

TECHNICAL MANUAL

INSTALLATION OF RADIO EQUIPMENT IN TRUCK, 1/4-TON, 4 x 4

CHANGES }  
No. 1 }

WAR DEPARTMENT  
WASHINGTON 25, D. C., 26 January 1945

TM 11-2715, 30 September 1944, is changed as follows:

2. Equipment.

Installations covered include the following radio sets:

SCR-193-K

\* \* \*

SCR-284-( )

SCR-499-( )

SCR-506-( )

\* \* \* \* \*

SECTION IX (Added.)

RADIO SET SCR-499-( )

20. Required Parts.

a. Items necessary for installation of Radio Set SCR-499-( ) in Truck, 1/4-ton, 4 x 4 are listed below:

Quantity	Stock No.	Item
4	2A315	Anticorona ball.
1	2C527-939	Antenna Tuning Unit BC-939-( ), including 1 Capacitor CA-423, 1 capacitor, vacuum, 12-mmf.
10 feet		Braid, copper, stranded, for ground lead.
*1	2Z1119	Box BX-19-A may be removed from Chest CH-121-( ).
2	6Z6815-13	Bulb, 50-watt, 115-volt, for trouble lamp.
1	2Z2588	Chest CH-88-A.
1	2Z2599-121	Chest CH-121-( ).
2	2Z2651-421	Clamp MC-421.
2	2Z2651-422	Clamp MC-422.
2	2Z2651-423	Clamp MC-423.
1	2Z2651-424	Clamp MC-424.
2	3E1201	Cord CD-201, for Key J-37.
1	3E1564	Cord CD-564.
2	3E1605	Cord CD-605, 78", for Headset HS-30-( ).
2	3E1763	Cord CD-763.
4	6Z3654	Drum, gasoline, 5-gallon.
1	6Z3787	Extinguisher, fire, 4-lb. size, with holder.
1	2C1411	Frequency Meter Set SCR-211-( ), with TM 11-300.
*2		Gasket, insulator, for Mast Base MP-47-A (remove from spare Mast Base MP-47-A).
1	3Z3437	Key J-37 (spare).
1	3Z3445	Key J-45.
2	6Z6815-13	Lamp, trouble, 115-volt.
1	2A2088-47	Mast Base MP-47-A.
1	2A2090-59	Mast Base Bracket MP-59-A.
4	2A2349	Mast Section MS-49.
4	2A2350	Mast Section MS-50.
4	2A2351	Mast Section MS-51.
2	2A2352	Mast Section MS-52.
6	2A2353	Mast Section MS-53.
*1		Mounting FT-162 (one may be removed from Chest CH-121-( )).
*1	2Z6718	Mounting FT-178 (one may be removed from Chest CH-121-( )).
1	2C4342	Radio Receiver BC-342-( ), including TM 11-850, two Lamps LM-27 (spare), one set of tubes installed, and one set of spare tubes.
1	2C6500	Radio Transmitter BC-610-( ), including shock mounting, tuning units, spare fuses, and lamps, one set of tubes installed, and one set of spare tubes.
50 feet	6Z7926	Rope RP-5, for tying down mast sections.
2		Stake GP-8, for fastening Rope RP-5 in ground.
2	6Z3654/1	Tube, flexible nozzle, for 5-gallon drum.
1 roll	6N8692	Tape, rubber, 1/2".
100 feet		Wire, antenna, No. 12 gauge, enamel, stranded.
3 feet	1A28	Wire W-28.

\*These items are not required if complete Installation Kit MC-549 is available.

b. Items contained in Installation Kit MC-549 are listed below :

Quantity	Stock No.	Item
1		Antenna Assembly RC-293, including 2 telescoping aluminum masts (extended length 25 feet), and 2-guy assemblies, with stakes and polystyrene insulator attached.
300 feet	1A148	Wire W-148, on spool.
1	6R36026	Tape, steel, measuring, 100-foot.
1		Bag BG-193 for storage of Antenna Assembly RC-293.
1		Bonding jumper, 10".
2		Bonding jumper, 8".
3	6J952/B10	Bracket (5-gal container), for drum, inflammable liquid.
1		Bracket, shield, for insulator protection on Radio Transmitter BC-610-( ).
2		Bracket, for mounting Radio Transmitter BC-610-( ).
2		Bracket, for mounting Antenna Tuning Unit BC-939-( ).
4		Bracket, for mounting Power Unit PE-75-( ) in trailer.
4		Bolt (U-type), for mounting Power Unit PE-75-( ) in trailer.
1	2Z1119	Box BX-19-A, for receiver spare tubes.
2		Block, wood, 3/4" x 2" x 5" (any available hardwood).
5 feet	1F425-8	Coaxial Cable RD-8/U.
1		Chain, 6".
2		Chain, 30" length, size 5/0, 1/4" stock, 7 links per foot, electric welded, polished.
2		Chest end, plywood, 12 1/8" x 17" x 1/2", for stowage chest.
1	6Q19095	Chest CH-77, for tool equipment.
1		Chart, contents (plastic), for stowage chest in trailer.
1		Chart, contents (plastic), for stowage chest in vehicle.
1	2Z3375	Cover BG-75-A, for Radio Receiver BC-342-( ).
10 feet	3E2141	Cord CO-141, power cord for BC-610-( ), includes spare length.
1		Cover, for Radio Transmitter BC-610-( ).
1		Cover, for Antenna Tuning Unit BC-939-( ).
1		Cover, for Mast Base MP-47-A.
1		Cover, for Power Unit PE-75-( ) in vehicle.
1		Cover, for stowage chest in vehicle.
2		Connector (BX-type), for outlet box.
4		Corner reinforcement, for stowage chests, No. 67A116-B Hallicrafters Co., or equal.
4		Corner reinforcement, for stowage chests, No. 67A113-A Hallicrafters Co., or equal.
2		Fastener assembly, cast anchor.
28	2A1200.3	Footman's loop, 1" japanned, for top straps.
1		Gasket, spares for Mast Base MP-47-A.
2		Gasket, spares for Mast Base MP-47-A.
2		Gasket, spares for Mast Base MP-47-A.
1		Hardware kit.
9		Hook (clothes line type cast iron plate 2" x 2" with 2 1/8" projection), cadmium-plated.
2	3G621	Insulator IN-121, 1 in use, 1 running spare, for insulating antenna lead-in through canvas top of vehicle.
2		Insulator, spares for Mast Base MP-47-A.
1	2A2082	Mast Base MP-22, for receiver.
2		Mounting, for mounting Antenna Tuning Unit BC-939-( ).
4		Mounting (snubber). (Item 5, fig. 40.)
1		Outlet Box, 3 1/4" octagon, 1/2" deep.
1		Platform, for mounting Radio Receiver BC-342-( ).
2		Plate, reinforcing for mounting Antenna Tuning Unit BC-939-( ).
8		Plate, strap, for stowage chest.
2	3H4575	Power Unit PE-75-( ), 1 in use for vehicle and 1 auxiliary for trailer.
1		Receptacle, with 3 1/4" cover, for outlet box.
1		Relay control box, includes hardware.
1	2Z7621.2	Relay.
2	2Z8056	Roll BG-56-( ).
6		Snap, 1 1/2".

(Continued)

Quantity	Stock No.	Item
2		Strap.
2		Strap and buckle, No. 14A053-A Hallicrafters Co.
3		Strap and tip.
1		Strap and buckle, No. 14A076-X Hallicrafters Co.
1		Top, canvas, for vehicle.
5		Turnbuckle assembly, 7½" length closed, eye and eye type, rods ⅜-16.
15 feet	1B128	Wire W-128, for interconnection of relay box.

## 21. Modification of Components.

*a.* CHEST CH-88-A. Cut Chest CH-88-A in two sections and make the sections into two separate chests for storage of spare parts by adding plywood end pieces and hardware. Install larger chest in ¼-ton trailer and smaller chest in Truck, ¼-ton, 4 x 4. Installation Kit MC-549 contains plywood ends, metal corners, and hardware for modification. Perform the modification as follows:

(1) Refer to figure 39. Remove sliding doors on front of Chest CH-88-A. Remove shelves from compartments on left half of chest and two vertical partitions (second and third from left end of chest). Cut left section of chest to  $14\frac{5}{16}$ -inch length as shown in detail 10. Cut right section of chest to 35-inch length as shown in detail 11.

(2) Replace vertical partition at ends with two pieces of plywood supplied with installation kit. Secure with wood screws provided. Place provided metal corners on chest sections as shown in details 10 and 11, figure 39. Remove handle from end of small section, and place on end of large section.

(3) Cut two 7-inch lengths from one door of Chest CH-88-A and use sections to make sliding doors for small chest. Cut sections of doors remaining to make doors for larger chest, as shown in detail 11, figure 39. Replace shelves in chests.

(4) Place proper charts of contents on chest doors. Install doors on chests, and place small chains as shown in details of figure 39.

(5) When this installation is made without Installation Kit MC-549, make length of chest sections  $14\frac{5}{16}$  inches and 35 inches. Cut two pieces of plywood as shown in detail 12, figure 38. Place ends in chest sections as above, and use partitions provided to support shelves. Remove necessary metal corners, turnbuckle assemblies, escutcheon eyes, snap hooks, and chains from other chests provided with Radio Set SCR-499-( ) that are not used in the

installation, and install on two halves of Chest CH-88-A as shown in figure 39.

*b.* POWER UNIT PE-75-( ). Refer to detail 7, figure 39. Cut ends of frame assembly as shown, in order to mount power unit on bumper of truck. Perform this modification on both power units so that they may be interchanged.

*c.* RADIO TRANSMITTER BC-610-( ). (1) Drill holes in cabinet of transmitter as shown in details 1 and 2, figure 39. Cut winghead bolts as shown in detail 4, figure 39.

(2) Prepare a coaxial antenna lead as shown in detail 3, figure 39. Prepare a wire antenna lead as shown in detail 5, figure 39, using Wire W-28.

(3) If an early type Radio Transmitter BC-610-( ) is received with sides of cabinet not reinforced with steel straps, refer to figures 41 and 42 and apply reinforcing straps as directed on drawings.

*d.* RADIO RECEIVER BC-342-( ). Refer to detail 8, figure 39 and drill cabinet of receiver as indicated. Secure keying relay box to receiver cabinet as shown in detail 12, figure 39.

*e.* TRUCK, ¼-TON, 4 x 4. (1) Remove following items from truck, to reduce weight: rear bumperettes, horn, spare wheel and tire, rear seat and seat frame, rear view mirror, lifting handles, and windshield.

(2) Remove holder for 5-gallon gasoline drum, located on left rear of vehicle, and attach holder to right rear of vehicle.

(3) As shown in figure 40, cut two slots through floor of vehicle for brackets, item 2 (detail 5, fig. 38). Install brackets in position shown with hardware provided. These brackets will support front of shock mount on Radio Transmitter BC-610-( ).

(4) Perform all necessary drilling as shown in figure 40.

*f.* TRAILER, BANTAM, ¼-TON. (1) Perform all drilling as indicated in figure 37.

(2) Secure straps in place with hardware provided as shown in figure 37.

(3) When this installation is made without In-

stallation Kit MC-549, necessary straps may be obtained from other chests supplied with Radio Set SCR-499-( ).

## 22. Assembly and Installation.

a. TRUCK, 1/4-TON, 4 x 4. Components of Radio Set SCR-499-( ) should be installed in Truck, 1/4-ton, 4 x 4, as shown in figure 36 and as directed below:

<i>Part and Location</i>	<i>Method and Materials</i>
Mast Base Bracket MP-59-A, on rear of vehicle, left side.	Attach to rear of vehicle with hardware provided and shakeproof washers, as shown in figure 36.
Radio Transmitter BC-610-( ), in rear of vehicle, center.	Refer to figure 36. Remove transmitter from its shock mounting. Remove bottom plate from right side of shock mount. Drill holes in bottom plate, as shown in detail 2, figure 39. Secure bottom plate to vehicle with two 1/2"-13 x 2" screws, using eight flat-washers as spacers, on each bolt, between plate and vehicle floor. Assemble shock mount in place in vehicle, and mark for drilling of holes in brackets (detail 5, fig. 38) for left side of shock mount. Remove shock mount from vehicle, and drill required 17/32" holes in brackets. Fasten shock mount to transmitter. Place transmitter and shock mount in vehicle as shown in figure 36. Remove handles from sides of transmitter.
Shock mounting for Antenna Tuning Unit BC-939-( ), on top of left wheel well.	Refer to figure 40. Insert a 1/4"-20 x 1 1/2" screw with lockwasher, upward through each shock mount, item 5. Secure one shock mount on each end of brackets, item 4 (detail 7, fig. 38), by securing screws in tapped holes in bracket. Assemble these four shock mounts on two mounting brackets, item 3 (detail 6, fig. 38), using sixteen No. 10-32 x 3/4" screws, and nuts and lockwashers provided. Insert two 5/16"-24 x 1 1/4" screws upward through top of wheel well from underneath and two screws through cover of compartment at rear of wheel well, using two reinforcing plates, items 7 and 8 (details 3 and 4, fig. 38), on under side. Secure screws in place with hex. nuts on upper side. Place assembled shock mounting brackets shown in plan view of figure 40, over screws and secure brackets with nuts and lockwashers.
Antenna Tuning Unit BC-939-( ), on shock mounting bracket.	Place tuning unit on shock mounting bracket and secure with wing nuts and lockwashers as shown in figure 36.
Mast Base MP-47-A and bonding jumpers, on Mast Base Bracket MP-59-A.	Install Mast Base MP-47-A on Mast Base Bracket MP-59-A with six 3/8"-16 x 1" screws, nuts, insulator gaskets, and shakeproof washers (one shakeproof washer under each nut and one under each screw head). Attach a 3/8" x 8" bonding jumper to screw on mast base ring nearest vehicle. Attach this bonding jumper from Mast Base MP-47-A and a 3/4" x 10" bonding jumper from shock mount of Antenna Tuning Unit BC-939-( ) to a 1/4" stud in rear of vehicle with 1/4" hex. nut and three shakeproof washers (one under nut, one between bonding jumpers, and one next to vehicle).
Mast Base MP-22, on cowl, right side of vehicle.	Secure to cowl with four 5/16"-24 x 1" screws, nuts, and lockwashers, as shown in figure 36.

<i>Part and Location</i>	<i>Method and Materials</i>
Platform (item 2, fig. 38) and Mounting FT-162, on floor of vehicle, right side, forward of right rear wheel.	Attach Mounting FT-162 to platform with hardware provided, using shakeproof washers, and attach platform to floor and wheel well with hardware provided, using shakeproof washers as shown in figure 36.
Radio Receiver BC-342-( ) and Cover BG-75-A.	Remove receiver chassis from cabinet. Remove small angle brackets, part of Mounting FT-178, from top of cabinet. Drill left end of cabinet as shown in figure 39. Place Cover BG-75-A over cabinet. Place relay control box on left side of receiver cabinet (with open side against cover and cabinet) and secure with three No. 8-32 x 2½" roundhead machine screws, and nuts and lockwashers provided, as shown in detail 12, figure 39. If a complete relay control box is not at hand, assemble and wire as shown in figure 39. Connect external leads from relay control box to radio set as shown in detail 6, figure 39. Replace one small angle bracket on top right front corner of cabinet. (The other angle bracket is not used for this installation.) Replace receiver chassis in cabinet and place receiver on Mounting FT-162. Secure in place with snap slide fasteners provided.
Wire W-128.	Connect Wire W-128 from relay control box to Mast Base MP-22, to ammeter on dashboard of vehicle, to right side of Radio Transmitter BC-610-( ), and to Mounting FT-162, as shown in figure 36.
Mounting FT-178.	Secure mounting to right side of vehicle above Radio Receiver BC-342-( ) with hardware provided, as shown in figure 36. Bend threaded rod of mounting to fit and couple to small angle bracket on top right corner of radio receiver with wingnut provided.
Chest CH-88-A (small section), Box BX-19-A, and turnbuckle assemblies, on right wheel well. (See fig. 36.)	Drill holes in Box BX-19-A as shown in detail 9, figure 39. Use Box BX-19-A as a template and drill holes for mounting on small chest. Attach Box BX-19-A to rear of chest with screws, nuts, and washers provided. Attach twin turnbuckle assembly on right side of vehicle and attach single turnbuckle assembly on left side of right wheel well, for holding down chest. Place chest on wheel well and secure in place with turnbuckles provided. See chart (detail 11, fig. 38) on door of chest and stow spare parts in chest as shown on chart.
Mast Sections MS-49 through MS-53, Clamps MC-421 through MC-424, and anticorona ball (for Radio Transmitter BC-610-( )).	One each Mast Sections MS-49 through MS-52 and three Mast Sections MS-53 are required for this installation. Screw mast sections together. Secure joints with mast clamps. Install anticorona ball on Mast Section MS-49 and screw assembled sections into Mast Base MP-47-A. When mast sections are removed, place cover (item 3, fig. 44) over mast base and place mast sections in Roll BG-56-( ).
Mast Sections MS-49 through MS-51 (for Radio Receiver BC-342-( )).	Screw mast sections together. Screw assembled sections into Mast Base MP-22. Place mast sections in Roll BG-56-( ) when not in use.
Coaxial Cable, RD-8/U (detail 3, fig. 39) and shield bracket (detail 1, fig. 38).	Make up coaxial cable assembly as directed in detail 3, figure 39. Solder No. 1 clamp to shielding and to inner conductor. Cut shielding back far enough from tips to prevent shorting to clamp

*Part and Location*

*Method and Materials*

- on inner conductor. Attach one end of coaxial cable to terminal posts on Radio Transmitter BC-610-( ) and other end to terminal posts on Antenna Tuning Unit BC-939-( ) with wing-nuts and lockwashers provided, as shown in figure 36. Secure shield bracket over terminal posts on transmitter with screws, nuts, and lockwashers provided. Secure coaxial cable to transmitter with No. 5 clamp as shown in detail 1, figure 39.
- Wire W-28. Refer to figure 36 and detail 5, figure 39. Solder terminal lug for No. 10 screw to end of Wire W-28. Tighten one of the setscrews on lower portion of Mast Base MP-47-A until it is in as far as possible. Attach lug to stem of Mast Base MP-47-A with a No. 10-32 x 1/2" screw and two No. 10 shakeproof washers, inserting screw in setscrew hole. Attach other end of wire to binding post on rear of Antenna Tuning Unit BC-939-( ).
- Outlet box, BX connectors, duplex receptacle, Cord CD-763. Prepare a 48-inch length of Cord CO-141. Secure outlet box to left side of right rear wheel well with screws provided. (See fig. 40.) Install receptacle in outlet box. Remove female plug from Cord CD-763 and attach plug to prepared cordage. Install two BX connectors through appropriate knock-out holes in outlet box. Insert plug on end of 48-inch length of Cordage CO-141 into receptacle on transmitter. Connect other end to outlet box as shown in figure 36.
- Cord CD-564. Connect Radio Receiver BC-342-( ) to receptacle outlet box with Cord CD-564.
- Power Unit PE-75-( ), on front bumper of vehicle. Secure power unit to front bumper with four 5/16" screws, nuts, and shakeproof washers, as shown in figure 36. Connect Cord CD-763 between power unit and outlet box. Remove tool box from top of generator and stow contents of tool box in modified Chest CH-88-A in truck. Discard tool box.
- Covers. (See fig. 44.) Place cover (item 1) over Power Unit PE-75-( ) on front bumper of truck. Place cover (item 2) over chest on right side of truck. Place cover (item 3) over Mast Base MP-47-A.
- Covers. (See fig. 43.) Place cover (item 1) over Radio Transmitter BC-610-( ). If desired, transmitter may be operated with cover in place by opening zippers. Place cover (item 2) over Antenna Tuning Unit BC-939-( ). Remove antenna lead from tuning unit while cover is in place. Cover must be removed when operating radio set.
- Canvas top for truck. Install footman's loop on sides of truck as shown in figure 40. Drill holes in Mast Base Bracket MP-59-A as indicated in plan view and install studs, item 10, for fasteners. Place canvas top over truck, close zippers, and secure straps to footman's loops. End of canvas top having four straps is rear of canvas top. Radio set may be operated with canvas top in place.
- Insulator IN/121, chain and snap buckle (items 23 and 24, fig. 36). Use to insulate antenna lead-in through canvas top. Attach snap buckle to one end of chain. Load truck heavily to depress springs and use chain to snub truck frame to rear axle to reduce height for loading into cargo plane. (See fig. 36.) Draw chain tight,

*Part and Location**Method and Materials*

Stowage of items in truck.

pass one of the end links through a link on other end of chain, and secure with snap buckle.

Stow items not carried in spare parts chest as follows: Stow tube (flexible nozzle) and trouble lamp in map compartment. Stow Counterpoise CP-15 (not required in this installation) in compartment at right rear of vehicle. Stow Roll BG-56-( ) and Antenna Assembly RC-293 on floor of vehicle, right side, at rear of transmitter. Place 5-gallon gasoline drum in holder on rear of vehicle.

b. TRAILER, BANTAM. Components of Radio Set SCR-499-( ) should be installed in trailer, bantam, as shown in figure 37 and as directed below:

*Part and Location**Method and Materials*

Power Unit PE-75-( ), brackets and U-bolts (item 9, fig. 38).

Place Power Unit PE-75-( ) on floor of trailer, center. Secure power unit to frame members of trailer with brackets, U-bolts, wingnuts, and washers, inserting U-bolts upward from underneath trailer as shown in detail of figure 37.

Chest (large section cut from Chest CH-88-A).

Attach one hook (item 14, fig. 37) on inside of right panel, and one hook on inside of left panel of trailer for attaching turnbuckle assemblies on chest. Attach hook fasteners to rear panel of trailer using hardwood blocks as spacers (view B-B, fig. 37). Fasten latch bracket, item 16, as shown in view B-B, figure 37. Place chest in rear of trailer and secure in place with anchor fasteners (item 17), snap hooks, item 15, and turnbuckle assemblies. Stow spare parts in chest as indicated on chart of contents (detail 10, fig. 38) on door of chest.

Chest CH-77 (or Tool Equipment TE-48).

If Tool Equipment TE-48 is supplied with equipment, secure to floor of trailer, right side, with straps provided. If Tool Equipment TE-48 is not supplied, secure Chest CH-77 in trailer, and remove necessary tools, tape, wire, flashlight, etc., from Chest CH-88-A and place in Chest CH-77.

Fire extinguisher and holder.

Secure holder to left side of panel and floor of trailer. Use a  $\frac{1}{4}$ " flathead screw through side panel and two  $\frac{5}{16}$ " flathead screws through floor.

Frequency Meter Set SCR-211-( ).  
Roll BG-56-( ).

Secure in left front corner of trailer with straps provided.

Stow spare mast sections in Roll BG-56-( ) and secure roll to flange of right panel of trailer with straps provided.

Brackets for 5-gallon gasoline drums.

Place one bracket in right front corner of trailer and two brackets back to back in front of trailer. Secure brackets to floor with  $\frac{5}{16}$ "-24 x 1" screws, and nuts and lockwashers. Use  $\frac{1}{4}$ "-20 x  $\frac{3}{4}$ " screws, nuts, and lockwashers to secure backs of brackets together. Place gasoline drums in brackets.

Tube, flexible nozzle, and clips.

Fasten clips (one above the other) on right panel of trailer near gasoline drum holder and filler. Place tube in clips.

*Note.* Disposition of components of Radio Set SCR-499-( ) not required for this installation is left to discretion of using organization.



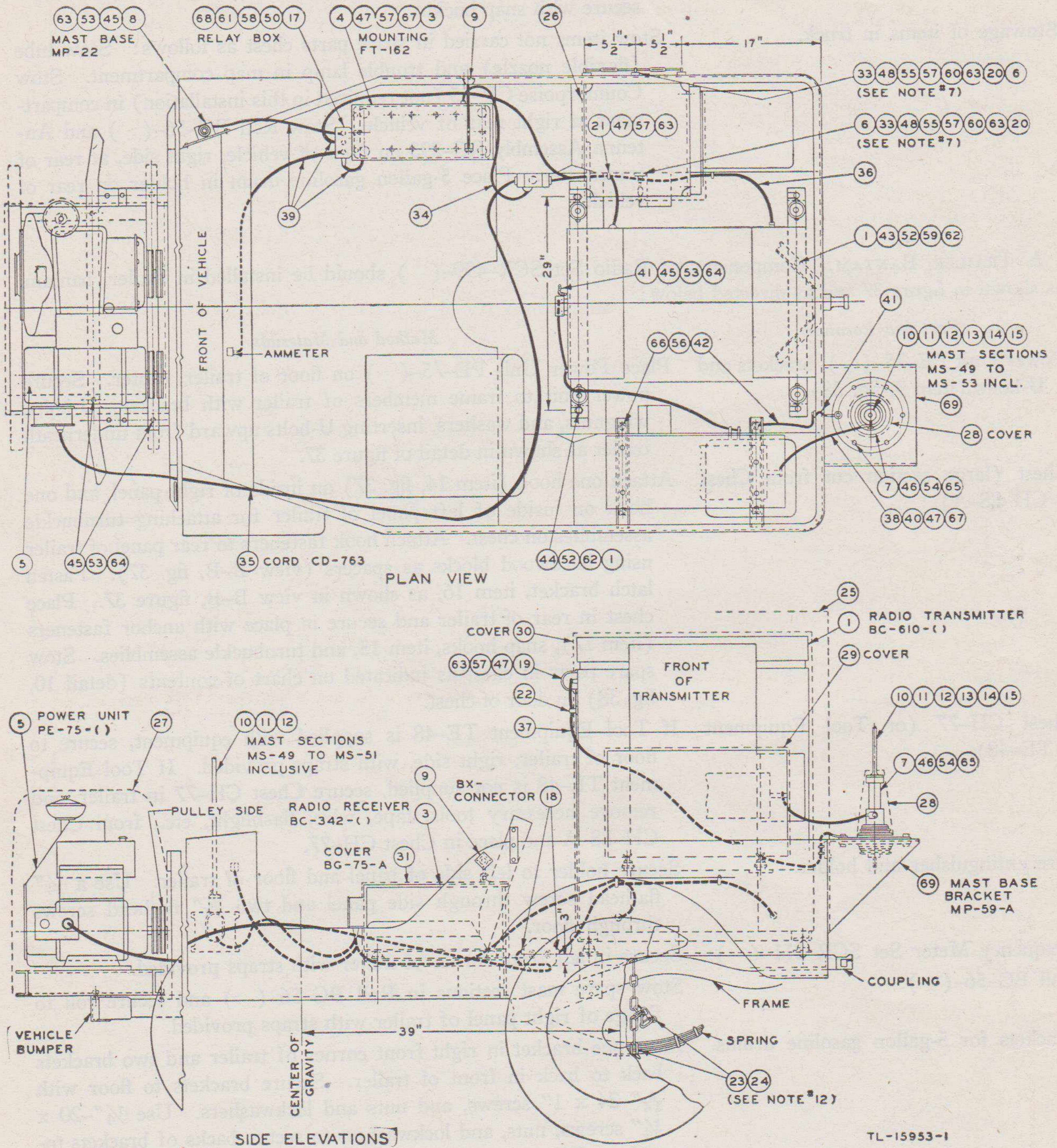


Figure 36. Installation of Radio Set SCR-499-( ) in Truck, 1/4-ton, 4 x 4.

NOTE

1. REMOVE ALL BURRS  
2 FOR ADDITIONAL COMPONENTS AND SPARE PARTS  
SEE COMPONENT PARTS LIST  
3. DIMENSIONS WHERE NOT SHOWN OTHERWISE ARE  
IN INCHES.

4. TOLERANCES WHERE NOT SHOWN SHALL BE HELD  
TO  $\pm 1/32$  ON FRACTIONAL DIMENSIONS.

5. (39) SHALL BE CUT AS PER FIG. 39 (6).

6. WINGNUTS ON THE TOP OF BC-610-( ) SHALL  
HAVE THE WINGS CUT OFF AND A SCREWDRIVER  
SLOT CUT AS PER FIG. 39 (4)

7. LOCATE (20) AND (32) AS PER DIMENSIONS THEN  
DRILL HOLES, USING UNITS AS A TEMPLATE.

8. (18) SHALL BE NO. 7287-V 1/2 INCH BOX CONNec-  
TOR AS MADE BY APPLETON ELECTRIC CO., CHICAGO,  
ILL., OR EQUAL.

9. (1), (2), (3), (4), (6), (7), (10), (11), (12), (13), (14), (15), (31),  
(34), (35) AND (38) ARE FURNISHED WITH SCR-499-( ).

10. USE (28) WHEN MAST SECTIONS ARE NOT INSTALL-  
ED.

11. USE (59) BETWEEN FLOOR AND FRAME AS  
SPACERS.

12. (23) AND (24) ARE USED IN DEPRESSING OF THE  
REAR SPRINGS FOR AIRCRAFT LOADING.

13. REMOVE FEMALE CONNECTION FROM END OF (35)  
AND ADD TO (36) FOR POWER CONNECTION TO TRANS-  
MITTER.

14. (64), (65), (67), (68) AND (66) SHALL BE CAT. NO. 4018-24  
AND 4020-28 AND 4010-18 AND 4008-14 AND 4014-22  
RESPECTIVELY, AS MADE BY ILLINOIS TOOL WORKS,  
CHICAGO, ILL., OR EQUAL.

15. DRAWING REFERENCES:  
MOUNTING HOLES AND BRACKETS ----- FIG. 40  
MODIFICATIONS ----- FIG. 39  
BRACKETS, DETAILS ----- FIG. 38 AND 45  
TRAILER (SPARE PARTS) ----- FIG. 37

16. (20) SHALL BE CLOTHES LINE TYPE CAST IRON  
PLATE 2X2 IN. WITH 2 1/8 IN. PROJECTION CADMIUM  
PLATED AS MADE BY THE MOSBACK HARDWARE CO.,  
N.Y.C., OR EQUAL.

17. (23) SHALL BE 5/0, 1/4 IN. STOCK 7 LINKS PER FT  
AS MADE BY CHAS. A. STRELINGER CO., DETROIT, MICH., OR  
EQUAL.

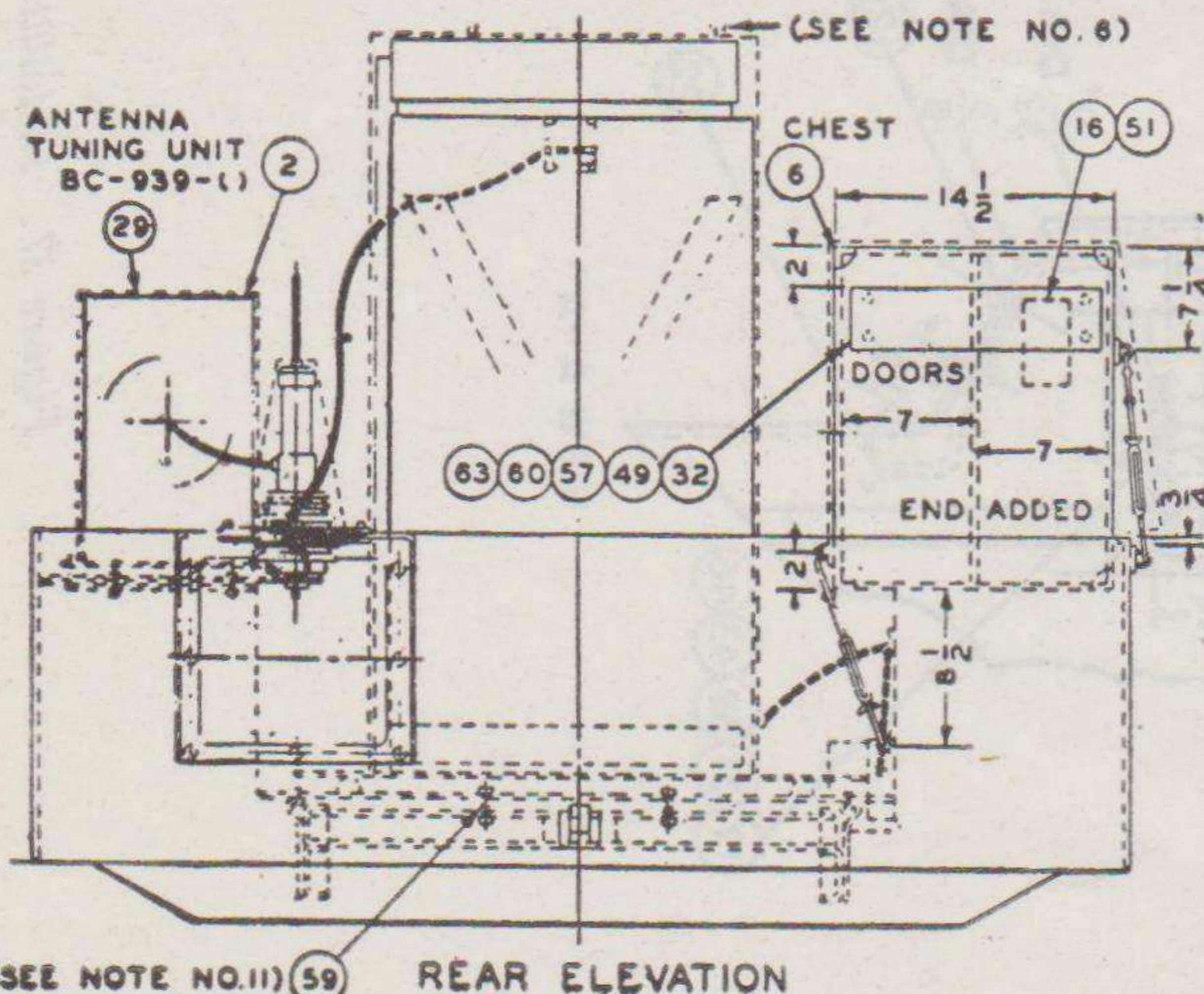
18. (24) SHALL BE NO. SPFXIBB AS MADE BY NORTH  
AND JUDD, NEW BRITAIN, CONN., OR EQUAL

19. (33) SHALL BE NO. 16 AS MADE BY TURNBUCKLE INC.,  
CHICAGO, ILL., OR EQUAL.

20. (36) SHALL BE NO. 87-158 AS MADE BY HALLICRAFTER  
INC., CHICAGO, ILL., OR EQUAL

21. (40) SHALL BE NO. D-26 AS MADE BY THE THOMAS  
AND BETTS CO., ELIZABETH, N.J., OR EQUAL.

22. (41) AND (42) SHALL BE NO. H-88V AND H-810S RESP.  
AS MADE BY THE THOMAS AND BETT CO., ELIZABETH,  
N.J., OR EQUAL.

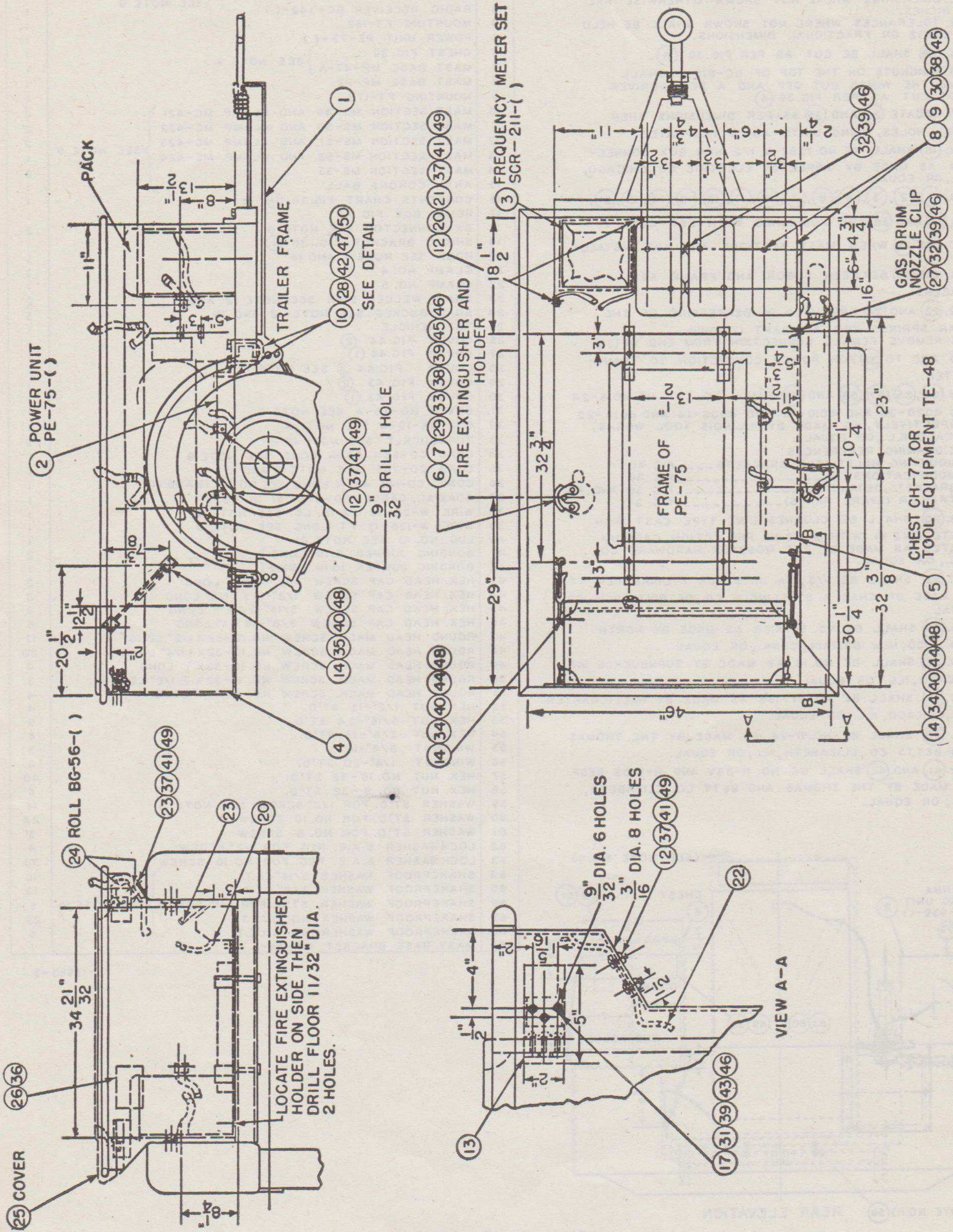


SEE NOTE NO. (11) (59) REAR ELEVATION

ITEM NO.	NAME OF ITEM	QUAN. REQ.
1	TRANSMITTER BC-610-( )	1
2	ANTENNA TUNING UNIT BC-939-( )	1
3	RADIO RECEIVER BC-342-( )	1
4	MOUNTING FT-162	1
5	POWER UNIT PE-75-( )	1
6	CHEST FIG. 39	1
7	MAST BASE MP-47-A	1
8	MAST BASE MP-22	1
9	MOUNTING FT-178	1
10	MAST SECTION MS-49 AND CLAMP MC-421	2
11	MAST SECTION MS-50 AND CLAMP MC-422	2
12	MAST SECTION MS-51 AND CLAMP MC-423	2
13	MAST SECTION MS-52 AND CLAMP MC-424	1
14	MAST SECTION MS-53	3
15	ANTI CORONA BALL	1
16	CONTENTS CHART FIG. 38 (11)	1
17	RELAY BOX FIG. 45	1
18	BX CONNECTOR SEE NOTE 8	2
19	SHIELD BRACKET FIG. 38 (1)	1
20	HOOK SEE NOTE 7 AND 16	5
21	CLAMP NO. 4	3
22	CLAMP NO. 5	1
23	CHAIN WELDED LINK SEE NOTE 12 AND 17	2
24	SNAP BUCKLE SEE NOTE 12 AND 18	5
25	TOP, VEHICLE	1
26	COVER FIG. 44 (2)	1
27	COVER FIG. 44 (1)	1
28	COVER FIG. 44 (3) SEE NOTE 10	1
29	COVER FIG. 43 (2)	1
30	COVER FIG. 43 (1)	1
31	COVER BG-75-A SEE NOTE 9.	1
32	BOX BX-19-A SEE NOTE 7	1
33	TURNBUCKLE SEE NOTE 19	3
34	CORD CD-564 36 IN. LONG SEE NOTE 9	1
35	CORD CD-763 SEE NOTE 9 AND 13	1
36	CORD CO-141 48 IN. LONG SEE NOTES 13 AND 20	1
37	COAXIAL CABLE RD-8/U 51 IN. LG.	1
38	WIRE W-28 13 1/2 IN. LG. SEE NOTE 9	1
39	WIRE W-128 15 FT. LONG SEE NOTE 5	1
40	LUG NO. 10 SEE NOTE 21	1
41	BONDING JUMPER 8 IN. LONG	2
42	BONDING JUMPER 10 IN. LONG	1
43	HEX. HEAD CAP SCREW 1/2"-13X2" LONG	2
44	HEX. HEAD CAP SCREW 1/2"-13X1 1/4" LONG	2
45	HEX. HEAD CAP SCREW 5/16"-24 X 1" LONG	9
46	HEX. HEAD CAP SCREW 3/8"-16 X 1" LONG	6
47	ROUND HEAD MACH. SCREW NO. 10-32 X 1 1/2" LONG	17
48	ROUND HEAD MACH. SCREW NO. 10-32 X 1 1/4" LONG	20
49	ROUND HEAD MACH. SCREW NO. 10-32 X 1" LONG	4
50	ROUND HEAD MACH. SCREW NO. 8-32 X 2 1/2" LONG	3
51	ROUND HEAD MACH. SCREW NO. 4 X 1 1/4" LONG	4
52	HEX. NUT 1/2"-13 ST'D.	4
53	HEX. NUT 5/16"-24 ST'D.	9
54	HEX. NUT 3/8"-16 ST'D.	6
55	WINGNUT 3/8"-18	3
56	WINGNUT 1/4"-20 ST'D.	4
57	HEX. NUT NO. 10-32 ST'D.	40
58	HEX. NUT NO. 8-32 ST'D.	6
59	WASHER ST'D. FOR 1/2" SCREW SEE NOTE 11	16
60	WASHER ST'D. FOR NO. 10 SCREW	24
61	WASHER ST'D. FOR NO. 8 SCREW	3
62	LOCKWASHER S.A.E. REG. FOR 1/2" SCREW	4
63	LOCKWASHER S.A.E. REG. FOR NO. 10 SCREW	30
64	SHAKEPROOF WASHER 5/16" I.E.T.	18
65	SHAKEPROOF WASHER 3/8" I.E.T.	13
66	SHAKEPROOF WASHER ST'D. FOR 1/4" SCREW	5
67	SHAKEPROOF WASHER NO. 10 I.E.T.	22
68	SHAKEPROOF WASHER NO. 8 I.E.T.	6
69	MAST BASE BRACKET MP-59-A	1

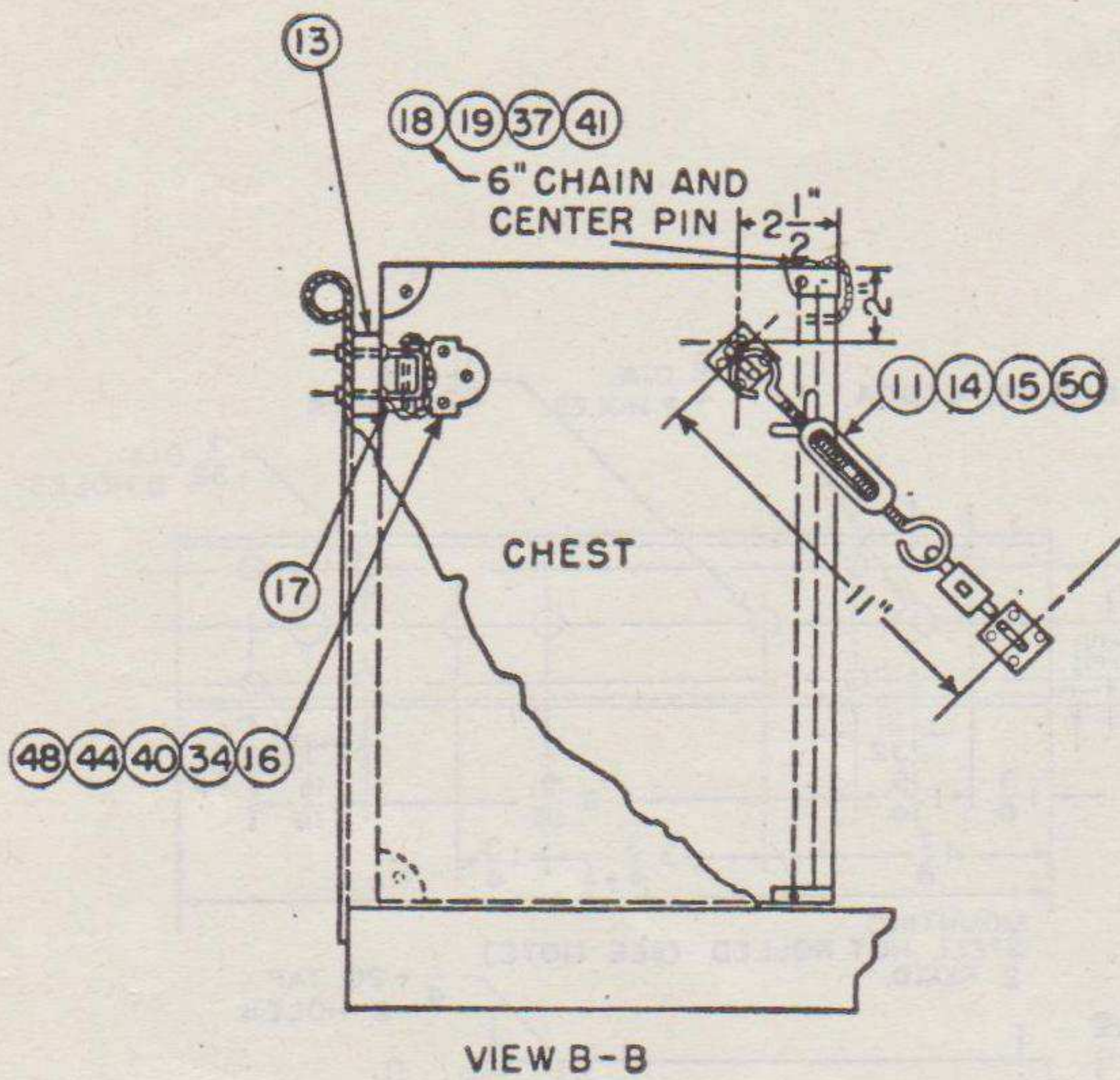
TL-15953-2

Figure 36—Continued.



