

**TB 9-4940-548-30**

**SUPERSEDES TB ORD 44-25, DATED 27 DECEMBER 1963**

**DEPARTMENT OF THE ARMY TECHNICAL BULLETIN**

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**SHOP SET, RADAR AND RADIO REPAIR,**

**FIELD MAINTENANCE SIGNAL CORPS**

**(NSN 4940-00-508-1036)**

**INSTALLATION IN ONE M109A3 SHOP VAN TRUCK**

**Approved for public release; distribution is unlimited.**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY**

**FEBRUARY 1987**

TECHNICAL BULLETIN )  
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HEADQUARTERS  
DEPARTMENT OF THE ARMY  
Washington, DC, 12 February 1987

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\*This bulletin supersedes TB ORD 444-25, dated 27 December 1963.

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## 1. General

a. Instructions contained in this bulletin are to be used only as advice and guidance for installation of field maintenance signal corps radar and radio repair shop set (NSN 4940-00-508-1036) in one M109A3 shop van truck (fig. 1).

b. Slight variations to the installation instructions may be made at the discretion of the officer in charge.

c. Complete lists of items contained in this shop are found in SC 4940-95-CL-A01.

d. Personnel performing this installation should have a practical knowledge of electricity.

e. Items not mentioned in this bulletin, that may be components of this shop, may be stowed in cabinets and drawers or secured in such a manner as to avoid damage in transit.

f. All dimensions, fastener sizes, and hardware sized are in inches.

g. When entering shop, curbside is at right and roadside is at left.

## 2. Warnings and Cautions

### **WARNING**

**All electrically-powered tools and equipment must be grounded prior to use.**

**Drill bits can fracture or break during use. Wear safety glasses at all times when drilling holes.**

## **CAUTION**

**Special care should be exercised to avoid damage to electrical connectors, wiring, or electrical equipment.**

**To preserve its waterproof characteristics, precautions should be taken not to puncture the outer skin when drilling holes into the walls or floor of the shop. Coat underside of van body with coating compound (UNDERCOATING TT-C-520, NSN 8030-00-221-1834) where mounting hardware projects through floor.**

## 3. Location of Equipment

a. For location of equipment installed or stowed in M109A3 shop van truck, refer to figures 2 thru 7, 9 thru 11, 13, 15, and 16.

(1) Refer to table 1 for hardware required for installation.

(2) Refer to table 2 for components to be mounted.

(3) Refer to table 3 for electrical components to be mounted.

(4) Refer to table 4 for components to be fabricated.

b. Refer to table 5 for standard conversion chart.

## 3. Location of Equipment--Continued

Table 1. Mounting Hardware

MS/part no.	Size and description	Qty	Application
ASTM-A53	Steel Pipe Spacer, 0.50 Dia ID	4	Electrical receptacle connector
MS16992-521	5/16-in. Hex Head Lag Bolt x 1-1/4 L	36	Work tables, filing cabinets
MS27130-A27	#10-24 UNC Blind Rivet Nut	12	Van wall for strap loops, electrical receptacle connector
MS27183-11	5/16-in. Flat Washer	6	Portable drill stand, utility grinding machine
MS27183-17	1/2-in. Flat Washer	4	Machinist's vise
MS27183-42	#10 Flat Washer	8	Reciprocating compressor unit
MS35190-275	#10-24 UNC-2A Countersunk Head Machine Screw x 1.00 L	12	Van wall for strap loops, general purpose first aid kit, electrical receptacle connector, fire extinguisher bracket
MS35206-266	#10-24 UNC-2A Pan Head Machine Screw x 7/8 L	1	Safety steel guard
MS35206-275	#10-24 UNC-2A Pan Head Machine Screw x 3.00 L	4	Reciprocating compressor unit
MS35338-43	#10 Lockwasher	6	Reciprocating compressor unit, safety steel guard
MS35338-44	1/4-in. Lockwasher	1	Safety steel guard
MS35338-45	5/16-in. Lockwasher	46	Work tables, filing cabinets, portable drill stand, utility grinding machine, electrical receptacle connector
MS35338-48	1/2-in. Lockwasher	4	Machinist's vise

## 3. Location of Equipment-Continued

Table 1. Mounting Hardware-Continued

MS/part no.	Size and description	Qty	Application
MS35649-202	#10-24 UNC-2B Hex Nut	5	Reciprocating compressor unit, safety steel guard
MS51861-45	#10 Tapping Screw x 1/2 L	22	Wiremold, retaining straps
MS51861-49	#10 Tapping Screw x 1.00 L	6	Multi-breaker box, remote control push switch
MS51869-26	1/4-20 Tapping Screw x 7/8 L	4	110-volt outlet
MS51939-3	Strap Loop	3	Shop van wall for safety can, electrical receptacle connector
MS51953-80	1/2-in. Standard Steel Pipe Nipple x 3.00 L	1	Multi-breaker box
MS51953-127	1-in. Standard Steel Pipe Nipple x 3-1/2 L	1	Multi-breaker box
MS51956-1	Retaining Strap	2	Rigid metal conduit
MS51967-5	5/16-18 UNC-2B Hex Nut	10	Portable drill stand, utility grinding machine, electrical receptacle connector
MS51967-14	1/2-13 UNC-2B Hex Nut	4	Machinist's vise
MS90725-43	5/16-18 UNC-2A Hex Head Capscrew x 2-3/4 L	3	Utility grinding machine
MS90725-44	5/16-18 UNC-2A Machine Bolt x 3.00 L	4	Electrical receptacle connector
MS90725-45	5/16-18 UNC-2A Machine Bolt x 3-1/4 L	3	Portable drill stand
MS90725-120	1/2-13 UNC-2A Hex Head Capscrew x 3-1/4 L	4	Machinist's vise

## 3. Location of Equipment-Continued

Table 1. Mounting Hardware-Continued

MS/part no.	Size and description	Qty	Application
7550588-4	36.00-in. Retaining Strap	4	Nonmetallic hose assembly, electrical power cable assemblies
7550588-8	30.00-in. Retaining Strap	3	Revolving stools
7550588-9	66.00-in. Retaining Strap	1	Safety can

Table 2. Components to be Mounted

NSN	Qty	Description	Figure no.
6150-00-682-3460	3	CABLE ASSEMBLY, POWER, ELECTRICAL: 50.00 ft lg	4
5995-00-539-8758	1	CABLE ASSEMBLY, POWER, ELECTRICAL: 101.00 ft lg	4
4310-00-542-4111	1	COMPRESSOR UNIT, RECIPROCATING	2-3-6
5130-00-889-9000	1	DRILL, ELECTRIC, PORTABLE	3
4210-00-270-4512	1	EXTINGUISHER, FIRE, CARBON DIOXIDE	2-4
7110-00-634-2860	2	FILING CABINET	2-5-11
6545-00-922-1200	1	FIRST AID KIT, GENERAL PURPOSE	2-3
3415-00-517-7754	1	GRINDING MACHINE, UTILITY	2-4
5120-00-473-6337	1	GUARD, SAFETY STEEL	3-6
4720-00-422-8540	1	HOSE ASSEMBLY, NONMETALLIC	3
5975-00-777-6781	1	ROD, GROUND	2
7240-00-222-3084	1	SAFETY CAN	2-4
5130-00-263-8663	1	STAND, PORTABLE DRILL	2
7110-00-634-8596	3	STOOL, REVOLVING	2-3-4

## 3. Location of Equipment-Continued

Table 2. Components to be Mounted-Continued

NSN	Qty	Description	Figure no.
4910-00-543-7772	2	TABLE, WORK, AUTOMOTIVE MAINTENANCE: 60.00 in. lg	2-4-5
4910-00-543-7771	2	TABLE, WORK, AUTOMOTIVE MAINTENANCE: 72.00 in. lg	2-4-5- 6-11
5120-00-293-1439	1	WISE, MACHINIST'S	2-4

Table 3. Electrical Components to be Mounted

Part no. or NSN	Qty	Description	Figure no.
5975-00-926-0589	4	BOX CONNECTOR: type 1, class 2, kind L, style 1, 0.50-in. size (W-F-408)	11
APPLETON BL50 (OR EQUIVALENT)	4	CONDUIT BONDING TYPE LOCKNUT: 1/2-14 NPT	11
APPLETON BL100 (OR EQUIVALENT)	4	CONDUIT BONDING TYPE LOCKNUT: 1-11-1/2 NPT	11
5975-00-178-1216	As Req'd	CONDUIT, METAL, RIGID, THINWALL: 0.50-in. size (ANSI/UL 797)	7-11-12
5935-00-259-0340	1	CONNECTOR, RECEPTACLE, ELECTRICAL: 6-wire power input	13-16
SQUARE D Q06-12S (OR EQUIVALENT)	1	MULTI-BREAKER BOX: 1-ph, 3-wire	7-11-16
SQUARE D CLASS 9001 TYPE BG201 (OR EQUIVALENT)	1	SWITCH, PUSH: stop-start, surface mounted, 500V in box	7-11-16
6145-00-542-6271	12 ft	WIRE: #8 AWG (J-C-30) black C001MGF1-8-0380	16
6145-00-990-3002	40 ft	WIRE: #12 AWG (J-C-30) black J-C-30THW06CE1/ 12TUJ0	16
6145-00-184-5347	40 ft	WIRE: #12 AWG (J-C-30) white TW-06-C-E-1/12-T-UJ-9	16



## 3. Location of Equipment-Continued

Table 3. Electrical Components to be Mounted-Continued

Part no. or NSN	Qty	Description	Figure no.
WRM 20G512	2	WIREMOLD: wired section, 2-wire, 1-circuit 60 in. lg, 5 outlets	8-9-10-16
WRM 20G618	2	WIREMOLD: wired section, 2-wire, 1-circuit 72 in. lg, 4 outlets	8-9-10-16
5975-00-879-4938	2	WIREMOLD BLANK END FITTING: (WRM 2010B)	9-10
5975-00-823-0977	2	WIREMOLD COUPLING: (WRM 2001)	9-10
WRM 2006	2	WIREMOLD COVER CLIP	9-10
5975-00-673-7658	2	WIREMOLD ENTRANCE END FITTING: for 0.50-in. conduit (WRM 2010A)	9-10

Table 4. Components to be Fabricated

Part no. or NSN	Qty	Description	Figure no.
11021184	1	GASKET: 0.12 x 6.00 x 6.00, rubber	13-14-16
11021183	1	STEEL PLATE: 0.25 x 6.00 x 6.00	13-14-16

## 4. Installation

**NOTE**

Hand blind riveter (5120-00-679-6523) is used for installing blind rivet nuts in walls of van. Install blind rivet nuts in accordance with the manual supplied with the hand blind riveter.

