TECHNICAL MANUAL

OPERATOR'S AND INTERMEDIATE MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST FOR

SHOP SET, WELDING, AIRMOBILE

P/N 4920-99-CL-A88
NSN 4920-00-163-5093

Approved for public release; distribution is unlimited

HEADQUARTERS, DEPARTMENT OF THE ARMY
3 June 1991

CHANGE

NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 15 January 1993

Operator's and Intermediate Maintenance Manual Including Repair Parts and Special Tools List for Shop Set, Welding, Airmobile P/N 4920-99-CL-A88 NSN 4920-00-163-5093

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

TM 1-4920-455-13&P, 3 June 1991 is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

Remove pages	Insert pages
3-31 and 3-32	3-31 and 3-32
3-35 and 3-36	3-35 and 3-36

2. Retain this sheet in front of manual for reference purposes.

By Order of the Secretary of the Army:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:

MILTON H. HAMILTON
Administrative Assistant to the Secretary of the Army
03629

DISTRIBUTION:
To be distributed in accordance with DA Form 12-31-E, block no. 3156, requirements for TM 1-4920-455-13&P.

WARNING
PRECAUTIONARY DATA

Personnel performing operations, procedures and practices which are included or implied in this Technical Manual shall observe the following warnings. Failure to observe these warnings and precautionary information can cause serious injury, death, or destruction of materiel.

WARNING

An operating procedure, practice, etc., which, if not correctly followed, could result in injury or loss of life.

CAUTION

An operating procedure, practice, etc., which, if not strictly observed, could result in damage or destruction of equipment.

NOTE

An operating procedure, condition, etc., which is essential to highlight.

WARNING

When all equipment and materiel is stored on the stationary side of the shelter, the limited floor space presents an obstacle to operating personnel. This is most critical during the raising and lowering of the roof panel. Failure to observe supplemental expansion instructions could result in personnel inside the shelter becoming trapped between the roof panel and equipment. Serious injury to personnel could result.

WARNING

The fold-out floor counterbalance cables must be secured at the cable housings prior to alining the shelter hinged floor. If the counterbalance cables are not secured, the counterbalance cables will remain under tension. DO NOT attempt to remove cables if the counterbalance cables are not secured. Removing cables while under tension could cause serious injury to personnel.

WARNING

HIGH VOLTAGE exists in the electrical system of the shop. All electrical inspections, repairs or replacement will be performed with the power off and only by qualified electricians. Serious shock hazards exist which could result in injury or death to personnel.

WARNING

Four personnel are needed when moving or lifting the Environmental Control Unit (ECU). Unit weighs approximately 290 pounds. Trying to move or lift an ECU without sufficient help can cause serious injury to personnel.

WARNING

Cabinets are extremely heavy when fully equipped. At least two personnel are required to lift or move. Attempting to lift or move cabinet without sufficient personnel can result in severe injury.

WARNING

Methylethylketone (MEK), used to clean replacement inserts, is flammable and toxic. Use only in well ventilated areas. Breathing vapors can cause headaches and nausea. Repeated contact with skin can cause irritation. If irritation persists see a doctor. If in contact with eyes, wash immediately with water for 15 minutes and seek medical attention.

Safety goggles will be worn when drilling and cleaning holes for insert replacement. Flying chips can cause eye injury or blindness.

WARNING

High pressure compressed air against skin or near eye can cause injury or blindness. Do not direct compressed air against skin or near eyes. Always wear safety goggles when working with compressed air.

WARNING

Extreme care must be taken while performing all types of welding operations. Serious health and fire hazards exist. Harmful light rays can cause eye injury or blindness. Protective face masks and goggles must be used as well as other special clothing to reduce risks. Poisonous fumes, bums, electric shock, fire and explosion hazards are some of the additional possibilities of injury associated with welding operations. It is essential that all safe practices be strictly observed.

CAUTION

Shop utilizes 3-PHASE Electric Current. Proper phasing must be achieved when wiring the Power Distribution Panel to power source. Improper phasing can result in damage to the ECUs and other electrically operated equipment.

CAUTION

Care must be taken to ensure that proper hardware is used to secure equipment for transport. Lack of correct hardware could cause extensive damage to equipment or the shelter when shop is moved.

CAUTION

Torque values must be observed to prevent possible damage to equipment or the shelter. Improper procedures could result in extensive damage to government property. See App. G.

TECHNICAL MANUAL
No. 1-4920-455-13&P

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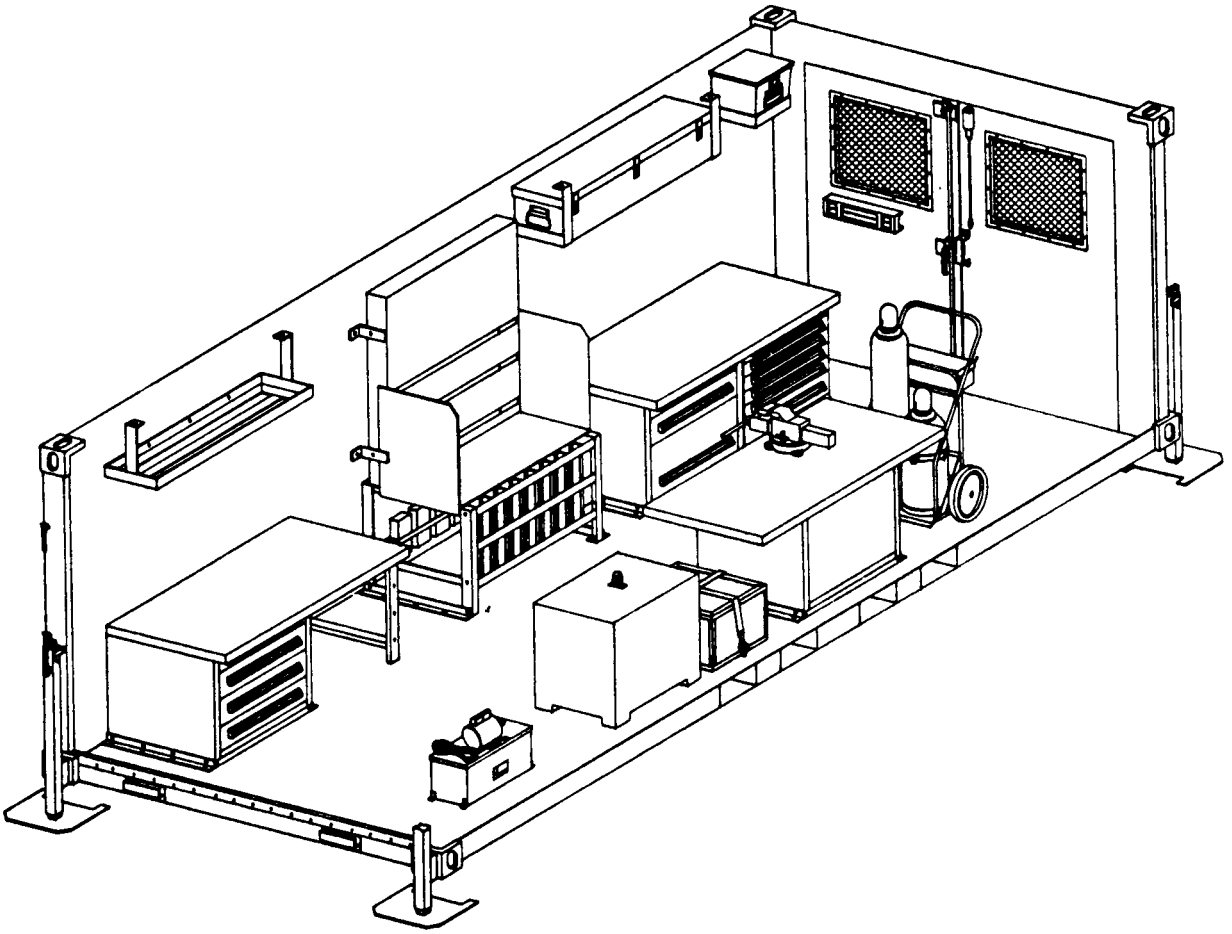
WASHINGTON, D.C., 3 June 1991

OPERATOR'S AND INTERMEDIATE MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST FOR

SHOP SET, WELDING, AIRMOBILE

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of any way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Aviation Systems Command ATTN: AMSAV-MC, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be finished directly to you.



CHAPTER 1
INTRODUCTION

SECTION I. GENERAL INFORMATION

1-1. Scope.

Type of Manual: Operator and Intermediate Maintenance

Equipment Name: Welding Shop

Purpose of Equipment: To provide welding repair and maintenance support for divisional aviation units. This shop is utilized in conjunction with other maintenance shops in the AVIM support unit.

1-2. Maintenance Forms, Records and Reports.

Department of the Army forms and records used to maintain this equipment will be those prescribed by DA PAM 738-751, The Army Maintenance Management System - Aviation (TAMMS-A).

1-3. Reporting Equipment Improvement Recommendations (EIR).

If your Welding Shop needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put it on an SF 368 (Quality Deficiency Report). Mail it to: Commander, US Army Aviation Systems Command, ATTN: AMSAV-QF, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. We will send you a reply.

1-4. Destruction of Army Materiel to Prevent Enemy Use.

Procedure for destroying Army materiel to prevent enemy use are listed in TM 750-244-1-4, Procedures for Destruction of Aviation Ground Support Equipment (FSC 4920), to Prevent Enemy Use.

1-5. Preparation for Storage or Shipment.

For general technical information on preparation for storage and shipment refer to TM 55-1500-204-25/1 and TM 743-200-1. For specific information to prepare the shop for storage or shipment refer to paragraph 2-12.

SECTION II. EQUIPMENT DESCRIPTION AND DATA

1-6. Characteristics, Capabilities and Features.

a. Characteristics.

(1) Provides work area for Welding Shop to perform its maintenance function.

(2) Provides welding repair and maintenance support for the AVIM unit.

(3) Housed in a tactical, one side expandable, shelter (NSN 5411-01-124-1377).

b. Capabilities and Features

(1) Transportable by highway rail, marine or air (C-130, C-141 or C-5 aircraft, Army CH-47 and CH-54 helicopter).

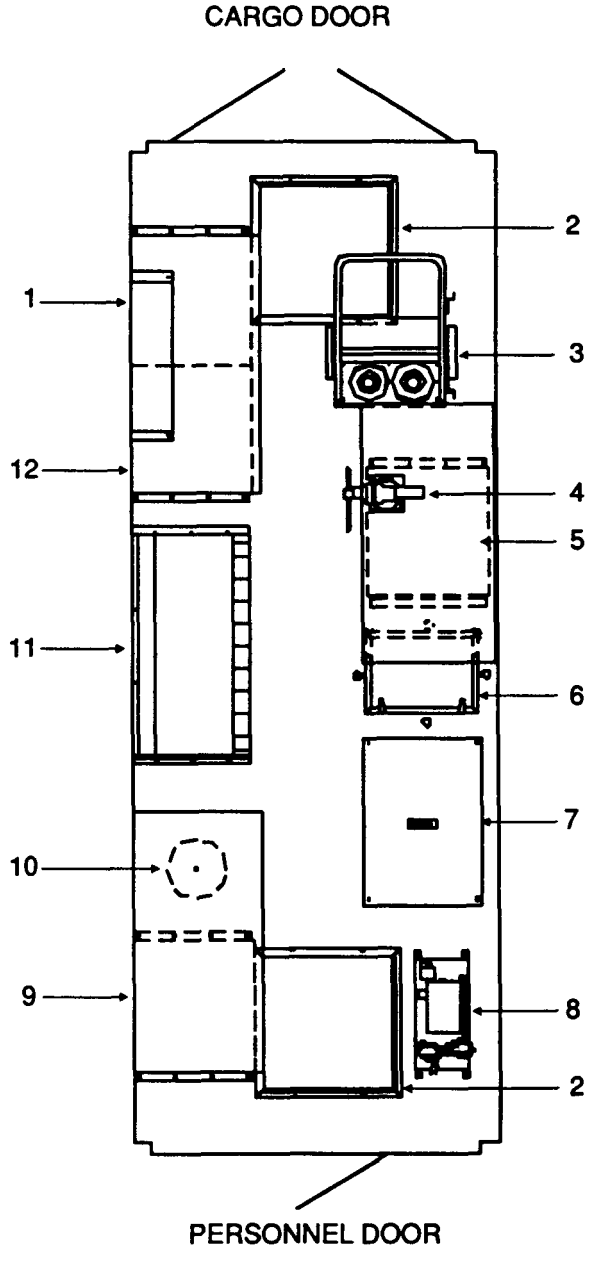
(2) Can be operated in any geographic area under any climatic condition.

(3) Can be stored/transported and operated out of the same ISO shelter.

1-7. Location and Description of Major Components.

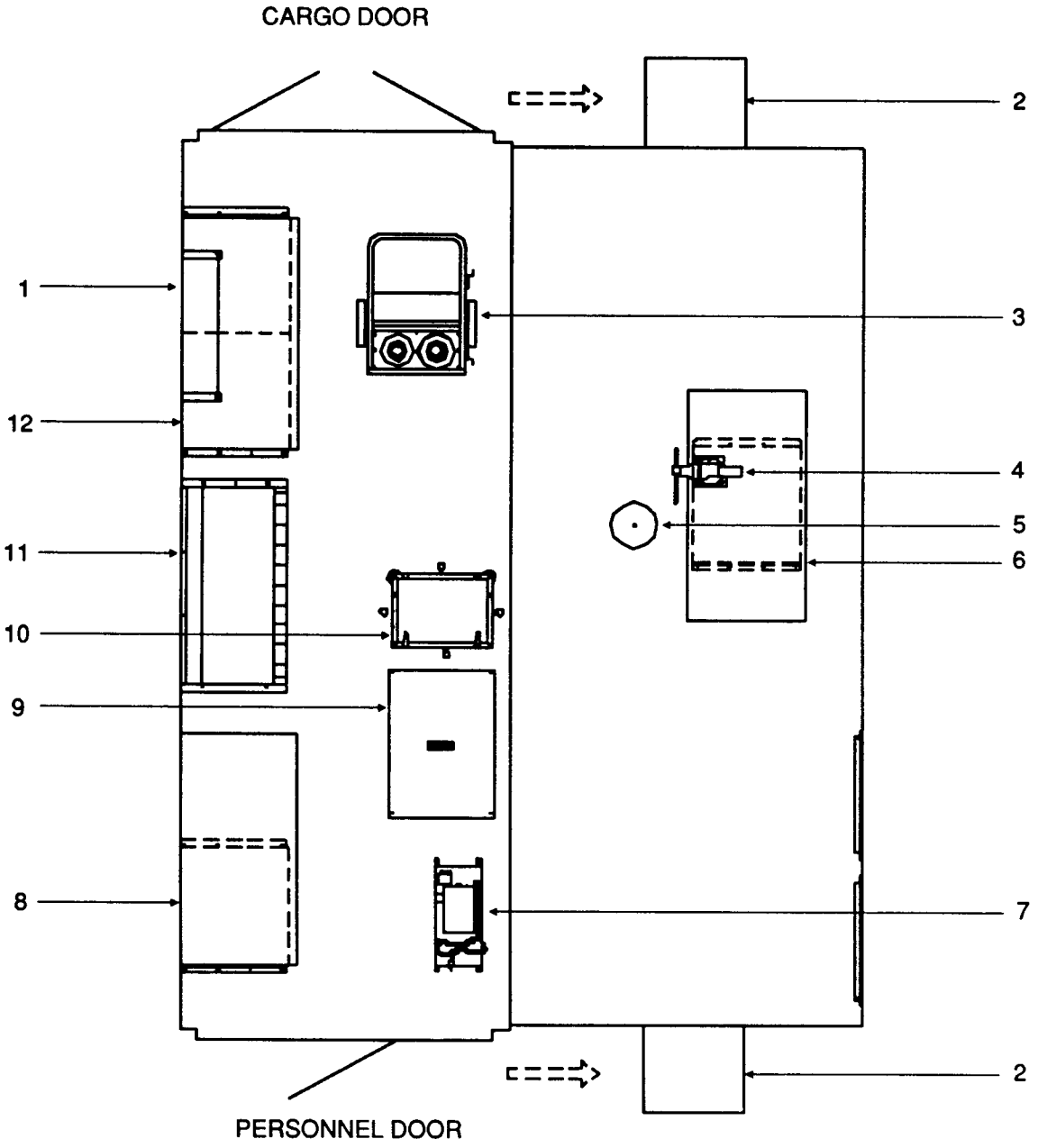
a. Equipment Location in Transport/Storage Mode (Shelter Closed).

1. Shop Storage Chest
2. ECU
3. Oxyacetylene Welder Cart
4. Vise
5. Cabinet
6. Welding Kit
7. Welding Machine
8. Water Circulator
9. Cabinet
10. Stool
11. Welding Table
12. Cabinet



1-7. Location and Description of Major Components - Continued.

b. Recommended Equipment Location in Operational Mode (Shelter Expanded).



1. Shop Storage Chest
2. ECU
3. Oxyacetylene Welder Cart
4. Vise
5. Stool
6. Cabinet
7. Water Circulator
8. Cabinet
9. Welding Machine
10. Welding Kit
11. Welding Table
12. Cabinet

SECTION III. PRINCIPLES OF OPERATION

1-8. After the shelter has been expanded, the operator will unbolt selected items of equipment. These items will be moved to recommended positions on the expanded side of the shelter (see para., 1-7b). The selected items, when moved, will not be secured (bolted) in place. This allows the shop personnel a certain flexibility in the event long or bulky material must be repaired within the shelter. The recommended locations were selected for proper utilization of floor space and maximum safety for the operating personnel.

1-9. Detailed instructions for unbolting equipment and the recommended sequence for movement are contained in Chapter 2, Section II. Supplemental procedures for opening and closing the shelter are contained in Chapter 2, Sections I and III. TM 10-5411-201-14 is required for detailed instructions.

1-10. Electrical power to operate the Welding Shop is provided by a generator or a commercial power source. A power distribution panel (PDP) is used between the power source and the power entry panel of the shelter. Overload protection is provided by circuit breakers.

CHAPTER 2
OPERATOR INSTRUCTIONS

SECTION I. INITIAL SHOP EXPANSION

2-1. Placement of Welding Shop. The Welding Shop should be located with power cable length, tactical deployment, exhaust/inlet of ECUs and phasing between related shops kept in mind. The shop's power entry panel, next to the personnel entrance door, should be facing toward the power source and power distribution panel.

2-2. Shelter Expansion

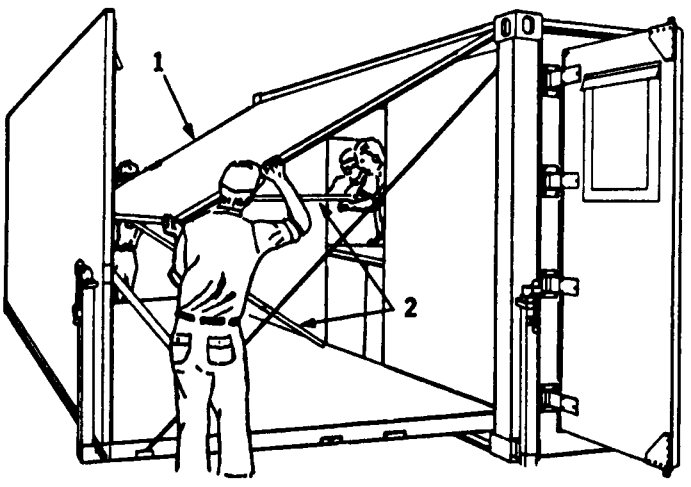
a. Remove shop storage chest, located on fixed sidewall near ceiling at cargo entrance door, from mounting bracket for easy access to hardware and tools.

b. Observe shelter expansion instructions in TM 10-5411-201-14 until two handles of solar bar are extended and hinged roof is slid outward. Continue shelter expansion observing supplemental expansion instructions found below.

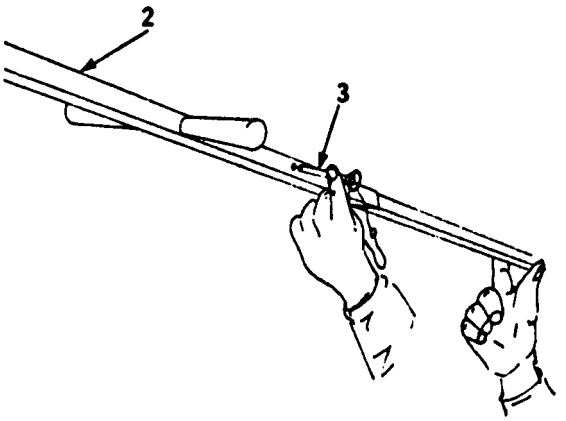
c. Supplemental Expansion Instructions.

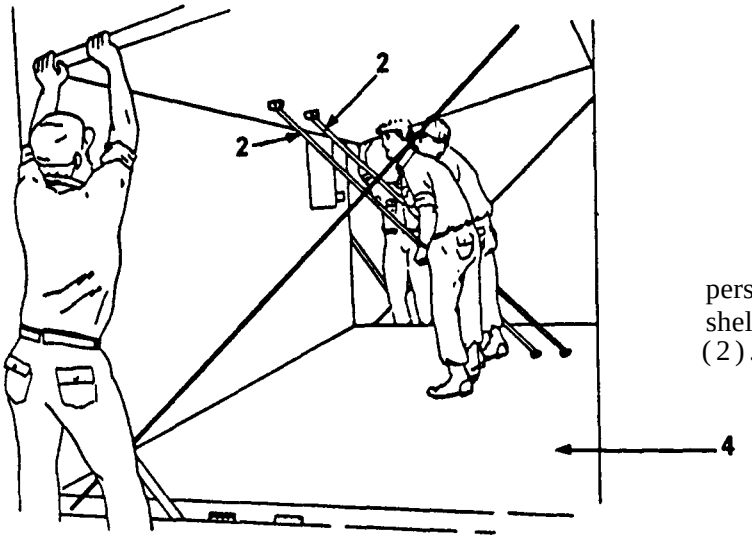
WARNING

When all equipment and materiel is stored on the stationary side of the shelter, the limited floor space presents an obstacle to operating personnel. This is most critical during the raising and lowering of the roof panel. Failure to observe supplemental expansion instructions could result in personnel inside the shelter becoming trapped between the roof panel and equipment. Serious injury to personnel could result.



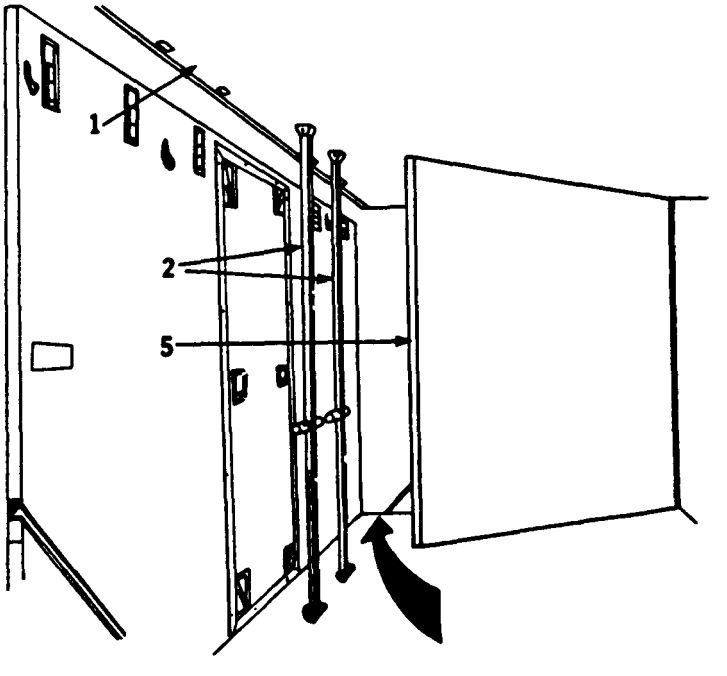
1. Two personnel, outside the shelter, must lift the roof panel (1) far enough to allow two people inside to release the support struts (2), extend them to full length and insert quick-release pins (3).





2. As soon as there is enough floor area (4), the personnel inside will move to the expanded side of the shelter raising the roof with extended support struts (2).

3. Once the struts (2) are totally supporting the roof panel (1), the end walls (5) are swung to the open position.



WARNING

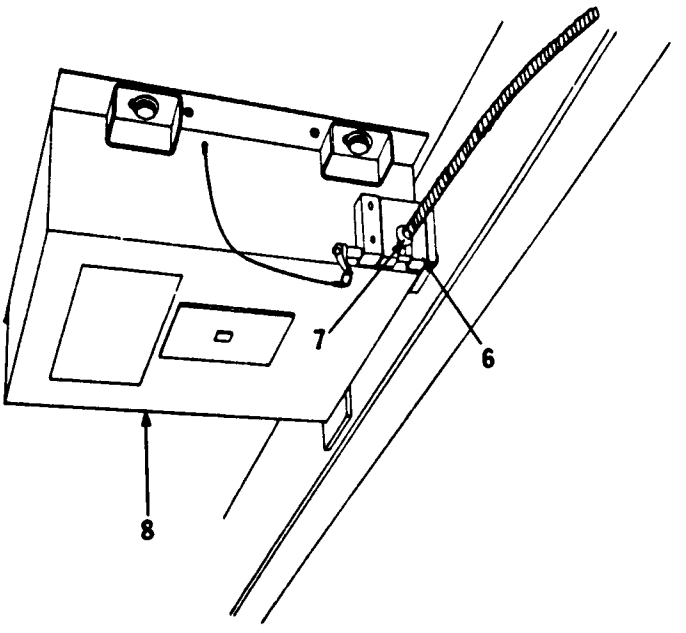
The fold-out floor counterbalance cables must be secured at the cable housings prior to alining the shelter hinged floor. If the counterbalance cables are not secured, the counterbalance cables will remain under tension. DO NOT attempt to remove cables if the counterbalance cables are not secured. Removing cables while under tension could cause serious injury to personnel.

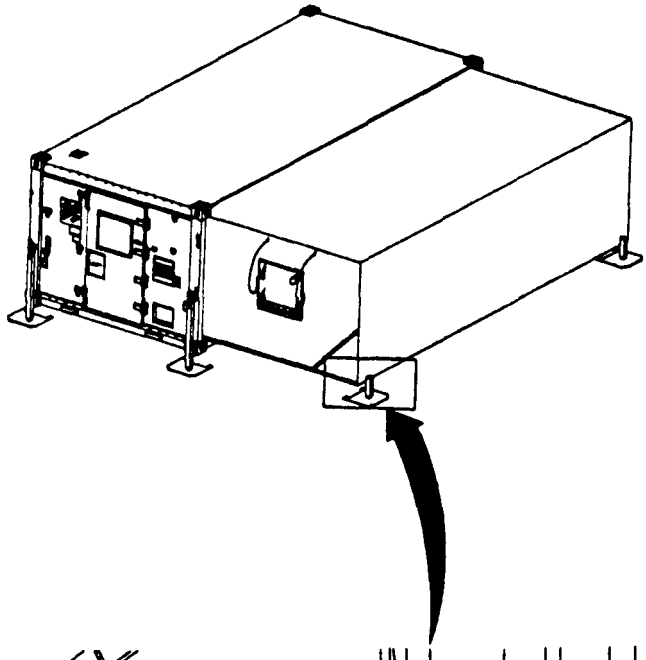
NOTE

It maybe necessary to further lower the fold-out floor to expose the cable stop balls in order to engage the slide stops.

4. Ensure slide stops (6) are closed against counterbalance cable stop balls (7) on cable reels (8) at each end of shelter.

5. Continue with remaining expansion procedures outlined in TM 10-5411-201-14 for final expansion of the shelter.

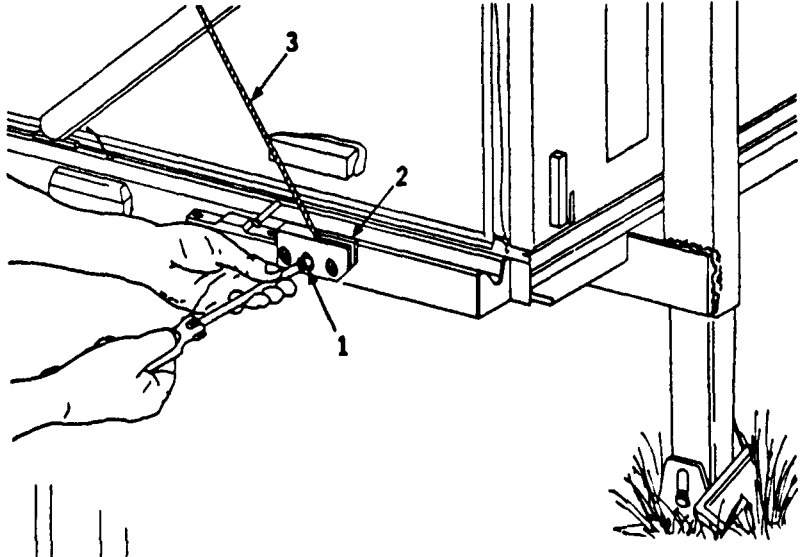


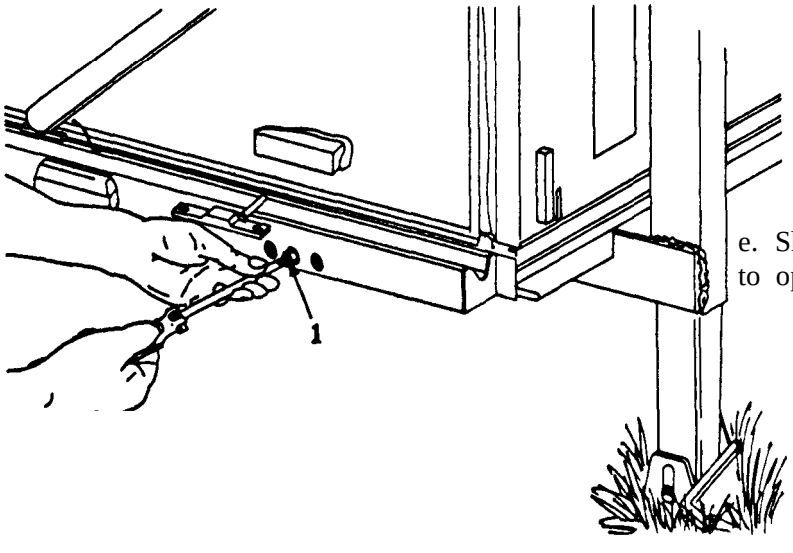


d. Removing Counterbalance Cables.

1. After shop erection is complete (AND COUNTERBALANCE CABLES ARE SECURED), remove three screws (1) from cable retainer block (2).

2. Let cable (3) and retainer block (2) hang loose next to shelter.





3. Install retainer block screws (1) and secure.

4. Repeat 1, 2, and 3 above for remaining cable.

e. Shop is now ready for positioning of equipment to operational mode.

SECTION II. PREPARING SHOP FOR OPERATION

2-3. Electric Power.

a. External Grounding of Shop.

1. Remove ground rod assembly from shop.

2. Install external ground IAW TM 10-5411-201-14 and TC 11-6.

WARNING

HIGH VOLTAGE exists in the electrical system of the shop. All electrical inspections, repairs or replacement will be performed with the power off and only by qualified electricians. Serious shock hazards exist which could result in injury or death to personnel.

CAUTION

Shop utilizes 3-PHASE Electric Current. Proper phasing must be achieved when wiring the Power Distribution Panel to power source. Improper phasing can result in damage to the ECUs and other electrically operated equipment.

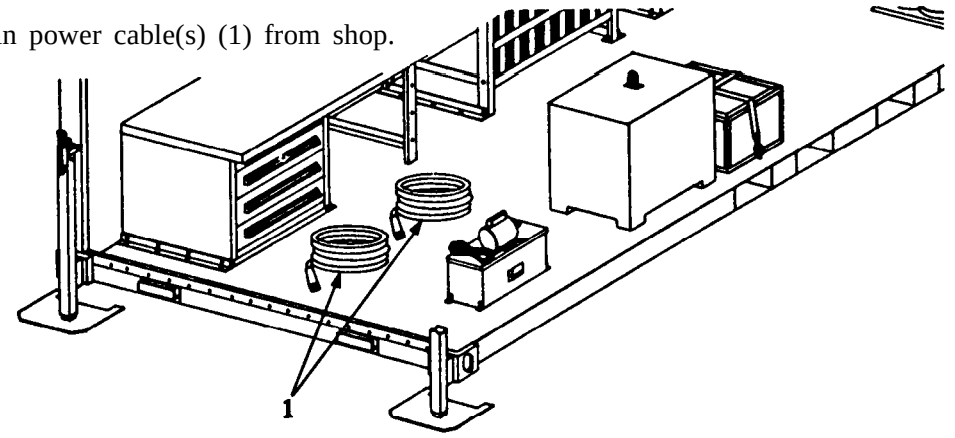
b. Connecting Power Distribution Panel to Power Source. A qualified electrician will connect power distribution panel power cable to power source IAW TM 5-6150-226-13&P, and set power distribution panel main circuit breaker to ON and individual breakers OFF.

NOTE

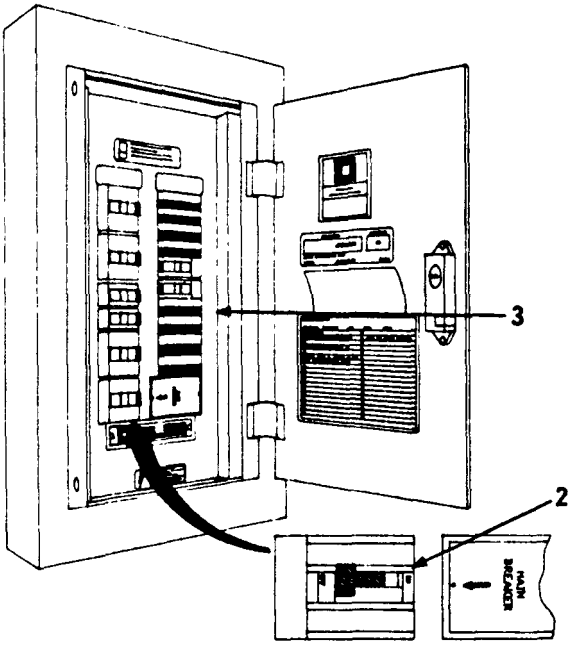
The Welding Shop utilizes TWO TYPES of power supply cables. One cable is a universal 60 AMP, 100-foot cable used to provide normal (main) operating power for shelter. The other is a 100 AMP, 50-foot cable used expressly to provide power to electric welder.

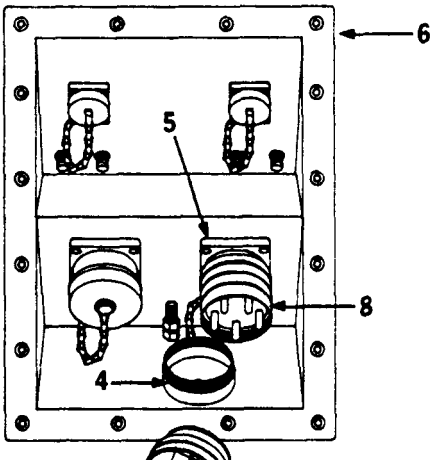
c. Connecting Shelter Main Power Cable. Two 100-foot cables provided may be connected or used individually.

1. Remove main power cable(s) (1) from shop.



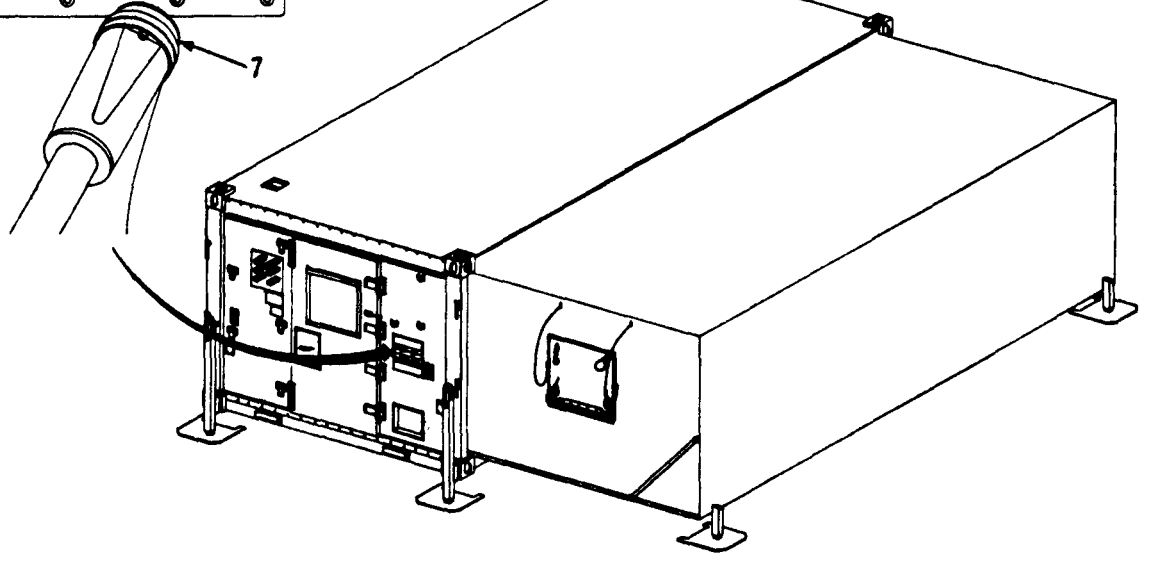
2. Ensure main circuit breaker (2) in breaker panel (3) is set to OFF position before connecting power cable.





3. Remove dust cap (4) from J1 Service Entrance receptacle (5) on power entry panel (6).

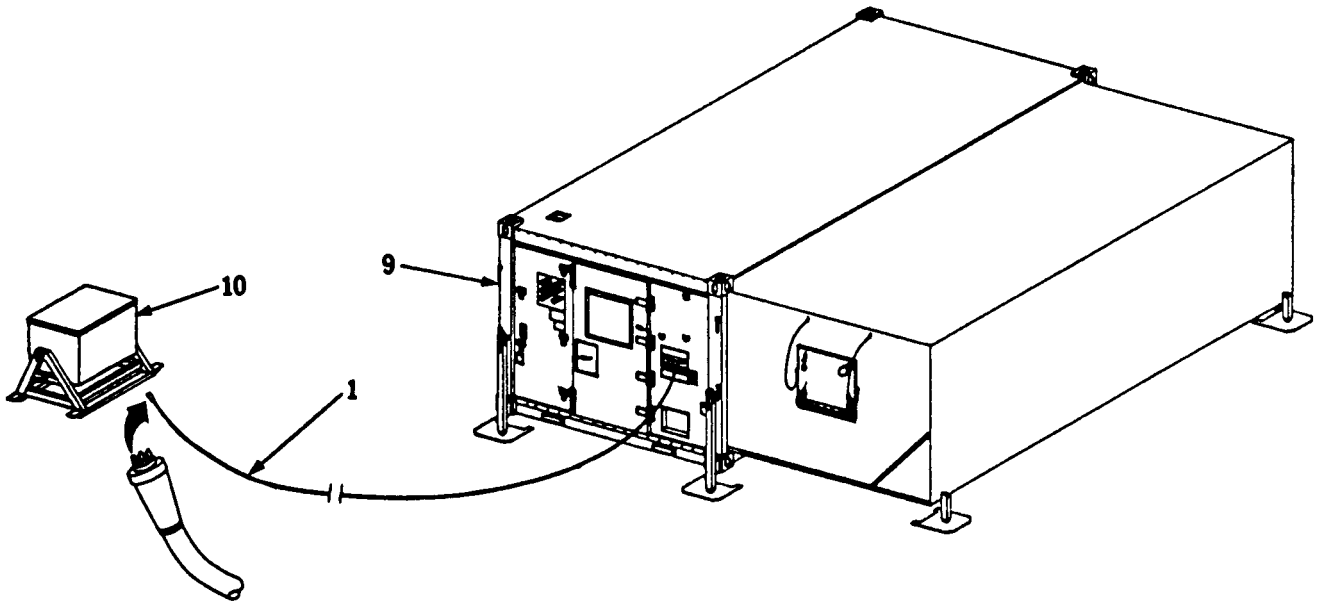
4. Insert cable female connector (7) firmly into receptacle (5) and secure with lock ring (8).



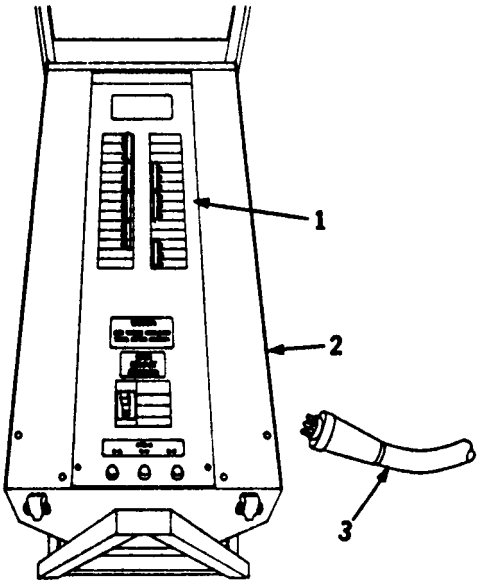
CAUTION

Ensure that the power cable is not twisted, kinked or laid over sharp objects.

5. Extend power cable(s) (1) between shop (9) and power distribution panel (10).



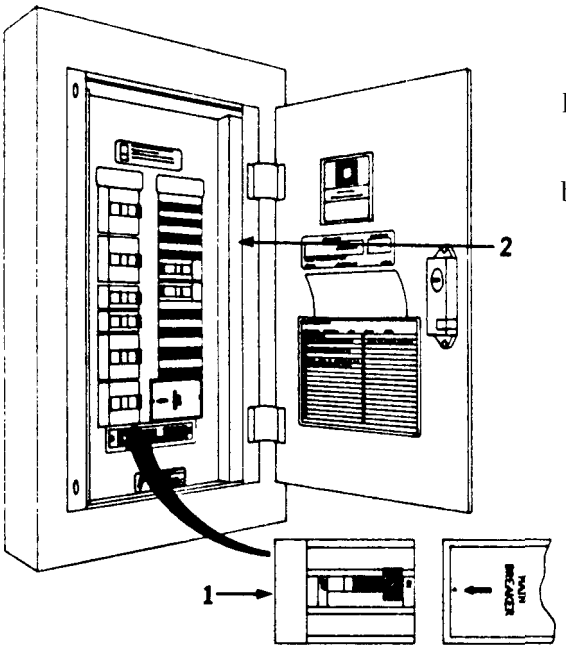
d. Connecting Shelter Main Power Cable to Power Distribution Panel.



1. Ensure corresponding shelter's power cable outlet circuit breaker (1) in power distribution panel (2) is set to OFF position.

2. Connect the shelter power cable (3) to power distribution panel (2).

3. Set corresponding shelter's power cable outlet circuit breaker (1) to ON position.



e. Power On at Shelter.

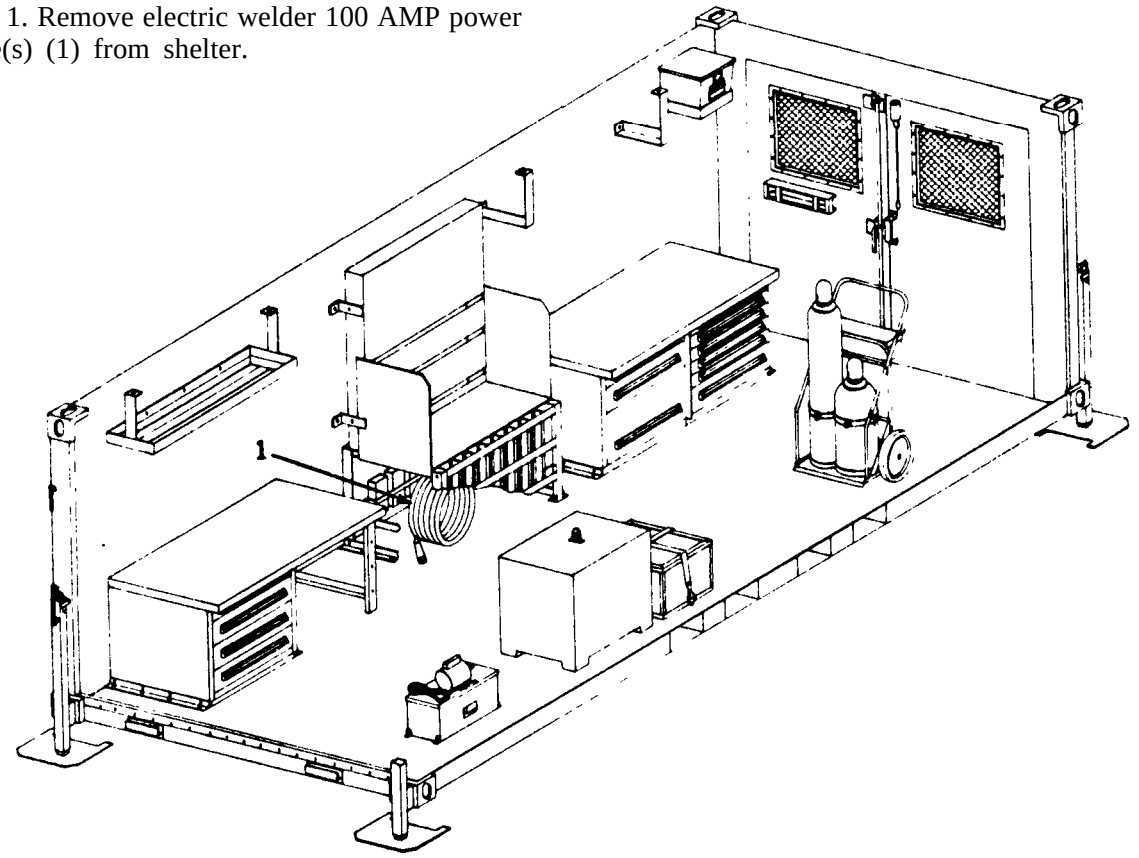
1. Ensure all circuit breakers are in the OFF position.

2. Set main circuit breaker (1) in the shelter breaker panel (2) to ON position.

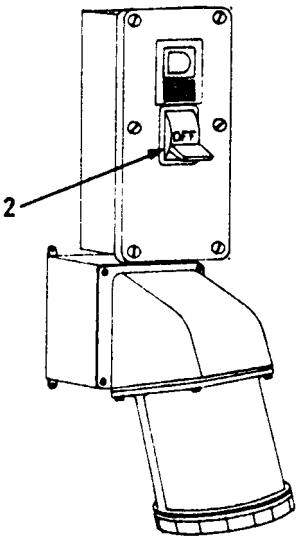
3. Set selected circuit breakers to ON position.

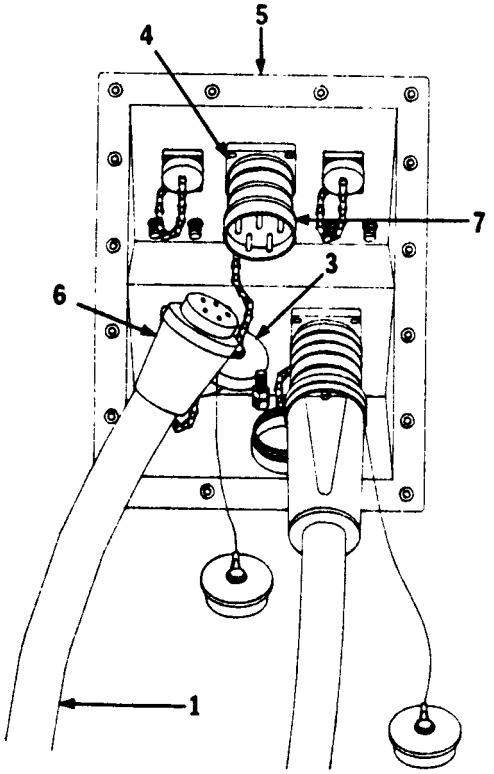
f. Connecting Electric Welder Power Cable. Two 50-foot cables provided maybe connected or used individually.

1. Remove electric welder 100 AMP power cable(s) (1) from shelter.



2. Ensure special circuit breaker (2) for electric welder is set to OFF position.





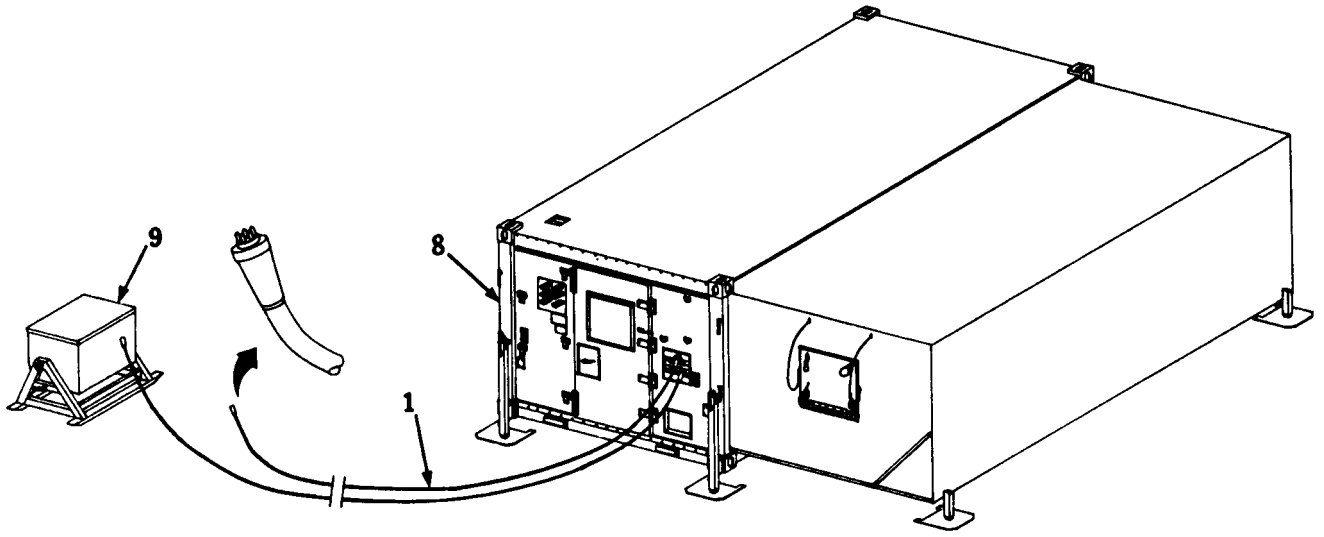
3. Remove dust cap (3) from AUX SERVICE ENTRANCE receptacle (4) on power entry panel (5).

4. Insert female connector (6) of 100 AMP electric welder cable (1) firmly into receptacle (4). Secure with lockring (7).

CAUTION

Ensure that the power cable is not twisted, kinked or laid over sharp objects.

