TM 5-3431-203-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, DIRECT AND

GENERAL SUPPORT, AND DEPOT MAINTENANCE MANUAL

(INCLUDING REPAIR PARTS)

WELDING MACHINE, ARC, INERT SHIELDED: TRANSFORMER; 300 AMP; 10 TO 400 AMP AC STRAIGHT POLARITY; 10 TO 00 AMP DC REVERSE POLARITY (MIDSTATES MODEL MAG 00 AC/DC T 14) FSN 3431-862-6670

HEADQUARTERS, DEPARTMENT OF THE ARMY

FEBRUARY 1967

SAFETY PRECAUTIONS

BEFORE OPERATION

See that the ground terminal lug is connected through the input cable or by separate con. ductor to the power system ground. An ungrounded machine can cause death by electrocution to personnel coming in contact with it.

Do not reposition the voltage bars while power source is connected to the machine. To do so could cause a serious electrical shock and possible death.

DURING OPERATION

Do not make or break any connections or perform any maintenance while the welding machine is in operation. The high voltage created by this machine can cause death by electrocution.

Do not come in contact with the electrode while the machine is in operation. The high voltage generated by the machine can cause death by electrocution.

Be very careful when the unit or surrounding area is wet or damp. Coming in contact with a wet or damp unit an cause a serious electrical shock and possible death.

When malfunction of the selenium rectifier occurs, thoroughly ventilate the area to prevent inhalation of poisonous fumes. Do not handle the damaged reatifier while it is warm so as not to absorb poisonous selenium oxide compound through the skin. Failure to observe this warning can result in serious injury or possible death.

AFTER OPERATION

When making a test on the high-frequency transformer, make sure that the transformer is on an insulated bench. Do not touch an activated transformer or the wires leading from it. To do so may cause a serious electrical shock or possible death to personnel performing the test.

Short the capacitor connections to ground before removal. Failure to do this may result in a serious electrical shock.

Change No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D. C., *11 December 1972*

OPERATOR, ORGANIZATIONAL, DIRECT AND GENERAL SUPPORT AND DEPOT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS)

WELDING MACHINE, ARC; INERT SHIELDED; TRANSFORMER, 300 AMP; 10 TO 400 AMP AC, STRAIGHT POLARITY; 10 TO 300 AMP DC, REVERSE POLARITY (MIDSTATES MODEL MAG300 AC/DC T134) FSN 3431-862-6670

TM 5-3431-203-15, 14 Feburary 1967, is changed as follows:
Page B-1. Appendix B is superseded as follows:

APPENDIX B
BASIC ISSUE ITEMS LIST AND ITEMS TROOP INSTALLED OR AUTHORIZED

Section I. INTRODUCTION

B-1. Scope

This appendix lists items required by the operator for operation of the welding machine.

B-2. General

This list is divided into the following sections:

a. Basic Issue Items List-Section II. Not applicable.

b. Items Troop Installed or Authorized List-Section III. A list of items in alphabetical sequence, which at the discretion of the unit commander may accompany the welding machine. These items are NOT SUBJECT TO TURN-IN with the welding machine when evacuated.

B-3. Explanation of Columns

The following provides an explanation of columns in the tabular list of Basic Issue Items List, section II, and Items Troop Installed or Authorized, section III.

a. Source, Maintenance and Recoverability Code (SMR). Not applicable.

b. Federal Stock Number. This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description. This column indicates the Federal item name and any additional description of the item required.

d. Unit of Measure (U/M). A two character alphabetic abbreviation indication the amount or quantity of the item upon which the allowances are based, e.g., ft, ea, pr, etc.

e. Quantity Furnished with Equipment (BIIL). Not applicable.

f. Quantity Authorized (Items Troop Installed or Authorized). This column indicates the quantity of the item authorized to be used with the equipment.

Section III. ITEMS TROOP INSTALLED OR AUTHORIZED LIST

(1) SMR code	(2) Federal stock number	(3) Description Ref No. & Mfr code / Usable on code	(4) Uni of meas	(5) Qty auth
	7520-559-9618	CASE, Maintenance and Operation manual	EA	1
	5975-243-5866	CLAMP, Electrical	EA	1
	5120-642-8937	ROD, GROUND	EA	1
	6145-189-6695	WIRE, Electrical, 10 Ft.	EA	1

By Order of the Secretary of the Army:

CREIGHTON W. ABRAMS
General, United States Army
Chief of Staff

Official:

VERNE L. BOWERS
Major General, United States Army
The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-25A (qty rqr block No. 182) Organizational Maintenance requirements for Welding.

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TECHNICAL MANUAL
No. 5-3431-203-15

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 14 *February* 1967

Operator, Organizational, Direct and General Support and Depot Maintenance Manual (Including Repair Parts)

WELDING MACHINE, ARC, INERT GAS SHIELDED: TRANSFORMER; 300 AMP; 10 TO 400 AMP AC STRAIGHT POLARITY; 10 TO 300 AMP DC REVERSE POLARITY (MIDSTATES MODEL MAG 300 AC/DC T134) FSN 3431-862-6670

***This manual supersedes TM 5-3431-203-15, 5 December 1962, including C1, 16 August 1963.**

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. These instructions are published for the use of the personnel to whom the Midstates Model MAG 300 AC/DC T134 Welding Machine is issued. Chapters 1 through 3 provide information on the operation, daily preventive maintenance services, and organizational maintenance of the equipment, accessories, components, and attachments. Chapter 4 provides information for direct and general support and depot maintenance, This manual also provides descriptions of the main units and their functions in relationship to other components.

b. Appendix A contains a list of publications applicable to this manual. Appendix B contains the list of basic issue items authorized for the initial operation. Appendix C contains the maintenance allocation chart. The organizational, direct and general support and depot maintenance repair parts lists are found in Appendix D.

c. Numbers in parentheses on illustrations indicate quantity.

d. DA Form 2028 (Recommended Changes to DA Publication) will be used for reporting discrepancies and recommendations for improving this equipment manual. This form will be completed by the individual using the manual and forwarded direct to Commanding General, U.S. Army Mobility Equipment Command, ATTN: AMSME-MPD, 4300 Goodfellow Blvd. St. Louis, Mo. 63120.

e. Report all equipment improvement recommendations as prescribed by TM 38-750.

1-2. Record and Report Forms

a. DA Form 2258 (Depreservation Guide for Vehicles and Equipment).

b. DA Form 1397 (processing and Deprocessing Record for Shipment, Storage, and Issue of Vehicle and Spare Engines).

c. For other record and report forms applicable to the operator and organizational maintenance, refer to TM 38-750.

Note. Applicable forms, excluding Standard Form 46 (United States Government Motor Vehicles Operator's Identification Card) which is carried by the operator shall be kept in a canvas bag mounted on the equipment.

Section II. DESCRIPTION AND DATA

1-3. Description

The Midstates Model MAG 300 AC/DC inert welding machine (figs. 1-1 and, 1-2) is operated from an external power source of either 230- or 460-volt, alternating current, and by single phase or three phase connections. This welder provides an electrically controlled current output for use in either shielded inert gas welding or metallic arc welding. The entire control section is located in a drawer-type frame at the top of the welding machine. The panel permits the entire section to be disconnected and removed for ease of servicing.

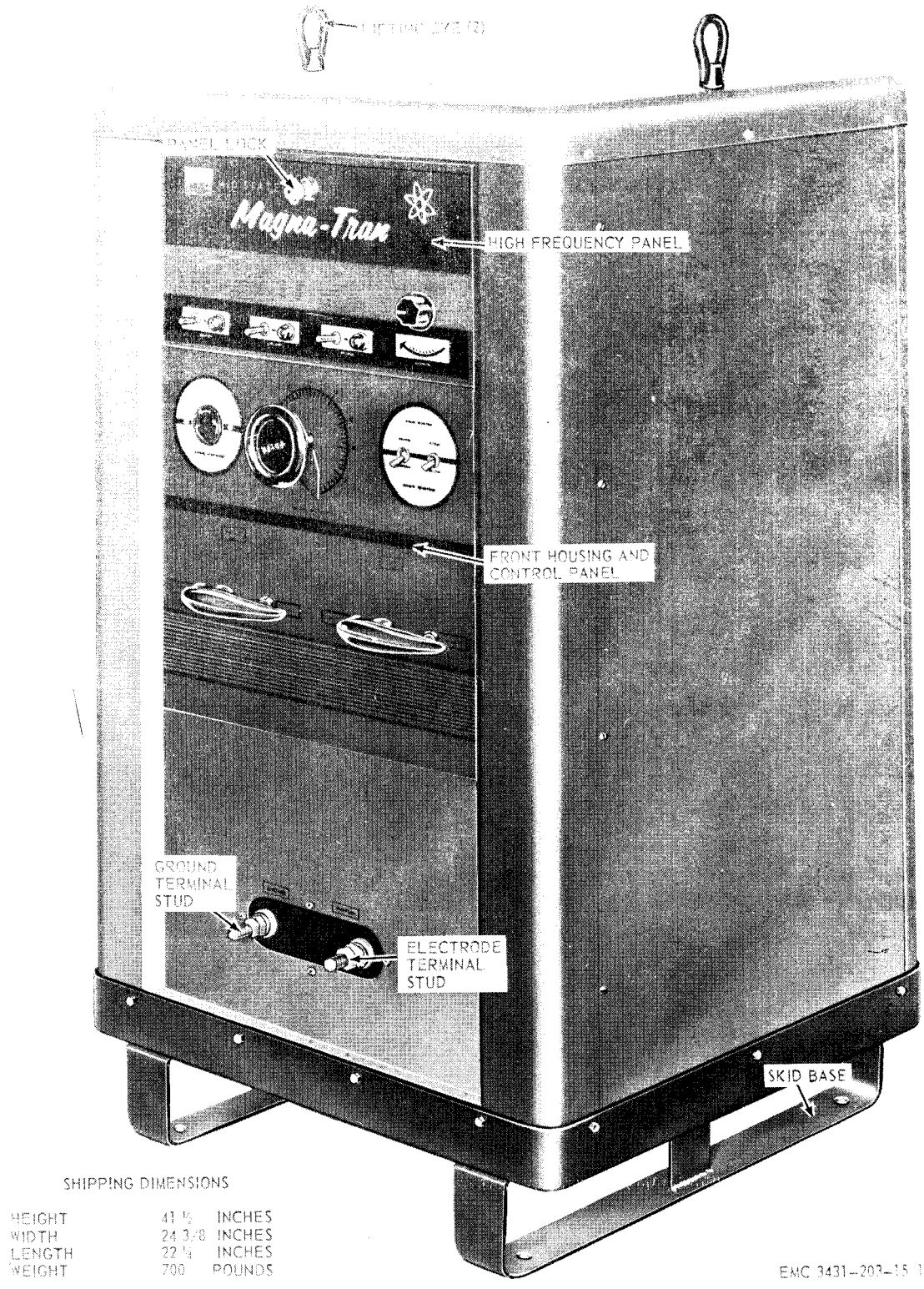


Figure 1-1. Welding machine, tight front, three-quarter view with shipping dimensions.

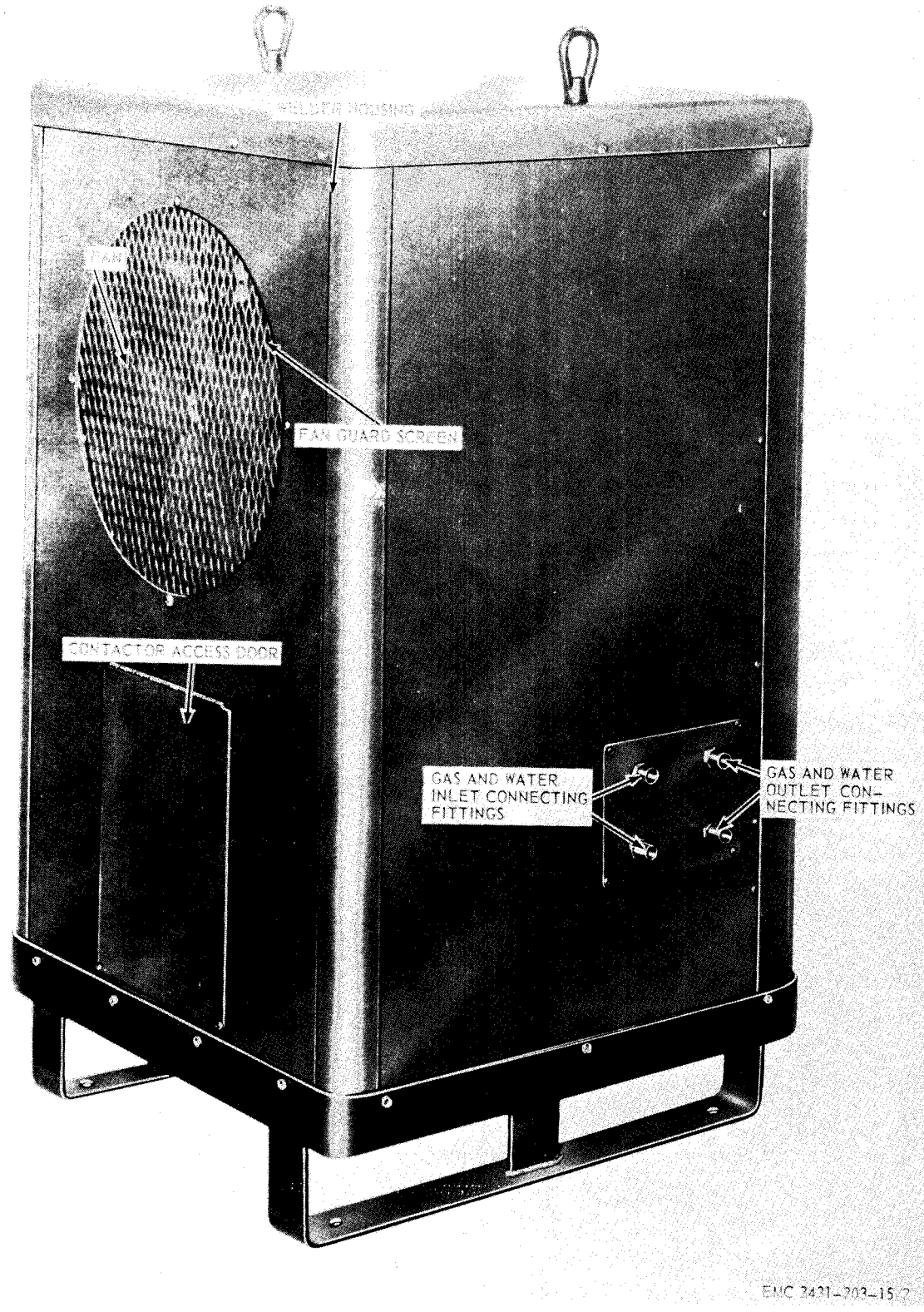


Figure 1-2. Welding machine, left rear, three-quarter view.

1-4. Identificaticm and Tabulated Data

a. Identification. The welding machine has two identification plates, which are the Corps of Engineers' plate, and the manufacturer's identification and data plate. The Corps of Engineers' plate is located on the upper right side of the housing near the front of the welding machine. It specifies the nomenclature, make, model, serial number, and, contract number. The manufacturer's identification and data plate is located on the upper front panel. It specifies the nomenclature, manufacturer, model, serial number, secondary rated output amperage, load voltage, duty cycle percent, open circuit voltage, primary input voltage, input amperage, rated kilo-volt amperage, power factor percent, and cycles.

b. Tabulated Data.

(1) *Corps of engineers' plate.*

Nomenclature ---------- Welding Machine: ARC; 300 amp (amperes)
Make ---------- Midstates
Model ----------MAG 300 AC/DC T134
Serial Number ----------
Contract Number --------- DA-11-199-ORD-297 S 427

(2) *Manufacturer's identification and data plate.*

Manufacturer ---------- Midstates Welder Mfg. co
Model ---------- MAG 300 AC/DC T134

Secondary	AC	DC
Rated output amps ----------	300	300
Load volts ----------	40	40
Duty cycle (percent) -------60		60
open circuit volts ----------80		72

Primary
Input ----------230/460
Input amps ----------90/45
Rated kva (kilovolt amperes) 21
Power factor (percent) ------80
Cycles ----------50/60 single phase

(3) *Solenoid valve.*

Manufacturer ----------Automatic Switch Co.
Part number ---------- 82623
Voltage ----------230 v (volts)
Psi (pounds per square inch) ----------110
Wattage ----------10.5 W (watts)

(4) *Fan motor.*

Manufacturer ---------- Universal Electric Co
Model number ----------16-166
Rpm (Revolutions per minute) 1550
Voltage ----------230 v
Cycles ----------60
Amperage ----------1.25 amp

(5) *Contactor.*

Manufacturer ---------- Cutler-Hammer Inc.
Model number ---------- 6-3-2
Voltage ----------208/220 v, 60 cycles
Amperage (open air) -----30 amp
Amperage (enclosed) ----27 amp

(6) *Dimensions and weight.*

Height ----------41 1/2 in. (inches)
Width ----------24 3/8 in.
Length ----------22 1/4 in.
Weight ----------700 lb (pounds)

(7) *Adjustments.*

Spark gap adjuster ----------0.005 in.

(8) *Base plan.* Refer to figure 1-3.

(9) *Wiring diagram.* Refer to figure 1-4.

1-5. Difference in Models

This manual covers only the Midstates Model 300 AC/DC T134 welding machine. No known unit differences exist for the model covered by this manual.

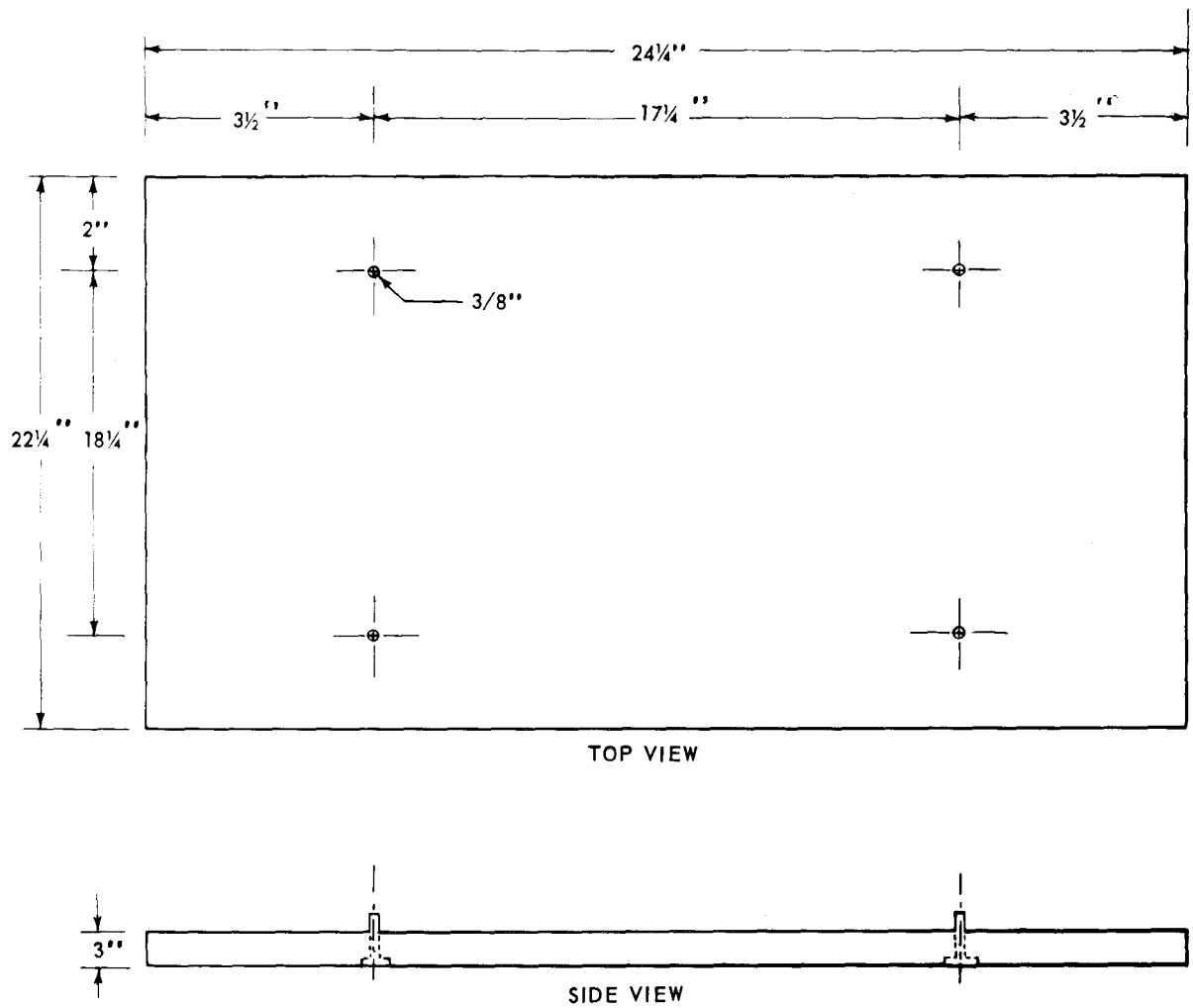


Figure 1-3. Base plan.

Figure 1-4. Practical wiring diagram.
(Located in back of manual)

CHAPTER 2

INSTALLATION AND OPERATION INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

2-1. Unloading the Equipment

a. Shipment by Tractor. When the welding machine is received, by tractor, remove all securing devices and, with a forklift or other suitable lifting device, remove it from the truck.

Warning: **When using a lifting device to move the welding machine, make sure it has a lifting capacity of no less than 1,000 pounds. Do not allow the welding machine to swing or sway while suspended. Failure to observe this warning may result in damage to the equipment or serious injury to personnel.**

b. Shipment by Rail. When the welding machine is received by rail, remove all securing devices and with a forklift or other suitable lifting device, remove it from the freight car.

2-2. Unpacking the Equipment

a. Unpacking. The welding machine has heavy paper or cardboard around it to protect it from damage. This is packed in a wooden box.

(1) Remove all metal banding with a suitable tool.

(2) Remove the wooden box with a claw hammer, pry bar, nail puller, or other suitable tools.

Note. Be careful not to damage the welding machine while removing the wooden box

b. Descripition. Prepare the welding machine for inspection and operation as outlined on DA Form 2258, attached on or near the control panel.

2-3. Inspecting and Servicing Equipment

a. Check packing list for missing parts.

b. Inspect for damaged parts. Check welding machine for dents, scratches, and damaged housing.

c. Inspect for damaged or broken controls and switches.

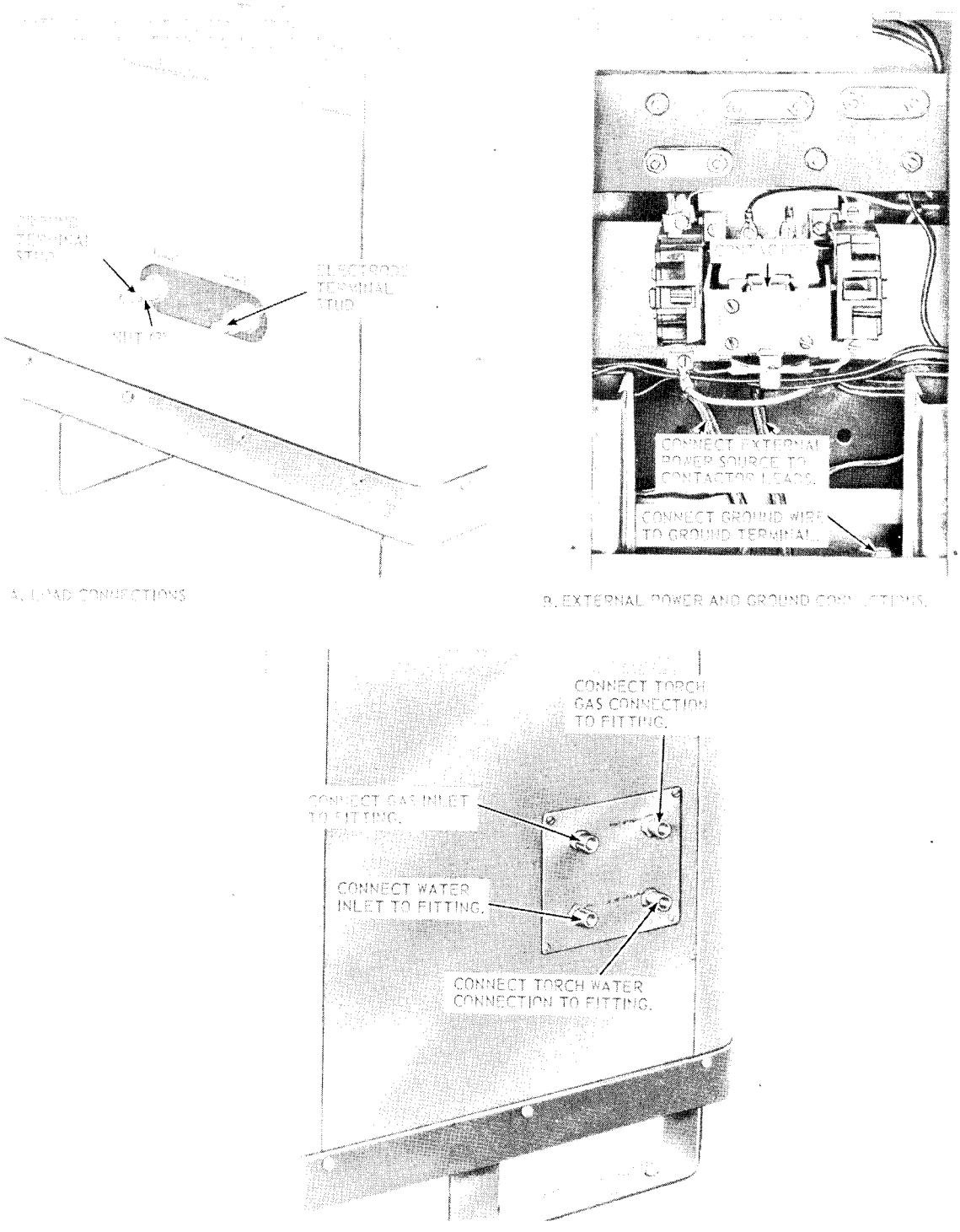
d. Inspect for loose and missing hardware, lifting eyes, panels and fittings.

e. Perform the daily preventive maintenance services (para 3-7).