TL 15954-I

Figure 37. Installation of Radio Set SCR-499-( ) in Truck, 1/4-ton, 4 x 4 trailer and spare parts.



1. REMOVE ALL BURRS.
2. ALL NEW SURFACES SHALL BE BONDERIZED AND THEN GIVEN ONE SPRAY COAT OF METAL PRIMER CLASS 101, AND ONE SPRAY COAT OF SEMI-GLOSS OLIVE DRAB AIR DRYING ENAMEL, CLASS 440 ALL PAINTS AND METHODS OF APPLICATION SHALL BE IN ACCORDANCE WITH TENTATIVE SPECIFICATION NO. 7253.
3. UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
4. TOLERANCES WHERE NOT SHOWN SHALL BE HELD TO  $\pm 1/32$  ON FRACTIONAL DIMENSIONS.
5. FOR ADDITIONAL COMPONENTS AND SPARE PARTS, SEE COMPONENT PARTS LIST.
6. ③ ④ ⑥ ⑦ ⑧ AND ⑩ ARE FURNISHED WITH SCR-499-( ).
7. LOCATE ⑦ ⑭ ⑯ ⑰ AND ⑫ AS PER DIMENSIONS, THEN DRILL HOLES, USING ABOVE UNITS AS DRILLING TEMPLATES.
8. ⑫ IS FURNISHED WITH ①
9. ⑪ SHALL BE TURNBUCKLE NO. 16 AS MADE BY TURNBUCKLE INC., CHICAGO, ILL., OR EQUAL.
10. ⑫ SHALL BE PLATE, PART NO. 63A064 AS MADE BY HALLICRAFTERS CO. CHICAGO, ILL., OR EQUAL.
11. ⑭ SHALL BE HOOK (CLOTHES LINE TYPE—CAST IRON PLATE 2X2 INCHES WITH  $2 1/8$  INCHES PROJECTION) CADMIUM PLATED, AS MADE BY THE MOSBACK HARDWARE CO., N.Y.C., OR EQUAL.
12. ⑮ SHALL BE SNAP TYPE I, NO. SPFXIBB AS MADE BY THE NORTH AND JUDD MFG. CO., NEW BRITAIN, CONN., OR EQUAL.
13. ⑰ SHALL BE FASTENER ASSEMBLY PART NO. 30B093 AS MADE BY HALLICRAFTERS CO., CHICAGO, ILL., OR EQUAL.
14. ⑱ AND ⑲ SHALL BE CHAIN, PART NO. 29A057 AS MADE BY HALLICRAFTERS CO., CHICAGO, ILL., OR EQUAL.
15. ⑳ ㉑ ㉒ AND ㉓ SHALL BE PART NO. 14A075, 14A076-X, 14A103-X AND 14A053-A RESPECTIVELY AS MADE BY HALLICRAFTERS CO., CHICAGO, ILL., OR EQUAL.

ITEM NO.	NAME OF ITEM	QUANTITY REQUIRED
1.	TRAILER BANTAM 1/4 TON	1
2.	POWER UNIT PE-75-( )	1
3.	FREQUENCY METER SET SCR-211-( )	1
4.	CHEST PER FIG. 39 ⑪	1
5.	CHEST CH-77	1
6.	FIRE EXTINGUISHER	1
7.	EXTINGUISHER HOLDER	1
8.	5 GAL. GAS CAN	3
9.	GAS DRUM HOLDER	3
10.	BRACKET PER FIG. 38 ⑧	4
11.	TURNBUCKLE SEE NOTE NO. 9	2
12.	PLATE SEE NOTE NO. 10	8
13.	BLOCK 3/4 X 2 X 5 LONG	2
14.	HOOK SEE NOTE NO. 11	4
15.	SNAP HOOK SEE NOTE NO. 12	2
16.	LATCH BRACKET SEE NOTE NO. 6	2
17.	CAST ANCHOR FASTENER PART NO. 30B093 SEE NOTE NO. 13	2
18.	COTTER KEY	1
19.	CHAIN 6 INCHES LONG	1
20.	STRAP AND TIP PART NO. 14A075	3
21.	STRAP AND BUCKLE PART NO. 14A076-X	1
22.	STRAP BUCKLE AND TIP PART NO. 14A103-A	2
23.	STRAP AND BUCKLE PART NO. 14A053A	2
24.	ROLL BG-56-( )	1
25.	COVER SEE NOTE NO. 8	1
26.	CONTENTS CHART PER FIG. 38 ⑩	1
27.	CLIP	2
28.	"U" BOLT PER FIG. 38 ⑨	4
29.	FLAT HEAD CAP SCREW 5/16-24 X 1	3
30.	HEX HEAD CAP SCREW 5/16 24 X 1	6
31.	HEX. HEAD MACHINE SCREW 1/4-20 X 1 1/2	6
32.	HEX. HEAD MACHINE SCREW 1/4-20 X 3/4	4
33.	FLAT HEAD MACHINE SCREW 1/4-20 X 1	1
34.	ROUND HEAD MACHINE SCREW NO. 10-32 X 1 1/4 LONG	21
35.	ROUND HEAD MACHINE SCREW NO. 10-32 X 1/2 LONG	8
36.	ROUND HEAD WOOD SCREW NO. 4 X 1/4 LONG	6
37.	FLAT HEAD MACHINE SCREW NO. 8-32 X 3/4 LONG	12
38.	HEX. NUT 5/16 X 24 ST'D	9
39.	HEX. NUT ST'D. FOR 1/4-20	11
40.	HEX. NUT NO. 10-32 ST'D.	29
41.	HEX. NUT NO. 8-32 ST'D.	12
42.	WASHER ST'D. FOR 3/8 SCREW	8
43.	WASHER ST'D. FOR 1/4 SCREW	6
44.	WASHER ST'D. FOR NO. 10-32 SCREW	14
45.	LOCKWASHER S.A.E. REG. FOR 5/16 SCREW	9
46.	LOCKWASHER S.A.E. REG. FOR 1/4 SCREW	11
47.	LOCKWASHER S.A.E. REG. FOR 3/8 SCREW	8
48.	LOCKWASHER S.A.E. REG. FOR NO. 10 SCREW	29
49.	LOCKWASHER S.A.E. REG. FOR NO. 8 SCREW	12
50.	WING NUT 3/8-16 ST'D.	10

Figure 37—Continued.

RL-15954-2

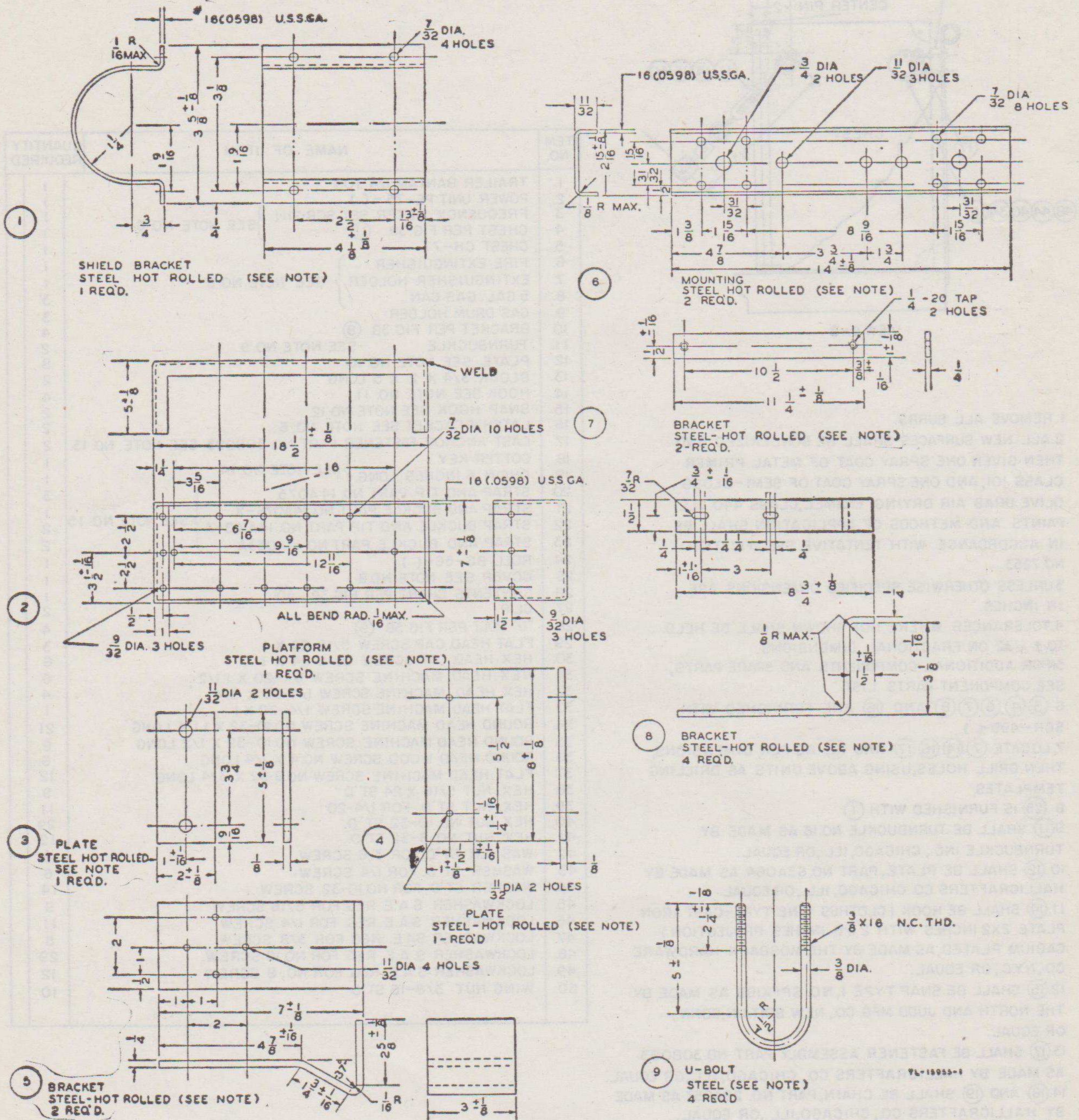
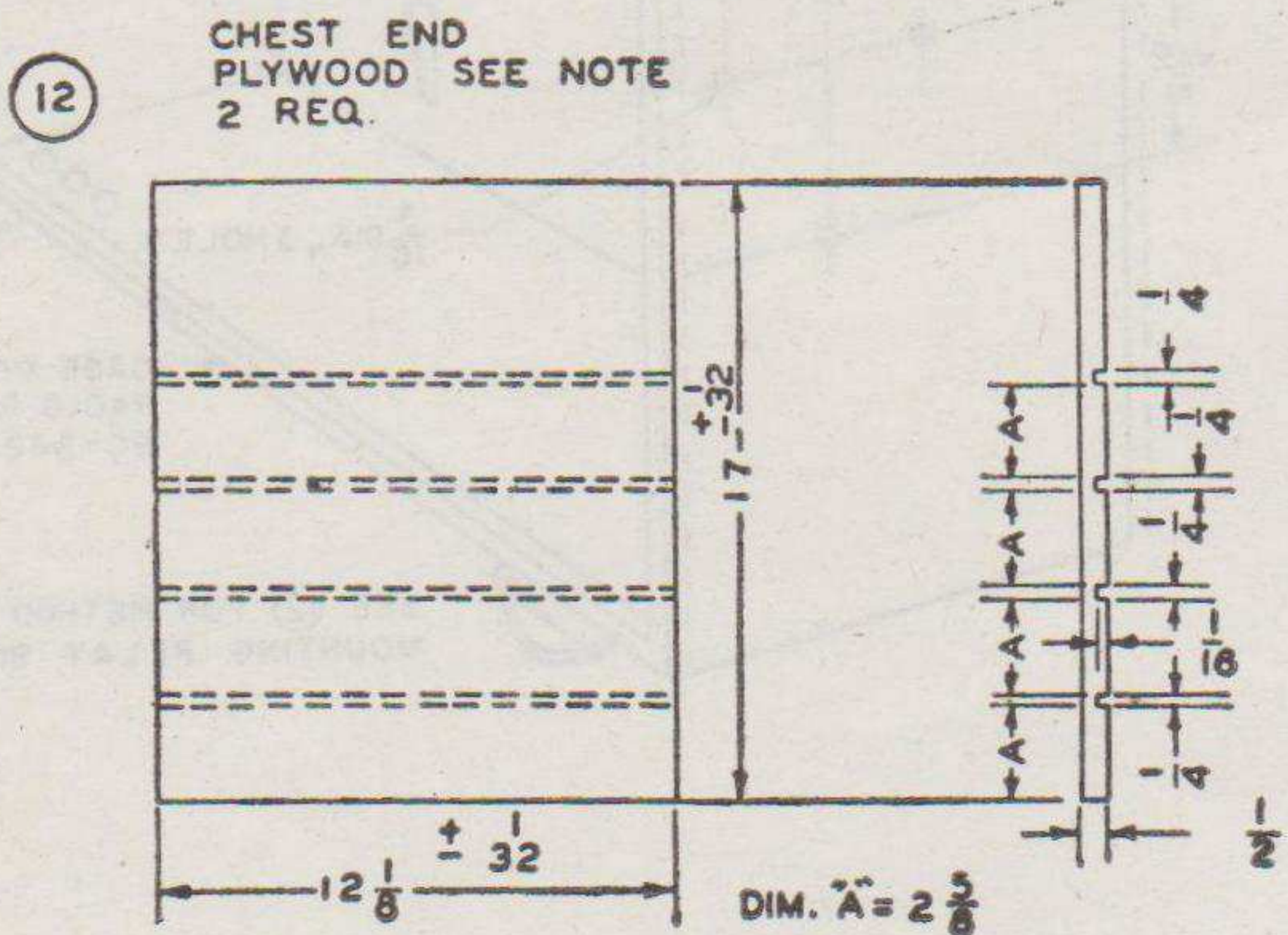
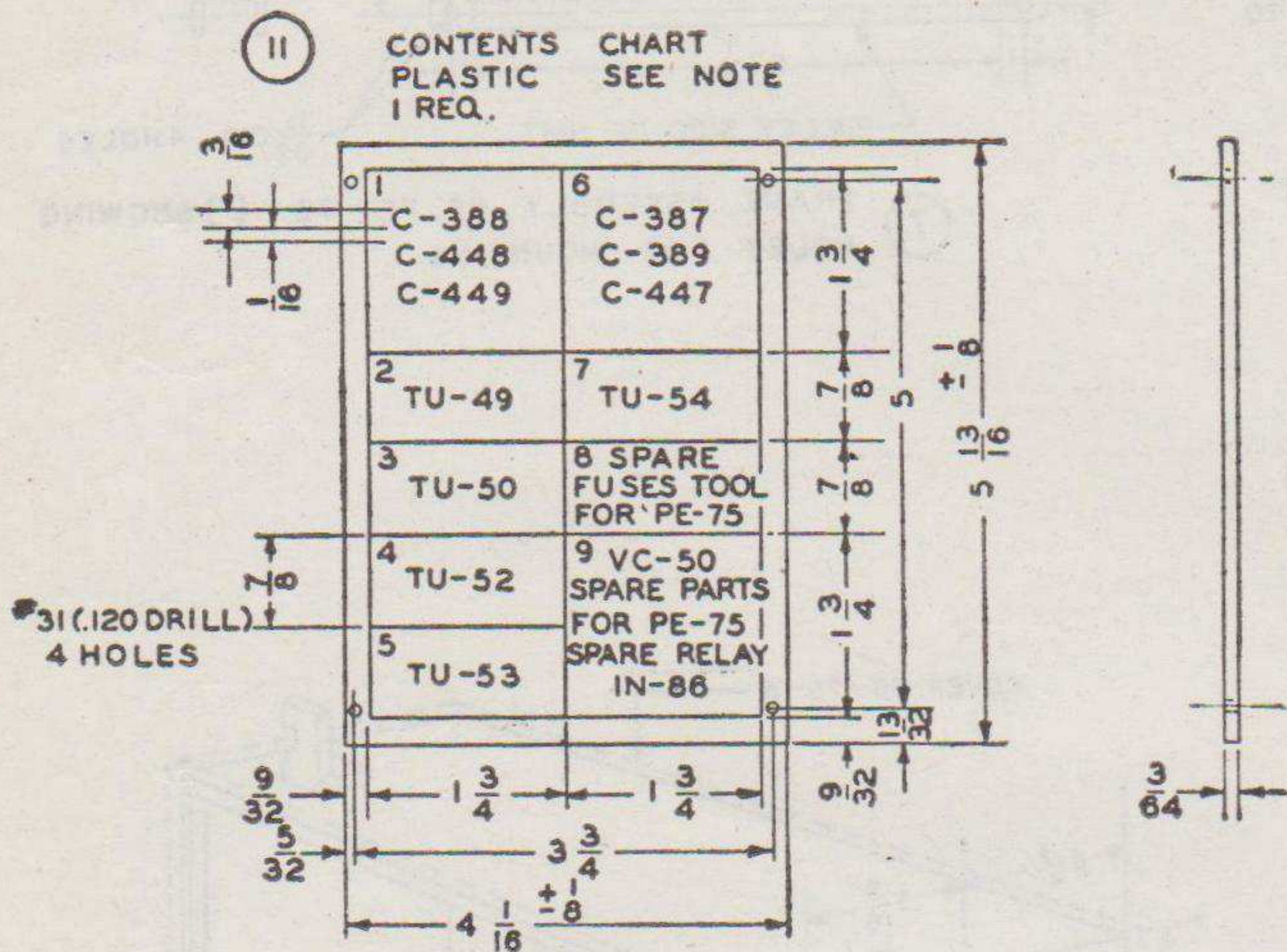
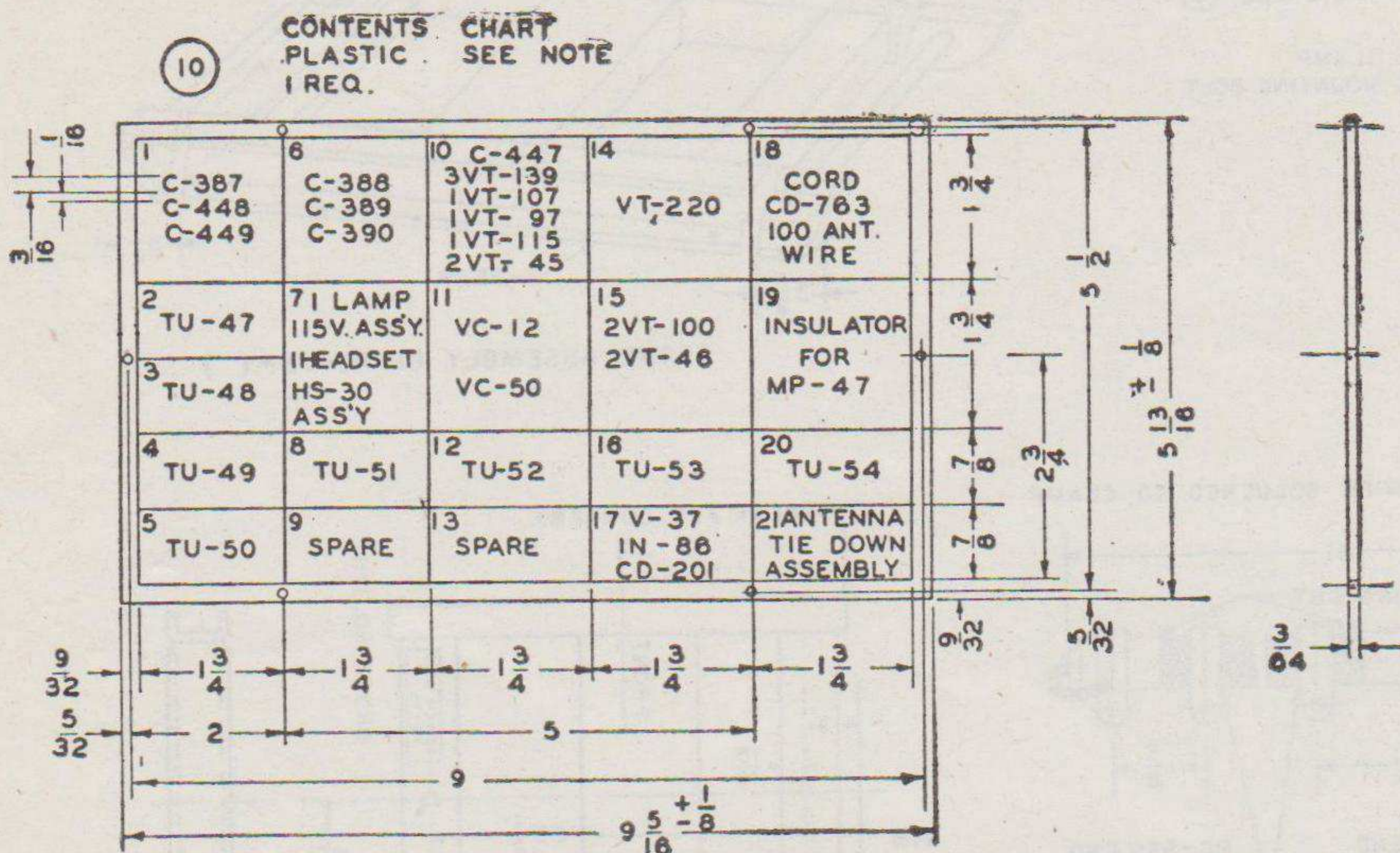


Figure 38. Brackets and contents chart, details.



NOTES:

REMOVE ALL BURRS  
DIMENSIONS WHERE NOT SHOWN OTHERWISE ARE IN INCHES.

TOLERANCES WHERE NOT SHOWN OTHERWISE ARE HELD TO  $\pm \frac{1}{64}$  ON FRACTIONAL DIMENSIONS AND  $\pm 1^\circ$  ON ANGULAR DIMENSIONS.

① TO ⑨ INCLUSIVE ALL SURFACES SHALL BE BONDERIZED AND THEN GIVEN ONE SPRAY COAT OF METAL PRIMER CLASS 101, AND ONE SPRAY COAT OF SEMIGLOSS OLIVE DRAB AIR DRYING ENAMEL, CLASS 440. ALL PAINTS AND METHODS OF APPLICATION SHALL BE IN ACCORDANCE WITH SPECIFICATION NO. 72-53.

DO NOT PAINT SCREW THREADS OR TAPPED HOLES  
⑩ AND ⑪ SHALL BE BLACK LAMINATED PHENOLIC OR MELAMINE IMPREGNATED PAPER OR FABRIC BASE.

LEGEND LITHOGRAPHED OR PRINTED WITH WHITE INK OR MELAMINE PASTE, OR SILK SCREENED LETTERING:

PROTECTIVE COATING OR LAMINATES OVER THE LEGEND OF SYNTHETIC LACQUERS, TRANSPARENT UREA FORMALDEHYDE, MELAMINE FORMALDEHYDE OR PHENOLIC, OR EQUAL

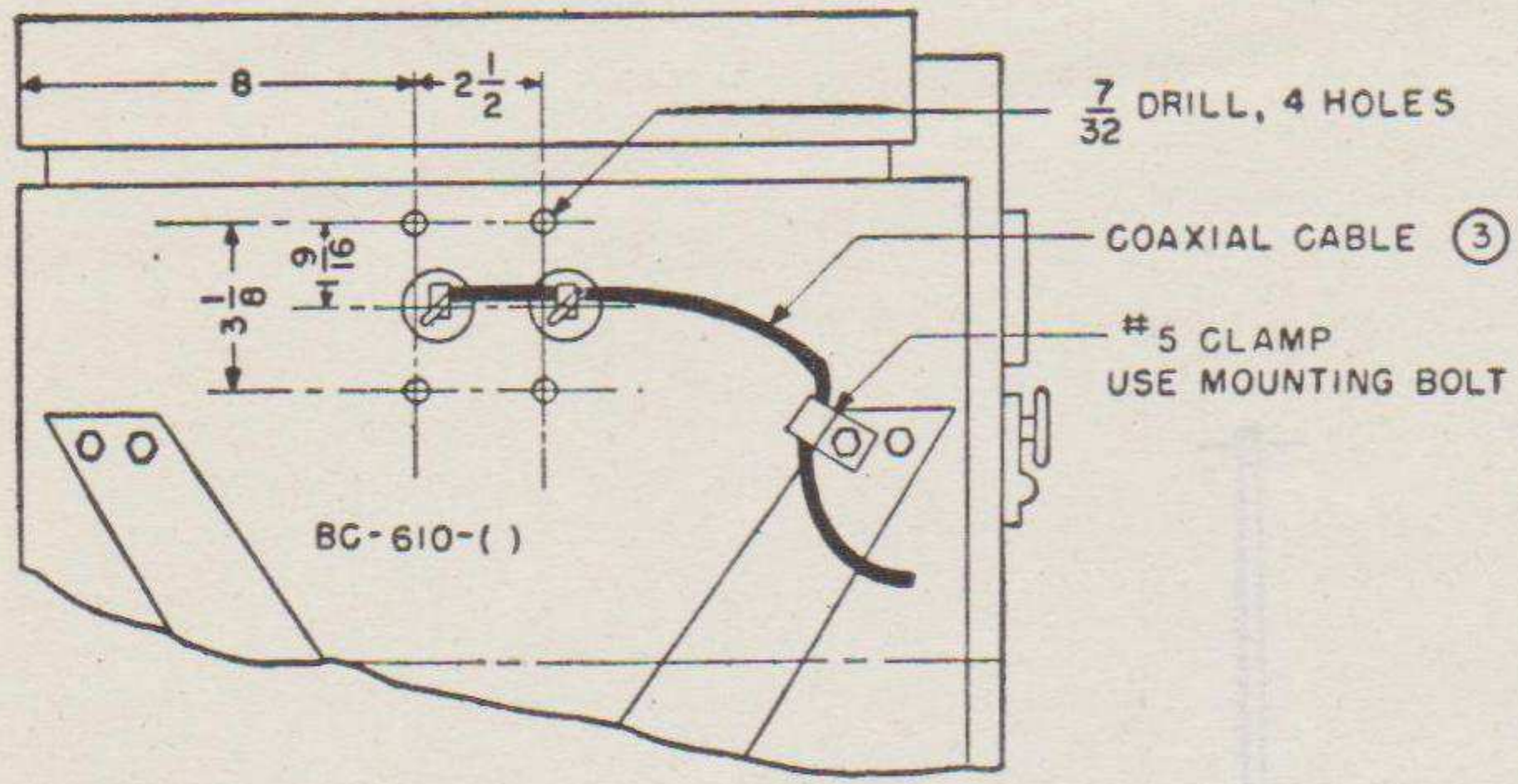
⑫ SHALL BE GIVEN ONE DIP OR BRUSH COAT OF REFINISHING PRIMER, CLASS 102, AND ONE SPRAY COAT OF LUSTERLESS OLIVE DRAB AIR DRYING ENAMEL, CLASS 204, ALL PAINTS AND METHODS OF APPLICATION SHALL BE IN ACCORDANCE WITH ORDNANCE TENTATIVE SPECIFICATION TAC ES - NO-680.

⑫ SHALL BE PLYWOOD PER SPECIFICATION NO. 72-48 SANDED TWO SIDES.

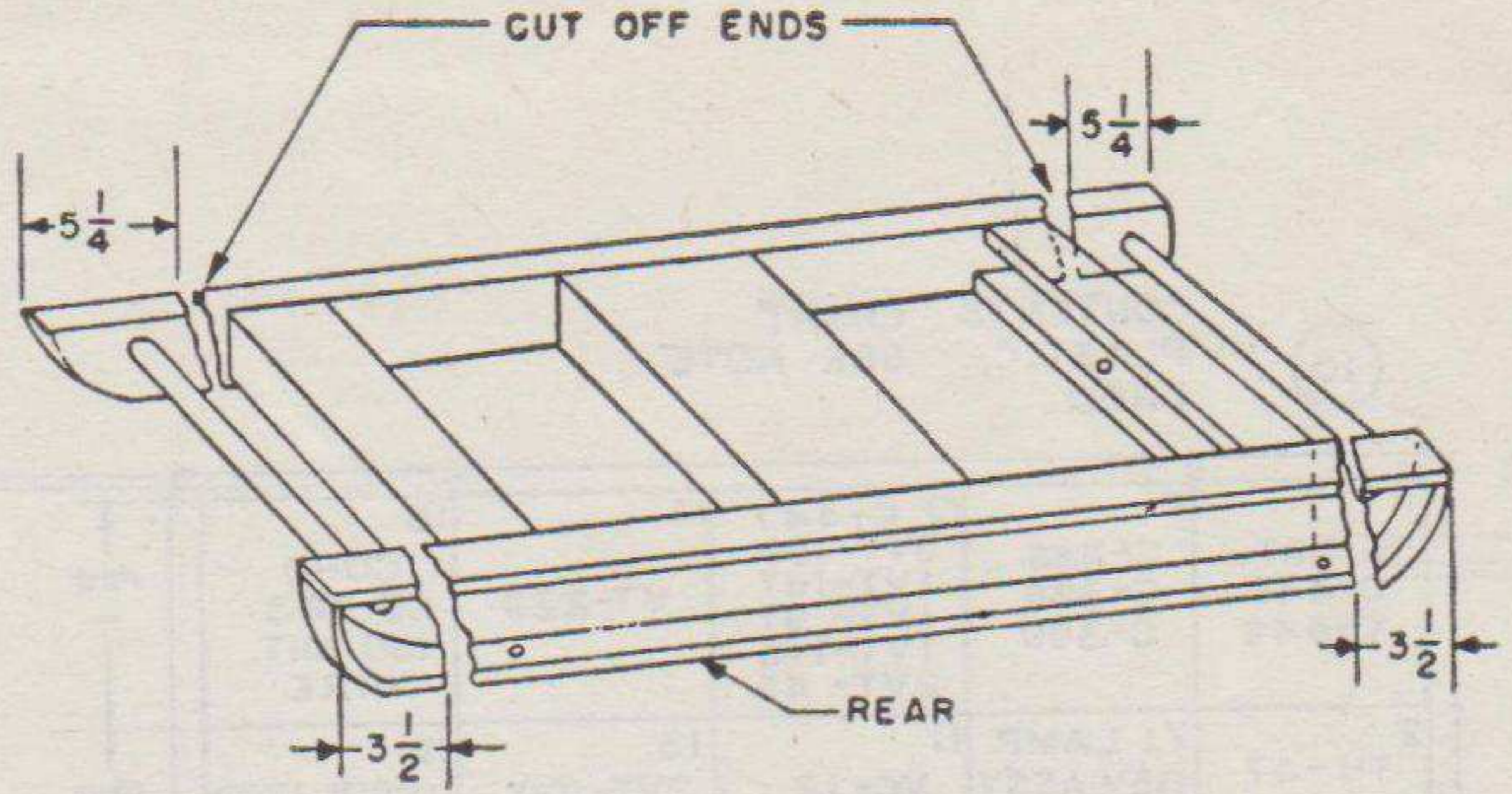
7L-15885-2

Figure 38—Continued.

