

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

SUPPLEMENTAL ORGANIZATIONAL MAINTENANCE
AND DEMODIFICATION INSTRUCTIONS
(INCLUDING REPAIR PARTS LIST)

FOR

SPECIAL PURPOSE MODIFICATION FOR
LIGHT INFANTRY DIVISION

TO

SEMITRAILER, VAN: SHOP EQUIPMENT,
GUIDED MISSILE SYSTEM
AN/TSM-I64
PATRIOT (BATTERY)
4935-01 -136-0233)

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13 JUNE 1988

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AND DEMODIFICATION INSTRUCTIONS
(INCLUDING REPAIR PARTS LIST)**

FOR

**SPECIAL PURPOSE MODIFICATION FOR
LIGHT INFANTRY DIVISION**

TO

**SEMITRAILER, VAN: SHOP EQUIPMENT,
GUIDED MISSILE SYSTEM
AN/TSM-164
PATRIOT (BATTERY)
(4935-01-136-0233)**

13 June 1988

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

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Section I. INTRODUCTION

1-1. General. The instructions in this supplement apply to the following vehicles for the Light Infantry Division Patriot AN/TSM-164 maintenance centers produced by Letterkenny Army Depot using M373A2 van semitrailers built by Baillie Manufacturing Company:

Serial Number

NYOOD7-B-402
 NYOOD8-B-403
 NYOODG-B-411
 NYOODN-B-417

1-2. Purpose. These instructions apply to the maintenance of the 60 hertz 115 volt electrical system installed in the above vehicles.

CAUTION

Cover plates have been installed over the old electrical system receptacles to prevent accidental use. **DO NOT REMOVE THESE COVERS.**

Section II. MAINTENANCE PROCEDURES WARNING

Make sure all electrical power sources are disconnected before performing any maintenance procedures in this supplement or personal injury or death could result.

2-1. Roadside, Curbside, and Front Wiring and Roadside, and Curbside Receptacles Removal and Installation. (Refer to figures 1, 2, 3 and 4).

NOTE

Item numbers referred to in the procedures, refer to item numbers in the referenced figures and to items in, the parts list.

a. Removal.

- (1) Remove cover (3) from junction box (1).
- (2) Unscrew nut securing conduit in junction box.
- (3) Remove two screws securing receptacle in box and remove receptacle (2) from box (1).
- (4) Disconnect wires from receptacle (2).
- (5) Remove cover screw and cover from load center (7) and disconnect wires from breaker (8).

NOTE

Remove light lenses and bulbs as necessary to access retaining straps and conduits.

- (6) Remove rivets (4) and retaining straps (5) securing conduits (6) to front and side walls.
- (7) Remove wires (23), (24) and (25) from conduit.
- (8) To remove junction boxes (1), remove rivets (4) securing boxes to side walls.

b. Installation.

- (1) Install junction box (1) with four blind rivets (4), if removed.
- (2) Cut conduits (6) to length and position and secure to front and side walls with straps (5) and blind rivets (4).
- (3) Insert fittings (from junction box) into ends of conduit and install conduit through junction box nut and into junction box. Tighten nut to secure conduit.
- (4) Thread wires (23), (24) and (25) through conduit, cut to length, strip ends and connect to receptacle (2). (See figure 2 and Wiring Diagram, figure 6).
- (5) Secure receptacle (2) into junction box (1).
- (6) Install cover (3) on junction box (1).

2-2. QO Load Center and Breaker Removal and Installation (figure 4)

a. Removal.

- (1) Remove cover screw and cover from load center (7).
- (2) Disconnect left hand and bottom wires from breaker (8).
- (3) Loosen compression nuts on conduits (6) and pull conduits away from wall until wires are clear of load center.
- (4) Pull out breaker (8).
- (5) Remove three rivets (4) securing load center (7) to front wall.

b. Installation.

- (1) Position load center (7) on inside front wall and secure to wall with three blind rivets (4).
- (2) Snap in breaker (8).
- (3) Insert two conduits (6) into bottom of load center and one conduit (6) into left side.
- (4) Connect bottom and left hand wires to breaker (8). (See Wiring Diagram, figure 6)
- (5) Install cover on load center (7) and secure with screw.

2-3. Electrical Wiring Box Removal and Installation (figure 5).

a-. Removal.

- (1) Remove front cover screw and front cover from box(14).
- (2) Remove three pins and wires from plug connector (15)
- (3) Remove locknut (21) from conduit bushing (13).
- (4) Remove four rivets (11) and remove box (14).
- (5) If necessary, remove conduit bushing (13), pipe nipple (12), coupling (9) and 90 degree elbow (10).

b. Installation.