Position floor mounted equipment as shown in figures 2, 3, and 4. Use

equipment mounting holes as template for location of drilled floor mounting holes in accordance with figure 5. Position wall mounted general purpose first aid kit, fire extinguisher, and strap loops as shown in figures 2, 3, and 4. Also, use the same figures for location of blind rivet nuts using the equipment mounting holes as templates.

## 4. Installation--Continued

a. Mark and drill ten 0.25-in. diameter holes in van walls in accordance with figures 3 and 4 for blind rivet nuts. Install ten #10 blind rivet nuts (MS27130-A27).

b. Install two strap loops (MS51939-3) with four #10 x 1-in. countersunk head machine screws (MS35190-275). Refer to figure 4 for location.

c. Position four work tables (4910-00-543-7771 and 4910-00-543-7772) in van as shown in figure 2. Mark and drill twelve 0.34-in. diameter holes through work tablelegs. Using holes in work table legs as templates, mark and drill twelve 0.23-in. diameter pilot holes in floor in accordance with figure 5. After mounting work tables mark and drill sixteen 0.34-in. diameter holes through furnished wall-mounted angle irons in accordance with figure 2. Reposition work tables under angle irons so that floor drilled holes are alined with holes in work table legs. Using the holes in the angle irons as templates, mark and drill sixteen 0.23-in. diameter pilot holes into tabletops. Secure work tables to angle irons and floor using twenty-eight 5/16- x 1-1/4-in. hex head lag bolts (MS16992-521) and twenty-eight 5/16-in. lockwashers (MS35338-45).

d. Position two filing cabinets (7110-00-634-2860) in accordance with figure 2. Mark and drill four 0.34-in. diameter holes in each filing cabinet bottom plate. Locate at the four corners, allowing minimum required clearance for 5/16-in. hex head lag bolts. Using filing cabinets as templates, mark and drill eight 0.23-in. diameter pilot holes in van floor in accordance with figure 5. Secure filing cabinets to van floor using eight 5/16- x 1-1/4-in. hex head lag bolts (MS16992-521) and eight 5/16-in. lockwashers (MS35338-45).

e. Position portable drill stand (5130-00-263-8663) in accordance with dimensions specified in figure 2. Using portable drill stand base as a template, mark and drill three 0.34-in. diameter holes through tabletop. Secure portable drill stand to work table with three 5/16- x 3-1/4-in. machine bolts (MS90725-45), three 5/16-in. flat washers (MS27183-11), three 5/16-in. lockwashers (MS35338-45), and three 5/16-in. hex nuts (MS51967-5). Install portable electric drill (5130-00-889-9000) on portable drill stand. Refer to figure 3.

f. Locate reciprocating compressor unit (4310-00-542-4111) on tabletop as shown in figure 2. Using reciprocating compressor unit base as template, mark and drill four 0.25-in. diameter holes through tabletop. Secure reciprocating compressor unit to tabletop using four #10 x 3-in. pan head machine screws (MS35206-275), eight #10 flat washers (MS27183-42), four #10 lockwashers (MS35338-43), and four #10 hex nuts (MS35649-202).

g. Remove contents of general purpose first aid kit (6545-00-922-1200). Mark and drill three 0.22-in. diameter holes in the back of general purpose first aid kit. Position in location shown in figures 2 and 3 over installed blind rivet nuts in accordance with figure 3. Secure general purpose first aid kit to wall of van using three #10 x 1-in. countersunk head machine screws (MS35190-275). Reinstall contents in general purpose first aid kit.

h. Position utility grinding machine (3415-00-517-7754) on tabletop in accordance with dimensions specified in figure 2. Using utility grinding machine base as template, mark and drill three 0.34-in. diameter holes through tabletop. Secure utility grinding machine to work table with three 5/16- x 2-3/4-in. hex head

## 4. Installation--Continued

capscrews (MS90725-43), three 5/16-in. flat washers (MS27183-11), three 5/16-in. lockwashers (MS35338-45), and three 5/16-in. hex nuts (MS51967-5).

i. Locate machinist's vise (5120-00-293-1439) on tabletop in accordance with figure Z. Using holes in machinist's vise base as a template, mark and drill four 0.56-in. diameter holes through tabletop. Secure machinist's vise to-work table using four 1/2- x 3-1/4-in. hex head capscrews (MS90725-120), four 1/2-in. flat washers (MS27183-17), four 1/2-in. lockwashers (MS35338-48), and four 1/2-in. hex nuts (MS51967-14).

j. Position safety can (7240-00-222-3084) in left rear-corner of van. Refer to figure 2. Secure to van wall with a 66-in. retaining strap (7550588-9).

k. Stow ground rod (5975-00-777-6781) on tabletop between reciprocating compressor unit and van wall as shown in figure 2.

l. Stow nonmetallic hose assembly (4720-00-422-8540) on shelf under portable drill stand as shown in figure 3. Secure to shelf with a 36-in. retaining strap (7550588-4).

m. Stow three electrical cable assemblies (50-ft) (6150-00-682-3460) on shelf in front left side of van in accordance with figure 4. Secure to shelf with two 36-in. retaining straps (7550588-4).

n. Position three revolving stools (7110-00-634-8596) in van as shown in figures 2, 3, and 4, and secure to work table crossbraces with three 30-in. retaining straps (7550588-8).

o. Stow electrical power cable assembly (101-ft) (5995-00-539-8758) on shelf in front left side of van in accordance with figure 4. Secure to shelf with 36-in. retaining strap (7550588-4).

p. Position fire extinguisher (4210-00-270-4512) in accordance with figures 2 and 4. Mark and drill three 0.22-in. diameter holes in fire extinguisher mounting bracket. Position over installed blind rivet nuts in accordance with figure 4. Secure fire extinguisher bracket to van wall with three #10 x 1-in. countersunk head machine screws (MS35190-275) and secure fire extinguisher to fire extinguisher bracket with clamp provided.

q. Position safety steel guard (5120-00-473-6337) on reciprocating compressor unit in accordance with figures 3 and 6. Remove front left mounting bolt. Install 1/4-in. lock-washer (MS35338-44) on mounting bolt. Insert mounting bolt through guard bracket and reciprocating compressor unit, and tighten into base plate. Secure safety steel guard to electric motor by reversing motor screw and adding two #10 lockwashers (MS35338-43). Secure guard bracket to safety steel guard with one #10 x 7/8-in. pan head machine screw (MS35206-266), one #10 lockwasher (MS35338-43), and one #10 hex nut (MS35649-202) in accordance with figure 6.

r. Follow steps 1 thru 27 below for electrical component installation in van.

(1) Fabricate steel plate (11021183) in accordance with figure 14.

(2) Using steel plate as a template, position it in accordance with figure 13 with top edge parallel with the roof line; mark and drill four 0.34-in. diameter holes through the outer and inner van walls. Using a 2-5/8-in. diameter hole saw, cut the center hole through the outer and inner walls.

(3) Install the electrical receptacle connector (5935-00-259-0340) in the 2-5/8-in. diameter hole in the steel plate (11021183) with terminals

## 4. Installation--Continued

no. 1 and 6 parallel to the bottom of the steel plate in accordance with figure 16. Weld electrical receptacle connector to steel plate with a 0.12-in. fillet weld in accordance with MIL-STD-1261.

(4) Fabricate gasket (11021184) in accordance with figure 14.

(5) Apply a coat of synthetic rubber general purpose adhesive (MMM-A-189) on steel plate and attach gasket.

(6) Fabricate four steel pipe spacers (ASTM-A53) from 0.50-in. ID steel pipe of a suitable length to fit between outer and inner walls of van.

(7) Install steel pipe spacers between walls of van through the 2.62-in. diameter hole (fig. 16). The steel pipe spacers may be held in place using rods of a suitable size inserted in mounting holes from the inside of van.

(8) Complete wiring of electrical receptacle connector (5935-00-259-0340) in accordance with figure 16. Apply a coat of synthetic rubber general purpose adhesive (MMM-A-189) to gasket and position electrical receptacle connector through 2.62-in. diameter hole on outside front wall in accordance with figures 13 and 16. Secure, using four 5/16- x 3-in. machine bolts (MS90725-44), (inserting from outside of van), four 5/16-in. lockwashers (MS35338-45), and four 5/16-in. hex nuts (MS51967-5).

(9) Remove the four existing screws securing 110-volt outlet to outer front wall of van and discard. Pull 110-volt outlet away from wall and remove wires. Position 110-volt outlet in accordance with figure 13. - Rewire in accordance with figure 16. Secure 110-volt

outlet to wall, using four 1/4- x 7/8-in. tapping screws (MS51869-26).

(10) Mark and drill a 0.75-in. diameter hole in back wall of existing main switchbox to allow clearance for one of the 5/16-in. hex nuts securing electrical receptacle connector to be tightened against inner wall of van. (Refer to figure 15.)

(11) Using strap loop (MS51939-3) as a template, mark and drill two 0.25-in. diameter holes in accordance with figure 13. Install two #10 blind rivet nuts (MS27130-A27). Secure strap loop, using two #10 x 1-in. countersunk head machine screws (MS35190-275).

(12) Remove wiremold covers (one each from WRM 20G512 and WRM 20G618) ; mark and drill ten 0.19-in. diameter holes in wiremold bases in accordance with figure 8. Hole locations may have to be changed to avoid mounting screws touching receptacles.

(13) Connect two wiremold bases together (one each WRM 20G512 and WRM 20G618) using one wiremold coupling (5975-00-823-0977). Position connected wiremold bases on left side wall above furnished angle iron in accordance with figure 9. Using wiremold bases as a template, mark and drill ten 0.12-in. diameter pilot holes in van wall. Secure wiremold bases to van wall using ten #10 x 1/2-in. tapping screws (MS51861-45).

(14) Reposition front covers of wiremolds together. Position one wiremold cover clip (WRM 2006) over joint of wiremolds. Attach wiremold blank end fitting (5975-00-879-4938) to rear end of wiremold base and wiremold entrance end fitting (5975-00-673-7658) to front end of wiremold base. Refer to figure 9.

(15) Repeat operations in steps 12, 13, and 14 above for installation of wiremold on right side of wall in accordance with figure 10.

