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DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

SHOP EQUIPMENT, WELDING SHOP (NSN 4940-00-209-6240)

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

JULY 1987

WARNING

Improper hook-up of Generator Sets AN/MJQ-16 and 18 may result in a safety hazard to personnel and may damage equipment.

How to hook up AN/MJQ-16 and 18 Generator Sets requiring single phase 120 volts power.

1. **Power selector switch on generator must be set to 120 Vac single phase position.**

2. **Connect shelter cable green wire to mechanical ground on metal trailer chassis.**

3. **Connect black wire to terminal L1 (AC hot) and white wire to L3 (AC neutral).**

4. **Connect L3 to the mechanical ground connection with 8 AWG jumper.**

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TECHNICAL BULLETIN

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HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC,
24 July 1987

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*This bulletin supersedes TB 9-4940-319-30 dated 24 January 1968.

LIST OF ILLUSTRATIONS

Section I. INTRODUCTION

1. General

a. Instructions contained in this bulletin are in three sections. Section I contains the introduction and general instructions, warnings and cautions, and location of equipment. Section II is a guide for installation of welding shop equipment (NSN 4940-00-209-6240) in one 280 maintenance shelter, unit 1 (NSN 4940-00-919-8409) (fig. 1). Section III is a guide for installation of welding shop equipment (NSN 4940-00-209-6240) in one ISO-2-1 maintenance shelter, unit 2 (NSN 5411-01-124-1377) (fig. 6).

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-A64.

d. Items not mentioned in 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.

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

f. When entering either shelter, 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.

Extinguish all smoking materials and do not permit open flame or sparks when using flammable cleaning solvent.

Improper hook-up of Generator Sets AN/MJQ-16 and 18 may result in a safety hazard to personnel and may damage equipment.

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

3. Location of Equipment

a. location of equipment installed or stowed in the 280 shelter, unit 1, is shown in figures 1 thru 5 and 15.

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

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

b. Location of equipment installed or stowed in ISO-2-1 shelter, unit 2, is shown in figures 6 thru 15.

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

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

c. Refer to table 5 for standard conversion chart.

3. Location of Equipment - Continued

Table 1. Mounting Hardware, 280 Shelter

MS/part no.	Size and description	Qty	Application
MS16992-522	5/16-in. Lag Screw x 1-1/2 L	4	Anvil block
MS16992-525	5/16-in. Lag Screw x 2-1/2 L	2	Blacksmith's anvil
S37B80	#10-24 UNC Blind Rivet Nut	27	Strap loops, fire extinguisher
MS27130-S45K	5/16-18 UNC Blind Rivet Nut	6	Work table
S37B285	3/8-16 UNC Blind Rivet Nut	16	Band saw, arc welding machine, welding table, anvil block
MS27183-11	5/16-in. Flat Washer	3	Utility grinding machine
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	27	Strap loops, fire extinguisher
MS35338-45	5/16-in. Lockwasher	15	Anvil block, work table, blacksmith's anvil, utility grinding machine
MS35338-46	3/8-in. Lockwasher	16	Arc welding machine, welding table, band saw, anvil block with attached support angles
MS35338-48	1/2-in. Lockwasher	4	Machinist's vise
MS51939-3	Strap Loop	12	Compressed oxygen, acetylene, and argon gas cylinders; compressor, hydraulic jack kit
MS51967-5	5/16-18 UNC-2B Hex Nut	3	Utility grinding machine

3. Location of Equipment - Continued

Table 1. Mounting Hardware, 280 Shelter - Continued

MS/part no.	Size and description	Qty	Application
MS51967-14	1/2-13 UNC-2B Hex Nut	4	Machinist's vise
MS90725-35	5/16-18 UNC-2A Machine Bolt x 1-1/8 L	6	Work-table
MS90725-44	5/16-18 UNC-2A Machine Bolt x 3.00 L	3	Utility grinding machine
MS90725-61	3/8-16 UNC-2A Hex Head Capscrew x 1-1/8 L	12	Arc welding machine, welding table, band saw
MS90725-62	3/8-16 UNC-2A Hex Head Capscrew x 1-1/4 L	4	Anvil block with attached support angles
MS90725-119	1/2-13 UNC-2A Hex Head Capscrew x 3.00 L	4	Machinist's vise
7550588-7	92.00-in. Retaining Strap	6	Compressed oxygen, acetylene, argon gas cylinders, and hand truck
7550588-10	110.00-in. Retaining Strap	2	Compressed oxygen and cylinders in hand truck, hydraulic jack kit
11021151-9	Support Angle (2.00 x 2.00 x 0.25 x 11.00 L)	2	Anvil block

3. Location of Equipment - Continued

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

MS/part no.	Size and description	Qty	Application
MS16992-521	5/16-in. Hex Head Lag Bolt x 1-1/4 L	4	Anvil block
MS16992-525	5/16-in. Lag Screw x 2-1/2 L	2	Blacksmith's anvil
MS27183-11	5/16-in. Flat Washer	3	Utility grinding machine
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	36	Strap loops, first aid kit, fire extinguisher, oil and water separator
MS35338-45	5/16-in. Lockwasher	15	Utility grinding machine, anvil block, blacksmith's anvil, work table
MS35338-46	3/8-in. Lockwasher	18	Anvil block, arc welding machine, band
MS35338-48	1/2-in. Lockwasher	4	Machinist's vise
MS51939-3	Strap Loop	14	Compressed oxygen, acetylene, and argon gas cylinders; compressor; hydraulic jack kit
MS51967-5	5/16-18 UNC-2B Hex Nut	3	Utility grinding machine
MS51967-14	1/2-13 UNC-2B Hex Nut	4	Machinist's vise
MS90725-32	5/16-18 UNC-2A Machine Bolt x 3/4 L	4	Work table
MS90725-34	5/16-18 UNC-2A Machine Bolt x 1.00 L	2	Work table
MS90725-42	5/16-18 UNC-2A Machine Bolt x 2-1/2 L	3	Utility grinding machine

3. Location of Equipment - Continued

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

MS/part no.	Size and description	Qty	Application
MS90725-59	3/8-16 UNC-2A Hex Head Capscrew x 7/8 L	4	Band saw, arc welding machine
MS90725-60	3/8-16 UNC-2A Hex Head Capscrew x 1.00 L	4	Anvil block angles
MS90725-61	3/8-16 UNC-2A Hex Head Capscrew x 1-1/8 L	8	Welding table, band saw, arc welding machine
MS90725-62	3/8-16 UNC-2A Hex Head Capscrew x 1-1/4 L	2	Anvil block angles
MS90725-119	1/2-13 UNC-2A Hex Head Capscrew x 3.00 L	4	Machinist’s vise
7550588-7	92.00-in. Retaining Strap	3	Compressor, and portable circular saw
7550588-9	66.00-in. Retaining Strap	2	Hydraulic jack kit, welding torch outfit
7550588-10	110.00-in. Retaining Strap	8	Compressed argon, oxygen, and acetylene gas cylinders; cutting and welding torch outfit; hand truck; body and fender repair tool kit; inert gas shielded arc welding set
11021151-9	Support Angle (2.00 x 2.00 x 0.25 x 11.00 L)	2	Anvil block
S31B125	5/16-18 UNC Blind Rivet Nut	4	Work table
S37B115	3/8-16 UNC Blind Rivet Nut	12	Support angles, band machine
S31B275	5/16-18 UNC Blind Rivet Nut	2	Work table

3. Location of Equipment - Continued

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

MS/part no.	Size and description	Qty	Application
S37B285	3/8-16 UNC Blind Rivet Nut	12	Support angles, welding table, band saw, arc welding machine
S1OB80	#10-24 UNC Blind Rivet Nut	36	Strap loops, fire extinguisher, first aid kit, separator

Table 3. Components to be Mounted, 280 Shelter

NSN	Qty	Description	Figure No.
5120-00-180-2885	1	ANVIL, BLACKSMITH'S	2-4
5120-00-449-6644	1	BLOCK, WOOD, ANVIL (10.00 X 12.00 X 18.25 IN. H)	2-3-4
4310-00-861-9820	1	COMPRESSOR, RECIPROCATING, POWER DRIVEN	2
8120-00-268-3360	3	CYLINDER, COMPRESSED GAS: acetylene	2-4
8120-00-248-0174	2	CYLINDER, COMPRESSED GAS: argon	2-4
8120-00-151-9758	3	CYLINDER, COMPRESSED GAS: oxygen	2-4
4210-00-555-8837	1	EXTINGUISHER, FIRE, MONOBROMOTRI-FLUOROMETHANE	2-4
3415-00-517-7754	1	GRINDING MACHINE, UTILITY	2-5
5120-00-595-8388	1	JACK KIT, HYDRAULIC, HAND	2-4
3405-00-517-0592	1	SAW, BAND, CUTOFF	2-3-5
3439-00-198-8348	1	SCREEN, WELDING	2-5
3436-00-847-3772	1	TABLE, WELDING	2-3-4
4910-00-543-7771	1	TABLE, WORK, AUTOMOTIVE MAINTENANCE	2-3-5

3. Location of Equipment - Continued

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

NSN	Qty	Description	Figure No.
3920-01-113-0117	1	TRUCK, HAND, TWO-WHEELED	2-4
5120-00-293-1439	1	VISE, MACHINIST'S (4.00 IN.)	2-5
3431-00-903-5647	1	WELDING MACHINE, ARC	2-3

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

NSN	Qty	Description	Figure No.
5120-00-180-2885	1	ANVIL, BLACKSMITH'S	7-9
5120-00-449-6644	1	BLOCK, WOOD, ANVIL (10.00 X 12.00 X 18.25 H)	7-8-9
4310-00-861-9820	1	COMPRESSOR, RECIPROCATING, POWER DRIVEN	7-11-14
8120-00-268-3360	3	CYLINDER, COMPRESSED GAS: acetylene	7-9
8120-00-248-0174	2	CYLINDER, COMPRESSED GAS: argon	7-9
8120-00-151-9758	3	CYLINDER, COMPRESSED GAS: oxygen	7-9
4210-00-555-8837	1	EXTINGUISHER, FIRE, MONOBROMOTRI-FLUOROMETHANE	7-11-12
6545-00-922-1200	1	FIRST AID KIT, GENERAL PURPOSE	11-12
3415-00-517-7754	1	GRINDING MACHINE, UTILITY	7-9
4240-00-540-0623	1	HELMET, WELDER'S	9
5120-00-595-8388	1	JACK KIT, HYDRAULIC, HAND	7-11-14
3405-00-517-0592	1	SAW, BAND, CUTOFF	7-8-11-14
5130-00-293-1162	1	SAW, CIRCULAR, PORTABLE, ELECTRIC	7-9-13
3439-00-198-8348	1	SCREEN, WELDING	7-9-14

3. Location of Equipment - Continued

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

NSN	Qty	Description	Figure No.
4940-00-242-4101	1	SEPARATOR, OIL AND WATER	11-12
3436-00-847-3772	1	TABLE, WELDING	7-8-9-13
4910-00-543-7771	1	TABLE, WORK, AUTOMOTIVE MAINTENANCE	7-8-9
5180-00-357-7731	1	TOOL KIT, BODY AND FENDER REPAIR	7-9-14
3433-00-357-6311	1	TORCH OUTFIT, CUTTING AND WELDING	7-9-13
3433-00-880-0512	1	TORCH OUTFIT, METALLIZING AND WELDING	7-11-13
3920-01-113-0117	1	TRUCK, HAND, TWO-WHEELED	7-9-13
5120-00-293-1439	1	VISE, MACHINIST'S (4.00 IN.)	7-9
3431-00-903-5647	1	WELDING MACHINE, ARC	7-8-11
3431-00-691-1415	1	WELDING SET, ARC, INERT GAS SHIELDED	7-9-13

Section II. INSTALLATION IN 280 SHELTER

4. Installation

NOTE

Hand blind riveter (5120-00-679-6523) is used to install blind rivet nuts in floor and walls of 280 shelter. Install blind rivet nuts in accordance with the manual supplied with the hand blind riveter. Position floor- and work table top-mounted equipment as shown in figures 2, 4, and 5. Use the equipment mounting holes as a template for location of blind rivet nuts and fasteners in accordance with figures 2, 3, and 4. Positions may be varied to drill into structural members in floor.

a. Follow steps (1) thru (3) below for installation of blind rivet nuts and strap loops in the 280 shelter, unit 1.