5. Extend power cable(s) (1) between shop (8) and power distribution panel (9).

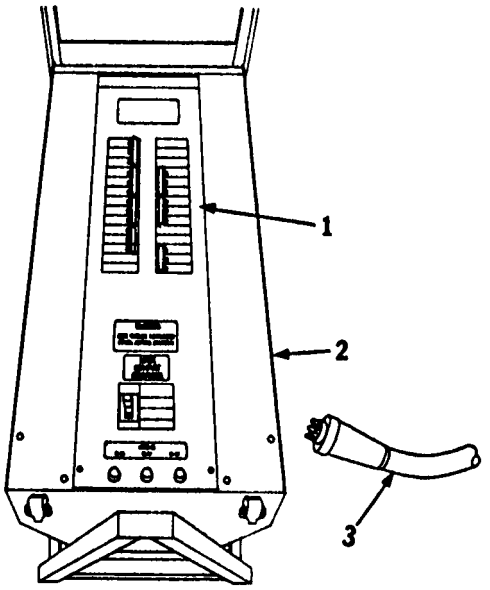


g. Connecting Electric Welder Power Cable to Power Distribution Panel.

1. Ensure 100 AMP outlet circuit breaker (1) in power distribution panel (2) is set to OFF position.

2. Connect the electric welder power cable (3) to power distribution panel 100 AMP outlet.

3. Set corresponding outlet circuit breaker (1) to ON position.

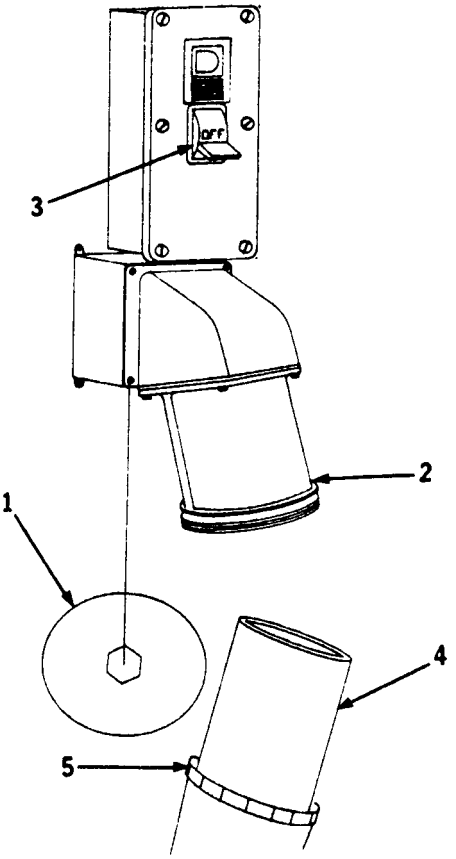


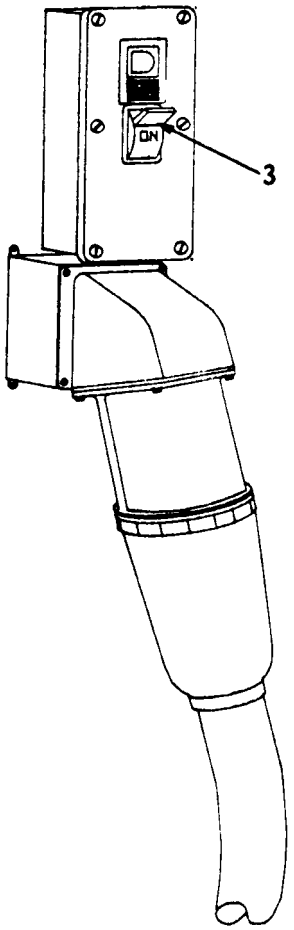
h. Connecting Power to Electric Welder.

1. Remove cap (1) from receptacle (2) located beneath special circuit breaker (3).

2. Insert electric welder power supply cable and connector (4) firmly into receptacle (2).

3. Secure with lockring (5).



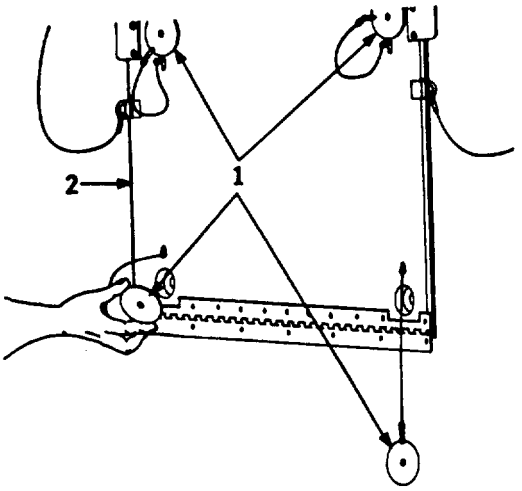


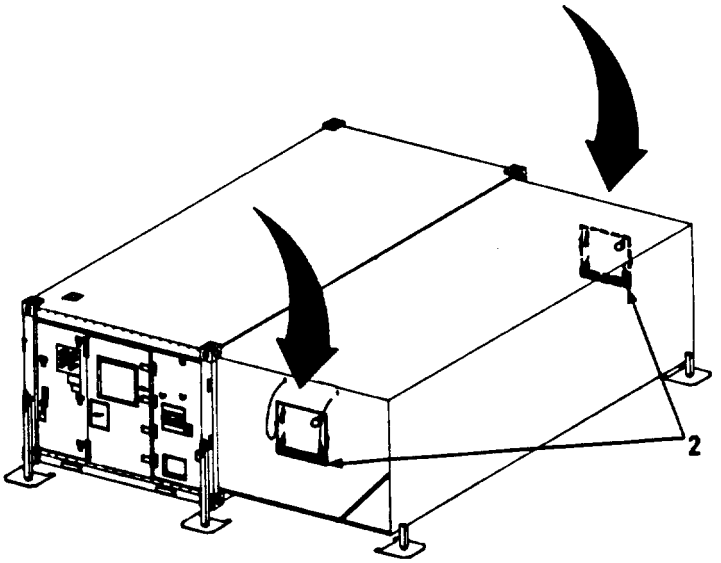
4. When welder is to be used, move special circuit breaker (3) to ON position.

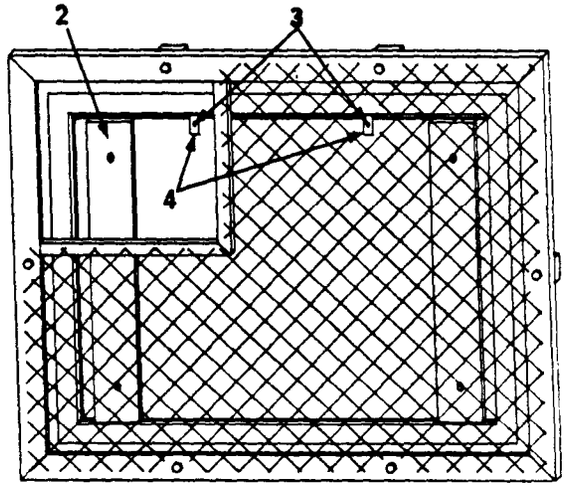
2-4 Positioning Shop Equipment for Operation.

a. Positioning ECUs for Operation.

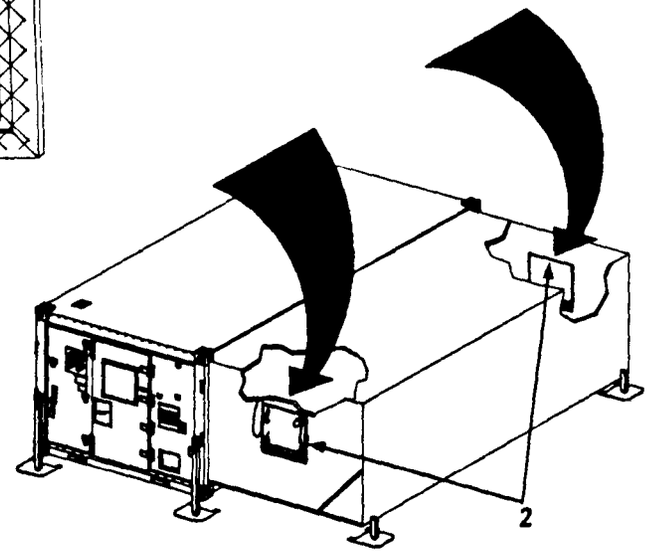
1. Remove four plugs (1) on outside of shelf (2).





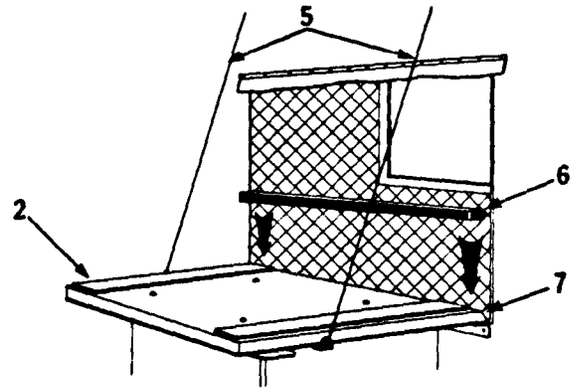


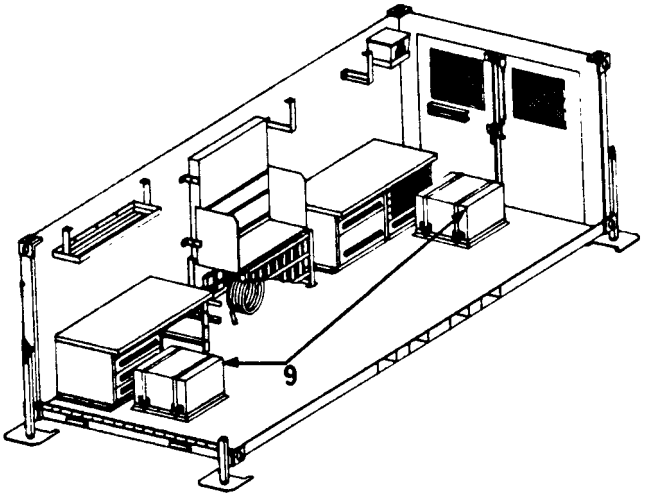
2. From inside shelter, loosen two latch bolts (3) on shelf (2). Turn latches (4) to release fold-down shelf (2).



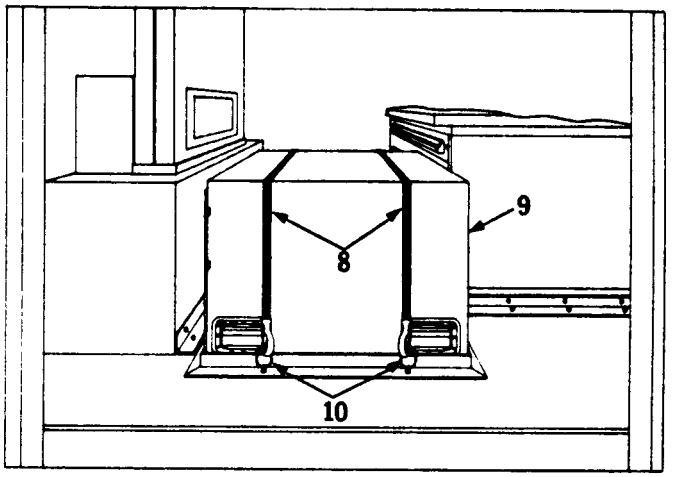
3. Lower shelf (2) to the limit of the support cables (5).

4. Obtain one ECU seal (6) from storage chest and insert at frame bottom.





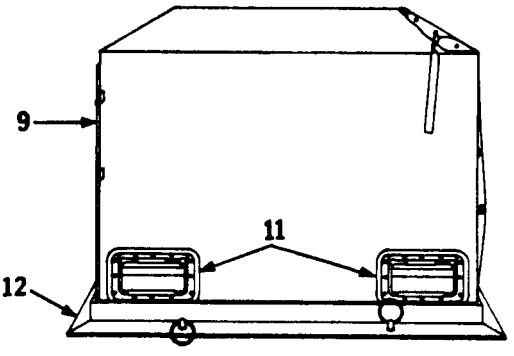
5. Loosen cargo straps (8) on ECU (9), release from ring bolts (10) and remove.

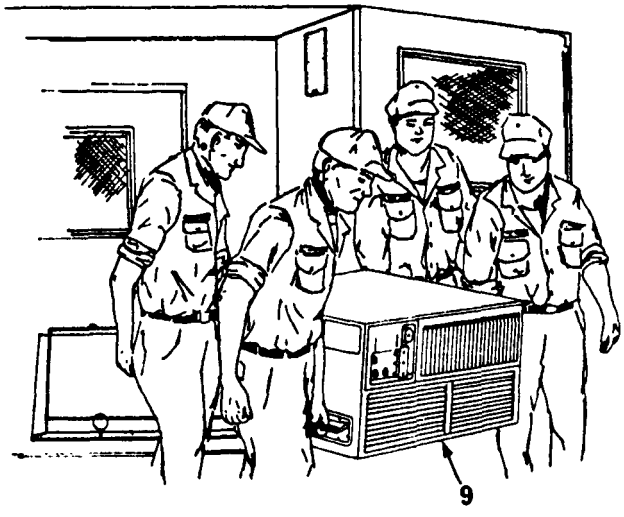


WARNING

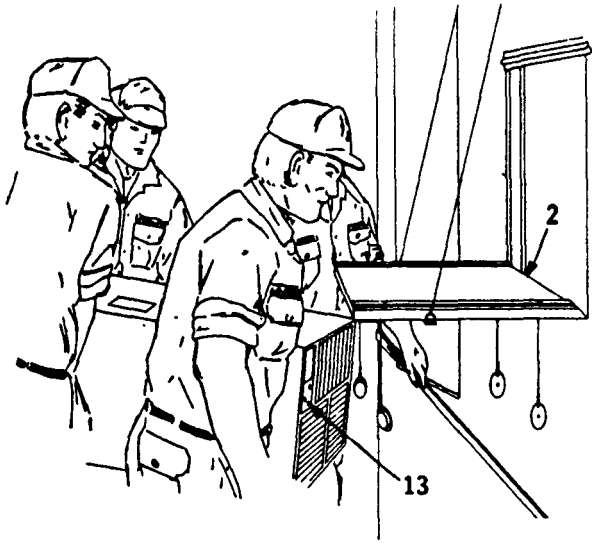
Four personnel are needed when moving or lifting the Environmental Control Unit (ECU). Unit weighs approximately 290 pounds. Trying to move or lift an ECU without sufficient help can cause serious injury to personnel.

6. Use lift handles (11) to raise ECU (9), from the floor frame (12).

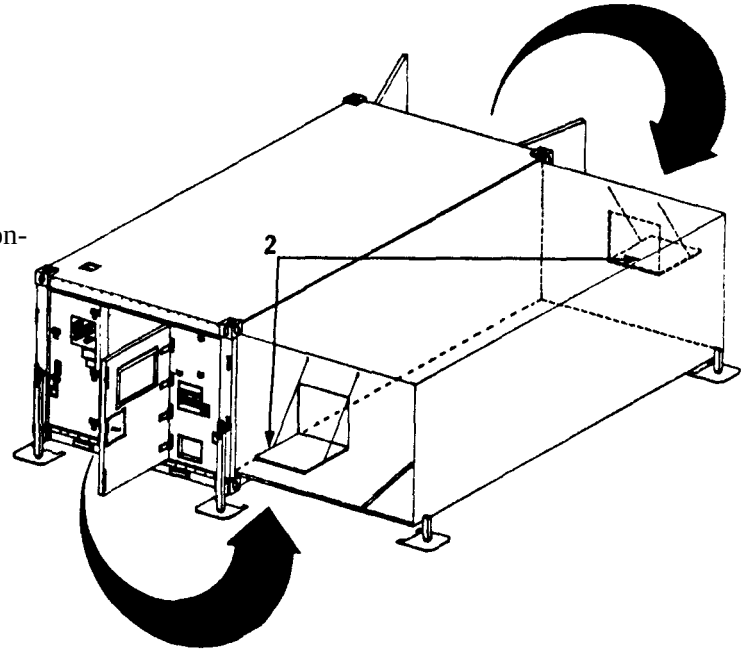




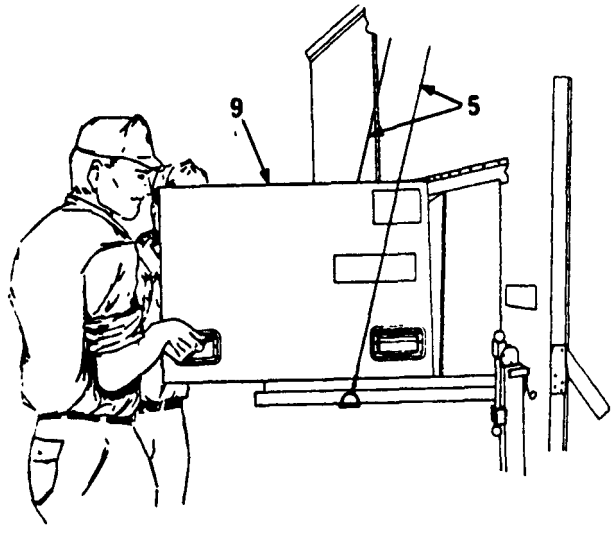
8. Lift ECU (9) onto fold-down shelf (2) with control panel (13) facing toward inside of shop.



7. Carry ECU (9) outside and position near and wall shelf (2).

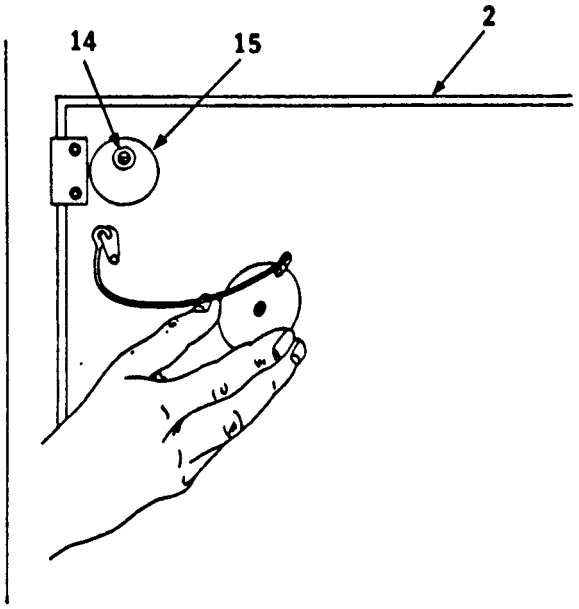


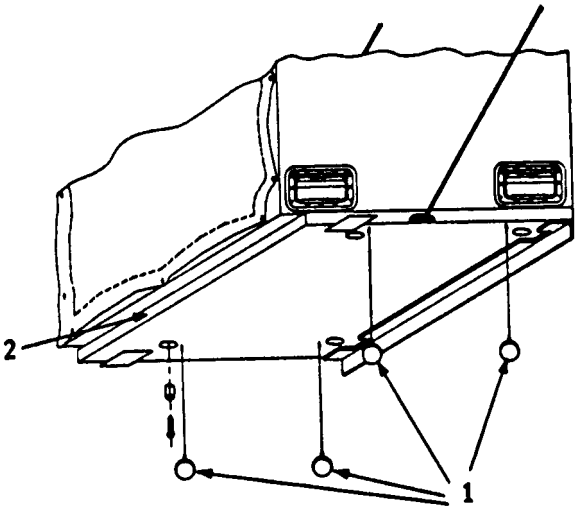
9. Slide ECU (9) forward between support cables (5).



10. Aline bolt holes (14) in base of ECU with holes (15) in shelf (2).

11. Obtain ECU mounting hardware from shop storage chest and install IAW TM 5-4120-384-14.



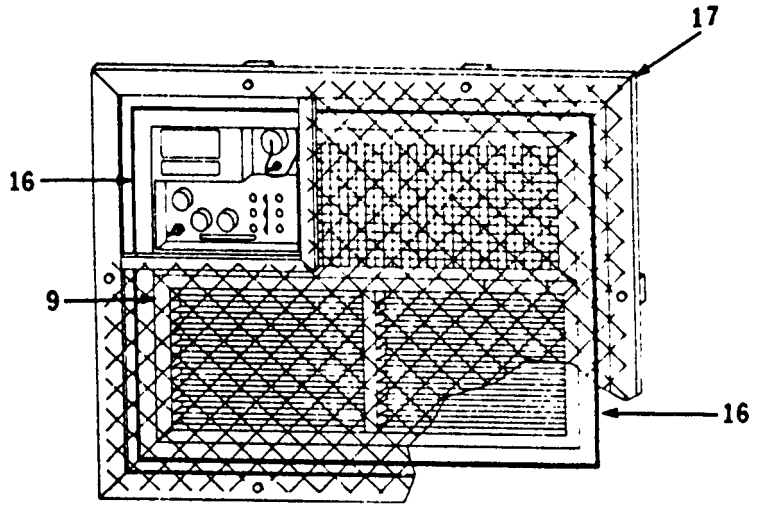


12. Install four plugs (1) in shelf (2).

NOTE

Proper fit between ECU and surrounding seal is essential to maintain light discipline.

13. Check seal (16) around ECU (9) for proper fit and alinement. It maybe necessary to temporarily remove the ECU Security Screen (17) to properly aline ECU seal.



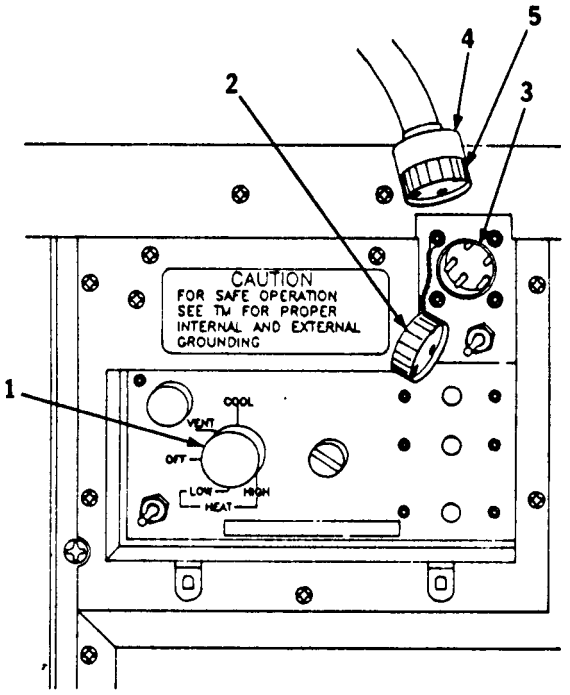
b. Connecting Power to ECU.

1. Set ECU MODE SELECTOR switch (1) to OFF position.

2. Remove cap (2) from receptacle (3).

3. Aline end of ECU cable connector (4) and ECU power input receptacle (3). Push firmly until seated.

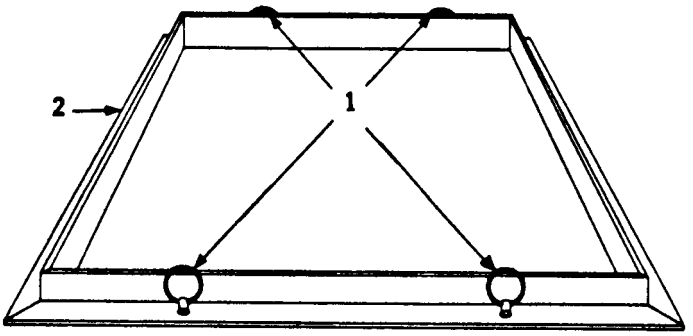
4. Screw connector lock ring (5) on receptacle (3).

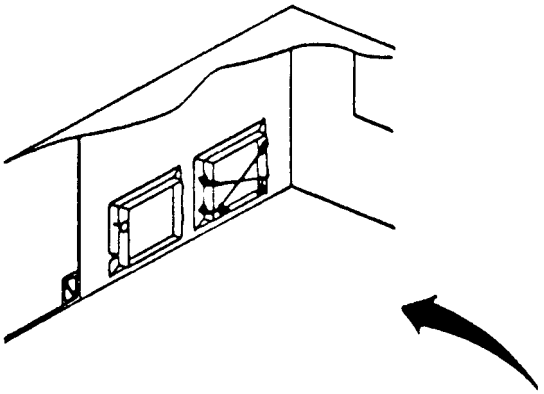


c. Repeat a and b above for remaining ECU.

d. Storing ECU Support Frames.

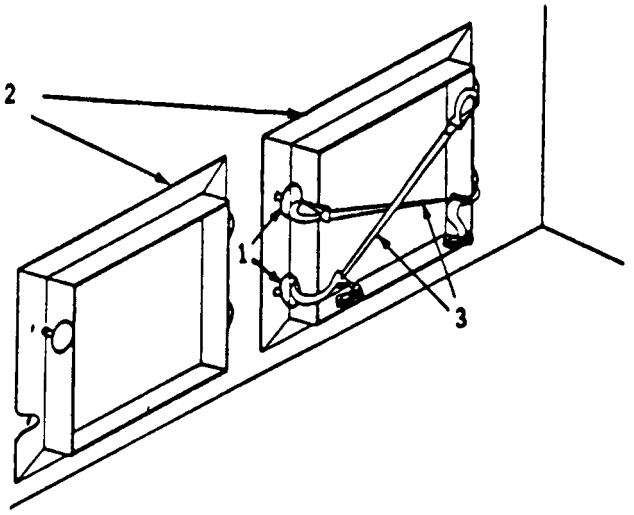
1. Remove four ring bolts (1) from both ECU support frames (2). Move frames to expanded side wall.



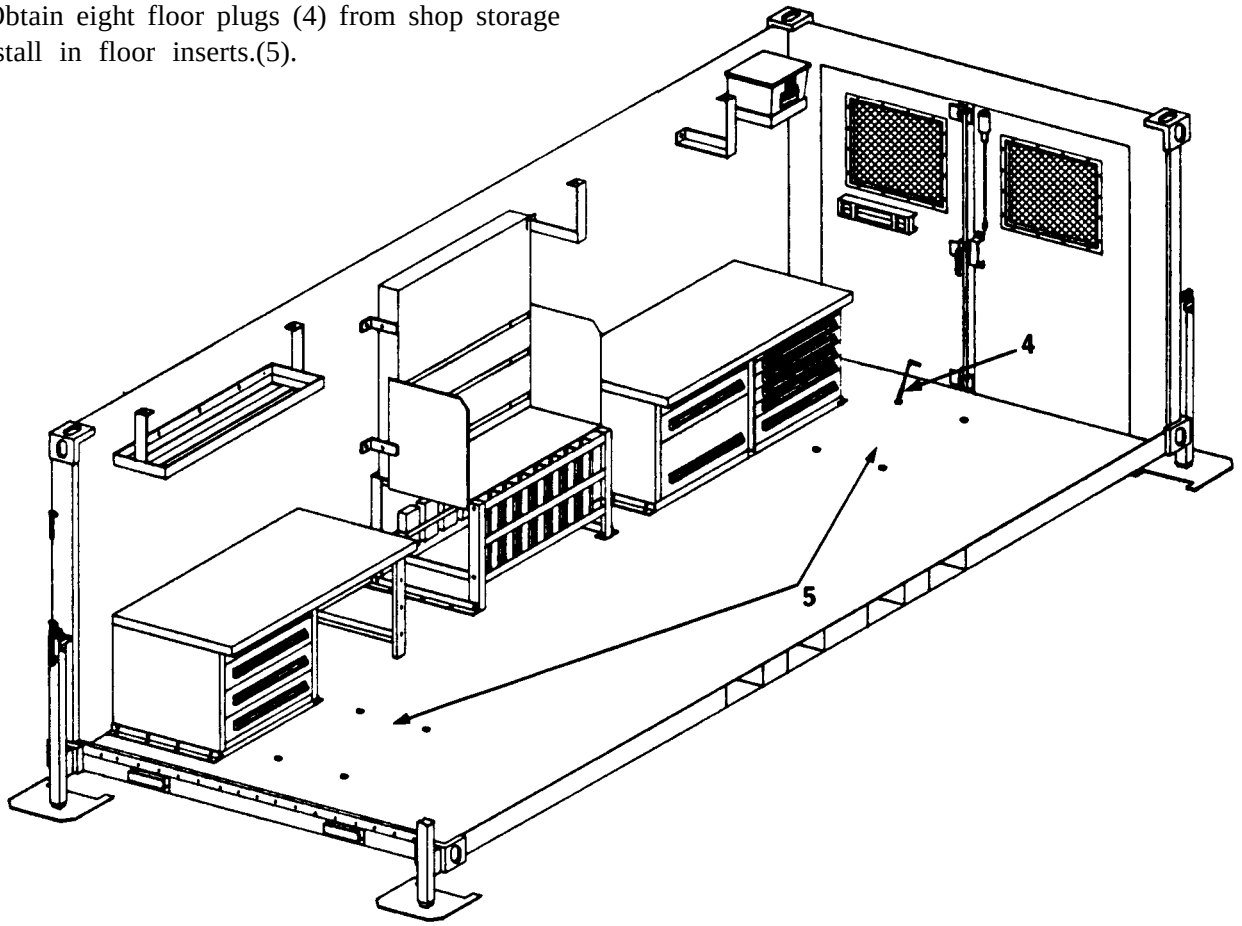


2. Position frames (2) against wall, aline holes in frames with wall inserts and secure each frame with four ring bolts (1).

3. Hook cargo straps (3) to ring bolts (1). Tighten and secure.

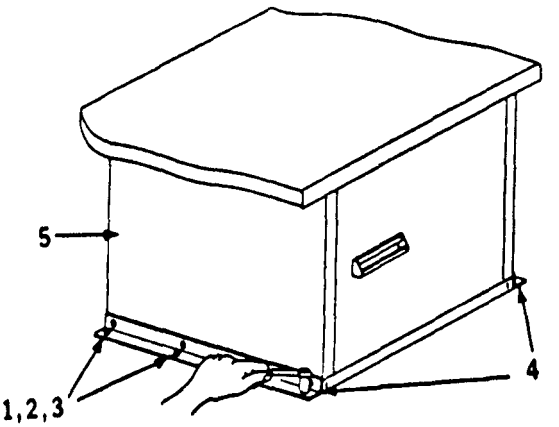


4. Obtain eight floor plugs (4) from shop storage chest. Install in floor inserts.(5).



e. Positioning Cabinet for Operation.

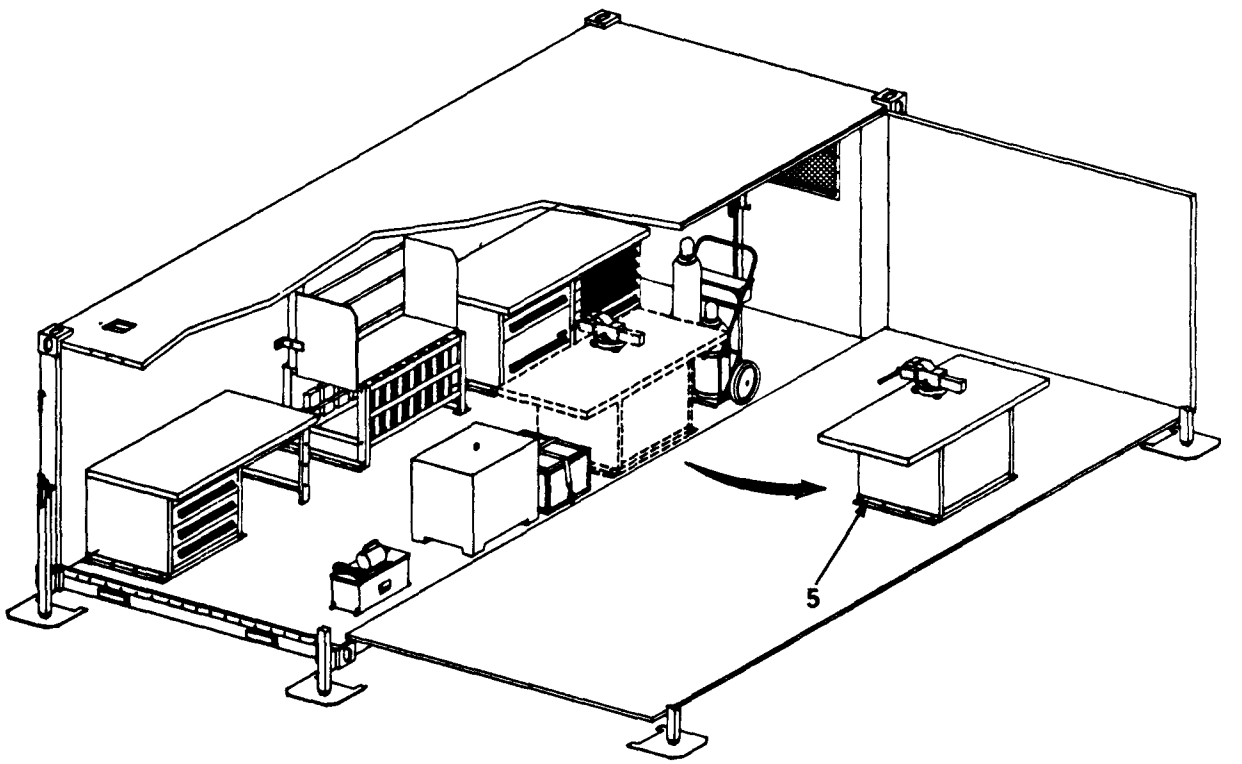
l. Remove eight bolts (1) lockwashers (2) and washers (3) from brackets (4) located on two sides of cabinet (5). Store bolts, lockwahsers, and washers in storage chest.



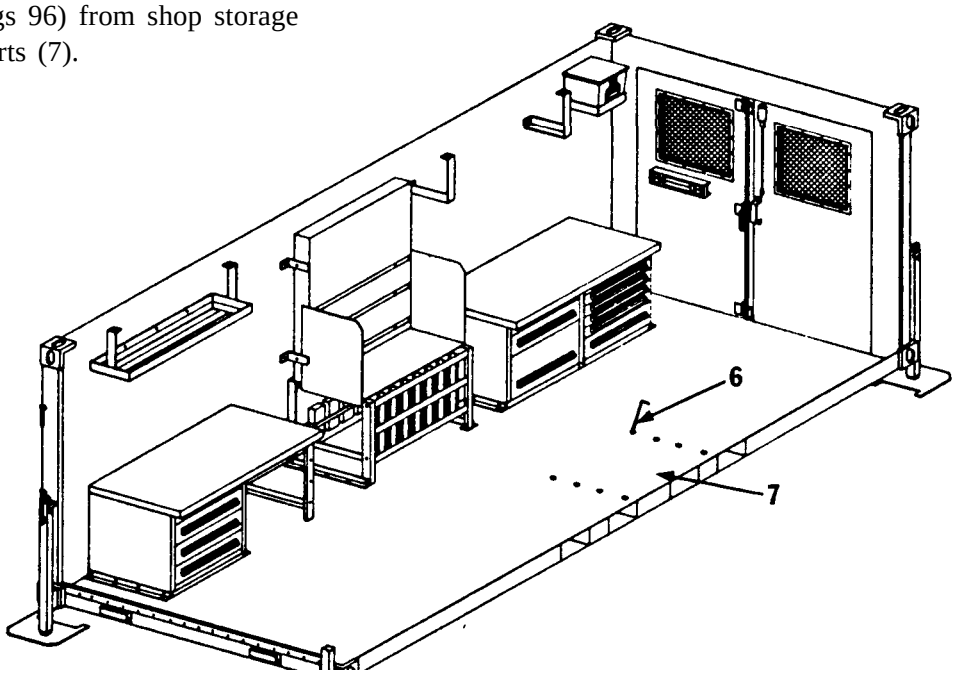
WARNING

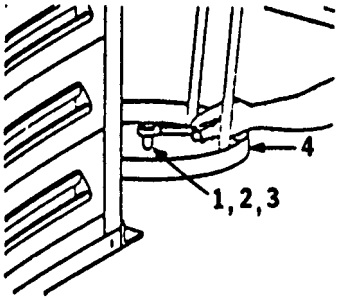
Cabinets are extremely heavy when fully equipped. At least two personnel are required to lift or move. Attempting to lift or move cabinet without sufficient personnel can result in severe injury.

2. Position cabinet (5) by sliding along floor to recommended location.



3. Obtain eight floor plugs 96) from shop storage chest and insert into floor inserts (7).

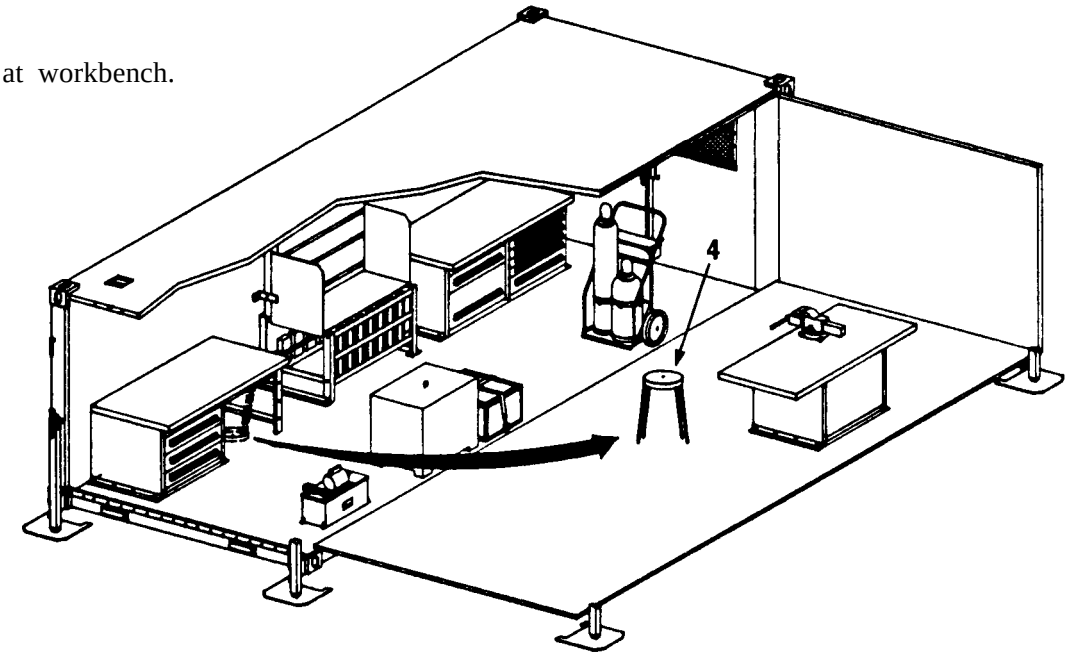




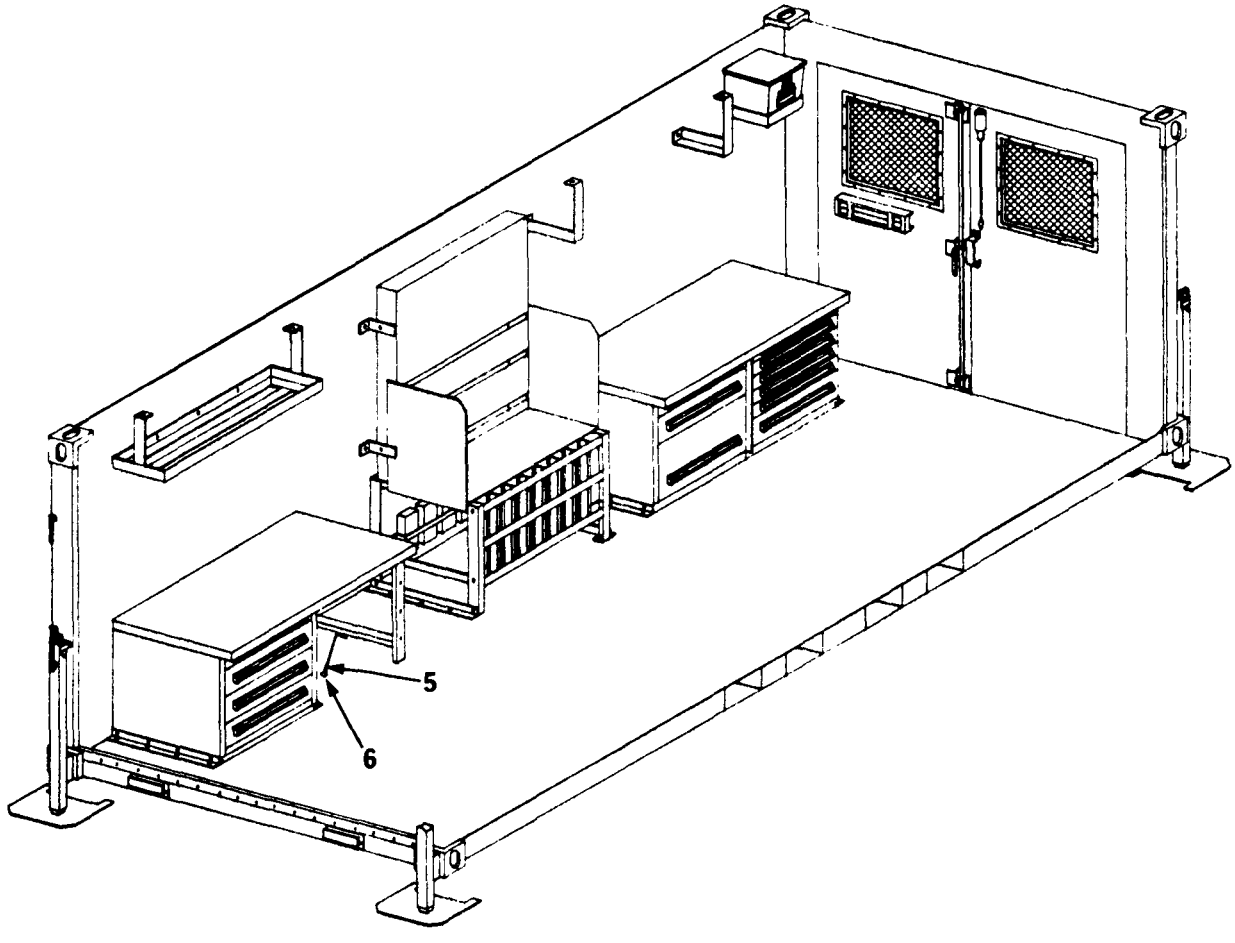
f. Positioning Stool for Use.

1. Remove one bolt (1), lockwasher (2) and washer (3) from inverted stool seat (4). Store bolt, lockwasher and washer in shopt storage chest.

2. Position stool (4) at workbench.

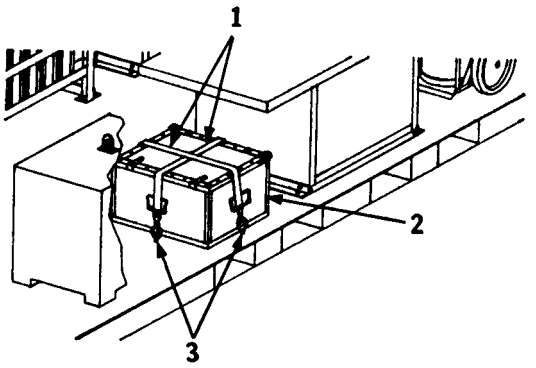


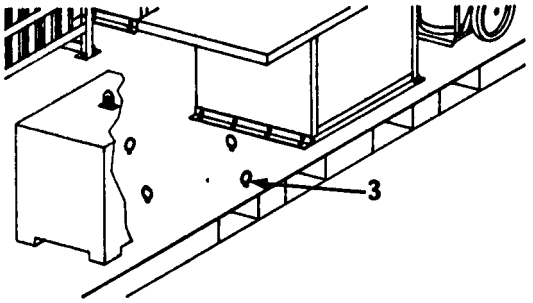
3. Obtain one floor plug (5) from shop storage chest and insert into floor insert (6).



g. Preparing Weding Kit for Operation.

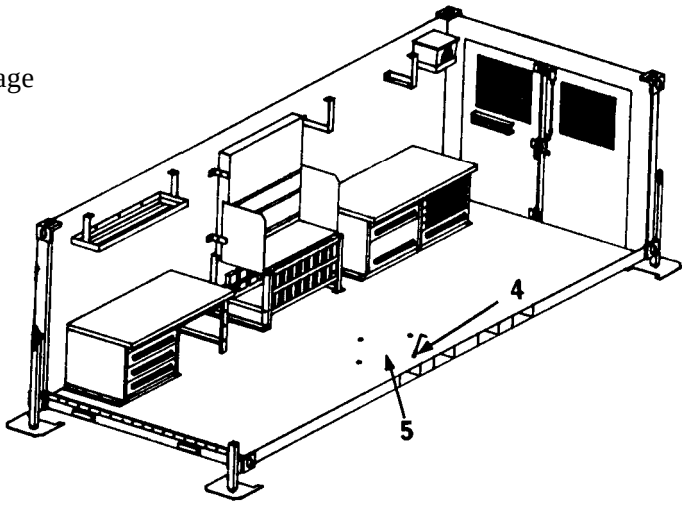
1. Loosen cargo straps (1) on welding kit (2). Release from ring bolts (3) and remove.





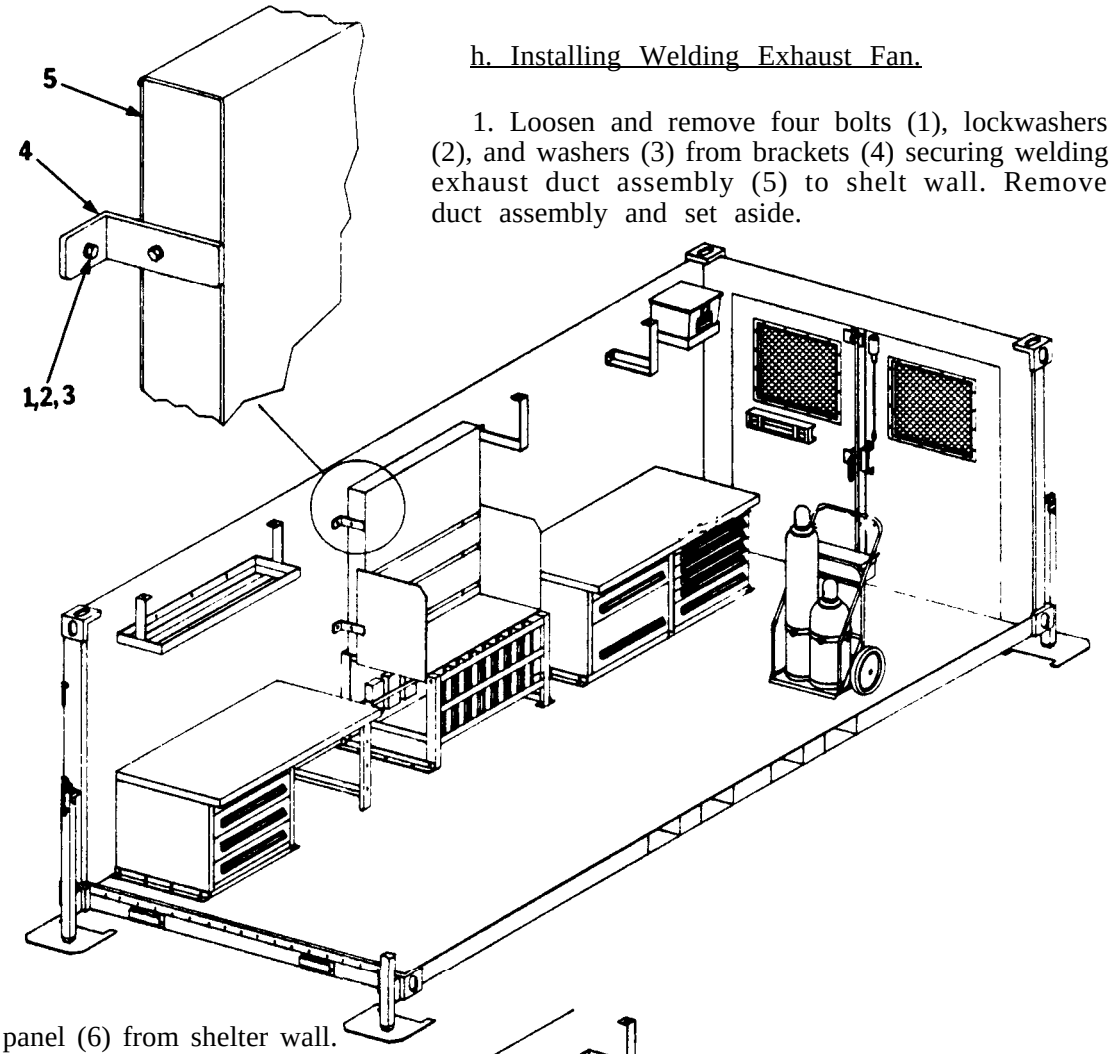
2. Remove right bolts (3) from floor inserts. Store cargo strap (1) and right bolts (3) in shop storage chest.

3. Obtain four floor plugs (4) from shop storage chest and install in floor inserts (5).

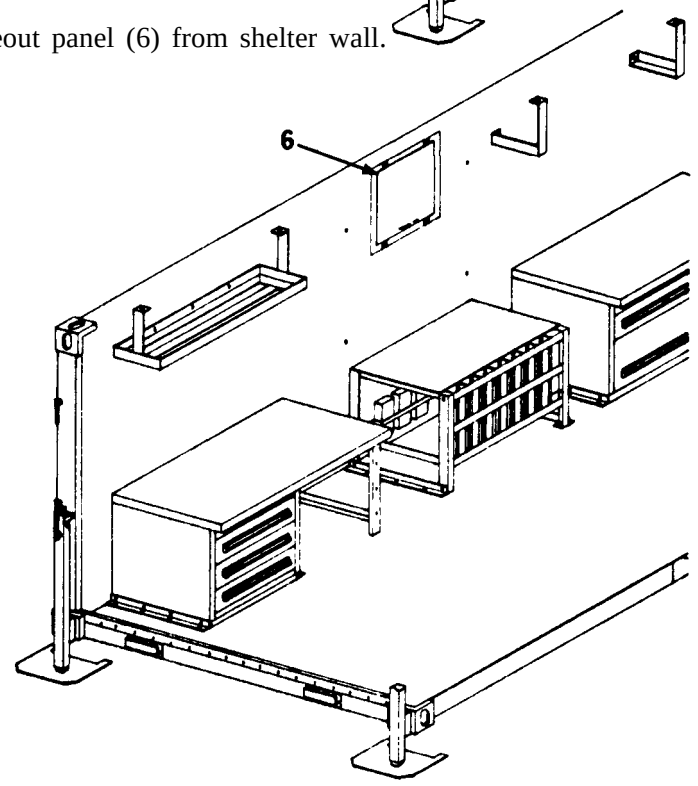


h. Installing Welding Exhaust Fan.