2-4. Installation or Setting-Up Instructions

a. Ground and Electrode Cable Connections. Refer to figure 2-1 and connect the work cables to the ground terminal stud and electrode terminal stud located on the front of the welder.

b. External Power and Ground Connections. The welding machine must be grounded prior to operation. The ground can be, in order of preference, an underground metallic water piping system, a driven metal rod, or a buried metal plate. The ground rod must have a minimum diameter of 5/8 inch if solid, or 3/4 inch if pipe, and, must be driven to a minimum depth of 8 feet. A ground plate must have a minimum area of 9 square feet and be buried to a minimum depth of 4 feet. The ground lead must be a No. 6 AWG (American Wire Gage) copper wire or larger, and be bolted or clamped, to the rod, plate, or piping system. Refer to figure 2-1B and connect the external power and ground wire.



A. LOAD CONNECTIONS

B. EXTERNAL POWER AND GROUND CONNECTIONS.

C. GAS AND WATER CONNECTIONS.

Figure 2-1. Load, ground, external power source, gas, and water connections.

Warning: **Before operating the unit, see that the ground terminal lug is properly connected by one of the methods referenced in paragraph 2-4b. An ungrounded machine can cause death by electrocution of personnel coming in contact with it.**

c. Water Connections. Refer to figure 2-1C and connect suitable pipe and fittings to the welding machine.

d. Gas Connections. Refer to figure 2-1 and connect suitable pipe and fittings to the welding machine.

Note. When installing the welding machine, allow at least 18 inches clearance on all sides for proper ventilation.

2-5. Equipment Conversion

a. General. The welding machine can operate on either 230 or 460 volts by the correct positioning of the voltage change bars.

b. Voltage Change Bar Positioning.

(1) Remove the screws on the contractor and voltage change bar access panel and open door.

(2) Refer to figure 2-2 and place the voltage change bars in the desired position.

Warning: **Do not reposition voltage change bars while power source is connected to the machine. To do so could cause a serious electrical shock and possible death.**

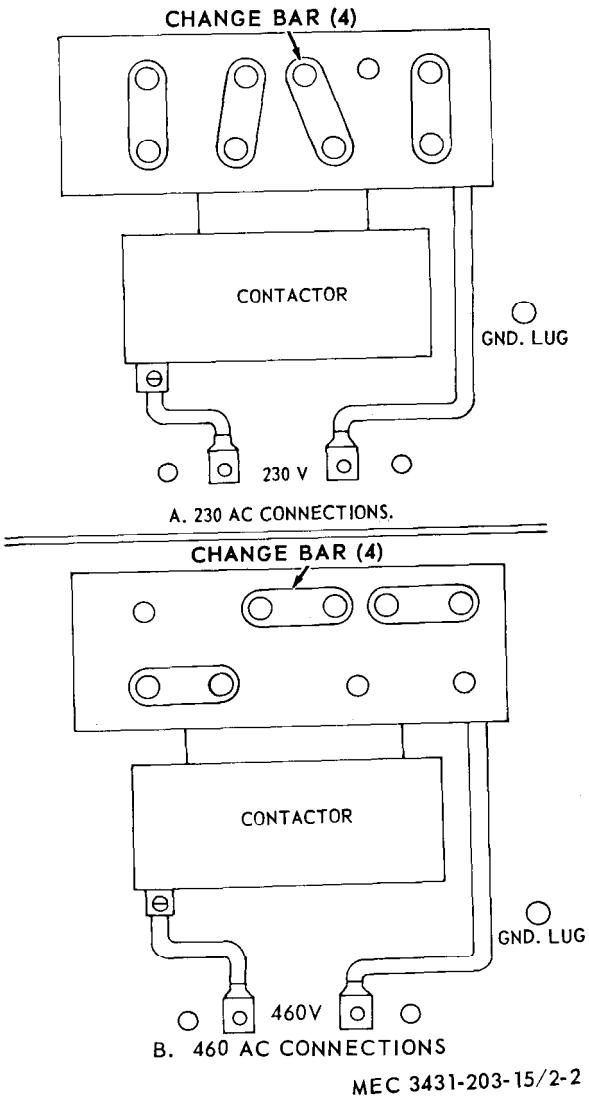


Figure 2-2. Voltage change bars for 230 or 460 volts.

Section II. MOVEMENT TO A NEW WORKSITE

2-6. Dismantling for Movement

a. Disconnect cables from load connection, external power source ground connections, and hoses and/or piping from gas and water connections (para 2-4).

b. If the welding machine is to be moved within a building, it can be skidded or moved with a forklift. If the welding machine is to be moved other than a short distance, cover the water and gas connection fittings and load it on a truck or other suitable carrier with a suitable lifting device.

Warning: **When using a lifting device to lift the welding machine, make sure it has a safe lifting capacity of at least 1,000 pounds. Do not allow the welding machine to swing freely when being lifted. Failure to observe this warning may cause damage to the equipment or serious injury to personnel.**

2-7. Reinstallation After Movement

Refer to paragraph 2-4 for reinstallation instructions after movement to a new worksite.

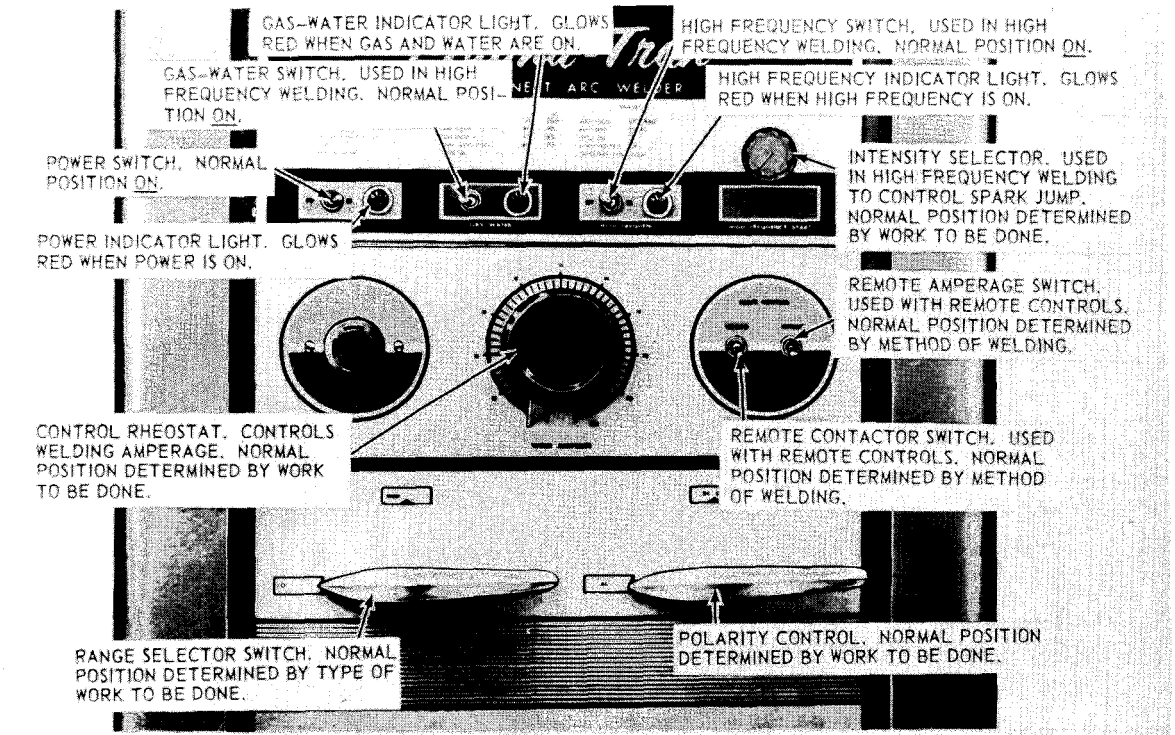
Section III. CONTROLS AND INSTRUMENTS

2-8. General

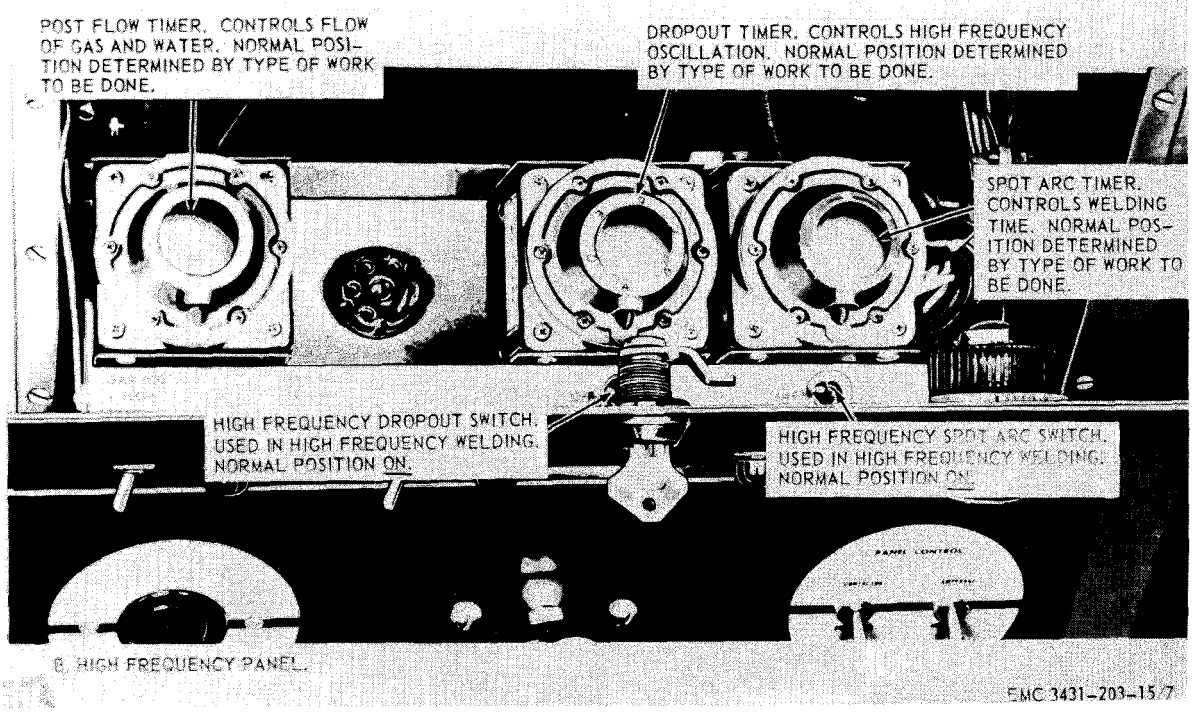
This section describes, locates, illustrates and furnishes the operator, crew, or organizational maintenance personnel sufficient information about the various controls and instruments for proper operation of the welding machine.

2-9. Controls and Instruments

Refer to figure 2-3 for the purpose, use, and normal position of the controls and instruments.



A. CONTROL PANEL.



B. HIGH FREQUENCY PANEL.

EMC 3431-203-15/7

Figure 2-3. Controls and instruments.

Section IV. OPERATION OF EQUIPMENT

2-10. General

a. The instructions in this section are published for the information and guidance of the personnel responsible for the operation of the welding machine.

b. The operator must know how to perform every operation of which the welding machine is capable. This section gives instructions on starting and stopping the welding machine, and various settings of controls to enable the welding machine to perform different types of welding for which it is designed,. Since nearly every job presents a different problem, the operator may have to vary given procedures to fit the individual job.

Caution: **When using the machine for high frequency welding, high frequency emission may result in communication interference if the machine is not properly grounded.**

2-11. Starting

a. Preparation for Starting.

(1) Perform the daily preventive maintenance Services (para 3-7).

(2) Clean area on item to be welded to insure a good connection.

(3) Connect the ground clamp of the load (work) cable to the work table or item to be welded.

b. *Starting.* Refer to figure 2-4 for starting instructions.

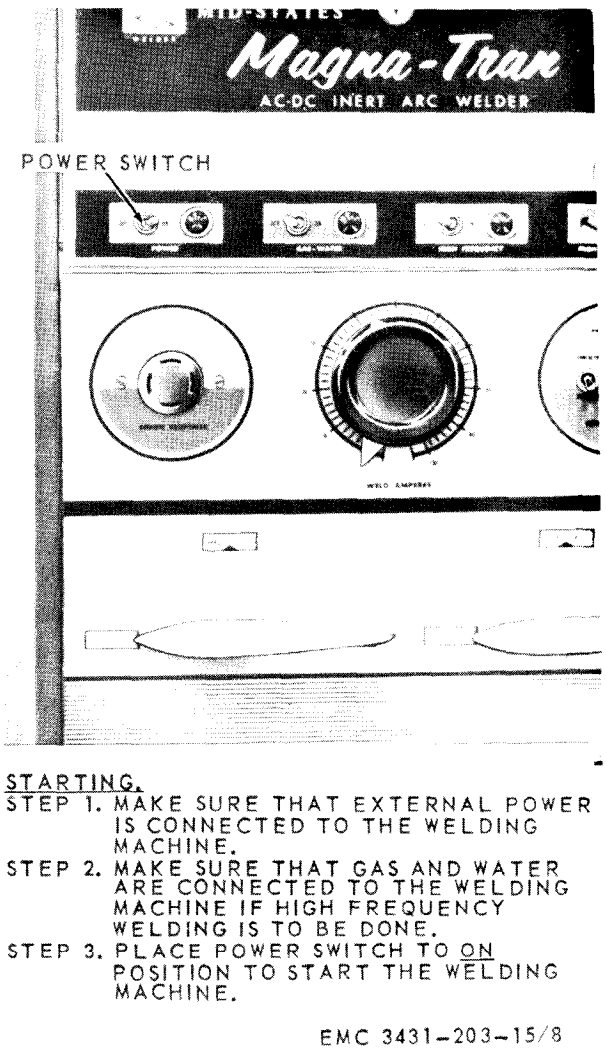


Figure 2-4. Starting the welding machine,

2-12. Stopping

a. Refer to figure 2-5 for stopping instructions.

b. Remove the ground clamp from the item being welded.

2-13. Welding Machine Operation

a. Start the welding machine (para 2-11).

b. Refer to table 1-1 and select the proper electrode for inert gas welding.

Table 1-1. Electrode Size for Applied Current

Tungsten electrode size (diameter)	Welding current (amperes)
0.040 in.	40 - 60
3/32	50 - 100
1/16	100 - 160
1/8	150 - 210
5/32	200 - 275
3/16	250 - 350
1/4	325 - 475

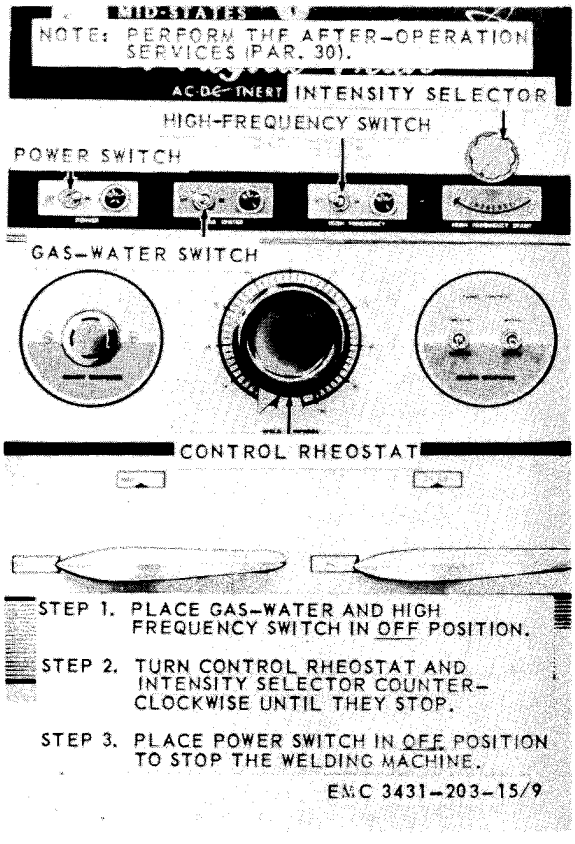


Figure 2-5. Stopping the welding mchine.

Note. Refer to TM 9-237 for metallic are welding theory and application.

c. Use a sample piece of metal, like the metal to be welded and adjust the welding amperage to produce the correct arc necessary for the welding to be done.

Warning: **Do not come in contact with the electrode while the welding machine is operating. The high voltage generated by the machine can cause death by electrocution.**

d. Refer to figure 2-6 and operate the welding machine.

Warning: **Before operating the welding machine, see that the ground terminal lug is connected through the input cable or by separate conductor to the power system ground. An ungrounded welding machine can cause death by electrocution to personnel coming in contact with it.**

Note. The welding machine is equipped with a remote receptacle and can be operated by remote control. When using the remote control, the contactor and amperage switches must be in the remote position. When the remote amperage control is used, the maximum current available will be limited by the sitting of the panel rheostat. If full range is necessary, the panel rheostat control must be set wide open.

2-14. Operation in Extreme Cold (Below 0° F)

a. Frequently inspect for frozen water pipes or lines.

b. If freezing is evident, disconnect the water system from the welding machine and use only for regular are welding.

2-15. Operation in Extreme Heat

a. Frequently inspect the fan motor and lubricate as necessary in accordance with the current lubrication order.

b. Make sure the welding machine has adequate ventilation.

2-16. Operation in Dusty or Sandy Areas

a. Keep dust and sand cleaned from welding machine as much as possible,

b. If dust or sand is blowing, provide a panel or shelter to give as much protection as possible to the welding machine.

c. Keep welding machine covered when not in use.

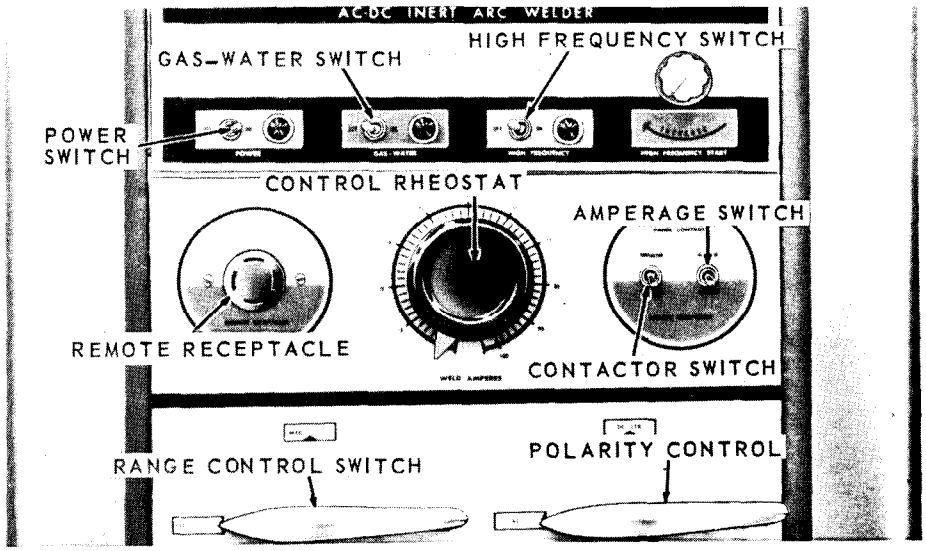
2-17. Operation Under Rainy or Humid Conditions

a. Provide as mush protection as possible to keep rain from welding machine.

b. Keep the welding machine covered when not in use.

c. If water comes in contact with the high frequency panel, remove the panel and dry thoroughly before installing it in the welding machine.

Warning: **Be extremely careful when the unit or surrounding area is damp or wet. Coming in contact with a wet or damp unit can cause a serious electrical shock or death.**



STEP 1. PLACE POWER SWITCH IN ON POSITION.

STEP 2. TURN ON SOURCES OF GAS AND WATER.

STEP 3. PLACE GAS-WATER AND HIGH-FREQUENCY SWITCH IN ON POSITION. THE INDICATOR LIGHTS ASSOCIATED WITH THESE SWITCHES WILL NOT GLOW UNTIL GAS AND WATER BEGIN TO FLOW AND HIGH-FREQUENCY OSCILLATION BEGINS.

NOTE: WHEN TURNING GAS-WATER SWITCH ON, THERE IS A MOMENTARY FLOW OF GAS AND WATER.

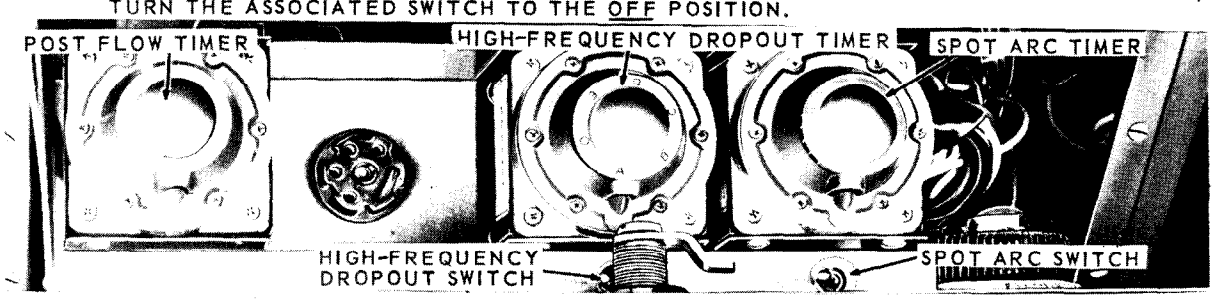
STEP 4. DETERMINE WELDING RANGE BY SIZE OF WORK TO BE DONE AND SELECT THE PROPER ELECTRODE SIZE . ADJUST RANGE CONTROL TO PROPER POSITION.

STEP 5. SET POLARITY SWITCH IN ACCORDANCE WITH TYPE OF WELDING TO BE DONE AND TYPE OF ELECTRODE USED.

NOTE: FOR METALLIC ARC WELDING, FOLLOW STEPS 1,4, AND 5 ONLY AND SET THE CONTACTOR AND AMPERAGE SWITCHES IN THE CONTROL PANEL POSITION.

A. PANEL CONTROLS.

NOTE: IF EITHER HIGH-FREQUENCY DROPOUT TIMER OR SPOT ARC TIMER ARE NOT REQUIRED, TURN THE ASSOCIATED SWITCH TO THE OFF POSITION.



STEP 6. SET POST FLOW TIMER TO THE DESIRED POSITION.

STEP 7. SET HIGH-FREQUENCY DROPOUT TIMER TO DESIRED POSITION AND PLACE THE HIGH-FREQUENCY DROPOUT SWITCH TO ON POSITION.

STEP 8. CLOSE PANEL DOOR AND OPERATE THE WELDING MACHINE.

NOTE: FOR SPOT ARC WELDING, FOLLOW STEPS 1,4,5, AND 8, ONLY. PLACE THE HIGH-FREQUENCY AND SPOT ARC SWITCHES IN THE ON POSITION AND SET THE SPOT ARC TIMER TO THE DESIRED SETTING (0 TO 3 SECONDS).

NOTE: TO SET TIMERS, ROTATE THE COLORED DIAL (MARKED 0-A-B-C-D-E) TO THE DESIRED POSITION, DEPENDING ON THE JOB TO BE PERFORMED.

B. HIGH-FREQUENCY CONTROLS.

EMC 3431-203-15/10

Figure 2-6. Welding machine operation.

2-18. Operation in Saltwater Areas

a. Keep the welding machine protected as much as possible but do not block ventilation.

b. Inspect all connections, terminals, and fittings for corrosion.

c. Keep welding machine covered when not in use.

CHAPTER 3

OPERATOR AND ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. OPERATOR AND ORGANIZATIONAL MAINTENANCE TOOLS AND EQUIPMENT

3-1. Special Tools and Equipment

No special tools or equipment are required by the operator or organizational maintenance personnel for the maintenance of the welding machine.

3-2. Basic Issue Tools and Equipment

Tools and repair parts issued with or authorized, for the welding machine are listed in the basic issue items list, Appendix B of this manual.

3-3. Organizational Maintenance Repair Parts

Organizational maintenance repair parts are listed and illustrated in Appendix D of this manual.

Section II. LUBRICATION

3-4. General Lubrication Information

The only lubrication required for the welding machine is the lubrication of the fan motor. This section contains instructions for the lubrication of the fan motor.

3-5. Fan Motor Lubrication

Refer to figure 3-1 and lubricate the fan motor.

