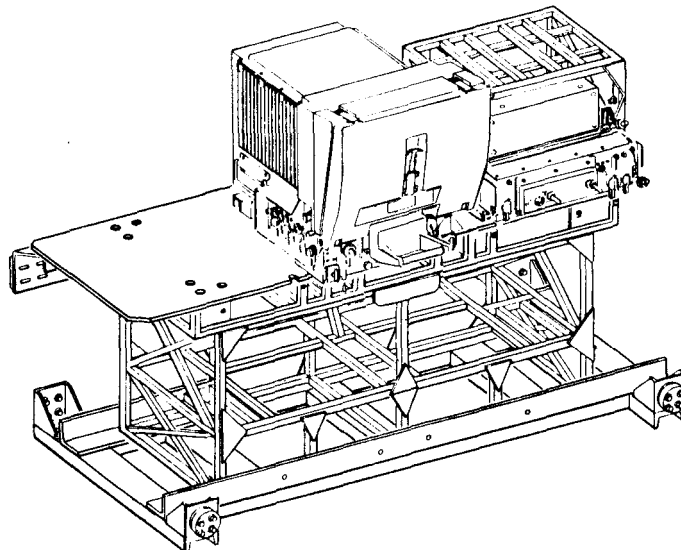


OPERATOR, ORGANIZATIONAL, DIRECT, AND
GENERAL SUPPORT
INSTALLATION PROCEDURES
FOR
COMPUTER SYSTEM,
GUN DIRECTION, AN/GYK-29(V)
IN
TRUCK, CARGO 1-1/4 TON M561



HEADQUARTERS, DEPARTMENT OF THE ARMY

27 SEPTEMBER 1983



5

SAFETY STEPS TO FOLLOW IF SOMEONE IS THE VICTIM OF ELECTRICAL SHOCK

1

DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL

2

IF POSSIBLE, TURN OFF THE ELECTRICAL POWER

3

IF YOU CANNOT TURN OFF THE ELECTRICAL POWER, PULL, PUSH, OR LIFT THE PERSON TO SAFETY USING A WOODEN POLE OR A ROPE OR SOME OTHER INSULATING MATERIAL

4

SEND FOR HELP AS SOON AS POSSIBLE

5

AFTER THE INJURED PERSON IS FREE OF CONTACT WITH THE SOURCE OF ELECTRICAL SHOCK, MOVE THE PERSON A SHORT DISTANCE AWAY AND IMMEDIATELY START ARTIFICIAL RESUSCITATION

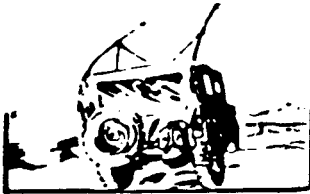
WARNING

SERIOUS INJURY OR EVEN DEATH CAN HAPPEN IF THE FOLLOWING ARE NOT CAREFULLY OBSERVED WHEN INSTALLING AND USING THE ANTENNAS USED WITH YOUR RADIO SETS.

**BEFORE ANY
MISSION FIND
OUT**

1. ARE THERE ANY POWERLINES IN YOUR AREA OF OPERATION ?
2. HOW HIGH ARE THESE POWERLINES ?
3. HOW TALL ARE THE POLES OR TOWERS CARRYING POWERLINES ?

MOBILE OPERATION WITH WHIP ANTENNAS



DO NOT STOP YOUR VEHICLE UNDER POWER LINES.

- IF POSSIBLE, TRY TO MAINTAIN MOBILE COMMUNICATIONS WITH YOUR ANTENNA(S) TIED DOWN.
- MAKE SURE AN ANTENNA TIP CAP IS SECURELY TAPED ON THE END OF EACH WHIP ANTENNA.
- DO NOT LEAN AGAINST OR TOUCH A WHIP ANTENNA WHILE THE TRANSMITTER IS ON.
- DURING CROSS-COUNTRY OPERATION, DO NOT ALLOW ANYONE TO STICK AN ARM, LEG OR WEAPON OVER THE SIDES OF THE VEHICLE. IF YOUR ANTENNA ACCIDENTALLY TOUCHES A POWERLINE AND A LEG, ARM OR WEAPON CONTACTS A DAMP BUSH OR THE GROUND, A SERIOUS OR FATAL ACCIDENT CAN HAPPEN.
- IF YOU ARE NOT SURE THAT AN ANTENNA ON YOUR VEHICLE WILL CLEAR A POWERLINE, STOP BEFORE YOU GET CLOSE TO THE POWERLINE AND EITHER CAREFULLY TIE DOWN THE ANTENNA OR REMOVE ANTENNA SECTIONS TO MAKE SURE THAT YOU CAN SAFELY DRIVE UNDER THE POWERLINE.

WARNING

Dangerous rf voltages exist around antennas and antenna terminals during transmission. Protect yourself by knowing the safety procedures in TB SIG 291.

*DO NOT allow the antennas to touch powerlines. Tie them down before moving.

*DO NOT smoke or use flame when in contact with fuel or the fuel system

No. 11-2300-467-14-2

OPERATOR, ORGANIZATIONAL, DIRECT, AND
 GENERAL SUPPORT INSTALLATION PROCEDURES
 FOR
 COMPUTER SYSTEM, GUN DIRECTION AN/GYK-29(V)
 IN
 TRUCK, CARGO 1-1/4 TON M561

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703.

In either case, a reply will be furnished direct to you.

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CHAPTER 1
INTRODUCTION

1-1. Scope

This manual contains operator and organizational, direct and general support installation procedures for installing Computer System, Gun Direction AN/GYK-29(V) into Truck, Cargo 1-1/4 Ton M561.

1-2. Purpose

The purpose of the installation kits is to provide a secure mounting of the battery computer unit in the M561. The installation procedures are performed by operator or organizational, direct, and general support maintenance personnel.

1-3. Reporting Equipment Improvement Recommendations (EIR's)

EIR's will be prepared using DA Form 2407, Maintenance Request. Instructions for preparing EIR's are provided in TM 38-750, The Army Maintenance Management System. EIR's should be mailed directly to Commander, U.S. Army Communications-Electronics Command, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703. A reply will be furnished directly to you.

1-4. Installation and Accessory Items

Table 1-1 lists the items required for installation. Table 1-2 lists accessory items used with the BCS. These items are not supplied and must be requisitioned through normal supply channels.

1-5. Installation Kits

Tables 1-3 through 1-6 each contains the list of kit components. To help you identify major items in these kits, refer to TM 11-7440-283-12-1, Appendix C. Inventory these items and check them off as you locate them. Keep all cloth bags attached to the hardware.

1-6. Installation Tools

The following are required to install the kits:

Tool Kit - TK-224
Tool Kit - TK-226
Tool Kit - TK-100G

1-7. Administrative Storage

Administrative storage of equipment issued to and used by Army activities shall be in accordance with TM 740-90-1.

1-8. Destruction of Army Electronics Materiel to Prevent Enemy Use

Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

1-9. Parts Disposition

Dispose of discarded parts in accordance with DOD 4160-.21-M and AR 755-2.

Table 1-1. Installation Kits/Parts

ITEM	OFFICIAL NOMENCLATURE	COMMON NAME	PART NUMBER	QUANTITY
1	Vehicle Mounting Kit, Computer Gun Direction MK-1831/GYK-29	Vehicle Mounting Kit	B4009184	1
2	Mounting Base, Computer Gun Direction, MT-4938/GYK-29	Mounting Base Kit	B4009183	1
3	Interconnecting Kit Computer Gun Direction, MK-1829/GYK-29	Interconnect Kit	B4009174	1
4	Power Distribution Group, Computer Gun Direction, ON-188/GYK-29	PDU Group	B4009280	1
5	Battery Computer Unit, CP-1317/GYK-29	BCU	B4009200	1
6	Tape Transport Unit RD-439/GYK-29	Tape Unit	B4009186	1

Table 1-2. Accessory Items

DESCRIPTION	QUANTITY
Cable Assembly, Special Purpose, RF, W21/W22 (7 ft.) CG-1773/U	3
Cable Assembly, Special Purpose, W23/W24 (8 ft.) CX-4722	2
Mount, Radio, MT-1029/VRC	2
Radio Set (FM), RT-524/VRC-46	2
Mount, Radio Receiver, MT-1898/VRC	1
Radio Receiver R442/VRC	1
Security Device, KG-31	1
Amplifier/Power Supply Group, OG-174()/VRC	1
Radio Set, AN/PRC-68	1
Antenna, AT-892 (AN/PRC-68)	1
Antenna, AS-1729/VRC (AR-VRC-46)	2
Antenna, Radio Receiver R442	1
Antenna, AT-912/VRC	2
Battery, Nickel - Cadmium, BB-590/U	2
Battery, Nickel - Cadmium 938626-B04 (TBD)	2
Wire, Field, WD1-TT	1
Auxiliary Batteries (20-25 VDC, 100 Amp)	1
Generator, Gasoline Engine Driver/24 VDC, 1.5 KW MEP-025A	1

Table 1-3. Vehicle Mounting Kit, PLB4009184, Components

QTY	PART NO.	DESCRIPTION
1	SC-D-866281	Mount Sub
1	B4005076	Mount Radio
1	B4009818	Support Rear AY
2	B4009819	Stiffener AY
1	B4009381	Cable AY W1
1	B4009382	Cable AY W2
6	MS90727-38	Screw Cap Hex
60	MS15795-812	Washer, Flat
20	MS21044C5	Nut Slf-Lkg 5/16 x 24 Long
8	MS90727-40	Screw Cap Hex
8	MS90727-46	Screw Cap Hex 5/16-24 X 3 1/2 Long
6	MS90727-42	Screw Cap Hex 5/16-24 X 2 1/2 Long
4	B4009458	Nut Plate
6	SC-C-279927G-P1	Fastener, Clamp 5820-00-937-9844
1	MS35214-87	Screw, Pan 5/16 - 18 x 1 1/4 Long
1	MS35425-73	Wing Nut
4	MS35335-90	Washer, 5/16, Ext. Tooth
1	MS35649-231ST	Nut, Plain

Table 1-4. Mounting Base Kit, PLB4009183, Components

QTY	PART NO.	DESCRIPTION
1	B4009722	Adapt Plate AY
1	B4009229-3	Nameplate
1	B4009720	Frame Supt Ay
1	B4009723	Tray Mounting Assy KG31
1	B4009721	Tray AY BCU
7	B4009724	Angle Clampg
2	MS35191-276	Screw Flat HD#10-32 UNF. x 1 IN Long
1	SC-C-690584	Table Elec EQ
30	MS35191-296	Screw Flat HD
39	MS21044N4	Nut Slf-Lk Hex
44	MS15795-810	Washer, Flat
2	MS90726-42	Screw Cap 5/16 DIA x 2-1/2 IN. Long
4	MS90726-39	Screw Cap 5/16 DIA x 1-3/4 Long
9	MS21044N5	Nut Plain Hex
20	MS35335-34	Washer Lock ext Tooth 5/16 ID
5	MS90726-34	Screw Cap 5/16 DIA x 1 IN. long
4	MS25083-4DD10	Jumper AY
2	MS25083-3SB	Jumper AY
30	MS3367-3-0	Strap Tie-down
A/R	5820-783-9035	Strap Nylon
12	MS24693-C6	Screw Pan HD #4-40 x 1/2 IN long
12	MS15795-803	Washer Flat
12	MS21083C04	Nut Self-Lkg
4	MS25083-2BB6	Jumper AY
4	MS51958-65	Screw, Pan HD 10-32UNF-2A THD x 3/4 Long
1	MS25083-2BC6	Jumper AY
1	MS51958-79	Screw Pan HD .250 DIA x 1.2 Long
5	MS35335-61	Washer Lock
4	MS31958-95	Screw Pan HD
4	MS35337-83	Washer Lock
15	MS35335-60	Washer Lock Ext Tooth Cres No. 10
5	MS90726-12	Screw Hex HD 1/4-28 x 1-1/2 Long
2	MS35426-2	Nut Plain Wing
3	8105-271-1511	Bag Cotton
1	MS35191-294	Screw, FL HD #1/4-28 x 1-1/4 Long
A/R	MS20995C32	Wire Safety 5 ft
5	MS21044N3	Nut, Self Lock 10-32
2	MS25083-2BD10	Jumper, AY
1	MS90725-6	Screw, Cap Hex 1/4-20 x 3/4 Long
4	MS35308-308	Screw, Hex Hd #1/4-28 x 1 1/2 Long

Table 1-5. Interconnect Kit, PLB4009174 Components

QTY	PART NO.	DESCRIPTION
2	B4009388	Cable AY W7/10
1	B4009384	Cable AY W5
1	B4009386	Cable AY W8
1	B4009387	Cable AY W9
1	B4009389	Cable AY W11
1	B4009390	Cable AY W12
1	B4009392	Cable AY W16
1	B4009393	Cable AY W17
1	B4009394	Cable AY W18
1	B4009398-1	Cable AY W32
1	B4009383	Cable AY W3
2	B4009391	Cable AY W13
1	B4009397	Cable AY W31
1	H-161D/U (5965-01-104-0947)	Headset-Microphone
1	H-189/GR* (5965-00-069-8886)	Handset

*Handset H-250 (5965-00-043-3463) is equivalent

Table 1-6. PDU Group, PLB4009280, Components

QTY	PART NO.	DESCRIPTION
1	B4009290	PDU AY
1	B4009385	Cable AY W6
1	B4009395	Cable AY W19
1	B4009396	Cable AY W20
1	5975-X07-8007	GRND Stake Kit

CHAPTER 2
INSTALLATION

- 2-1. Unpacking and Checking Mounting Kits and Equipment
- a. Unpacking. Locate packing boxes close to where equipment is to be installed.
 - b. Inspection. All items should be inspected for damage incurred during transit. Receipt of damaged items should be reported on DD Form 6 (Packaging Improvement Report) as prescribed in AR700-58.
 - c. Validity. Equipment received should be checked against parts listed in tables 1-3 through 1-6 to see if shipment is complete. Equipment should be placed in service even if a minor assembly or part that does not affect installation is missing.
 - d. Vehicle Replacement. When the host vehicle is to be replaced or otherwise transferred, mounting kits and equipment should be removed and reinstalled in the replacement vehicle, or secured in proper storage facilities. Vehicle parts removed or modified for installation should be replaced or restored where practical.
- 2-2. Vehicle Preparation (FO-1)
- a. Folding Seats, Removal.
 - (1) Position roadside and curbside seats in upright position.
 - (2) Remove four bolts, washers, and nuts securing each seat hinge to carrier hull.
 - (3) Remove and prepare seats for storage.
 - (4) Replace the 16 bolts, washers, and nuts removed in step (2) in carrier hull.
 - b. Cargo Tie-Downs, Removal.
 - (1) Remove four hex-head screws, flatwashers, and locknuts securing each cargo tie-down to carrier hull (two on lower forward wall identified by "A", and one on each wheel well enclosure forward wall identified by "B"). Save the locknuts for use in para 2-4 a (3).