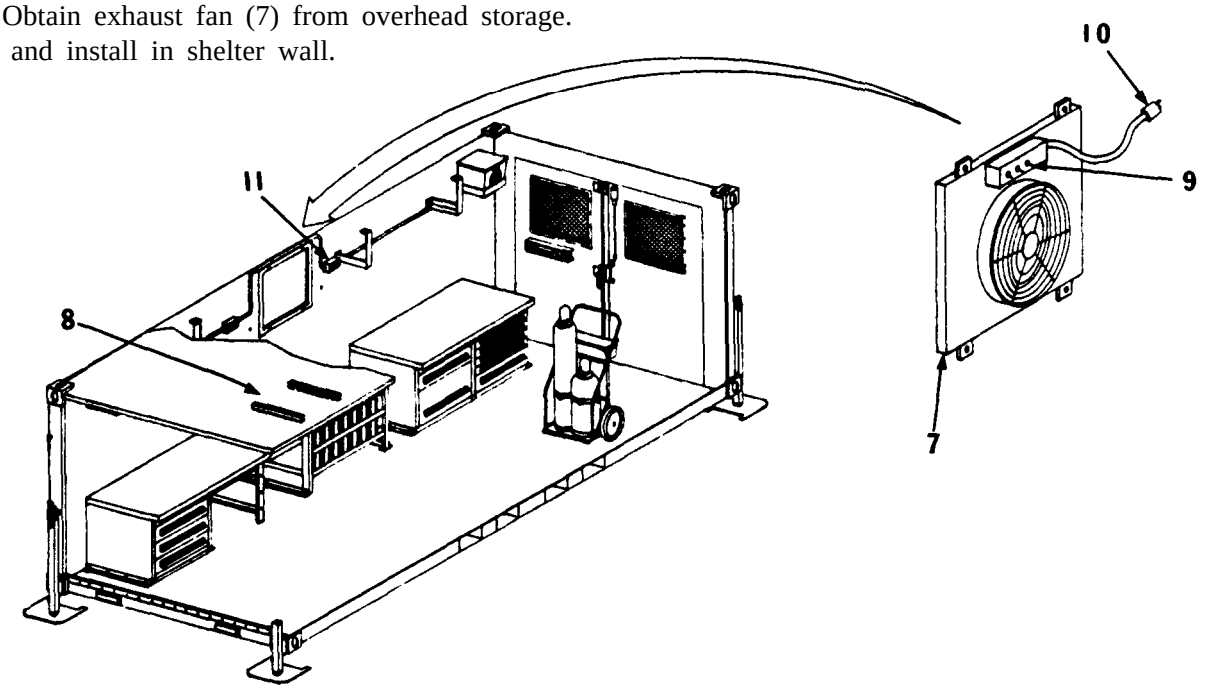
1. Loosen and remove four bolts (1), lockwashers (2), and washers (3) from brackets (4) securing welding exhaust duct assembly (5) to shelt wall. Remove duct assembly and set aside.



2. Remove closeout panel (6) from shelter wall.

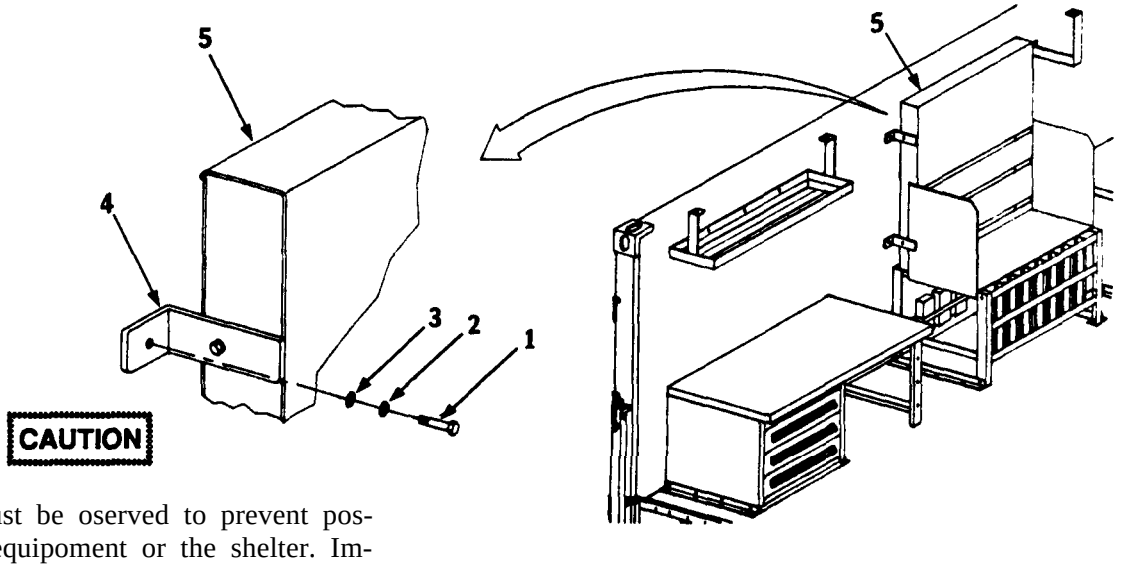


3. Obtain exhaust fan (7) from overhead storage. rack (8) and install in shelter wall.



4. Ensure fan control switch (9) is set to OFF. Connect power supply cord (10) to outlet (11).

5. Store closeout panel (6) in overhead storage rack (8).



CAUTION

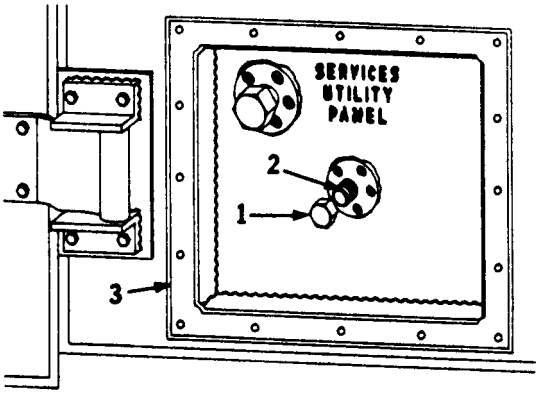
Torque values must be oserved to prevent possible damage to equipoment or the shelter. Improper prcedures could result in extensive damage to government property. See App. G.

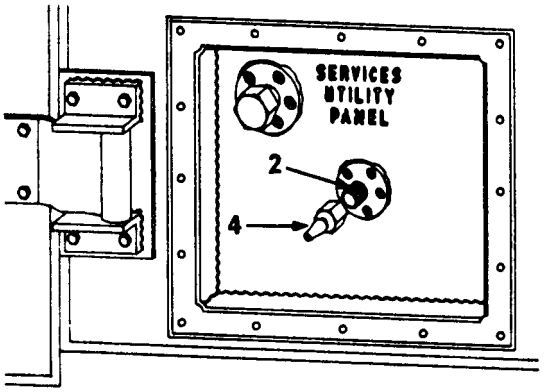
6. Position exhaust duct assembly (5) on shelter wall, alining holes in brackets (4) with wall inserts. Install four bolts (1), lockwashers (2), and washers (3) and torque.

2-5. Other Shop Utilities. In addition to electrical pwer the shop in provided with connections for compressed air and water.

a. Connecting Compressed Air.

1. Remove protective dust cap (1) from air inlet nipple (2) at the service utility panel (3). Store in shop storage chest.





2. Obtain a quick disconnect coupling (4) from storage chest.

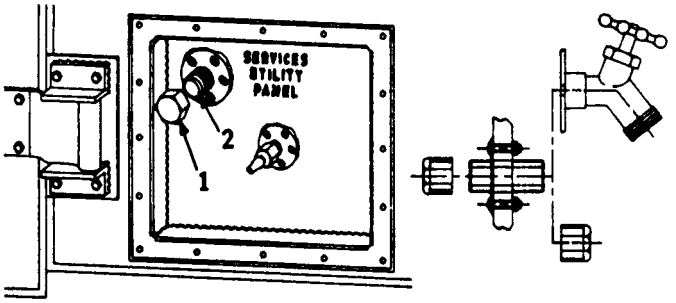
3. Install the quick disconnect coupling (4) on air inlet nipple (2).

4. Tighten coupling (4) securely.

b. Connecting Water Supply.

1. Remove protective dust cap (1) from each end of water feed thru connector (2). Store in shop storage chest.

2. Install adapters and fittings as required.



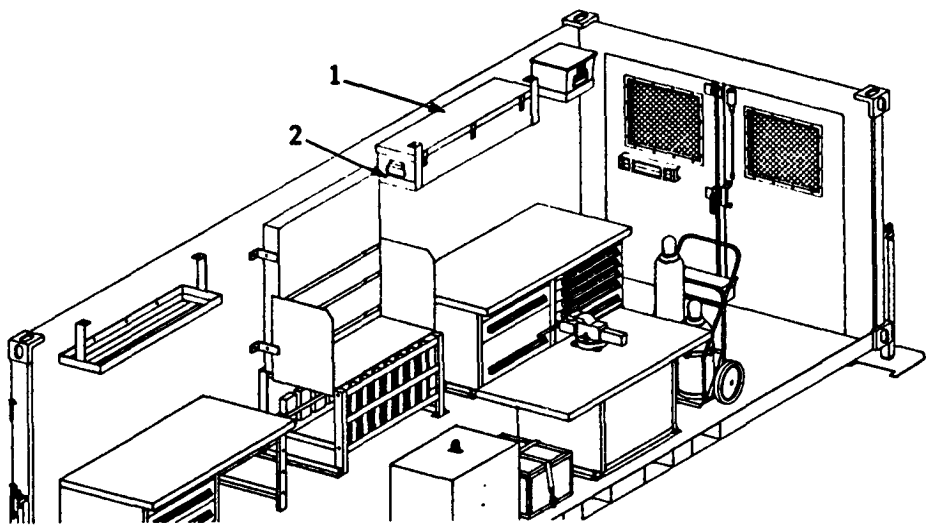
2-6. Storage of Hardware.

CAUTION

Care must be taken to ensure that proper hardware is used to secure equipment for transport. Lack of correct hardware could cause extensive damage to equipment or the shelter when shop is moved.

a. All hardware removed from equipment will be collected and placed in cotton mailing bags (see item 3, App E). Bags are stored in the shop storage chest until shelter is to be moved and equipment bolted to the floor.

b. Position storage chest (1) in mounting bracket (2).



2-7. Checking Shelter Level. Once all equipment is in the recommended operational position recheck leveling of shelter. Use procedures in TM 10-5411-201-14 to verify and adjust level. Correct adjustment is essential to ensure proper operation of machine tools, doors and access panels. The Welding Shop is now operational.

SECTION III. PREPARING SHOP FOR SHIPMENT OR STORAGE

2-8. Recover and Inspect Equipment Hardware.

a. Remove shop storage chest from mounting brackets.

CAUTION

Care must be taken to ensure that proper hardware is used to secure equipment for transport. Lack of correct hardware could cause extensive damage to equipment or the shelter when shop is moved.

b. Recover cotton mailing bags with hardware from shop storage chest.

c. Inspect hardware for damage or missing parts.

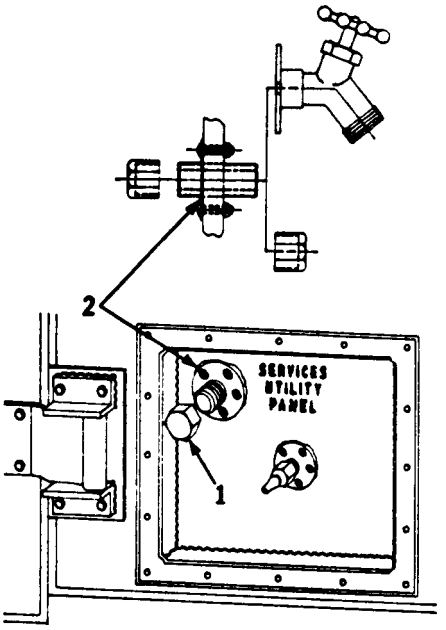
2-9. Disconnecting Shop Utilities (Other Than Electrical).

a. Disconnecting Water Supply.

1. Obtain two protective dust caps (1) from shop storage chest.

2. Remove adapters and fittings from connector (2) at service panel.

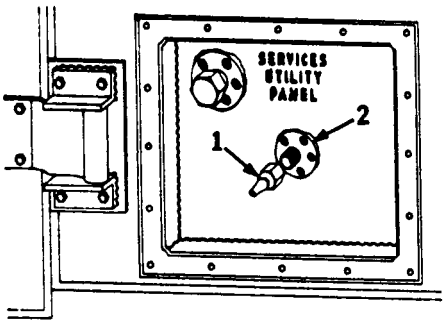
3. Install dust cap on each end of feed thru connector (2), tighten securely.



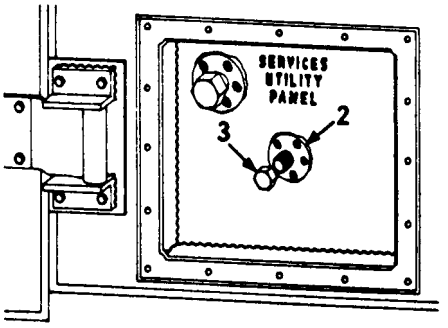
b. Disconnecting Compressed Air.

1. Remove male quick-disconnect coupling (1) from the air inlet nipple (2) at service utility panel. Store in shop storage chest.

2. Obtain a dust cap (3) from storage chest.



3. Install dust cap (3) on air inlet nipple (2), tighten securely.

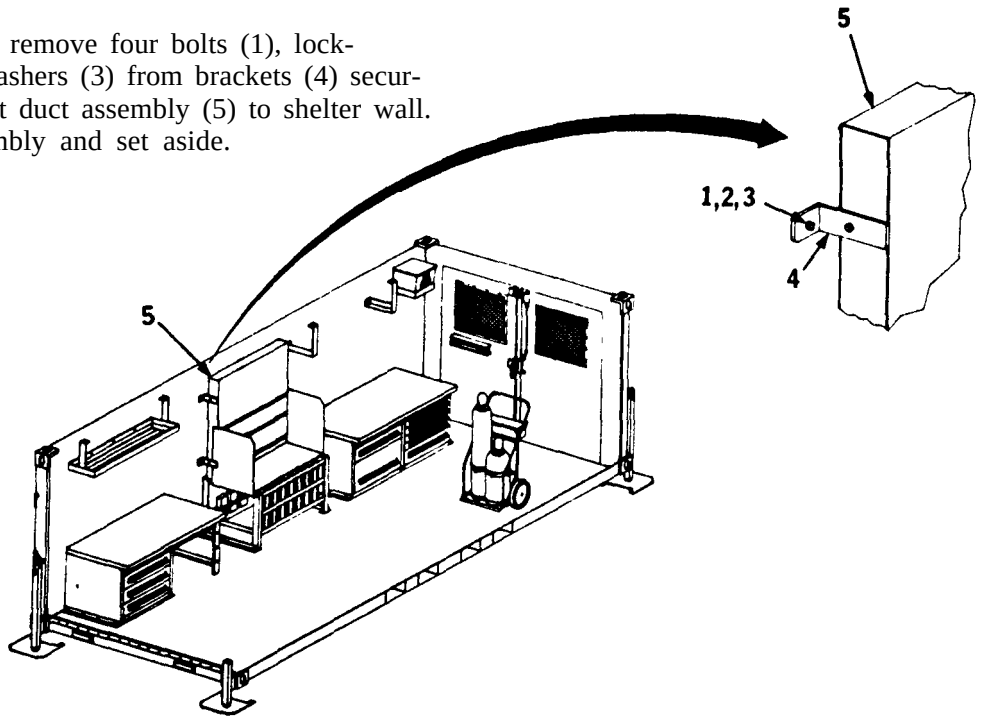


2-10. Positioning Shop Equipment for Transport. The following procedures, and recommended sequence, for moving equipment from the operational mode to the transport or storage mode will be observed.

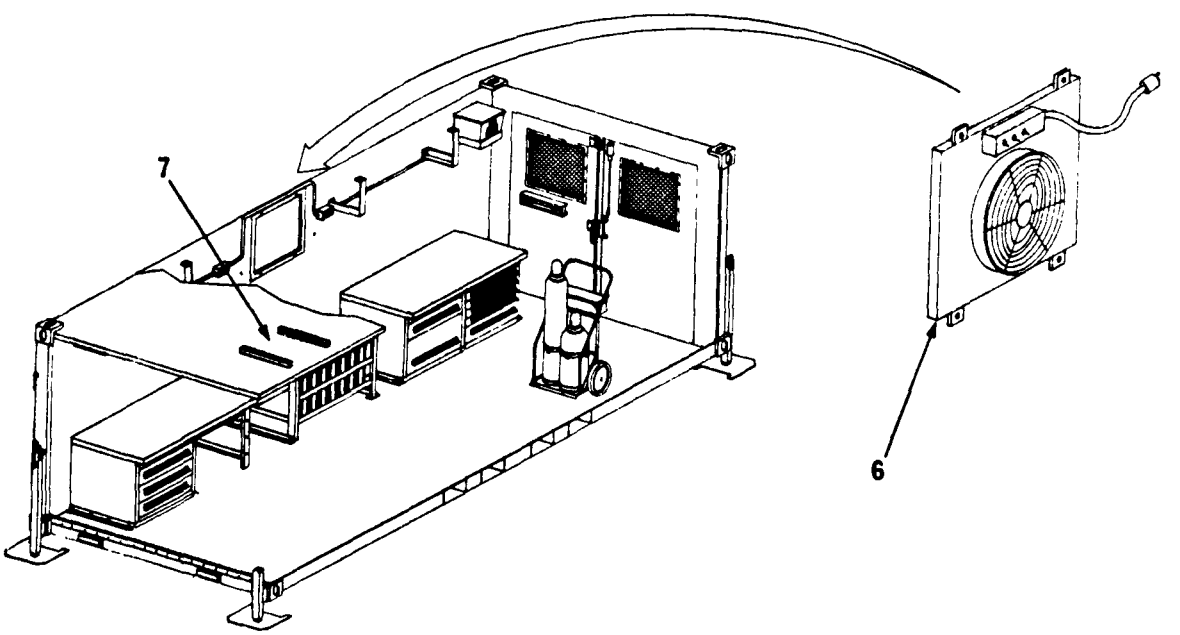
a. Removing Welding Exhaust Fan.

1. Ensure exhaust fan control switch is set to OFF and Disconnect exhaust fan power supply cord.

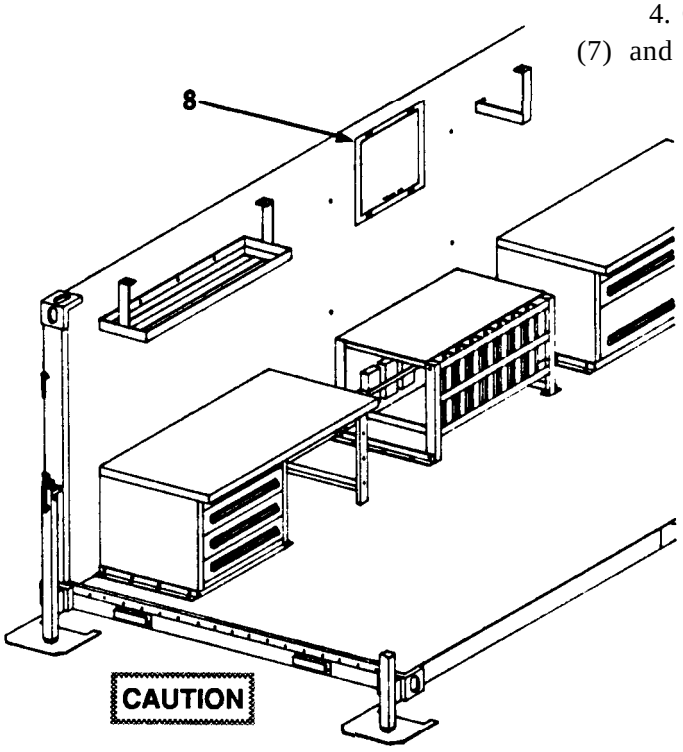
2. Loosen and remove four bolts (1), lockwahsers (2), and washers (3) from brackets (4) securing welding exhaust duct assembly (5) to shelter wall. Remove duct assembly and set aside.



3. Remove exhaust fan (6) from shelter wall and store in overhead rack (7).

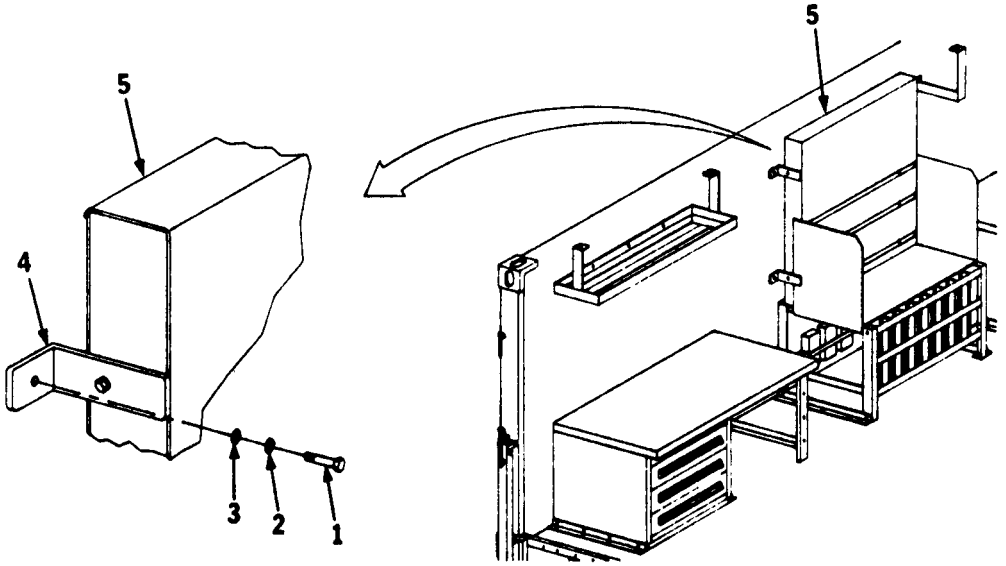


4. Obtain close out panel (8) from overhead rack (7) and install in shelt wall.



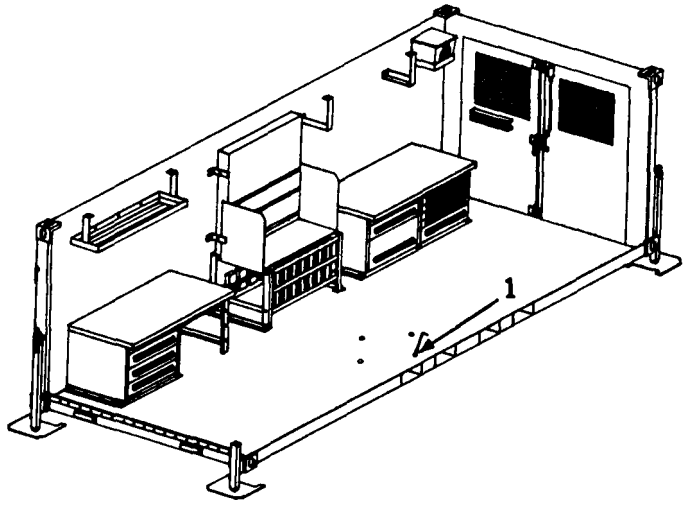
Torque values must be observed to prevent possible damage to equipment or the shelter. Improper procedures could result in extensive damage to government property. See App. G.

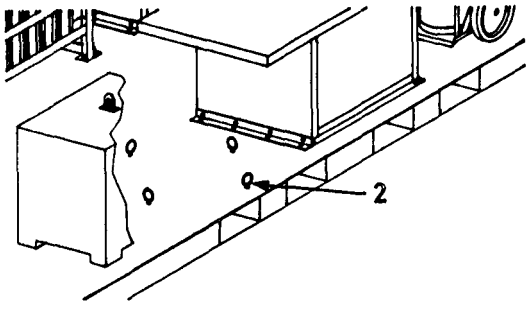
5. Position exhaust duct assembly (5) on shelter wall, alining holes inbrackets (4) with wall inserts. Install four bolts (1), lockwasher (2), and washers (3) and torque.



b. Preparing Welding Kit for Transport.

1. Remove four floor plugs (1) from inserts at transport location of welding kit. Store plugs in shop storage chest.

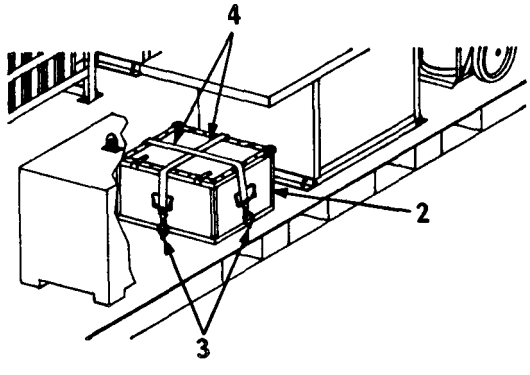




2. Obtain four ring bolts (2) from shop storage chest and install in inserts.

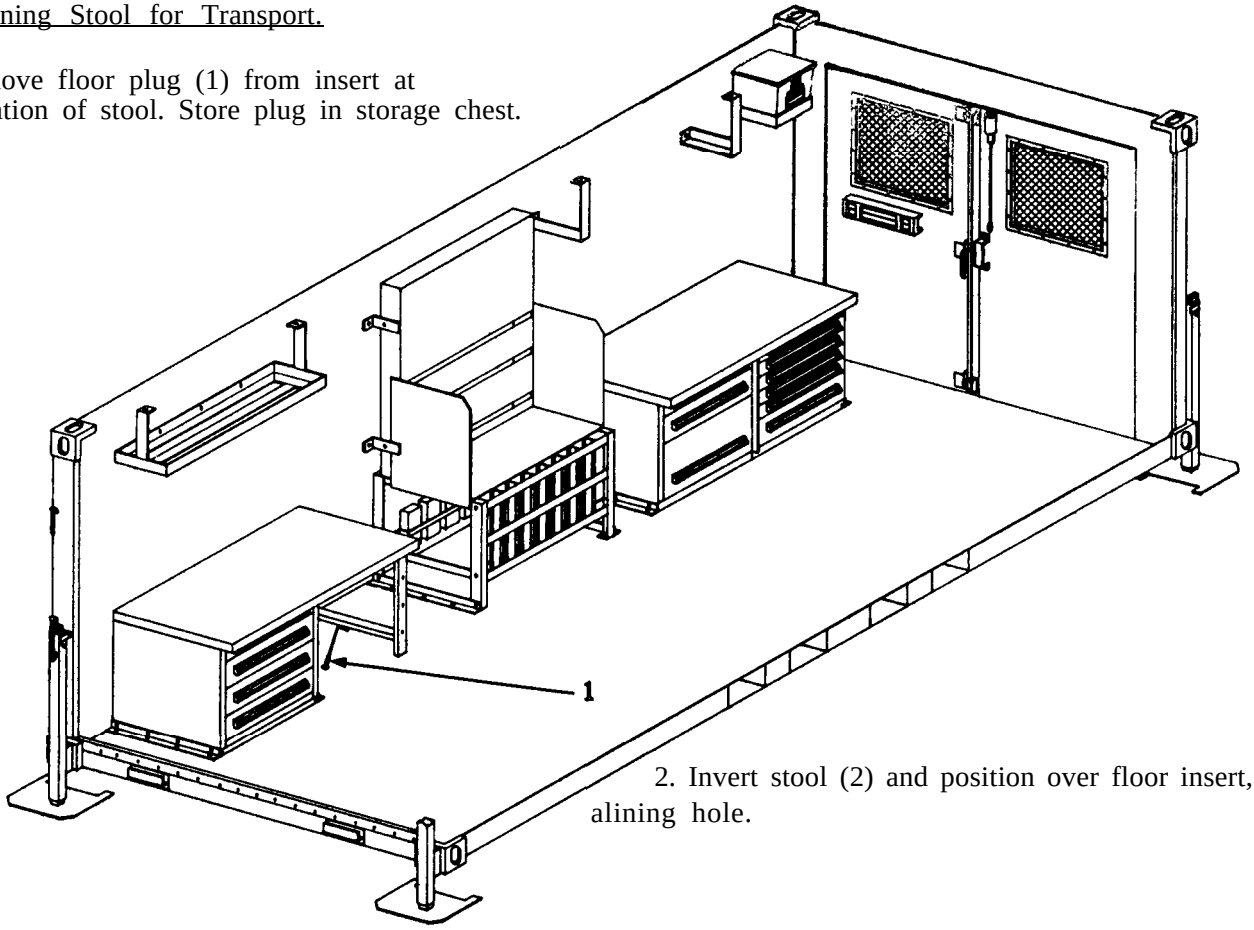
3. Place welding kit (3) in center of four ring bolts.

4. Obtain two cargo straps (4) from shop storage chest. Place cargo straps across welding kit (3) and hook to ring bolts (2) as shown. Tighten securely.

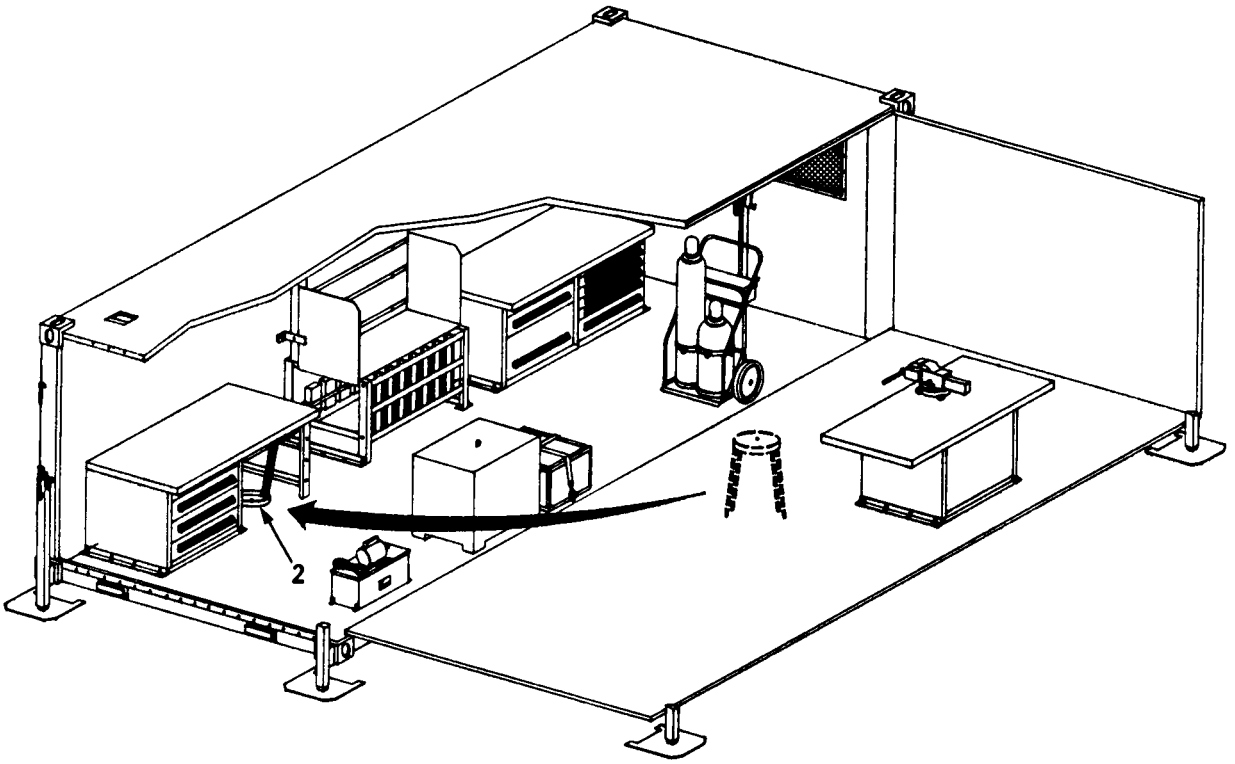


c. Positioning Stool for Transport.

1. Remove floor plug (1) from insert at tansport location of stool. Store plug in storage chest.



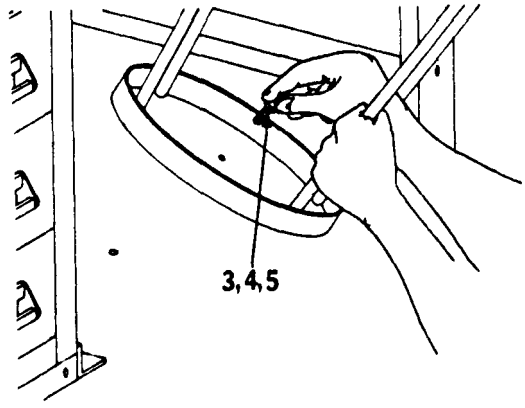
2. Invert stool (2) and position over floor insert, alining hole.



CAUTION

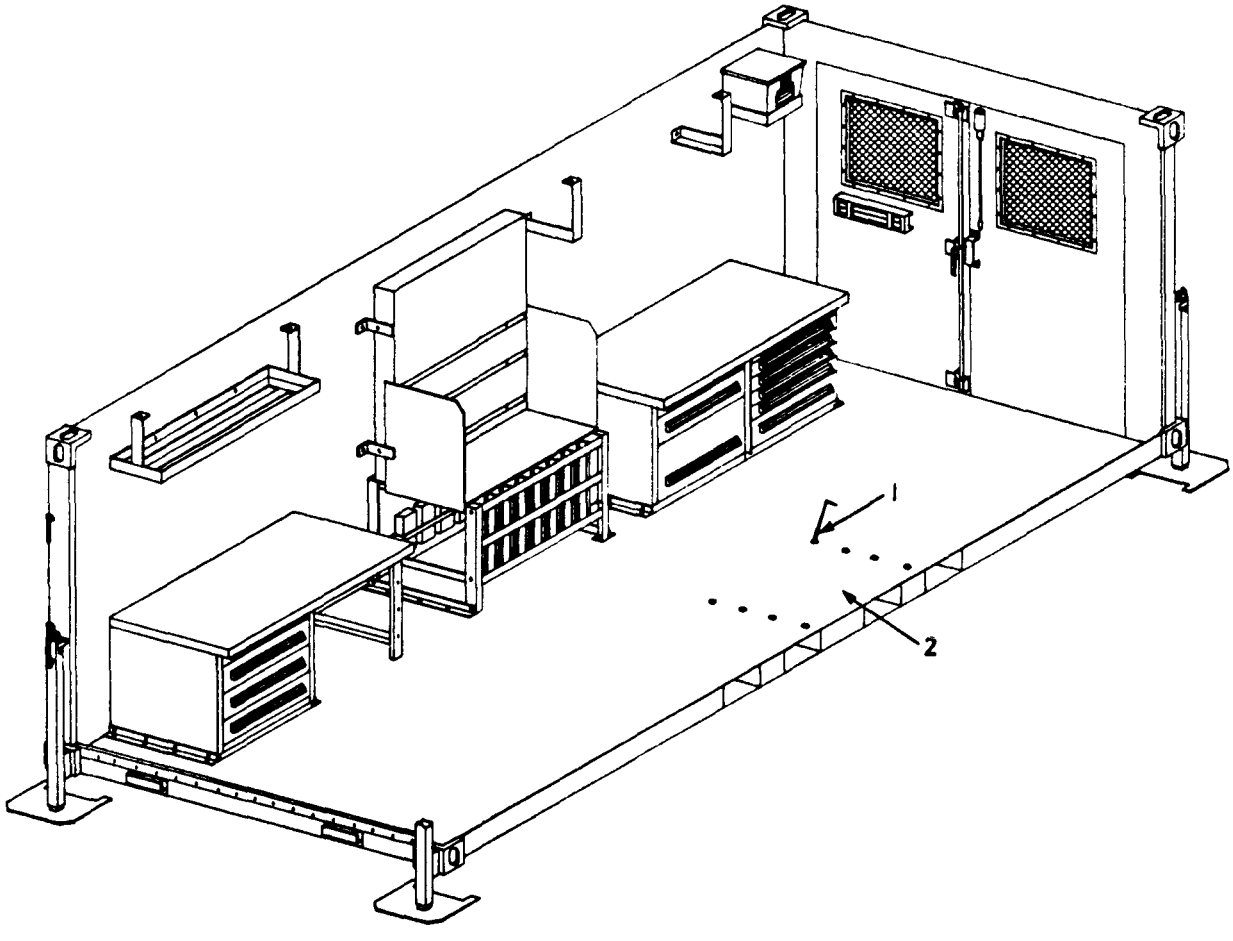
Torque values must be observed to prevent possible damage to equipment or the shelter. Improper procedures could result in extensive damage to government property. See App. G.

3. Install one bolt (3), lockwasher (4) and washer (5) and torque.



d. Positioning Cabinet for Transport.

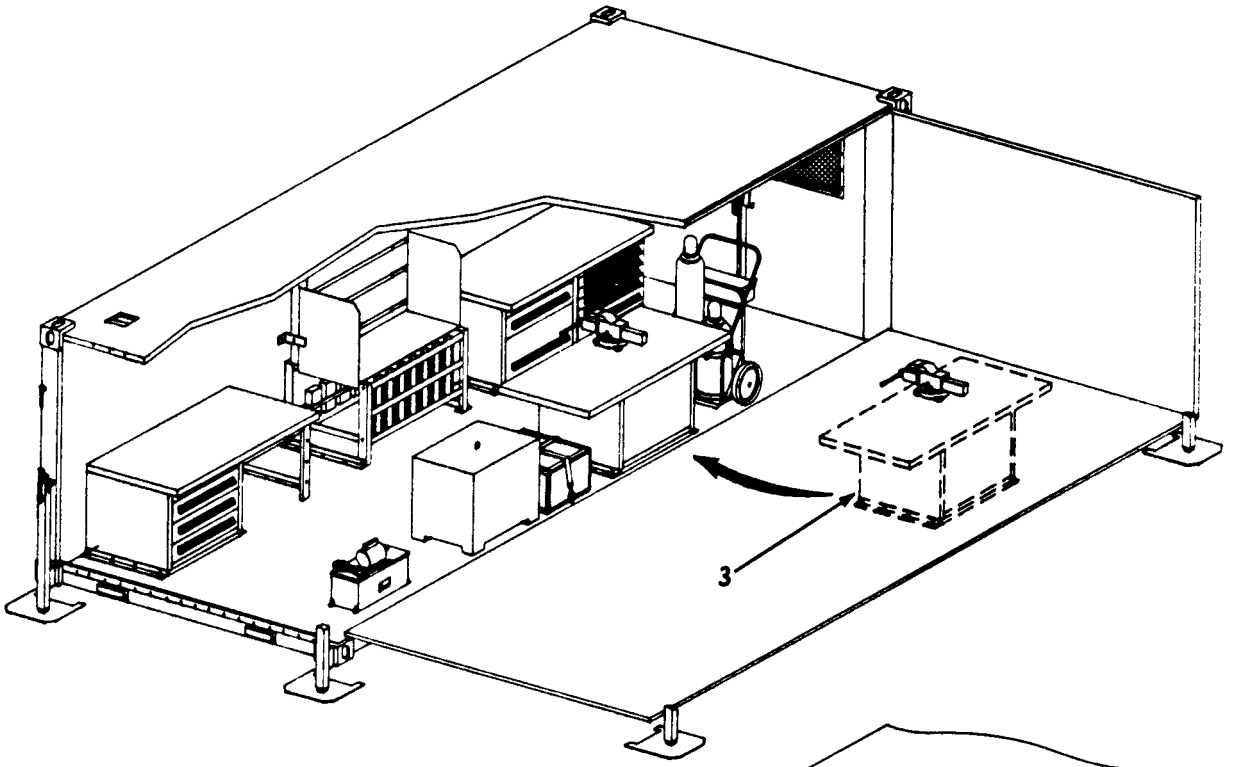
1. Remove eight floor plugs (1) from inserts at transport location of cabinet (2), Store plugs in storage chest.



WARNING

Cabinets are extremely heavy when fully equipped. At least two personnel are required to lift or move. Attempting to lift or move cabinet without sufficient personnel can result in severe injury.

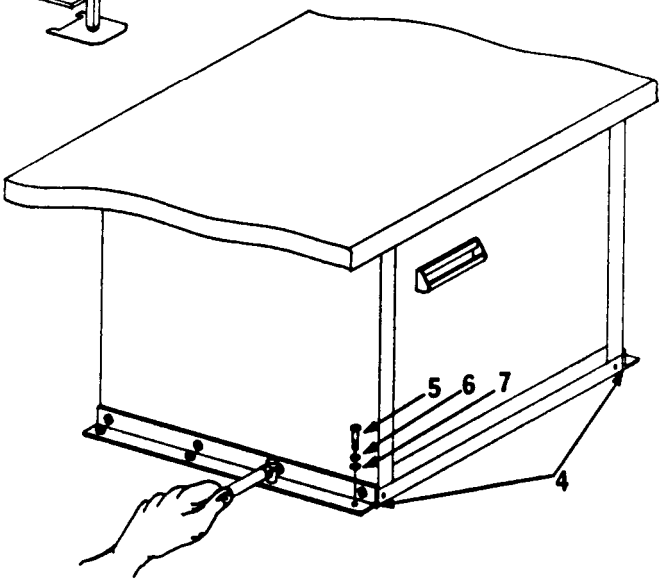
2. Position cabinet (3) by sliding along floor to transport location.



CAUTION

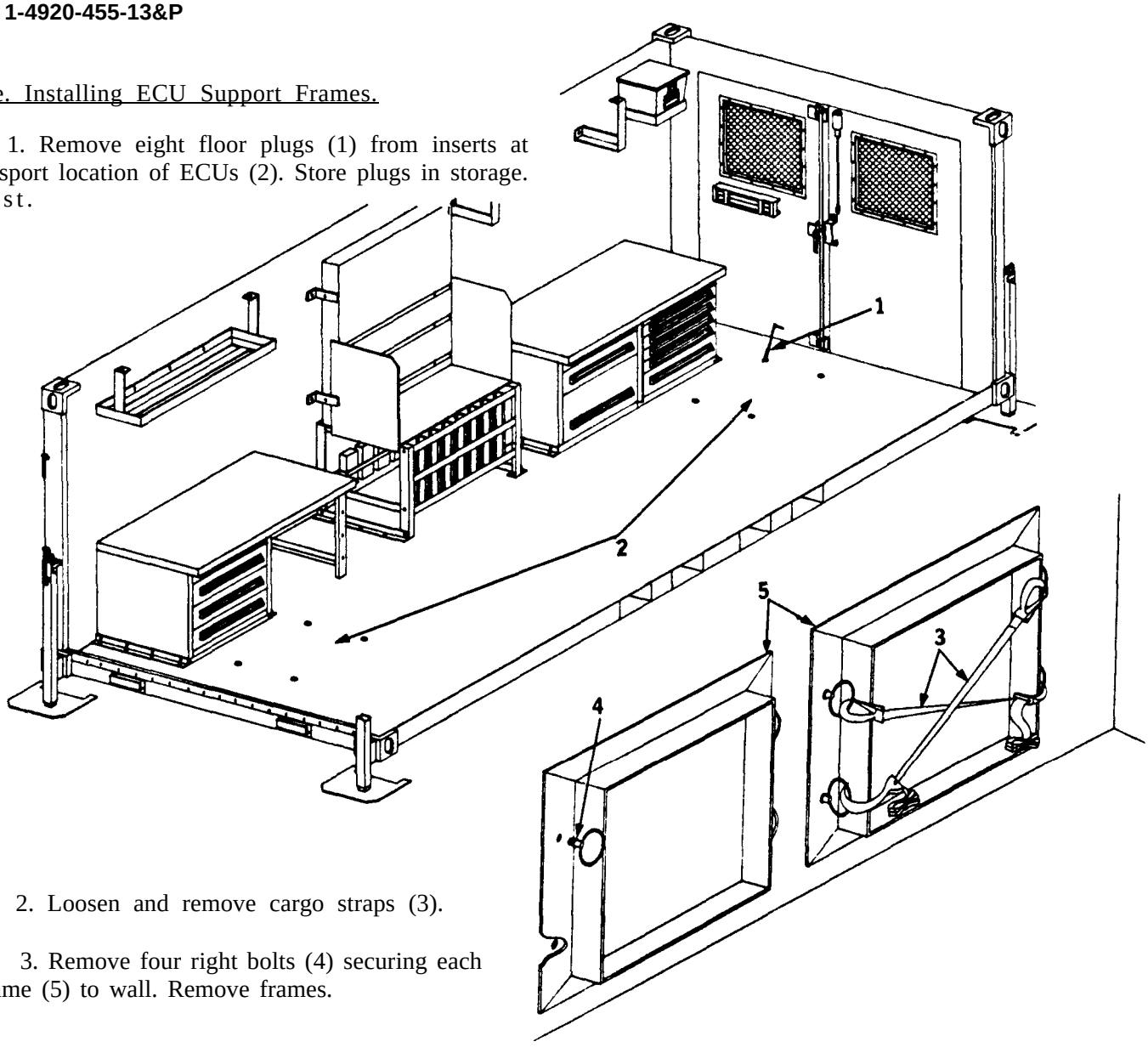
Torque values must be observed to prevent possible damage to equipment or the shelter. Improper procedures could result in extensive damage to government property. See App. G.

3. Aline holes in support brackets (4) with floor inserts. Install eight bolts (5), lockwashers (6) and washers (7) and torque.



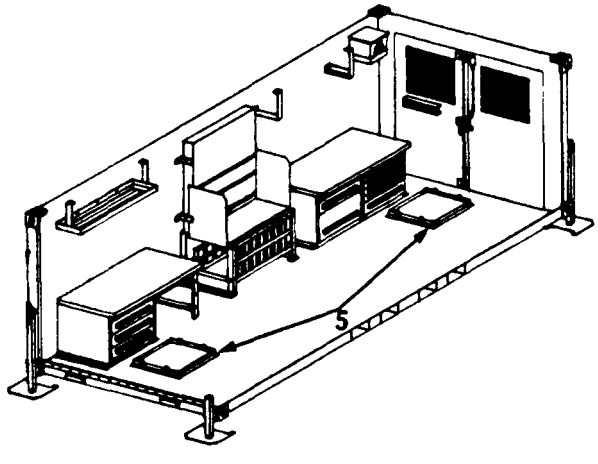
e. Installing ECU Support Frames.

1. Remove eight floor plugs (1) from inserts at transport location of ECUs (2). Store plugs in storage. chest.



2. Loosen and remove cargo straps (3).

3. Remove four right bolts (4) securing each frame (5) to wall. Remove frames.



4. Position ECU frames (5) over floor inserts and aline holes.

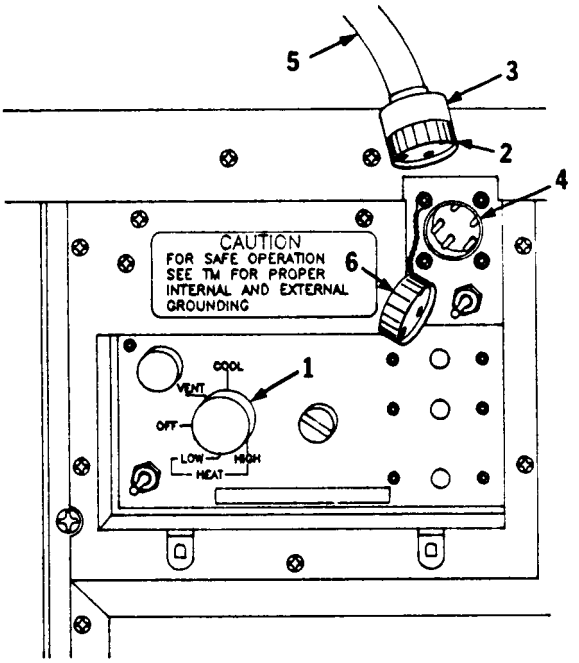
5. Install four right bolts (4) in each and securely tighten.

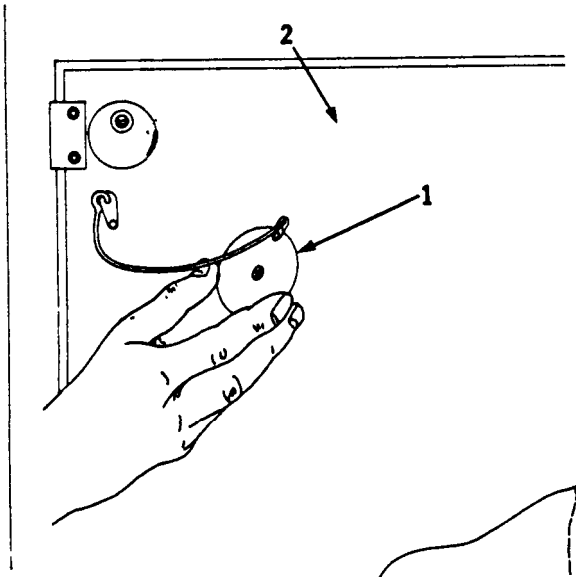
f. Disconnecting Power from ECU.

1. Set ECU MODE SELECTOR switch (1) in OFF position.

2. Unscrew lock ring (2) and pull connector (3) from ECU receptacle (4). Secure cable (5) with hook and loop fasteners.

3. Replace cap (6) on receptacle (4).

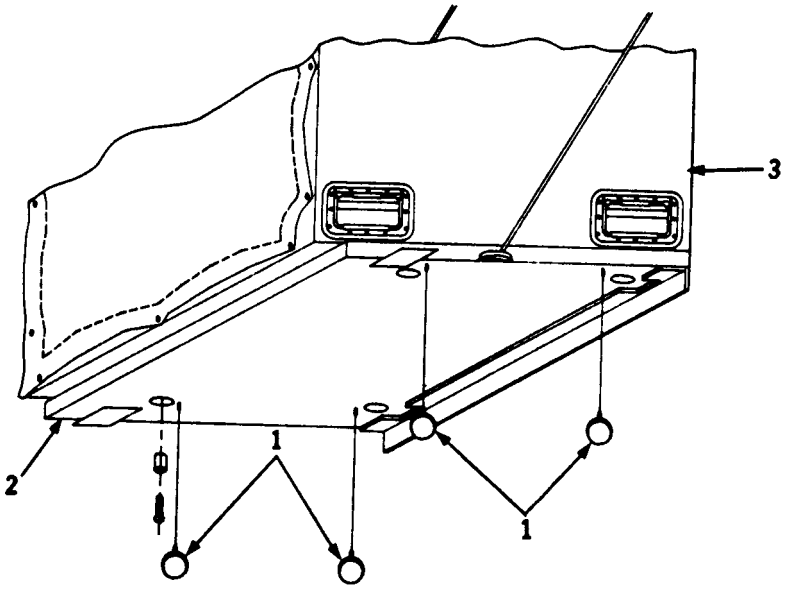




g. Positioning ECUs for Transport

1. Remove Four plug (1) on bottom of ECU shelf (2).

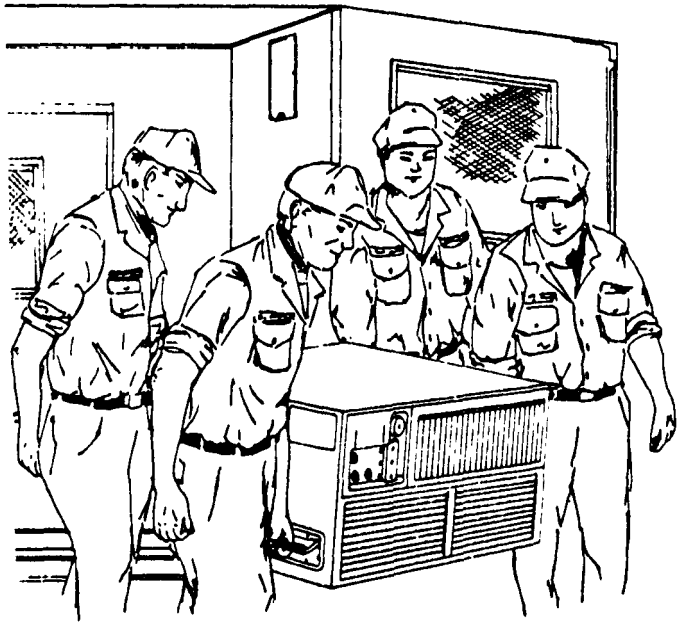
2. Remove mouting hardward securing ECU (3) to fold-ddown shelf (2) IAW TM 5-4120-384-14. Store hardware in shop storage chest.