Note. Use engine oil MIL-L-2104 for lubricating the fan motor.

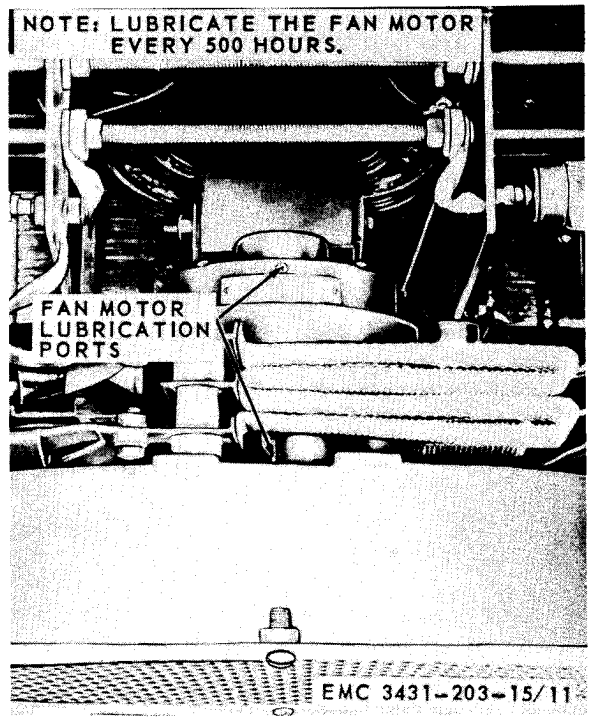


Figure 3-1. Fan motor, lubrication points.

Section III. PREVENTIVE MAINTENANCE SERVICES

3-6. General

To insure that the welding machine is ready for operation at all times, it must be inspected systematically, so that defects may be discovered and corrected before they result in sericus damage and failure. The necessary preventive maintenance services to be performed are listed and described in paragraphs 3-7 and 3-8. The item numbers indicate the sequence of minimum inspection requirements. Defects discovered during operation of the unit shall be noted for future correction, to be made as soon as operation has ceased. Stop operation immediately if a deficiency is noted during operation which would damage the equipment if operation were continued. All deficiencies and shortcomings will be recorded, together with the corrective action taken, on DA Form 2404 (Equipment Inspection and Maintenance Worksheet) at the earliest possible opportunity.

3-7. Daily Preventive Maintenance Services

This paragraph contains an illustrated tabulated listing of preventive maintenance services which must be performed by the operator. The item numbers are listed consecutively and indicate the sequence of minimum inspection requirements. Refer to figure 3-2 for the daily preventive maintenance services.

3-8. Quarterly Preventive Maintenance Services

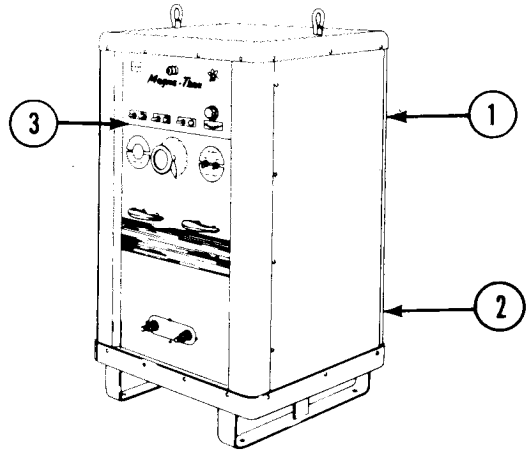
a. This paragraph contains an illustrated tabulated listing of preventive maintenance services which must be performed, by organizational maintenance personnel at quarterly intervals. A quarterly interval is equal to 3 calendar months or 250 hours of operation, whichever occurs first.

b. The item numbers are listed consecutively and indicate the sequence of minimum inspection requirements. Refer to figure 3-3 for the quarterly preventive maintenance services.

PREVENTIVE MAINTENANCE SERVICES

DAILY

TM5-3431-203-15 (MIDSTATES MODEL MAG 300 AC/DC T134) WELDING MACHINE



ITEM		PAR REF
1	SCREEN. Clean a dirty screen.	
2	GROUND TERMINAL. Check for proper ground. A proper ground will consist of a 3/4-inch-dia. hollow rod or 5/8-inch-dia. solid rod, 9 feet long. The cable will be No. 6 AWG copper wire, bolted or clamped to the rod and attached to the ground terminal of the welder set.	
3	CONTROLS. Inspect for damage and loose mounting. With unit operating, check for proper operation.	14
	NOTE 1. OPERATION. During operation observe for any unusual noise or vibration.	

MEC 3431-203-15/3-2

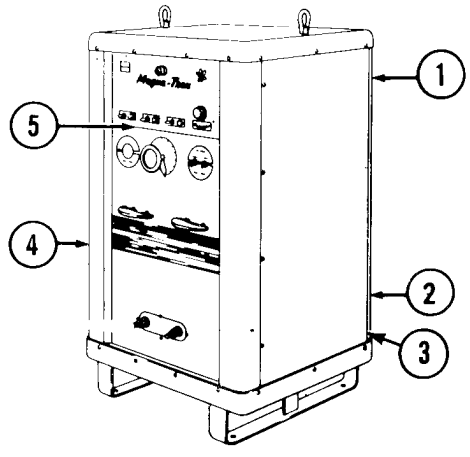
Figure 3-2. Daily preventive maintenance services.

PREVENTIVE MAINTENANCE SERVICES

QUARTERLY

TM5-3431-203-15 WELDING MACHINE

(MIDSTATES MODEL MAG 300 AC/DC T134)



ITEM		PAR REF
1	FAN MOTOR, FAN, AND SCREEN. Clean a dirty screen. Tighten loose motor and fan mounting and electrical connections. Lubricate fan motor every 500 hours. Replace defective fan motor or fan	28 75 thru 79
2	CONTACTOR. Tighten loose mounting and electrical connections. Replace defective contactor.	65
3	GROUND TERMINAL. Check for proper ground. A proper ground will consist of a 3/4-inch-dia. hollow rod or 5/8-inch-dia. solid rod 9 feet long. The cable will be No. 6 AWG copper wire, bolted or clamped to the rod and attached to the ground terminal of the welding set.	
4	SOLENOID VALVES AND FITTINGS. Tighten loose mounting and electrical connections. Replace defective valves and fittings.	72 thru 74
5	CONTROLS. Replace damaged controls. Tighten loose mounting. With the unit operating, check for proper operation.	14 53 thru 67
	NOTE 1. OPERATIONAL TEST. During operation observe for any unusual noise or vibration. NOTE 2. ADJUSTMENTS. Make all necessary adjustments during operational test.	

MEC 3431-203-15/3-3

Figure 3-3. Quarterly preventive maintenance services.

Section IV. OPERATOR'S MAINTENANCE

3-9. General

The instructions in this section are published for the information and guidance of personnel responsible for the operator's maintenance of the welding machine and are in addition to those listed in paragraph 3-7.

3–10. Pilot Lamps

Refer to figure 3–4 and remove and install the pilot lamps.

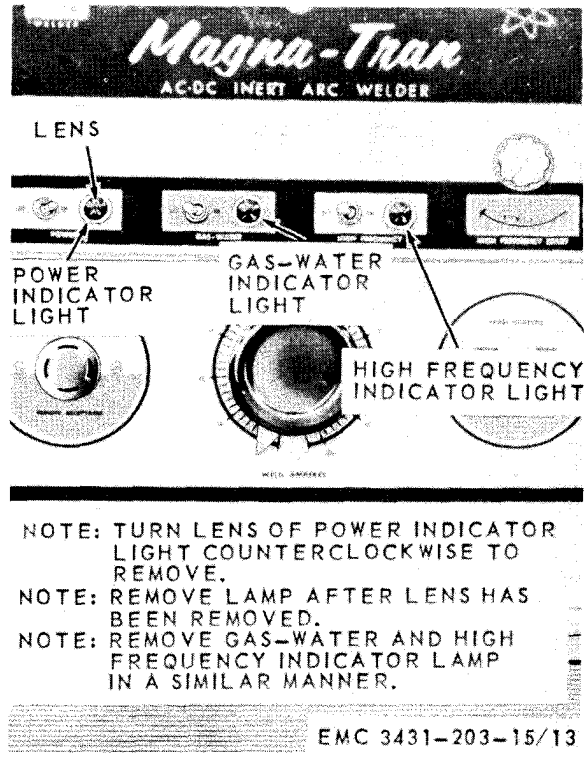


Figure 3-4. Pilot lamps, removal and installation.

Section V. TROUBLESHOOTING

3-11. General

This section provides information useful in diagnosing and correcting unsatisfactory operation or failure of the welding machine and its components. Each trouble symptom stated is followed by a list of probable causes of the trouble. The possible remedy recommended is described opposite the probable cause. Any trouble beyond the scope of organizational maintenance shall be reported to direct support maintenance.

3-12. Welding Machine Fails to Start

Probable cause	Possible remedy
Contractor open	Reset contractor.
Power switch defective	Replace switch (para 3-31).
Interlock switch defective	Replace switch (para 3-35).

3-13. Cooling Fan Does Not Operate

Probable cause	Possible remedy
Lead broken or terminal loose.	Repair or tighten terminal (para 4-36).
Fan motor defective	Replace motor (para 3-52).

3-14. Fan Assembly Noisy

Probable cause	Possible remedy
Mounting hardware loose	Tighten hardware (para 3-52).
Fan blade loose	Tighten fan blade eetscrew (para 3-52).

3-15. Gas Insufficient

Probable cause	Possible remedy
Lines or fittings obstructed.	Clean lines and/or fittings (para 3-49).
Solenoid defective	Replace solenoid (para 3-49).

3-16. Water Insufficient

Probable cause	Possible remedy
Lines or fittings obstructed.	Clean lines and/or fittings (para 3-50).
Solenoid defective	Replace solenoid (para 3-50).

3-17. Pilot Lights Inoperative

Probable cause	Possible remedy
Lamp burned out	Replace lamp (para 3-10).
Lead broken or connection loose.	Repair lead or tighten connection (para 3-30).
Socket defective	Replace socket (para 3-30).

3-18. Welding Machine Operates Erratically

Probable cause	Possible remedy
Spark gap improperly adjusted.	Clean adjusting screws and adjust spark gap (para 3-45).

3-19. Remote Control Does Not Function Properly

Probable cause	Possible remedy
Wires loose at receptacle	Tighten wires (para 3-38).
Receptacle defective	Replace receptacle (para 3-38).
Remote contactor switch defective.	Replace switch (para 3-39).
Remote amperage switch defective.	Replace switch (para 3-40).

3-20. Contactor Breaks Circuit

Probable cause	Possible remedy
Thermostatic switch defective.	Replace switch (para 3-42)

Section VI. FIELD EXPEDIENT REPAIRS

3-21. General

Operator and organizational maintenance troubles may occur while the welding machine is operating in the field where supplies and repair parts are not available and normal corrective action cannot be performed. When this condition exists, the following expedient repairs may be used in emergencies, upon the decision of the unit commander. Equipment so repaired must be removed, from operation as won as possible and properly repaired before being placed in operation again.

3-22. Loss of Water

Trouble	Expedient remedy
Pipe or fitting cracked	Tape cracked pipe or fitting until defective pipe or fittings can be replaced.

3-23. High Frequency Inoperative

Trouble	Expedient remedy
Timer defective	Exchange timers until defective timer can be replaced (para 3-34).

3-24. Power Failure

Trouble	Expedient remedy
Interlock switch defective.	Use jumper wire to bypass interlock switch until it can be replaced (para 3-35).
Contactor broken or defective.	Provide jumper wire around contactor until it can be replaced (para 3-41).

Section VII. WELDING MACHINE TOP, HOUSING, DOORS, AND PANELS

3-25. General

The welding machine housing is constructed of a heavy metal top, sides, back section and front section. This section contains information on the maintenance of these components.

3-26. Welding Machine Top and Housing

a. Removal.

(1) Refer to figure 3-5 and remove the welding machine top.
(2) Remove the fan, motor, and guard assembly (para 3-52).
(3) Remove the gas and water solenoid valves (para 3-49 and 3-50).
(4) Refer to figure 3-5 and remove the housing.

b. Installation.

(1) Refer to figure 3-5 and install the housing.
(2) Install the gas and water solenoid valves (para 3-49).
(3) Install the fan, motor, and guard assembly (para 3-52).
(4) Refer to figure 3-5 and install the welding machine top.

3-27. High Frequency Panel Assembly

a. Removal.

(1) Unlock and open panel door.
(2) Disconnect jack tip terminals and panel wiring harness quick-disconnect plug.
(3) Refer to figure 3-6 and remove the high frequency panel assembly.

b. Installation.

(1) Refer to figure 3-6 and install the high frequency panel assembly.
(2) Connect the jack tip terminals and the wiring harness quick-disconnect lug.
(3) Close and lock the panel door.

3-28. Panel Door Lock

a. Removal.

(1) Unlock and open the high frequency panel door.
(2) Refer to figure 3-7 and remove the panel door lock.

b. Installation.

(1) Refer to figure 3-7 and install the panel door lock.
(2) Close and lock the high frequency panel door.

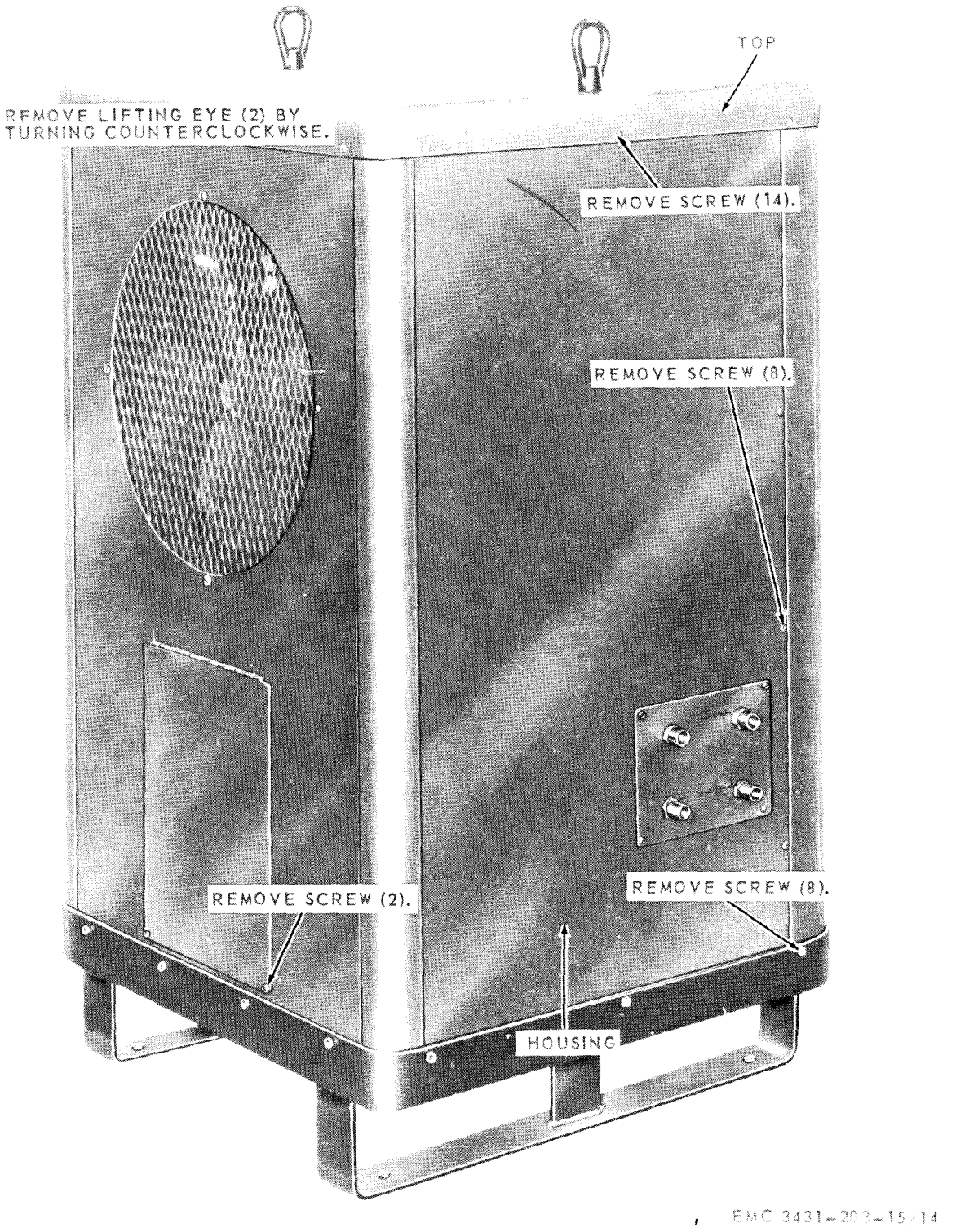


Figure 3-5. Welding machine top and housing, removal and installation.

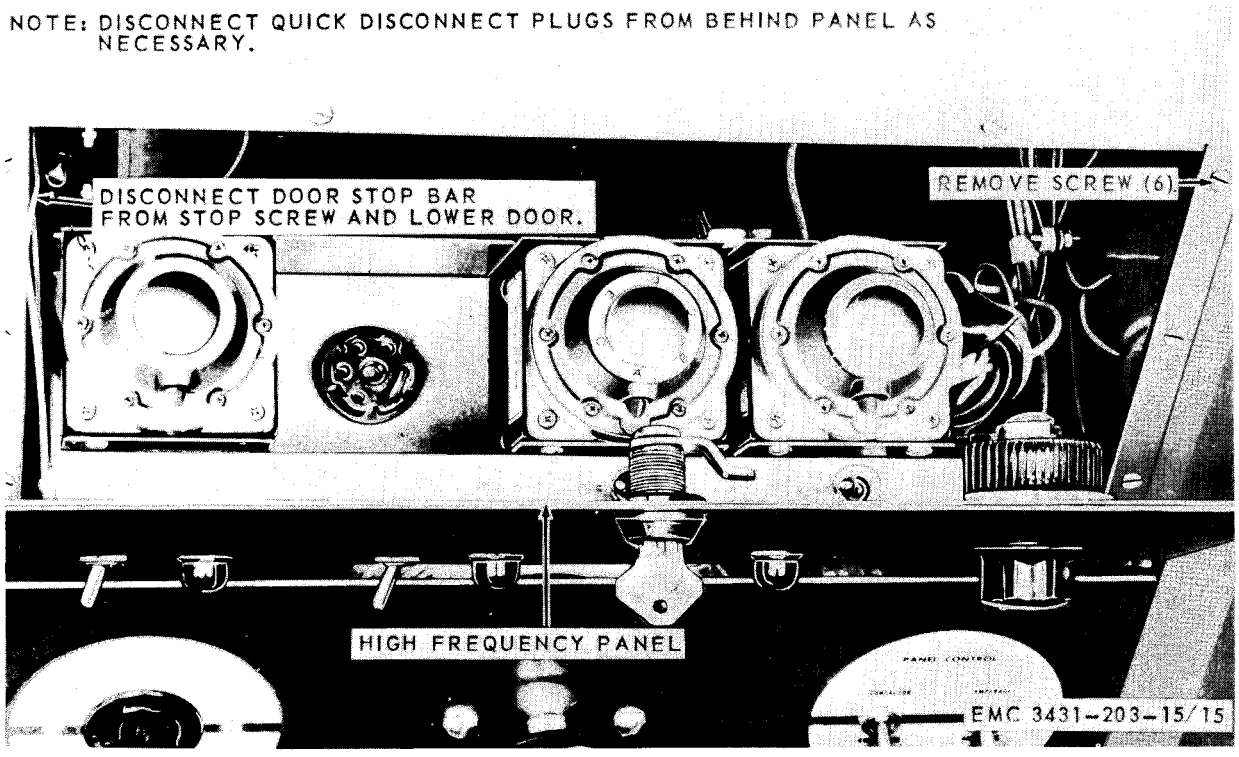


Figure 3-6. High frequency panel assembly, removal and installation.

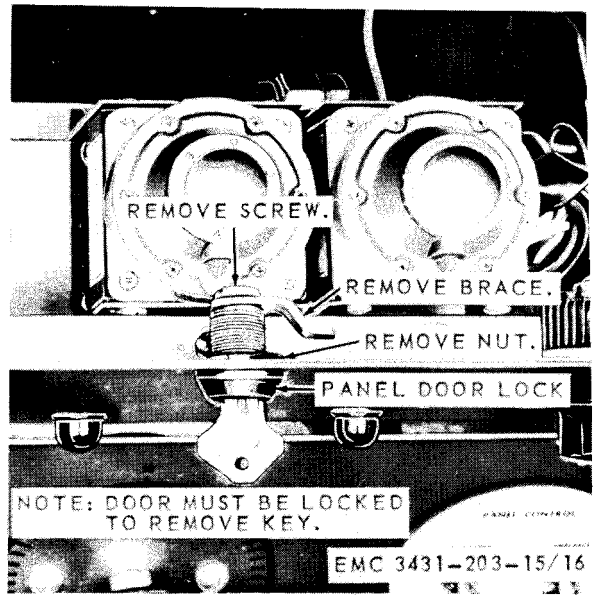


Figure 3-7. Panel door lock, removal and installation.

Section VIII. PILOT LIGHTS, SWITCHES, TIMERS, REMOTE RECEPTACLES, AND DUMMY PLUG

3-29. General

The pilot lights indicate the phase of operation that the machine is performing. The switches control the power, gas, water, and high frequency. The timers have plug-in type sockets for easy removal and maintenance; they control the postflow of gas and water, the preflow of gas and water, shut off high frequency oscillation at a predetermined time, and control the length of time the welding power is on. The dummy plugs are used when timers are not in the socket.

3–30. Pilot Lights

a. Removal.

(1) Remove the pilot lamps (para 3-10).

(2) Remove the high frequency panel assembly (para 3-27).

(3) Refer to figure 3-8 and remove the pilot lights.

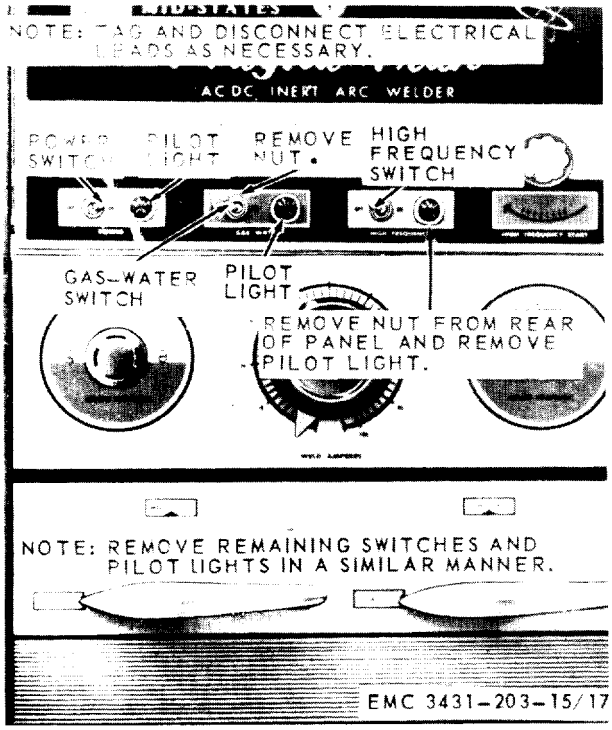


Figure 3-8. Pilot lights and gas, water, power, and high frequency switches, removal and installation.

b. Installation.

(1) Refer to figure 3-8 and, install the pilot lights.

(2) Install the high frequency panel assembly (para 3-27).

(3) Install the pilot lamps (para 3-10).

3–31. Power Switch

a. Removal.

(1) Remove the high frequency panel assembly (para 3-27).

(2) Refer to figure 3-8 and remove the power switch.

b. Installation.

(1) Refer to figure 3-8 and install the power switch.

(2) Install the high frequency panel assembly (para 3-27).

3–32. Gas-Water Switch

a. Removal.

(1) Remove the high frequency panel assembly (para 3-27).

(2) Refer to figure 3-8 and remove the gas-water switch.

b. Installation.

(1) Refer to figure 3-8 and install the gas-water switch.

(2) Install the high frequency panel assembly (para 3-27).

3–33. High Frequency Switch

a. Removal.

(1) Remove the high frequency panel assembly (para 3-27).

(2) Refer to figure 3-8 and remove the high frequency switch.

b. Installation.

(1) Refer to figure 3-8 and install the high frequency switch.

(2) Install the high frequency panel assembly (para 3-27).

3–34. Timers

a. Removal.

(1) Unlock and lower the high frequency panel door.

(2) Refer to figure 3-9 and remove the timers.