- (1) If removed, install 90 degree elbow (10) on conduit (6), install coupling (9) into elbow (10) and install pipe nipple (12) into coupling (9).
- (2) Coat rear edge of box (14) all the way around with adhesive (22).
- (3) Position box (14) on front with pipe nipple (12) through hole in rear of box.
- (4) Secure box (14) with four blind rivets (11).
- (5) Install locknut (21).
- (6) Install conduit bushing (13) on nipple (12).
- (7) Insert wire pins into plug connector (15) with black wire in A, white wire in B and green wire in C.
- (8) Install front cover on box (14) and secure with screw

2-4. Connector Plug Removal and Installation (figure 5).

a. Removal.

- (1) Remove front cover screw and front cover from box (14).
- (2) Pull wire pins from connector plug (15).
- (3) Remove four screws (16), lockwashers (17) and flat washers (18).
- (4) Remove dust cover (19) from connector plug.
- (5) Remove connector plug (15).

b. Installation.

- (1) Place connector plug (15) in bottom hole of box (14) and secure with four screws (16), lockwashers (17) and flat washers (18).
- (2) If installing new wires, solder-pins to wires and insert pins into connector plug (15). (See para. 2-3b(7)).
- (3) Install front cover on box and secure with screw.
- (4) Install dust cover (19) on connector plug (15).

2-5. Identification Plates (60 HZ, 115 VAC) Installation (figure 7).

Peel backing from small identification plates and apply beneath each junction box (1) with top edge of plate 2-inches (plus or minus .25-inch) below bottom of junction box. Peel backing from large identification plate and apply approximately centered 2-inches below electrical box (14)

NOTE

Identification plates will be prepared in accordance with instructions in paragraph 3-2.

Section III. FABRICATIONS/MODIFICATIONS**3-1. Fabrication of Identification Plates (figure 7).****NOTE**

The following data should be used by an installation with data plate preparation capabilities.

- a. Small Identification Plate.
 - (1) Material is .005 thick photo foil with Scotch 468 adhesive.
 - (2) Aluminum characters 1/4-inch high on black background.
 - (3) Lettering shall be in accordance with MIL-STD-1472, paragraph 5.5.5 with characters positioned approximately as shown.
- b. Large Identification Plate.
 - (1) Material is Mil-C-53039 or Mil-C-46168 polyurethane.
 - (2) Workmanship and type of lettering shall be in accordance with MIL-STD-130.

3-2. Modification of Electrical Wiring Box (item 14). (Refer to figure 8).**NOTE**

The electrical wiring box (14), part number AB-666RB (63098) can be procured directly from The Austin Company, P.O. Box 1160, Yadkinville, NC 27055 but must be modified as follows:

- a. Back (Mounting End) Modification.
 - (1) On back of box, scribe a center mark 3.00-inches from the top and 2.88-inches from either side.
 - (2) At the center mark, drill a hole .875--inch in diameter.
 - (3) About 1/2-inch from each of the four corners-, drill a 3/16-inch mounting hole.
- b. Bottom Modification.
 - (1) On bottom of box, scribe a center mark 3.00-inches from the front and 2.88-inches from either side.
 - (2) Measure .500-inch to each side of center mark and scribe the four corner points.
 - (3) At the center mark, drill a hole .62-inch in diameter.
 - (4) At each of the four corner points, drill a .156 diameter hole.
 - (5) Install connector plug (15) in accordance with paragraph 2-4b.

Section IV. ELECTRICAL SYSTEM DEMODIFICATION

4-1. General. The following procedures will be used to demodify the van electrical system if it is required to return these vans to their previous configuration.

4-2. Roadside, Curbside, and Front Wiring and Roadside and Curbside Receptacles Removal. Remove the 60 hertz 115 volt AC junction boxes (1) and conduits (6) as specified in paragraph 2-1a.

4-3. QO Load Center and Breaker Removal. Remove breaker (8) and load center (7) as specified in paragraph 2-2a

4-4. Electrical Wiring Box Removal. Remove electrical wiring box (14) as specified in paragraph 2-3a. Fabricate suitable plates to cover the front interior and exterior electrical wiring box holes. Apply adhesive (22) to the plates and secure to the interior and exterior walls with rivets (4).

4-5. Identification Plates. Scrape or peel off the 60 HZ 115 VAC identification plates from the locations at the removed junction boxes and the electrical box.

4-6. Original Junction Boxes. Remove covers from the original junction boxes and install receptacles if removed.