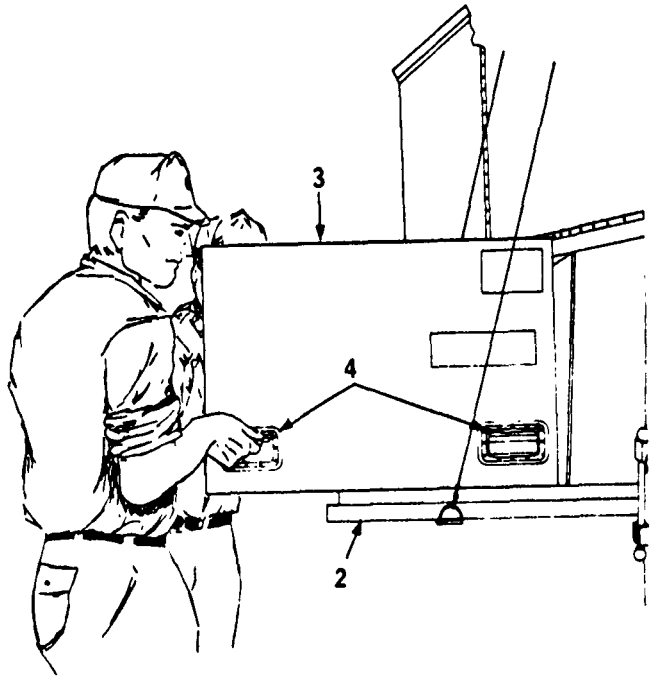


WARNING

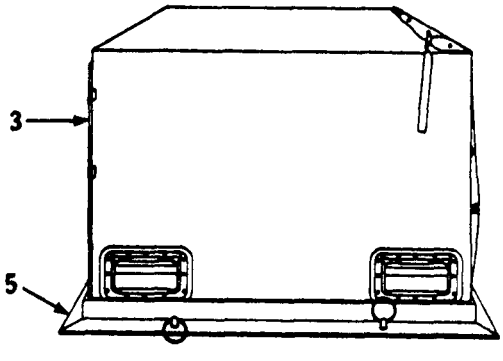
Four people are neeeded when moving or lifting the Environmental Control Units (ECUs). Eahc unit weighs approximately 290 pounds. Trying to move or light an ECU without sufficient help can cause serious injury to personnel.

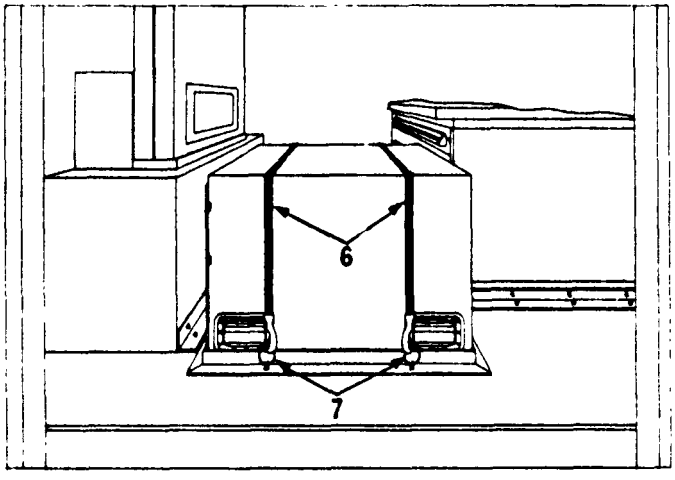
3. Grasp lift handles (4) and slide ECU (3) off fold-down shelf (2).



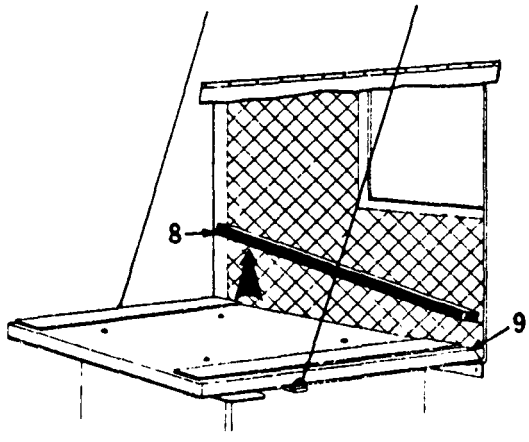


4. Carry ECU (3) inside and position in floor frame (5).

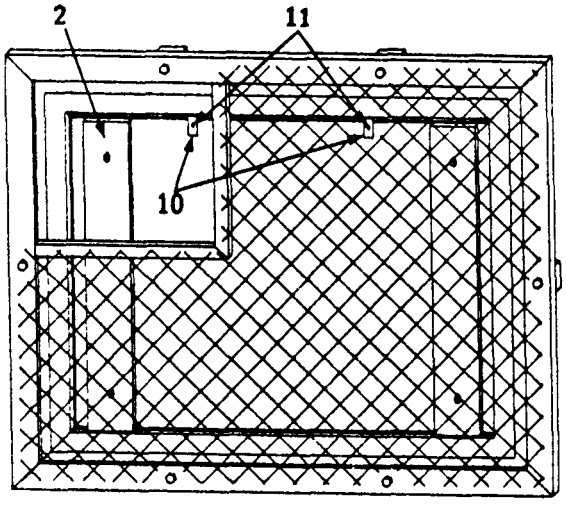




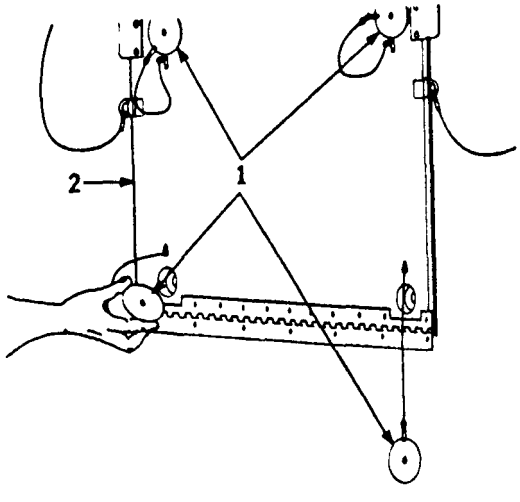
5. Place two cargo straps (6) on ECU and hook to ring bolts (7). Tighten cargo straps to secure ECU in place.



6. From outside shelter, remove ECU seal (8) from bottom of frame (9). Close ECU shelf (2) and store ECU seal in shop storage chest.



7. From inside shelter, turn latches (10) to locked position and tighten latch bolts (11).



8. Insert four plugs (1) in ECU shelf (2).

h. Repeat f and g above for remaining ECU.

2-11. Power Shutdown.

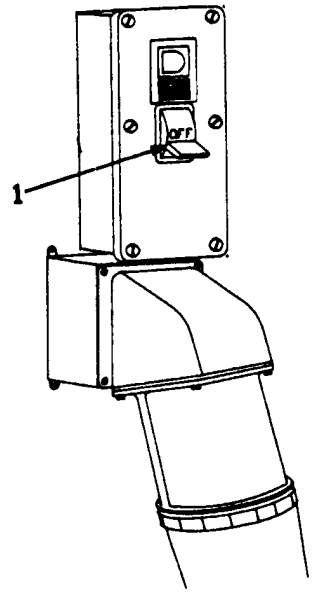
WARNING

HIGH VOLTAGE exists in the electrical system of the shop. All electrical inspections, repairs or replacement will be performed with the power off and only by qualified electricians. Serious shock hazards exist which could result in injury or death to personnel.

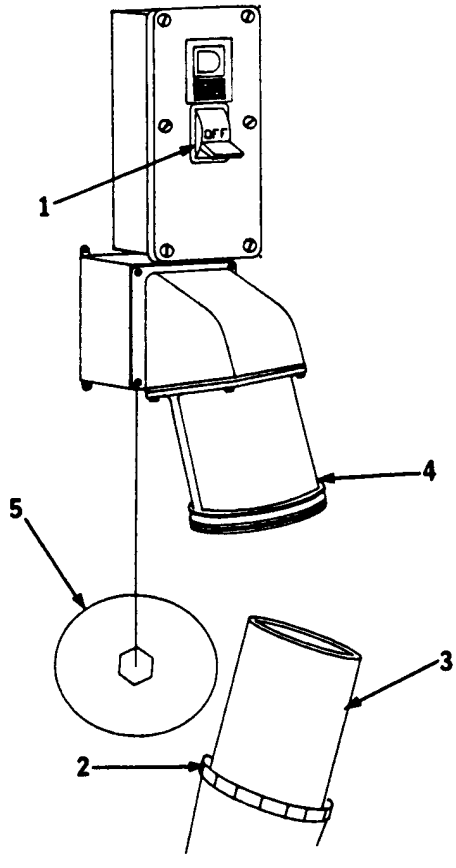
a. Power Off at Electric Welder.

1. Ensure electric welder is turned off.

2. Set special electric welder circuit breaker (1) to the OFF position.



3. Loosen lock ring (2) on cable connector (3) and remove connector (3) from outlet (4) located beneath special circuit breaker (1).

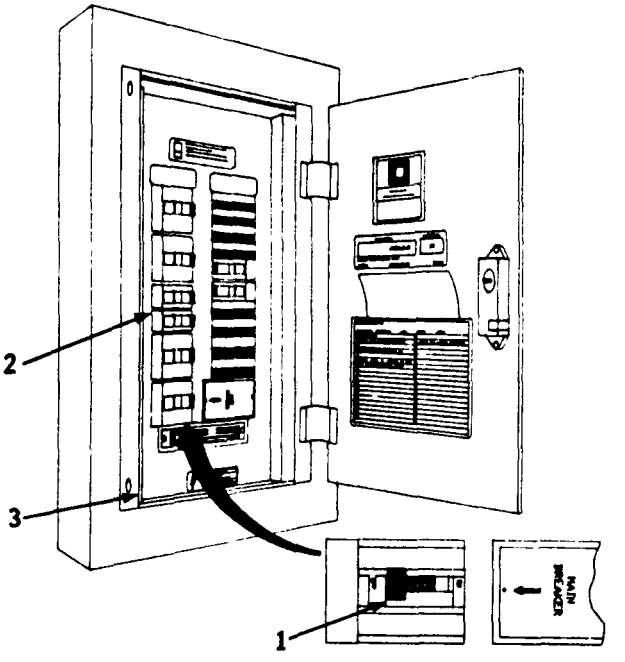


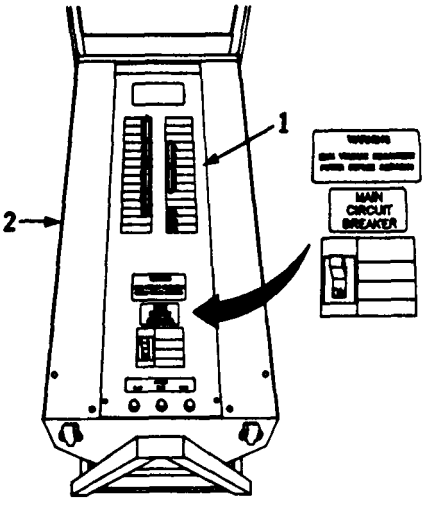
4. Install protective cap (5) on outlet (4).

b. Main Power Off at Shelter.

1. Ensure all electrical tools and shop equipment are turned off.

2. Set main (1) and individual (2) circuit breakers in circuit breaker panel (3) to OFF position.





c. Power Off at Power Distribution Panel.

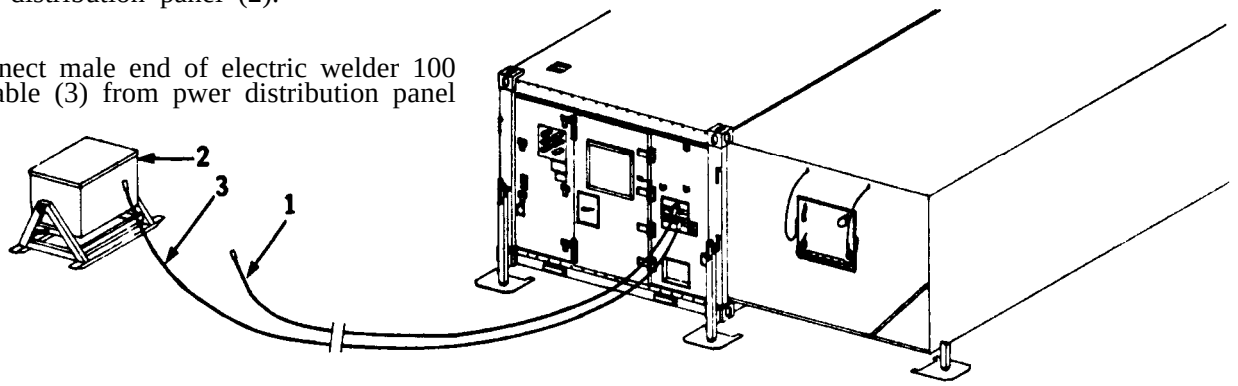
1. Set corresponding shelter's power cable outlet circuit breaker (1) in power distribution panel (2) to OFF position.

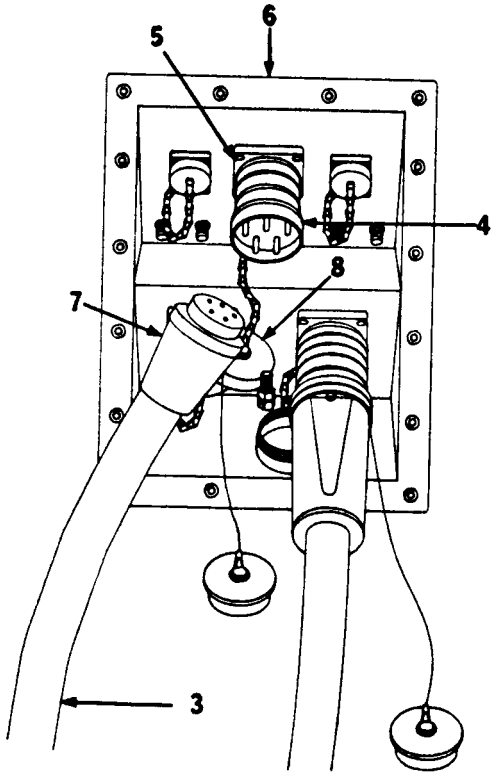
2. Set corresponding shelter's electric welder 100 AMP power cable outlet circuit breaker to OFF position.

d. Disconnecting Shelter Power Cables.

1. Disconnect male end of shelter power cable (1) from pwer distribution panel (2).

2. Disconnect male end of electric welder 100 AMP power cable (3) from pwer distribution panel (2).





3. Unscrew lock ring (4) on AUX SERVICE ENTRANCE receptacle (5) on shelter power entry panel (6) and remove cable connector (7) from receptacle.

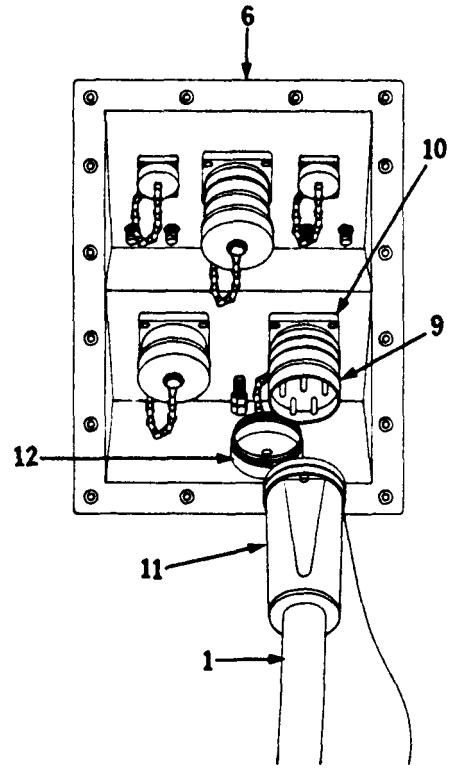
4. Replace dust cap (8).

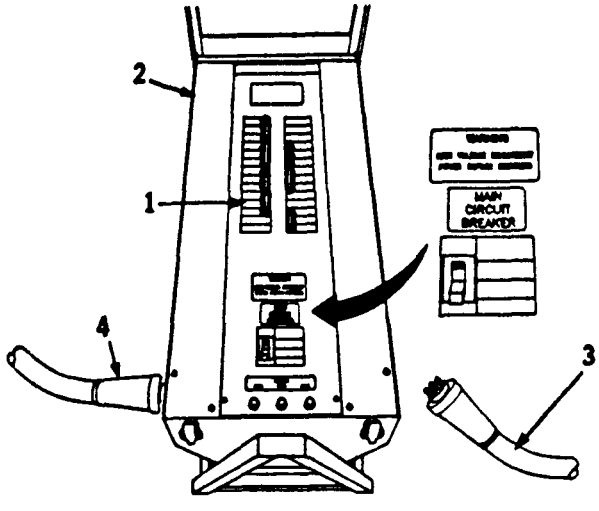
5. Clean cable (3) and store in shop.

6. Unscrew lock ring (9) on J1 receptacle (10) on shelter power entry panel (6) and remove cable connector (11) from receptacle.

7. Replace dust cap (12).

8. Clean cable (1) and store in shelter.





e. Disconnecting Power Distribution Panel from Power Source.

1. Ensure all circuit breakers (1) in the power distribution panel (2) are in the OFF position.

2. Ensure all shelter power cables (3) and 100 AMP electric welder cable are disconnected from the power distribution panel (2).

3. A qualified electrician should disconnect power distribution panel power cable (4) from the power distribution panel (2) and the power source IAW TM 5-6150-226-13&P.

f. Removing External Ground Rod.

1. Remove external ground rod IAW TM 10-5411-201-14 and TC 11-6.

2. Store ground rod assembly in shop.

2-12. Administrative Storage Procedures. In the event the Welding Shop is to be placed in administrative storage, the provisions of AR 750-1, TM 55-1500-204-25/1, and applicable shop equipment TMs will be followed.

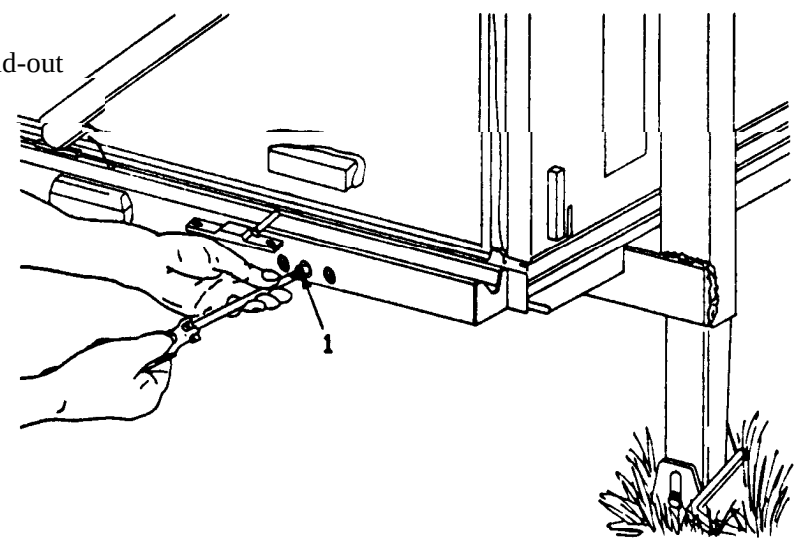
2-13. Closing the Shelter.

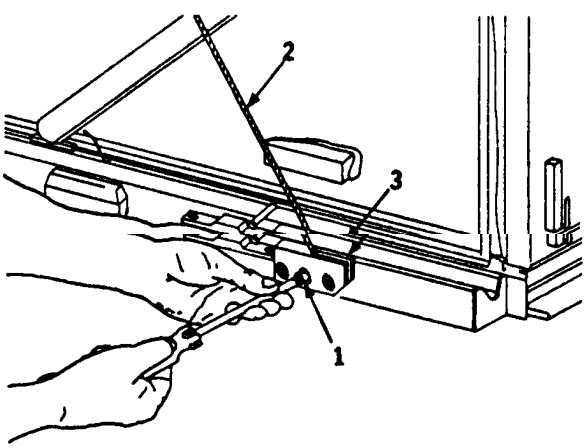
WARNING

When all equipment is stored on the stationary side of the shelter, the limited floor space presents an obstacle to operating personnel. This is most critical during the raising and lowering of the roof panel. Failure to observe closing instructions could result in serious injury to personnel. Personnel inside the shelter could become trapped between the roof panel and equipment.

a. Installing Counterbalance Cables.

1. Remove screws (1) at both corners of fold-out floor.





2. Install cable (2) and retainer block (3) with screws (1).

3. Proceed with closing the shelter as outlined in TM 10-5411-201-14.

b. After the shelter has been closed and prepared in accordance with TM 10-5411-201-14, the Welding Shop is ready for transport or storage.

CHAPTER 3
MAINTENANCE INSTRUCTIONS

SECTION I. REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

3-1. Common Tools and Equipment. For authorized common tools and equipment refer to the Table/Modified Table of Organization and Equipment (TOE/MTOE) applicable to the AVIM unit and to the Supply Catalog (SC) applicable to the Welding Shop.

3-2. Torque Values. All equipment or tools secured to the floor or wall of the shelter must be carefully tightened to specific torque limits. These torque limits are contained in Appendix G of this manual.

3-3. Special Tools, TMDE, and Support Equipment. No special tools are required.

3-4. Repair Parts. Repair parts are listed and illustrated in Appendix D of this manual.

3-5. Repair Procedures. Inspection, repair and replacement tasks for all fabricated brackets and components encompass similar procedures due to the commonality of the materials and hardware utilized. The inspection, repair and replacement tasks for the book rack are presented as a guide for maintenance procedures for the remainder of the fabricated components as listed in Appendix F.

SECTION II. SERVICE UPON RECEIPT

3-6. Checking Unpacked Equipment.

a. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 6, Packaging Improvement Report.

b. Check the equipment against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with the instructions of DA PAM 738-751.

c. Check to see whether the equipment has been modified.

d. After equipment has been positioned to the recommended operational floor plan, check all items requiring service. Preventive maintenance (PM) and preoperational services will be performed IAW applicable equipment TMs.

SECTION III. MAINTENANCE PROCEDURES

3-7. Fasteners - Inspect 3-7

This tasks covers: Inspection of common fasteners.

INITIAL SETUP

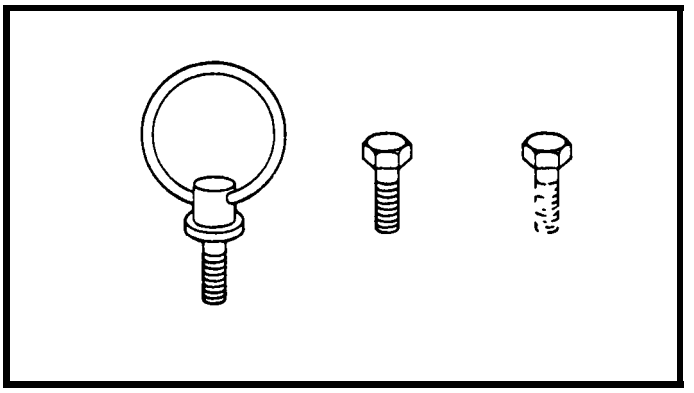
Tools:
Basic Issue Items (BII) - App C
Wrench, Torque 0-600 inch pounds, NSN 5120-00-288-8865

Personnel Required:
44 Welder

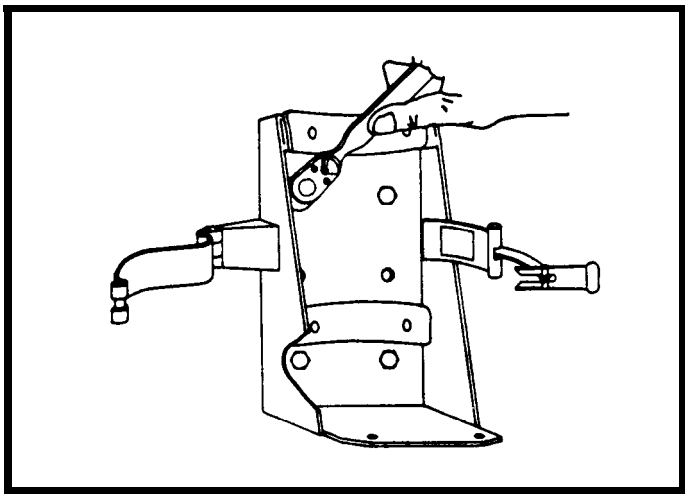
INSPECTION

1. Inspect bolts.

   a. Inspect bolts for damaged threads, rounded head, or other damage prior to installation and upon removal.



   b. Replace bolts as necessary.



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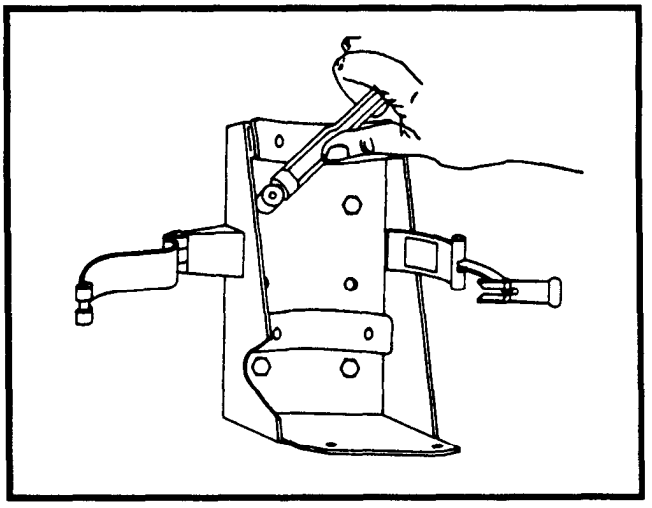
3-7. Fasteners - Inspect (Cont)

c. Upon installation, if bolt does not tighten to specific torque (App G), remove and reinspect bolts. Proceed to Step 2, if bolts are serviceable.



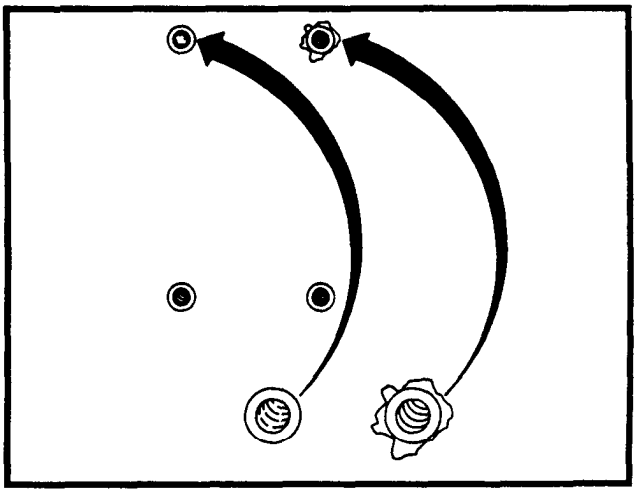
2. Inspect Inserts.

a. Clean insert of foreign debris.

b. Inspect inserts for broken threads and determine if insert has broken loose.

c. Replace IAW TASK 3-8, if conditions in Step 2.b. exist.

END OF TASK



3-8. Inserts - Replace 3-8

This tasks covers: Replacement of inserts

INITIAL SETUP

Personnel Required:
44B Welder

Reference Information:
TM 10-5411-201-14

WARNING

Methylethylketone (MEK), used to clean replacement inserts, is flammable and toxic. Use only in well ventilated areas. Breathing vapors can cause headaches and nausea. Repeated contact with skin can cause irritation. If irritation persists see a doctor. If in contact with eyes, wash immediately with water for 15 minutes and seek medical attention.

Safety goggles will be worn when drilling and cleaning holes for insert replacement. Flying chips can cause eye injury or blindness.

REPLACEMENT

Perform task IAW TM 10-5411-201-14.

END OF TASK

3-9. Fixtures - Fire Extinguisher - Removal/Installation 3-9

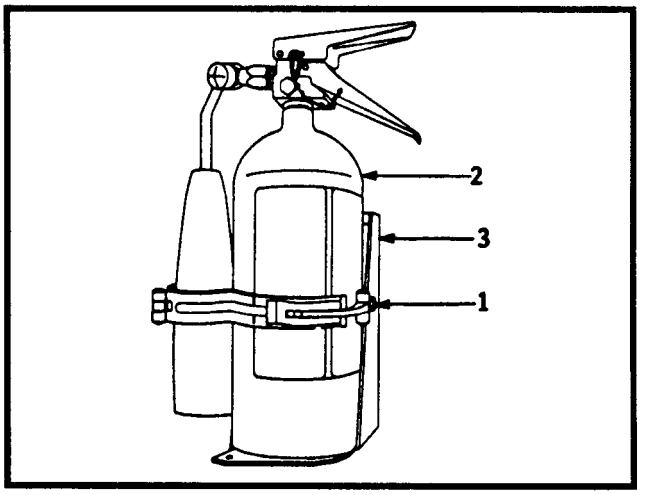
This tasks covers: Removal and installation of the fire extinguisher

INITIAL SETUP

Personnel Required:
44B Welder

REMOVAL

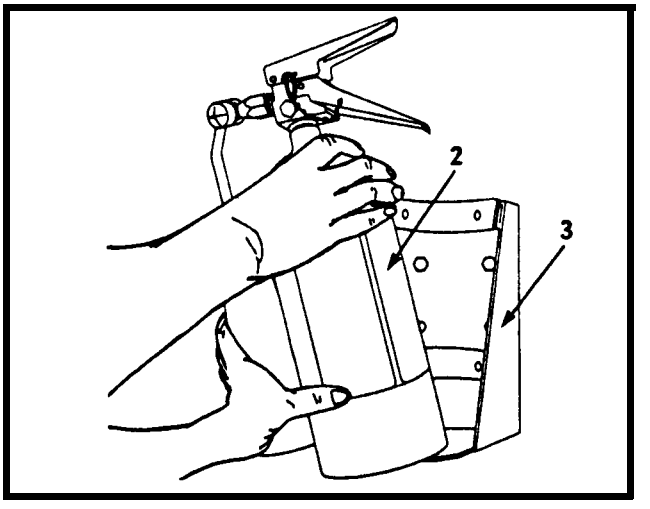
Release clamp (1) securing fire extinguisher **(2)** in bracket (3) and remove fire extinguisher.



INSTALLATION

Place fire extinguisher (2) in bracket (3) and lock clamp (1) to secure fire extinguisher.

END OF TASK



3-10. Fixtures - Fire Extinguisher Mounting - Inspect 3-10

This tasks covers: Inspection of fire extinguisher mounting

INITIAL SETUP

Tools:
Basic Issue Items (BII) - App C
Wrench, Torque 0-600 inch pounds, NSN 5120-00-288-8865

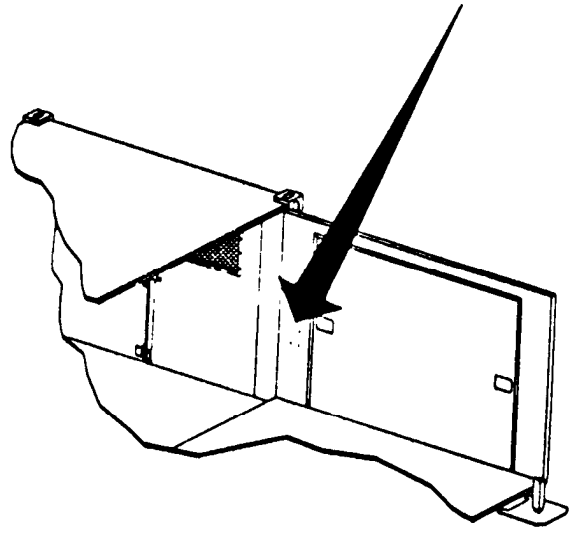
Personnel Required:
44B Welder

Equipment Condition:
Fire Extinguisher Removed
TASK 3-9

INSPECTION

NOTE

Four additional wall inserts, inside cargo door on end wall, have been provided as alternate fire extinguisher mounting point.



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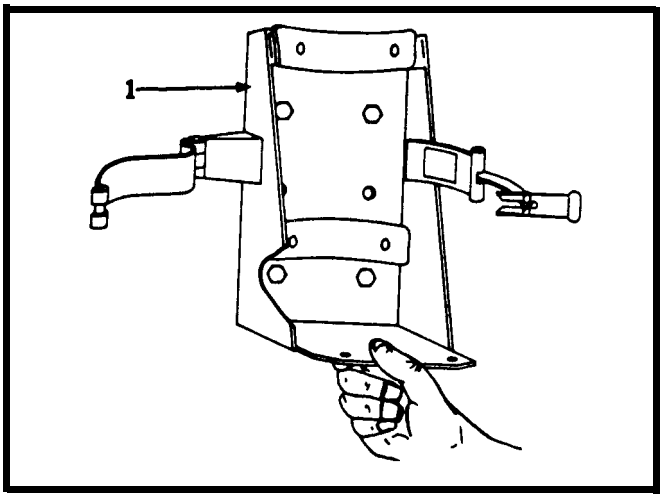
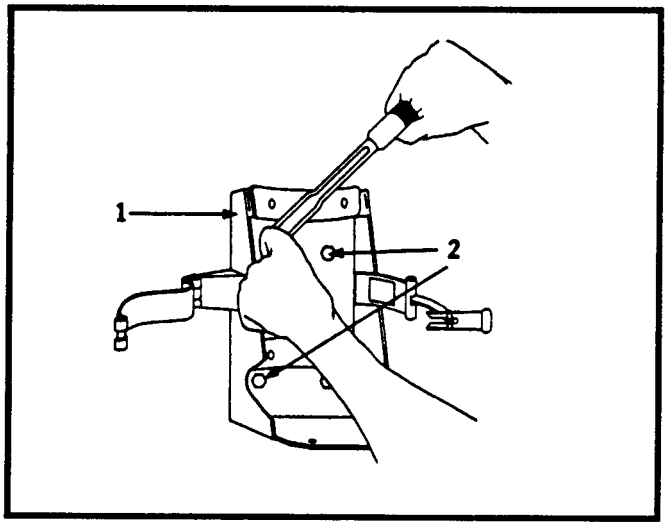
3-10. Fixtures - Fire Extinguisher Mounting - Inspect (Cont)

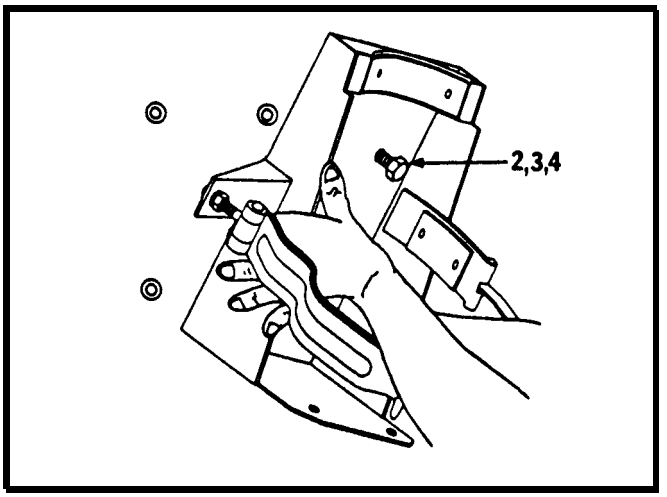
1. Check fire extinguisher bracket (1) for security.



2. Check torque (App G) on bolts (2) when braket (1) is loose.



3. Remove bolts (2), lockwashers (3) and washers (4) when unable to tighten bolts (2) to specified torque (App G). Inspect bolts (2) and inserts IAW TASK 3-7.



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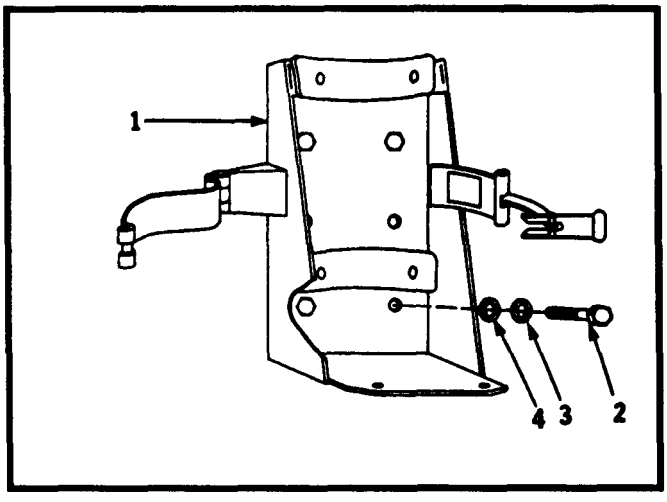
3-10. Fixtures - Fire Extinguisher Mounting - Inspect (Cont) 3-10

4. Position fire extinguisher bracket (1) alining holes with wall inserts. Install bolts (2), lockwashers (3), and washers (4) and torque (App G).



END OF TASK

3-11. Water/Oil Separator Mounting - Inspect 3-11

This tasks covers: Inspection of water/oil separator mounting

INITIAL SETUP

Tools:
Basic Issue Items (BII) - App C
Wrench, Torque 0-600 inch pounds, NSN 5120-00-288-8865

Personnel Required:
44B Welder

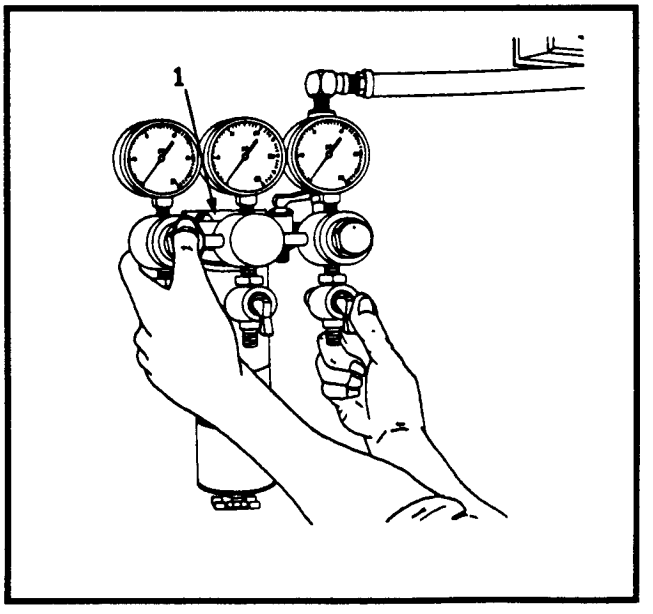
Equipment Condition:
Air supply off and air bled

WARNING

High pressure compressed air against skin or near eye can cause injury or blindness. Do not direct compressed air against skin or near eyes. Always wear safety goggles when working with compressed air. Ensure compressed air supply is disconnected and air bled before attempting this task.

INSPECTION

1. Check water/oil separator bracket (1) for security.



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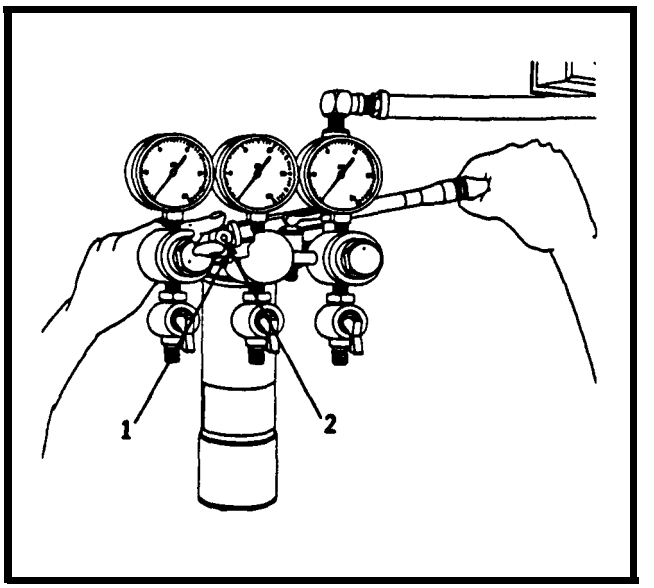
3-11. Water/Oil Separator Mounting - Inspect (Cont) 3-11

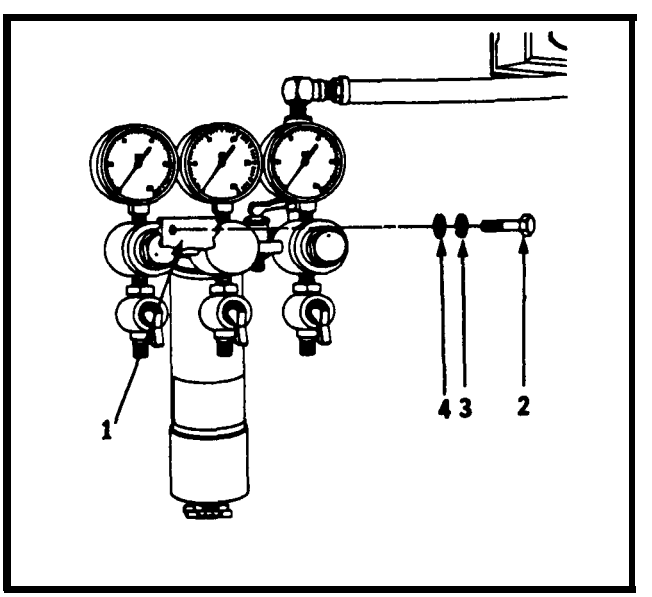
2. Check torque (App G) on bolts (2) when bracket (1) is loose.

3. Remove bolts (2), lockwashers (3) and washers (4) when unable to tighten bolts (2) to specified torque (App G). Inspect bolts (2) and inserts IAW TASK 3-7.



4. Position water/oil separator bracket (1) and aline bolt holes with wall inserts. Install bolts (2), lockwashers (3), and washers (4) and torque (App G).

END OF TASK



3-12. Water/Oil Separator Fittings and Air Hose -Inspect 3-12

This tasks covers: Inspection of fittings and air hose

INITIAL SETUP

Personnel Required:
44B Welder

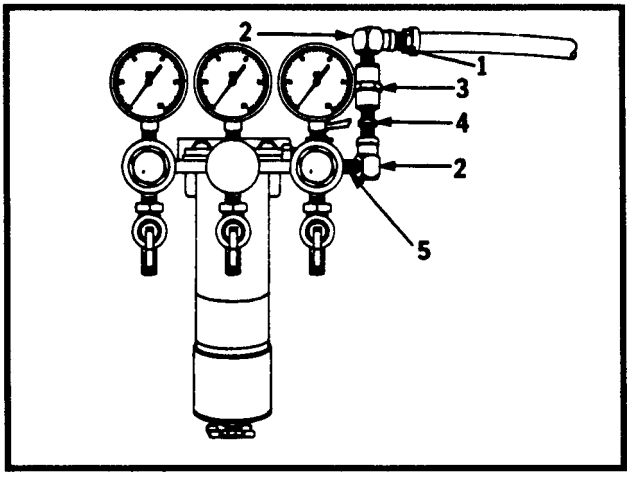
Equipment Condition:
Inspect Fittings: Air supply on
Inspect Air Hose: Air supply off and bled

INSPECT FITTINGS

WARNING

High pressure compressed air against skin or near eye can cause injury or blindness. Do not direct compressed air against skin or near eyes. Always wear safety goggles when working with compressed air.

Inspect hose fitting (1), elbows (2), coupling (3), nipple (4) and bushing (5) for corrosion and leaks. Replace IAW Task 3-13 when corrosion and leaks exist.



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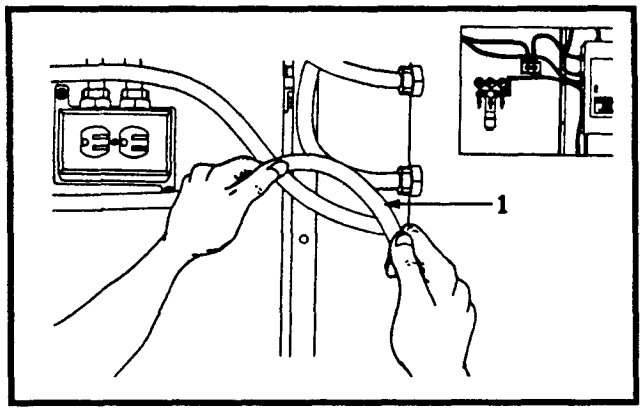
3-12. Water/Oil Separator Fittings and Air Hose - Inspect (Cont) 3-12

INSPECT AIR HOSE

WARNING

High pressure compressed air against skin or near eye can cause injury or blindness. Do not direct compressed air against skin or near eyes. Always wear safety goggles when working with compressed air. Ensure compressed air supply is disconnected and air bled before attempting this task

Inspect air hose (1) for cracks or checking. Replace if visible IAW TASK 3-13.



END OF TASK

3-13. Water/Oil Separator Fittings and Air Hose - Replace 3-13

This tasks covers: Replacement of fittings and air hose

INITIAL SETUP

Tools:
Basic Issue Items (BII) - App C

Material:
Hose Assembly, NSN 4720-00-402-9511- App D

Personnel Required:
44B Welder

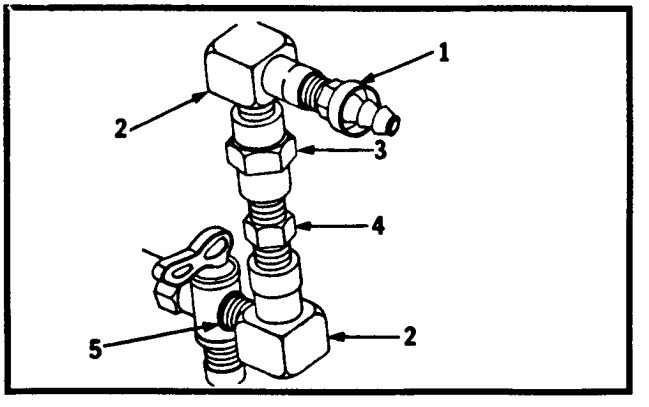
Equipment Condition:
Air supply off and air bled

WARNING

High pressure compressed air against skin or near eye can cause injury or blindness. Do not direct compressed air against skin or near eyes. Always wear safety goggles when working with compressed air. Ensure air supply is disconnected and air bled before attempting this task.

REPLACE FITTINGS

1. Remove air hose from fitting. Retain as much of the hose as possible to permit reuse.
2. Remove hose fitting (1), elbows (2), coupling (3), nipple (4) and bushing (5) as necessary to gain access to defective part.
3. Replace defective part.
4. Install remaining hose fitting (1), elbows (2), coupling (3), nipple (4) and bushing (5) as necessary.
5. Install or replace air hose as appropriate



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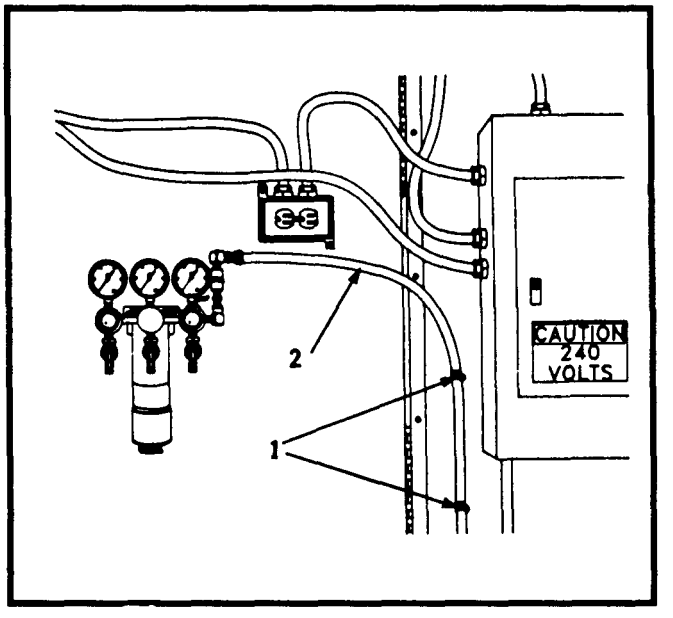
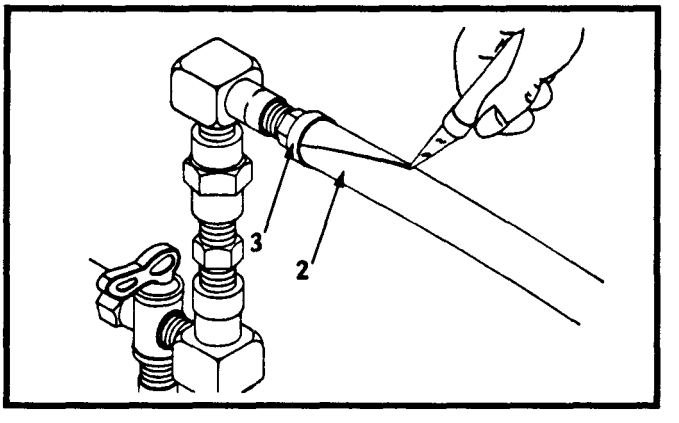
3-13. Water/Oil Separator Fittings and Air Hose - Replace (Cont) 3-13

REPLACE AIR HOSE

1. Remove both loop clamps (1) from defective hose (2).

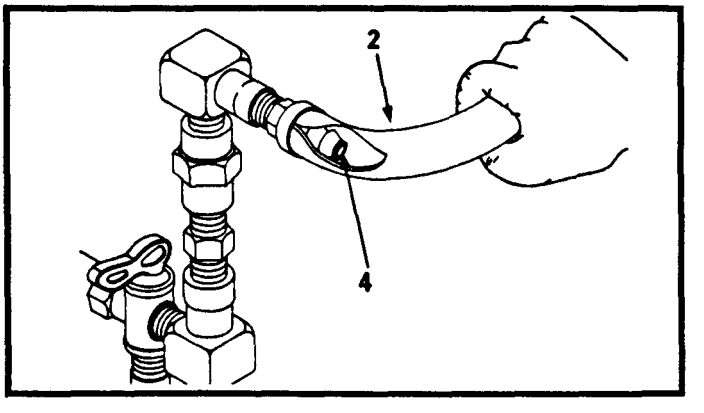


2. Slit hose (2) lengthwise from protective cap (3) to end of fitting (4) (approximately 1 1/2 inches) with knife.



3. Bend hose (2) back over fitting (4) and snap off with quick tug.

4. Repeat Steps 2 and 3 at other end of hose.



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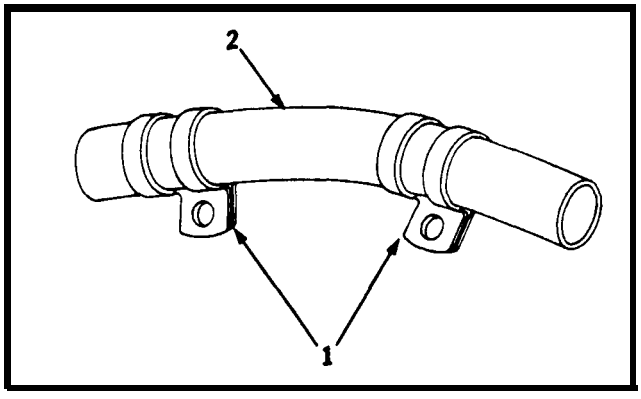
3-13. Water/Oil Separator Fittings and Air Hose - Replace (Cont) 3-13

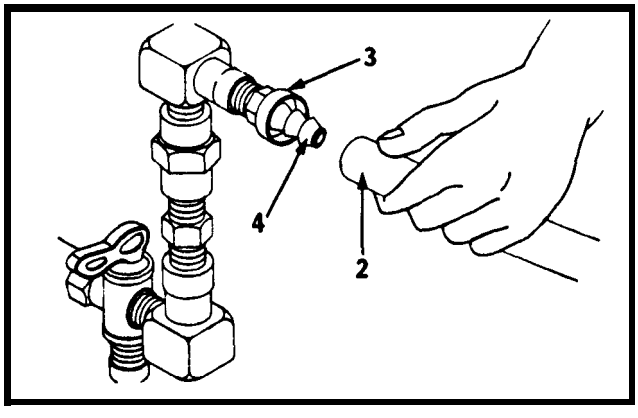
5. Slide loop clamps (1) over new hose (2).



