

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

SHOP EQUIPMENT, FUEL AND ELECTRICAL SHOP,
ORGANIZATIONAL MAINTENANCE
(NSN 4940-00-209-6228)
INSTALLATION IN ONE 280 MAINTENANCE SHELTER
(NSN 4940-00-919-8409)

AND

ONE ISO-2-1 MAINTENANCE SHELTER
(NSN 5411-01-124-1377)

HEADQUARTERS, DEPARTMENT OF THE ARMY

SEPTEMBER 1984

WARNING

All electricity powered tools and equipment must be grounded prior to use

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HEADQUARTERS,
 DEPARTMENT OF THE ARMY
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*This bulletin supersedes TB 9-4940-314-30, dated 5 February 1968.

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Section I. INTRODUCTION

1. General

a. The instructions contained in this bulletin are in three sections. Section I contains the introduction, warnings, and cautions, and general instructions. Section II is a guide for installation of organizational fuel and electrical shop equipment (NSN 4940-00-209-6228) in one 280 shelter unit 1 (NSN 4940-00-919-8409) (fig. 1). Section III is a guide for installation of organizational fuel and electrical shop equipment (NSN 4940-00-209-6228) in one ISO-2-1 shelter, unit 2 (NSN 5411-01-124-1377) (fig.13).

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 these shops are found in SC 4940-95-CL-A53.

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

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

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

g. When entering either shelter through the one-man door, curbside is at right and roadside is at left.

h.

2. Warnings and Cautions

WARNING

All electricity powered tools and equipment must be grounded prior to use.

CAUTION

Special care should be exercised during installation 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 floors and walls of shelter.

The ISO-2-1 shelter must be level prior to expanding the side. The expanded portion of the ISO-2-1 shelter must be level to allow wall, roof, and floor locks to engage. No equipment shall be moved onto the expanded floor until ISO-2-1 shelter is level.

3. Location of Equipment

a. Location of equipment to be installed or stowed in the 280 shelter is referenced in figures 2 thru 12.

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

(2) refer to table 3 for components to be mounted.

(3) Refer to table 5 for components to be fabricated.

a. Location of equipment installed or stowed in ISO-2-1 shelter is referenced in figures 14 thru 20.

(1) Refer to table 2 for hardware required for installation.

(2) Refer to table 4 for components to be mounted.

3. Location of Equipment—Continued

(3) Refer to table 6 for components to be fabricated.

c. Refer to table 7 for standard Conversion chart.

Table 1. Mounting Hardware, 280 Shelter

MS/part no.	Size and description	Qty	Application
AN970-8	1/2-in. Flat Washer	4	Machinist's vise
MS16992-520	5/16-in. Hex Head Lag Bolt 1.00 L	8	Engine distributor tester, support angles
MS16992-522	5/16-in. Hex Head Lag Bolt x 1-1/2 L	3	Armature test set
MS16992-580	1/2-in. Hex Head Lag Bolt x 1-3/4 L	4	Machinist's vise
MS27130-A21	#10-24 UNC Blind Rivet Nut	6	Fire extinguisher, general purpose first aid kit
MS27130-S45	5/16-18 UNC Blind Rivet Nut	22	Bench supports, sup- port angles, shelf support
MS27183-12	11/32-in. Flat Washer	4	Engine distributor tester
MS35190-271	#10-24 UNC-2A Countersunk Head Machine Screw x 1/2 L	6	General purpose first aid kit, fire extin-
MS35190-308	5/16-18 UNC-2A Countersunk Head Machine Screw x 1-1/2 L	12	Bench top to bench supports
MS35206-297	5/16-18 UNC-2A Pan Head Machine Screw x 7/8 L	22	Bench supports, sup- port angles, shelf, support shelf
MS35338-45	5/16-in. Lockwasher	61	tops, support angles, Bench supports, bench shelf, shelf support, engine distributor tester, armature test set

3. Location of Equipment--Continued

Table 1. Mounting Hardware, 280 Shelter—Continued

MS/part no.	Size and description	Qty	Application
MS35338-48	1/2-in. Lockwasher	4	Machinist's vise
MS51967-5	5/16-18 UNC-2B Hex Nut	28	bench tops, support
MS90725-34	5/16-18 UNC-2A Hex Head 12 Capscrew x 1.00 L		Bench supports, shelf, angles
MS90725-38	5/16-18 UNC-2A Hex Head 4 Capscrew x 1-1/2 L		Bench supports
7550588-1	72.00-in. Retaining Strap	1	Support angles
			General mechanic tool kit

Table 2. Mounting Hardware, ISO-2-1 Shelter

MS/part no.	Size and description	Qty	Application
AN970-5	5/16-in. Flat Washer	12	Table top
AN970-6	3/8-in. Flat Washer	2	Square neck bolt
AN970-8	1/2-in. Flat Washer	4	Machinist's vise
MS16992-520	5/16-in. Hex Head Lag Bolt x 1.00 L	4	Engine distributor tester
MS27183-9	1/4-in. Flat Washer	8	Portable cylindrical bore honing unit set
MS27183-12	11/32-in. Flat Washer	7	Engine distributor tester, armature
MS27183-17	1/2-in. Flat Washer	4	Machinist's vise
MS35190-271	#10-24 UNC-2A Countersunk Head Machine Screw x 1/2 L	14	Strap loops, general purpose first aid kit, fire extinguisher
MS35190-311	5/16-18 UNC-2A Countersunk Head Machine Screw x 2-1/4	12	Table top

3. Location of Equipment--Continued

Table 2. Mounting Hardware, ISO-2-1 Shelter—Continued

MS/part no.	Size and description	Qty	Application
MS35206-281	1/4-20 UNC-2A Pan Head Machine Screw x 3/4 L	4	Portable cylindrical bore honing unit set
MS35338-43	#10 Lockwasher	2	Strap loop
MS35338-44	1/4-in. Lockwasher	4	Portable cylindrical bore honing unit set
MS35338-45	5/16-in. Lockwasher	39	Storage cabinets, armature test set, distributor tester
MS35338-46	3/8-in. Lockwasher	1	Square neck bolt
MS35338-48	1/2-in. Lockwasher	4	Machinist's vise
MS35492-76	#10 Flat Head Wood Screw x 3/4 L	4	Strap loops
MS35649-202	#10-24 UNC-2B Hex Nut	2	Strap loop
MS35751-83	3/8-16 UNC-2A Square Neck Bolt x 5.00 L	1	Electrical power cable assembly, extension light
MS51939-3	Strap Loop	6	Two-wheeled hand truck, general mechanic tool kit, revolving stool, electrical power cable assembly, table top
MS51967-2	1/4-20 UNC-2B Hex Nut	4	Portable cylindrical bore honing unit set
MS51967-5	5/16-18 UNC-2B Hex Nut	15	Table top, armature test set
MS51967-8	3/8-16 UNC-2B Hex Nut	2	Square neck bolt
MS51967-14	1/2-13 UNC-2B Hex Nut	4	Machinist's vise
MS90725-31	5/16-18 UNC-2A Hex Head Capscrew x 5/8 L	24	Storage cabinets

3. Location of Equipment--Continued

MS/part no.	Size and description	Qty	Application
MS90725-39	5/16-18 UNC-2A Hex Head Capscrew x 1-3/4 L	3	Armature test set
MS90725-114	1/2-13 UNC-2A Hex Head Capscrew x 1-3/4 L	4	Machinist's vise
7550588-1	72.00-in. Retaining Strap	1	Two-wheeled hand truck
7550588-6	12.00-in. Retaining Strap	1	Electrical power cable assembly, extension light
7550588-8	30.00-in. Retaining Strap	1	Revolving stool kit
7550588-9	66.00-in. Retaining Strap	1	General mechanic tool
11021235-1	5/16-18 UNC Blind Rivet Nut	32	Storage cabinets
11021235-3	5/16-18 UNC Blind Rivet Nut	4	Storage cabinets
11021235-5	#10-24 UNC Blind Rivet Nut	12	Strap loops, fire extinguisher, general purpose first aid kit

Table 3. Components to be Mounted, 280 Shelter

NSN	Qty	Description	Figure no.
7125-00-999-1122	1	CABINET, SMALL PARTS STORAGE:	10-drawer 4-5-6
7125-00-999-1123	1	CABINET, STALL PARTS STORAGE:	20-drawer 4-5-6
7125-00-999-1121	1	CABINET, STORAGE:	30-drawer 4-7-8
7125-00-991-2857	3	CABINET, STORAGE: with shelves	4-5-7-8
4210-00-202-7858	1	EXTINGUISHER, FIRE	2-7
7110-00-999-1124	1	FILING CABINET: 12-drawer	4-7-8
6545-00-922-1200	1	FIRST AID KIT, GENERAL PURPOSE	7

3. Location of Equipment--Continued

Table 3. Components to be Mounted, 280 Shelter--Continued

NSN	Qty	Description	Figure no.
6625-00-238-1459	1	TEST SET, ARMATURE	2
4910-00-392-2939	1	TESTER, ENGINE DISTRIBUTOR	2
5180-00-669-5273	1	TOOL KIT, GENERAL MECHANIC	2
5120-00-293-1439	1	WISE, MACHINIST'S	2

Table 4. Components to be Mounted, ISO-2-1 Shelter

NSN	Qty	Description	Figure no.
7125-00-999-1122	1	CABINET, SMALL PARTS STORAGE:10-draweR	14-17-19
7125-00-999-1123	1	CABINET, SMALL PARTS STORAGE:20-drawer	14-17-19
7125-00-991-2857	3	CABINET, STORAGE: with shelves	16
6150-00-682-3460	1	CABLE ASSEMBLY, POWER, ELECTRICAL	14-16
4210-00-202-7858	1	EXTINGUISHER, FIRE	14-18
7110-00-999-1124	1	FILING CABINET: 12-drawer 14-17-19	
6545-00-922-1200	1	FIRST AID KIT, GENERAL PURPOSE	14-18
5130-00-595-8355	1	HONING UNIT SET, CYLINDRICAL BORE, PORTABLE	14
6130-00-729-9259	1	LIGHT, EXTENSION	14-16
5340-00-682-1508	1	PADLOCK	16
7110-00-634-8596	1	STOOL, REVOLVING	14-16
6625-00-238-1459	1	TEST SET, ARMATURE	14
4910-00-392-2939	1	TESTER, ENGINE DISTRIBUTOR	14-16

Table 4. Components to be Mounted, ISO-2-1 Shelter--Continued

3. Location of Equipment--Continued

NSN	Qty	Description	Figure no.
5180-00-669-5273	1	TOOL KIT, GENERAL MECHANIC	14-16
3920-01-052-8327	1	TRUCK, HAND, TWO-WHEELED	14-16
5120-00-293-1439	1	WISE, MACHINIST'S	14

Table 5. Components to be Fabricated, 280 Shelter

Size	Qty	Description	Figure no.
0.12 x 18.00 x 40.00	3	BENCH SUPPORT, LEFT-HAND	7-8-10
0.12 x 18.00 x 40.00	3	BENCH SUPPORT, RIGHT-HAND	5-6-7-8-10
0.75 x 20.00 x 136.75	1	BENCH TOP, LEFT-SIDE	2-7-8-12
0.75 x 20.00 x 136.75	1	BENCH TOP, RIGHT-SIDE	2-5-6-11
2.00 x 2.00 x 0.25 x 27.50	1	LEFT-SIDE FRONT SUPPORT ANGLE	7-8-9
2.00 X 2.00 x 0.25 x 22.00	1	LEFT-SIDE REAR SUPPORT ANGLE	7-8-9
2.00 x 2.00 x 0.25 x 27.50	1	RIGHT-SIDE FRONT SUPPORT ANGLE	5-6-9
2.00 x 2.00 x 0.25 x 22.00	1	RIGHT-SIDE REAR SUPPORT ANGLE	5-6-9
14 GA x 18 x 30	1	SHELF	5-6-10
0.25 x 1.00 x 22.00	1	SUPPORT, SHELF	5-6-10

Table 6. Components to be Fabricated, ISO-2-1 Shelter

Size	Qty	Description	Figure no.
0.75 x 18.00 x 144.00	1	TABLE TOP - 11021224	14-20

Section II. INSTALLATION IN 280 SHELTER

4. Installation

NOTE

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

Position floor-, wall-, and bench top-mounted equipment as shown in figures 2 and 4 thru 8. Use the equipment mounting holes as template for location of blind rivet nuts and fasteners. Positions may be varied to drill into structural members in floor.

a. Mark and drill six 0.25-in. diameter holes in the left rear wall of 280 shelter in accordance with figure 7. Install six #10 blind rivet nuts (MS27130-A21).

b. Mark and drill twenty-two 0.41- in. diameter holes in floor and end walls (front and rear) of 280 shelter in accordance with figures 3, 5, and 7. Install twenty-two 5/16 blind rivet nuts (MS27130-S45).

c. Follow steps (1) thru (22) below for equipment installation in the 280 shelter, unit 1.