## 4. Installation--Continued

(16) Remove knockout in lower right side of main switchbox. Position 1- x 3-1/2-in. standard steel pipe nipple (MS51953-127) and secure to main switchbox using two 1-in. conduit bonding type locknuts (Appleton BL100) in accordance with figure 11.

(17) -Remove four screws from-cover of multi-breaker box (lower) (Square D Q06-12S). Remove knockout hole on upper right side. Assemble to standard steel pipe nipple (MS51953-127) and main switchbox using two 1-in. conduit bonding type locknuts (Appleton BL100) in accordance with figure 11.

(18) Using multi-breaker box (lower) (Square D Q06-12S) as a template, mark and drill four 0.12-in. diameter pilot holes through the van inner wall. Secure multi-breaker box (lower) to the van wall using four #10 x 1.00-in. thread forming screws (MS51861-49) in accordance with figure 11.

(19) Remove knockout located in lower left end of multi-breaker box (lower) (Square D Q06-12S) and install 1/2- x 3-in. standard steel pipe nipple (MS51953-80) using two 1/2-in. conduit bonding type locknuts (Appleton BL50) in accordance with figure 11.

(20) Remove cover and all internal components from remote control push switch (Square D BG201).. Remove knock-out in bottom end of remote control push switch nearest the stop button and assemble to 1/2- x 3-in. standard steel pipe nipple (MS51953-80) using two 1/2-in. conduit bonding type locknuts (Appleton BL50) in accordance with figure 11.

(21) Using mounting holes in the remote control push switch (Square D BG201) as a template,

mark and drill two 0.12-in. diameter pilot holes in van wall in accordance with figure 11. Secure remote control push switch with two #10 x 1.00-in. tapping screws (MS51861-49).

(22) Remove knockout in the bottom of right end of multi-breaker box (Square D Q06-12S) and assemble 5.25-in. rigid metal conduit (Fig. 12) using 0.50-in. box connector (5975-00-926-0589) (Fig. 7 and 11).

(23) Remove knockout in top of right side wiremold entrance end fitting (5975-00-673-7658) and assemble free end of 5.25-in. rigid metal conduit using 0.50-in. box connector (5975-00-926-0589) in accordance with figure 11.

(24) Remove knockout in bottom side of multi-breaker box and assemble 83-in. rigid metal conduit (fig. 7, 11, and 12) to circuit breaker using 0.50-in. box connector (5975-00-926-0589).

(25) Remove knockout from end of left side of wiremold entrance end fitting (5975-00-673-7658) and assemble free end of 83-in. rigid metal conduit using 0.50-in. box connector (5975-00-926-0589) (Fig. 7 and 11).

(26) Locate and drill two 0.12-in. diameter pilot holes in front wall using two retaining straps (MS51956-1) as templates in accordance with figures 7 and 11. Secure retaining straps to conduit and wall of van using two #10 x 1/2-in. thread forming screws (MS51961-45).

(27) Complete wiring of components in accordance with wiring diagram (fig. 16) : Install covers on electrical components.

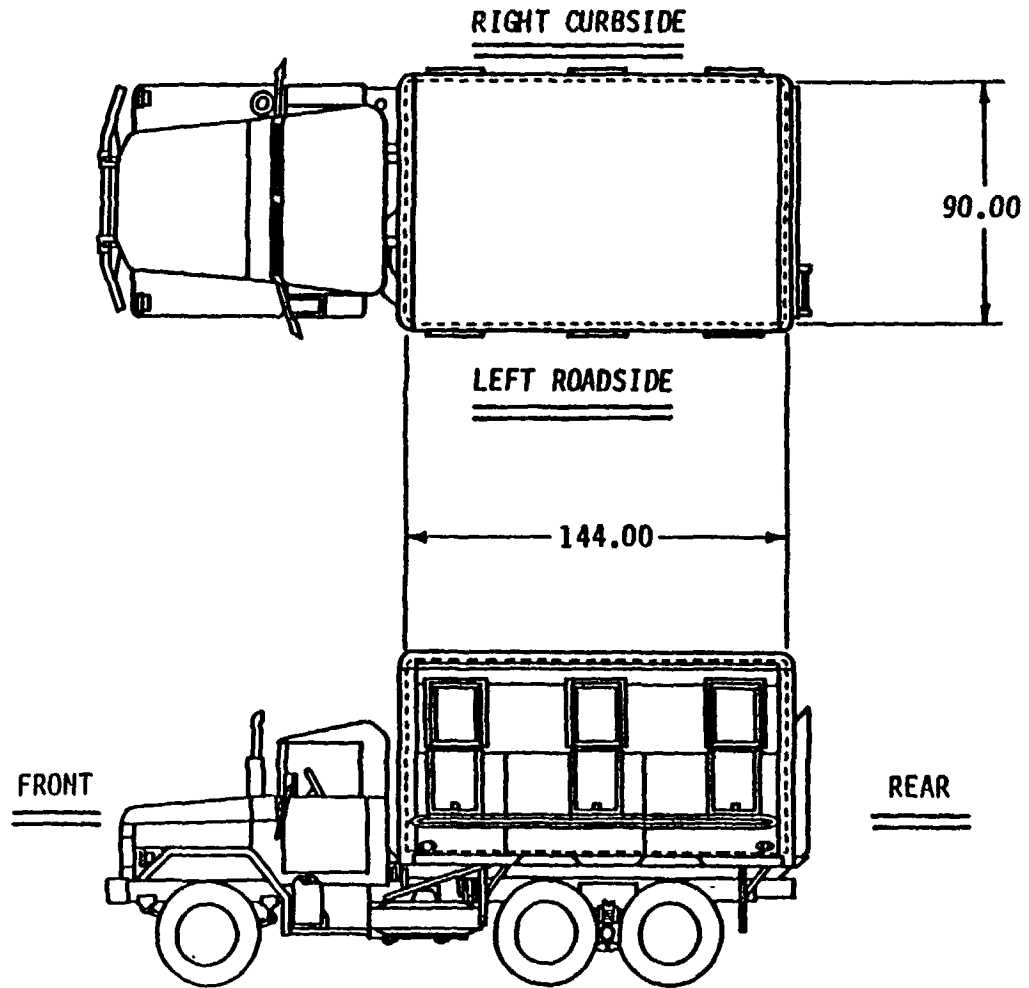


Figure 1. Truck, Shop Van, M109A3.

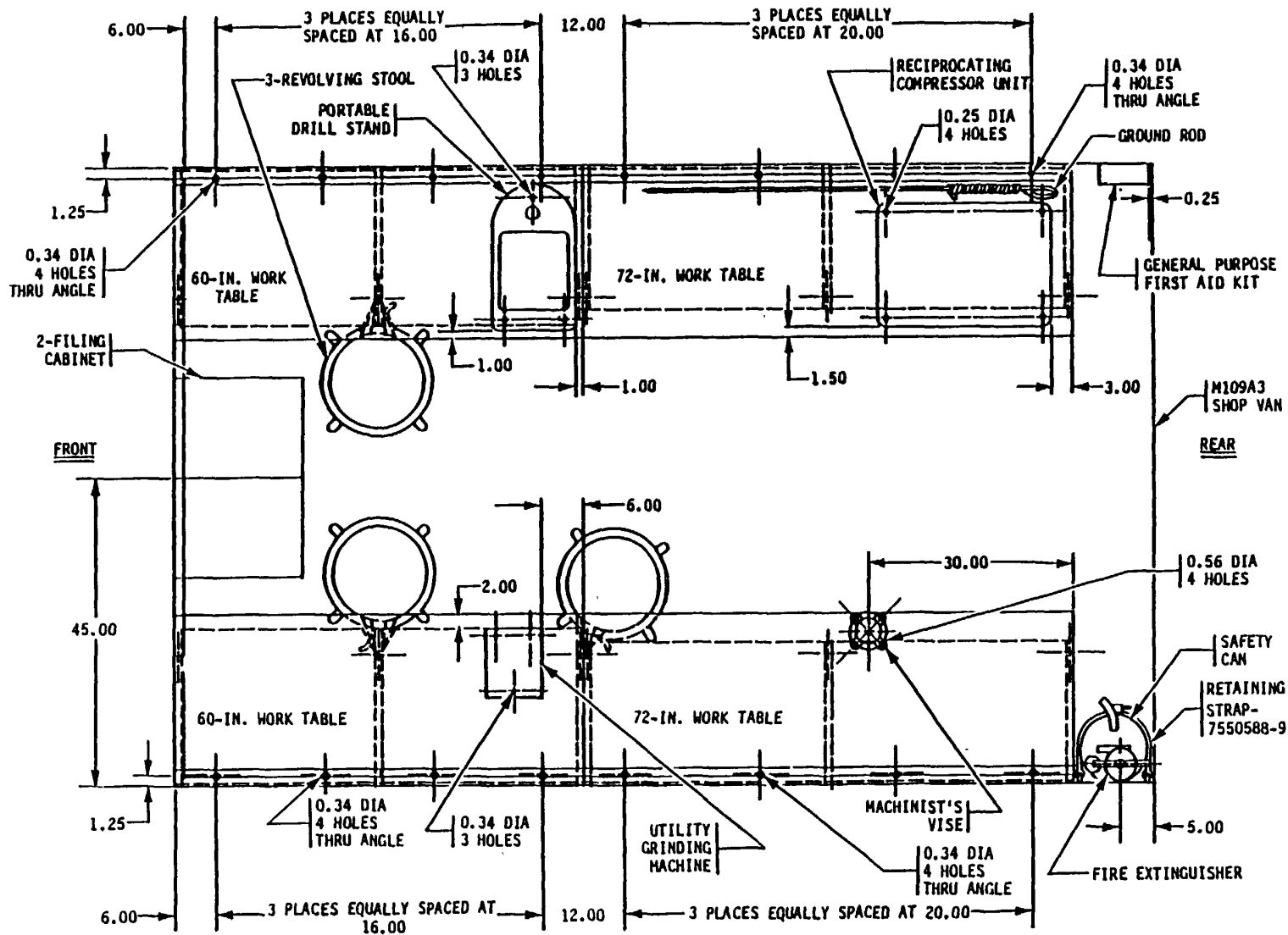


Figure 2. Components to be Mounted, Floor Plan, M109A3.

