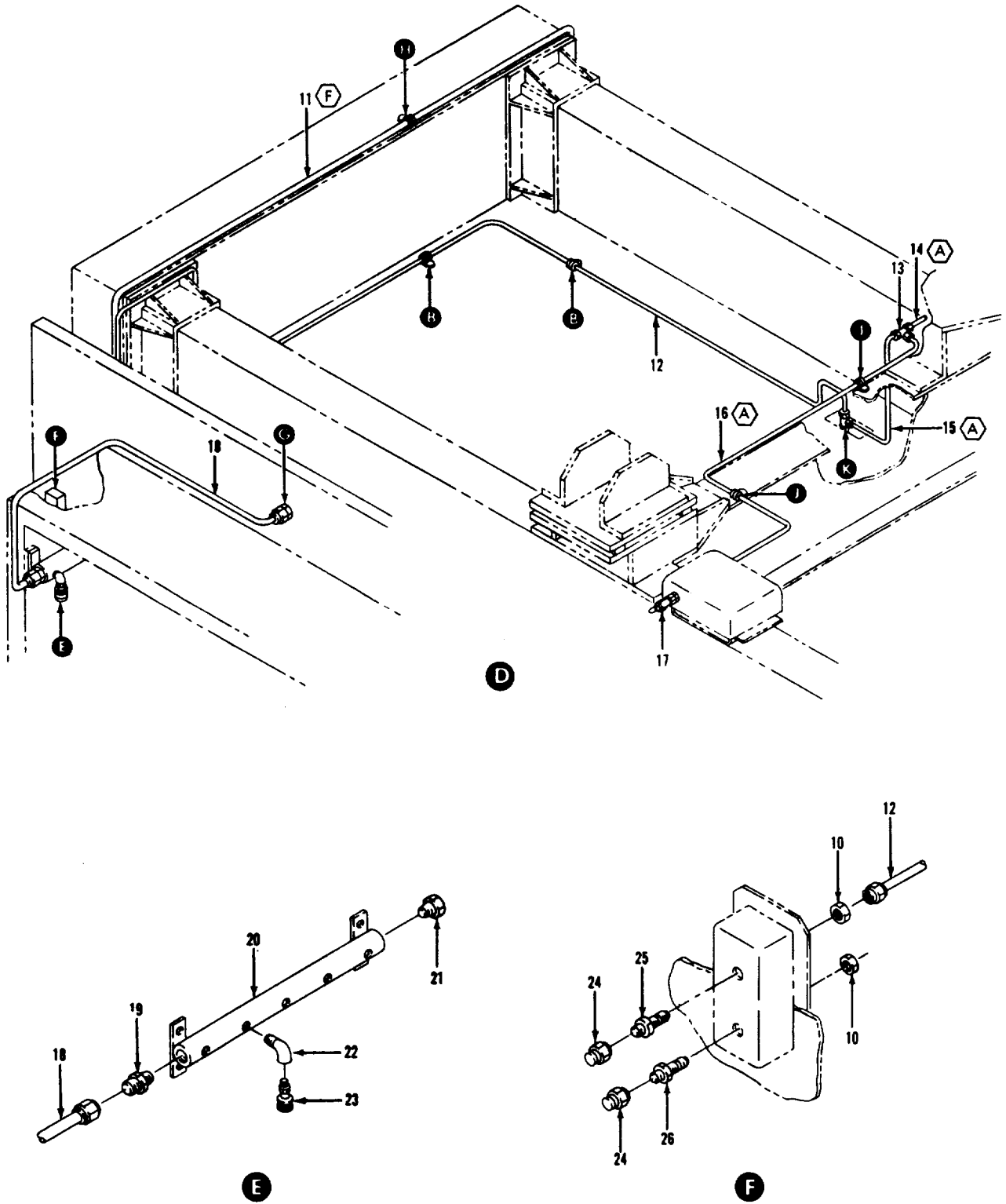


Figure 7-1. Tubing Installation (Sheet 3 of 17)

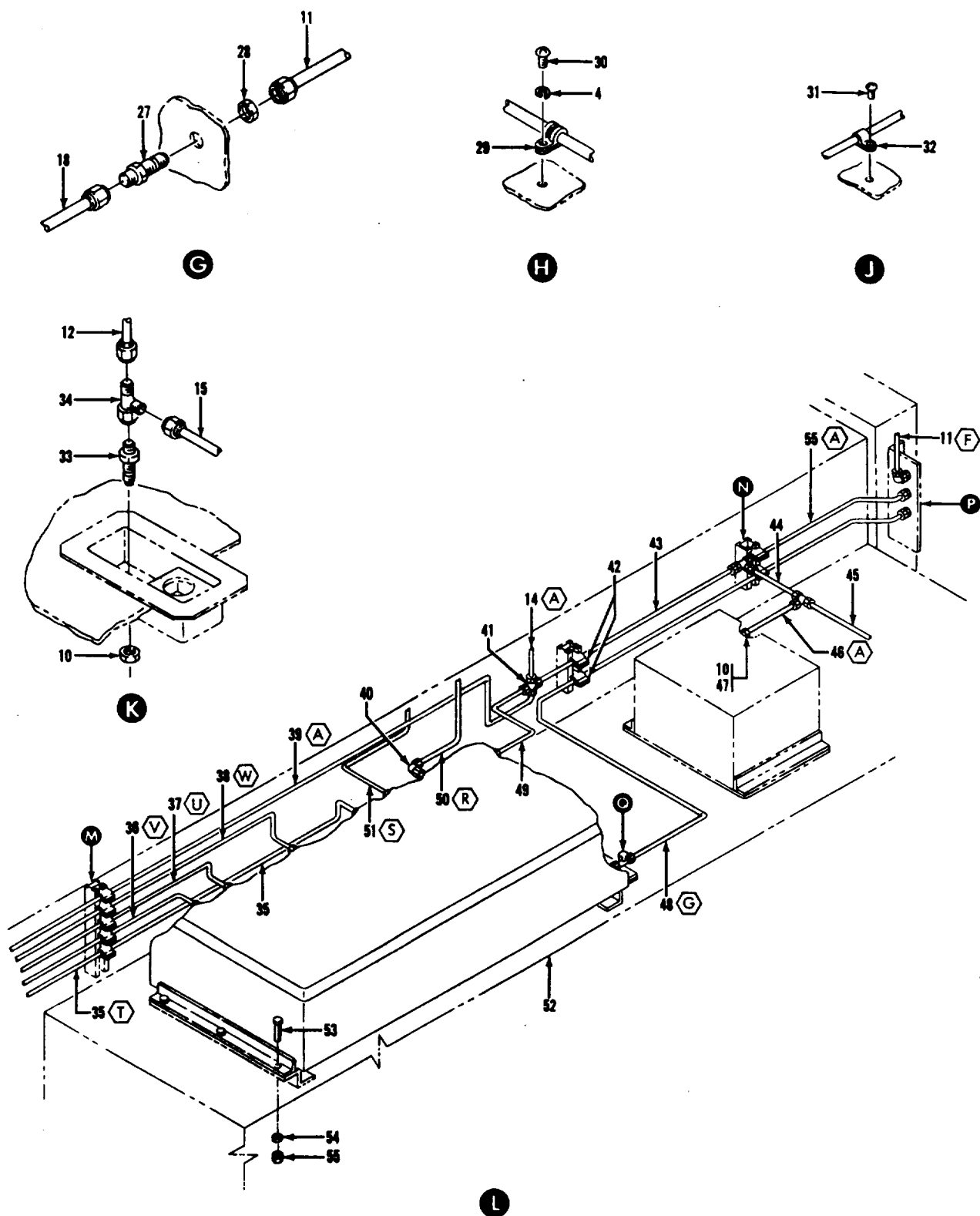


Figure 7-1. Tubing Installation (Sheet 4 of 17)

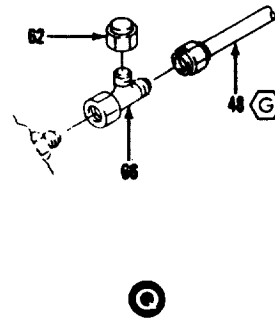
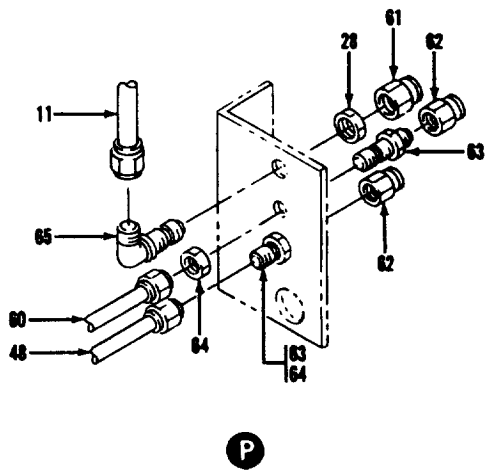
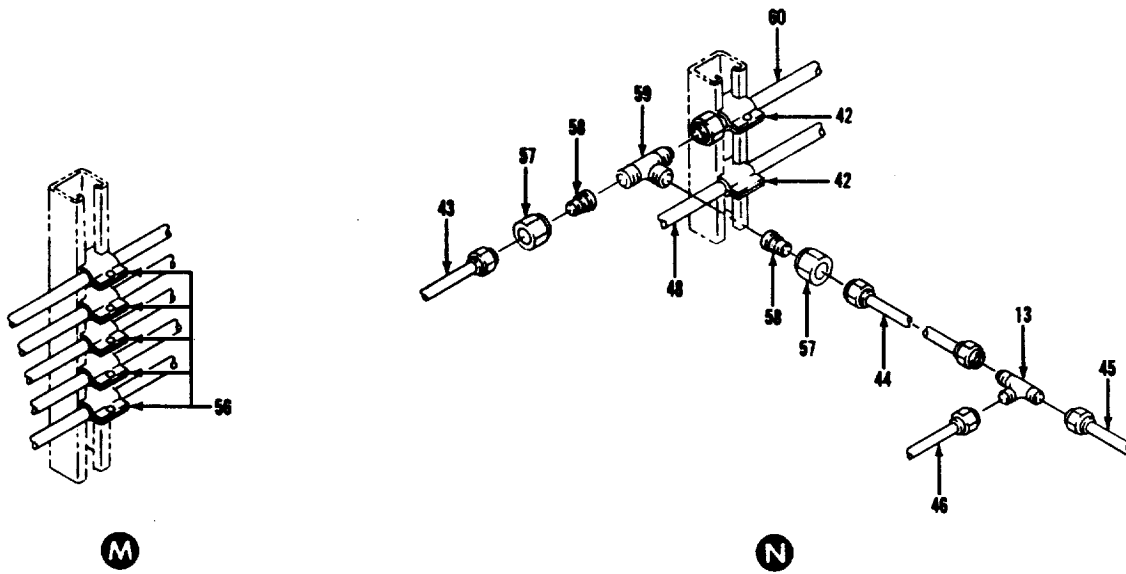


Figure 7-1. Tubing Installation (Sheet 5 of 17)

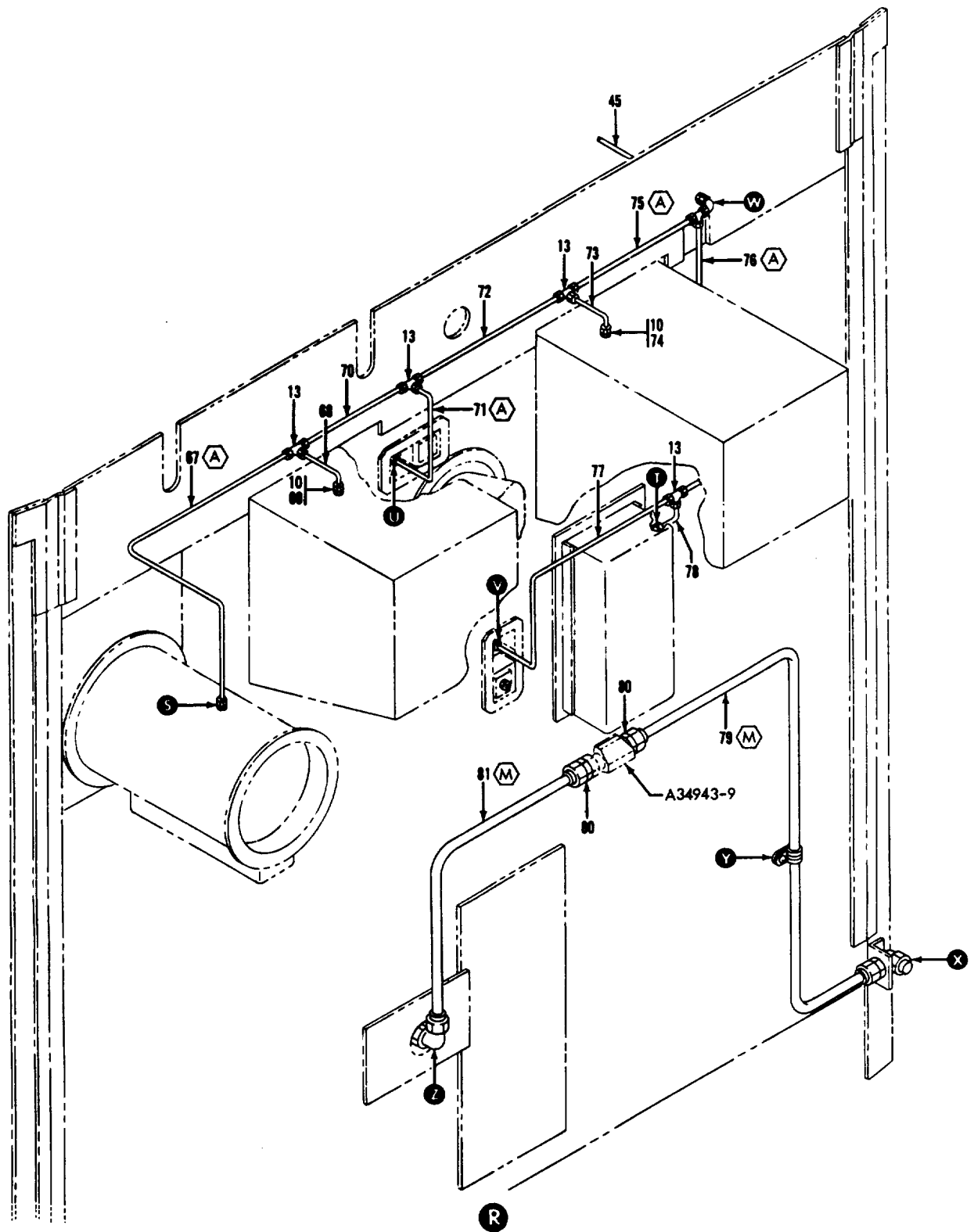


Figure 7-1. Tubing Installation (Sheet 6 of 17)

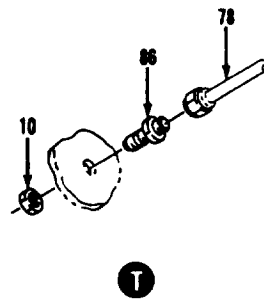
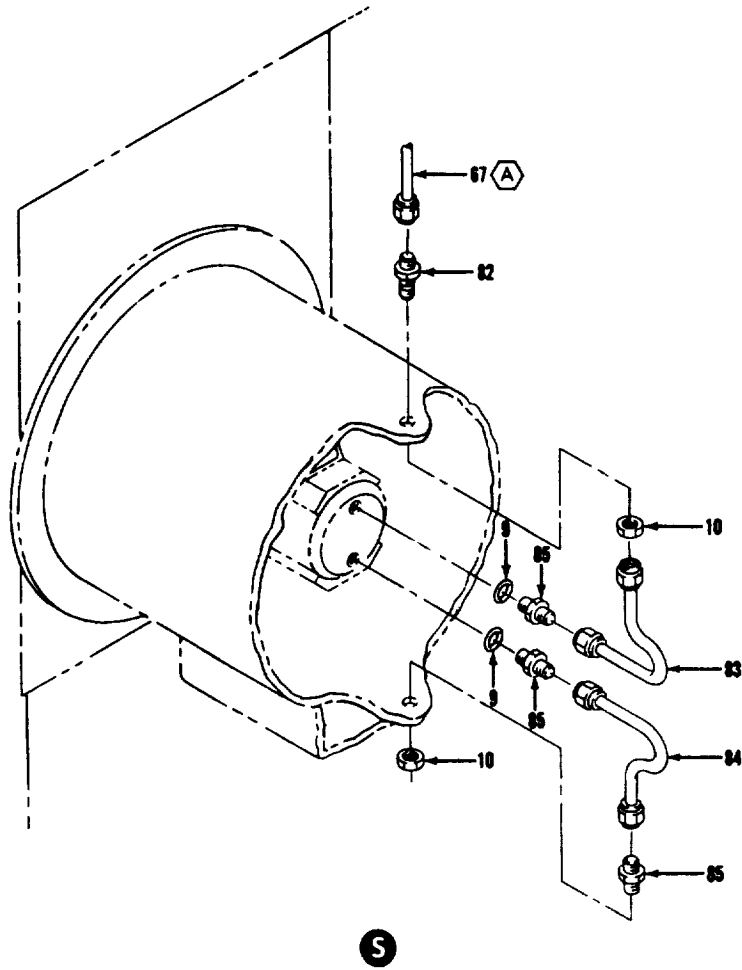
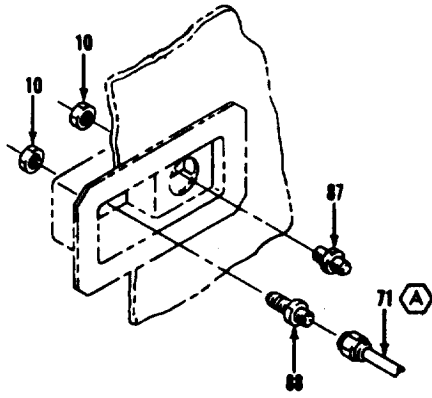
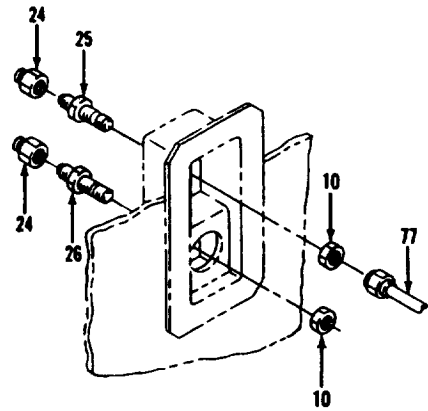


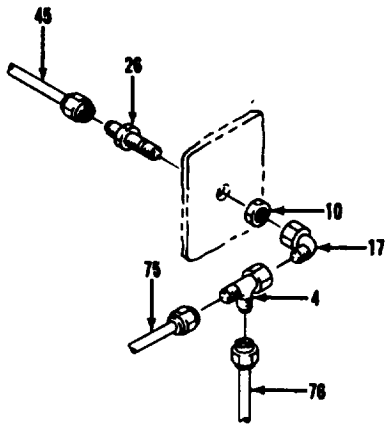
Figure 7-1. Tubing Installation (Sheet 7 of 17)



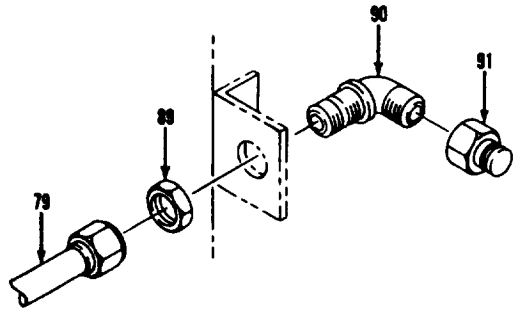
U



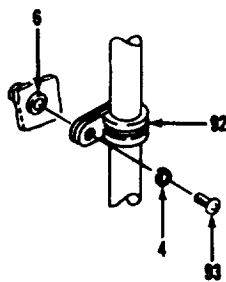
V



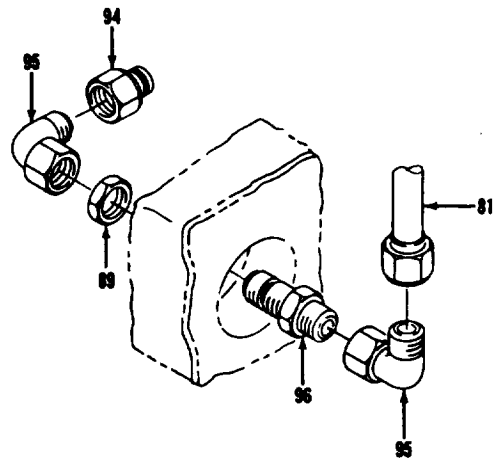
W



X



Y



Z

Figure 7-1. Tubing Installation (Sheet 8 of 17)

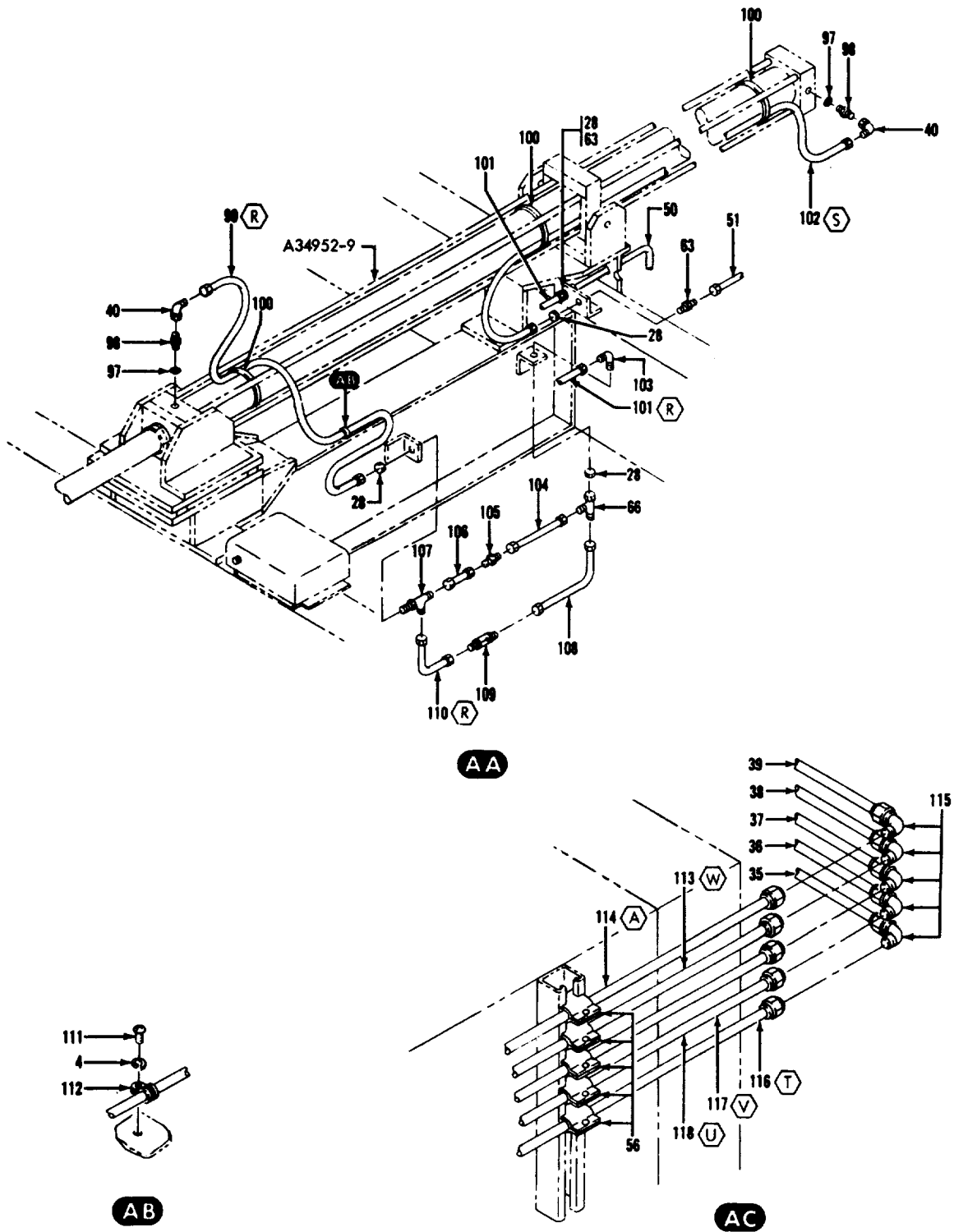
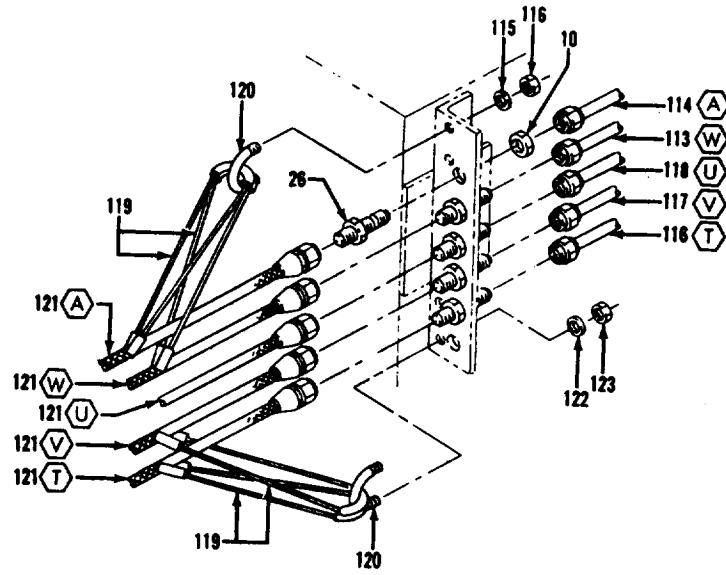
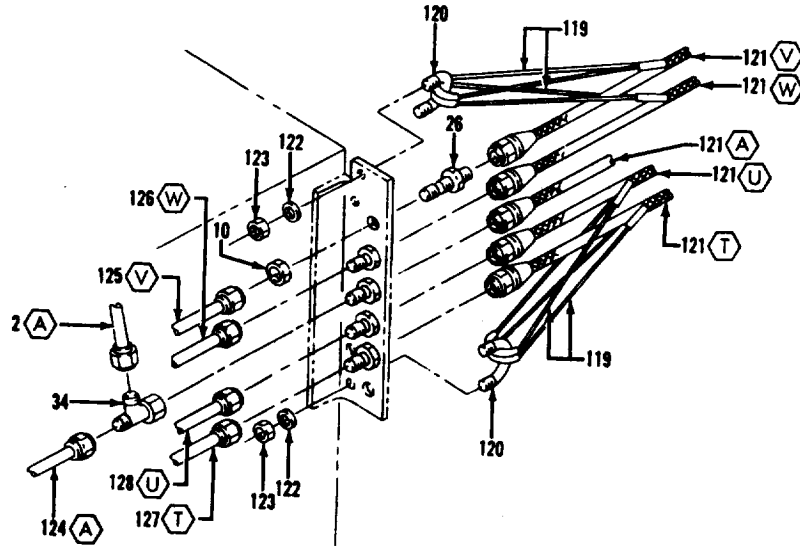


Figure 7-1. Tubing Installation (Sheet 9 of 17)



AD



AE

Figure 7-1. Tubing Installation (Sheet 10 of 17)

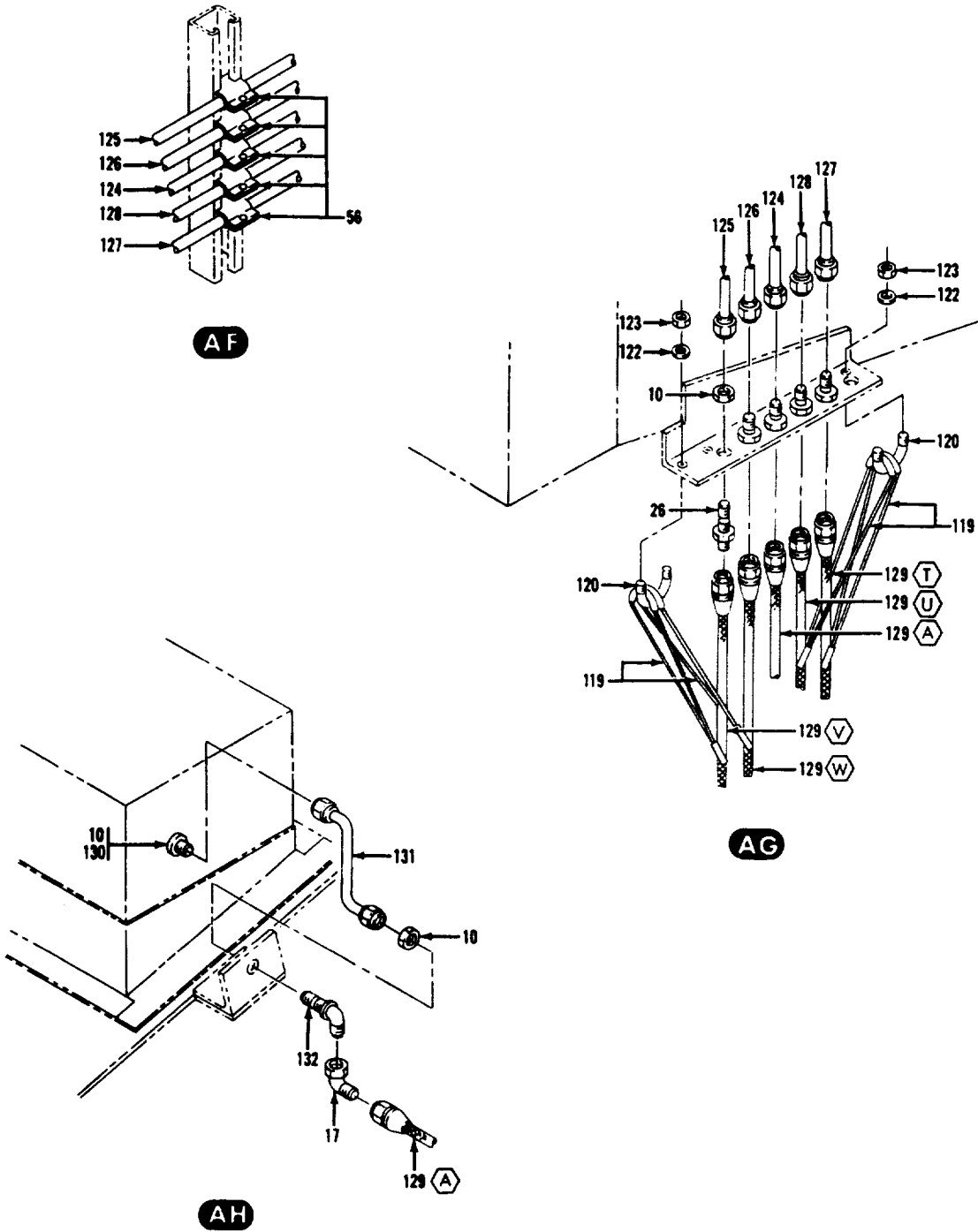


Figure 7-1. Tubing Installation (Sheet 11 of 17)

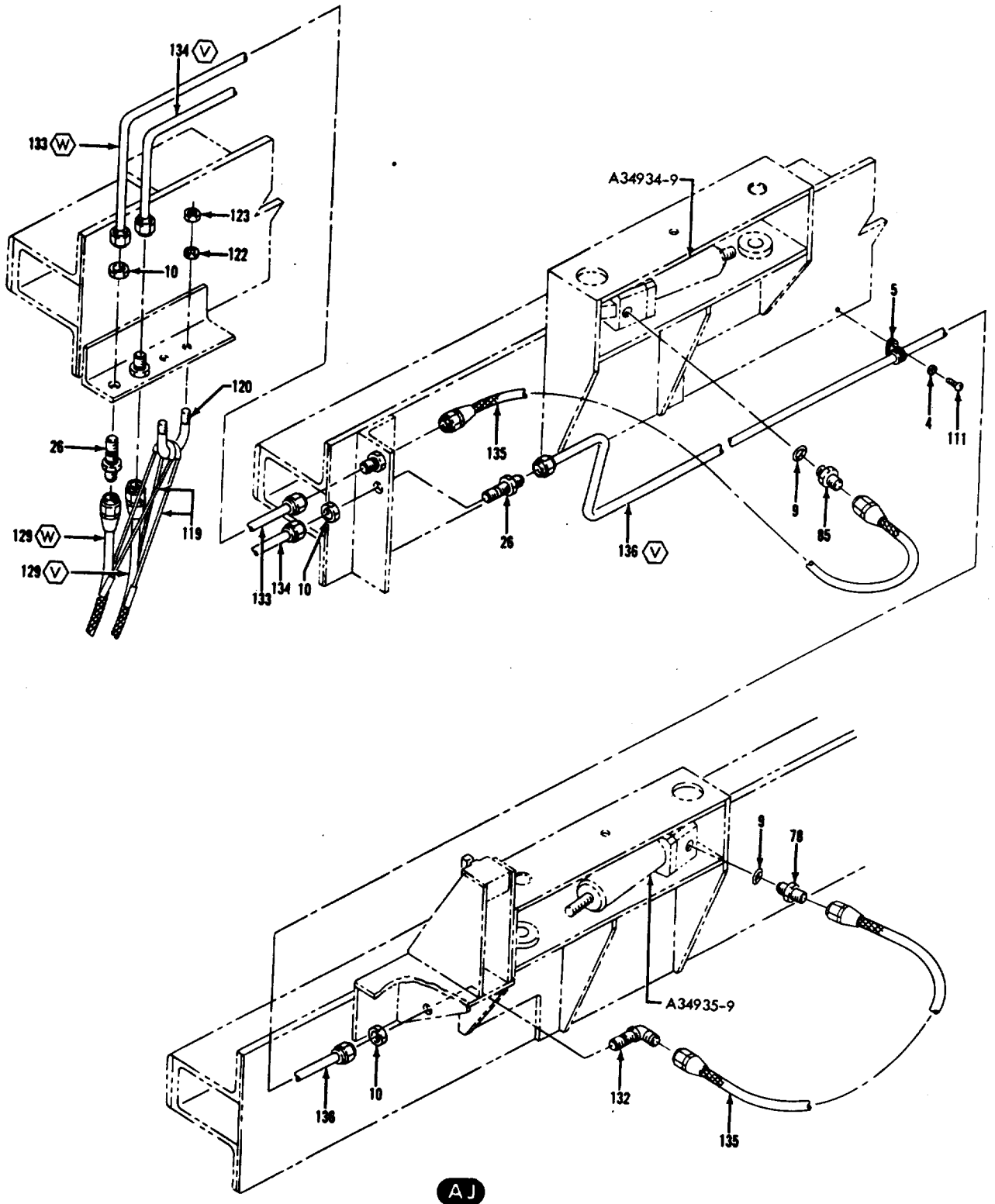
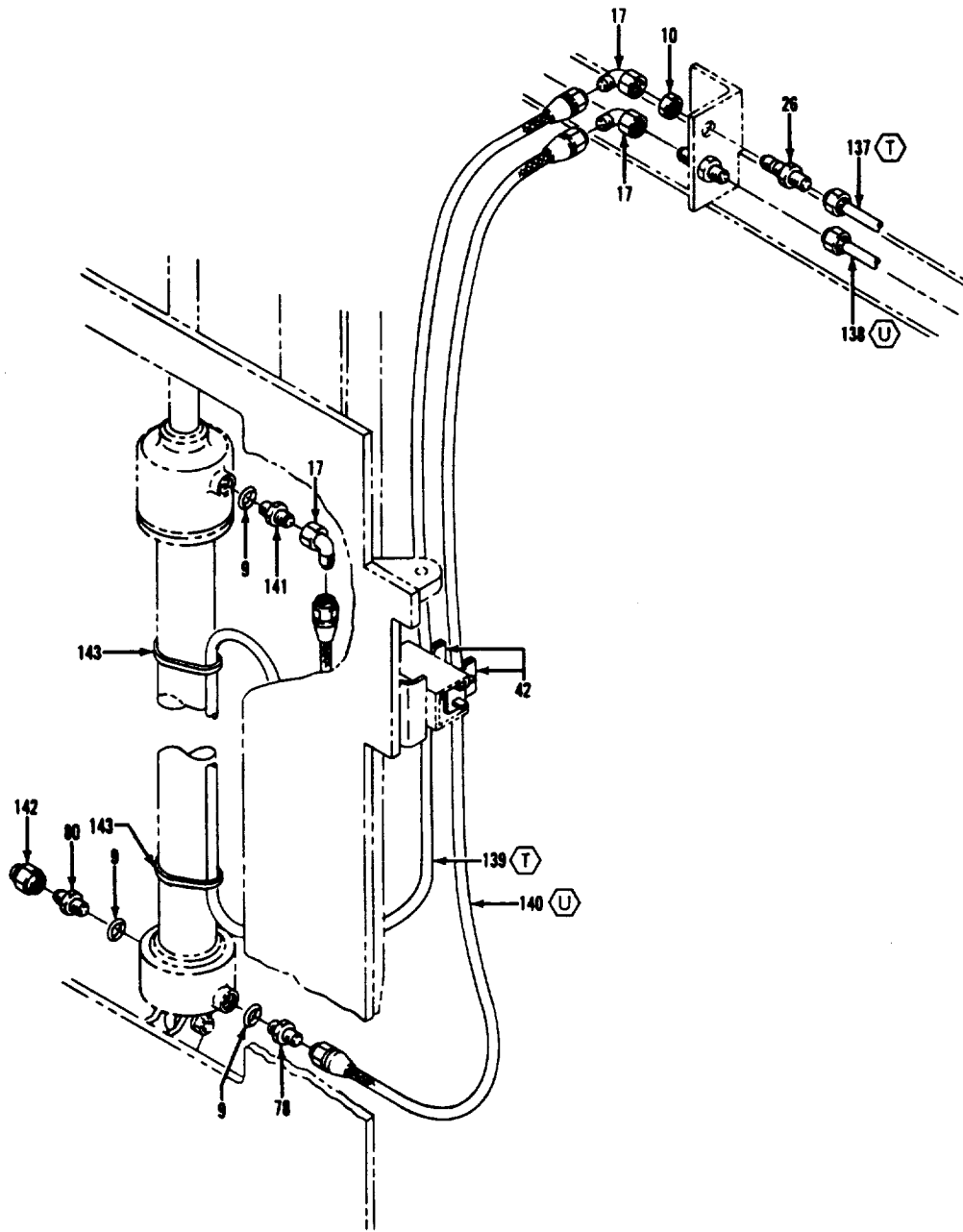
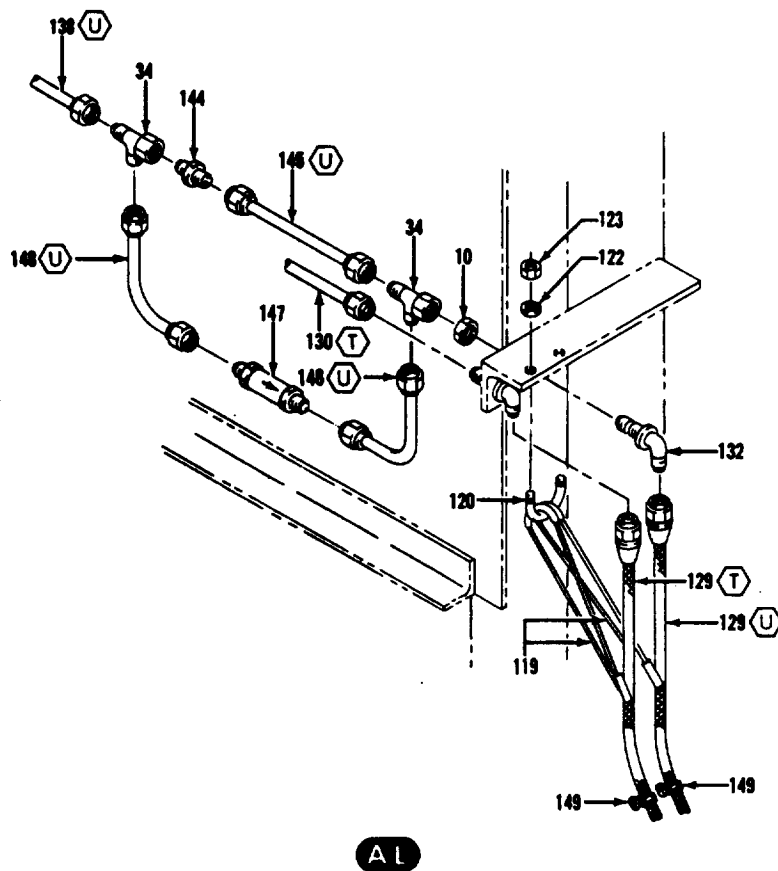