(1) Fabricate one each of the following: right-side front angle, left-side front angle, right-side rear angle, and left-side rear angle in accordance with figure 9. Fabricate three right-hand bench supports and three left-hand bench supports in accordance with figure 10. Fabricate shelf and shelf support in accordance with figure 10. Fabricate right-side bench top in accordance with figure 11. Fabricate left-side bench top in accordance with figure 12.

CAUTION

Be sure storage cabinet drawers adjacent to hole locations are removed before drilling.

(2) Position storage cabinet (7125-00-991-2857) and 12-drawer filing cabinet (7110-00-999-1124) on left front side of 280 shelter in accordance with figures 4, 7, and 8. Position fabricated left-hand bench support against the 12-drawer filing cabinet in accordance with figures 7 and 8 over installed blind rivet nuts in accordance with figure 3. Using left-hand bench support as a template, mark and drill two 0.34-in. diameter holes in the side of 12-drawer filing cabinet (fig. 8). Secure left-hand bench support to 12-drawer filing cabinet, using two 5/16- x 7/8-in. pan head machine screws (MS35206-297), two 5/16- in. lockwashers (MS35338-45), and two 5/16-in. hex nuts (MS51967-5).

(3) Position 30-drawer storage cabinet (7125-00-999-1121) on left side of 280 shelter in accordance with figure 4. Position storage cabinet (7125-00-991-2857) on left side of 280 shelter and next to 30-drawer storage cabinet in accordance with figures 4, 7, and 8.

CAUTION

Be sure storage cabinet drawers adjacent to hole locations are removed before drilling.

(4) Position fabricated right- hand bench support against 30-drawer storage cabinet (7125-00-999-1121) in accordance with figures 7 and 8 over installed blind rivet nuts in accordance with figure 3. Using right-hand bench support as a template, mark and drill two 0.34-in. diameter holes in the side of 30-drawer storage cabinet (fig. 8). Secure right-hand bench

4. Installation--Continued

support to 30-drawer storage cabinet, using two 5/16- x 7/8-in. pan head machine screws (MS35206-297), two 5/16- in. lockwashers (MS35338-45), and two 5/16-in. hex nuts (1S51967-5).

CAUTION

Be sure storage cabinet drawers adjacent to hole locations are removed before drilling.

(5) Position fabricated left-hand bench support against storage cabinet (7125-00-991-2857) in accordance with figures 7 and 8 over installed blind rivet nuts in accordance with figure 3. Using left-hand bench support as a template, mark and drill two 0.34-in. diameter holes in the side of storage cabinet (fig. 8). Secure left-hand bench support to storage cabinet, using two 5/16- x 7/8-in. pan head machine screws (MS35206-297), two 5/16-in. lockwashers (MS35338-45), and two 5/16- in. hex nuts (MS51967-5).

(6) Secure right-hand bench support and two left-hand bench supports to floor-mounted 5/16 blind rivet nuts, using six 5/16- x 1-in. hex head capscrews (MS90725-34) and six 5/16-in. lockwashers (MS35338-45).

(7) Position left-side bench top on storage cabinets, filing cabinets, and bench support flanges in accordance with figures 2, 7, and 8. Using the bench supports as templates, mark and drill six 0.34-in. diameter holes through bench top. Countersink holes in accordance with figure 12. Secure left-side bench top to bench supports using six 5/16- x 1-1/2-in. countersunk head machine screws (MS35190-308), six 5/16-in. lockwashers (MS35338-45), and six 5/16-in. hex nuts (MS51967-5).

(8) Position left-side front support angle on left-side bench top and against the wall (fig. 8) so that the mounting holes are positioned over

installed blind rivet nuts in accordance with figure 7. Secure left-side front support angle to wall-mounted 5/16 blind rivet nuts, using two 5/16- x 7/8-in. pan head machine screws (MS35206-297) and two 5/16-in. lockwashers (MS35338-45). Using the left- side front support angle as a template, mark and drill two 0.19-in. diameter pilot holes through the left-side bench top. Secure left-side front support angle to left-side bench top, using two 5/16- x 1-in. hex head lag bolts (MS16992- 520) and two 5/16-in. lockwashers (MS35338-45).

(9) Position left-side rear support angle on left-side bench top and against the wall (fig. 8) so that the mounting holes are positioned over installed blind rivet nuts in accordance with figure 7. Secure left-side rear support angle to wall-mounted 5/16 blind rivet nuts, using two 5/16- x 7/8-in. pan head machine screws (MS35206-297) and two 5/16-in. lockwashers (MS35338-45). Using the left-side rear support angle as a template, mark and drill two 0.34-in. holes through the bench and cabinet tops. Secure left- side rear support angle to left-side bench top, using two 5/16- x 1-1/2-in. hex head capscrews (MS90725-38), two 5/16-in. lockwashers (MS35338-45), and two 5/16-in. hex nuts (MS51967-5).

(10) Position mounting bracket of fire extinguisher (4210-00-202-7858) on left rear wall in accordance with figure 7. Mark and drill three 0.22- in. diameter holes in mounting bracket. Position over wall-mounted #10 blind rivet nuts in accordance with figure 7. Secure mounting bracket, using three #10 x 1/2-in. countersunk head machine screws (MS35190-271). Install fire extinguisher in mounting bracket (fig. 2).

(11) 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 over

4. Installation--Continued

left rear wall-mounted #10 blind rivet nuts in accordance with figure 7. Secure general purpose first aid kit, using three #10 x 1/2-in. countersunk head machine screws (MS35190-271). Reinstall contents of general purpose first aid kit.

(12) Position engine distributor tester (4910-00-392-2939) on left-side bench top in accordance with figure 2. Mark and drill four 0.34-in. diameter holes through engine distributor tester bottom. Using the engine distributor tester as a template, mark and drill four 0.22-in. diameter pilot holes through left-side bench top. Secure engine distributor tester to left-side bench top, using four 5/16- x 1-in. hex head lag bolts (MS16992-520), four 11/32-in. flat washers (MS27183-12), and four 5/16-in. lockwashers (MS35338-45).

(13) Position general mechanic tool kit (5180-00-669-5273) on left- side bench top in accordance with figure 2. Secure, using one 72-in. retaining strap (7550588-1) in accordance with figure 2.

CAUTION

Be sure storage cabinet drawers adjacent to hole locations are removed before drilling.

(14) Position storage cabinet (7125-00-991-2857), and 20-drawer storage cabinet (7125-00-999-1123) on front right side of 280 shelter in accordance with figures 4 and 5. Position fabricated right-hand bench support against 20-drawer storage cabinet in accordance with figures 5 and 6 over installed blind rivet nuts in accordance with figure 3. Using right-hand bench support as a template, mark and drill two 0.34-in. diameter

holes in storage cabinet wall. Secure right-hand bench support to 20-drawer storage cabinet wall, using two 5/16- x 7/8-in. pan head machine screws (MS35206-297), two 5/16-in. lockwashers (MS35338-45), and two 5/16-in. hex nuts (MS51967-5).

CAUTION

Be sure storage cabinet drawers adjacent to hole locations are removed before drilling.

(15) Position 10-drawer storage cabinet (7125-00-999-1122) on right rear side of 280 shelter in accordance with figure 4. Position fabricated right-hand bench support and fabricated left-hand bench support against walls of 10-drawer storage cabinet in accordance with figures 5 and 6. Using right-hand bench support and left-hand bench support as templates, mark and drill four 0.34-in. diameter holes in 10-drawer storage cabinet walls. Secure left-hand bench support to 10-drawer storage cabinet, using two 5/16- x 7/8-in. pan head machine screws (MS35206-297), two 5/16-in. lockwashers (MS35338-45), and two 5/16-in. hex nuts (MS51967-5).

(16) Position fabricated shelf between right-hand bench support and 280 shelter rear wall in accordance with figures 5 and 6. Secure shelf and right-hand bench support to 10-drawer storage cabinet, using two 5/16- x 7/8- in. pan head machine screws (MS35206-297), two 5/16-in. lockwashers (MS35338-45), and two 5/16-in. hex nuts (MS51967-5). Position free end of shelf over shelf support, which is positioned over wall-mounted 5/16 blind rivet nuts in accordance with figures 5 and 6. Secure shelf support to wall, Using two 5/16- x 7/8-in. pan head machine screws (MS35206-297) and two 5/16-in. lock- washers (MS35338-45).

4. Installation—Continued

(17) Secure three previously installed cabinet-mounted bench supports to floor-mounted 5/16 blind rivet nuts, using six 5/16- x 1-in. hex head capscrews (MS90725-34) and six 5/16-in. lockwashers (MS35338-45).

(18) Position right-side bench top on storage cabinets and bench support flanges in accordance with figures 2, 5, and 6. Using the bench supports as templates, mark and drill six 0.34-in. diameter holes through right-side bench top. Countersink holes in accordance with figure 11. Secure right-side bench top to bench supports, using six 5/16- x 1-1/2-in. countersunk head machine screws (MS35190-308), six 5/16- in. lockwashers (MS35338-45), and six 5/16-in. hex nuts (MS51967-5).

(19) Position right-side front support angle on right-side bench top and against the wall (fig. 6) so that the mounting holes are positioned over installed blind rivet nuts in accordance with figure 5. Secure right-side front support angle to wall-mounted 5/16 blind rivet nuts, using two 5/16- x 7/8-in. pan head machine screws (MS35206-297) and two 5/16-in. lockwashers (MS35338-45). Using the right-side front support angle as a template, mark and drill two 0.19-in. diameter pilot holes through the right-side bench top. Secure right-side front support angle to right-side bench top, using two 5/16- x 1-in. hex head lag bolts (MS16992-520) and two 5/16-in. lockwashers (MS35338-45).

(20) Position right-side rear support angle on right-side bench top and against the wall (fig. 6) so that

the mounting holes are positioned over installed blind rivet nuts in accordance with figure 5. Secure right-side rear support angle to wall-mounted 5/16 blind rivet nuts, using two 5/16- x 7/8-in. pan head machine screws (MS35206-297) and two 5/16-in. lockwashers (MS35338-45). Using the right-side rear support as a template, mark and drill two 0.34-in. diameter holes through the bench and cabinet tops. Secure right-side rear support angle to right-side bench top, using two 5/16- x 1-1/2-in. hex head capscrews (MS90725-38), two 5/16-in. lockwashers (MS35338-45), and two 5/16-in. hex nuts (MS51967-5).

(21) Position armature test set (6625-00-238-1459) on right-side bench top in accordance with figure 2. Mark and drill three 0.34-in. diameter holes through armature test set base. Using armature test set base as a template, mark and drill three 0.22-in. diameter pilot holes through right-side bench top. Secure armature test set to right-side bench top, using three 5/16- x 1-1/2-in. hex head lag bolts (MS16992-522) and three 5/16-in. lockwashers (MS35338-45).

(22) Position machinist's vise (5120-00-293-1439) on right-side bench top in accordance with figure 2. Using machinist's vise base as a template, mark and drill four 0.31-in. diameter pilot holes through right-side bench top. Secure machinist's vise to right-side bench top, using four 1/2- x 1-3/4-in. hex head lag bolts (MS16992-580), four 1/2-in. flat washers (AN970-8), and four 1/2-in. lockwashers (MS35338-48).

Section III. INSTALLATION IN ISO-2-1 SHELTER**NOTE**

Hand blind riveter (5120-00-679-65230 is used to install blind rivet nuts in floors and walls of ISO-2-1 shelter. Install blind rivet nuts in accordance with MIL-N-47187.

Position floor -, table top-, cabinet top-, and wall- mounted equipment as shown in figures 14 and 16 thru 19. Use the equipment mounting holes as templates for location of blind rivet nuts and fasteners. Positions may be varied to drill into structural members in fixed floor.

a. Mark and drill twelve 0.25-in. diameter holes in right side and front wall in accordance with figures 16 and 18. Install twelve #10 blind rivet nuts (11021235-5).

b. Mark and drill thirty-six 0.41-in. diameter holes in fixed and deployed floor in accordance with figures 15 and 19. Install four 5/16 blind rivet nuts (11021235-3) in accordance with figure 15. Install thirty-two 5/16 blind rivet nuts (11021235-1) in accordance with figures 15 and 19.

CAUTION

Potting compound, MMM-A-132, TYPE I, CLASS 3 (8040-01-102-2098), (after installing blind rivet nuts) must have a curing time of 24 to 48 hours before using any threaded fasteners.

c. Install three strap loops (MS51939-3) over installed #10 blind rivet nuts on right side wall in accordance with figure 16. Secure strap

loops, using six #10 x ½-in. counter-sunk head machine screws (MS5190-271).

d. Follow steps (1) thru (17) below for equipment installation in ISO-2-1 shelter, unit 2.

(1) Fabricate table top (11021224) in accordance with figure 20.

(2) Mark and drill four 0.42-in. diameter holes in bottom plates of cabinets. Locate at the four corners, allowing for minimum required clearance for 5/16-in. hex head capscrews.