(1) Mark and drill twenty-seven 0.25-in. diameter holes in floor and walls in accordance with figures 3 and 4. Install twenty-seven #10 blind rivet nuts (S37B80). Secure twelve strap loops (MS51939-3) to walls and floor, using twenty-four #10 x 1/2-in. countersunk head machine screws (MS35190-271).

(2) Mark and drill six 0.41-in. diameter holes in the rear right floor in accordance with figure 3. Install six 5/16-in. blind rivet nuts (MS27130-S45K).

4. Installation - Continued

(3) Mark and drill sixteen 0.50-in. diameter holes in floor in accordance with figure 3. Install sixteen 3/8-in. blind rivet nuts (S37B285).

b. Fabricate two support angles (11021151-9) in accordance with figure 15.

c. Follow steps (1) through (16) below for equipment installation in the 280 shelter, unit 1.

(1) Mark and drill four 0.41-in. diameter holes in the bottom frame of arc welding machine (3431-00-903-5647). Position arc welding machine in front of 280 shelter in accordance with figure 2 over installed floor-mounted, blind rivet nuts in accordance with figure 3. Secure to floor, using four 3/8- k 1-1/8-in. hex head capscrews (MS90725-61) and four 3/8-in. lockwashers (MS35338-46).

(2) Position band saw (3405-00-517-0592) in right front end of 280 shelter in accordance with figures 2 and 5. Mark and drill four 0.41-in. diameter holes through band saw legs over installed floor-mounted blind rivet nuts in accordance with figure 3. Secure bandsaw to floor, using four 3/8- x 1-1/8-in. hex head capscrews (MS90725-61) and four 3/8-in. lockwashers (MS35338-46).

(3) Position two compressed oxygen gas cylinders (8120-00-151-9758) and two compressed argon gas cylinders (8120-00-248-0174) in front left corner in accordance with figures 2 and 4. Secure to corner walls, using two 92-in. retaining straps (7550588-7).

(4) Position welding table (3436-00-847-3772) against left middle wall in accordance with figures 2 and 4. Mark and drill four 0.41-in diameter holes in welding table legs over installed floor-mounted blind rivet nuts in accordance with figure 3. Secure welding table to floor, using four 3/8- x 1-1/8-in. Hex head capscrews (MS90725-61) and four 3/8-in. lockwashers (MS35338-46).

(5) Position work table (4910-00-543-7771) in right rear corner of 280 shelter in accordance with figures 2 and 5. Mark and drill six 0.34-in. diameter holes through work table legs over installed floor-mounted blind rivet nuts in accordance with figure 3. Secure work table to floor, using six 5/16- x 1-1/8-in. machine bolts (MS90725-35) and six 5/16-in. lockwashers (MS35338-45).

(6) Position welding screen (3439-00-198-8348) between work table and right side wall in accordance with figures 2 and 5.

(7) Position utility grinding machine (3415-00-517-7754) on work table in accordance with figures 2 and 5. Using utility grinding machine base as a template, mark and drill three 0.34-in. diameter holes through work table top. Secure utility grinding machine to work table, using three 5/16- x 3-in. Machine bolts (MS90725-44), three 5/16-in. Flat washers (MS27183-11), three 5/16-in. lockwashers (MS35338-45), and three 5/16-in. hex nuts (MS51967-5).

(8) Position machinist's vise (5120-00-293-1439) on work table in accordance with figures 2 and 5. Using machinist's vise base as a template, mark and drill four 0.56-in. diameter holes through work table top. Secure machinist's vise to work table top, using four 1/2- x 3-in. hex head capscrews (MS90725-119), four 1/2-in. flat washers (MS27183-17), four 1/2-in. lockwashers (MS35338-48), and four 1/2- in. hex nuts (MS51967-14).

(9) Position two compressed acetylene gas cylinders (8120-00-268-3360) against front end of welding table in accordance with figures 2 and 4.

4. Installation - Continued

Secure compressed acetylene gas cylinders to wall and leg of welding table, using two 92-in. retaining straps (7550588-7).

(10) Position and center two support angles (11021151-9) on anvil block (5120-00-449-6644) 10-in. Face bottom with two 0.34-in. diameter holes touching the anvil block (fig. 2 thru 4). Using support angles as templates, mark and drill four 0.22-in. diameter pilot holes into anvil block base. Secure support angles to anvil block, using four 5/16- x 1-1/2-in. lag screws (MS16992-522) and four 5/16-in. lockwashers (MS35338-45).

(11) Position anvil block, with attached support angles on floor, next to welding table in accordance with figures 2 and 4. Position over installed floor-mounted blind rivet nuts in accordance with figure 3. Secure anvil block to floor, using four 3/8- x 1-1/4-in. hex head capscrews (MS90725-62) and four 3/8-in. lockwashers (MS35338-46).

(12) Position blacksmith's anvil (5120-00-180-2885) on top of installed anvil block in accordance with figures 2 and 4. Using blacksmith's anvil as a template, mark and drill two 0.22-in. diameter pilot holes into anvil block. Secure blacksmith's anvil to anvil block, using two 5/16- x 2-1/2-in. Lag screws (MS16992-525) and two 5/16-in. lockwashers (MS35338-45).

(13) Position mounting bracket of fire extinguisher (4210-00-555-8837) on rear left wall in accordance with figure 4. Mark and drill three 0.22-in. diameter holes in bracket. Position over installed wall-mounted blind rivet nuts in accordance with figure 4. Secure mounting bracket to wall, using three #10 x 1/2-in. countersunk head machine screws (MS35190-271). Install fire extinguisher in mounting bracket (fig. 2).

(14) Position compressor (4310-00-861-9820) in rear left corner of 280 shelter in accordance with figure 2. Secure compressor to floor, using two 92-in. retaining straps (7550588-7). (Leave retaining straps unfastened at this step.)

(15) Position hand truck (3920-01-113-0117) next to compressor in accordance with figure 2. Position compressed oxygen gas cylinder (8120-00-151-9758) and compressed acetylene gas cylinder (8120-00-268-3360) on hand truck. Secure compressed oxygen and acetylene gas cylinders to hand truck, using a 110-in. retaining strap (7550588-10). Secure hand truck to compressor, using the two previously installed 92-in. retaining straps passed around hand truck base. Tighten retaining straps.

(16) Position hydraulic jack kit (5120-00-595-8388) against rear wall in accordance with figures 2 and 4. Secure hydraulic jack kit to rear wall and floor using 110-in. retaining strap (7550588-10).

Section III. INSTALLATION IN ISO-2-1 SHELTER

5. Installation

NOTE

Hand blind riveter (5120-00-679-6523) is used to install blind rivet nuts in floor and walls of ISO-2-1 shelter. Install blind rivet nuts in accordance with the manual supplied with the hand blind riveter. Position floor- and table top-mounted equipment as shown in figures 7, 9, 11, 13, and 14. Use the equipment mounting holes as templates for location of blind rivet nuts in accordance with figures 8 and 14. Position wall-mounted equipment as shown in figures 9 and 11, using the equipment mounting holes as templates for location of blind rivet nuts in accordance with figures 10 and 12.

a. Follow steps (1) thru (3) below for installation of blind rivet nuts and strap loops.

CAUTION

After installing blind rivet nuts, potting compound (8040-01-102-2098) must have a curing time of 24 to 48 hours before any threaded fasteners are installed.

(1) Mark and drill thirty-six 0.25-in. diameter holes in floor and walls to a maximum depth of 1.00 inch in accordance with figures 8, 10, and 12. Inject potting compound (8040-01-102-2098) as required; install thirty-six #10 blind rivet nuts (S10B80). Position fourteen strap loops (MS51939-3) over blind rivet nuts on floor and right and left walls in accordance with figures 7, 9, and 11. Secure strap loops, using twenty-eight #10 x 1/2-in. Countersunk head machine screws (MS35190-271).

(2) Mark and drill six 0.42-in. diameter holes in floor to a maximum depth of 1.50 inches in accordance with figure 8. Inject potting compound (8040-01-102-2098) as required; install four 5/16-in. blind rivet nuts (S31B125) and two 5/16-in. blind rivet nuts (S31B275) in accordance with figure 8.

(3) Mark and drill twenty-four 0.50-in. diameter holes in the fixed and deployed floor to a maximum depth of 1.50 inches in accordance with figures 8 and 14. Inject potting compound (8040-01-102-2098) as required; install twelve 3/8-in. blind rivet nuts (S37B115) in accordance with figures 8 and 14. Install twelve 3/8-in. blind rivet nuts (S37B285) in accordance with figure 8.

b. Fabricate two support angles (11021151-9) in accordance with figure 15.

c. Follow steps (1) thru (22) below for equipment installation in ISO-2-1 shelter, unit 2.

(1) Position arc welding machine (3431-00-903-5647) against front left wall in accordance with figures 7 and 11. Mark and drill four 0.41-in. diameter holes in frame. Position over installed floor-mounted blind rivet nuts in accordance with figure 8. Secure arc welding machine to floor, using two 3/8-x 7/8-in. hex head capscrews (MS90725-59) installed in front end of arc welding machine, two 3/8- x 1-1/8-in. hex head capscrews (MS90725-61) installed in rear end of arc welding machine, and four 3/8-in. lockwashers (MS35338-46).

(2) Position work table (4910-00-543-7771) near front right wall in accordance with figures 7 and 9. Mark and drill six 0.34-in. diameter holes in work table legs. Position over installed floor-mounted blind rivet nuts in accordance with figure 8. Secure work

5. Installation - Continued

table to floor, using two 5/16- x 1-in. machine bolts (MS90725-34) installed in front end of work table, four 5/16- x 3/4-in. machine bolts (MS90725-32), and six 5/16-in. lockwashers (MS35338-45).