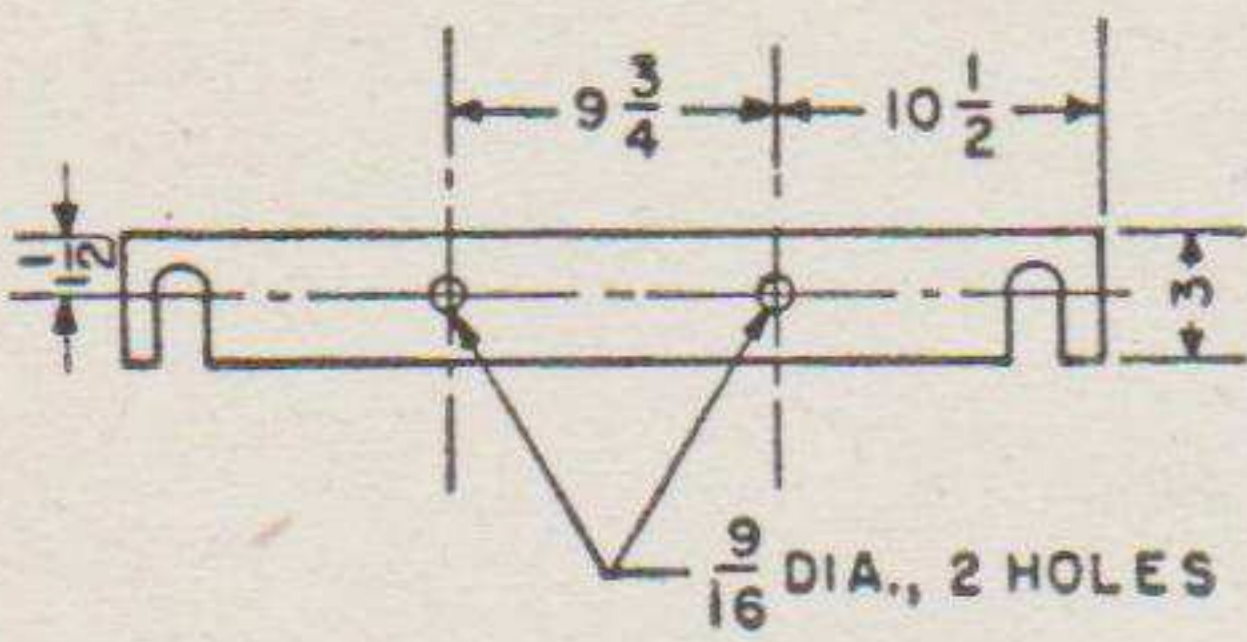
C 1



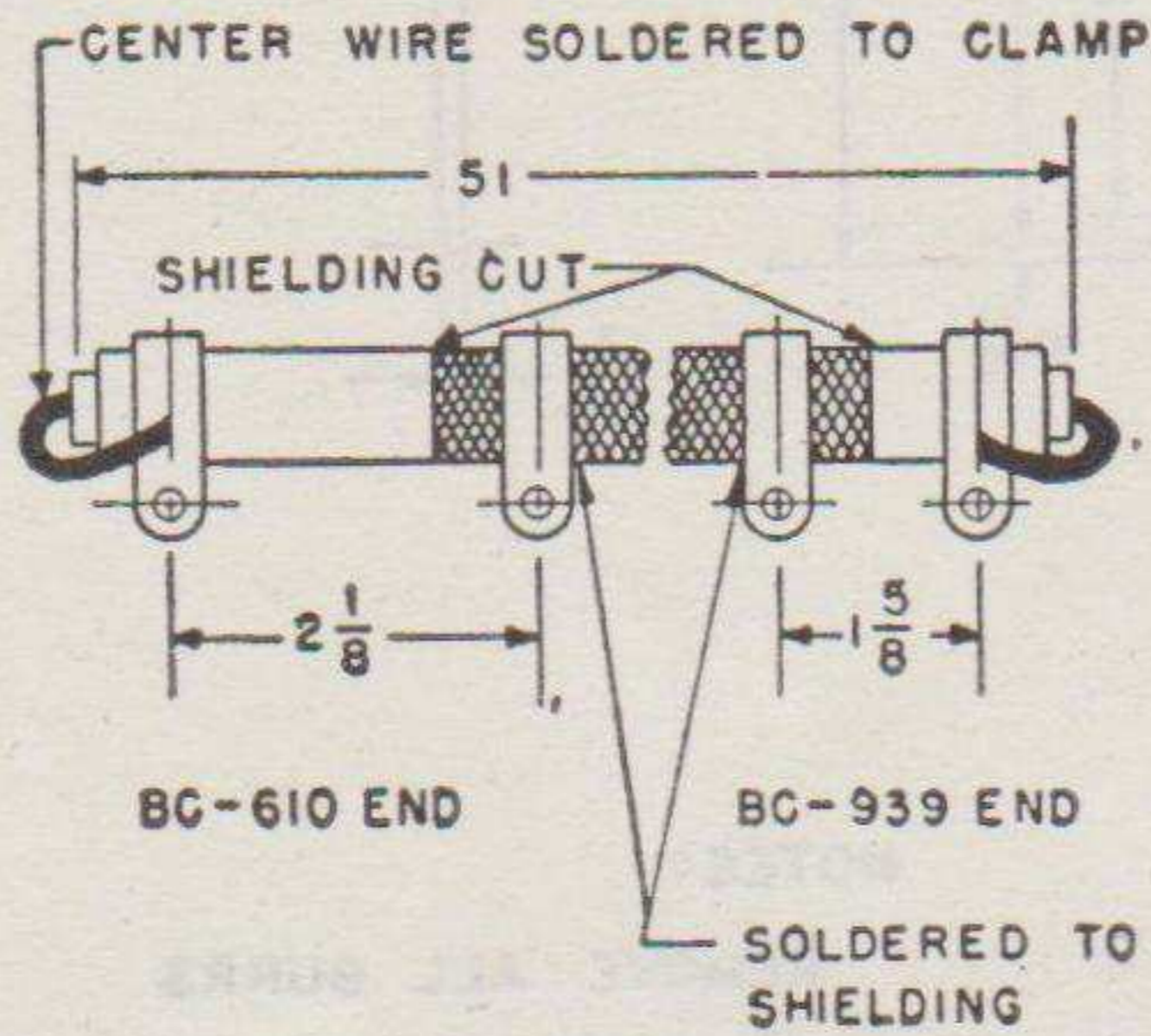
1 LEFT SIDE OF TRANSMITTER



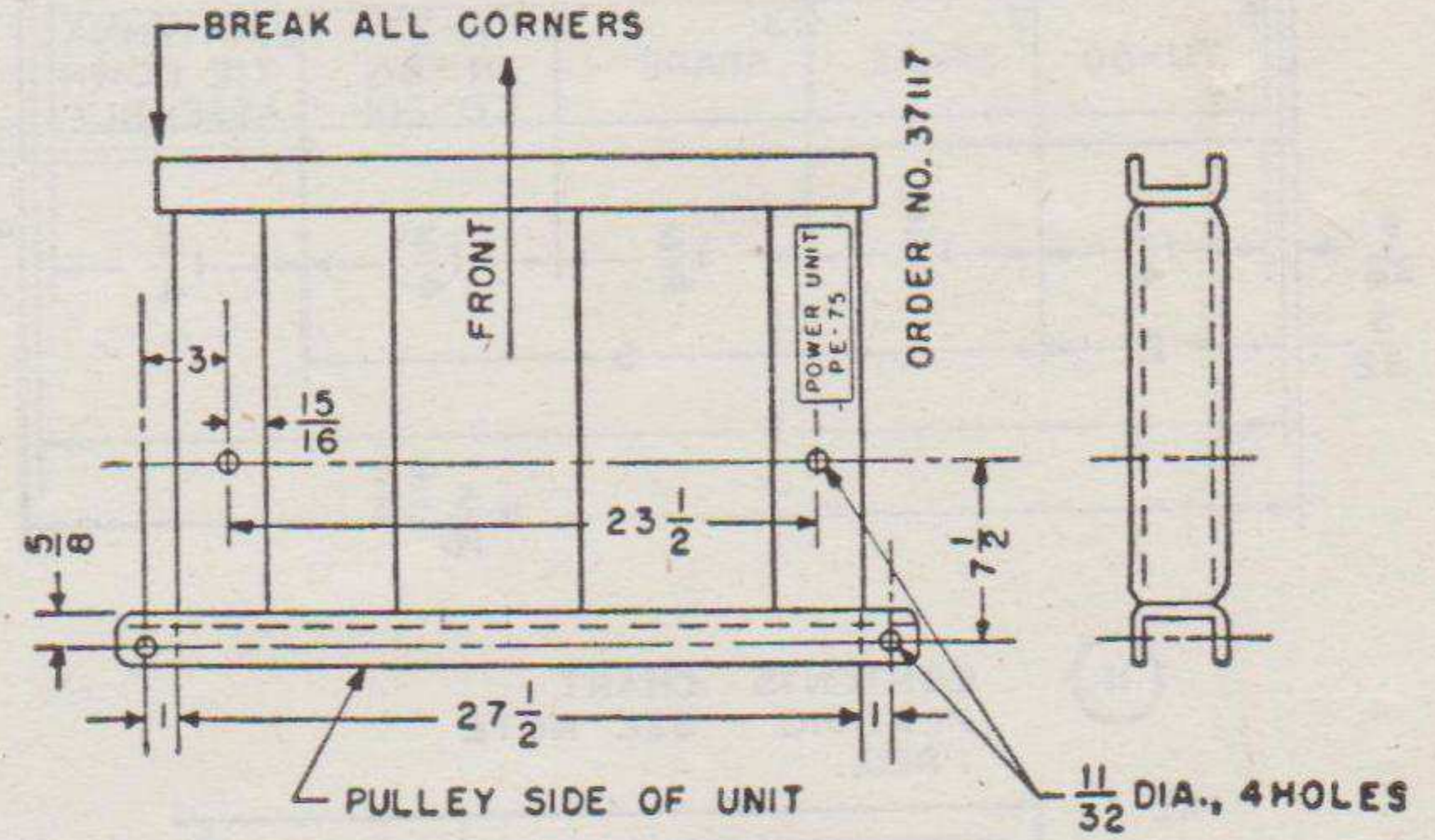
FRAME ASSEMBLY OF PE-75-()



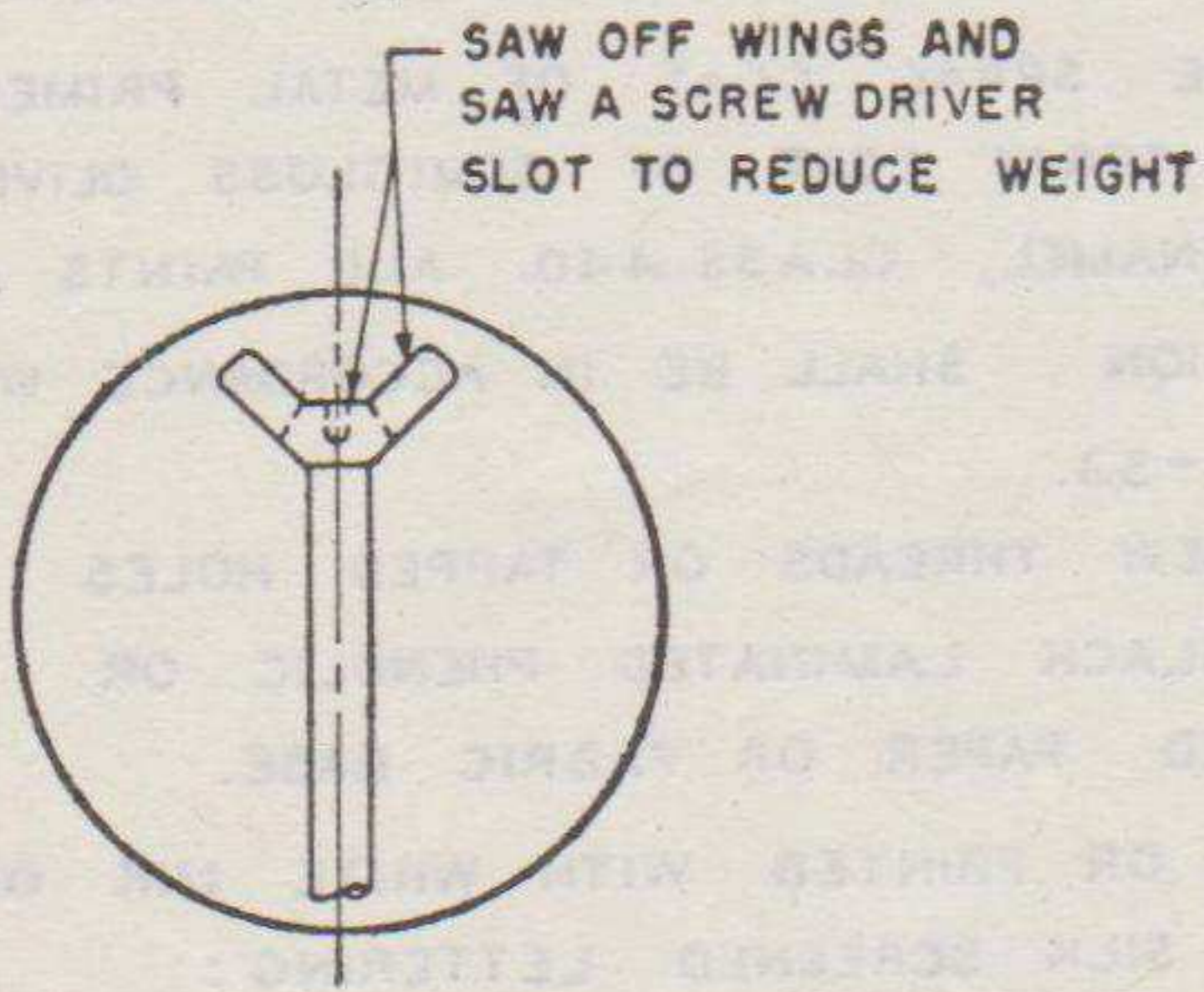
2 DRILLING HOLES IN PLATE OF BG-610-() MOUNTING



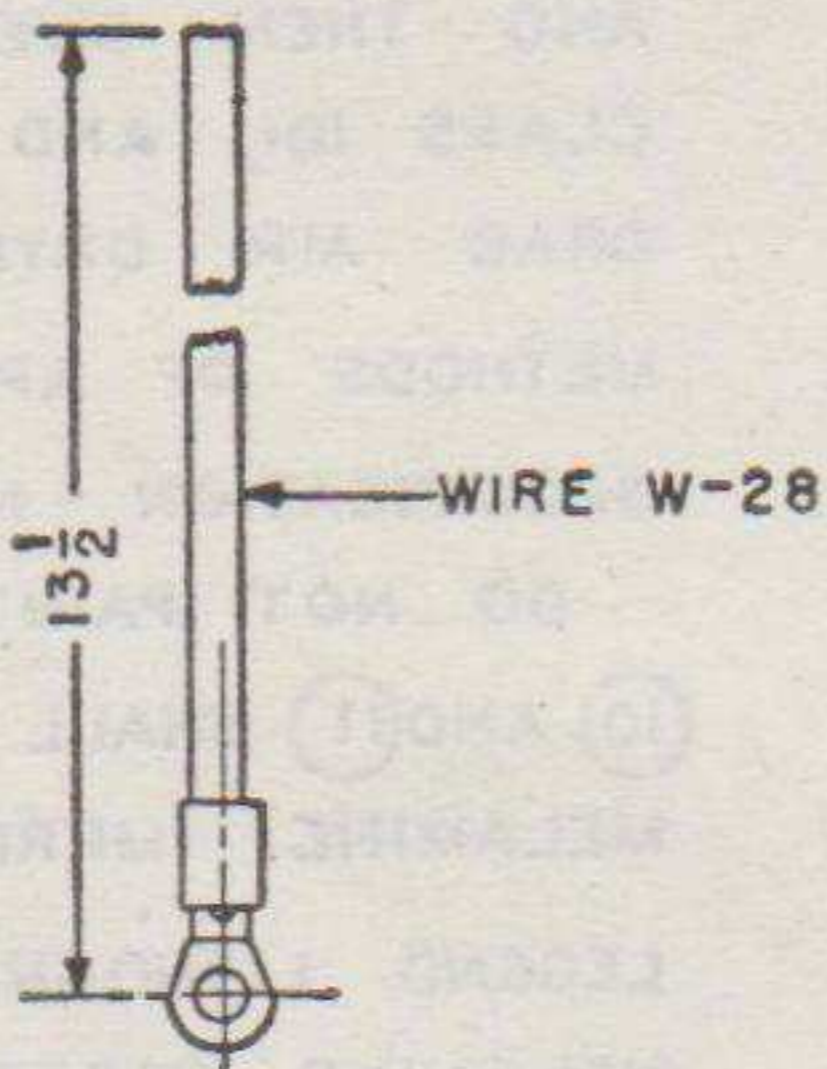
3 CLAMP ARRANGEMENT FOR COAXIAL CABLE



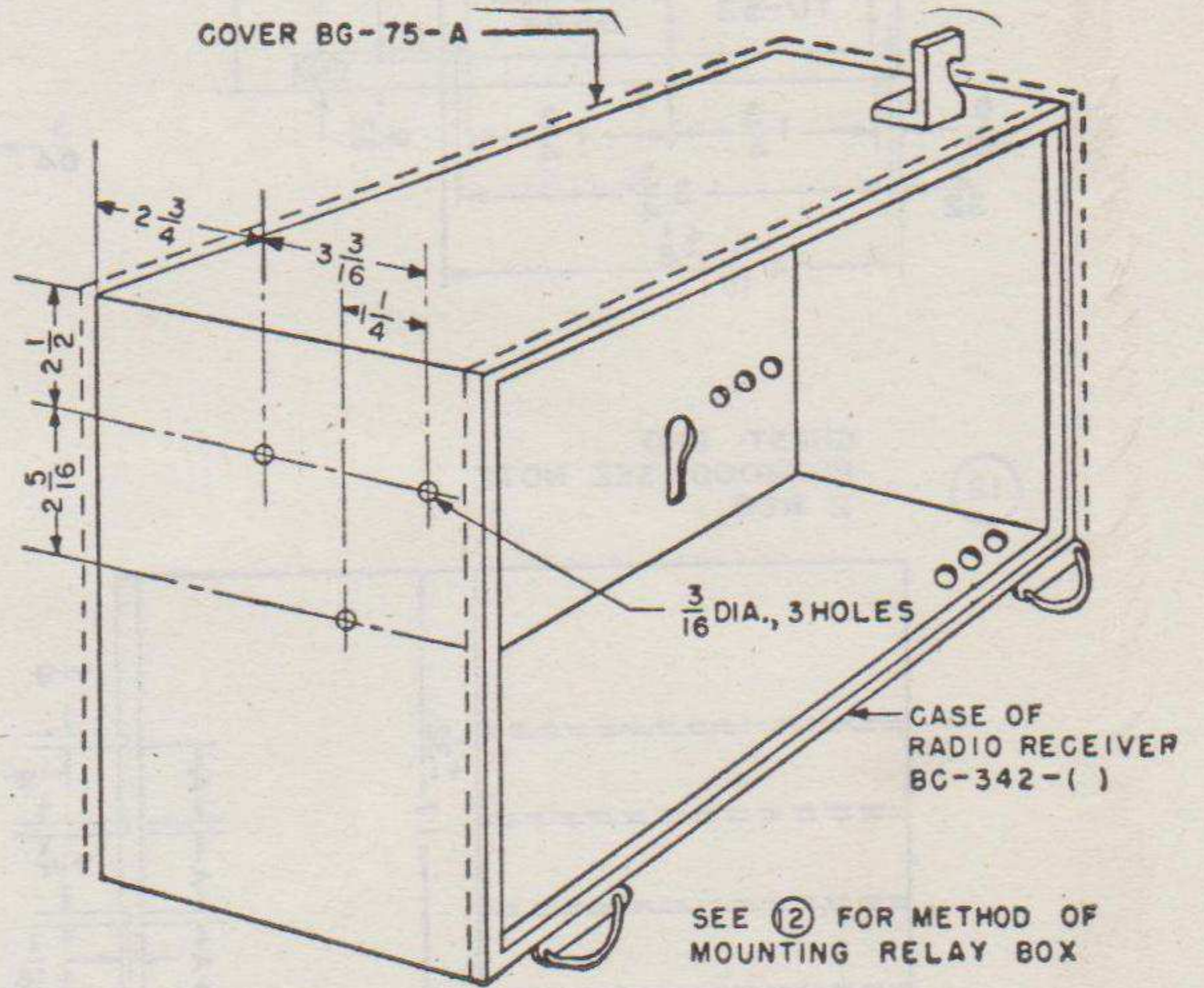
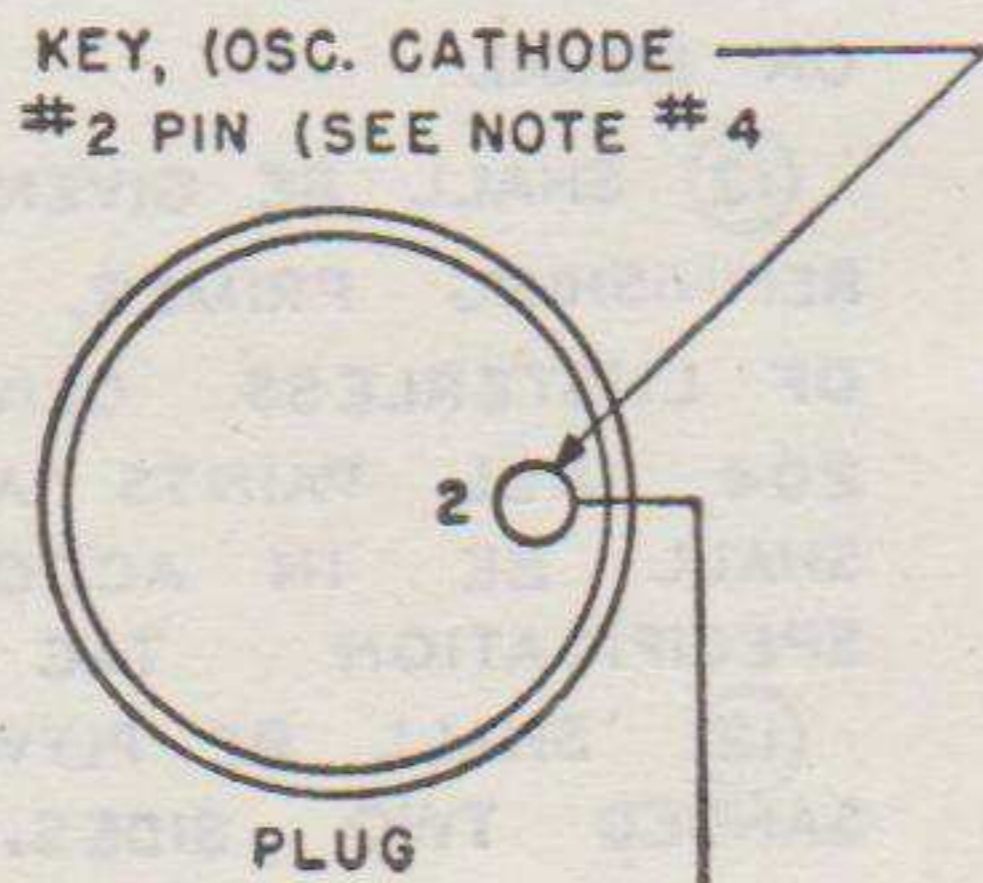
7 FRAME ASSEMBLY OF PE-75-() SHOWING HOLES FOR MOUNTING



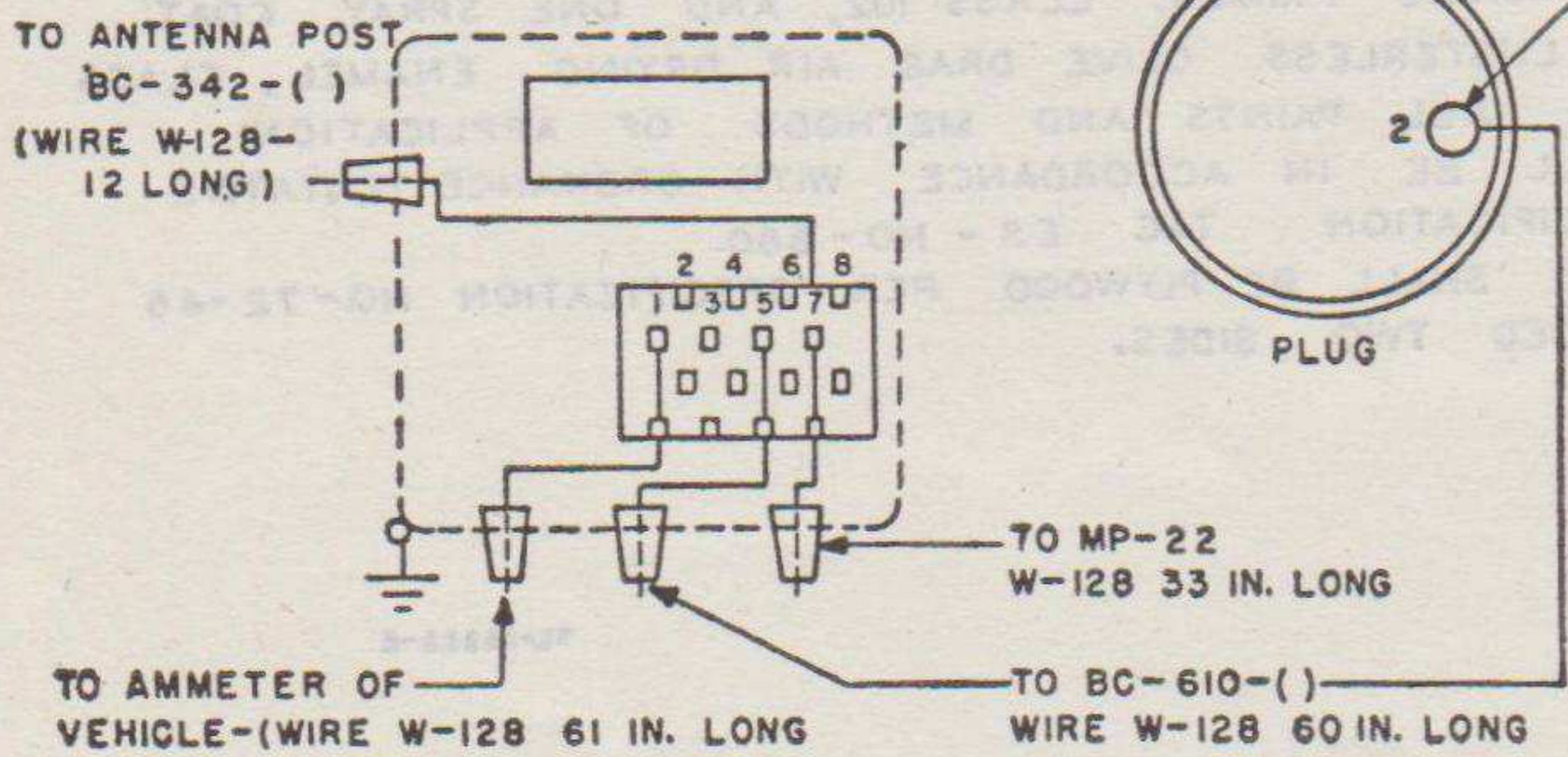
4 CUTTING WING NUTS AT TOP OF TRANSMITTER



5 WIRE W-28



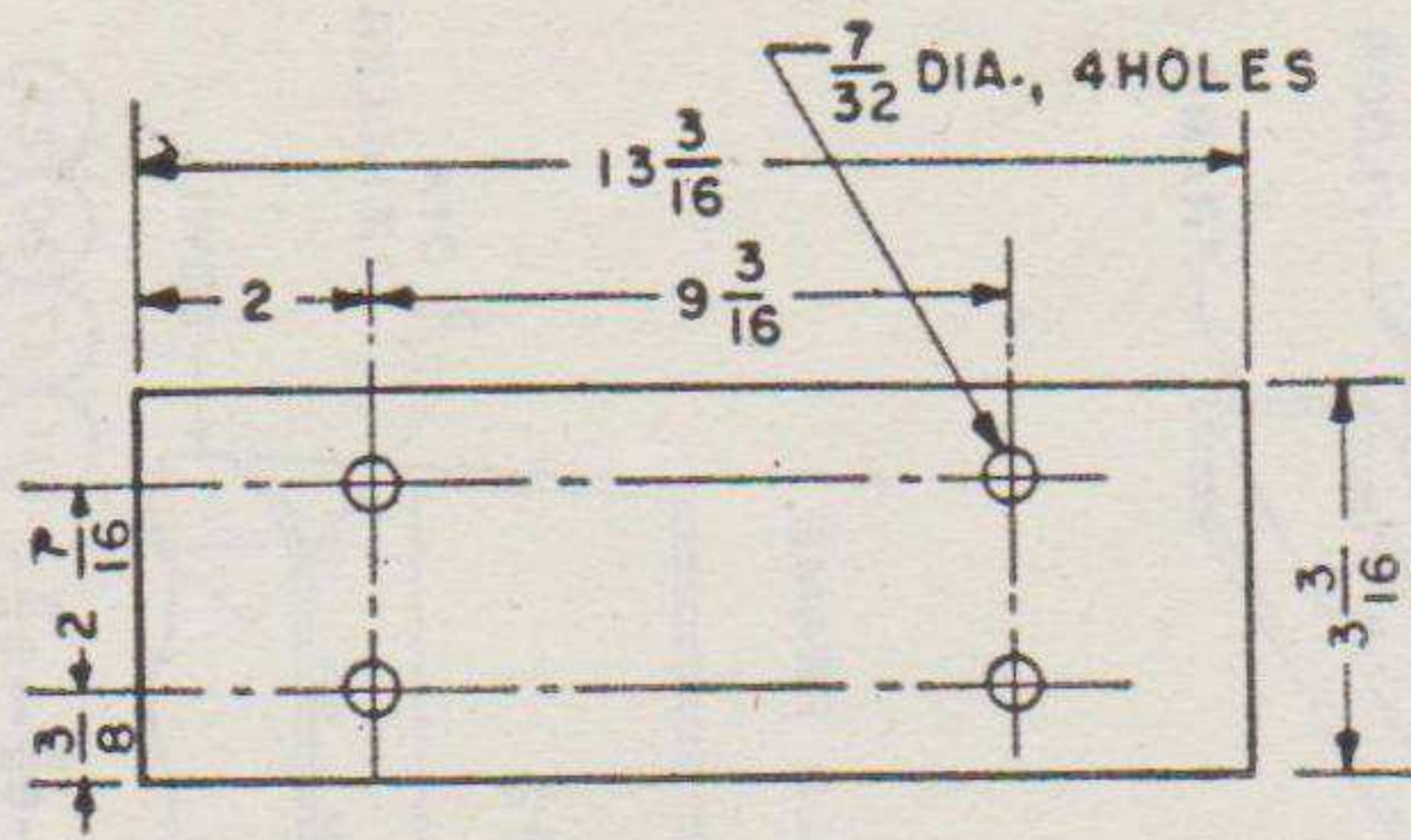
8 DRILLING DIAGRAM FOR MOUNTING RELAY BOX ON BC-342-() CASE



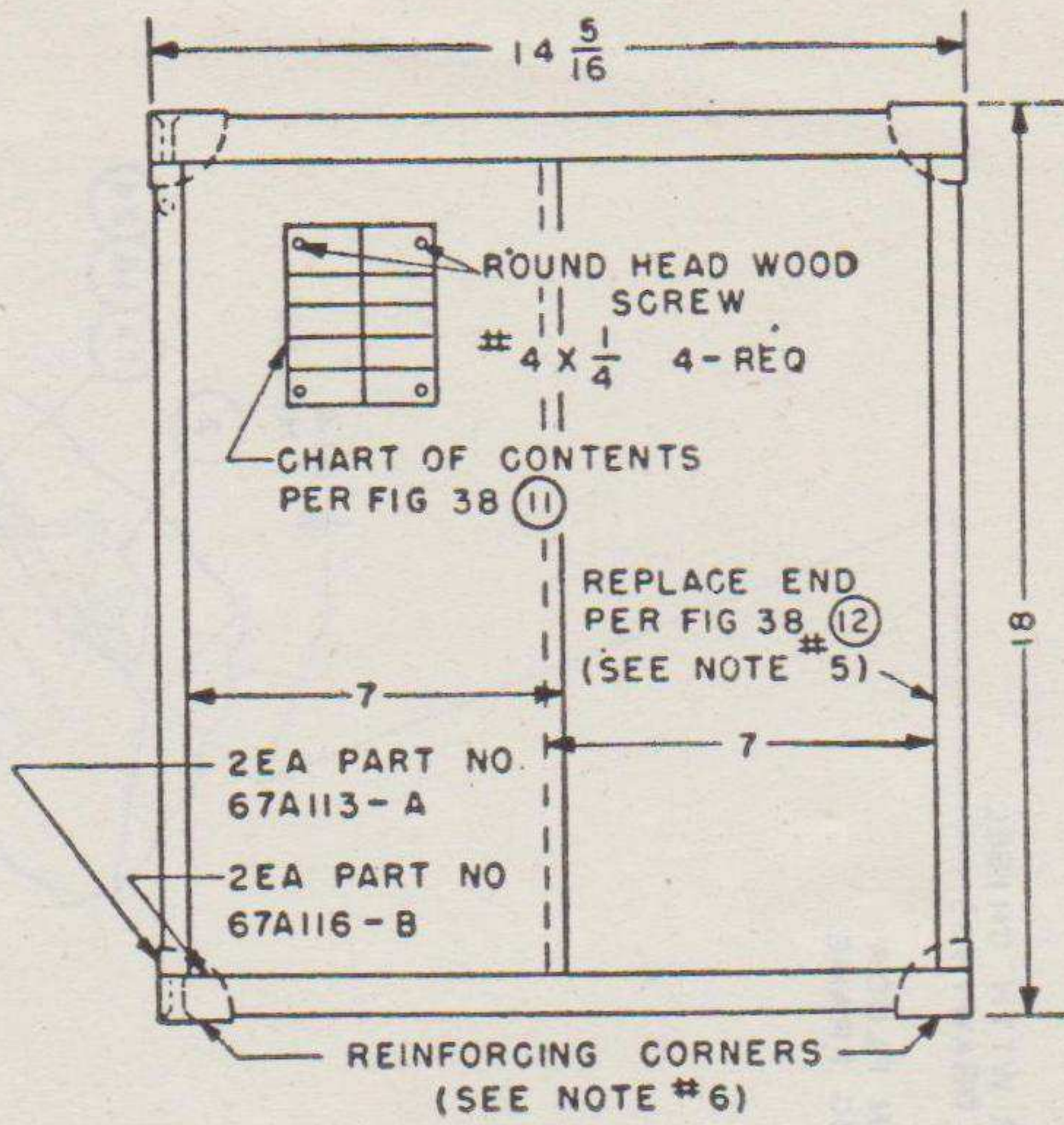
6 WIRING DIAGRAM OF RELAY BOX PER FIG. 45

Figure 39. Installation of Radio Set SCR-499-() in Truck, 1/4-ton, 4 x 4, modifications.

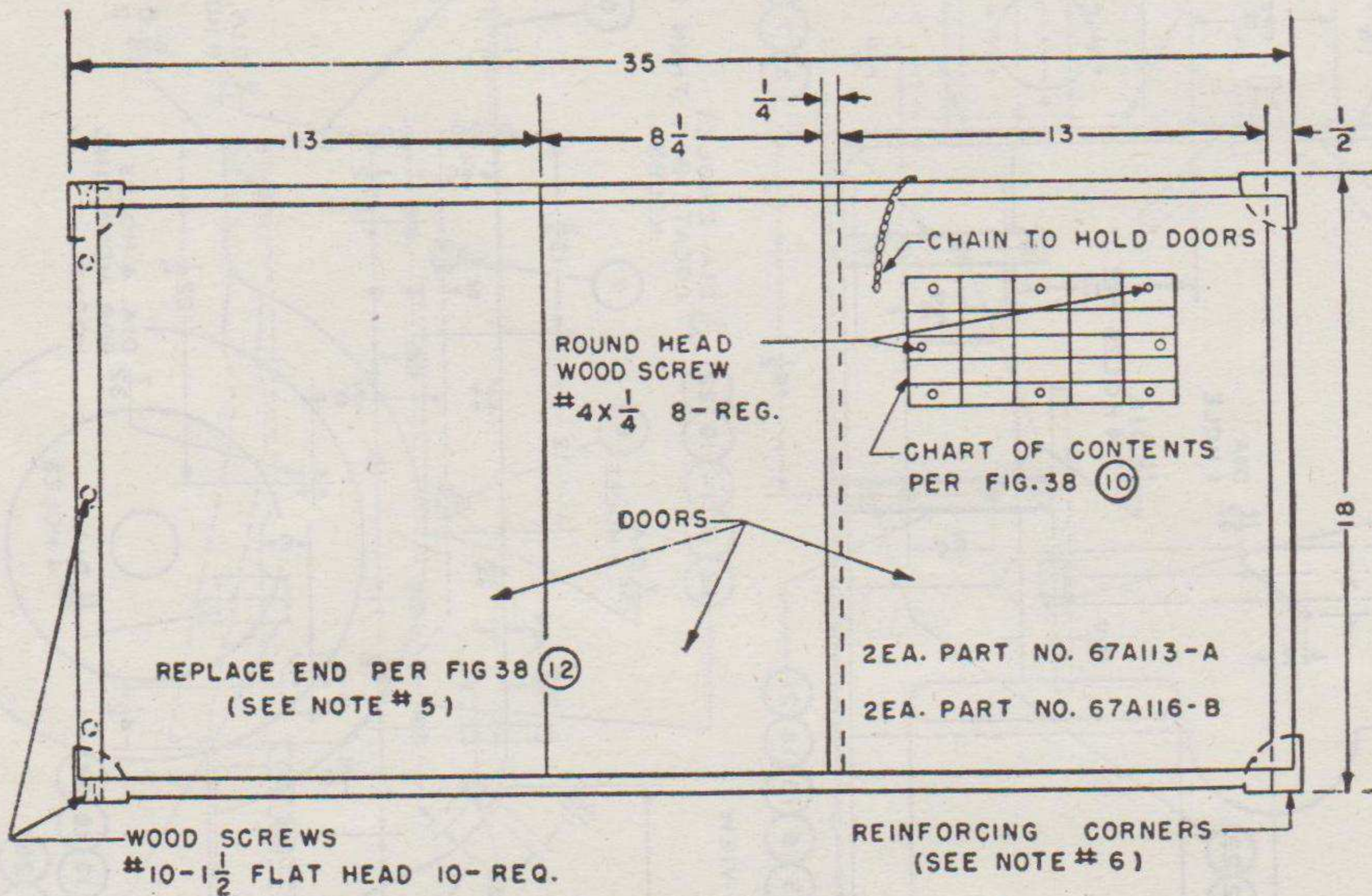
15957-1



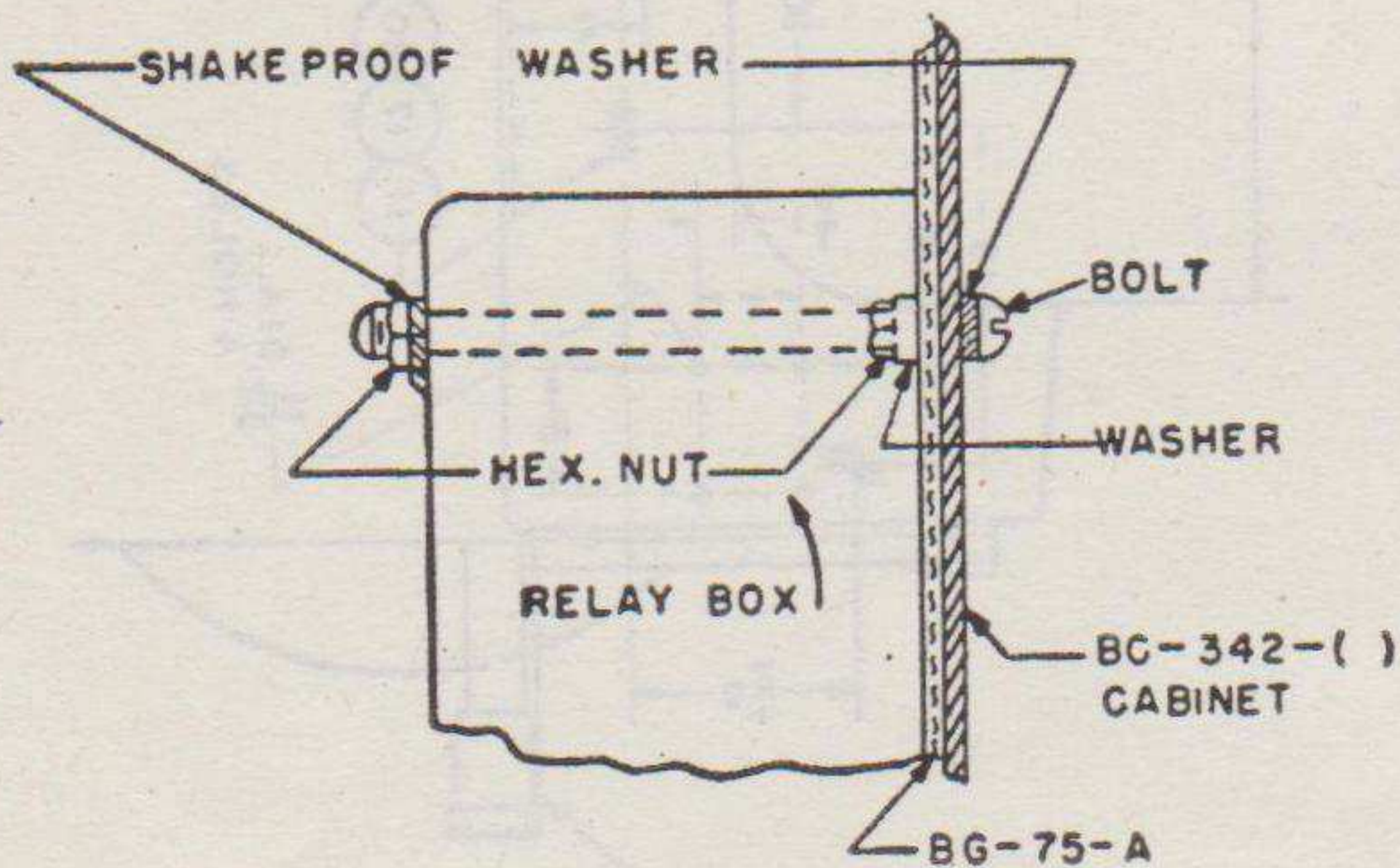
9 DRILLING DIAGRAM  
TUBE BOX BX-19-A  
FOR MOUNTING TO CHEST



10 PART OF CHEST CH-88-A



11 PART OF CH-88-A



12 METHOD OF MOUNTING RELAY  
BOX TO BC-342-( )

NOTE:

1. REMOVE ALL BURRS
2. DIMENSIONS WHERE NOT SHOWN OTHERWISE ARE IN INCHES.
3. TOLERANCES WHERE NOT SHOWN SHALL BE HELD TO  $\pm \frac{1}{64}$  ON FRACTIONAL DIMENSIONS.
4. REMOVE PLUG FROM CORD CD-764, TRANSMITTER END AND WIRE AS SHOWN.
5. CHEST CH-88-A SHALL BE MODIFIED AS PER (10) & (11), NEW ENDS SUPPLIED SHALL BE SECURED IN PLACE WITH #10-1 1/2 INCH LONG FLAT HEAD WOOD SCREWS. DOORS SHALL BE CUT PER DIMENSIONS SHOWN.
6. REINFORCING CORNERS AS USED BY THE HALLICRAFTERS CO. CHICAGO, ILL. THEIR PART NO. 67-A116-B & 67-A113-A. ALL CORNERS SHALL BE SECURED IN PLACE WITH 16 FLAT HEAD WOOD SCREWS #9 X 1/2 IN. LONG & 8 RD. HD. WOOD SCREWS 10 X 3/4 IN. LONG.

TL 15957-2

Figure 39—Continued.

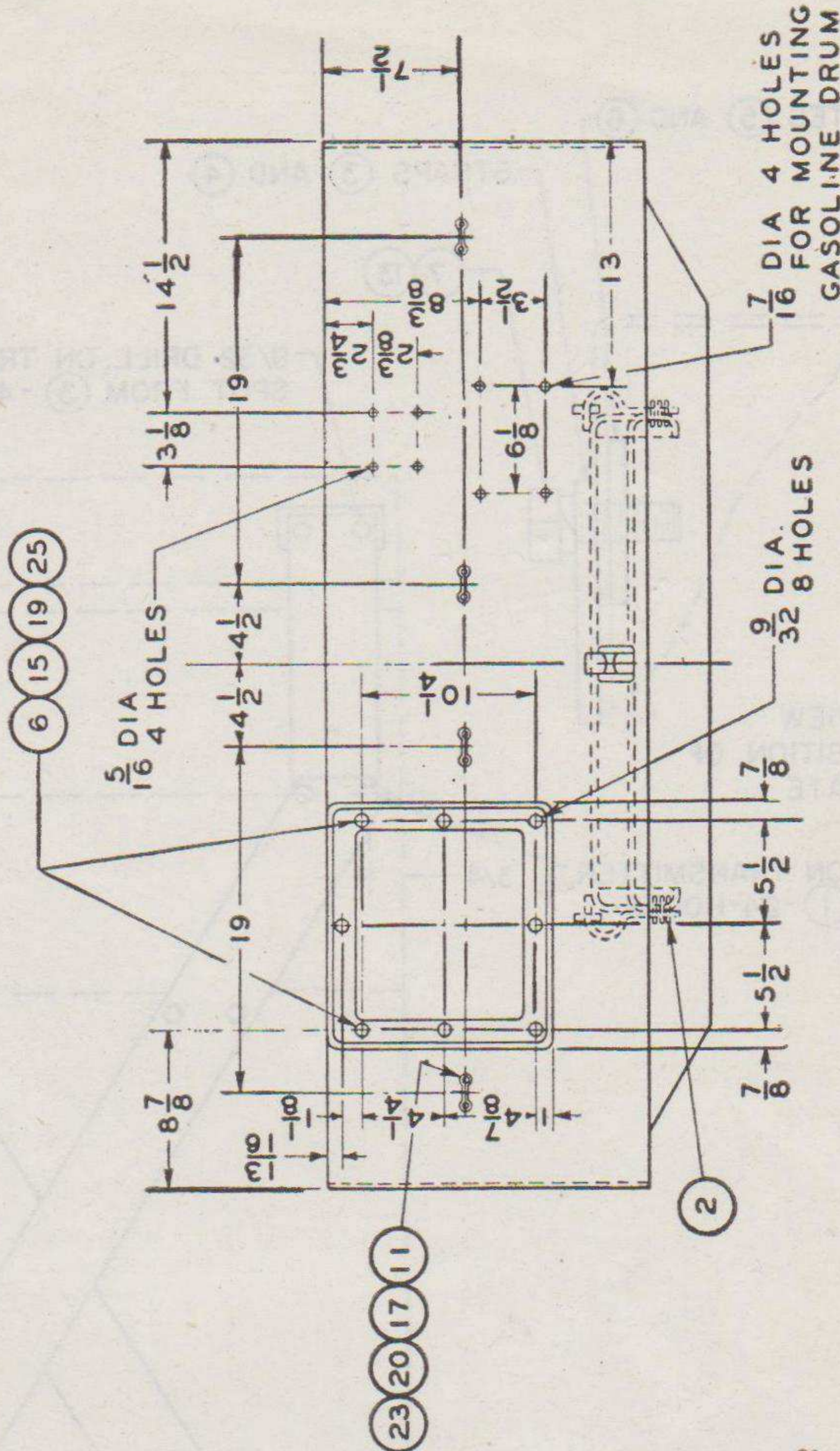




ITEM NO.	NAME OF ITEM	QUAN. REQ.
1	MOUNTING BRACKET (2)	1
2	BRACKET (5)	2
3	BRACKET (6)	2
4	BRACKET (7)	2
5	MOUNTING (SEE NOTE 10)	4
6	MAST BASE BRACKET MP-59-A	1
7	PLATE (3) } FIG. 38	1
8	BRACKET (4) }	1
9	OUTLET BOX (SEE NOTE 8)	1
10	STUD (SEE NOTE 5)	4
11	FOOTMAN LOOP (SEE NOTE 11)	28
12	RECEPTACLE (SEE NOTE 9)	1
13	HEX HEAD CAP SCREW 5/16-24 X 1 1/4 LONG	12
14	HEX HEAD CAP SCREW 1/4-20 X 1 LONG	8
15	HEX HEAD CAP SCREW 1/4-20 X 1 1/2 LONG	12
16	ROUND HEAD MACH. SCREW #10-32 X 3/4 LONG	16
17	FLAT HEAD MACH. SCREW #10-32 X 3/4 LONG	56
18	HEX NUT 5/16-24 STD. (SEE NOTE 4)	16
19	HEX. NUT 1/4-20 STD.	16
20	HEX. NUT #10 STD	72
21	LOCKWASHER S.A.E REGULAR FOR 5/16 SCREW	4
22	LOCKWASHER S.A.E REGULAR FOR 1/4 SCREW	6
23	LOCKWASHER S.A.E REGULAR FOR #10 SCREW	72
24	SHAKEPROOF WASHER 5/16 I.E.T. (SEE NOTE 6)	16
25	SHAKEPROOF WASHER 1/4 I.E.T. (SEE NOTE 6)	28

NOTES (CON'T.)