(3) Position three storage cabinets (7125-00-991-2857) on right side of ISO-2-1 shelter fixed floor in accordance with figures 14 and 16, over installed 5/16 blind rivet nuts, in accordance with figure 15. Secure storage cabinets to ISO-2-1 shelter floor, using twelve 5/16- x 5/8-in. hex head capscrews (MS90725-31) and twelve 5/16-in. lockwashers (MS35338-45).

(4) Position table top (11021224) on top of three storage cabinets (7125-00-991-2857) in accordance with figure 14. Using table top as a template, mark and drill twelve 0.34-in. diameter holes through tops of storage cabinets (four per storage cabinet top). Secure table top to storage cabinet tops, using twelve 5/16- x 2-1/4-in. counter-sunk head machine screws (MS35190-311), twelve 5/16in. flat washers (AN970-5), twelve 5/16-in. lockwashers (MS35338-45), and twelve 5/16-in. hex nuts (MS51967-5)

(5) Position general mechanic tool kit (5180-00-669-5273) on table top (11021224) in accordance with figures 14 and 16. Using strap loop (MS51939-3) as a template, mark and drill four 0.11-in. diameter pilot holes in table top. Secure two strap

5. Installation—Continued

loops (MS51939-3) to table top, using four #10 x 3/4-in. flat head wood screws (MS35492-76). Secure general mechanic tool kit to table top, using one 66-in. long retaining strap (7550588-9). Secure padlock (5340-00-682-1508) on general mechanic tool kit.

(6) Position armature test set (6625-00-238-1459) on table top (11021224) in accordance with figure 14. Using armature test set as a template, mark and drill three 0.34-in. diameter holes through base of armature test set and table top. Secure armature test set to table top, using three 5/16- x 1-3/4- in. hex head capscrews (MS90725-39), three 11/32-in. flat washers (MS27183-12), three 5/16-in. lockwashers (MS35338-45), and three 5/16-in. hex nuts (MS51967-5).

(7) Position engine distributor tester (4910-00-392-2939) on table top (11021224) in accordance with figures 14 and 16. Mark and drill four 0.34- in. diameter holes in bottom of engine distributor tester base. Using the engine distributor tester base as a template, mark and drill four 0.22-in. diameter pilot holes through table top. Secure engine distributor tester to table top, using four 5/16- x 1-in. hex head lag bolts (MS16992-520) and four 11/32-in. flat washers (MS27183-12).

(8) Position revolving stool (7110-00-634-8596) on rear right wall in accordance with figures 14 and 16. Secure revolving stool, using 30-in. retaining strap (7550588-8).

CAUTION

Be sure cabinet drawers adjacent to hole locations are removed before drilling.

(9) Mark and drill one 0.41-in. diameter hole in front right storage cabinet wall in accordance with figure 18. Secure 3/8- x 5-in. square neck bolt (MS35751-83) to front right

storage cabinet wall, using two 3/8-in. flat washers (AN970-6), 3/8-in. lock- washer (MS35338-46), and two 3/8-in. hex nuts (MS51967-8).

(10) Position strap loop (MS51939-3) on storage cabinet wall in accordance with figures 16 and 18. Using strap loop as a template, mark and drill two 0.22-in. diameter holes in storage cabinet wall. Secure strap loop (MS51939-3) to storage cabinet wall, using two #10 x 1/2-in. counter- sunk head machine screws (MS35190-271), two #10 lockwashers (MS35338-43), and two #10 hex nuts (MS35649-202).

(11) Position electrical power cable assembly (6150-00-682-3460) and extension light (6230-00-729-9259) on installed 3/8- x 5-in. square neck bolt in accordance with figures 14 and 16. Secure electrical cable assembly and extension light to 3/8- x 5-in. square neck bolt and storage cabinet, using one 12-in. retaining strap (7550588-6).

(12) Position two-wheeled hand truck (3920-01-052-8327) to rear right side wall in accordance with figures 14 and 16. Secure two-wheeled hand truck, using 72-in. retaining strap (7550588-1).

(13) Position mounting bracket of fire extinguisher (4210-00-202-7858) on right front side wall in accordance with figures 14 and 18. Mark and drill three 0.22-in. diameter holes in mounting bracket. Position mounting bracket over the installed #10 blind rivet nuts in accordance with figure 18. Secure mounting bracket to right front wall, using three #10 x 1/2-in. countersunk head machine screws (MS35190-271). Install fire extinguisher in mounting bracket.

(14) 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 on right front wall in accordance with

5. Installation—Continued

figures 14 and 18 over installed #10 blind rivet nuts in accordance with figure 18. Secure general purpose first aid kit to front right side wall, using three #10 x 1/2-in. countersunk head machine screws (MS35190-271). Reinstall contents of general purpose first aid kit.

(15) Position 10-drawer storage cabinet (7125-00-999-1122), filing cabinet (7110-00-999-1124), and 20-drawer storage cabinet (7125-00-999-1123) in front left side of ISO-2-1 shelter in accordance with figures 14 and 17 over installed 5/16 blind rivet nuts on ISO-2-1 shelter floor in accordance with figure 15 (four holes per cabinet). Secure cabinets to ISO- 2-1 shelter floor, using twelve 6/16- x 5/8-in. hex head capscrews (MS90725-31) and twelve 5/16-in. lockwashers (MS35338- 45).

(16) Position portable cylindrical bore honing unit set (5130-00-595-8355) on top of installed IO-drawer storage cabinet in accordance with figure 14. Mark and drill four 0.28-in. diameter holes through portable cylindrical bore honing unit set bottom and 10-drawer storage cabinet top in accordance with figure 14. Secure portable cylindrical bore honing unit set to 10-drawer storage cabinet top, using four 1/4- x 3/4-in. pan head machine screws (MS35206-

281), eight 1/4-in. flat washers (MS27183- 9), four 1/4-in. lockwashers (MS35338- 44), and four 1/4-in. hex nuts (MS51967- 2).

(17) Position machinist's vise (5120-00-293-1439) on top of installed 20-drawer storage cabinet in accordance with figure 14. Using machinist's vise as a template, mark and drill four 0.56-in. diameter holes in 20-drawer storage cabinet top. Secure machinist's vise to 20-drawer storage cabinet, using four 1/2- x 1-3/4-in. hex head capscrews (MS90725-114), four 1/2-in. flat washers (MS27183-17), four 1/2-in. flat washers (AN970-8), four 1/2-in. lockwashers (MS35338-48), and four 1/2- in. hex nuts (MS51967-14).

NOTE

The following procedure is for installation of storage cabinets on ISO-2-1 shelter deployed floor.

e. Position 10-drawer storage cabinet, 20-drawer storage cabinet, and filing cabinet on left front side of ISO-2-1 shelter deployed floor, using two-wheel hand truck (3920-01-052-8327) in accordance with figure 19. Secure cabinets to deployed floor-mounted 5/16 blind rivet nuts, using same lockwashers and capscrews used to secure storage cabinets on ISO-2-1 shelter fixed floor.

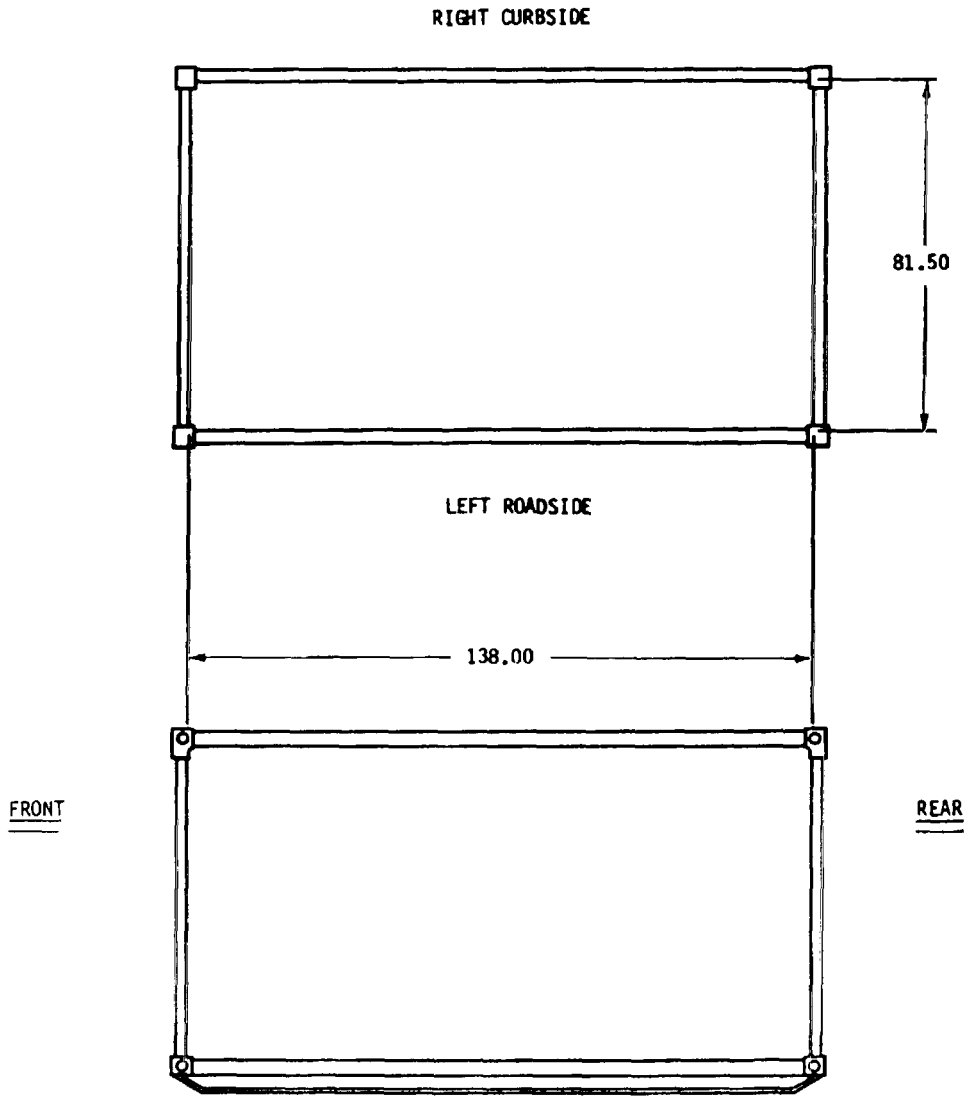


Figure 1. 280 Shelter, Unit 1.

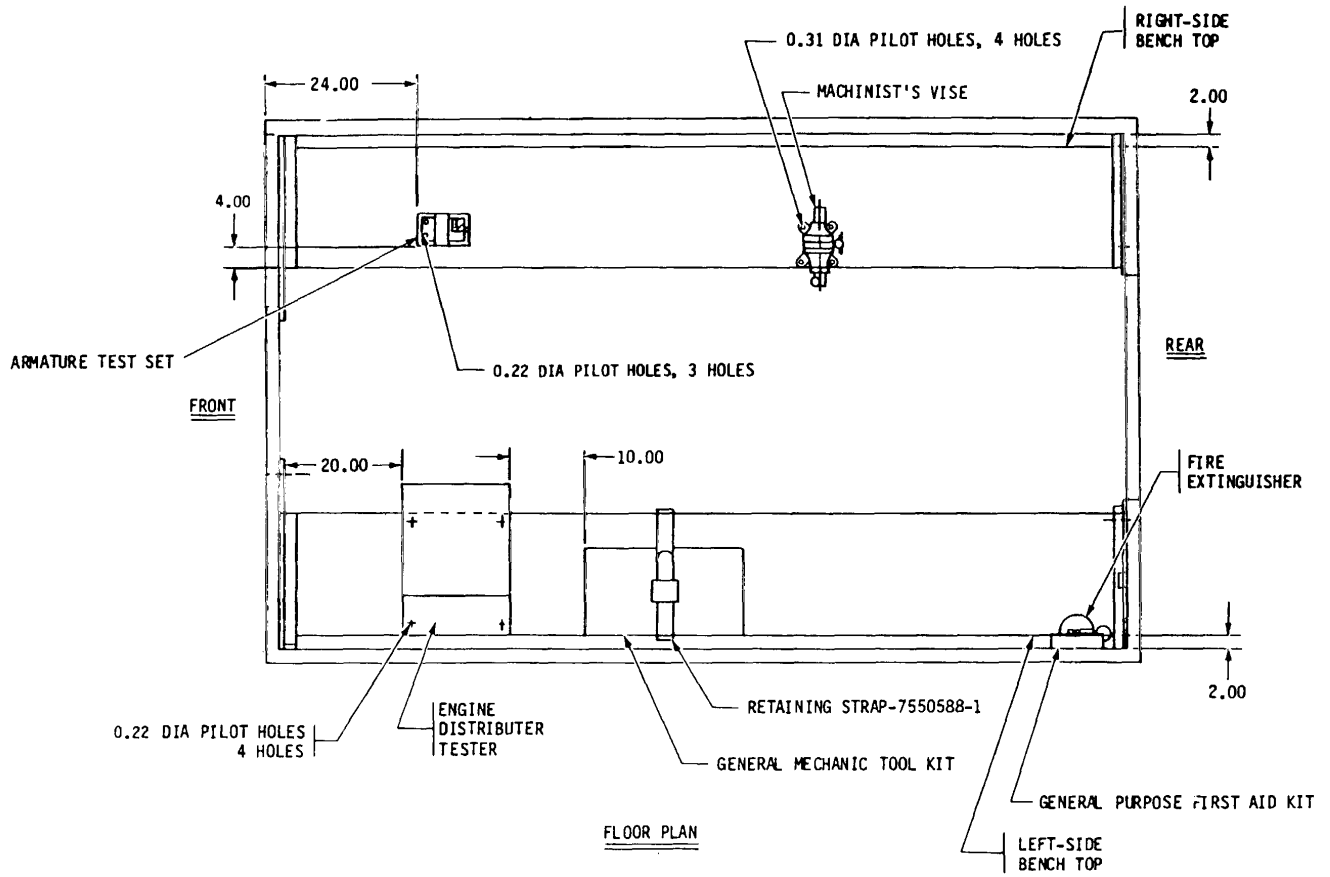


Figure 2. Components to be Mounted, Unit 1, 280, Floor Plan.