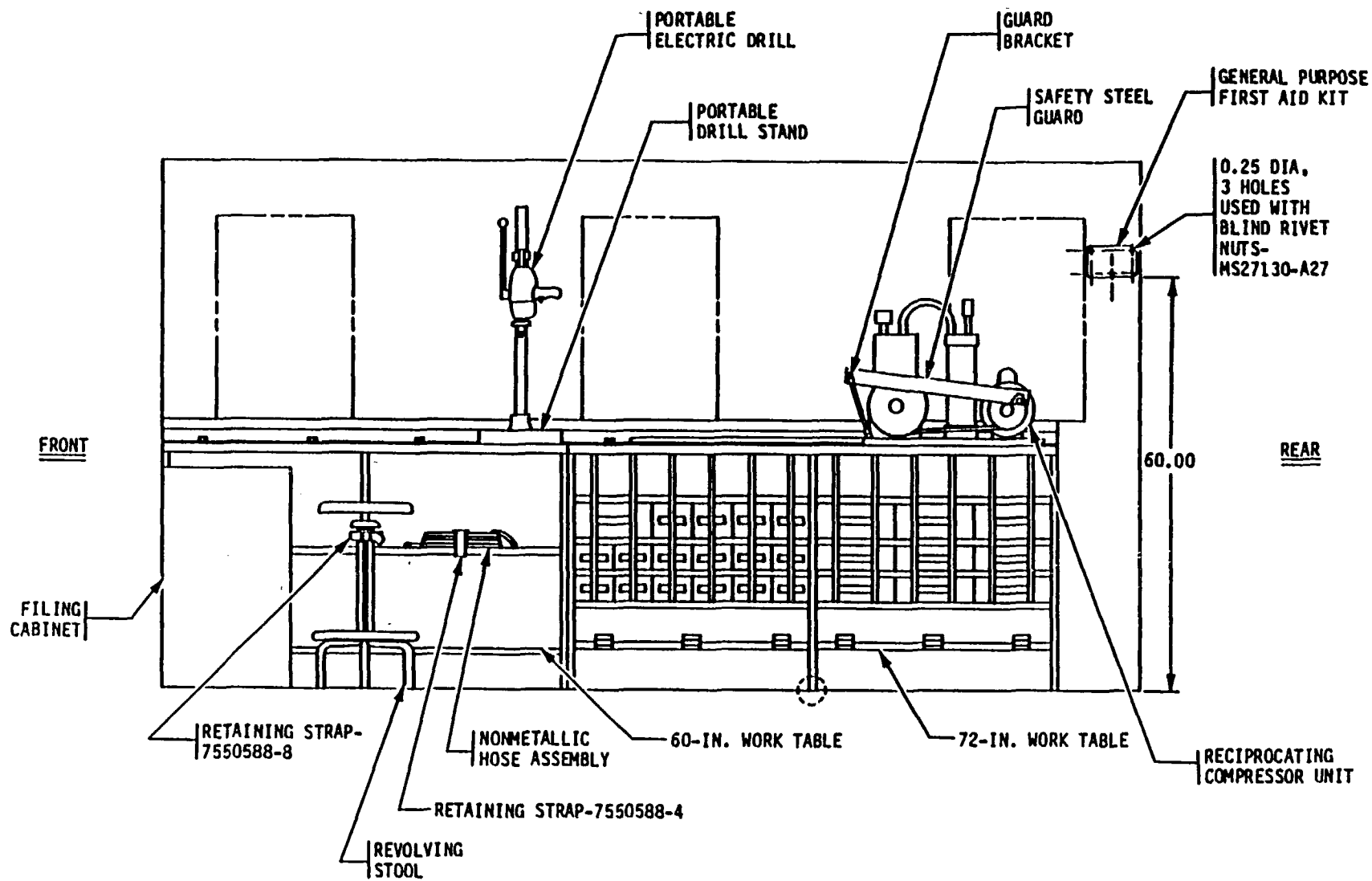


Figure 3. Components to be Mounted, M109A3, Right Side Elevation.



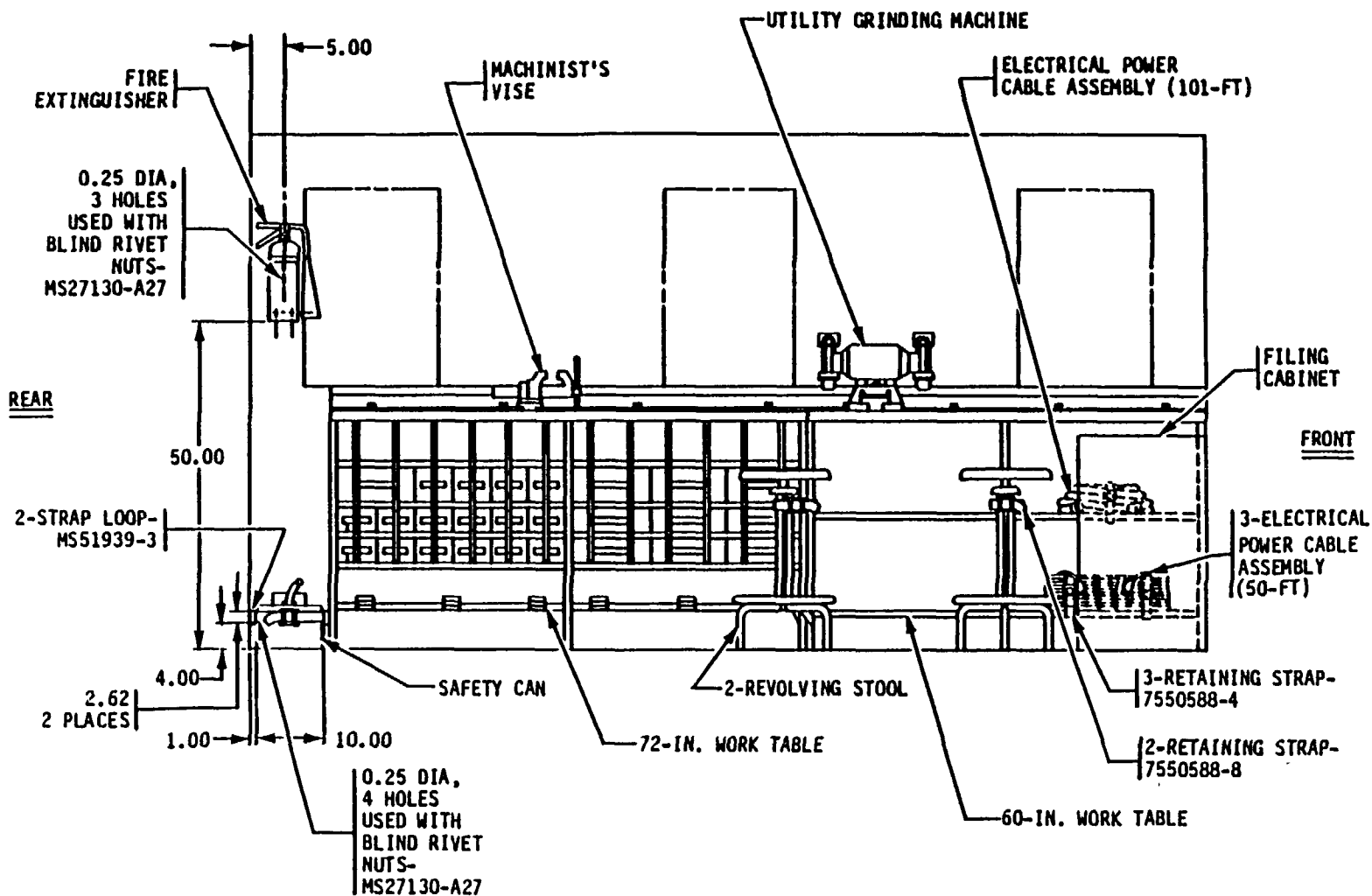


Figure 4. Components to be Mounted, M109A3, Left Side Elevation.

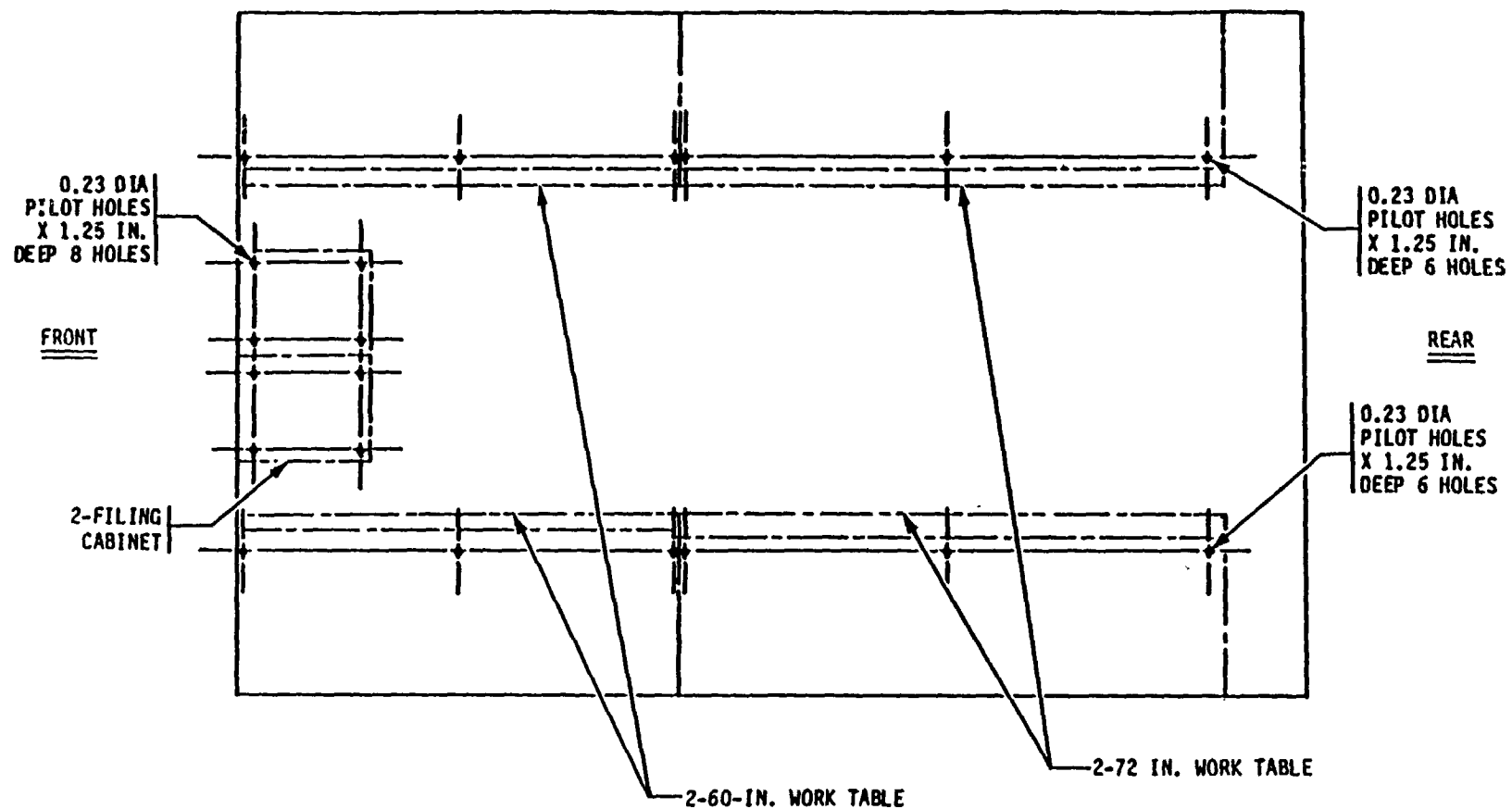


Figure 5. Hole Dimensions for Floor-Mounted Equipment, M109A3.