- (2) Remove cargo tie-downs and prepare tie-downs and hex-head screws, flatwashers, and locknuts removed in step (1) for storage.
 - (3) Scrape excess sealant from surface where cargo tie-downs were mounted.
- 2-3. Installation of Vehicle Mounting Kit (Refer to table 1-3 for parts list.)

NOTE

Modification of forward guard rail installation described in step a. and installation of antenna mounting bracket described in step b. is necessary at this time for installation of rear support assembly described in step c.

a. Forward Guard Rail Center Mounting, Modification.

- (1) Remove two hex-head screws, flatwashers, and locknuts (securing forward guard rail center mounting, if installed) from top center of carrier hull forward wall.
- (2) Enlarge these two holes with 11/32 drill bit.
- (3) Set forward guard rail in place with center mounting resting on outside of carrier hull forward wall. Do not replace hardware.

b. Antenna Mounting Bracket Assemblies (SC-F-466375), Installation and Modification. (FO-1)

NOTE

Vehicle may have one or two antenna mounting brackets installed or holes for one or two antenna mounting brackets.

- (1) If you have one antenna mounting bracket installed, remove the four hardware items located at "C", FO-1; if you have holes for one antenna mounting bracket or holes for two antenna brackets, install the antenna mounting brackets, but leave the four holes identified as "C" in FO-1.
- (2) Using 11/32 drill bit, enlarge the four top holes ("C" in FO-1) of each bracket through carrier hull forward wall.

NOTE

If vehicle is configured for only one antenna, steps c. (4) through (8) provide instructions for installing a second antenna mounting bracket.

- c. Rear Support Assembly (B4009818), Installation. (FO-1)
- (1) Secure rear support assembly at two center slots to carrier hull forward wall with two hex-head screws (MS90727-42), four flatwashers (MS15795-812), and two locknuts (MS21044C5), making sure hex-head screws are centered in slots.
 - (2) Secure one of four slots at each end of rear support assembly (or all four slots on left end if only one antenna bracket has been mounted) to carrier hull forward wall with hex-head screw (MS90727-46), two flatwashers (MS15795-812), and locknut (MS21044C5).
 - (3) Reposition rear support assembly until each end is on equal plane with top of carrier hull forward wall. Tighten all screws.
 - (4) If a new antenna mounting bracket is to be installed, first remove canvas tie-down clamps from side of vehicle and mount them to the new antenna mounting bracket. Use same attaching hardware.

NOTE

If the antenna mounting bracket doesn't line up with the holes in (5) below, use the antenna mounting bracket as a template and drill four new holes from the front of the hull.

- (5) Using rear support assembly as a template, use an 11/32 drill bit to drill four holes, "C", in carrier hull forward wall for new antenna mounting bracket.
- (6) Secure new antenna mounting bracket to carrier hull forward wall (holes drilled in step (5)) with four hex-head screws (MS90727-46), eight flatwashers (MS15795-812), and four locknuts (MS21044C5).
- (7) Using newly mounted antenna mounting bracket as a template, use a 9/32 drill bit to drill 12 holes in carrier hull forward and side walls.

- (8) Secure antenna mounting bracket to carrier hull forward and side walls using hardware supplied with bracket.
 - (9) Secure remaining three slots at each end of rear support assembly to carrier hull forward wall with hardware identical to that used in step (2).
 - (10) Using rear support assembly as a template, use an 11/32 drill bit to drill four holes for remaining slots of rear support assembly.
 - (11) Secure remaining four slots of rear support assembly to carrier hull forward wall with hardware identical to that used in step (1).
- d. Holes For Cable Clamps. (FO-1)
- (1) Locate and drill six holes (identified as "X") in carrier hull forward wall for mounting cable clamps using 3/16 drill bit.
 - (2) Using 11/32 drill bit, enlarge hole "Y" (upper hole from canvas tie-down clamp) in carrier hull forward wall, for ground strap connection.

NOTE

Before proceeding, carrier cargo area should be swept free of all metal chips.

- e. Preassembly of Sub-Mount Assembly (SC-D-866281).
(FO-2) The sub-mount assembly consists of three subassemblies that should be shipped disassembled as follows:

NOTE

If sub-mount is shipped assembled, disassemble it.

- A sub-mount (SC-D-866282)
- Four bracket assemblies (SC-C-866283) with attached bag of hardware. Remove the 1/16-inch shim (SC-B-866280) and 1/8-inch shim (SC-B-866279) from each bag.
- Four adapter assemblies (SC-C-866277) with attached bag of hardware. They are attached to the sub-mount.

- (1) Remove hardware from bag attached to each adapter assembly. Sort out eight 5/16 x 1-1/2-inch hex-head screws, 16 flatwashers, and eight locknuts. Save eight 5/16 x 2-inch and eight 5/16 x 2-1/4-inch hex-head screws, 16 flatwashers and eight locknuts for use in step f. (4) .
- (2) Apply sealant, compound, Gasket Type II per IDL-S-45180, or equivalent, to rear side of adapter assemblies (side opposite to counterbored holes), the flat sides of the locknuts, both sides of the flatwashers, and on the inside of the heads of the hex-head screws.
- (3) Secure each adapter assembly to carrier hull in place of cargo tie-downs with "UP" inscription and arrow pointing up and counterbored holes facing into cargo area, with two 5/16 x 1-1/2-inch hex-head screws, four flatwashers, and two locknuts (prepared in step (2)) in the counterbored holes.

NOTE

Leave upper holes in adapter assemblies and carrier hull vacant at this time. For ease of assembly, procedure in step (4) should be performed outside of vehicle.

- (4) Assemble, but leave loose, each bracket assembly to corner of sub-mount with nut plate (B4009485), and four hex-head screws and lockwashers supplied in bag attached to each bracket assembly.

WARNING

Assembled sub-mount is heavy and requires two persons to lift into vehicle.

- f. Installation of Sub-Mount Assembly (SC-D-866281).

NOTE

Make sure that "FWD" and arrow are toward rear of vehicle.

- (1) With "FWD" inscription and arrow on center rib of assembled sub-mount facing to rear of vehicle, lift assembled sub-mount into vehicle and set on floor in forward cargo area.
- (2) Align slots in bracket assemblies with holes in top of adapter assemblies.
- (3) As required, insert 1/16-inch shim (SC-B-866280) and/or 1/8-inch shim (SC-B-866279) between bracket assemblies and adapter assemblies (from bags attached to bracket assemblies).

NOTE

If shims were installed in step (3), use the 5/16 x 2-1/4-inch screws in step (4). If shims were not installed, use the 5/16 x 2-inch screws in step (4).

- (4) Apply sealant, compound, Gasket Type II per IDL-S-45180, or equivalent, to locknuts, flatwashers, and screws saved in step e. (1).

NOTE

Screws installed in step (5) must remain loose until additional assemblies are installed.

- (5) Assemble, but leave loose, each bracket assembly to each adapter assembly and carrier hull with two 5/16 x 2-1/4-inch or two 5/16 x 2-inch hex-head screws, four flatwashers, and two locknuts prepared in step (4).

g. Cable Assemblies W1 (B4009381) and W2 (B4009382), Installation.(FO-2)

- (1) Remove protective caps from two connectors in recess of carrier hull forward wall.
- (2) Secure W2 cable assembly connector P2 to lower connector in center recess of carrier hull forward wall.
- (3) Secure W1 cable assembly connector P2 to upper connector in center recess of carrier hull forward wall.

- (4) Route W1 and W2 cable assemblies along carrier hull forward wall and secure at four previously drilled holes with clamps (SC-C-279927G-P1) and nylon strap (5820-783-9035, part of mounting base kit).
- (5) Connect cables W21, W22, W23, and W24 to the antennas.
- (6) Run cables through two clamps (SC-C-279927G-P1) on each side

h. Stiffener Assemblies (B4009819), Installation. (FO-3)

NOTE

Stiffener assemblies are interchangeable but cannot be arbitrarily set in place. If mounting holes do not align, stiffener assemblies must be turned end-for-end and rotated.

- (1) Set stiffener assemblies on sub-mount assembly.
- (2) Align mounting holes in stiffener assemblies with floating locknuts in sub-mount assembly. If they don't line up, rotate as directed in NOTE above.

i. Radio Mount Assembly (B4005075), Installation. (FO-3)

NOTE

When installing radio mount assembly, center plate with RADIO MOUNT inscription must face rear of vehicle.

- (1) Set radio mount assembly on stiffener assemblies and align mounting holes.

NOTE

If radio mount fails to align, check to see that sub-mount is aligned with "FWD" inscription and arrow towards rear of vehicle.

- (2) Secure radio mount and stiffener assemblies to sub-mount assembly using eight hex-head screws (MS90727-40) and eight flatwashers (MS15795-812), with one end of two jumper assemblies (MS25083-4DD10, part of mounting base kit) installed beneath washers of two center front hex-head screws.

2-4. Installation of Mounting Base Kit (Refer to table 1-4 for parts list and see FO-4.)

a. Electrical Equipment Table (SC-C-690584), Installation.

- (1) Set electrical equipment table on radio mount assembly with six mounting holes facing rear support assembly. You may have to tap the mounting braces on the radio mount slightly in order to fit the electrical equipment table on the radio mount assembly.
- (2) Secure electrical equipment table to radio mount assembly in eight places with hex-head screw, two flatwashers, and locknut supplied in bag attached to electrical equipment table.

NOTE

You may need to use a hydraulic jack to lift the rear support assembly slightly to align the holes with the electrical equipment table, particularly if the floor is warped.

- (3) Secure electrical equipment table to rear support assembly in six places with hex-head screw (MS90727-38), two flatwashers (MS15795-812), and locknut (MS21044C5) from vehicle mounting kit.
- (4) Fully secure hex-head screws holding each bracket assembly to adapter assembly and carrier hull.
- (5) Fully secure hex-head screws holding each bracket assembly to sub-mount assembly.
- (6) Secure jumper assembly (MS25083-2BB6) to threaded posts on electrical equipment table and radio mount assembly with lockwasher and wingnut supplied in bag attached to electrical equipment table.

b. Adapter Plate Assembly (B4009722), Installation.

- (1) Set adapter plate assembly on electrical equipment table with large diagonal corners facing to rear of vehicle. Top of table has the countersunk holes.
- (2) Secure, but leave loose, adapter plate assembly to electrical equipment table with 16 flat-head screws (MS35191-296), flatwashers (MS15795-810), and locknuts (MS21044N4). (See FO-4, Section G-G.)

- (3) Secure, but leave loose, edge of adapter plate assembly to electrical equipment table with seven angle clamps (B4009724), each installed with two flat-head screws (MS35191-296), flatwashers (MS15795-810), and locknuts (MS21044N4). (See FO-4, Section A-A (front) or B-B (rear).)
- (4) Fully tighten hardware installed in steps (2) and (3).

c. Adapter Plate Jumper Assemblies, Installation.

- (1) Secure lug end of PDU jumper assembly (MS25083-3SB) to underside of adapter plate assembly with flat-head screw (MS35191-276), two lockwashers (MS35335-60), and locknut (MS21044N3). Screw goes down from top of adapter plate. (See FO-4, Section F-F.)
- (2) Secure lug end of BCU jumper assembly (MS25083-3SB) to underside of adapter plate assembly with flat-head screw (MS35191-276), two lockwashers (MS35335-60), and locknut (MS21044N3). (See FO-4, Section D-D.)
- (3) Secure one end of adapter plate-to electrical equipment table jumper assembly (MS25083-2BD10) and one end of vehicle ground jumper assembly (MS25083-4DD10) to underside left end of adapter plate with flat-head screw (MS35191-294), three lockwashers (MS35335-61), and locknut (MS21044N4). (See FO-4, Section J-J.)
- (4) Secure opposite end of jumper assembly (MS25083-2BD10) installed in step (3) to threaded post on underside of electrical equipment table with two lockwashers and wingnut supplied in bag attached to electrical equipment table. (See FO-4, Section J-J.)

d. BCU Tray Assembly (B4009721), Installation.

- (1) Set BCU tray assembly in place on adapter plate assembly.
- (2) Secure four corners of BCU tray assembly to adapter plate assembly with hex-head screw (MS90726-34), two lockwashers (MS35335-34), and locknut (MS21044N5). (See FO-4, Section C-C.)