Figure 7-1. Tubing Installation (Sheet 12 of 17)



AK

Figure 7-1. Tubing Installation (Sheet 13 of 17)



AL

Figure 7-1. Tubing Installation (Sheet 14 of 17)

INDEX NUMBER	DESCRIPTION	PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	TUBING INSTALLATION	76K03038-2		X
	MODIFIED BY	76K30482-2		X
1	TUBE ASSEMBLY	76K03048-100		1
2	TUBE ASSEMBLY	76K03048-75		1
3	SCREW	MS51958-63		7
4	WASHER	MS35338-43		17
5	CLAMP, CUSHIONED	MS21919H4		7
6	NUT, BLIND RIVET	NAS1329A3-130		14
7	TEE ASSEMBLY	KC109C4		1
8	ORIFICE, BULKHEAD UNION	75M50562-1	A34976-9	1
9	PACKING	MC266E904		16
10	NUT	MC174C4		42
11	TUBE ASSEMBLY	76K03048-44		1
12	TUBE ASSEMBLY	76K03048-102		1
13	TEE	KC123C4		6
14	TUBE ASSEMBLY	76K03048-97		1
15	TUBE ASSEMBLY	76K03048-98		1
16	TUBE ASSEMBLY	76K03048-96		1
17	ELBOW, SWIVEL	KC131C4		8
18	TUBE ASSEMBLY	76K03048-103		1
19	NIPPLE	KC116C8-6		1
20	MANIFOLD	76K03129	A34994-9	1
21	PLUG, PIPE	AN933-3		1
22	ELBOW	AN914-1C		5
23	SOCKET, COUPLING (73061)	2900		5
24	CAP ASSEMBLY	KC150C4		3
25	ORIFICE, BULKHEAD UNION	75M50562-1		2
26	UNION, BULKHEAD	KC124C4		23
27	UNION, BULKHEAD	KC124C8		1
28	NUT	KC174C8		6
29	CLAMP, CUSHIONED	MS21919H8		6
30	SCREW	MS51958-64		1
31	SCREW	NAS603-6B		2
32	CLAMP	MS21104-4		2
33	ORIFICE, BULKHEAD UNION	75M50562-1	A34965-9	1
34	TEE, SWIVEL ON RUN	KC107C4		4
35	TUBE ASSEMBLY	76K03048-96		1
36	TUBE ASSEMBLY	76K03048-95		1
37	TUBE ASSEMBLY	76K03048-94		1
38	TUBE ASSEMBLY	76K03048-93		1
39	TUBE ASSEMBLY	76K03048-92		1
40	ELBOW, SWIVEL	KC131C6		3
41	CROSS	KC117C4		1
42	CLAMP, UNISTRUT (76K03019)	P2025		6
43	TUBE ASSEMBLY	76K03048-41		1
44	TUBE ASSEMBLY	76K03048-32		1
45	TUBE ASSEMBLY	76K03048-77		1
46	TUBE ASSEMBLY	76K03048-33		1
47	ORIFICE, UNION	75M50562-1	A34932-9	1
48	TUBE ASSEMBLY	76K03048-43		1
49	TUBE ASSEMBLY	76K03048-39		1
50	TUBE ASSEMBLY	76K03048-83		1
51	TUBE ASSEMBLY	76K03048-84		1
52	PNEUMATIC BOX ASSEMBLY	76K03039-1		1
53	BOLT	AN4C6A		6
54	WASHER	AN960-416		6
55	NUT	MS21045-C4		6
56	CLAMP, UNISTRUT (76K03019)	P2024		20

Figure 7-1. Tubing Installation (Sheet 15 of 17)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
57				NUT, COUPLING	KC142C6		2
58				REDUCER ADAPTER	KC106C6-4		2
59				TEE	KC123C6		1
60				TUBE ASSEMBLY	76K03048-31		1
61				CAP ASSEMBLY	KC150C8		1
62				CAP ASSEMBLY	KC150C6		3
63				UNION, BULKHEAD	KC124C6		4
64				NUT, COUPLING	KC142C6		2
65				ELBOW, BULKHEAD 90°	KC113C8		1
66				TEE, SWIVEL ON RUN	KC107C6		2
67				TUBE ASSEMBLY	76K03048-38		1
68				TUBE ASSEMBLY	76K03048-42		1
69				ORIFICE, UNION	75M50562-1	A34958-9	1
70				TUBE ASSEMBLY	76K03048-45		1
71				TUBE ASSEMBLY	76K03048-50		1
72				TUBE ASSEMBLY	76K03048-37		1
73				TUBE ASSEMBLY	76K03048-48		1
74				ORIFICE, BULKHEAD UNION	75M50562-1	A34967-9	1
75				TUBE ASSEMBLY	76K03048-36		1
76				TUBE ASSEMBLY	76K03048-76		1
77				TUBE ASSEMBLY	76K03048-101		1
78				TUBE ASSEMBLY	76K03048-47		1
79				TUBE ASSEMBLY	76K03048-104		1
80				NIPPLE	KC116C16-16		2
81				TUBE ASSEMBLY	76K03048-54		1
82				ORIFICE, BULKHEAD UNION	75M50562-1	A34980-9	1
83				TUBE ASSEMBLY	76K03048-68		1
84				TUBE ASSEMBLY	76K03048-60		1
85				ADAPTER	KC112C4		8
86				ORIFICE, UNION	75M50562-1	A34978-9	1
87				UNION	KC126C4		2
88				ORIFICE, BULKHEAD UNION	75M50562-1	A34947-9	1
89				NUT	MC174C16		2
90				ELBOW, BULKHEAD 90°	KC113C16		1
91				CAP ASSEMBLY	MC177C16		1
92				CLAMP, CUSHIONED	MS21919H16		2
93				SCREW (KC102-63)	MS35207-263		9
94				CAP ASSEMBLY	KC150C16		1
95				ELBOW SWIVEL	KC131C16		2
96				UNION, BULKHEAD	KC124C16		1
97				PACKING	MS28778-6		2
98				ADAPTER	KC112C6		2
99				HOSE ASSEMBLY	76K03602-6-0580		1
100				CLAMP	MS35842-15		3
101				TUBE ASSEMBLY	76K03048-81		1
102				HOSE ASSEMBLY	76K03602-6-0720		1
103				ELBOW, BULKHEAD 90°	KC113C6		1
104				TUBE ASSEMBLY	76K03048-82		1
105				ORIFICE, UNION	76K03578-1	A34951-9	1
106				TUBE ASSEMBLY	76K03048-86		1
107				TEE, BULKHEAD	KC114C6		1
108				TUBE ASSEMBLY	76K03048-79		1
109				VALVE, CHECK	10426693	A34950-9	1
110				TUBE ASSEMBLY	76K03048-80		1
111				SCREW	MS51958-65		2
112				CLAMP, CUSHIONED	MS21919H11		1
113				TUBE ASSEMBLY	76K03048-88		1
114				TUBE ASSEMBLY	76K03048-87		1
115				ELBOW, 90°	KC118C4		9

Figure 7-1. Tubing Installation (Sheet 16 of 17)

INDEX NUMBER	DESCRIPTION	PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
116	TUBE ASSEMBLY	76K03048-91		1
117	TUBE ASSEMBLY	76K03048-90		1
118	TUBE ASSEMBLY	76K03048-89		1
119	SUPPORT GRIP (81992)	024-01-013		16
120	U-BOLT	MC658A3-05-36		8
121	HOSE ASSEMBLY	76K03602-4-1200		5
122	WASHER	AN960C10		16
123	NUTS	MS21045C3		16
124	TUBE ASSEMBLY	76K03048-5		1
125	TUBE ASSEMBLY	76K03048-7		1
126	TUBE ASSEMBLY	76K03048-6		1
127	TUBE ASSEMBLY	76K03048-3		1
128	TUBE ASSEMBLY	76K03048-4		1
129	HOSE ASSEMBLY	76K03602-4-0960		7
130	ORIFICE, BULKHEAD UNION	75M50562-1	A34991-9	1
131	TUBE ASSEMBLY	76K03048-74		1
132	ELBOW, BULKHEAD 90°	KC113C4		7
133	TUBE ASSEMBLY	76K03048-21		1
134	TUBE ASSEMBLY	76K03048-1		1
135	HOSE ASSEMBLY	76K03602-4-0320		2
136	TUBE ASSEMBLY	76K03048-2		1
137	TUBE ASSEMBLY	76K03048-22		1
138	TUBE ASSEMBLY	76K03048-23		1
139	HOSE ASSEMBLY	76K03602-4-0860		1
140	HOSE ASSEMBLY	76K03602-4-0680		1
141	ORIFICE, UNION	76K03578-12	A34989-9	1
142	CAP ASSEMBLY	MC177C4		1
143	CLAMP, HOSE	MS35842 -14		2
144	ORIFICE, UNION	76K03578-9	A34971-9	1
145	TUBE ASSEMBLY	76K03048-13		1
146	TUBE ASSEMBLY	76K03048-25		1
147	VALVE, CHECK	10425928-1	A34987-9	1
148	TUBE ASSEMBLY	76K03048-24		1
149	HOSE CLAMP	MS35842-11		16

REF: 76K03038 REV A, EO 1, 3, 4, 6, 600; 76K30482 NO REV, EO 1, 2

Figure 7-1. Tubing Installation (Sheet 17 of 17)

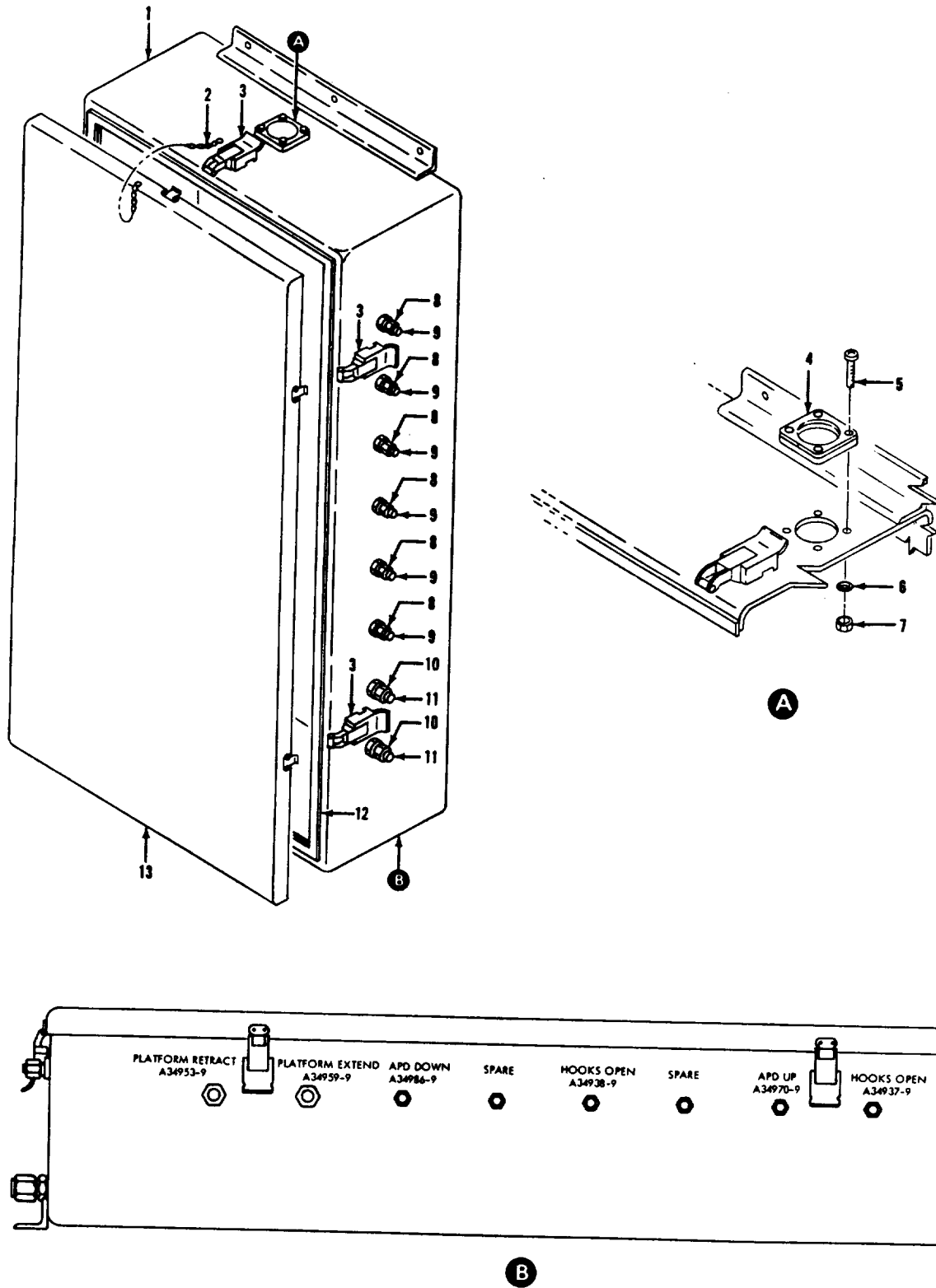


Figure 7-2. Pneumatic Box Assembly (Sheet 1 of 7)

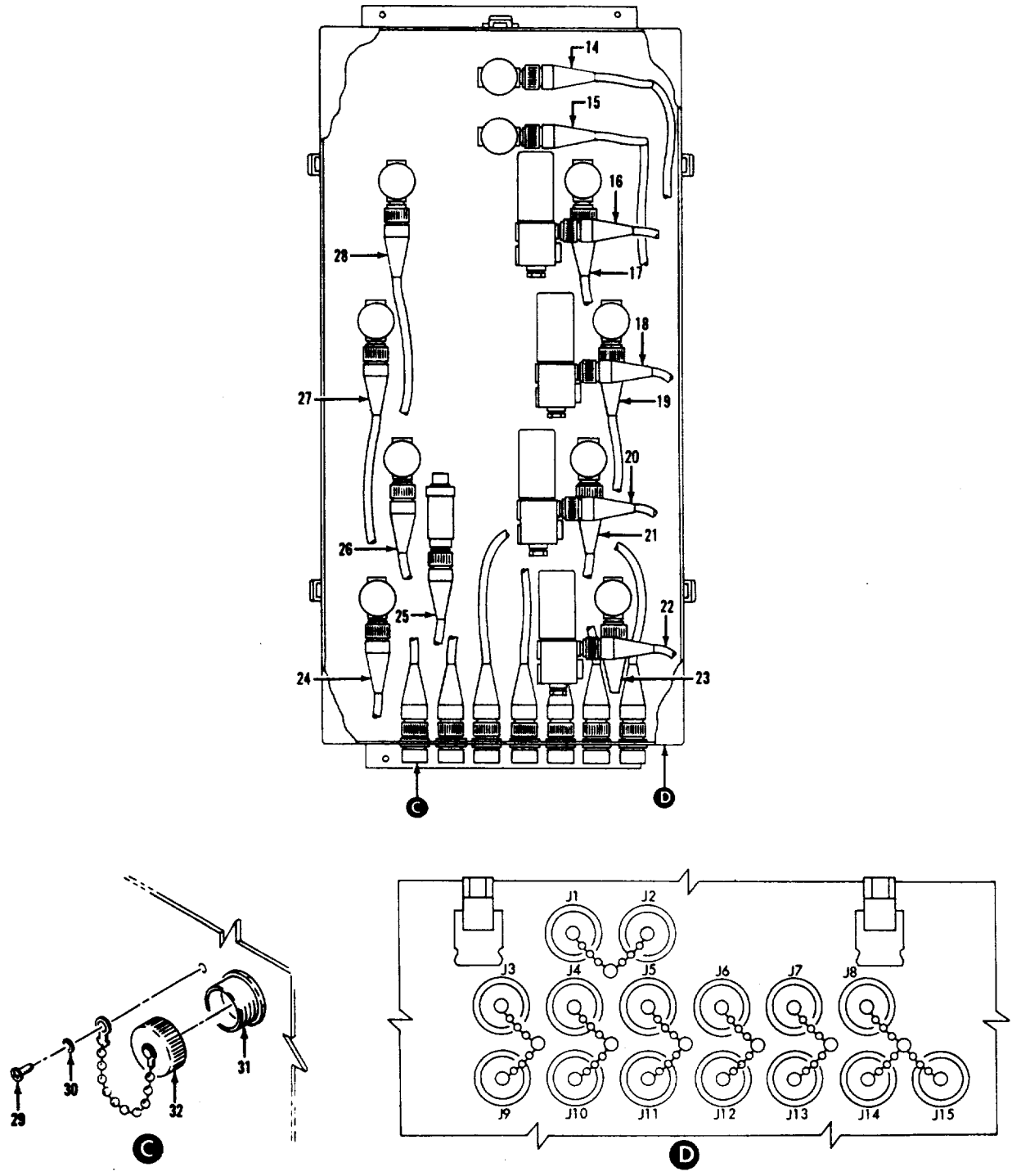


Figure 7-2. Pneumatic Box Assembly (Sheet 2 of 7)

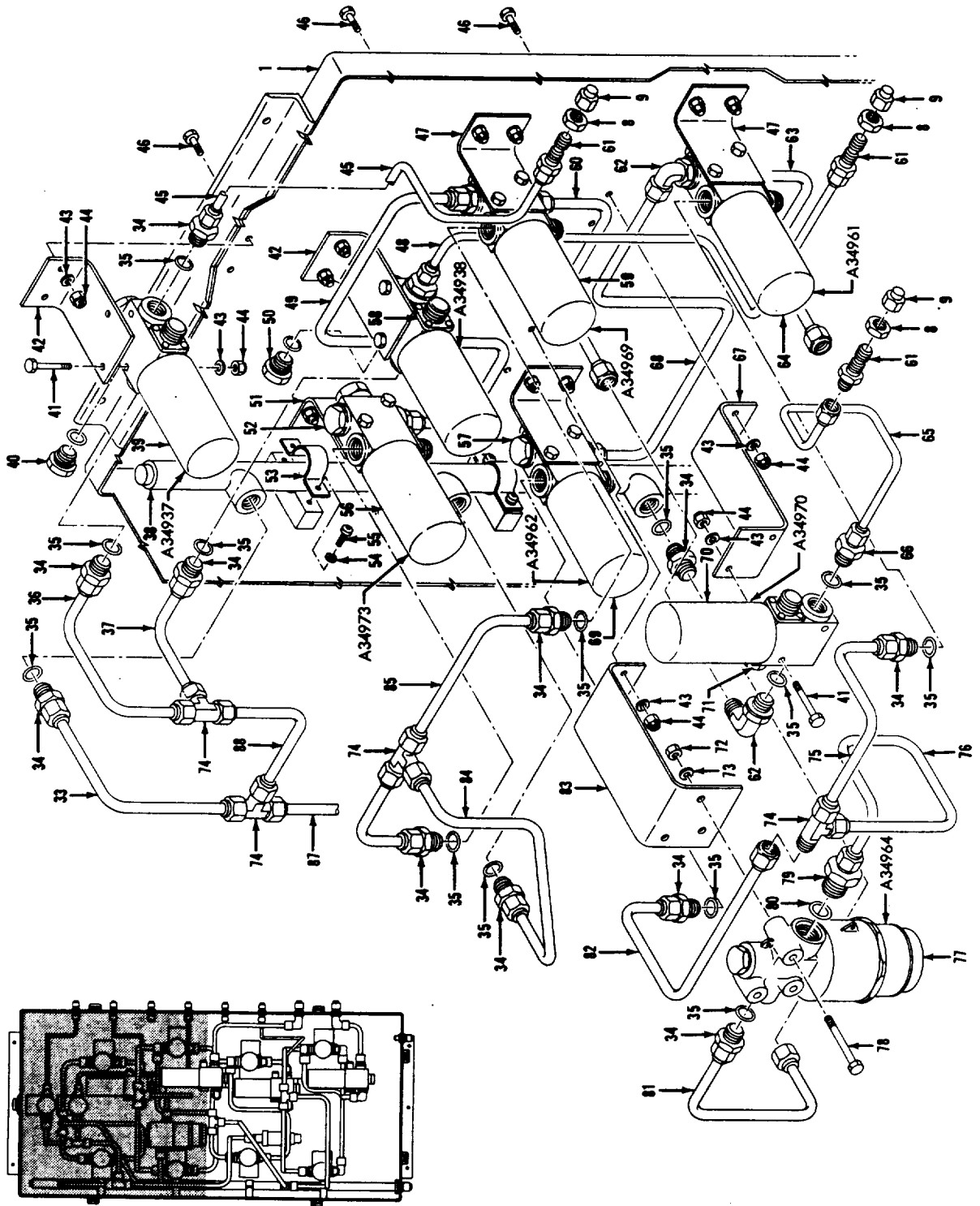


Figure 7-2. Pneumatic Box Assembly (Sheet 3 of 7)

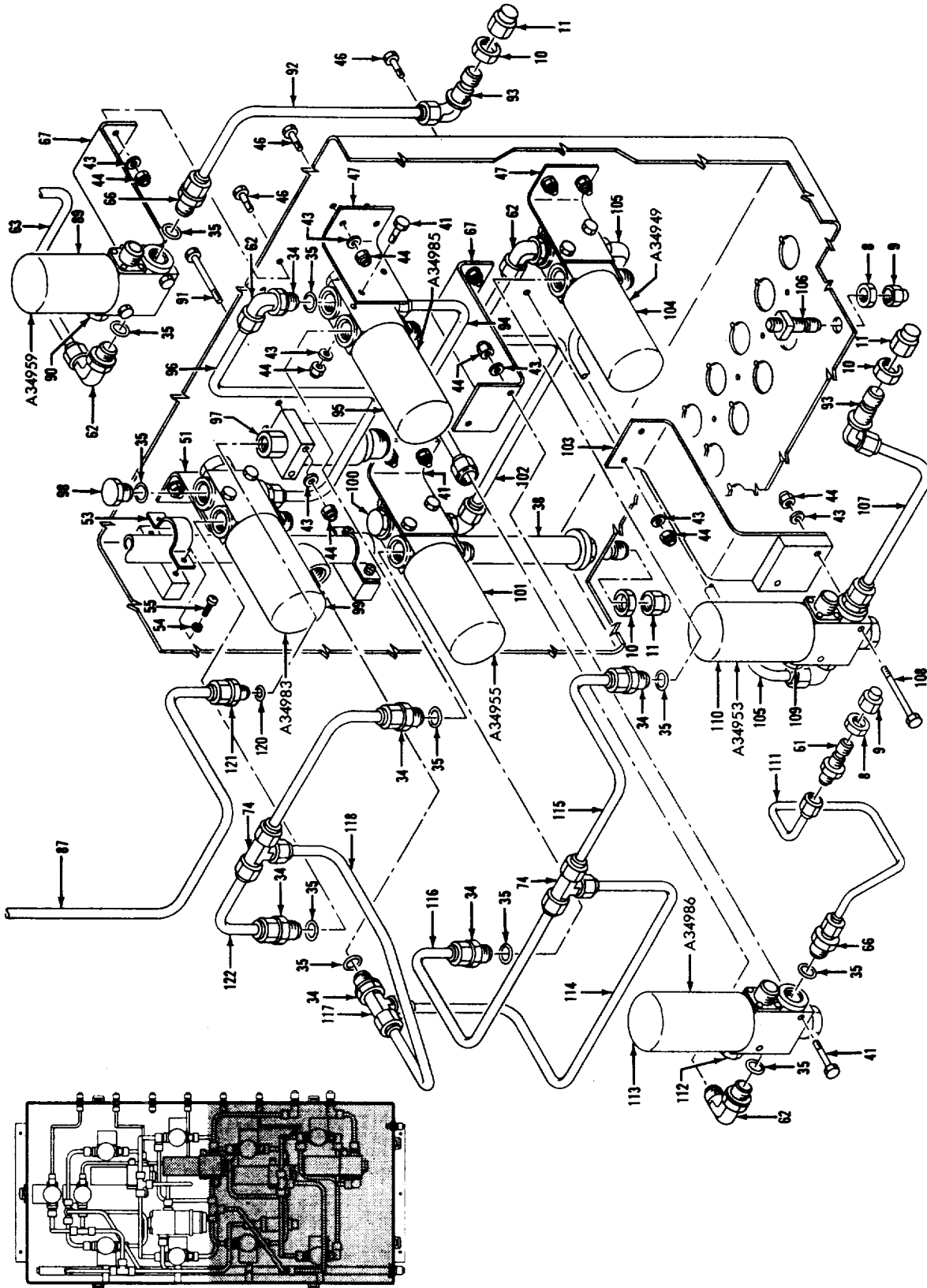


Figure 7-2. Pneumatic Box Assembly (Sheet 4 of 7)

INDEX NUMBER	DESCRIPTION	PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	PNEUMATIC BOX ASSEMBLY	76K03039-1		X
1	PNEUMATIC BOX	76K03040-1		1
2	SASH CHAIN, NO 30, 13" (39428)	53607		1
3	CATCH ASSEMBLY (14608)	15834U		7
	SCREW	MS51957-26		14
	WASHER	MS35338-136		14
4	BLEED PLATE	75M02047		1
5	SCREW	MS51957-18		4
6	WASHER	NAS620C4		4
7	NUT	MS21045-04		4
8	NUT	MC174C4		7
9	CAP ASSEMBLY	KC150C4		9
10	NUT	MC174C6		3
11	CAP ASSEMBLY	KC150C6		3
12	GASKET	76K03039-2		A/R
13	COVER	76K03339-1		1
14	CABLE ASSEMBLY	76K03047-22	57A55A1W5	1
15	CABLE ASSEMBLY	76K03047-36	57A55A1W9	1
16	CABLE ASSEMBLY	76K03047-40	57A55A1W13	1
17	CABLE ASSEMBLY	76K03047-21	57A55A1W4	1
18	CABLE ASSEMBLY	76K03047-38	57A55A1W11	1
19	CABLE ASSEMBLY	76K03047-19	57A55A1W2	1
20	CABLE ASSEMBLY	76K03047-39	57A55A1W12	1
21	CABLE ASSEMBLY	76K03047-20	57A55A1W3	1
22	CABLE ASSEMBLY	76K03047-37	57A55A1W10	1
23	CABLE ASSEMBLY	76K03047-18	57A55A1W1	1
24	CABLE ASSEMBLY	76K03047-41	57A55A1W14	1
25	CABLE ASSEMBLY	76K03047-23	57A55A1W6	1
26	CABLE ASSEMBLY	76K03047-24	57A55A1W7	1
27	CABLE ASSEMBLY	76K03047-42	57A55A1W15	1
28	CABLE ASSEMBLY	76K03047-25	57A55A1W8	1
29	SCREW	NAS51958-16		7
30	WASHER	MS35338-135		7
31	CONNECTOR (71468)			15
32	PROTECTION CAP	75M13307-16		15
33	TUBE ASSEMBLY	76K03046-34		1
34	ADAPTER	KC112C6		32
35	PACKING	MS28778-6		48
36	TUBE ASSEMBLY	76K03046-36		1
37	TUBE ASSEMBLY	76K03046-7		1
38	MANIFOLD ASSEMBLY	76K03750-1		1
39	VALVE, SOLENOID	10425701-2	A34937-9	1
40	VALVE, CHECK, VENT	75M51630-634	A34939-9	1
41	BOLT	AN3C14A		26
42	BRACKET	76K03041-1		2
43	WASHER	AN960C10		58
44	NUT	MS21045C3		58
45	TUBE ASSEMBLY	76K03046-1		1
46	BOLT	AN3C5A		28
47	BRACKET	76K03043-1		6
48	TUBE ASSEMBLY	76K03046-3		1
49	TUBE ASSEMBLY	76K03046-30		1
50	VALVE, CHECK, VENT	75M51630-634	A34944-9	1
51	BRACKET	76K03043-2		2
52	VALVE, CHECK, VENT	75M51630-634	A34974-9	1
53	CLAMP, MANIFOLD	76K03751-1		4
54	WASHER	MS35338-138		8

Figure 7-2. Pneumatic Box Assembly (Sheet 5 of 7)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
55					MS51957-64		8
56					10425701-2	A34973-9	8
57					75M51630-634	A34963-9	1
58					10425701-2	A34938-9	1
59					10425701-2	A34969-9	1
60					76K03046-8		1
61					KC124C4		6
62					KC108C6		9
63					76K03046-11		1
64					10425701-2	A34961-9	1
65					76K03046-2		1
66					KC135C4-6		4
67					76K03042-1		3
68					76K03046-25		1
69					10425701-2	A34962-9	1
70					10425701-2	A34970-9	1
71					75M51630-634	A34972-9	1
72					MS21045C-4		3
73					AN960C416L		3
74					KC123C6		6
75					76K03046-9		1
76					76K03046-10		1
77					75M13255	A34964-9	1
78					AN4C17A		3
79					KC135C6-8		1
80					MS28778-8		1
81					76K03046-26		1
82					76K03046-29		1
83					76K03045-1		1
84					76K03046-33		1
85					76K03046-28		1
86					76K03046-35		1
87					76K03046-23		1
88					76K03046-32		1
89					10425701-2	A34959-9	1
90					75M51630-634	A34960-9	1
91					AN3C20A		2
92					76K03046-37		1
93					KC113C6		2
94					76K03046-14		1
95					10425701-2	A34985-1	1
96					76K03046-21		1
97					75M06286-2	A34975-9	1
98					75M51630-634	A34981-9	1
99					10425701-2	A34983-9	1
100					75M51630-634	A34956-9	1
101					10425701-2	A34955-9	1
102					76K03046-18		1
103					76K03337-1		1
104					10425701-2	A34949-9	1
105					76K03046-16		1
106					75M50562-1		1
107					76K03046-38		1
108					AN3C21A		2
109					75M51630-634	A34954-9	1
110					10425701-2	A34953-9	1
111					76K03046-5		1

Figure 7-2. Pneumatic Box Assembly (Sheet 6 of 7)

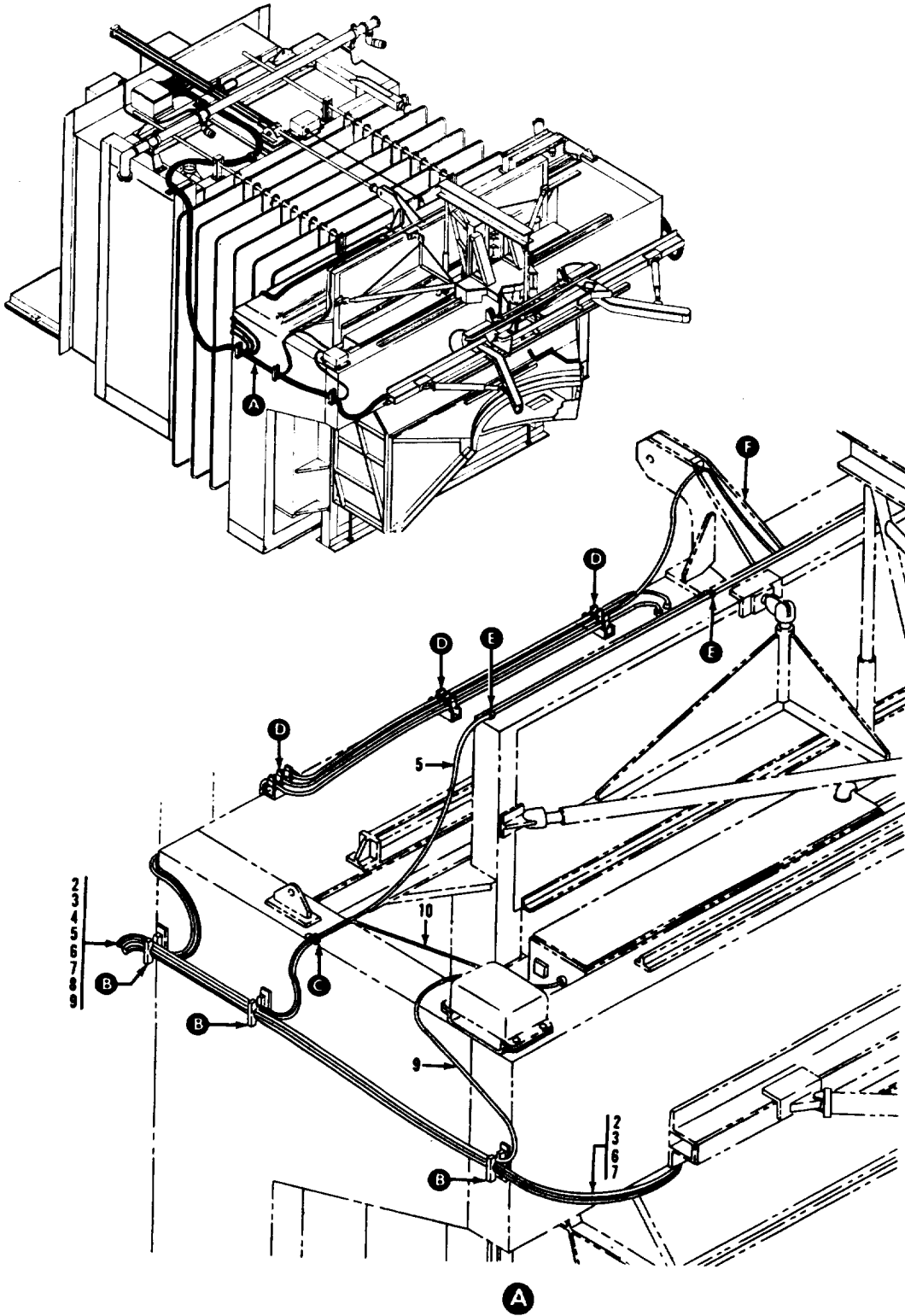


Figure 7-3. Electrical Equipment Installation (Sheet 2 of 19)

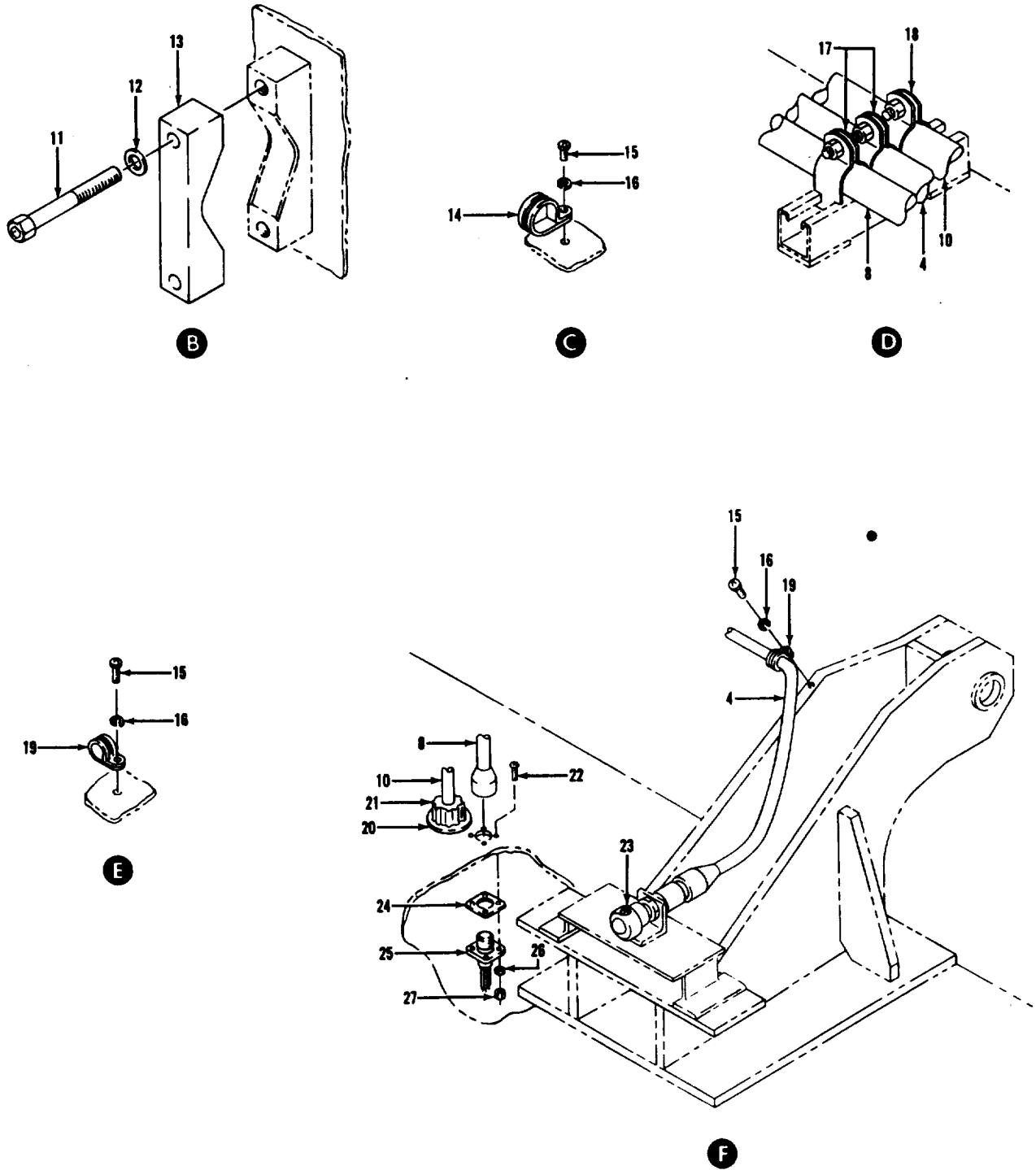


Figure 7-3. Electrical Equipment Installation (Sheet 3 of 19)

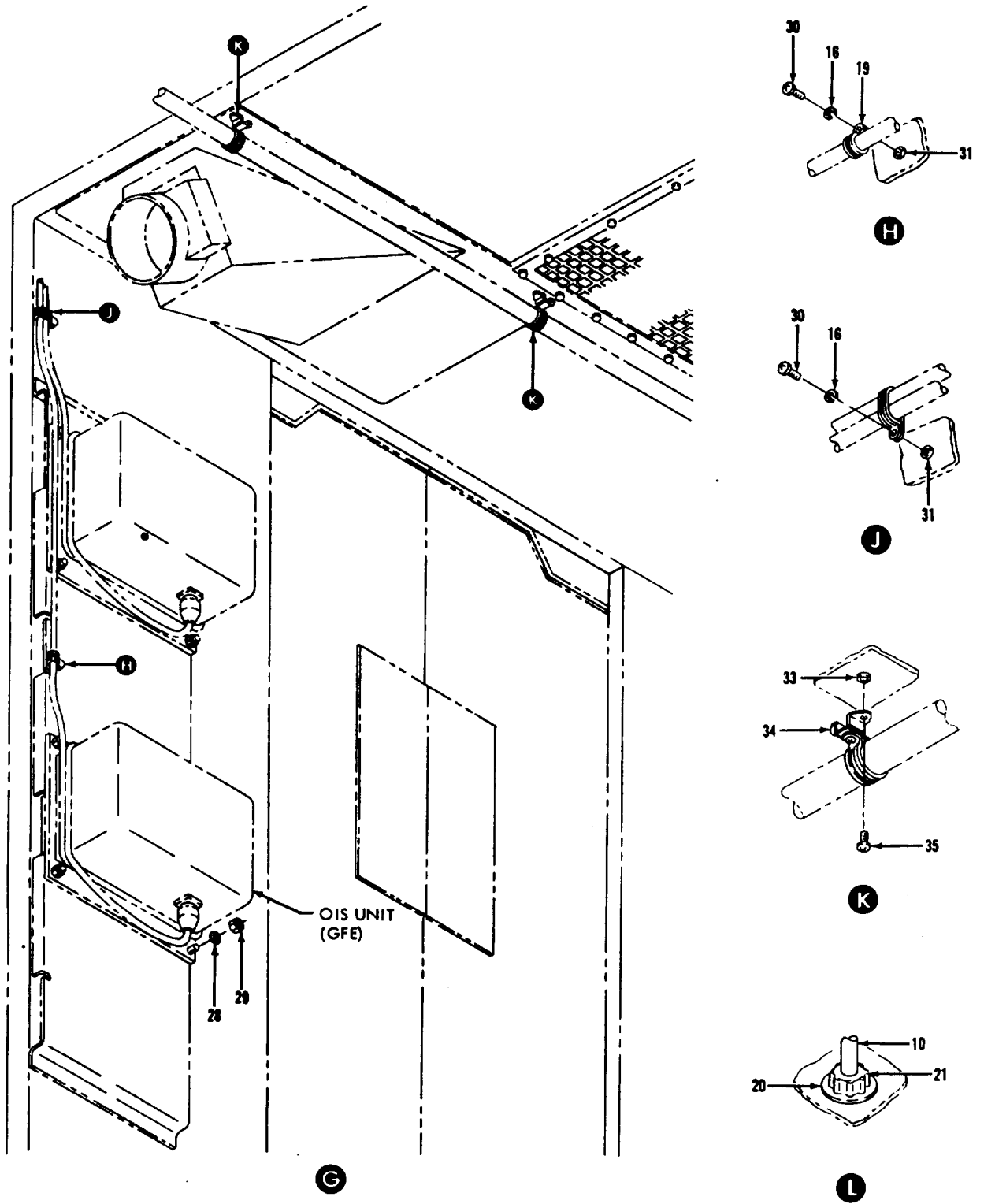


Figure 7-3. Electrical Equipment Installation (Sheet 4 of 19)