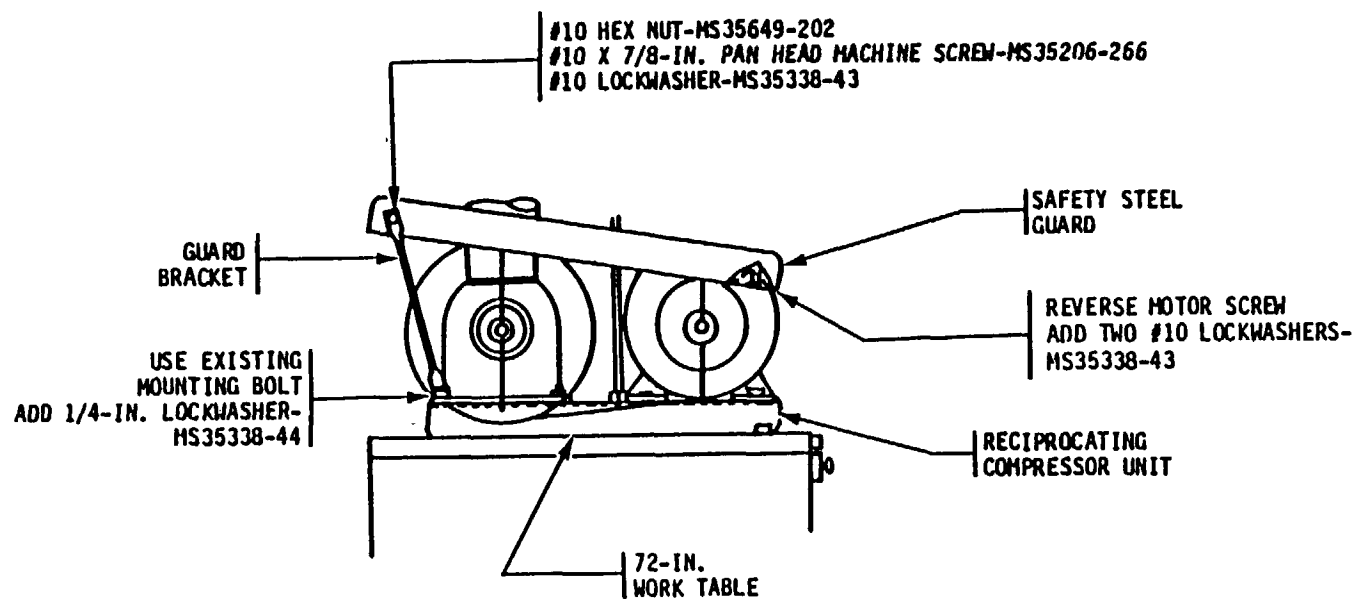


Figure 6. Installation of Safety Steel Guard.

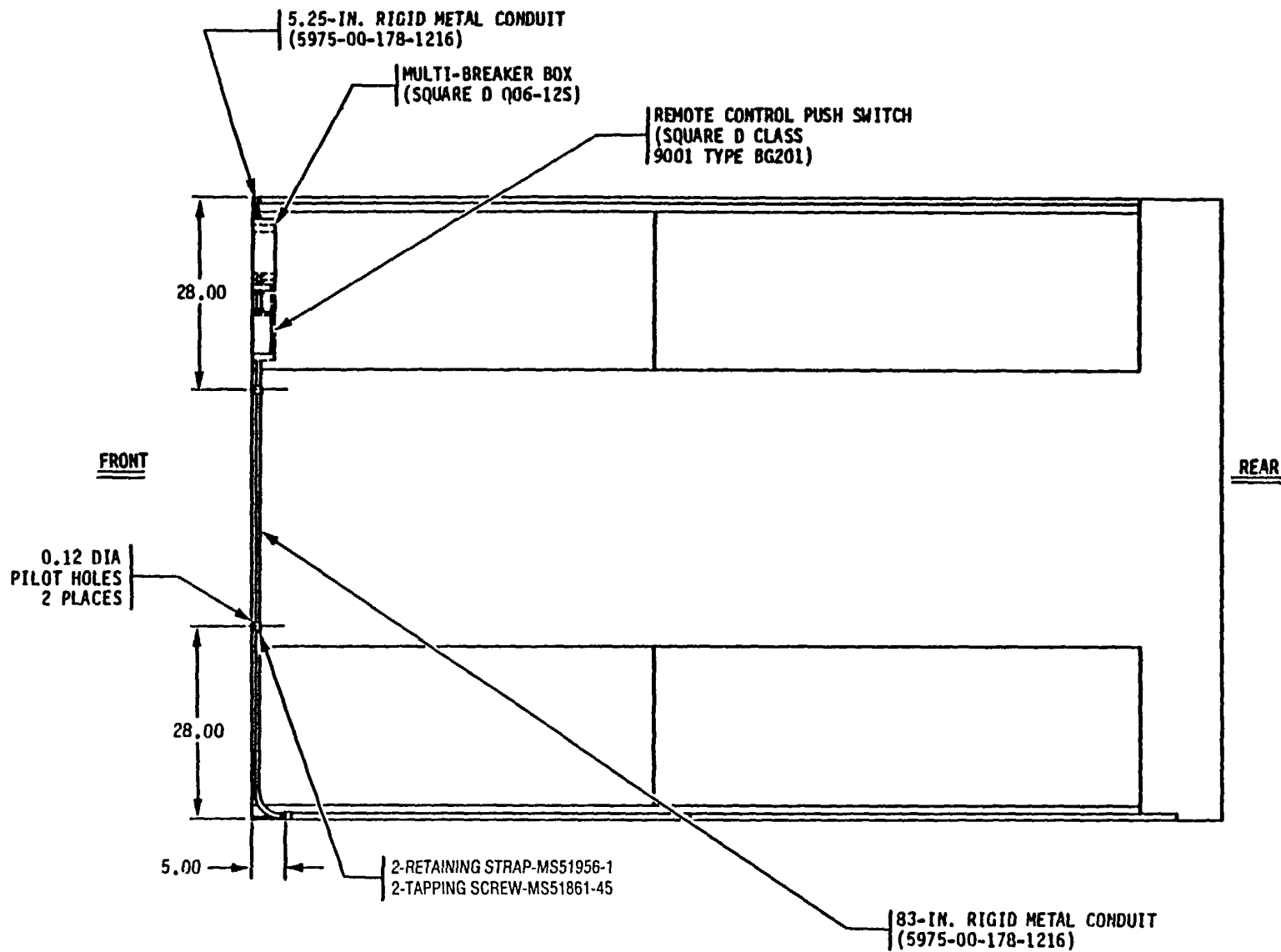


Figure 7. Rigid Metal Conduit Installation, M109A3.

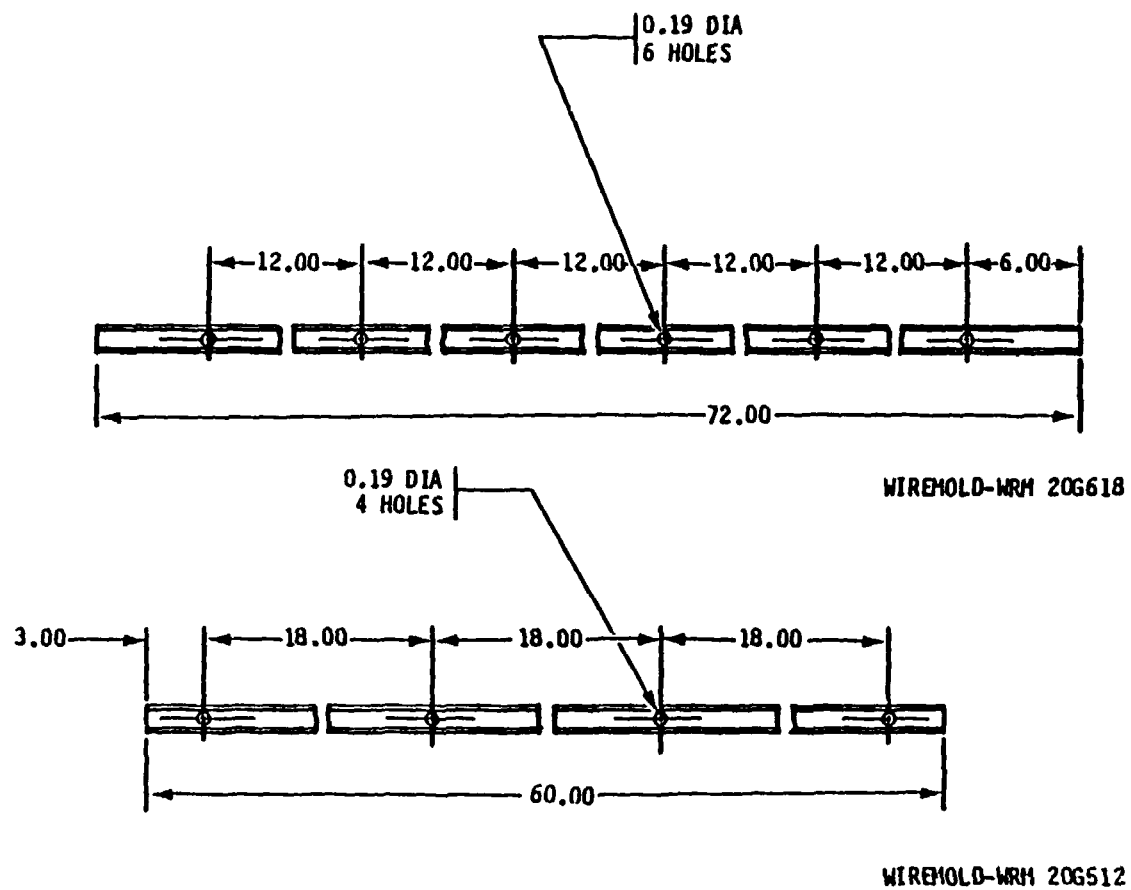


Figure 8. Wiremold Base Mounting Hole Locations.