- e. Frame Support Assembly (B4009720), Installation.
- (1) Set frame support assembly in place on adapter plate assembly.
 - (2) Secure left front and rear of frame support assembly to adapter plate assembly and electrical equipment table with hex-head screw (MS90726-42), two lockwashers (MS35335-34), and locknut (MS21044N5). (See FO-4, Section H-H.)
 - (3) Secure right rear of frame support assembly and one end of jumper assembly (MS25083-2BD10) to adapter plate assembly with hex-head screw (MS90726-39), three lockwashers (MS35335-34), and locknut (MS21044N5). (See FO-4, Section E-E.)
 - (4) Secure opposite end of jumper assembly (MS25083-2BD10) installed in step (3) to threaded post on underside of electrical equipment table with two lockwashers and wingnut supplied in bag attached to electrical equipment table. (See FO-4, Section E-E.)
 - (5) Secure right front of frame support assembly to adapter plate assembly with hex-head screw (MS90726-39), two lockwashers (MS35335-34), and locknut (MS21044N5). (See FO-4, Section F-F.)
- f. Nameplate (B4009229-3), Installation.
- (1) Remove protective backing from nameplate.
 - (2) Press nameplate onto adapter plate assembly as shown in FO-4, Sheet 1.
- g. Preassembly and Installation, Tray Assembly, KG-31 (B4009723). (FO-5)
- (1) Set tray assembly on suitable work surface for assembly.

NOTE

- .Make sure KG-31 strapping option has been verified for operation with BCS by qualified personnel in accordance with AMEND 1/KAM-244B/TSEC.
- .Cable assemblies W16, W17, and W18 installed in the following steps are part of interconnect kit.

- (2) Secure cable W18 (B4009394) connector J1, with key positioned as shown (largest key in 2 o'clock position), to J2 position of tray assembly connector bracket in four places with screw (MS24693-C6), flatwasher (MS15795-803), and locknut (MS21083CO4). (See FO-5, Part 1.)
- (3) Secure cable W16 (B4009392) connector J1, with key positioned as shown (key at 11 o'clock position), to J3 position of tray assembly connector bracket as in step (2).
- (4) Secure cable W17 (B4009393) connector J1, with key positioned as shown (key at 11 o'clock position), to J1 position of tray assembly connector bracket as in step (2).
- (5) Secure bottom of KG-31 to tray assembly in four places with lockwasher (MS35337-83) and screw (MS51958-95). (See FO-5, Part 2.)
- (6) Secure one end of jumper assembly (MS25083-2BB6) to tray assembly connector bracket with screw (MS51958-65), two lockwashers (MS35335-60), and locknut (MS21044N3). Place jumper assembly between lockwashers. (See FO-5, Part 1.)
- (7) Secure one end of jumper assembly (MS25083-2BC6) to rear of KG-31 with screw (MS51958-79) and two lockwashers (MS35335-61). (See FO-5, Part 2.)
- (8) Secure opposite ends of jumper assemblies installed in steps (6) and (7) to tray assembly with screw (MS51958-65), four lockwashers (MS35335-60), and locknut (MS21044N3). (See FO-5, Part 2.)
- (9) Secure one end of jumper assemblies (MS25083-2BB6) to threaded hole on each side of tray assembly with screw (MS51958-65) and lockwasher (MS35335-60). (See FO-5, Part 1.)
- (10) Secure W16, W17, and W18 cable connectors to KG-31 as shown in cabling diagram, FO-9.
- (11) Slide KG-31 and tray assembly into frame support assembly and secure in place with frame support fasteners.
- (12) Secure opposite end of jumper assemblies installed in step (9) to threaded post on each side of frame support assembly with two lockwashers and wingnut supplied with frame support assembly.

2-5. Installation of Interconnect Kit (Refer to table 1-5 for parts list.)

a. Cables, Routing. (FO-6, 7, 8, and 9)

NOTE

Cables routed to rear of PDU and KG-31 must have sufficient slack for connection with PDU and KG-31 fully extended.

- (1) Form cables into groups as indicated in table 2-1. The groups are identified according to their locations and indicate which plugs are connected to other equipment. If you don't have some equipment (e.g., AN/UGC-74) you don't need the cable for that equipment. Use the cabling diagram and figures as a guide.
- (2) Route all cables listed in table 2-1 as shown in FO-6 , FO-7 and FO-8 and cabling diagram FO-9.
- (3) Route previously installed W1 and W2 cables using FO-9 as a guide.

b. Cables, Installation.

- (1) Form routed cables into bundles and secure as required with tie-down straps (MS3367-3-0) supplied with mounting base kit.
- (2) Secure cable bundles to top of adapter plate assembly in five places with nylon strap (5820-783-9035) as required, screw (MS90726-12), flatwasher (MS15795-810), and locknut (MS21044N4), all supplied with mounting base kit.
- (3) Secure connectors of cables W8, W9, and W12 to connectors of KG-31 tray assembly connector bracket using cabling diagram FO-9.

Table 2-1. Cable Routing and Connections

GROUP	CABLE/PLUG	CONNECTION AT TABLE	TO	EQUIPMENT
1	W8P1	BCU J5	(Right Side)	KG-31 Connector Bracket J1
	W9P1	BCU J6	(Right Side)	KG-31 Connector Bracket J2
	W11P1	BCU J7	(Right Side)	AN/UGC-74 (Printer)
	W7/W10P2	BCU J1	(Left Side)	AN/VRC-46
	W7/W10P2	BCU J2	(Left Side)	AN/VRC-46
	W31P1	BCU J3	(Left Side)	AN/PRC-68
	W5P1	PDU J1	(Front Right)	AN/UGC-74
	W32P1	PDU J4	(Front Right)	AN/PRC-68
	W6	(P1 connects to PDU J6; P2 connects to BCU J8)		
	W3P1	PDU J7	(Back)	MT-1029/VRC J23
	W12P1	PDU J3	(Back)	KG-31 Connector Bracket J3

2-6. Installation of PDU Group (Refer to tables 1-3 and 1-6 for parts lists.)

a. PDU (B4009290), Installation.

- (1) Remove protective covers from PDU connectors.
- (2) Slide PDU part way into frame support assembly.
- (3) Secure all cable connectors at rear of PDU, using FO-9 as a guide.
- (4) Slide PDU fully into frame support assembly and secure fasteners.
- (5) Secure W32 and W5 cable connectors to PDU connectors J4 and J5, respectively.
- (6) Connect PDU jumper assembly to jumper assembly on adapter plate assembly.

b. Cable W6 (B4009385), Installation.

- (1) Secure cable W6 connector P1 to PDU connector J6.
- (2) Leave opposite end of cable W6 free for later installation on BCU.

NOTE

Cables W19 (B4009395) and W20 (B4009396) are alternate cables for supplying power to the PDU from external generator or battery power sources. Store these cables for eventual use.

c. PDU Battery Installation

- (1) Loosen six slotted, captive screws and open battery compartment cover.
- (2) Place left battery in battery compartment and carefully push in to seat battery on connector.
- (3) Place right battery in battery compartment and carefully push in to seat battery on connector.
- (4) Close battery compartment cover and tighten six captive screws.

d. Ground Stake Kit (5975-X07-8007), Installation. (FO-3)

- (1) Install ground lug screw (MS35214-87) in hole "Y" in carrier hull forward wall (behind antenna mounting bracket) with two washers (MS35335-90) and nut (MS35649-231ST).
- (2) Remove ground stake kit from canvas bag and assemble stake by screwing parts together.
- (3) Remove dirt or grease from ground stake as required.
- (4) Scoop out a small hole, about six inches deep, at selected grounding site.
- (5) Using sledge hammer stored in vehicle, drive ground stake into hole until top of stake is approximately three inches above bottom of hole.
- (6) Connect one end of ground strap (provided with ground stake kit) to ground stake with hardware provided in kit.
- (7) Connect other end of ground strap and one end of vehicle ground jumper assembly (MS25083-4DD10, attached to adapter plate assembly) to ground lug screw (installed in step (1)) with two washers (MS35335-90) and wingnut (MS35425-73).
- (8) Saturate earth around stake with water to keep earth moist.

2-7. Installation of BCU

WARNING

To prevent injury to personnel and damage to equipment, two persons must be available to install BCU.

- a. Slide BCU into tray assembly until fully seated in rear guide pins.
- b. Tighten tray assembly thumbscrews until BCU is fully secured.
- c. Secure thumbscrews in position with safety wire (MS20995C32) as required, supplied with mounting base kit.

- d. Connect BCU jumper assembly to adapter plate jumper assembly.
- e. Remove protective covers from BCU connectors.
- f. Secure cable connectors to BCU connectors using cabling diagram, FO-9, as a guide.

2-8. Installation of Tape Unit

- a. Loosen six captive screws securing PLU cover to BCU and open cover.
- b. Align connector on tape transport with connector in BCU and insert tape transport onto guide pins and push in until connector is fully seated.
- c. Secure tape transport to BCU with two captive screws.
- d. Close PLU cover and secure six captive screws.

2-9. Radio Installation (See FO-6, FO-8 and FO-9.)

- (1) Connect two W13 cables between radio number 1 mount, radio number 2 mount and auxiliary receiver mount in accordance with FO-9.
- (2) Connect W3 to radio mount 1 in accordance with FO-9.
- (3) Install radio mount MT-1029 for radio number 1 to radio mount using hardware supplied with the mount (attach jumper assembly to front mounting screws).
- (4) Repeat step 1 for radio number 2.
- (5) Install radio mount MT-1898 for auxiliary receiver to radio mount using hardware supplied with the mount.
- (6) Install two receiver-transmitters RT-524 on MT-1029 mounts and secure in place.
- (7) Install auxiliary receiver R-442 on MT-1898 mount and secure in place.
- (8) Connect cable W7/W10 (one each); cables W21/W22 or W23/W24 to each RT-524 in accordance with FO-9.

- (9) Connect CG1773/U cable to the R-442 in accordance with FO-9.
- (10) Install PRC-68 radio and amplifier-power supply group OG-174 (location to be determined by government).
- (11) Connect PRC-68 radio (to be determined by government).

2-10. Operational Checkout

a. Preliminary

- (1) Apply vehicle power.
- (2) Set PDU ON/OFF circuit breaker to ON. BCS POWER BCU and AUX lamps light.

b. Radio Checkout

- (1) Set power switches on radios and auxiliary receiver to on.
- (2) Perform radio checkout in accordance with applicable TM's.

c. BCU Checkout

- (1) Refer to TM 11-7440-283-12-1 and perform diagnostic procedure.
- (2) Refer to TM 11-7440-283-12-1-1 for operating procedures.

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Stateside Army Depot
ATTN: AMSTA-US
Stateside, N.J. 07703

DATE SENT

10 July 1975

PUBLICATION NUMBER

TM 11-5840-340-12

PUBLICATION DATE

23 Jan 74

PUBLICATION TITLE

Radar Set AN/PRC-76

BE EXACT... PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
2-25	2-28		
3-10	3-3		3-1
5-6	5-8		
		F03	

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Recommend that the installation antenna alignment procedure be changed throughout to specify a 2° IFF antenna lag rather than 1°.

REASON: Experience has shown that with only a 1° lag, the antenna servo system is too sensitive to wind gusting in excess of 25 knots, and has a tendency to rapidly accelerate and decelerate as it hunts, causing strain to the drive train. Hunting is minimized by adjusting the lag to 2° without degradation of operation.

Item 5, Function column. Change "2 db" to "3db."

REASON: The adjustment procedure for the TRANS POWER FAULT indicator calls for a 3 db (500 watts) adjustment to light the TRANS POWER FAULT indicator.

Add new step f.1 to read, "Replace cover plate removed in step e.1, above."

REASON: To replace the cover plate.

Zone C 3. On J1-2, change "+24 VDC to "+5 VDC."

REASON: This is the output line of the 5 VDC power supply. +24 VDC is the input voltage.

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SSG I. M. DeSpiritof 999-1776

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PARA-
GRAPH

FIGURE
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PARA-GRAPH

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PARA-GRAPH

FIGURE NO.