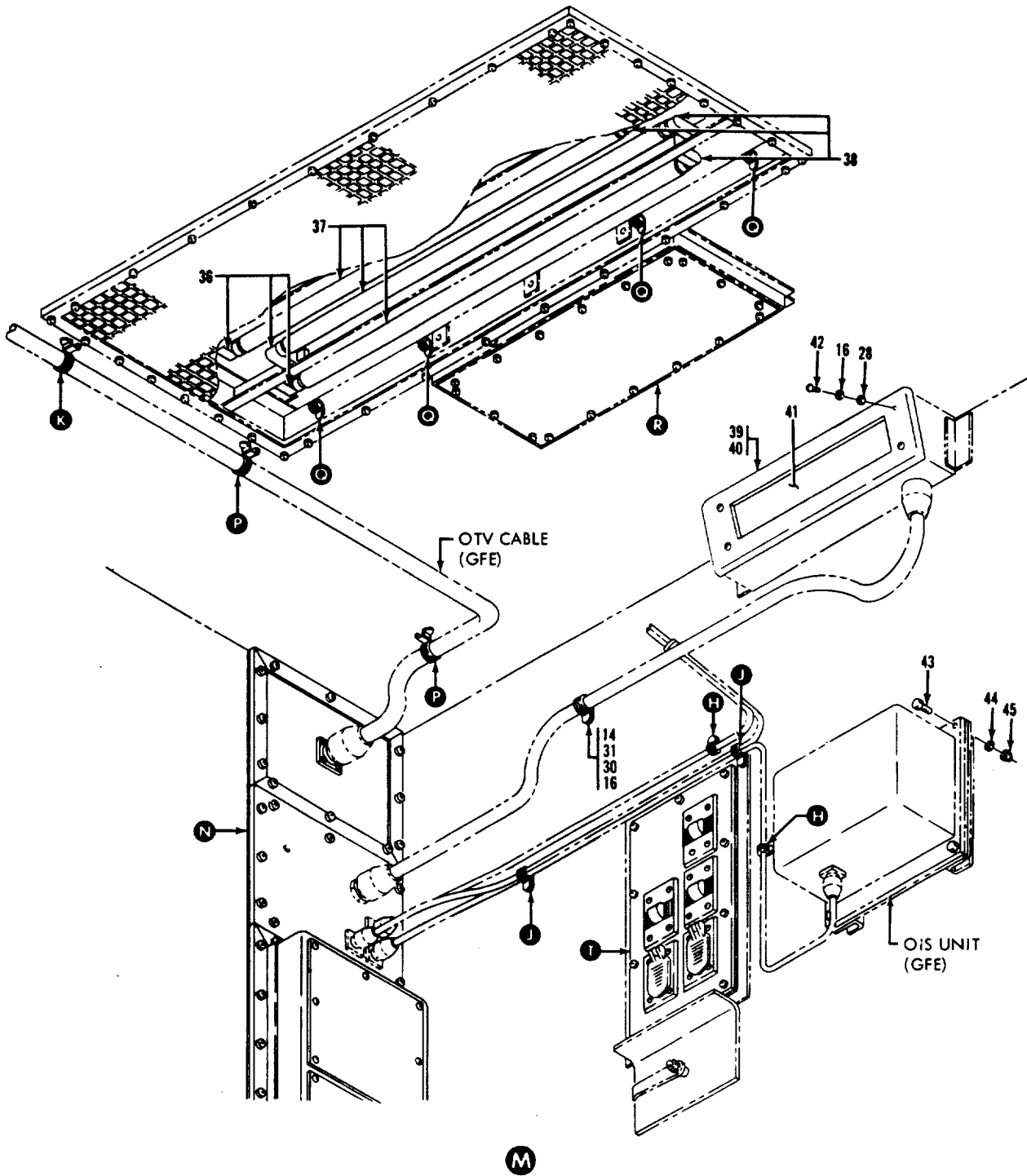


Figure 7-3. Electrical Equipment Installation (Sheet 5 of 19)

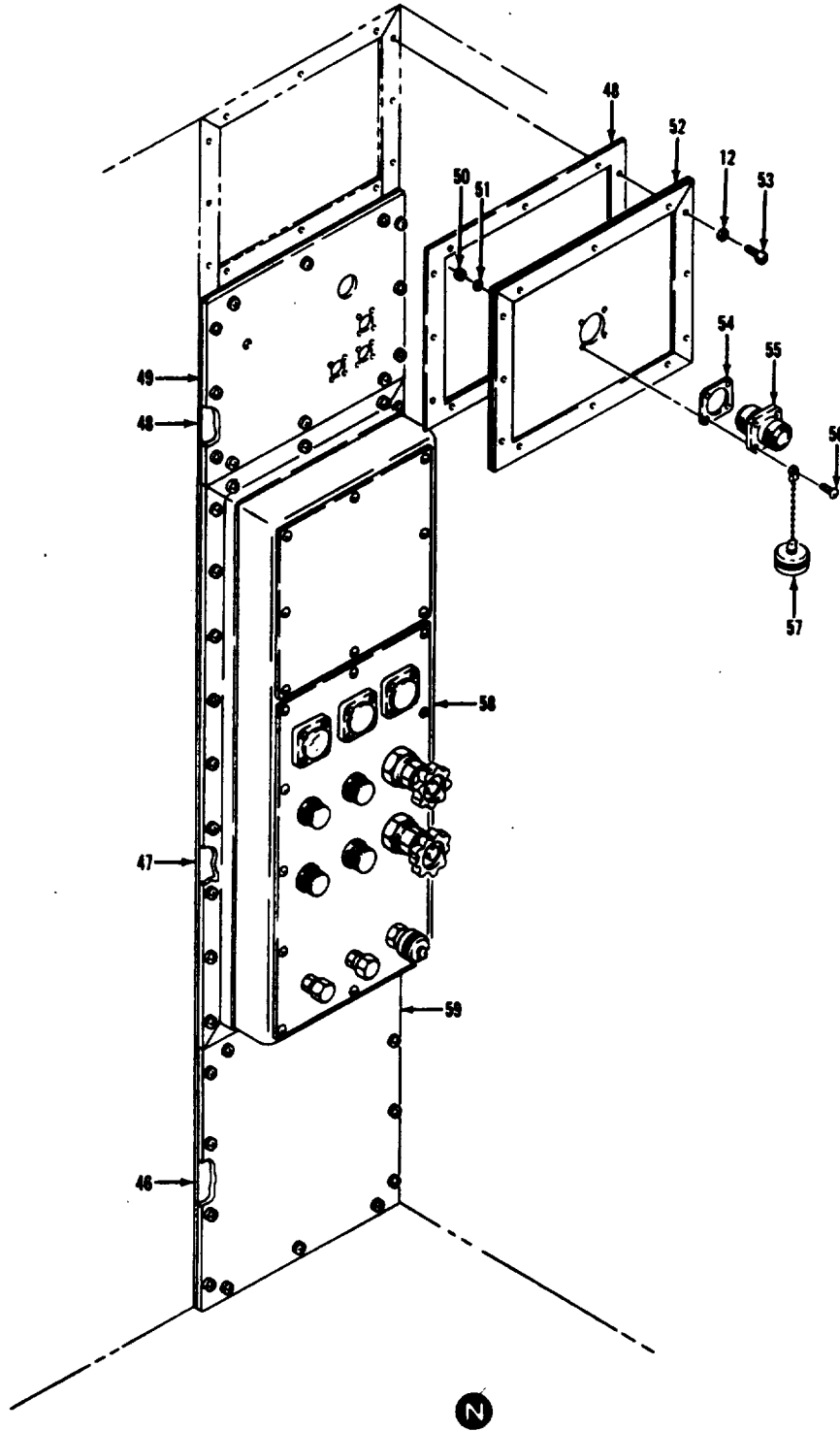


Figure 7-3. Electrical Equipment Installation (Sheet 6 of 19)

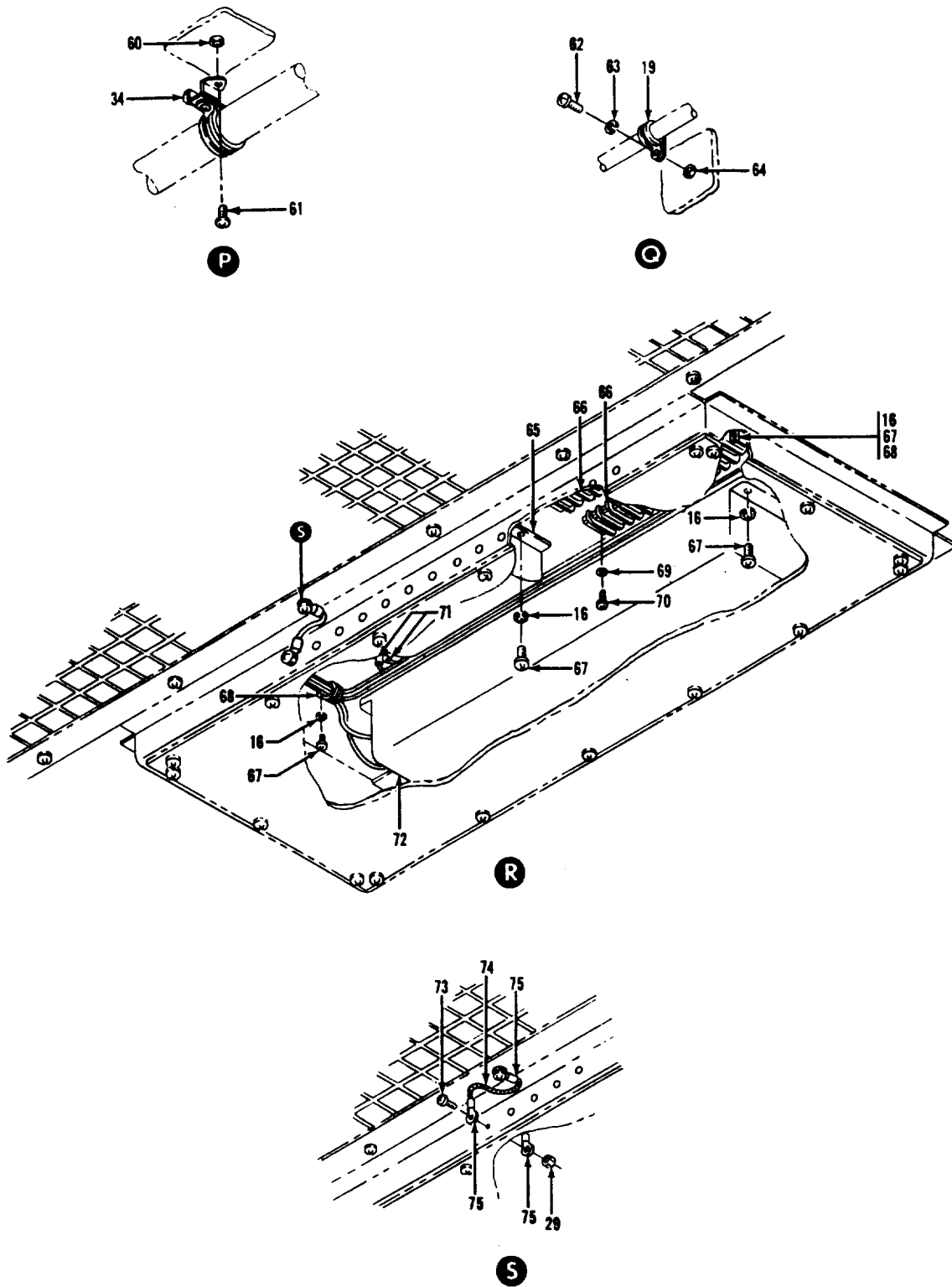


Figure 7-3. Electrical Equipment Installation (Sheet 7 of 19)

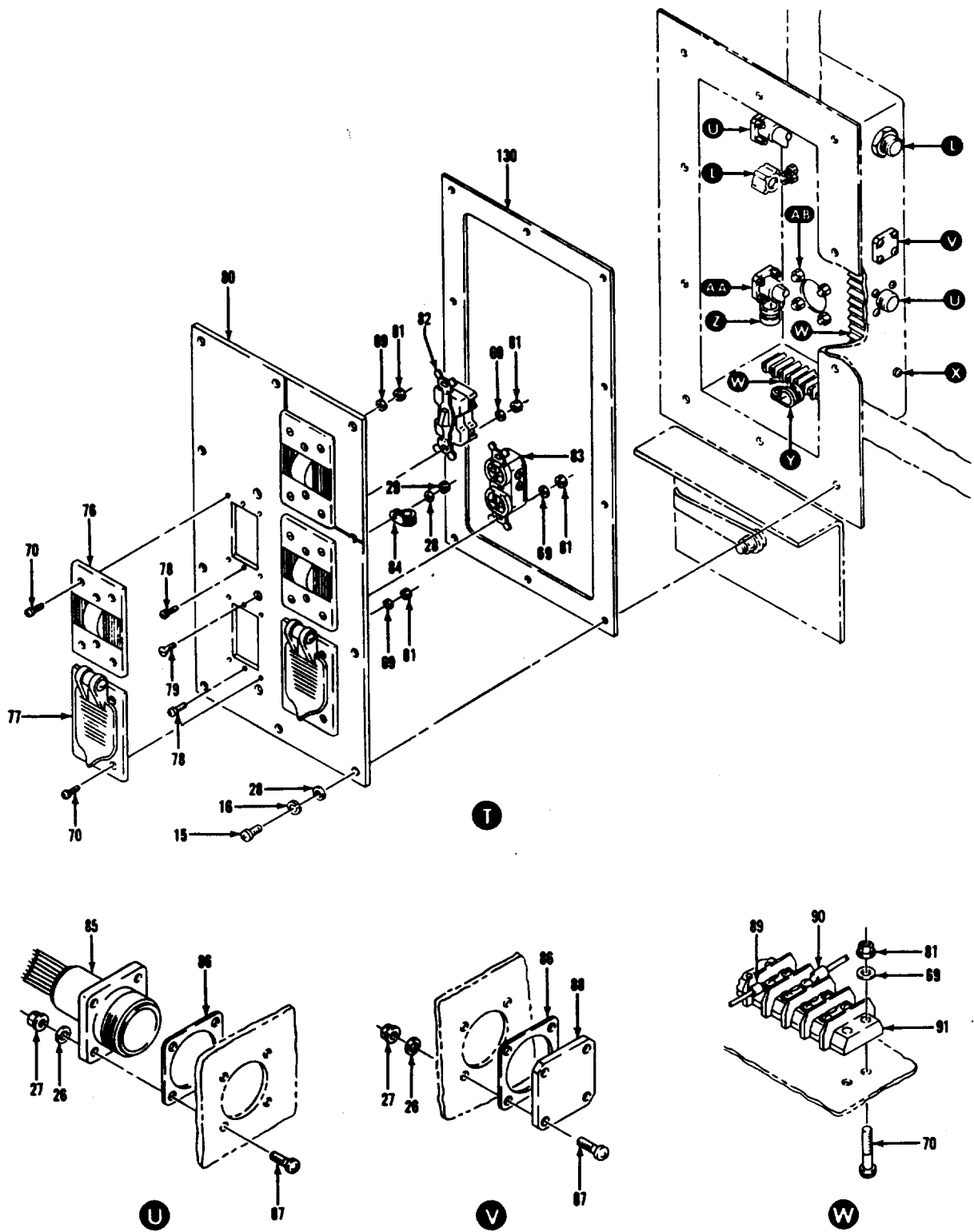


Figure 7-3. Electrical Equipment Installation (Sheet 8 of 19)

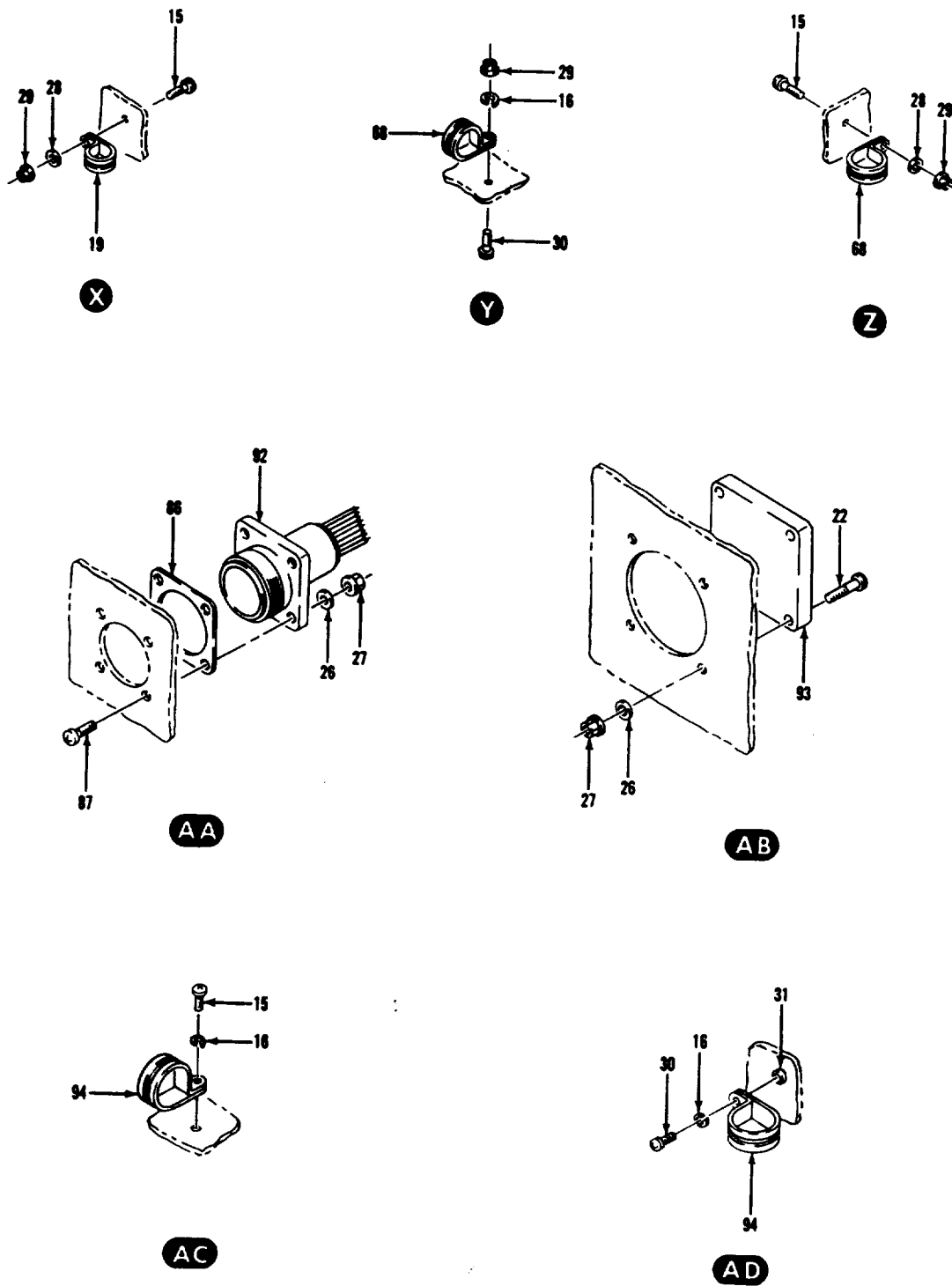


Figure 7-3. Electrical Equipment Installation (Sheet 9 of 19)

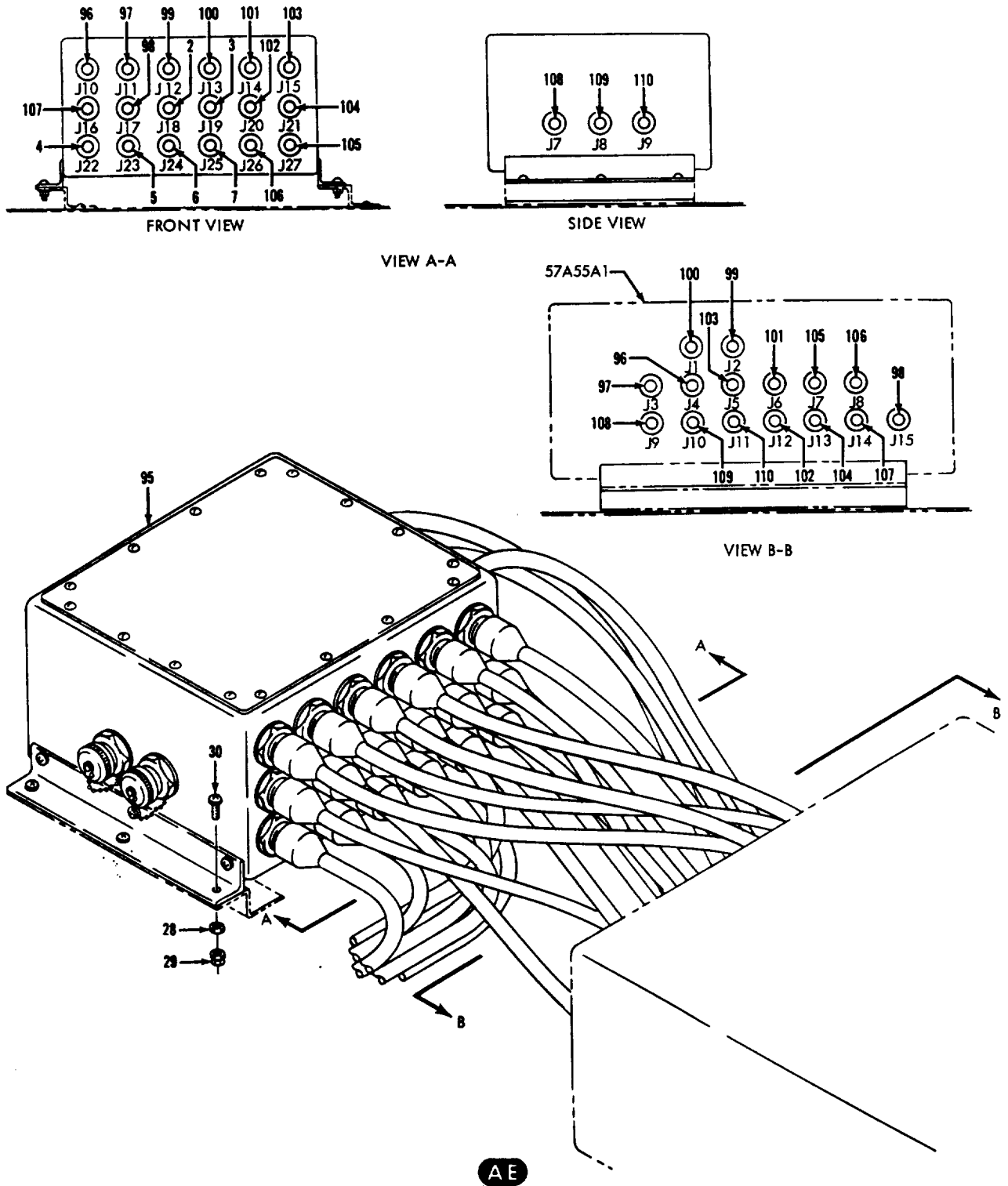


Figure 7-3. Electrical Equipment Installation (Sheet 10 of 19)

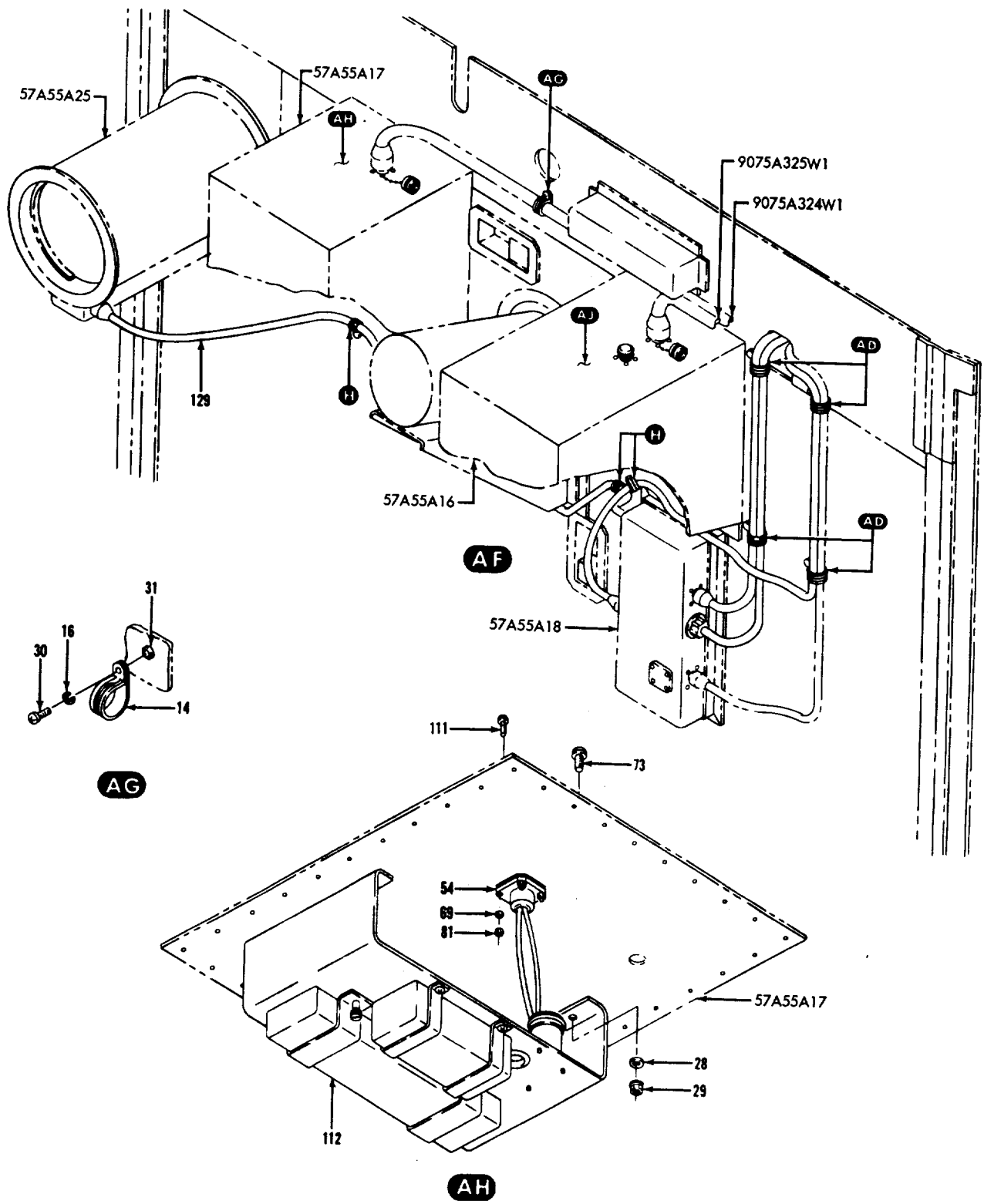


Figure 7-3. Electrical Equipment Installation (Sheet 11 of 19)

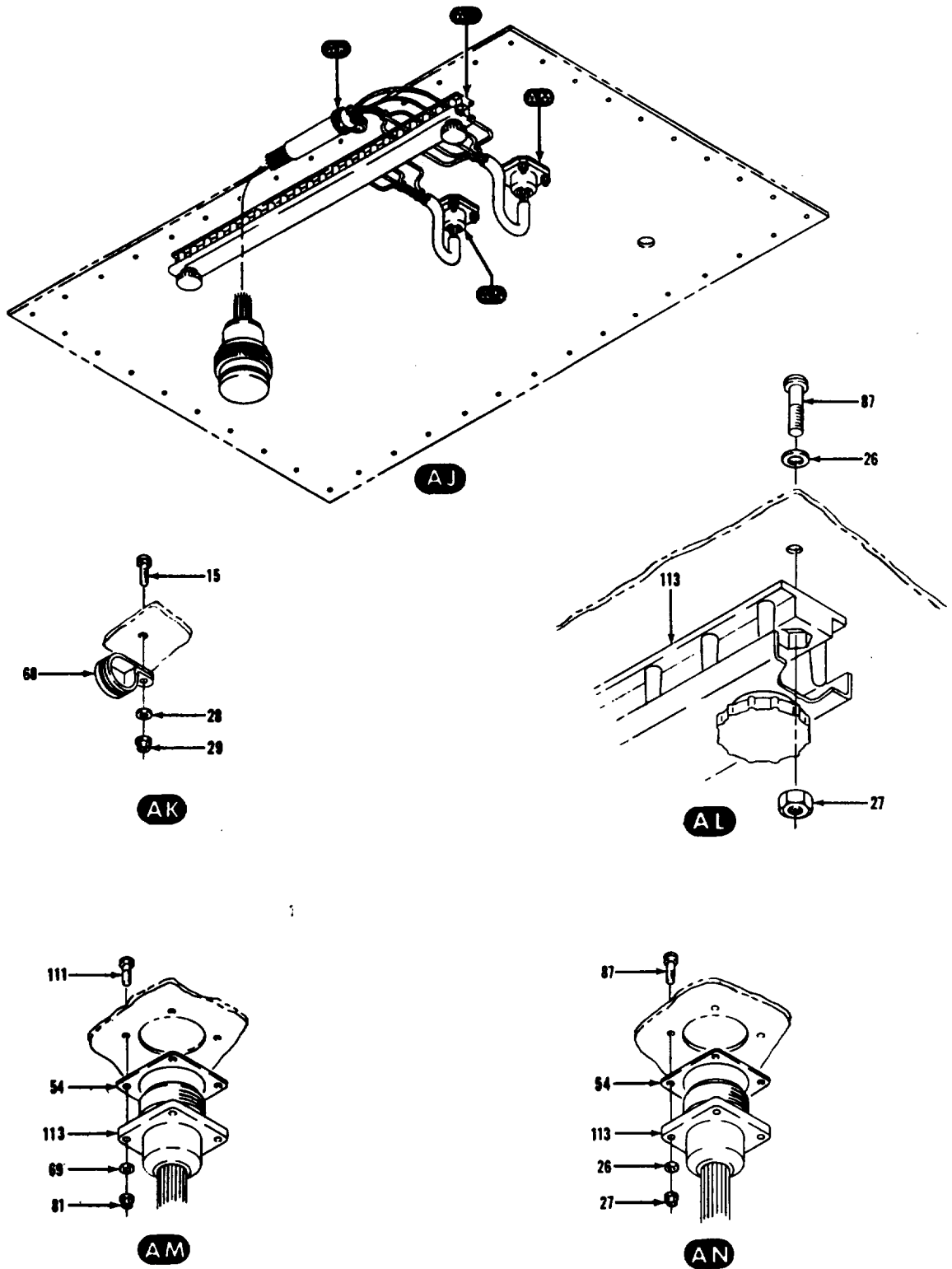


Figure 7-3. Electrical Equipment Installation (Sheet 12 of 19)

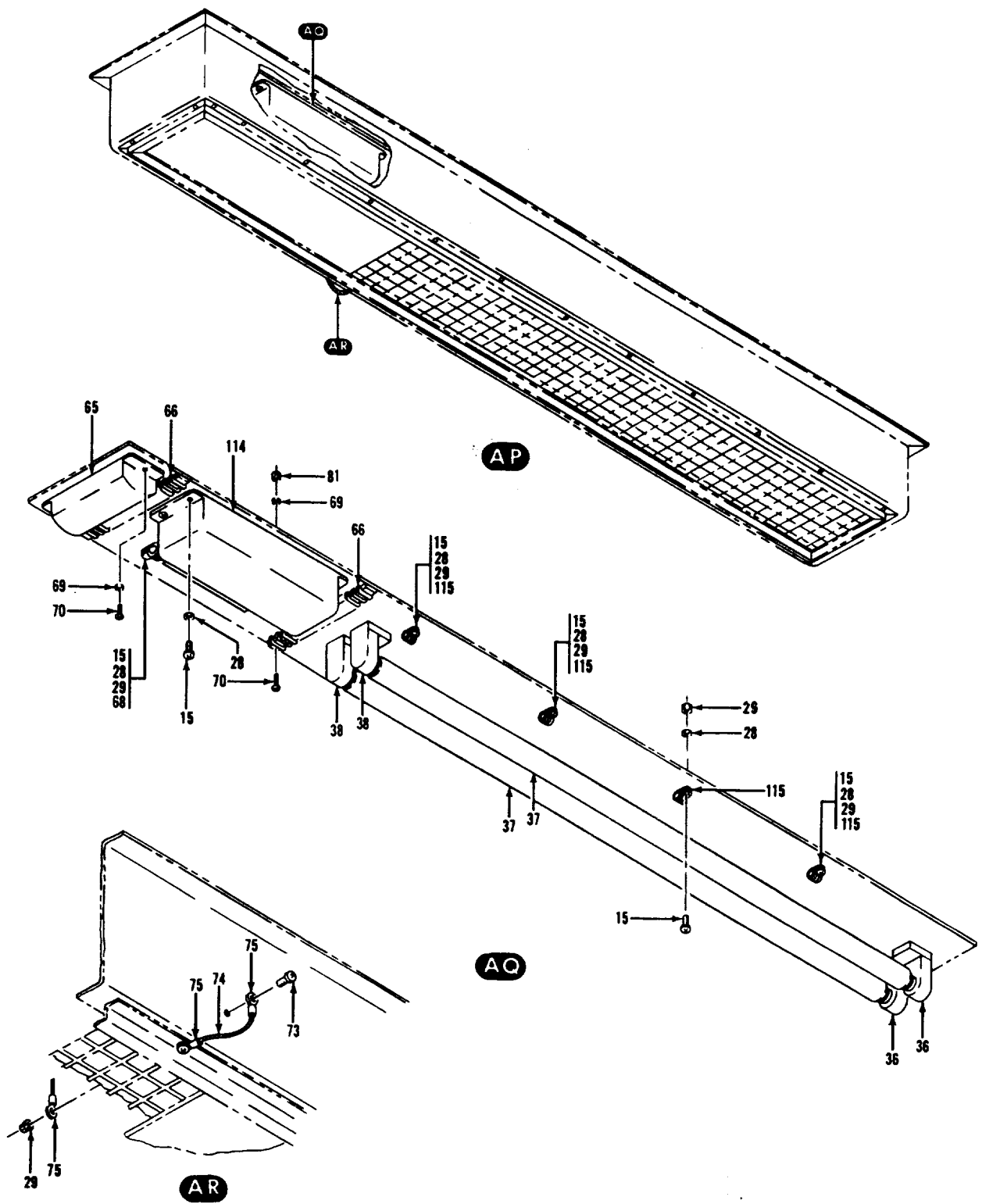


Figure 7-3. Electrical Equipment Installation (Sheet 13 of 19)

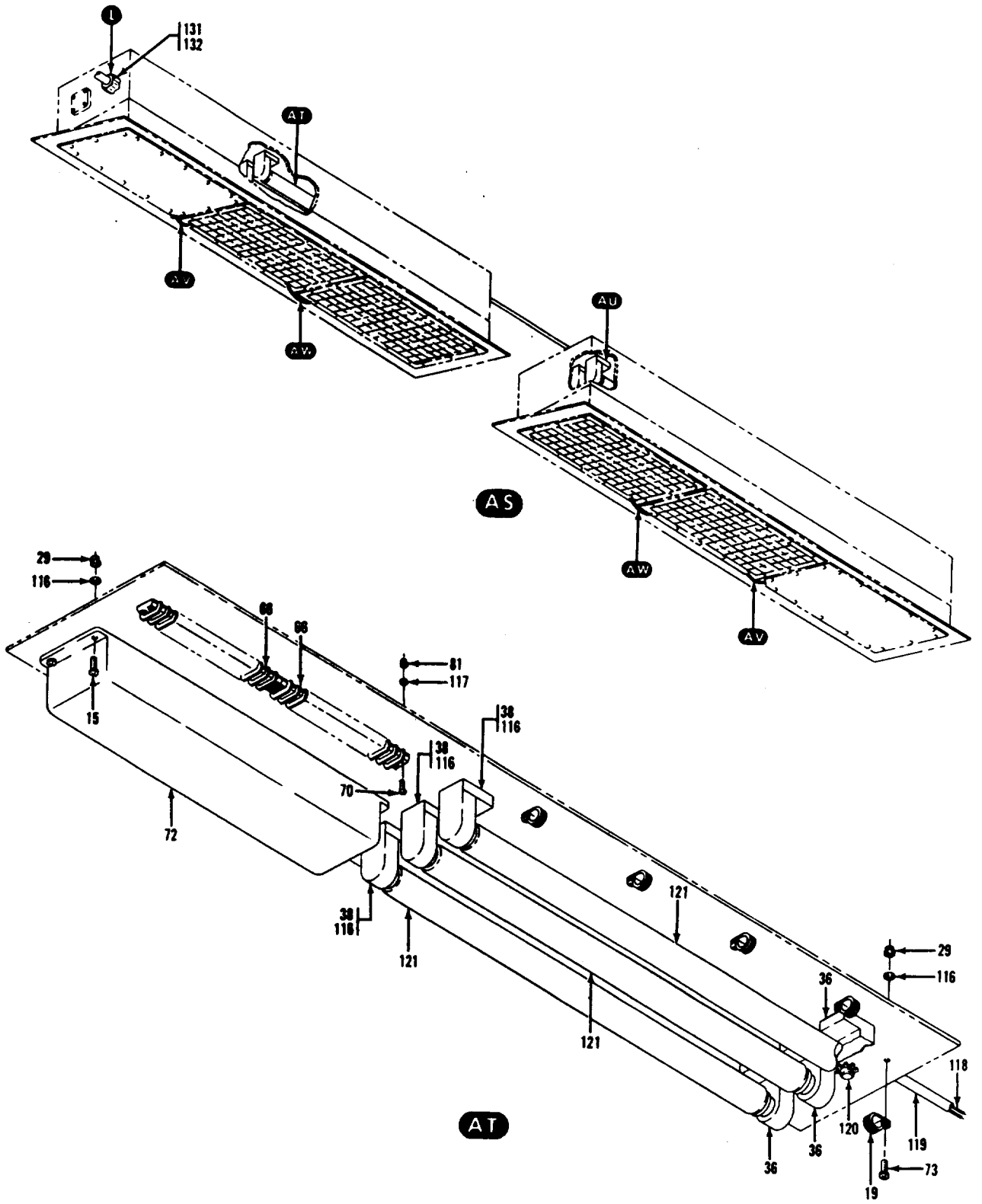
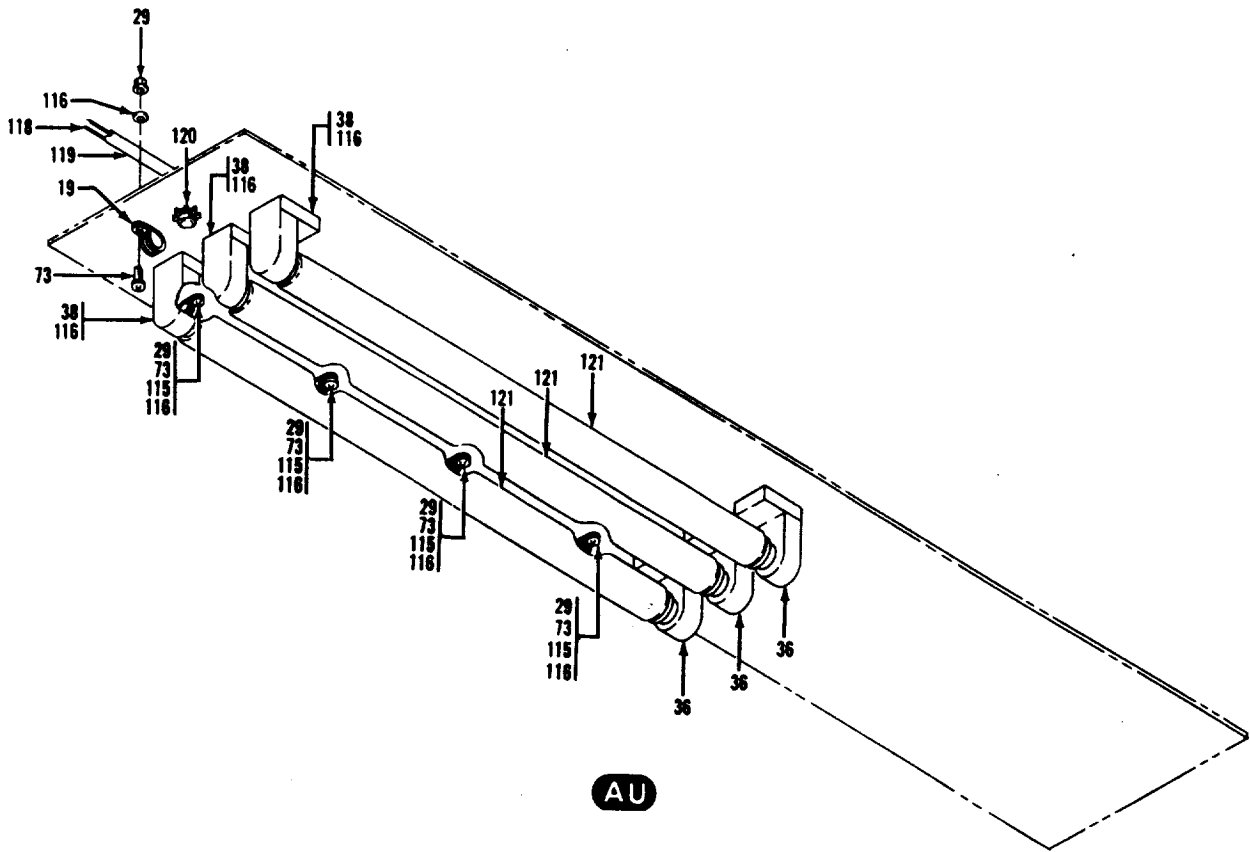
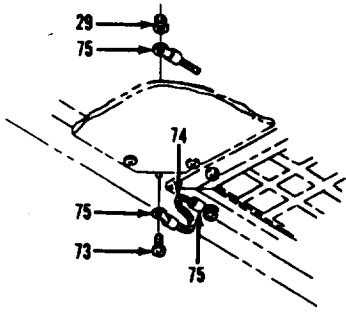