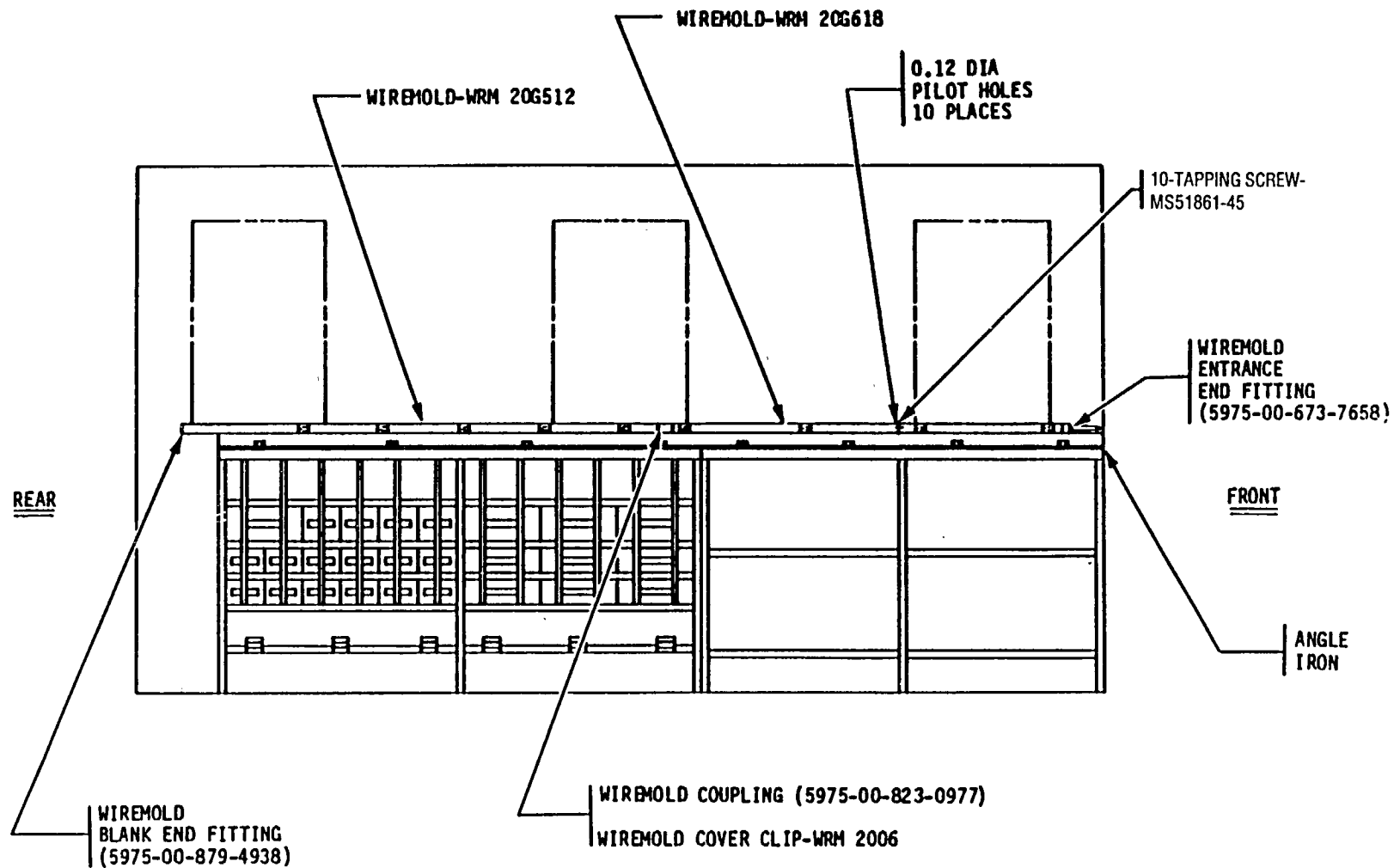


Figure 9. Wiremold Installation, Left Side Wall, M109A3.

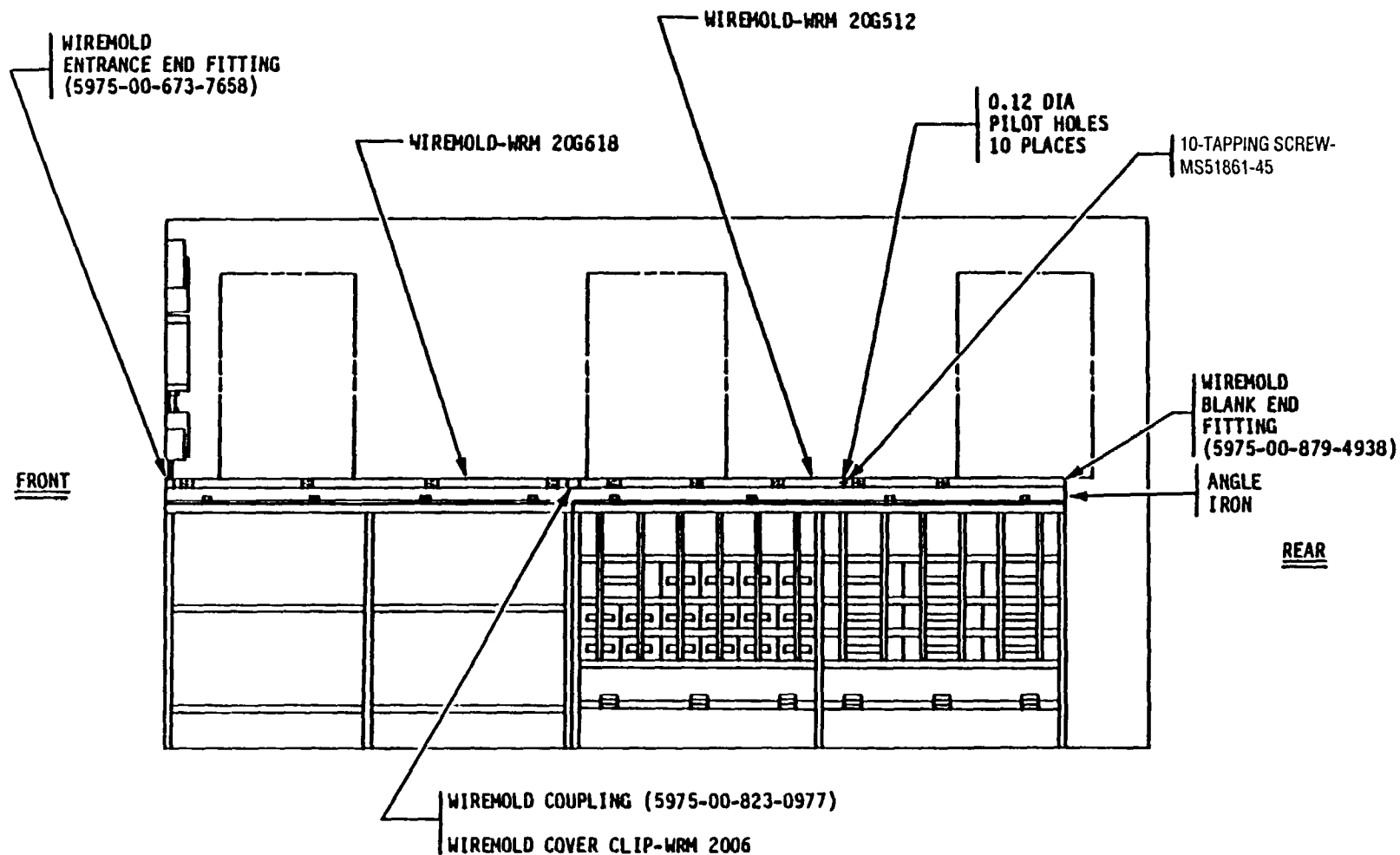


Figure 10. Wiremold Installation, Right Side Wall, M109A3.