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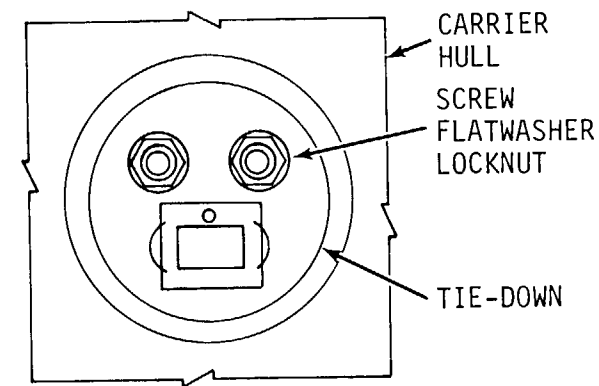
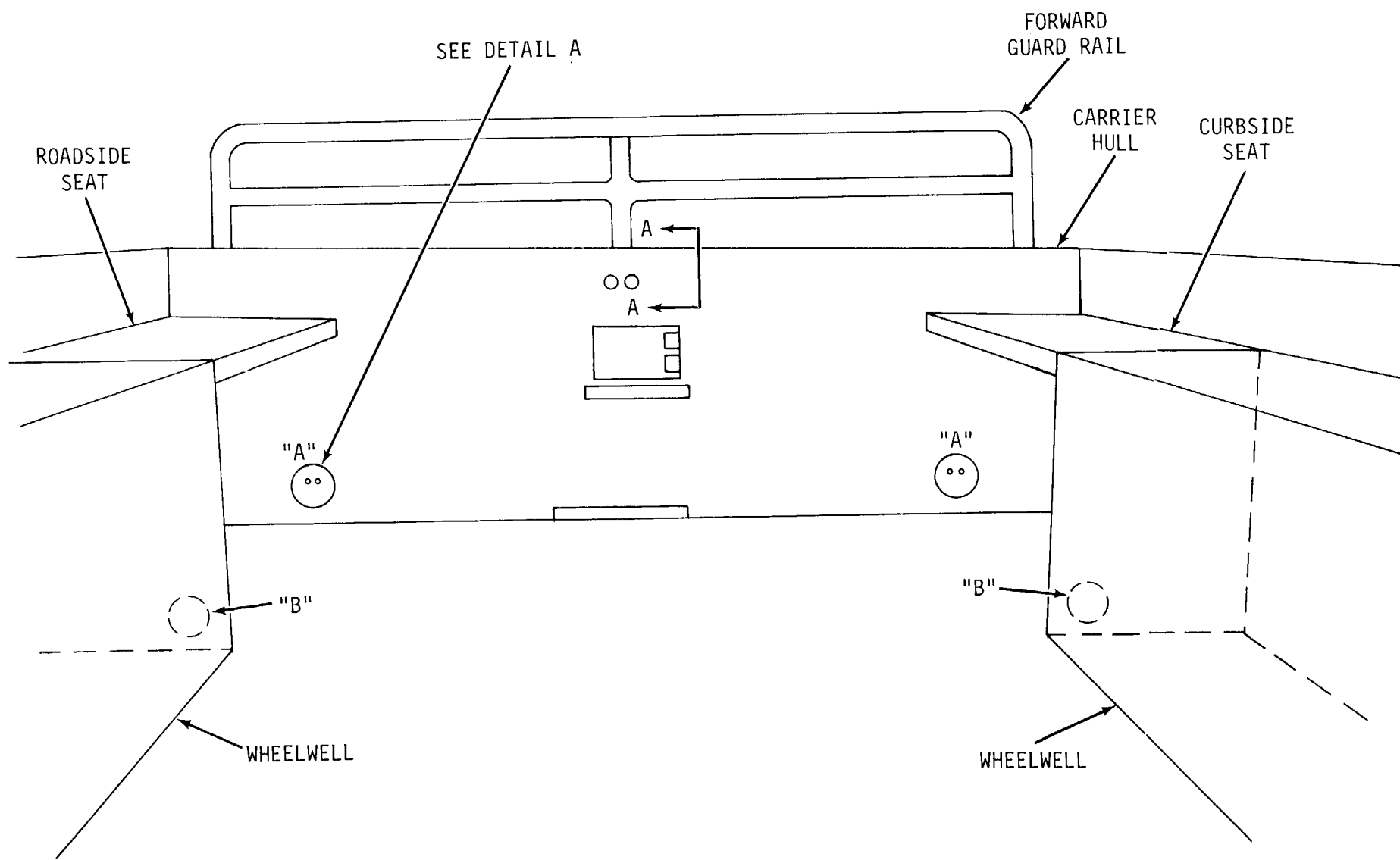
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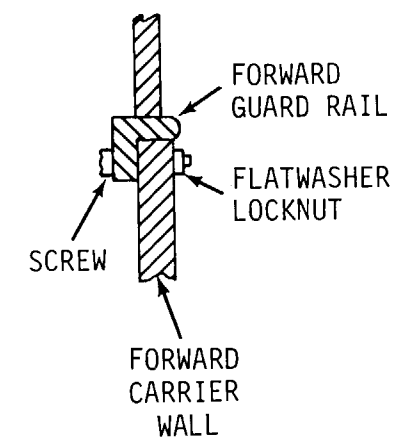


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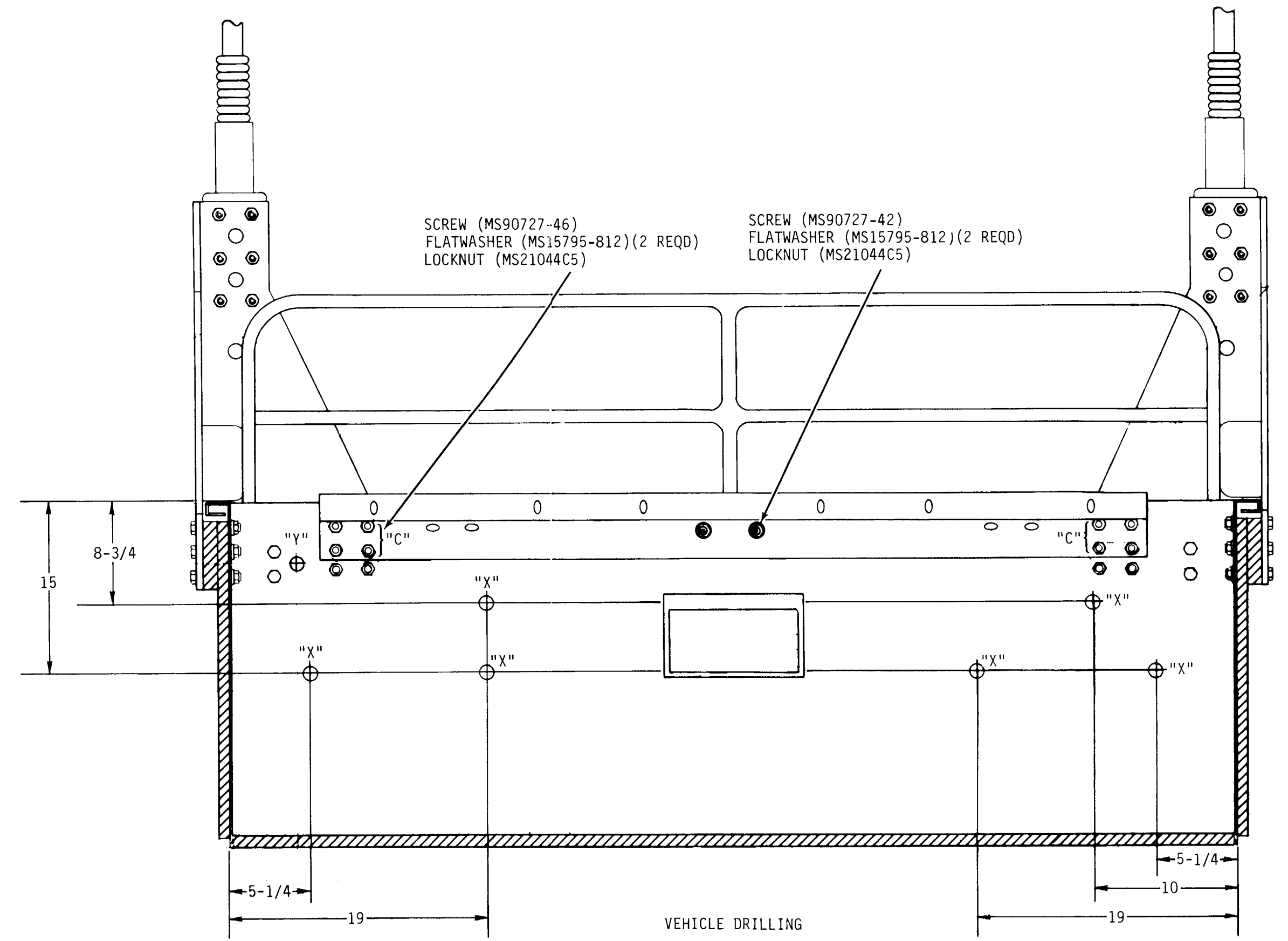
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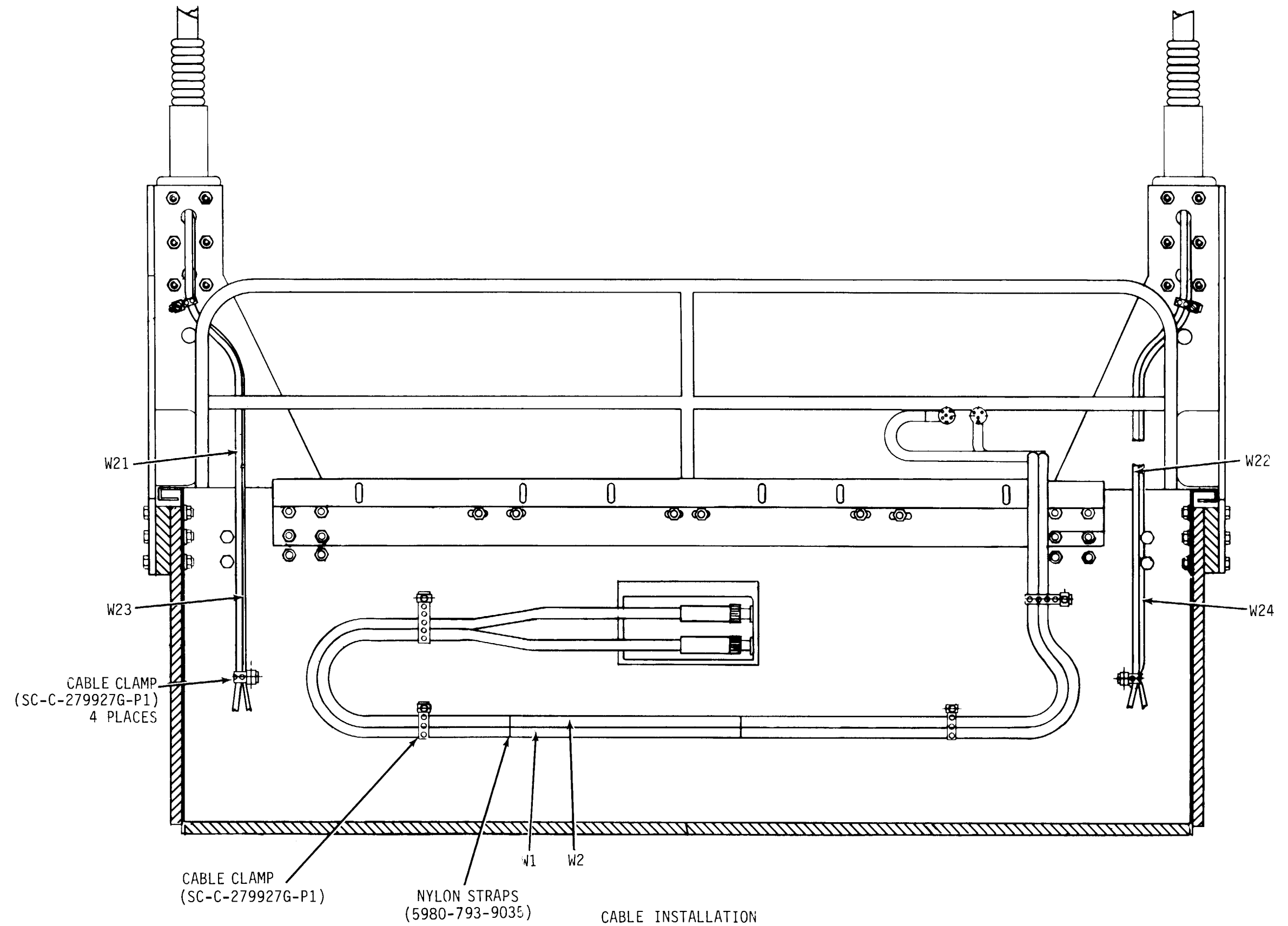
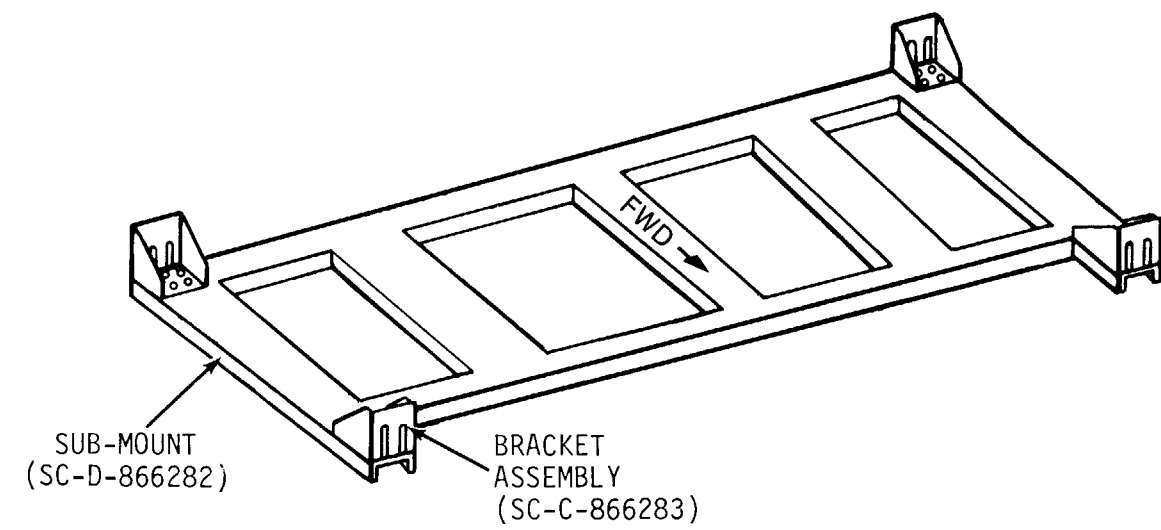
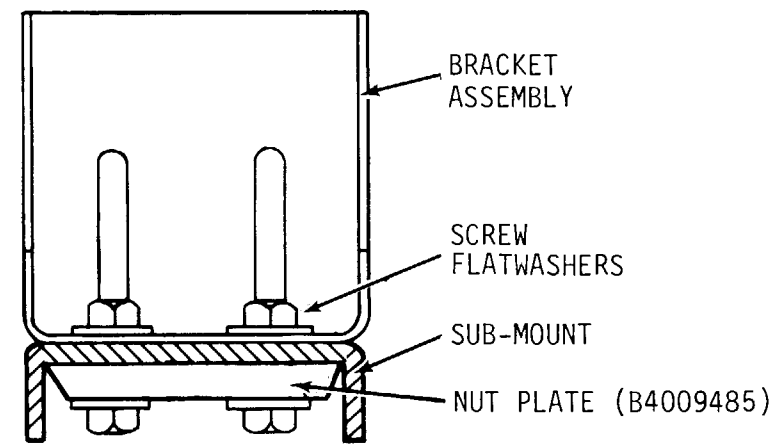
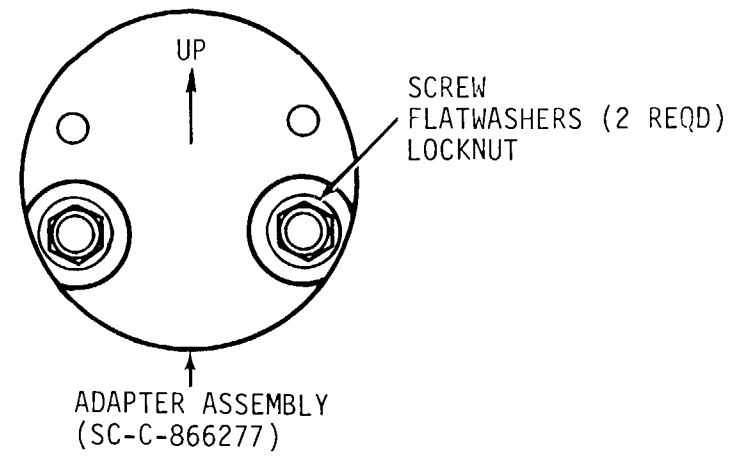