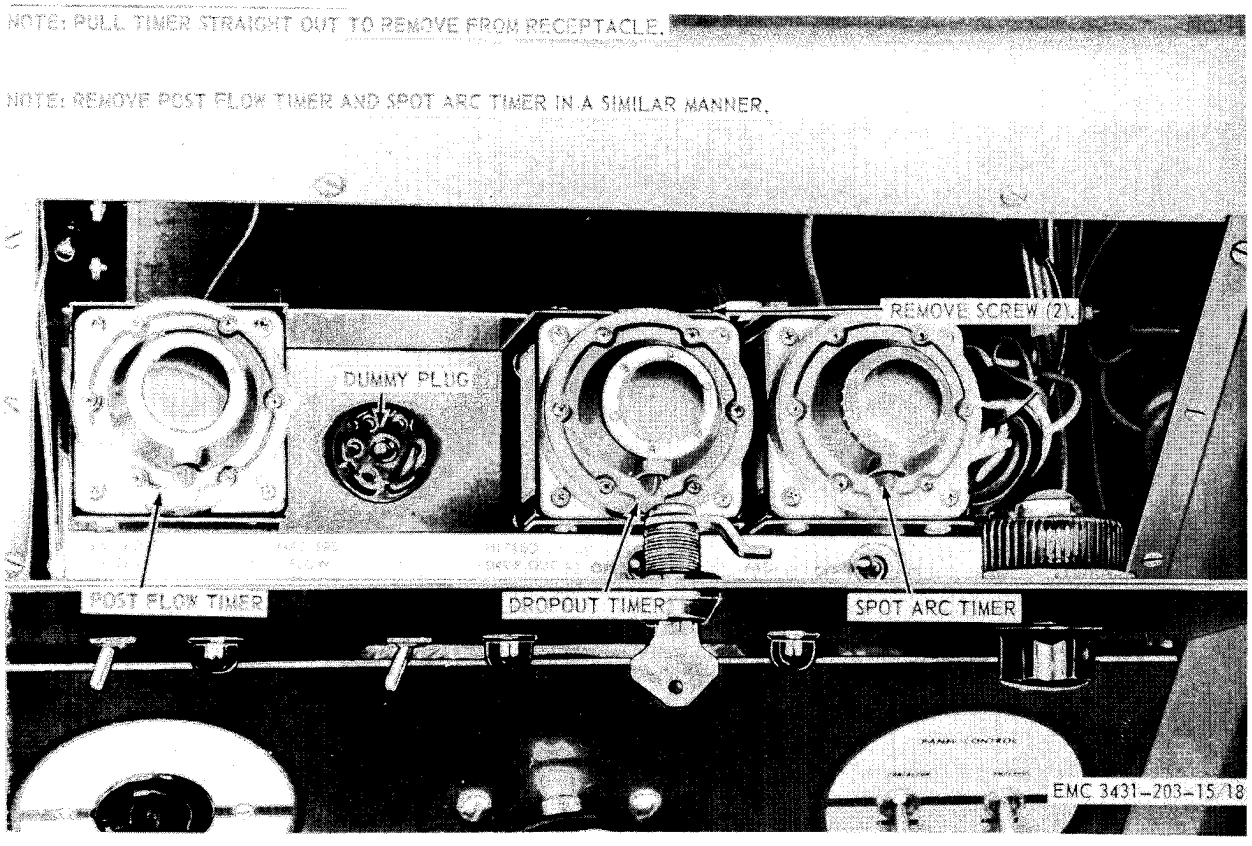


Figure 3-9. Timers and dummy plug, removal and installation.

b. Installation

Refer to figure 3-9 and, install the timers.

Close and lock the high frequency panel door.

3-35. Interlock Switch

a. Removal.

(1) Remove the high frequency panel assembly (para 3-27).

(2) Refer to figure 3-10 and remove the interlock switch.

b. Installation.

(1) Refer to figure 3-10 and install the interlock switch.

(2) Install the high frequency panel assembly (para 3-27).

c. Field Expdient Repair. If. the interlock switch is defective, place a jumper wire across the terminals and bypass the switch.

Warning: **Performances of any field expedient repair creates a condition possibly dangerous to the equipment or personnel. A welding machine so repaired should be taken out of service as soon as possible for replacement of the defective part.**

3-36. High Frequency Spot ARC Switch

a. Removal.

(1) Remove the high frequency panel assembly (para 3-27).

(2) Refer to figure 3-10 and remove the high frequency spot arc switch.

b. Installaion.

(1) Refer to figure 3-10 and install the high frequency spot arc switch.

(2) Install the high frequency panel assembly (para 3-27).

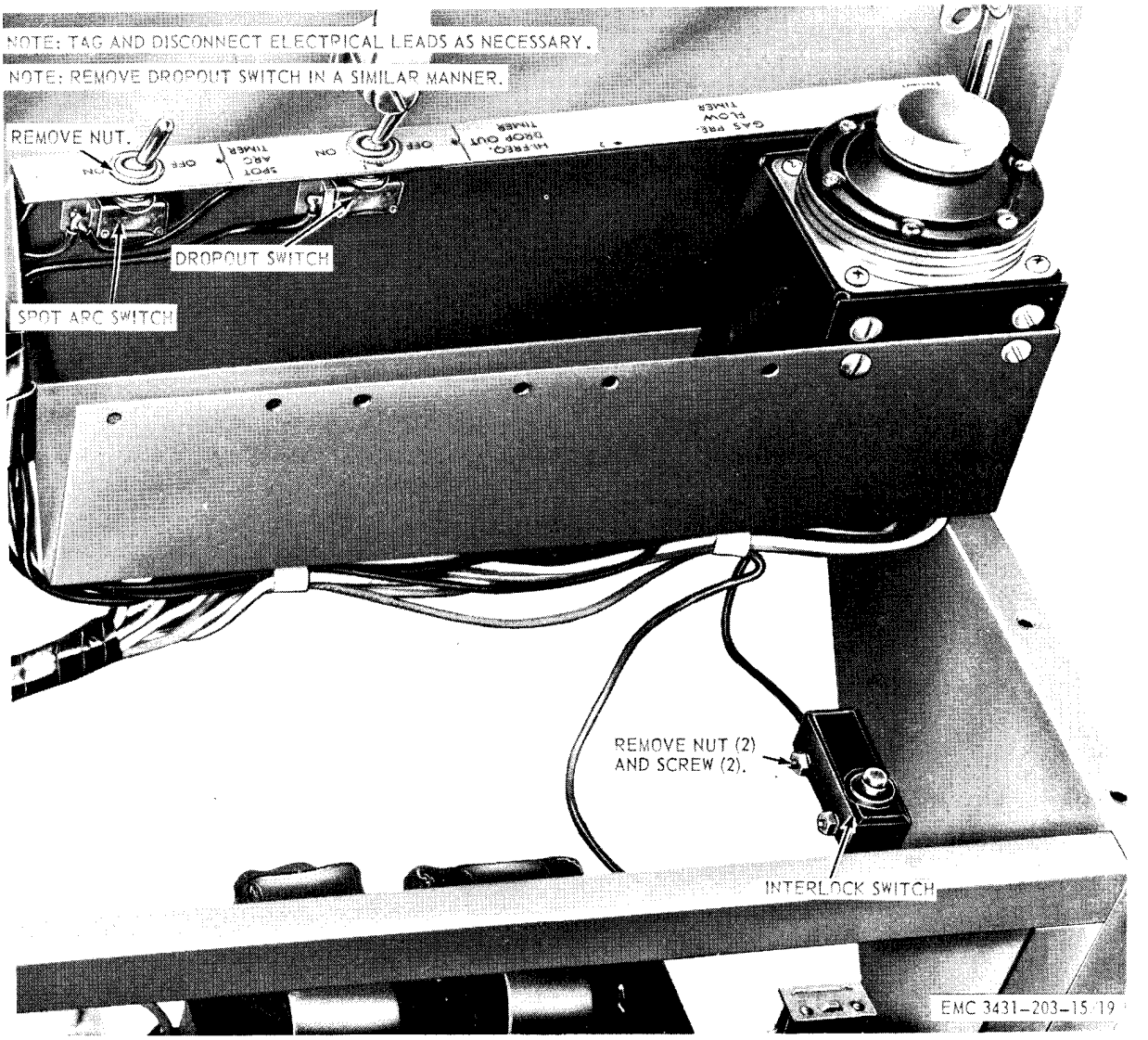


Figure 3-10. Interlock, spot arc, and drop out switch, removal and installation.

3-37. High Frequency Dropout Switch

a. Removal.

(1) Remove the high frequency panel assembly (para 3-27).

(2) Refer to figure 3-10 and remove the high frequency dropout switch.

b. Installation.

(1) Refer to figure 3-10 and install the high frequency dropout switch.

(2) Install the high frequency panel assembly (para 3-27).

3-38. Remote Receptacle

a. Removal.

(1) Remove the high frequency panel assembly (para 3-27).

(2) Refer to figure 3-11 and remove the remote receptacle.

b. Installation.

(1) Refer to figure 3-11 and install the remote receptacle.

(2) Install the high frequency panel assembly (para 3-27).

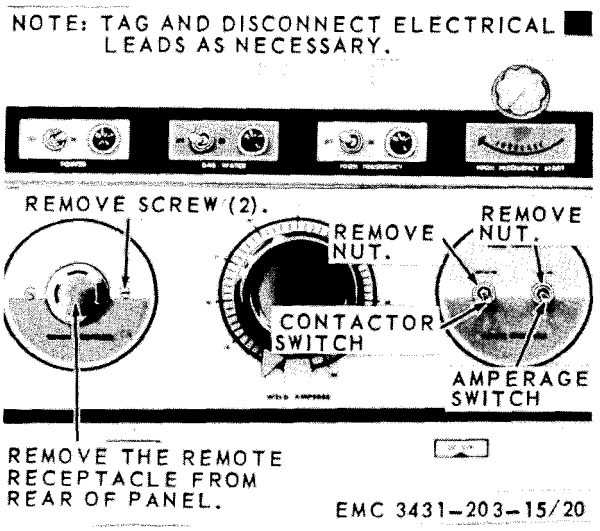


Figure 3-11. Remote contactor switch, amperage switch, and receptacle, removal and installation.

3-39. Remote Contractor Switch

a. Removal.
(1) Remove the high frequency panel assembly (para 3-27).
(2) Refer to figure 3-11 and remove the remote contactor switch.

b. Installation.
(1) Refer to figure 3-11 and install the remote contactor switch.
(2) Install the high frequency panel assembly (para 3-27).

3-40. Remote Amperage Switch

a. Removal.
(1) Remove the high frequency panel assembly (para 3-27).
(2) Refer to figure 3-11 and remove the remote amperage switch.

b. Installation.
(1) Refer to figure 3-11 and, install the remote amperage switch.
(2) Install the high frequency panel assembly (para 3-27).

3-41. Contactor

a. Removal.
(1) Remove the welder top housing (para 3-26).
(2) Refer to figure 3-12 and remove the contactor.

b. Installation.
(1) Refer to figure 3-12 and install the contactor.
(2) Install the welder top and housing (para 3-26).

c. Field Expedient Repair. If the contactor becomes defective, place a jumper wire across the terminals and bypass the contactor.

Caution: **Performance of any field expedient repair creates a condition possibly dangerous to equipment and personnel. A welding machine so repaired must be taken out of service as soon as possible for replacement of the defective part.**

3-42. Thermostatic Switch

a. Removald.
(1) Remove the welder top and housing (para 3-26).
(2) Refer to figure 3-13 and remove the thermostatic switch.

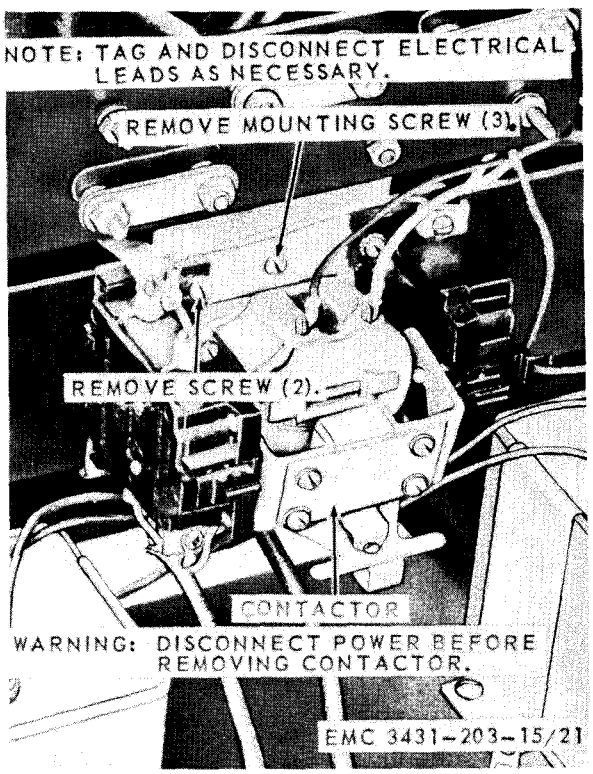


Figure 3-12. Contactor, removal and installation.

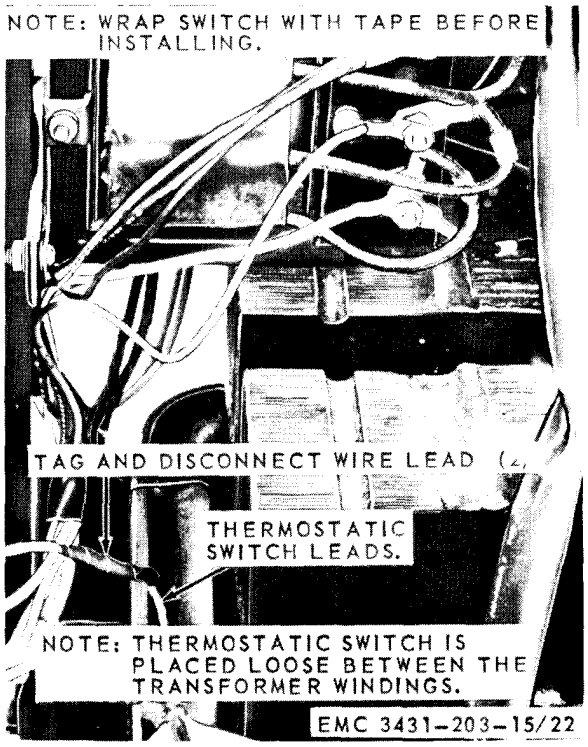


Figure 3-13. Thermostatic switch, removal and installation.

b. Installation.

(1) Refer to figure 3-13 and install the thermostatic switch.

(2) Install the welder top and housing (para 3-26).

3-43. Dummy Plug

a. Removal.

(1) Unlock and lower the high frequency panel door.

(2) Refer to figure 3-9 and remove the dummy plug.

b. Installation.

(1) Refer to figure 3-9 and install the dummy plug.

(2) Close and lock the high frequency panel door.

Section IX. SPARK GAP ADJUSTER, VOLTAGE CHANGE BARS, AND GROUND AND ELECTRODE TERMINAL BOARD

3-44. General

The primary purpose of the spark gap adjuster is to control the stability of the high frequency arc. The purpose of the voltage change bars is to allow the welding machine to operate from either 230 or 460 volts by the correct changing of the bars. The ground, and electrode cable terminal lugs are connected by brass nuts to the studs on the ground and electrode terminal board.

3-45. Spark Gap Adjuster

a. Removal.

(1) Remove the high frequency panel assembly (para 3-27).

(2) Refer to figure 3-14 and remove the spark gap adjuster.

b. Installation.

(1) Refer to figure 3-14 and install the spark gap adjuster.

(2) Install the high frequency panel assembly (para 3-27).

c. Adjustment. Refer to figure 3-14 and adjust the spark gap.

3-46. Voltage Change Bars

a. Removal.

(1) Remove the two securing screws and raise the voltage change bar access door on the rear of the welding machine.

(2) Refer to figure 3-15 and remove the voltage change bars.

b. Installation.

(1) Refer to figure 3-15 and install the voltage change bars.

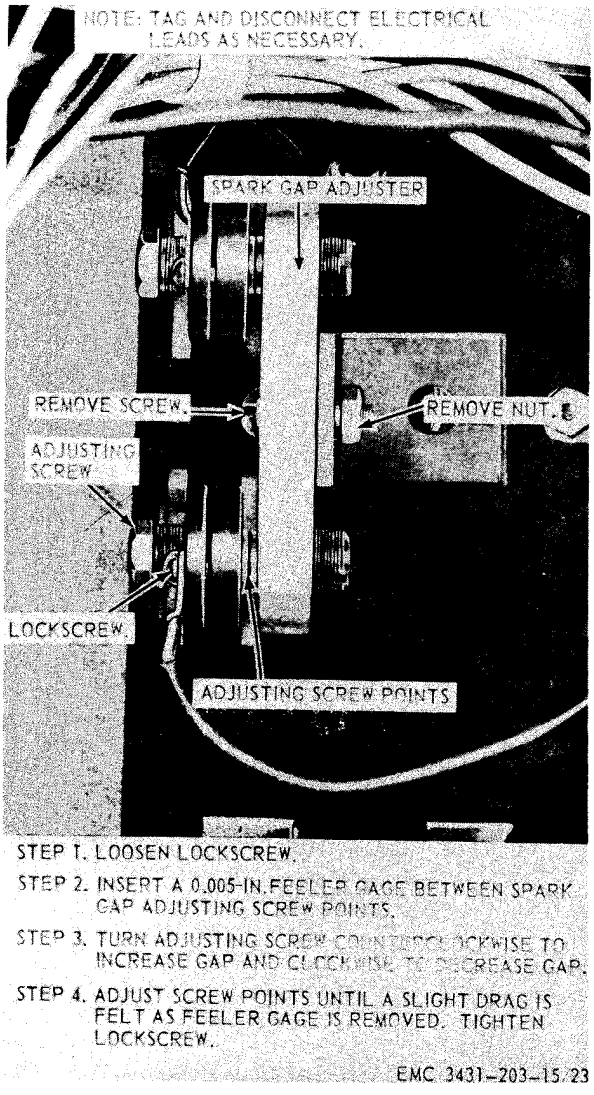


Figure 3-14. Spark gap adjuster, removal, installation, and adjustment.

(2) Close the access door and replace the two securing screws.

3-47. Ground and Electrode Terminal Board

a. Removal.

(1) Remove the welder top and housing (para 3-26).

(2) Refer to figure 3-16 and remove the ground and electrode terminal board.

b. Installation.

(1) Refer to figure 3-16 and install the ground and electrode terminal board.

(2) Install the welder top and housing (para 3-26).

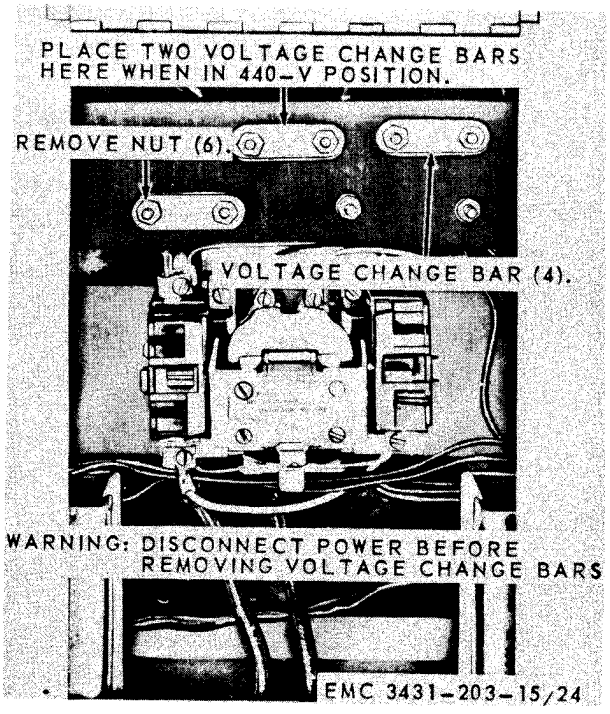


Figure 3-15. Voltage change bars, removal and installation.

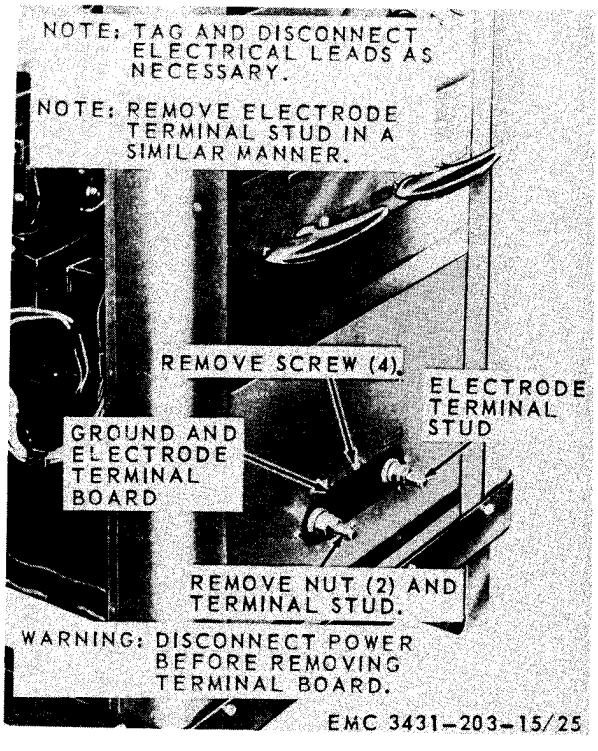


Figure 3-16. Ground and electrode terminal board, removal and installation.

Section X. GAS AND WATER SOLENOID VALVES

3-48. General

The gas solenoid valve is used when the operator is performing inert-gas welding. The solenoid valve is operated electrically through the timer control. The waker solenoid valve is used when a water-cooled torch is used. The water solenoid valve is operated electrically through the timer control.

3-49. Gas Solenoid Valve

Refer to figure 3-17 and remove and install the gas solenoid valve.

3-50. Water Solenoid Valve

Refer to figure 3-17 and remove and install the water solenoid valve.

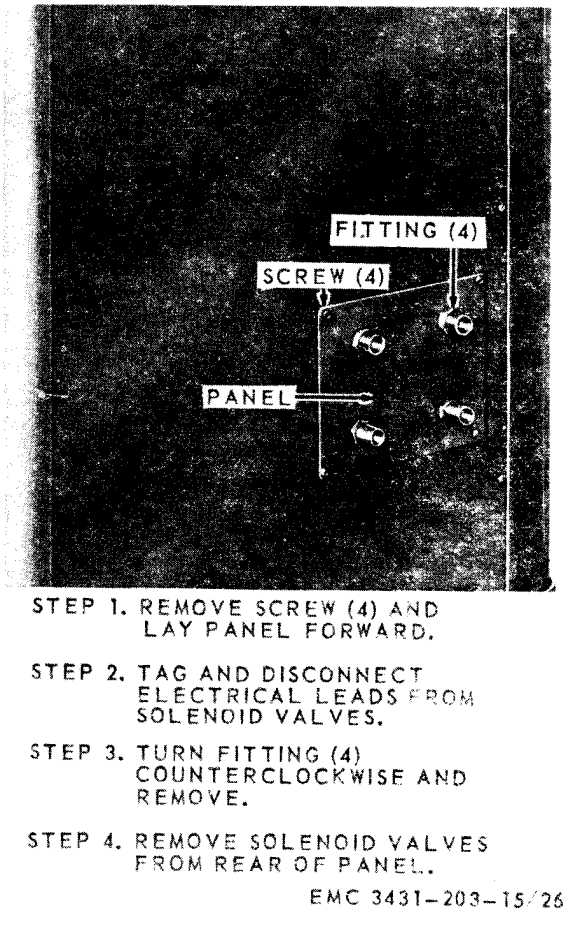


Figure 3-17. Gas and water solenoid valves, removal and installation.

Section XI. VENTILATING-COOLING SYSTEM

3-51. General

The welding machine is cooled by a fan motor assembly which operates from the accessory power transformer. It has four aluminum blades which pull the air through the welder and out the back, The ballast resistors are mounted on the fan guard so that they can be cooled by the air as it passes through them. To make any repairs on the motor fan blade, or guard, the complete assembly must be removed.

3-52. Fan, Motor, and Guard Assembly

a. Removal.

(1) Remove the welding machine top and housing (para 3-26).

(2) Disconnect the motor leads from the top and bottom terminals of the accessory transformer.

(3) Refer to figure 3-1 and remove the fan, mater, and guard as a complete unit.