(3) Position welding table (3436-00-847-3772) against middle right wall in accordance with figures 7 and 9. Mark and drill four 0.41-in. diameter holes through welding table legs. Position over installed floor-mounted blind rivet nuts in accordance with figure 8. Secure welding table to floor, using four 3/8-xl-1/8-in. hex head capscrews (MS90725-61) and four 3/8-in. Lockwashers (MS35338-46).

NOTE

The two blind rivet nuts (S37B285) installed in front of welding table are used to secure welding table when ISO-2-1 shelter is in the deployed position.

(4) Position band saw (3405-00-517-0592) against rear left wall in accordance with figures 7 and 11. Mark and drill four 0.41-in. diameter holes through band saw legs. Position over installed floor-mounted blind rivet nuts in accordance with figure 8. Secure band saw to floor, using two 3/8- x 7/8-in. hex head capscrews (MS90725-59) installed in rear end of band saw, two 3/8 x 1-1/8-in. hex head capscrews (MS90725-61), and four 3/8-in. lockwashers (MS35338-46).

(5) Position two support angles (11021151-9) on anvil block (5120-00-449-6644) flush with bottom of anvil block in accordance with figure 9. Using support angles as templates, mark and drill four 0.22-in. diameter pilot holes in bottom of anvil block. Secure support angles to anvil block, using four 5/16- x 1-1/4-in. hex head lag bolts (MS16992-521) and four 5/16-in. lockwashers (MS35338-45).

(6) Position anvil block, with attached support angles, next to welding table in accordance with figures 7 and 9. Position support angles over installed floor-mounted blind rivet nuts in accordance with figure 8. Secure anvil block to floor, using four 3/8-xl-in. hex head capscrews (MS90725-60), two 3/8- x 1-1/4-in. hex head capscrews (MS90725-62) installed in front set of blind rivet nuts, and six 3/8-in. lockwashers (MS35338-46).

(7) Position blacksmith's anvil (5120-00-180-2885) on top of anvil block in accordance with figures 7 and 9. Using anvil base as a template, mark and drill two 0.22-in. diameter pilot holes in top of anvil block. Secure blacksmith's anvil to anvil block, using two 5/16- x 2-1/2-in. lag screws (MS16992-525) and two 5/16-in. lockwashers (MS35338-45).

(8) Position mounting bracket of fire extinguisher (4210-00-555-8837) on left front wall in accordance with figure 11. Mark and drill three 0.22-in. diameter holes in mounting bracket. Position over installed wall-mounted blind rivet nuts in accordance with figure 12. Secure mounting bracket to wall, using three #10 x 1/2-in. countersunk head machine screws (MS35190-271). Install fire extinguisher in bracket (fig. 7).

(9) Remove contents of first aid kit (6545-00-922-1200). Mark and drill three 0.22-in. diameter holes in the back of first aid kit. Position first aid kit on rear left wall and over installed wall-mounted blind rivet nuts in accordance with figures 11 and 12. Secure first aid kit to wall, using three #10 x 1/2-in. countersunk head machine screws (MS35190-271). Install contents of first aid kit.

(10) Position oil and water separator (4940-00-242-4101) on left wall in accordance with figure

5. Installation - Continued

11. Mark and drill two 0.22-in. diameter holes through oil and water separator mounting bracket. Position over installed wall-mounted blind rivet nuts in accordance with figure 12. Secure oil and water separator to wall, using two #10 x 1/2- in. countersunk head machine screws (MS35190-271).

(11) Position hydraulic jack kit (5120-00-595-8388) and metallizing and welding torch outfit (3433-00-880-0512) against the front left corner wall in accordance with figures 7 and 11. Secure to wall, using two 66-in. Retaining straps (7550588-9) joined together.

(12) Position utility grinding machine (3415-00-517-7754) on top of work table in accordance with figures 7 and 9. Using the utility grinding machine base as a template, mark and drill three 0.34-in. diameter holes through table top. Secure utility grinding machine, using three 5/16- x 2- 1/2-in. machine bolts (MS90725-42), three 5/16-in. flat washers (MS27183-11), three 5/16-in. lockwashers (MS35338-45), and three 5/16-in. Hex nuts (MS51967-5).

(13) Position machinist's vise (5120-00-293-1439) on top of work table in accordance with figures 7 and 9. Using machinist's vise base as a template, mark and drill four 0.56-in. diameter holes through table top. Secure machinist's vise to table top, using four 1/2- x 3-in. hex head capscrews (MS90725-119), four 1/2-in. flat washers (MS27183-17), four 1/2-in. Lockwashers (MS35338-48), and four 1/2-in. hex nuts (MS51967-14).

(14) Position inert gas shielded arc welding set (3431-00-691-1415) and cutting and welding torch outfit (3433-00-357-6311) on top of work table in accordance with figures 7 and 9. Secure to work table, using two 110-in. retaining straps (7550588-10).

(15) Position welding screen (3439-00-198-8348) between the right front wall and the work table in accordance with figures 7 and 9.

(16) Position welder's helmet (4240-00-540-0623) in work table in accordance with figure 9.

(17) Position compressed argon gas cylinder (8120-00-248-0174) and two compressed oxygen gas cylinders (8120-00-151-9758) against the middle right wall in accordance with figures 7 and 9. Secure to wall, using two 110-in. retaining straps (7550588-10).

(18) Position portable circular saw (5130-00-293-1162) against anvil block in accordance with figures 7 and 9. Secure portable circular saw to anvil block, using a 92-in. retaining strap (7550588-7).

(19) Position body and fender repair tool kit (5180-00-357-7731) in front of welding table in accordance with figures 7 and 9. Secure, using 110-in. retaining strap (7550588-10).

(20) Position hand truck (3920-01-113-0117) on side of welding table and position compressed oxygen gas cylinder (8120-00-151-9758) and compressed acetylene gas cylinder (8120-00-268-3360) on hand truck in accordance with figures 7 and 9. Secure to welding table, using 110-in. retaining strap (7550588-10).

(21) Position two compressed acetylene gas cylinders (8120-00-268-3360) and compressed argon gas cylinder (8120-00-248-0174) against rear right wall in accordance with figures 7 and 9. Secure, using two 110-in. Retaining straps (7550588-10).

(22) Position compressor (4310-00-861-9820) in rear left corner in accordance with figures 7 and 11. Secure, using two 92-in. retaining straps (7550588-7).

5. Installation - Continued

d. Follow steps (1) thru (5) below for installation of equipment when ISO-2-1 shelter is deployed.

(1) Remove welding screen (3439-00-198-8348) from behind work table. Position welding screen in accordance with figure 14. Remove portable circular saw (5130-00-293-1162) from anvil block and position at front end of work table in accordance with figure 13.

(2) Remove body and fender repair tool kit (5180-00-357-7731) from welding table and position on the deployed floor in accordance with figure 14. Position welding table (3436-00-847-3772) in accordance with figure 13. Reposition hand truck (3920-01-113-0117) next to welding table. Use the same hex head capscrews and lockwashers to secure welding table at new position.

(3) Remove hydraulic jack kit (5120-00-595-8388) and metallizing and welding torch outfit (3433-00-880-0512) from left front end of ISO-2-1 shelter and position in accordance with figures 13 and 14.

(4) Remove inert gas shielded arc welding set (3431-00-691-1415) and cutting and welding torch outfit (3433-00-357-6311) from work table and position between welding table and right wall in accordance with figure 13.

(5) Remove band saw (3405-00-517-0592) and position over blind rivet nuts in deployed floor in accordance with figure 14. Secure to floor, using the same hex head capscrews and lockwashers used for the fixed floor location. Position compressor (4310-00-861-9820) on deployed floor in accordance with figure 14.

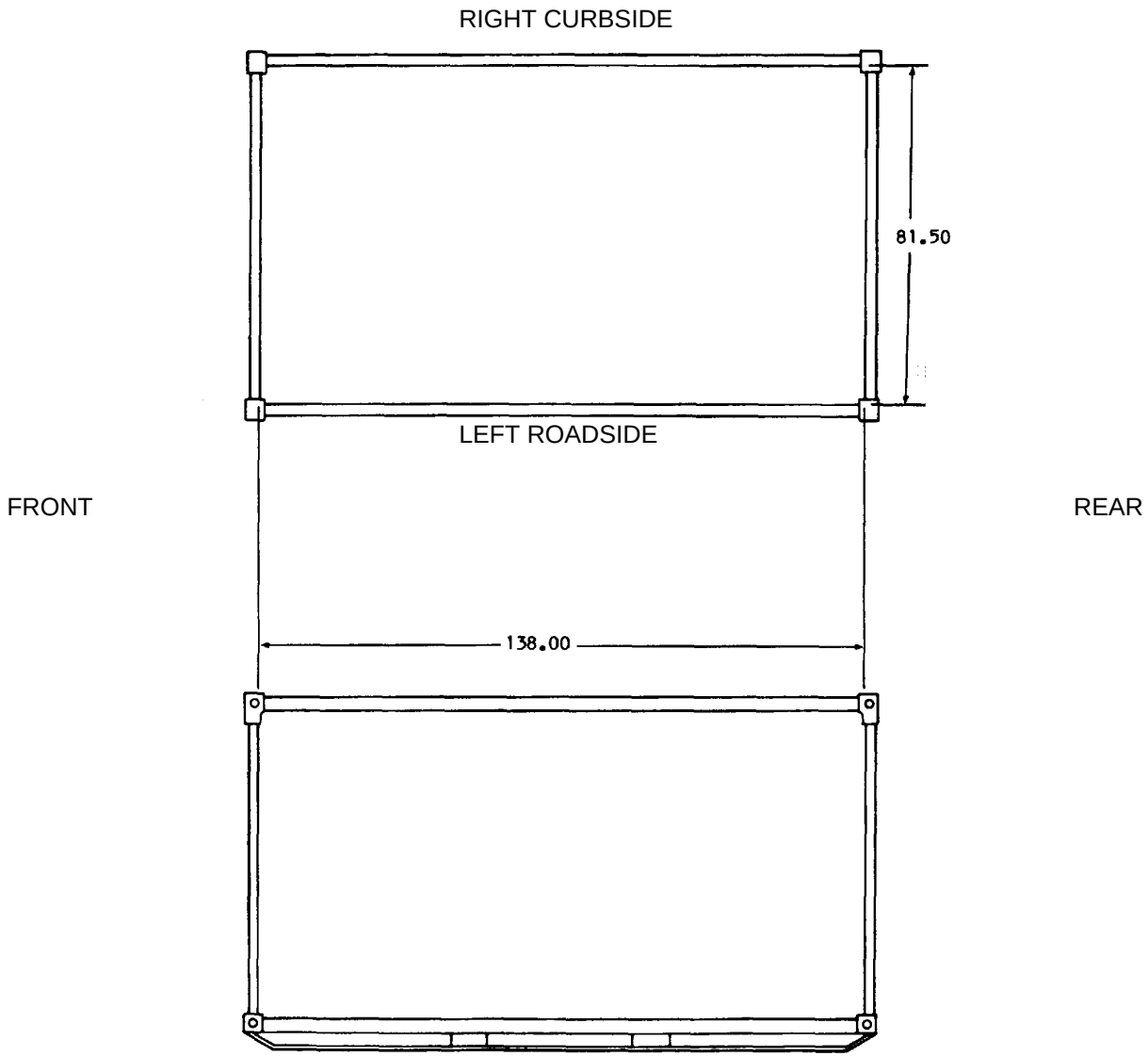


Figure 1. 280 shelter, unit 1.