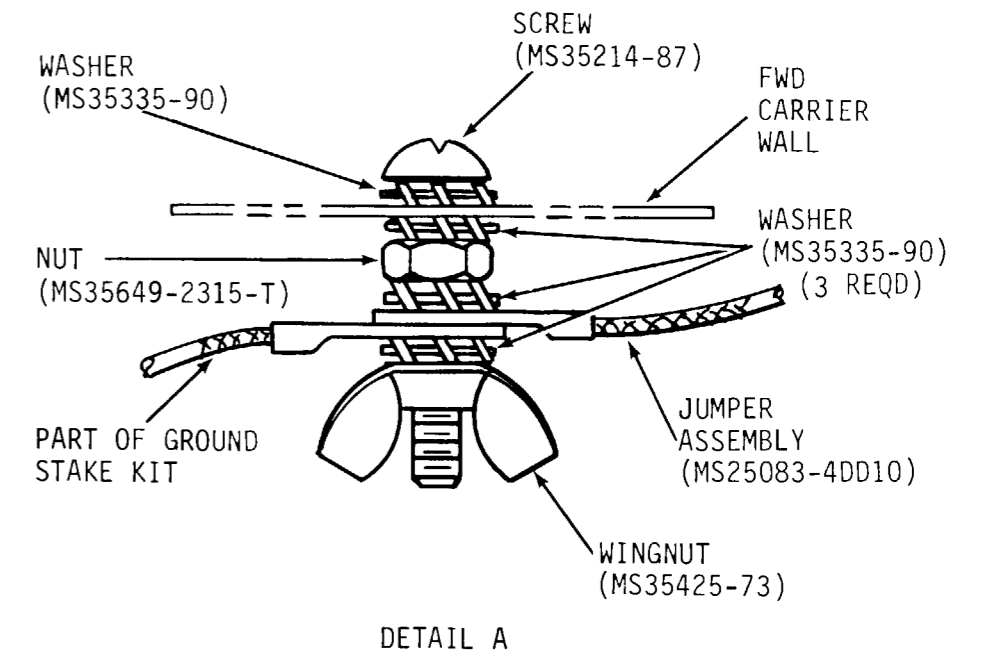
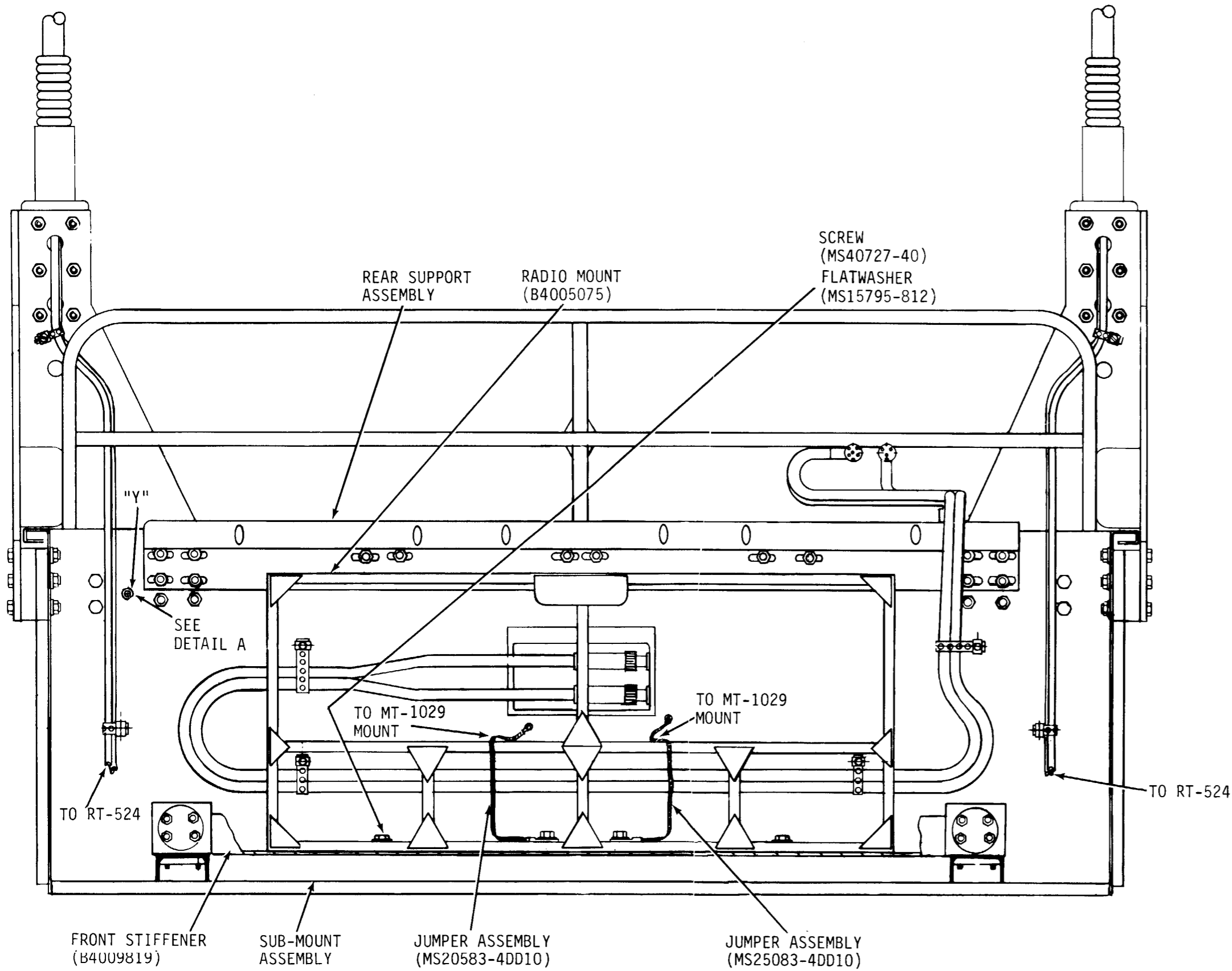
TYPICAL 4 PLACES
(2 "A" AND 2 "B")
DETAIL A



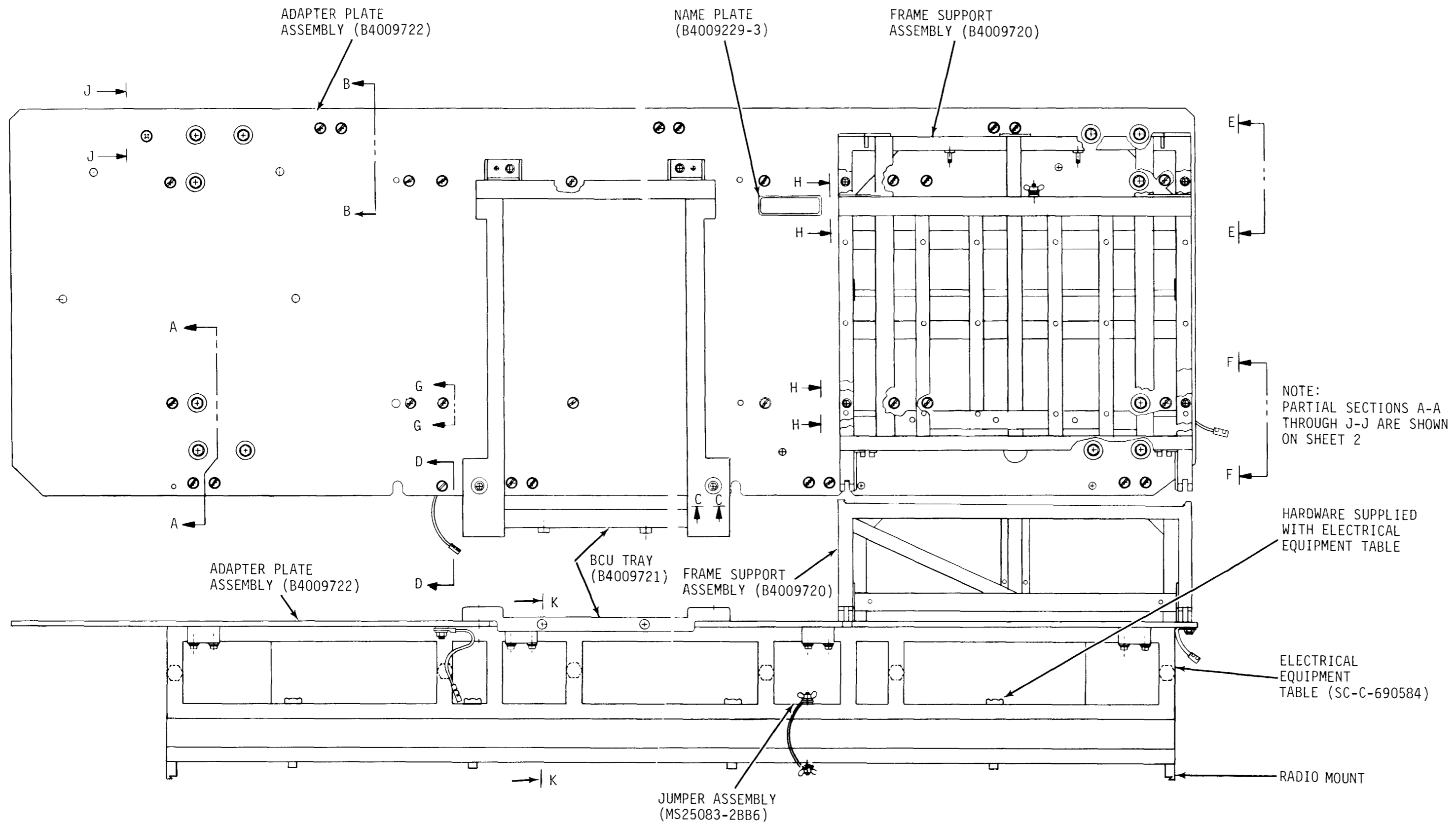
SECTION A-A



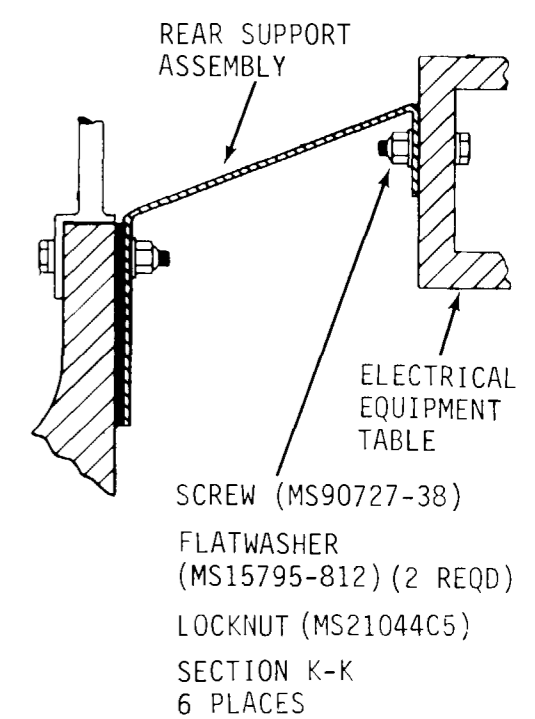




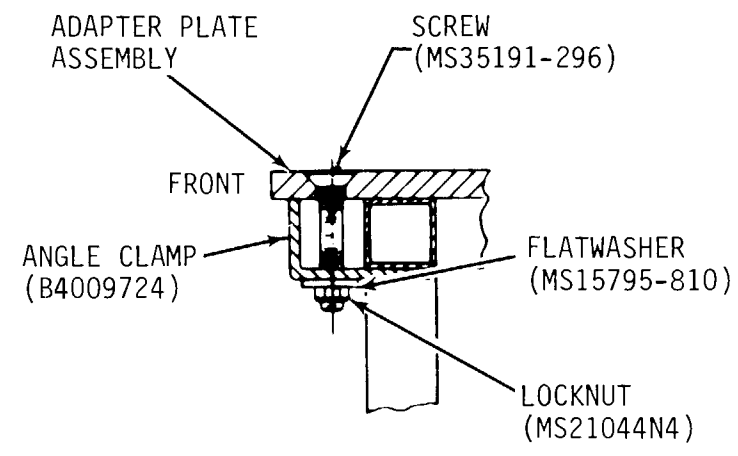
FO-3. Installation of Sub-Mount Assembly and Radio Mount