6. Replace fittings, if required, before proceeding to step 7.

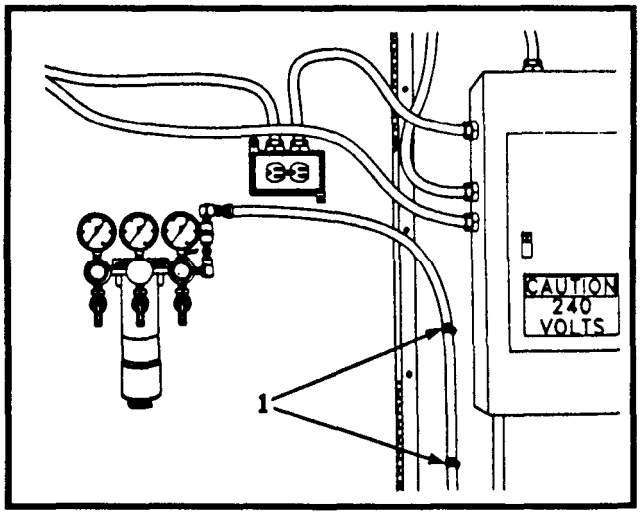
7. Push hose (2) onto fitting (4) until end bottoms underneath protective cap (3).

8. Repeat Step 7 for other end of hose.



9. Install loop clamps (1) in original position and secure.

END OF TASK



3-14. Fixtures - Water Feed Thru Connector - Inspect 3-14

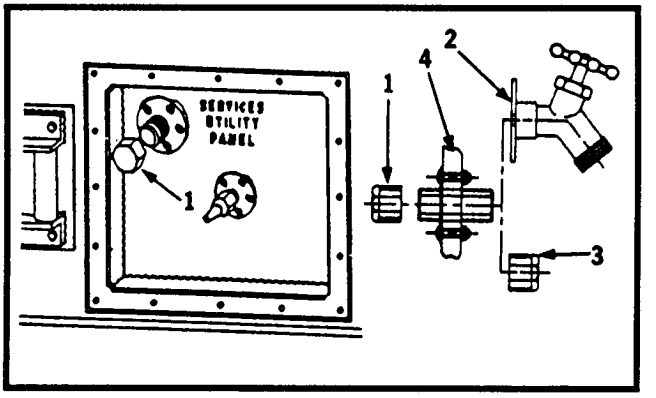
This tasks covers: Inspection of connector

INITIAL SETUP

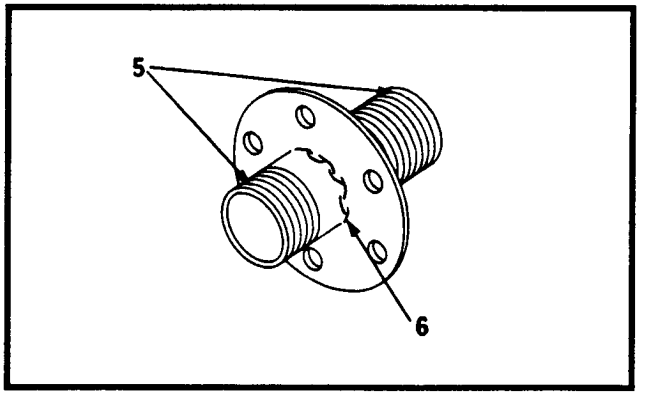
Personnel Required:
44B Welder

INSPECT WATER FEED THRU CONNECTOR

1. Remove dust caps (1), faucet (2) or adapter (3) from connector (4).



2. Inspect condition of connector threads (5). Inspect connector weld (6) for cracks or breaks. Replace IAW Task 3-15, if defective.



3. Install faucet (2) and adapter (3) as necessary.

4. Ensure dust caps (1) are installed when connector (4) is not in use.

END OF TASK

3-15. Fixtures - Water Feed Thru Connector - Replace 3-15

This tasks covers: Replacement of connector

INITIAL SETUP

Tools:
Basic Issue Items (BII) - App C

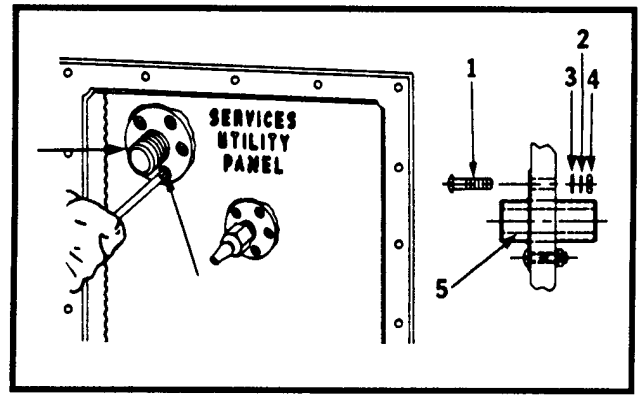
Material:
Feed thru connector - App F
Adhesive, NSN 8040-00-877-9872- App E

Personnel Required:
44B Welder and Helper

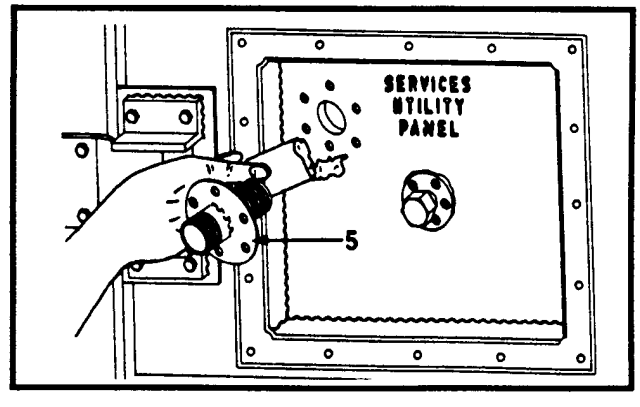
Equipment Condition:
Faucet and adapters removed

REPLACE CONNECTOR

1. Remove six screws (1), lockwashers (2), washers (3) and nuts (4) securing connector (5).



2. Remove connector (5) from panel and scrape off old adhesive.



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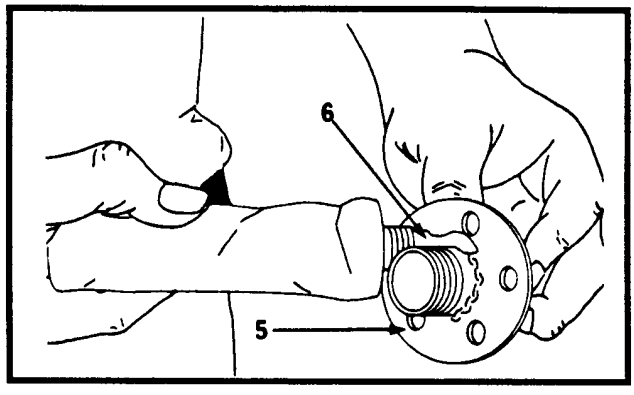
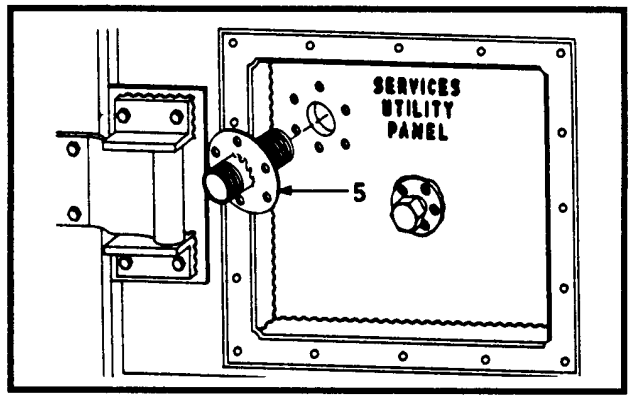
3-15. Fixtures -Water Feed Thru Connector - Replace (Cont)

3. Manufacture new connector (5) IAW App F.

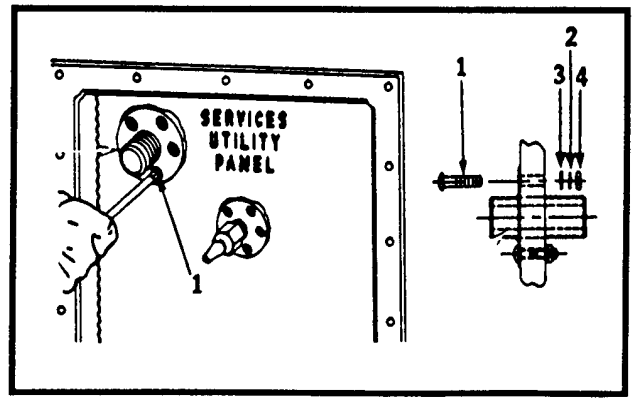
4. Apply adhesive (Item 2, App E) on side of connector collar (6) facing long end of connector (5).



5. Install new connector (5) from outside of shelter; long end of nipple thru hole.



6. Install six screws (1), lockwashers (2), washers (3) and nuts (4).



END OF TASK

3-16. Fixtures - Air Feed Thru Connector- Inspect

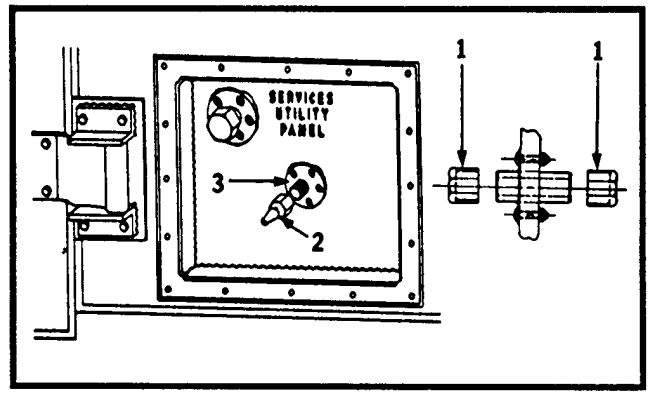
This tasks covers: Inspection of connector

INITIAL SETUP

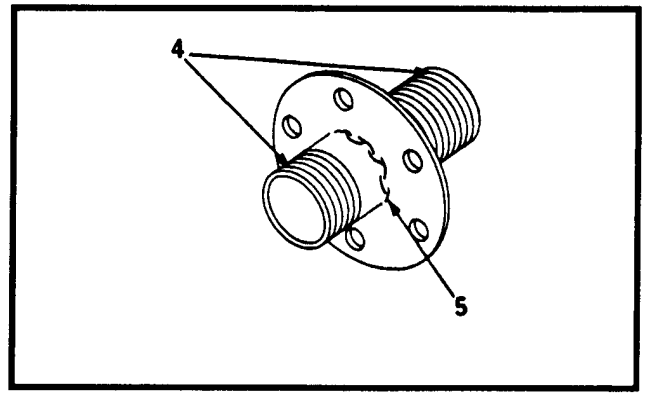
Personnel Required:
44B Welder

INSPECT AIR FEED THRU CONNECTOR

1. Remove dust cap (1) or quick disconnect (2) from connector (3) at exterior service panel.



2. Inspect condition of connector threads (4). Inspect connector weld (5) for cracks or breaks. Replace IAW Task 3-17, if defective.



3. Install quick disconnect (2) as necessary.

4. Ensure dust cap (1) is installed when quick disconnect is not connected.

END OF TASK

3-17. Fixtures - Air Feed Thru Connector - Replace

This tasks covers: Replacement of connector

INITIAL SETUP

Tools:
Basic Issue Items (BII) - App C

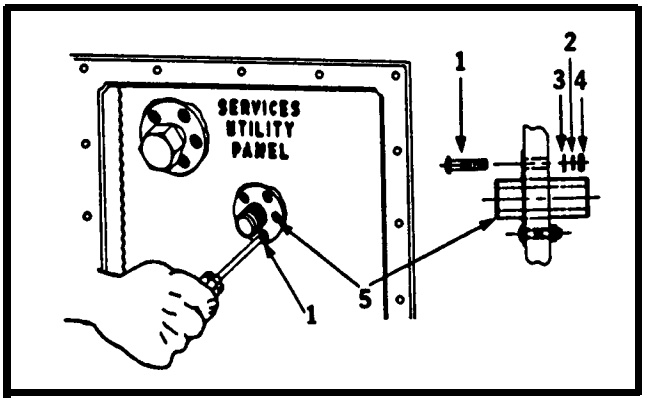
Material:
Air Feed thru connector - App F
Adhesive, NSN 8040-00-877-9872 - App E

Personnel Required:
44B Welder and Helper

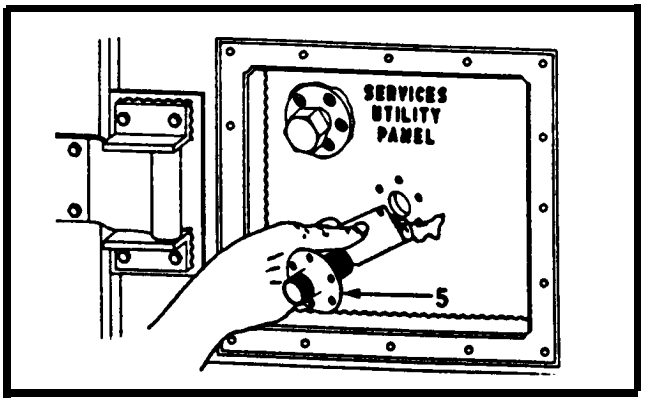
Equipment Condition:
All fittings and adapters removed

REPLACE CONNECTOR

1. Remove six screws (1), lockwashers (2), washers (3) and nuts (4) securing connector (5).



2. Remove connector (5) from wall and scrape off old adhesive.



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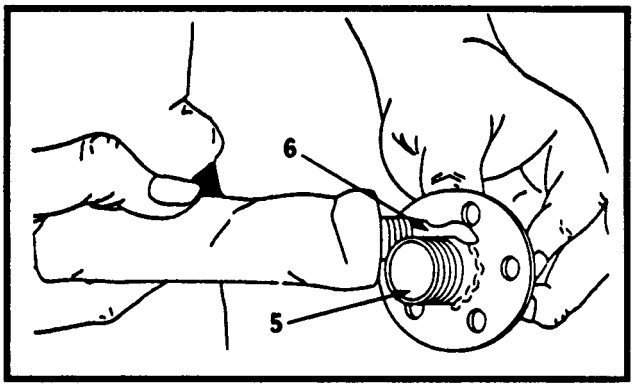
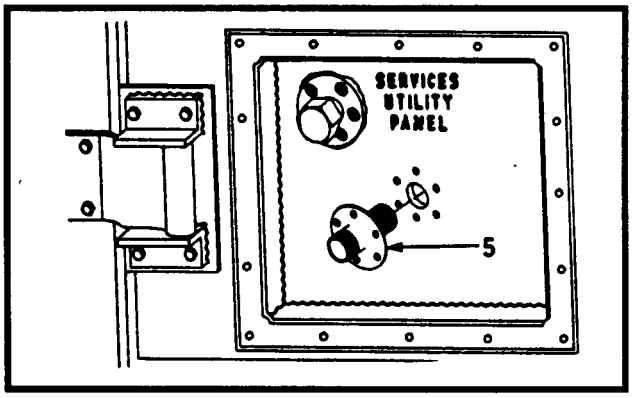
3-17. Fixtures - Air Feed Thru Connector - Replace (Cont) 3-17

3. Manufacture new connector (5) IAW App F.

4. Apply adhesive (Item 2, App E) on flat side of connector collar (6) facing long end of connector (5).

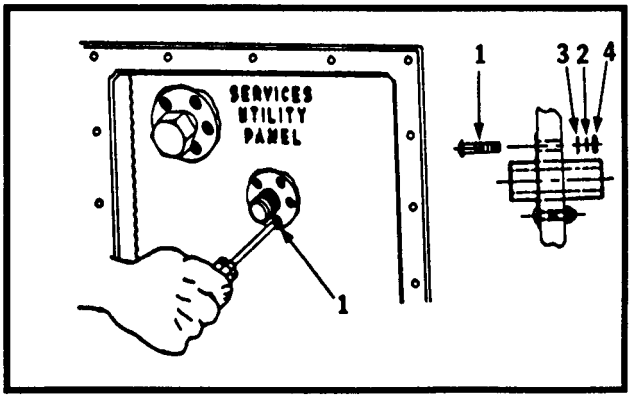


5. Install new connector (5) from outside of shelter; long end of nipple thru hole.



6. Install six screws (1), lockwashers (2), washers (3) and nuts (4).

END OF TASK



3-18. Ground Rod/Strap - Inspect

3-18

This tasks covers: Inspection of ground rod and strap

INITIAL SETUP

Tools:
Tool Kit, Electrical Repairer, Army Aircraft, NSN 5180-00-323-4915
Multimeter, NSN 6625-01-139-2512

Personnel Required:
68F Aircraft Electrician

Reference Information:
TC 11-6

INSPECTION

WARNING

HIGH VOLTAGE exists in the electrical system of this shop. All electrical inspections, repairs or replacements shall be performed with the power OFF and only by qualified electricians. Serious shock hazards exist which could result in serious injury or death to personnel.

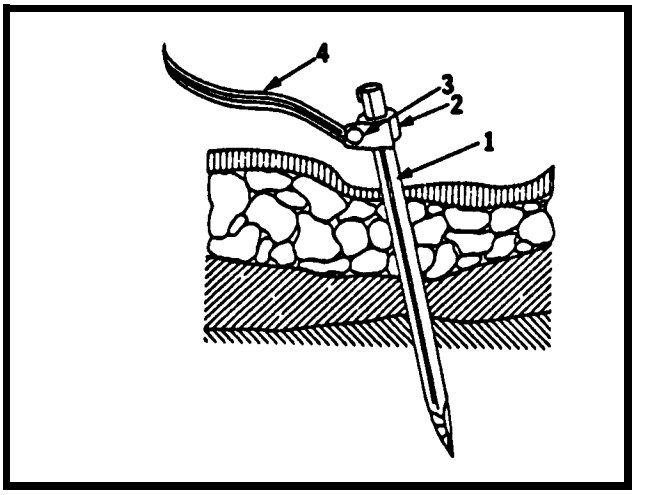
1. Check ground rod.

   a Ensure ground rod (1) is firmly driven into ground.

   b. Ensure that clamp (2) and screw (3) are securely fastened.

   c. Ensure there is no sign of oxidation around clamp (2) or screw (3).

   d. Ensure ground strap (4) is not frayed or broken.



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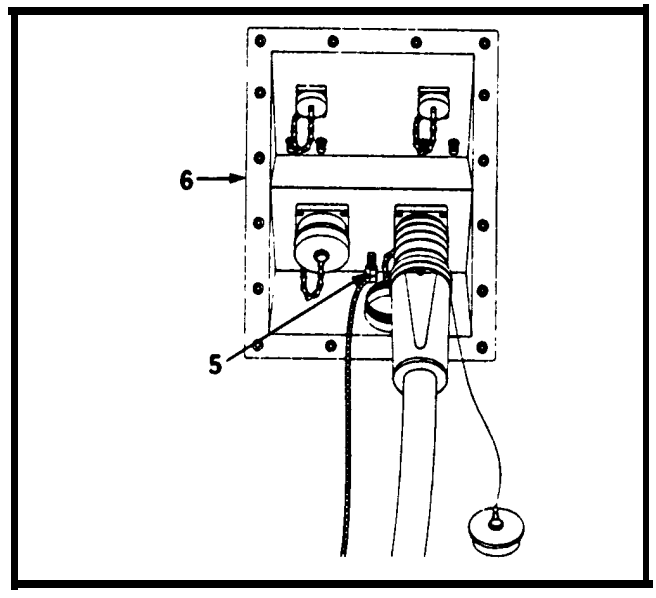
3-18. Ground Rod/Strap - Inspect (Cont)

2. Check ground strap connection for security and corrosion at terminal lug (5) on power entry panel (6).



3. Check condition of ground using multimeter (7). (Use TC 11-6).

   a. Set multimeter (7) for AC voltage.

   b. Place red lead on shelter.

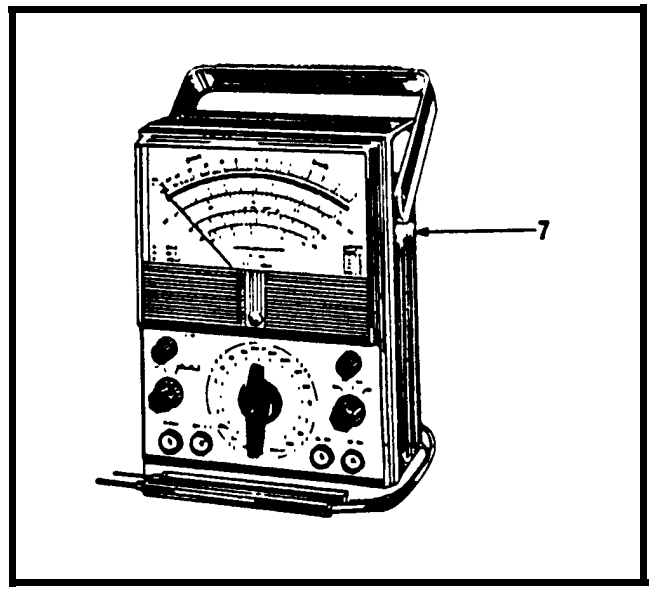
   c. Place black lead on ground strap.

   d. Measure voltage:

      0-5 volts, adquate ground

      Over 5 volts-poor ground, reinstall ground system.

END OF TASK



3-19. Special Circuit Breaker for Electric Welder - Inspect 3-19

This tasks covers: Inspection of Circuit Breaker

INITIAL SETUP

Tools:
Basic Issue Items (BII) - App C

Personnel Required:
68F Aircraft Electrician

INSPECTION

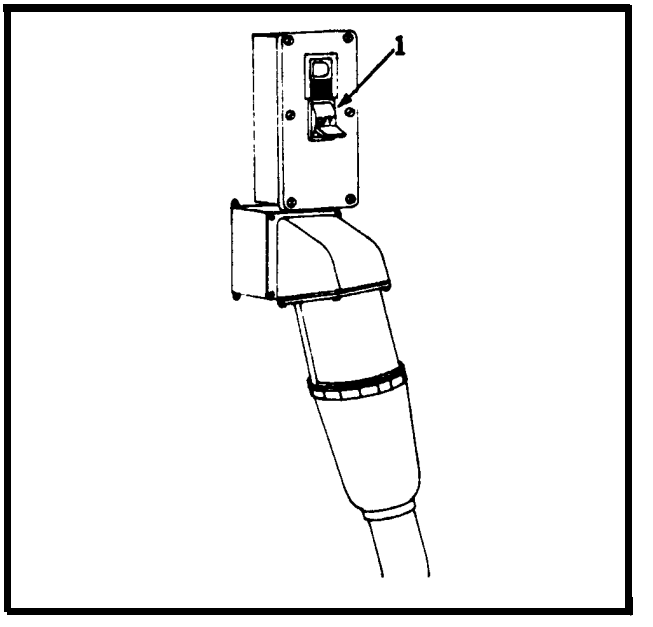
WARNING

HIGH VOLTAGE exists in the electrical system of this shop. All electrical inspections, repairs or replacements shall be performed with the power OFF and only by qualified electricians. Serious shock hazards exist which could result in serious injury or death to personnel.

NOTE

This circuitbreakeris unique to the welding shop and controls power to the welding machine. During overload conditions or start-up, the circuit breaker may trip from ON to OFF.

1. Set circuit breaker (1) to off position.



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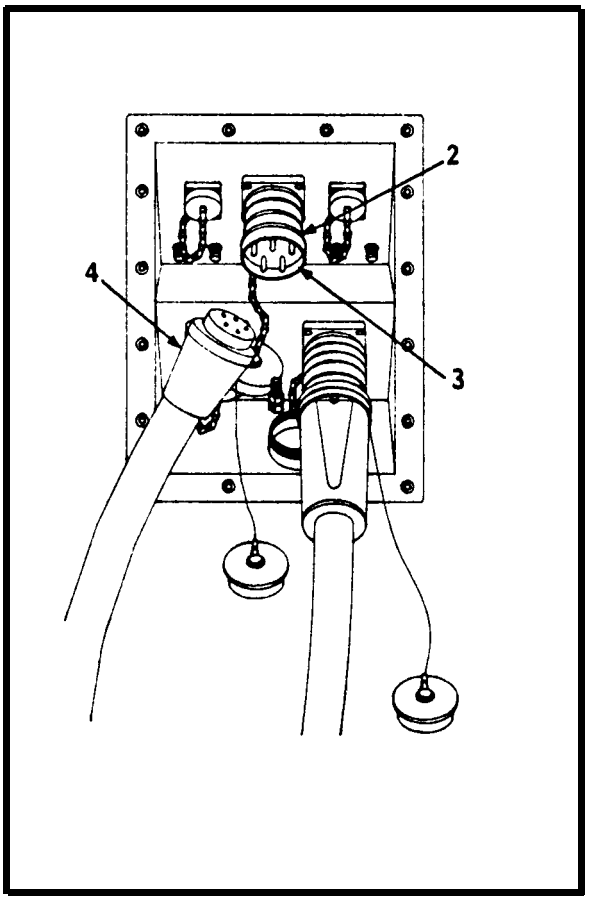
3-19. Special Circuit Breaker for Electric Welder - Inspect (Cont)

2. At power distribution panel, set the electric welder's corresponding 100 AMP circuit breaker to the OFF position.

WARNING

HIGH VOLTAGE. Ensure power supply circuit breaker in POWER DISTRIBUTION PANEL is set to OFF before attempting to remove the 100 AMP cable from the AUX SERVICE receptacle. Failure to do so could result in electicution, serious injury or death to personnel.

3. Outside shelter, unscrew lock ring (2) on AUX SERVICE receptacle (3) and remove the 100 AMP power cable (4).

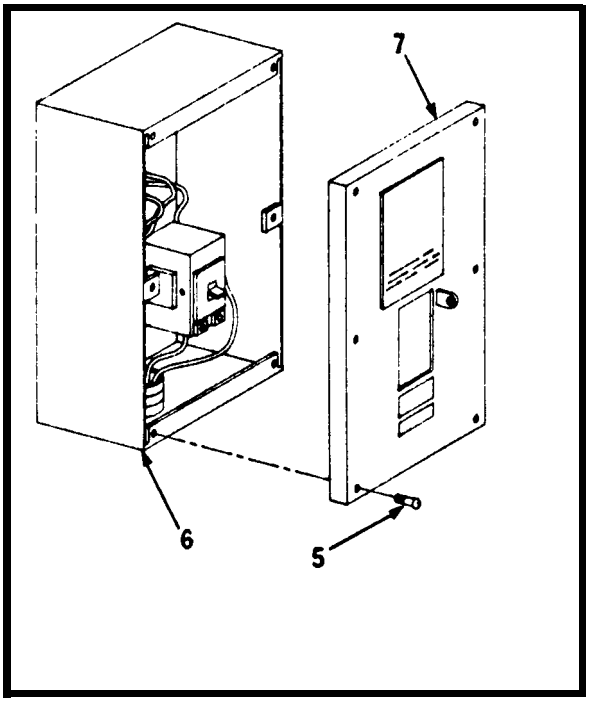


4. Remove six screws (5) from cover of special circuit breaker box (6). Remove cover (7).

5. Check circuit breaker (1) for looseness or overheating (charring of Bakelite). If either condition exists go to TASK 3-20.

6. If new circuit breaker (1) continues to trip refer to the operators/owners manual for the electric welding machine.

END OF TASK



3-20. Special Circuit Breaker for Electrlc Welder - Replace 3-20

This tasks covers: Replacement of Circuit Breaker

INITIAL SETUP

Tools:
Basic Issue Items (BII) - App C
Multimeter, NSN 6625-01-139-2512

Personnel Required:
68F Aircraft Electrician

Reference Information:
TM 55-1500-204-25/1

REPLACEMENT

WARNING

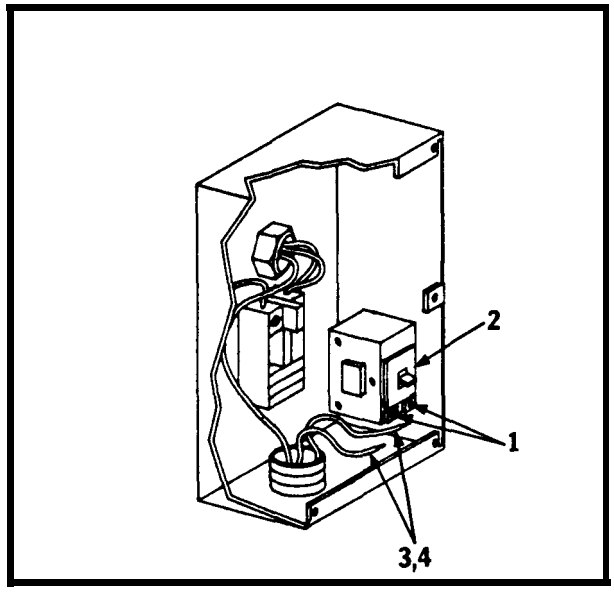
HIGH VOLTAGE exists in the electrical system of this shop. All electrical inspections, repairs or replacements shall be performed with the power OFF and only by qualified electricians. Serious shock hazards exist which could result in serious injury or death to personnel.

1. Removing defective circuit breaker.

   a. Ensure 100 AMP power cable has been disconnected

   b. Loosen two screws (1) holding wires at bottom of circuit breaker (2).

   c. Remove black (3) and red (4) wires from bottom of circuit breaker (2).



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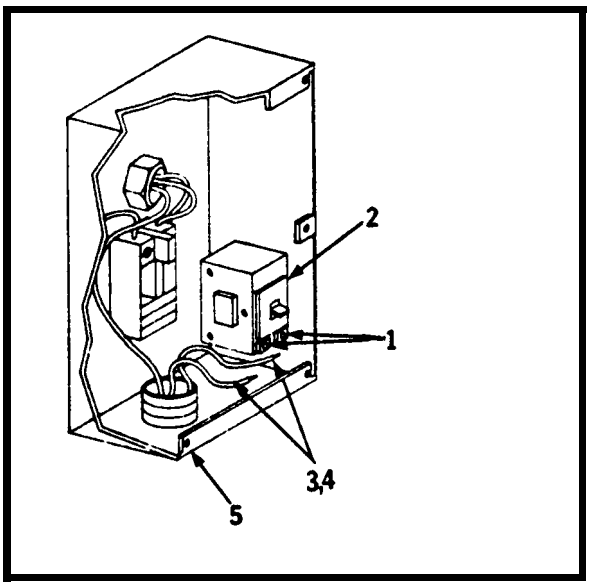
3-20. Special Circuit Breaker for Electric Welder - Replace (Cont'd) 3-20

d. Move wires (3) and (4) aside, grasp breaker (2) firmly and pull from panel box (5).

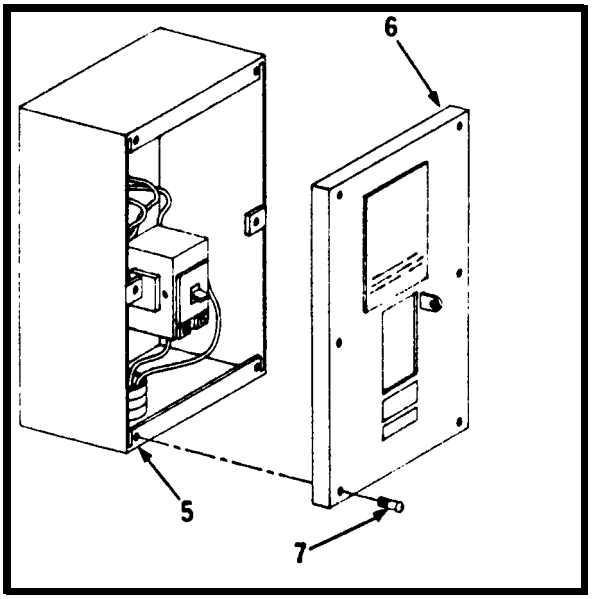


2. Installing new breaker.

a. Plug new circuit breaker(2) into box (5). Push firmly.

b. Install black (3) and red (4) wires at bottom of circuit breaker (2) and securely tighten screws (1).

c. Replace cover (6) on panel box (5) with six screws (7). Leave breaker in OFF position.



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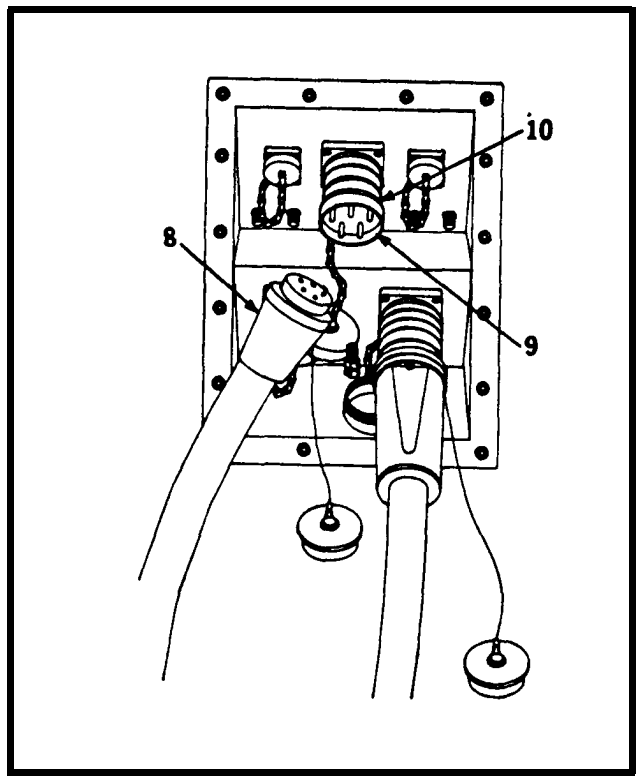
3-20. Special Circuit Breaker for Electric Welder - Replace (Cont'd)

d. Outside shelter, insert 100 AMT power cable (8) into AUX SERVICE receptacle (9) and secure with lock ring (10).

e. At power distribution panel, set electric welder 100 AMP circuit breaker to the ON position.

END OF TASK



3-21. Special Brackets and Fabricated Components, Book Rack - Inspect 3-21

This tasks covers: Inspection of book rack

INITIAL SETUP

Tools:
Basic Issue Items (BII) - App C
Wrench, Torque 0-600 inch pounds, NSN 5120-00-288-8865

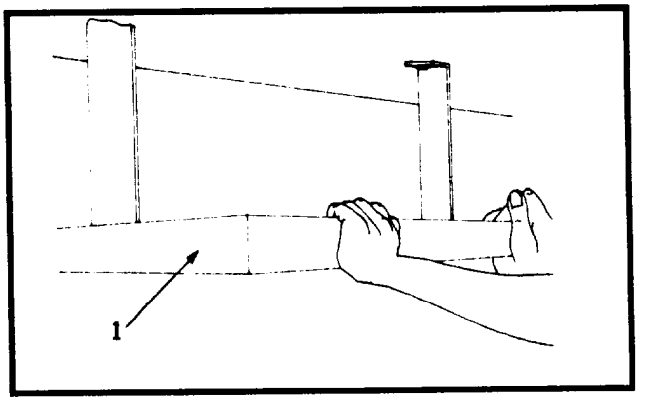
Personnel Required:
44B Welder

NOTE

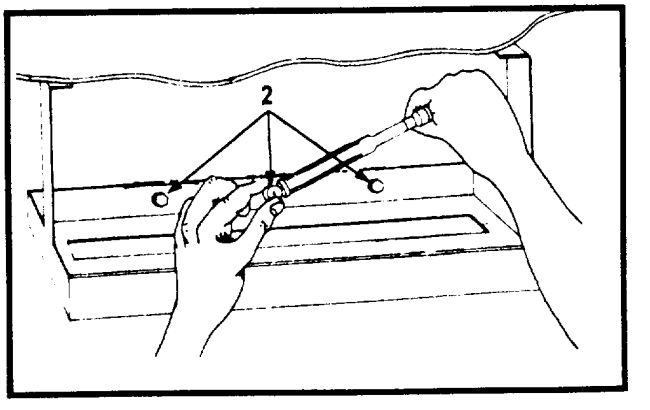
The inspection task for the book rack is presented as a guide for inspection tasks for the remainder of the fabricated components.

INSPECTION

1. Ensure book rack (1) is secure on shelter wall.



2. Check torque (App G) on bolts (2) when book rack is loose.



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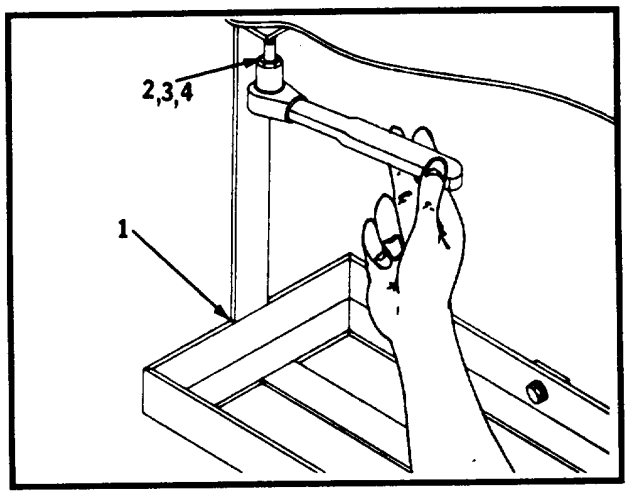
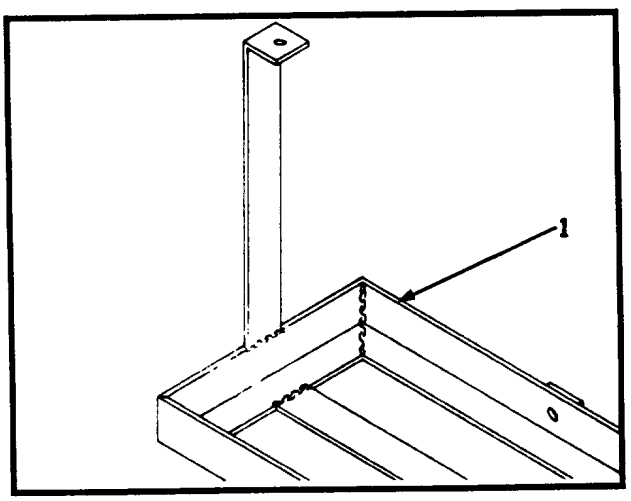
3-21. Special Brackets and Fabricated Components, Book Rack- Inspect (Cont) 3-21

3. Remove bolts (2), lockwashers (3), washers (4) and book rack (1) when bolts (2) will not tighten to specified torque (App G). Inspect bolts (2) and inserts IAW TASK 3-7.



4. Inspect book rack (1) for bends, cracks or broken welds.

5. Make necessary repairs to book rack IAW TASK 3-22.

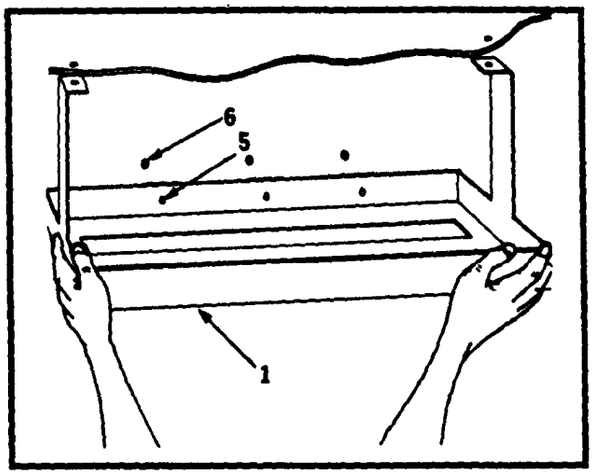


GO TO NEXT PAGE

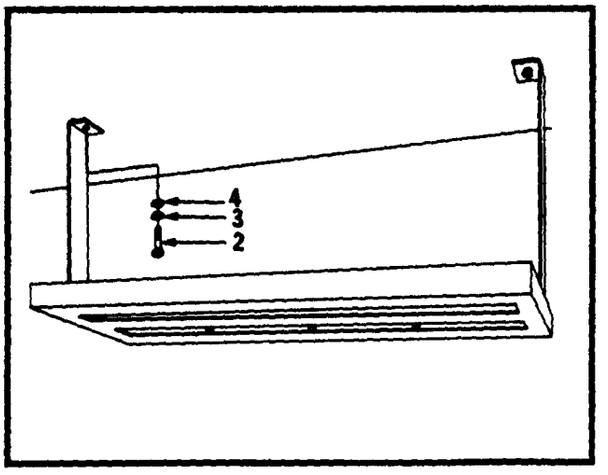
3-21. Special Brackets and Fabricated Components, Book Rack - Inspect (Cont) 3-21

6. Install book rack (1).

a. Position book rack (1) on wall alining holes (5) with inserts (6).



b. Install bolts (2), lockwashers (3) and washers (4), and torque (App G).



END OF TASK

3-22. Special Brackets and Fabricated Components, Book Rack - Repair 3-22

This tasks covers: Repair of book rack

INITIAL SETUP

Tools:
Basic Issue Items (BII) - App C
Wrench, Torque 0-600 inch pounds, NSN 5120-00-288-8865
Shop Set, Machine, NSN 4920-00-405-929
Shop Set, Welding, NSN 4920-00-163-5093

Material:
Rod, welding - App E
Primer coating, NSN 8010-00-297-0593 - App E
Enamel, white, NSN 8010-00-159-4520 - App E
Enamel, gray, NSN 8010-00-852-9034 - App E

Personnel Required:
44B Welder

Reference Information:
TM 55-1500-204-25/1
MIL-W-8604A
TM 43-0139

NOTE

The repair task for the book rack is presented as a guide for repair tasks for the remainder of the fabricated components.

REPAIR

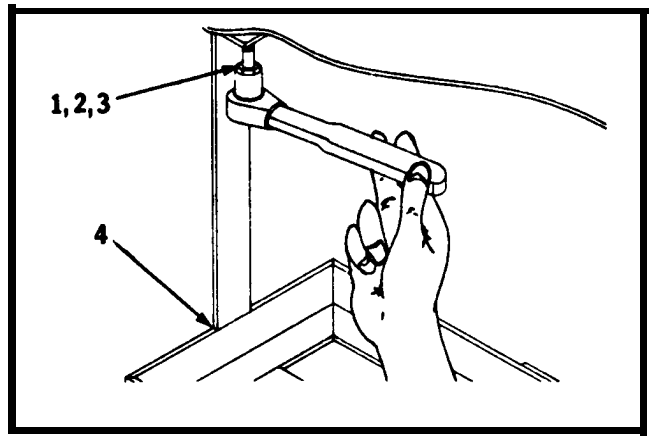
Warning

Extreme care must be taken when performing all types of welding operations. Serious health and fire hazards exist. Harmful light rays can cause eye injury or blindness. Protective face masks and goggles must be used as well as other special clothing to reduce risks. Poisonous fumes, burns, electric shock, fire and explosion hazards are some of the additional possibilities of injury associated with welding operations. It is essential that all safe practices be strictly observed.

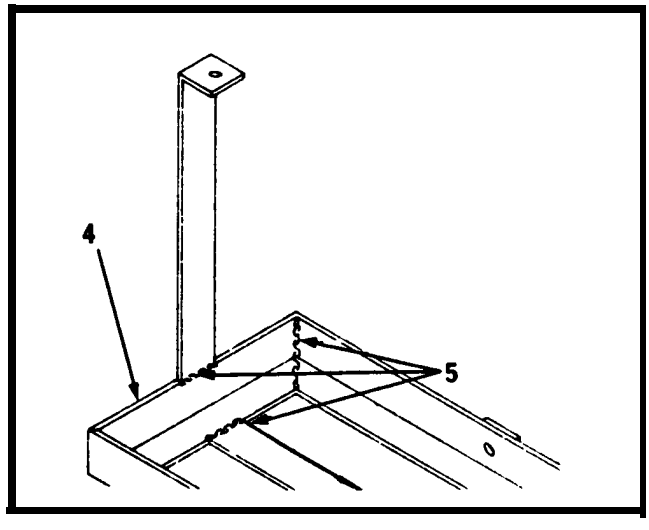
GO TO NEXT PAGE

3-22. Special Brackets and Fabricated Components, Book Rack - Repair (Cont)

1. Remove five bolts (1), lockwashers (2), and washers (3) securing book rack (4) to wall. Remove book rack (1).



2. Repair cracks or breaks in book rack (4) or welds (5) by welding IAW TM 55-1500-204-25/1 and MIL-W-8604A. (Use welding rod, item 7, App E, or equivalent).

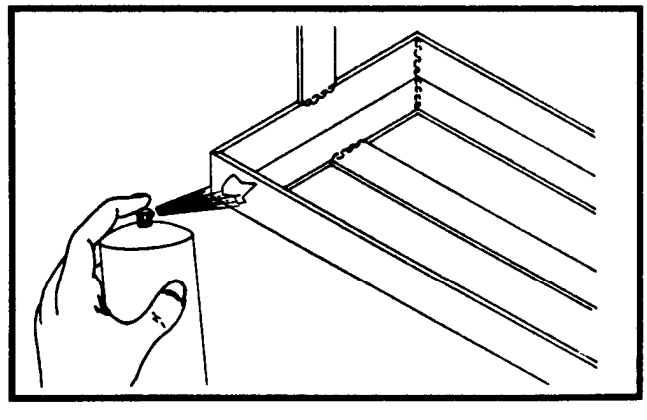


NOTE

Replacement of book rack is required when any repairs result in a change to the original design or dimensions of the book rack. See TASK 3-23.

3. Touch up bare metal as necessary with primer (item 6, App E).

4. Touch up painted surface as necessary with enamel (item 4,5, App E).



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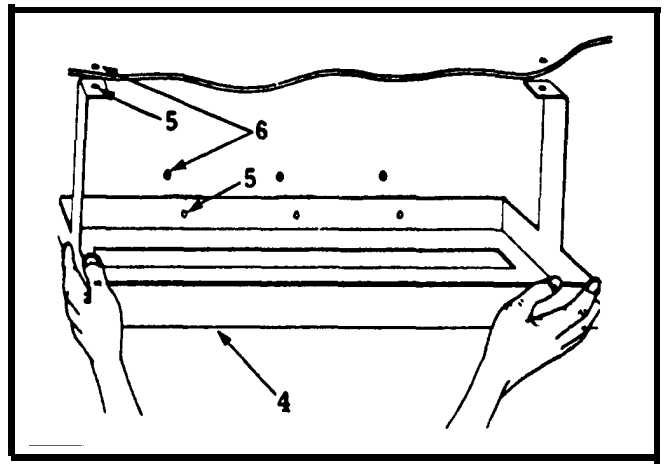
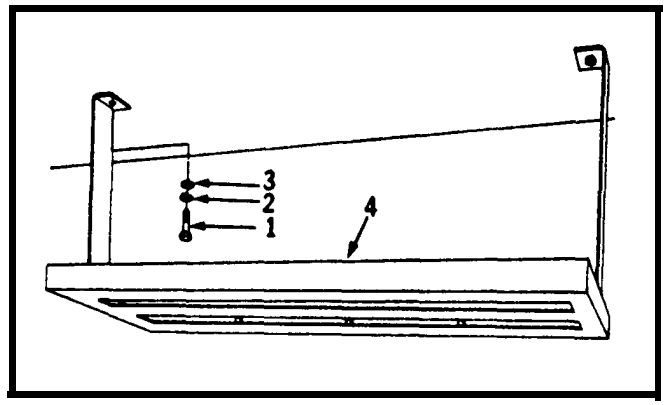
3-22. Special Brackets and Fabricated Components, Book Rack - Repair (Cont)

5. Position book rack (4) on wall alining holes (5) with inserts (6).



6. Install five bolts (1), lockwashers (2), and washers (3) in book rack (4), and torque (App G).



END OF TASK

3-23. Special Brackets and Fabricated Components, Book Rack - Replace 3-23

This tasks covers: Replacement of book rack

INITIAL SETUP

Tools:
Basic Issue Items (BII) - App C
Wrench, Torque 0-600 inch pounds, NSN 5120-00-288-8865
Shop Set, Machine, NSN 4920-00-405-9279
Shop Set, Welding, NSN 4920-00-163-5093

Personnel Required:
44B Welder

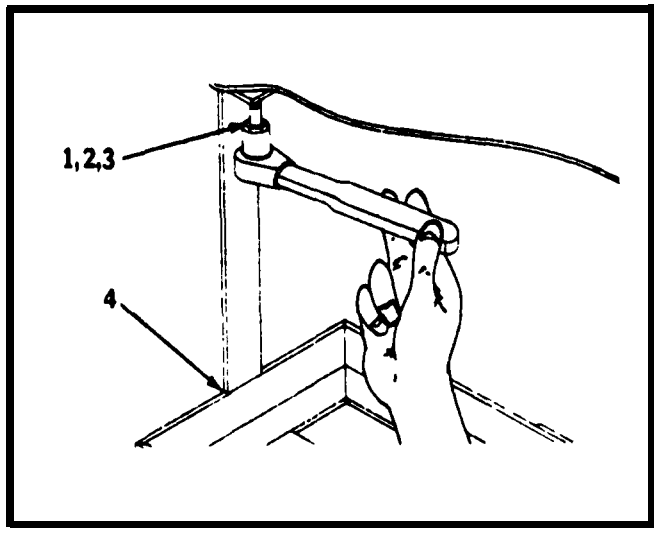
Reference Information:
TM 55-1500-204-25/1

NOTE

The replace task for the book rack is presented as a guide for replace tasks for the remainder of the fabricated components.