- 7 ALL EXPOSED SCREWS, NUTS, LOCKWASHERS AND BRACKETS SHALL BE GIVEN ONE COAT OF METAL PRIMER AND ONE COAT OF SEMI-GLOSS OLIVE DRAB AIR DRYING ENAMEL ALL PAINTS AND METHODS OF APPLICATION SHALL BE IN ACCORDANCE WITH SPECIFICATION NO.72-53
8. (9) SHALL BE #2900 CAT 102 NATIONAL RIDGE OUTLET BOX 3 1/4 INCH OCTAGON, 1 1/2 INCH DEEP INSIDE, SHERARDIZED FINISH, AS FURNISHED BY THE GRAYBAR ELECTRIC CO., OR EQUAL.
9. (12) SHALL BE NO.7543 WITH 3 1/4 INCH COVER, HUBBELL TYPE RECEPTACLE, CADMIUM FINISH AS FURNISHED BY THE GRAYBAR ELECTRIC CO., OR EQUAL.
- 10 (5) SHALL BE TYPE 150 PH.12 AS MADE BY THE LORD MANUFACTURING CO., ERIE PA., OR EQUAL.
- 11 (11) SHALL BE 1 INCH JAPANNE NO.1165 AS MADE BY THE NORTH AND JUDD MFG. CO., NEW BRITAIN, CONN., OR EQUAL.



REAR ELEVATION

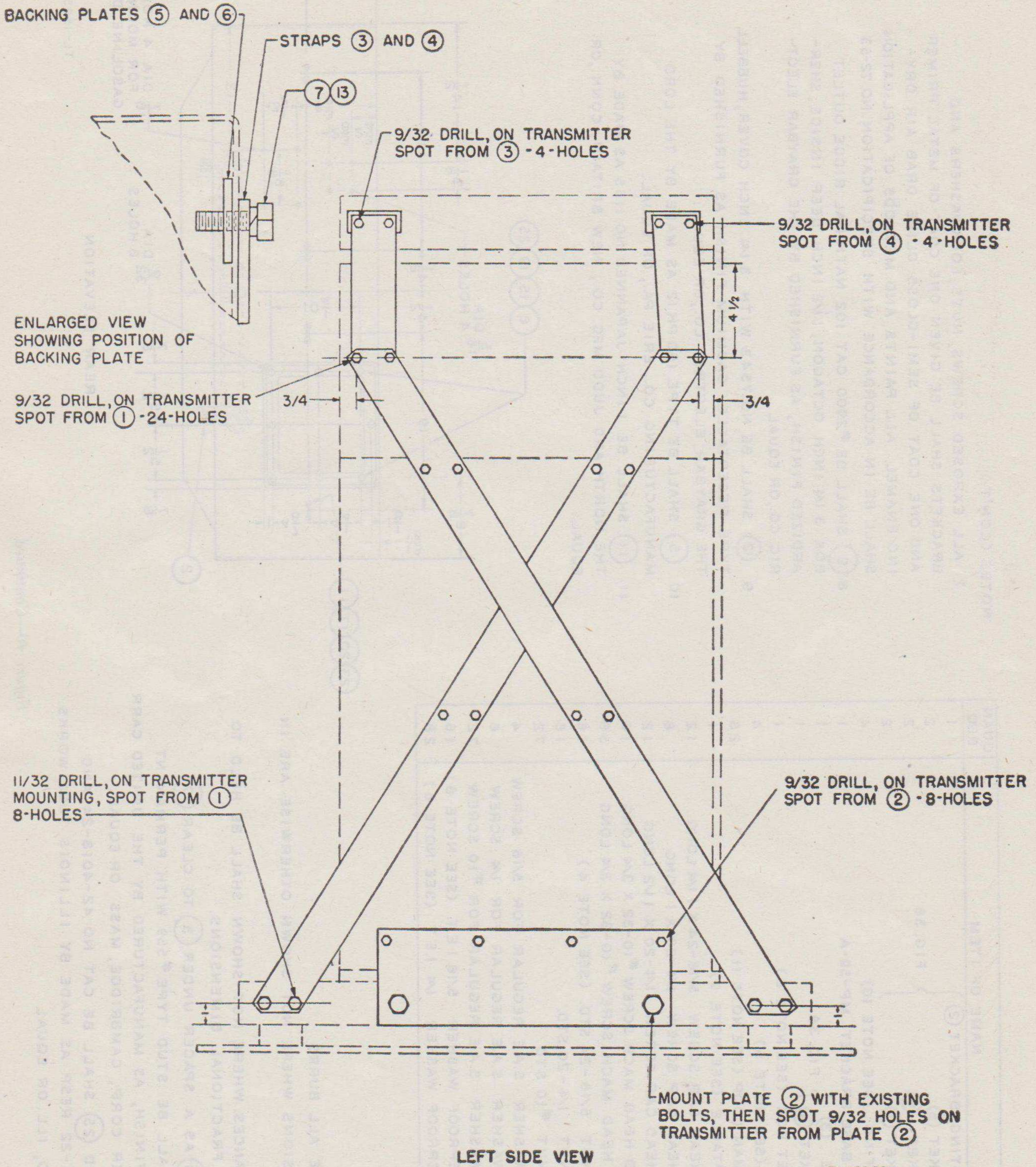
NOTES:

1. REMOVE ALL BURRS
2. DIMENSIONS WHERE NOT SHOWN OTHERWISE ARE IN INCHES.
3. TOLERANCES WHERE NOT SHOWN SHALL BE HELD TO 1/32 ON FRACTIONAL DIMENSIONS.
4. USE (18) AS A SPACER UNDER (3) TO CLEAR (17)
5. (10) SHALL BE STUD TYPE #559 WITH PERMANENT BLACK FINISH, AS MANUFACTURED BY THE UNITED CARR FASTENER CORP., CAMBRIDGE, MASS OR EQUAL.
6. (24) AND (25) SHALL BE CAT NO 42-4018-24 AND 42-4014-22 RESP. AS MADE BY ILLINOIS TOOL WORKS CHICAGO, ILL. OR EQUAL.

Figure 40—Continued.

TL-15956-2

RESTRICTED



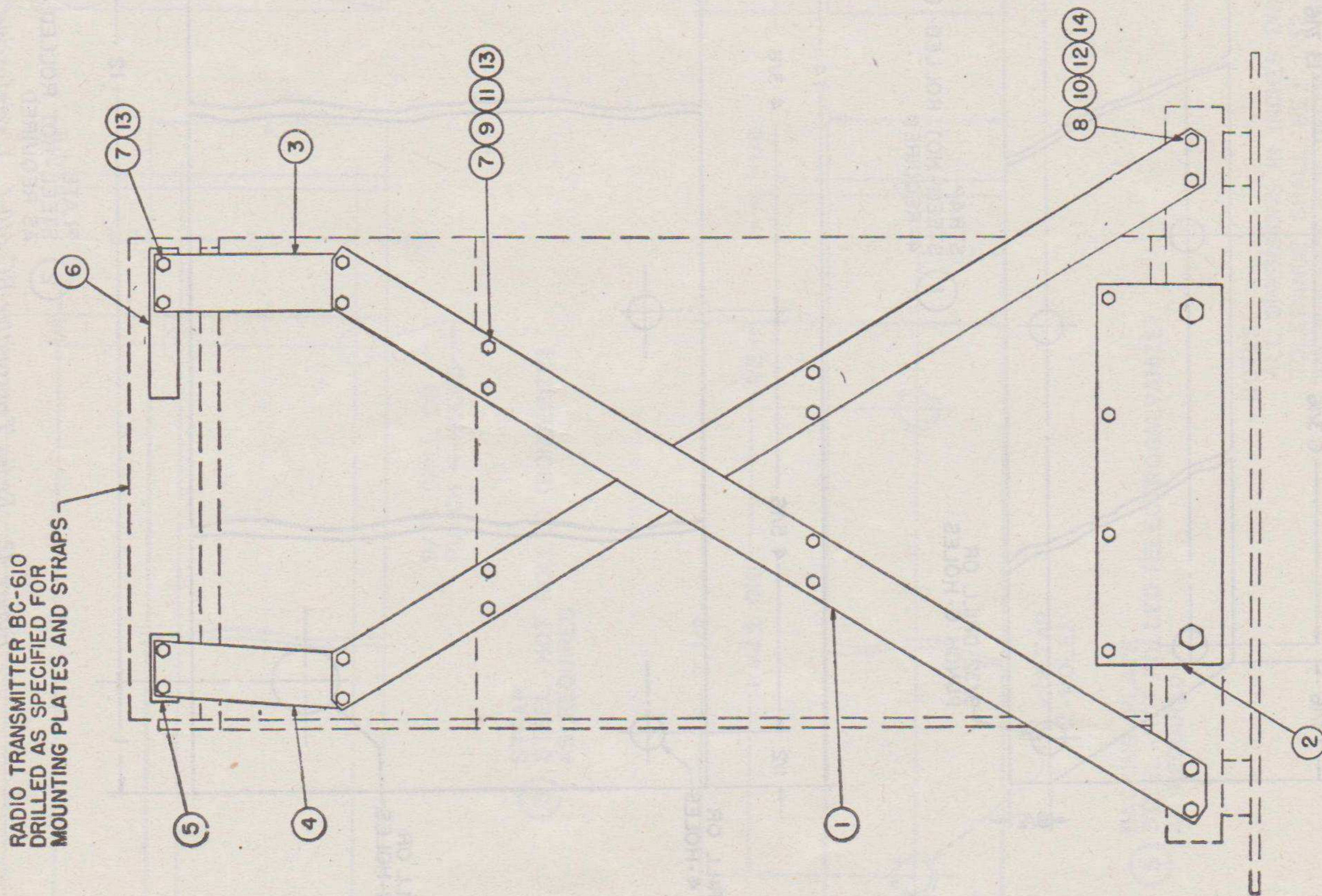
TL15982-1

Figure 41. Radio Transmitter BC-610-( ), reinforcing straws and plate for field modification, assembly.

RESTRICTED

NOTES:

ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED. TOLERANCE SHALL BE  $\pm 1/32$  FOR FRACTIONAL DIMENSIONS AND  $\pm 0.005$  FOR DECIMAL DIMENSIONS.  
 (1) TO (4) INCLUSIVE SHALL BE GIVEN ONE SPRAY COAT OF METAL PRIMER, CLASS 101, AND ONE SPRAY COAT OF WRINKLE BLACK BAKING ENAMEL, CLASS-541.  
 ALL PAINTS AND METHODS OF APPLICATION SHALL BE IN ACCORDANCE WITH ORDNANCE SPECIFICATION TAC ES-680.



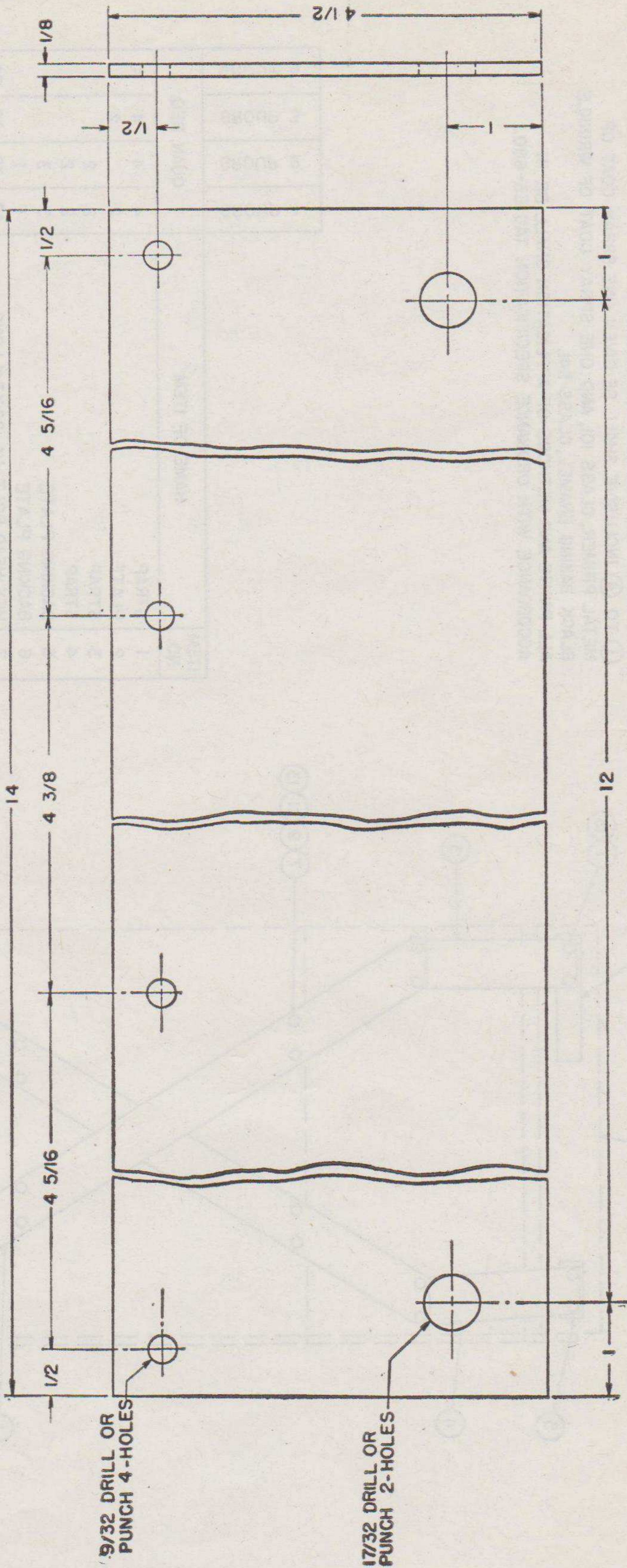
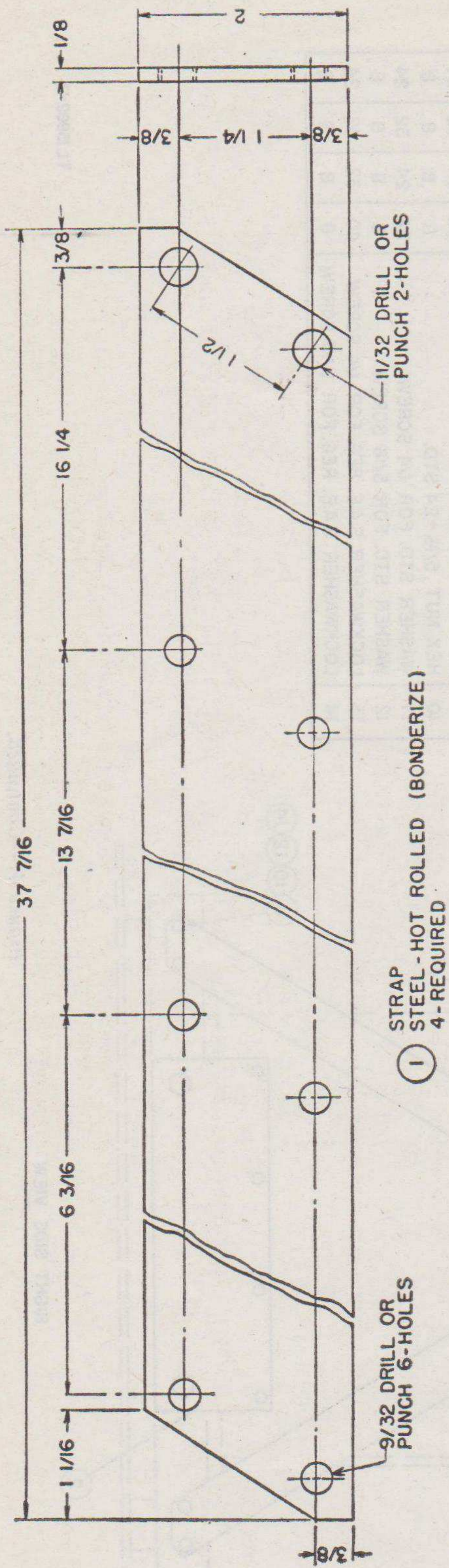
RIGHT SIDE VIEW

Figure 41—Continued.

ITEM NO.	NAME OF ITEM	QUAN. REQ.			
		GROUP 1	GROUP 2	GROUP 3	GROUP 4
1	STRAP	4	4	4	4
2	PLATE	2	2	2	2
3	STRAP	2	2	2	2
4	STRAP	2	2	2	2
5	BACKING PLATE	3	3	3	3
6	BACKING PLATE	1	1	1	1
7	HEX. HEAD BOLT 1/4-28 X 3/4 LONG	40	32	32	24
8	HEX. HEAD BOLT 5/16-24 X 3/4 LONG	8	8	8	8
9	HEX. NUT 1/4-28 STD.	32	24	32	24
10	HEX. NUT 5/16-24 STD.	8	8	8	8
11	WASHER STD. FOR 1/4 SCREW	32	24	32	24
12	WASHER STD. FOR 5/16 SCREW	8	8	8	8
13	LOCKWASHER S.A.E. REG. FOR 1/4 SCREW	40	32	32	24
14	LOCKWASHER S.A.E. REG. FOR 5/16 SCREW	8	8	8	8

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RESTRICTED



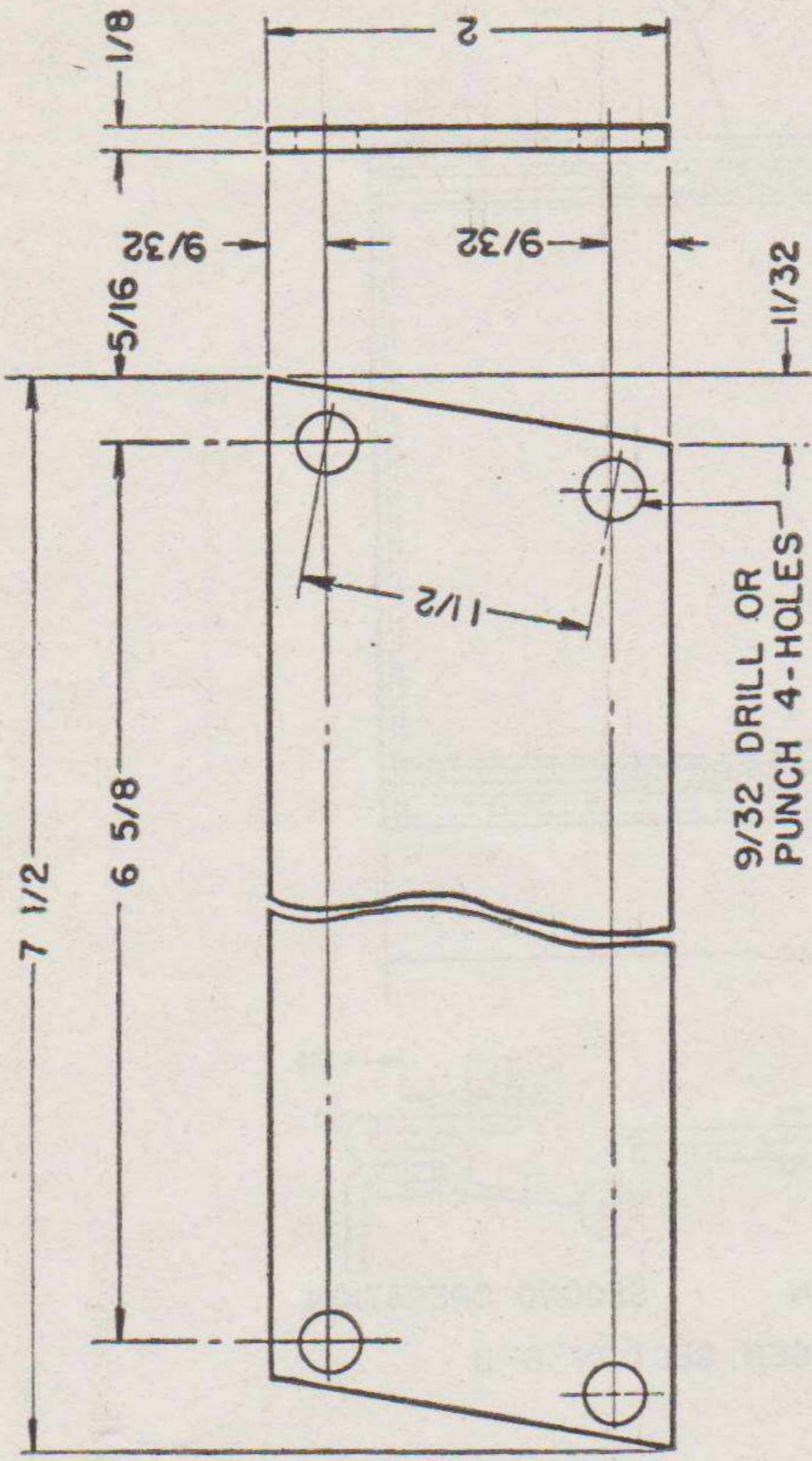
RESTRICTED

- ① STRAP STEEL-HOT ROLLED (BONDERIZE) 4-REQUIRED
- ② PLATE STEEL-HOT ROLLED (BONDERIZE) AS REQUIRED

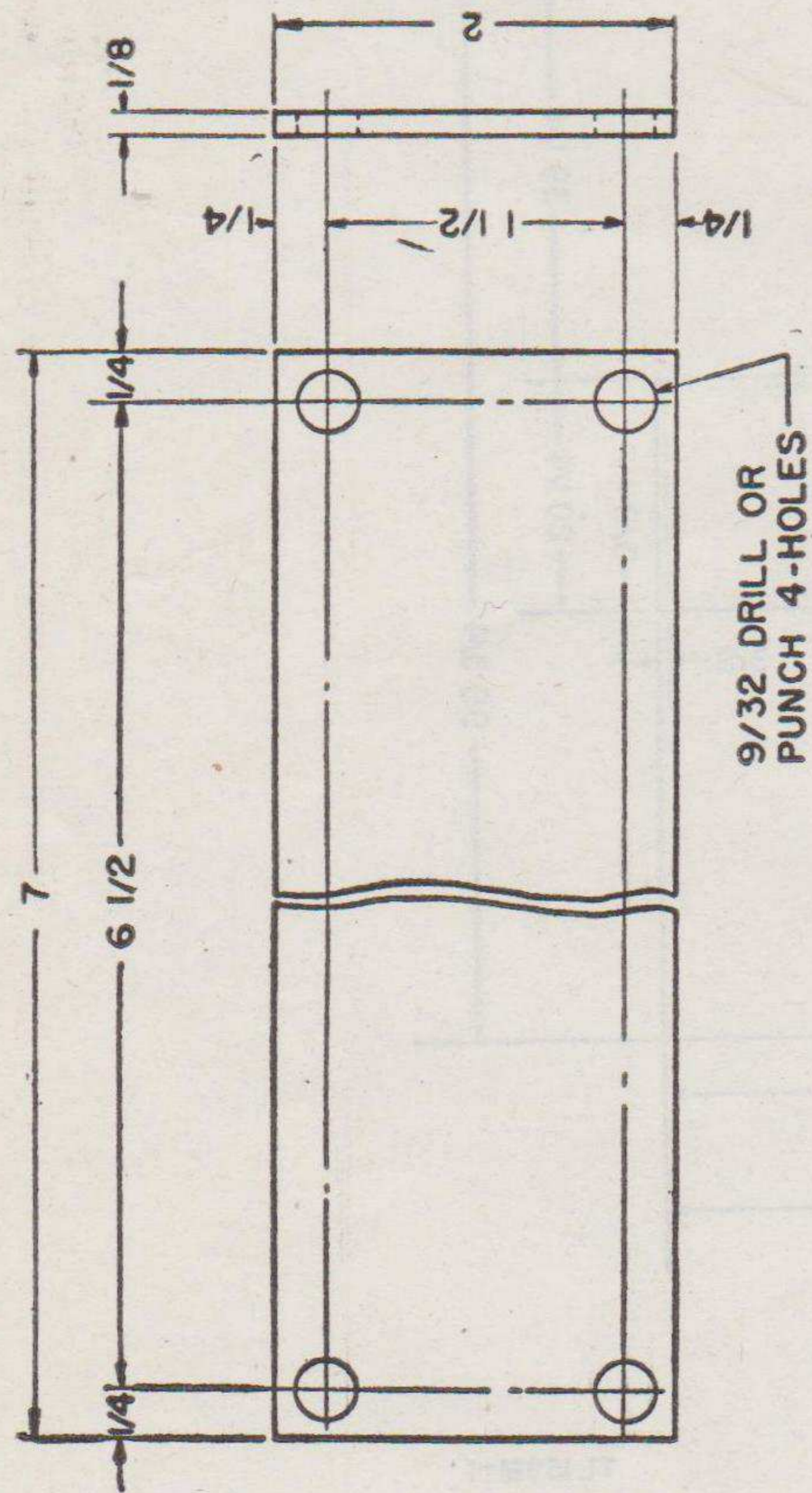
Figure 42. Radio Transmitter BC-610-( ), reinforcing straps and plate for field modification, details.

TL-15960-1

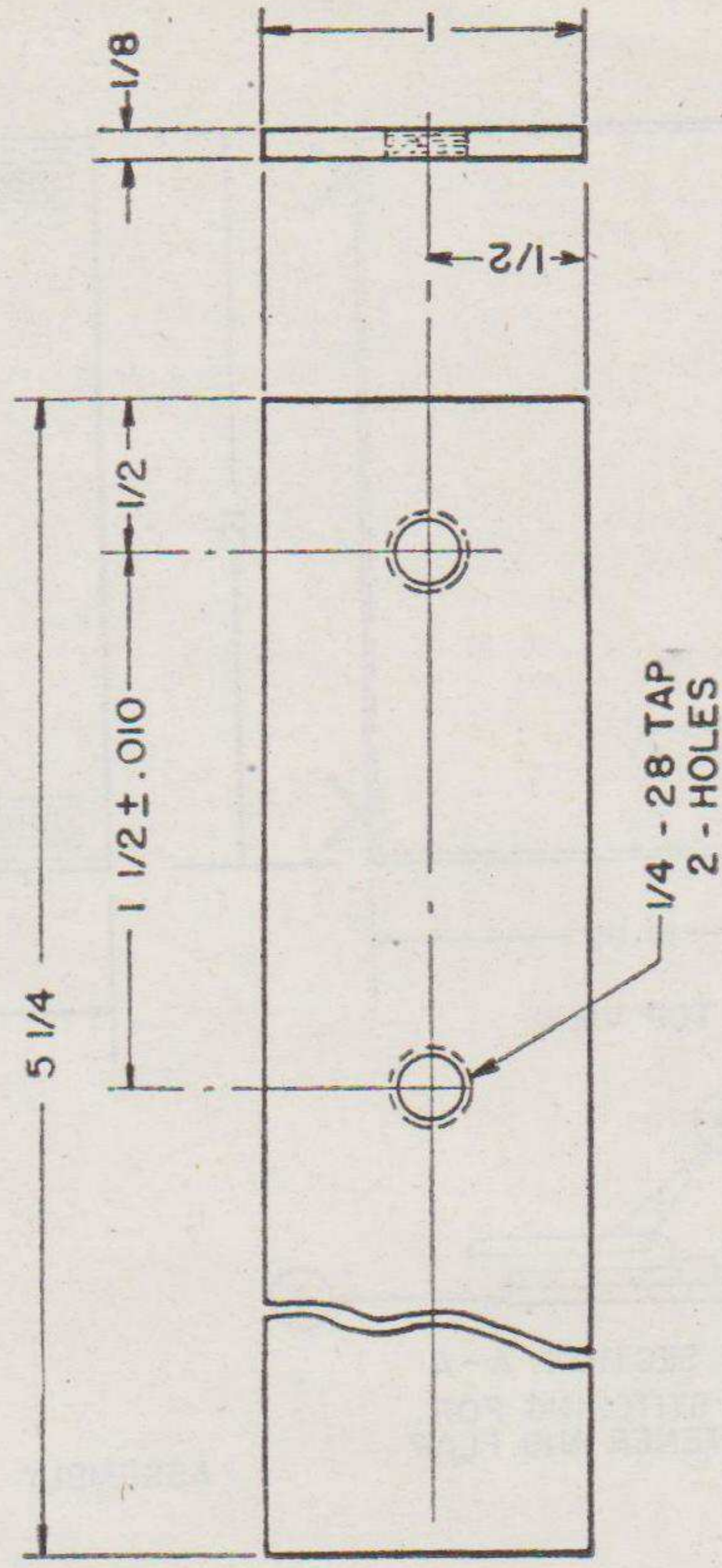
TL-15960-2



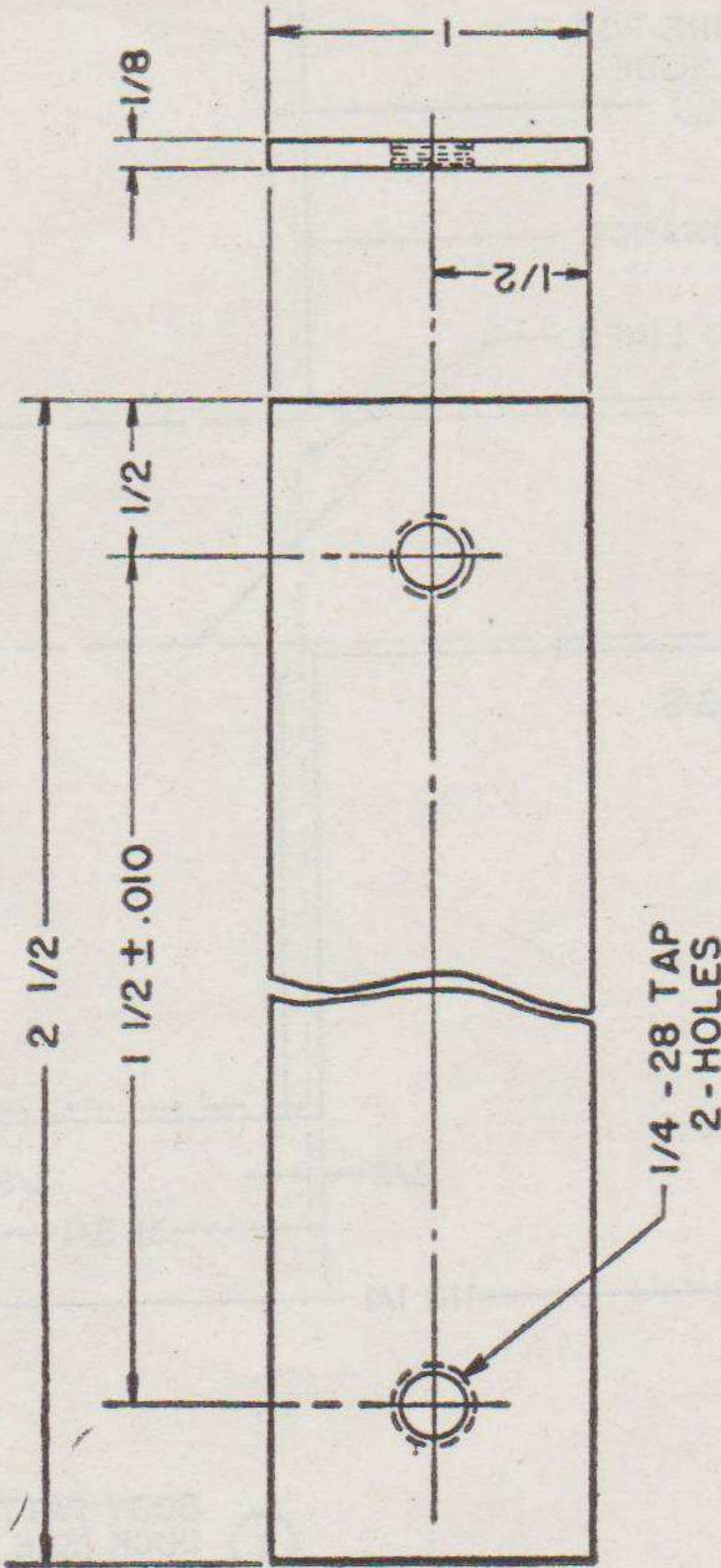
④ STRAP  
STEEL - HOT ROLLED (BONDERIZE)  
AS REQUIRED



③ STRAP  
STEEL - HOT ROLLED (BONDERIZE)  
AS REQUIRED



⑥ BACKING PLATE  
STEEL - HOT ROLLED (ELECTROGALVANIZE)  
AS REQUIRED

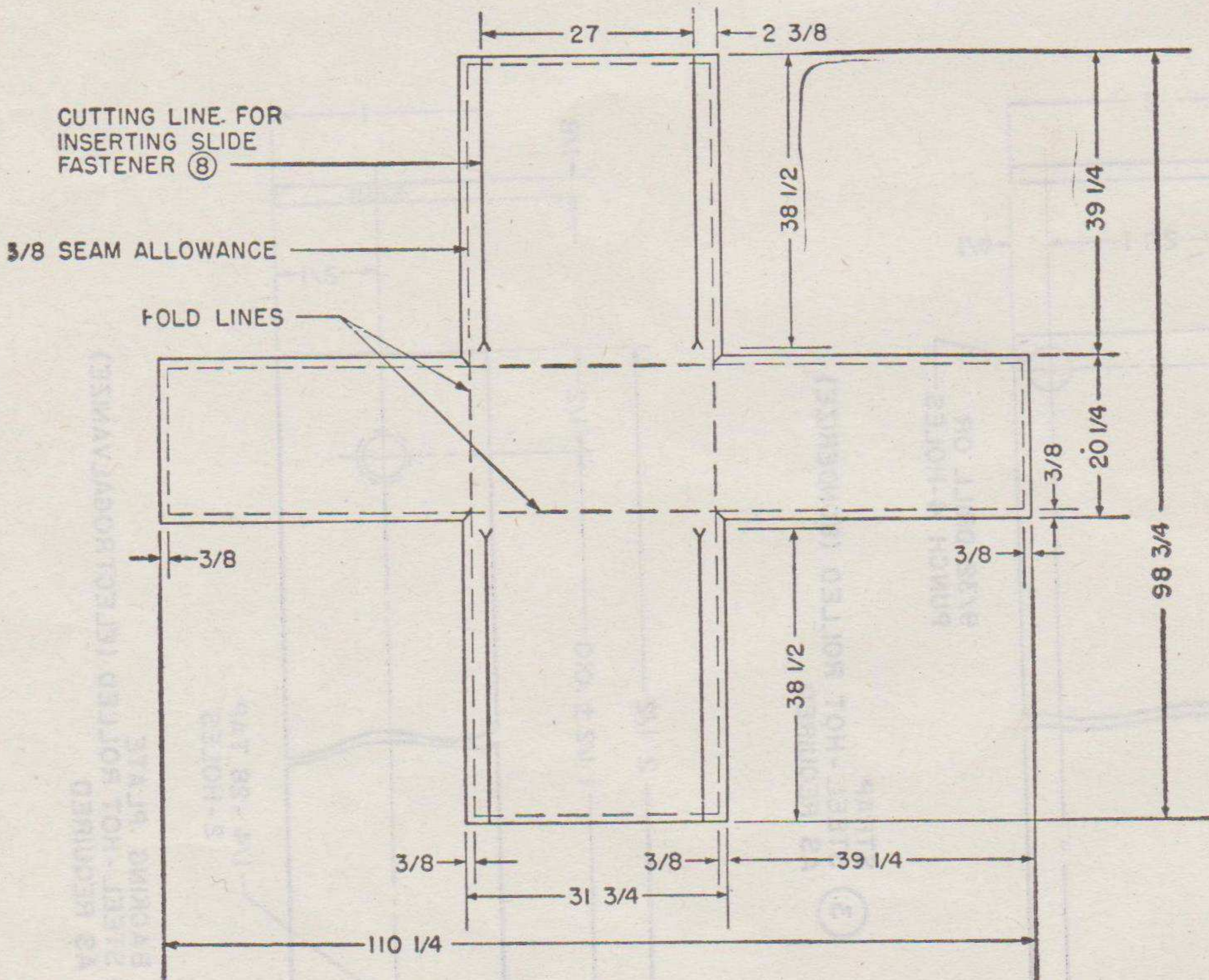
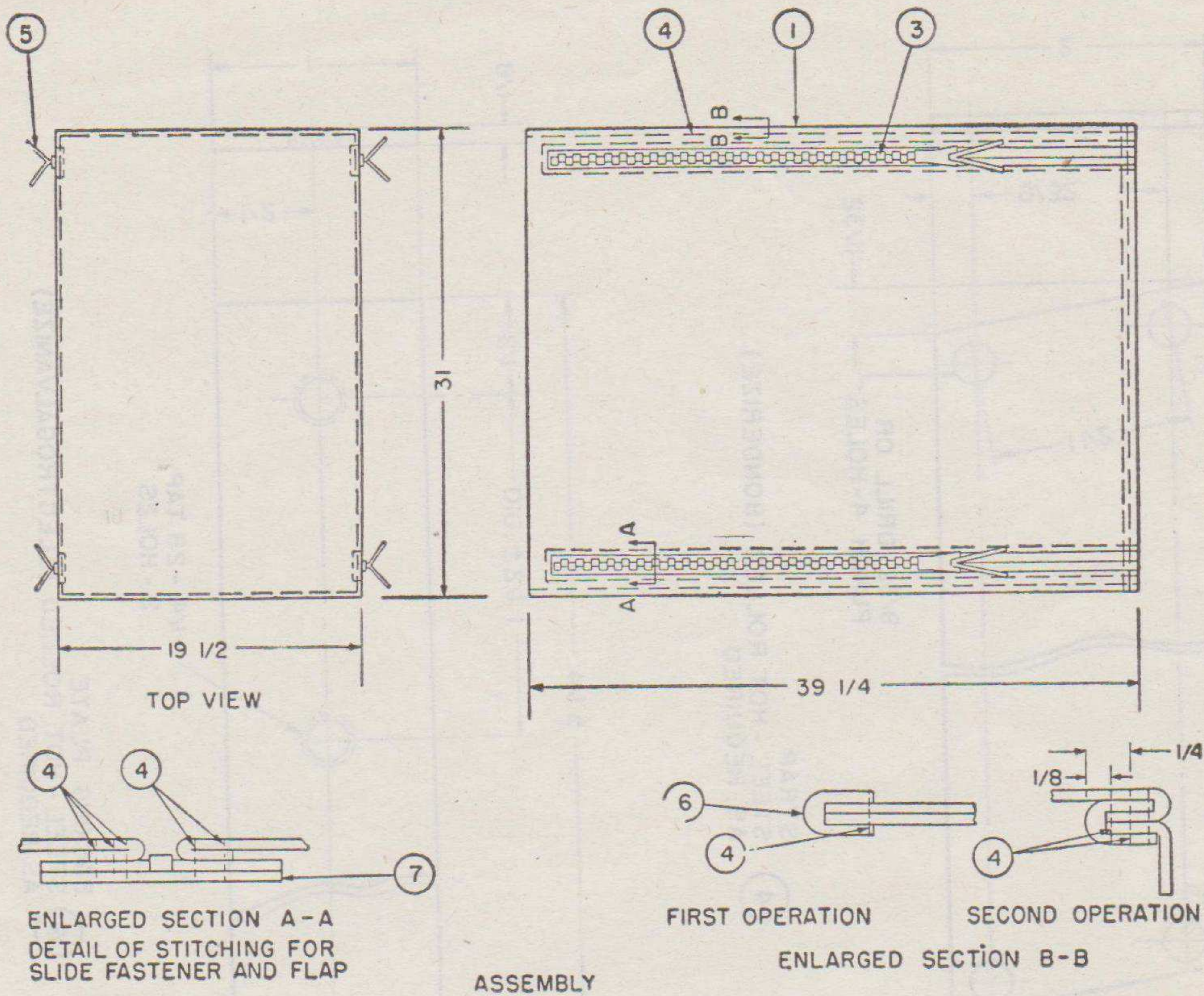


⑤ BACKING PLATE  
STEEL - HOT ROLLED (ELECTROGALVANIZE)  
AS REQUIRED

NOTES:  
ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED.  
TOLERANCE SHALL BE ± 1/32 FOR FRACTIONAL DIMENSIONS  
AND ± 0.005 FOR DECIMAL DIMENSIONS.  
REMOVE ALL BURRS AND SHARP CORNERS.