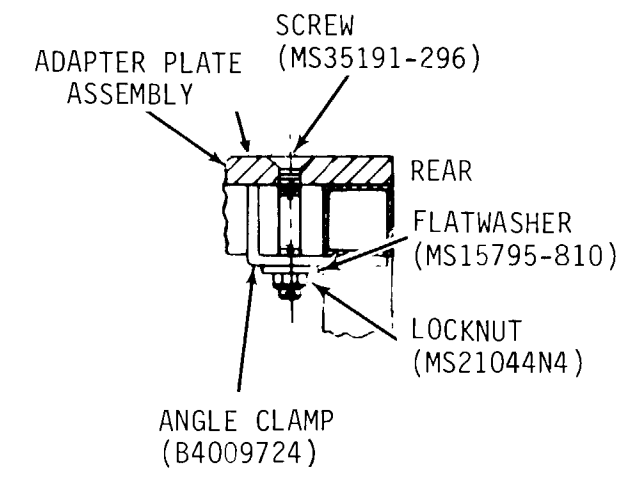
NOTE:
PARTIAL SECTIONS A-A
THROUGH J-J ARE SHOWN
ON SHEET 2



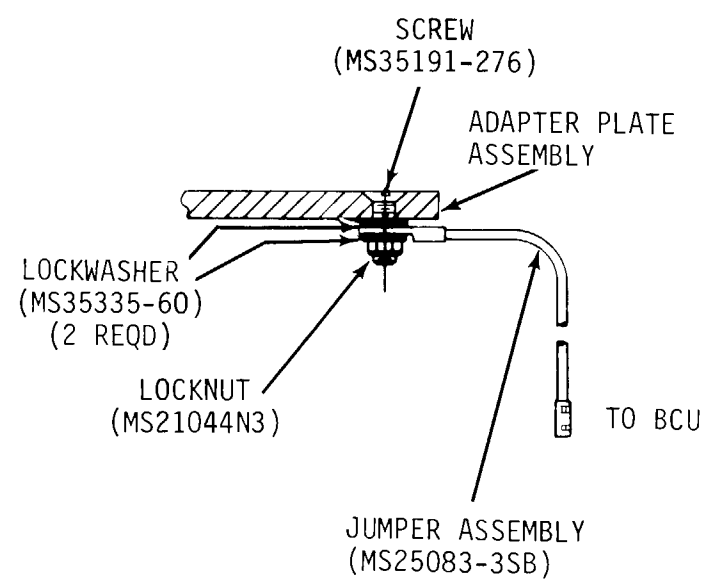
FO-4. Installation of Mounting Base Kit (Sheet 1 of 2)