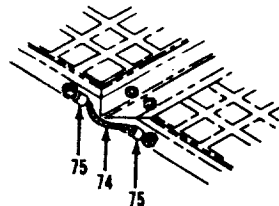
Figure 7-3. Electrical Equipment Installation (Sheet 14 of 19)



AU



AV



AW

Figure 7-3. Electrical Equipment Installation (Sheet 15 of 19)

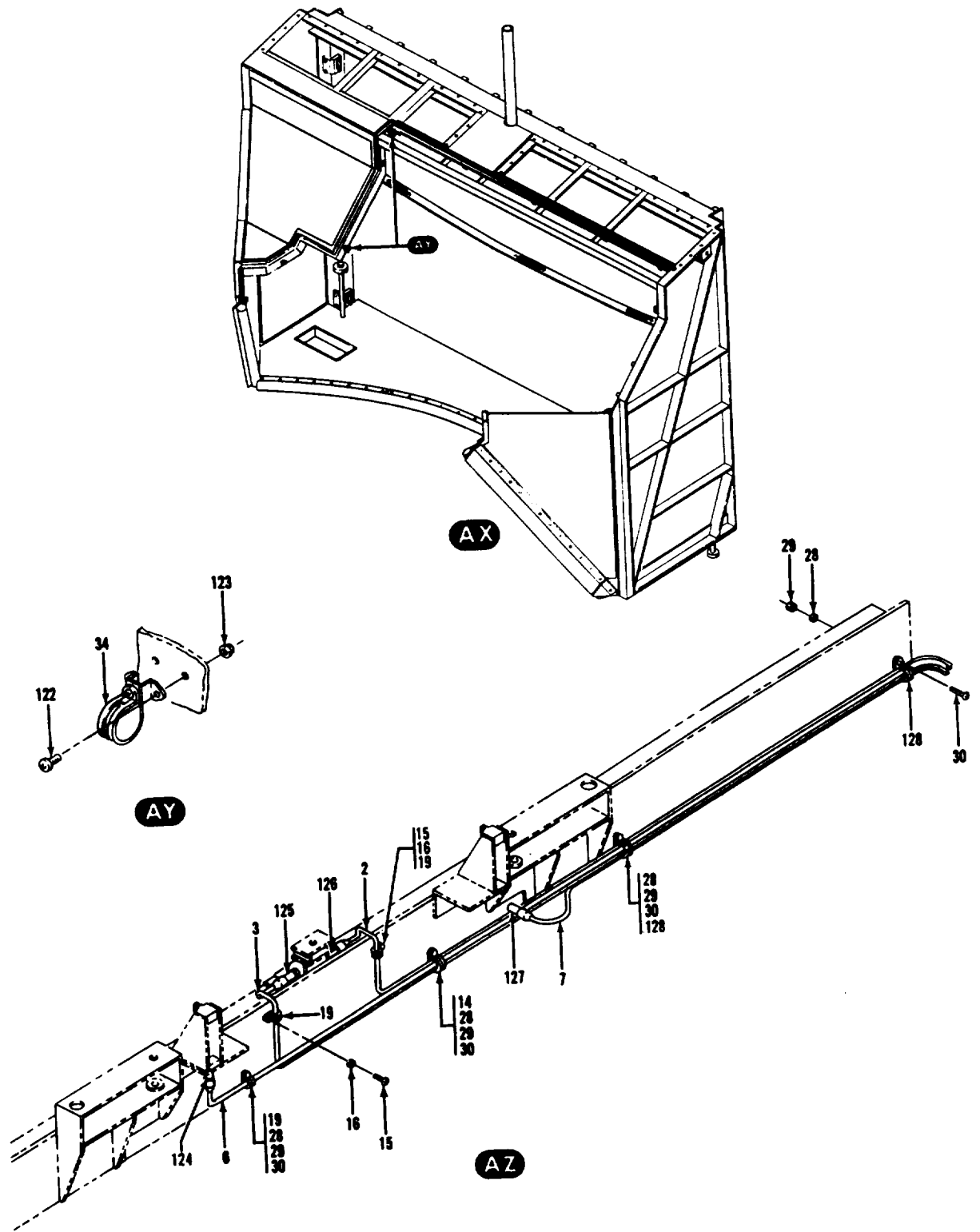


Figure 7-3. Electrical Equipment Installation (Sheet 16 of 19)

INDEX NUMBER	DESCRIPTION	PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
1	ELECTRICAL EQUIPMENT INSTALLATION			
2	SWITCH	76K03050-2		X
3	CABLE ASSEMBLY	75M13058-1	57A55A10	1
4	CABLE ASSEMBLY	76K03047-9	57A55W9	1
5	CABLE ASSEMBLY	76K03047-10	57A55W10	1
6	CABLE ASSEMBLY	76K03047-13	57A55W13	1
7	CABLE ASSEMBLY	76K03047-14	57A55W14	1
8	CABLE ASSEMBLY	76K03047-16	57A55W19	1
9	CABLE ASSEMBLY	76K03047-17	57A55W20	1
10	CABLE (BULK, 4C #120SDB)	76K03047-28	57A55A18W1	1
11	CAPSCREW	32C06		1
12	WASHER	MSFC-332/7		2
13	CABLE CLAMP	MS16997-66		24
14	CLAMP	AN960C416		88
15	SCREW	76K03723-1		6
16	WASHER	MS21919DG16		9
17	CLAMP (96195)	MS51958-64		40
18	CLAMP (96195)	MS35338-43		65
19	CLAMP	P2026		8
20	WASHER, RUBBER	P2028		4
21	CONNECTOR (59730)	MS21919DG8		29
22	SCREW	NAS1515B12		5
23	SWITCH	2535		5
24	GASKET (77820)	MS51957-18		8
25	HARNESS ASSEMBLY	76K03843-1	57A55A9	1
26	WASHER	10-40450-10		1
27	NUT	76K03054-66		1
28	WASHER	AN960C4		30
29	NUT	MS21042-04		30
30	SCREW	AN960C10		52
31	RIVNUT (03481)	MS21042-3		59
32	CLAMP (83930)	MS51958-66		40
33	NUT, BLIND RIVET	A10-130		28
34	CLAMP, FLIP LOC (84971)	444A16-1-8		5
35	SCREW	NAS1329C3-130		4
36	LAMP HOLDER (24446)	TA5002BH1802		6
37	LAMP (24446)	MS35207-263		4
38	LAMP HOLDER (24446)	ALF505X91		14
39	FRAME, COUNTDOWN CLOCK	F42T12/HC		8
40	GASKET	ALF505X92		14
41	LENS, COUNTDOWN CLOCK	76K03831-1		1
42	SCREW	76K03832-1		1
43	BOLT	76K03830-1		1
44	WASHER	MS35207-268		4
45	NUT	AN6C13A		4
46	GASKET	AN960-616L		4
47	GASKET	MS21044N6		4
48	GASKET	76K03702-2		1
49	COVER PLATE	76K03702-1		1
50	NUT	76K03702-3		1
51	WASHER	76K03062-1		1
52	MOUNTING PLATE ASSEMBLY	MS35650-364		4
53	SCREW	MS25338-155		4
54	GASKET (77820)	76K03499-3		1
55	CONNECTOR (77820)	MS35266-83		62
		10-40450-28		3
		10-107428-21PS		1

Figure 7-3. Electrical Equipment Installation (Sheet 17 of 19)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
56					MS35207-231	57A55A11	4
57					10-101048-28		1
58					76K12341		1
59					76K03063-1		4
60					NAS1329C3-130		4
61					MS35207-262		4
62					MS51957-46		4
63					MS35338-42		4
64					A8-75		2
65					6G3725		6
66					75M14964-15		8
67					MS51958-60	6	
68					MS21919DG10	68	
69					AN960C6	58	
70					MS51957-32	2	
71					MS25181-2	2	
72					6G3753	28	
73					MS51958-62	A/R	
74					B-16	16	
75					MS25036-8	3	
76					1750	2	
77					52-21	10	
78					MS51957-28	3	
79					KC147-73	1	
80					76K03065-1	66	
81					MS21042-06	3	
82					1281-I	2	
83					P2092	3	
84					MS21919DG-6	2	
85					76K03058-18	4	
86					10-40450-16	22	
87					MS51957-16	1	
88					76K03687-1	31	
89					MS25036-11	200	
90					MS25036-6	2	
91					75M14964-12	1	
92					76K03059-10	1	
93					76K03455-1	6	
94					MS21919DG20	1	
95					76K03060-1	1	
96					76K03047-1	1	
97					76K03047-2	1	
98					76K03047-35	1	
99					76K03047-3	1	
100					76K03047-4	1	
101					76K03047-5	1	
102					76K03047-32	1	
103					76K03047-6	1	
104					76K03047-33	1	
105					76K03047-26	1	
106					76K03047-15	1	
107					76K03047-34	1	
108					76K03047-29	1	
109					76K03047-31	1	
110					76K03047-30	1	
111					MS35265-30	8	

Figure 7-3. Electrical Equipment Installation (Sheet 18 of 19)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
112	CHASSIS ASSEMBLY						
113	HARNES ASSEMBLY				76K03081-1		1
114	BALLAST (24446)				76K03055-1		1
115	CLAMP				7G3834		1
116	WASHER, PLASTIC				MS21919DG4		8
117	WASHER, PLASTIC				NAS1515B3		26
118	WIRE				NAS1515B06		8
119	CONDUIT, FLEXIBLE (09641)				B-12		A/R
120	CONNECTOR (59730)				L. T. 12		A/R
121	LAMP (24446)				5353		2
122	SCREW				F24T12/H0		6
123	NUT				MS35207-264		4
124	SWITCH				MS21044C3		4
125	SWITCH				75M13058-1	57A55A13	1
126	SWITCH				75M13058-1	57A55A6	1
127	SWITCH				75M13058-1	57A55A5	1
128	CLAMP				75M13058-1	57A55A12	1
129	CABLE ASSEMBLY				MS21919DG18		3
130	GASKET				76K03047-45	57A55A18W4	1
131	SHIELD RING, INNER				76K03066-1		1
132	SHIELD RING, OUTER				75M13676-71		3
133	CABLE ASSEMBLY				75M13676-70		3
					32C07		1
REF: 76K03050 REV B, EO 1 THRU 6, 601, 602							

Figure 7-3. Electrical Equipment Installation (Sheet 19 of 19)

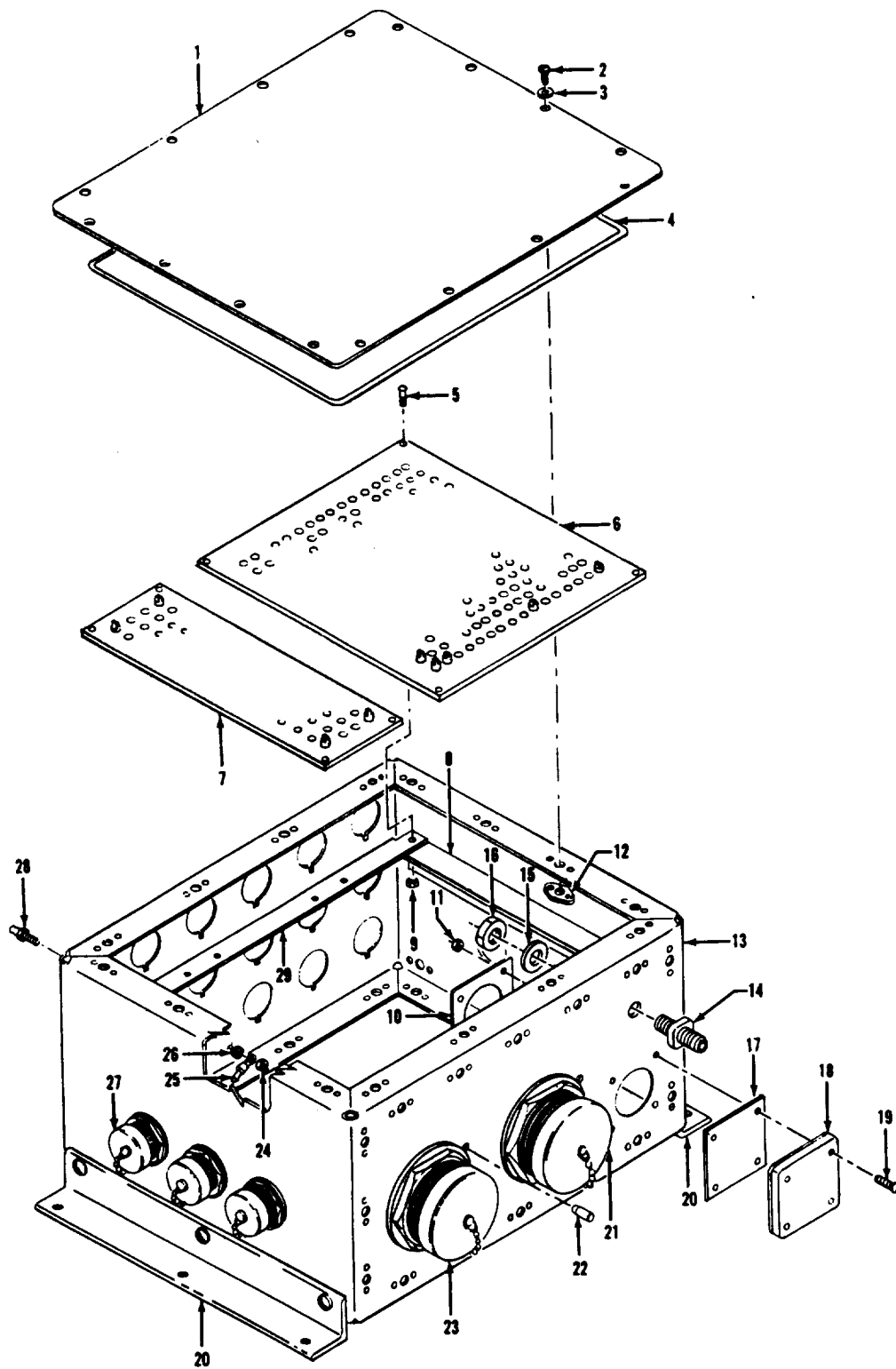
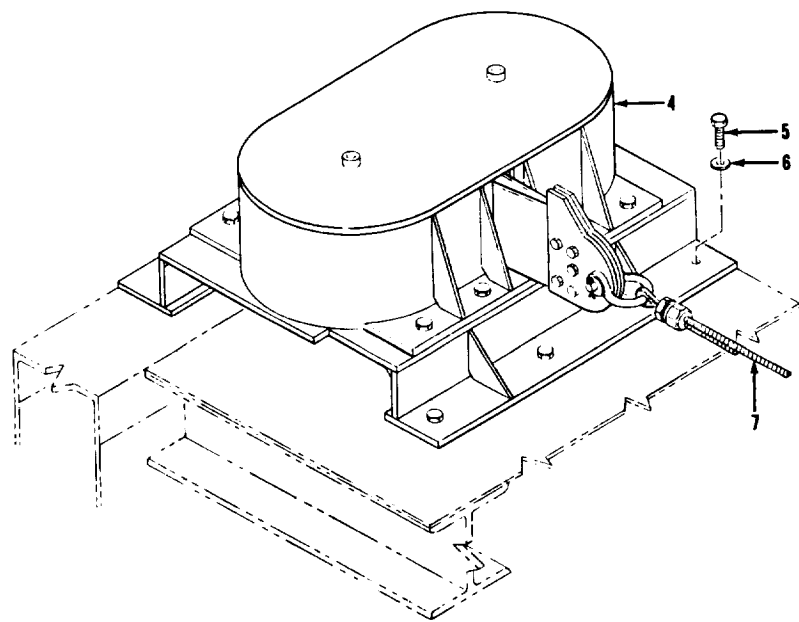
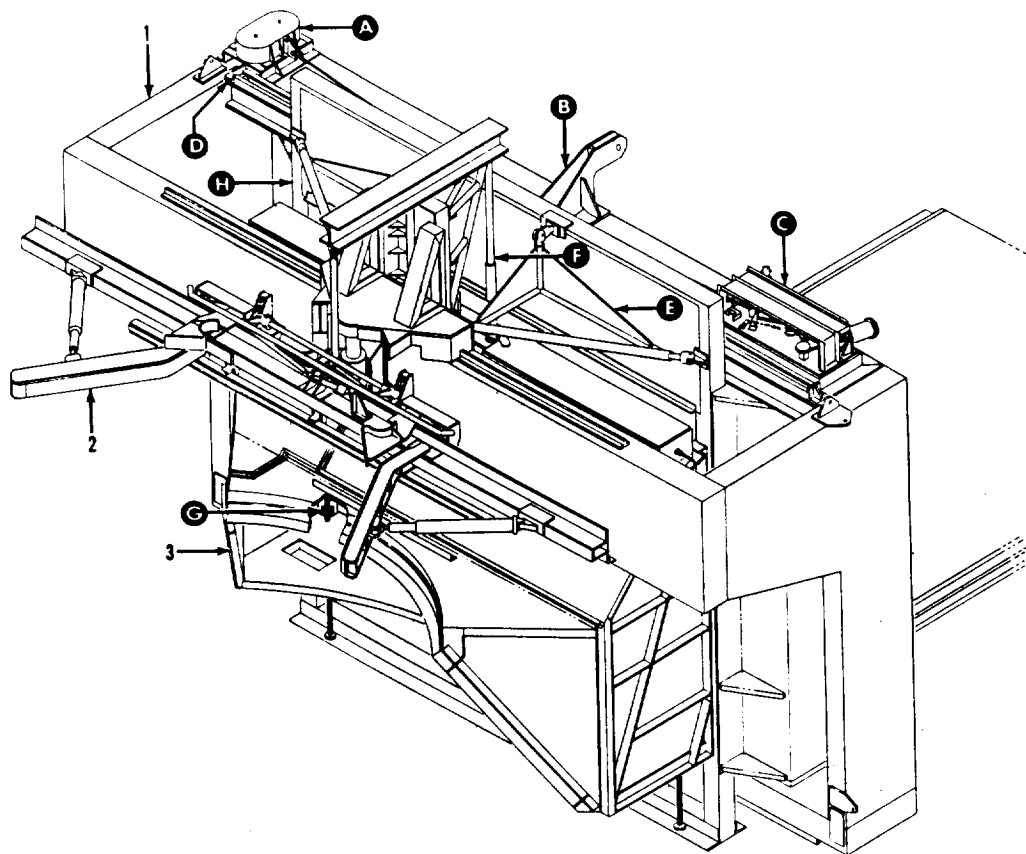


Figure 7-4. Distributor Box Assembly (Sheet 1 of 2)

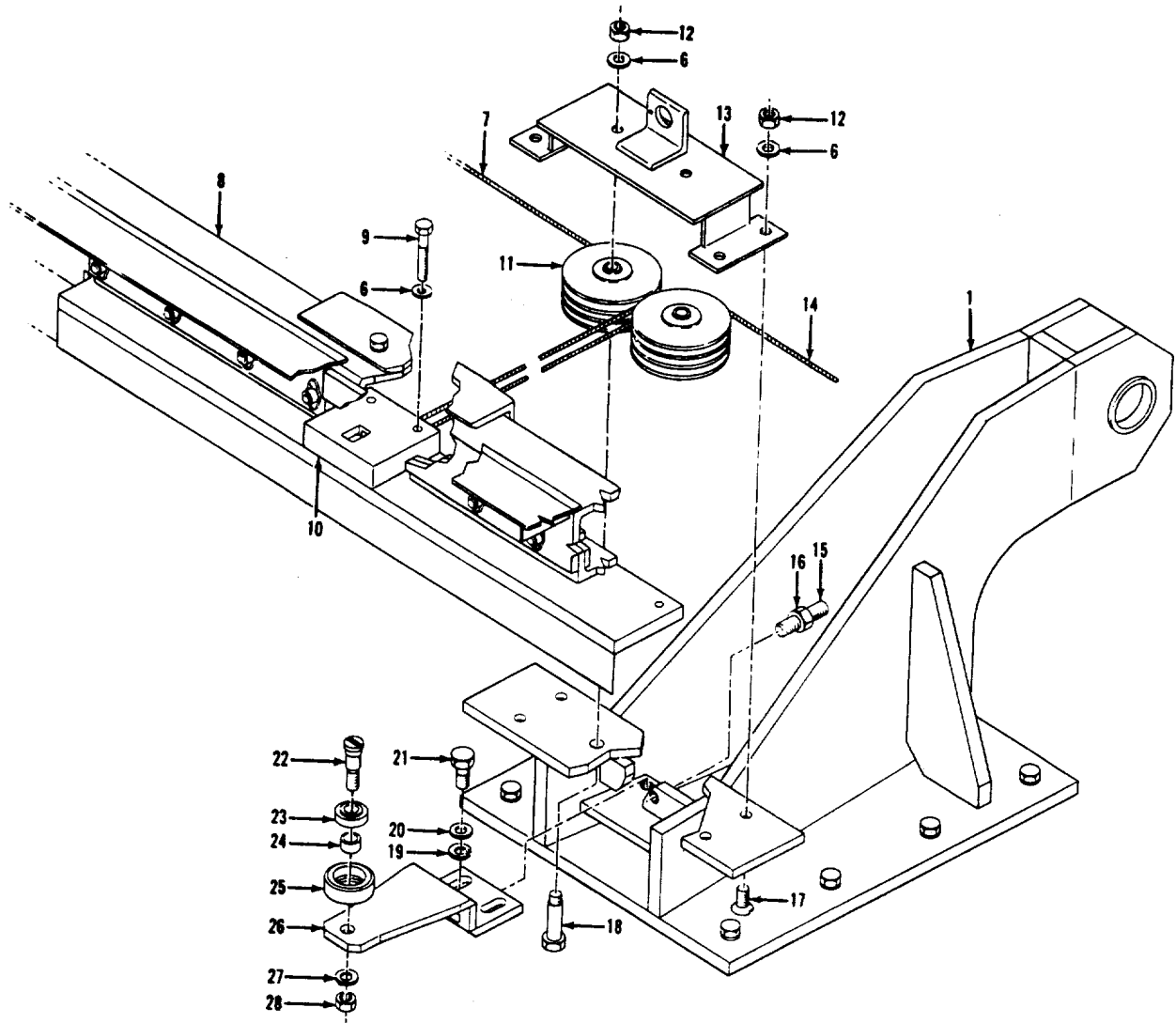
INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
1	DISTRIBUTOR BOX ASSEMBLY				76K03060-1		X
2	COVER				75M09812-1		2
3	SCREW				MS35234-63		38
4	LOCKWASHER				MS35333-73		38
5	GASKET				75M09808-2		2
6	SCREW				MS51957-30		8
7	TERMINAL BOARD ASSEMBLY				76K03061-1		1
8	BOARD ASSEMBLY				75M09813-1		1
9	ANGLE				76K03060-3		2
10	NUT, STOP (72962)				79NM-62		8
11	PLATE				76K03060-6		1
12	NUT, SELF LOCKING				NAS1021C04		4
13	ANCHOR NUT				NAS1474A3		54
14	CHASSIS ASSEMBLY				76K03060-2		1
15	ORIFICE, BULKHEAD UNION				75M50562-1		1
16	GASKET (70367)				NS-NES		1
17	NUT, FLARED TUBE				MC175C4		1
18	SCREW				76K03060-7		1
19	PLATE, BLEED				75M02047		1
20	SCREW				MS51957-18		4
21	MOUNTING BRACKET				76K03060-5		2
22	HARNES ASSEMBLY				75M07777-2		1
23	DOWEL PIN				MS16555-625		2
24	HARNES ASSEMBLY				75M07778-2		1
25	NUT				NAS671B6		2
26	TERMINAL LUG				MS25936-53		1
27	WASHER, SEALING				NAS1598C08R		1
28	HARNES ASSEMBLY				75M07779-2		23
29	BALL AND STUD (59730)				#23		1
	ANGLE				76K03060-4		2
REF: 76K03060							

Figure 7-4. Distributor Box Assembly (Sheet 2 of 2)



A

Figure 7-5. Extension Platform Assembly (Sheet 1 of 13)



B

Figure 7-5. Extension Platform Assembly (Sheet 2 of 13)

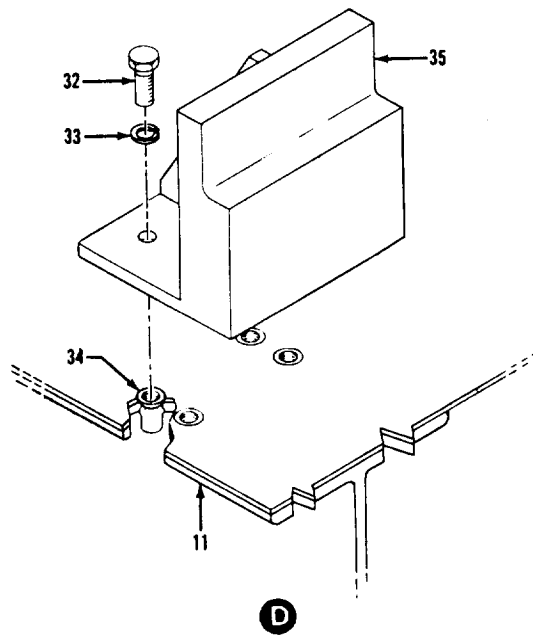
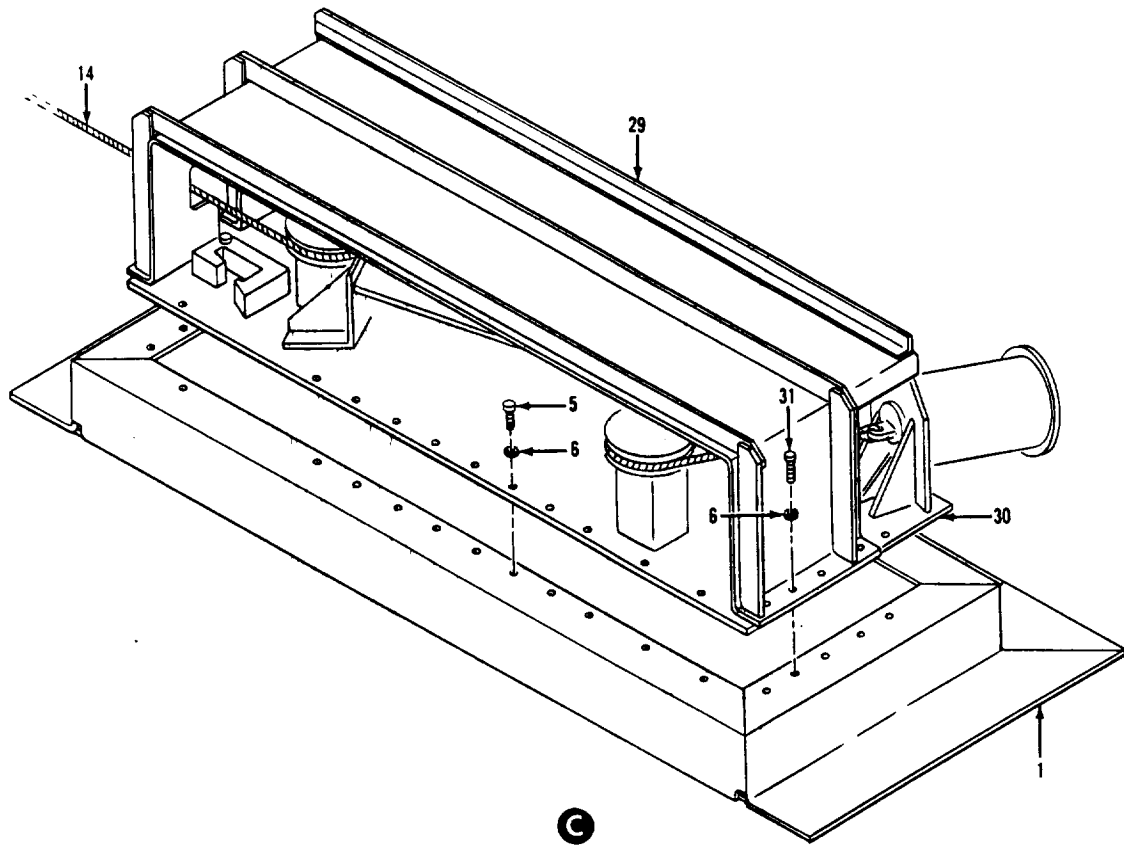


Figure 7-5. Extension Platform Assembly (Sheet 3 of 13)

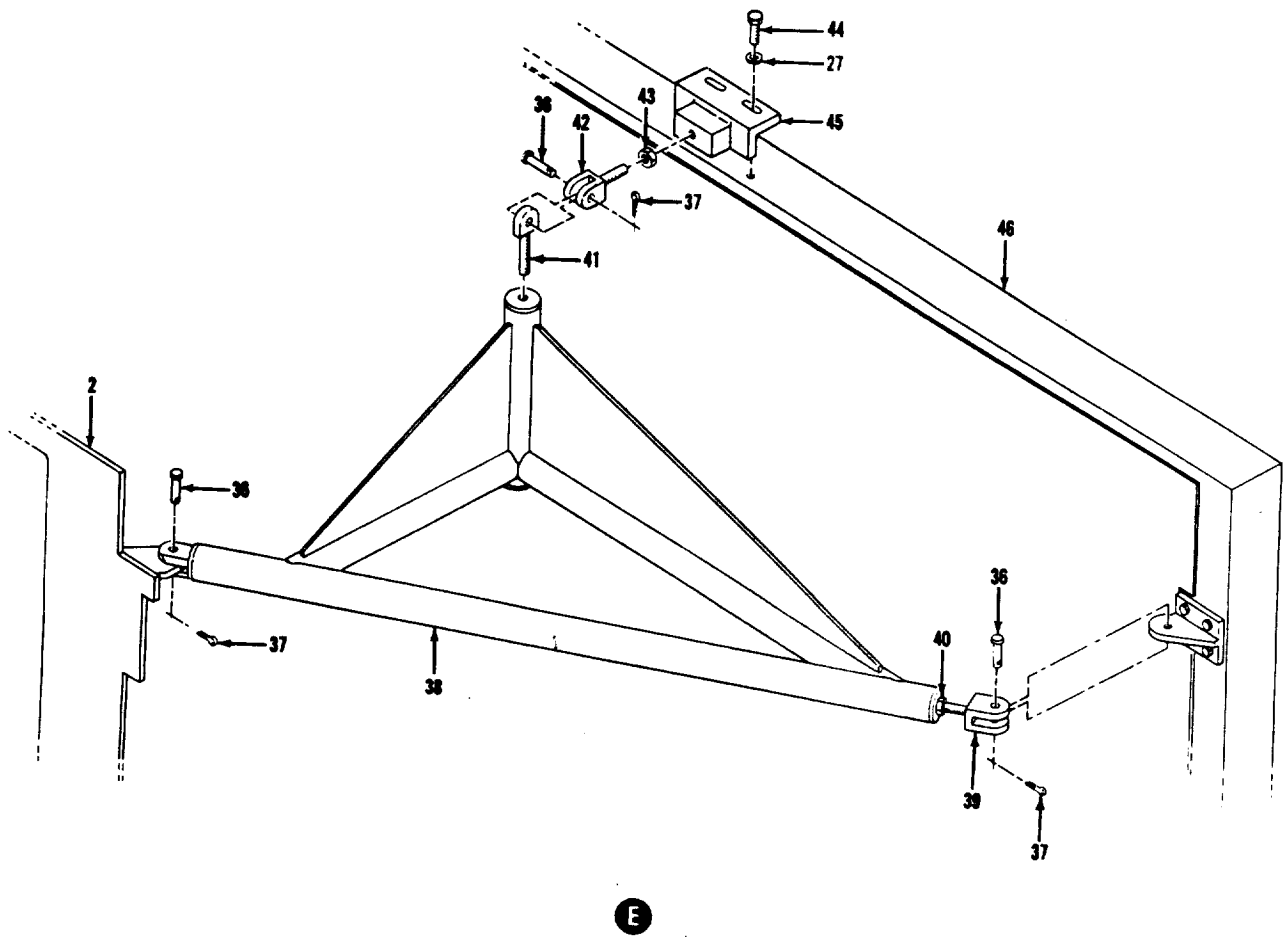


Figure 7-5. Extension Platform Assembly (Sheet 4 of 13)

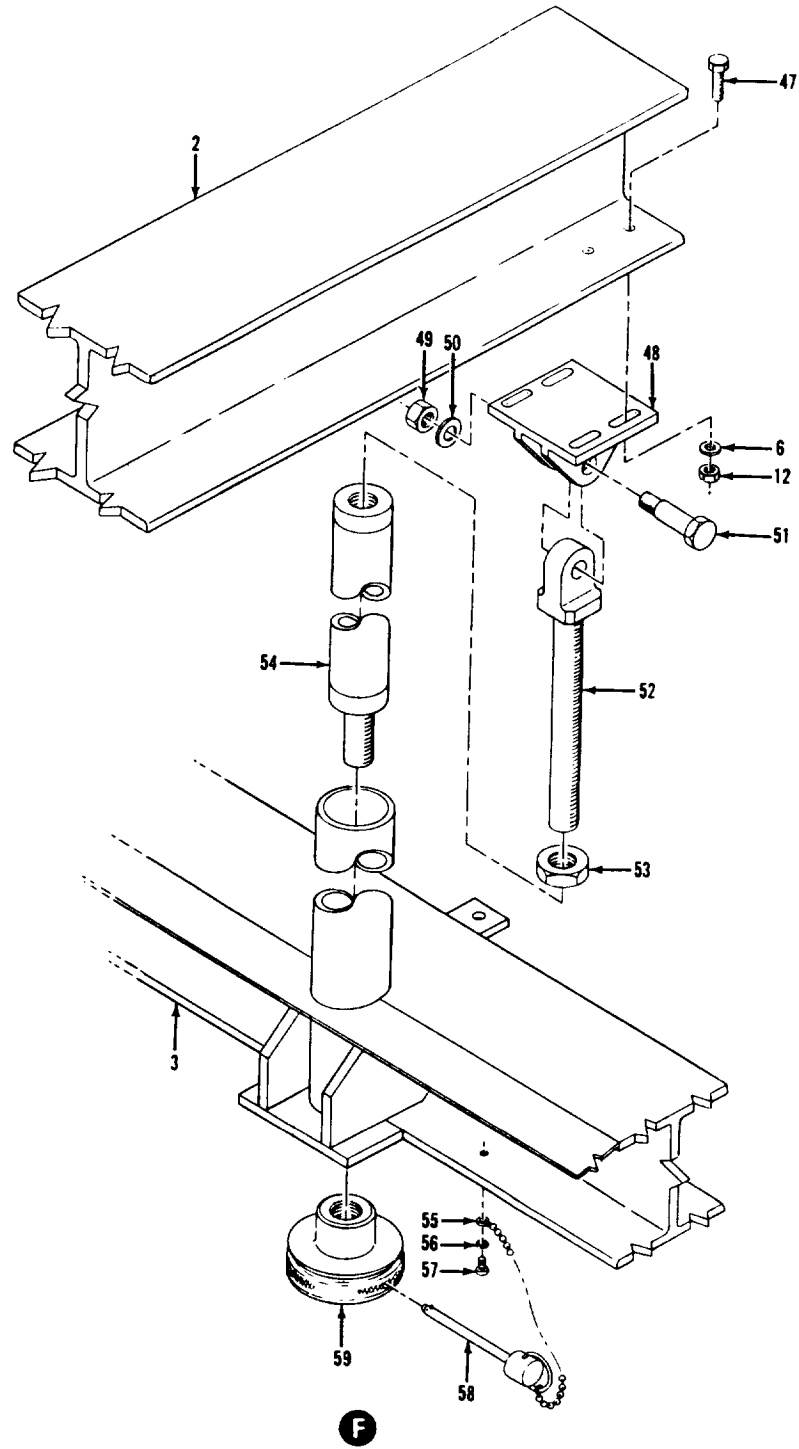


Figure 7-5. Extension Platform Assembly (Sheet 5 of 13)

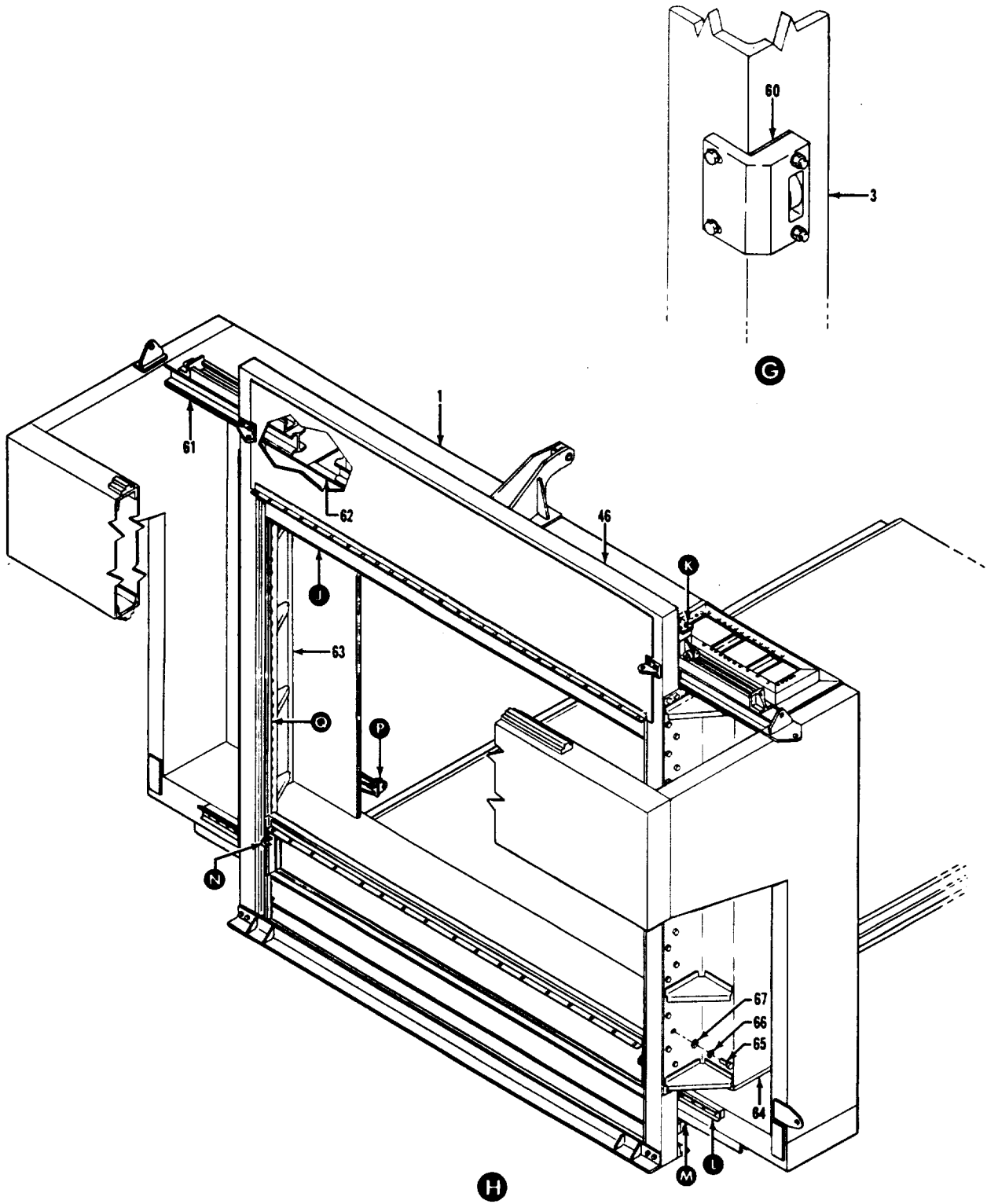


Figure 7-5. Extension Platform Assembly (Sheet 6 of 13)