Figure 42—Continued.

**RESTRICTED**

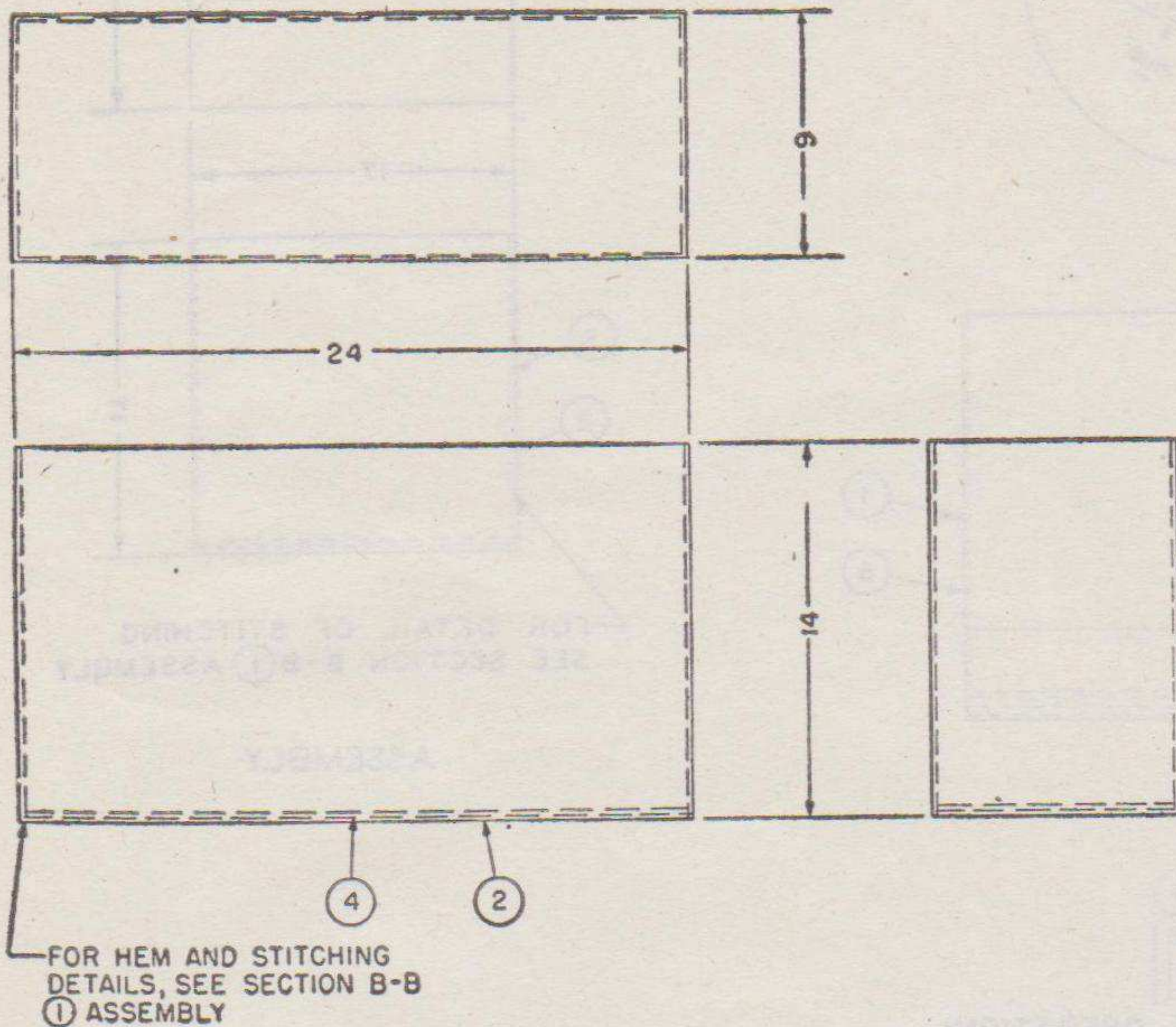


① BODY PATTERN  
DUCK (SEE NOTE)  
1-REQ.

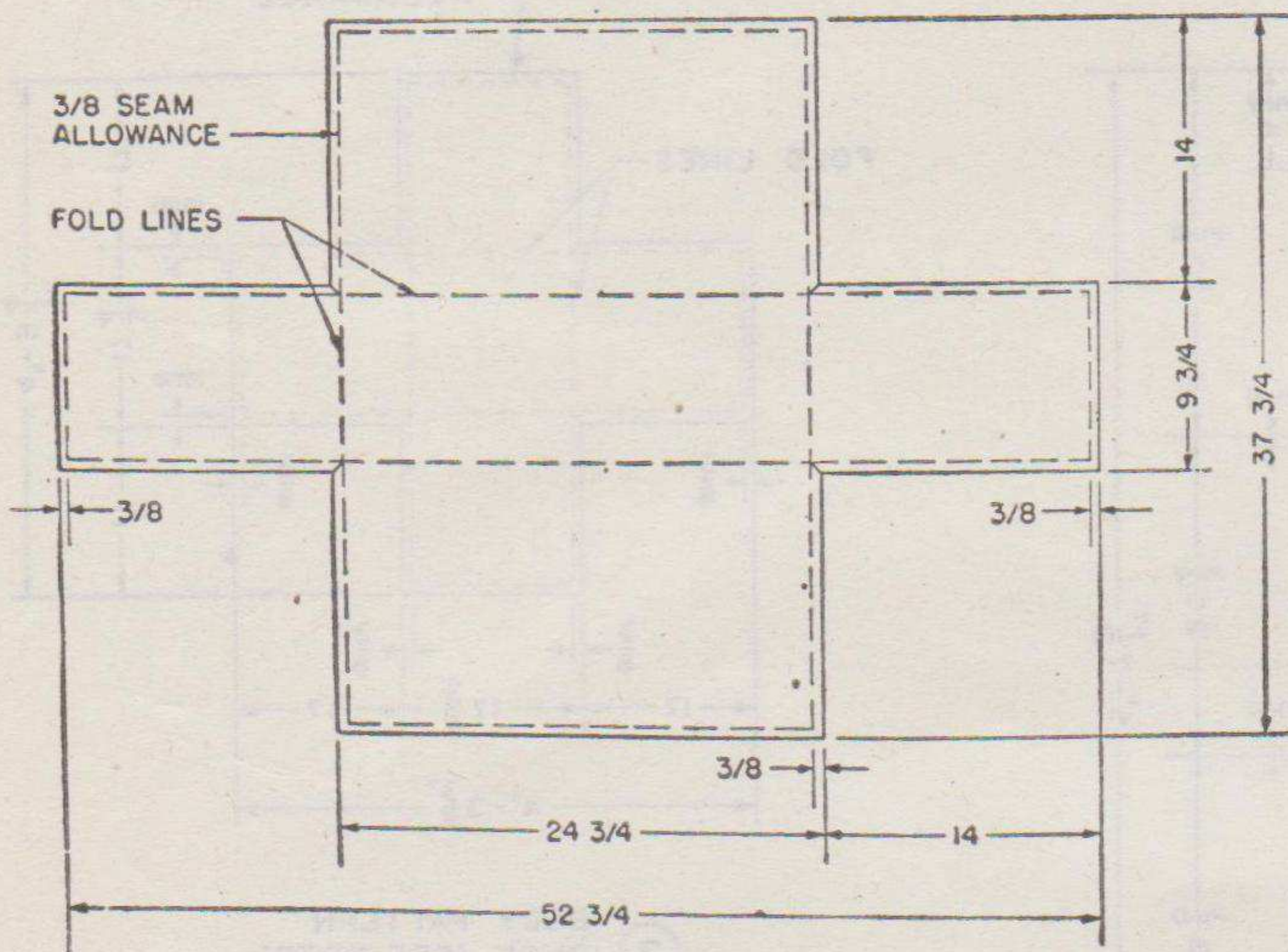
TL 15961-1

Figure 43. Covers, assembly and details.

**RESTRICTED**



ASSEMBLY



② BODY PATTERN DUCK (SEE NOTE) 1-REQ.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

① AND ② SHALL BE HARD TEXTURE TYPE, OLIVE DRAB #7, VAT DYED, COTTON DUCK, PER SPECIFICATION JQ-D-242-#6.

④ SHALL BE #10-3 CORD, TYPE III, OLIVE DRAB #7, VAT DYED, COTTON THREAD PER SPECIFICATION V-7-276.

③ SHALL BE TYPE #5-6 BLACK OXIDIZED SLIDE FASTENER WITH #6711 FULL AUTOMATIC SELF LOCK SLIDERS AND 13/16 OLIVE DRAB TAPE AS MADE BY TALON INC., MEADVILLE, PA., OR EQUAL. ENDS OF CLOTH ON ALL FASTENERS SHALL BE DOUBLED UNDER BEFORE SEWING.

ALL SEWING SHALL BE LOCKSTITCHED (6-8 STITCHES PER INCH) SEAMS STRONGLY STITCHED USING TWO OR MORE ROWS UNLESS OTHERWISE SHOWN.

THE CONTRACTOR SHALL MAKE PROPER ALLOWANCES FOR SHRINKAGE IN CUTTING PATTERNS TO OBTAIN OVERALL DIMENSIONS ON ASSEMBLY. PART OF THIS DRAWING WITH A TOLERANCE OF  $\pm \frac{1}{2}$  UNLESS OTHERWISE SPECIFIED, AFTER SOAKING FINISHED COVER IN WATER OF ROOM TEMPERATURE FOR 24 HOURS AND DRYING THOROUGHLY AT ROOM TEMPERATURE. DIMENSIONS SHOWN DO NOT ALLOW FOR SHRINKAGE.

⑦ SHALL BE .40 OZ., TYPE I, OLIVE DRAB #7 VAT DYED, COTTON WEBBING PER SPECIFICATION 6-185.

⑥ SHALL BE .30 OZ., TYPE I, OLIVE DRAB #7 VAT DYED, COTTON WEBBING PER SPECIFICATION 6-185.

①, ②, ④, ⑥ AND ⑦ SHALL BE SUITABLY TREATED TO BE WATER REPELLENT AND FUNGUS RESISTANT. CONTRACTOR SHALL FURNISH STATEMENT FROM MANUFACTURER ON EACH ORDER THAT THE ABOVE TREATMENT HAS BEEN MADE AND TESTED IN ACCORDANCE WITH SPECIFICATION 100-17

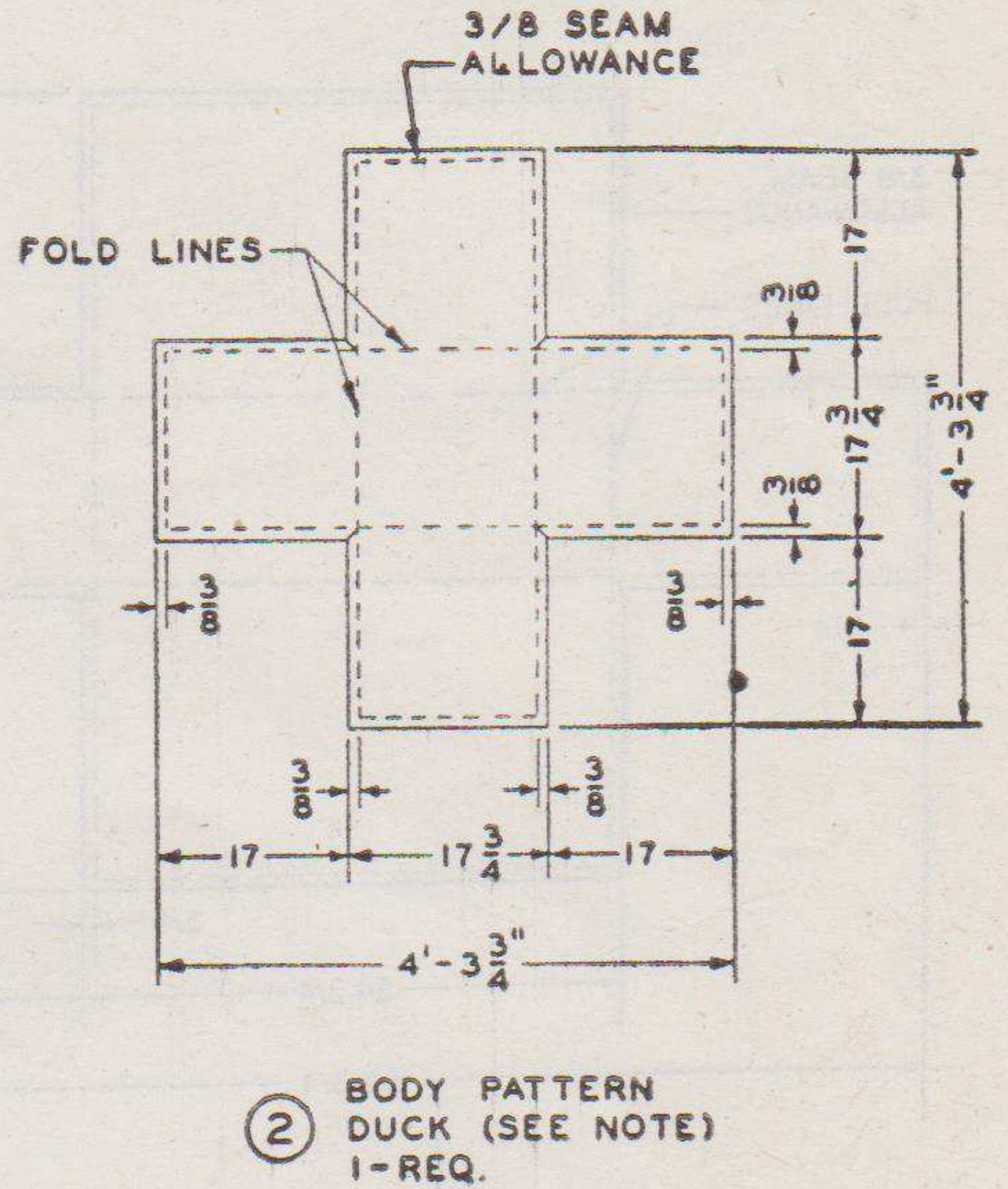
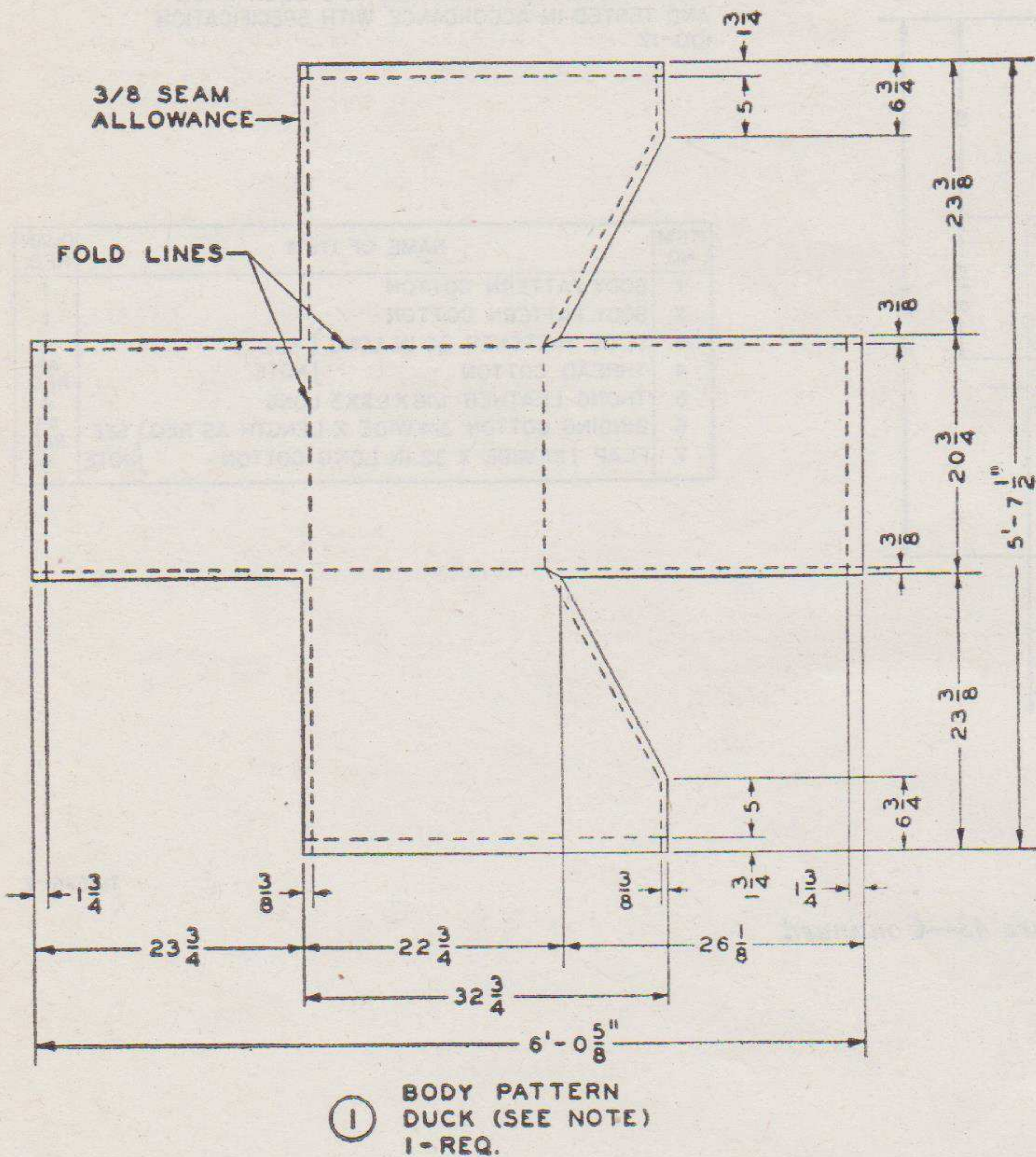
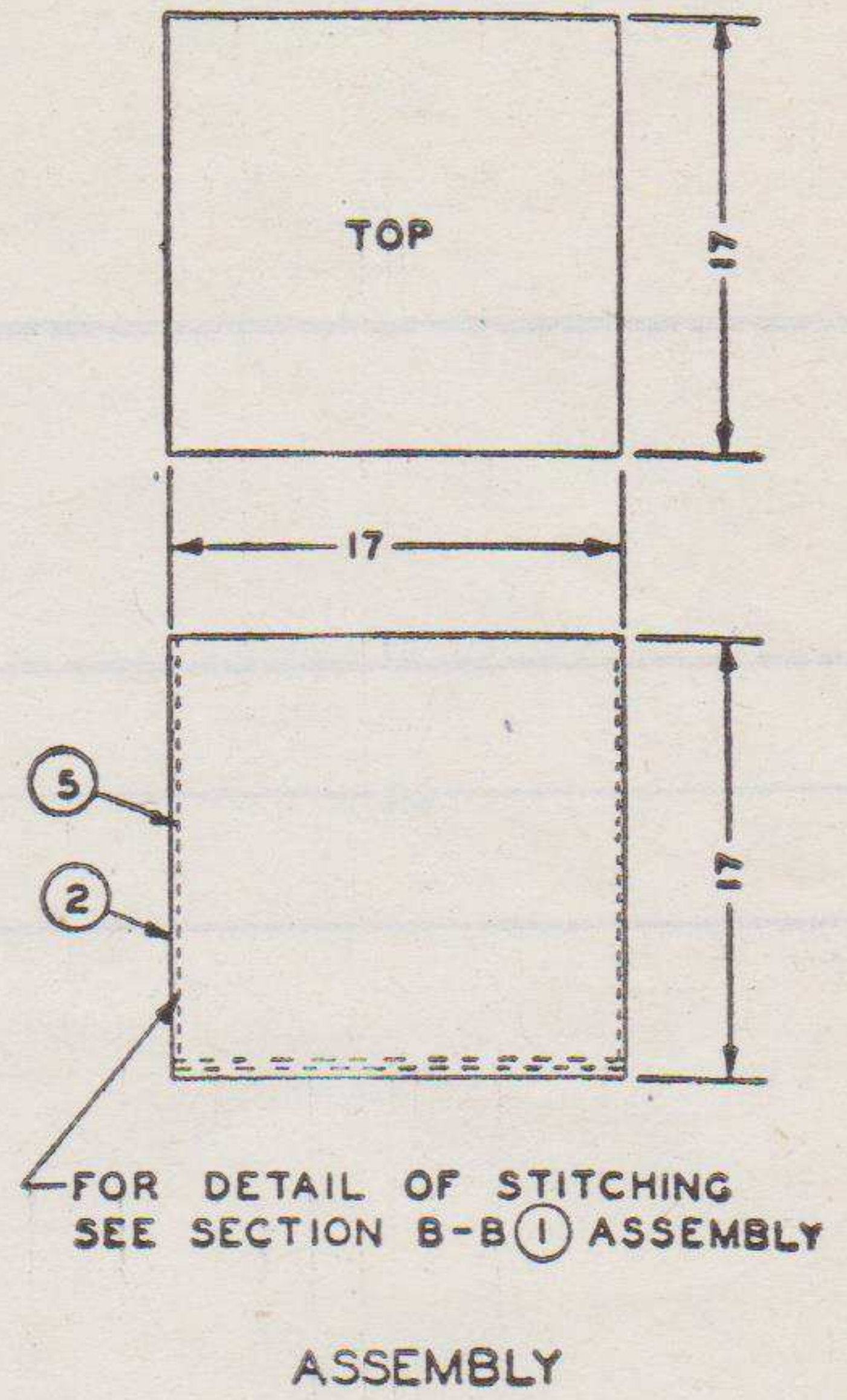
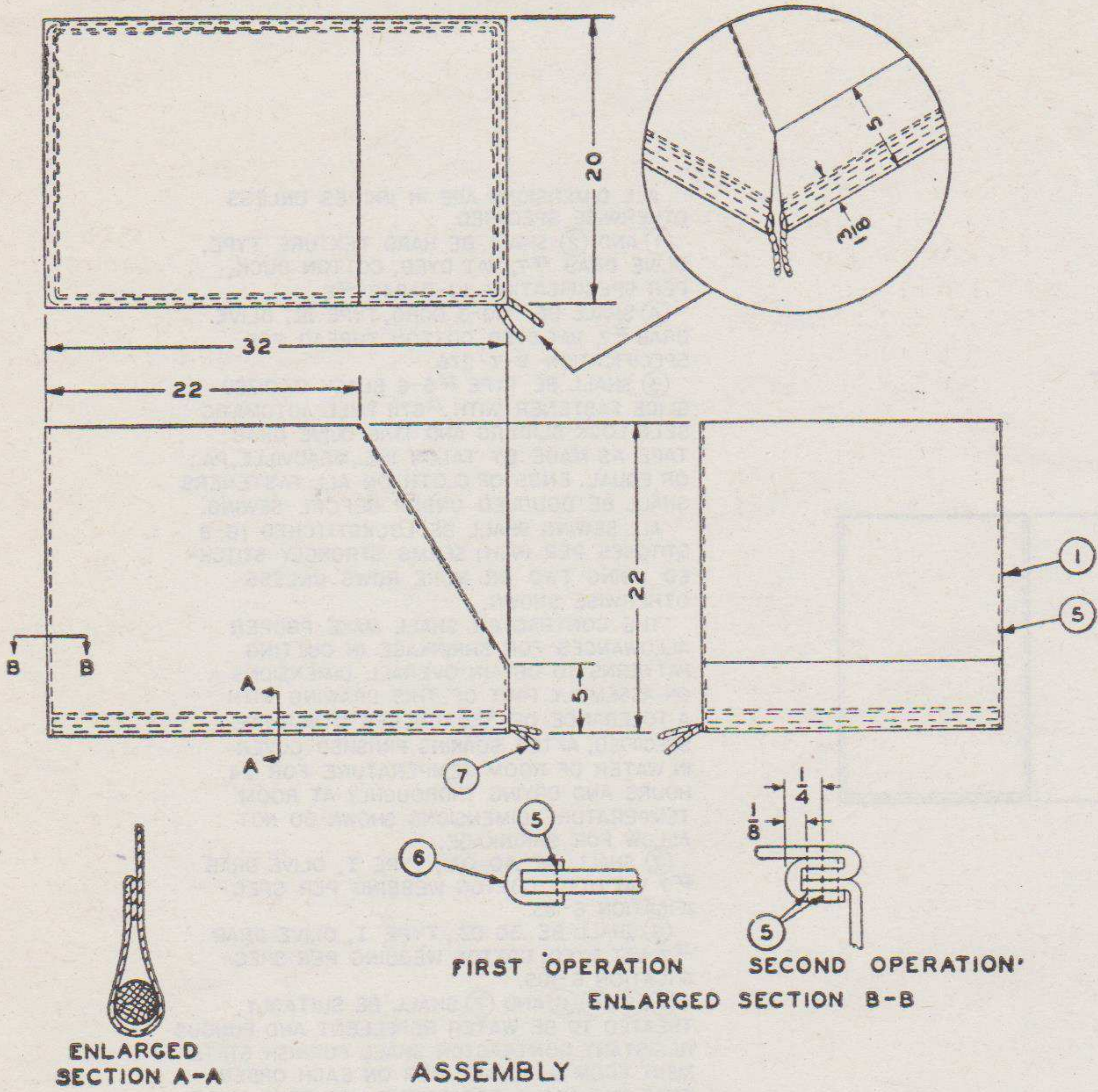
ITEM NO.	NAME OF ITEM	QUAN REQ.
1	BODY PATTERN COTTON	1
2	BODY PATTERN COTTON	1
3	SLIDE FASTENER 30 IN. LONG	4
4	THREAD COTTON	AS REQ.
5	THONG LEATHER 1/16 X 1/8 X 3 LONG	4
6	BINDING COTTON 3/4 WIDE X LENGTH AS REQ.	AS REQ.
7	FLAP 1 IN. WIDE X 32 IN. LONG COTTON	4

Figure 43—Continued.

TL15961-2



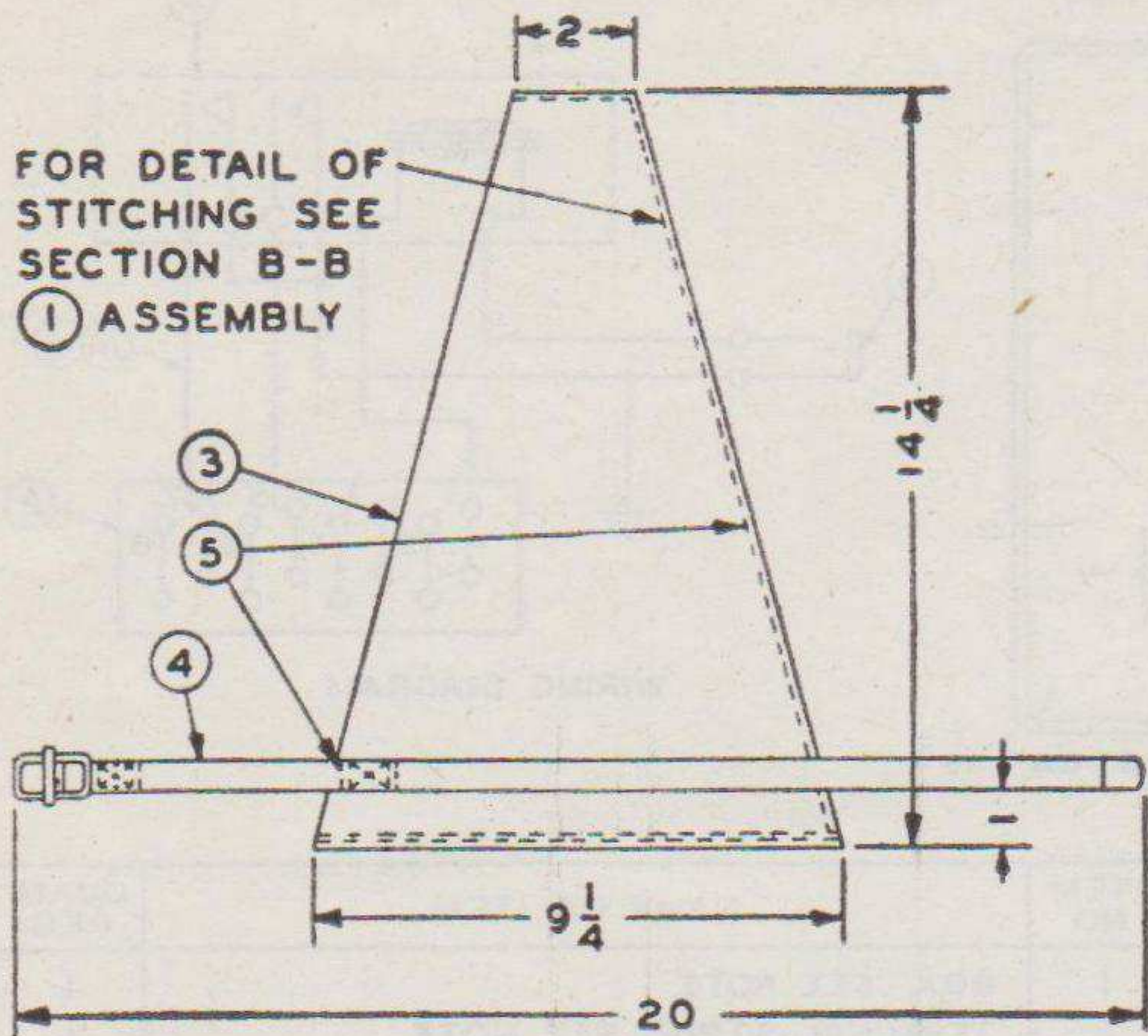
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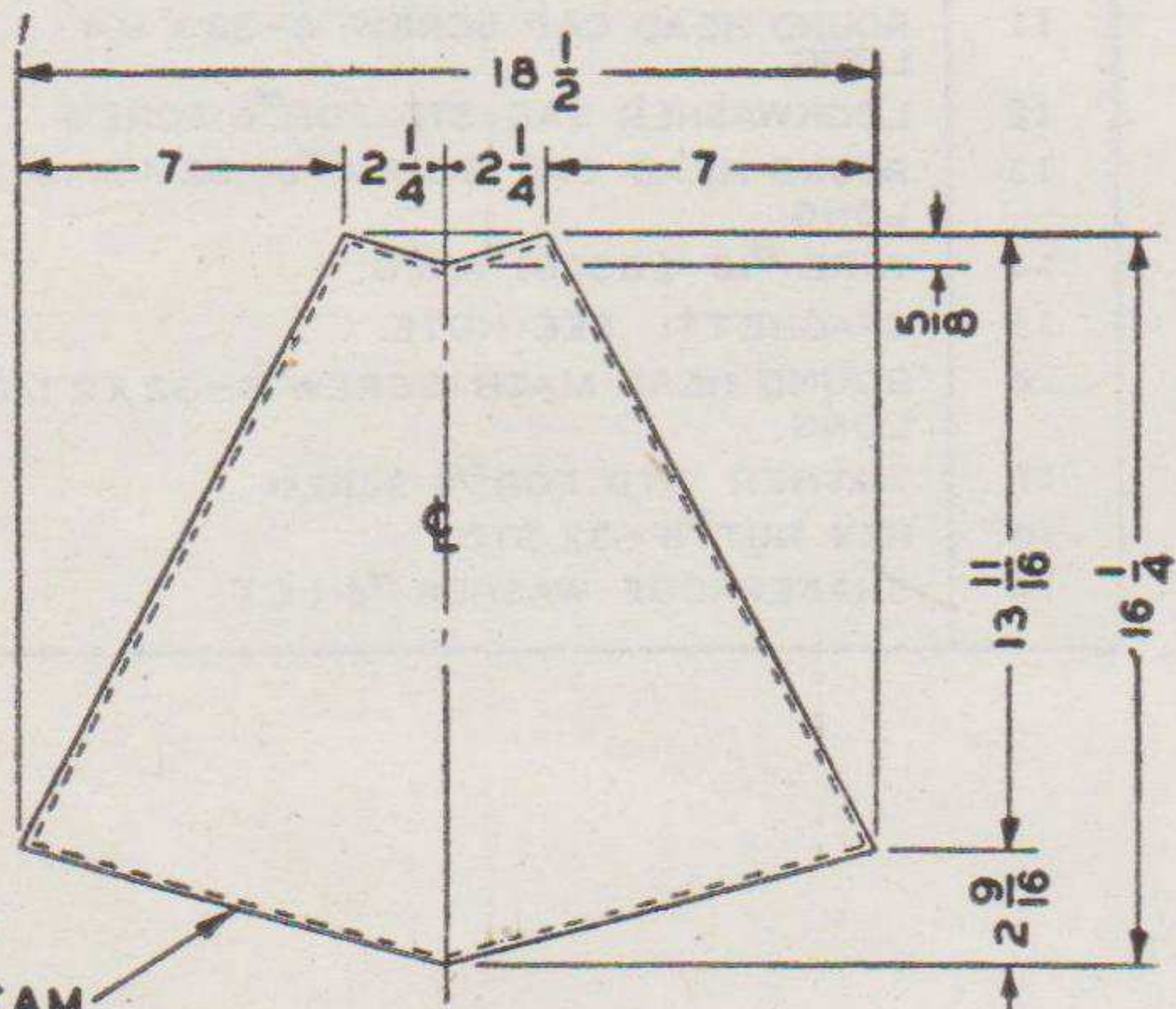
Figure 44. Covers, assembly and details.

RESTRICTED



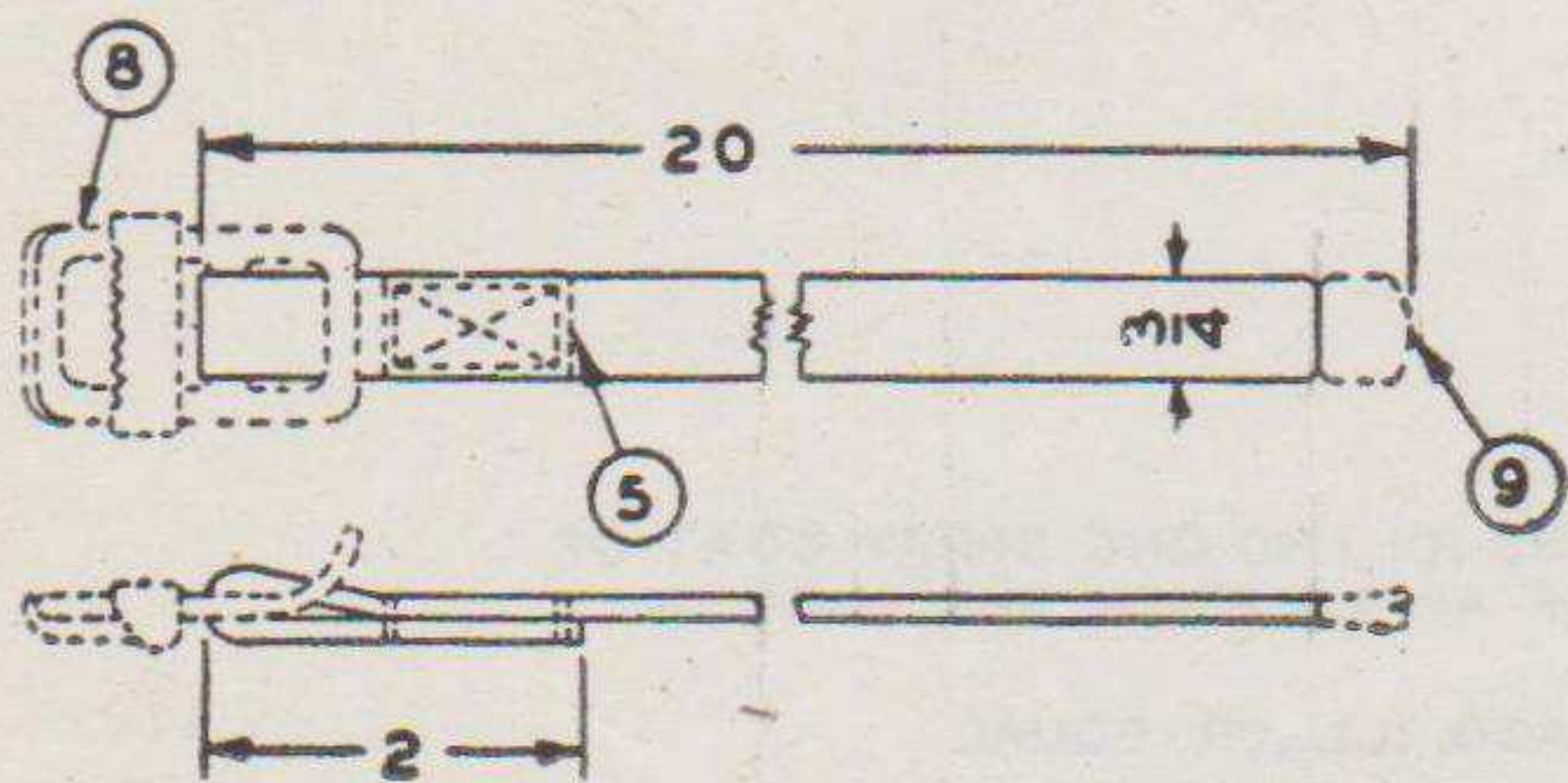
FOR DETAIL OF STITCHING SEE SECTION B-B  
① ASSEMBLY

ASSEMBLY



3/8 SEAM ALLOWANCE

③ BODY PATTERN DUCK (SEE NOTE) 1-REQ.



④ STRAP WEBBING (SEE NOTE) 1-REQ

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

⑧ SHALL BE #635- 3/4 INCH BRASS BUCKLE AS MADE BY NORTH AND JUDD MANUFACTURING CO., NEW BRITAIN, CONN., OR EQUAL.

⑨ SHALL BE CAT 89#1- 3/4 INCH BRASS PLATED STRAP TIP AS MADE BY NORTH AND JUDD MANUFACTURING CO., NEW BRITAIN, CONN., OR EQUAL.

⑤ SHALL BE #10-3 CORD, TYPE III, OLIVE DRAB #7 VAT DYED, COTTON THREAD PER SPECIFICATION V-T-276.

①, ② AND ③ SHALL BE HARD TEXTURE TYPE, OLIVE DRAB #7, VAT DYED, COTTON DUCK, PER SPECIFICATION J-Q-D-242-#6.

⑥ SHALL BE 30 OZ. TYPE I, OLIVE DRAB #7, VAT DYED, COTTON WEBBING PER SPECIFICATIONS 6-185.

ALL SEWING SHALL BE LOCKSTITCHED (6-8 STITCHES PER INCH) SEAMS STRONGLY STITCHED USING TWO OR MORE ROWS UNLESS OTHERWISE SHOWN.

THE CONTRACTOR SHALL MAKE PROPER ALLOWANCES FOR SHRINKAGE IN CUTTING PATTERNS TO OBTAIN OVERALL DIMENSIONS ON ASSEMBLY PART OF THIS DRAWING WITH A TOLERANCE OF  $\pm \frac{1}{2}$  UNLESS OTHERWISE SPECIFIED AFTER SOAKING FINISHED COVER IN WATER OF ROOM TEMPERATURE FOR 24 HOURS AND DRYING THOROUGHLY AT ROOM TEMPERATURE DIMENSIONS SHOWN DO NOT ALLOW FOR SHRINKAGE.

④ SHALL BE 1.20 OZ., TYPE III, OLIVE DRAB #7 VAT DYED, COTTON WEBBING, PER SPECIFICATIONS 6-185.