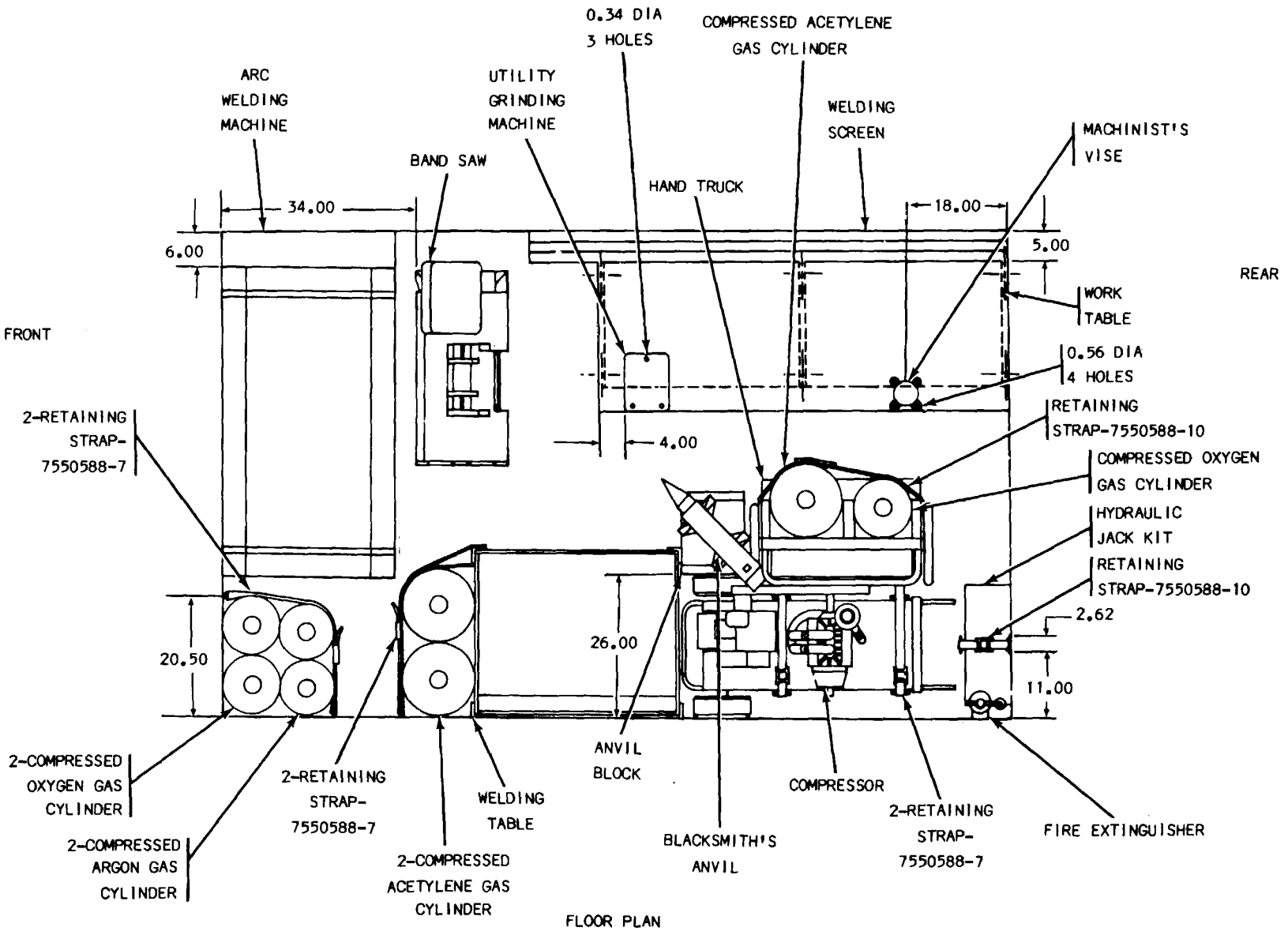


Figure 2. Components to be mounted, unit 1, 280, floor plan.

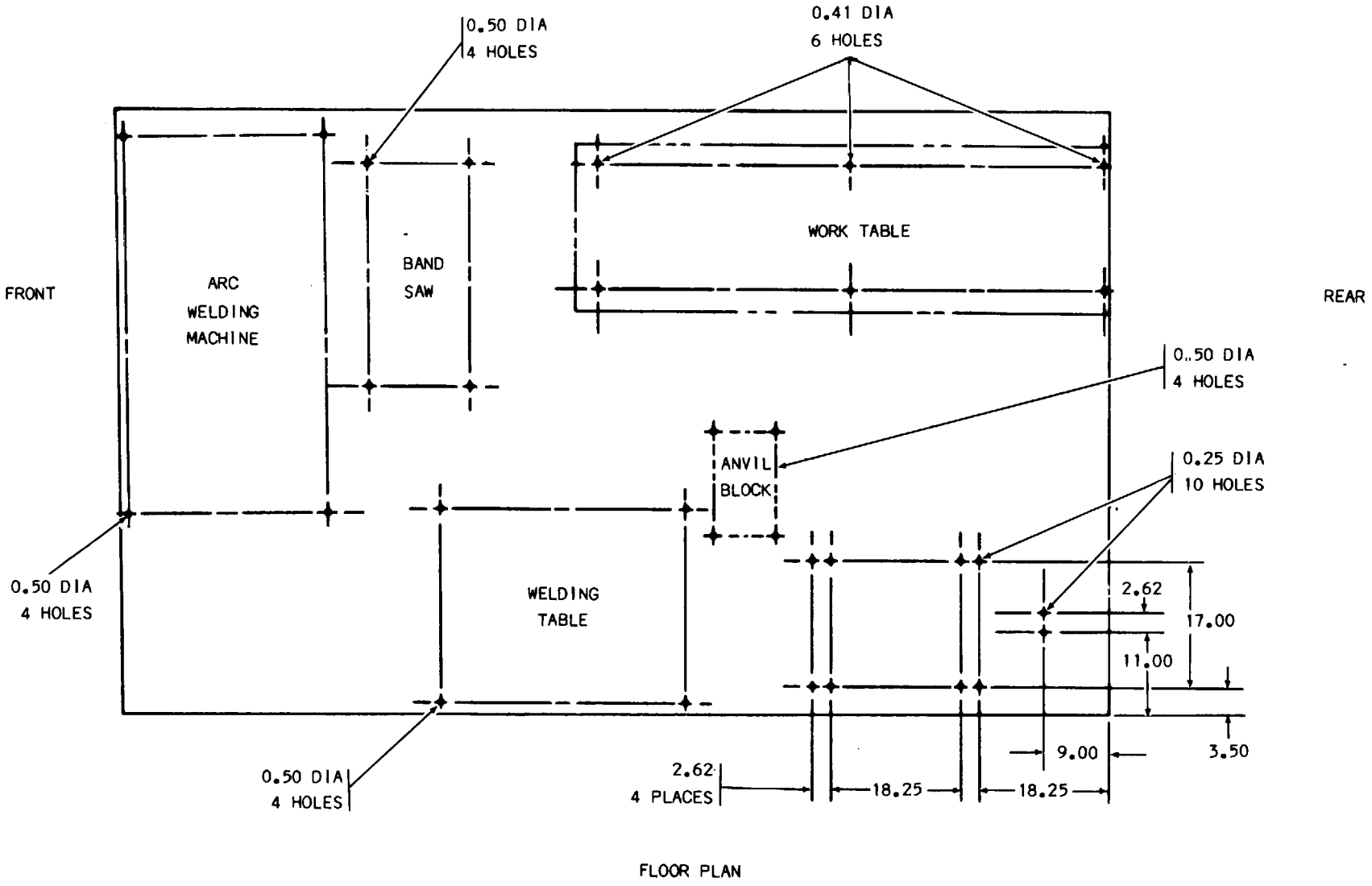
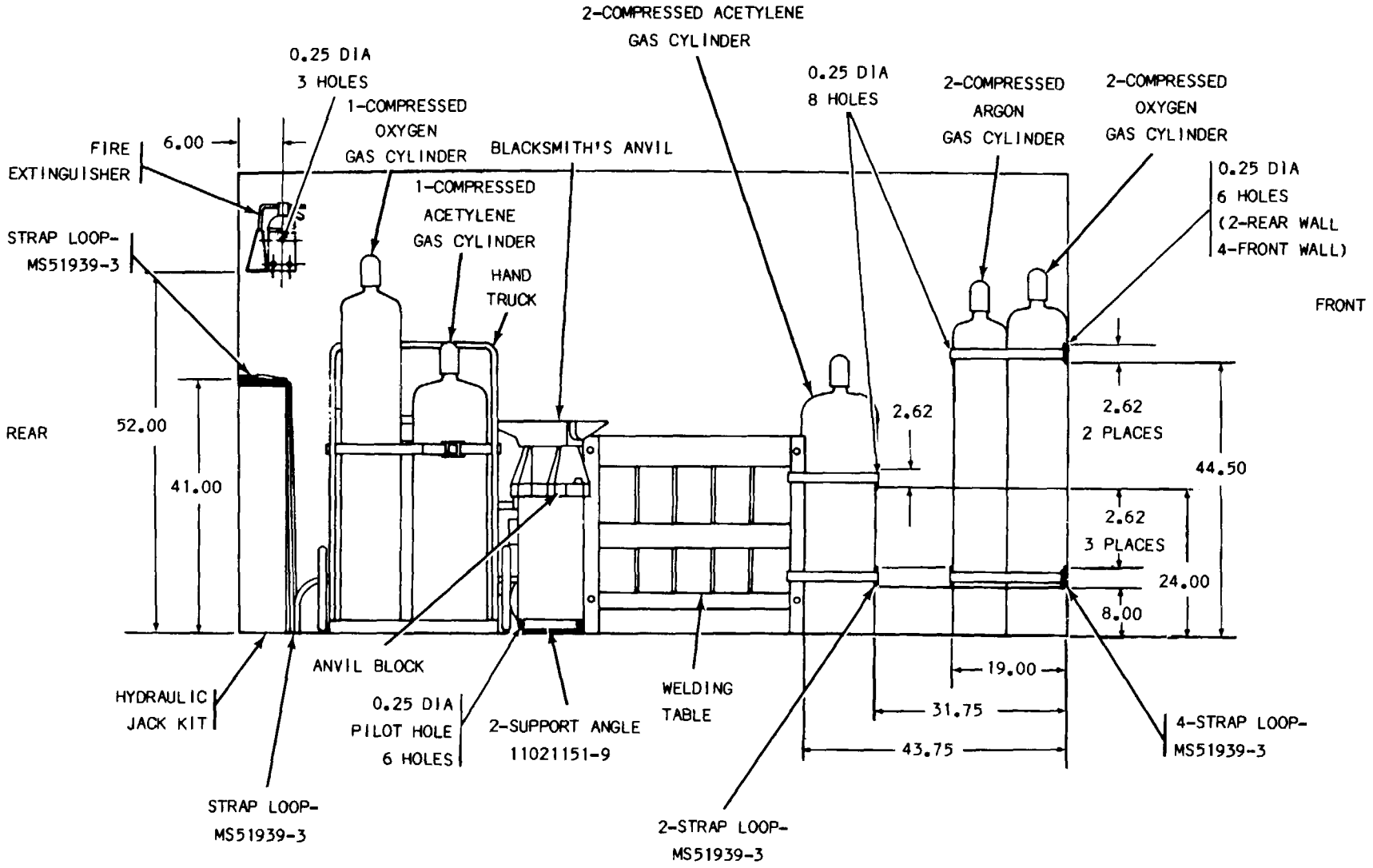
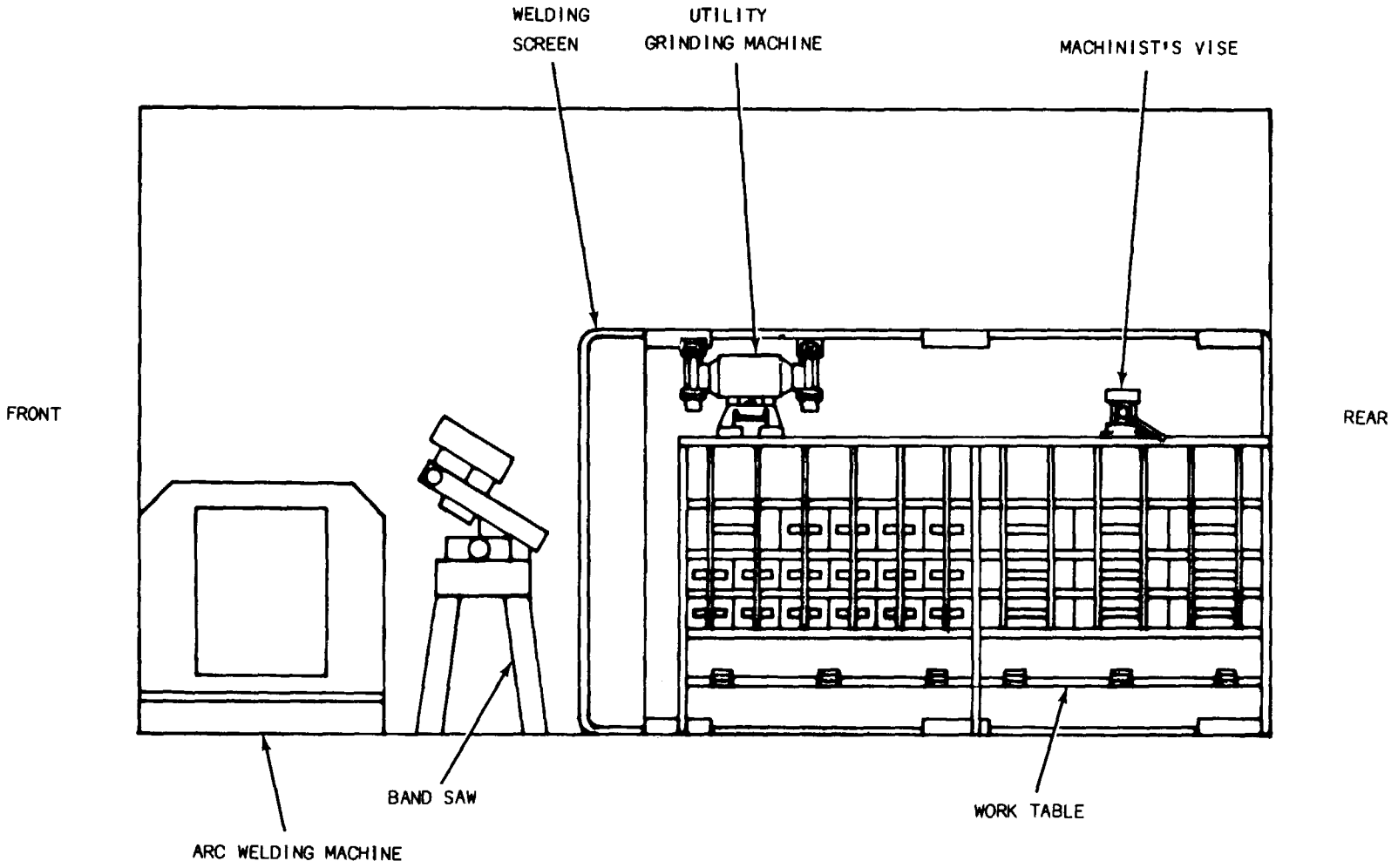