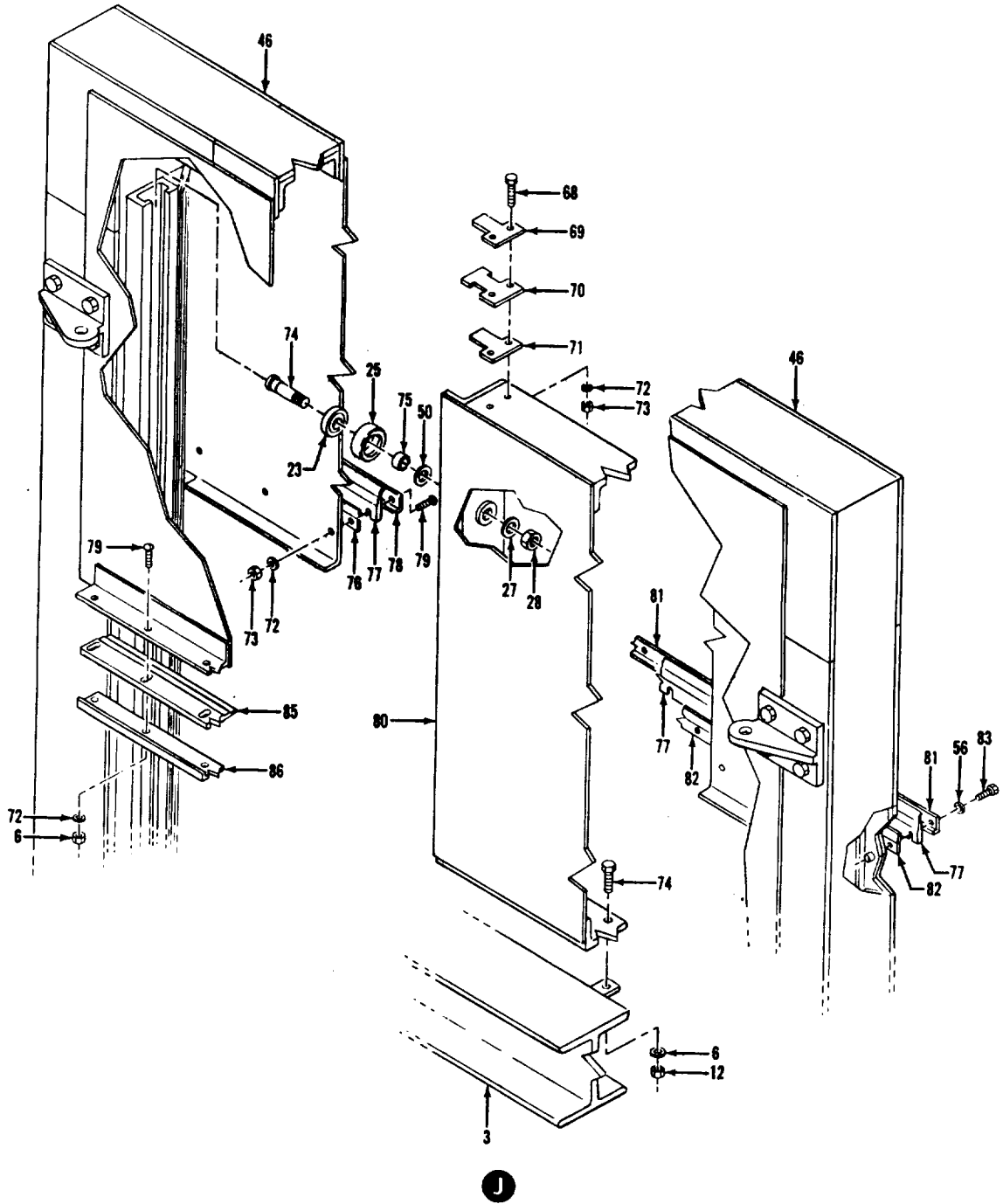
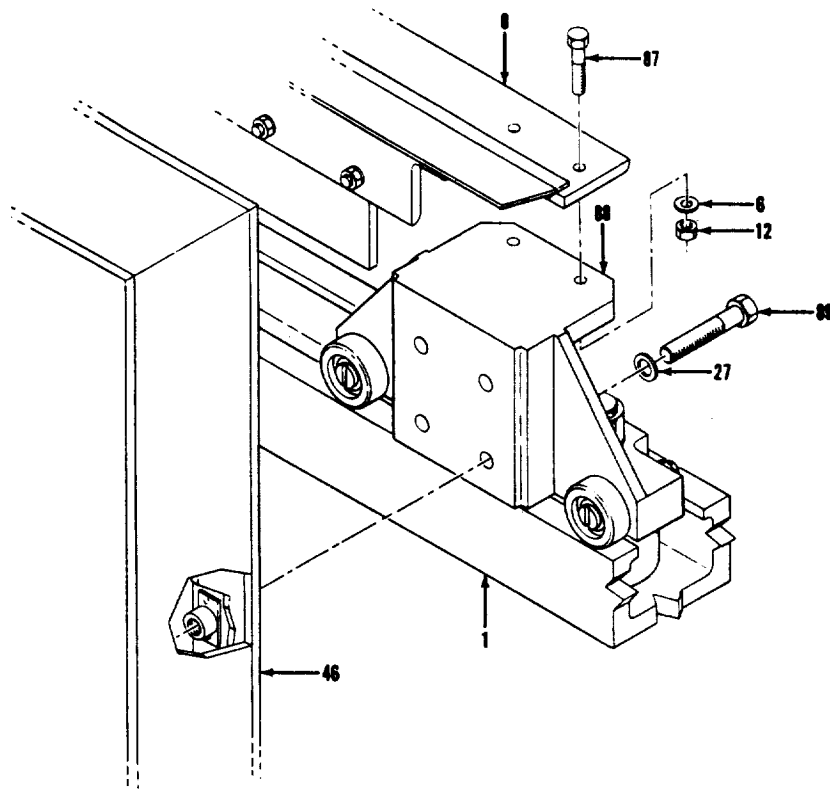
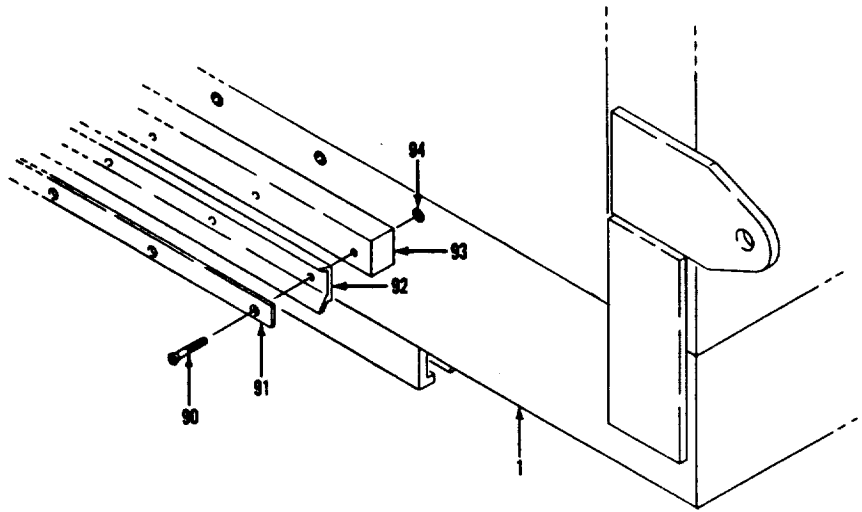


Figure 7-5. Extension Platform Assembly (Sheet 7 of 13)

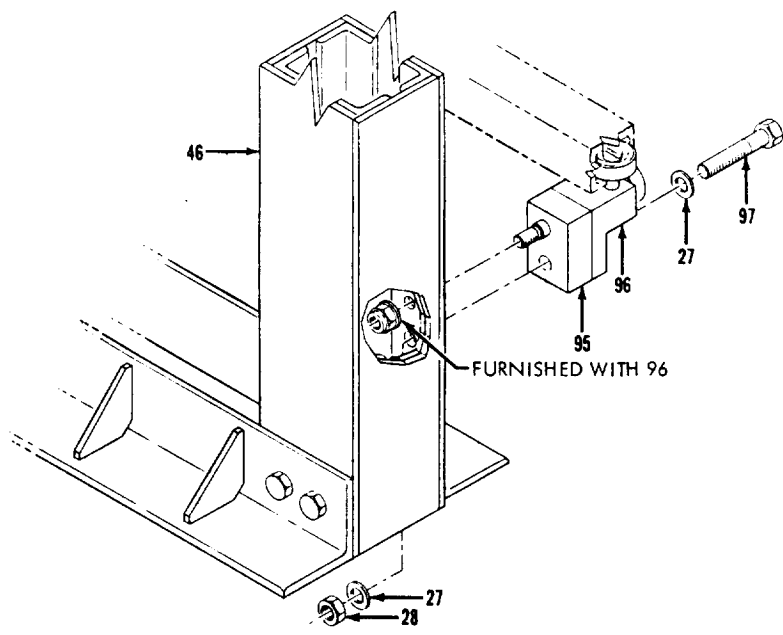


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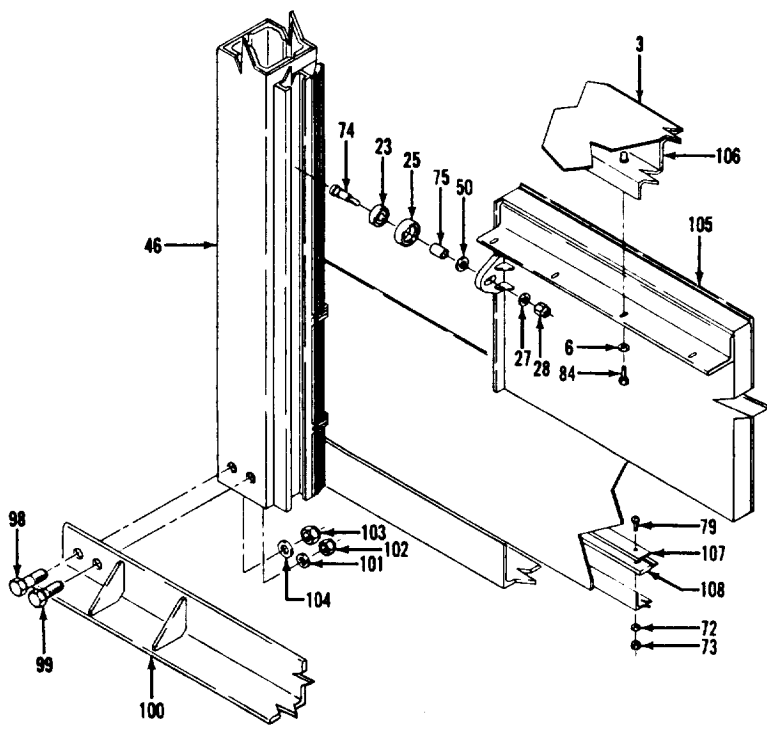


L

Figure 7-5. Extension Platform Assembly (Sheet 8 of 13)



M



N

Figure 7-5. Extension Platform Assembly (Sheet 9 of 13)

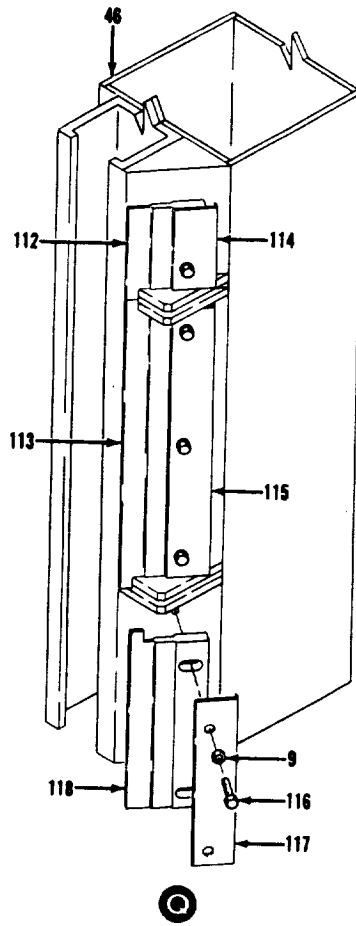
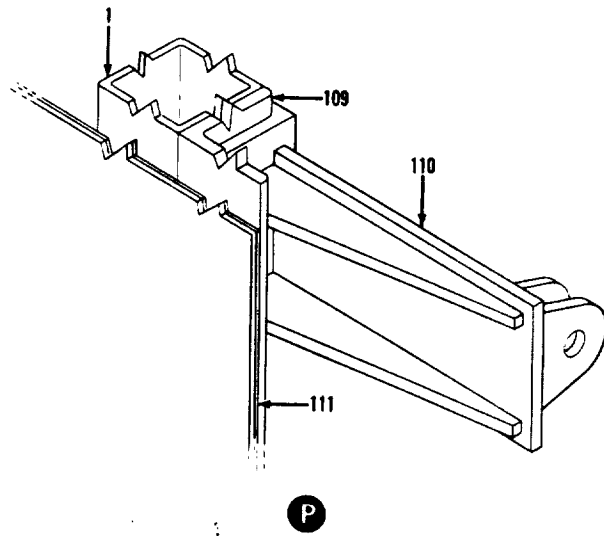


Figure 7-5. Extension Platform Assembly (Sheet 10 of 13)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
							X
1					76K03384-1		1
					76K03386-1		1
2					76K03242-1		1
3					76K03290-1		1
4					76K03855-1		1
5					AN4-7A		25
6					AN960-416		82
7					76K03848-1		1
8					76K03560-1		1
9					MS90727-13		2
10					76K03397-1		1
11					MS20220A2		4
12					MS21045-4		27
13					76K03400-1		1
14					76K03401-1		1
15					MS51964-101		1
16					MS35691-21		1
17					KC148-83		4
18					NAS1297-4-28		2
19					MS35338-140		2
20					AN960-516		2
21					MS90727-32		2
22					76K03343-3		1
23					993L01		9
24					76K03345-1		1
25					76K03328-2		9
26					76K03567-1		1
27					AN960-616		19
28					MS21045-6		9
29					76K03545-1		1
30					76K03381-1		1
31					AN4-10A		9
32					AN4-5A		8
33					MS35338-44		8
34					NAS1330SK4K331		8
35					76K03399-1		2
36					MS20392-6C51		6
37					MS24665-285		6
38					76K03240-1		1
					76K03240-2		1
							2
39					76K03287-1		2
40					MS35691-33		2
41					76K03352-1		2
42					76K03236-1		2
43					MS35691-17		2
44					MS30727-64		4
45					76K03285-1		2
46					76K03353-1		1
47					MS9072-8		4
48					76K03405-1		1
49					MS21044N7		1
50					AN960-716		9
51					NAS1297-4-28		1
52					76K03264-1		1
53					MS35691-61		1

Figure 7-5. Extension Platform Assembly (Sheet 11 of 13)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
54					HOOD LINKAGE		
55					CHAIN		1
56					WASHER		1
57					SCREW		3
58					BALL LOCK PIN		1
59					HOOD RELEASE KNOB		1
60					SHIM		1
61					CEILING PANEL		1
					CEILING PANEL (OPPOSITE-NOT SHOWN)		A/R
62					CEILING STRIP		1
63					SEAL PANEL ASSEMBLY		1
64					SEAL PANEL ASSEMBLY		1
65					CAPSCREW		1
66					WASHER		1
67					WASHER		48
68					BOLT		48
69					SEAL PLATE		48
70					SEAL		4
71					SEAL PLATE		2
72					WASHER		2
73					NUT		2
74					SHAFT		143
75					SLEEVE		83
76					SEAL GUIDE		9
77					TOP FRAME SEAL		9
78					RETAINER		1
79					SCREW		1
80					TOP SEAL PANEL		1
81					RETAINER		79
82					SEAL GUIDE		1
83					SCREW		1
84					CAPSCREW		1
85					SEAL FRAME		2
86					SEAL RETAINER		32
87					CAPSCREW		1
88					UPPER TROLLEY ASSEMBLY		1
89					CAPSCREW		4
90					SCREW		2
91					RETAINER		8
92					SEAL STRIP		MS24693-5282
93					SPACER		33
94					NUT, BLIND RIVET		3
95					FRAME SHIM (SHOWN)		3
					FRAME SHIM (OPPOSITE-NOT SHOWN)		31
96					LOWER ROLLER ASSEMBLY (SHOWN)		1
					LOWER ROLLER ASSEMBLY (OPPOSITE-NOT SHOWN)		1
97					BOLT		1
98					BOLT		AN9-14A
99					CAPSCREW		2
100					ANGLE SUPPORT ASSEMBLY		2
101					WASHER		3
102					NUT		1
103					NUT		2
104					WASHER		2
105					SEAL PANEL ASSEMBLY		2
106					NUT, BLIND RIVET		2
							1
							19

Figure 7-5. Extension Platform Assembly (Sheet 12 of 13)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
107					76K03341-5		1
108					76K03342-2		1
109					76K03573-1		2
110					76K03572-1		2
111					76K03574-1		2
112					76K03367-1		2
113					76K03368-1		2
114					76K03341-1		2
115					76K03341-2		2
116					NAS1096-3-12		64
117					76K03341-3		2
118					76K03369-1		2
REF: 76K03384 REV A							

Figure 7-5. Extension Platform Assembly (Sheet 13 of 13)

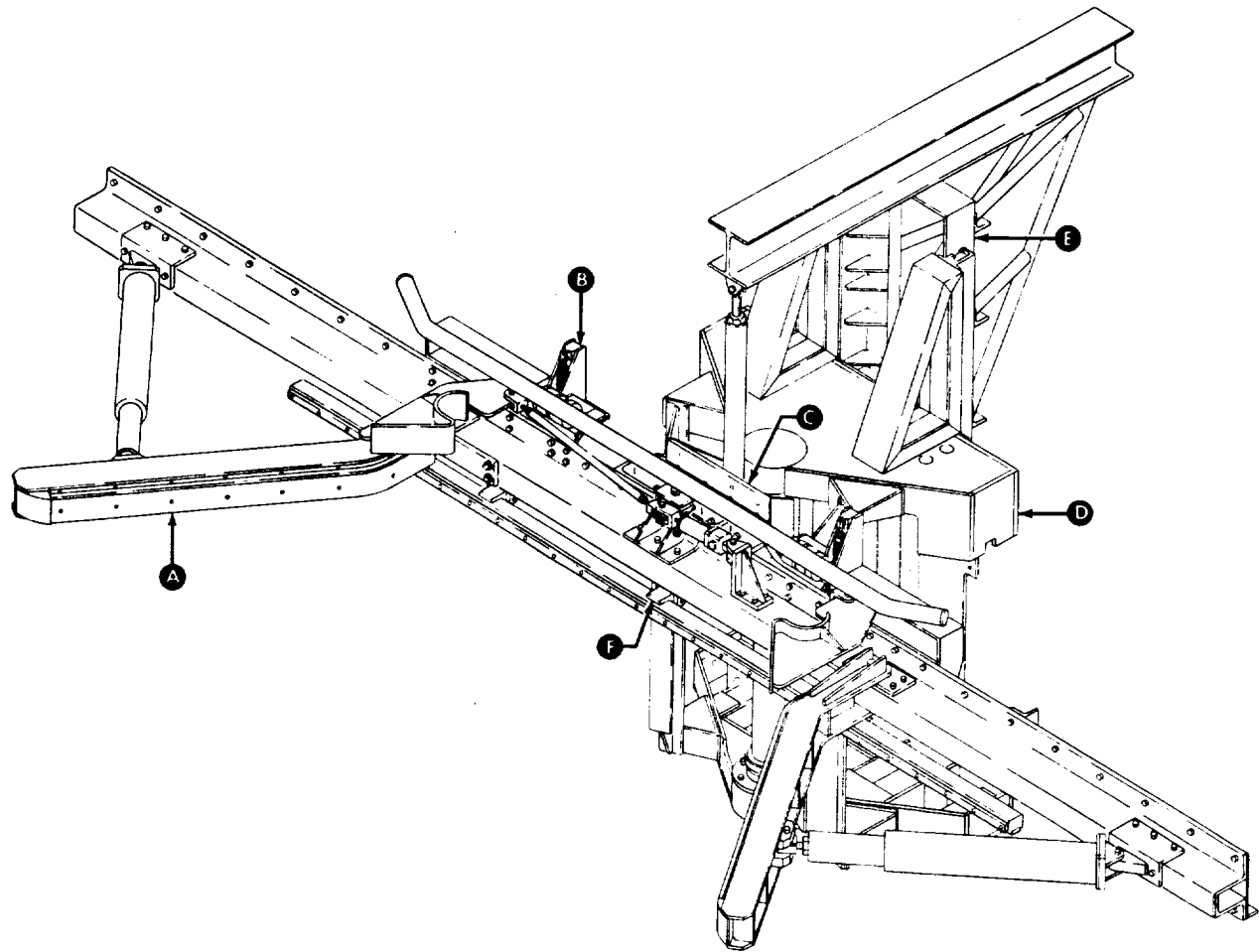


Figure 7-6. LES Coupler Assembly (Sheet 1 of 9)

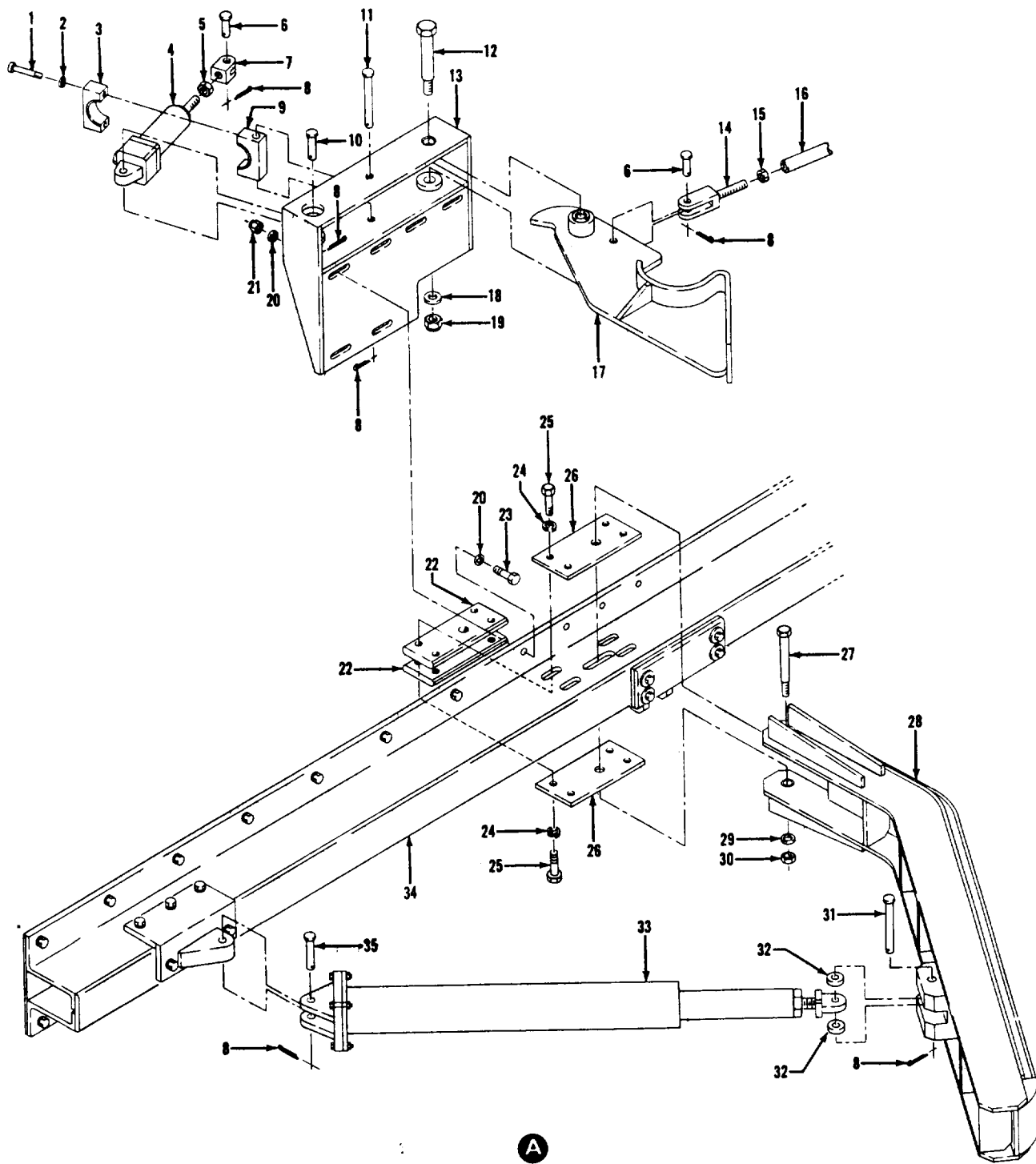


Figure 7-6. LES Coupler Assembly (Sheet 2 of 9)

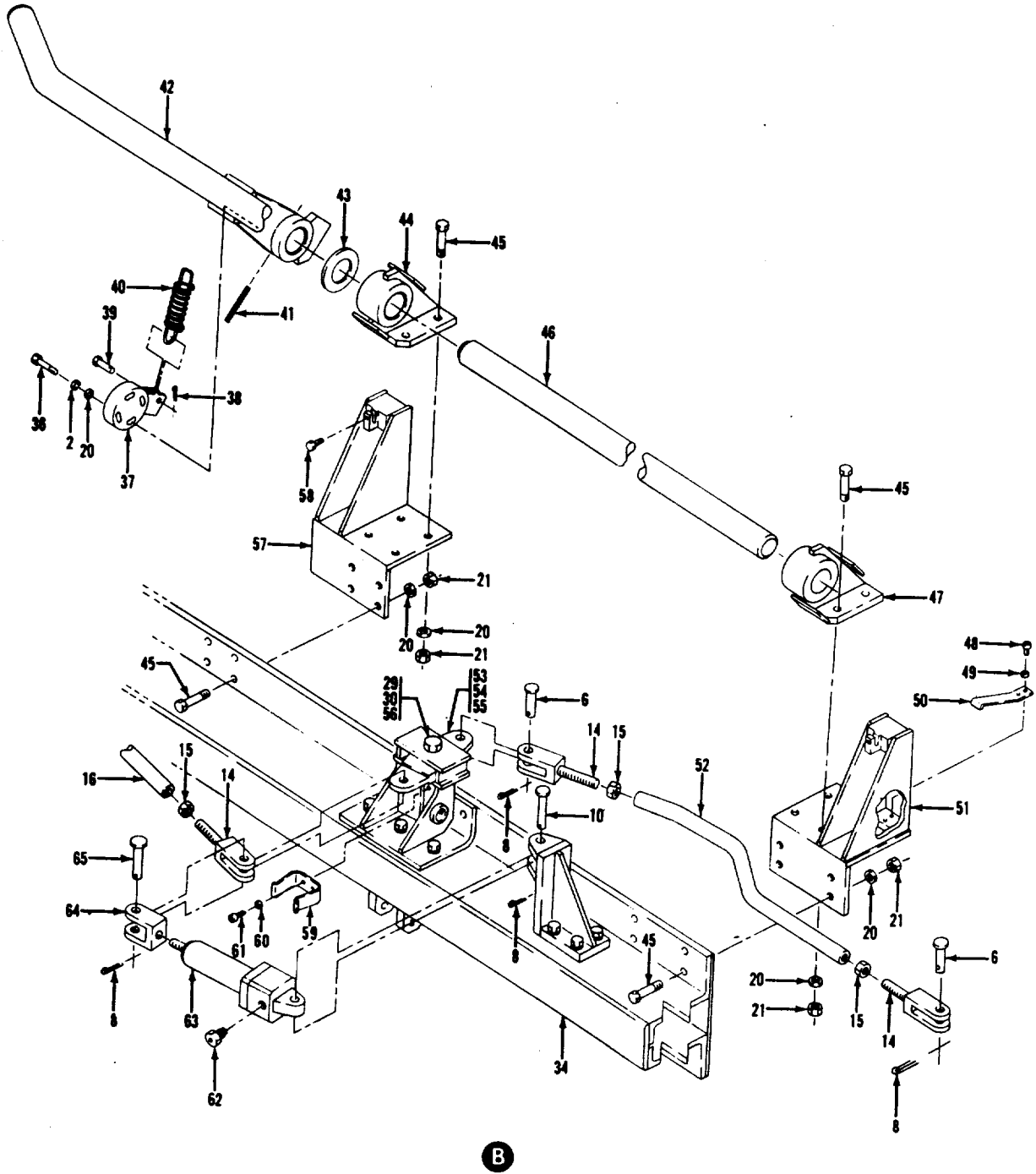


Figure 7-6. LES Coupler Assembly (Sheet 3 of 9)

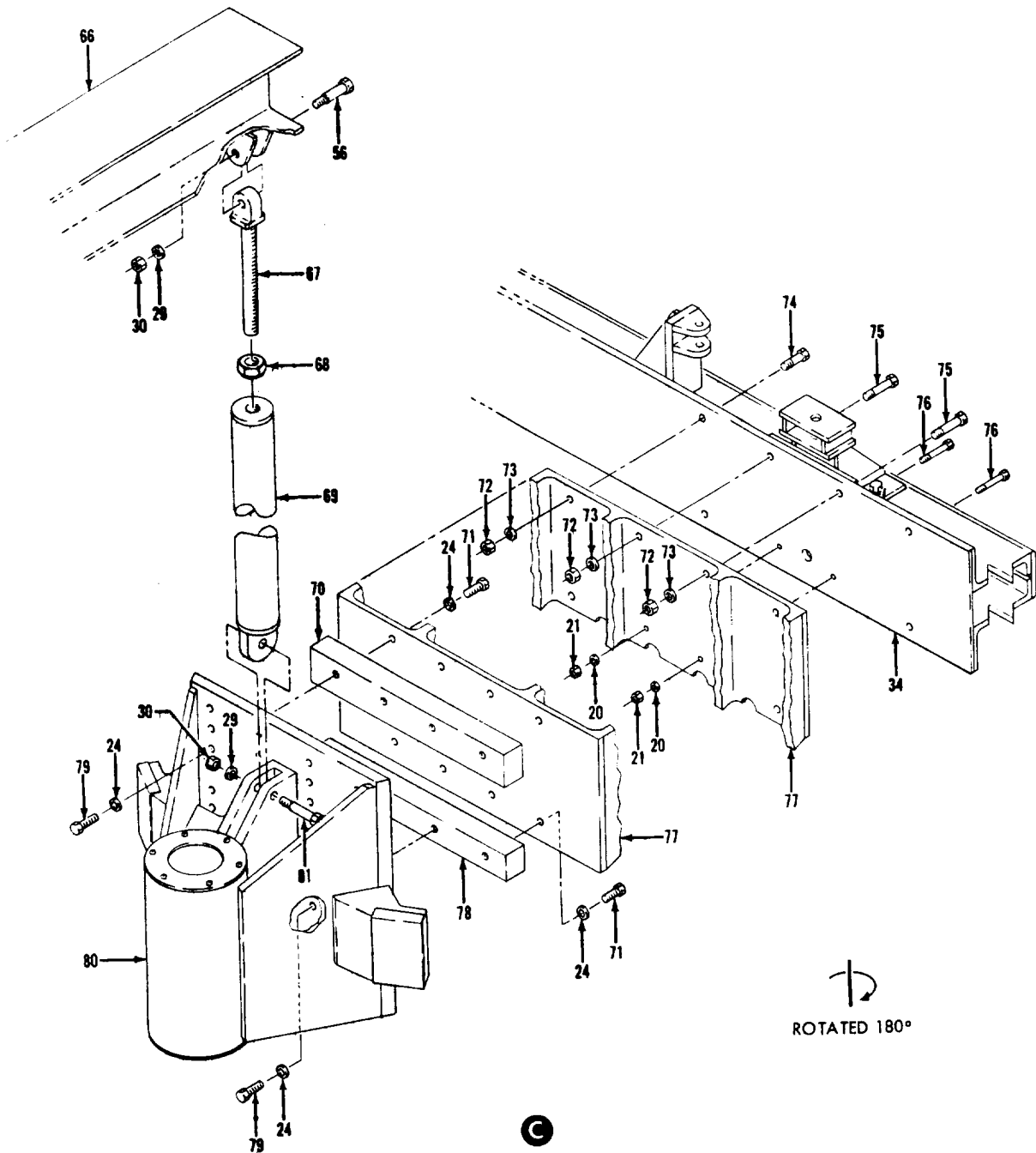


Figure 7-6. . LES Coupler Assembly (Sheet 4 of 9)

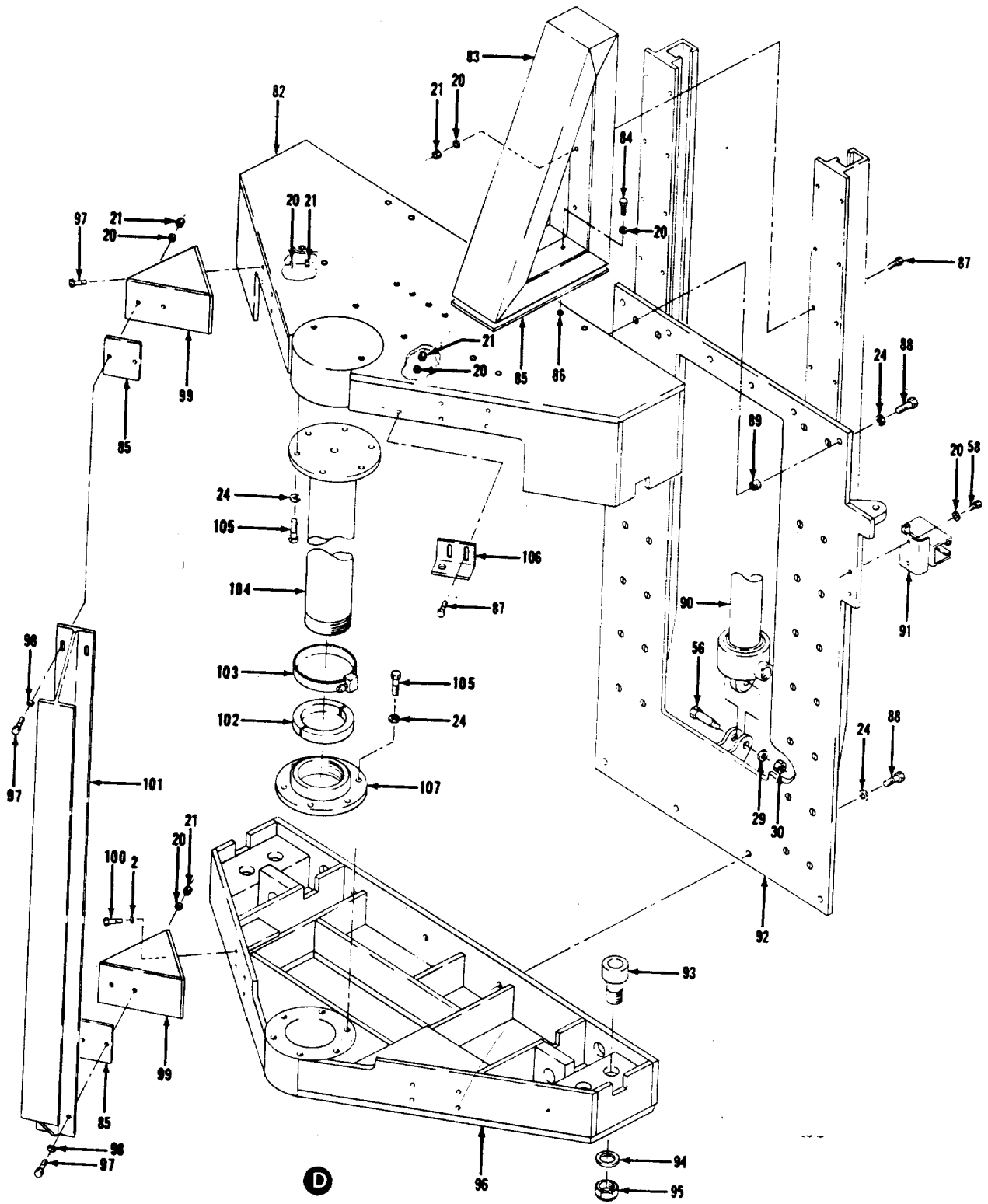
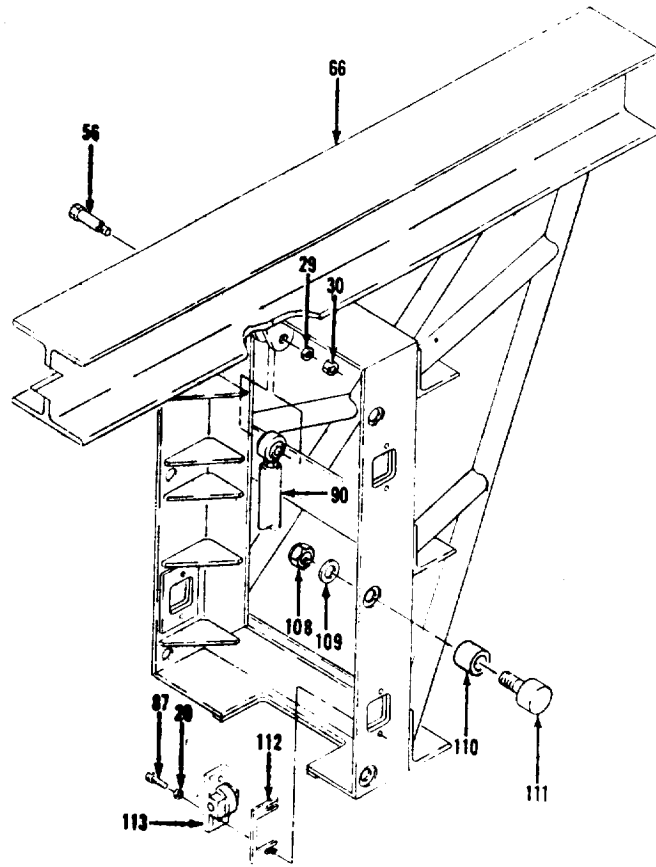
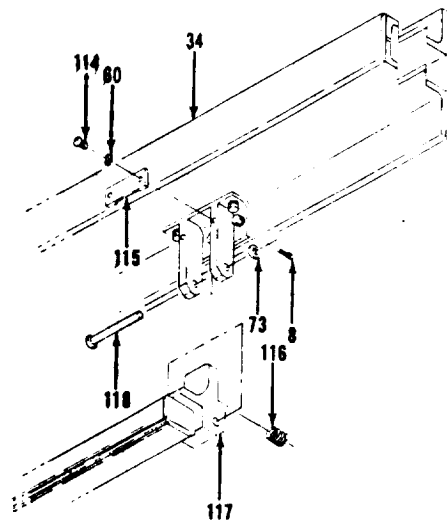


Figure 7-6. LES Coupler Assembly (Sheet 5 of 9)



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Figure 7-6. LES Coupler Assembly (Sheet 6 of 9)