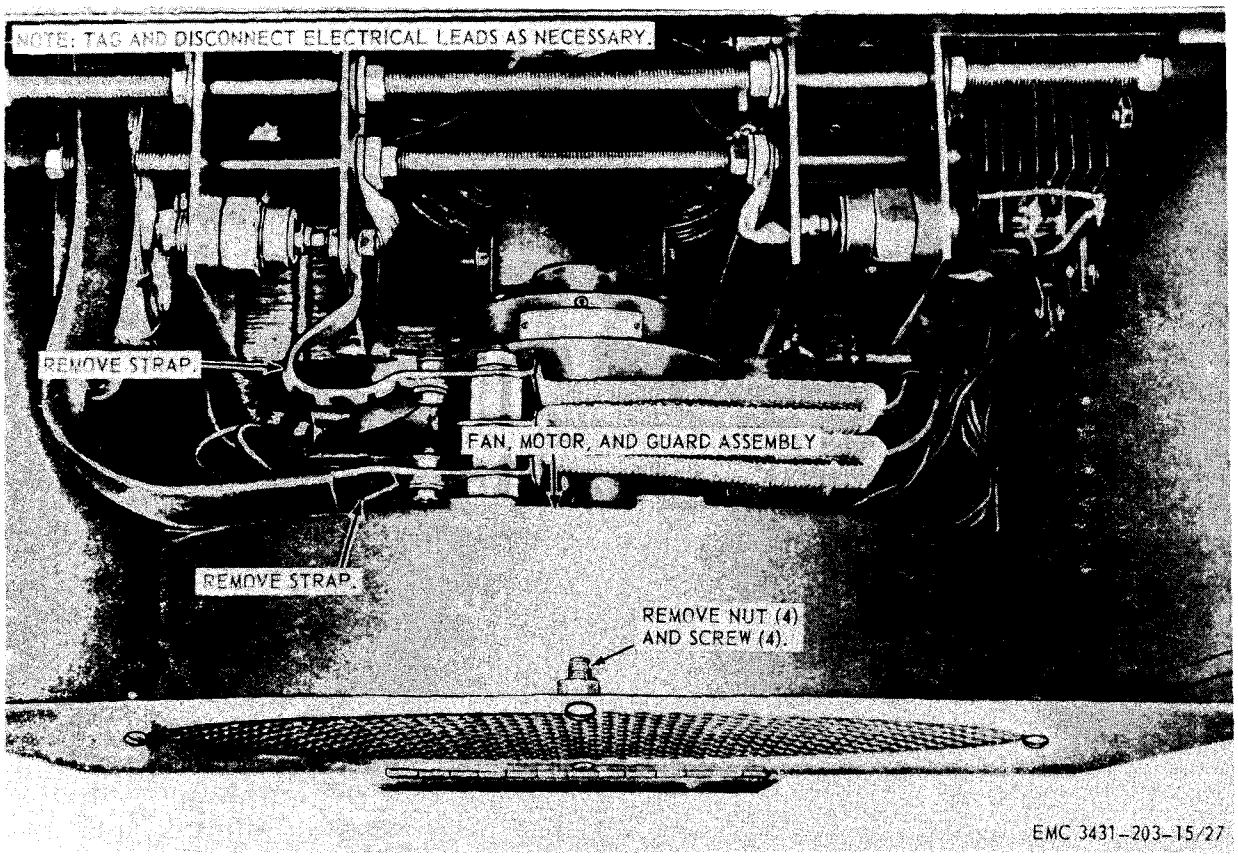


Figure 3-18. Fan, motor, and guard assembly, removal and installation.

b. Disassembly and Reassembly. Refer to figure 3-19 and disassemble and reassemble the fan, motor, and guard assembly.

c. Installation.

(1) Refer to figure 3-18 and install the fan, motor, and guard assembly.

(2) Connect the motor leads to the top and bottom terminal of the accessory transformer.

(3) Install the welder top and housing (para 3-26).

3-53. Motor

a. Removal.

(1) Refer to figure 3-18 and remove the fan, motor, and guard assembly.

(2) Refer to figure 3-19 and remove the fan motor.

b. Installation.

(1) Refer to figure 3-19 and install the fan motor.

(2) Refer to figure 3-18 and install the fan, motor, and guard assembly.

3-54. Fan

a. Removal.

(1) Refer to figure 3-18 and remove the fan motor, aind guard assembly

(2) Refer to figure 3-19 and remove the fan.

b. Installation.

(1) Refer to figure 3-19 and install the fan.

(2) Refer to figure 3-18 and install the fan, motor, and guard assembly.

3-55. Guard

a. Removal.

(1) Refer to figure 3-18 and remove the fan, motor, and guard assembly,

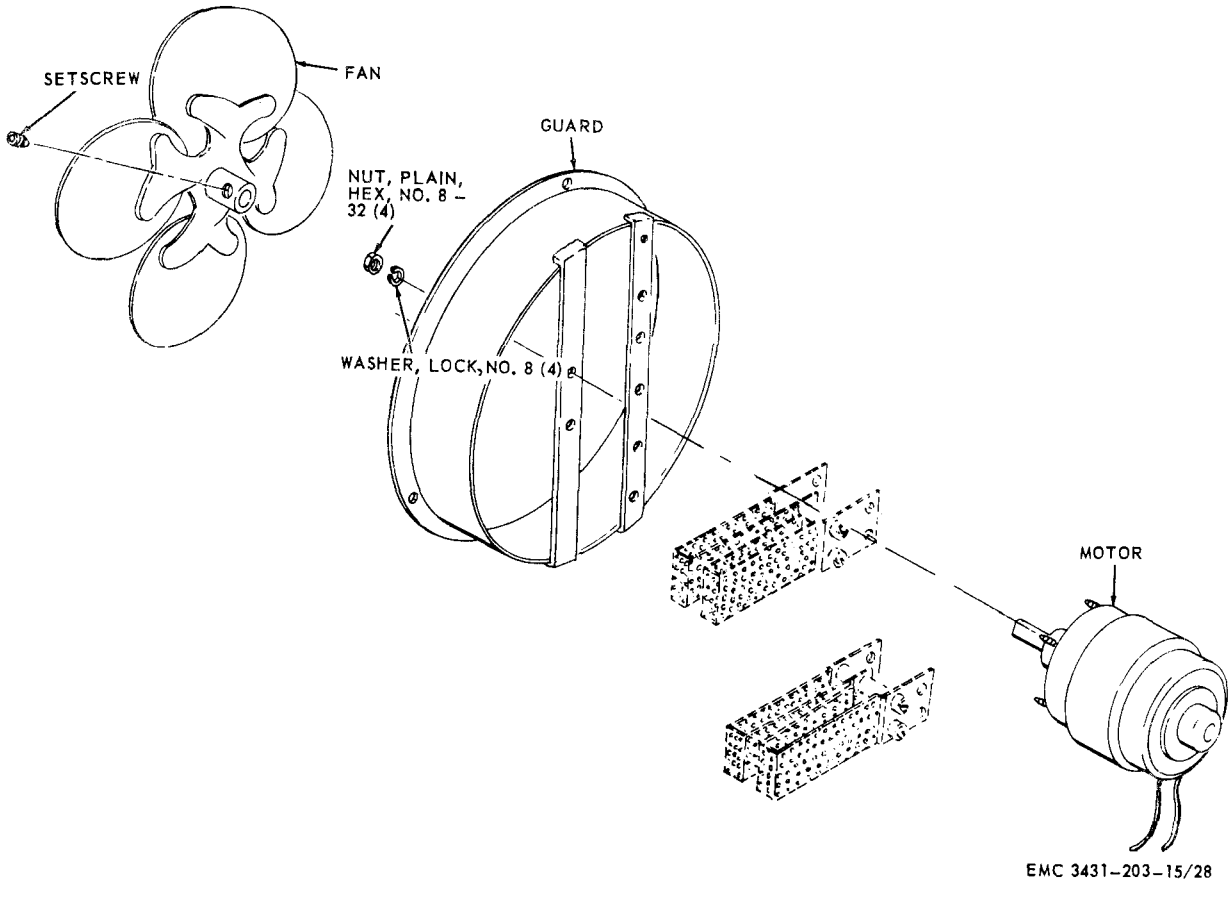


Figure 3-19. Fan, motor, and guard assembly, disassembly and reassembly.

(2) Refer to figure 3-19 and remove the guard.

b. Installation.

(1) Refer to figure 3-19 and install the guard.

(2) Refer to figure 3-18 and install the fan, motor, and guard assembly.

CHAPTER 4

DIRECT AND GENERAL SUPPORT AND DEPOT MAINTENANCE INSTRUCTIONS

Section I. GENERAL

4-1. Scope

a. The following instructions are for direct and general support and depot maintenance personnel. They contain information on equipment maintenance that is beyond the scope of the tools, equipment, personnel, or supplies normally available to organizational maintenance.

b. Appendix A includes the list of publications applicable to direct and general support and depot maintenance. Appendix C contains the maintenance allocation chart. The direct and general support and depot maintenance repair parts and special tool lists are in Appendix D.

4-2. Record and Report Forms

For record and report forms applicable to direct and general support and depot maintenance, refer to TM 38-750.

Note. Applicable forms, excluding Standard Form 46 (United States Government Motor Vehicles Operator's Identification Card) which is carried by the operator, shall be kept in a canaas bag mounted on the equipment.

Section II. DESCRIPTION AND DATA

4-3. Description

For a complete description of the welding machine, refer to paragraph 1-3.

4-4. Tabulated Data

a. General. This paragraph contains all the overhaul data pertinent to direct and general support and depot maintenance personnel. A wiring diagram (fig. 4-1) is also included.

Figure 4-1. Schematic wiring diagram.
(Located in back of manual)

b. Accessory Transformer.

Primary ---------- 230/460V
Cycles ----------60

c. Nut and Bolt Torque Data.

Diodes ----------35-70 ft-lbs (foot- pounds).

d. Time Standards. Table 2-1 lists the number of man-hours required under normal conditions to perform the indicated maintenance and repair for the welding machine. Under adverse conditions, the operations will take longer; but under ideal conditions, with highly-skilled mechanics, most of the operations can be accomplished in considerably less time.

Table 4-1. Time Standards

	Man-hours
Lubrication and Service.	
40 ELECTRIC MOTORS	
4000 Electric Motors	
Motor, fan ---------- (lubricate.)	0.1
Remove and Replace	
22 ACCESSORY ITEMS	
2210 Data Plates and Instruction Holders	
Plates, Instruction ----------	0.3
40 ELECTRIC MOTORS	
4000 Electric Motors	
Motor, fan ---------- (Includes removal and installation of top cover and guard)	1.3

Table 4-1. Time Standards -Continued

	Man-hours
44 WELDING EQUIPMENT	
4400 Arc Welder	
Welder, arc	0.5
4405 Frame Support and Housing	
Lifting eye	0.2
Cover, top	0.3
Door rear terminal	0.3
Housing welder	0.5
Plate, Valve	0.4
4406 Ventilating, Cooling System	
Blade, fan	1.0
Guard, fan	1.4
(includes R & I of motor and fan)	
4407 Control Panels	
Light, pilot	0.4
Lamp	0.2
Switch, control	0.5
4408 Connecting Devices Receptacle	
Remote control	0.6
Panel	0.3
Stud, terminal	0.6
Remote control	0.7
4409 Protective Devices	
Switch, interlock	0.6
Switch, thermostatic	0.6
4410 Switching and Timing Speed	
Switch, control	0.6
Timer, plug-in	0.4
Relay, timer	0.4
Spark gap assembly	1.4
Contactor	0.6

Table 4-1. Time Standards - Continued

	Man-hours
Valve, solenoid	0.4
Plug dummy	0.4
Switch range -	1.0
Capacitor	1.8
Switch, polarity	0.7
4411 Resistor Components	
Resistor	0.6
Rheostat	0.8
(includes R & I of top cover)	
4412 Transformer Components	
Transformer. main	1.6
(includes complete disassembly of unit)	
Capacitor, power	1.2
(Includes R & I of top cover and housing)	
Reactor assembly	2.0
(includes R & I of top cover and housing)	
Coil assembly, filter reactor	2.0
(includes R & I of top cover and housing)	
Transformer	1.0
(includes removal and installation of top cover and housing)	
Coil, tesla	1.0
Transformer, control	2.6
4413 Rectifier Components	
Rectifier, main	1.5
(includes R & I of top cover and housing)	
Rectifier. control	1.0

Section III. SPECIAL TOOLS AND EQUIPMENT

4-5. Special Tools and Equipment

No special tools or equipment are required by direct and general support and depot maintenance for the maintenance of the welding machine.

4-6. Direct and General Support and Depot Maintenance Repair Parts

Direct and general support and depot maintenance repair parts are listed and illustrated in Appendix D of this manual.

4-7. Specially Designed Tools and Equipment

No specially designed tools and equipment are required by direct and general support and depot maintenance for the maintenance of the welding machine.

Section IV. TROUBLESHOOTING

4-8. General

This section provides information useful in diagnosing and correcting unsatisfactory operation or failure of the welding machine or any of its components. Each trouble symptom stated is fallowed by a list of probable causes of the trouble. The possible remedy recommended is described opposite the probable cause.

4-9. Welding Machine Smokes Excessively

Probable cause	Possible remedy
Main transformer defective.	Replace transformer (para 4-34).
Accessory transformer defective.	Replace transformer (para 4-32).

4-10. Polarity Cannot be Selected

Probable cause	Possible remedy
Polarity switch defective ___	Replace switch (para 4-19) .

4-11. Range Cannot be Selected

Probable cause	Possible remedy
Range switch defective ____	Replace switch (para 4-18),

4-12. Welding Machine has Internal Arcing

Probable cause	Possible remedy
Diode connections loose ----	Tighten diode connections (para 4-24).

4-13. Welding Machine Fails to Start

Probable cause	Possible remedy
Main transformer defective.	Replace transformer (para 4-34).
Wiring defective ____ ___.	Repair or replace wiring (para 4-34).

4-14. Welding Machine Operates Erratically

Probable cause	Possible remedy
Diodes defective ----------	Replace diodes (para 4–24).
Control rheostat defective,	Replace rheostat (para 4-20) .
Range switch contacts dirty, greasy, or bent.	Clean or straighten contacts or replace switch (para 4-18) .

4-15. Contactor Breaks Circuit

Probable cause	Possible remedy
Wiring shorted ----------	Repair or replace wiring (para 4-36).
Main transformer shorted.	Replace transformer (para 4-34).

Section V. CONTROL PANEL AND TIMER RECEPTACLES

4-16. Control Panel

a. Removal.

(1) Remove the welder top and housing (para 3-26).
(2) Remove the high frequency panel assembly (para 3-27).
(3) Remove the control rheostat (para 4-20).
(4) Remove the range switch (para 4-18).
(5) Remove the polarity switch (para 4-19).
(6) Remove the ground and electrode terminal board (para 3-47).
(7) Remove the remote receptacle (para 3-38).
(8) Remove the contactor switch (para 3-41).
(9) Remove the amperage switch (para 3-40).
(10) Refer to figure *4-2* and remove the control panel.

b. Installation.

(1) Refer to figure 4-2 and install the control panel.
(2) Install the amperage switch (para 3-40).
(3) Install the contactor switch (para 3-41).
(4) Install the remote receptacle (para 3-38).
(5) Install the ground and electrode terminal board (para 3-7).
(6) Install the polarity switch (para 4-19).
(7) Install the range switch (para 4-18).
(8) Install the control rheostat (para 4-20).
(9) Install the high frequency panel assembly (para 3-27).
(10) Install the welder top and housing (para 3-26).

4-17. Timer Receptacles

a. Removal.

(1) Remove the high frequency panel assembly (para 3-27).

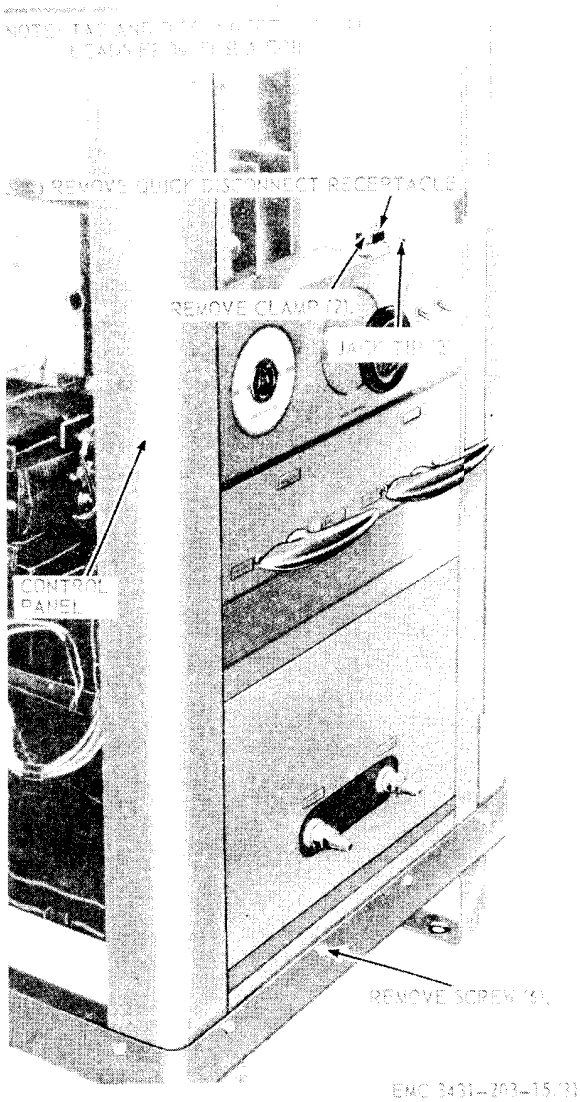


Figure 4-2. Control panel, removal and installation.

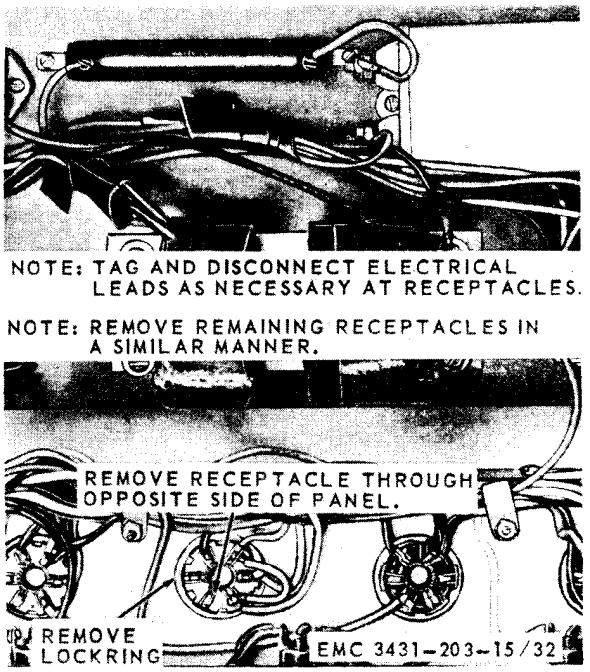


Figure 4-3. Timer receptacles, removal and installation.

(2) Refer to figure 4-3 and remove the timer receptacles

b. Installation.

(1) Refer to figure 4-3 and install the timer receptacles.

(2) Install the high frequency panel assembly (para 3-27).

Section VI. RANGE SWITCH, POLARITY SWITCH, CONTROL RHEOSTAT, AND INTENSITY SELECTOR

4-18. Range Switch

a. Removal.

(1) Remove the welding machine top and housing (para 3-26).

(2) Remove the high frequency panel assembly (para 3-27).

(3) Loosen control panel from frame (para 4-16).

(4) Refer to figure 4-4 and remove the range switch.

b. Installation.

(1) Refer to figure 4-4 and install the range switch.

(2) Secure the control panel to the frame (para 4-16).

(3) Install the high frequency panel assembly (para 3-27).

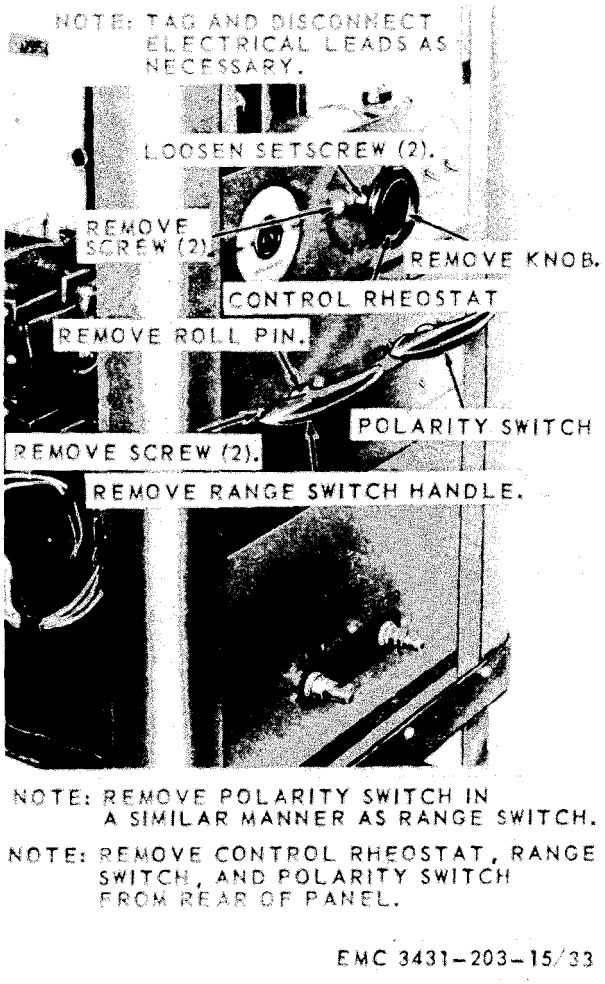


Figure 4-4. Range switch, polarity switch, and control rheostat, removal and installation.

(4) Install the welding machine top and housing (para 3-26).

4-19. Polarity Switch

a. Removal.

(1) Remove the welding machine top and housing (para 3-26).
(2) Remove the high frequency panel assembly (para 3-27).
(3) Loosen the control panel from the frame (para 4-16).
(4) Refer to figure 4-4 and remove the polarity switch.

b. Instillation.

(1) Refer to figure 4-4 and install the polarity switch.
(2) Secure the control panel to the frame (para 4-16).
(3) Install the high frequency panel assembly (para 3-27).
(4) Install the welder top and housing (para 3-26).

4-20. Control Rheostat

a. Removal.

(1) Remove the welding machine top and housing (para 3-26).
(2) Remove the high frequency panel assembly (para 3-27).
(3) Loosen the control panel from the frame (para 4-16).
(4) Refer to figure 4-4 and remove the control rheostat.

b. Testing.

(1) Connect an ohmmeter to the two outer terminals of the rheostat and set the meter on RXI scale. The reading should be 32 ohms. If the reading is more or less than 32 ohms, replace the rheostat.
(2) Connect an ohmmeter to the center terminal and either outside terminal of the rheostat. Set the meter on the RX1 scale. Turn the rheostat in either direction until it stops, then turn it in the opposite direction slowly and evenly until it stops again. The indicator on the meter should increase or decrease evenly according to the speed in which the rheostat is turned. If the meter indicator does not function as described, replace the rheostat.

Note. Make sure the ohmmeter used for the above tests is in proper working condition.

c. Installation.

(1) Refer to figure 4-4 and install the control rheostat.
(2) Secure the control panel to the frame (para 4-16).
(3) Install the high frequency panel assembly (para 3-27).
(4) Install the welding machine top and housing (para 3-26).

4-21. Intensity Selector

a. Removal.

(1) Unlock the lower panel door.

(2) Refer to figure 4-5 and remove the intensity selector.

b. Testing.

(1) Connect an ohmmeter to the outside terminals of the selector, and set the meter on the RX1 scale. The reading should be 2 ohms. If the reading is more or less than 2 ohms replace the intensity selector.

(2) Connect the ohmmeter to the center terminal and either outside terminal. Set the meter on the RX1 scale. Turn the intensity selector in a clockwise direction until it stops; the meter should have a zero reading. Then turn the intensity selector in a counterclockwise direction until it stops. The reading should be 2 ohms. If the readings are not as described, replace the intensity selector.

Note. Make sure that the ohmmeter used for the above tests is in proper working condition.

c. Installation.

(1) Refer to figure 4-5 and install the intensity selector.

(2) Close and lock the panel door.

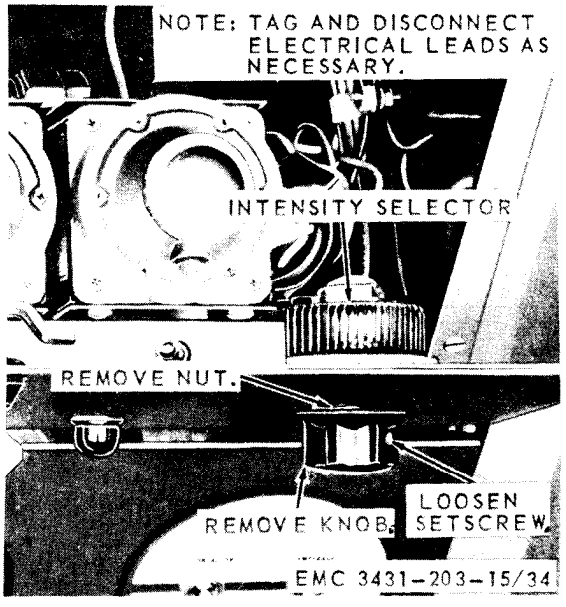


Figure 4-5. Intensity selector, removal and installation.

Section VII. CONTROL RECTIFIER, RECTIFIER ASSEMBLY, DIODES, CAPACITORS, AND RESISTORS

4-22. Control Rectifier

a. Removal.

(1) Remove the welding machine top and housing (para 3-26),

(2) Refer to figure 4-6 and remove the control rectifier.

Warning: **When malfunction of the selenium rectifier occurs, thoroughly ventilate the area to prevent inhalation of poisonous fumes. Do not handle the damaged rectifier while it is warm, to avoid absorption of the poisonous selenium oxide compound through the skin. Failure to observe this warning can result in serious injury or death.**

b. Installation.

(1) Refer to figure 4-6 and install the control rectifier.

(2) Install the welding machine top and housing (para 3-26).

4-23. Rectifier Assembly

a. Removal.

(1) Remove the welding machine top and housing (para 3-26).

(2) Refer to figure 4-7 and remove the rectifier assembly.

b. Disassembly and Reassembly. Refer to figure 4-8 and disassemble and reassemble the rectifier assembly.

c. Installation.

(1) Refer to figure 4-7 and install the rectifier assembly.