Figure 3. Dimensions for floor-mounted blind rivet nuts and equipment mounting holes, unit 1, 280, floor plan.



LEFT SIDE ELEVATION

Figure 4. Components to be mounted, left side elevation, unit 1, 280.



RIGHT SIDE ELEVATION

Figure 5. Components to be mounted, right side elevation, unit 1,280.

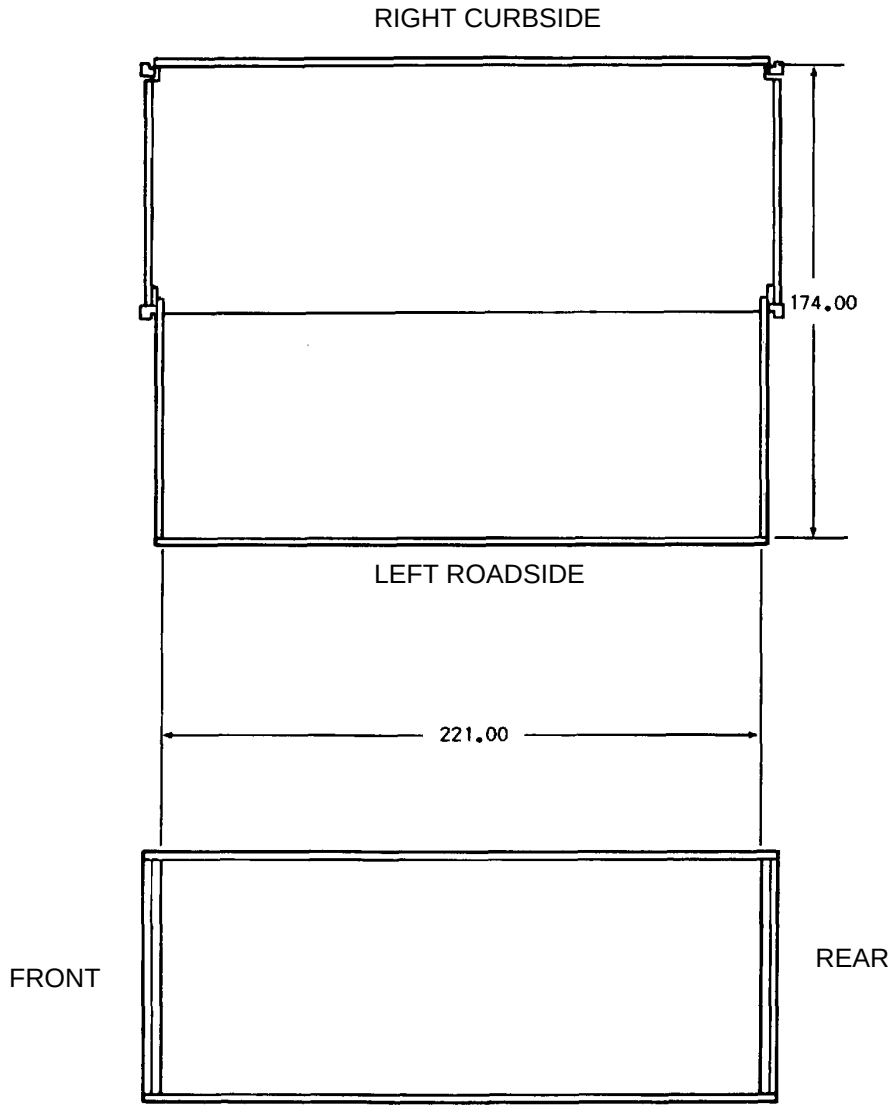
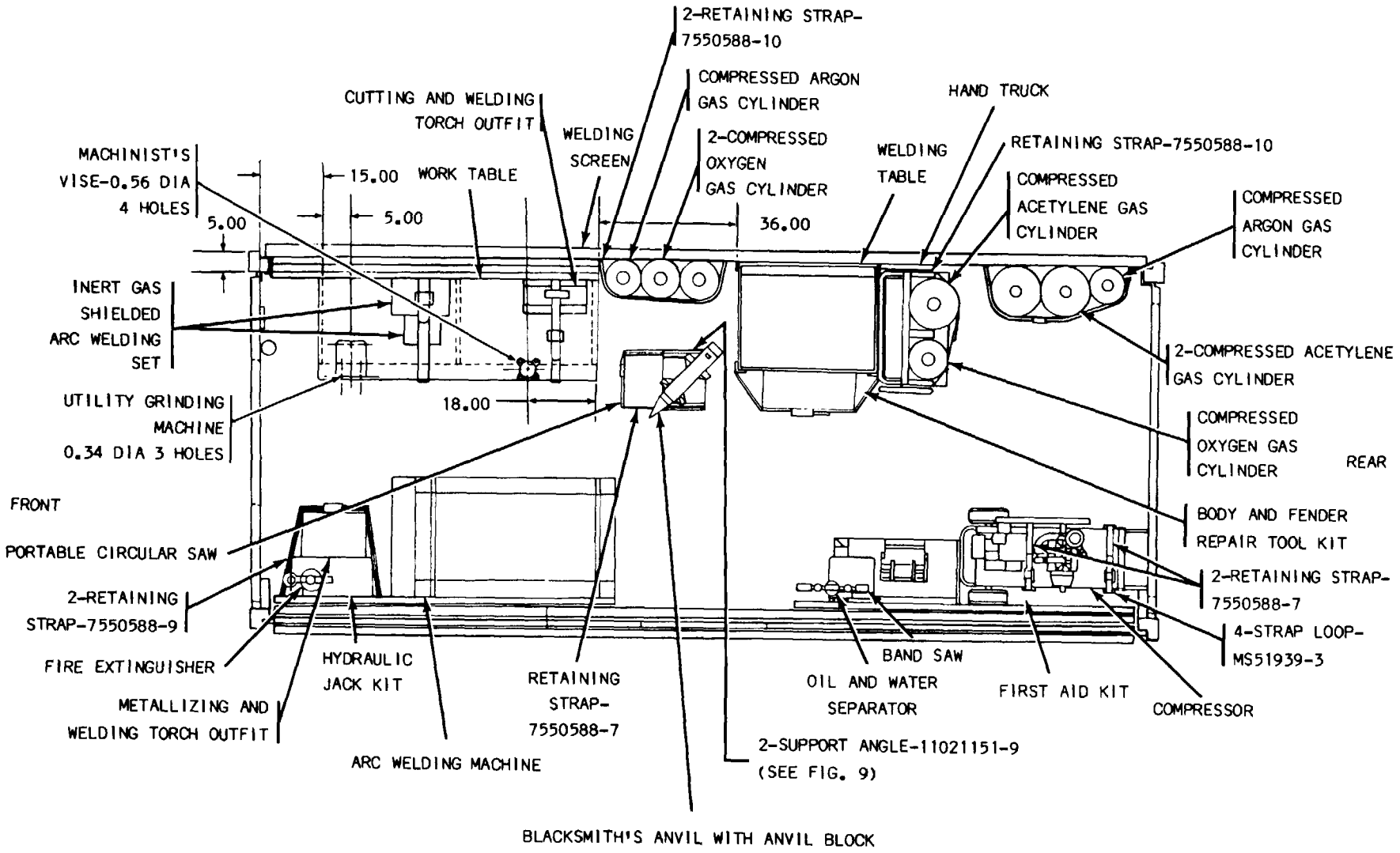


Figure 6. ISO-2-1 shelter, unit 2.