← FRONT

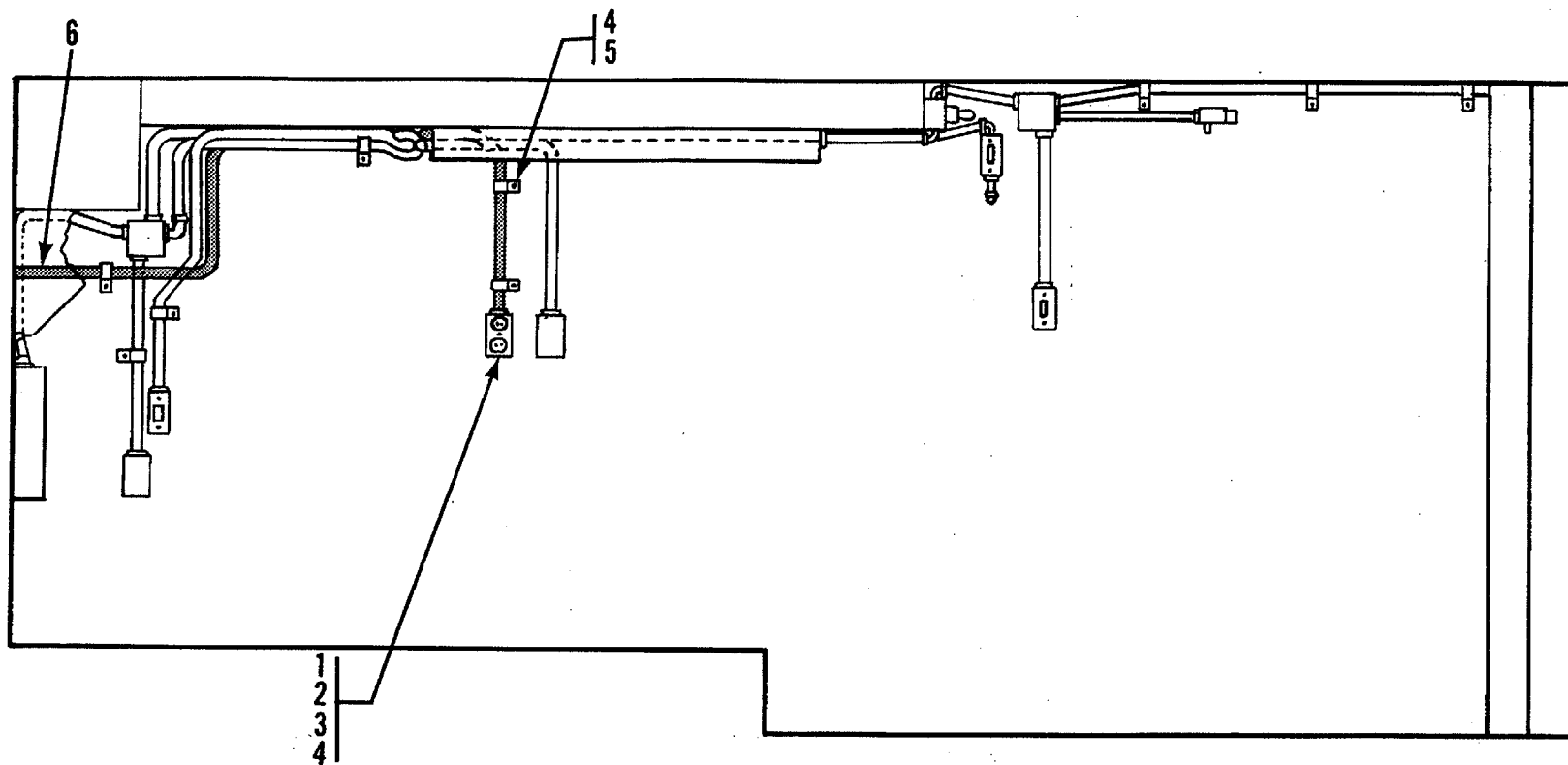


Figure 1 Curbside Van Interior.