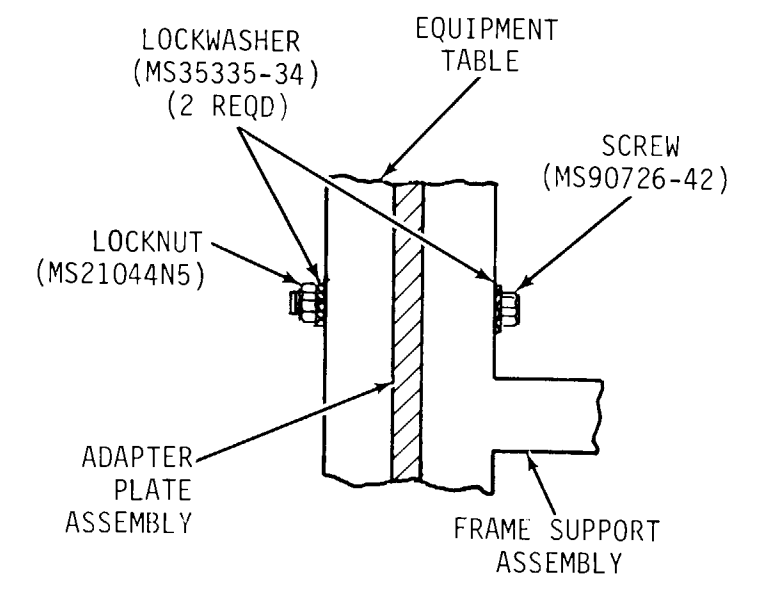
PARTIAL SECTION A-A
4 PLACES



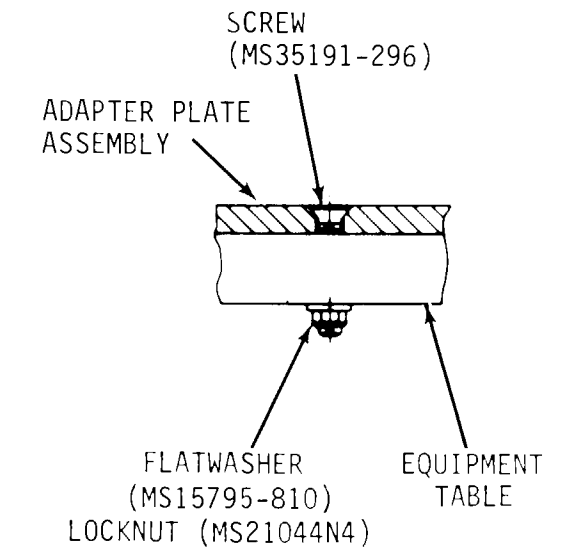
PARTIAL SECTION B-B
3 PLACES



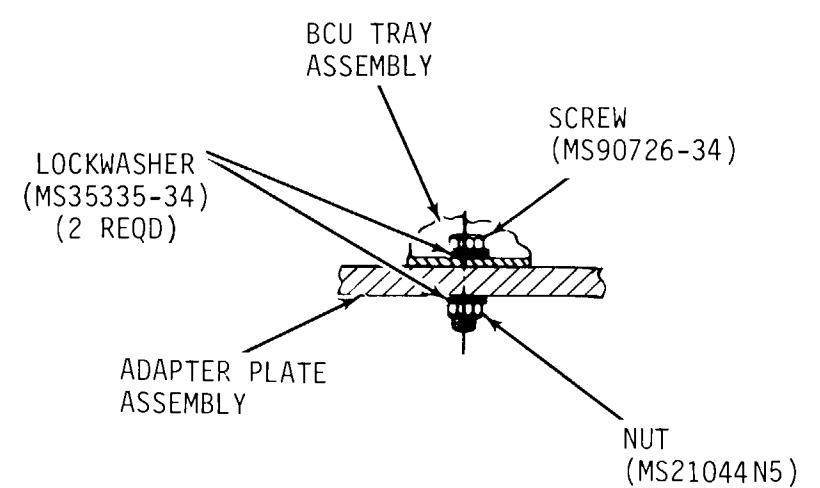
PARTIAL SECTION D-D



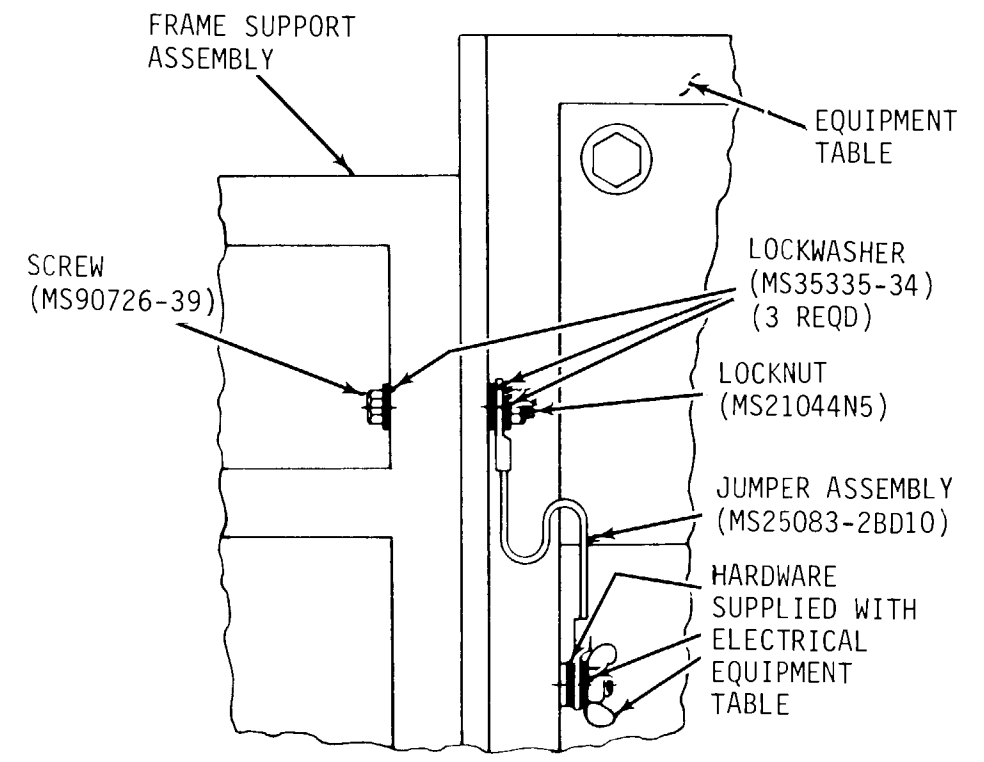
PARTIAL SECTION H-H
2 PLACES



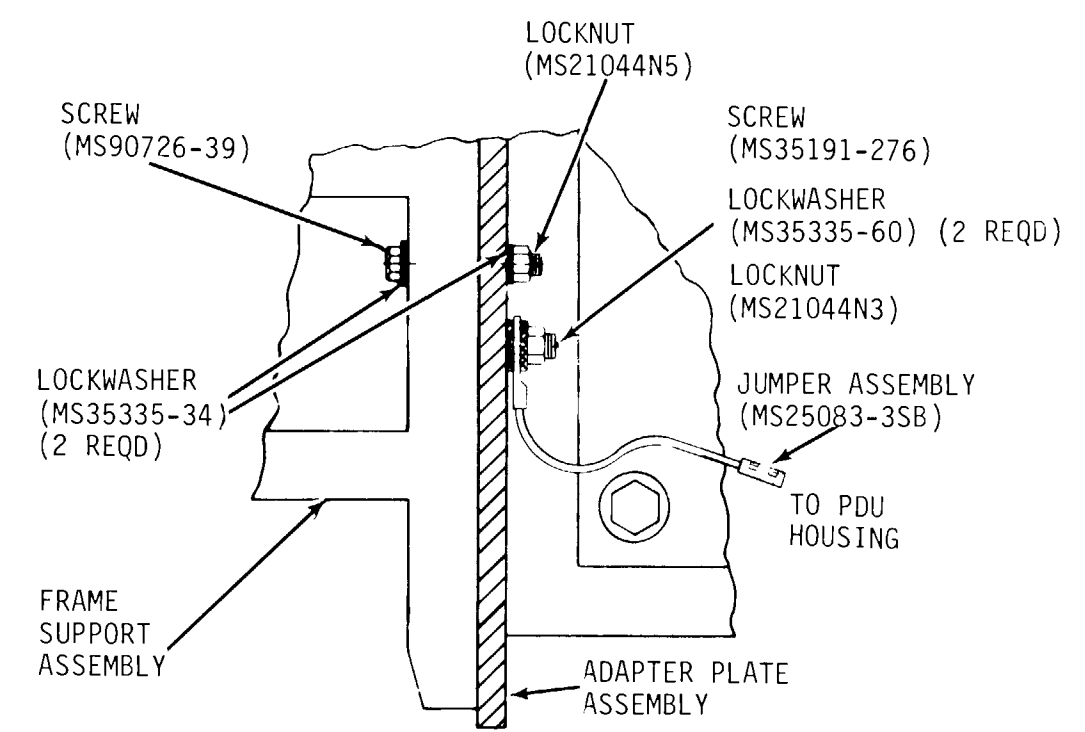
PARTIAL SECTION G-G
16 PLACES



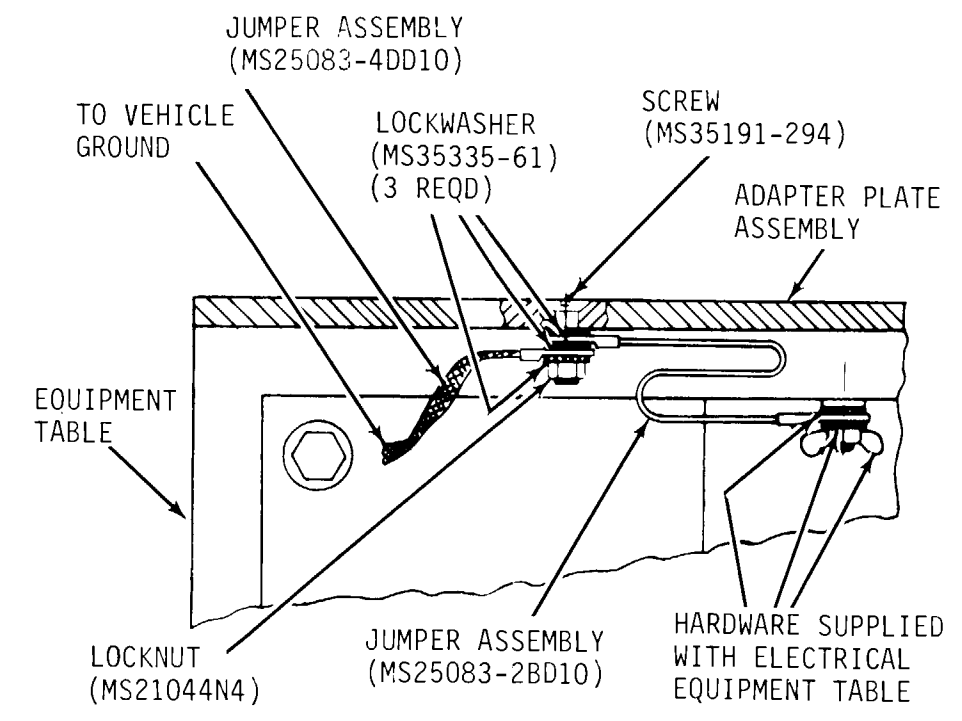
PARTIAL SECTION C-C
TYP 4 PLACES



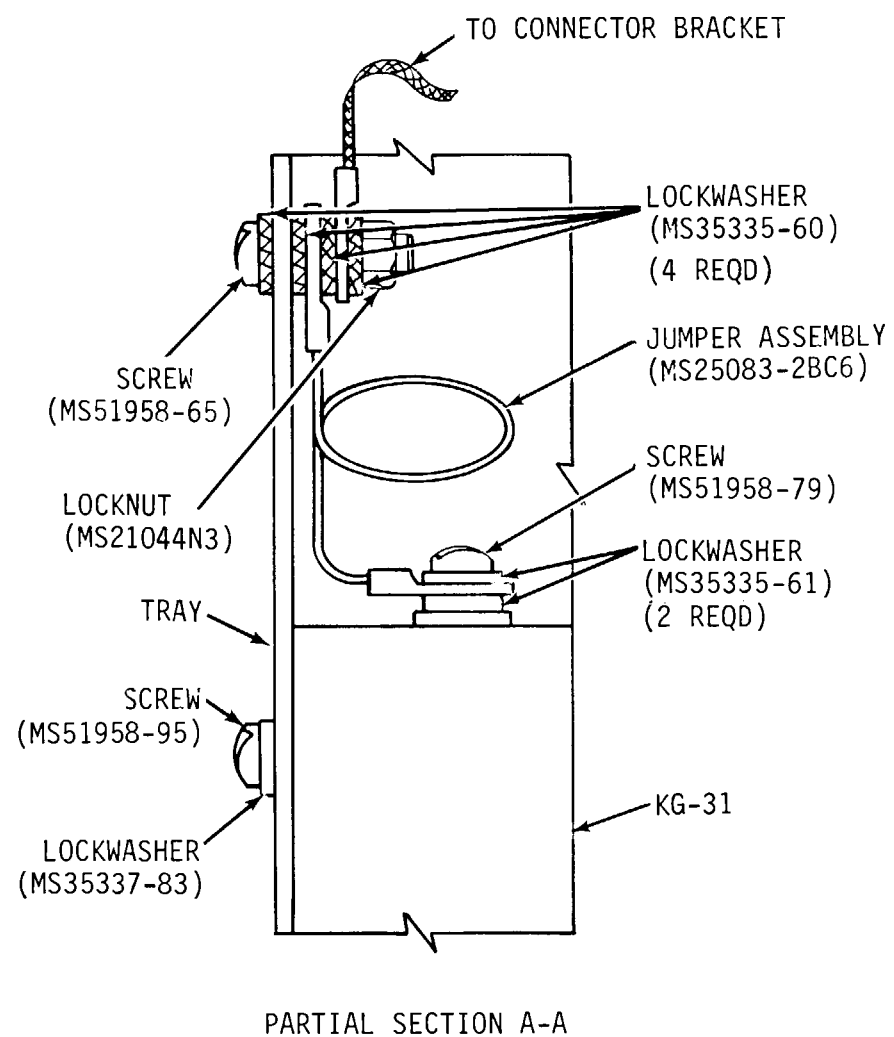
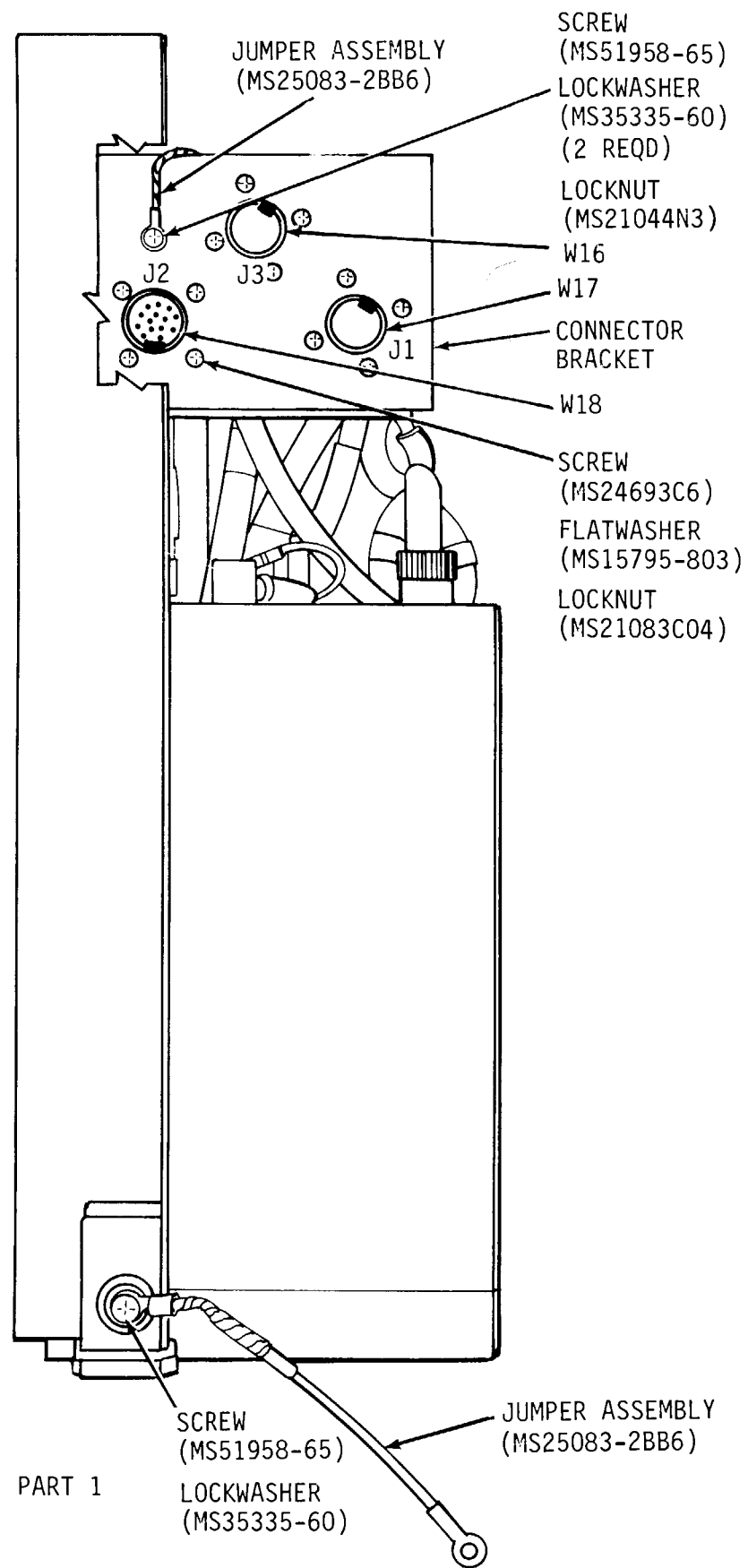
PARTIAL SECTION E-E