FLOOR PLAN-TRANSPORTATION MODE

Figure 7. Components to be mounted, unit 2, ISO-2-1, floor plan.

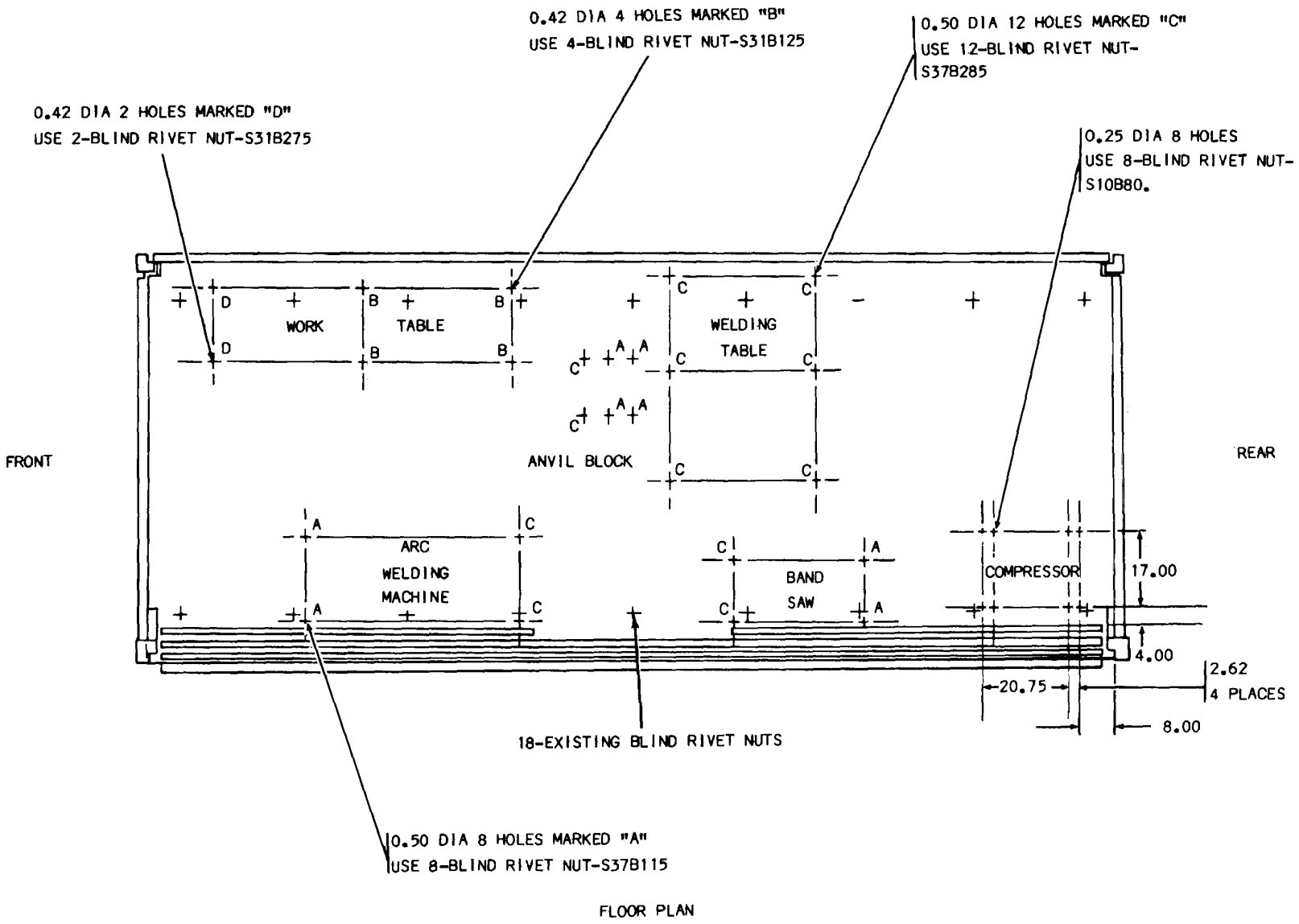


Figure 8. Location of fixed floor-mounted blind rivet nuts, unit 2, ISO-2-1.