INDEX NUMBER	DESCRIPTION	PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	LES COUPLER ASSEMBLY	76K03242-1		X
1	SCREW	MS35207-286		4
2	WASHER, LOCK	MS35338-44		20
3	BRACKET, CAP	76K03196-1		2
4	CYLINDER, PNEUMATIC (SHOWN)	76K03230-1	A34935-9	1
	CYLINDER, PNEUMATIC (OPPOSITE)		A34934-9	1
5	NUT, JAM	MS35691-29		3
6	PIN	MS20392-5C33		5
7	CLEVIN, EXTEND CYLINDER	76K03201-1		2
8	COTTER PIN	MS24665-283		18
9	BRACKET, SWIVEL	76K03197-1		2
10	PIN	MS20392-5C41		3
11	PIN	MS20392-5C115		2
12	BOLT, SHOULDER	NAS1297-8-58		2
13	BRACKET ASSEMBLY, HOOK (SHOWN)	76K03195-1		1
	BRACKET ASSEMBLY, HOOK (OPPOSITE)	76K03195-2		1
14	CLEVIS ROD, LINKAGE	76K03191-1		4
15	NUT, JAM	MS35691-45		4
16	LINKAGE, LEFT	76K03193-1		1
17	HOOK ASSEMBLY (SHOWN)	76K03198-1		1
	HOOK ASSEMBLY (OPPOSITE)	76K03198-2		1
18	WASHER, FLAT	AN960-816		2
19	NUT, LOCK	MS21044N8		2
20	WASHER, FLAT	AN960-416		102
21	NUT, LOCK	MS21044N4		64
22	PLATE, INNER	76K03200-1		4
23	CAPSCREW	MS90727-11		12
24	WASHER, LOCK	MS35338-46		54
25	CAPSCREW	MS90727-62		16
26	PLATE, OUTER	76K03199-1		4
27	BOLT, SHOULDER	NAS1297-7-72		2
28	GUIDE ARM ASSEMBLY (SHOWN)	76K03202-1		1
	GUIDE ARM ASSEMBLY (OPPOSITE)	76K03202-2		1
29	WASHER, FLAT	AN960-716		7
30	NUT, LOCK	MS21044N7		7
31	PIN	MS20392-7C109		2
32	THRUST BEARING (71041)	TB-814		4
33	STABILIZER ARM ASSEMBLY	76K03278-1		2
34	BUMPER ASSEMBLY	76K03251-1		1
35	PIN	MS20392-7C63		2
36	CAPSCREW	MS16997-63		8
37	CAM SWITCH	76K03273-1		2
38	COTTER PIN	MS24665-134		2
39	PIN	MS20392-3C25		2
40	DRAW BAR SPRING ASSEMBLY	76K03269-1		2
41	PIN, SPRING	MS9048-178		1
42	LEVER ASSEMBLY	76K03265-1		1
43	WASHER	76K03685-1		2
44	BRACKET ASSEMBLY	76K03738-1		1
45	CAPSCREW	MS90727-9		16
46	TUBE, LEVER	76K03218-1		1
47	BRACKET ASSEMBLY	76K03738-2		1
48	CAPSCREW	MS16998-27		2
49	WASHER, FLAT	AN960-10L		2
50	SPRING LEAF	76K03219-1		1
51	BRACKET	76K03268-1		1
52	LINKAGE, RIGHT	76K03194-1		1
53	PILOT LINKAGE ASSEMBLY	76K03189-1		1
54	BEARING, THRUST (71041)	TB-816		1

Figure 7-6. LES Coupler Assembly (Sheet 7 of 9)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
55				BEARING, FLANGED (71041)	FB-812-4		1
56				BOLT, SHOULDER	NAS1297-7-21		4
57				BRACKET	76K03274-1		1
58				CAPSCREW	MS90727-4		2
59				SPRING, SWITCH	76K03192-1		1
60				WASHER, LOCK	MS35338-43		8
61				SCREW	MS51957-59		2
62				PLUG, MODIFIED	76K03570-1		1
63				CYLINDER, PNEUMATIC	76K03230-1		1
64				CLEVIS, RETURN CYLINDER	76K03190-1		1
65				PIN	MS20392-5C49		1
66				LIFT BEAM ASSEMBLY	76K03239-1		1
67				CLEVIS	76K03264-1		1
68				NUT, JAM	MS35691-61		1
69				LINKAGE ASSEMBLY, APD	76K03243-1		1
*70				SHIM PLATE	76K03231-8		1
71				BOLT	MS90727-59		8
72				NUT, LOCK	MS21044N6		14
73				WASHER, FLAT	AN960-616		17
74				BOLT	AN6-12A		4
75				BOLT	AN6-14A		2
76				CAPSCREW	MS90727-12		2
77				ADJUSTABLE PIVOT	76K03247-1		1
*78				SHIM PLATE	76K03231-7		1
79				BOLT	MS90727-61		1
80				PIVOT ASSEMBLY	76K03248-1		1
81				BOLT, SHOULDER	NAS1297-7-34		1
82				UPPER GLIDE	76K03244-1		1
83				GUSSET ASSEMBLY	76K03223-1		2
84				CAPSCREW	MS90727-6		8
85				SHIM STOCK	76K03242-2		A/R
86				INSERT (98004)	KNH428		8
87				CAPSCREW	MS90727-8		26
88				CAPSCREW	MS16997-99		10
89				INSERT	MS21208-C6-10		6
90				CYLINDER, PNEUMATIC	76K03825	A34988-19	1
91				BRACKET, PNEUMATIC	76K03713-1		1
92				TRACK ASSEMBLY	76K03237-1		1
93				CAM FOLLOWER (92563)	CFH-1-3/4-S		12
94				WASHER, FLAT	AN960-1616		12
95				NUT, LOCK	MS20364-1614C		12
96				LOWER GLIDE	76K03245-1		1
97				CAPSCREW	MS90727-10		16
98				WASHER, BEVEL	NAS1099-4		8
99				BRACKET ASSEMBLY (SHOWN)	76K03266-1		2
				BRACKET ASSEMBLY (OPPOSITE)	76K03266-2		2
100				CAPSCREW	MS90727-7		10
101				BUMPER ASSEMBLY	76K03267-1		2
102				SPACER	76K03569-1		1
103				CLAMP (81646)	5656		1
104				TUBE, VERTICAL SLIDE	76K03246-1		1
105				CAPSCREW	MS16998-73		12
106				CLIP ANGLE	76K03275-1		1
107				FLANGE	76K03737-1		1
108				NUT, LOCK	NAS1022-A10		6
109				WASHER, FLAT	AN960-1016		6
110				SPACER	76K03224-1		6
111				CAM FOLLOWER (92569)	CF-1-1/2-S		6
112				SHIM	76K03229-1		4

Figure 7-6. LES Coupler Assembly (Sheet 8 of 9)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
113	ROLLER ASSEMBLY				76K03225-1		4
114	SCREW				MS35206-263		6
115	KEEPER PLATE				76K03276-1		3
116	SPRING				MS24585-378		3
117	STOP BAR ASSEMBLY				76K03259-1		1
118	PIN				MS20392-5C87		3
*REFER TO SECTION V							
REF: 76K03242							

Figure 7-6. LES Coupler Assembly (Sheet 9 of 9)

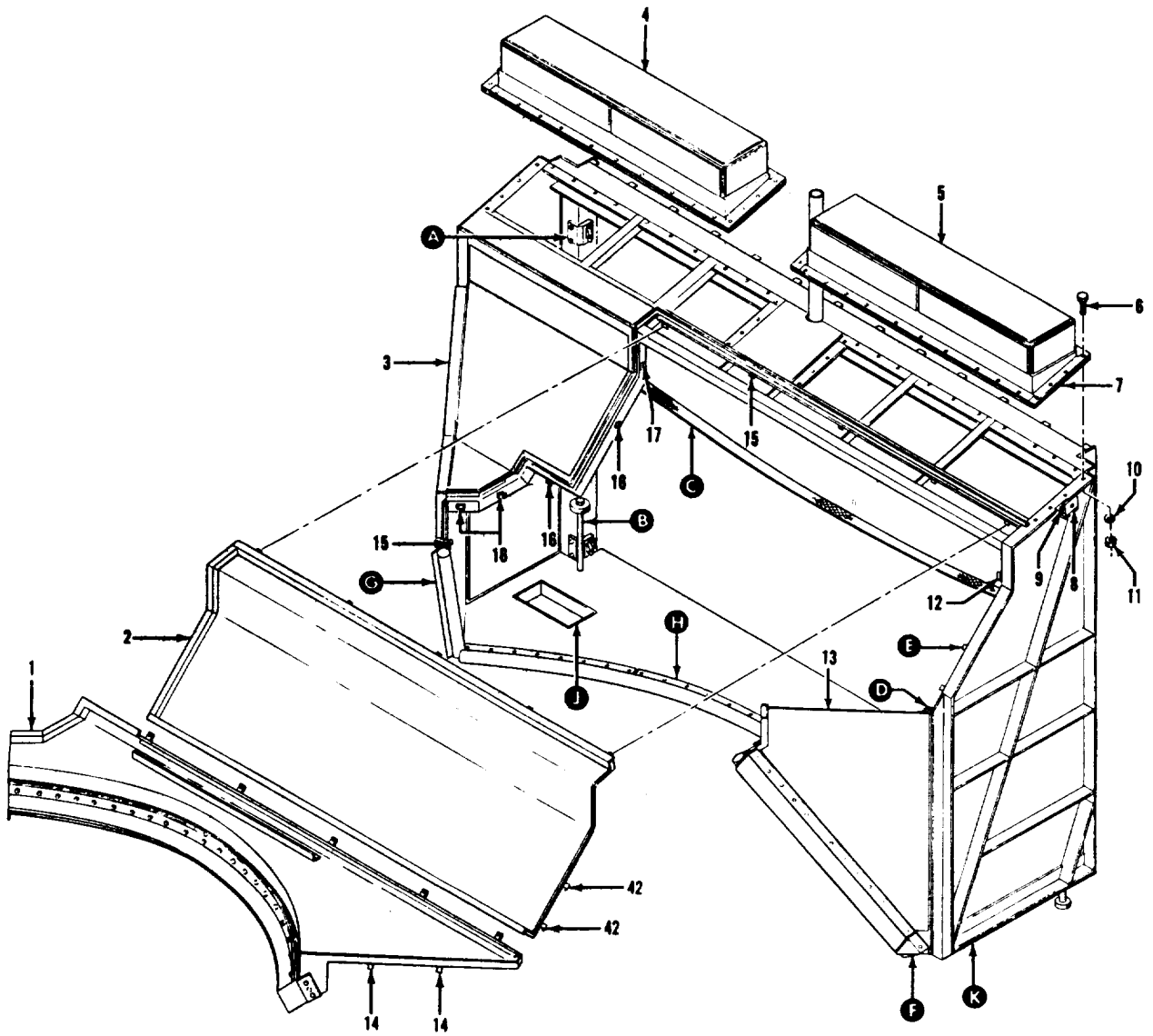


Figure 7-7. Hood Adapter Assembly (Sheet 1 of 6)

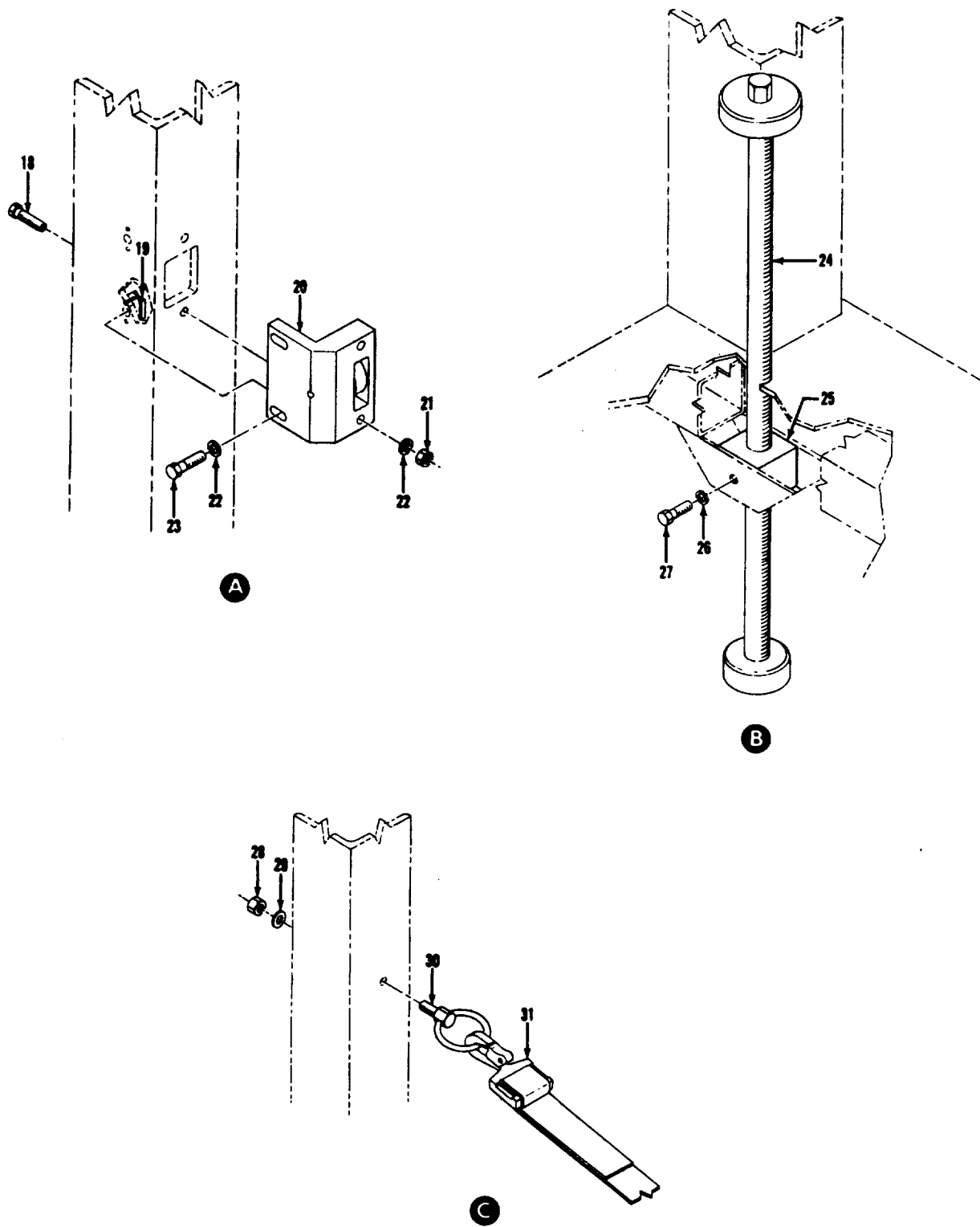


Figure 7-7. Hood Adapter Assembly (Sheet 2 of 6)

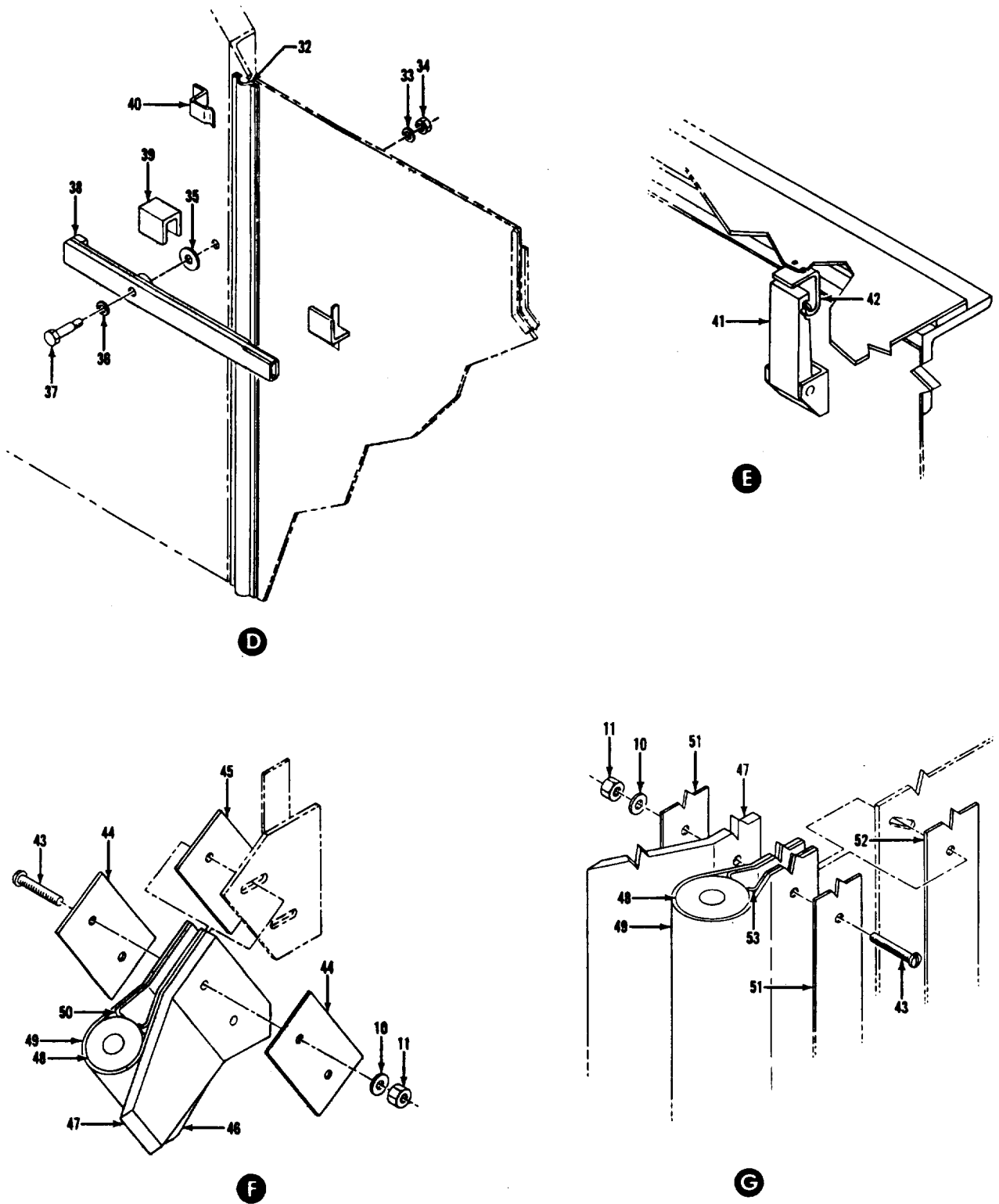


Figure 7-7. Hood Adapter Assembly (Sheet 3 of 6)

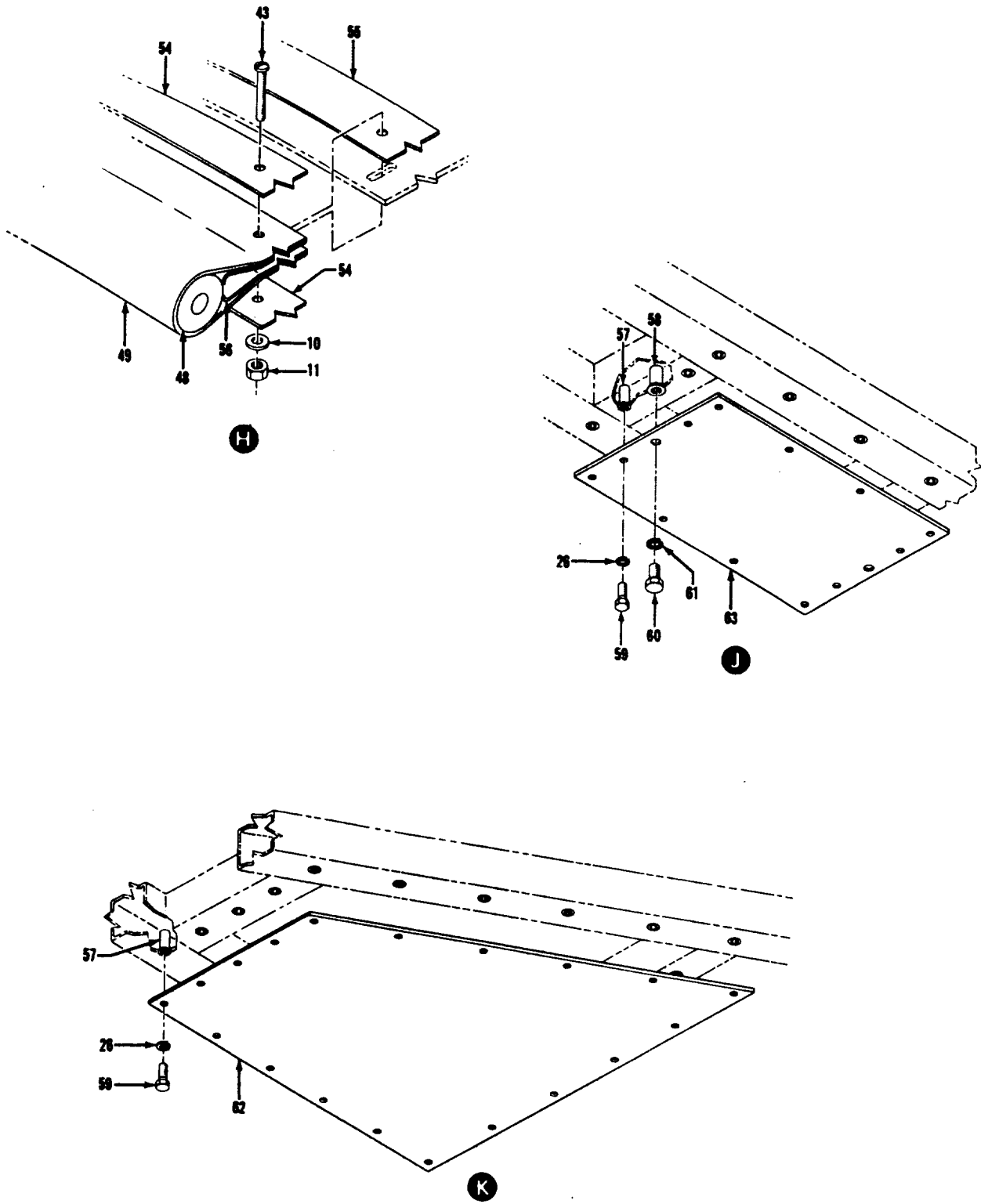


Figure 7-7. Hood Adapter Assembly (Sheet 4 of 6)

INDEX NUMBER	DESCRIPTION	PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
1	ADAPTER ASSEMBLY	76K03290-1		X
2	PANEL, TOP, SEAL ASSEMBLY	76K03299-1		1
3	PANEL ASSEMBLY, TOP	76K03296-1		1
4	ADAPTER SKIN ASSEMBLY	76K03291-1		1
5	LIGHTING BOX ASSEMBLY	76K03663-1		1
6	LIGHTING BOX ASSEMBLY	76K03656-1		1
7	SCREW	MS35207-265		56
8	GASKET	76K03668-1		2
9	BRACKET	76K03325-1		1
10	CAPSCREW	MS90727-8		2
11	WASHER	AN960-10L		104
12	NUT	MS21045-3		104
13	LATCH CLIP	76K03324-2		1
14	PANEL ASSEMBLY, SIDE	76K03308-1		1
15	LATCH CLIP	76K03320-1		2
16	LATCH CLIP	76K03321-1		12
17	LATCH CLIP	76K03323-1		4
18	LATCH CLIP	76K03324-1		1
19	BOLT	76K03336-1		8
20	NUT PLATE	NAS1031-P4		8
21	ROLLER ASSEMBLY, SIDE	76K03332-1		4
22	NUT	MS21045-4		10
23	WASHER	AN960-416		18
24	CAPSCREW	MS90727-10		8
25	JACK SCREW	76K03318-1		2
26	BLOCK	76K03319-1		2
27	WASHER	MS35338-44		33
28	CAPSCREW	MS90725-3		2
29	NUT	MS21045-6		2
30	WASHER	AN960-616		2
31	FASTENER (98313)	FDA-1658-3		2
32	STRAP ASSEMBLY	76K03331-1		1
33	RETAINER STRIP	76K03311-1		1
34	WASHER	AN960-716L		1
35	NUT	MS21045-7		1
36	SPACER, TEFLON	76K03327-1		1
37	WASHER	AN960-816L		1
38	BOLT, SHOULDER	NAS1297-7-24		1
39	LOCK BAR ASSEMBLY	76K03326-1		1
40	BRACKET	76K03328-1		1
41	RETAINER BRACKET	76K03329-1		1
42	LATCH ASSEMBLY (71286)	51L1-1-1AA		2
43	LATCH CLIP	76K03322-1		2
44	MACHINE SCREW	KC102-68		48
45	RETAINER STRIP	76K03303-4		2
46	RETAINER STRIP	76K03307-4		1
47	LACING TWINE, UNWAXED (MIL-T-713, TYPE P, CLASS 3)	76K03290-4		A/R
48	SEAL	76K03290-3		A/R
49	PLASTIC FOAM (70622)	HH-I-573		A/R
50	SEAL	CLASS T		
51	BACKUP STRIP	76K03290-2		A/R
52	RETAINER STRIP	76K03306-4		2
53	RETAINING STRIP	76K03303-2		2
54	BACKUP STRIP	76K03307-2		1
55	RETAINER	76K03306-2		2
56	SPACER PLATE	76K03317-1		8
	RETAINER	76K03340-1		4
		76K03316-1		8

Figure 7-7. Hood Adapter Assembly (Sheet 5 of 6)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
57					NAS1330S4K151		31
58					NAS1330S6K211		2
59					MS90727-6		31
60					MS90727-58		2
61					MS35338-46		2
62					76K03315-1		1
63					76K03330-1		1
REF: 76K03290 REV A, EO 1							

Figure 7-7. Hood Adapter Assembly (Sheet 6 of 6)

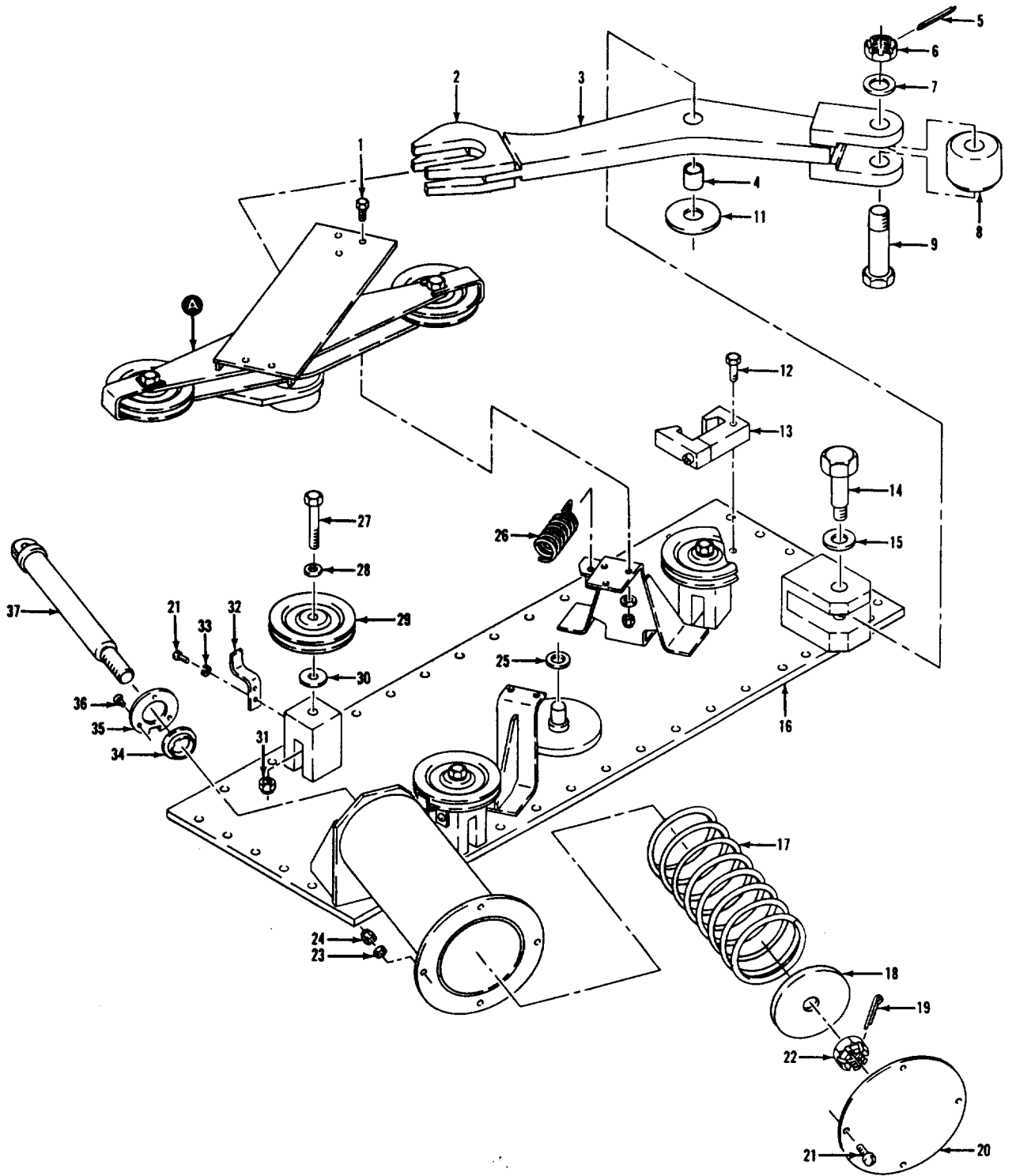


Figure 7-8. Centering Device Actuator Assembly (Sheet 1 of 3)

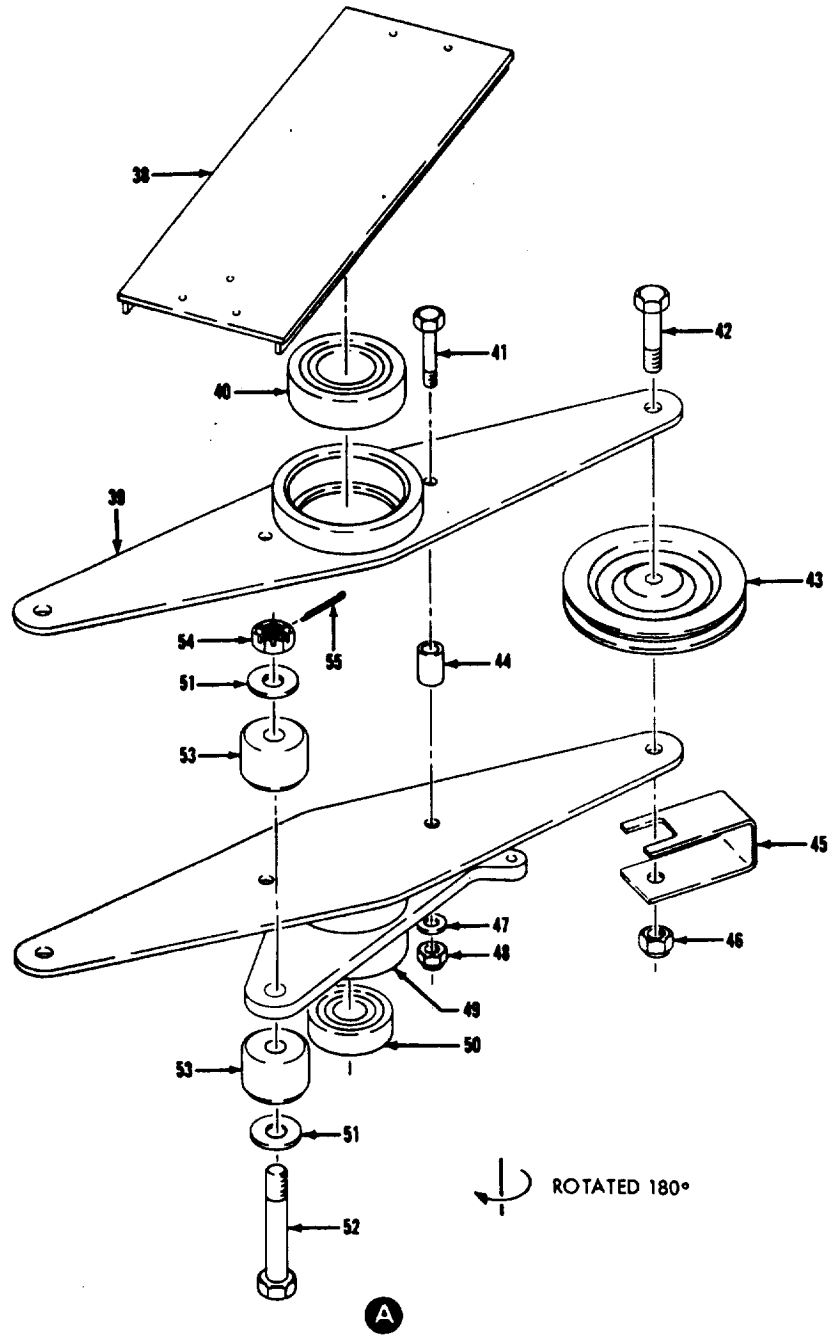


Figure 7-8. Centering Device Actuator Assembly (Sheet 2 of 3)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
1				ACTUATOR ASSEMBLY	76K03381-1		X
				BOLT	AN3C5A		5
				ARM ASSEMBLY	76K03542-1		1
2				PLATE, GUIDE	76K03542-4		2
3				ARM	76K03542-2		1
4				BEARING (71041)	61014-6		1
5				PIN, COTTER	MS24665-355		1
6				NUT, CASTLE, SHEAR	AN320C10		1
7				WASHER	AN960C1016		1
8				BEARING (92563)	CYR-2-S		1
9				BOLT, SHEAR	NAS464-10L36		1
10				PLATE, BEARING	76K03542-3		2
11				WASHER	76K03543-2		1
12				BOLT	AN3-11A		1
13				FIXTURE ASSEMBLY	76K03503-1		1
14				BOLT, SHOULDER	76K03544-1		1
15				WASHER, FLAT	AN960C1016		1
16				ACTUATOR BASE	76K03520-1		1
17				SPRING	76K03533-1		1
18				STOP	76K03532-1		1
19				PIN, COTTER	MS24665-353		1
20				COVER	76K03531-1		1
21				SCREW	KC102-63		10
22				NUT, CASTELLATED	AN310-10		1
23				WASHER, FLAT	AN960C10		4
24				NUT, SELF LOCKING	MS21045C3		9
25				SHIM	76K03703-1		A/R
26				SPRING, EXTENSION	76K03536-1		1
27				BOLT, SHEAR	NAS464-5LA26		3
28				WASHER, FLAT, LIGHT	AN960C10L		8
29				PULLEY	MS20220A2		3
30				WASHER	76K03543-1		3
31				NUT, SELF LOCKING, THIN	MS21042-5		3
32				RETAINER	76K03535-1		3
33				LOCKWASHER	MS35338-138		6
34				BUSHING	76K03497-1		1
35				RETAINER, BUSHING	76K03498-1		1
36				SCREW 100° CSK	KC149-14		3
37				EYEBOLT	76K03534-1		1
				PULLEY ASSEMBLY	76K03537-1		1
38				POST ASSEMBLY	76K03538-1		1
39				BRACKET ASSEMBLY	76K03539-1		1
40				BEARING (43334)	3205		1
41				BOLT	NAS464-4LA14		2
42				BOLT	NAS464-5LA15		2
43				PULLEY	MS20220A5		2
44				SPACER	76K03496-1		2
45				CABLE RETAINER	76K03541-1		2
46				NUT	MS21044-C5		2
47				WASHER	AN960C416		2
48				NUT	MS21044-C4		2
49				CRANK ASSEMBLY	76K03540-1		1
50				BEARING (43334)	3202		1
51				WASHER	MS27183-14		2
52				BOLT, SHEAR	NAS464-6L31		1
53				BEARING (92563)	CYR-1-1/4-S		2
54				NUT, CASTLE, SHEAR	AN320C6		1
55				PIN, COTTER	MS24665-283		1

REF: 76K03381

Figure 7-8. Centering Device Actuator Assembly (Sheet 3 of 3)

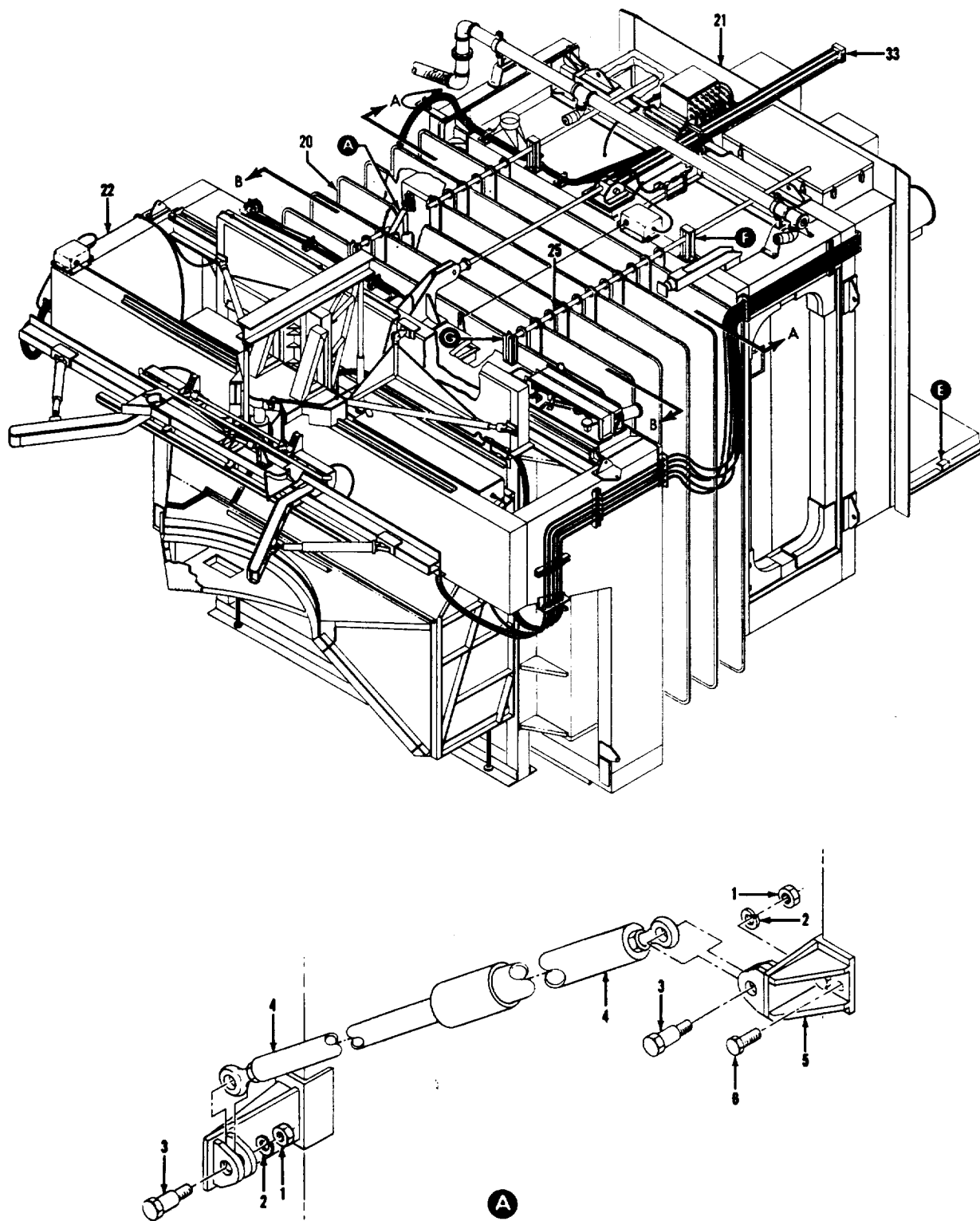
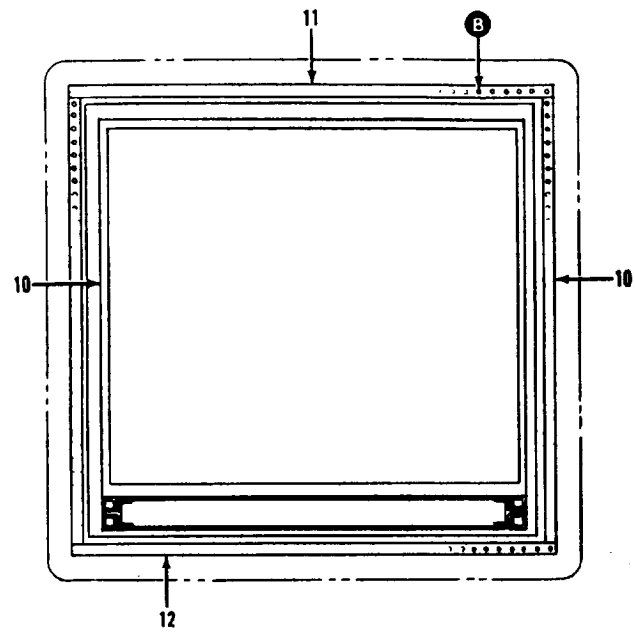
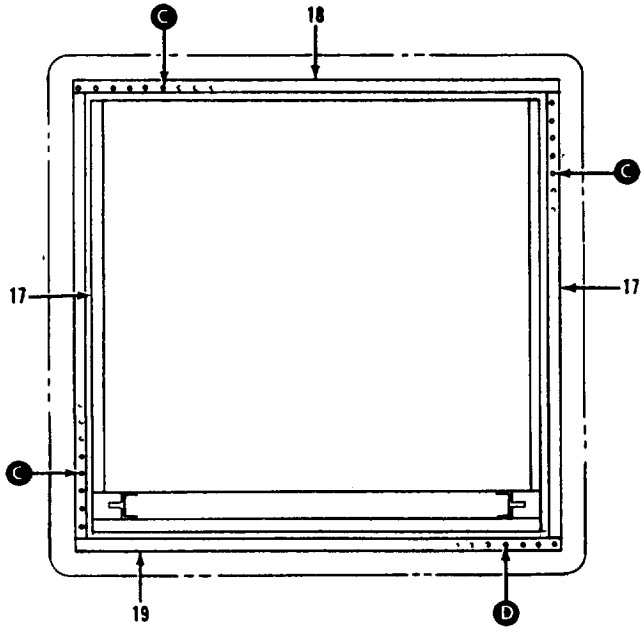