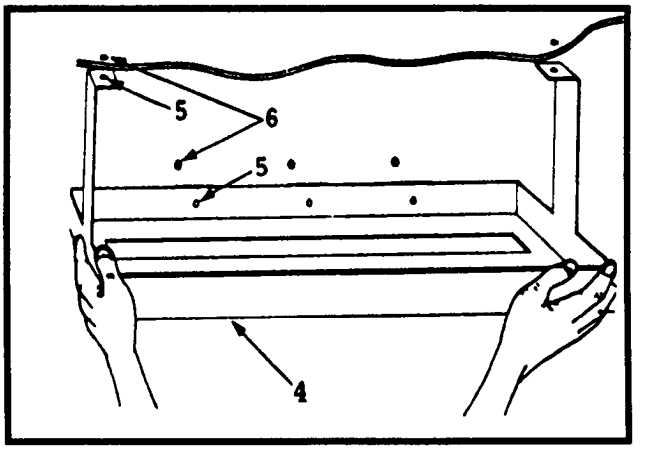
REPLACEMENT

1. Remove five bolts (1), lockwashers (2) and washers (3) from book rack (4). Remove book rack (4).
2. Fabricate new book rack IAW App F.

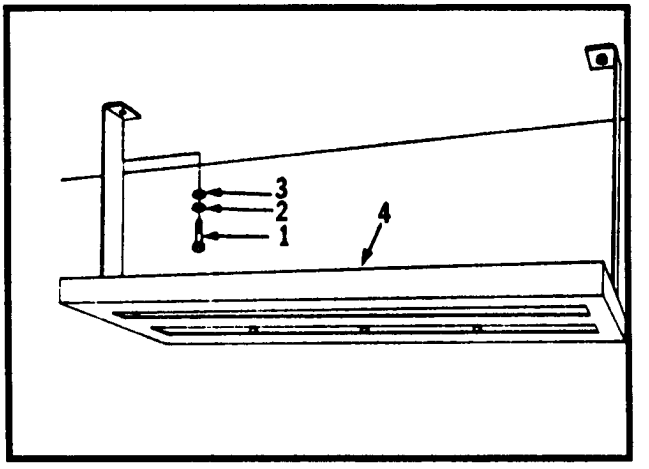


GO TO NEXT PAGE

3. Position book rack (4) on wall alining holes (5) with inserts (6).



4. Install five bolts (1), lockwashers (2) and washers (3), and torque (App G).



END OF TASK

3-24. Floor Plugs - Inspect 3-24

This tasks covers: Inspection of floor plugs

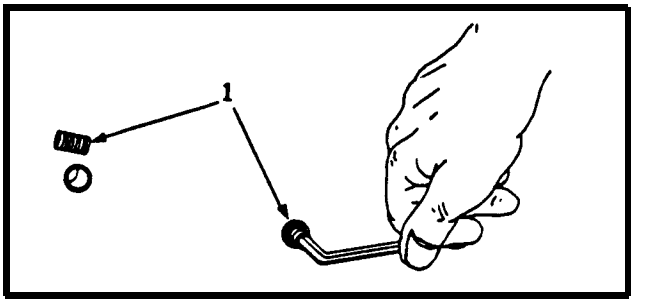
INITIAL SETUP

Tools:
Basic Issue Items (BII) App - C

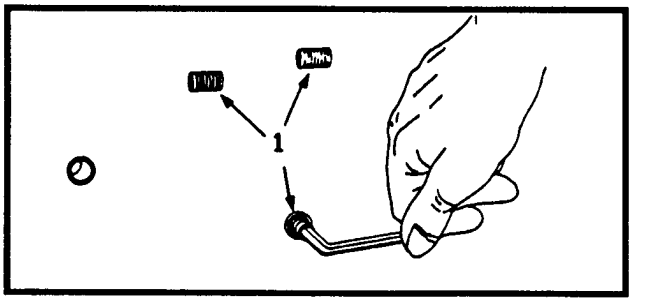
Personnel Required:
44B Welder

INSPECTION

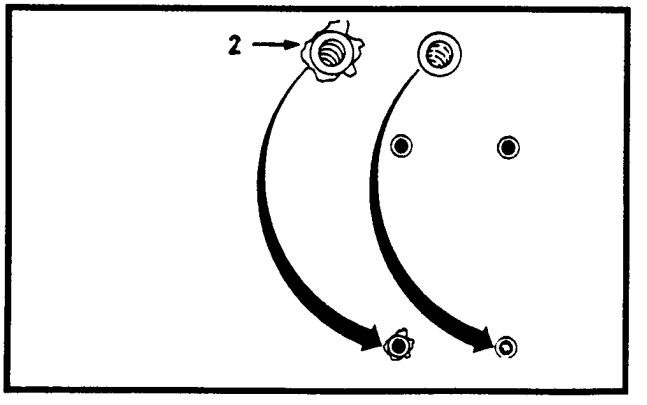
1. Inspect floor plugs (1) for damaged or broken threads prior to installation and upon removal.



2. Replace floor plugs (1) as necessary.



3. Inspect inserts (2) IAW Task 3-7.



END OF TASK

3-25. Fixed Equipment/Components - Removal/Installation 3-25

This tasks covers: Removal/Installation of fixed equipment/components

INITIAL SETUP

Tools:
Shop Set, Tool Crib, NSN 4920-00-472-4183

Personnel Required:
44B Welder

REMOVAL/INSTALLATION

1. REMOVE/INSTALL FIXED EQUIPMENT.

NOTE

Permanently installed equipment should not ordinarily be removed or relocated. However, in the event that it becomes necessary to remove, reinstall or replace fixed equipment within the shelter, care must be taken to remove all bolts, washers and nuts and save them for reuse.

a. Remove all bolts (1), lockwashers (2), washers (3) and nuts (4) from shop equipment. Remove equipment.

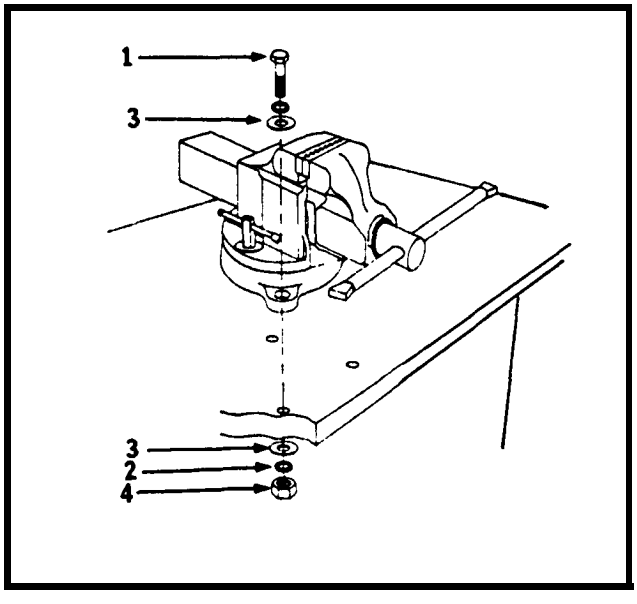
b. Install new or repaired equipment. If new equip ment has different mounting brackets, remount equipment as follows:

1. Mark new mounting location on bench top.

2. Drill holes.

3. Align shop equipment.

c. Install bolts (1), lockwashers (2) washers (3) and nuts (4).



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2. REMOVE/INSTALL BENCH TOP.

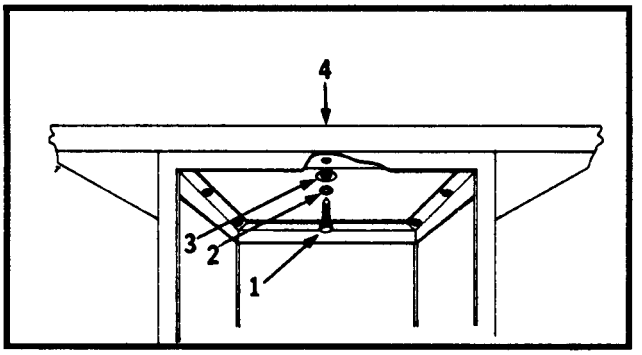
NOTE

Permanently installed bench tops should not ordinarily be removed or relocated. However, in the event that it becomes necessary to remove, reinstall or replace them within the shelter, care must be taken to remove ail bolts, washers and nuts and save them for reuse. Two types of bench tops are installed throughout the shop sets: 1) 30 inch width; 2) 60 inch width. These tops together with open bench legs are attached in several configurations to the cabinets in the shop sets.

a. Remove all shop equipment from bench top IAW step 1.a.

b. Remove all lag bolts (1), lockwashers (2) and washers (3) attaching bench top to cabinet.

c. Remove bench top (4).



d. If new bench top (4) is to be installed, proceed as follows, otherwise proceed to Step e.

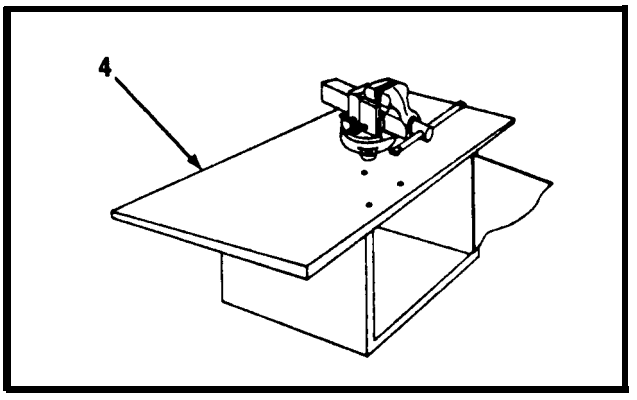
1) Obtain all mounting hole locations and dimensions from old bench top (4).

2) Mark new bench top (4) for drilling using locations and dimensions obtained in Step 2.d.1.

3) Drill holes.

e. Align bench top (4) on cabinet and install lagbolts (1), lockwashers (2) and washers (3).

f. Align shop equipment over mounting holes and install fastening hardware.



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3-25. Fixed Equipment/Components - Removal/Installation (Cont) 3-25

3. REMOVE/INSTALL CABINETS.

NOTE

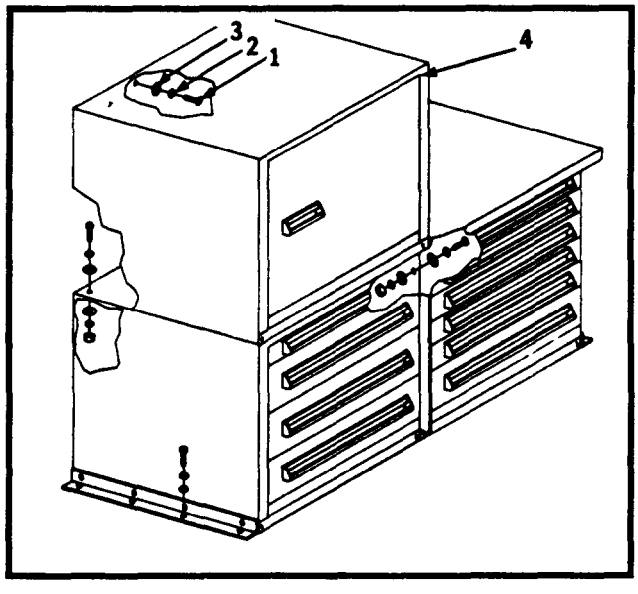
Permanently installed cabinets should not ordinarily be removed or relocated. However, in the event that it becomes necessary to remove, reinstall or replace cabinets within the shelter, care must be taken to remove all bolts, lockwashers, washers and nuts and save them for reuse. Cabinets are bolted to the floor, wall, and adjacent cabinets. Four cabinet styles are installed throughout the shop sets and may be complexed in various configurations. All mounting holes are universal and cabinets may be substituted for others without special mounting considerations.

a. Remove fixed equipment and bench tips as required.

b. Remove all bolts (1), lockwashers (2) and washers (3) from cabinets. Remove cabinets (4).

c. Reposition cabinets (4).

d. Install bolts (1), lockwashers (2) and washers (3).



END OF TASK

APPENDIX A
REFERENCES

A-1. Dictionaries of Terms and Abbreviations.

AR 310-25 . . . . . Dictionary of United States Army Terms
AR 310-50 . . . . Authorized Abbreviations and Brevity Codes

A-2. Publication Indexes.

DA PAM 25-30 . . . . . .Consolidated Index of Army Publications and Blank Forms

A-3. Logistics and Storage.

TM 743-200-1 . . . .Storage and Material Handling

A-4. Maintenance of Supplies and Equipment.

AR 750-1 . .....Army Maintenance Material Concepts and Policies
TM 5-4120-384-14 . . . . . .Air Conditioner, Horizontal, Compact, 18,000 BTU
TM 5-6150-226-13&P..Distribution Illumination System, Electrical (DISE)
TM 10-5411-201-14 .....Shelter, Tactical Expandable, One Side NSN 5411-01-124-1377
TM 43-0139 .....Painting Operations Instructions for Field Use
TM 55-1500-204-25/1...General Aircraft Maintenance Manual

A-5. Other Publications

AR 420-90 . . . .Fire Prevention and Protection
AR 55-38 . . . .Reporting of Transportation Discrepancies in Shipments
AR 700-58 . . . .Packaging Improvement Report
DA PAM 310-13 . . . . ..Military Publications Posting and Filing
DA PAM 738-751 . . . ..Functional users Manual for The Army Maintenance Management System-Aviation (TAMMS-A)
FM 21-11 . . . .First Aid for Soldiers
MIL-W-8604A . . ..Welding, Fusion, Aluminum Alloy Process and Performance
TC 11-6 . . . .Grounding Techniques
TB 43-180 . . ..Calibration Requirements for the Maintenance Army Material
TM 750-244-1-4 . . . . .. Procedures for the Destruction of Aviation Ground Support Equipment (FSC 4920) to prevent Enemy Use

APPENDIX B
MAINTENANCE ALLOCATION CHART

SECTION I. INTRODUCTION

B-1. General.

a. This section provides a general explanation of all maintenance repair functions authorized at various maintenance categories.

b. The Maintenance Allocation Chart (MAC) in section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance categories.

c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from Section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. Maintenance Functions. Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).

b. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operational condition, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or gases.

d. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to the specified parameters.

e. Aline. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. “Replace” is authorized by the MAC and is shown as the d position code of the SMR code.

i. Repair. The application of maintenance services including fault location/troubleshooting, removal/installation, and disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. Overhaul. The maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. Rebuild. Consists of those service/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours, miles, etc.) considered in classifying Army equipments/components.

B-3. Explanation of Columns in the MAC, Section II.

a. Column 1, Group Number. Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group number shall be "00."

b. Column 2, Component/Asssembly. Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Function. Column 3 lists the functions to be performed on the item listed in Column 2. (For detailed explanation of these functions, see paragraph B-2.).

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a work time figure in the appropriate subcolumn(s), the category of maintenance authorized to perform the function listed in Column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate work time figures will be shown for each category. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault, location time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance categories areas follows:

AVUM	Aviation Unit Maintenance
AVIM	Aviation Intermediate Maintenance
DEPOT	Depot Maintenance

e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

f. Column 6, Remarks. This column shall, when applicable, contain a letter code, in alphabetic order, which shall be keyed to the remarks contained in Section IV.

B-4. Explanation of Columns in Tool and Test Equipment Requirements, Section III.

a. Column 1, Reference Code. The tool and test equipment reference code correlates with a code used in the MAC, Section II, Column 5.

b. Column 2, Maintenance Category. The lowest category of maintenance authorized to use the tool or test equipment.

c. Column 3, Nomenclature Name or identification of the tool or test equipment.

d. Column 4, National Stock Number. The national stock number of the tool or test equipment.

e. Column 5, Tool Number. The manufacturer's part number.

B-5. Explanation of Columns in Remarks, Section IV.

a. Column 1, Reference Code. The code recorded in column 6, Section II.

b. Column 2, Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

SECTION II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTIONS	(4) MAINTENANCE CATEGORY			(5) TOOLS AND EQPT	(6) REMARK
			AVUM	AVIM	DEPOT		
01	FASTENERS						
0101	BOLTS	INSPECT REPLACE		.2 .5		3, 6 3, 6	A, B, C A, B, C
0102	INSERTS, POTTED	INSPECT REPLACE		.2 1.5		3, 6 3, 6	A, B, C D
0103	INSERTS, NON-POTTED	INSPECT REPLACE		.2 1.5		3, 6 3, 6	A, B, C D
02	FIXTURES						
0201	FIRE EXTINGUISHER MOUNTING	INSPECT		.1		3, 6	B
0202	WATER/OIL SEPARATOR MOUNTING	INSPECT		.1		3, 6	A, B
0203	WATER/OIL SEPARATOR FITTINGS AND AIR HOSE ASSY	INSPECT REPLACE		.1 1.0		6	
0204	WATER FEED THRU CONNECTOR	INSPECT REPLACE		.2 1.0		6	
0205	AIR FEED THRU CONNECTOR	INSPECT REPLACE		.2 1.0		6	
03	ELECTRICAL						
0301	GROUND ROD/STRAP	INSPECT		.2		1, 5	E
0302	CIRCUIT BREAKER, ELECTRIC WELDER	INSPECT REPLACE		.2 .5		1, 5 1, 5	E E

Section II. MAINTENANCE ALLOCATON CHART - (Continued)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTIONS	(4) MAINTENANCE CATEGORY			(5) TOOLS AND EQPT	(6) EMARKS
			AVUM	AVIM	DEPOT		
04	SPECIAL BRACKETS AND FABRICATED COM-PONENTS						
0401	RACK ASSEMBLY, BOOK	INSPECT REPAIR REPLACE		.1 1.0 .5		3, 6 2, 3, 4, 6 2, 3, 4, 6	 C C
0402	FRAME ASSEMBLY, ECU SUPPORT	INSPECT REPAIR REPLACE		.2 1.0 .2		3, 6 2, 3, 4, 6 2, 3, 4, 6	 C C
0403	BRACKET ASSEMBLY, STORAGE CHEST	INSPECT REPAIR REPLACE		.2 1.2 .3		3, 6 2, 3, 4, 6 2, 3, 4,6	 C C
0404	BRACKET, CABINET	INSPECT REPAIR REPLACE		.1 .5 .3		3, 6 2, 3, 4, 6 2, 3, 4, 6	 C C
0405	RACK ASSEMBLY, FIRST AID KIT	INSPECT REPAIR REPLACE		.1 1.0 .5		3, 6 2, 3, 4, 6 2, 3, 4, 6	 C C
0406	SECURITY SCREEN, ECU	INSPECT REPAIR REPLACE		.2 1.5 .2		3, 6 2, 3, 4, 6 2, 3, 4, 6	 C C
0407	BRACKET, WELDING TABLE	INSPECT REPAIR REPLACE		.1 .5 .3		3, 6 2, 3, 4, 6 2, 3, 4, 6	 C C
0408	BRACKET, CIRCUIT BREAKER	INSPECT REPAIR REPLACE		.1 .6 .3		3, 6 2, 3, 4, 6 2, 3, 4, 6	 C C
0409	BRACKET, EXHAUST DUCT ASSEMBLY	INSPECT REPAIR REPLACE		.1 .6 .2		3, 6 2, 3, 4, 6 2, 3, 4, 6	 C C
0410	ASSEMBLY, EXHAUST DUCT	INSPECT REPAIR REPLACE		.2 1.2 .3		3, 6 3, 4, 6, 7 3, 4, 6, 7	 C C
05	FLOOR PLUGS	INSPECT		.1		6	

SECTION III. TOOL AND TEST EQUIPMENT

(1) TOOL OR TEST EQPT REF CODE	(2) MAINTENANCE CATEGORY	(3) NOMENCLATURE	(4) NATIONAL STOCK NUMBER
1	INTERMEDIATE	MULTIMETER	6625-01-139-2512
2	INTERMEDIATE	SHOP SET,MACHINE	4920-00-405-9279
3	INTERMEDIATE	SHOP SET,TOOL CRIB	4920-00-472-4183
4	INTERMEDIATE	SHOP SET,WELDING	4920-00-163-5093
5	INTERMEDIATE	TOOL KIT, ELECTRICAL REPAIRER ARMY AIRCRAFT	5180-00-323-4915
6	INTERMEDIATE	BASIC ISSUE ITEMS (BII)	
7	INTERMEDIATE	SHOP SET,SHEET METAL	4920-00-166-5505

SECTION IV.REMARKS

(1) REFERENCE CODE	(2) REMARKS
A.	TORQUE VALUE ON 1/4BOLTS IS 50-70 INCH POUNDS.
B.	TORQUE VALUE ON 5/16 BOLTS IS 100-140 INCH POUNDS.
C.	TORQUE VALUE ON 3/8 BOLTS IS 160-190 INCH POUNDS.
D.	FOLLOW PRODEDURES IN TM 10-5411-201-14.
E.	ELECTRICAL AND GROUND CHECKS TO BE MADE BY QUALIFIED ELECTRICIAN.

APPENDIX C
COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LIST

SECTION I. INTRODUCTION

C-1. SCOPE. This appendix lists Components of End Items (COEI) and Basic Issue Items (BII) for the Welding Shop to help you inventory items required for safe and efficient operation.

C-2. GENERAL. The components of End Item and Basic Issue Items Lists are divided into the following sections:

a. SECTION II. Components of End Item. This listing is for informational purposes only, and is not authority to requisition replacements. These items are part of the end item, but are not removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Illustrations are furnished to assist you in identifying the items.

b. SECTION III. Basic Issue Items. These are the minimum essential items required to place theWelding Shop in operation, to operate it, and to perform emergency repairs. Although shipped separately packed, BII must accompany the Welding Shop during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard-to-identify items. This manual is your authority to requisition replacement BII based on the TOE/MTOE authorization of the end item.

C-3. EXPLANATION OF COLUMNS. The following provides an explanation of columns found in the tabular listings:

a. Column (1) - Illustration Number (Illus Number). This column indicates the number of the illustration in which the item is shown.

b. Column (2) - National Stock Number. Indicates the National Stock Number assigned to the item and will be used for requisitioning purposes.

c. Column (3) - Description. Indicates the Federal Item Name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the CAGEC (in parentheses) followed by the part number.

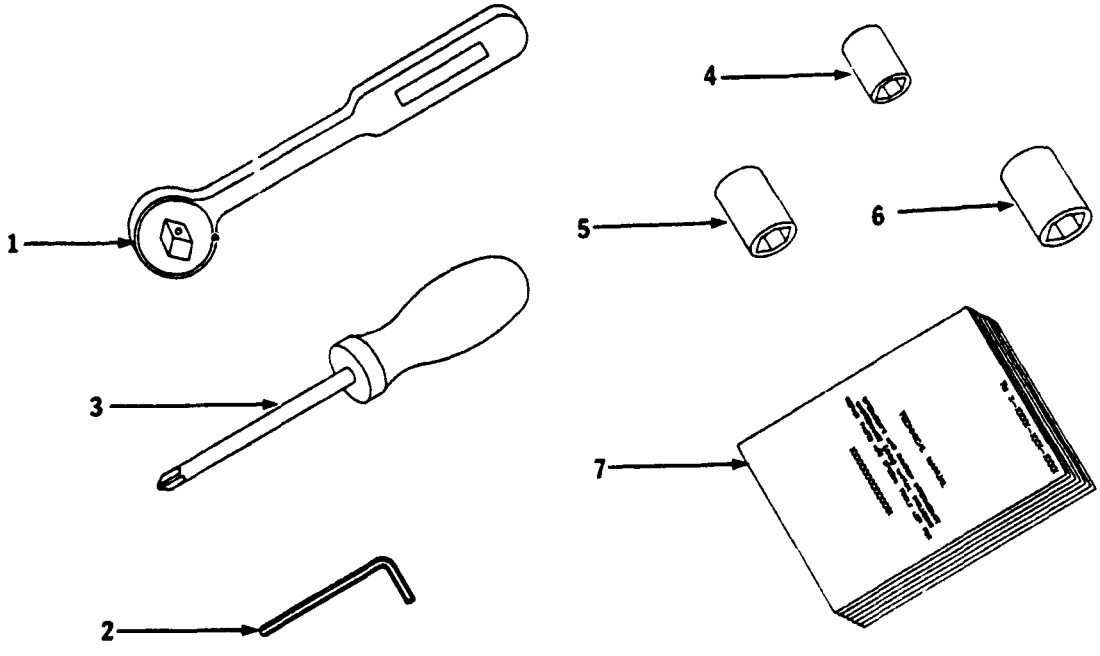
d. Column (4) - Unit of Measure (U/M). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr)

e. Column (5) - Quantity Required (Qty Rqr). Indicates the quantity of the item authorized to be used with/on the equipment.

SECTION II. COMPONENTS OF END ITEM

There are no components of end items associated with the Welding Shop.

SECTION III.
BASIC ISSUE ITEMS (BII)



(1) Illus Number	(2) National Stock Number	(3) Description CAGEC and Part Number	(4) U/M	(5) Qty Rqr
1	5120-00-240-5364	Handle, Socket Wrench (81348)	EA	1
2	5120-00-240-5300	Key, Socket Head Screw, 3/16" (81348)	EA	1
3	5120-00-764-8097	Screwdriver, Crosstip #2 (81348)	EA	1
4	5120-00-935-7439	Socket, Socket Wrench 7/16" (81343)	EA	1
5	5120-00-935-7440	Socket, Socket Wrench 1/2" (81343)	EA	1
6	5120-00-935-7441	Socket, Socket Wrench 9/16" (81343)	EA	1
7	TM 1-4920-455-13&P	Operator's and Intermediate Maintenance Manual including Repair Parts and Special Tools List for Welding Shop	EA	1

APPENDIX D
REPAIR PARTS AND SPECIAL TOOLS LIST

SECTION I. INTRODUCTION

D-1. Scope. This manual lists and authorizes spares and repair parts; special tools; special Test, Measurement, and Diagnostic Equipment (TMDE); and other special support equipment required for performance of Intermediate Maintenance of the Welding Shop. It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the Source, Maintenance, and Recoverable (SMR) codes.

D-2. General. This Repair Parts and Special Tools List is divided into the following sections:

a. Section II. Repair Parts List. A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts that must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending numeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in NSN sequence.

b. Section III. Special Tools List. A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL for the performance of maintenance.

c. Section IV. National Stock Number and Part Number Index. A list, in National Item Identification Number (NIIN) sequence, of all National Stock Numbers (NSNS) appearing in the listings, followed by a list in alphanumeric sequence of all part numbers appearing in the listing. National Stock Numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

D-3. EXPLANATION OF COLUMNS.

a. Column 1, ILLUSTRATION. Column 1 is divided as follows:

(1) ((a) FIG NO.) Figure Number. Indicates the figure number illustrating an exploded view of a functional group.

(2) ((b) ITEM NO.) Indicates the number used to identify items called out in the illustration.

b. Column 2, SMR Code. The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instructions, as shown in the following breakout:

Source Code	Maintenance Code		Recoverability Code
XX	XX		X
1st two positions	3rd position	4th position	5th position
How you get an item	Who can install, replace or use the item.	Who can do complete repair* on the item.	Who determines disposition action on an unserviceable item.

*Complete repair: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

(1) Source Code. The source code tells you how to get an item needed for maintenance, repair, or overhaul of an end itern/equipment. Source Codes are always the first two positions of the SMR code. Explanations of source codes follows:

Code	Explanation
PA PB PC PD PE P F PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the 3rd position of the SMR code.
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the 3rd position of the SMR code. The complete kit must be requisitioned and applied.

Code	Explanation
MO -(Made at org / AVUM Category) MF -(Made at DS / AVIM Category) MH -(Made at GS Category) MD -(Made at Depot)	Items with these codes are no to be requested/requisitioned individually. They must be made from bulk material which is identified by NSN in the Description column and listed in the Bulk Material Group in the repair parts list in this manual. If the item is authorized to you by the 3rd position of the SMR code, but the source code indicates it is made at a higher category, order the item from the higher category of maintenance.
AO -(Assembled by org / AVUM Category) AF -(Assembled by DS / AVIM Category) AH -(Assembled by GS Category) AD -(Assembled by Depot)	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the category of maintenance indicated by the source code. If the 3rd position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher category, order the item from the higher category of maintenance.
XA	Do not requisition an "XA" - coded item. Order its next higher assembly. (ALso, refer to the NOTE below.)
XB	If an "XB" item is not available from salvage, order it using the CAGEC and part number given.
XC	Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.
XD	Item is not stocked. Order an "XD" - coded item through normal supply channels using the CAGEC and part number given, if no NSN is available.

NOTE

Cannibalization or controlled exchange, when authorized, maybe used as a source of supply items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 700-42.

(2) Maintenance Code. Maintenance codes tell you the category(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR Code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance category authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following categories of maintenance.

Code	Application/Explanation
C	Crew or operator maintenance done within organizational or aviation unit maintenance.
O	Organizational or aviation unit category can remove, replace, and use the item.
F	Direct support of aviation intermediate category can remove, replace, and use the item.
H	General support category can remove, replace, and use the item.
L	Specialized repair activity can remove, replace, and use the item.
D	Depot category can remove, replace, and use the item.

(b) The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance category with the capability to do complete repair (i.e., perform all authorized repair functions). (NOTE: Some limited repair may be done on the item at a lower category of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.) This position will contain one of the following maintenance codes.

Code	Application/Explanation
O	Organizational or aviation unit is the lowest category that can do complete repair of the item.
F	Direct support or aviation intermediate is the lowest category that can do complete repair of the item.
H	General support is the lowest category that can do complete repair of the item.
L	Specialized repair activity (designate the specialized repair activity) is the lowest category that can do complete repair of the item.

Code	Application/Explanation
D	Depot is the lowest category that can do complete repair of the item.
Z	Nonreparable. No repair is authorized.
B	No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B" - coded item.) However, the item maybe requisitioned by adjusting, lubricating, etc., at the user level.

(3) Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR Code as follows:

Recoverability Codes	Definition
Z	Nonreparable item. When unserviceable, condemn and dispose of the item at the category of maintenance shown in 3rd position of SMR Code.
O	Reparable item. When uneconomically reparable, condemn and dispose of the item at organizational or aviation unit category.
F	Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support or aviation intermediate category.
H	Reparable item. When uneconomically reparable, condemn and dispose of the item at the general support category.
D	Reparable item. When beyond lower category repair capability, return to depot. Condemnation and disposal of item is not authorized below depot category.
L	Reparable item. Condemnation and disposal not authorized below specialized repair activity.
A	Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. Column 3. NATIONAL STOCK NUMBER. Column 3 lists the National stock number (NSN) assigned to the item. Use the NSN for requests/requisitions.

d. Column 4, CAGEC. Column 4, the Contractor's and Government Entity Code (CAGEC) is a 5-digit numeric code which is used to identify the manufacturer, distribute, or Government agency, etc., that supplies the item.

c. Column 5, PART NUMBER. Column 5 indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

NOTE

When you use an NSN to requisition an item, the item you receive may have a different part number from the part ordered, but go ahead and use or furnish it as the replacement part.

f. Column 6, DESCRIPTION. Column 6 includes the following information:

(1) The Federal item name and, when required, a minimum description to identify the item.

(2) The physical security classification of the item is indicated by the parenthetical entry (insert applicable physical security classification abbreviation, e.g., Phy Sec C1 (C) - Confidential, Phy Sec C1 Secret, Phy Sec C1 (T) - Top Secret).

(3) Items included in kits and sets are listed below the name of the kit or set.

(4) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.

(5) NSNS for bulk materials are referenced in this column in the line item entry for the item to be manufactured/fabricated.

(6) When the item is not used with all serial numbers of the same modes, the effective serial numbers are shown on the last line(s) of the description (UOC).

(7) The Usable On Code, when applicable.

(8) In the Special Tools List section, the basis of issue (BOX) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipment supported exceeds density spread indicated in the basis of issue, the total authorization is increased proportionally.

g. Column 7, U/M. Column 7, Unit of Measure (U/M) indicates the measure (e.g., foot, gallon, pound) or count (e.g., each, dozen, gross) of a listed item. A two-character alpha code (e.g., FT, GL, LB, EA, DZ, GR) appears in this column to indicate the measure or count. If the U/M code appearing in this column differs from the Unit of Issue (WI) code listed in the Army Master Data File (AMDF), request the lower U/I that will satisfy your needs.

h. Column 8, QTY INC IN UNIT. Column 8, Quantity Incorporated in Unit (QTY INC IN UNIT) indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A “V” appearing in this column in lieu of a quantity indicates that no specific quantity is applicable (e.g., shims, spacers).

D-4. How to Locate Repair Parts.

a. When National Stock Number or Part Number is Not Known.

(1) First. Using the table of contents, determine the functional group or subfunctional group to which the item belongs. This is necessary since figures are prepared for functional groups and subfunctional groups, and listings are divided into the same groups.

(2) Second. Find the figure covering the functional group or subfunctional group to which the item belongs.

(3) Third. Identify the item on the figure and note the item number of the item.

(4) Fourth. Refer to the Repair Parts List for the figure to find the line item entry for the item number noted on the figure.

b. When National Stock Number or Part Number is Known.

(1) First. Using the Index of National Stock Numbers and Part Numbers, find the pertinent National Stock Number or Part Number. The NSN index is in National Item Identification Number (NIIN)* sequence. The part numbers in the Part Nu mber index are listed in ascending alpha-numeric sequence both indexes cross-reference you to the illustration figure and item number of the item you are looking for.

*The NIIN consists of the last 9 digits of the NSN.

NSN

(i.e., 5305-01-674-1467)

NIIN

(2) Second. After finding the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

D-7. ABBREVIATIONS. (Not applicable)

SECTION II. REPAIR PARTS LIST

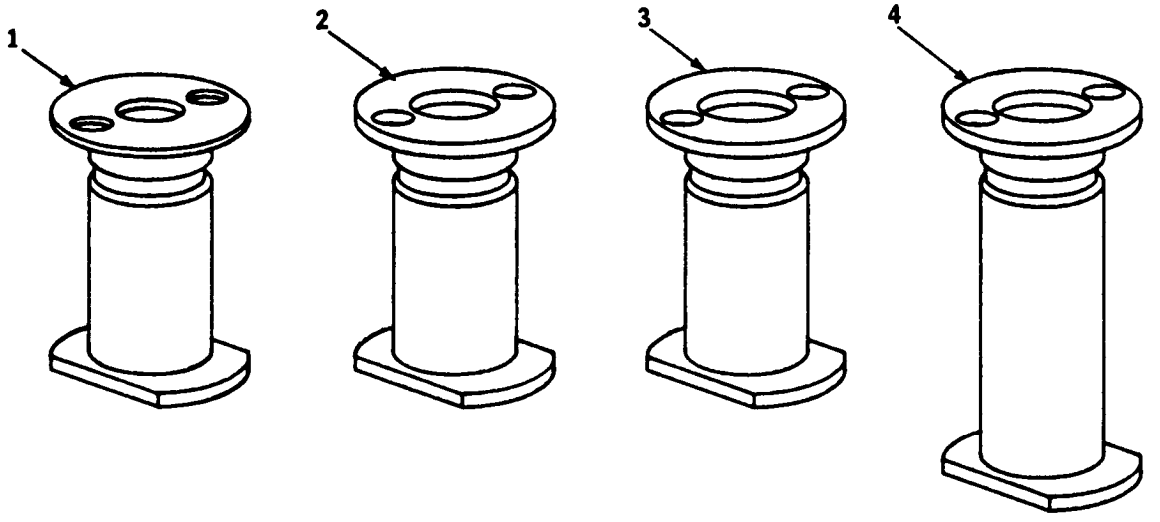


Figure D-1. Potted Inserts

(1) ILLUSTRATION		(2)		(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	CAGEC	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UNIT
						GROUP 01 FASTENERS		
						SUBGROUP 0102		
						INSERTS, POTTED		
D-1	1	PAFZZ		97393	SL601-4-8C	INSERT, FASTENER TYPE	EA	V
D-1	2	PAFZZ		97393	SL601-5-10C	INSERT, FASTENER TYPE	EA	V
D-1	3	PAFZZ		97393	SL601-6-8C	INSERT, FASTENER TYPE	EA	V
D-1	4	PAFZZ	5340-00-044-5270	97393	SL601-6-12C	INSERT, FASTENER TYPE	EA	V

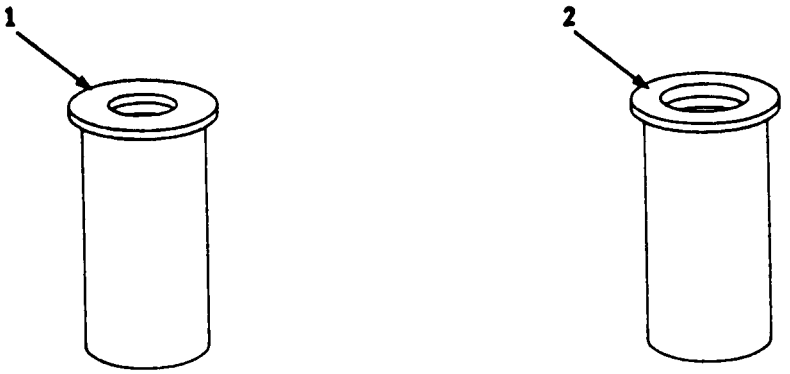


Figure D-2. Non-Potted Inserts

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	CAGEC	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UNIT
						GROUP 01 FASTENERS		
						SUBGROUP 0103		
						INSERTS, NON-POTTED		
D-2	1	PAFZZ		73197	BN527-624-2-12	INSERT, NON-POTTED	EA	V
D-2	2	PAFZZ		73197	BN527-524-1-12	INSERTS, NON-POTTED	EA	V

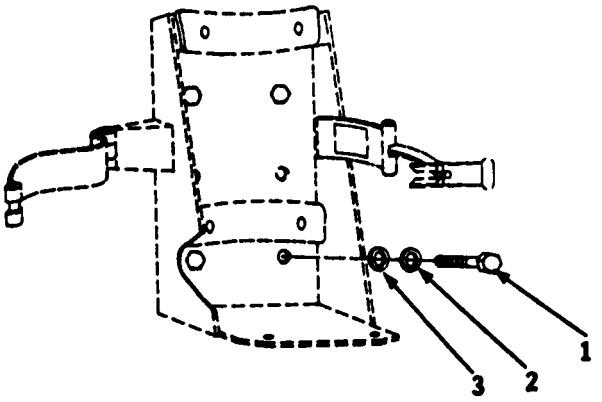


Figure D-3. Fire Extinguisher Mounting

(1) ILLUSTRATION (a) FIG NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION	(7) U/M	(8) QTY INC IN UNIT
						GROUP 02 FIXTURES		
						SUBGROUP 0201		
						FIRE EXTINGUISHER MOUNTING		
D-3	1	PAFZZ	5306-00-150-9104	88044	AN5-5A	BOLT, MACHINE	EA	4
D-3	2	PAFZZ	5310-00-407-9566	96906	MS35338-45	WASHER, LOCK	EA	4
D-3	3	PAFZZ	5310-00-187-2399	88044	AN960-PD-516	WASHER, FLAT	EA	4

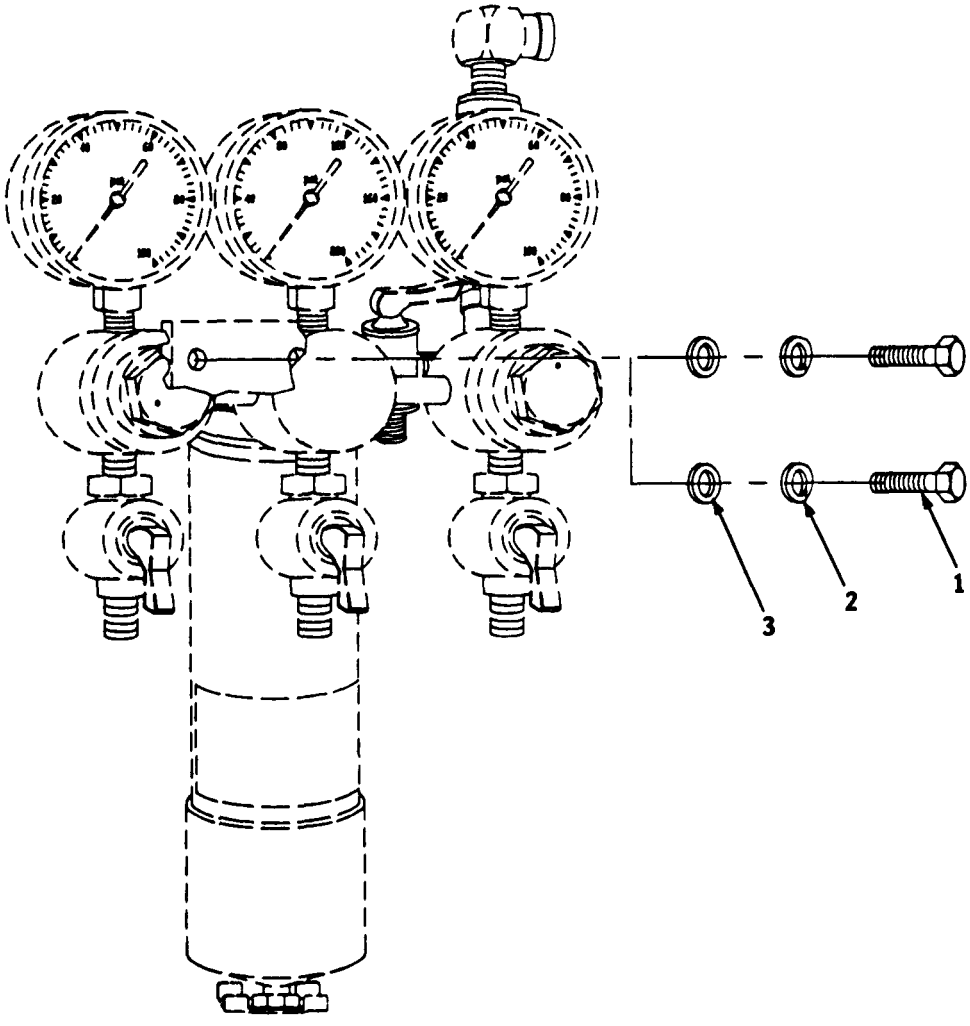


Figure D-4. Water/Oil Separator Mounting

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION	(7) U/M	(8) QTY INC IN UNIT
						GROUP 02 FIXTURES		
						SUBGROUP 0202		
						WATER/OIL SEPARATOR MOUNTING		
D-4	1	PAFZZ	5306-00-151-1427	88044	AN4-5A	BOLT, MACHINE	EA	2
D-4	2	PAFZZ	5310-00-582-5965	96906	MS35338-44	WASHER, LOCK	EA	2
D-4	3	PAFZZ	5310-00-187-2354	88044	AN960-PD-416	WASHER, FLAT	EA	2
						ALTERNATE MOUNTING		
D-5	1	PAFZZ	5306-00-150-9104	88044	AN5-5A	BOLT, MACHINE	EA	1
D-5	2	PAFZZ	5310-00-407-9566	96906	MS35338-45	WASHER, LOCK	EA	1
D-5	3	PAFZZ	5310-00-187-2399	88044	AN960-PD-516	WASHER, FLAT	EA	1

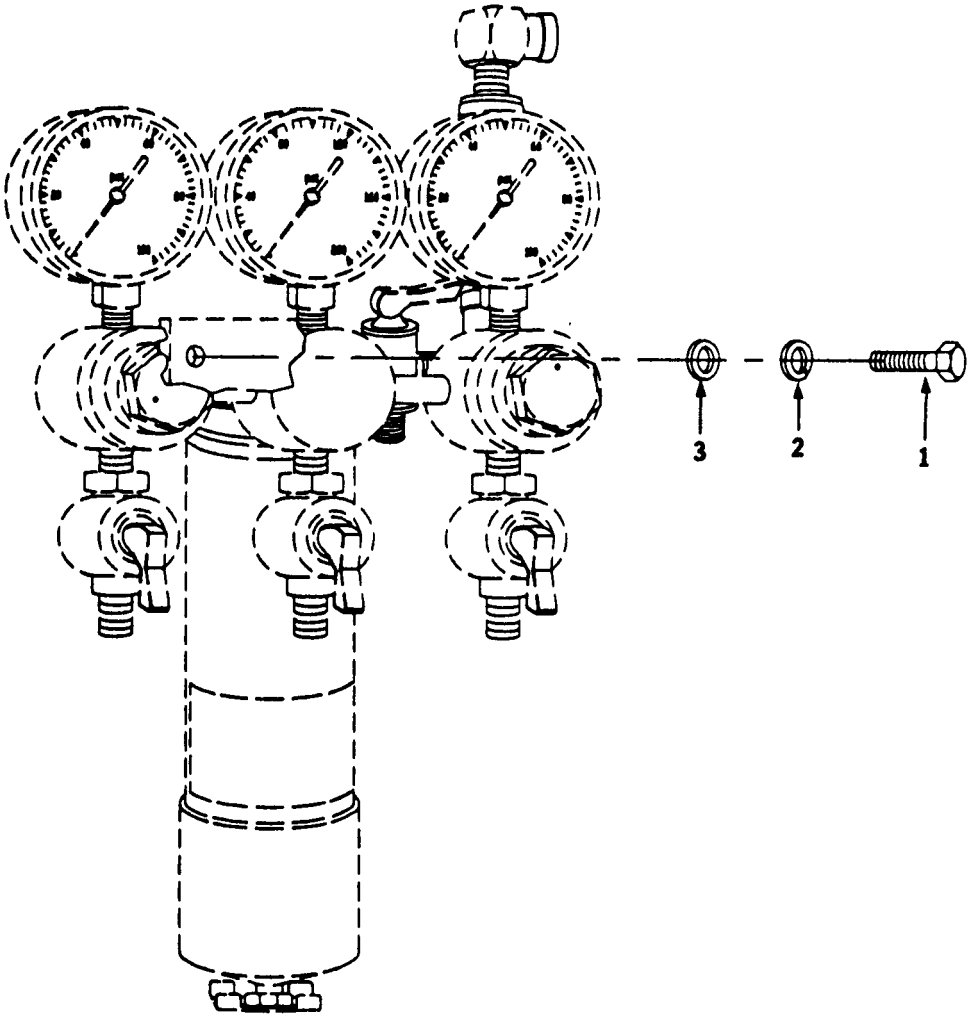


Figure D-5. Alternate Water/Oil Separator Mounting

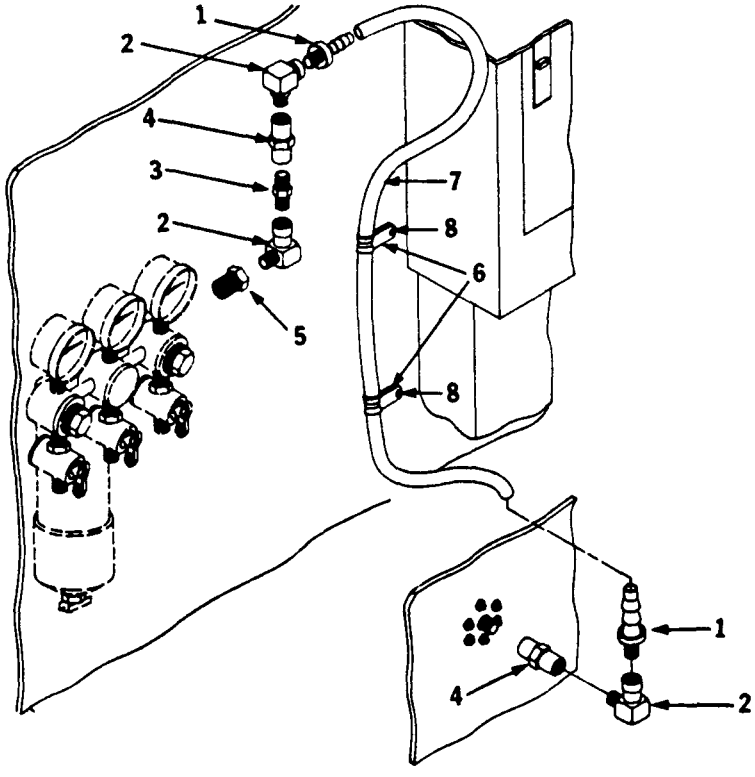


Figure D-6. Fittings and Air Hose Assemblies

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	CAGEC	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UNIT
						GROUP 02 FIXTURES		
						SUBGROUP 0203 WATER/OIL SEPARATOR		
						FITTINGS AND AIR HOSE ASSY		
D-6	1	PAFZZ	4730-00-932-7511	00624	4738-4-6	FITTING, HOSE	EA	2
D-6	2	PAFZZ	4730-00-595-0385	79470	C3409X4	ELBOW, PIPE	EA	3
D-6	3	PAFZZ	4730-00-287-1589	03958	896WM	NIPPLE, PIPE	EA	1
D-6	4	PAFZZ	4730-00-541-8286	88044	AN9102C	COUPLING, PIPE	EA	2
D-6	5	PAFZZ	4730-00-277-1896	96906	MS14315-5X	BUSHING, PIPE	EA	1
D-6	6	PAFZZ	5340-00-565-0004	88044	AN742-12CB	CLAMP, LOOP	EA	2
D-6	7	PAFZZ				HOSE, NON-METALLIC (SEE GROUP 99)		
D-6	8	PAFZZ	5305-00-477-0120	96906	MS51861-46C	SCREW, TAPPING THREAD	EA	2

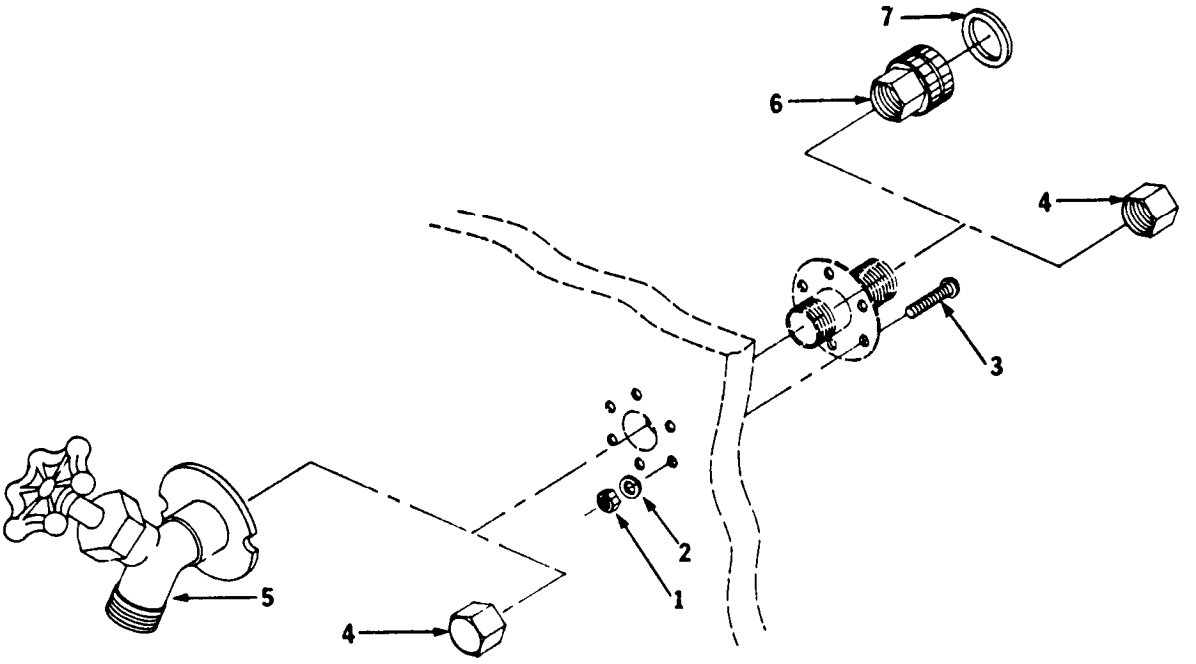


Figure D-7. Water Feed Thru Connector

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	CAGEC	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UNIT
						GROUP 02 FIXTURES SUBGROUP 0204 WATER FEED THRU CONNECTOR SEE APPENDIX F, ILLUSTRATED LIST OF MANUFACTURED ITEMS FOR DETAILED DRAWING		
D-7	1	PAFZZ	5310-00-934-9751	19422	BM12297-06	NUT PLAIN, HEX	EA	6
D-7	2	PAFZZ	5310-00-167-0834	59875	TX90790-34	WASHER, FLAT	EA	6
D-7	3	PAFZZ	5310-00-082-6780	28977	AA52525-24	SCREW, MACHINE	EA	6
D-7	4	PAFZZ	4730-00-724-1998	38148	WW-P-460	CAP, PIPE	EA	2
D-7	5	PAFZZ	4510-00-142-1619	58536	A-A-232	FAUCET, SINGLE	EA	1
D-7	6	PAFZZ	4730-00-547-0941	30938	FIG1620-1	ADAPTER, STRAIGHT	EA	1
D-7	7	PAFZZ	5310-00-599-0776		NO REF	WASHER, FLAT	EA	1