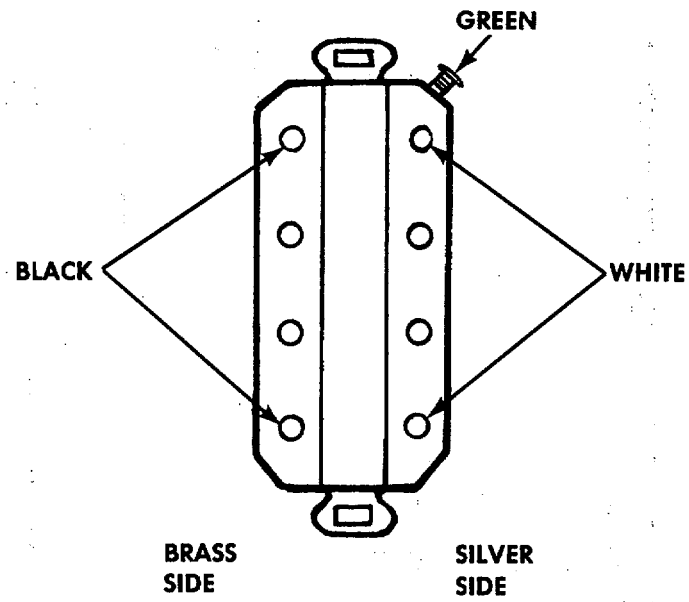


Figure 2 60 Hertz 115 Volt AC Receptacle Wiring.

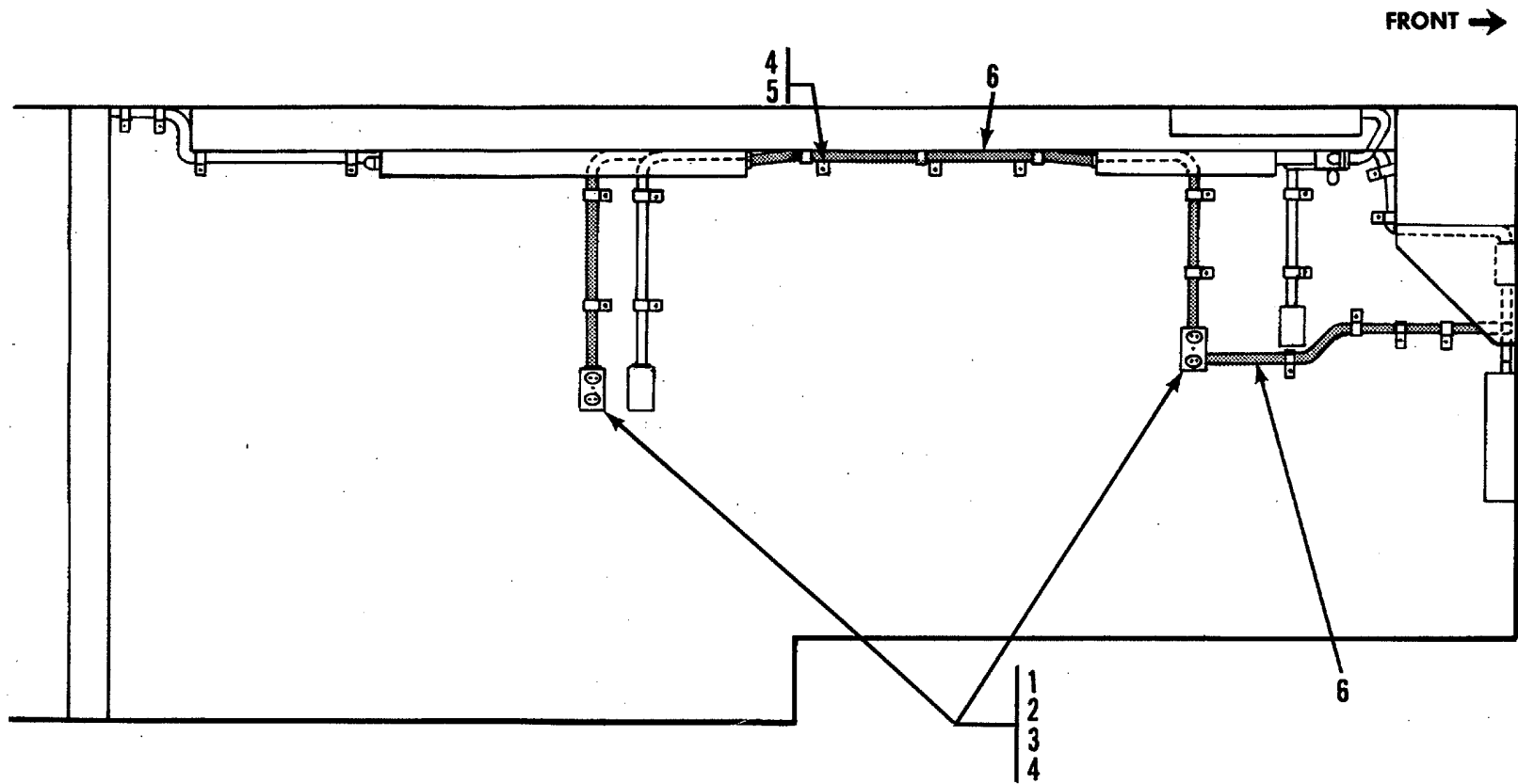


Figure 3. Roadside Van Interior.