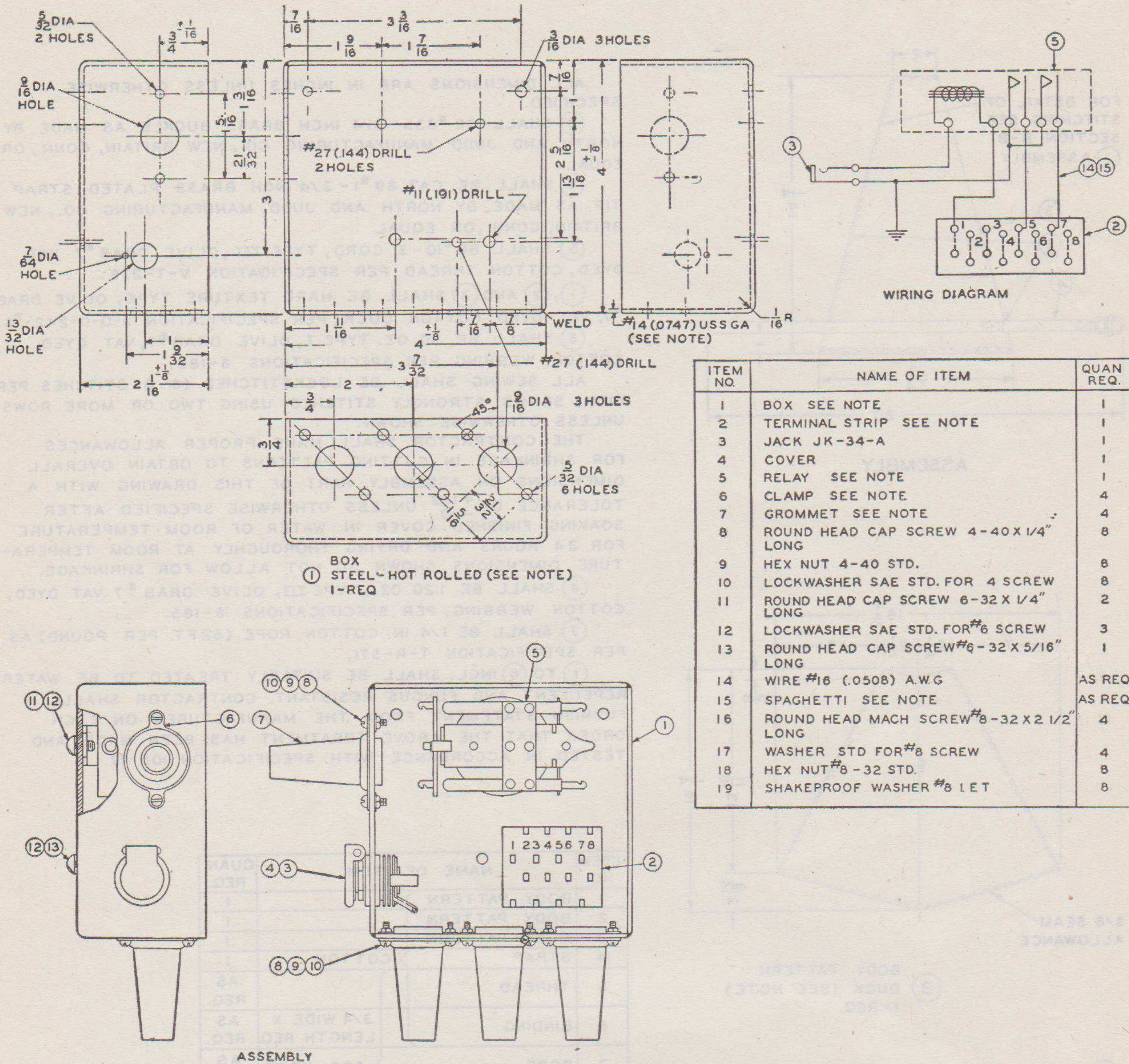
⑦ SHALL BE 1/4 IN COTTON ROPE (52 FT. PER POUND) AS PER SPECIFICATION T-R-571.

① TO ⑥ INCL. SHALL BE SUITABLY TREATED TO BE WATER REPELLENT AND FUNGUS RESISTANT. CONTRACTOR SHALL FURNISH STATEMENT FROM THE MANUFACTURER ON EACH ORDER THAT THE ABOVE TREATMENT HAS BEEN MADE AND TESTED IN ACCORDANCE WITH SPECIFICATION 100-17.

ITEM NO.	NAME OF ITEM	QUAN. REQ.
1	BODY PATTERN	1
2	BODY PATTERN	1
3	BODY PATTERN	1
4	STRAP	COTTON 1
5	THREAD	AS REQ.
6	BINDING	3/4 WIDE X LENGTH REQ. AS REQ.
7	ROPE	SEE NOTE AS REQ.
8	BUCKLE	1
9	TIP	1

TL-15962-2

Figure 44—Continued.



ITEM NO.	NAME OF ITEM	QUAN REQ.
1	BOX SEE NOTE	1
2	TERMINAL STRIP SEE NOTE	1
3	JACK JK-34-A	1
4	COVER	1
5	RELAY SEE NOTE	1
6	CLAMP SEE NOTE	4
7	GROMMET SEE NOTE	4
8	ROUND HEAD CAP SCREW 4-40 X 1/4" LONG	8
9	HEX NUT 4-40 STD.	8
10	LOCKWASHER SAE STD. FOR 4 SCREW	8
11	ROUND HEAD CAP SCREW 6-32 X 1/4" LONG	2
12	LOCKWASHER SAE STD. FOR #6 SCREW	3
13	ROUND HEAD CAP SCREW #6-32 X 5/16" LONG	1
14	WIRE #16 (.0508) A.W.G	AS REQ.
15	SPAGHETTI SEE NOTE	AS REQ.
16	ROUND HEAD MACH SCREW #8-32 X 2 1/2" LONG	4
17	WASHER STD FOR #8 SCREW	4
18	HEX NUT #8-32 STD.	8
19	SHAKEPROOF WASHER #8 1 ET	8

NOTE

- (5) SHALL BE PART NO. 1024LAS MADE BY FRED M. LINK NEW YORK, N.Y. OR EQUAL
- REMOVE ALL BURRS
- TOLERANCES WHERE NOT SHOWN OTHERWISE SHALL BE HELD TO  $\pm 1/64$ "
- DIMENSIONS WHERE NOT SHOWN OTHERWISE ARE IN INCHES.
- (1) SHALL BE BONDERIZED AND THEN GIVEN ONE SPRAY COAT OF METAL PRIMER, CLASS 101, AND ONE SPRAY COAT OF SEMI-GLOSS OLIVE DRAB BAKING ENAMEL CLASS 440. ALL PAINTS AND METHODS OF APPLICATION SHALL BE IN ACCORDANCE WITH PER SPECIFICATION NO. 72-53.
- (2) SHALL BE TERMINAL STRIP TYPE #700A AS MADE BY WESTERN ELECTRIC CO., CHICAGO, ILL., OR EQUAL
- (15) SHALL BE #16 BLACK FLEXIBLE VARNISHED RADIOTUBING, AS MADE BY ALPHA WIRE CORP., NEW YORK, N.Y., OR EQUAL
- (16)(17)(18)(19) ARE USED FOR INSTALLATION AND SHALL BE PLACED IN A HEAVY CLOTH BAG PLAINLY AND PERMANENTLY MARKED "THIS BAG CONTAINS SCREWS, NUTS, WASHERS FOR INSTALLATION," AND THIS BAG SHALL BE TIED TO BOX
- (19) SHALL BE CAT #4008-14 AS MADE BY ILL TOOL WORKS, CHICAGO, ILL., OR, EQUAL
- (1) MAY BE DRAWN FROM #16 (.0589) U.S. GA STEEL WITH 1/8" RAD. CORNERS INSTEAD OF #14 (.0747) U.S.S. GA. WELDED ASSEMBLY
- (6)(7) SHALL BE PART NO. 132610 AND NO. 125621 RESPECTIVELY OF THE ZENITH RADIO CORP CHICAGO, ILL., OR EQUAL

TL 15956

Figure 45. Relay box, assembly and details.

[A. G. 300.7 (5 Jan 45).]

BY ORDER OF THE SECRETARY OF WAR:

## OFFICIAL:

J. A. ULIO  
Major General  
The Adjutant General

G. C. MARSHALL  
Chief of Staff

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For explanation of symbols see FM 21-6.

15037 E.

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## DESTRUCTION NOTICE

---

**WHY**—To prevent the enemy from using or salvaging this equipment for his benefit.

**WHEN**—When ordered by your commander.

- HOW**—1. Smash—Use sledges, axes, handaxes, pickaxes, hammers, crowbars, heavy tools.
2. Cut—Use axes, handaxes, machetes.
  3. Burn—Use gasoline, kerosene, oil, flame throwers, incendiary grenades.
  4. Explosives—Use firearms, grenades, TNT.
  5. Disposal—Bury in slit trenches, fox holes, other holes. Throw in streams. Scatter.

### USE ANYTHING IMMEDIATELY AVAILABLE FOR DESTRUCTION OF THIS EQUIPMENT

- WHAT**—1. Smash—Meters, controls, panels.
2. Cut—Cables and all wiring.
  3. Burn—Resistors, capacitors, all technical manuals, instruction books, tube charts.
  4. Bury or scatter—Any or all of the above pieces after destroying their usefulness.

## DESTROY EVERYTHING

---

### SAFETY NOTICE

This equipment uses high voltages which are dangerous to life. Observe all safety precautions.

1. Make no adjustments inside the equipment with the power on.
2. Do not operate the equipment with the shields removed.
3. Do not connect power to any unit of the radio set until operating instructions have been read completely.

## SECTION I

## GUIDE TO USE OF THIS MANUAL

**1. Purpose**

This manual provides methods and procedure, based upon actual field experience, for installation of radio equipment in Truck, 1/4-ton, 4 x 4. Items required to make a complete operating installation are listed for each set. Official nomenclature followed by empty parentheses, such as Headset HS-30-( ), is used to indicate any model of equipment regardless of its procurement.

**2. Equipment**

Installations covered include the following radio sets:

SCR-193-K	SCR-608-( )
SCR-193-KB	SCR-628-( )
SCR-193-KW	SCR-694-C
SCR-284-( )	SCR-808-( )
SCR-499-( )	SCR-828-( )
SCR-506-( )	SCR-510-( )
SCR-508-( )	SCR-610-( )
SCR-528-( )	AN/VRC-1-( )

**3. Holes and Brackets**

Brackets required for installation of the radio set are normally drilled and installed prior to delivery of Truck, 1/4-ton, 4 x 4.

Drilling instructions are given in this manual for any other necessary holes and brackets. Do not relocate any holes or brackets unless absolutely necessary.

**4. Preliminary Check**

Study the illustrations, the installation methods outlined, and any subsequent changes to this manual.

**Caution:** Truck, 1/4-ton, 4 x 4 has a 6-volt electrical system. Before installing the radio sets, be sure they are designed for 6-volt operation, or tubes may burn out or dynamotors may be damaged.

*Note.* For information on ignition noise suppression see TM 11-483.

**5. Operating Check**

Carefully study the Technical Manual covering the radio set before trying to operate it; then, make a thorough operating check to determine whether the equipment has been properly installed and is in working order.

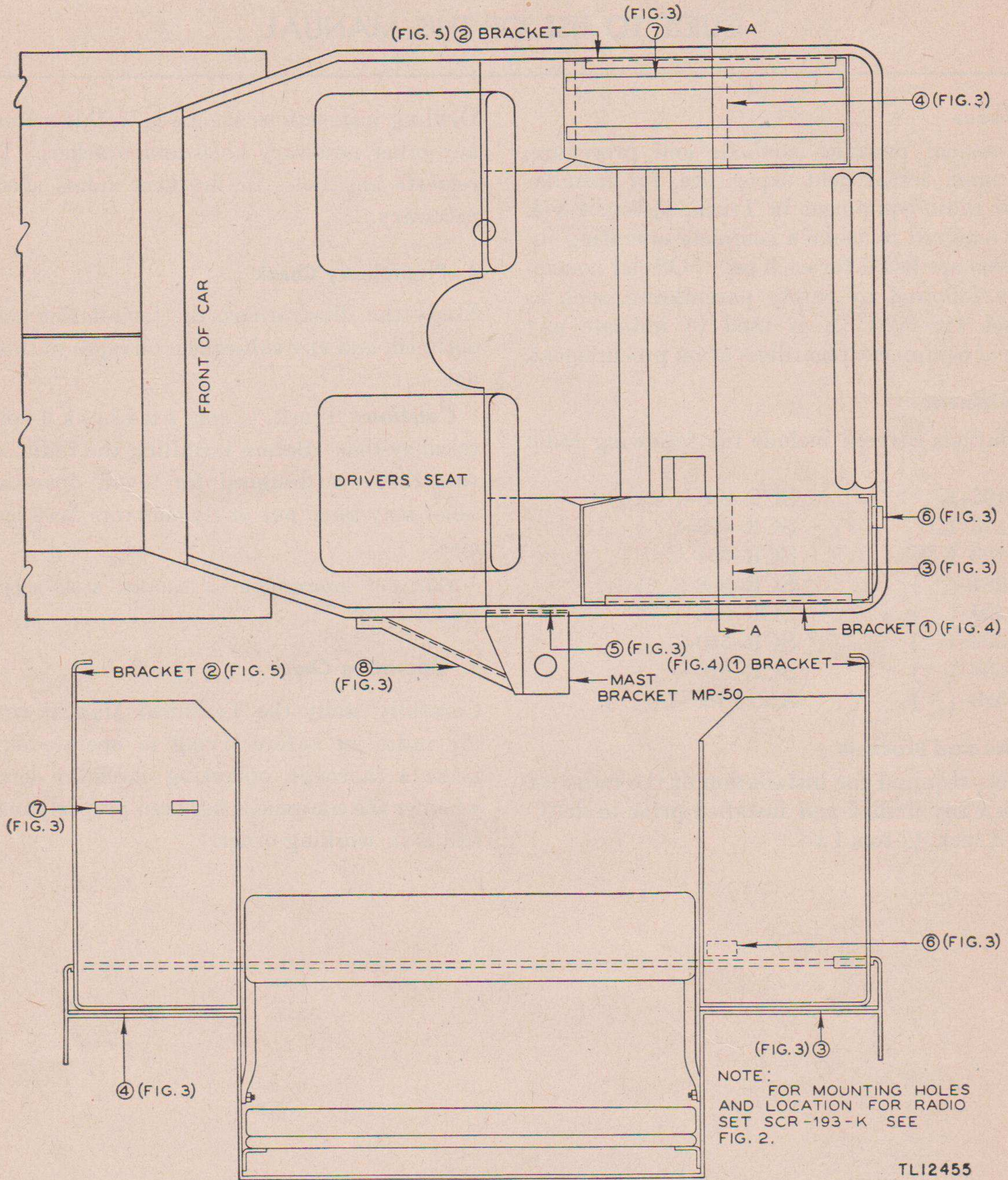


Figure 1. Installation of brackets for Radio Set SCR-193-K in Truck, 1/4-ton, 4 x 4.



SECTION IV  
RADIO SET SCR-284-( )

## 10. Required Parts

Items necessary for the installation of Radio Set SCR-284-( ) in Truck, 1/4-ton, 4 x 4, are listed below:

Quantity	Stock No.	Item	Quantity	Stock No.	Item
1	2Z502	Bag BG-102, for spare parts, batteries, and headsets.	2	2A2351	Mast Section MS-51, including spare.
1	2Z529	Bag BG-129, for Power Unit PE-103-( ).	2	2A2352	Mast Section MS-52, including spare.
1	2Z1131	Box BX-31, for spare vibrator and tubes.	2	2A2353	Mast Section MS-53, including spare.
2	2Z2651-421	Clamp MC-421, including spare.	2	2B1567	Microphone Cover M-367.
2	2Z2651-422	Clamp MC-422, including spare.	1	2B1617	Microphone T-17.
2	2Z2651-423	Clamp MC-423, including spare.	1	2B1645	Microphone T-45.
2	2Z2651-424	Clamp MC-424, including spare.	1	3H4600-104	Power Converter Unit PE-104-( ), including spare vibrator.
1	3E1501	Cord CD-501.	1	3H4600-103	Power Unit PE-103-( ).
3	3E1307-5.5	Cord CD-307-A, including spare.	1	2C5374	Radio Receiver and Transmitter BC-654-( ).
1	3E1318	Cord CD-318.	2	6Z8371-5	Reinforcement.
3	3E1604	Cord CD-604, including spare.	1	2Z8058	Roll BG-58, for mast sections.
1	2Z3367	Cover BG-67-( ), for mast base.	15 ft	6Z7926	Rope RP-5, for tying down mast sections.
1	2Z3400-154	Cover BG-154, for radio set.	2	6D13051	TM 11-275, for Radio Set SCR-284-( ).
1	2Z4641	Frame FM-41.	10 ft	1B142	Wire W-142.
1	6L50-284V26	Hardware bag.			
3	2B830	Headset HS-30, including spare.			
1	3G586	Insulator IN-86, for tying down mast sections.			
*4	3G604	Insulator IN-104, including spare.			
1	3Z3445	Key J-45.			
1	3Z3448	Key J-48, including cord, plug, and cover.			
1	2Z6310-7	Loudspeaker LS-7.			
1	2A2088-57	Mast Base MP-57.			
a1	2A2090-45	Mast Base Bracket MP-45.			
2	2A2349	Mast Section MS-49, including spare.			
2	2A2350	Mast Section MS-50, including spare.			

\*When installation is made for airborne use, delete Mast Base Bracket MP-45 and add the following: 1 Mast Base Bracket MP-50; 2 Insulator IN-104; 2 screw, hex. head 5/16"-24 x 1 1/2" long; 2 screw hex. head, 5/16"-24 x 1" long; 4 nut, hex., 5/16"-24; 8 Shakeproof washer, 5/16" I. E. T.; 1 terminal.

## 11. Assembly and Installation

a. PRELIMINARY MODIFICATION. Before proceeding with installation, perform all necessary drilling of vehicle, and cut Frame FM-41 into two sections, as shown in figure 21. Discard pieces cut from the upright frame members.

b. PROCEDURE. Components of the radio set should be installed as shown in figure 21 and as directed below:

*Part and location*

Reinforcement (item 36, fig. 21).

Frame FM-41 (item 4, fig. 21), on wheelwells.

*Method and materials*

Drill holes in the channels holding rubber snubber blocks, for the dynamotor on lower half of Frame FM-41. Secure two reinforcements to the channels with hardware provided, as shown in figure 21.

Secure lower section of Frame FM-41 to right wheelwell with hardware provided.

Secure upper section of Frame FM-41 to left wheelwell with hardware provided.

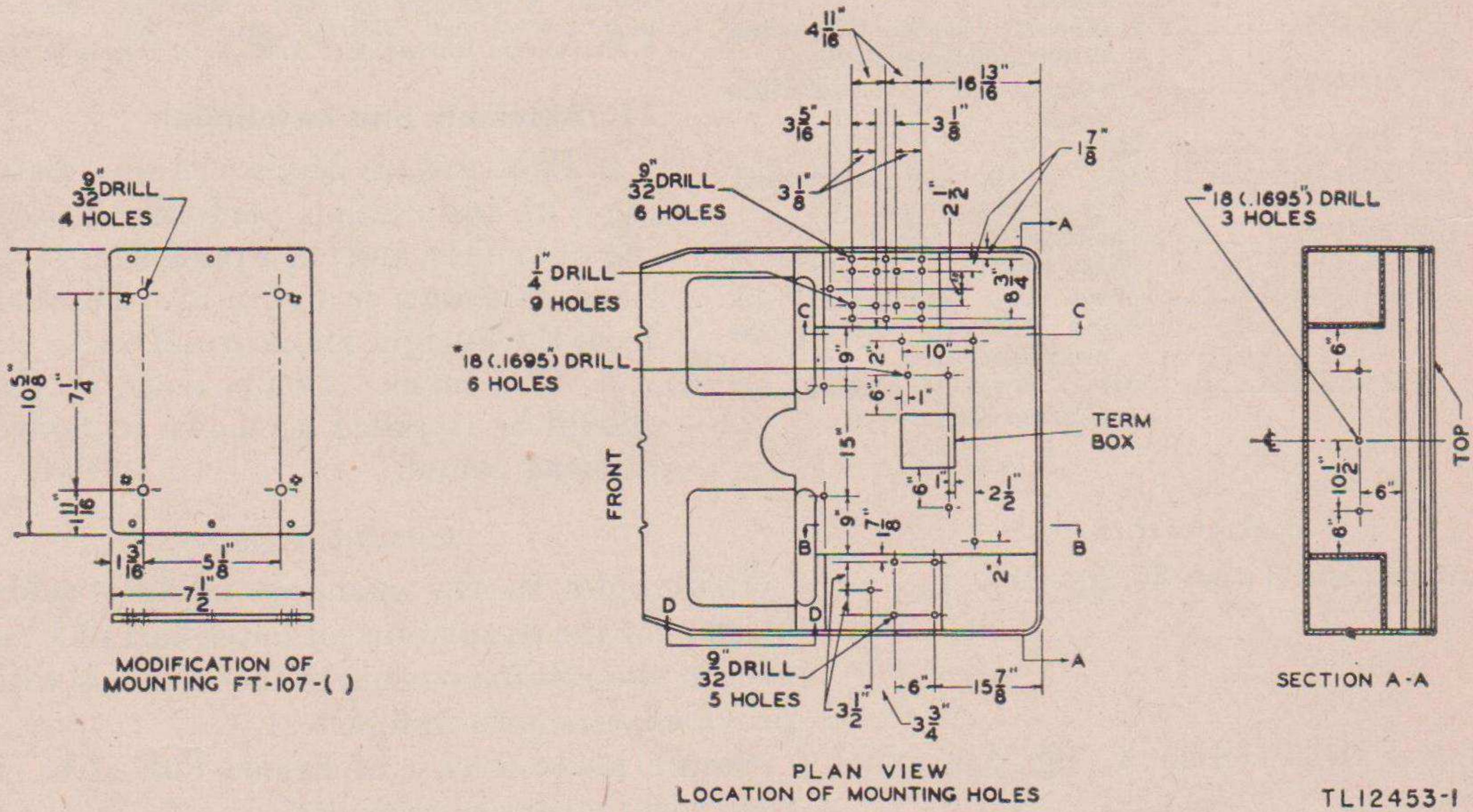
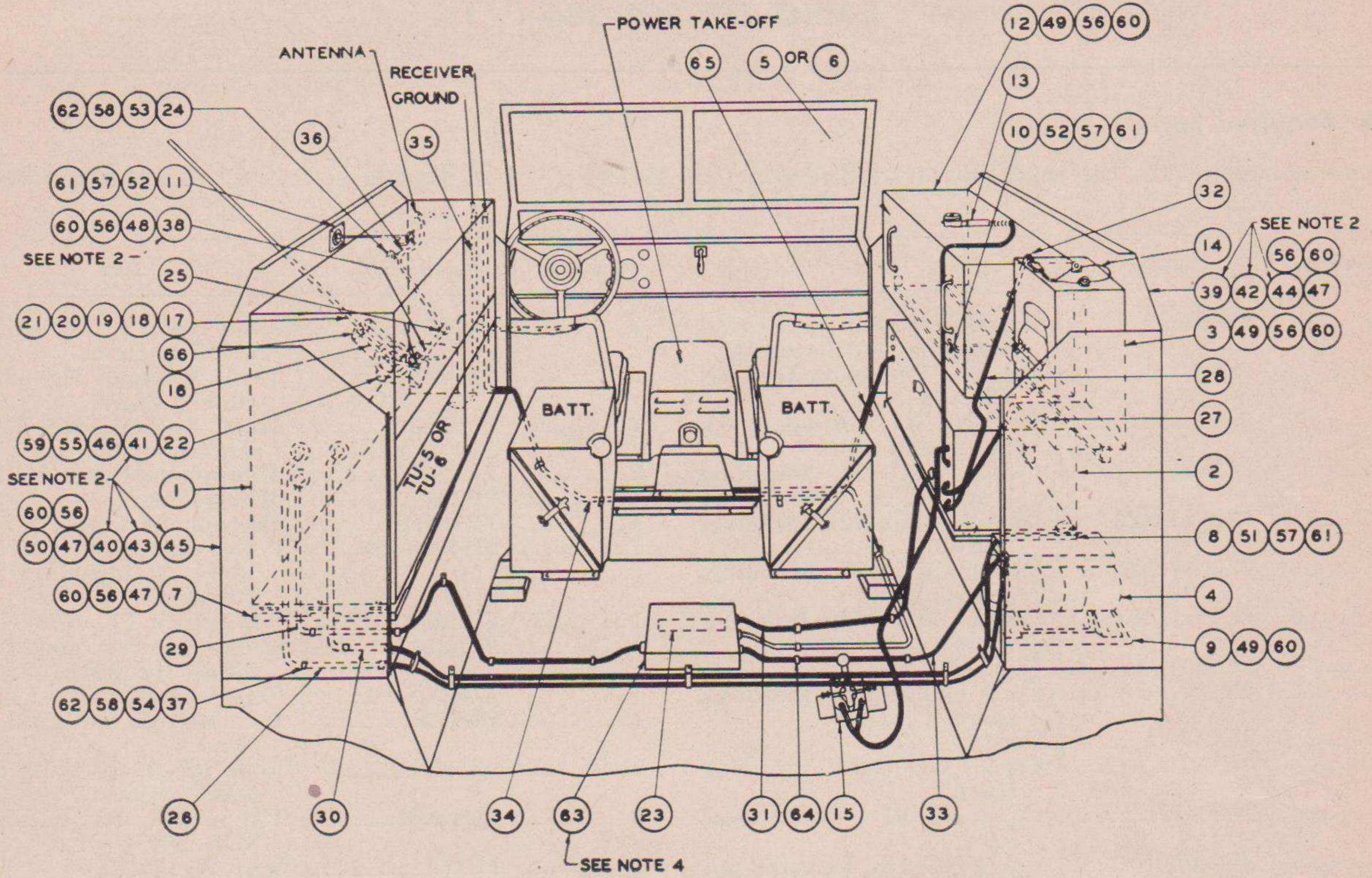


Figure 12. Installation of Radio Set SCR-193-KB in Truck, 1/4-ton, 4 x 4.

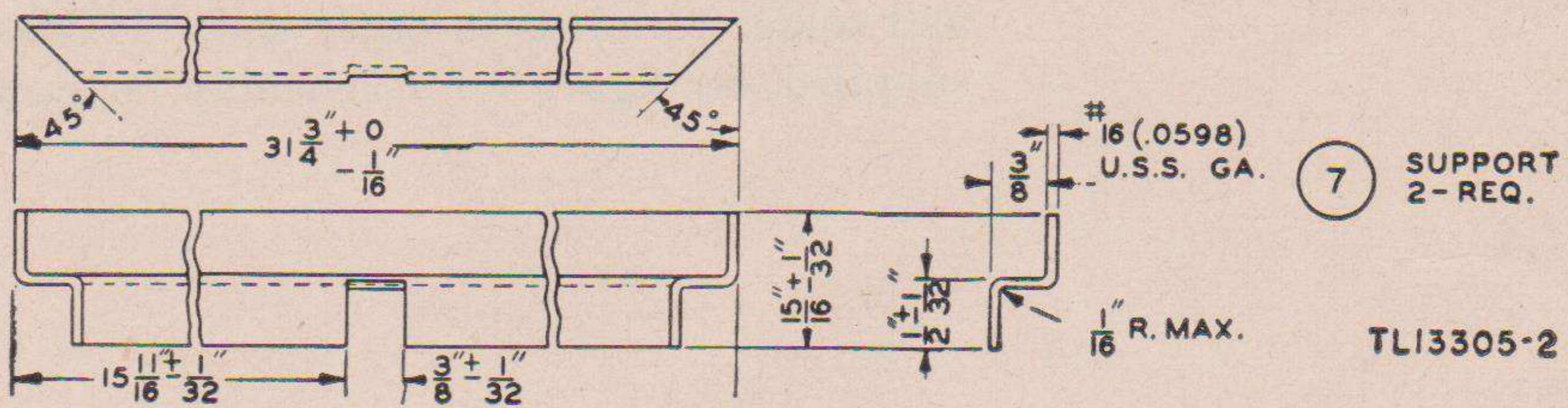
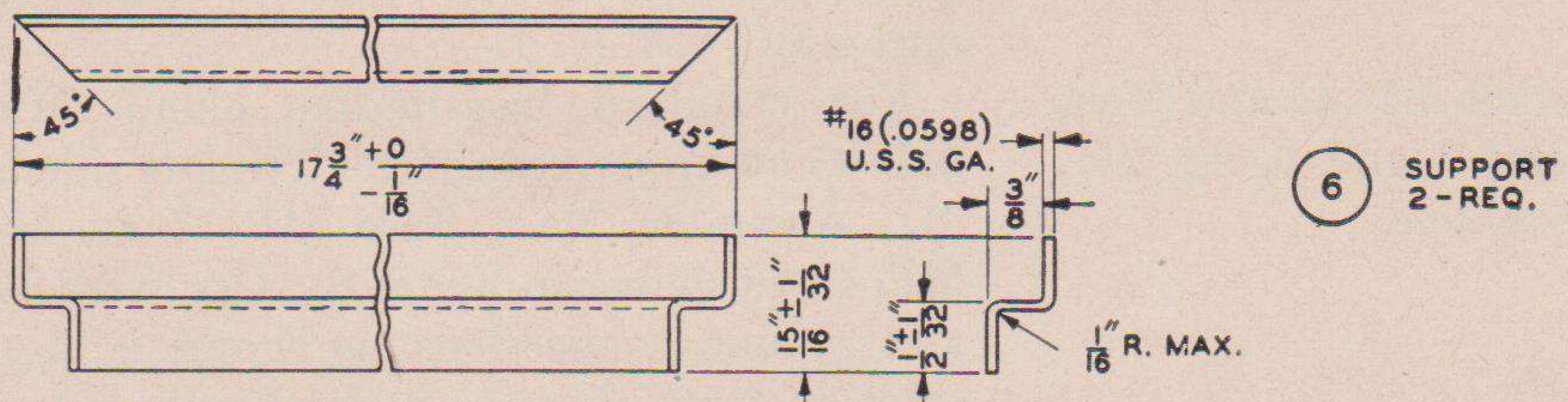
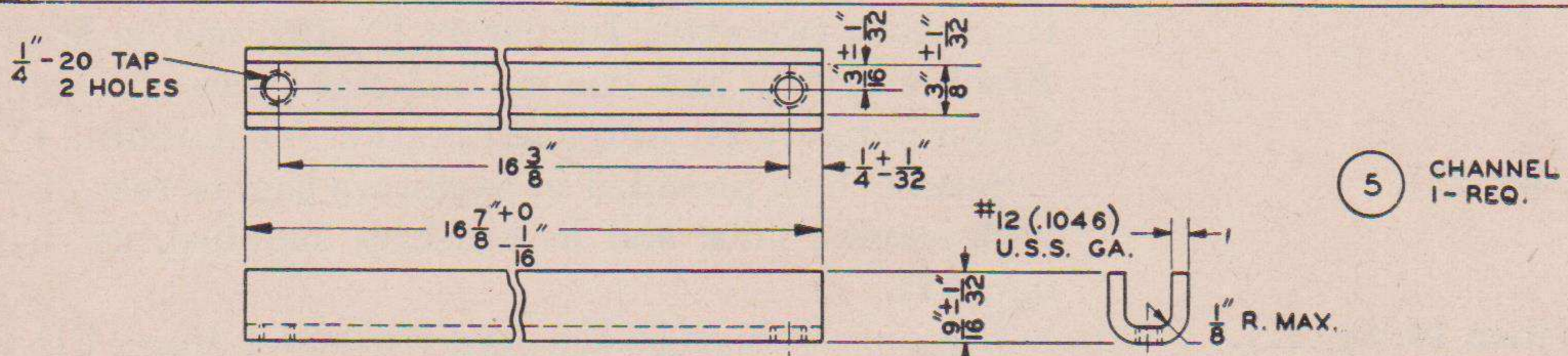
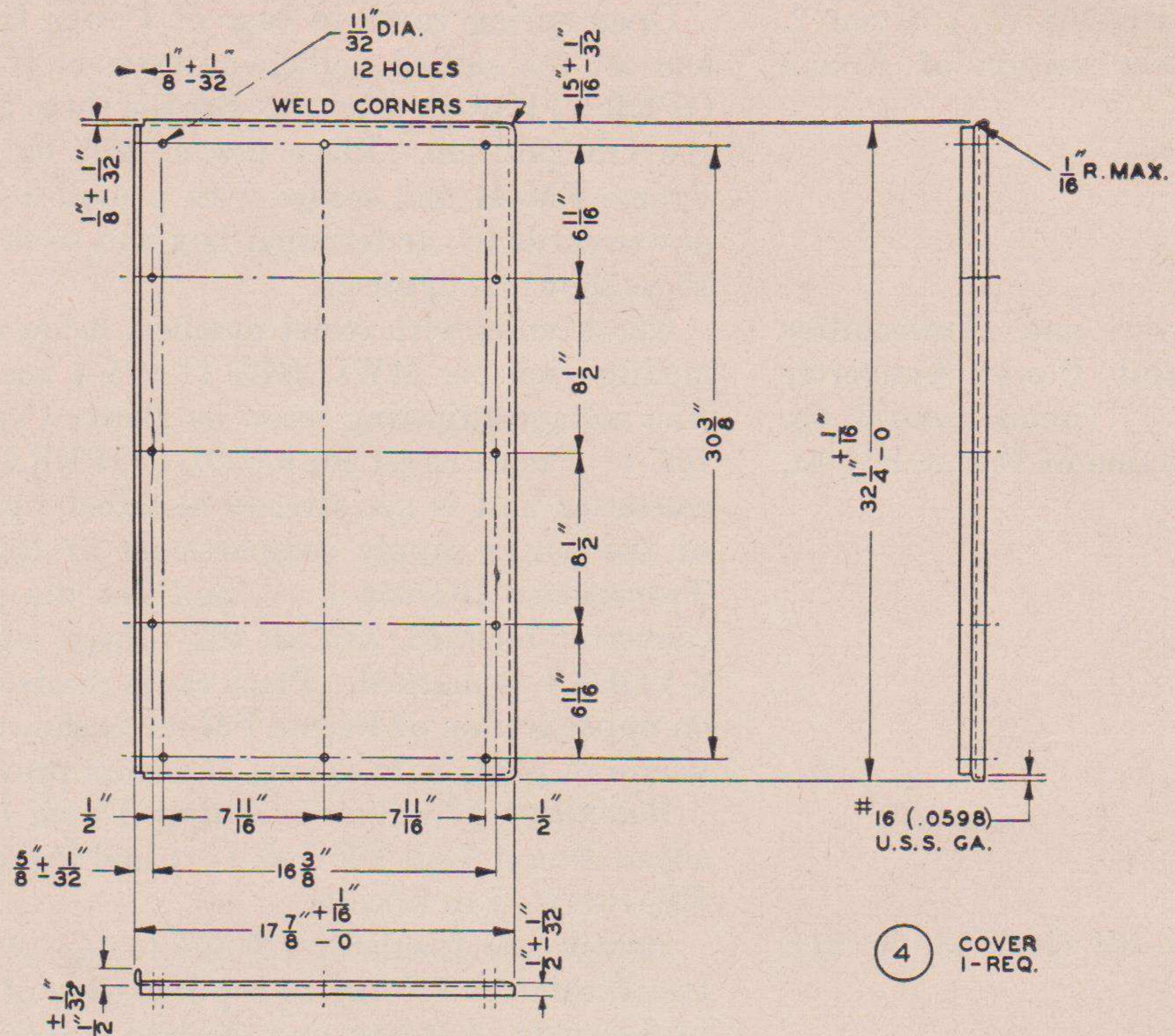


Figure 13—Continued.

*Part and location*

Power Unit PE-103-( ) (item 2, fig. 21), on lower section of Frame FM-41.

Radio Receiver and Transmitter BC-654-( ) and Power Converter Unit PE-104-( ) (items 1 and 3, fig. 21), on upper section of Frame FM-41.

Insulators IN-104 (item 13, fig. 21).

Clips (item 16, fig. 21).

Cord CD-501 (item 14, fig. 21).

Mast Base Bracket MP-45 and Mast Base MP-57 (items 5 and 6, fig. 21), on upper rear of vehicle.

*Method and materials*

Open spring cover in base of Power Unit PE-103-( ) and set the slotted voltage-adjustment screw for 6-VOLT OPERATION as marked. Set the three circuit breakers to the ON position. Place power unit on lower section of Frame FM-41 and secure with provided wingnuts. Route power cords to car terminal box and secure with clamp No. 10, as shown in figure 21.

Check units with serial numbers below 12,000 to see that modification per MWO SIG 11-275-4 has been performed. The voltage-adjusting screw on Power Converter Unit PE-104-( ) must be set for 6-VOLT OPERATION. If power converter unit is not already installed, open the small door of the power supply compartment of Radio Receiver and Transmitter BC-654-( ), pull out the plug, slide power converter forward, and set the voltage adjusting screw for 6-VOLTS as marked. Place radio receiver and transmitter on upper section of Frame FM-41 as shown in figure 21, and secure in place with spring fasteners provided.

**Warning:** If vehicle is equipped with 12-volt conversion, adjust Power Unit PE-103-( ) and Power Converter Unit PE-104-( ) to 12 volts.

Attach one Insulator IN-104 to top of driver's seat and two Insulators IN-104 to top left edge of vehicle as shown in figure 21, Antenna and Ground Routing. For airborne use, install two extra Insulators IN-104, one on Mast Base Bracket MP-50 and one on left rear corner of vehicle as shown in figure 21, Antenna Location for Airborne Use.

Secure clips, provided in hardware bag, to rear of vehicle with screws, nuts, and lockwashers supplied, as shown in figure 21.

Use only rubber-jacket cord. Connect Cord CD-501 to Power Unit PE-103-( ) and to Radio Receiver and Transmitter BC-654-( ).

For standard installation, clamp Mast Base Bracket MP-45 on upper rear of vehicle, left side, as shown in figure 21. Assemble Mast Base MP-57 on Mast Base Bracket MP-45 as shown in figure 8. Use Wire W-142 for antenna and ground connections, as shown in figure 21. Strip insulation from about 1/2 inch of each end, solder-tin one end, and solder terminal to other end. If Mast Base MP-37 is supplied, see figure 7 for assembly instructions.

*Part and location*

Mast Base Bracket MP-50 (item 35, fig. 21), for airborne use only.

Mast Sections MS-49 through MS-53 and Clamps MC-421 through MC-424 (items 7 through 11, fig. 21).