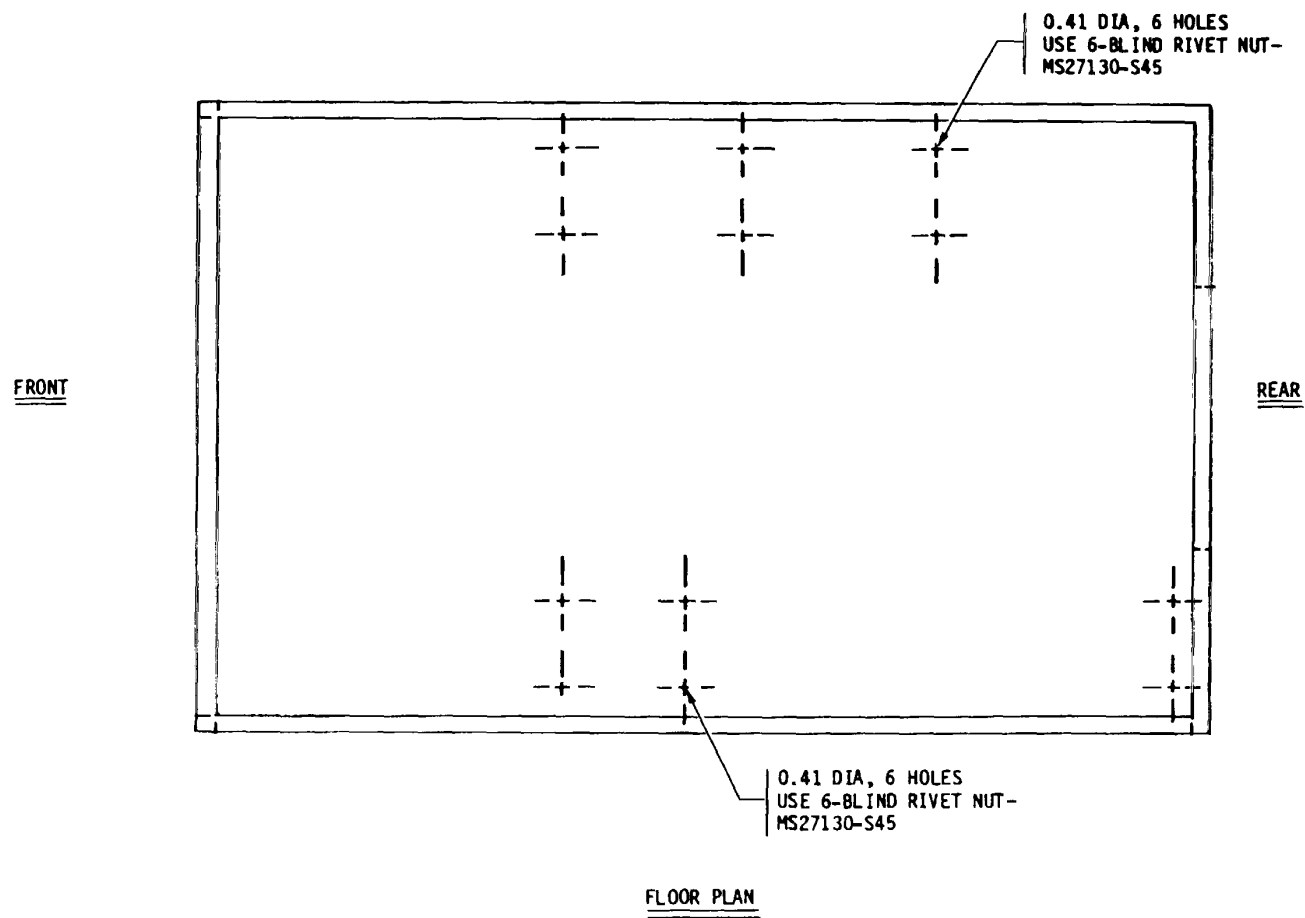


Figure 3. Dimensions for Installation of Blind Rivet Nuts, Unit 1, 280, Floor.

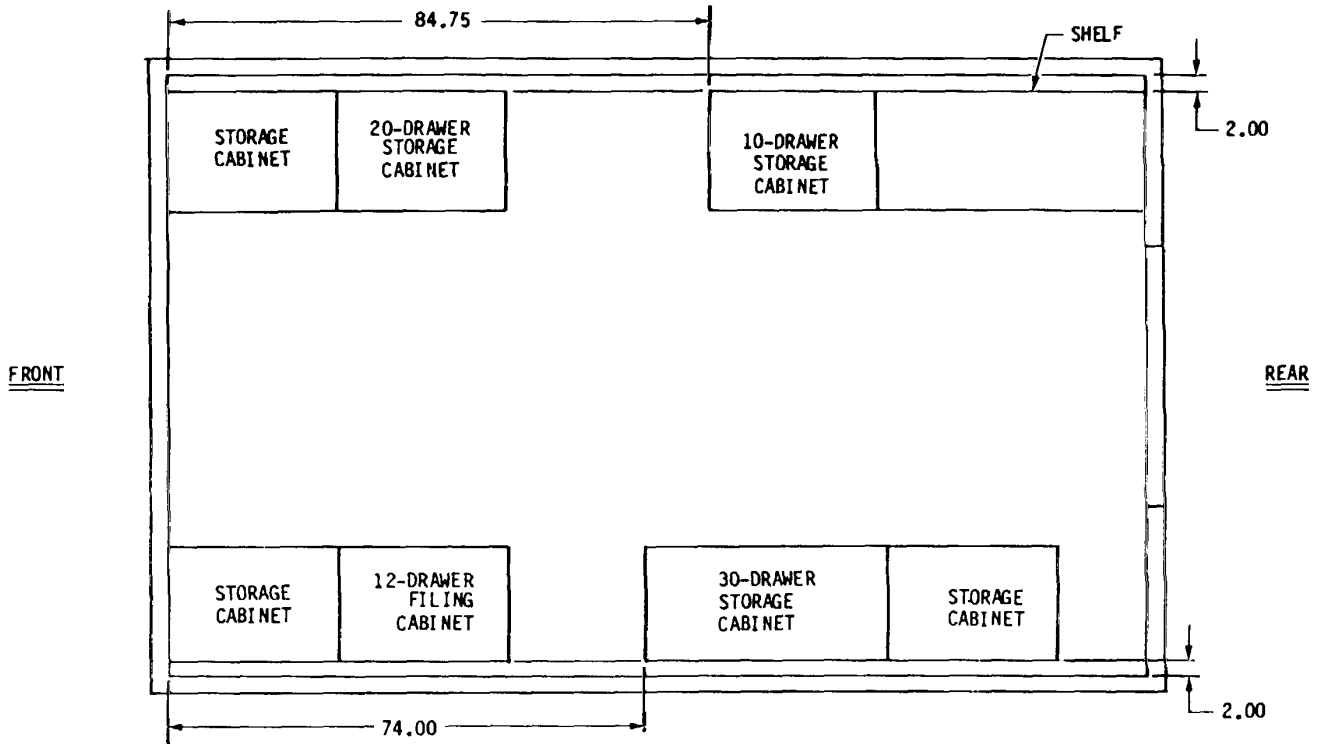


Figure 4. Dimensions for Locating Storage Cabinets, Unit 1, 280, Floor Plan

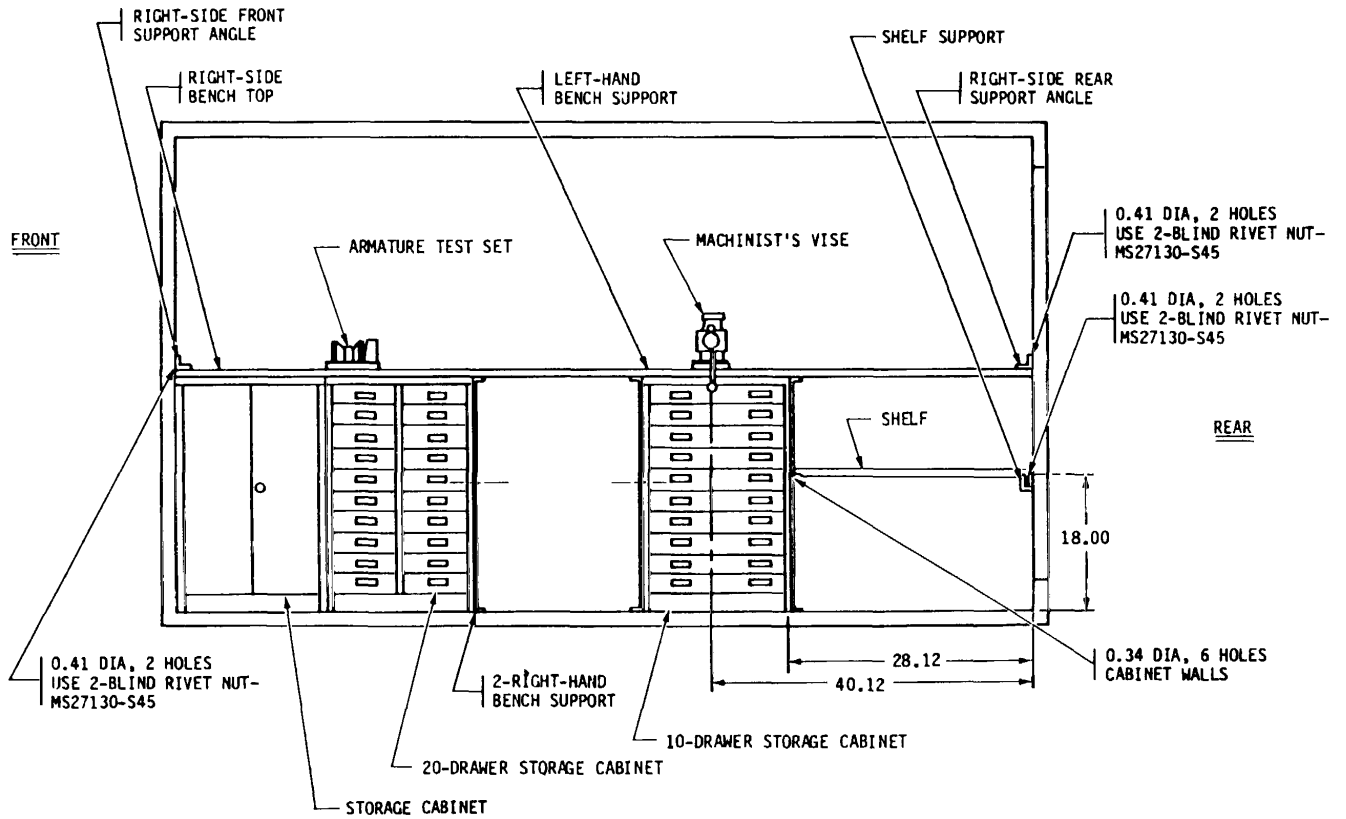


Figure 5. Components to be Mounted, Unit 1, 280, Right Side Elevation.