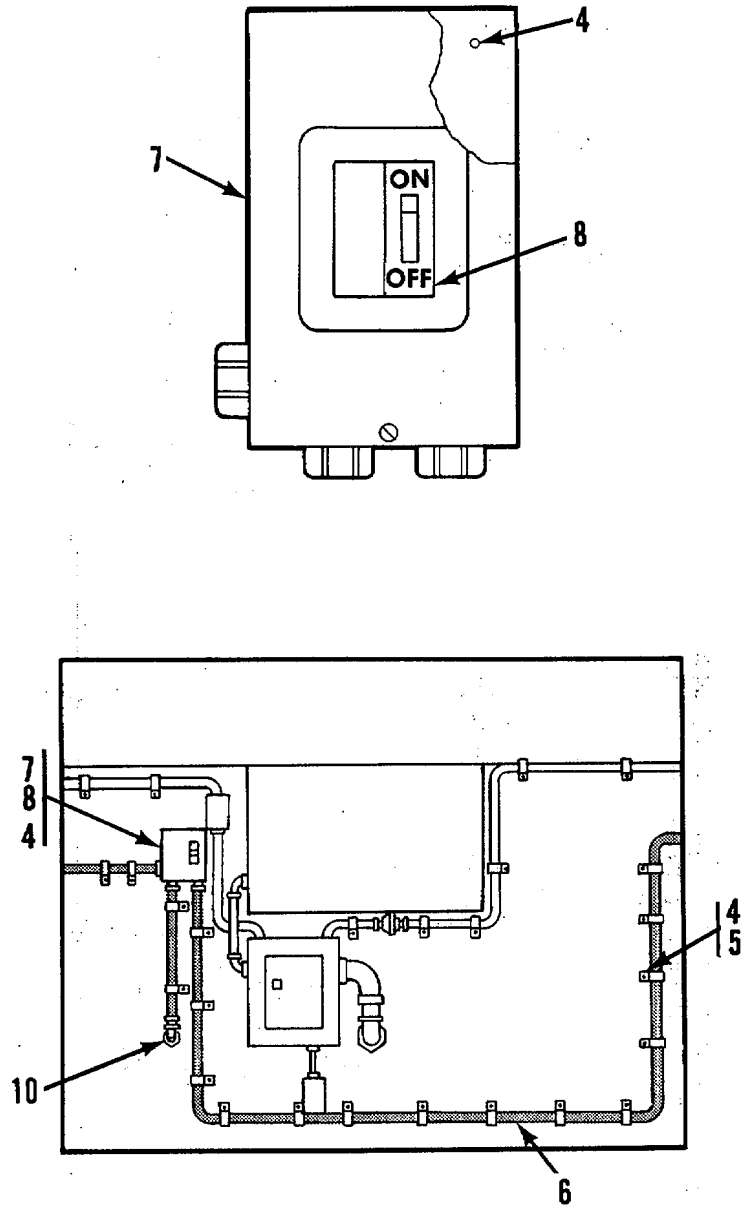


Figure 4. Front Van Interior

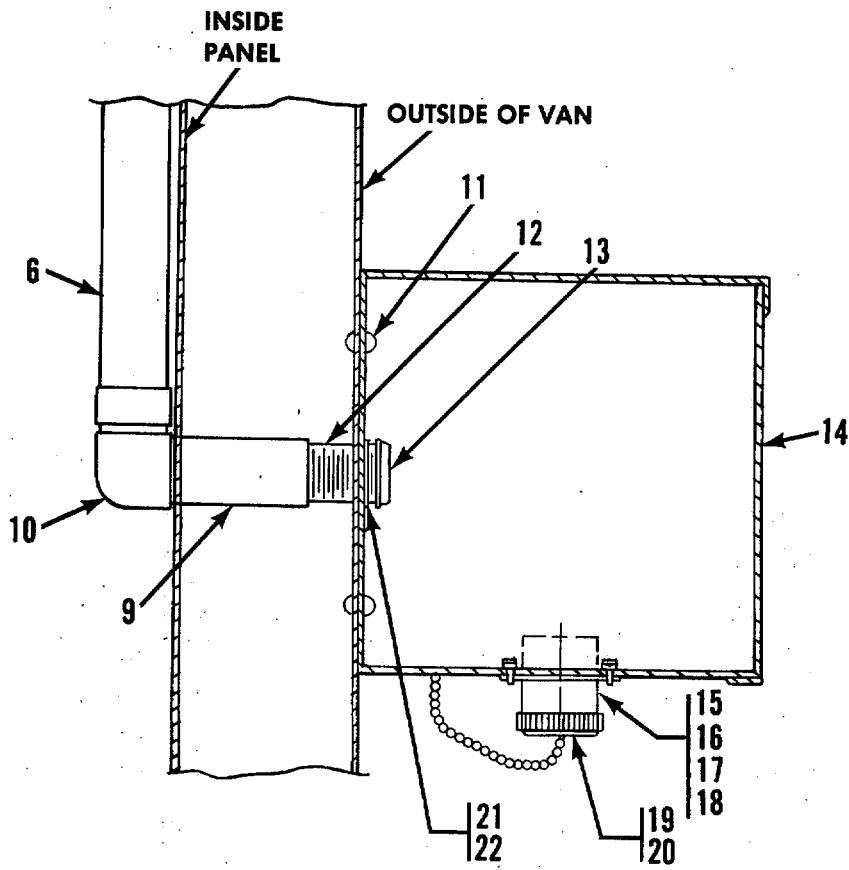


Figure 5. Front Exterior Electrical Wiring Box.