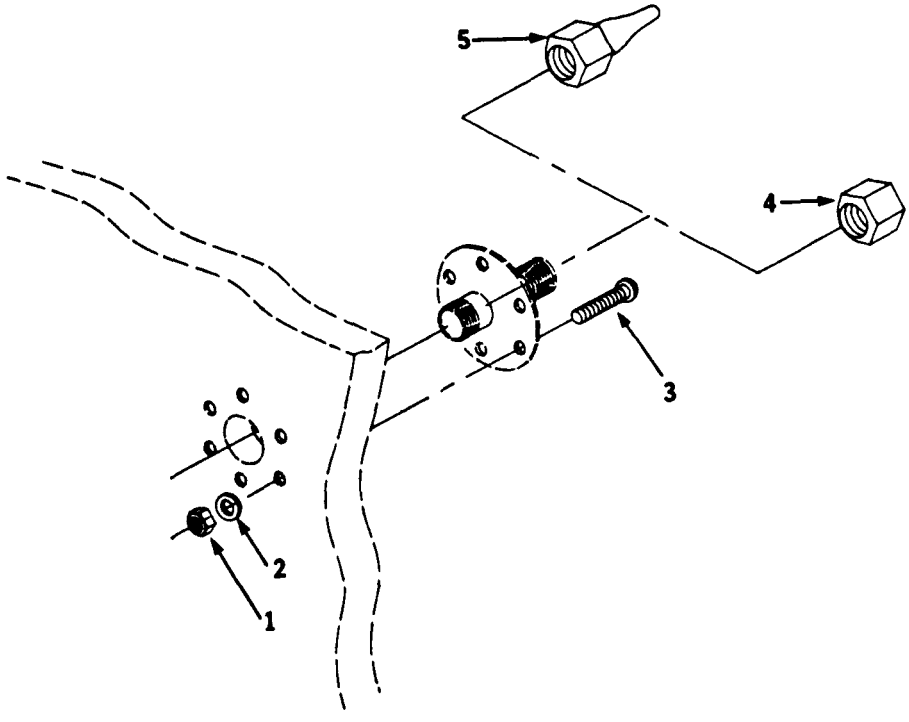


Figure D-8. Air Feed Thru Connector

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION	(7) U/M	(8) QTY INC IN UNIT
						GROUP 02 FIXTURES SUBGROUP 0205 AIR FEED THRU CONNECTOR SEE APPENDIX F, ILLUSTRATED LIST OF MANUFACTURED ITEMS FOR DETAILED DRAWING		
D-8	1	PAFZZ	5310-00-934-9751	19422	BM12297-06	NUT PLAIN, HEX	EA	6
D-8	2	PAFZZ	5310-00-167-0834	59875	TX90790-34	WASHER, FLAT	EA	6
D-8	3	PAFZZ	5310-00-082-6780	28977	AA52525-24	SCREW, MACHINE	EA	6
D-8	4	PAFZZ	4730-00-203-3168	55068	WW-P-521	CAP, PIPE	EA	2
D-8	5	PAFZZ	4730-00-142-1960	14127	SHD11	COUPLING HALF, QUICK	EA	1

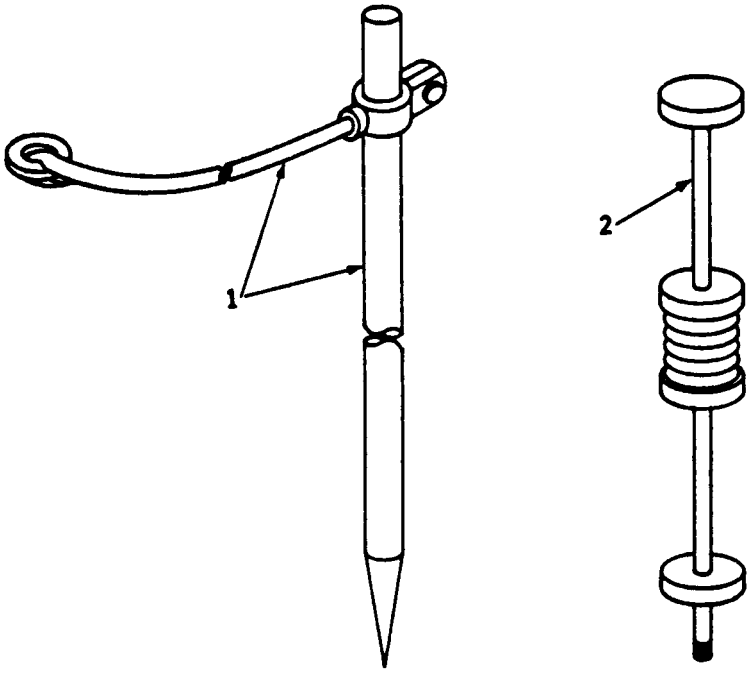


Figure D-9. Ground Rod/Strap

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	CAGEC	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UNIT
						GROUP 03 ELECTRICAL		
						SUBGROUP 0301		
						GROUND ROD/STRAP		
D-9	1	PAFZZ	5975-00-878-3791	81349	MIL-R-11461	GROUND ROD/STRAP	EA	1
D-9	2	PAFZZ	5120-01-013-1676	45225	P74-144	SLIDE HAMMER, GROUND	EA	1

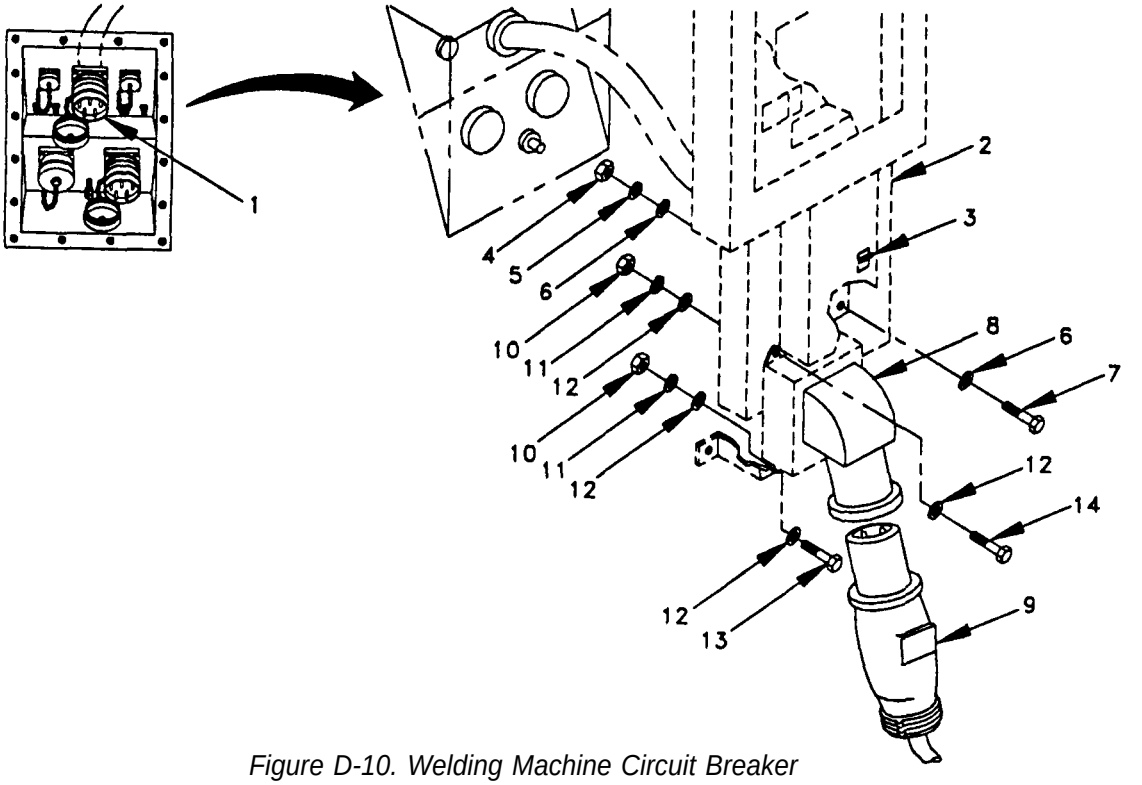


Figure D-10. Welding Machine Circuit Breaker

(1) ILLUSTRATION (a) FIG NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION	(7) U/M	(8) QTY INC IN UNIT
						GROUP 03 ELECTRICAL		
						SUBGROUP 0302		
						CIRCUIT BREAKER, ELECTRIC WELDER		
						SEE APPENDIX F, ILLUSTRATED LIST OF MANUFACTURED ITEMS, FOR DETAILED DRAWING		
D-10	1	PAFZZ	5935-01-103-6064	96906	MS950558 C44412P	CONNECTOR, RECEPTACLE	EA	1
D-10	2	PAFZZ		14280	QO2100N	BREAKER PANEL ASSEMBLY	EA	1
D-10	3	PAFZZ		14280	QO2100	CIRCUIT BREAKER	EA	1
D-10	4	PAFZZ	5310-00-768-0319	96906	MS51968-2	NUT, PLAIN HEX	EA	3
D-10	5	PAFZZ	5310-00-582-5965	88044	MS35338-44	WASHER, LOCK	EA	3
D-10	6	PAFZZ	5310-00-187-2354	88044	AN960-PD-416	WASHER, FLAT	EA	6
D-10	7	PAFZZ	5306-00-151-1426	88044	AN4-6A	BOLT, MACHINE	EA	3
D-10	8	PAFZZ		78011	JR5A1044F	CONNECTOR, FEMALE	EA	1
D-10	9	PAFZZ		78011	JPS1044	CONNECTOR, MALE	EA	1
D-10	10	PAFZZ	5310-00-880-7746	96906	MS51968-5	NUT, PLAIN HEX	EA	3
D-10	11	PAFZZ	5310-00-407-9566	96906	MS35338-45	WASHER, LOCK	EA	3
D-10	12	PAFZZ	5310-00-187-2399	88044	AN960-PD-516	WASHER, FLAT	EA	6
D-10	13	PAFZZ	5306-00-145-7036	88044	AN5-10A	BOLT, MACHINE	EA	2
D-10	14	PAFZZ	5310-00-150-9101	88044	AN5-6A	BOLT, MACHINE	EA	1

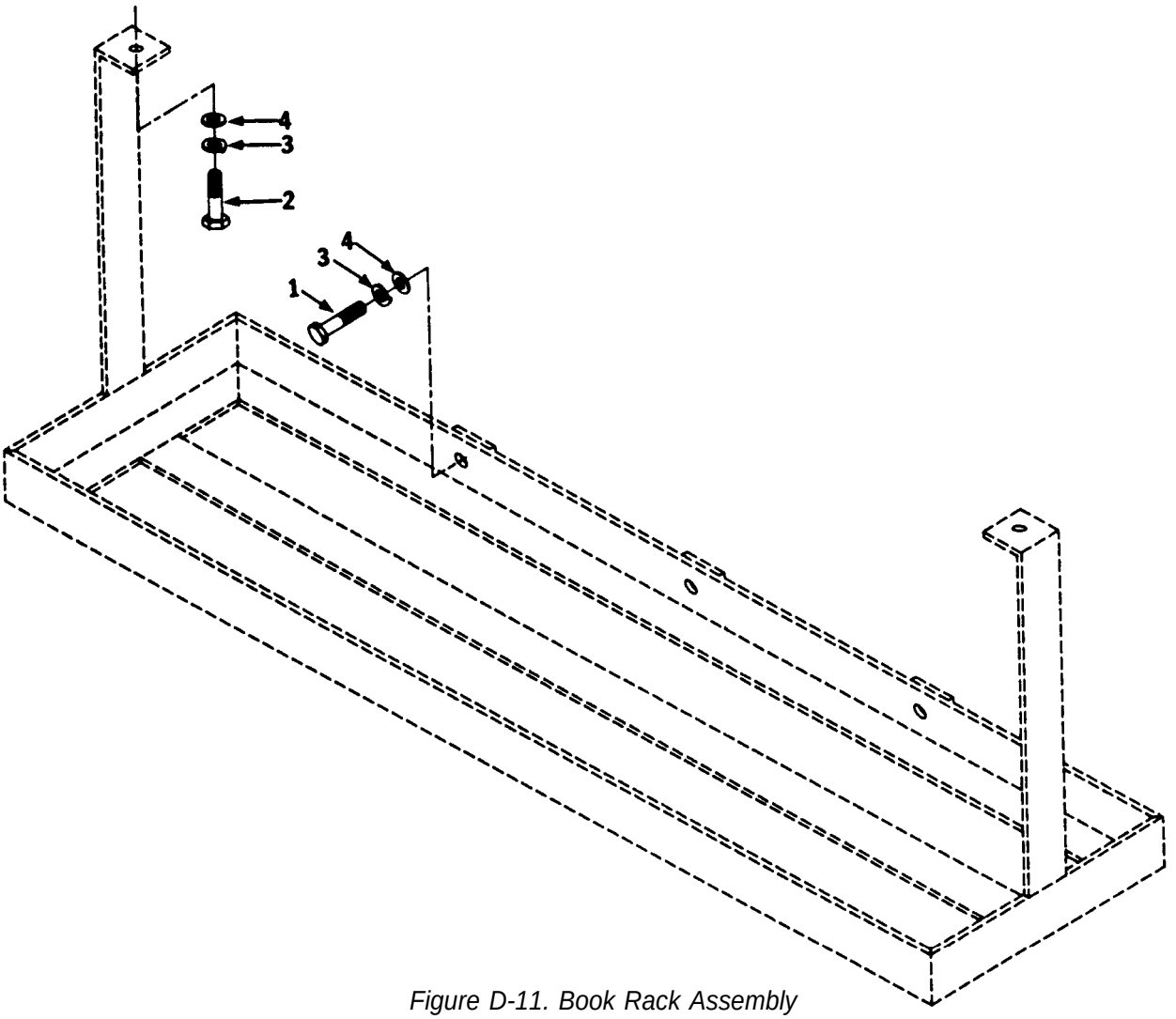


Figure D-11. Book Rack Assembly

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	CAGEC	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UNIT
						GROUP 4 SPECIAL BRACKETS AND FABRICATED COMPONENTS SUBGROUP 0401 RACK ASSEMBLY, BOOK SEE APPENDIX F, ILLUSTRATED LIST OF MANUFACTURED ITEMS, FOR DETAILED DRAWING		
D-11	1	PAFZZ	5306-00-616-1224	88044	AN6-6A	BOLT, MACHINE	EA	2
D-11	2	PAFZZ	5306-00-180-1483	88044	AN6-11A	BOLT, MACHINE	EA	3
D-11	3	PAFZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK	EA	5
D-11	4	PAFZZ	5310-00-187-2400	88044	AN960-PD-616	WASHER, FLAT	EA	5

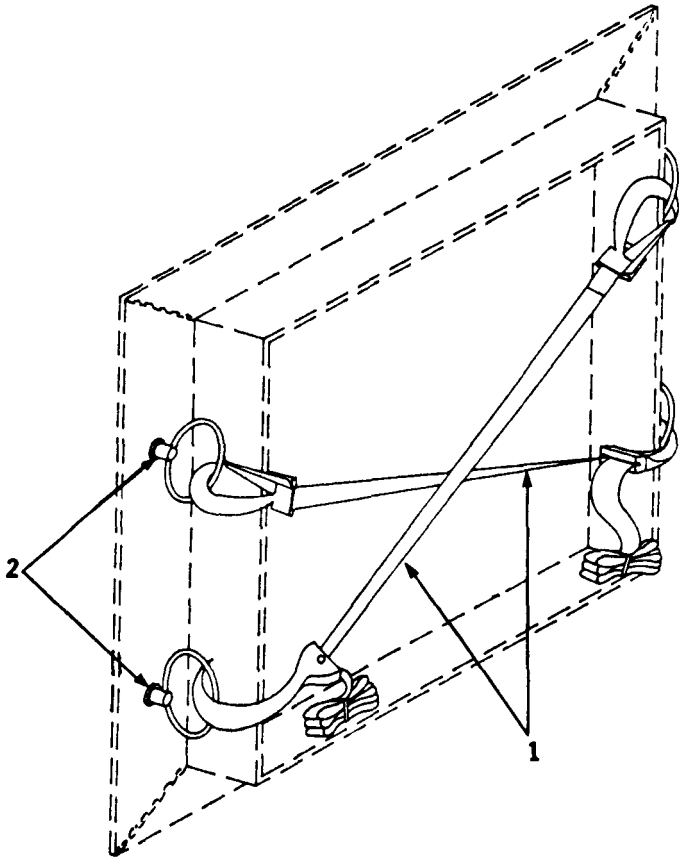


Figure D-12. ECU Support Frame Assembly

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	CAGEC	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UNIT
						GROUP 4 SPECIAL BRACKETS AND FABRICATED COMPONENT SUBGROUP 0402 FRAME ASSEMBLY, ECU SUPPORT SEE APPENDIX F, ILLUSTRATED LIST OF MANUFAC- TURED ITEMS, FOR DETAILED DRAWING		
D-12	1	PAFZZ	1670-00-725-1437	81349	MIL-T-27260 TYPE CGU1B	TIE DOWN, CARGO	EA	4
D-12	2	PAFZZ	5306-00-624-9713	98313	FDA 1658-3	BOLT, RING	EA	8

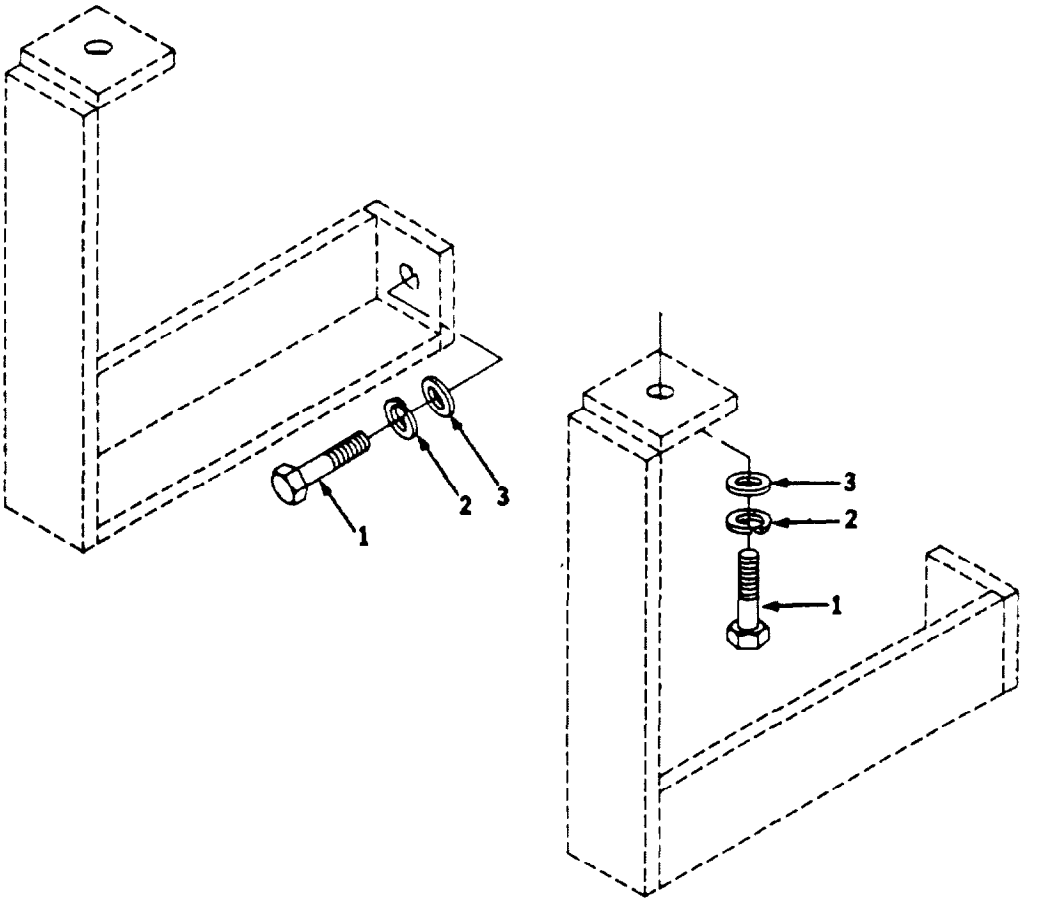


Figure D-13. Storage Chest Bracket Assemblies

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	CAGEC	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UNIT
						GROUP 4 SPECIAL BRACKETS AND FABRICATED COMPONENT: SUBGROUP 0403 BRACKET ASSEMBLY, STORAGE CHEST, R/N AND U/H SEE APPENDIX F, ILLUSTRATED LIST OF MANUFACTURED ITEMS, FOR DETAILED DRAWING		
D-13	1	PAFZZ	5306-00-616-1224	88044	AN6-6A	BOLT, MACHINE	EA	4
D-13	2	PAFZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK	EA	4
D-13	3	PAFZZ	5310-00-187-2400	88044	AN960-PD-616	WASHER,FLAT	EA	4

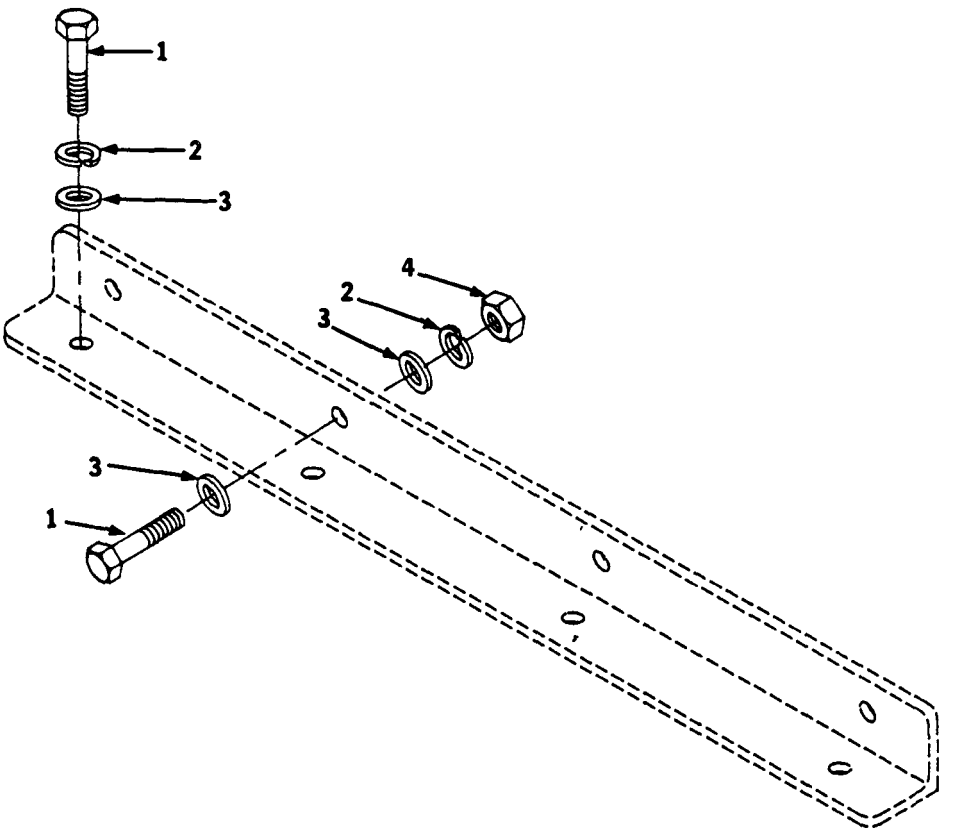


Figure D-14. Cabinet Bracket

(1) ILLUSTRATION (a) FIG NO.	(1) ILLUSTRATION (b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION	(7) U/M	(8) QTY INC IN UNIT
						GROUP 4 SPECIAL BRACKETS AND FABRICATED COMPONENTS SUBGROUP 0404 BRACKET, CABINET SEE APPENDIX F, ILLUSTRATED LIST OF MANUFACTURED ITEMS, FOR DETAILED DRAWING		
D-14	1	PAFZZ	5306-00-531-8979	88044	AN6-7A	BOLT, MACHINE	EA	8
D-14	2	PAFZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK	EA	8
D-14	3	PAFZZ	5310-00-187-2400	88044	AN960PD--616	WASHER, FLAT	EA	12
D-14	4	PAFZZ	5310-00-058-1626	96906	MS35650-3382	NUT	EA	4

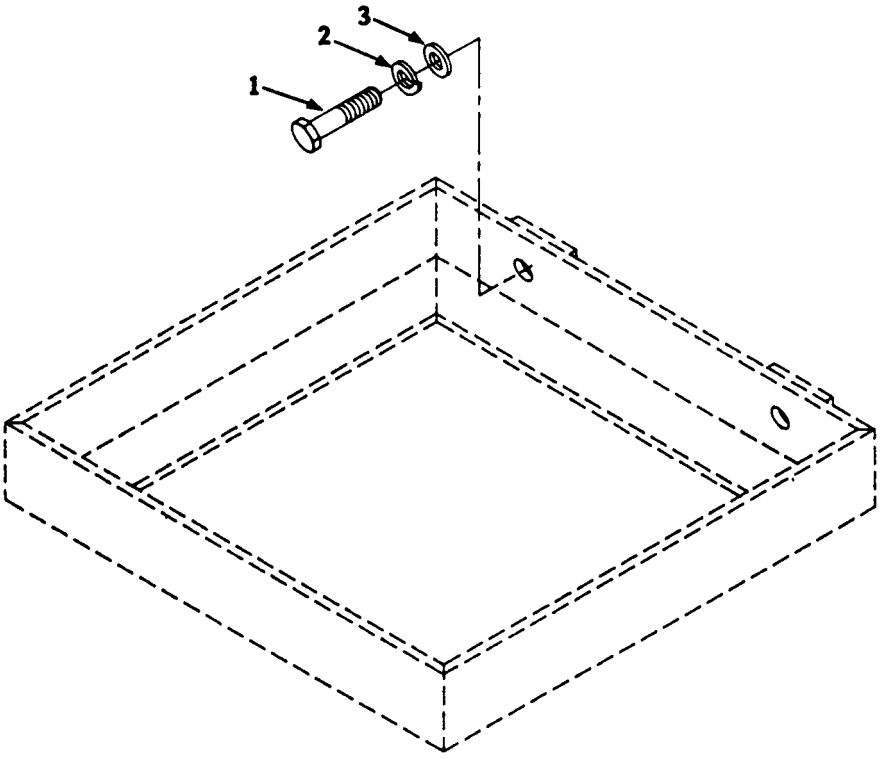


Figure D-15. First Aid Kit Rack Assembly

(1) ILLUSTRATION (a) FIG NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION	(7) U/M	(8) QTY INC IN UNIT
						GROUP 4		
						SPECIAL BRACKETS AND FABRICATED COMPONENTS		
						SUBGROUP 0405 RACK ASSEMBLY, FIRST AID KIT		
						SEE APPENDIX F, ILLUSTRATED LIST OF MANUFAC-		
						TURED ITEMS, FOR DETAILED DRAWING		
D-15	1	PAFZZ	5306-00-180-1483	88044	AN6-11A	BOLT, MACHINE	EA	2
D-15	2	PAFZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK	EA	2
D-15	3	PAFZZ	5310-00-187-2400	88044	AN960-PD-616	WASHER, FLAT	EA	2

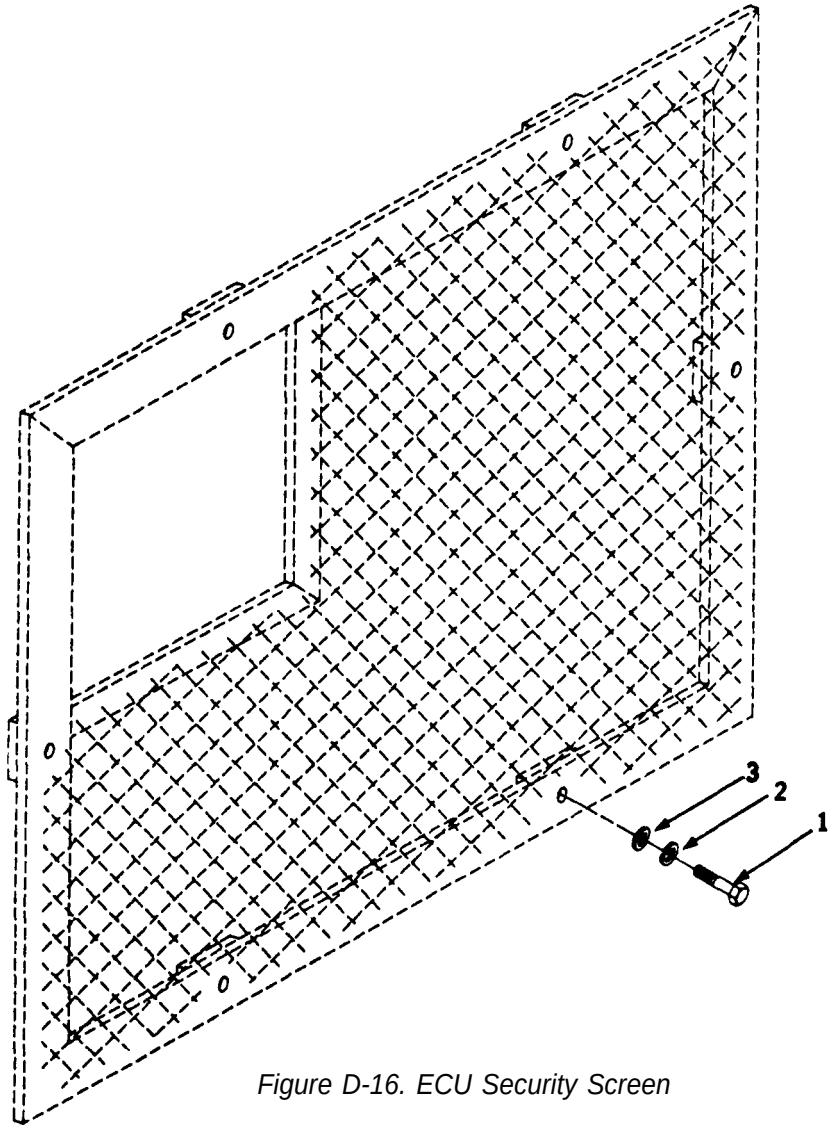


Figure D-16. ECU Security Screen

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	CAGEC	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UNIT
						GROUP 4 SPECIAL BRACKETS AND FABRICATED COMPONENTS SUBGROUP 0406 SECURITY SCREEN, ECU SEE APPENDIX F, ILLUSTRATED LIST OF MANUFACTURED ITEMS, FOR DETAILED DRAWING		
D-16	1	PAFZZ	5306-00-180-1483	88044	AN6-11A	BOLT, MACHINE	EA	6
D-16	2	PAFZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK	EA	6
D-16	3	PAFZZ	5310-00-187-2400	88044	AN960-PD-616	WASHER, FLAT	EA	6

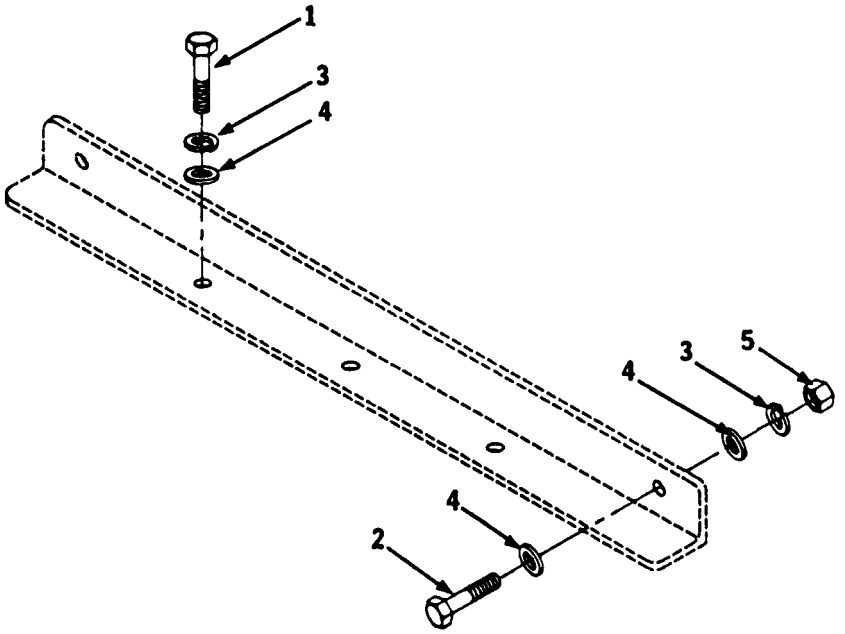


Figure D-17. Welding Table Bracket

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	CAGEC	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UNIT
						GROUP 4 SPECIAL BRACKETS AND FABRICATED COMPONENT: SUBGROUP 0407 BRACKET, WELDING TABLE SEE APPENDIX F, ILLUSTRATED LIST OF MANUFAC- TURED ITEMS, FOR DETAILED DRAWING		
D-17	1	PAFZZ	5306-00-531-8979	88044	AN6-7A	BOLT, MACHINE	EA	3
D-17	2	PAFZZ	5306-00-180-1483	88044	AN6-11A	BOLT, MACHINE	EA	2
D-17	3	PAFZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK	EA	5
D-17	4	PAFZZ	5310-00-187-2400	88044	AN960PD-616	WASHER, FLAT	EA	7
D-17	5	PAFZZ	5310-00-058-1626	96906	MS35650-3382	NUT	EA	2

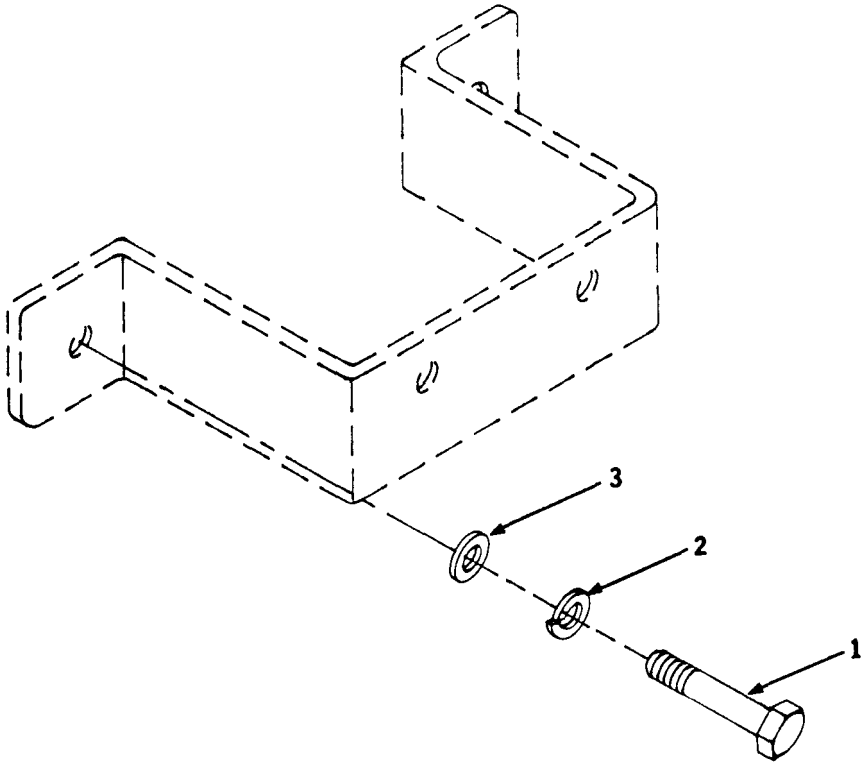


Figure D-18 Circuit Breaker Bracket

ILLUS ATION (a) FIG NO.	(b) ITEM NO.	(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION	(7) U/M	(8) QTY INC IN UNIT
						GROUP 04 FIXTURES SUBGROUP 0408 BRACKET, CIRCUIT BREAKER SEE APPENDIX F, ILLUSTRATED LIST OF MANUFACTURED ITEMS, FOR DETAILED DRAWING		
D-18	1	PAFZZ	5306-00-150-9101	88044	AN5-6A	BOLT, MACHINE	EA	2
D-18	2	PAFZZ	5310-00-407-9566	96906	MS35338-45	WASHER, LOCK	EA	2
D-18	3	PAFZZ	5310-00-187-2399	88044	AN960-PD-516	WASHER, FLAT	EA	2

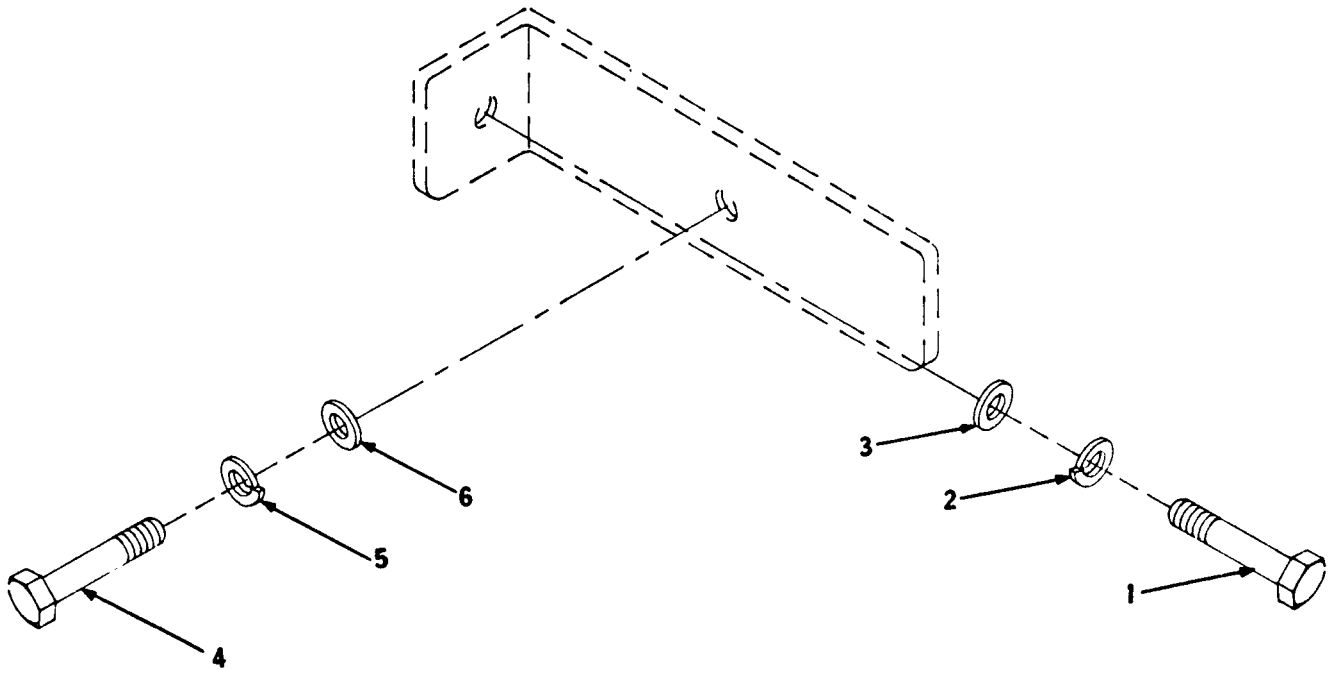


Figure D-19. Exhaust Duct Assembly Bracket

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	CAGEC	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UNIT
						GROUP 4 SPECIAL BRACKETS AND FABRICATED COMPONENTS SUBGROUP 0409 BRACKET, EXHAUST DUCT ASSY. SEE APPENDIX F, ILLUSTRATED LIST OF MANUFACTURED ITEMS, FOR DETAILED DRAWING		
D-19	1	PAFZZ	5306-00-616-1224	88044	AN6-6A	BOLT, MACHINE	EA	1
D-19	2	PAFZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK	EA	1
D-19	3	PAFZZ	5310-00-187-2400	88044	AN960PD--616	WASHER, FLAT	EA	1
D-19	4	PAFZZ	5306-00-274-2119	88044	AN3-5A	BOLT, MACHINE	EA	1
D-19	5	PAFZZ	5310-00-045-3296	96906	MS35338-43	WASHER, LOCK	EA	1
D-19	6	PAFZZ	5310-00-167-0834	88044	AN960-10L	WASHER, FLAT	EA	1

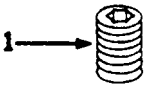


Figure D-20. F/oor Plug

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	CAGEC	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UNIT
						GROUP 5		
						FLOOR PLUG INSERTS		
D-20	1	PAFZZ	5305-00-728-6350	96906	MS51966-90	SCREW, SET	EA	V

(1) ILLUSTRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(A) FIG NO.	(B) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	CAGEC	PART NUMBER	DESCRIPTION	U/M	QTY INC IN UNIT
						GROUP 99 BULK MATERIAL		
BULK		PAFZZ	4720-00-402-9511	05415	134MKC1	HOSE	FT	V
BULK		PAFZZ		81337	MIL-M-17199C	EXPANDED ALUMINUM SHEET	SH	V
BULK		PAFZZ	9530-00-237-0721	81348	QQ-A-200/8	METAL BAR	FT	V
BULK		PAFZZ	9530-00-228-9315	81348	QQ-A-200/8	METAL BAR	FT	V
BULK		PAFZZ	9515-00-141-8066	81346	ASTM A366	SHEET STEEL	SH	V
BULK		PAFZZ	9515-00-230-6705	81348	QQ-S-775	SHEET STEEL	SH	V
BULK		PAFZZ	9540-00-197-9850	01634	QQ-A-200/8	STUCTURAL ANGLE	FT	V

SECTION III.SPECIAL TOOLS LIST (NOT APPLICABLE)

SECTION IV.NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIGURE NO	ITEM NO	STOCK NUMBER	FIGURE NO	ITEM NO
5340-00-044-5270	D-01	4	4730-00-277-1896	D-06	5
5310-00-045-3296	D-19	5	5306-00-274-2119	D-19	4
5310-00-058-1626	D-14	4	4730-00-287-1589	D-06	3
5310-00-058-1626	D-17	5	4720-00-402-9511	BULK	
5310-00-082-6780	D-07	3	5310-00-407-9566	D-03	2
5310-00-082-6780	D-08	3	5310-00-407-9566	D-05	2
9515-00-141-8066	BULK		5310-00-407-9566	D-10	11
4510-00-142-1619	D-07	5	5310-00-407-9566	D-18	2
4730-00-142-1960	D-08	5	5305-00-477-0120	D-06	8
5306-00-145-7036	D-10	13	5306-00-531-8979	D-14	1
5306-00-150-9101	D-18	1	5306-00-531-8979	D-17	1
5306-00-150-9101	D-10	14	4730-00-541-8286	D-06	4
5306-00-150-9104	D-03	1	4730-00-547-0941	D-07	6
5306-00-150-9104	D-05	1	5340-00-565-0004	D-06	6
5306-00-151-1426	D-10	7	5310-00-582-5965	D-04	2
5306-00-151-1427	D-04	1	5310-00-582-5965	D-10	5
5310-00-167-0834	D-07	2	4730-00-595-0385	D-06	2
5310-00-167-0834	D-08	2	5310-00-599-0776	D-07	7
5310-00-167-0834	D-19	6	5306-00-616-1224	D-13	1
5310-00-180-1483	D-11	2	5306-00-616-1224	D-11	1
5306-00-180-1483	D-15	1	5306-00-616-1224	D-19	1
5306-00-180-1483	D-16	1	5306-00-624-9713	D-12	2
5306-00-180-1483	D-17	2	5310-00-637-9541	D-14	2
5310-00-187-2354	D-04	3	5310-00-637-9541	D-13	2
5310-00-187-2354	D-10	6	5310-00-637-9541	D-11	3
5310-00-187-2399	D-03	3	5310-00-637-9541	D-15	2
5310-00-187-2399	D-05	3	5310-00-637-9541	D-16	2
5310-00-187-2399	D-10	12	5310-00-637-9541	D-17	3
5310-00-187-2399	D-18	3	5310-00-637-9541	D-19	2
5310-00-187-2400	D-14	3	4730-00-724-1998	D-07	4
5310-00-187-2400	D-13	3	1670-00-725-1437	D-12	1
5310-00-187-2400	D-11	4	5305-00-728-6350	D-20	1
5310-00-187-2400	D-15	3	5310-00-768-0319	D-10	4
5310-00-187-2400	D-16	3	5975-00-878-3791	D-09	1
5310-00-187-2400	D-17	4	5310-00-880-7746	D-10	10
5310-00-187-2400	D-19	3	4730-00-932-7511	D-06	1
9540-00-197-9850	BULK		5310-00-934-9751	D-07	1
4730-00-203-3168	D-08	4	5310-00-934-9751	D-08	1
9530-00-228-9315	BULK		5120-01-013-1676	D-09	2
9530-00-230-6705	BULK		5935-01-103-6064	D-10	1
9530-00-237-0721	BULK				

PART NUMBER INDEX

CAGEC	PART NO	FIG NO	ITEM NO
58536	A-A-232	D-07	5
28977	AA52525-24	D07	3
28977	AA52525-24	D-08	3
88044	AN3-5A	D-19	4
88044	AN4-5A	D-04	1
88044	AN4-6A	D-10	7
88044	AN5-5A	D-03	1
88044	AN5-5A	D-05	1
88044	AN5-6A	D-10	14
88044	AN5-6A	D-18	1
88044	AN5-10A	D-10	13
88044	AN6-6A	D-11	1
88044	AN6-6A	D-19	1
88044	AN6-7A	D-17	1
88044	AN6-11A	D-11	2
88044	AN6-11A	D-17	2
88044	AN6-6A	D-13	1
88044	AN6-7A	D-14	1
88044	AN6-11A	D-15	1
88044	AN6-11A	D-16	1
88044	AN742-12CB	D-06	6
88044	AN9102C	D-06	4
88044	AN960-10L	D-19	6
88044	AN960-PD-416	D-04	3
88044	AN960-PD-416	D-10	6
88044	AN960-PD-516	D-03	3
88044	AN960-PD-516	D-05	3
88044	AN960-PD-516	D-10	12
88044	AN960-PD-516	D-18	3
88044	AN960-PD-616	D-11	4
88044	AN960-PD-616	D-13	3
88044	AN960-PD-616	D-14	3
88044	AN960-PD-616	D-15	3
88044	AN960-PD-616	D-16	3
88044	AN960-PD-616	D-17	4
88044	AN960-PD-616	D-19	3
81346	ASTM A366	BULK	
19422	BM12297-06	D-07	1
19422	BM12297-06	D-08	1
73197	BN527-524-1-12	D-02	2
73197	BN527-624-2-12	D-02	1
79470	C3409X4	D-06	2
98313	FDA 1658-3	D-14	2
30938	FIG 1620-1	D-07	6
78011	JPS 1044	D-10	9
78011	JR5A 1044F	D-10	8
81337	MIL-M-17199C	BULK	
81349	MIL-R-11461	D-09	1
81349	MIL-T-27260		
	TYPECGU1B	D-12	1
96906	MS14315-5X	D-06	5
96906	MS35338-43	D-19	5
96906	MS35338-44	D-04	2
96906	MS35338-44	D-10	5
96906	MS35338-45	D-03	2
96906	MS35338-45	D-05	2
96906	MS35338-45	D-10	11
96906	MS35338-45	D-18	2
96906	MS35338-46	D-11	3
96906	MS35338-46	D-13	2
96906	MS35338-46	D-14	2
96906	MS35338-46	D-15	2
96906	MS35338-46	D-16	2
96906	MS35338-46	D-17	3
96906	MS35338-46	D-19	2
96906	MS35650-3382	D-14	4
96906	MS35650-3382	D-17	5
96906	MS50558 C44412P	D-10	1
96906	MS51861-46C	D-06	8
96906	MS51966-90	D-20	1
96906	MS51968-2	D-10	4
96906	MS51968-5	D-10	10
45225	P74-144	D-09	2
14280	QO2100	D-10	3
14280	QO2100N	D-10	2
81348	QQ-A-200/8	BULK	
01634	QQ-A-200/8	BULK	
81348	QQ-S-775	BULK	
14127	SHD11	D-08	5
97393	SL601-4-8C	D-01	1
97393	SL601-5-10C	D-01	2
97393	SL601-6-8C	D-01	3
97393	SL601-6-12C	D-01	4
59875	TX90790-34	D-07	2
59875	TX90790-34	D-08	2
81348	WW-P-460	D-07	4
81348	WW-P-521	D-08	4
05415	134MKC1	BULK	
00624	4738-4-6	D-06	1
03958	896WM	D-06	3

APPENDIX E
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

E-1. Scope This appendix lists expendable/durable supplies and materials you will need to operate and maintain the Welding Shop. This listing is for informational purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts and Heraldic Items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

E-2. Explanation of Columns

a. Column 1 - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use corrosion prevention components (item 1, app. E)").

b. Column 2 - Level. This column identifies the lowest level of maintenance that requires the listed item.

AVIM - Aviation Intermediate Maintenance

c. Column 3 - National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.

d. Column 4 - Description. Indicates Federal item name and, if required, a description to identify the item. The last line for each item indicates the Contractor and Government Entity Code (CAGEC) in parentheses followed by the part number.

e. Column 5 - Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance fiction. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION, PART NO. AND CAGEC	(5) U/M
1	AVIM	8040-00-270-8137	ADHESIVE, (81348) MMM-A-134	TU
2	AVIM	8040-00-877-9872	ADHESIVE, (81349) MIL-A-46106	TU
3	AVIM	8015-00-271-1511	BAG, COTTON, MAILING (81348) PPP-B-20	BD
4	AVIM	8010-00-852-9034	ENAMEL, GRAY (81348) 16187	PT
5	AVIM	8010-00-159-4520	ENAMEL, WHITE (81348) 17773	PT
6	AVIM	8010-00-297-0593	PRIMER, COATING (81348) TT-P-1757	PT
7	AVIM	3439-00-063-5200	ROD, WELDING (81348) 5356	LB

APPENDIX F
ILLUSTRATED LIST OF MANUFACTURED ITEMS

F-1. Scope. This appendix includes simplified line drawing illustrations for each item authorized to be manufactured/fabricated, modified or mounted by Aviation Intermediate Maintenance personnel.