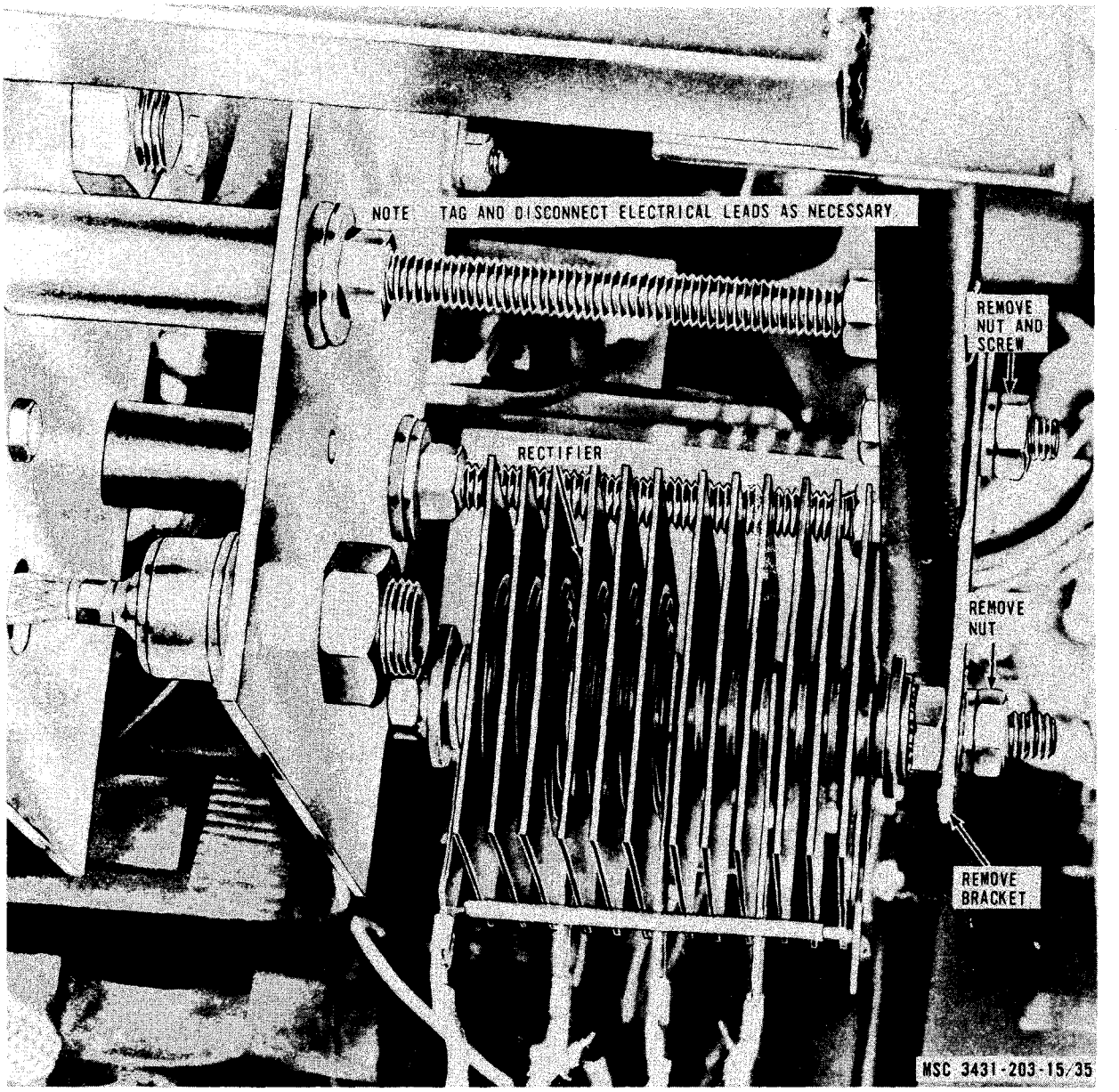


Figure 4-6. Control rectifier, removal and installation.

(2) Install the welding machine top and housing (para 3-26).

4-24. Diodes

a. Removal.

(1) Remove the welding machine top and housing (para 3-26).

(2) Refer to figure 4-7 and remove the diodes.

b. Installation.

(1) Refer to figure 4-7 and install the diodes.

(2) Install the welding machine top and housing (para 3-26).

4-25. Capacitors

a. Removal.

(1) Remove and welding machine top and housing (para 3-26).

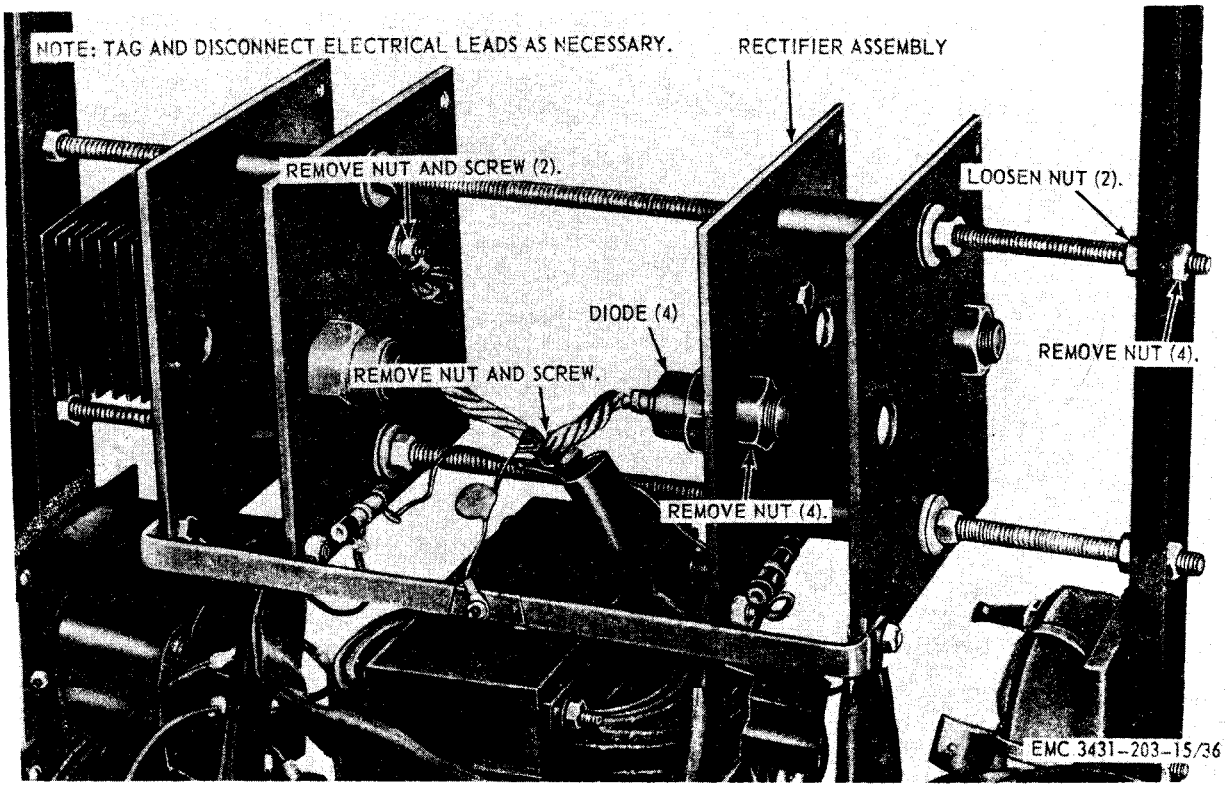


Figure 4-7. Rectifier assembly and diodes, removal and installation.

(2) Remove the high frequency panel assembly (para 3-27).

(3) Refer to figure 4-9 and remove the capacitors.

b. Testing. Connect a suitable capacitor tester to the wire leads and check the capacitors for open oir shorted circuit.

c. Installation.

(1) Refer to figure 4-9 and install the capacitors.

(2) Install the high frequency panel assembly (para 3-27).

(3) Install the welding machine top and housing (para 3-26).

4-26. Resistors

a. Removal.

(1) Remove the welding machine top and housing (para 3-26).

(2) Remove the high frequency panel assembly (para 3-27).

(3) Refer to figure 4-10 and remove the resistors.

b. Testing. Connect an ohmmeter to the resistor leads and check the resistance. The meter reading must conform with the resistor values shown on the wiring diagram (fig. 4-1).

c. Installation.

(1) Refer to figure 4-10 and install the resistors.

(2) Install the high frequency panel assembly (para 3-27).

(3) Install the welding machine top and housing (para 3-26).

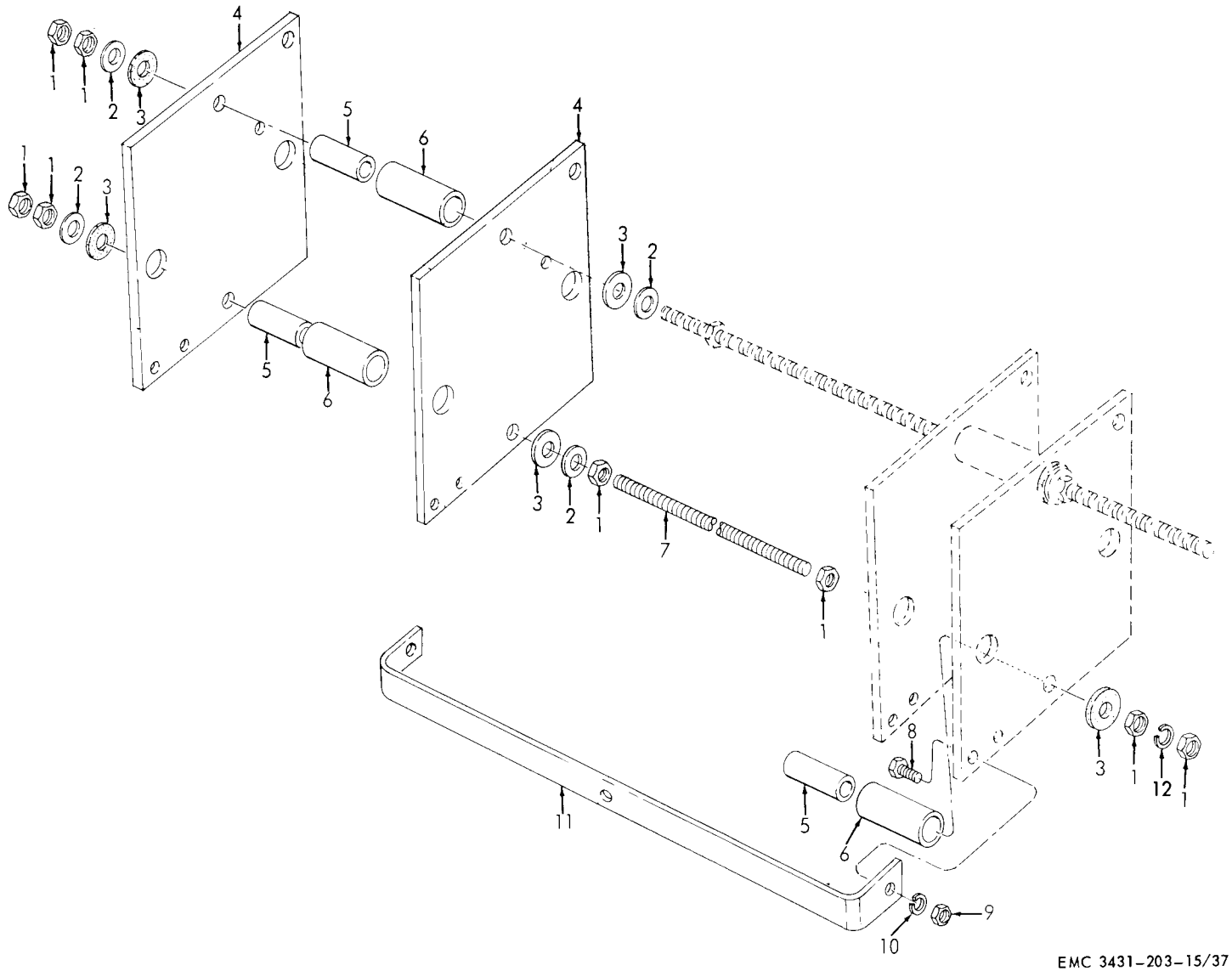


Figure 4–8. Rectifier assembly, disassembly and reassembly.

1 Nut, hex 3/8–16 (12)
2 Washer, flat 7/16 in. (8)
3 Washer, insulating, 9/16 in. (6)
4 Rectifier plate (4)
5 Spacer 9/16 x 2 3/4 in. (4)
6 Spacer 3/4 x 2 1/4 in. (4)
7 Rod, threaded, 3/8 x 21 in. (2)
8 Capscrew, hex-hd, 1/4–20 x 5/8 in. (2)
9 Nut, hex, 1/4–20 (2)
10 Washer, lock, 1/4 in. (2)
11 Copper bar
12 Washer, lock 3/8 in.

Figure 4–8—Continued

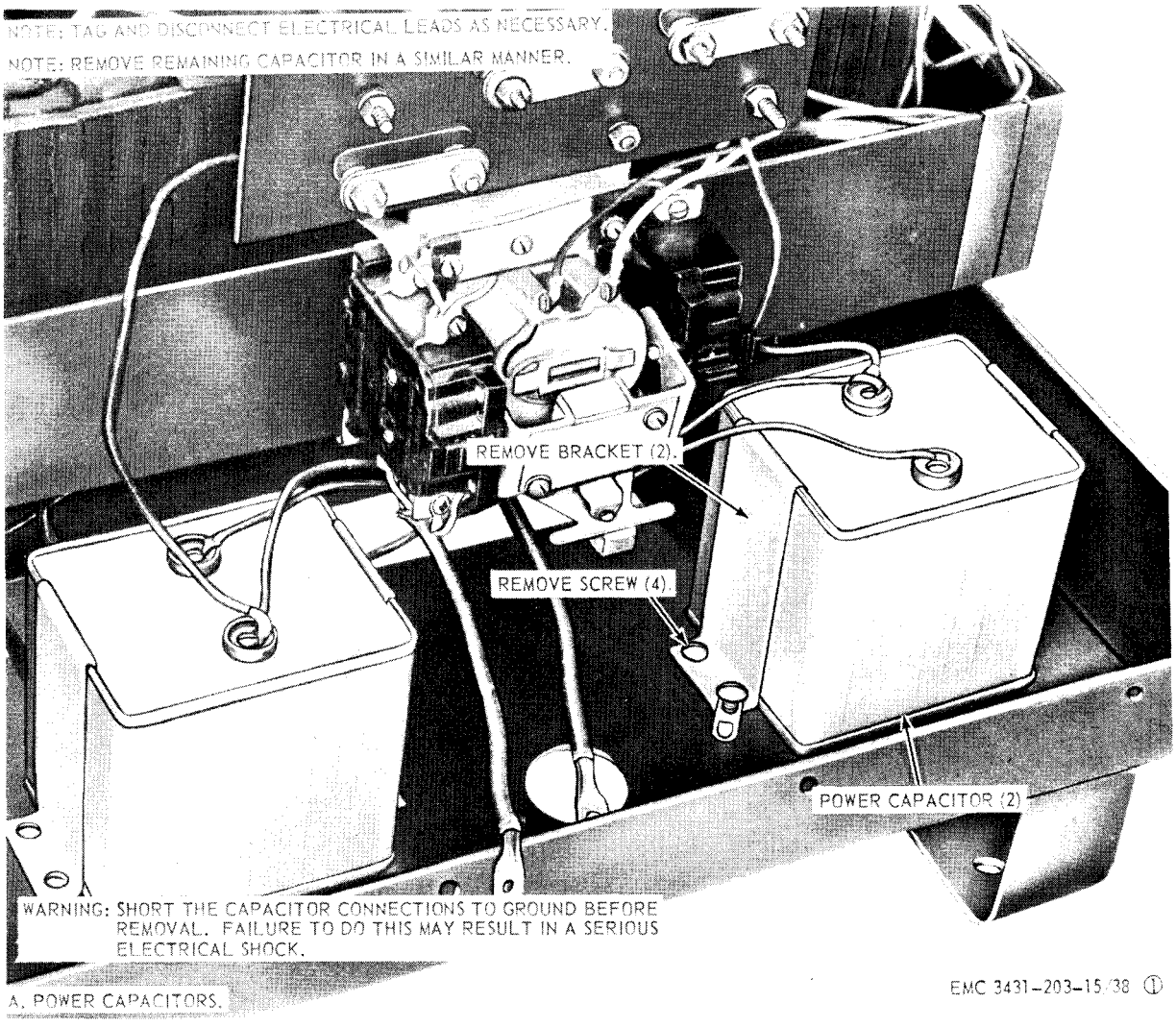
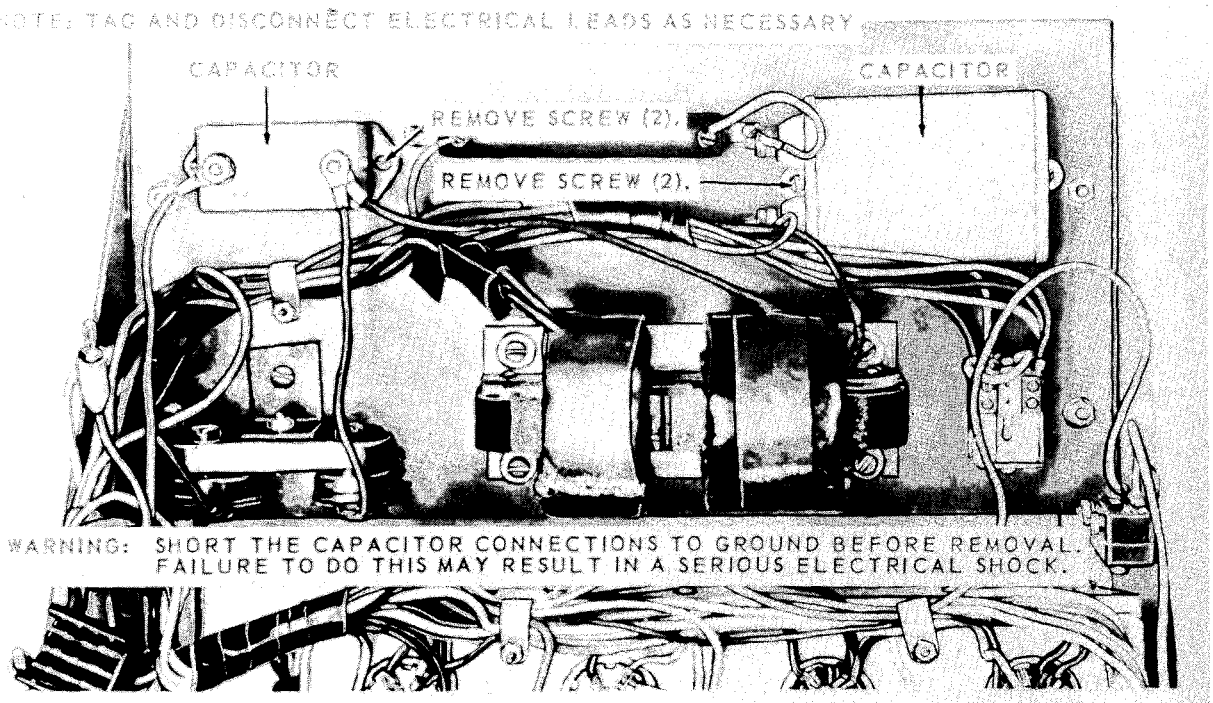
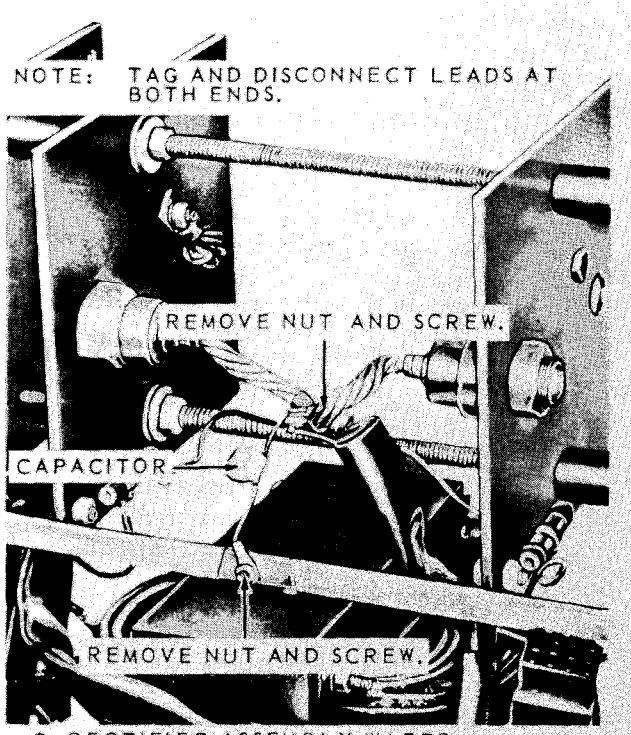


Figure 4-9 (1). Capacitors, removal and installation.



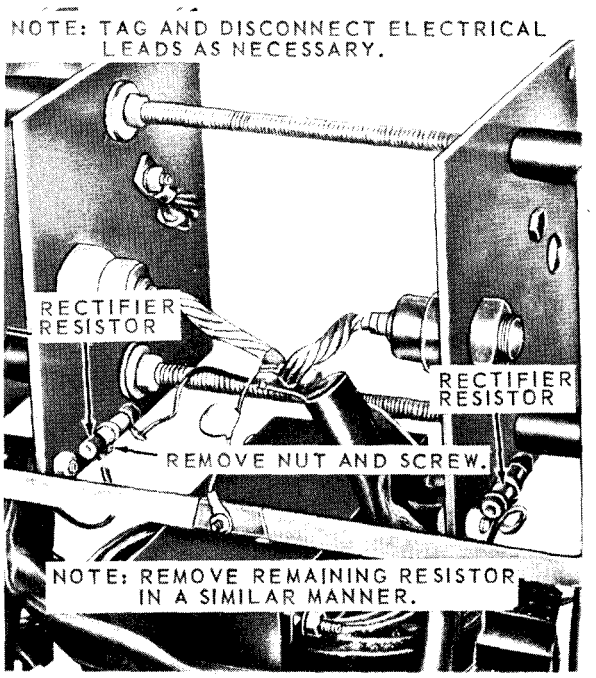
a. HIGH FREQUENCY AND BYPASS CAPACITORS.



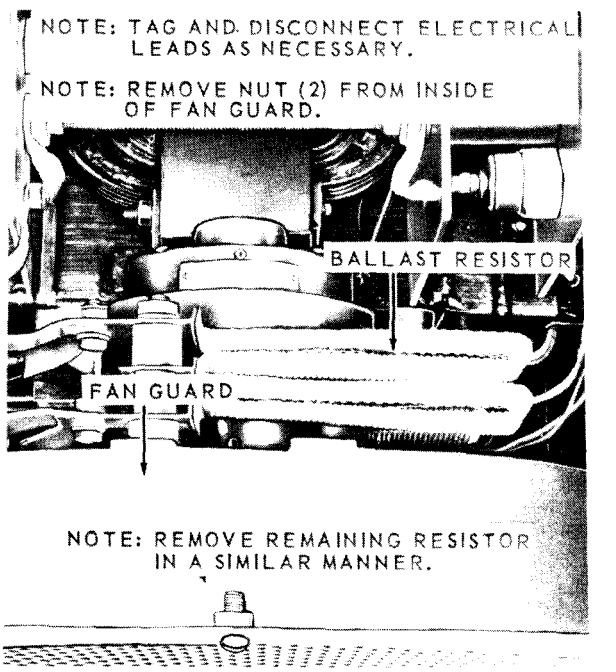
c. RECTIFIER ASSEMBLY WAFER CAPACITOR.

EMC 3431-203-15/38 (2)

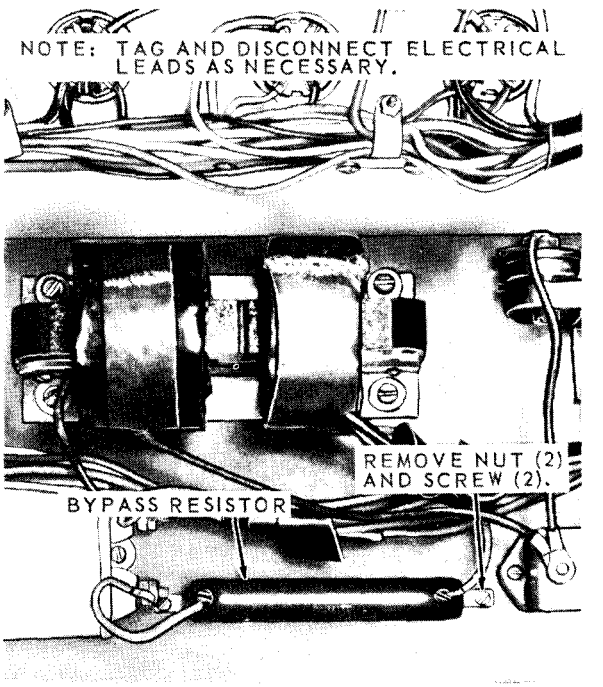
Figure 4-9 (2). - Continued.



A. RECTIFIER ASSEMBLY RESISTORS.



B. BALLAST RESISTORS.



C. BYPASS RESISTOR.

EMC 3431-203-15/39

Figure 4-10. Resistors, removal and installation.

Section VIII. TIMER RELAY, SWITCHING PANEL, FILTER REACTOR, REACTOR COIL AND TESLA COIL

4-27. Timer Relay

a. Removal.