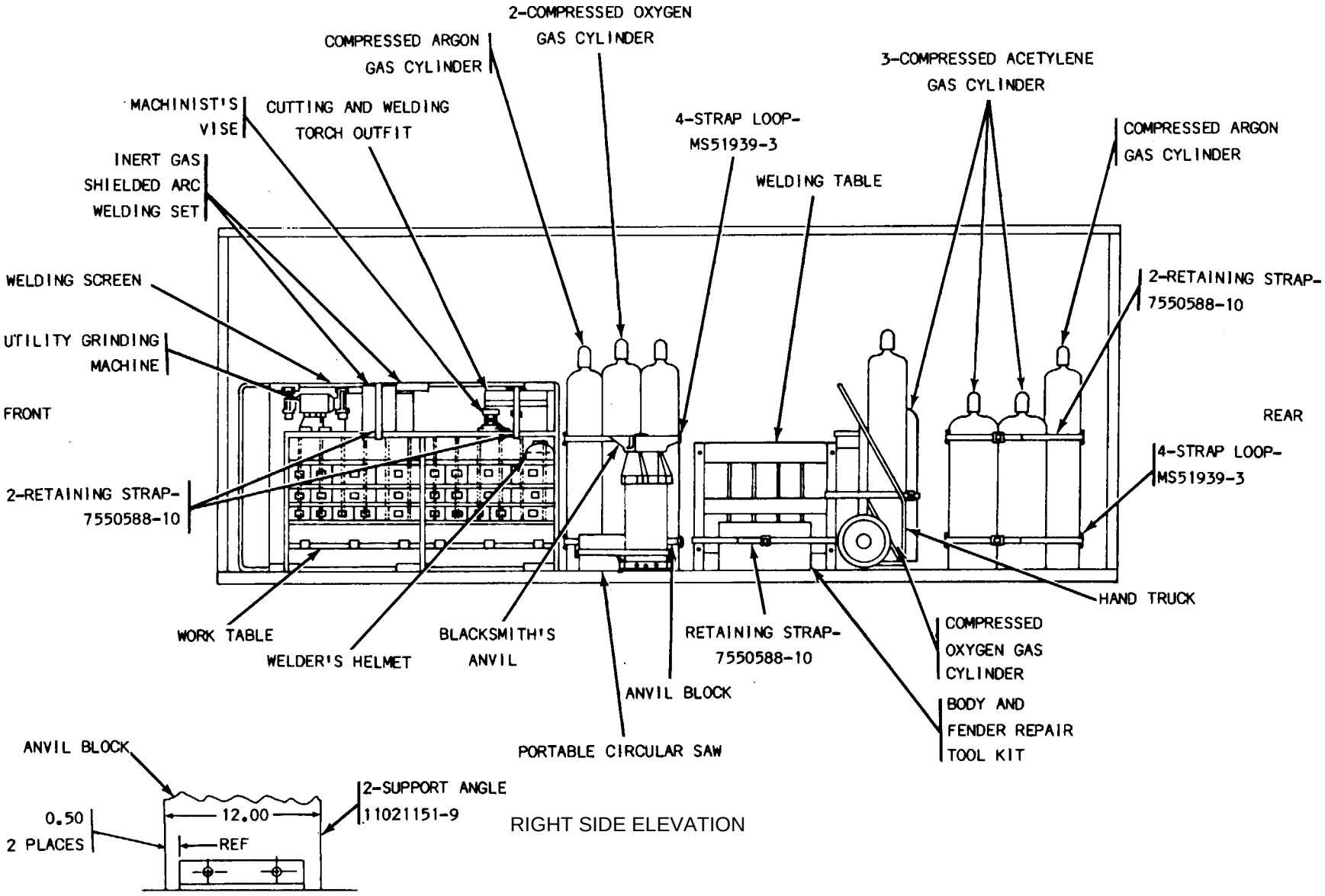
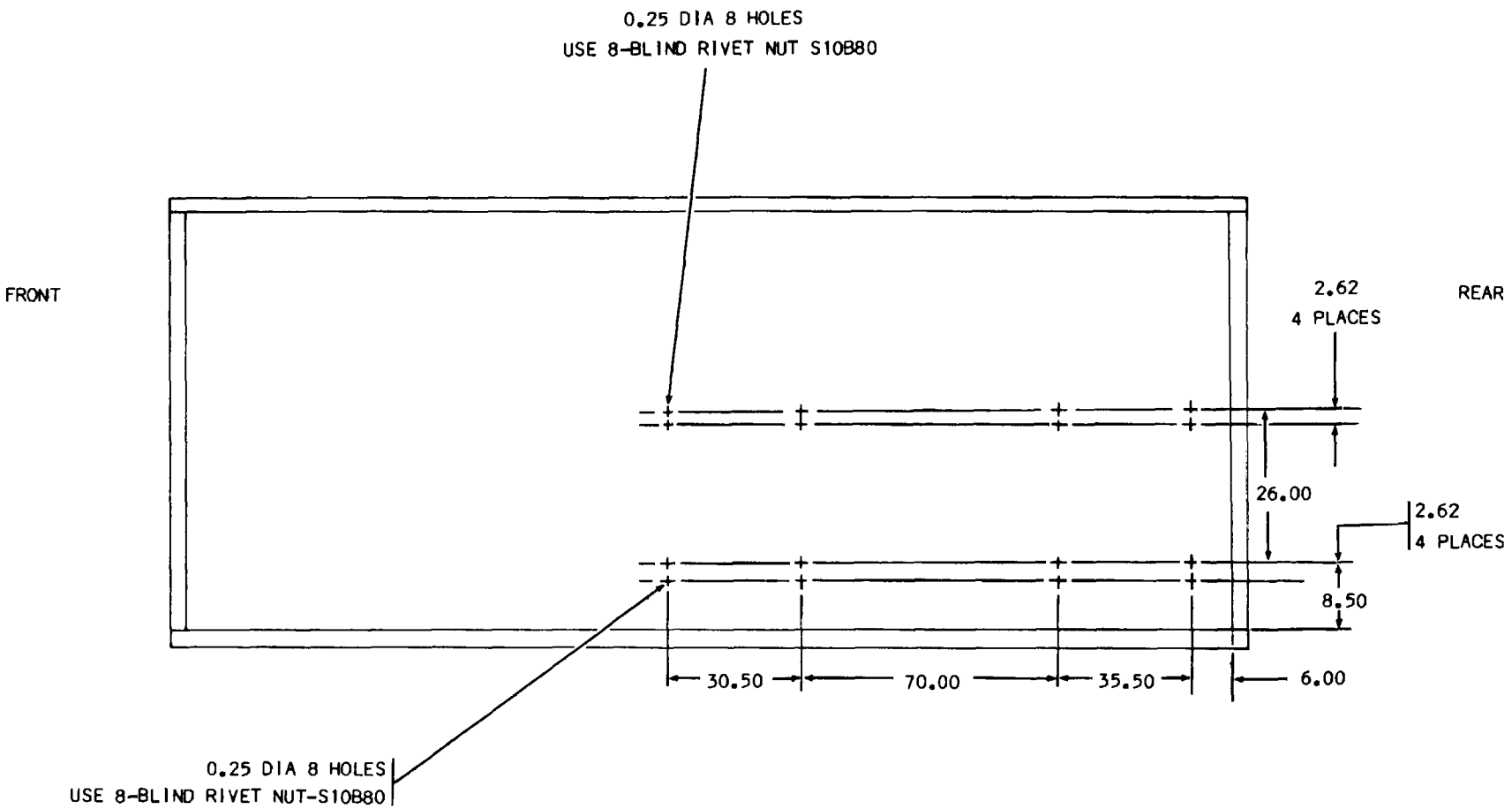
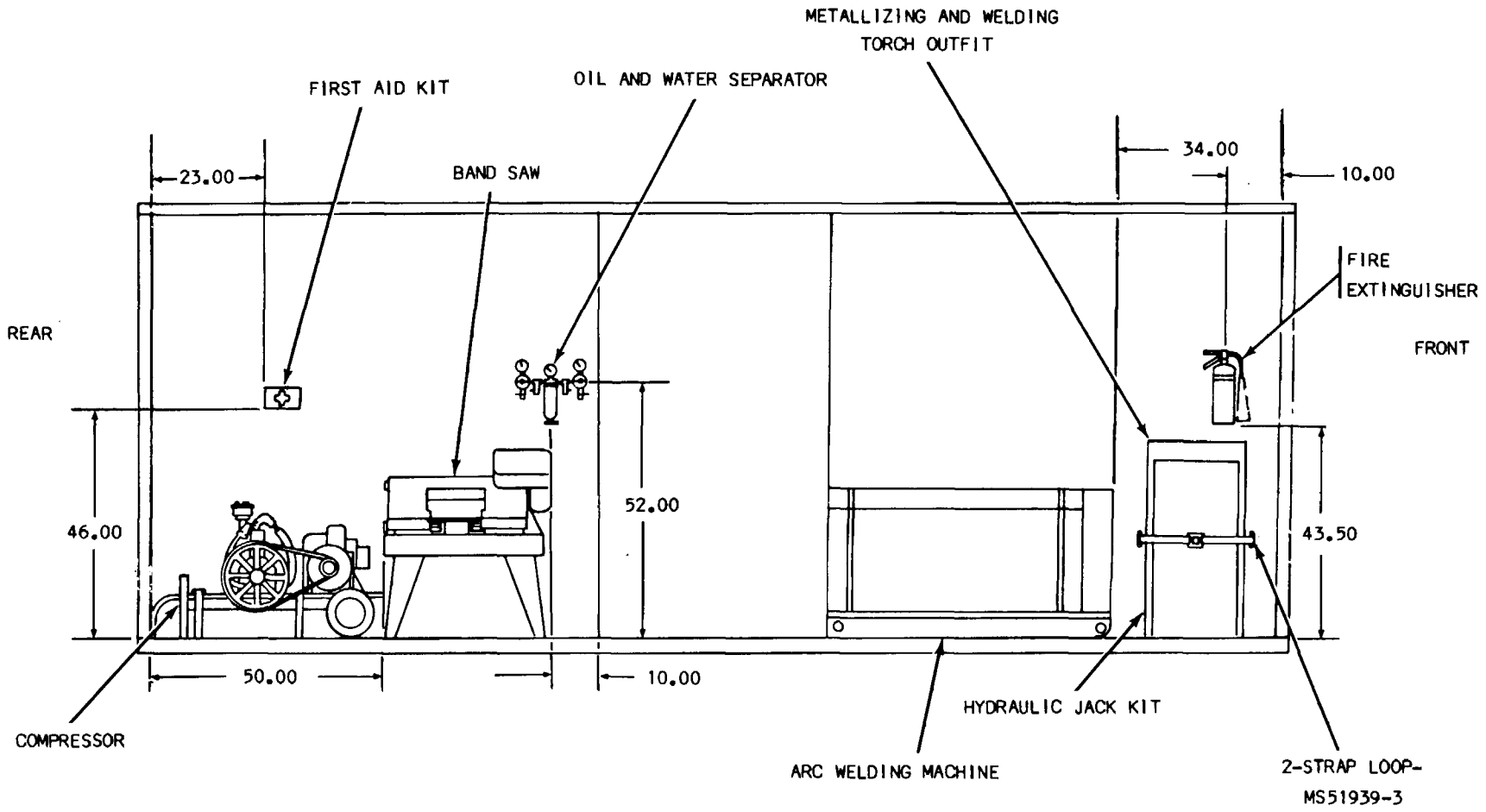


Figure 9. Components to be mounted right side elevation, unit 3, ISO-2-1.



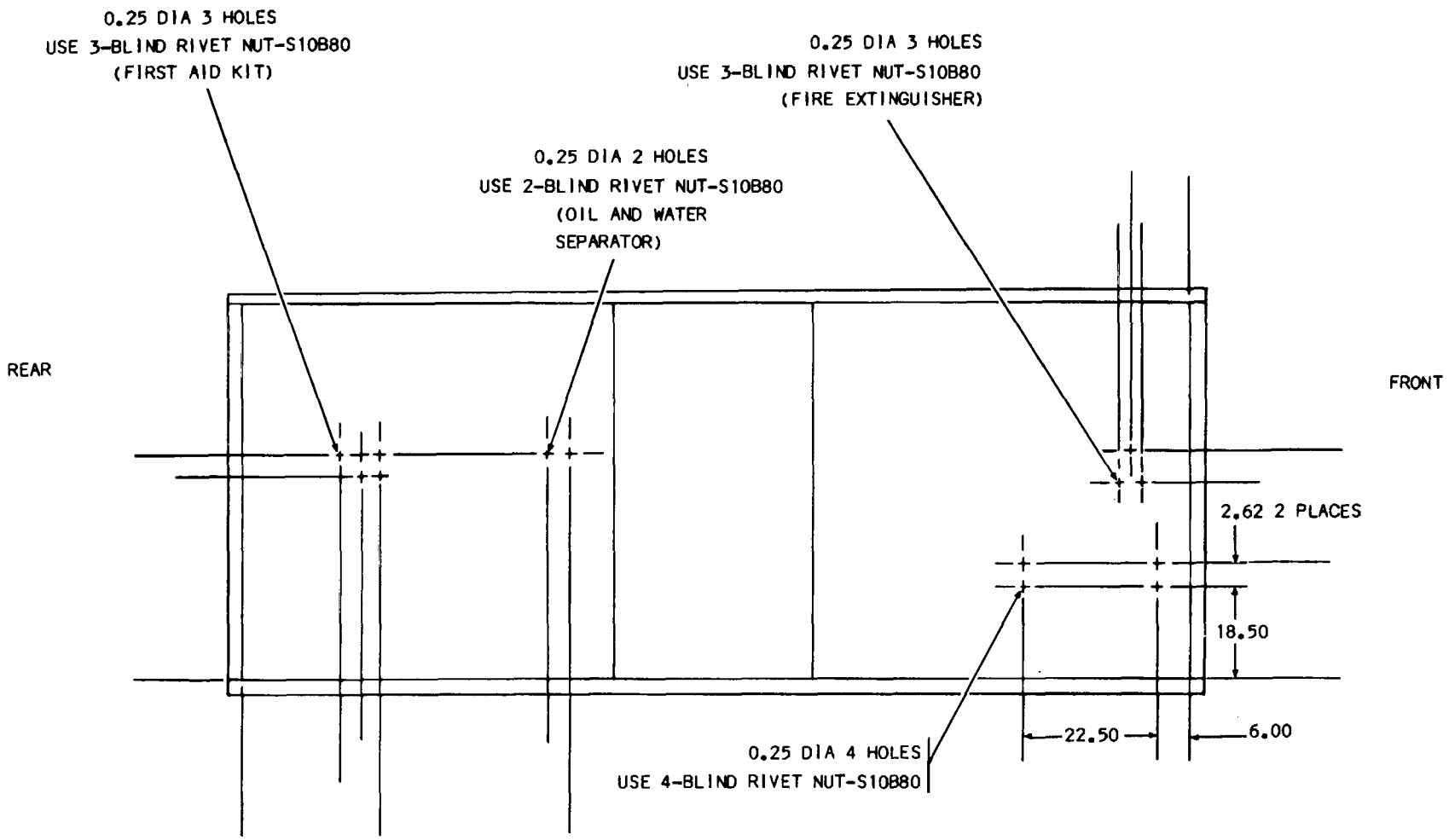
RIGHT SIDE WALL

Figure 10. Location of blind rivet nuts, right side wall, unit 2, ISO-2-1.