F-2. Introduction.

a. This appendix includes complete instructions for making items authorized to be manufactured or fabricated at Aviation Intermediate Maintenance.

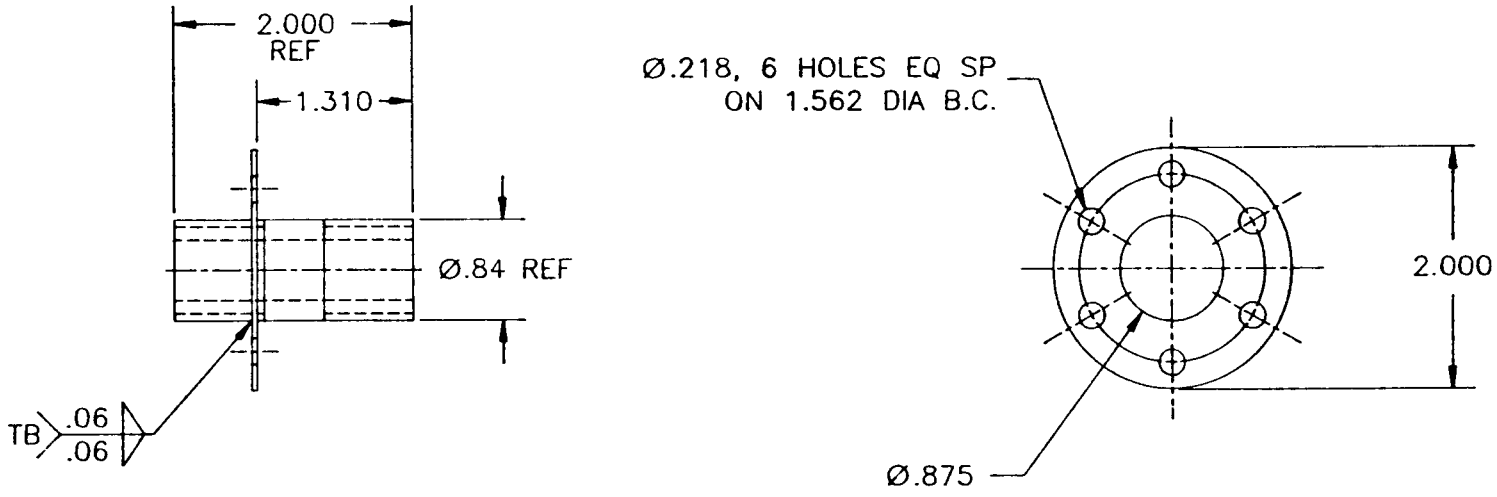
b. A part number index in alphanumeric order is provided for cross-referencing the part number of the item to be manufactured to the figure which covers fabrication criteria.

c. All bulk materials needed for manufacture of an item are listed by part number or specification number in a tabular list on the illustration.

d. All dimensions are given in U.S. Standard measures.

F-3. Manufactured items part number Index.

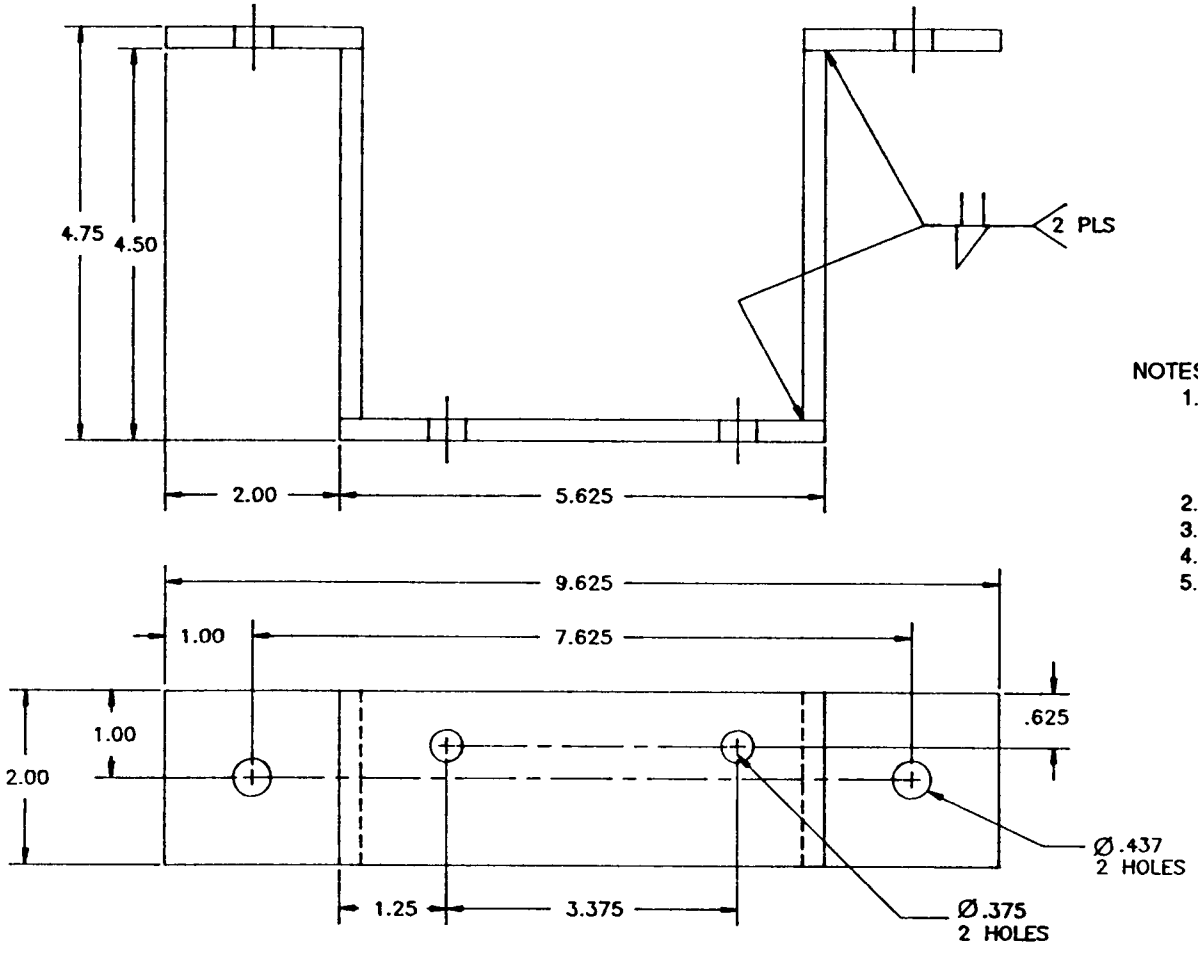
PART NUMBER	NOMENCLATURE	FIG NO.
20083250	WATER FEED THRU CONNECTOR	1
20083272	BRACKET, CIRCUIT BREAKER	2
20087058	AIR FEED THRU CONNECTOR	3
20089710	RACK ASSEMBLY, BOOK	4
20089711	FRAME ASSEMBLY, ECU	5
20089712	BRACKET ASSEMBLY, STORAGE CHEST, R/H	6
20089713	BRACKET ASSEMBLY, STORAGE CHEST, L/H	7
20089718	BRACKET, CABINET	8
20089721	RACK ASSEMBLY, FIRST AID KIT	9
20089727	SECURITY SCREEN, ECU	10
20089745	DUCT ASSEMBLY, EXHAUST	11
20089716	BRACKET, WELDING TABLE	12
20089750	BRACKET, DUCT SUPPORT	13



NOTES:

1. FABRICATE FROM:
   - A. SHEET STEEL, 18 GAUGE, NSN 9515-00-141-8066,
   - B. NIPPLE PIPE, .500 X 2.00, NSN 4730-00-196-1493.
2. ALL DIMENSIONS ARE IN INCHES.

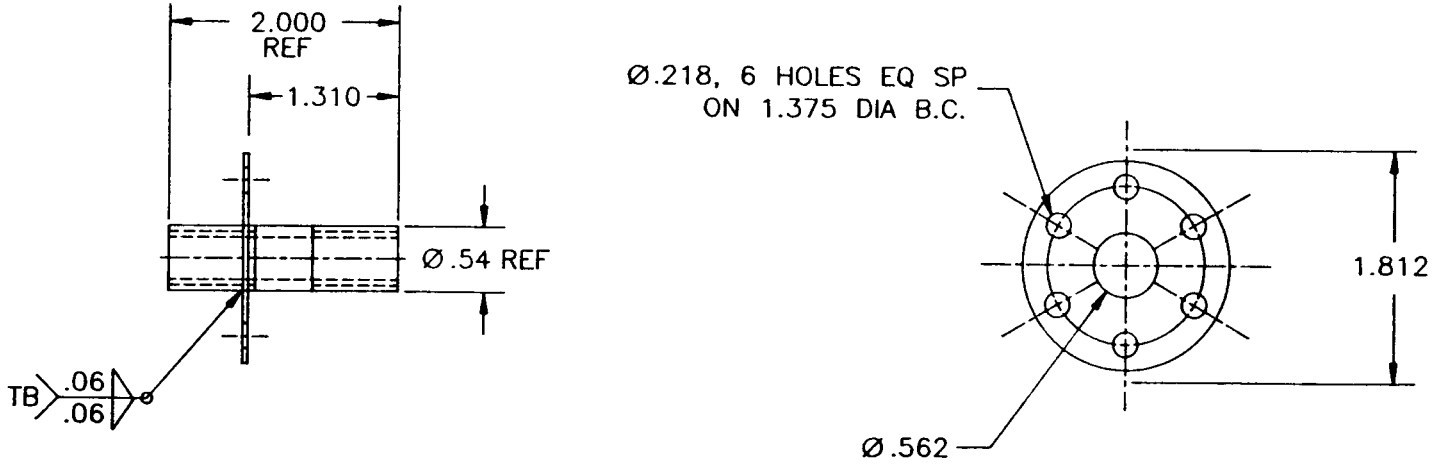
Figure 1. Water Feed Thru Connector Part Number 20083250.



NOTES:

1. FABRICATE FROM:
   METAL BAR, 6061-T6
   ALUMINUM ALLOY, 2.00 X 0.25,
   NSN 9530-00-228-9315.
2. WELD WITH 5356 ROD OR EQUAL.
3. ALL DIMENSIONS ARE IN INCHES.
4. FINISH: PRIMER, TT-P-1757
5. FINISH: WHITE, PN 17773

Figure 2. Circuit Breaker Bracket. Part Number 20088372.



NOTES:

1. FABRICATE FROM:
   A. SHEET STEEL, 18 GAUGE, NSN 9515-00-141-8066,
   B. NIPPLE PIPE, .500 X 2.00, NSN 4730-00-196-1493.
2. ALL DIMENSIONS ARE IN INCHES.

Figure 3. Air Feed Thru Connector Part Number 20087058.

NOTES:

1. FABRICATE FROM:
   A. STRUCTURAL ANGLE, 6061-T6 ALUMINUM ALLOY 2.00 X 2.00 X 0.25, NSN 9540-00-197-9850.
   B. METAL BAR, 6061-T6 ALUMINUM ALLOY, 2.00 X 0.25, NSN 9530-00-228-9315.
2. WELD WITH 5356 ROD OR EQUAL.
3. ALL DIMENSIONS ARE IN INCHES.
4. FINISH: PRIMER, TT-P-1757
5. FINISH: WHITE, PN 17773

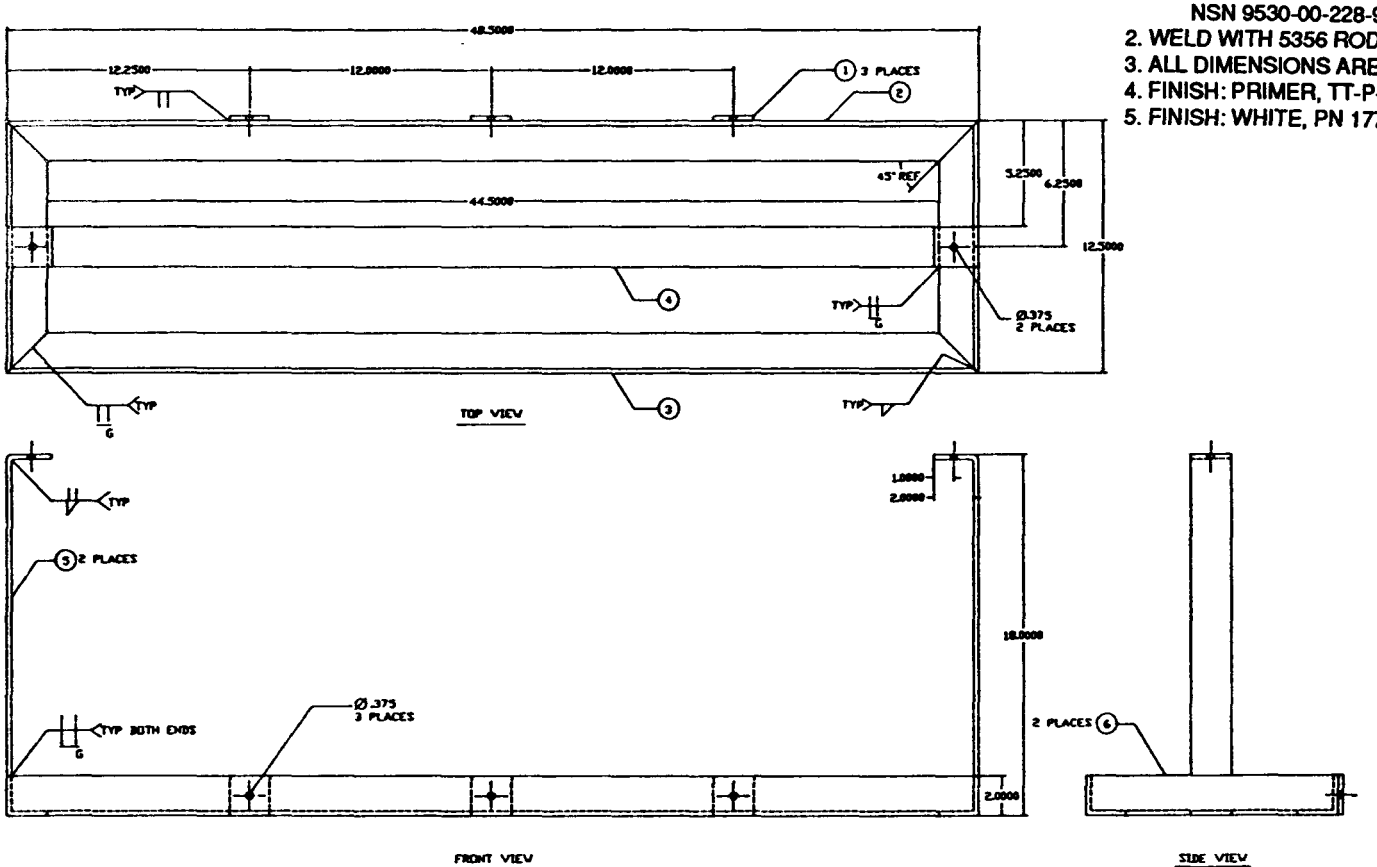


Figure 4. Book Rack Assembly Part Number 20089710.

NOTES:

1. FABRICATE FROM:
   STRUCTURAL ANGLE, 6061-T6
   ALUMINUM ALLOY 2.00 X 2.00 X 0.25,
   NSN 9540-00-197-9850.
2. TWO REQUIRED.
3. WELD WITH 5356 ROD OR EQUAL.
4. ALL DIMENSIONS ARE IN INCHES.
5. FINISH: PRIMER, TT-P-1757
6. FINISH: GRAY, PN 16187

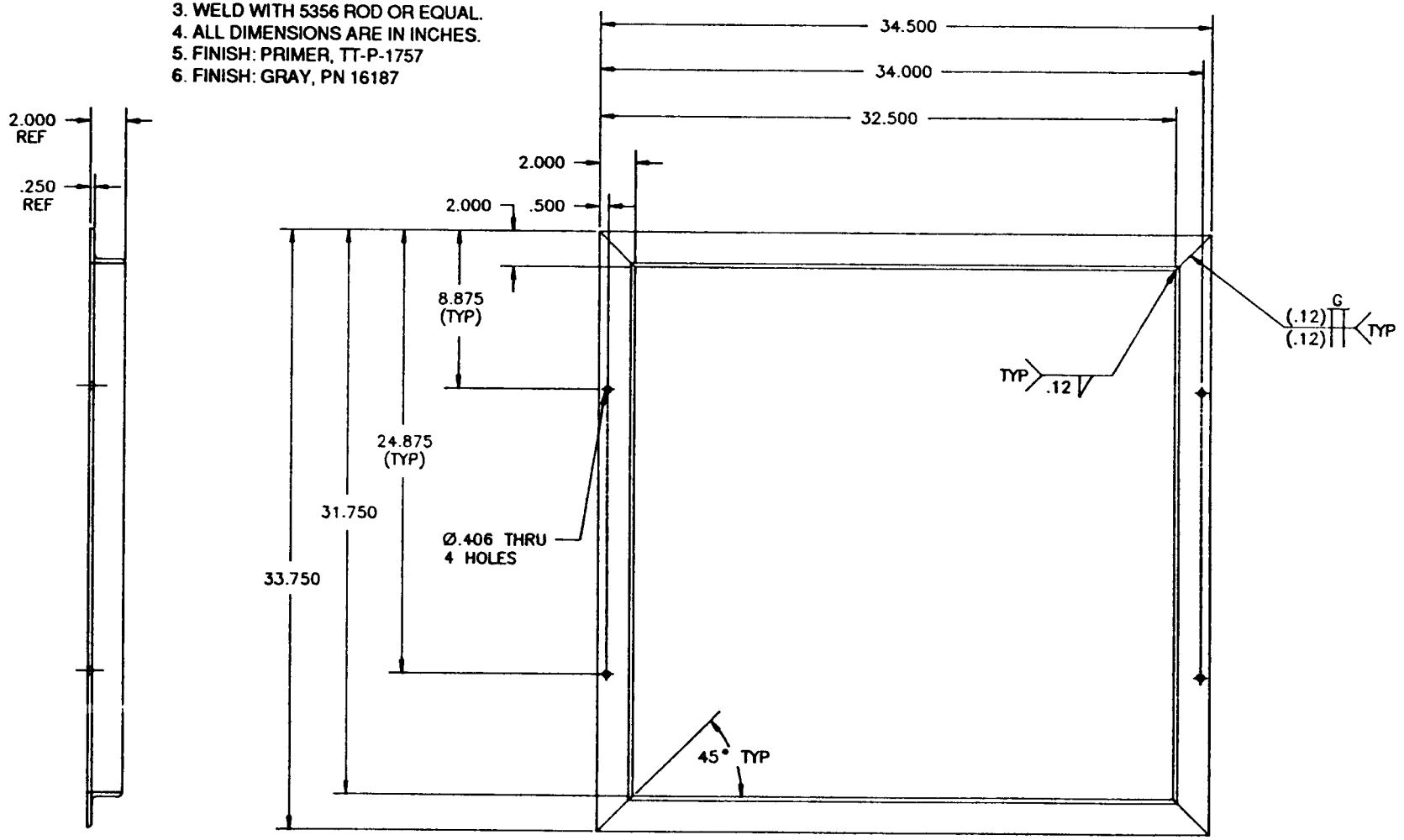


Figure 5. ECU Frame Assembly Part Number 20089711.

NOTES:

1. FABRICATE FROM:
   A. STRUCTURAL ANGLE, 6061-T6 ALUMINUM ALLOY 2.00 X 2.00 X 0.25, NSN 9540-00-197-9850.
   B. METAL BAR, 6061-T6 ALUMINUM ALLOY, 2.00 X 0.25, NSN 9530-00-228-9315.
2. WELD WITH 5356 ROD OR EQUAL.
3. ALL DIMENSIONS ARE IN INCHES.
4. FINISH: PRIMER, TT-P-1757
5. FINISH: WHITE, PN 17773

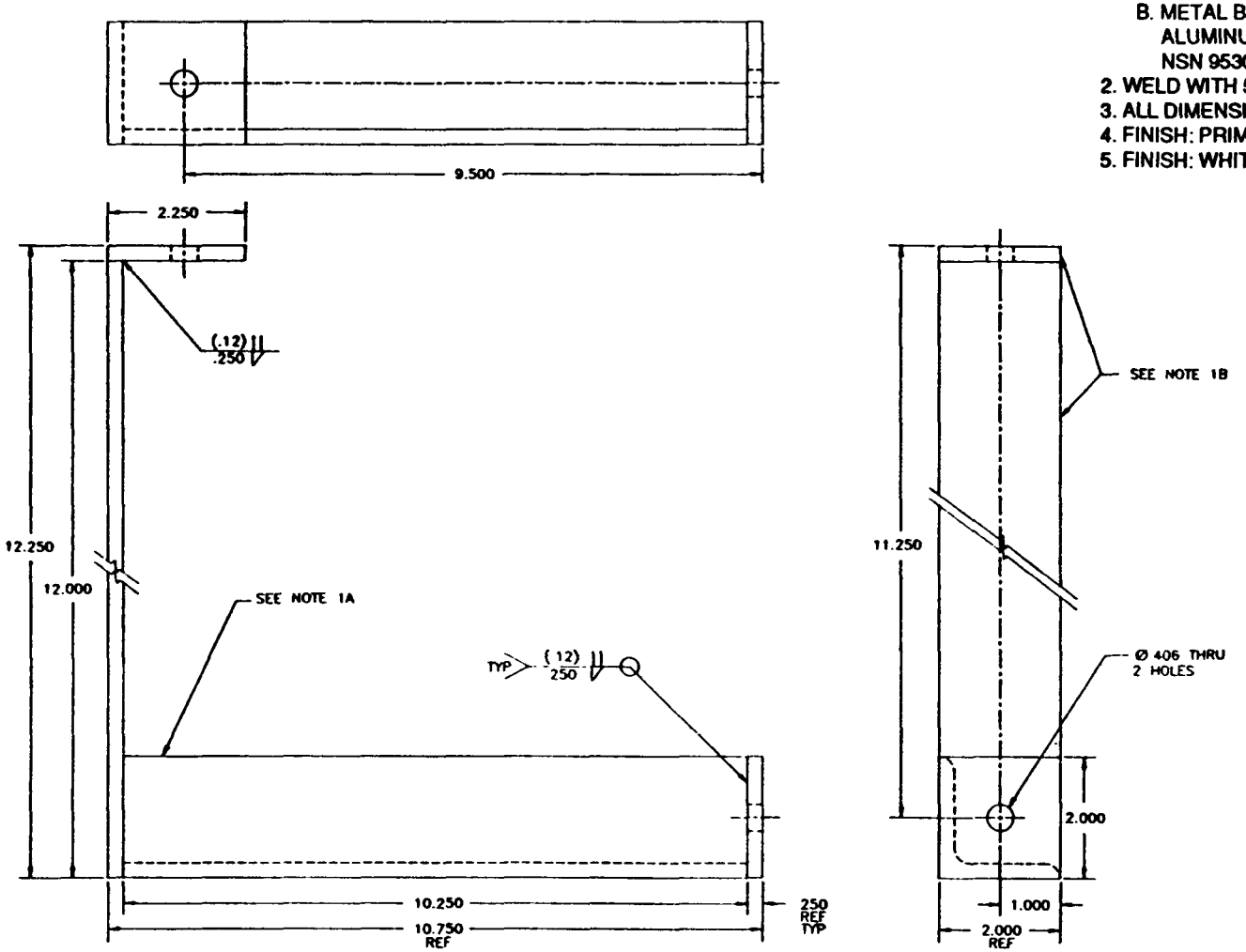


Figure 6. Storage Chest Bracket Assembly (Right) Part Number 20089712.

NOTES:

1. FABRICATE FROM:
   A. STRUCTURAL ANGLE, 6061-T6 ALUMINUM ALLOY 2.00 X 2.00 X 0.25, NSN 9540-00-197-9850.
   B. METAL BAR, 6061-T6 ALUMINUM ALLOY, 2.00 X 0.25, NSN 9530-00-228-9315.
2. WELD WITH 5356 ROD OR EQUAL.
3. ALL DIMENSIONS ARE IN INCHES.
4. FINISH: PRIMER, TT-P-1757
5. FINISH: WHITE, PN 17773

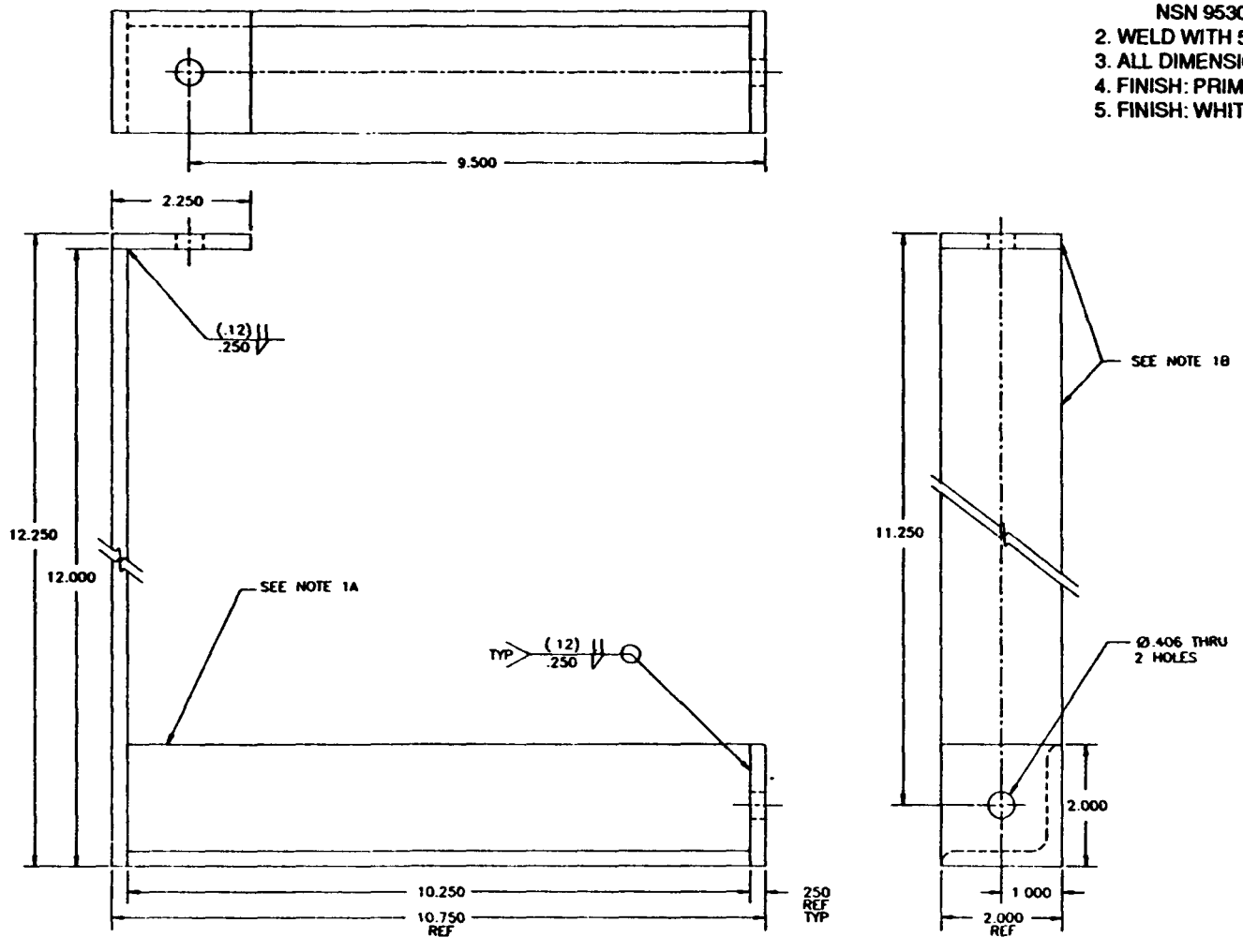


Figure 7. Storage Chest Bracket Assembly (Left) Part Number 20089713.

NOTES:

1. FABRICATE FROM:
   STRUCTURAL ANGLE, 6061-T6
   ALUMINUM ALLOY 2.00 X 2.00 X 0.25,
   NSN 9540-00-197-9850.
2. TWO REQUIRED.
3. WELD WITH 5356 ROD OR EQUAL.
4. ALL DIMENSIONS ARE IN INCHES.
5. FINISH: PRIMER, TT-P-1757
6. FINISH: GRAY, PN 16187

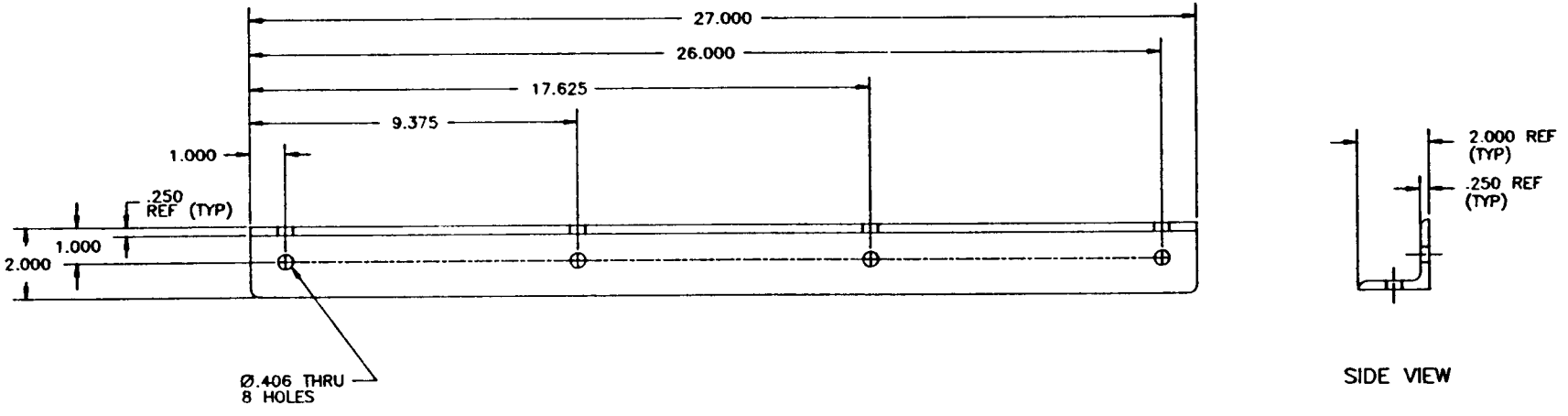
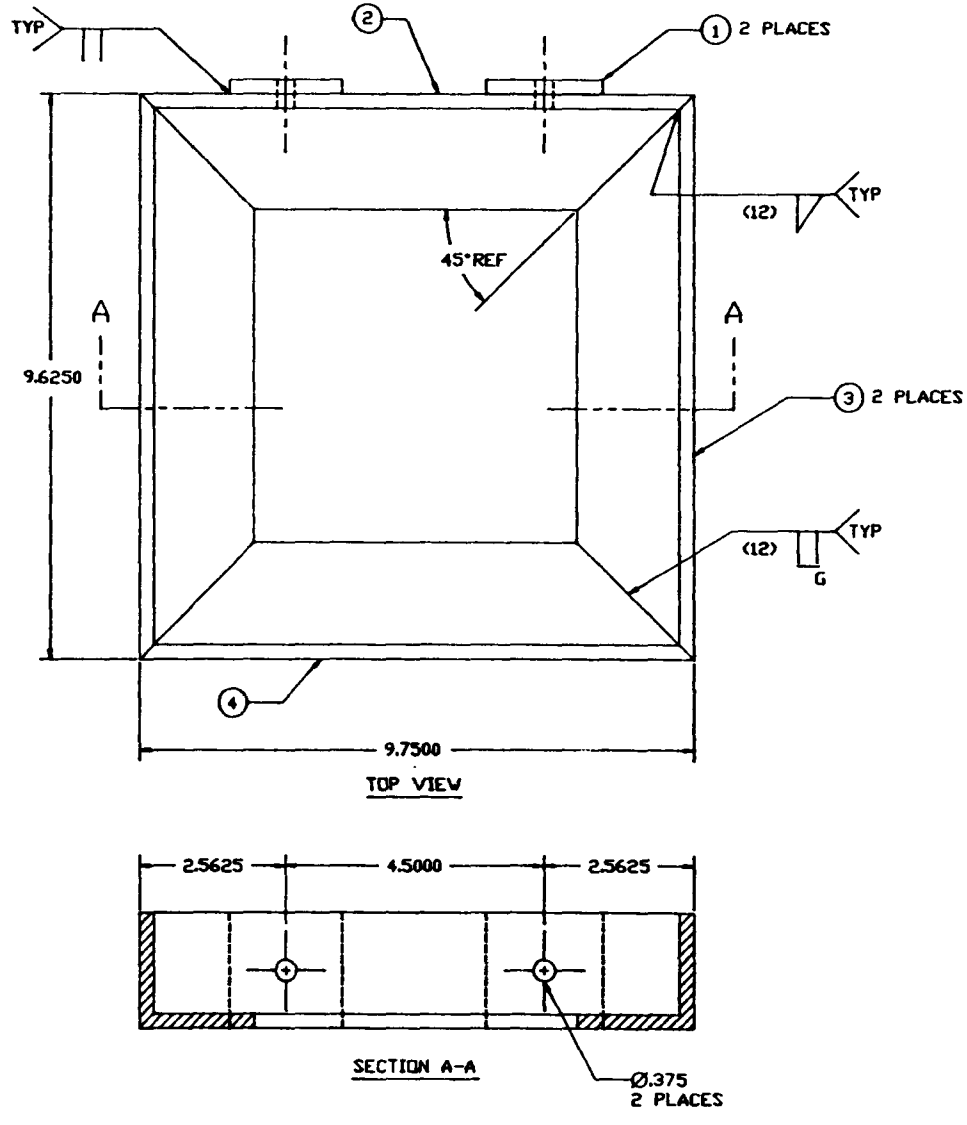


Figure 8. Cabinet Bracket Part Number 20089718.



NOTES:

1. FABRICATE FROM:
   - A. STRUCTURAL ANGLE, 6061-T6 ALUMINUM ALLOY 2.00 X 2.00 X 0.25, NSN 9540-00-197-9850.
   - B. METAL BAR, 6061-T6 ALUMINUM ALLOY, 2.00 X 0.25, NSN 9530-00-228-9315.
2. WELD WITH 5356 ROD OR EQUAL.
3. ALL DIMENSIONS ARE IN INCHES.
4. FINISH: PRIMER, TT-P-1757
5. FINISH: WHITE, PN 17773

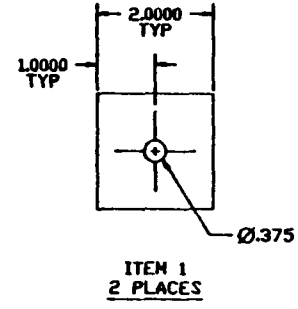
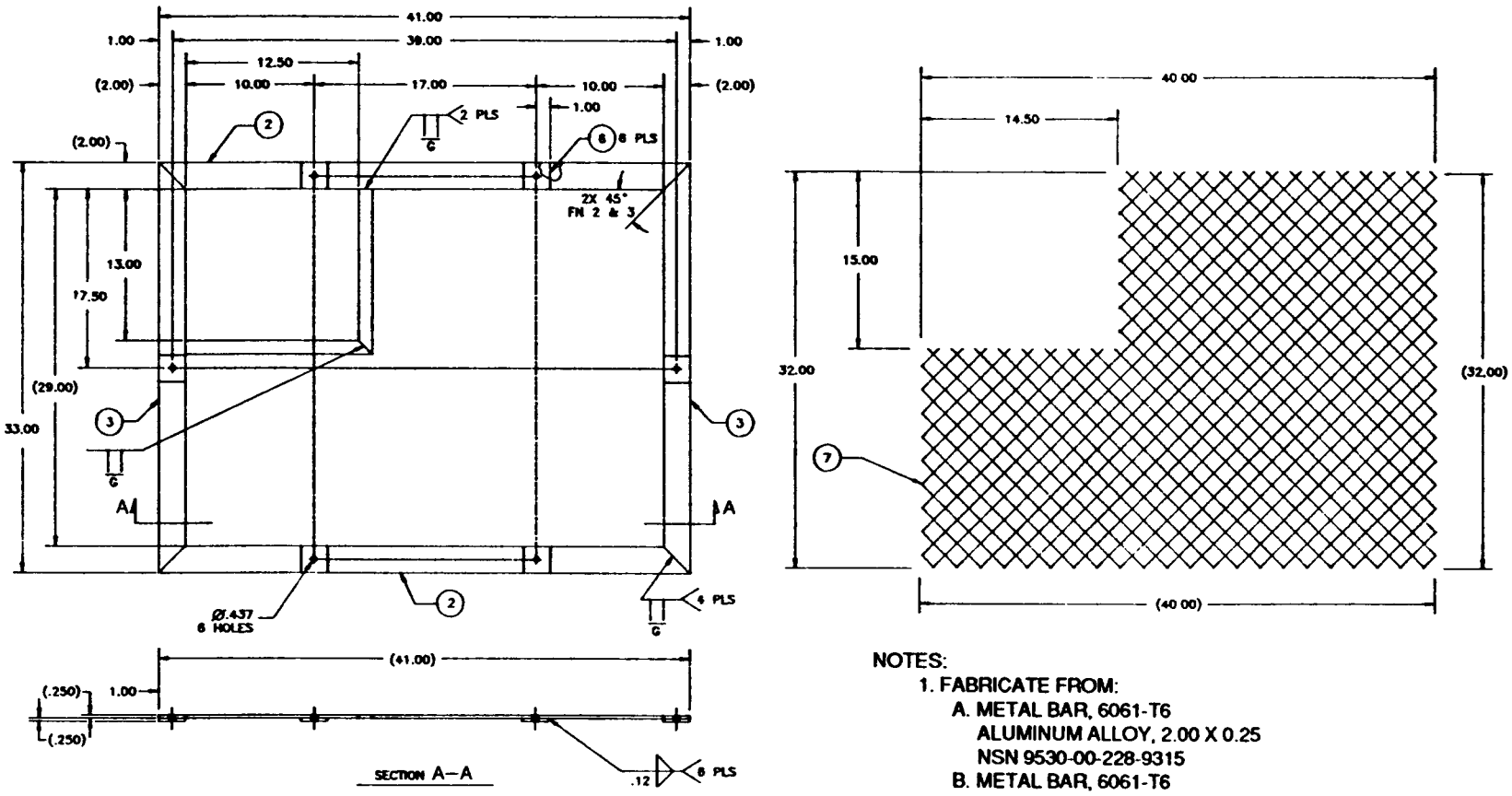


Figure 9. First Aid Kit Rack Assembly Part Number 20089721.



NOTES:

1. FABRICATE FROM:
   - A. METAL BAR, 6061-T6
     ALUMINUM ALLOY, 2.00 X 0.25
     NSN 9530-00-228-9315
   - B. METAL BAR, 6061-T6
     ALUMINUM ALLOY, 1.25 X 0.25
     NSN 9530-00-237-0721
   - C. EXPANDED ALUMINUM SHEET, 5055-H-34
2. TWO REQUIRED.
3. WELD WITH 5356 ROD OR EQUAL.
4. ALL DIMENSIONS ARE IN INCHES.
5. FINISH: PRIMER, TT-P-1757.
6. FINISH: WHITE, PN 17773.

Figure 10. ECU Security Screen Part Number 20089727.

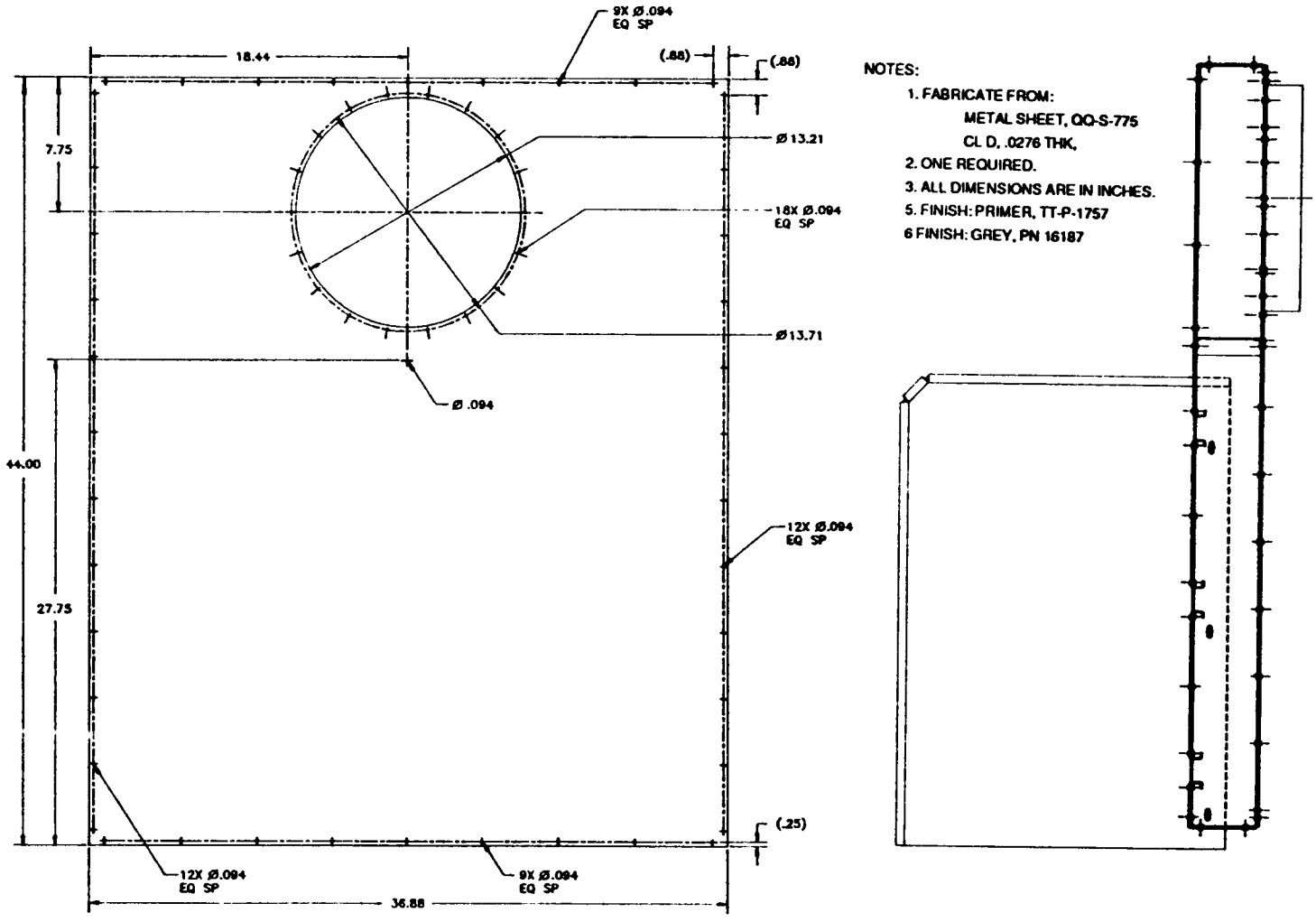


Figure 11. Exhaust Duct Assembly Part Number 20089745.

NOTES:

1. FABRICATE FROM:
   STRUCTURAL ANGLE, 6061-T6
   ALUMINUM ALLOY 2.00 X 2.00 X 0.25,
   NSN 9540-00-197-9850.
2. TWO REQUIRED.
3. ALL DIMENSIONS ARE IN INCHES.
4. FINISH: PRIMER, TT-P-1757
5. FINISH: GRAY, PN 16187

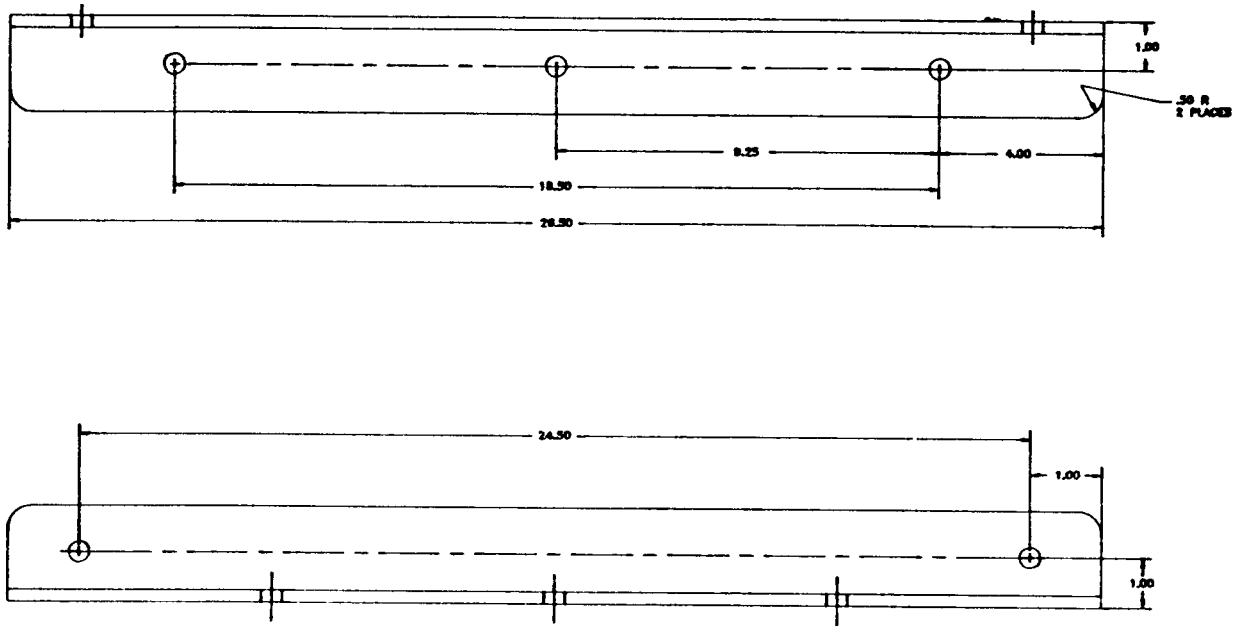
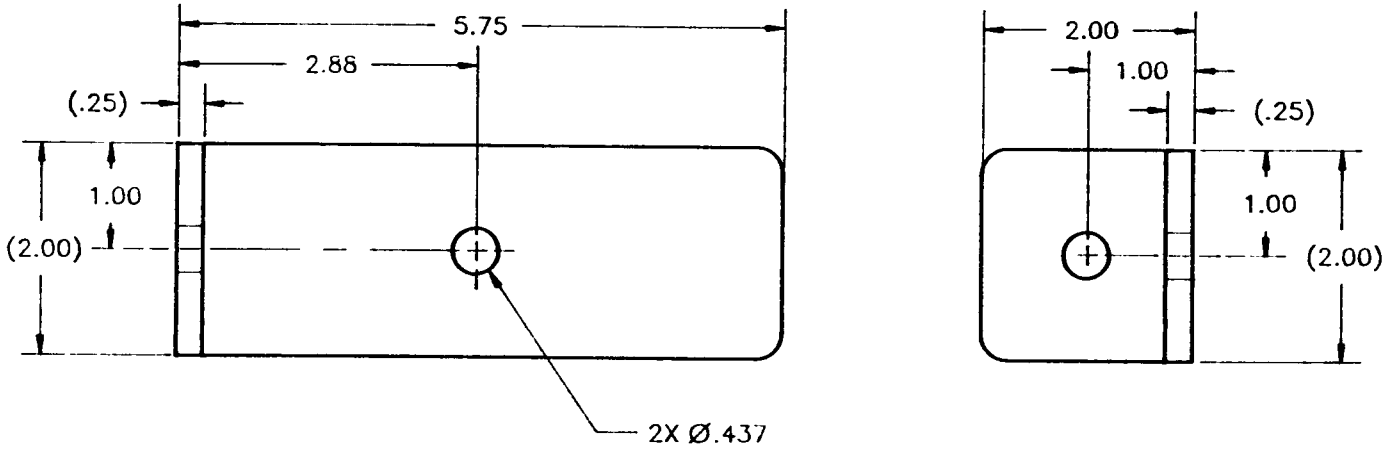


Figure 12. Welding Table Bracket. Part Number 200897



NOTES:

1. FABRICATE FROM:
   METAL BAR, 6061-T6
   ALUMINUM ALLOY, 2.00 X 0.25,
   NSN 9530-00-228-9315.
2. FOUR REQUIRED.
3. WELD WITH 5356 ROD OR EQUAL.
4. DIMENSIONS ARE IN INCHES.
5. FINISH: PRIMER, TT-P-1757
6. FINISH: WHITE, PN 17773

Figure 13. Exhaust Duct Bracket Assembly Part Number 20089750.

APPENDIX G
TORQUE LIMITS

Bolt Size	Tension Loading
1/4-28	50-70 inch pounds
5/16-24	100-140 inch pounds
3/8-24	160-190 inch pounds

The above torque loads may be used on all cadmium-plated fine thread bolts which have approximately equal number of threads and equal face bearing areas. Size refers to bolt shank diameter or inside diameter of nut and thread indicates number of threads per inch.

ALPHABETICAL INDEX

Subject — Paragraph No.

D

E

F

N

P

R

S

T

U

W

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

PATRICIA P. HICKERSON
Colonel, United States Army
The Adjutant General

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RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

SOMETHING WRONG WITH THIS PUBLICATION?

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PFC JOHN DOE
COA, 3d ENGINEER BN
FT. LEONARDWOOD, MO 63108

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 1-4920-455-13&P	3 June 1991	Operator's and Intermediate Maintenance Manual Including RPSTL for Shop Set, Welding, Airmobile P/N 4920-99-CL-A88 NSN 4920-00-163-5093

BE EXACT. . PIN-POINT WHERE IT IS

PAGE NO	PARAGRAPH	FIGURE NO	TABLE NO
6	2-1 a		
B1		4-3	
125	line 20		

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

In line 6 of paragraph 2-1a the manual states the engine has 6 Cylenders. The engine on my set only has 4 Cylenders. Change the manual to show 4 Cylenders.

Callout 16 on figure 4-3 is pointing at a bolt. In key to figure 4-3, item 16 is called a shim - Please correct one or the other.

I ordered a gasket, item 19 on figure B-16 by NSN 2910-00-762-3001. I got a gasket but it doesn't fit. Supply says I got what I ordered, so the NSN is wrong. Please give me a good NSN

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER
JOHN DOE, PFC (268) 317-7111

SIGN HERE John Doe
JOHN DOE

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The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

PIN: 068528-000