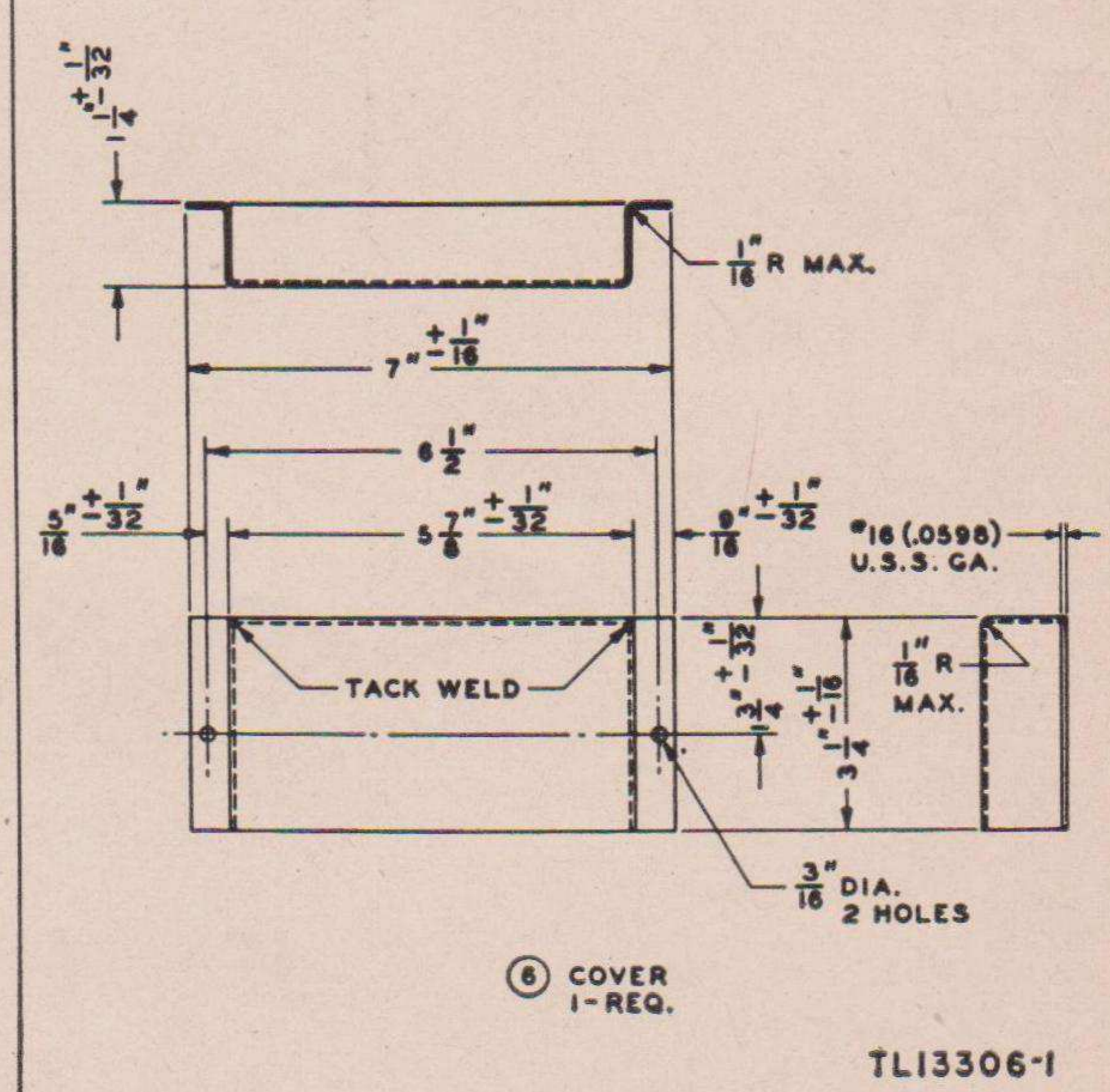
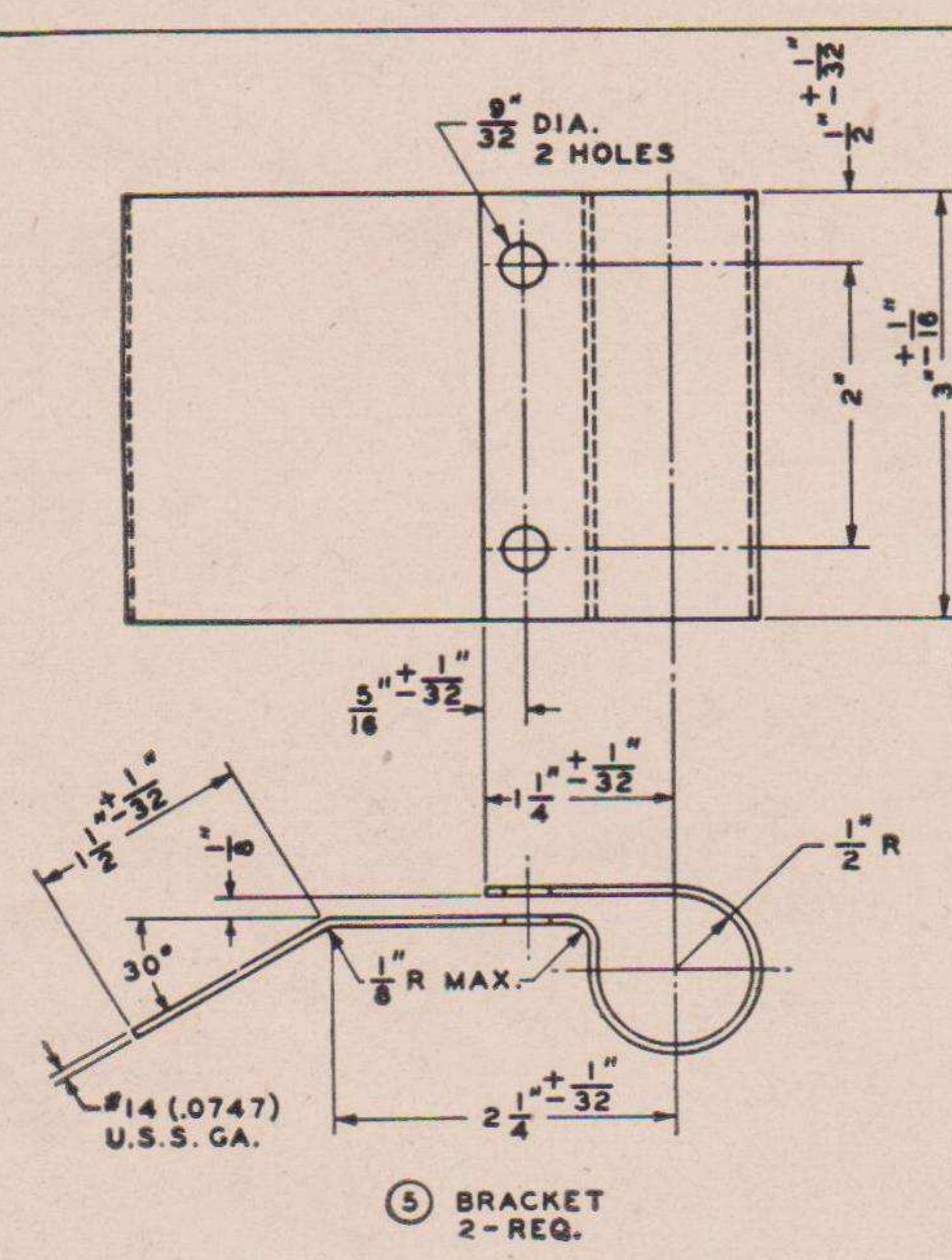
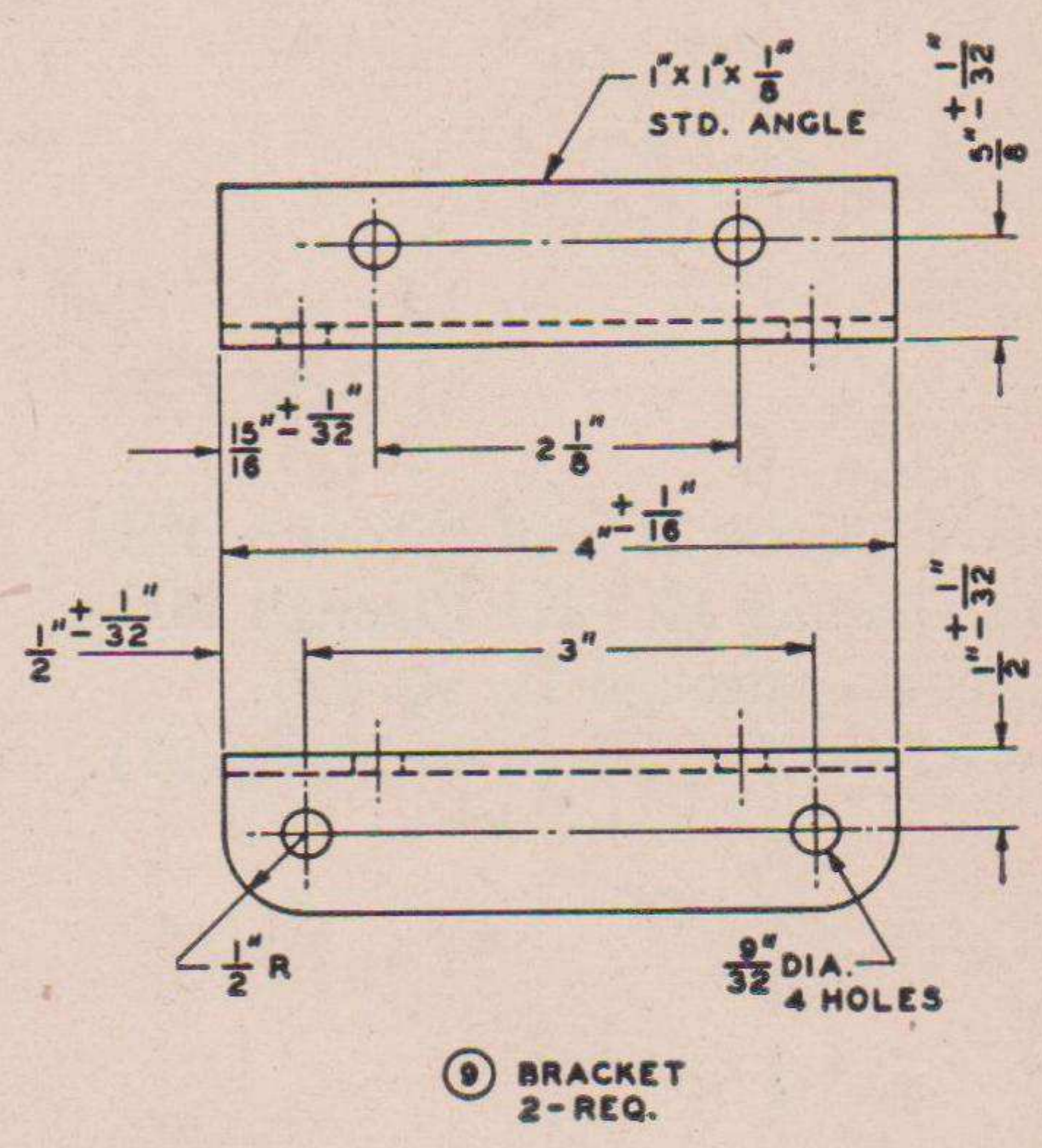
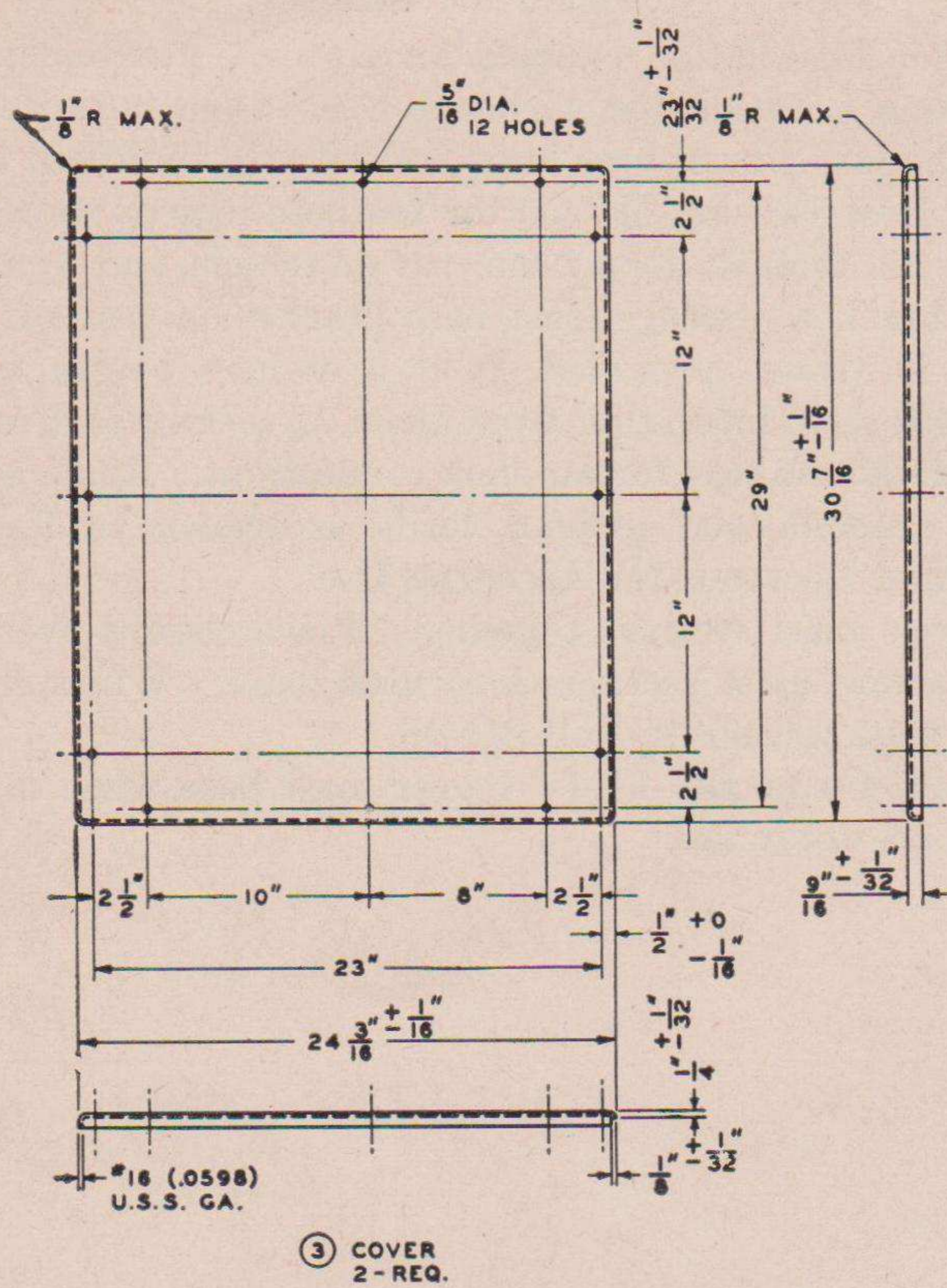
Cover BG-67-( ) (item 18, fig. 21).

*Method and materials*

When installation is made for airborne use, see figure 21, Antenna Location for Airborne Use. Drill indicated holes in vehicle for mast base bracket, and drill indicated holes in Mast Base Bracket MP-50 for footman loop as shown. Remove the footman loop from rear of vehicle, and secure mast base bracket. Secure mast base bracket on rear of vehicle with hardware provided. Cut a 68-inch length of Wire W-142; strip insulation from about  $\frac{1}{2}$  inch of each end, and solder-tin the tips for antenna connections. Route and connect antenna and ground leads as shown in figure 21, Antenna Location for Airborne Use.

Screw mast sections together. Place clamps over joints, and screw mast sections into mast base. When removed, stow mast sections in Roll BG-58.

Place Cover BG-67-( ) over mast base when mast sections are not in use.



TL13306-1

Figure 14. Installation Kit MC-515, details.

*Part and location*

Radio Receivers BC-923-( ) and Dynamotor DM-64-( ), on Mounting FT-237-( ). (Only one receiver and dynamotor are used with Radio Set SCR-828-( ).)

Radio Transmitter BC-924-( ) and Dynamotor DM-65-( ), on Mounting FT-237-( ). (For Radio Set SCR-808-( ) or SCR-828-( ).)

Antenna A-62, phantom.

c. CORDING AND WIRING. (1) Cord and wire Radio Set SCR-508-( ), SCR-528-( ), SCR-608-( ), SCR-628-( ), SCR-808-( ), or SCR-828-( ) as shown in figure 25. Connect and secure so as not to interfere with the accessibility and operation of the equipment. Enough slack must be left to permit free movement of all units having shock mounting. Cording or cable

*Method and materials*

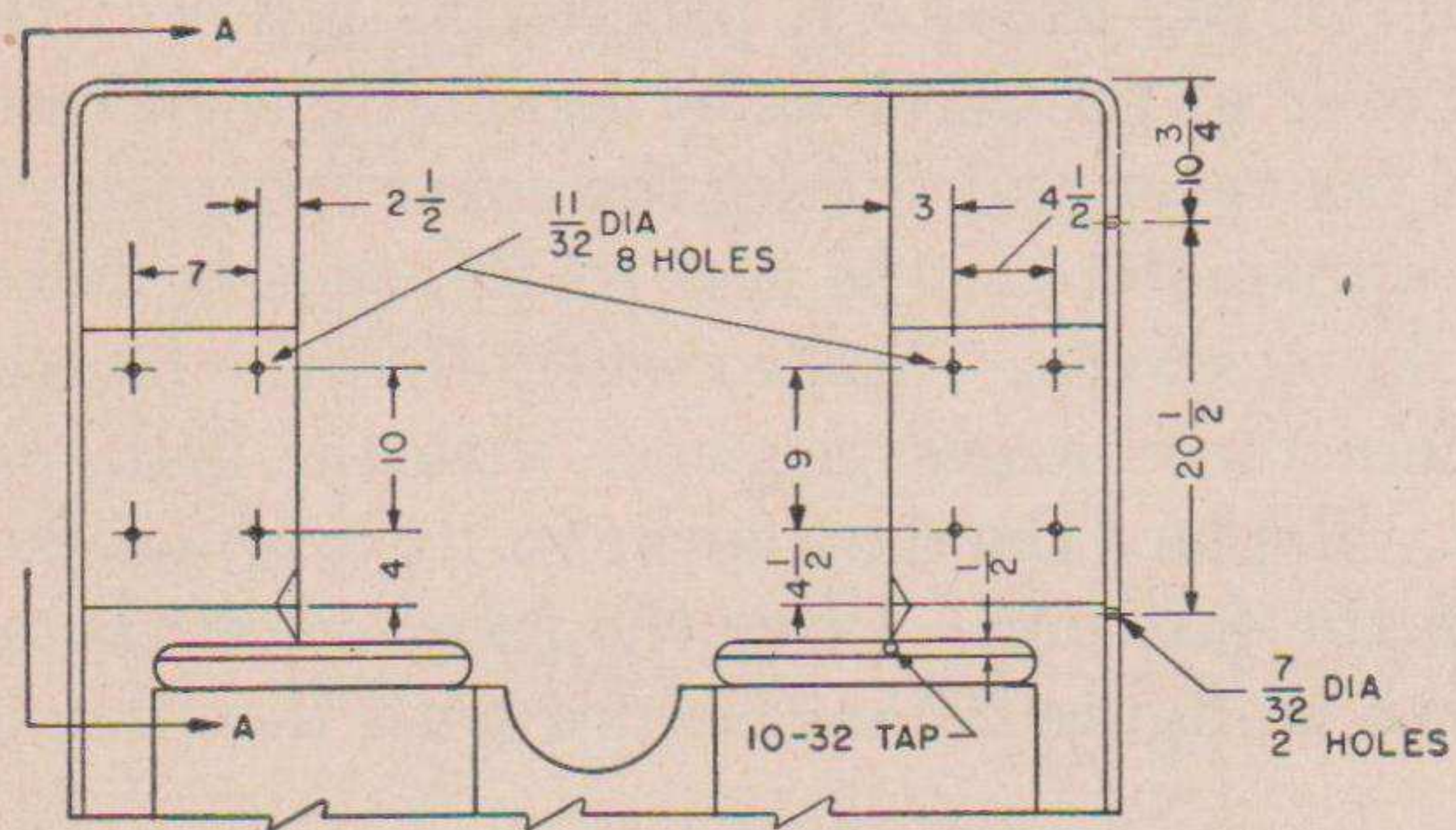
If Dynamotor DM-64-( ) is not already installed in Radio Receiver BC-923-( ), proceed as follows: Remove the shield cover of the receiver by loosening the fastener at the back of the cover and sliding the cover from the chassis. Mount the dynamotor on the rear of the chassis and secure with the hold-on screws. Make certain that the female plug on the dynamotor engages properly with the male plug on the chassis. Replace the dust cover in its original position, and tighten the fastener. Place the receiver on the mounting as shown in figure 25 and secure with the thumbscrew locks.

If Dynamotor DM-65-( ) is not already installed in Radio Transmitter BC-924-( ), proceed as follows: Remove the dust cover of the transmitter by loosening the two fasteners on the back of the cover and lifting the cover off. Place the dynamotor in position on the transmitter and secure with the slide fasteners. Replace the cover on the transmitter and tighten the fasteners. Place the transmitter on the mounting as shown in figure 25 and secure with the thumbscrew latch.

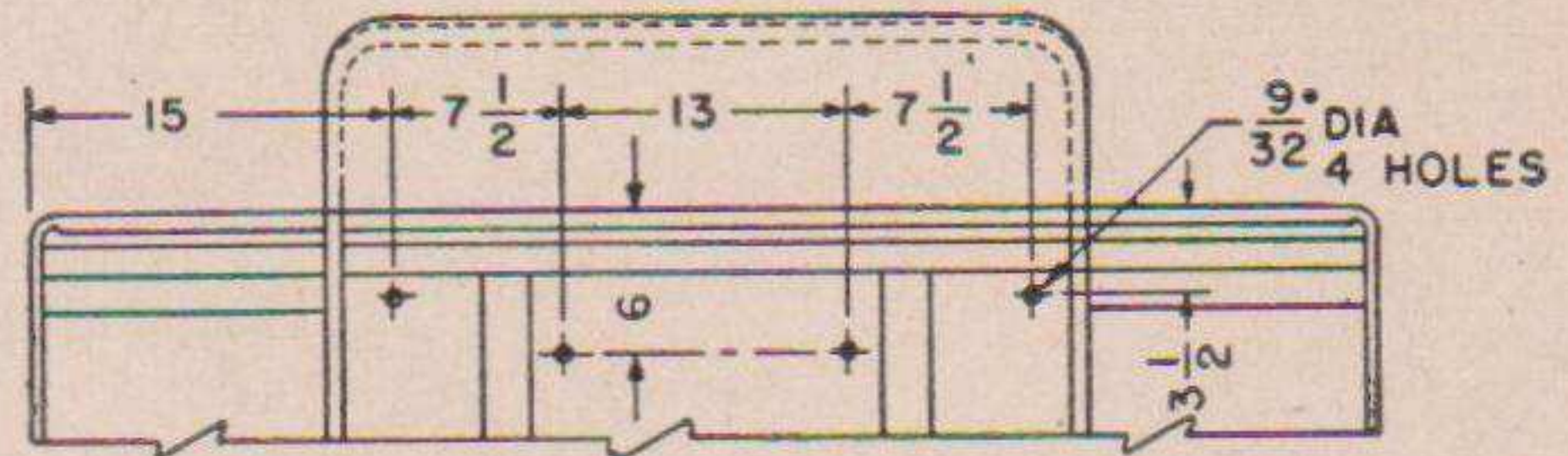
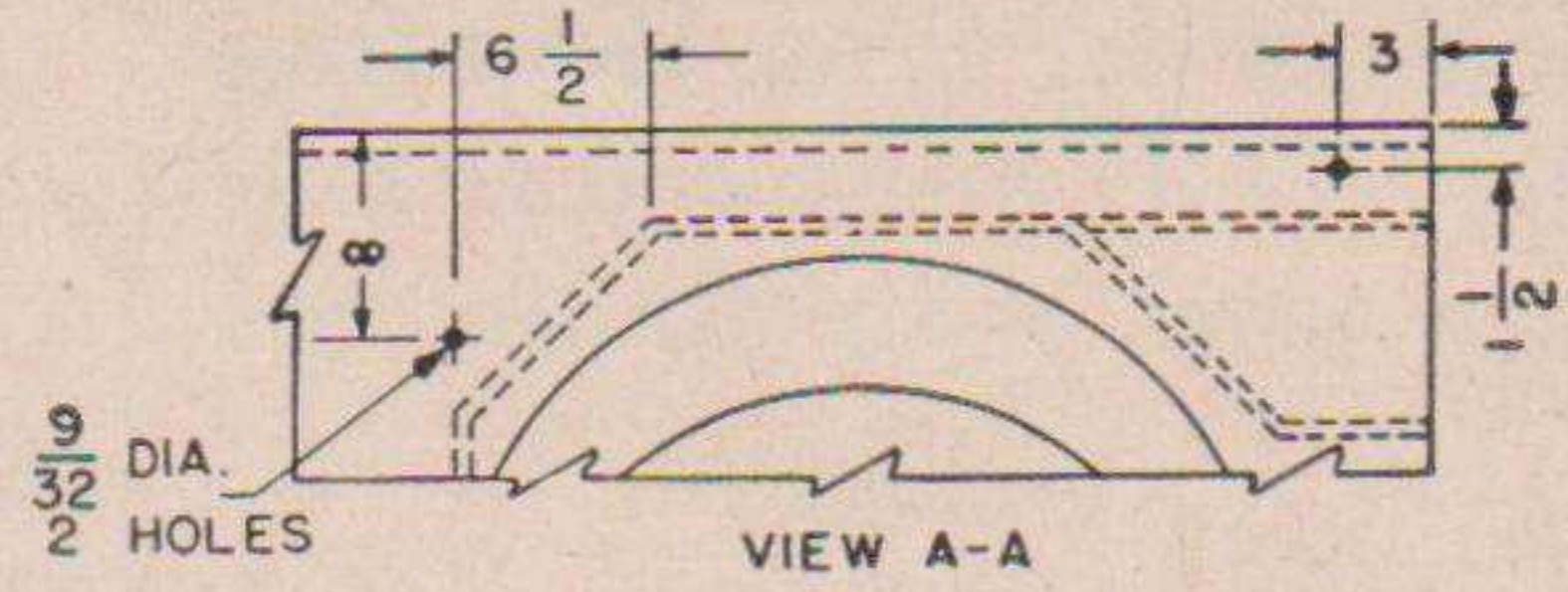
For installation with Radio Set SCR-508-( ) or SCR-528-( ), see TB 11-600-1.

likely to rub against sharp edges should be taped with at least two layers to prevent damage. Solder-tin all wire ends.

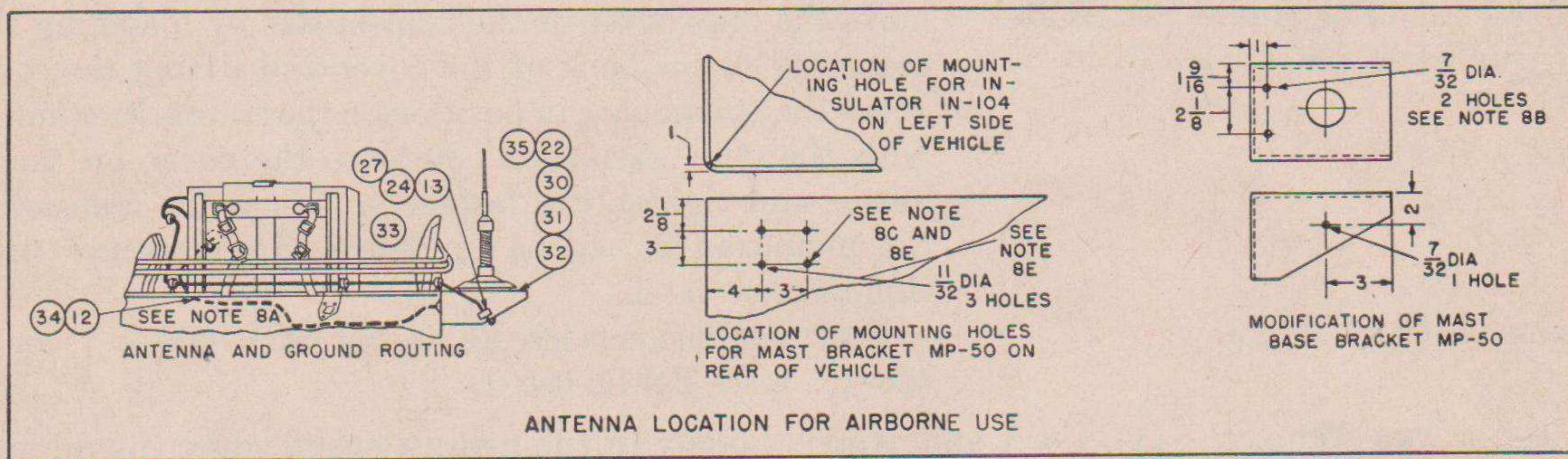
(2) To prevent accidental shorts of the battery, do not connect the positive 12-volt and negative 12-volt leads (in the terminal box) until all other connections have been completed.



MOUNTING HOLE LOCATIONS FOR POWER UNIT PE-103-( ) AND RADIO RECEIVER AND TRANSMITTER BC-654-( ) AND INSULATOR IN-104



MOUNTING HOLE LOCATIONS FOR CLAMPS ON REAR OF VEHICLE



ANTENNA LOCATION FOR AIRBORNE USE

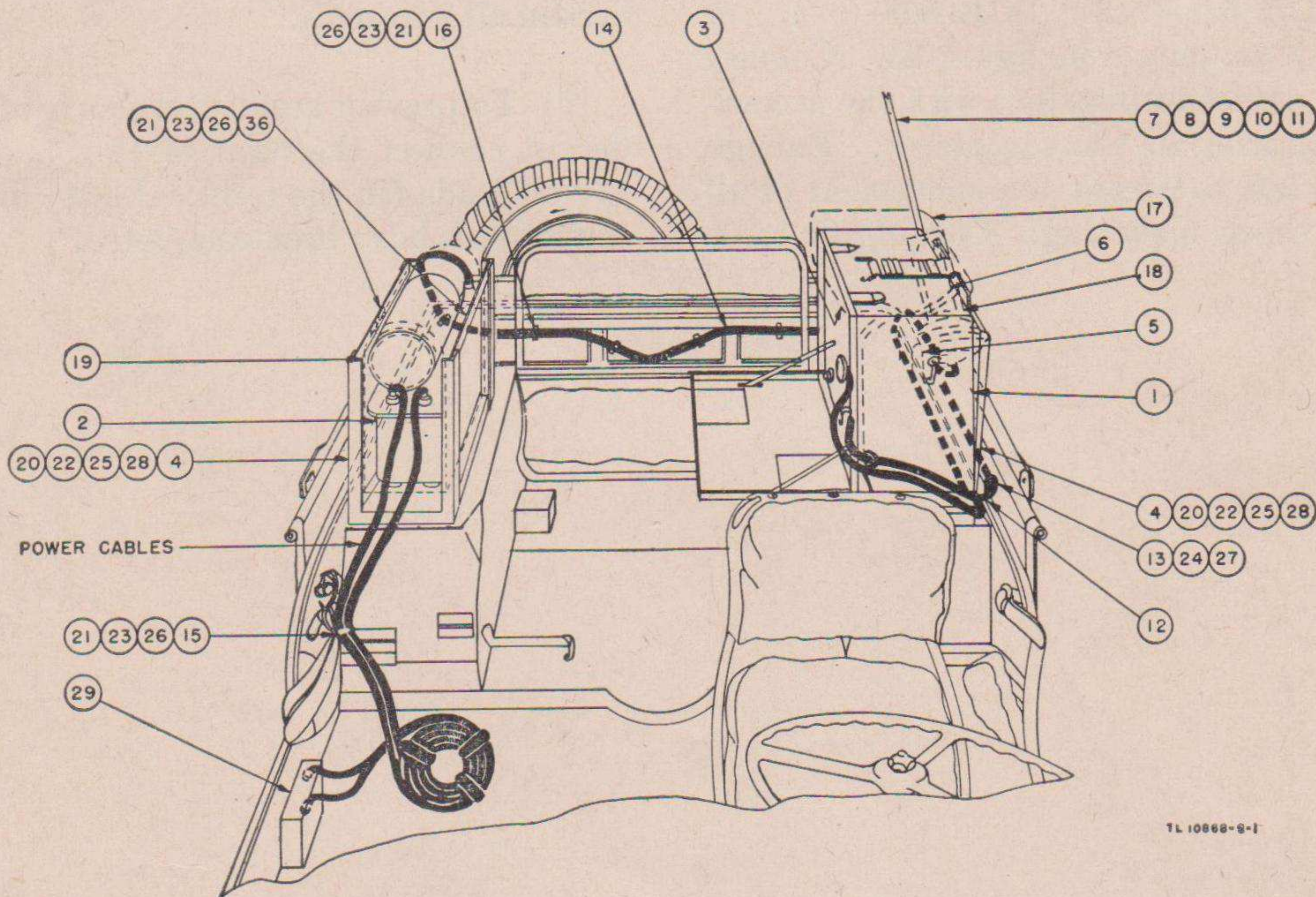
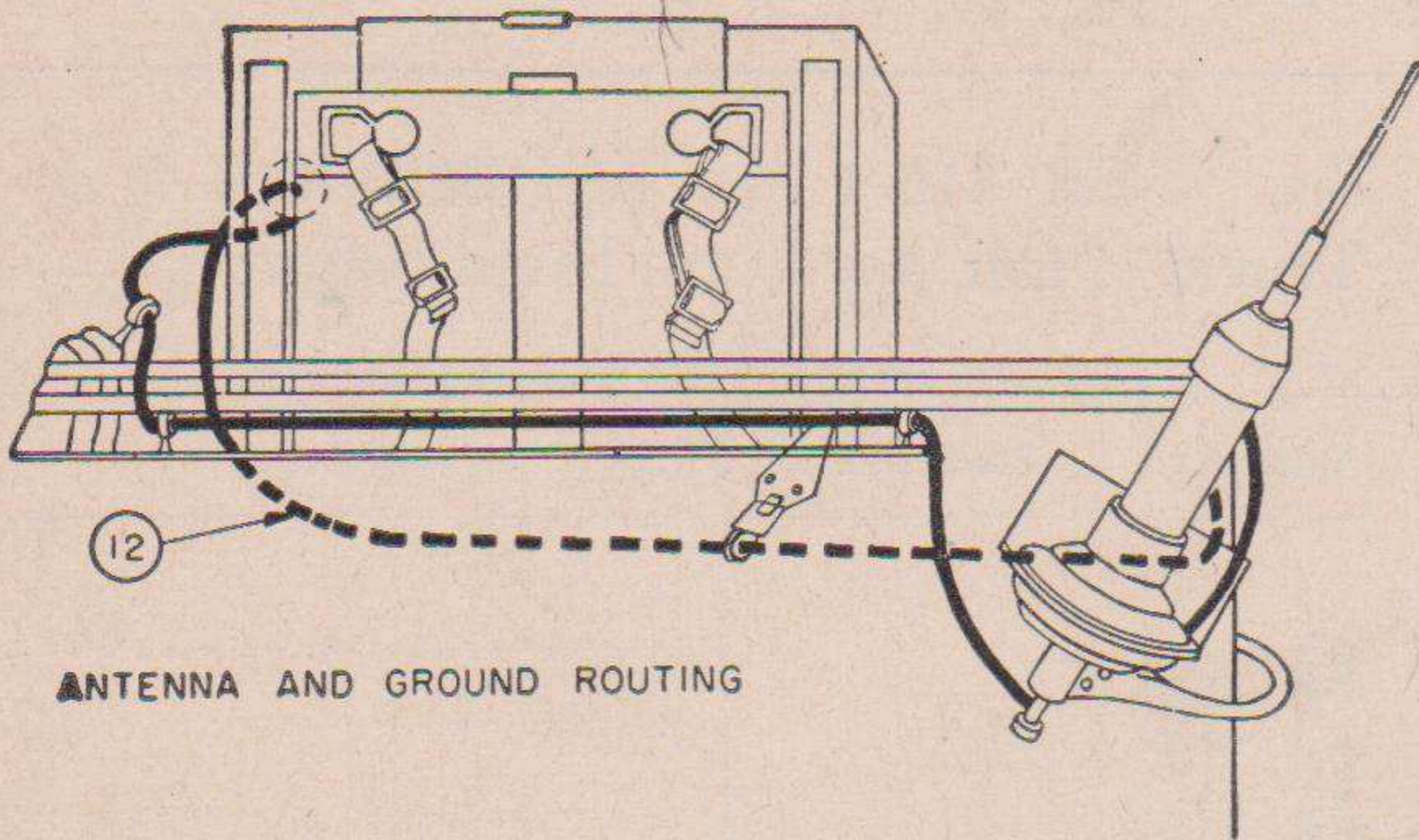


Figure 21. Installation of Radio Set SCR-284-( ) in Truck, 1/4 ton, 4 x 4.

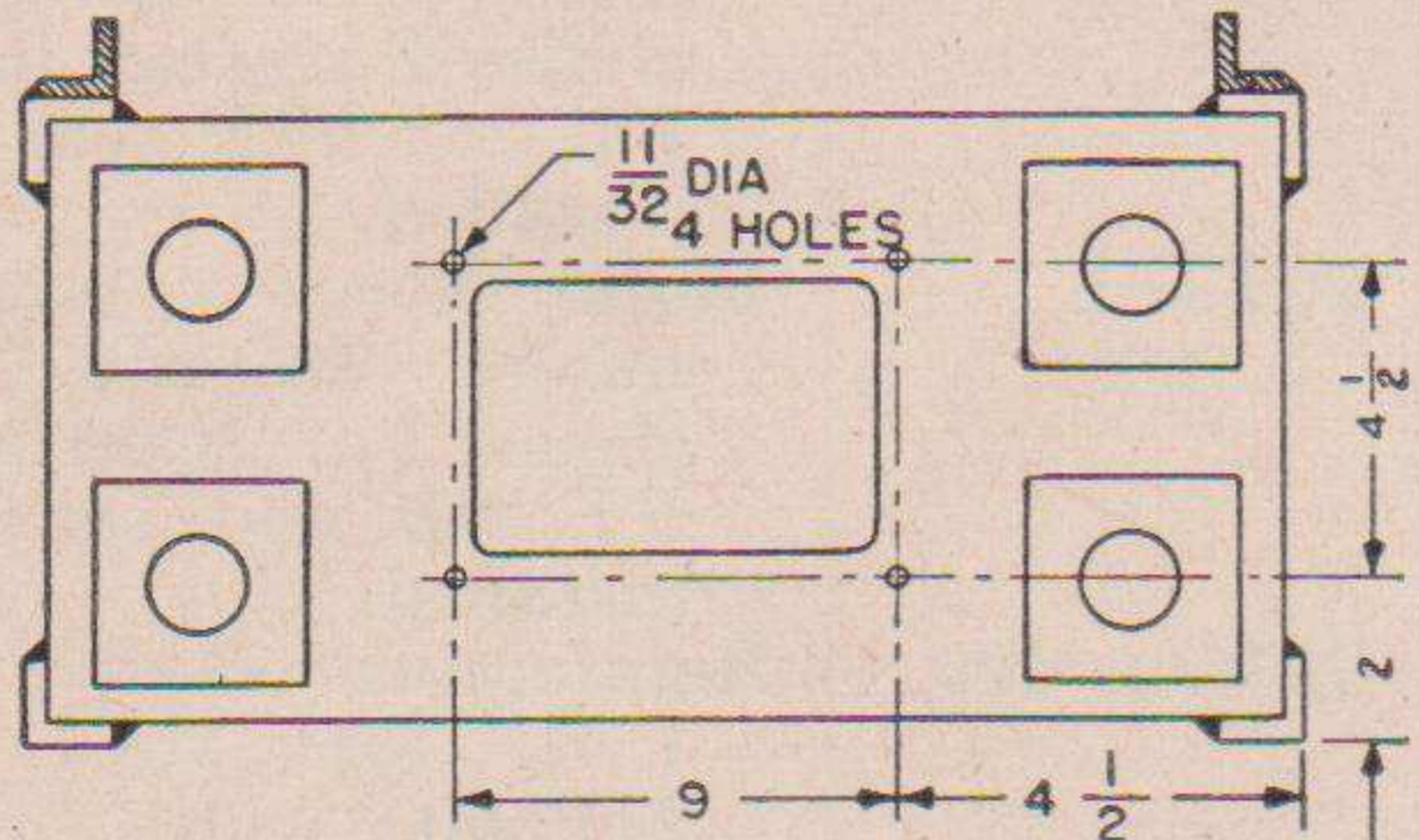
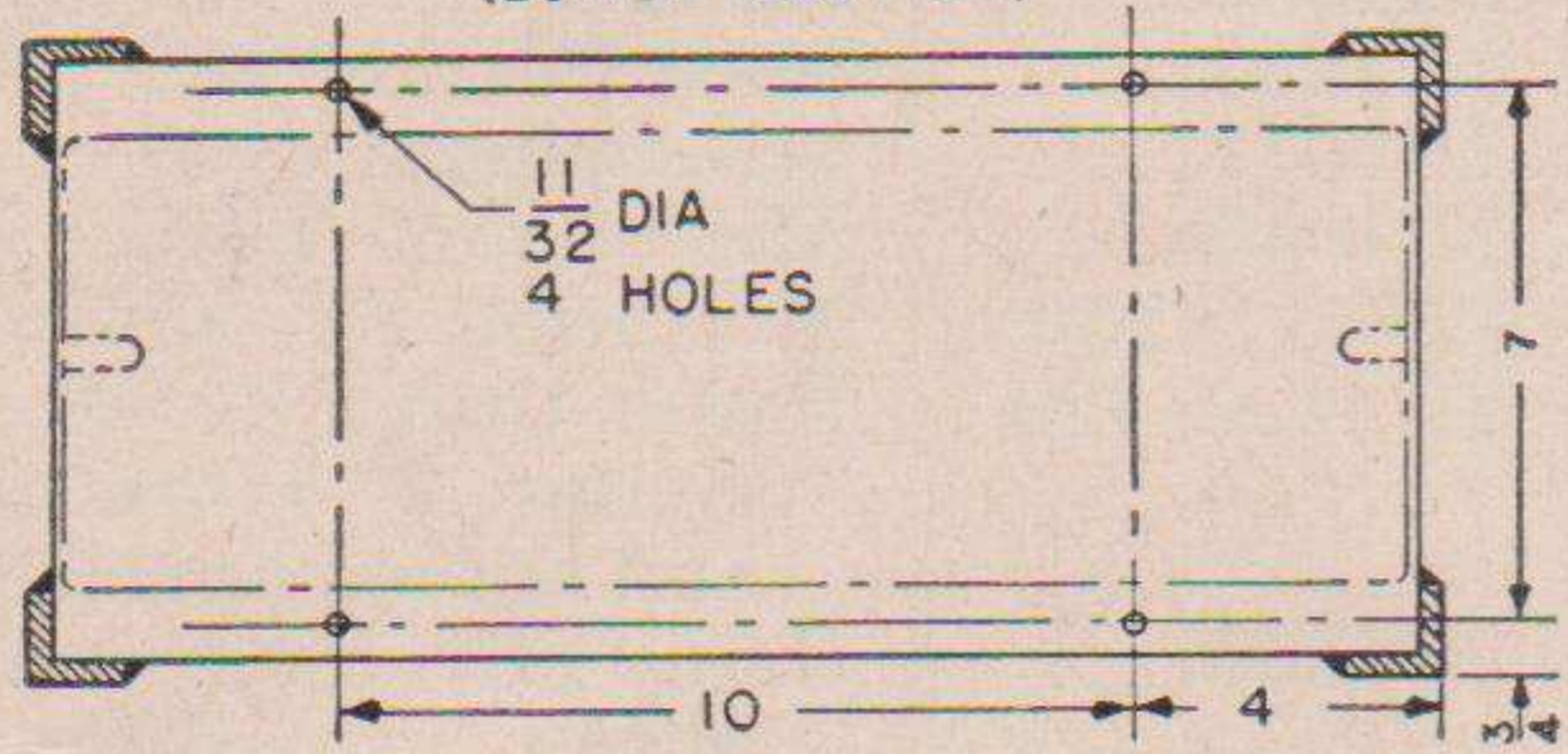
TL 10868-8-1