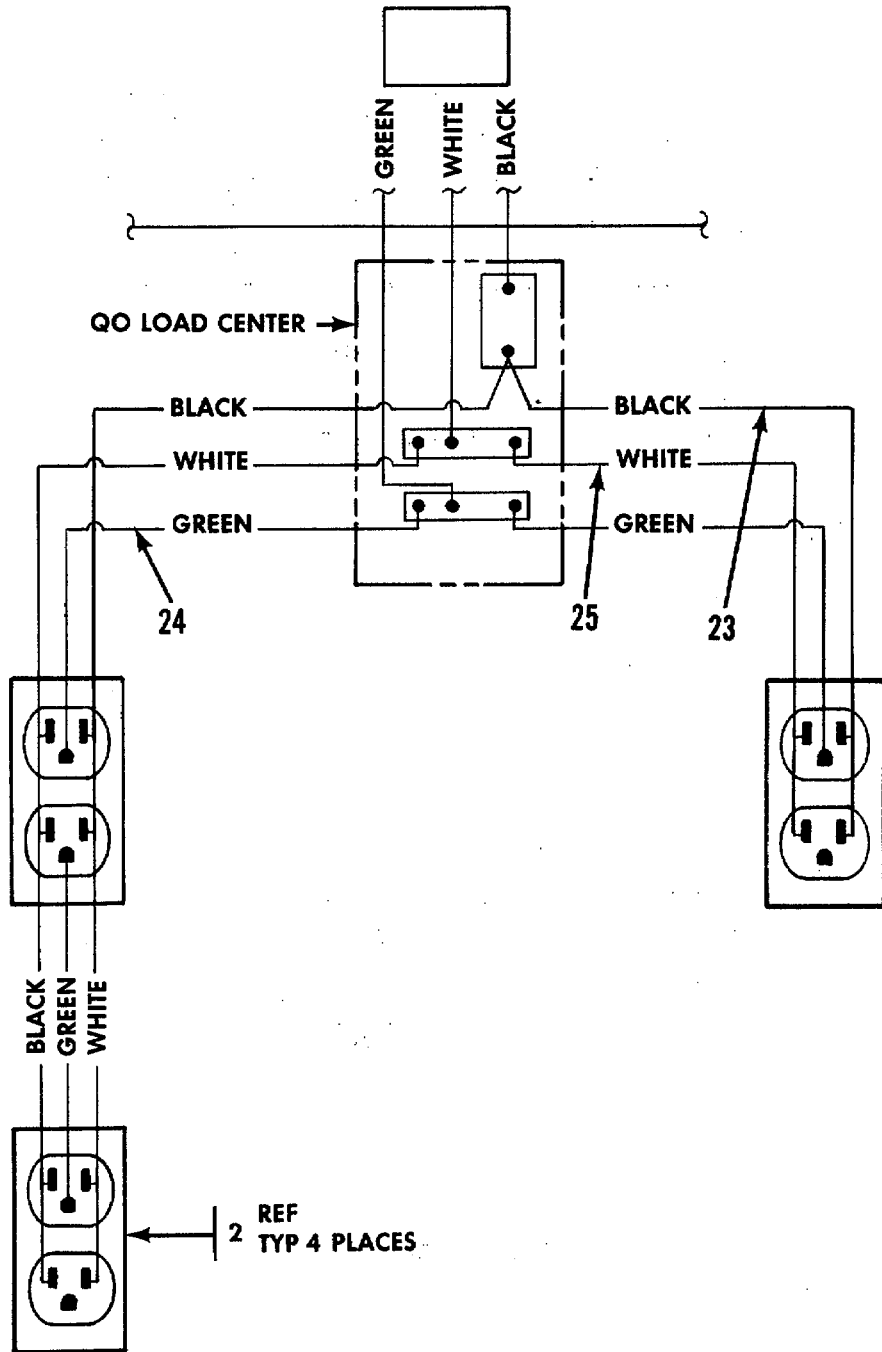
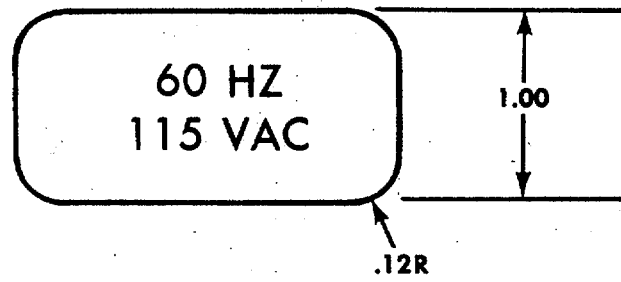
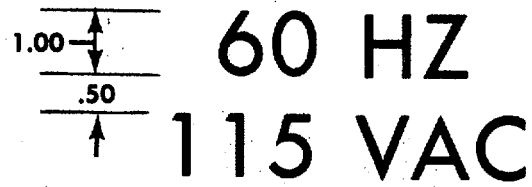