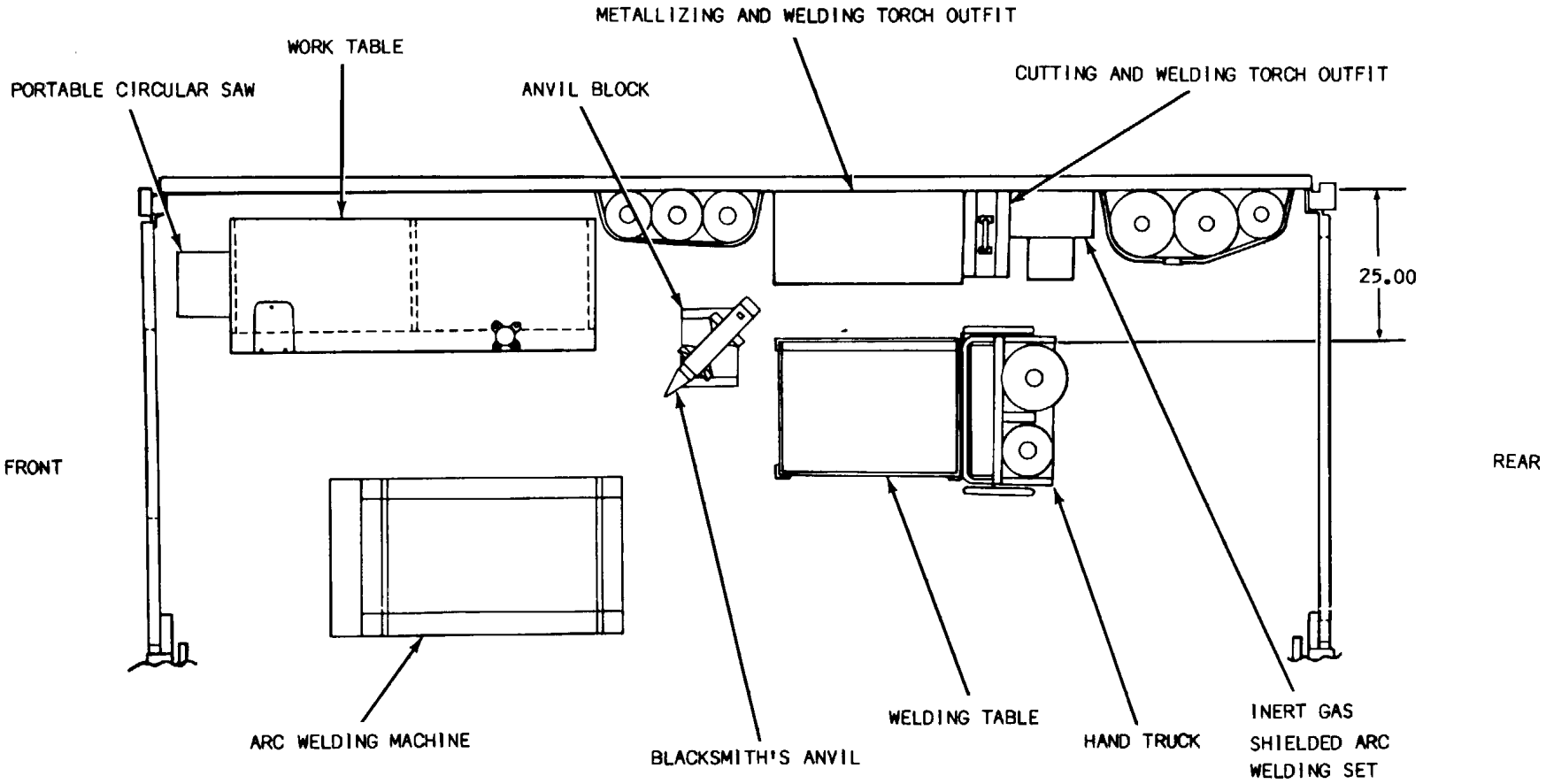
LEFT SIDE ELEVATION

Figure 11. Components to be mounted, left side elevation, unit 2, ISO-2-1.



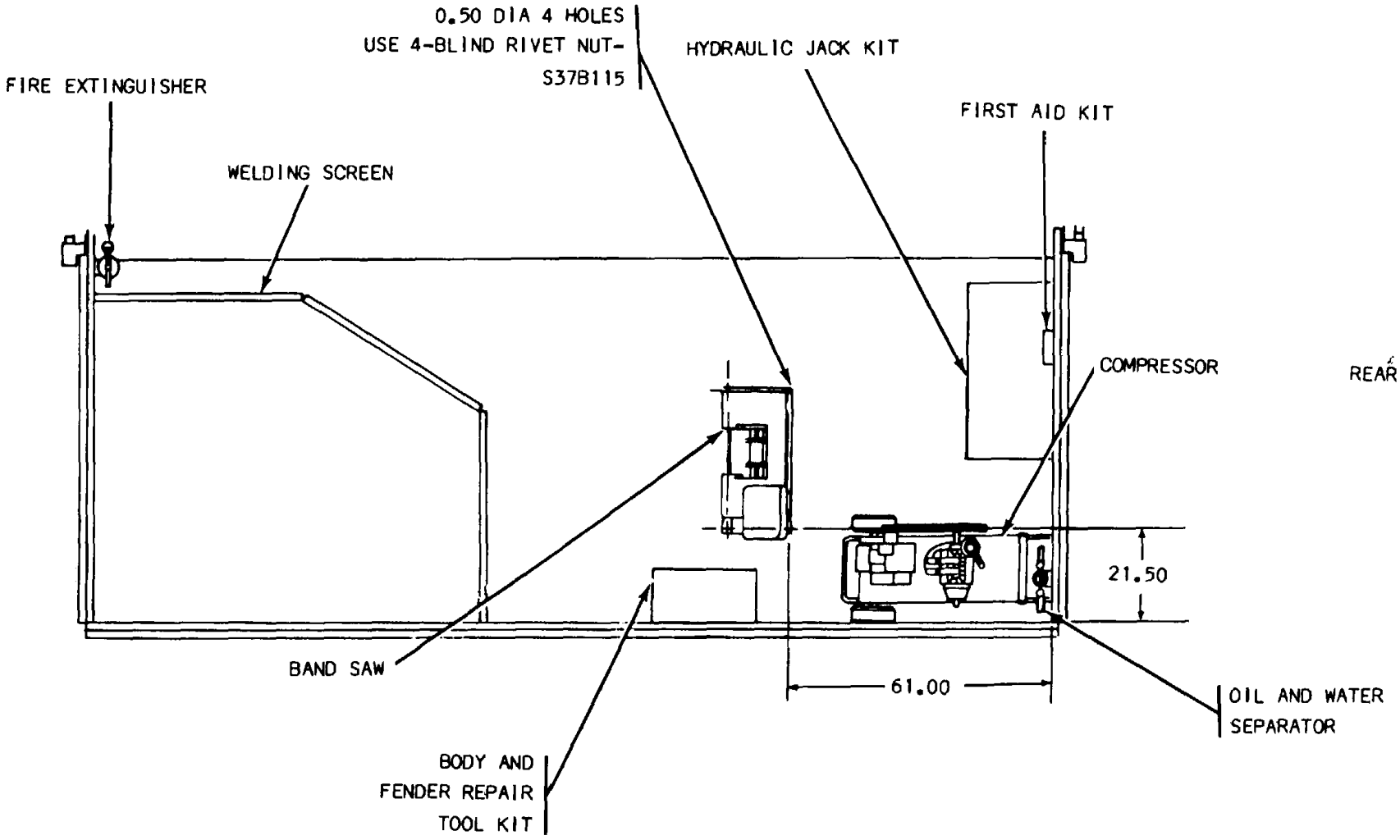
LEFT SIDE WALL

Figure 12. Location of blind rivet nuts, left side wall, unit 2, ISO-2-1.



FLOOR PLAN, FIXED FLOOR, DEPLOYED MODE

Figure 13. Location of components, fixed floor, deployed mode, unit 2, ISO-2-1.



DEPLOYED FLOOR PLAN

Figure 14. Location of components and blind rivet nuts, deployed floor, unit 2, ISO-2-1.

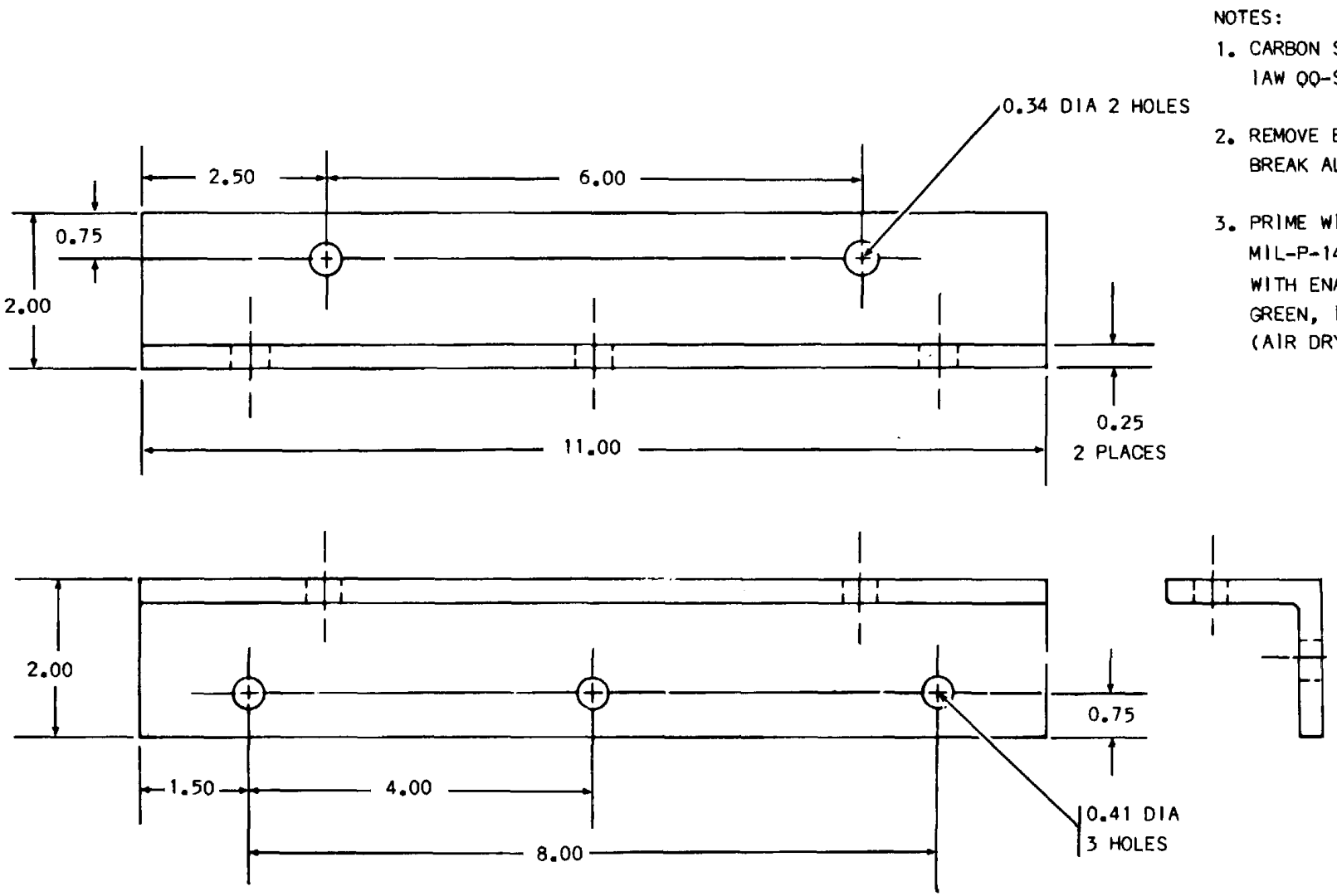


Figure 15. Dimensions for support angle-11021151-9, unit 1, 280 and unit 2, ISO-2-1.

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		

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