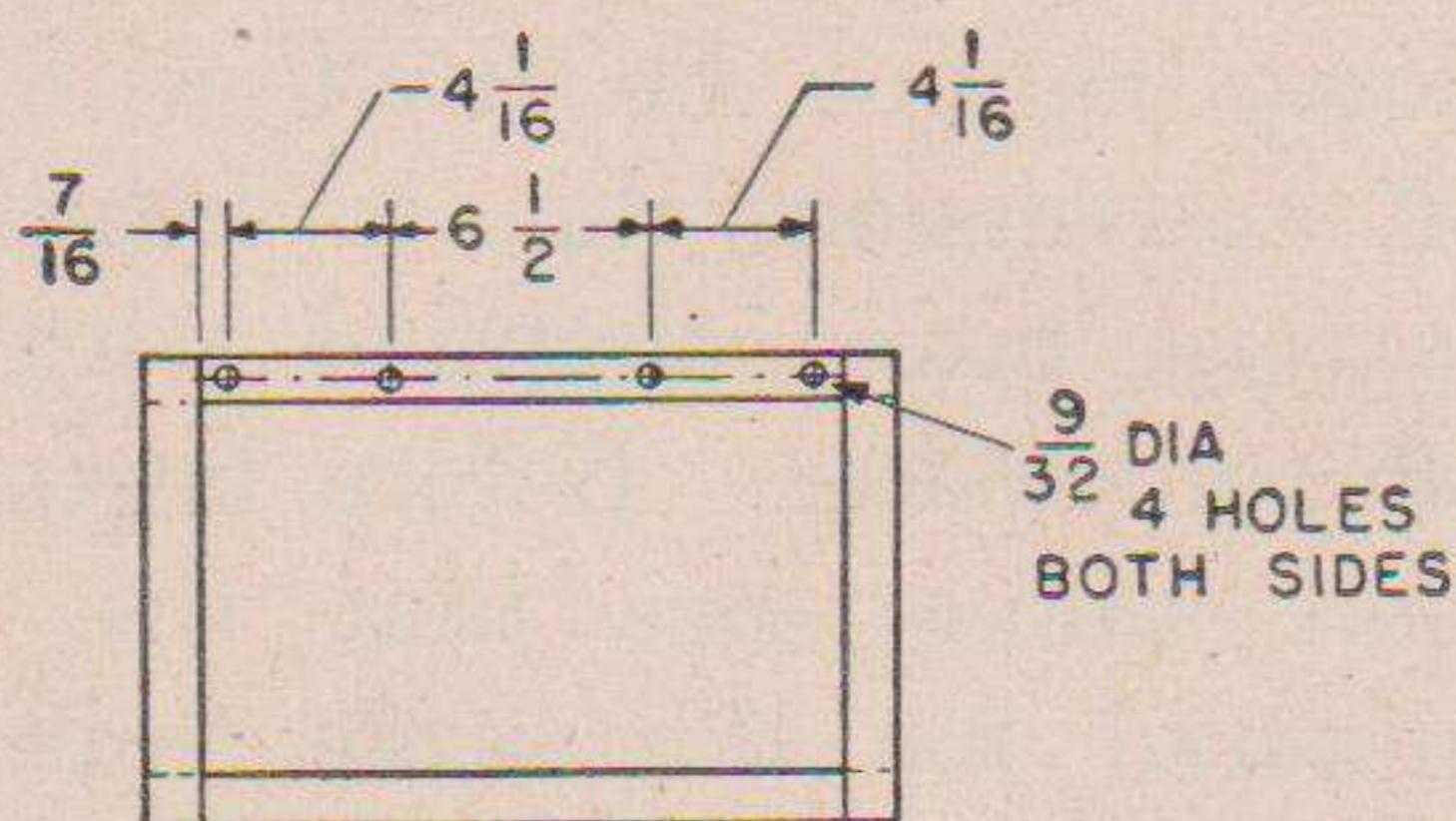


ANTENNA AND GROUND ROUTING

MOUNTING HOLE LOCATIONS IN FRAME FM-41  
(LOWER SECTION)



MOUNTING HOLE LOCATIONS IN FRAME FM-41  
(UPPER SECTION)



DRILLING OF FRAME FM-41, FOR SECURING (36)  
LOWER SECTION, SIDE ELEVATION

ITEM NO.	NAME OF ITEM	INSTALLATION FOR AIRBORNE USE	
		QUAN. REQ.	STANDARD (NON-AIRBORNE) INSTALLATION
1	RADIO RECEIVER AND TRANSMITTER BC-654-( )	1	1
2	POWER UNIT PE-103-( )	1	1
3	POWER CONVERTER UNIT PE-104-( )	1	1
4	FRAME FM-41 SEE NOTE 7	1	1
5	MAST BASE BRACKET MP-45	1	1
6	MAST BASE MP-57	1	1
7	MAST SECTION MS-49 AND CLAMP MC-421	1	1
8	MAST SECTION MS-50 AND CLAMP MC-422	1	1
9	MAST SECTION MS-51 AND CLAMP MC-423	1	1
10	MAST SECTION MS-52 AND CLAMP MC-424	1	1
11	MAST SECTION MS-53	1	1
12	WIRE W-142 50 INCHES LONG SEE NOTES 2 AND 8A	1	2
13	INSULATOR IM-104	5	3
14	CORD CD-501	1	1
15	CLAMP NO. 10	1	1
16	CLIP	5	5
17	COVER BG-154	1	1
18	COVER BG-67-( ) SEE NOTE 3	1	1
19	BAG BG-129	1	1
20	HEX. HEAD CAP SCREW 5/16-24 X 2 1/2 LONG	8	8
21	HEX. HEAD CAP SCREW 1/4-20 X 1/2 LONG	14	14
22	HEX. NUT 5/16-24 STD.	12	8
23	HEX. NUT 1/4-20 STD.	14	14
24	HEX. NUT NO. 10-32 STD.	9	5
25	LOCKWASHER S.A.E. STD. FOR 5/16 SCREW	8	8
26	LOCKWASHER S.A.E. STD. FOR 1/4 SCREW	14	14
27	LOCKWASHER NO. 10 STD.	5	3
28	FLATWASHER S.A.E. STD. FOR 5/16 SCREW	8	8
29	TERMINAL BOX SEE NOTE 6	1	1
30	HEX. HEAD CAP SCREW 5/16-24 X 1 LONG	2	2
31	HEX. HEAD CAP SCREW 5/16-24 X 1 1/2 LONG	2	2
32	SHAKEPROOF WASHER 5/16 I.E.T. SEE NOTE 8E	8	8
33	WIRE W-142 68 INCHES LONG SEE NOTE 8D	1	1
34	TERMINAL	1	1
35	MAST BASE BRACKET MP-50 SEE NOTE 8B	1	1
36	REINFORCEMENT SEE NOTE 9	2	2

NOTES:

1. FOR ADDITIONAL COMPONENTS AND SPARE PARTS, SEE COMPONENT PARTS LIST.
2. (12) CUT TO PROPER LENGTH. TIN ENDS FOR ANTENNA AND GROUND CONNECTIONS.
3. USE (18) WHEN MAST SECTIONS ARE NOT INSTALLED.
4. EXCESS POWER CABLE IS COILED ON THE FLOOR OF VEHICLE AND TAPED.
5. DIMENSIONS WHERE NOT SHOWN OTHERWISE ARE IN INCHES.
6. (29) IS SUPPLIED WITH THE VEHICLE BY THE MANUFACTURER.
7. CUT FRAME FM-41 19 1/16 INCHES FROM THE BOTTOM AND AGAIN AT 11 7/8 INCHES FROM THE BOTTOM. DISCARD PIECES CUT FROM UPRIGHT FRAME MEMBERS. REMOVE STOWAGE COMPARTMENT ON FRAME FM-41 CONTAINING THE POWER CONVERTER UNIT PE-104-( ) OR BATTERY BA-43.
8. FOR AIRBORNE USE ONLY:
  - A. (12) CUT TO PROPER LENGTH. TIN ONE END AND SOLDER (34) TO OTHER END.
  - B. RELOCATE FOOTMAN'S LOOP AND HARDWARE PROVIDED WITH THE VEHICLE BY THE MANUFACTURER ON (35)
  - C. KNOCK OUT WELDED BOLT AND BEAM TO 11/32 DIAMETER.
  - D. (33) CUT TO PROPER LENGTH. TIN ENDS FOR ANTENNA CONNECTIONS.
  - E. (32) UNDER HEAD AND UNDER NUT OF EACH MOUNTING SCREW FOR (36)
9. INSTALL (36) WITH LOWER LEG OF ANGLE POINTING TOWARD DYNAMOTOR TO REINFORCE HORIZONTAL SNUBBER MEMBERS.

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Figure 21. Continued.

SECTION VII

RADIO SET SCR-510-( ) OR SCR-610-( ).

16. Required Parts

Items necessary for the installation of Radio

Set SCR-510-( ) or SCR-610-( ) in Truck, ¼-ton, 4 x 4, are listed below:

Quantity		Stock No.	Item	Quantity		Stock No.	Item
Radio Set SCR-510-( )	Radio Set SCR-610-( )			Radio Set SCR-510-( )	Radio Set SCR-610-( )		
1	1	6Q349	Alignment Tool TL-207.	1	1	6L50-510V26	Hardware bag.
*1	*1	3A41	Battery BA-41, for Radio Receiver and Transmitter BC-620-( ) or BC-659-( ), internal.	*1	*1	2A2088-48	Mast Base MP-48-A or MP-48.
0	1	2Z1140	Box BX-40-( ), for crystals.	1	1	2A2090-50	Mast Bracket MP-50.
1	1	2Z6721-419	Bracket FT-419, for Mounting FT-250-( ).	0	1	2A2351	Mast Section MS-51.
1	1	2Z1203-420	Bracket FT-420, for Mounting FT-250-( ).	1	1	2A2352	Mast Section MS-52.
1	1	2Z1203-422	Bracket FT-422 (brush guard for Mast Bracket MP-50).	1	1	2A2353	Mast Section MS-53.
0	1	2Z2651-423	Clamp MC-423, for securing Mast Sections MS-51 and MS-52.	1	1	2B1617	Microphone T-17-( ).
1	1	2Z2651-424	Clamp MC-424, for securing Mast Sections MS-52 and MS-53.	1	1	2B1645	Microphone T-45.
1	1	6Z3147	Connector No. 61007 and Bondnut BL-50 (Appleton).	1	1	2Z6721-250	Mounting FT-250-( ).
b2	b2	3E1307A-5.5	Cord CD-307-A, 65', for Headset HS-30-( ).	d1	d1	3H4496-120	Power Unit PE-120-( ), (includes 2 Vibrator VB-12 and spare capacitor).
b2	b2	3E1605	Cord CD-605, for Headset HS-30-( ).	1	0	2C5360	Radio Receiver and Transmitter BC-620-( ), includes 2 crystals in Holders FT-243 and set of tubes installed.
b2	b2	3E1604	Cord CD-604, for connecting Cord CD-307-A to Headset HS-30-( ).	0	1	2C5379	Radio Receiver and Transmitter BC-659-( ), includes 2 crystals in Holders FT-243 and set of tubes installed.
1	1	2Z3400-153	Cover BG-153, for radio set.	2	2	2Z7069-429	Reinforcing Plate FT-429-( ), for Mast Bracket MP-50.
1	1	2Z3400-108	Cover BG-108, for mast base.	1	1	2Z8056	Roll BG-56-( ), for antenna mast sections.
2	2	2B830	Headset HS-30-( ).	2	2	3H6712	Vibrator VB-12, 6-volt.
				11ft11ft		1B128	Wire W-128.

\* To be requisitioned from the nearest Signal Corps Depot or Signal Section of an Army Service Forces Depot.

b Cords CD-307-A and CD-604 may be substituted for Cord CD-605.

c When Mast Base MP-48 is supplied, 7 feet of Wire W-128 must be used.

d Plate Supply Units PE-97-( ) and PE-117-( ) may be substituted for Power Unit PE-120-( ) in Radio Sets SCR-510-( ) and SCR-610-( ), respectively. When these substitutions are made, Vibrator VB-12 is not required.

17. Assembly and Installation

a. PRELIMINARY CHECK. Truck, ¼-ton, 4 x 4, ordinarily has a 6-volt electrical system. These instructions cover Radio Set SCR-510-( ) or SCR-610-( ) for 6-volt operation. Conversion of the electrical system is made in some vehicles to permit installation of radio equipment requiring 12 volts for operation. These conversions may be either a 12-volt under-hood conversion or a power take-off conversion. Radio Set SCR-510-( ) or SCR-610-( ), as covered in these in-

structions, cannot be used with the power take-off conversion, due to interference with the battery boxes supplied with the power take-off conversion. Before beginning the installation, make sure that the power units are adjusted for the same voltage as that supplied by the vehicle in which the radio set is to be installed, and that vibrators for the correct voltage are supplied.

b. PROCEDURE. Components of the radio set should be installed as shown in figures 28, 29, and 30, and as directed below:

## TECHNICAL MANUAL

## INSTALLATION OF RADIO EQUIPMENT IN TRUCK, 1/4-TON, 4 X 4

CHANGES }  
No. 2 }WAR DEPARTMENT  
Washington 25, D. C., 17 May 1945

TM 11-2715, 30 September 1944, is changed as follows:

Remove pages III and IV and substitute revised page III and page IV herewith.

Remove pages 1 and 2 and substitute revised page 1 and page 2 herewith.

Remove pages 17, 18, 21, 22, 23, and 24 and substitute revised pages 17 and 18, page 21, revised pages 22 and 23, and page 24 herewith.

Remove pages 41, 42, 43, and 44 and substitute revised pages 41, 42, and 43, and page 44 herewith.

Remove page 75.

[AG 300.7 (5 May 45)]

BY ORDER OF THE SECRETARY OF WAR:

OFFICIAL:

J. A. ULIO

*Major General*

*The Adjutant General*

G. C. MARSHALL

*Chief of Staff*

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Refer to FM 21-6 for distribution formula.

**SECTION X**  
**RADIO SET SCR-694-C**

**23. Required Parts**

Items necessary for the installation of Radio Set SCR-694-C in Truck, 1/4-ton, 4 x 4, are listed below :

Quantity	Stock No.	Item	Quantity	Stock No.	Item
1	2Z551-172	Bag BG-172, for accessory equipment.	2	2A2417	Mast Section MS-117, including spare.
1	2Z551-173	Bag BG-173, for Radio Receiver and Transmitter BC-1306.	2	2A2418	Mast Section MS-118, including spare.
*1	3H160-175	Bag BG-175, for Generator GN-58 (used in portable operation).	1	2B1617	Microphone T-17, a spare.
1	6F153	Box BX-53, for spare tubes, lamps, and brushes.	1	2B1645	Microphone T-45.
2	6Z3147	Connector No. 61007 and Bondnut BL-50.	2	2B1567	Microphone Cover M-367.
3	3E1307-5.5	Cord CD-307-A.	1	2Z6727-482	Mounting FT-482, including hardware.
1	3E1318	Cord CD-318-A.	1	3F3986-34	Phantom Antenna A-34.
3	3E1604	Cord CD-604.	1	2C5395-1306	Radio Receiver and Transmitter BC-1306, including Panel Cover M-404.
7 ft	3E1999-86	Cord CD-1086.	2	2Z6721-429	Reinforcing Plate FT-429.
5	6Z6958	Footman's loop.	1	2Z8060-174	Roll BG-174.
1	2Z4600-85	Frame FM-85.	1	2Z9050-51	Strap ST-51, for Bag BG-175.
1	6L50-694V26	Hardware bag.	1	2Z9050-52	Strap ST-52, for Bag BG-175.
3	2B830	Headset HS-30.	1		Support, for Vibrator Power Unit PE-237.
5	3G604	Insulator IN-104, including spare.	2	6D13087C	TM 11-230C, for Radio Set SCR-694-C.
1	3Z3445	Key J-45.	1	3H6800-237	Vibrator Power Unit PE-237, including hardware.
1	2A2088-65	Mast Base MP-65.	10 ft	1B128	Wire W-128.
1	2A2090-50	Mast Base Bracket MP-50.			
6	2A2416	Mast Section MS-116, including three spares.			

\*While Generator GN-58 is used only in portable operation, its bag, Bag BG-175, is installed in the vehicle.

## 24. Assembly and Installation

*a. PRELIMINARY MODIFICATION OF TRUCK, 1/4-Ton, 4 x 4.* See figure 47, and perform the following operations:

(1) Drill holes through cowl, right and left wheelwell, body reinforcing bead, and floor of vehicle, as shown in Mounting Hole Locations.

(2) Drill hole through right side of vehicle, rear, as shown in View A-A.

(3) Drill holes through left side of vehicle, as shown in View B-B.

(4) Drill holes through side panel of left rear stowage compartment, as shown in View C-C.

(5) Drill holes through rear of vehicle, left, as shown in View D-D.

*b. PROCEDURE.* Components of the radio set should be installed as shown in figure 47 and as directed below:

### *Part and location*

Wire W-128 and terminal (items 13, 14, and 49, fig. 47).

Frame FM-85 and Reinforcing Plates FT-429 (items 4 and 7, fig. 47), on left rear wheelwell.

Mounting FT-482 (item 3, fig. 47), on Frame FM-85.

Radio Receiver and Transmitter BC-1306 and Panel Cover M-404 (items 1 and 26, fig. 47), on Mounting FT-482.

### *Method and materials*

Cut a 14-inch length of Wire W-128 for ground connection. Strip about 1/2 inch of insulation from each end. Solder-tin tips, and solder a terminal, supplied with hardware bag, to one end of the wire. Cut a 5-foot length of Wire W-128 for antenna connection. Strip about 1/2 inch of insulation from each end, and solder-tin tips.

Locate Frame FM-85 in position, as shown in figure 47, Pictorial View. With hardware provided, secure bottom of Frame FM-85 to wheelwell, with Reinforcing Plates FT-429 on under side. Secure back of Frame FM-85 to left side of vehicle with hardware provided. Secure the terminal, soldered to the 14-inch length of Wire W-128, to the rearward screw as shown in figure 47, Detail A.

Secure in position with hardware provided, as shown in figure 47.

Place Panel Cover M-404 over back of Radio Receiver and Transmitter BC-1306. Place radio receiver and transmitter on Mounting FT-482, and secure with straps provided. Secure panel cover to mounting with straps provided. When vehicle is to be transported or stored, remove receiver and transmitter and panel cover from the mounting. Place panel cover over front panel of receiver and transmitter, securing with spring catch clips provided. Then replace unit on Mounting FT-482.

*Part and location*

Vibrator Power Unit PE-237, support, and connector No. 61007 and Bondnut BL-50 (items 2, 6, 24, and 25, fig. 47), over right wheelwell.

Mast Base Bracket MP-50 (item 8, fig. 47), on left rear of vehicle.

Insulators IN-104 (item 27, fig. 47).

Mast Base MP-65 (item 9, fig. 47), on Mast Base Bracket MP-50.

*Method and materials*

See figure 47, Pictorial View. Secure shock mount feet of vibrator power unit on support with hardware provided. Screws must be inserted from underneath support. Place power unit over right wheelwell, and secure forward end to wheelwell with hardware provided. Secure support to floor and to right side of vehicle as shown in figure 47. Adjust the power unit for 6-volt operation by removing the cover and setting the voltage adjusting switch to 6-VOLT POSITION. Disconnect power cords from terminal strip on chassis of vibrator power unit by loosening terminals on terminal strip, disassembling bushing connectors, and pulling out power cords. Disassemble supplied connectors No. 61007 and Bondnuts BL-50. Pass each power cord through shell, rubber insert, and end cap of connectors No. 61007. Replace and connect power cords in original location, tighten bushing connectors, and replace cover of vibrator power unit. Route and secure power cords as shown in figure 47, Detail D. Pass power cords into terminal box through knock-out holes, and secure with connectors and bondnuts previously placed on cords. Connect power-cords terminals to positive and negative terminals in terminal box, observing proper polarity.

**Warning:** If vehicle is equipped with 12-volt conversion, adjust Vibrator Power Unit PE-237 for 12-volt operation.

See figure 47, Detail C, and drill holes in mast base bracket as shown. Secure mast base bracket on left rear of vehicle with hardware provided, as shown in figure 47.

Install three Insulators IN-104 on body reinforcing bead of vehicle, left side, and one insulator on left side of Mast Base Bracket MP-50 as shown in figure 47.

Install Mast Base MP-65 on mast base bracket as follows: See figure 48. Disassemble Mast Base MP-65 by holding body of mast base and turning bolt and binding post assembly, item 10, in a counterclockwise direction. Place upper insulator, item 4, over hole in mast base bracket. Place phenolic washer, item 3, over item 4 and insert body of mast base, item 2, through hole in items 3 and 4 and mast base bracket. Insert bolt and binding post, item 10, through hole in items 9, 8, 7, and 6, respectively. Insert item 10 into item 2, from underneath mast base bracket. Turn item 2 clockwise, while holding item 10 with a 9/16-inch open-end wrench, until mast base is tightened securely. Connect one end of prepared 5-foot length of Wire W-128 to binding post on bottom of mast base. Route wire through Insulators IN-104 and connect other end to antenna binding post on Radio Receiver and Transmitter BC-1306. Wrap friction tape around Wire W-128 at first and fourth Insulator IN-104 to keep wire taut between insulators.

*Part and Location*

Mast Sections MS-116, MS-117, and MS-118 (items 10, 11, and 12, fig. 47), on Mast Base MP-65.

Clips (item 16, fig. 47).

Cord CD-1086 (item 15, fig. 47).

Hook (item 50, fig. 47).

Footman's loop and Straps ST-51 and ST-52 (items 23, 21, and 22, fig. 47).

Roll BG-174 (item 20, fig. 47).

Bag BG-175 (item 19, fig. 47).

Bag BG-173.

Bag BG-172.

*Method and Materials*

Screw mast sections together and screw assembled antenna into mast base. Place spare mast sections in Roll BG-174. When mast sections are not in use, stow in Roll BG-174.

With hardware provided, secure three clips on body reinforcing bead, at rear, as shown in figure 47.

Connect one end of Cord CD-1086 (7-foot length) to provided socket on front panel of Radio Receiver and Transmitter BC-1306. Connect other end to Vibrator Power Unit PE-237, making sure that retainer rings over plugs are drawn up tight. Secure Cord CD-1086 in place along rear bead of vehicle with clips previously installed.

Secure hook, provided in hardware bag, as shown in figure 47, with hardware provided.

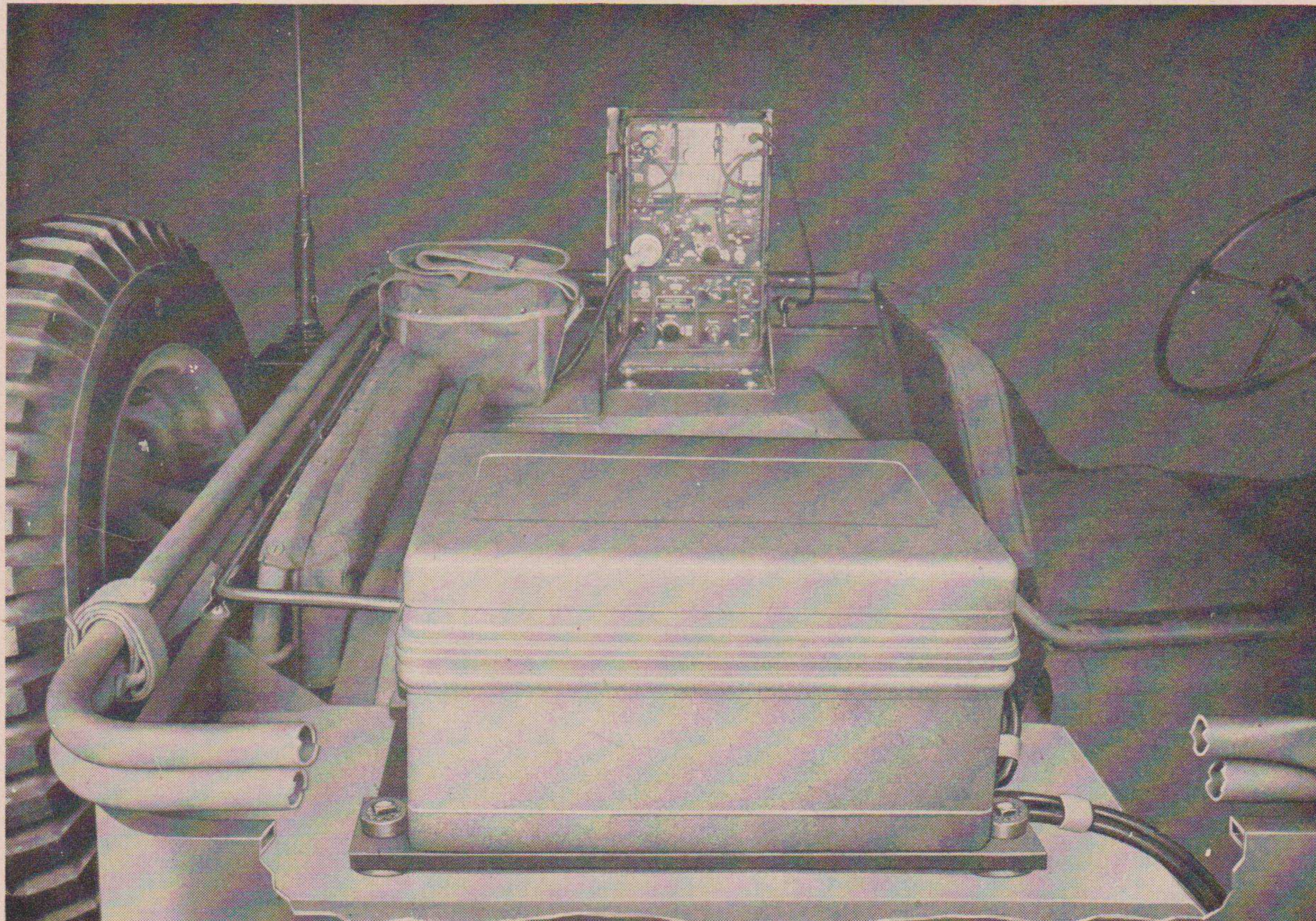
See figure 47, Pictorial View. Install three footman's loops on cowl of vehicle for securing Roll BG-174. Insert a footman's loop through loop of Strap ST-51 and secure footman's loop on body reinforcing bead, left side rear. Insert a footman's loop through loop of Strap ST-52 and secure footman's loop on side panel of compartment in left rear of vehicle as shown. All hardware required for securing footman's loops is provided in hardware bag.

Stow equipment in Roll BG-174 as directed in TM 11-230C. Secure roll to footman's loops on cowl of vehicle, as shown in figure 47, Pictorial View.

Stow portable Generator GN-58 in Bag BG-175, and secure over left rear stowage compartment of vehicle with Straps ST-51 and ST-52 as shown.

Use on Radio Receiver and Transmitter BC-1306 when removed from vehicle for portable operation. Stow Bag BC-173 in vehicle at discretion of using arm.

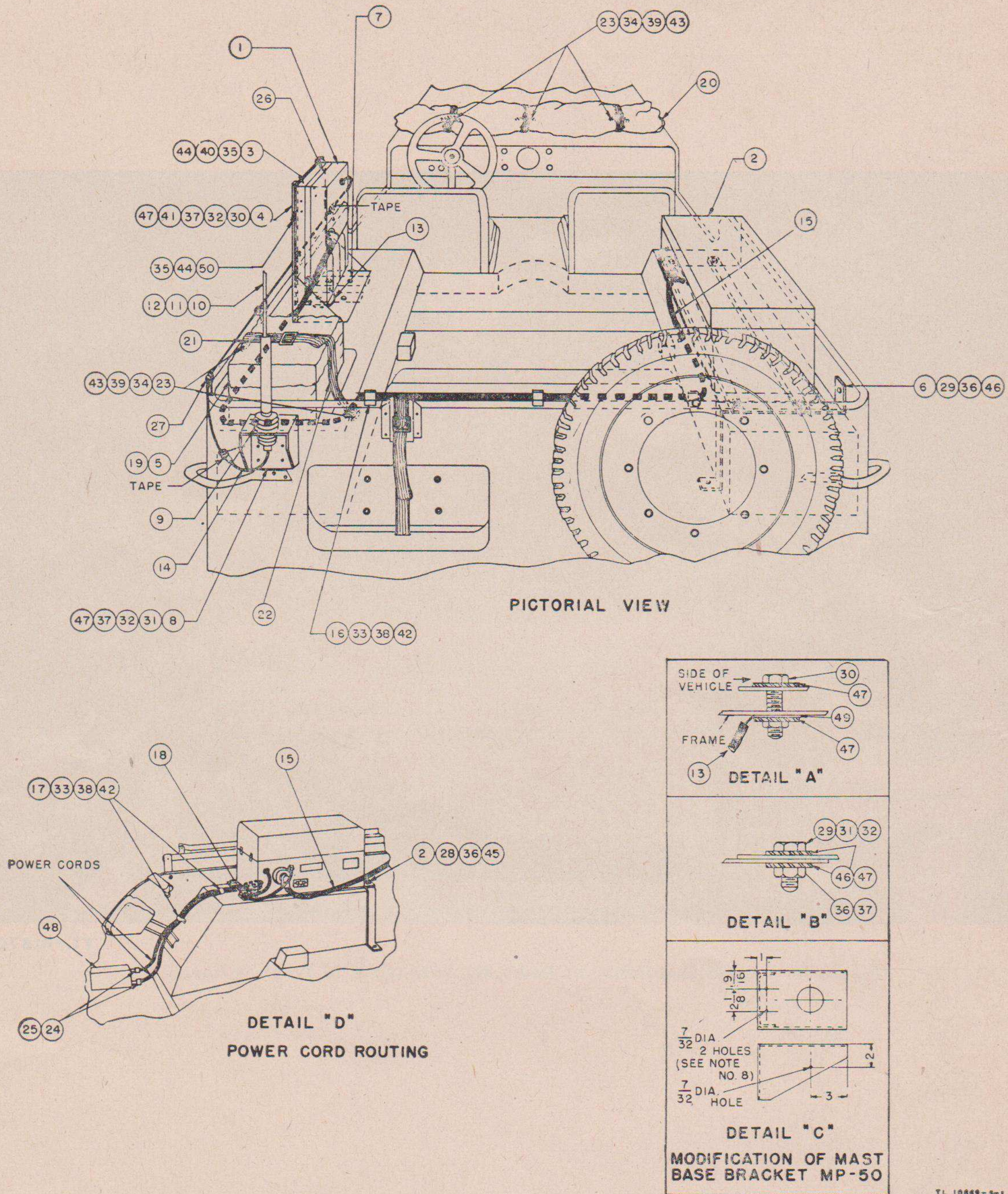
Stow auxiliary equipment in Bag BG-172 as directed in TM 11-230C. Stow Bag BG-172 in vehicle at discretion of using arm.



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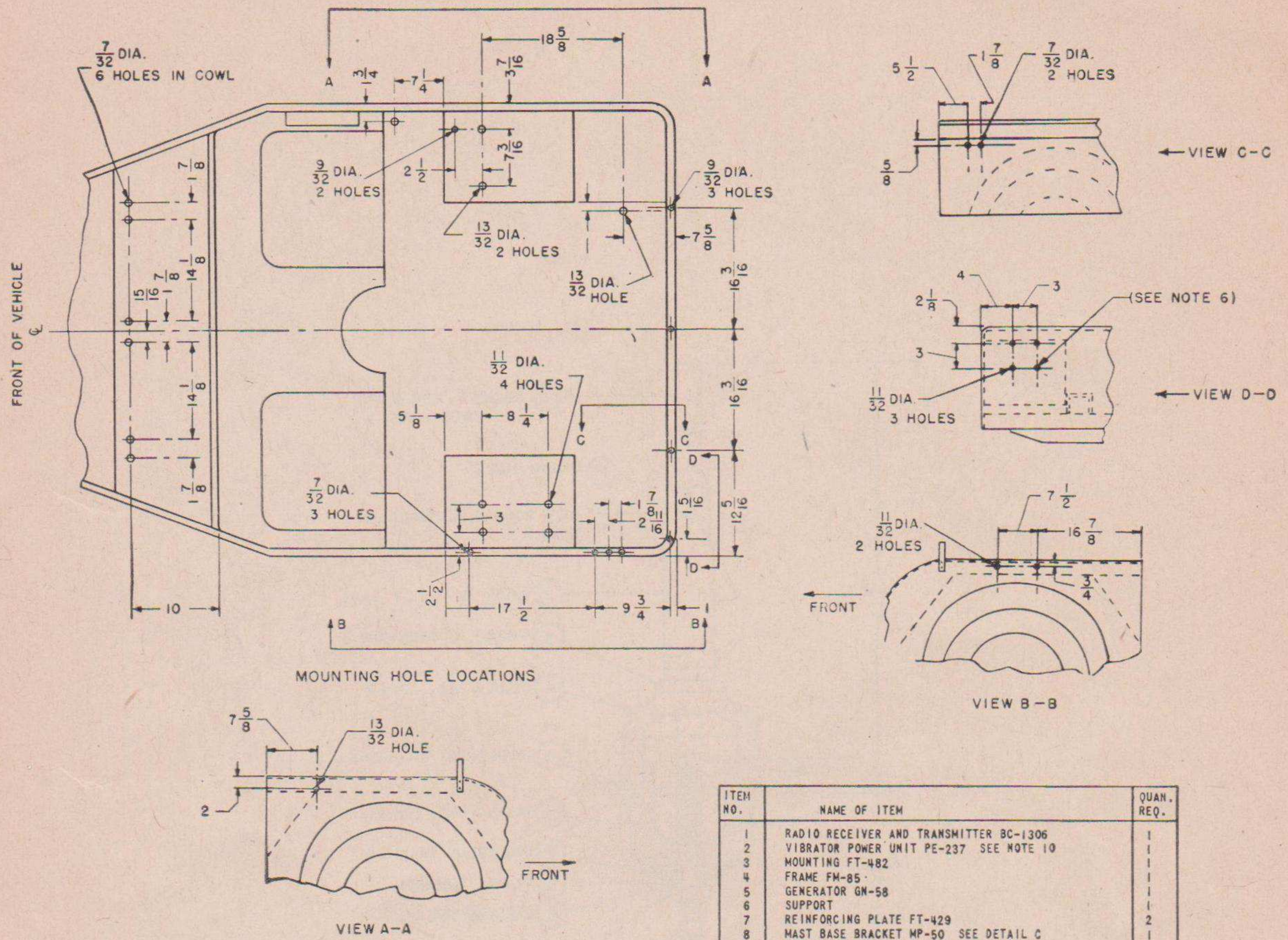
Figure 46. Typical installation of Radio Set SCR-694-C in Truck, 1/4-ton, 4 x 4.





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Figure 47. Installation of Radio Set SCR-694-C in Truck, 1/4-ton, 4 x 4.

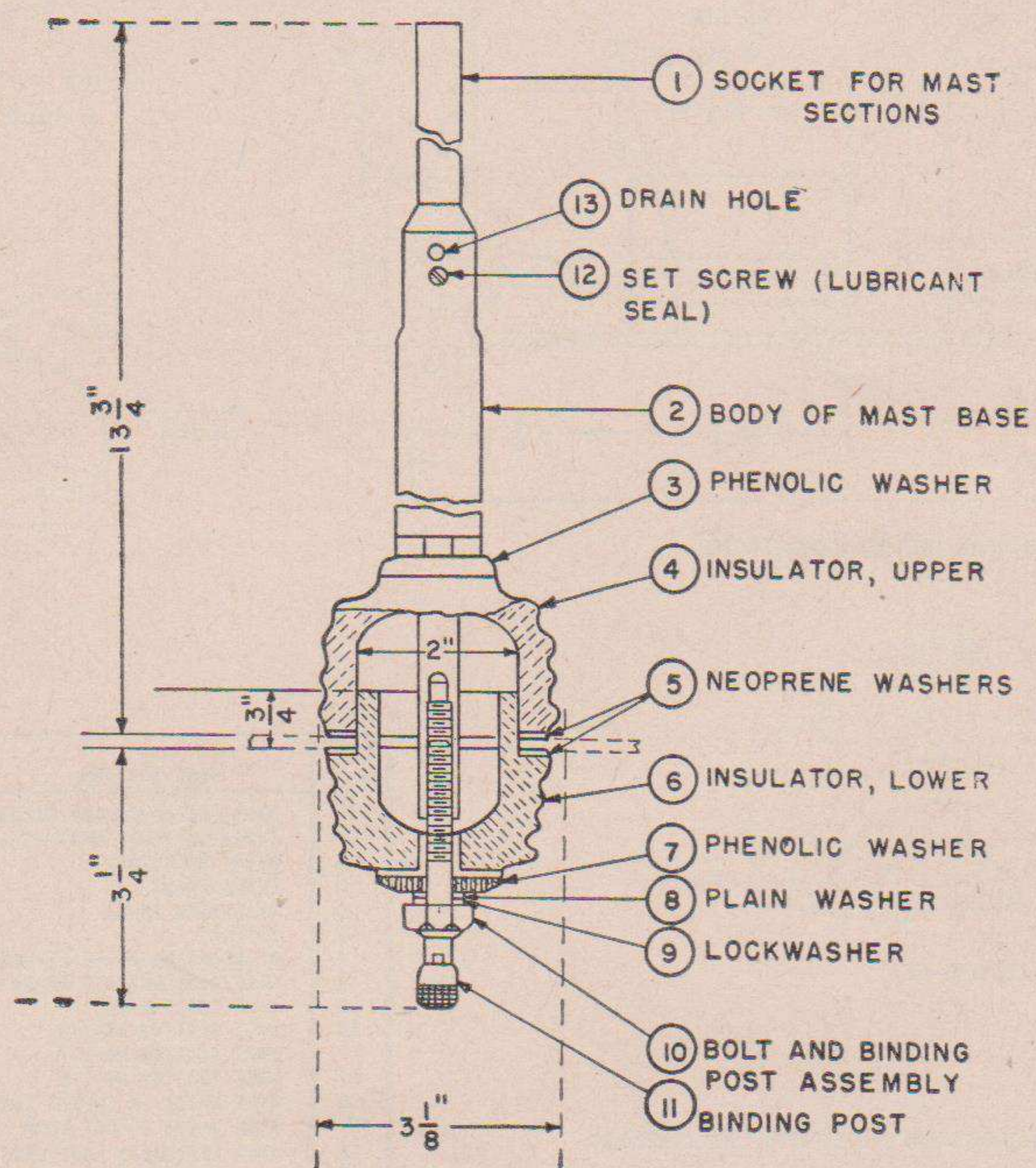


- NOTES:
1. FOR ADDITIONAL COMPONENTS AND SPARE PARTS, SEE COMPONENT PARTS LIST.
  2. DIMENSIONS WHERE NOT SHOWN OTHERWISE ARE IN INCHES.
  3. (13) (14) CUT TO PROPER LENGTH. TIN ENDS FOR ANTENNA AND GROUND CONNECTIONS. SOLDER (49) TO (13).
  4. TO TAKE UP SLACK, TAPE (14) AT FIRST AND LAST INSULATOR IN-104 AS SHOWN IN PICTORIAL VIEW.
  5. (48) IS SUPPLIED WITH THE VEHICLE BY THE MANUFACTURER.
  6. KNOCK OUT WELDED BOLT AND REAM HOLE TO 11/32 DIAMETER.
  7. (18) USES HARDWARE THAT MOUNTS VIBRATOR POWER UNIT.
  8. REMOVE FOOTMAN LOOP FROM REAR OF VEHICLE, AND RELOCATE ON (8) WITH HARDWARE PROVIDED BY MANUFACTURER, AS SHOWN ON DETAIL C.
  9. (45) SHALL BE PLACED UNDER THE NUT OF EACH MOUNTING SCREW (28).
  10. ADJUST (2) FOR 6 VOLT OPERATION.

ITEM NO.	NAME OF ITEM	QUAN. REQ.
1	RADIO RECEIVER AND TRANSMITTER BC-1306	1
2	VIBRATOR POWER UNIT PE-237 SEE NOTE 10	1
3	MOUNTING FT-482	1
4	FRAME FM-85	1
5	GENERATOR GM-58	1
6	SUPPORT	1
7	REINFORCING PLATE FT-429	2
8	MAST BASE BRACKET MP-50 SEE DETAIL C	1
9	MAST BASE MP-65	1
10	MAST SECTION MS-116	3
11	MAST SECTION MS-117	1
12	MAST SECTION MS-118	1
13	WIRE W-128 14 INCHES LONG SEE NOTE 3	1
14	WIRE W-128 5 FOOT LONG SEE NOTES 3 AND 4	1
15	CORD CD-1086 7 FOOT LONG	1
16	CLIP	3
17	CLAMP NO. 8	2
18	CLAMP NO. 9	1
19	BAG BG-175	1
20	ROLL BG-174	1
21	STRAP ST-51	1
22	STRAP ST-52	1
23	FOOTMAN LOOPS	5
24	CONNECTOR NO. 61007	2
25	BONDNUT BL-50	2
26	PANEL COVER M-404	1
27	INSULATOR IN-104	4
28	HEX. HEAD CAP SCREW 3/8-24 X 2 LONG	4
29	HEX. HEAD CAP SCREW 3/8-24 X 1 LONG	2
30	HEX. HEAD CAP SCREW 5/16-24 X 2 LONG	2
31	HEX. HEAD CAP SCREW 5/16-24 X 1 1/2 LONG	2
32	HEX. HEAD CAP SCREW 5/16-24 X 1 LONG	6
33	ROUNDHEAD MACH SCREW 1/4-20 X 3/4 LONG	5
34	FLATHEAD MACH SCREW NO. 10-32 X 1/2 LONG	10
35	ROUNDHEAD MACH SCREW NO. 8-32 X 3/4 LONG	10
36	HEX. NUT 3/8-24 STD.	6
37	HEX. NUT 5/16-24 STD.	10
38	HEX. NUT 1/4-20 STD.	5
39	HEX. NUT NO. 10-32 STD.	10
40	HEX. NUT NO. 8-32 STD.	10
41	LOCKWASHER S.A.E. REG. FOR 5/16 SCREW	4
42	LOCKWASHER S.A.E. REG. FOR 1/4 SCREW	5
43	LOCKWASHER S.A.E. REG. FOR NO. 10 SCREW	10
44	LOCKWASHER S.A.E. REG. FOR NO. 8 SCREW	10
45	LOCKWASHER 3/8 I.T. SEE NOTE 9	4
46	LOCKWASHER 3/8 I.E.T. SEE DETAIL B	4
47	LOCKWASHER 5/16 I.E.T. SEE DETAILS A AND B	12
48	TERMINAL BOX SEE NOTE 5	1
49	TERMINAL SEE NOTE 3 SEE DETAIL A	1
50	HOO	1

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Figure 47. Continued.



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Figure 48. Mast Base MP-65, assembly for installation.