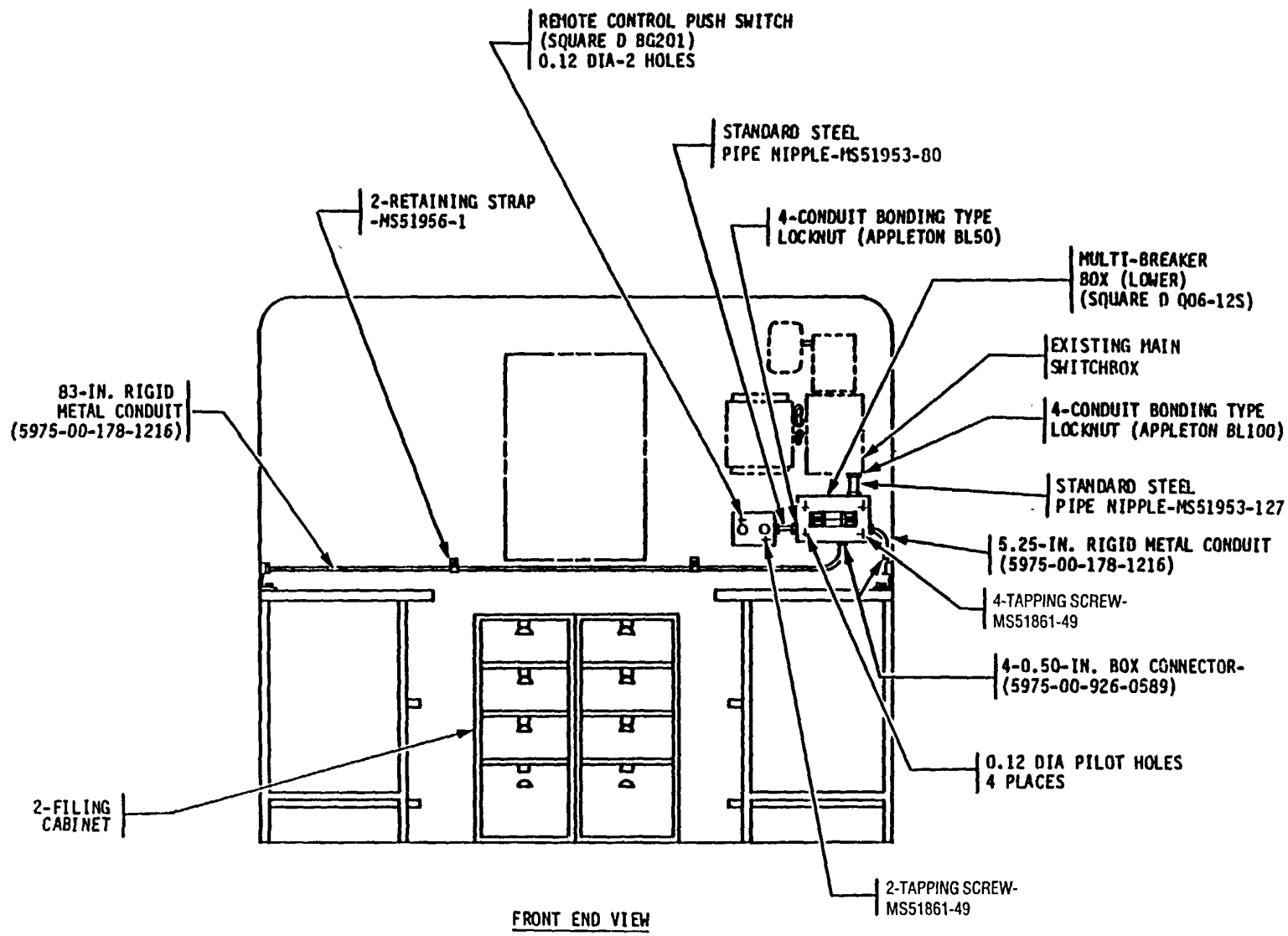


Figure 11. Electrical Component Installation, M109A3.



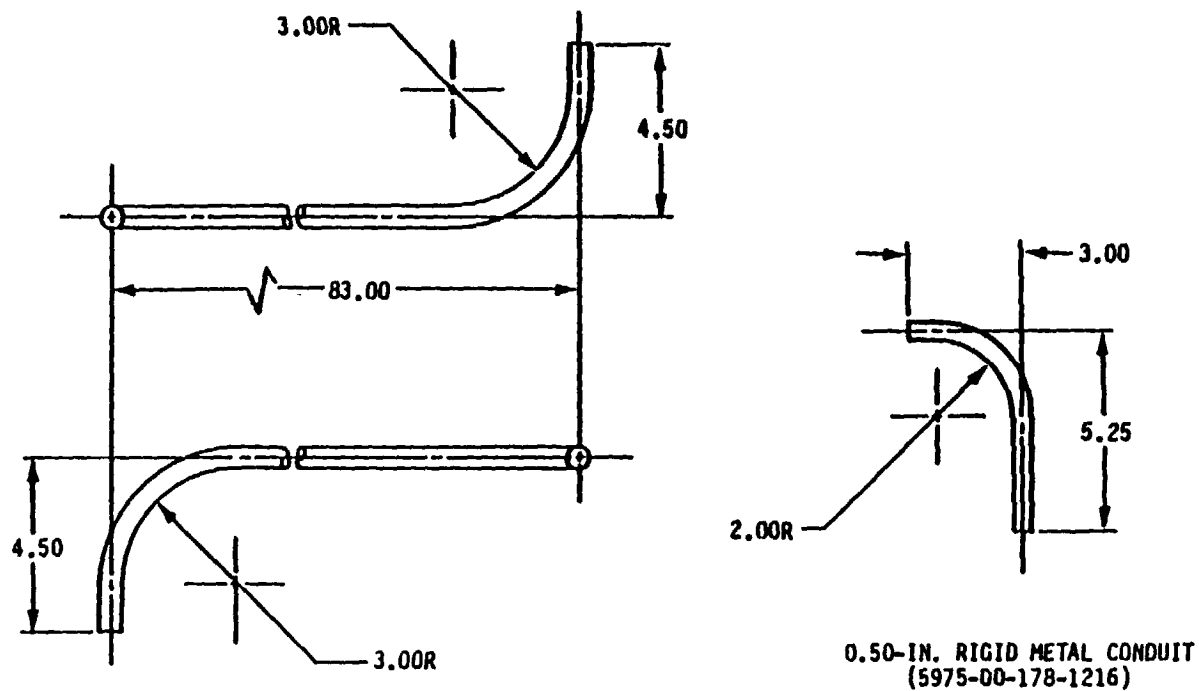


Figure 12. Rigid Metal Conduit Dimensions.

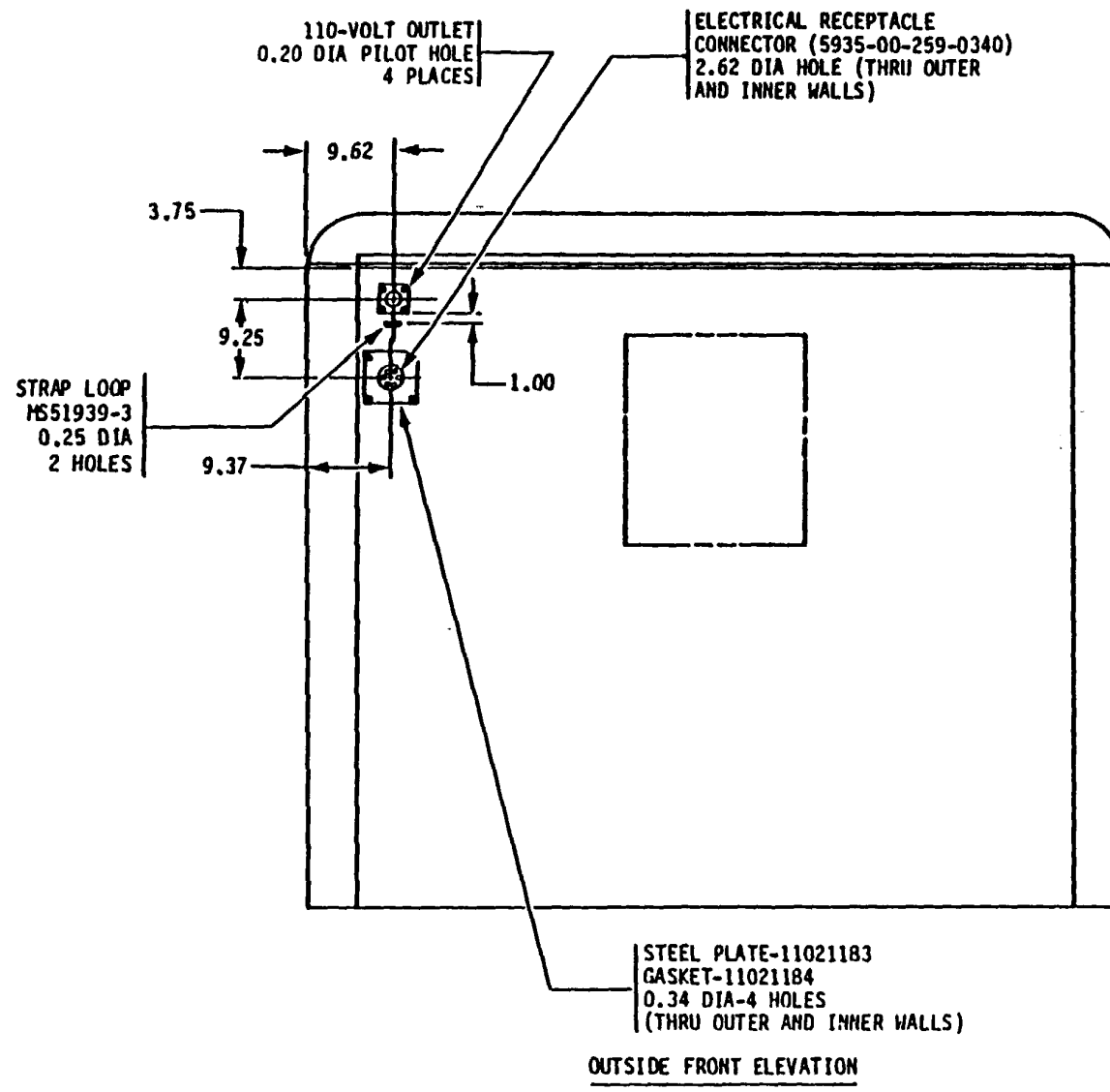
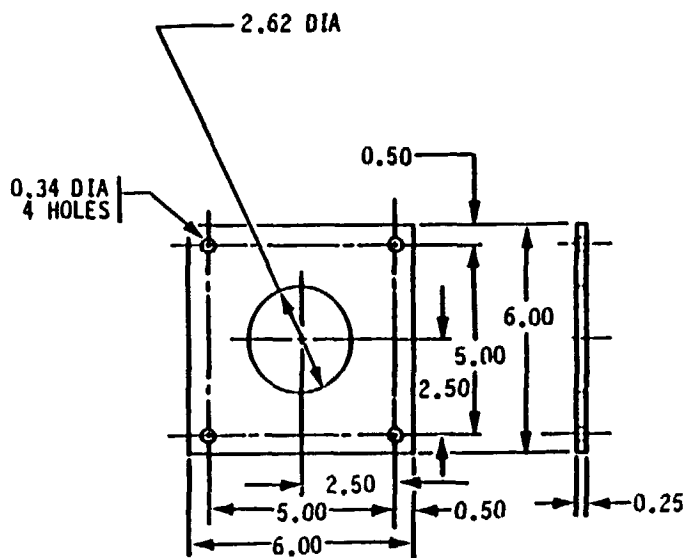
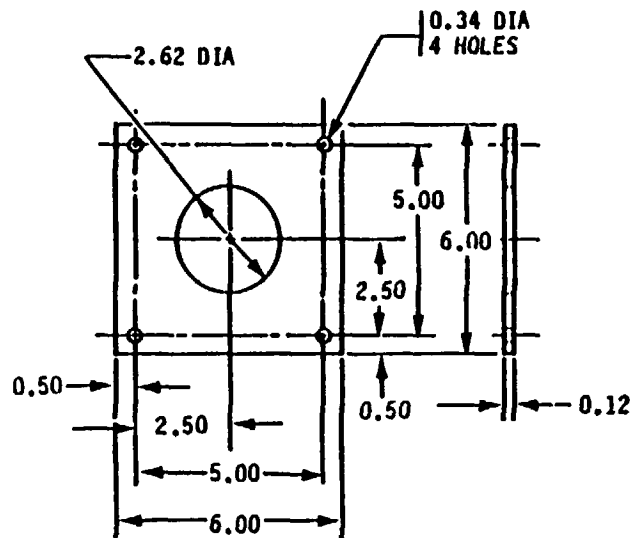


Figure 13. Installation of Electrical Receptacle Connector and 110-Volt Outlet, M109A3.