Figure 6. 60 Hertz 115 Volt AC Wiring Diagram.



JUNCTION BOX PLATE



ELECTRICAL BOX PLATE

Figure 7. Identification Plates.

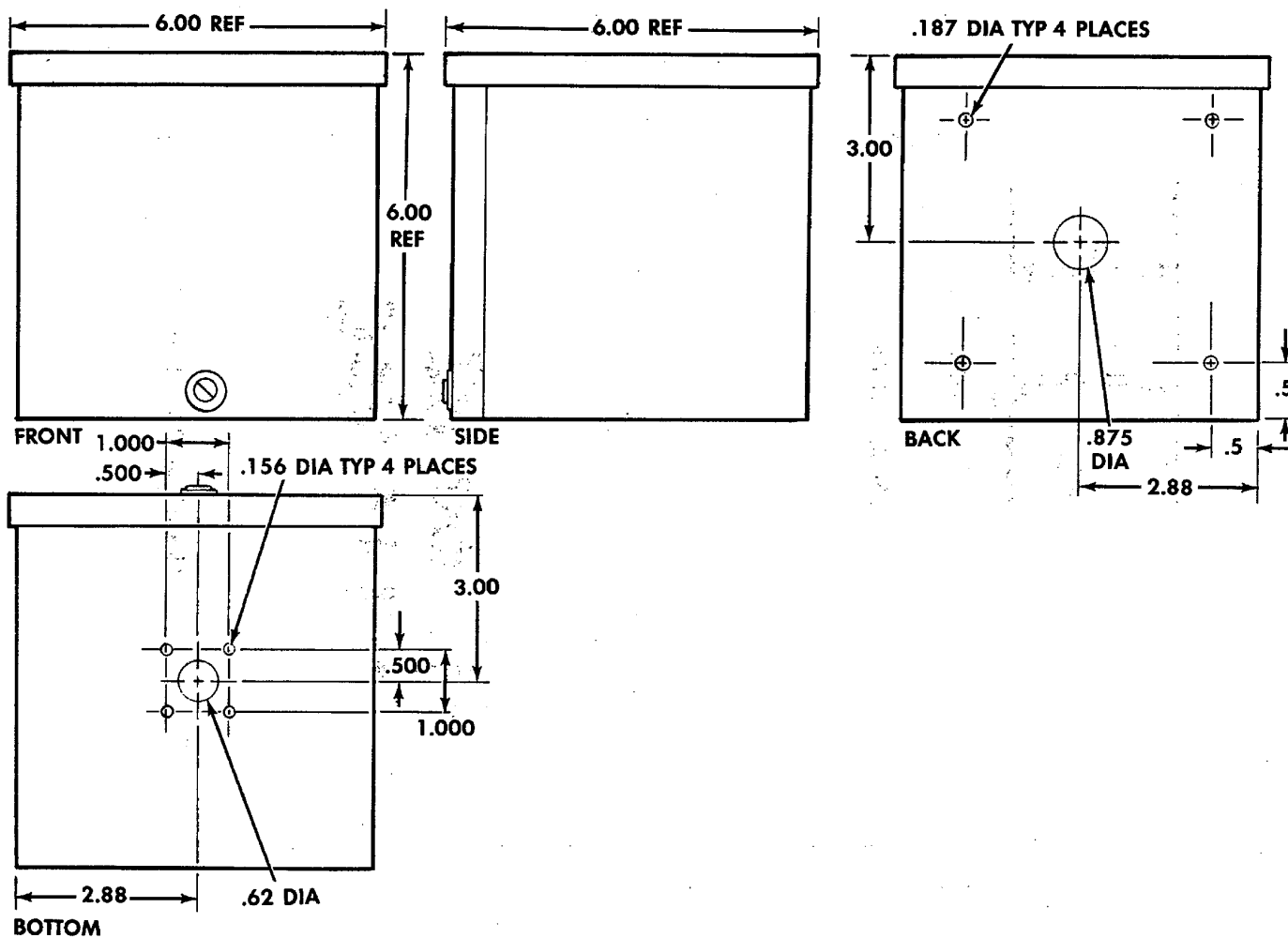


Figure 8. Electrical Wiring Box (Item 14) Modification.

ITEM NO.	QTY. REQ.	FSCM NO.	DRAWING OR SPECIFICATION NO.	PART OR IDENT. NUMBER	NOMENCLATURE OR DESCRIPTION	NATIONAL STOCK NUMBER
1	3	06542	FED-STD-128	TYPE 111 SIZE 1 STYLE 23	BOX JUNCTION	5975-00-284-5827
2	3	06542	W-C-596	W-C-596/12	RECEPTACLE	5935-01 -092-3080
3	3	81348	FED-STD-18	TYPE V111, SIZE W STYLE 71	COVER, STEEL	5975-00-682-0343
4	A/R	18876	C13044498	13044498-8	RIVET, BLIND	5320-00-850-3264
5	A/R	96906	MS51956	MS51956-2	STRAP, RETAINING	5340-00-598-2570
6	A/R	18876	13153897	13153897-1	CONDUIT	5975-01-155-6724
7	1	56365	QO2L30S	QO2L30S	QO LOAD CENTER	5925-01-229-8536
8	1	81348	W-C-375	W-C-375/10-003	BREAKER, OUTLET, 20 AMP	5925-00-878-1932
9	1	80244	WW-P-521	TYPE 11, STL 1/2 DIA	COUPLING	
10	1	81284	W-F-406	TYPE, CLASS 3 STYLE J. 1/2 IN.	CONNECTOR, BOX, ELEC 90° ELBOW	5975-00-280-3380
11	4	81349	MIL-R-24243	MIL-R-24243/6-C504H	RIVET, BLIND	5320-00-317-0812