(1) Remove the high frequency panel assembly (para 3-27).

(2) Refer to figure 4-11 and remove the timer relay.

b. Installation.

(1) Refer to figure 4-11 and install the timer relay.

(2) Install the high frequency panel assembly (para 3-27).

4-28. Switching Panel

a. Removal.

(1) Remove the welding machine top and housing (para 3-26).

(2) Remove the contactor screws (para 3-41).

(3) Refer to figure 4-12 and remove the switching panel.

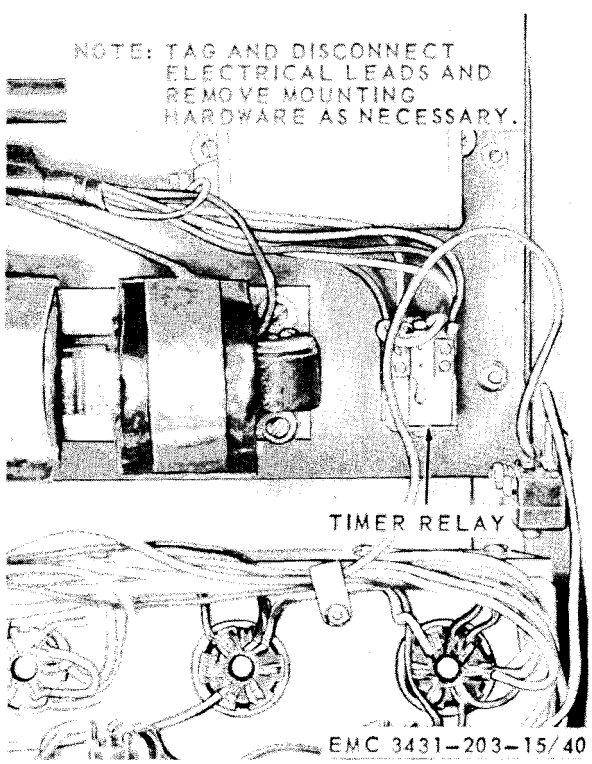


Figure 4-11. Timer relay, removal and installation.

b. Installation.

(1) Refer to figure 4-12 and install the switching panel.

(2) Install the contactor screws (para 3-41).

(3) Install the welding machine top and housing (para 3-26).

4-29. Filter Reactor

a. Removal.

(1) Remove the welding machine top and housing (para 3-26).

(2) Remove the rectifier assembly (para 4-23) .

(3) Disconnect the filter reactor lead from the polarity switch (para 4-19).

(4) Refer to figuue 4-13 and remove the filter reacher.

b. Testing. Connect an ohmmeter to the filter reactor leads and check from an open circuit.

c. *Installation.*

(1) Refer to figure 4-13 and install the filter reactor.

(2) Connect the filter reactor lead to the polarity switch (para 4-19).

(3) Install the rectifier assembly (para 4-23).

(4) Install the welding machine top and housing (para 3-26).

4-30. Reactor Coil

a. Removal.

(1) Remove the welding machine top and housing (para 3-26).

(2) Remove the rectifier assembly (para 4-23) .

(3) Disconnect the coil lead from the polarity switch (para 4-19).

(4) Refer to figure 4-13 and remove the reactor coil.

b. Testing. Connect a multiimeter to the tail leads and set the meter on ohms. If the indicator gives no reading, the coil has an open circuit and must be replaced.

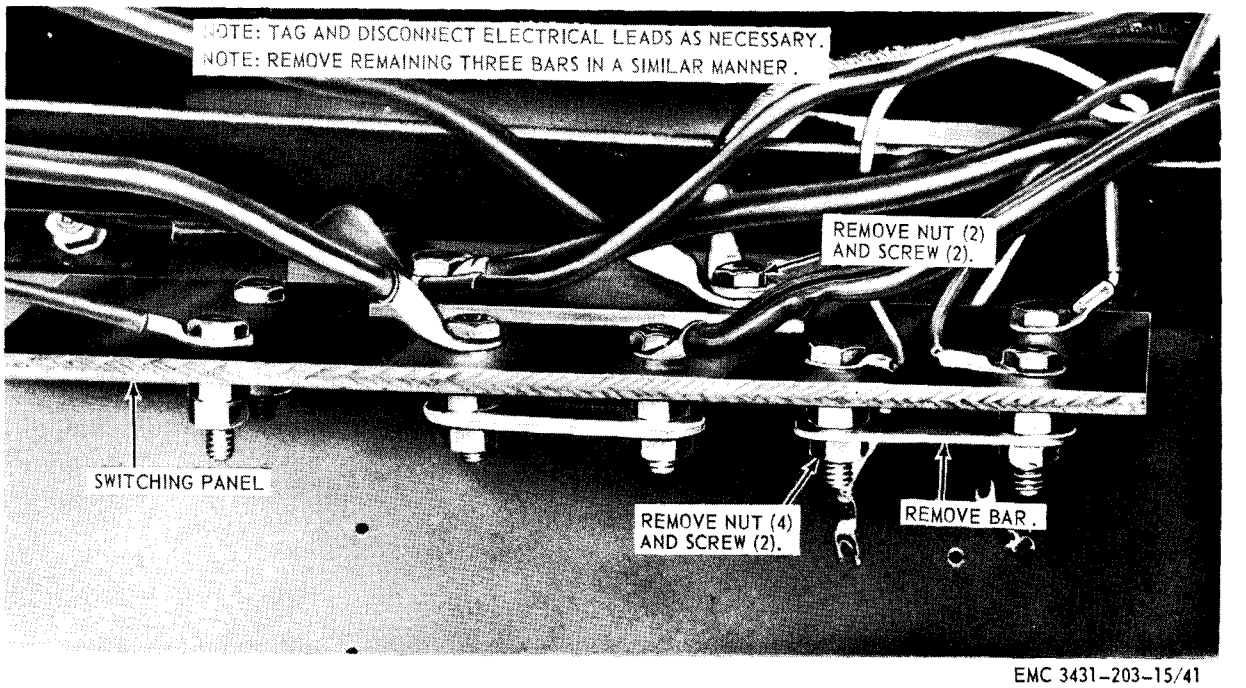


Figure 4-12. Switching panel, removal and installation.

c. Installation.

(1) Refer to figure 4-13 and install the reactor coil.

(2) Connect the coil lead to the polarity switch (para 4-19).

(3) Install the rectifier assembly (para 4-23).

(4) Install the welding machine top and housing (para 3-26).

4-31. Tesla Coil

a. Removal.

(1) Remove the welding machine top and housing (para 3-26).

(2) Refer to figure 4-14 and remove the tesla coil.

b. Testing.

(1) Connect a multimeter to the coil leads and test for continuity.

(2) If there is no reading on the multimeter, replace the coil.

(3) Connect a megohmmeter to the coil and best the insulation breakdown.

c. Installation.

(1) Refer to figure 4-14 and install the tesla coil.

(2) Install the welding machine top and housing (para 3-26).

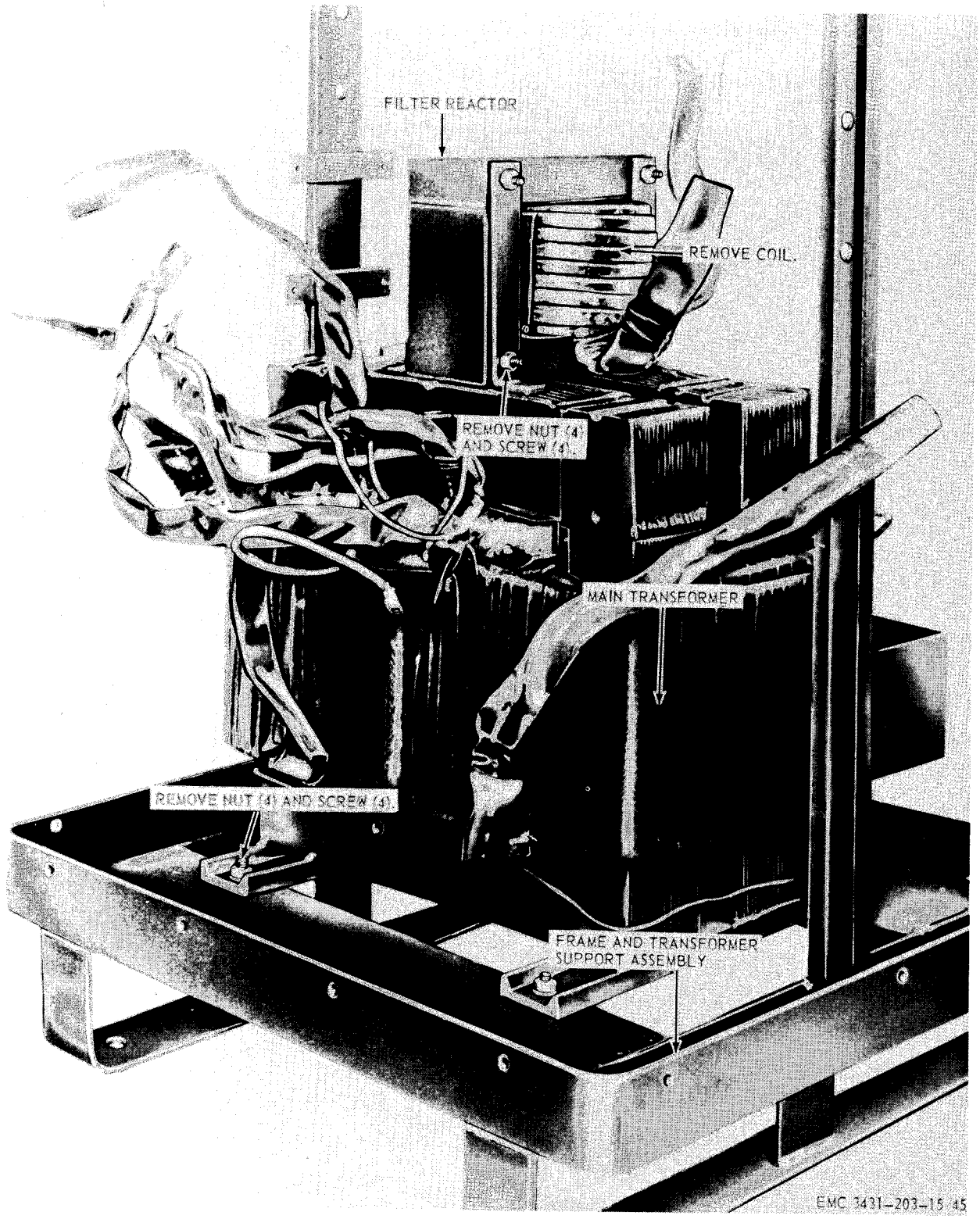


Figure 4-13. Main transformer reactor coil and filter reactor, removal and installation.

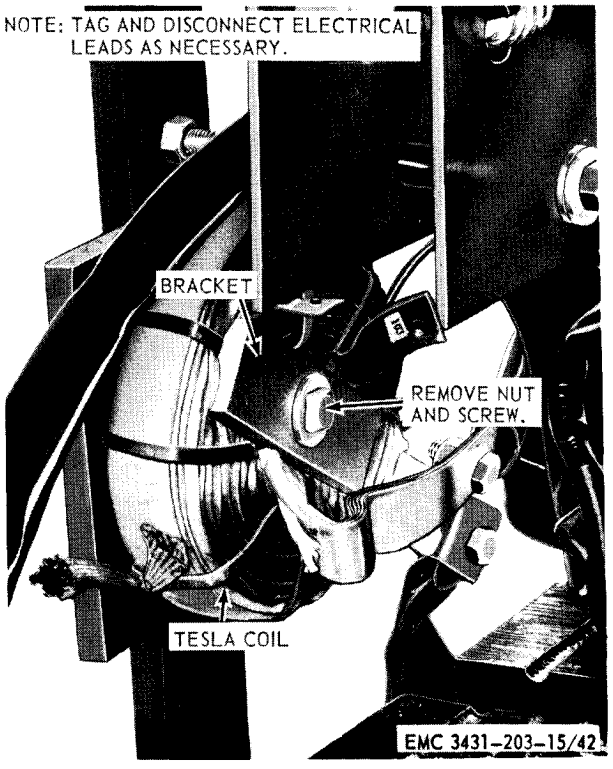


Figure 4-14. Tesla coil and bracket, removal and installation.

Section IX. ACCESSORY TRANSFORMER, HIGH FREQUENCY CONTROL TRANSFORMER, AND MAIN TRANSFORMER

4-32. Accessory Transformer

a. Removal.

(1) Remove the welding machine top and housing (para 3-26).

(2) Refer to figure 4-15 and remove the accessory transformer.

h. *Testing.*

(1) Connect a 230-volt power source to the yellow input lead and black center tap lead, as indicaed on the lead.

(2) Connect a voltmeter to the common terminal and the renter tap. The meter reading should be 24 volts.

(3) Connect the voltmeter to the common terminal and the 230-volt terminal. The reading should be 230 volts.

(4) If the meter reading is other than that specified above, the transformer must be replaced.

c. Installation.

(1) Refer to figure 4-15 and install the accessory transformer.

(2) Install the welding machine top and housing (para 3-26).

4-33. High Frequency Control Transformer

a. Removal.

(1) Remove the high frequency panel assembly (para 3-27).

(2) Refer to figure 4-16 and remove the high frequency control transformer.

b. Testing.

(1) Connect a voltmeter to the secondary leads.

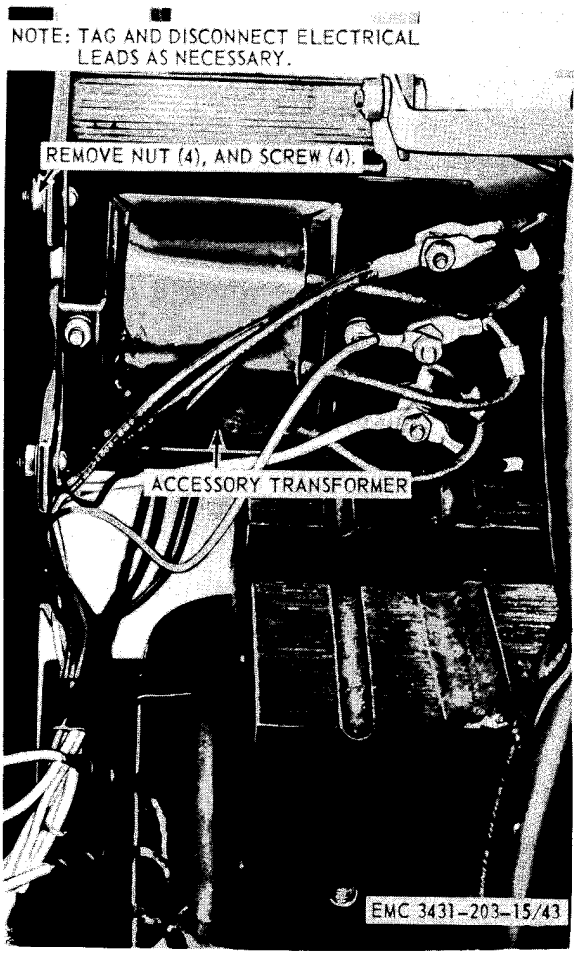


Figure 4-15. Accessory transformer, removal and installation.

(2) Connect a 230-volt power source to the primary winding of the transformer.

(3) The meter should read 3,500 volts. If the indicated reading is not obtained, the transformer must be replaced.

Warning: **When making a test on the high frequency control transformer, make sure the transformer is on an insulated bench. Do not touch the transformer or wires leading from it. To do so may cause serious electrical shock or possible death to personnel performing the test.**

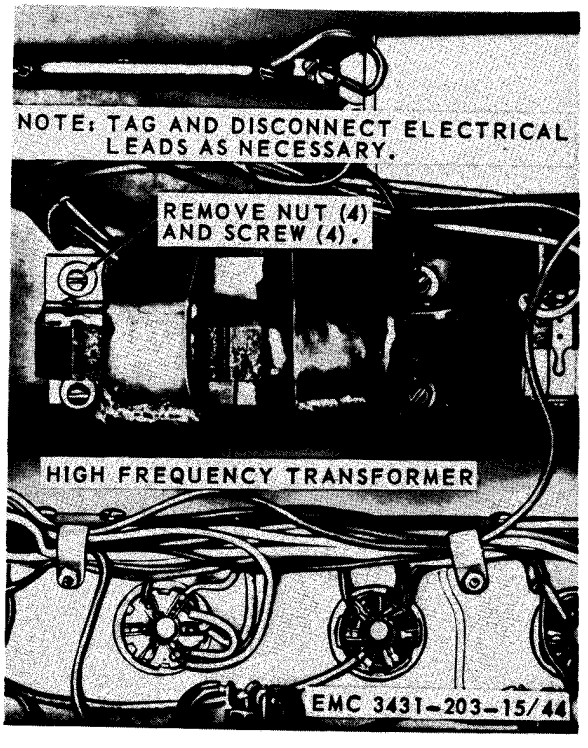


Figure 4-16. High frequency control transformer, removal and installation.

c. Installation.

(1) Refer to figure 4-16 and install the high frequency control transformer.

(2) Install the high frequency panel assembly (para 3-27).

4-34. Main Transformer

a. Removal.

(1) Remove the welding machine top and housing (para 3-26).

(2) Remove the control panel (para 4-16).

(3) Remove the control rectifier (para 4-22).

(4) Remove the rectifier assembly (para 4-23).

(5) Remove the filter reactor (para 4-29).

(6) Remove the tesla coil (para 4-31).

(7) Remove the. accessory transformer (para 4-32).

(8) Remove the switching panel (para 4-28).

(9) Refer to figure 4-13 and remove the main transformer.

b. *Installation.*

(1) Refer to figure 4-13 and install the main transformer.
(2) Install the switching panel (para 4-28).
(3) Install the accessory transformer (para 4-32).
(4) Install the tiesla coil (para 4-31).
(5) Install the filter reactor (para 4-29).
(6) Install the rectifier assembly (para 4-23).
(7) Install the control rectifier (para 4-22).
(8) Install the control panel (para 4-16).
(9) Install the welding machine top and housing (para 3-26).

Section X. WIRING HARNESS AND HIGH FREQUENCY PANEL WIRING HARNESS

4-35. General

The welding machine has a wiring harness separate from the high frequency panel. The two separate wire groups are connected through a quick-disconnect type plug, to complete the electrical circuits.

4-36. Wiring and Wiring Harness

a. Removal.

(1) Remove the welding machine top and housing (para 3-26).
(2) Remove the high frequency panel assembly (para 3-27).
(3) Remove the harness wires from the polarity switch (para 4-19).
(4) Remove the wires from the control rhelostat (para 4-20).
(5) Remove the wines from the remote receptacle (para 3-38).
(6) Remove the thermostatic switch (para 3-42).
(7) Remove the wires from the control rectifier (para 4-22).
(8) Remove the harness wires from the accessory transformer (para 4-32).
(9) Remove the wires from the contactor (para 3-41).
(10) Remove the red and purple wires from the switching panel (para 4-28).
(11) Remove the quick-disconnect receptacle from the control panel (para 4-16).
(12) Remove the tape which secures the harness to the frame and remove the harness.

b. Testing. To test a wire for continuity, disconnect each end of the wire from the component or components to which it is connected. Touch the test probes of a multimeter to each end of the wire. If continuity is not indicated, the wire is defective and must be repaired or replaced *(c* and *d* below).

c. Repair. Shave the insulation on the wire to expose one-half inch of bare wire at both ends of the break. Twist the bare wire together and solder the connection. Cover the repaired break with electrical tape. Do not leave any bare wire exposed. If a terminal lug is damaged, or breaks off a wire, replace it using an exact duplicate terminal lug.

d. Replacement. Replace a wire by discon,-necting it from the component or components to which it is connected and remove the wire. Install a new wipe and connect it to the component or components. If a broken wire is part of a wiring harness, disconnect the wire at both ends and tape the ends with electrical tape. Install a new wire and attach it to the' exterior of the wiring harness.

e. Installation.

(1) Place the wiring harness in the welding machine and tape it to the frame.
(2) Install the quick-disconnect receptacle on the control panel (para 4-16).
(3) Connect the red and purple wires to the switching panel (para 4-28).
(4) Connect the wines to the contactor (para 3-41).
(5) Connect harness wires to the accessory transformer (para 4-32).

(6) Connect the wires to the control rectifier (para 4-22).
(7) Install the thermostatic switch (para 3-42)
(8) Connect the wires to the remote receptacle (para 3-38).
(9) Connect the wires to the control rheostat (para 4-20).
(10) Connect the wires to the polarity switch (para 4-19).
(11) Install the high frequency panel assembly (para 3-27).
(12) Install the welding machine top and housing (para 3-26).

4-37. High Frequency Panel Wiring and Wiring Harness

a. Removal.
(1) Remove the high frequency panel assembly (para 3-27).
(2) Refer to figure 4-17 and remove the high frequency panel wiring harness.

b. Installation.
(1) Refer to figure 4-17 and install the high frequency panel wiring harness.
(2) Install the high frequency panel assembly (para 3-27).

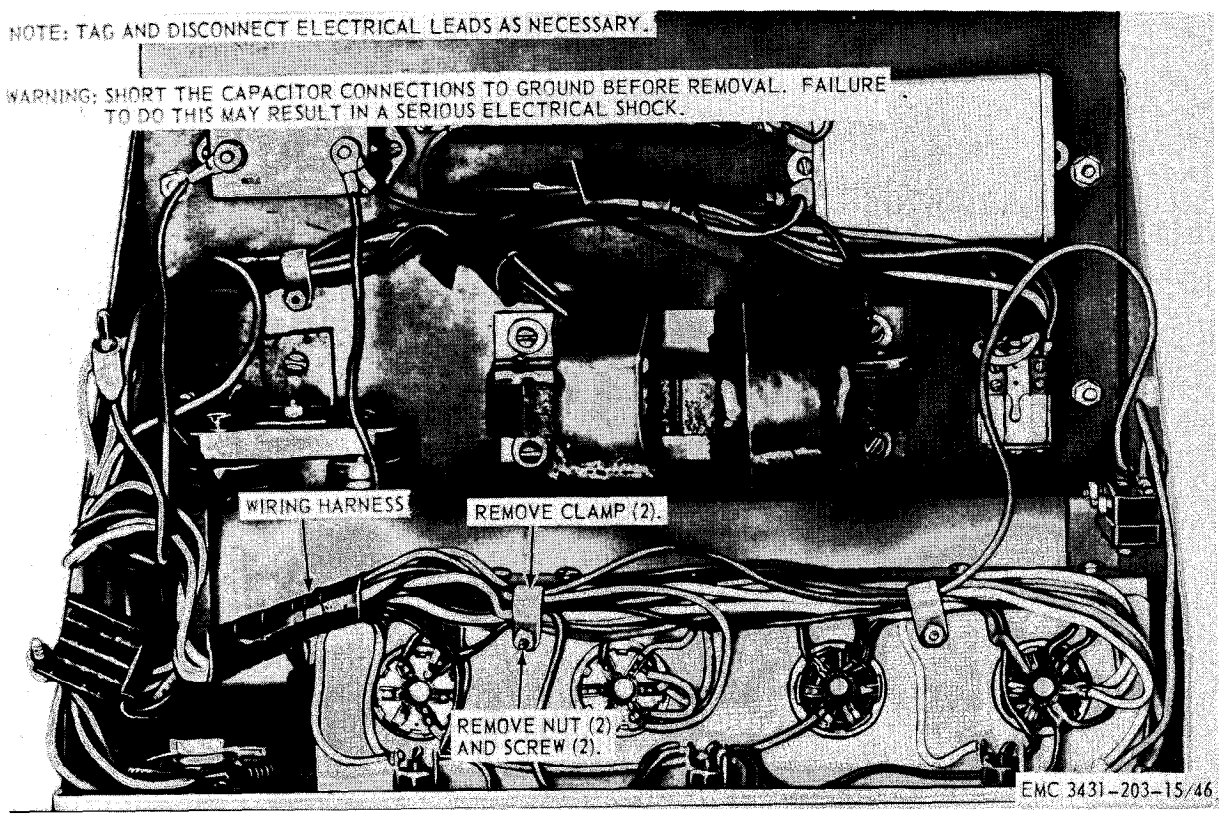


Figure 4-17. High frequency panel wiring harness, removal and installation.

Section XI. FRAME AND MAIN TRANSFORMER SUPPORT ASSEMBLY

4-38. General

The welding machine frame and main transformer support assembly is of one piece and constructed of heavy metal. It has two skids which are welded to the bottom and are designed for bolting the welding machine to the floor. The skids also hold the welding machine approximately four inches above the floor to allow for circulation of air through the welding machine for cooling. The main transformer is mounted to the frame with four

bolts; the vertical bars are used for mounting of component parts and the top.

4-39. Frame and Main Transformer Support Assembly

a. Removal.

(1) Remove the main transformer (para 3-34).

(2) After the main transformer is removed, the frame and transformer support assembly (fig. 4-16) is free.

b. Installation. Install the main transfcmmer on the frame and transformer support assembly (para 4-39).

APPENDIX A

REFERENCES

A-1. Fire Protection

TB 5-4200-200-10 Hand Portable, Fire Extinguishers for Army Users.

A-2. Painting

TM 9-213 Painting Instructions for Field Use.

A-3. Preventive Maintenance

TM 38-750 Army Equipment Record Procedures.