STEEL PLATE-11021183



MATERIAL: RUBBER SHEET,  
SYNTHETIC, PER MIL-R-14328

GASKET-11021184

NOTES:

1. MATERIAL: STEEL PER QQ-S-700.
2. PAINT USING PRIMER, MIL-P-14553, AND ENAMEL, FOREST GREEN, PER MIL-E-52978 (AIR DRY) AFTER ASSDIBLY (WELDING).
3. BREAK ALL SHARP EDGES.

Figure 14. Steel Plate-11021183 and Gasket-11021184.

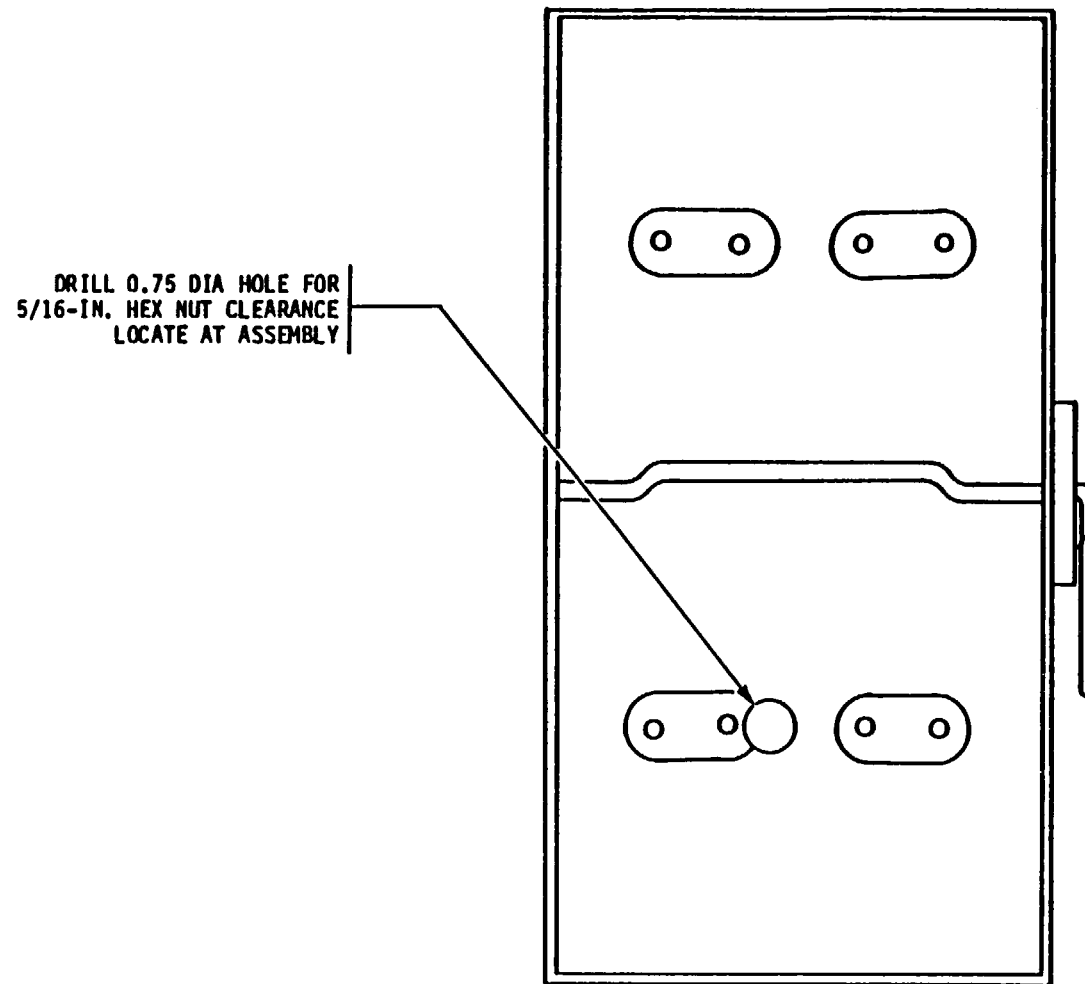
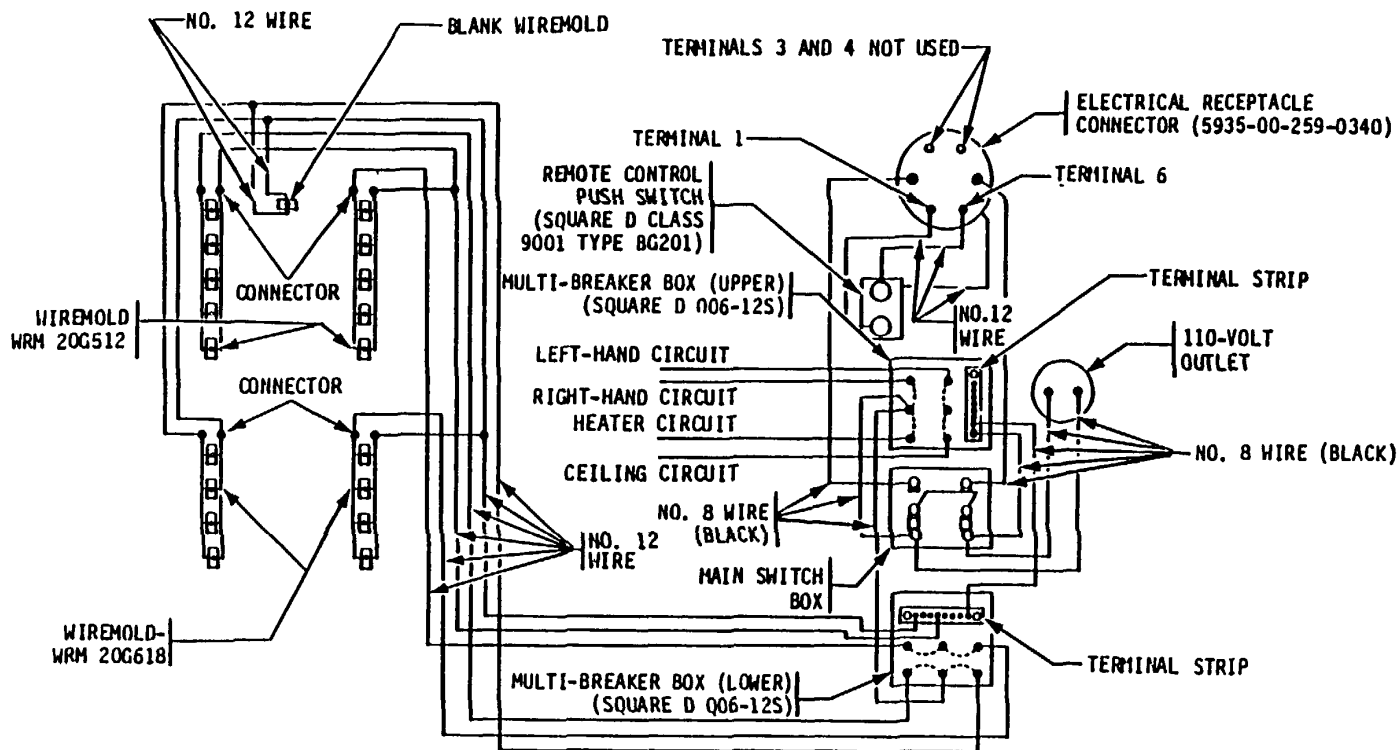


Figure 15. Main Switchbox Modification, Back Wall of Main Switchbox.



NOTES:

1. WIRE INSIDE CONDUIT AND WIREMOLD TO BE NO. 12 AWG.
2. USE WHITE NO. 12 AWG WIRE (6145-00-184-5347) FOR GROUND WIRES.

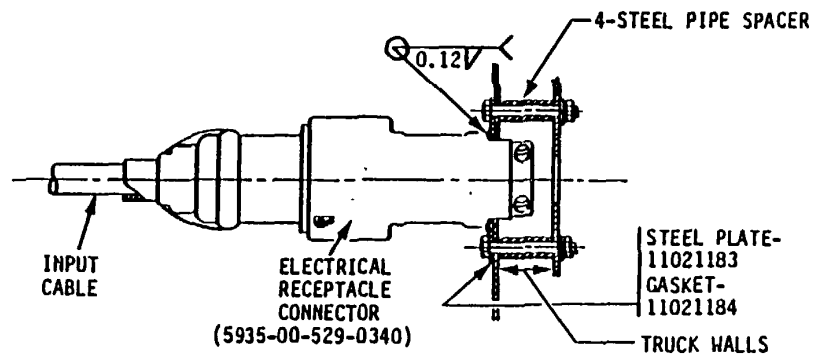


Figure 16. Wiring Diagram, M109A3.

Table 5. Standard Conversion Chart

Nominal size	Decimal size	Nominal size	Decimal size
1/16	0.06	35/64	0.55
5/64	0.08	9/16	0.56
3/32	0.09	37/64	0.58
7/64	0.11	19/32	0.59
1/8	0.12	39/64	0.61
9/64	0.14	5/8	0.62
5/32	0.16	41/64	0.64
11/64	0.17	21/32	0.66
3/16	0.19	43/64	0.67
13/64	0.20	11/16	0.69
7/32	0.22	45/64	0.70
15/64	0.23	23/32	0.72
1/4	0.25	47/64	0.73
17/64	0.27	3/4	0.75
9/32	0.28	49/64	0.77
19/64	0.30	25/32	0.78
5/16	0.31	51/64	0.80
21/64	0.33	13/16	0.81
11/32	0.34	53/64	0.83
23/64	0.36	27/32	0.84
3/8	0.38	55/64	0.86
25/64	0.39	7/8	0.88
13/32	0.41	57/64	0.89
27/64	0.42	29/32	0.91
7/16	0.44	59/64	0.92
29/64	0.45	15/16	0.94
15/32	0.47	61/64	0.95
31/64	0.48	31/32	0.97
1/2	0.50	63/64	0.98
33/64	0.52	1	1.00
17/32	0.53		

By Order of the Secretary of the Army:

**JOHN A. WICKHAM, JR.**  
*General, United States Army*  
*Chief of Staff*

Official:

**R. L. DILWORTH**  
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