12	1	96906	MS51953	MS51953-78	NIPPLE, PIPE	4730-00-196-1493
13	1	81348	W-F-408	TYPE 111, CLASS 1 KIND R. SIZE 1/2	BUSHING, ELEC. CONDUIT	5975-00-100-8693
14	1	63098	LEAD 5919	AB-666RB	BOX, ELEC. WIRING, WEATHERPROOF	
15	1		FP3106-16-1OP	FP3106-16-1OP	CONNECTOR, PLUG, ELEC.	
16	4	96906	MS51957	MS51957-28	SCREW, MACHINE	5305-00-054-6652
17	4	96906	MS35338	MS35338-136	WASHER, LOCK	5310-00-929-6395
18	4	96906	MS15795	MS15795-806	WASHER, FLAT	5310-00-880-5976
19	1	77820	10-229125-16	10-229125-16	COVER, DUST	5340-01-142-3473
20	1	18876	C13044498	13044498-9	RIVET, BLIND	5320-01-253-9066
21	1	81348	W-F-408	TYPE 111, CLASS KIND P. SIZE 1/2	LOCKNUT, ELEC. CONDUIT	5975-00-100-8775
22	A/R	19207	9324277	9324277	ADHESIVE (RTV3145)	8040-00-144-9774
23	A/R	81348	FED-SPEC-J-C-30	THHN-06-C-F-1/12 T- UJ-0	WIRE, ELECT. STRANDED BLACK	6145-00-163-7982
24	A/R	81348	FED-SPEC-J-C-30	THIN-06-C-F-1/12 T-UJ-5	WIRE, ELECT. STRANDED GREEN	6145-00-163-7984
25	A/R	81348	FED-SPEC-J-C-30	THHN-06-C-F-1/12 T-UJ-9	WIRE, ELECT. STRANDED WHITE	6145-00-163-7986

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