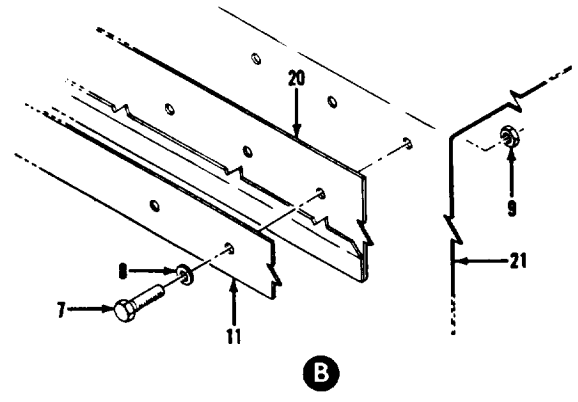
Figure 7-9. Environmental Chamber Structural and Mechanical Assembly (Sheet 1 of 4)



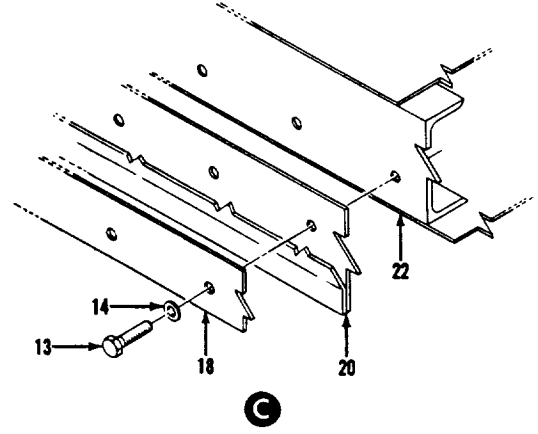
VIEW A-A



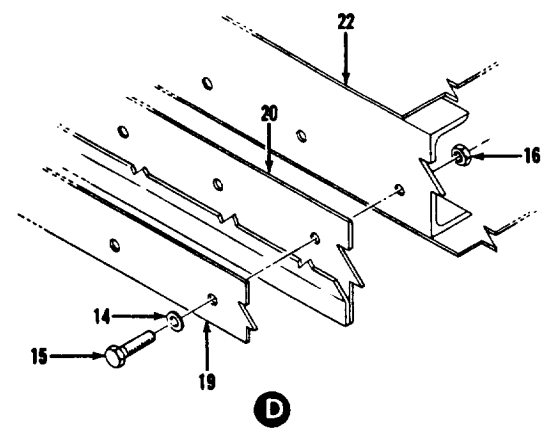
VIEW B-B



B



C



D

Figure 7-9. Environmental Chamber Structural and Mechanical Assembly (Sheet 2 of 4)

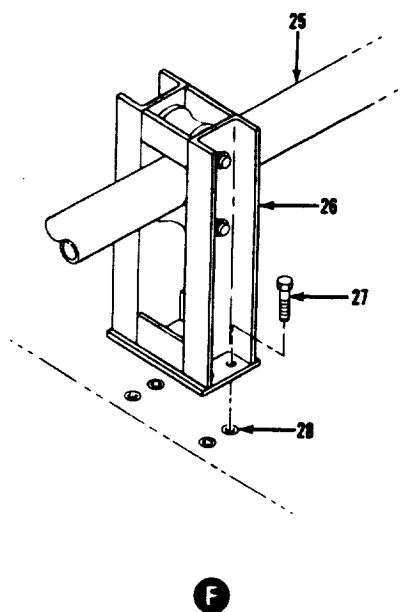
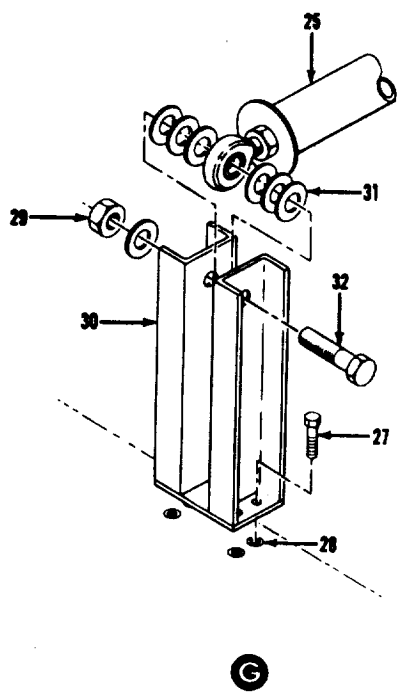
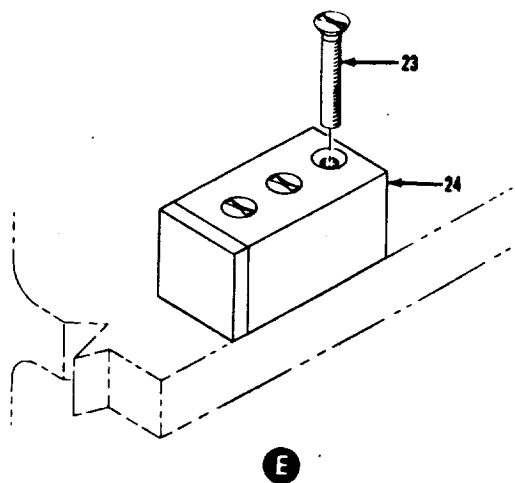
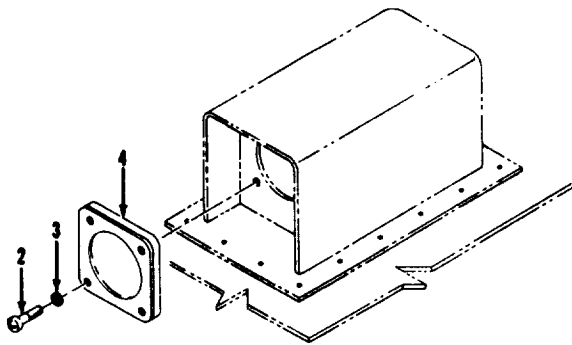
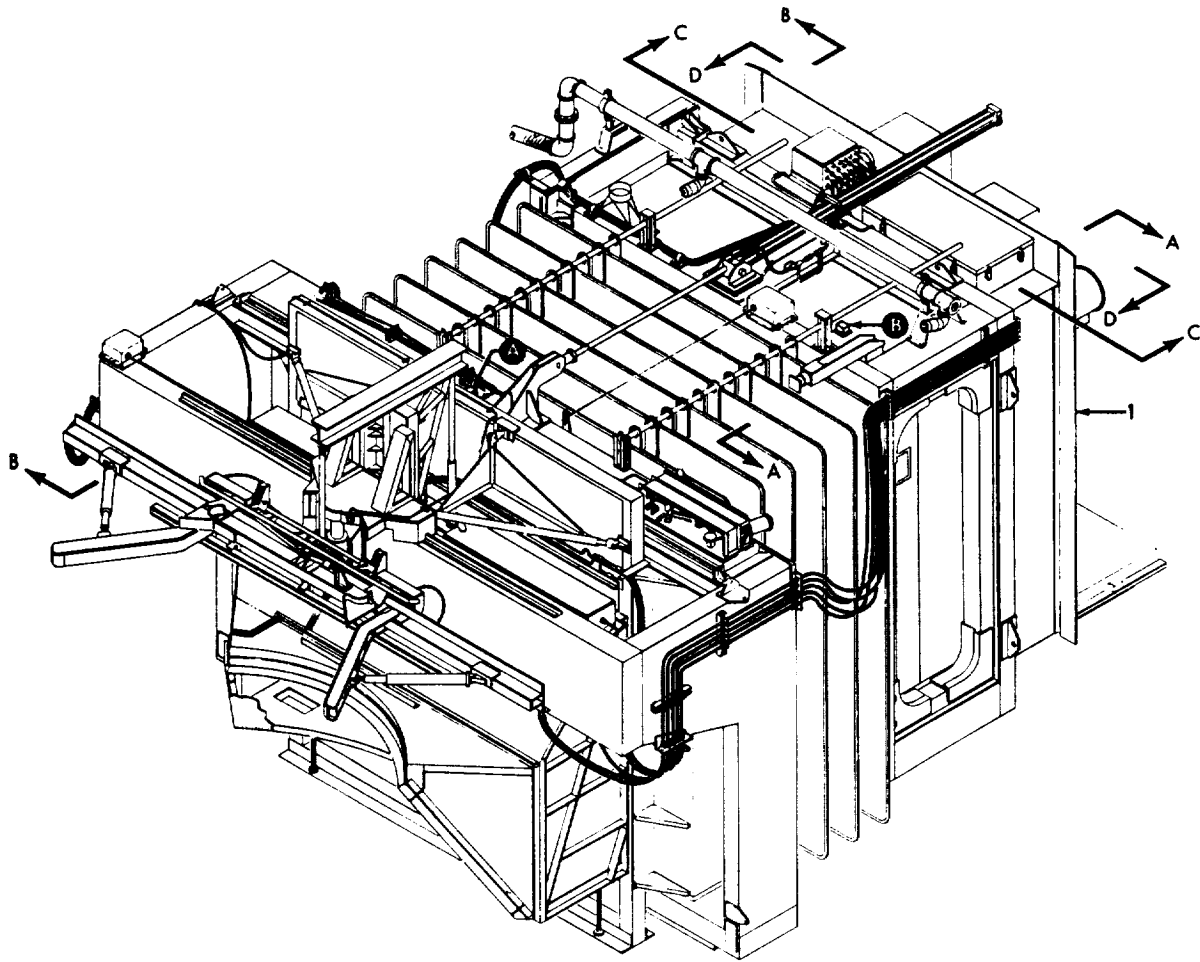


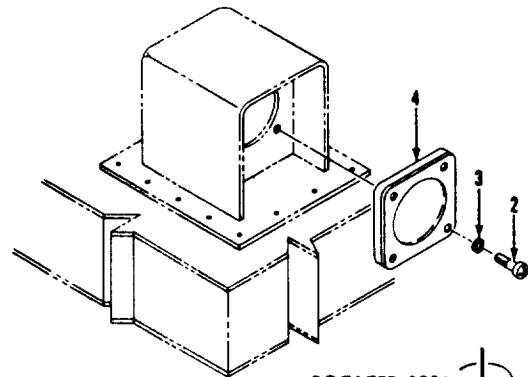
Figure 7-9. Environmental Chamber Structural and Mechanical Assembly (Sheet 3 of 4)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
	STRUCTURAL AND MECHANICAL ASSEMBLY						
1				NUT	76K03412-2		X
2				WASHER	MS35691-17		4
3				SHOULDER BOLT	MS35338-27		4
4				TUBE ASSEMBLY, GUARDRAIL	MS21301-27		4
5				HINGE BRACKET	76K03758-1		2
6				BLIND BOLT (73197)	76K03757-1		2
7				BOLT	BB352-8-5		4
8				WASHER	AN3-4A		140
9				NUT	AN960-10L		140
10				BELLOWS RETAINING STRIP	MS21044N3		140
11				BELLOWS RETAINING STRIP	76K03765-2		2
12				BELLOWS RETAINING STRIP	76K03765-1		1
13				BOLT	76K03766-1		1
14				WASHER	MS90727-7		80
15				BOLT	AN960-416L		106
16				NUT	MS90727-6		26
17				BELLOWS RETAINING STRIP	MS21044N4		26
18				BELLOWS RETAINING STRIP	76K03767-2		2
19				BELLOWS RETAINING STRIP	76K03767-1		1
20				BELLOWS ASSEMBLY	76K03764-1		1
21				CHAMBER STRUCTURAL ASSEMBLY	76K00066-10		1
22				EXTENSION PLATFORM ASSEMBLY	76K03407-26		1
23				SCREW	76K03384-1		1
24				STOP	NAS1219-4-28B		6
25				ROD ASSEMBLY	76K03752-1		2
26				ROLLER BRACKET ASSEMBLY	76K03620-1		2
27				BOLT	76K03185-1		2
28				BLIND NUT ASSEMBLY (73197)	MS20073-03-06		16
29				NUT	BN359-1032-3		16
30				BRACKET	MS21044N8		2
31				WASHER	76K03619-1		2
32				BOLT	AN960-816		14
33				CYLINDER ASSEMBLY	AN8-21A 76K03778-1		2 1
REF: 76K03412 REV A, EO's 1, 4, 5, 6							

Figure 7-9. Environmental Chamber Structural and Mechanical Assembly (Sheet 4 of 4)



A



B

Figure 7-10. Equipment Installation (Sheet 1 of 25)

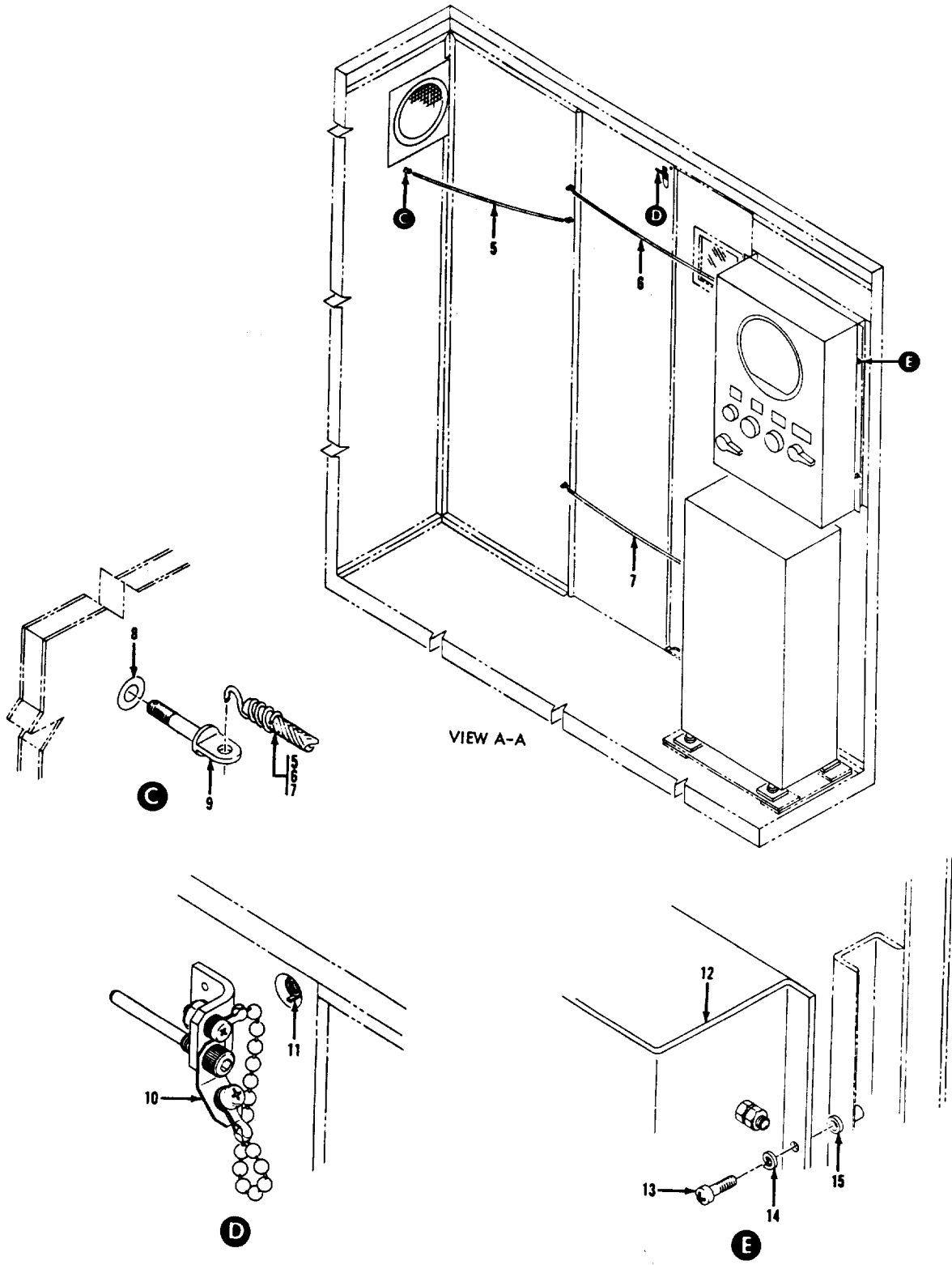
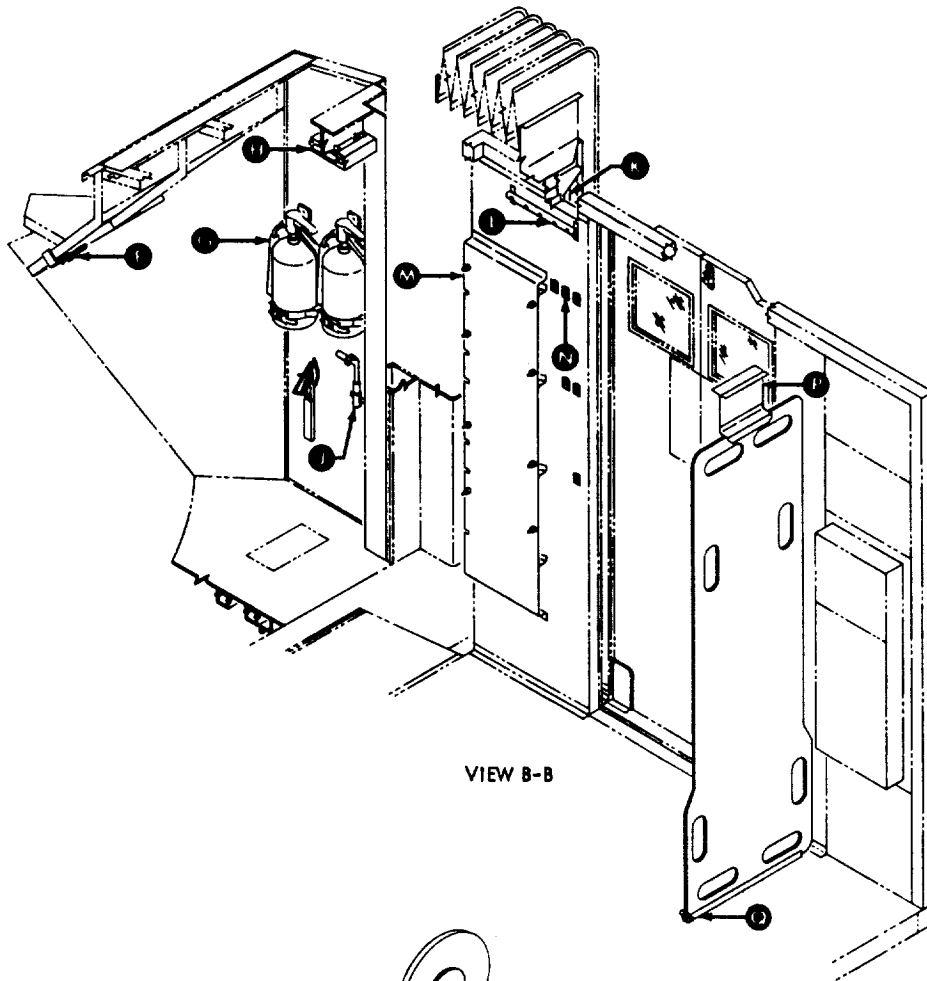


Figure 7-10. Equipment Installation (Sheet 2 of 25)



VIEW B-B

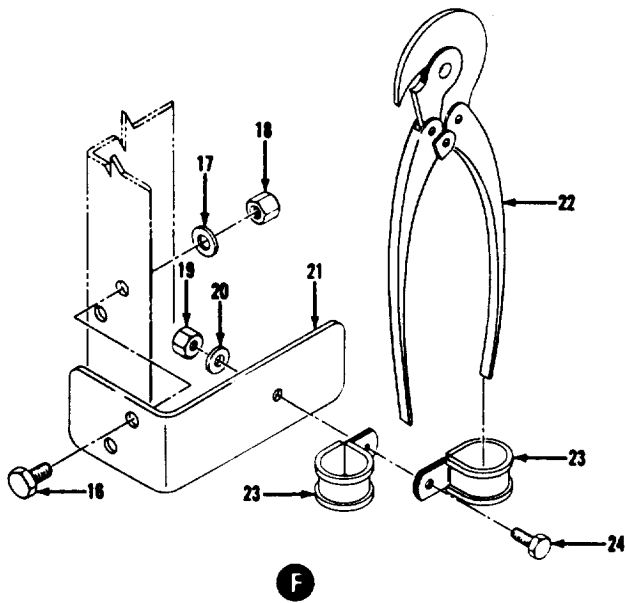


Figure 7-10. Equipment Installation (Sheet 3 of 25)

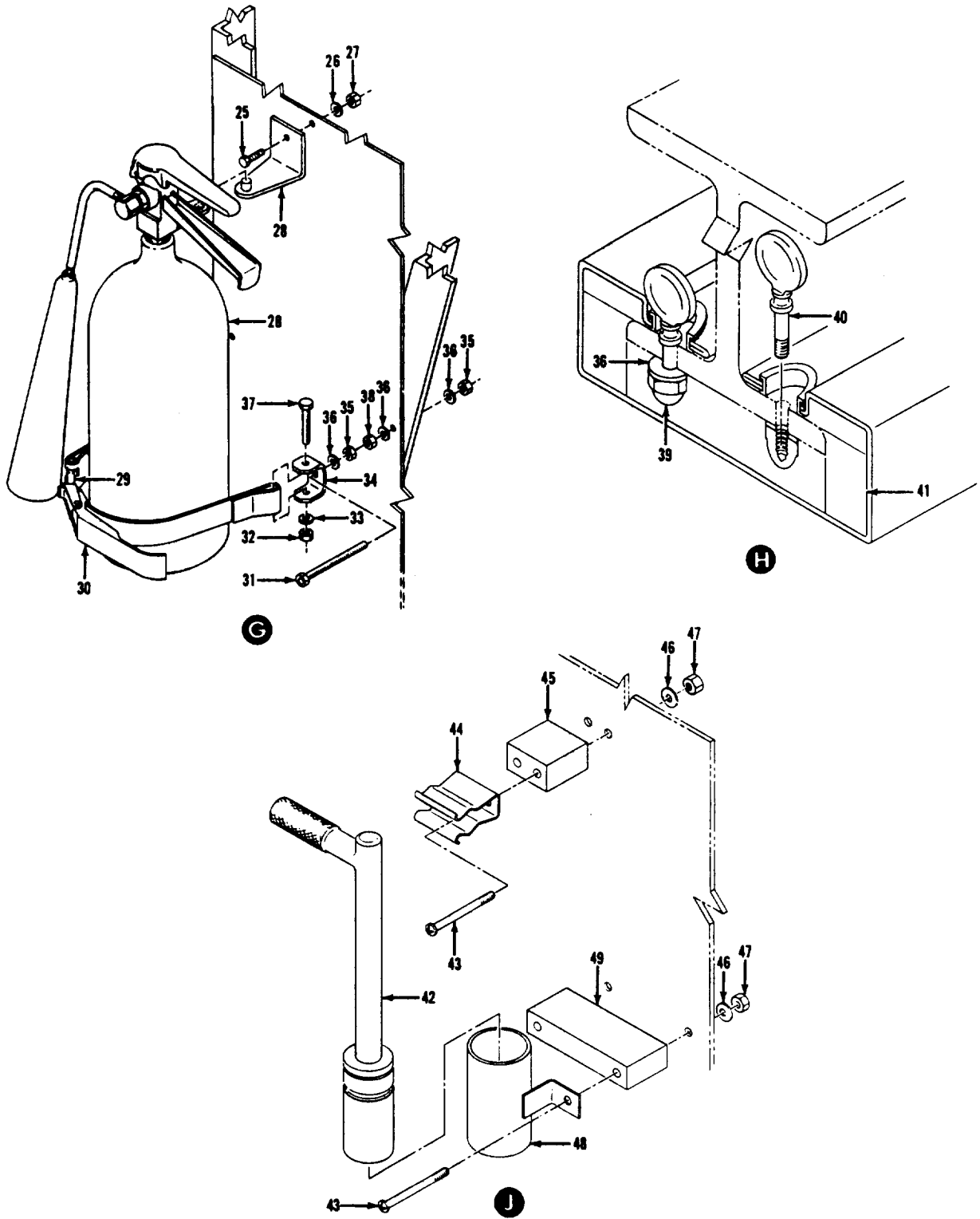


Figure 7-10. Equipment Installation (Sheet 4 of 25)

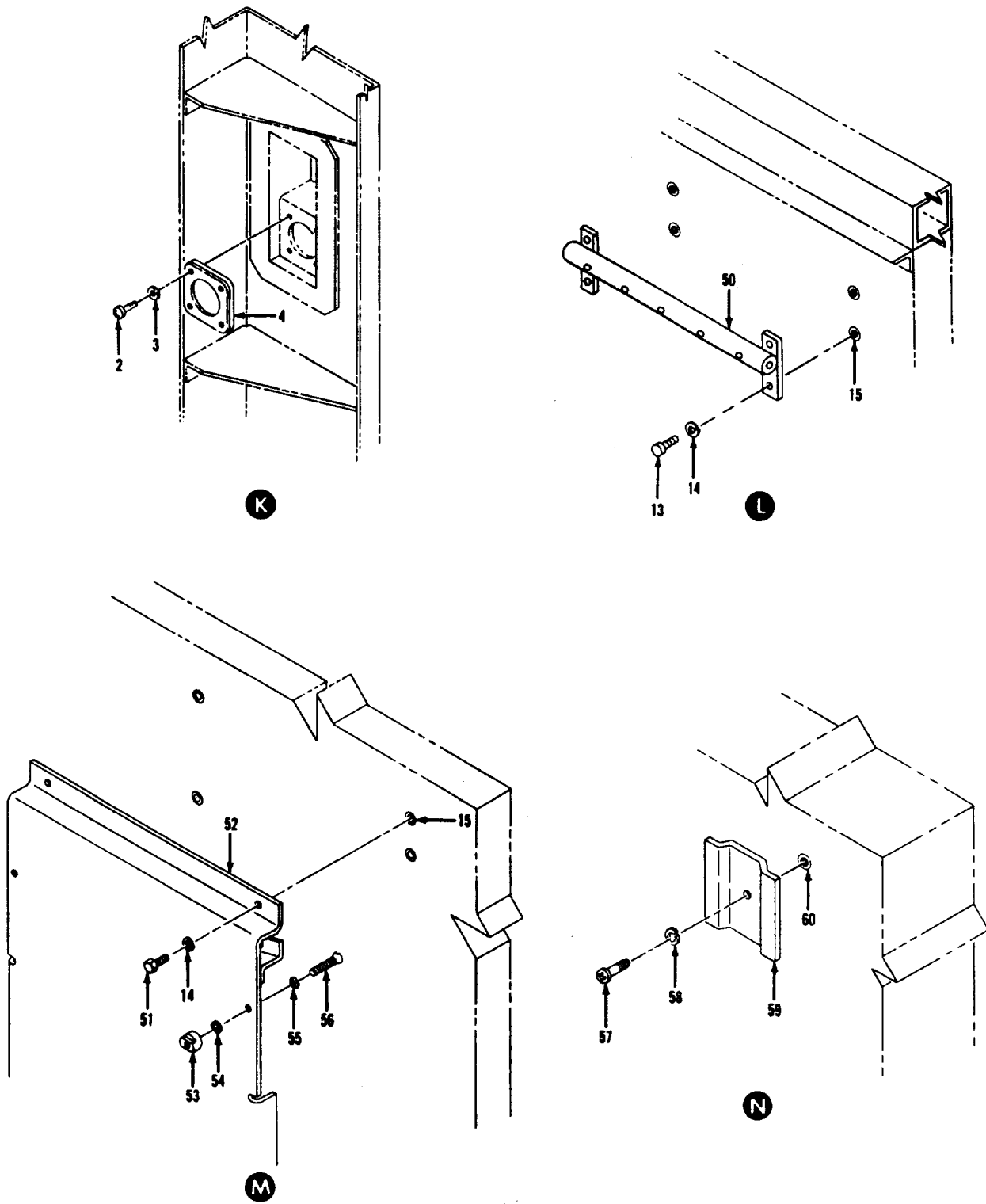


Figure 7-10. Equipment Installation (Sheet 5 of 25)

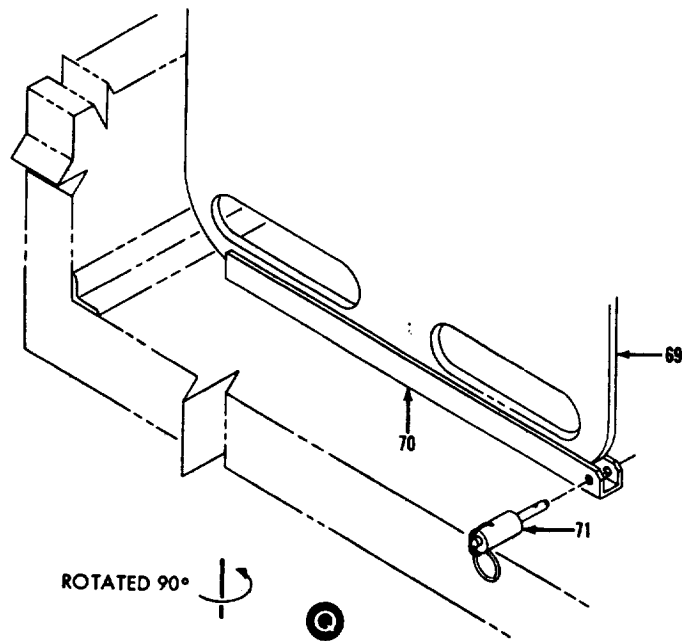
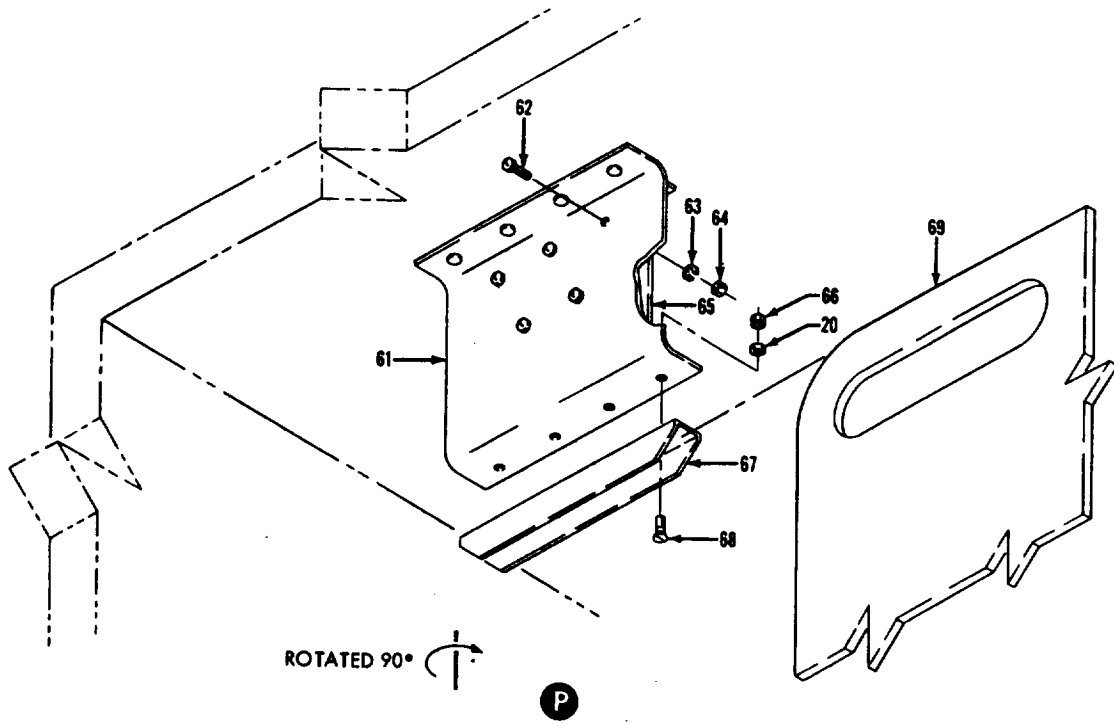


Figure 7-10. Equipment Installation (Sheet 6 of 25)

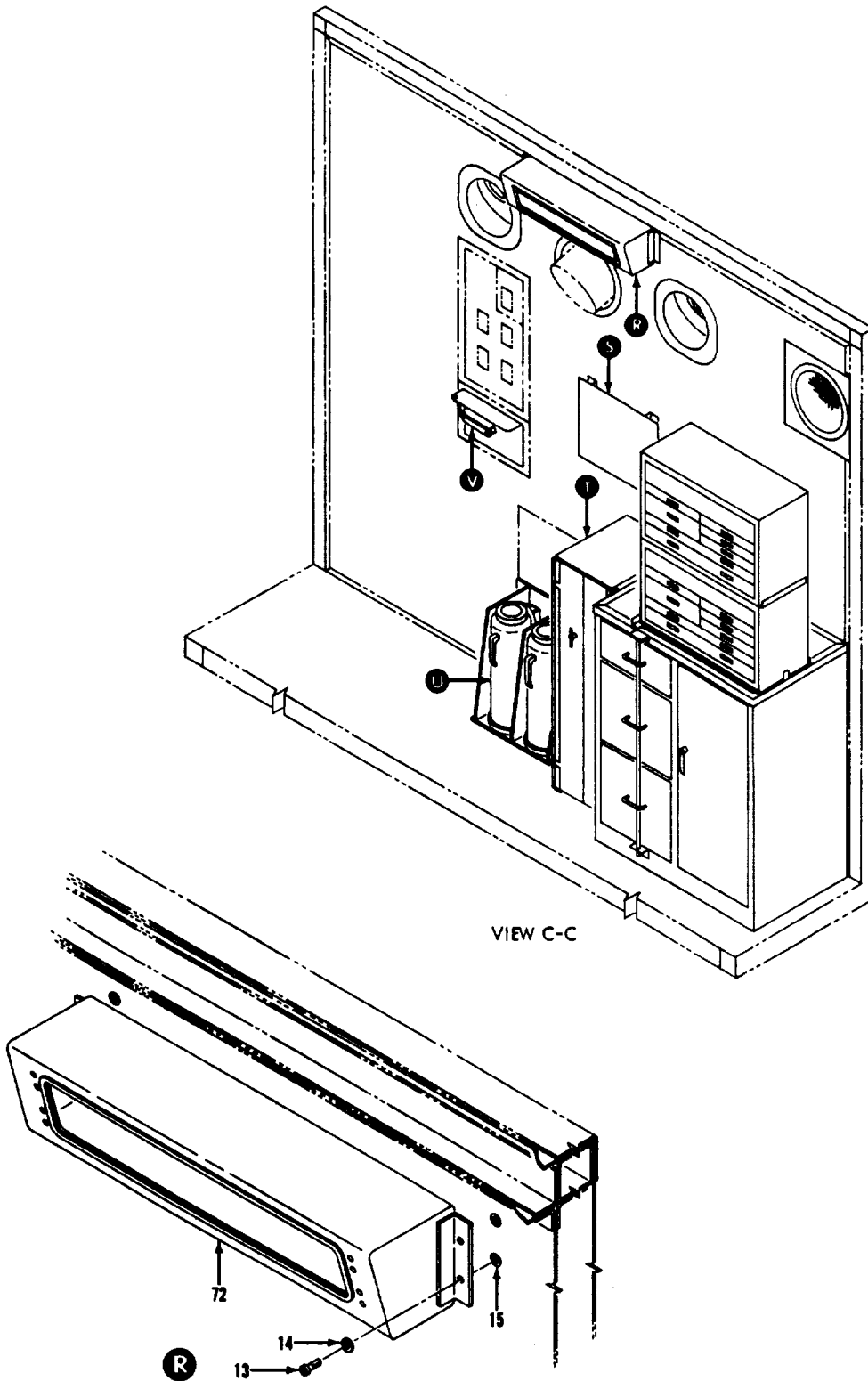


Figure 7-10. Equipment Installation (Sheet 7 of 25)

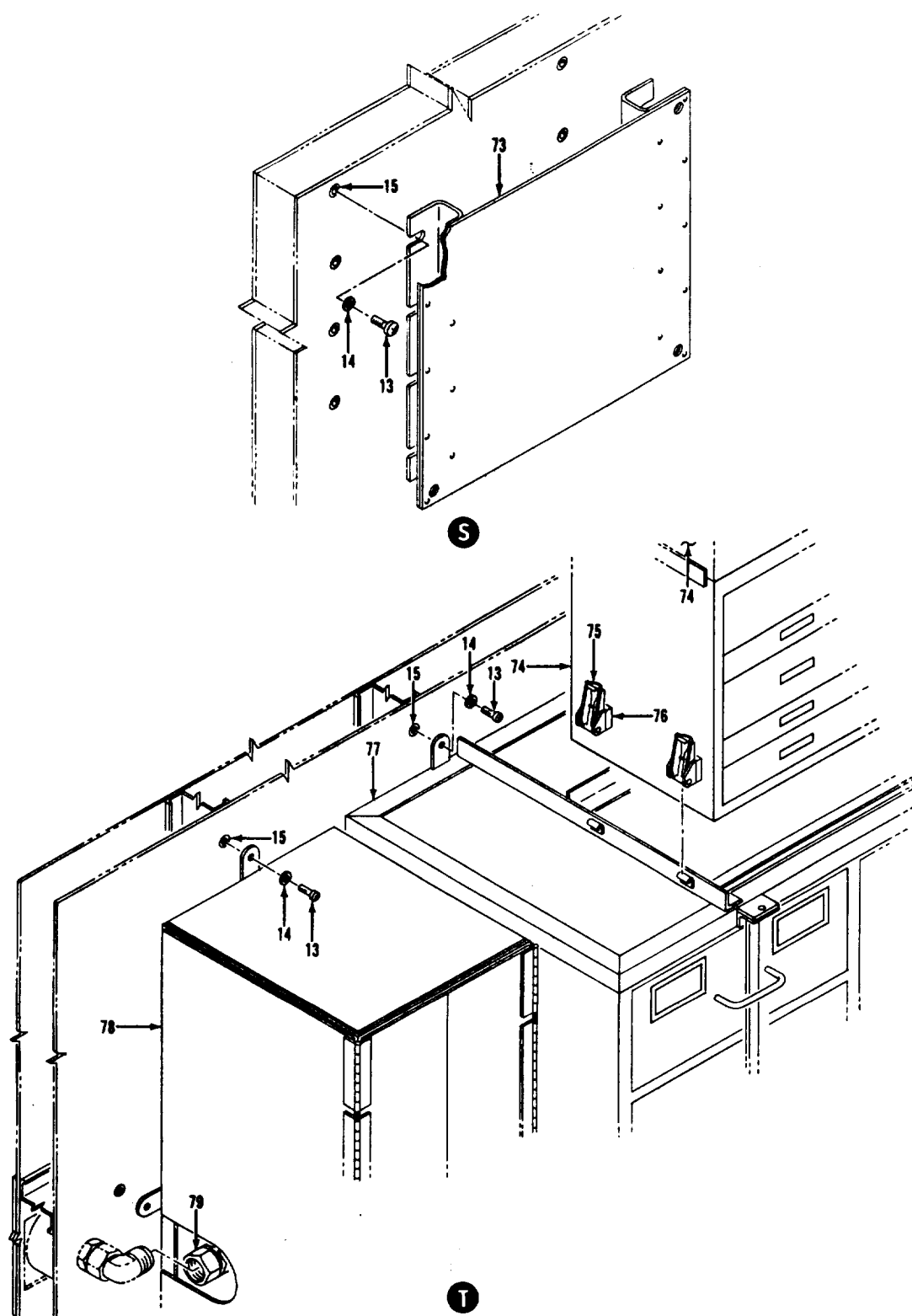


Figure 7-10. Equipment Installation (Sheet 8 of 25)