PARTIAL VIEW F-F

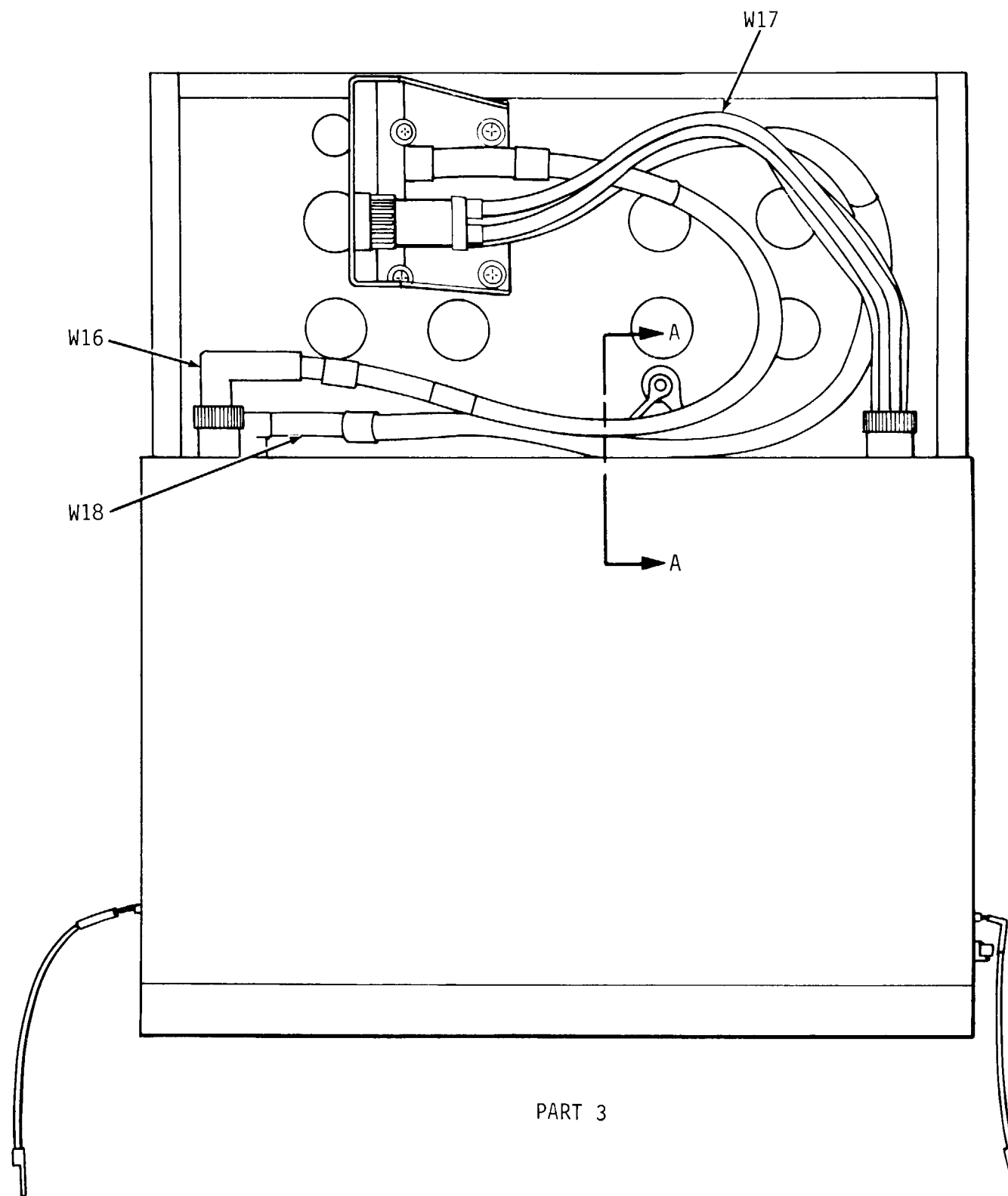


PARTIAL VIEW J-J

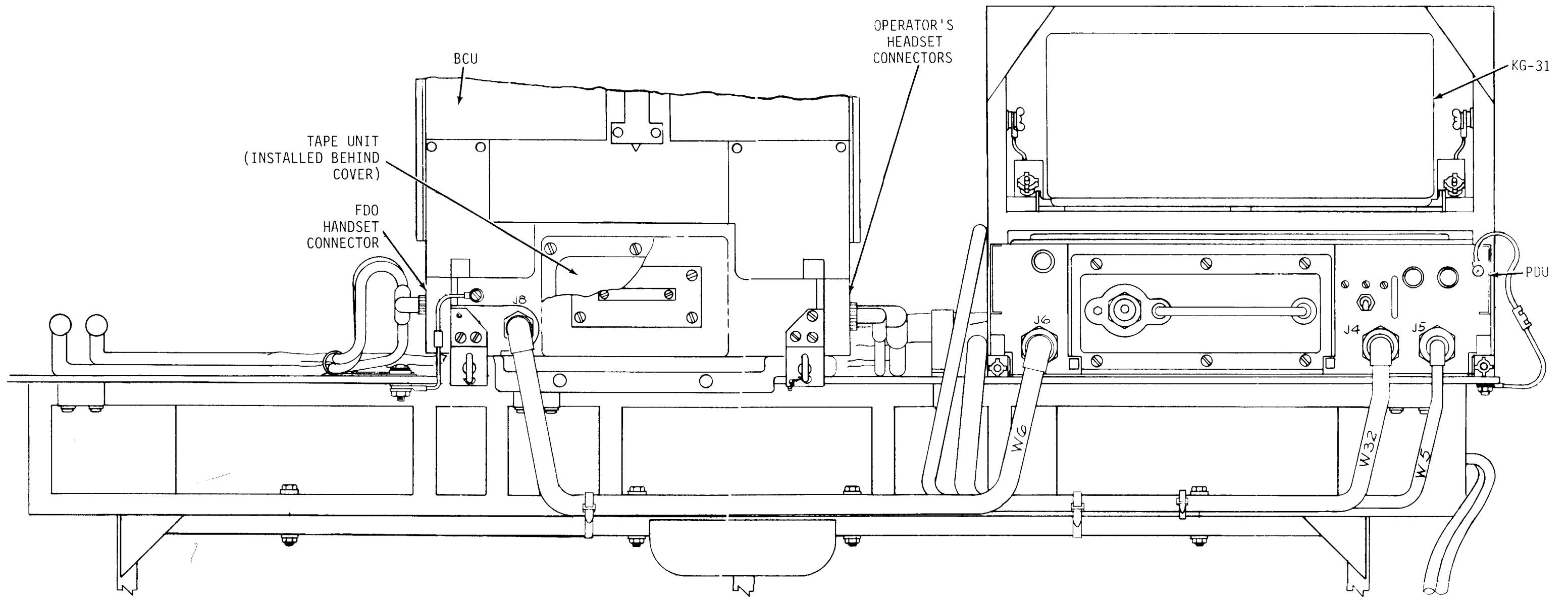


PARTIAL SECTION A-A

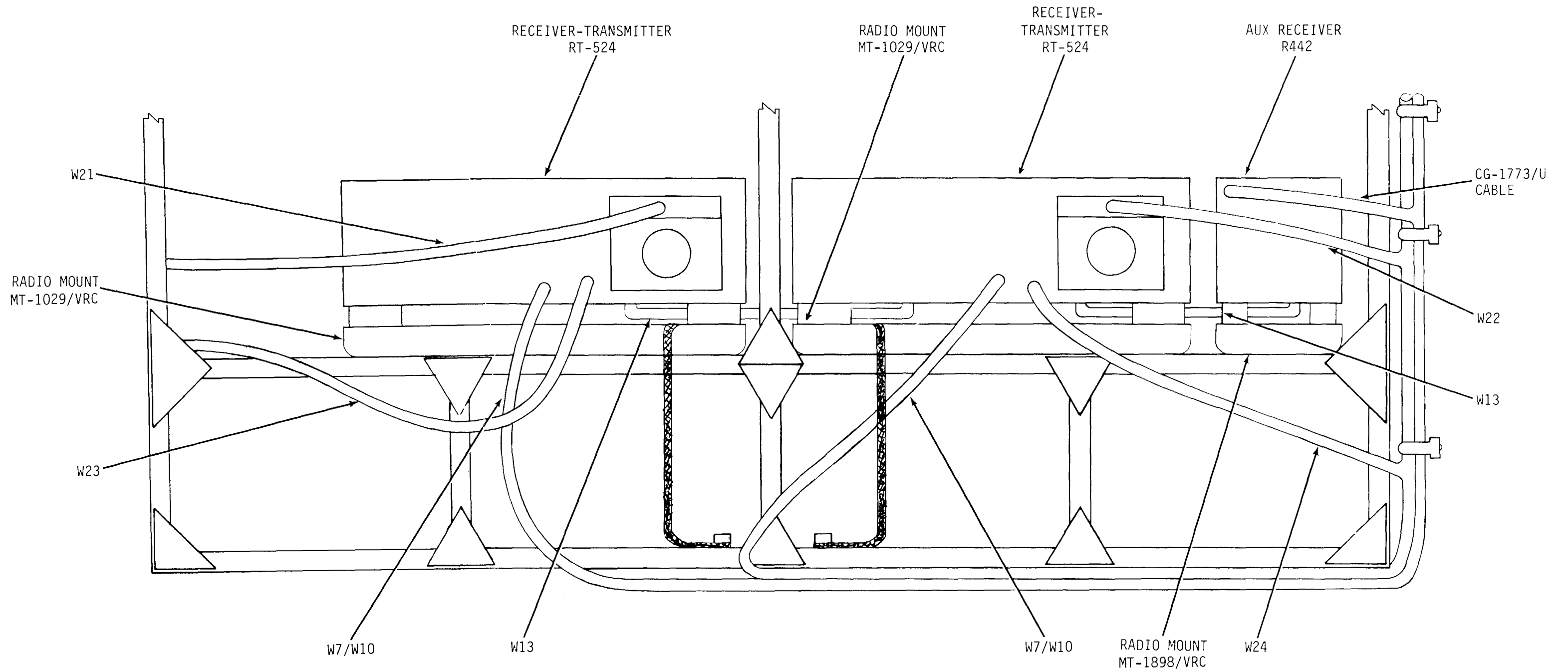
PART 2



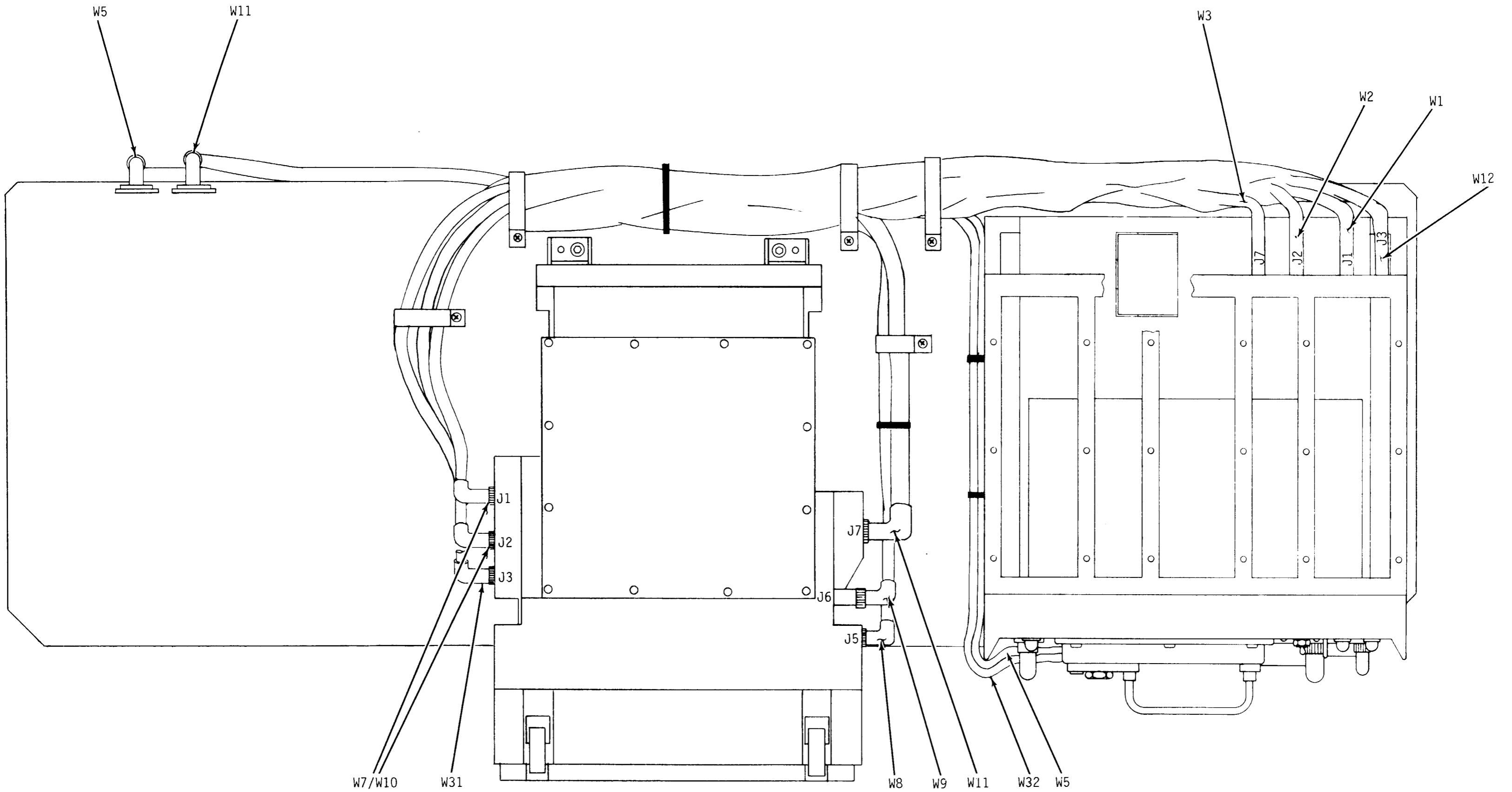
PART 3



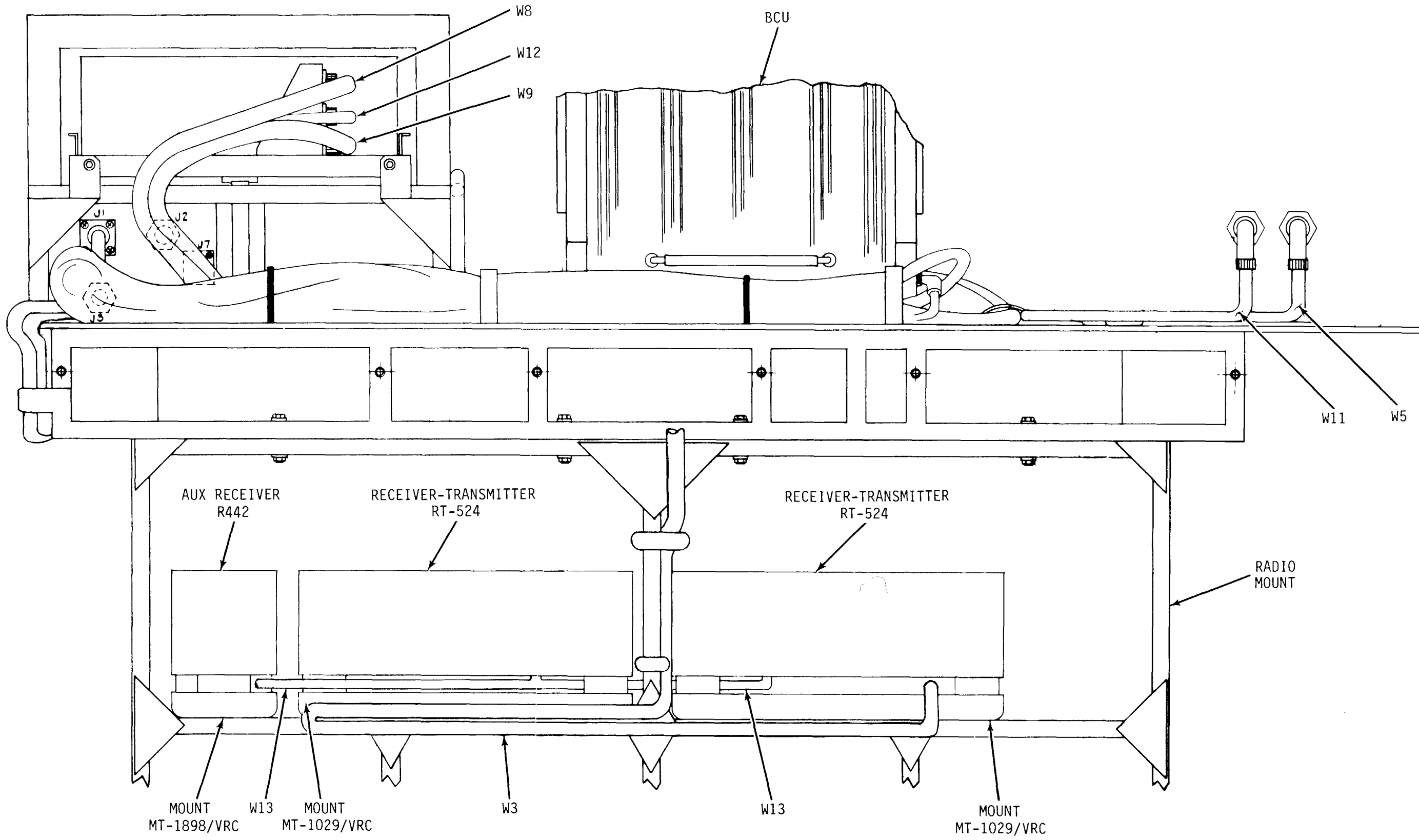
FO-6. Interconnect Kit Installation
(Front View) (Sheet 1 of 2)



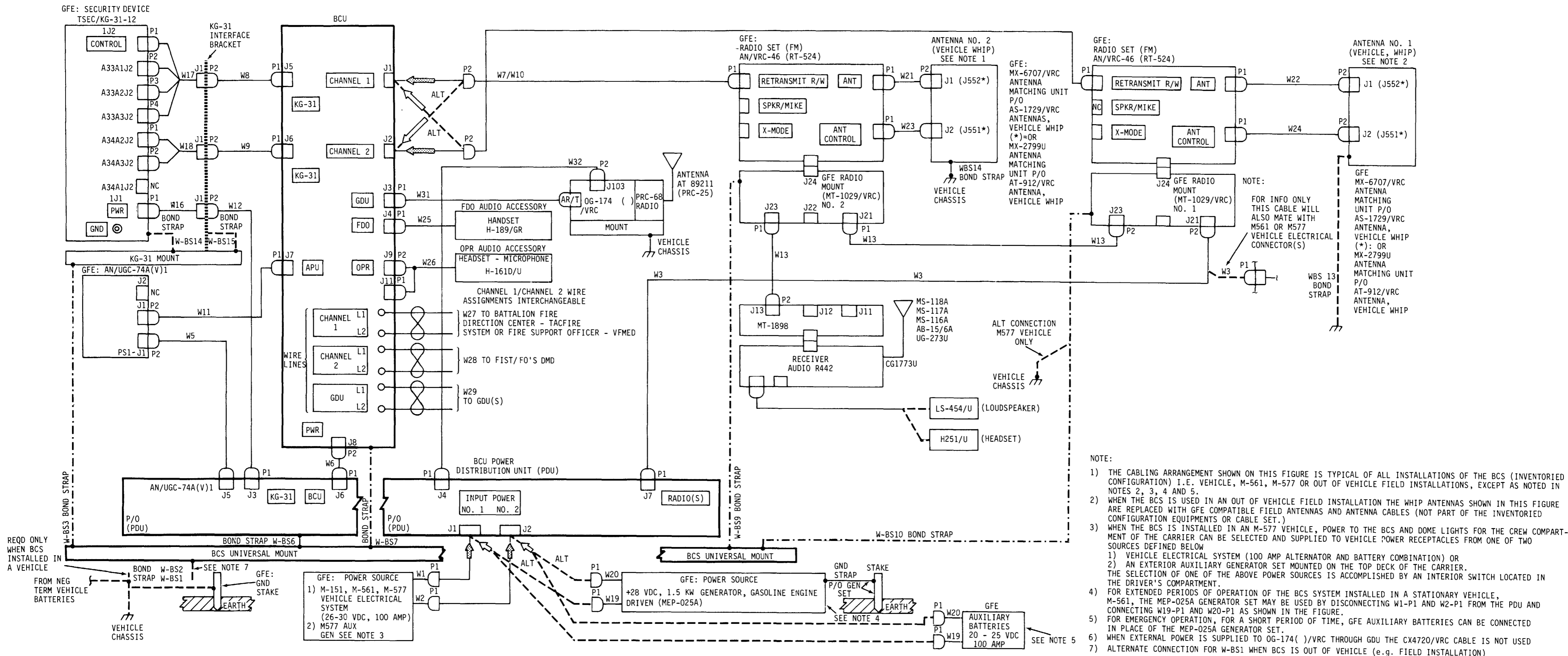
FO-6. Interconnect Kit Installation
(Front View) (Sheet 2 of 2)



FO-7. Interconnect Kit Installation
(Top View)



FO-8. Interconnect Kit Installation (Rear View)



FO-9. System Cabling Diagram

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