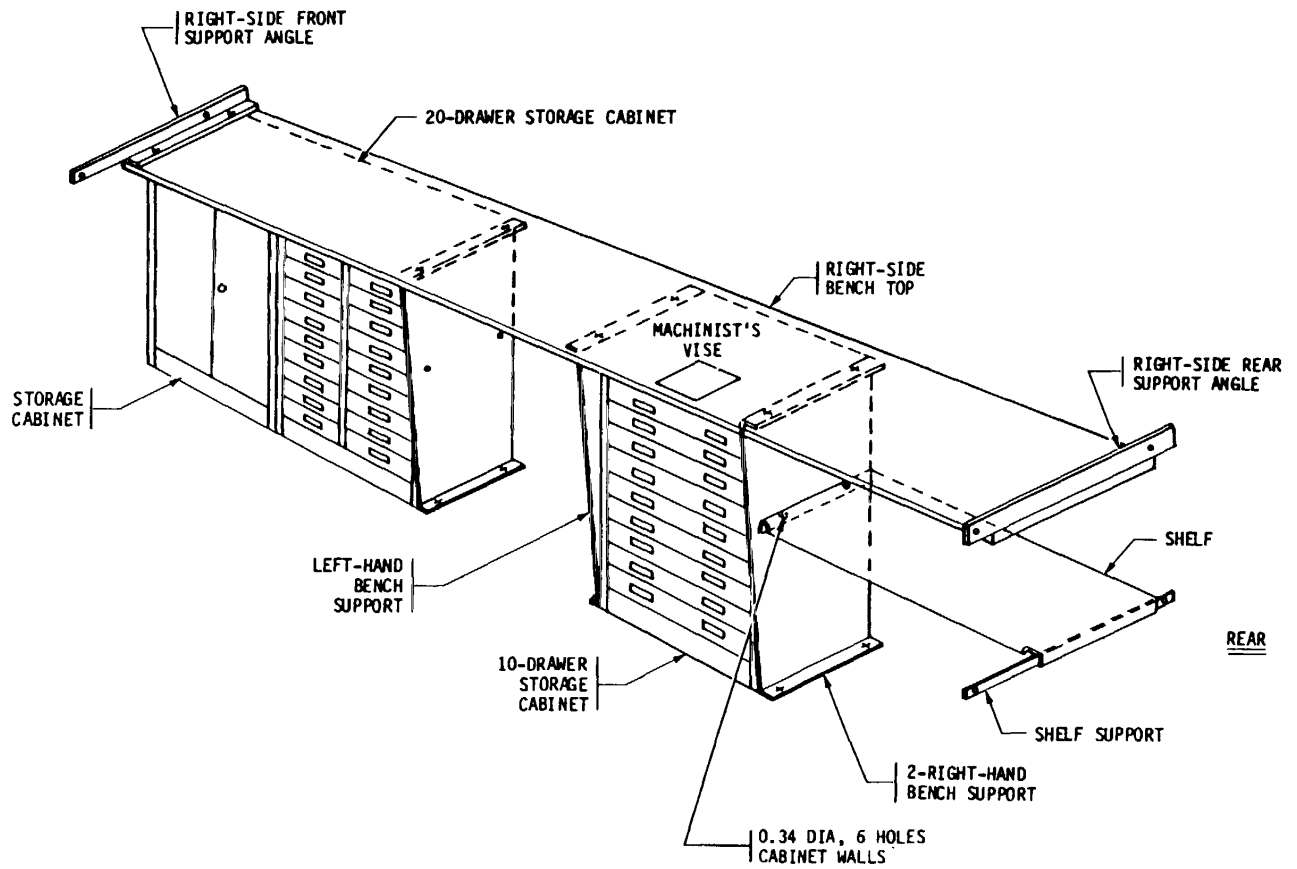


Figure 6. Storage Cabinet Installation Right Side, Components to be Mounted, Unit 1, 280.

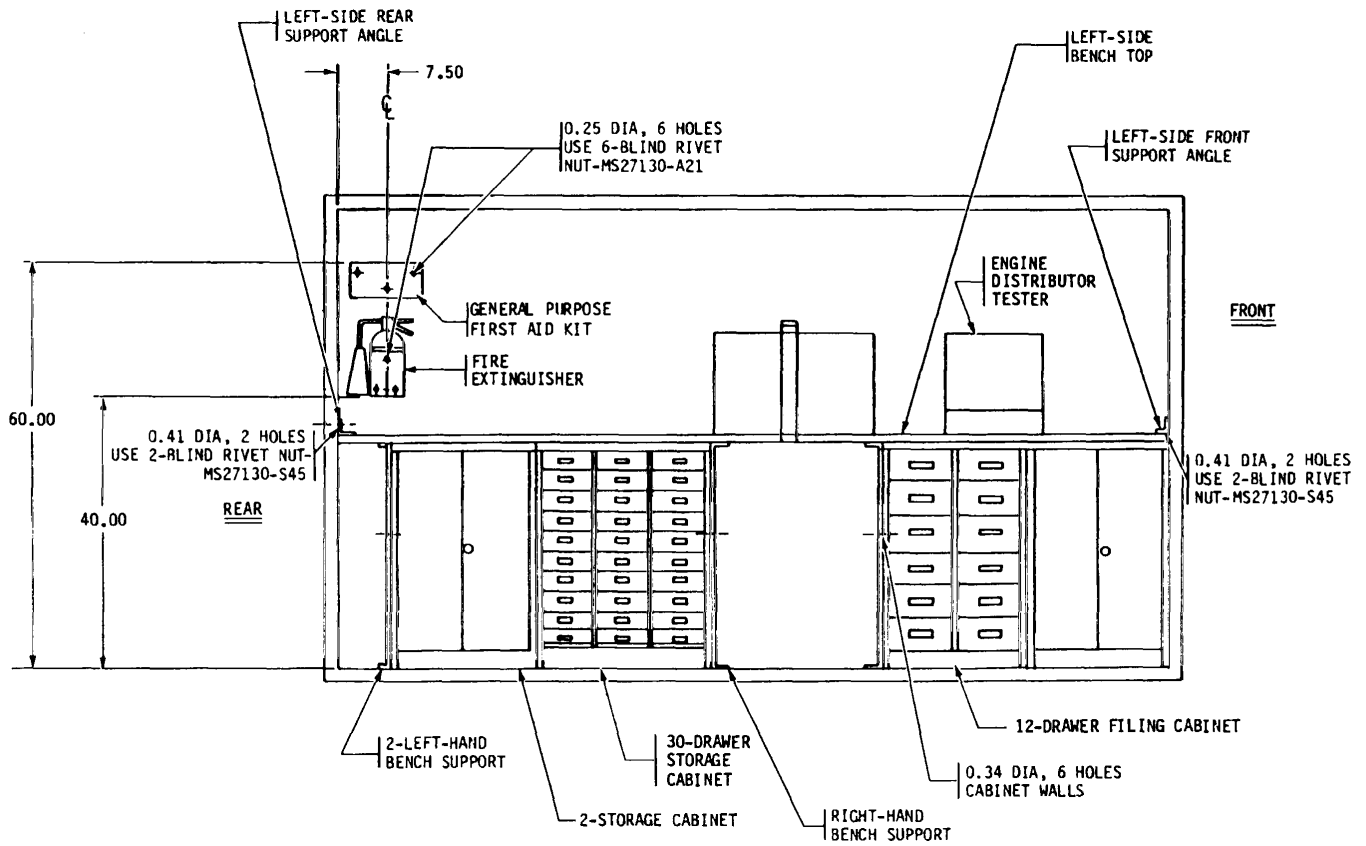


Figure 7. Components to be Mounted, Unit 1, 280, Left Side Elevation.

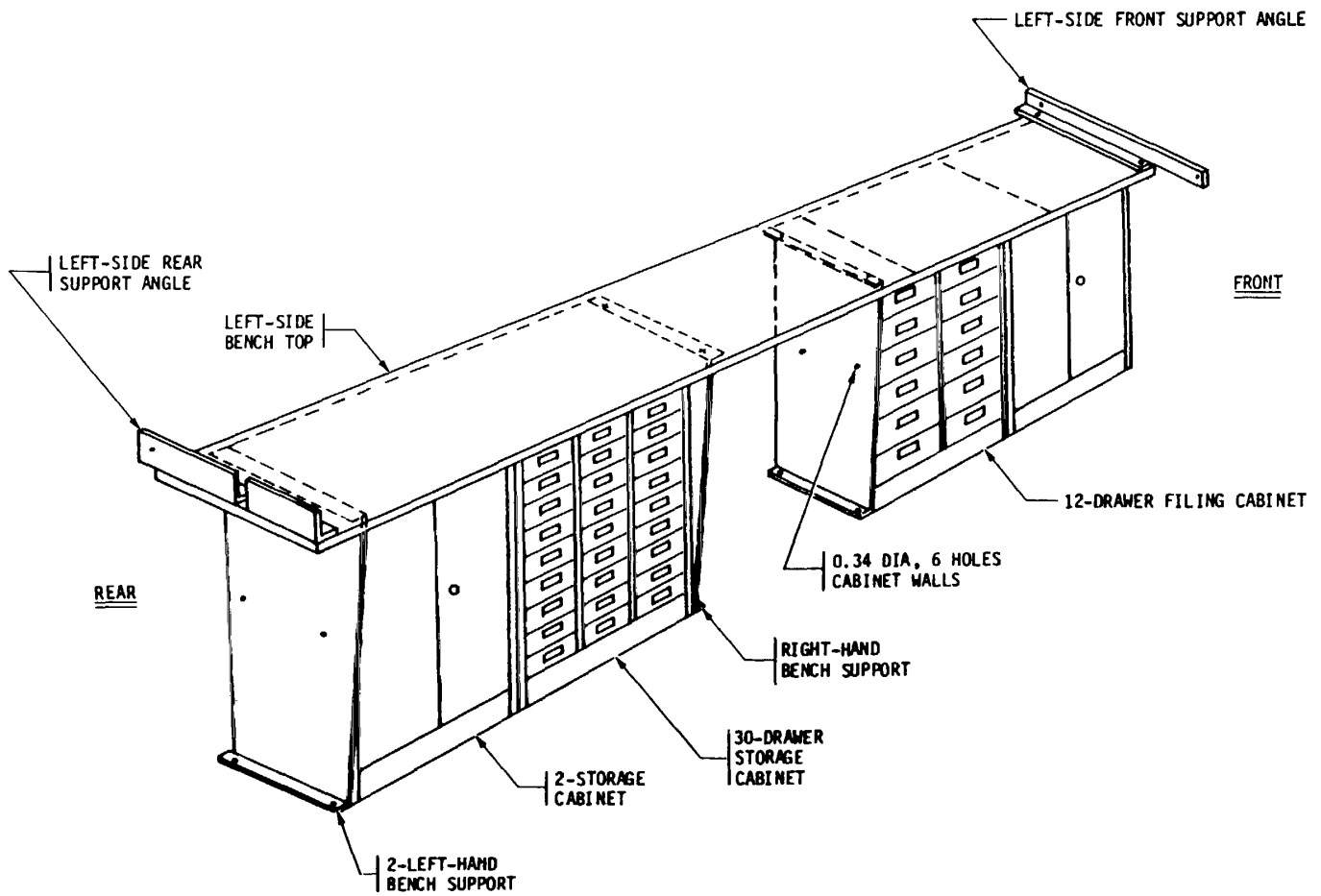


Figure 8. Storage Cabinet Installation Left Side, Components to be Mounted, Unit 1, 280.

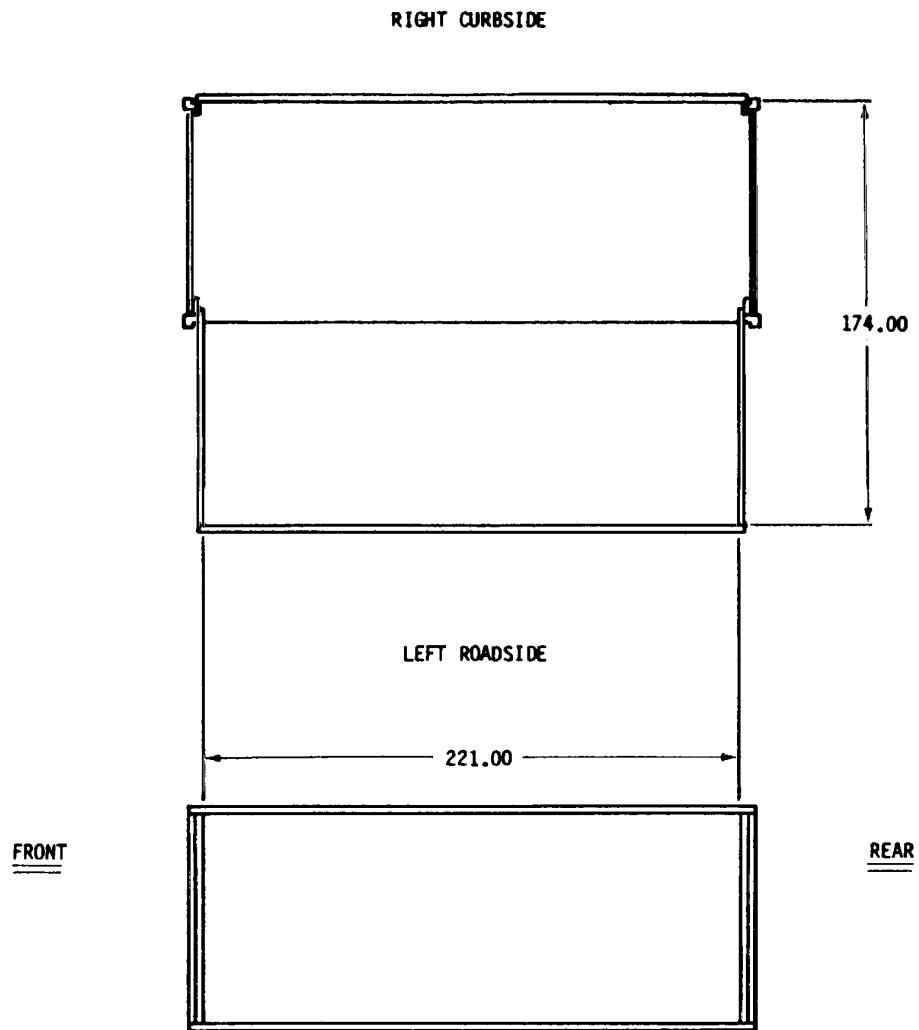


Figure 9. Dimensions for Fabricated Support Angles, Front and Rear, Unit 1, 280.