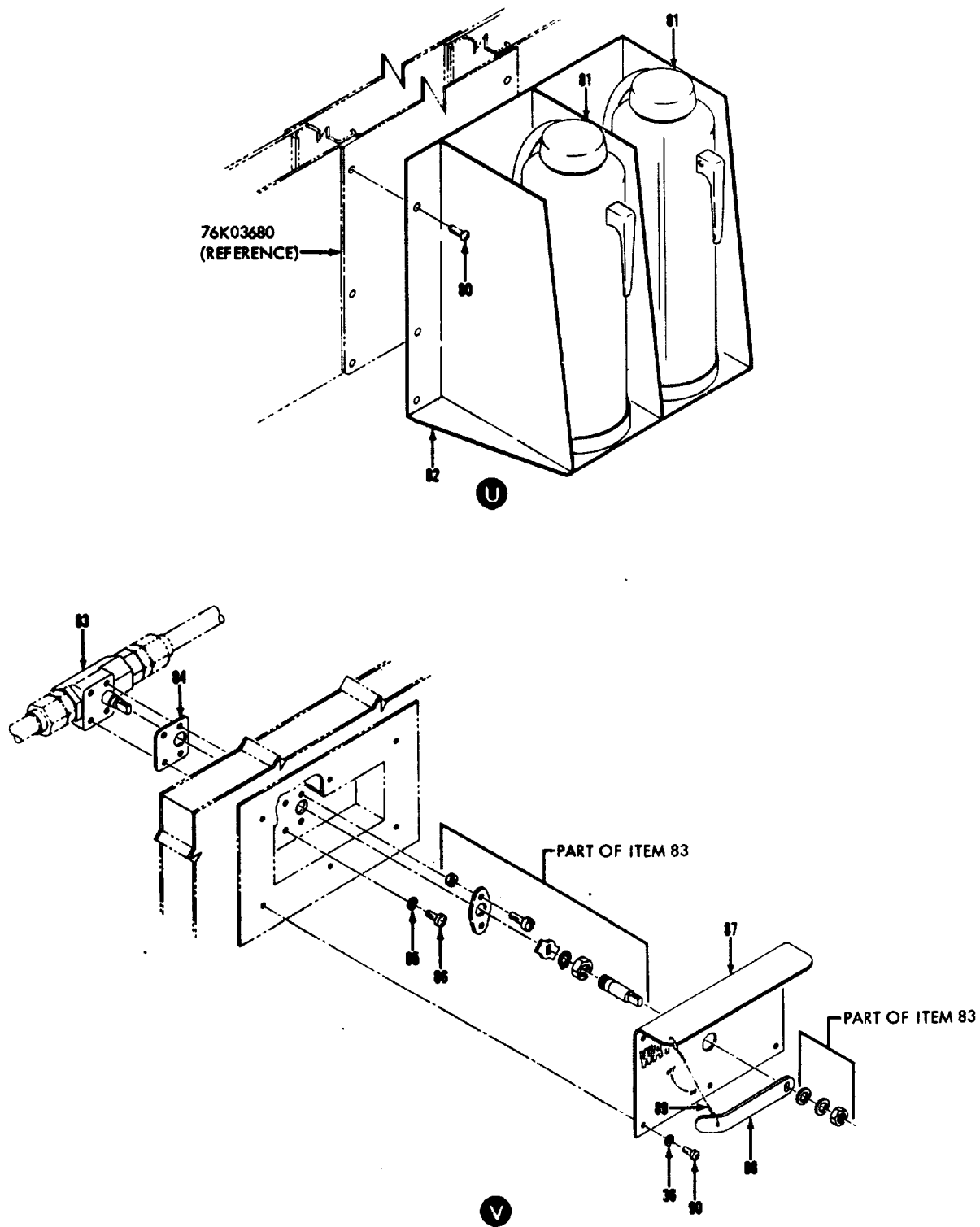


Figure 7-10. Equipment Installation (Sheet 9 of 25)

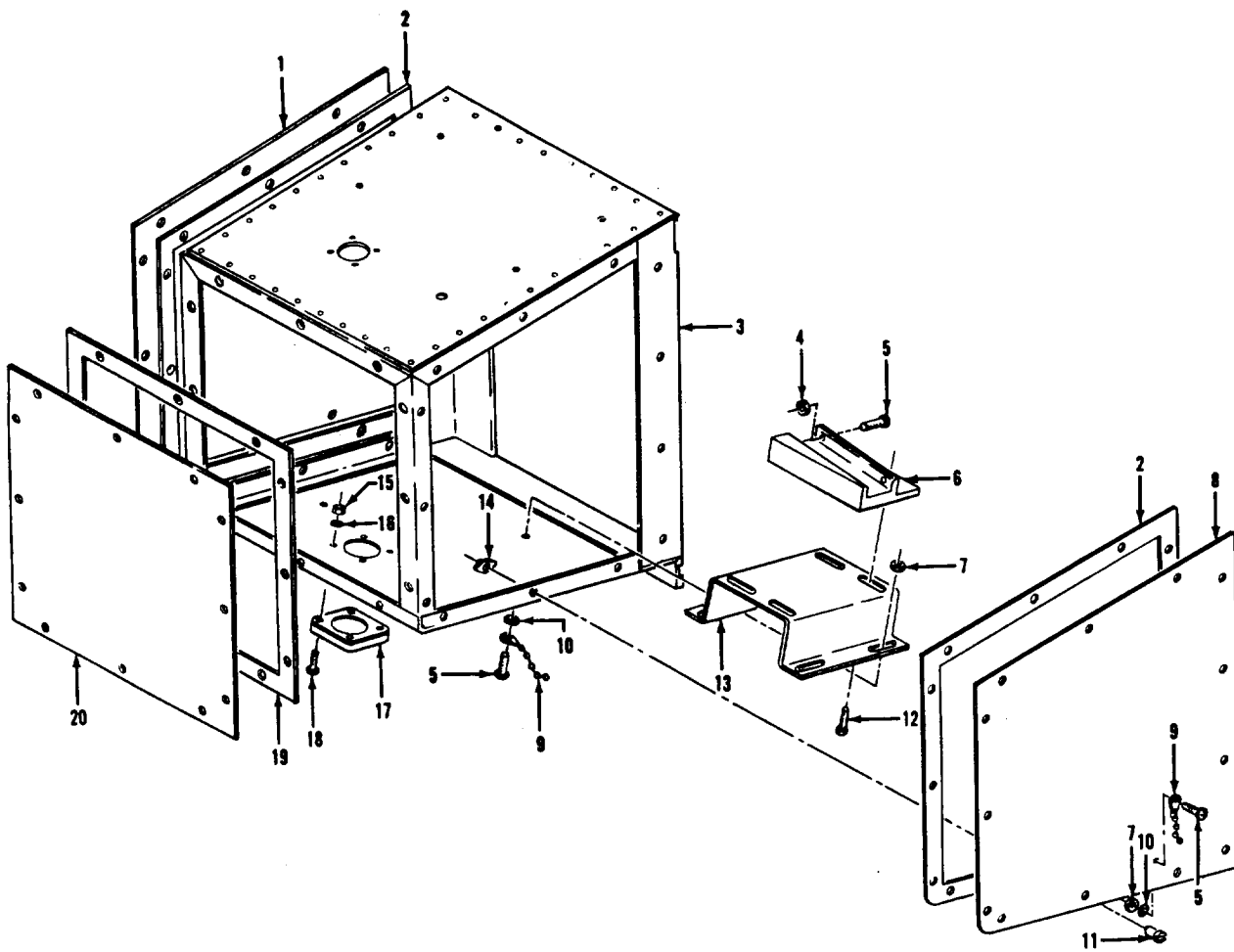
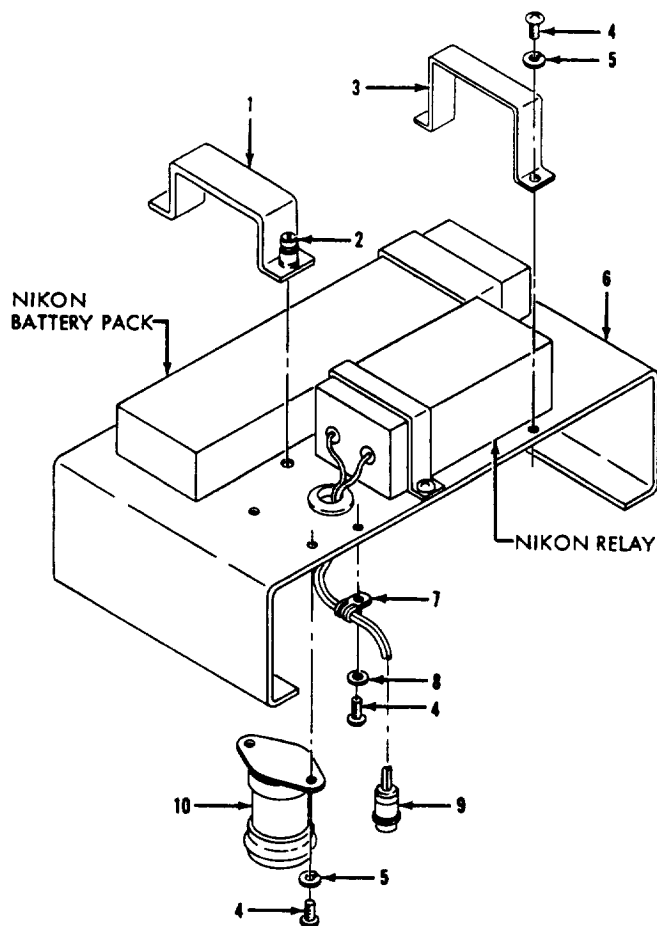


Figure 7-11. Still Camera Enclosure (Sheet 1 of 2)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
1	STILL CAMERA ENCLOSURE ASSEMBLY				76K03591-1		*
2	PANEL SIDE				76K03463-2		1
3	GASKET				76K03437-1		2
4	ENCLOSURE SUB ASSEMBLY				76K03432-1		1
5	NUT				MS25082-3		2
6	SCREW				MS51958-66		9
7	BRACKET CAMERA MOUNTING				76K03462-1		1
8	NUT, LOCK				MS21044N3		7
9	PANEL, SIDE				76K03463-1		1
10	CHAIN, BEAD				NAS1201C13A22B		3
11	WASHER, FLAT				AN960-10		7
12	SCREW, FASTNER (24248)				54-36-714-24		38
13	SCREW, MACHINE				KC147-90		2
14	BRACKET				76K03456-1		1
15	NUT, PLATE				NAS1031P3		38
16	NUT, LOCK				MS21044N04		4
17	WASHER, FLAT				AN960-4		4
18	BLEED PLATE				75M02047		1
19	SCREW				MS51957-19		4
20	GASKET				76K03438-2		1
	PANEL, REAR				76K03464-1		1
REF: 76K03591							

Figure 7-11. Still Camera Enclosure (Sheet 2 of 2)



INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
	CHASSIS ASSEMBLY				76K03081-1		X
1	BRACKET ASSEMBLY				76K03081-3		2
2	SCREW, PANEL CAPTIVE (94222)				54-58-106-24		4
3	BRACKET				76K03081-4		2
4	SCREW				MS51957-26		7
5	LOCKWASHER				MS35338-136		7
6	CHASSIS ASSEMBLY				76K03081-2		1
	NUT, SELF LOCKING				NAS1031-C06		4
7	CLAMP				MS21919D4		1
8	WASHER				AN980C6		1
9	HARNESS ASSEMBLY				76K03861-12		1
10	RELAY (61775)				JACTLP6H		1
11	GROMMET, RUBBER				MS35490-34		1
12	WIRE				B-16 WHITE		A/R
REF:		76K03081					

Figure 7-12. Still Camera Control Chassis

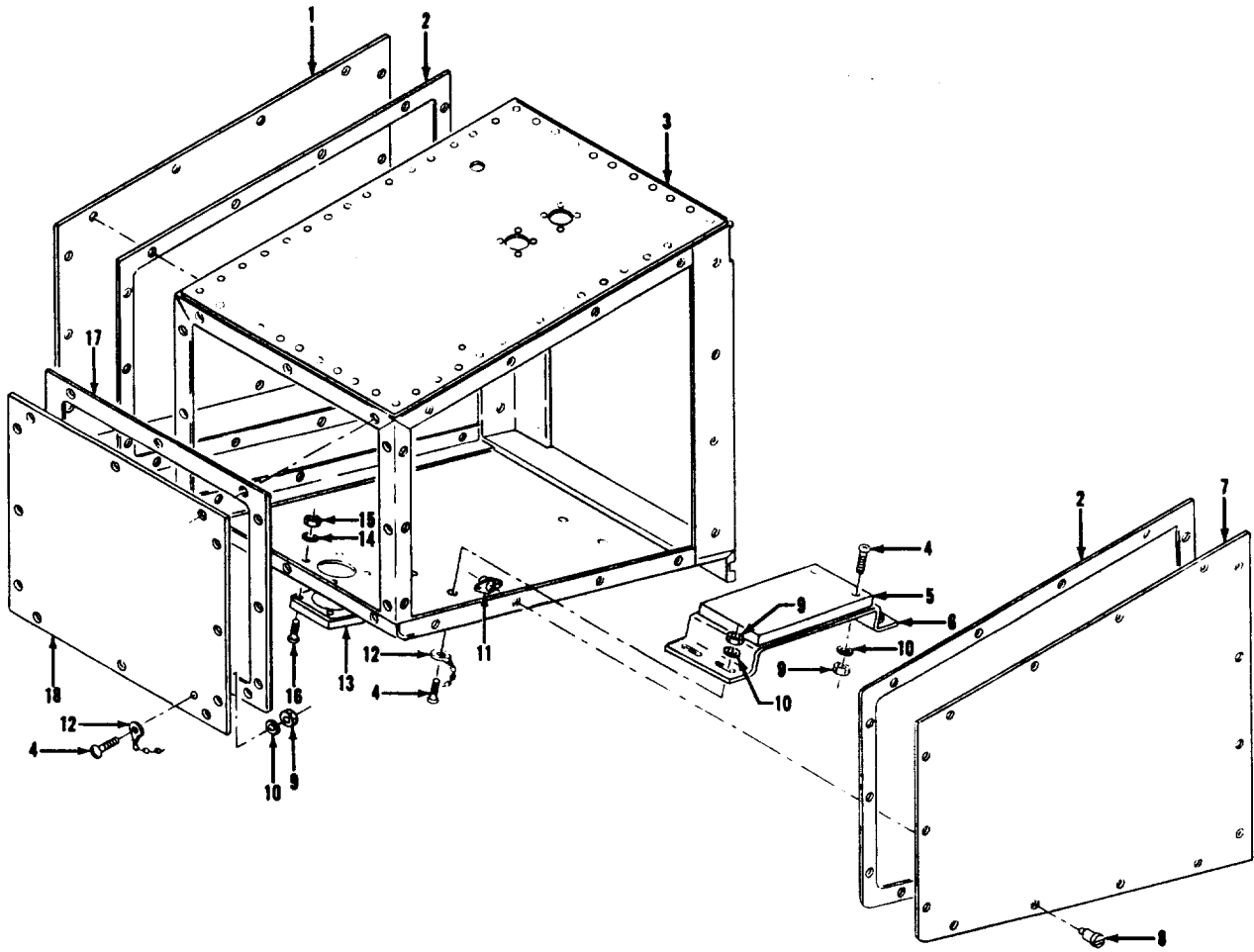


Figure 7-13. Movie Camera Enclosure (Sheet 1 of 2)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
				MOVIE CAMERA ENCLOSURE ASSEMBLY			
1				PANEL	76K03592-1		X
2				GASKET	76K03453-2		1
3				ENCLOSURE SUB ASSEMBLY	76K03444-1		2
4				SCREW	76K03439-1		1
5				MOUNT ASSEMBLY (40998)	MS51958-66		11
6				BRACKET	QRM-16		1
7				PANEL	76K03457-1		1
8				SCREW, FASTENER (24248)	76K03453-1		1
9				NUT, LOCK	54-36-714-24		42
10				WASHER	MS21044N3		11
11				NUT, PLATE	AN960-10		11
12				CHAIN, BEAD	NAS103P3		42
13				BLEED PLATE	NAS1201C13A22B		3
14				WASHER	75M02047		1
15				NUT, LOCK	AN960-4		4
16				SCREW	MS21044N04		4
17				GASKET	MS51957-19		4
18				PANEL	76K03438-1		1
					76K03454-1		1
REF: 76K03592							

Figure 7-13. Movie Camera Enclosure (Sheet 2 of 2)

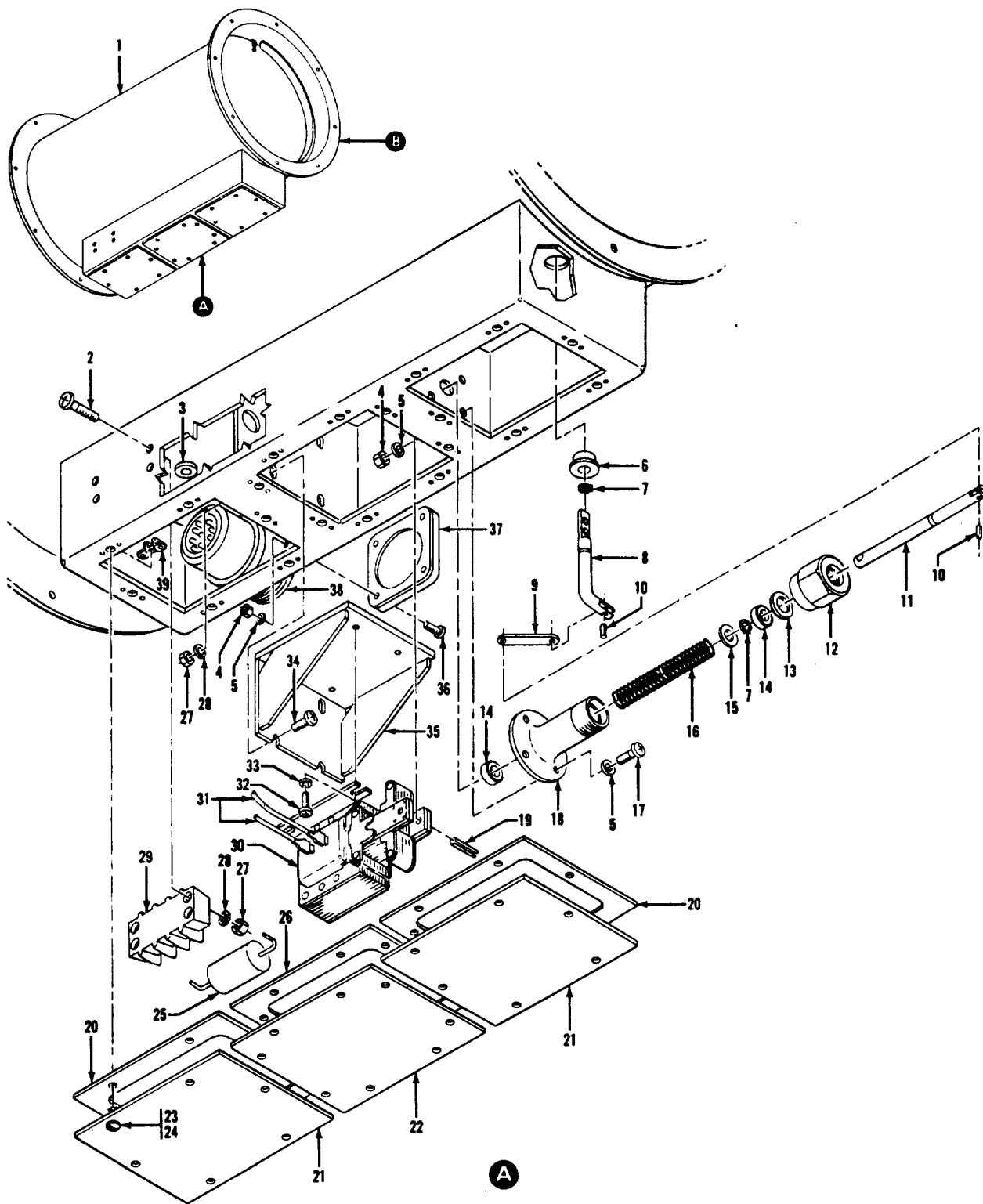
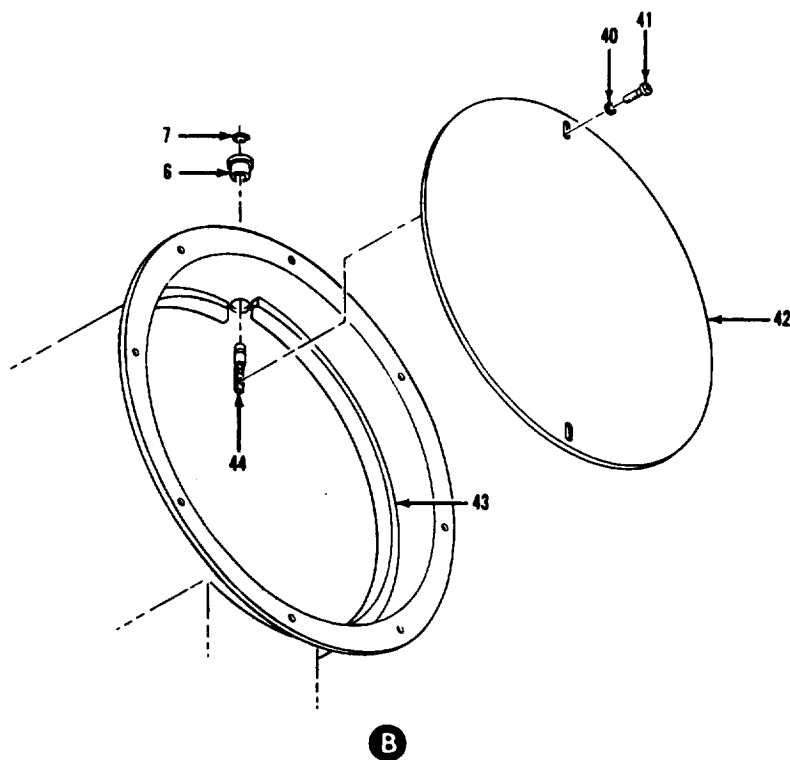


Figure 7-14. Exhaust Duct Assembly (Sheet 1 of 3)



INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
1	EXHAUST DUCT ASSEMBLY				76K03092-1		X
2	EXHAUST DUCT				76K03093-1		1
3	SCREW				MS51957-31		4
4	GROMMET, RUBBER				MS35490-29		1
5	NUT				MS21044N04		8
6	WASHER				AN960-4		12
7	BUSHING				76K03099-1		2
8	RETAINING RING				MS16632-1025		3
9	SHAFT				76K03096-1		1
10	LINKAGE				76K03102-1		1
11	PIN				MS9048-003		2
12	SHAFT				76K03098-1		1
13	NUT, COUPLING				KC142D8		1
14	SPACER				76K03101-1		1
15	BUSHING				76K03100-1		2
16	RETAINER, SPRING				76K03571-1		1
17	SPRING				76K03108-1		1
18	SCREW				MS51957-16		4
19	HOUSING				76K03095-1		1
20	PIN				MS9048-102		1
21	GASKET				76K03106-1		2
22	PLATE, COVER				76K03105-1		2
23	PLATE, COVER				76K03103-1		1
23	STUD ASSEMBLY (71286)				5S27-12		20

Figure 7-14. Exhaust Duct Assembly (Sheet 2 of 3)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
24					5S3-1		20
25					156P-25-400		1
26					76K03104-1		1
27					MS21044N06		8
28					AN960-6		8
29					75M14964-3		1
					MS25036-1		3
					MS25036-6		2
					MS25936-11		3
30					18AC		1
31					M5086/2-14-9		A/R
32					MS51958-62		4
33					MS35338-43		4
34					MS51057-28		4
35					76K03111-1		1
36					MS51957-18		4
37					75M02047		1
38					76K03109-6		1
39					5R2-3		20
40					MS35338-39		4
41					MS51957-3		4
42					76K03094-1		1
43					76K03107-1		2
44					76K03097-1		1
REF: 76K03092							

Figure 7-14. Exhaust Duct Assembly (Sheet 3 of 3)

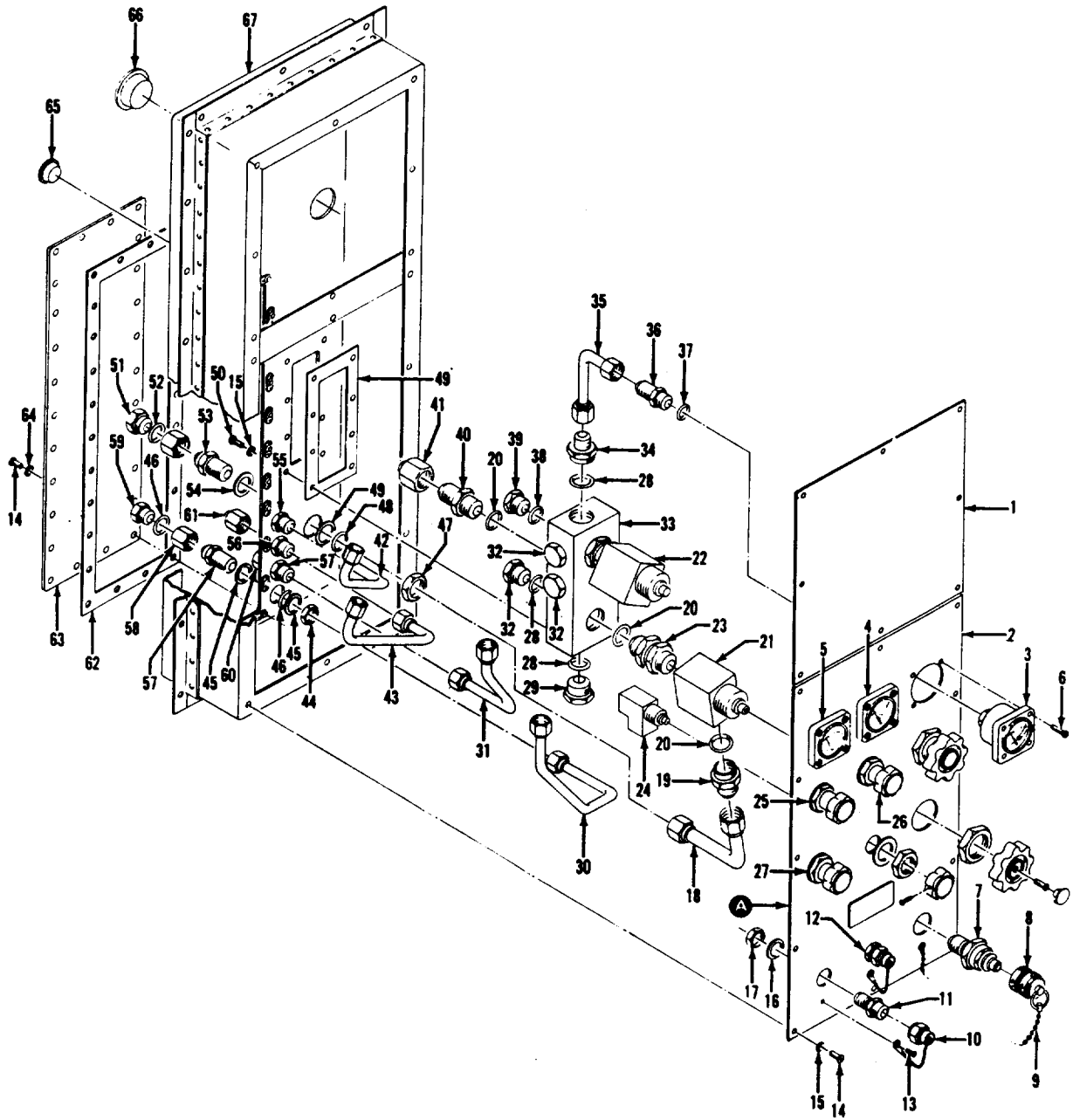


Figure 7-15. GOX Module Assembly. (Sheet 1 of 4)

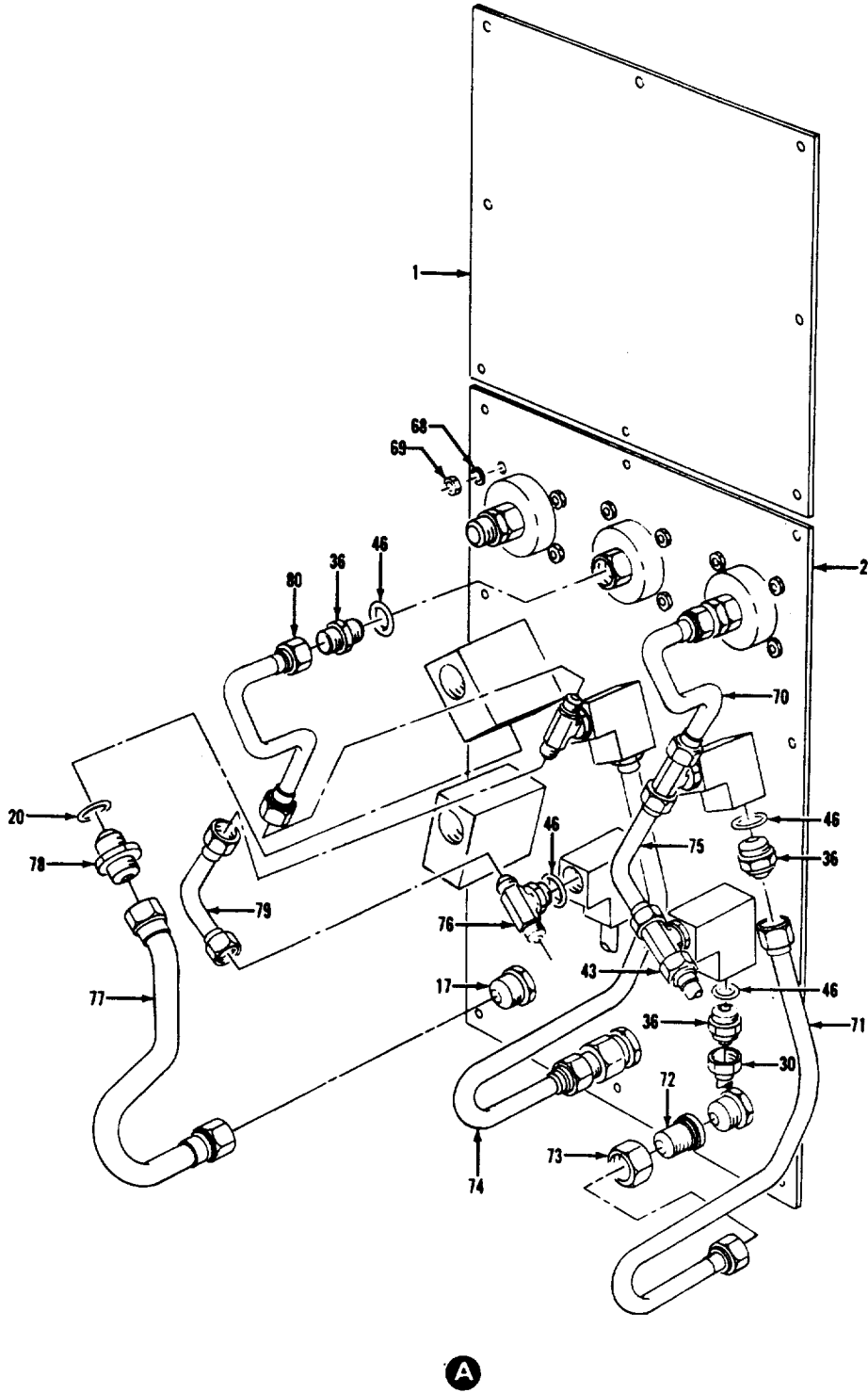


Figure 7-15. GOX Module Assembly (Sheet 2 of 4)

INDEX NUMBER	DESCRIPTION	PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	GOX MODULE	76K12341-2	57A55A11	X
1	COVER PLATE	76K30202-1		1
2	PANEL	76K12341-4		1
3	GAGE	75M51088-4	A16039	1
4	GAGE	75M51088-4	A16049	1
5	GAGE	75M51088-4	A16056	1
6	SCREW	KC101-47		12
7	NIPPLE	75M51323-3	A16041	1
8	DUST CAP	75M51324-3		1
9	CHAIN	NAS1201C10A138		1
10	CAP ASSEMBLY	75M50450-3		2
11	UNION	MC164C8	A16059	1
12	UNION	MC164C8	A16052	1
13	DRIVE SCREW	MS21318-46		3
14	SCREW	KC102-64		46
15	WASHER	NAS620-10L		28
16	WASHER	AN960C1216L		3
17	NUT	MC174C8		3
18	TUBE ASSEMBLY	76K12409-17		1
19	ADAPTER	MC242C19		1
20	PACKING (83259)	3-12 77-545		5
21	VALVE	75M51322	A16045	1
22	VALVE	75M51322	A16040	1
23	UNION	MC241C12		2
24	VALVE	75M01305-1	A16050	1
25	VALVE	75M01305-1	A16058	1
26	VALVE	75M01305-1	A16051	1
27	VALVE	75M01305-1	A16057	1
28	PACKING (83259)	3-877-545		6
29	PLUG	MC159C8		1
30	TUBE ASSEMBLY	76K12409-11		1
31	TUBE ASSEMBLY	76K12409-13		1
32	PLUG	KC130C8	A16038	3
33	MANIFOLD	76K12405-1	A16037	1
34	ADAPTER	MC242C11		1
35	TUBE ASSEMBLY	76K12409-1		1
36	UNION	MC237C4		7
37	PACKING (83259)	3-4 77-545		1
38	PACKING	MS28778-6		1
39	PLUG	KC130C6	A16036	1
40	UNION	MC237C12	A16035	1
41	DUST CAP	MC177C12		1
42	TUBE ASSEMBLY	76K12409-15		1
43	TUBE ASSEMBLY	76K12409-9		1
44	NUT	MC174C4		4
45	WASHER	AN960716L		8
46	PACKING	MC266E904		16
47	NUT	MC174C6		1
48	PACKING (83259)	3-6 77-545		2
49	GASKET	75M12407-1		1
50	SCREW	KC102-61		8
51	VALVE	75M51630-634	A16047	1
52	COUPLING	MC573C4		2
53	UNION	MC164C6		1
54	WASHER	AN960C916L		2
55	UNION	MC164C4	A16048	1

Figure 7-15. GOX Module Assembly (Sheet 3 of 4)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
56					MC164C4	A16055	1
57					MC164C4		2
58					MC573C4		2
59					75M51630-434	A16061	1
60					75M51630-434	A16054	1
61					MC177C4		2
62					75M12417-1		1
63					76K12404-1		1
64					STAT-O-SEAL (83259)		1
65					7000-1005		26
66					PLUG (99017)		1
67					PLUG (99017)		1
68					EQUIPMENT CASE		1
69					WASHER		12
70					NUT		12
71					TUBE ASSEMBLY		1
72					TUBE ASSEMBLY		1
73					REDUCER		2
74					NUT		2
75					TUBE ASSEMBLY		1
76					TUBE ASSEMBLY		1
77					TEE		4
78					TUBE ASSEMBLY		1
79					ADAPTER		1
80					TUBE ASSEMBLY		1
					TUBE ASSEMBLY		1
REF: 76K12341 REV A, EO 4 THRU 7							

Figure 7-15. GOX Module Assembly (Sheet 4 of 4)

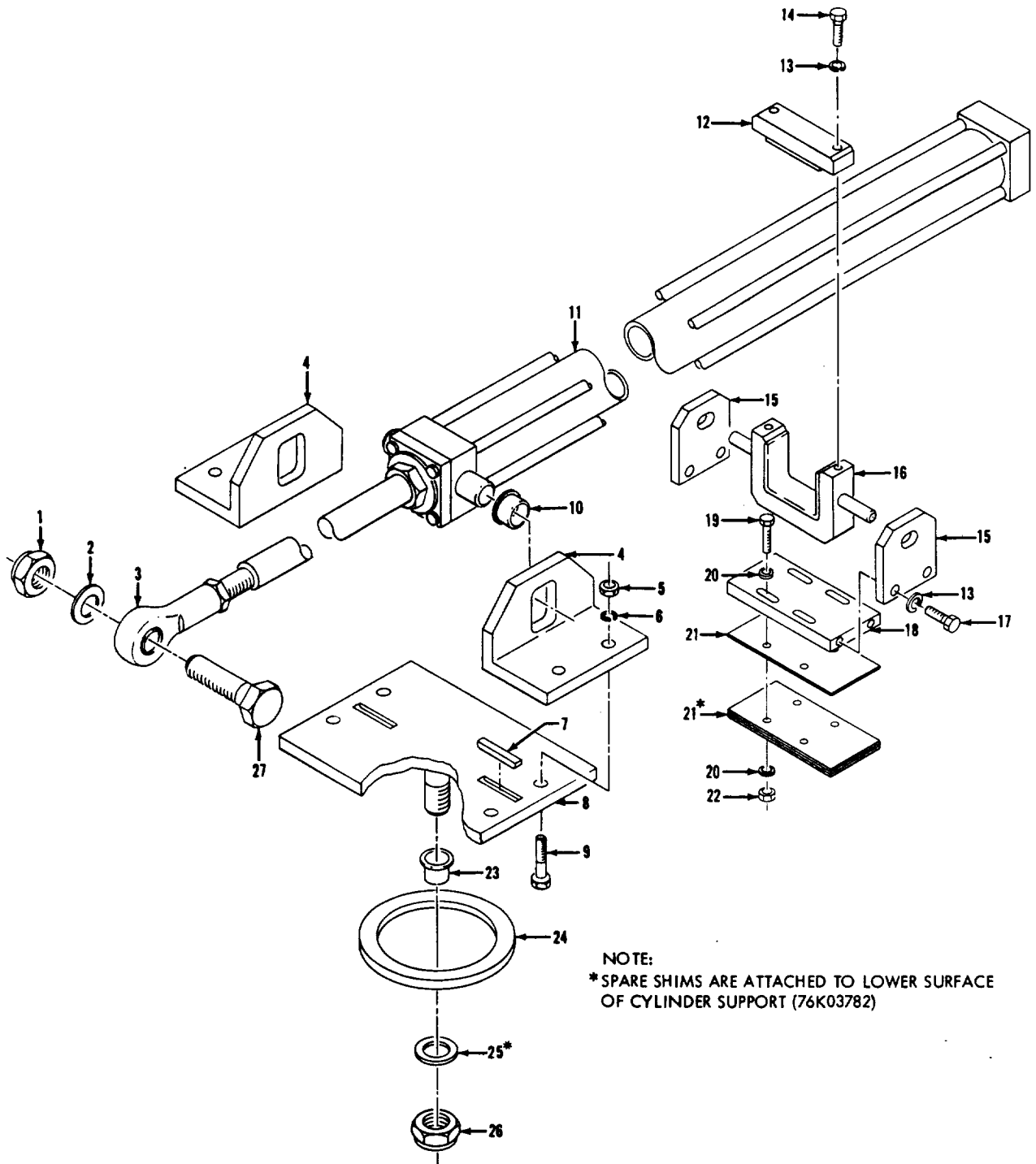


Figure 7-16. Platform Extend Cylinder Mount Assembly (Sheet 1 of 2)

INDEX NUMBER	DESCRIPTION				PART NUMBER	REFERENCE DESIGNATOR	UNITS PER ASSEMBLY
	1	2	3	4			
1				CYLINDER MOUNT ASSEMBLY	76K03778-1		1
2				NUT	MS20365D2012		1
3				WASHER	AN960PD2016		1
4				ROD END (83331)	BRE-20395		1
5				SWIVEL ASSEMBLY	76K03784-1		1
6				CLEVIS BRACKET	76K03783-1		2
7				NUT	MS21044N8		4
8				WASHER	AN960-816		4
9				KEY	MS20066-260		2
10				SWIVEL PLATE	76K03745-1		1
11				BOLT	MS90727-115		4
12				BUSHING	76K03741-1		2
13				PNEUMATIC CYLINDER	76K03824-1	A34952-9	1
14				CAP ASSEMBLY	76K03780-1		1
15				LOCK WASHER	MS35338-46		6
16				CAP SCREW	MS90727-63		2
17				SWIVEL BRACKET	76K03779-1		2
18				YOKE ASSEMBLY	76K03781-1		1
19				CAP SCREW	MS90727-59		4
20				CLEVIS PLATE	76K03785-1		1
21				CAP SCREW	MS90727-41		4
22				WASHER	AN960-516		8
23				SHIM	76K03777-1		4
24				NUT	MS21044N5		4
25				BUSHING	76K03772-1		1
26				THRUST WASHER	76K03742-1		1
27				WASHER	76K03743-1		1
28				NUT	MS20365D1614		1
29				BOLT	AN20DD43		1
				REF: 75M03778			

Figure 7-16. Platform Extend Cylinder Mount Assembly (Sheet 2 of 2)