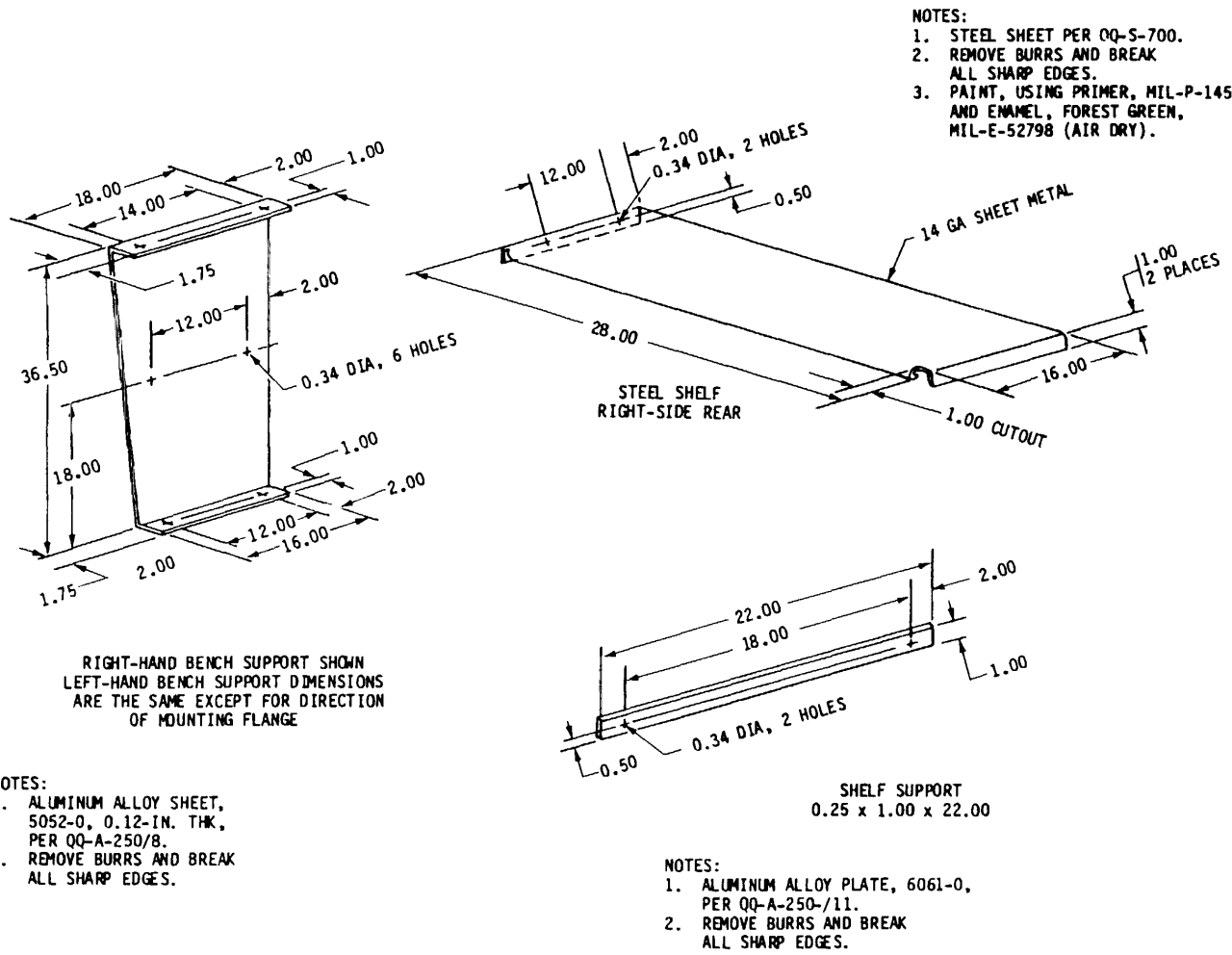
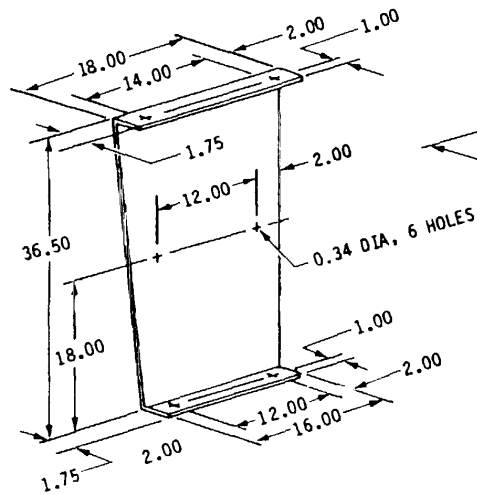


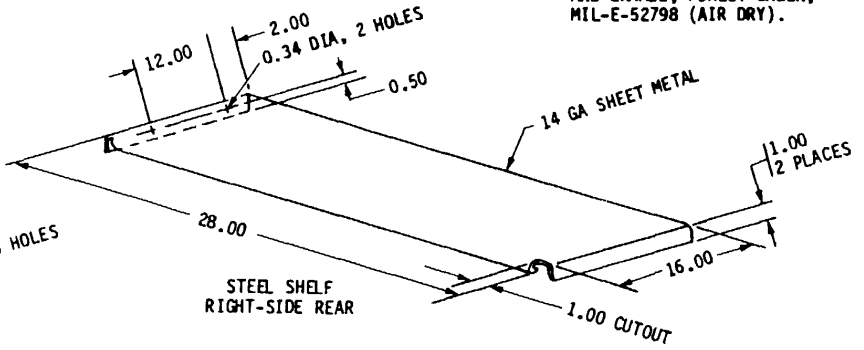
Figure 10. Dimensions for Fabricated Bench Supports, Shelf, and Shelf Support, Unit 1, 280



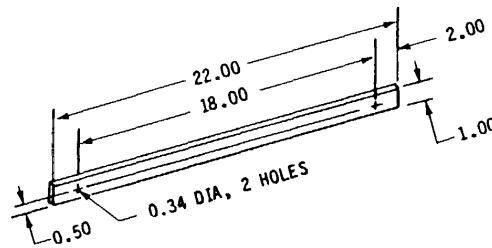
RIGHT-HAND BENCH SUPPORT SHOWN
LEFT-HAND BENCH SUPPORT DIMENSIONS
ARE THE SAME EXCEPT FOR DIRECTION
OF MOUNTING FLANGE

NOTES:

1. ALUMINUM ALLOY SHEET, 5052-0, 0.12-IN. THK, PER QQ-A-250/8.
2. REMOVE BURRS AND BREAK ALL SHARP EDGES.



STEEL SHELF
RIGHT-SIDE REAR



SHELF SUPPORT
0.25 x 1.00 x 22.00

NOTES:

1. ALUMINUM ALLOY PLATE, 6061-0, PER QQ-A-250-11.
2. REMOVE BURRS AND BREAK ALL SHARP EDGES.

NOTES:

1. STEEL SHEET PER QQ-S-700.
2. REMOVE BURRS AND BREAK ALL SHARP EDGES.
3. PAINT, USING PRIMER, MIL-P-14553, AND ENAMEL, FOREST GREEN, MIL-E-52798 (AIR DRY).

Figure 11. Dimensions for Right-Side Bench Top, Unit 1, 280.

NOTES:

1. MATERIAL - BENELEX, MASONITE CORP.
2. REMOVE BURRS AND BREAK ALL SHARP EDGES.

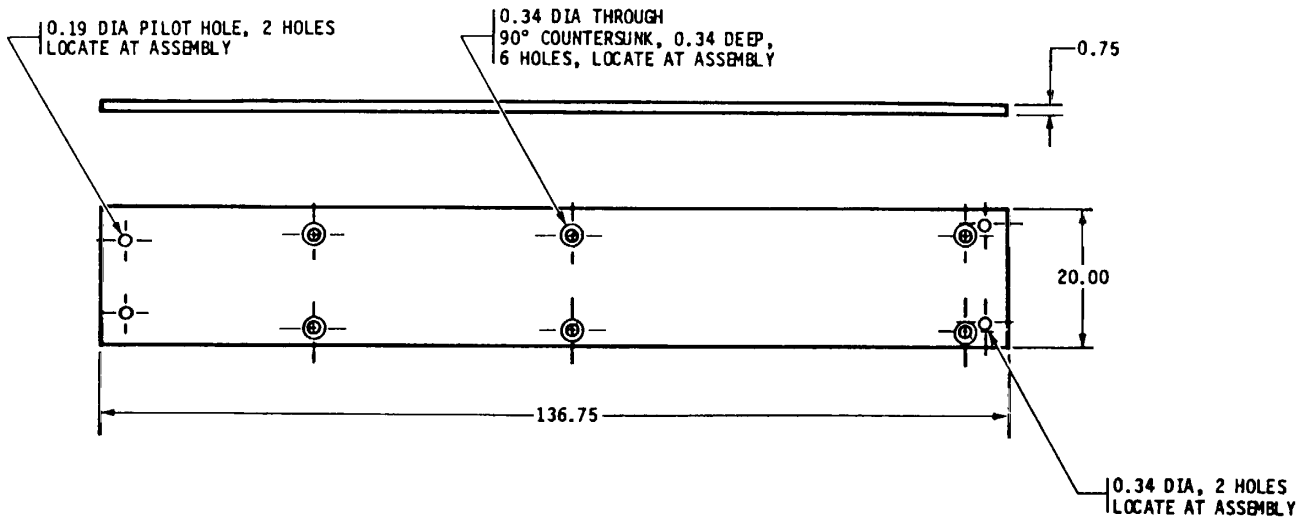


Figure 12. Dimensions for Left-Side Bench Top, Unit 1, 280.

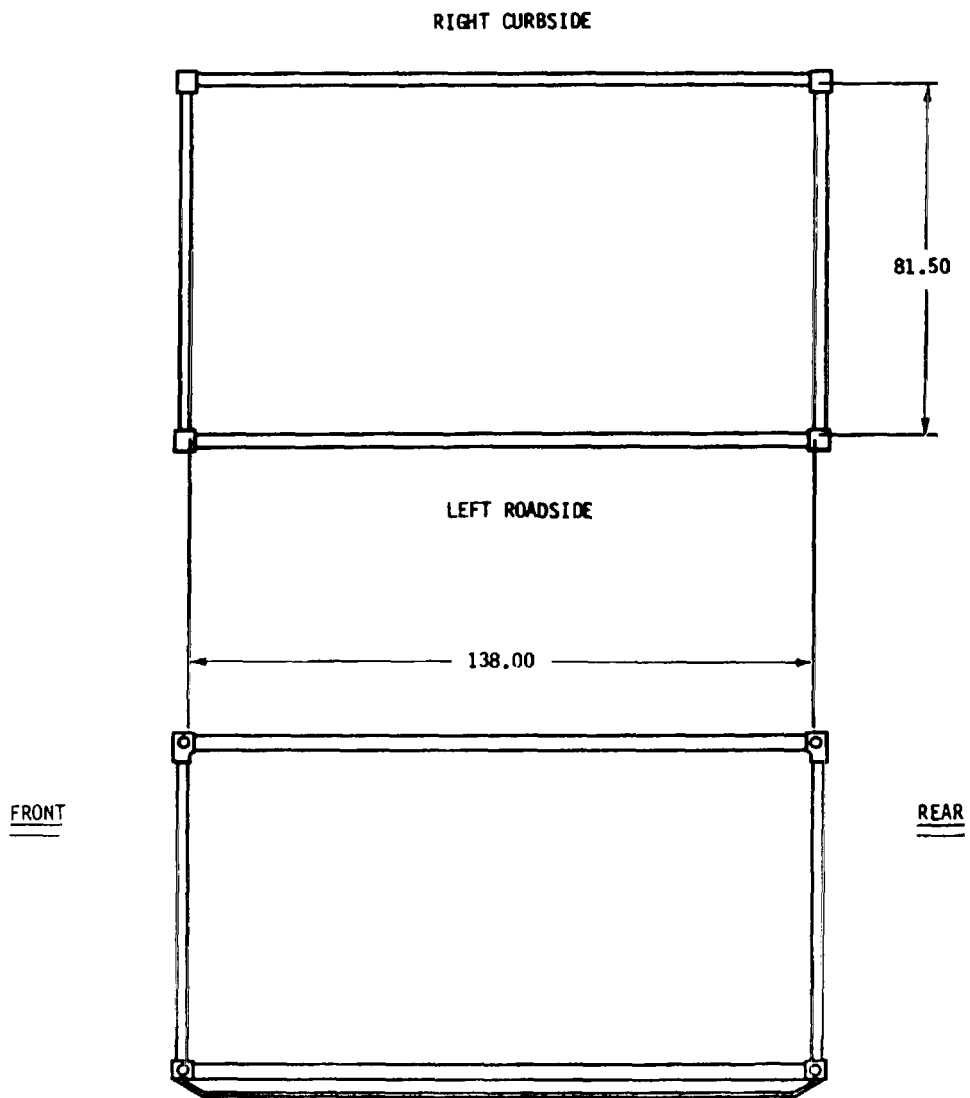


Figure 13. ISO-2-1 Shelter, Unit 2.
27

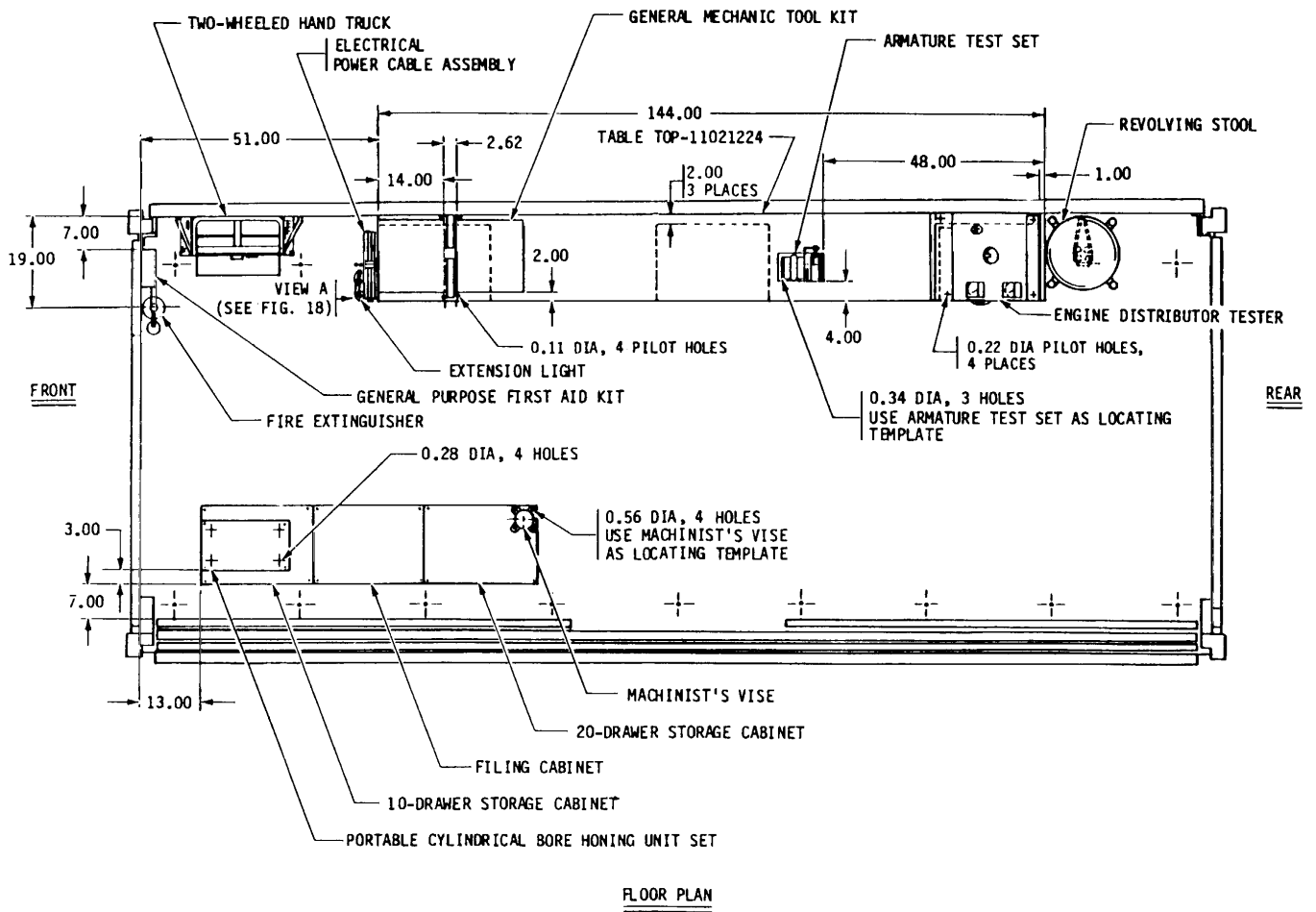


Figure 14. Components to be Mounted, Unit 2, ISO-2-1, Floor Plan.

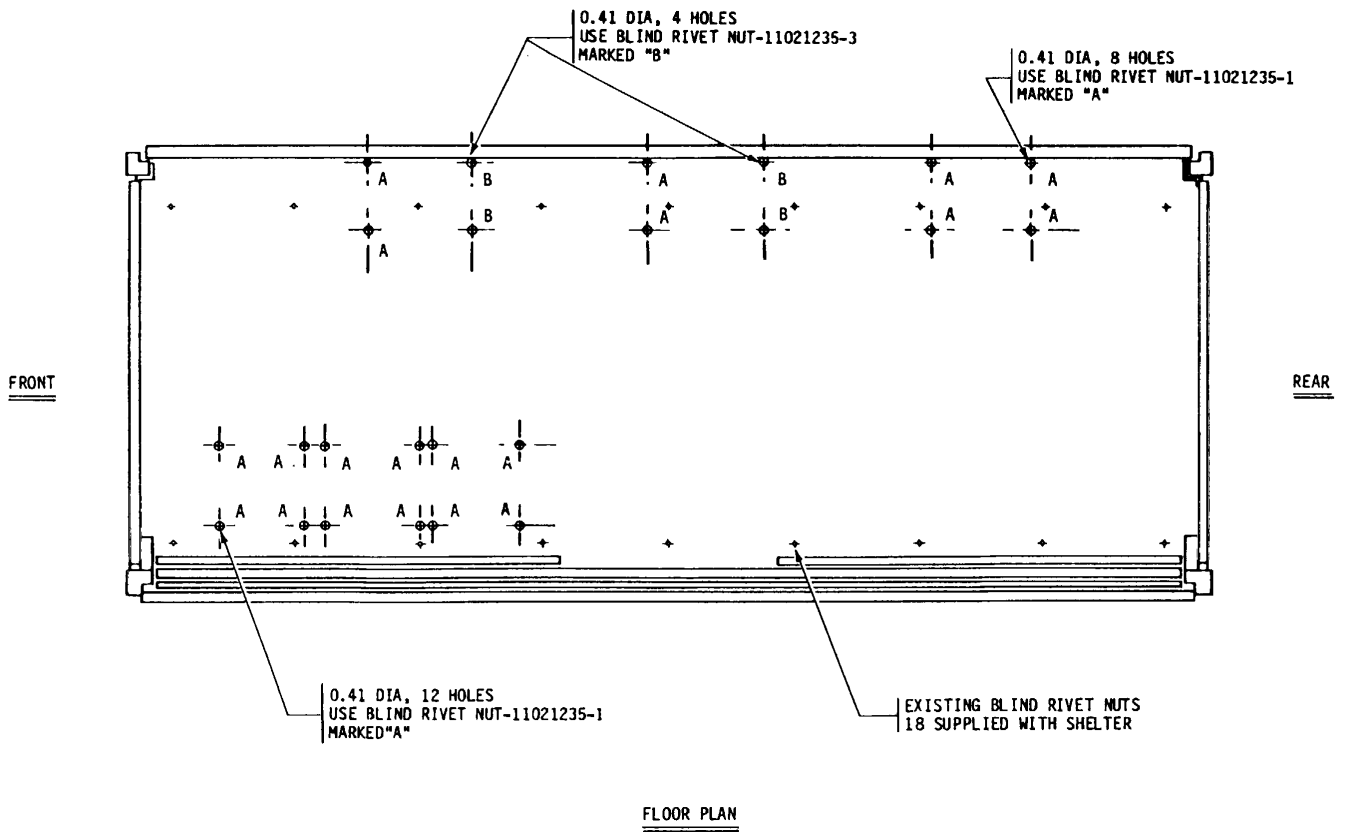


Figure 15. Dimensions for Installation of Blind Rivet Nuts, Unit 2, ISO-2-1, Fixed Floor.

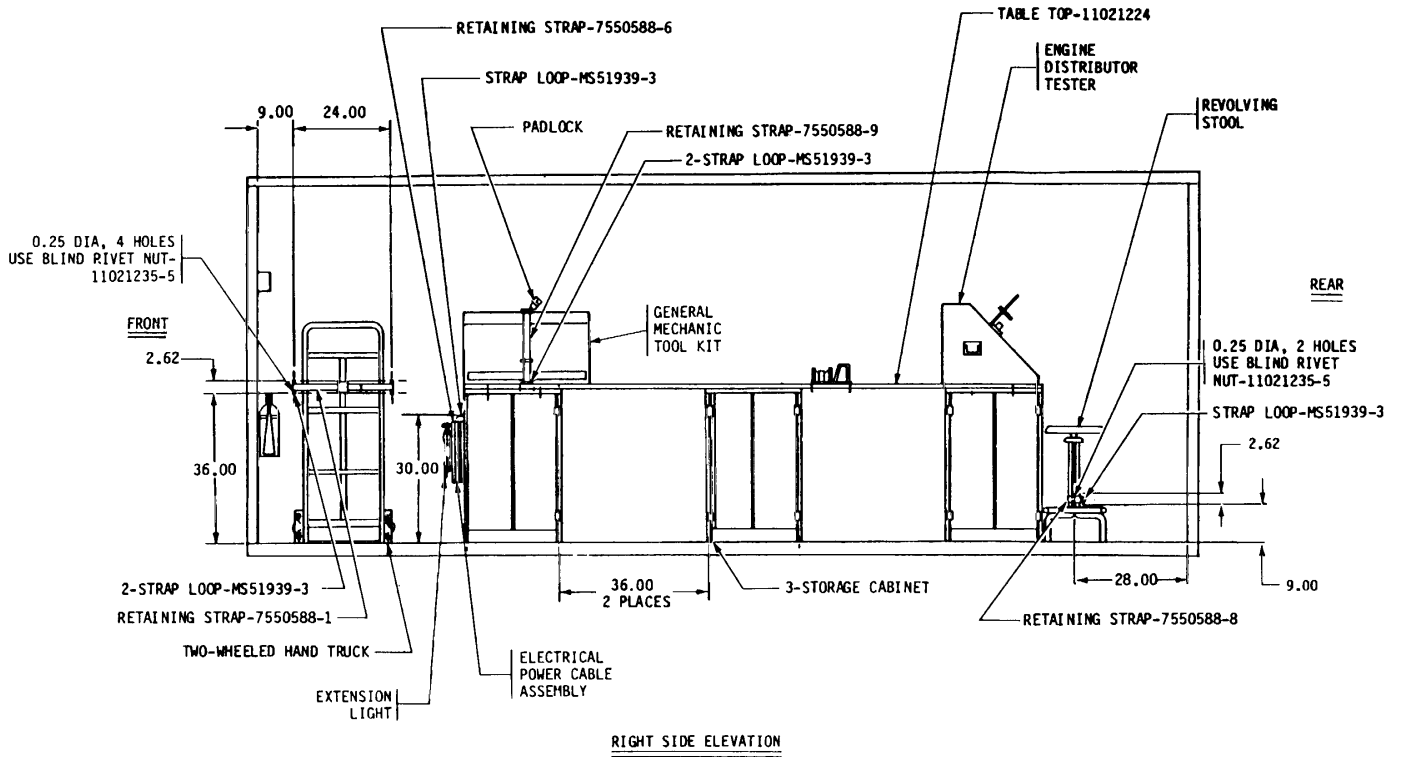


Figure 16. Components to be Mounted, unit 2, ISO-2-1, Right Side Elevation.

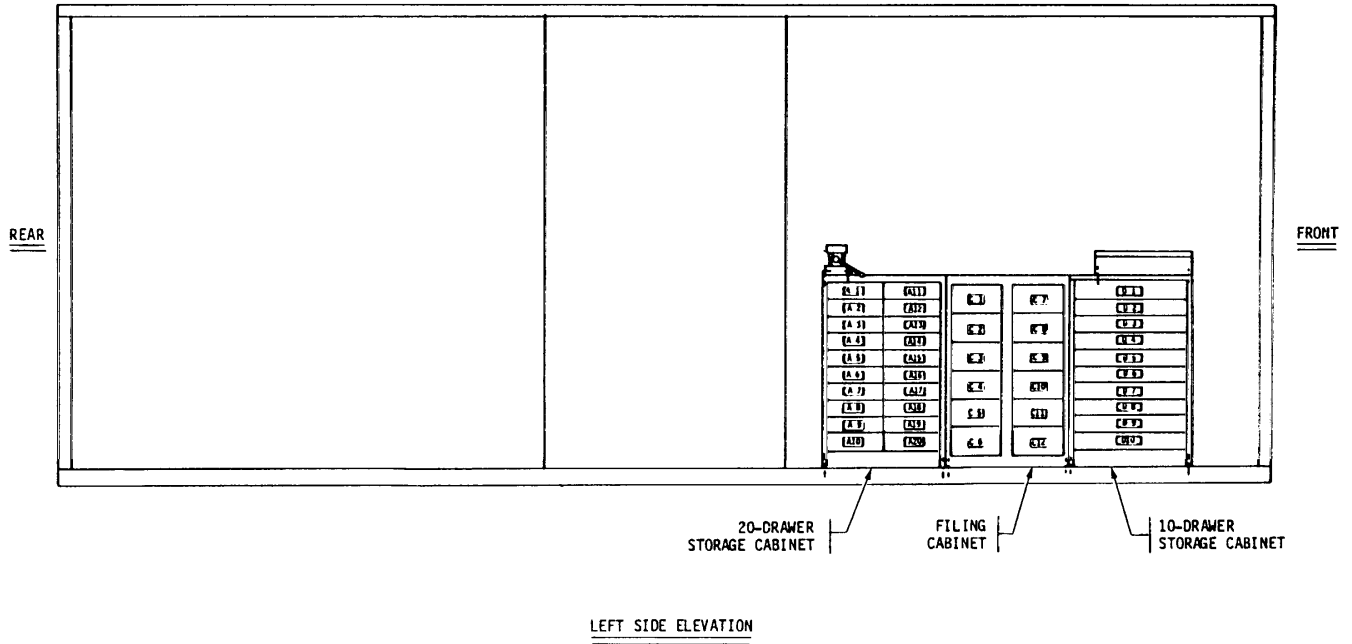


Figure 17. Components to be Mounted, Unit 2, ISO-2-1, Left Side Elevation.

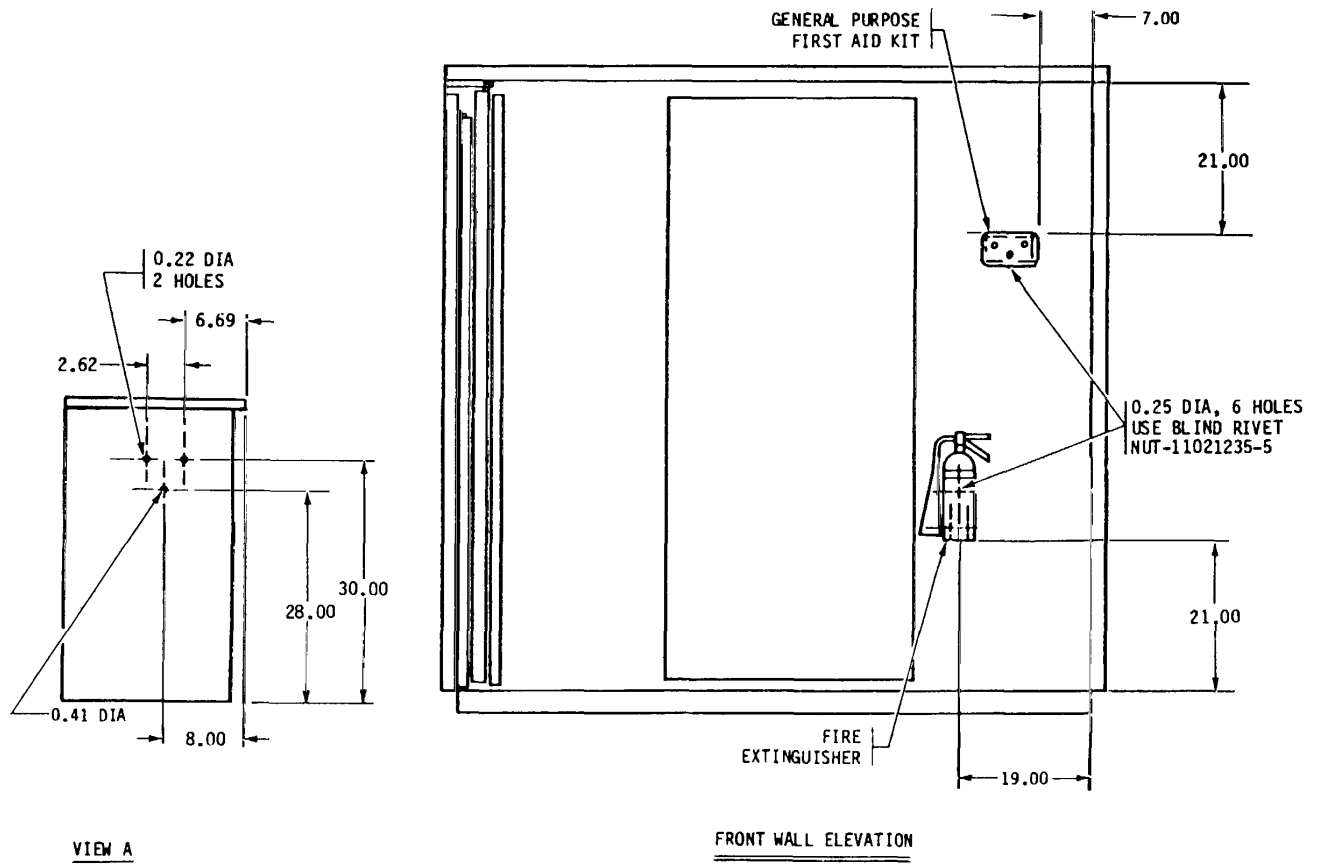
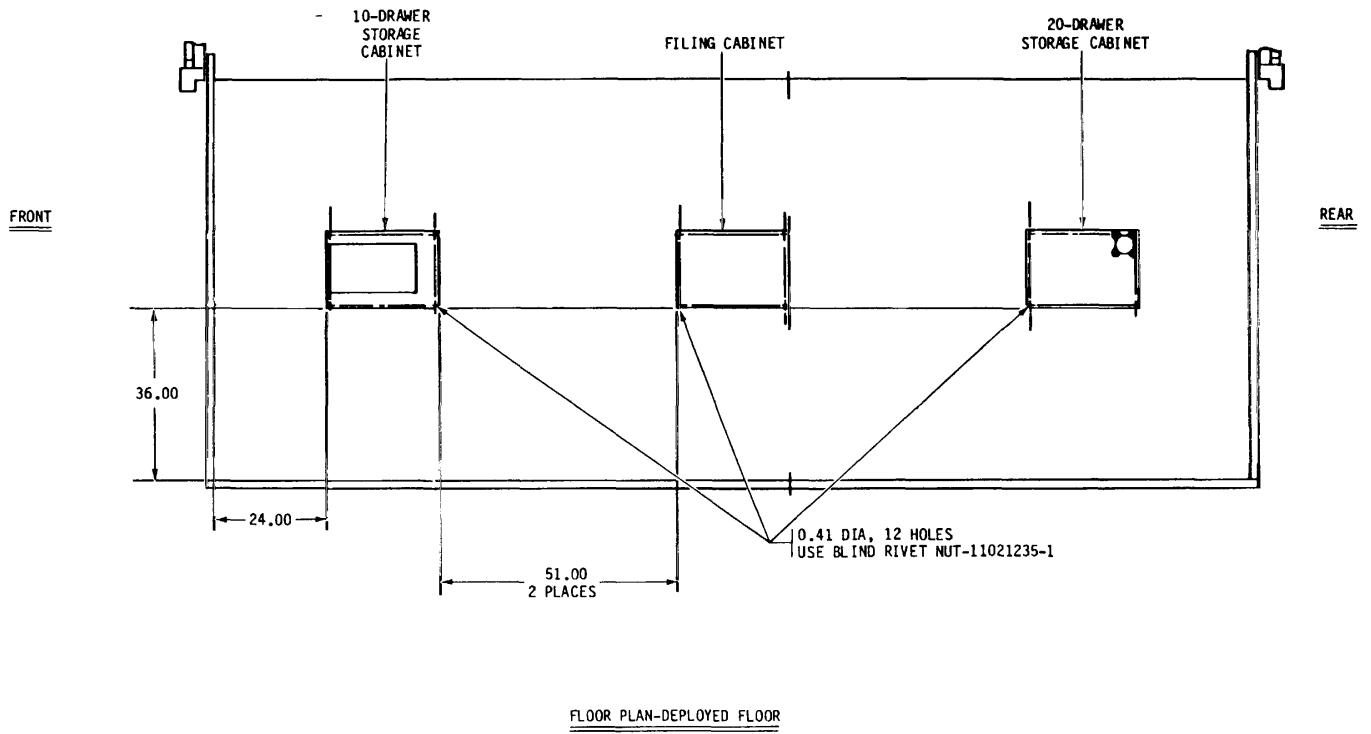
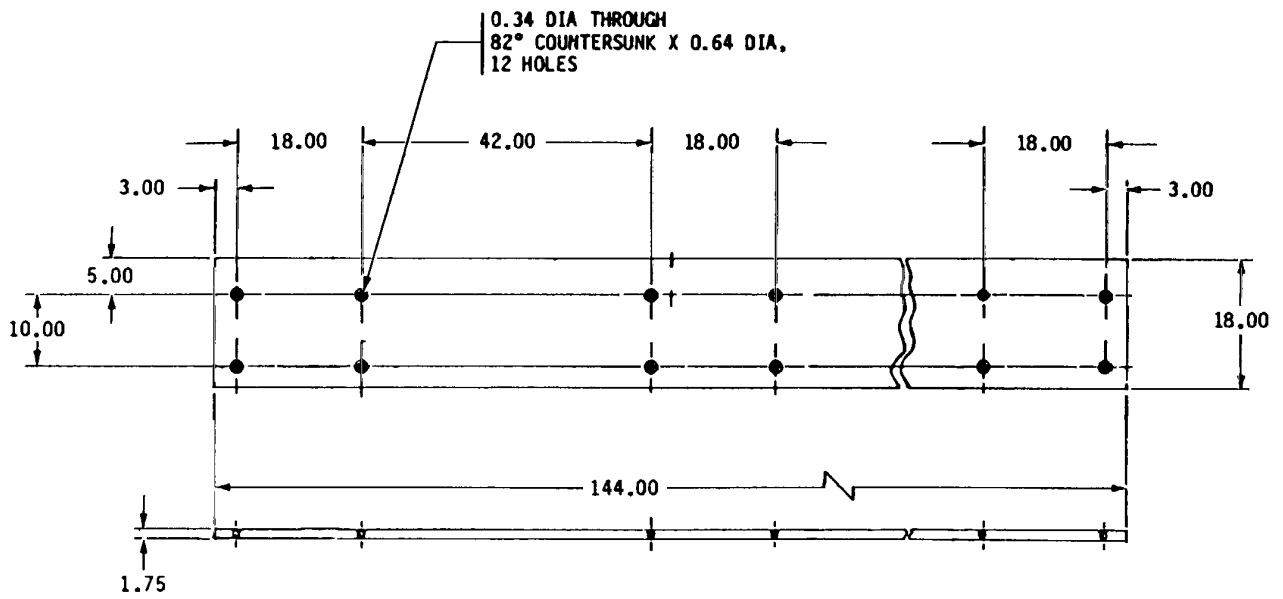


Figure 18. Components to be Mounted, Front Wall and Hole Pattern on Storage Cabinet Side Wall, Unit 2, ISO-2-1.



FLOOR PLAN-DEPLOYED FLOOR
Figure 19. Components to be Mounted, Unit 2, ISO-2-1, Deployed Floor.



NOTES:

1. MATERIAL - BENELEX, MASONITE CORP.
2. REMOVE BURRS AND BREAK ALL SHARP EDGES.

Figure 20. Dimensions for Table Top 11021224, Unit 2, ISO-2-1.

Table 7. Standard Conversion Chart

Nominal size	Decimal size	Nominal size	Decimal size
1/16	0.06	33/64	0.52
5/64	0.08	17/32	0.53
3/32	0.09	35/64	0.55
7/64	0.11	9/16	0.56
1/8	0.12	37/64	0.58
9/64	0.14	19/32	0.59
5/32	0.16	39/64	0.61
11/64	0.17	5/8	0.62
3/16	0.19	11/16	0.69
13/64	0.20	45/64	0.70
7/32	0.22	23/32	0.72
15/64	0.23	47/64	0.73
1/4	0.25	3/4	0.75
17/64	0.27	49/64	0.76
9/32	0.28	25/32	0.78
19/64	0.30	51/64	0.80
5/16	0.31	13/16	0.81
21/64	0.33	53/64	0.83
11/32	0.34	27/32	0.84
23/64	0.36	55/64	0.86
3/8	0.38	7/8	0.87
25/64	0.39	57/64	0.89
13/32	0.41	29/32	0.91
27/64	0.42	59/64	0.92
7/16	0.44	15/16	0.94
29/64	0.45	61/64	0.95
15/32	0.47	31/32	0.97
31/64	0.48	63/64	0.98
1/2	0.50	1	1.00

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