APPENDIX B

BASIC ISSUE ITEMS LIST

AND OPERATING SUPPLIES

Section I. INTRODUCTION

B-1. Scope

This appendix lists items which accompany the Welding Machine or are required for installation, operation, or operator's maintenance. Section II lists the accessories, tools, and publications required for the maintenance and operation by the operator, initially issued or authorized with the equipment.

B-2. Explanation of Columns

The following provides an explanation of columns in the tabular list in Section II.

a. Source, Maintenance and Recoverability Codes (Column 1).

(1) Source code, column la, indicates the selection status and source for the listed item. Source codes are:

Code	Explanation
P	Applied to repair parts which are stocked in or supplied from the GSA/DSA Army Supply System, and authorized for use at indicated maintenance categories.
M	Applied to repair parts which are not procured or stocked but are to be manufactured at indicated maintenance categories.
X2	Applied to repair parts which are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain them through cannibalization. If not obtainable through cannibalization, such repair parts will be requisitioned with supporting justification through normal supply channels

(2) Maintenance code. column 1b, indicates the lowest category of maintenance authorized to install the listed item. The maintenance level code is:

Code	Explanation
O	Organizational maintenance (operator/crew).

(3) Recoverability code, column 1c, indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable.

b. Federal Stock Number, column 2, indicates the Federal stock number for the item.

c. Description, column 3 indicates the Federal item name and any additional description required. A fivedigit manufacturer's code or other service code and part number is included in parentheses for reference. Repair parts quantities included in kits, sets, and assemblies are shown in front of the repair part name.

d. Unit of Issue, column 4, indicates the unit used as a basis for issue, e.g., ea, pr, ft, yd, etc.

e. Quantity Incorporated in Unit Pack, column 5, indicates the actual quantity contained in the unit pack.

f. Quantity Incorporated in Unit, column 6, indicates the total quantity of the item used on the equipment.

g. Quantity authorized, column 7, indicates the total quantity of an item required to be on hand and necessary for operation and maintenance of the equipment. Items to be requisitioned as required are indicated by an asterisk.

h. Illustration, column 8.

(1) Figure Number, column 8a indicates the figure number of the illustration in which the item is shown.

(2) Item or Symbol Number, column 8b indicates the callout number used to reference the item in the illustration.

Section II. BASIC ISSUE ITEMS LIST

(1) Source maint and recov code			(2)	(3)	(4)	(5)	(6)	(7)	(8) Illustration	
(a) Source	(b) Maint	(c) Recov	Federal stock number	Description	Uni of issu	Qty inc in unit pacl	Qty inc in unit	Qty auth	(a) Fig no.	(b) Item or sym no.
				GROUP 31 — BASIC ISSUE ITEMS, MANUFACTURER INSTALLED						
				3100 — BASIC ISSUE ITEMS MANUFACTURER OR DEPOT INSTALLED						
P	0		'520–559–9618	CASE, MAINTENANCE AND OPERATIONAL MANUALS: cotton duck, water repellent, mildew resistant			1	1		
X2	0		5975–243–5861	CLAMP, ELECTRICAL: ground rod, 1/2 in. to 1 in. id.	EA		1	1		
				DEPARTMENT OF THE ARMY OPERATOR, ORGANIZATIONAL, FIELD AND DEPOT MAINTENANCE MANUAL (Including Repair parts and Special Tool List) TM 5–3431–203–15			1	1		
X2	0		5120–642–8937	ROD, GROUND: 9 ft lg, 5/8 in. dia cone point 3 section	EA		1	1		
P	0			SWITCH AND CABLE ASSEMBLY, REMOTE CONTROL (96073) (29			1	1		
M	0			WIRE, ELECTRICAL: ground MANUFACTURE FROM :	EA		1	1		
P	0		5145–189–6695	WIRE, ELECTRICAL: No. 6 AWG (10 ft required)	FT					

APPENDIX C

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

C-1. General

a. Section I provides a general explanation of all maintenance and repair functions authorized at various maintenance levels.

b. Section II designates overall responsibility for the performance of maintenance operations on the identified end item or component. The implementation of the maintenance tasks upon the end item or component will be consistent with the assigned maintenance operations.

c. Section III lists the special tools and test equipment required for each maintenance operation as referenced from Section II.

d. Section IV contains supplemental instructions, explanatory notes and/or illustrations required for a particular maintenance function.

C-2. Explanation of Columns in Section II

a. Functional Group Number. The functional group is a numerical group set up on a functional basis. The applicable functional grouping indexes (obtained from TB 750-93-1 Functional Grouping Codes) are listed on the MAC (Maintenance Allocation Chart) in the appropriate numerical sequence. These indexes are normally set up in accordance with their function and proximity to each other.

b. Component Assembly Nomenclature. This column contains a brief description of the components of each functional group.

c. Maintenance Operations and Maintenance Levels. This column lists the various maintenance operations (A through J) and indicates the lowest maintenance level authorized to perform these operations. The symbol designations for the various maintenance levels are as fallows:

C - Operator or crew
O - Organizational maintenance
F - Direct, support maintenance
H - General support maintenance
D - Depot maintenance

The maintenance operations are defined as follows:

A - SERVICE: Operations required periodically to keep the item in proper operating condition, i.e., to clean, preserve, drain, paint, and replenish fuel, lubricants, hydraulic, and deicing fluids, or compressed air supplies.

B - ADJUST: Regulate periodically to prevent malfunction. Adjustments will be made commensurate with adjustment procedures and associated equipment specifications.

C - ALINE: Adjust two or more components of an electrical or mechanical system so that their functions are properly synchronized or adjusted.

D - CALIBRATE: Determine, check, or rectify the graduation of an instrument, weapon, or weapons system or components of a weapons system.

E - INSPECT: Verify serviceability and detect. incipient electrical or mechanical failure by close visual examination.

F - TEST: Verify serviceability and detect incipient electrical or mechanical failure by measuring the mechanical or electrical characteristics of the item and comparing those characteristics with authorized standards. Tests will be made commensurate with test procedures and with calibrated tools and/or test equipment referenced in the MAC.

G - REPLACE: Substitute serviceable components, assemblies and subassemblies for unserviceable counterparts or remove and install the same item when required for the performance of other maintenance operations.

H - REPAIR: Restore to a serviceable condition by replacing unserviceable parts or by any other action required using available tools, equipment and skills- to include welding, grinding, riveting, straightening, adjusting and facing.

I - OVERHAUL: Restore an item to a completely serviceable condition (as prescribed by serviceability standards developed and published by the commodity commands) by employing techniques of "Inspect and Repair Only as Necessary" (IROAN). Maximum use of diagnostic and test equipment is combined with minimum disassembly during overhaul. "OVERHAUL" may be assigned to any level of maintenance except organizational, provided the time, tools, equipment, repair parts authorization, and technical skills are available at that level. Norreally, overhaul as applied to end items, is limited to depot maintenance level.

J - REBUILD: Restore to a condition comparable to new by disassembling to determine the condition of each component part and reassembling using serviceable, rebuilt, or new assemblies, subassemblies, and parts.

d. Reference Note. This column, subdivided into columns K and L, is provided for referencing the SPECIAL TOOLS AND TEST EQUIPMENT REQUIREMENTS (Sec. III) and REMARKS (Sec. IV) that may be associated with maintenance operations (Sec. II).

C-3. Explanation of Columns in Section III

a. Reference Code. This column consists of a number and a letter separated by a dash. The number references the T & TE requirements column on the MAC. The letter represents the specific maintenance operation the item is to be used with. The letter is representative of columns A through J on the MAC.

b. Maintenance Level. This column shows the lowest level of maintenance authorized to use the special tool or test equipment.

c. Nomenclature. This column lists the name or identification of the tool or test equipment.

d. Tool Number. This column lists the manufacturer's code and part number, or Federal stock number, of tools and test equipment.

C-4. Explanation of Columns in Section IV

a. Reference Code. This column consists of two letters separated by a dash, both of which are references to Section II. The first letter references Column L and the second letter references a maintenance operation, Column A through J.

b. Remarks. This column lists information pertinent to the Maintenance Operation being performed, as indicated on the MAC Section II.

Section II. MAINTENANCE ALLOCATION CHART

Functional group number	Component assembly nomenclature	Essentiality	Maintenance operations: A Service	B Adjust	C Aline	D Calibrate	E Inspect	F Test	G Replace	Maintenance levels: H Repair	I Overhaul	J Rebuild	Note ref: K T&TE rqmt	L Remarks
22	ACCESSORY ITEMS													
2210	Data Plates, and Instruction Holders:													
	Plates, data	--	--	--	--	--	--	--	F					
	Plates, instruction	--	--	--	--	--	--	--	O					
44	WELDING EQUIPMENT													
4400	Arc Welder	--	--	--	--	--	--	F	--	O	H			
4405	Frame Support, Housing:													
	Lifting, eye; cover, top; panel, housing, front	--	--	--	--	--	--	--	O					
4408	Connecting Devices:													
	Receptacle, remote control	--	--	--	--	--	--	--	F					
	Panel, stud, terminal	--	--	--	--	--	--	--	O					
	Stud, terminal	--	--	--	--	--	--	--	O					
	Switch and cable assembly, remote control	--	--	--	--	--	--	--	O					
4409	Protective Devices:													
	Switches, interlock and thermostatic	--	--	--	--	--	--	--	O					
4410	Switching and Timing Speed:													
	Switch control; cable assembly, change-over board; receptacle plug in timer	--	--	--	--	--	--	--	O					
4410	Switching and Timing Speed-Continued													
	Relay, timer; switch, range; switch, polarity	--	--	--	--	--	--	--	F					
	Spark gap assembly	--	--	O	--	--	--	--	O					
	Contactor; valve, solenoid; plug, dummy	--	--	--	--	--	--	--	O					
	Capacitor	--	--	--	--	--	--	F	F					
4411	Resistor Components:													
	Resistor	--	--	--	--	--	--	F	F					
	Rheostat	--	--	--	--	--	--	--	F					
4412	Transformer Components:													
	Transformer, Main	--	--	--	--	--	--	--	H					
	Reactor assembly, filter; transformer, control	--	--	--	--	--	--	--	F					
	Coil assembly, filter reactor; transformer 230 volts; coil tesla; capacitor, power	--	--	--	--	--	--	F	F					
4413	Rectifier Components:													
	Rectifier, main	--	--	--	--	--	--	--	F	F				
	Rectifier, control	--	--	--	--	--	--	--	F					

Section III. SPECIAL TOOL AND SPECIAL TEST EQUIPMENT REQUIREMENTS

Reference code	Maintenance level	Nomenclature	Tool number
		NONE REQUIRED	

Section IV. REMARKS

Reference Code	Remarks
	None

APPENDIX D

ORGANIZATIONAL, DIRECT AND GENERAL SUPPORT AND DEPOT MAINTENANCE REPAIR PARTS

Section I. INTRODUCTION

D-1. Scope

This appendix contains a list of repair parts required for the performance of organizational, direct support general support, and depot maintenance of the welding machine.

D-2. General

This repair parts list is divided into the following principal sections.

a. Section 2, Prescribed Load Allowance List (PLA), is a consolidated listing of repair parts quantitatively allocated for initial stockage at the organizational level. This is a mandatory minimum stockage allowance.

b. Section 3, Repair Parts List, is a list of repair parts authorized for the performance of maintenance at the organizational level.

c. Section 4, Repair Parts List, is a list of repair parts authorized for the performance of maintenance at the direct support, general support, and depot level.

D-3. Explanation of Columns

The following provides an explanation of columns in the tabular lists.

a. Source, Maintenance, and Recoverability Codes.

(1) Source Code indicates the selection status and source for the listed item. Source codes used are:

Code	Explanation
P	Applied to repair parts which are stocked in or supplied from DSA/GSA or Army supply system, and authorized for use at indicated maintenance categories.
M	Applied to repair parts which are not procured or stocked but are to be manufactured at indicated maintenance categories
X1	Applied to repair parts which are not procured or stocked, the requirement for which will be supplied by use of the next higher assembly or components
X2	Applied to repair parts which are not stocked. The indicated maintenance cab gory requiring such repair parts will attempt to obtain them through cannibalization; if not obtainable through cannibalization, such repair parts will be requisitioned with supporting justification through normal supply channels.

Note. Source code is not shown on common hardware items known to be readily available in Army supply channels and through local procurement.

(2) Maintenance Code indicates the lowest category of maintenance authorized to install the listed item. The maintenance level codes are:

Code	Explanation
O	Organizational maintenance
F	Direct support maintenance
H	General support maintenance

b. Federal Stock Number indicates the Federal stock number for the item.

c. Description column indicates the Federal item name and brief description of the item. A five-digit manufacturer's or other service code is shown in parentheses followed by the manufacturer's part number. Repair parts quantities included in kits, sets, and assemblies that differ from the actual quantity used

in the specific item, are listed in parentheses following the repair part name.

d. Unit of Issue indicates the unit used as a basis of issue, e.g., ea, pr, ft, yd, etc.

e. Quantity Incorporated in Unit Pack indicates the actual quantity contained in the unit pack.

f. Quantity Incorporated in Unit indicates the actual number of parts used in the application. A zero is shown when components of kits or sets are listed that are not applicable to the specific end item.

g. Fifteen-Day Organizational Maintenance Allowance.

(1) The allowance columns are divided into four subcolumns. Indicated in each subcolumn is the quantity of items authorized for the number of equipments supported. Items authorized for use as required but not for initial stockage are identified with an asterisk in the allowance column.

(2) The quantitative allowances for organizational level of maintenance represents one initial prescribed load for a 15-day period for the number of equipments supported. Units and organizations authorized additional prescribed loads will multiply the number of prescribed loads authorized by the quantity of repair parts reflected in the appropriate density column to obtain the total quantity of repair parts authorized.

(3) Items identified by an asterisk may be requisitioned as required. Subsequent changes and/or addictions to allowances will be limited to the provisions of AR 735-35. The range of items authorized will be made by this Command based upon engineering experience, demand data, or TAERS information.

(4) Allowances are based on 1500 hours of operation per year.

h. Thirty-Day DS/GS Maintenance Allowance.

(1) The allowance columns are divided into three subcolumns, Indicated in each subcolumn is the quantity of items authorized for a number of equipments supported. Items authorized for use as required but not for initial stockage are identified with an asterisk in the allowance column.

(2) The quantitative allowances for DS/GS levels of maintenance will represent intial stockage for a 30-day period for the number of equipments supported.

i. One-Year Allowance Per 100 Equipments/Contingency Planning Purposes indicates the quantity of items required for distribution and contingency planning purposes.

j. Depot Maintenance Allowance Per 100 Equipments indicates the total quantity of items recommended for depot maintenance of 100 equipments. Items recommended for immediate use only are identified with an asterisk in the allowance column.

k. Illustration.

(1) Figure Number indicates the figure number of the illustration in which the item is shown.

(2) Item or Symbol Number indicates the callout number used to reference the item in the illustration.

D-4. Abbreviations

ac --- ---------- alternate current
amp -- ---------- ampere (s)
AWG ---------- American Wire Gage
dia----------diameter
ea ----------each
ft ----------foot(feet)
id ----------insidediameter
in ----------inch (es)
kc ---------- kilWyclele (s)
lg ---------- long (length)
lh---------- left hand
mtg ----------amounting (s)
no. ---------- number
od ----------outside diameter
rh ----------right hand
rpm ---------- revolutions per minute
sh ----------shwt
sp ----------strip
thd ---------- thread(s) (ed)
thk ----------thick (ness)
uf ---------- microfarad (s)
v ----------volt (s)
w ----------wide (width)
W/ ----------with

D-5. Index to Federal Supply Code for Manufacturer's

00000 ------ Ordnance Corps
08081 ------Ohio Auto Parts Co
14655 ------ Cornell-Dubilier Electric Corp.
24446 ------ General Electric Co.
44655 ------ Ohmite Mfg. Co,
54978 ----- Simplev Time Recorder Co.
62119 ----- Universal Electric Co
71843 ----- Porter, H. K., Co., Inc., Forge and Fittings Division
72169 ----- Ellsworth Pipe and Supply Co
81483 ---- International Rectifier Corp
96073 ----- Mid-States Welder Mfg. Co.

Section 2. PRESCRIBED LOAD ALLOWANCE

(1) Federal stock number	(2) Description	(3) 15-day org maint alw			
		(A) 1-5	(B) 6-20	(C) 21-50	(D) 51-100
3431-083-2652	CONTRACTOR: model (96073) 18	*	*	*	2
5949-061-6964	RELAY, ARMATURE: (96073) 18	*	*	*	2
3431-061-5940	VALVE, SOLENOID: gas and water (96073) 23	*	*	2	2
9535-231-8256	COPPER SHEET	*	*	*	2
9535-232-2293	COPPER STRIP	*	*	*	2
5970-644-2629	INSULATION SLEEVING, ELECTRICAL	*	2	2	3
6145-548-2350	WIRE, ELECTRICAL: copper	*	*	*	2
6145-284-0659	WIRE, ELECTRICAL: copper	*	*	*	2
6145-660-8933	WIRE, ELECTRICAL: copper	*	2	3	5
6145-263-6982	WIRE, ELECTRICAL: copper	2	4	7	15
5930-655-1515	SWITCH, TOGGLE	*	*	2	2

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 15 DAY ORG. MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(8) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0001					SECTION 3 - REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE											
0002					GROUP 22 - BODY, CHASSIS OR HULL, AND ACCESSORY ITEMS											
0003					2210 - DATA PLATES AND INSTRUCTION HOLDERS											
0005	X2	0			PLATE, INSTRUCTION: HIGH FREQUENCY DRAWER	96073	14R1597	EA		1	*	*	*	*		
0006	X2	0			PLATE, INSTRUCTION: PLUG IN TIMERS	96073	14R1150	EA		1	*	*	*	*		
0007	X2	0			PLATE, INSTRUCTION: WELDER FRONT HOUSING	96073	14R1597	EA		1	*	*	*	*		
0009					GROUP 40 - ELECTRIC MOTORS AND GENERATORS											
0009A					4000 - ELECTRIC MOTOR											
0010	X2	0			MOTOR, FAN: VENTILATING 230V, 1550 RPM MODEL 16-166, 60 CYCLE, 1.25 AMP SERIAL No. 1U299T8	62119	1U299T8	EA		1	*	*	*	*	D5	12
0011		0		5310-298-9261	NUT, PLAIN, HEXAGON: MOTOR MTG			EA		4	*	*	*	*	D5	3
0012		0		5310-010-6497	WASHER, LOCK: MOTOR MTG			EA		4	*	*	*	*	D5	4
0013					GROUP 44 - WELDING, METALIZING, METAL HEATING AND PLATING EQUIPMENT											
0014					4405 - FRAME SUPPORT, HOUSING											
0016	X2	0			COVER, TOP	96073	8G1817	EA		1	*	*	*	*	D4	1
0017	X2	0			HOUSING, WELDER	96073	3G1829	EA		1	*	*	*	*	D4	4
0018	X2	0		5935-818-1126	JACK, TIP: NYLON TIP FOR 1/4 IN. HOLE, 1/8 IN. JACK			EA		2	*	*	*	*	D10	4
0019	M	0			LEAD ASSEMBLY, ELECTRICAL: MOUNTED REAR OF FRONT HOUSING PANEL MANUFACTURE FROM:			EA		2					D10	5
0019A	X2	0		5940-050-6208	TERMINAL, LUG: COPPER, TINNED FINISH, No. 16 TO 14 AWG, FOR No. 10 SCREW			EA		1	*	*	*	*		
0019B	P	0		6145-660-8933	WIRE, ELECTRICAL (15 IN. REQUIRED FOR EACH LEAD)			FT			SEE GRP 9501					
0020	X2	0			LIFTING EYE	71843	2404L	EA			*	*	*	*	D4	2
0021		0		5310-262-6169	NUT, PLAIN, HEXAGON: LEAD ASSEMBLY MTG			EA		2	*	*	*	*	D10	7
0022		0		5310-685-1429	NUT, PLAIN, HEXAGON: LIFTING EYE			EA		2	*	*	*	*	D4	3
0023		0		5310-685-1429	NUT, PLAIN, HEXAGON: SUPPORT AND LIFTING EYE MTG			EA		2	*	*	*	*	D1	8

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 15 DAY ORG. MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(8) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0024	X2	0			PANEL, HOUSING FRONT	96073	3G1818	EA		1	*	*	*	*	D10	1
0025	X2	0			PLATE, VALVE MOUNTING	96073	3G1831	EA		1	*	*	*	*	D4	8
0026		0		5305-271-2566	SCREW, MACHINE: LEAD ASSEMBLY MTG			EA		2	*	*	*	*	D10	3
0027		0		5305-840-6694	SCREW, TAPPING, THREAD FORMING: ACCESS DOOR, VALVE, PLATE AND COVER TO HOUSING			EA		24	*	*	*	*	D4	9
0028		0		5305-067-9896	SCREW, TAPPING, THREAD FORMING: WELDER HOUSING TO FRAME			EA		8	*	*	*	*	D4	12
0029	X2	0			SUPPORT: BASE AND COVER	96073	13G1817	EA		1	*	*	*	*	D1	7
0030		0		5310-013-1044	WASHER, LOCK: LEAD ASSEMBLY MTG			EA		2	*	*	*	*	D10	5
0031					4406 - VENTILATING, COOLING SYSTEM											
0032	X2	0			BLADE, FAN, TORRINGTON: 4 BLADE, 3/8 IN. ID HUB, 15/16 IN. OD HUB, 1 IN. LG	96073	11R1837	EA		1	*	*	*	*	D5	2
0033	X2	0			GUARD, FAN	96073	13G1800	EA		1	*	*	*	*	D5	5
0034		0		5310-619-3555	NUT, PLAIN, HEXAGON: FAN GUARD MTG			EA		4	*	*	*	*	D5	11
0035		0		5305-988-1725	SCREW, MACHINE: FAN GUARD MTG			EA		4	*	*	*	*	D5	14
0036		0		5305-013-9009	SETSCREW: FAN BLADE MTG			EA		1	*	*	*	*	D5	1
0037		0		5310-010-3319	WASHER, LOCK: FAN GUARD MTG			EA		4	*	*	*	*	D5	10
0038					4407 - CONTROL PANELS											
0039	X2	0		5340-200-8503	CLAMP, LOOP: WIRE MTG, PLASTIC			EA		4	*	*	*	*	D7	25
0040	X2	0			DRAWER, HIGH FREQUENCY PANEL	96073	3G1823	EA		1	*	*	*	*	D7	27
0041	X2	0		6240-682-3411	GLOW LAMP: PILOT LIGHT	24446	NE51H	EA		3	*	*	*	*	D8	13
0044	X2	0		6210-840-1057	LIGHT, PILOT	72169	5240B991	EA		3	*	*	*	*	D8	7
0045	X2	0			LOCK, DRAWER: W/KEY	96073	3R2147	EA		1	*	*	*	*	D8	9
0047		0		5310-262-6169	NUT, PLAIN, HEXAGON: CLAMP MTG			EA		4	*	*	*	*	D7	9
0048		0		5310-207-9272	NUT, PLAIN, HEXAGON: PANEL TO DRAWER MTG			EA		4	*	*	*	*	D7	20
0049	M	0			PANEL, HIGH FREQUENCY DRAWER MANUFACTURE FROM:			EA		1					D7	18
0049A	P	0		5970-254-4038	INSULATION, SHEET, ELECTRICAL (7 1/4 IN. X 14 IN. REQUIRED)			SH			SEE GRP 9501					
0052		0		5305-271-2566	SCREW, MACHINE: CLAMP MTG			EA		4	*	*	*	*	D7	12
0053		0		5305-282-9458	SCREW, MACHINE: DRAWER MTG			EA		6	*	*	*	*	D7	28
0054		0		5305-206-3339	SCREW, MACHINE: PANEL TO DRAWER MTG			EA		4	*	*	*	*	D7	24
0055		0		5310-167-0816	WASHER, FLAT: CLAMP MTG			EA		4	*	*	*	*	D7	10
0056		0		5310-011-4986	WASHER, FLAT: PANEL TO DRAWER MTG			EA		8	*	*	*	*	D7	19
0057					4408 - CONNECTING DEVICES											
0058	M	0			INSULATION, PLASTIC TUBING: LEAD INSULATING MANUFACTURE FROM:			EA		1					D10	9
0058A	P	0		5970-644-2629	INSULATION SLEEVING, ELECTRICAL (20 IN. REQUIRED)			FT			SEE GRP 9501					

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 15 DAY ORG. MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(8) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0059	M	0			INSULATION, PLASTIC TUBING: LEAD INSULATION			EA		1					D10	15
					MANUFACTURE FROM:											
0059A	P	0		5970-644-2629	INSULATION SLEEVING, ELECTRICAL (17 IN. REQUIRED)			FT			SEE GRP 9501					
0060	M	0			LEAD, COPPER: TERMINAL STUD, FLAT COPPER			EA		3					D10	10
					MANUFACTURE FROM:											
0060A	P	0		9535-232-2293	COPPER STRIP (20 IN. X 1 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 9501					
0061	M	0			LEAD, COPPER: TERMINAL STUD FLAT COPPER			EA		3					D10	14
					MANUFACTURE FROM:											
0061A	P	0		9535-232-2293	COPPER STRIP (17 IN. X 1 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 9501					
0062		0		5310-020-5186	NUT, PLAIN, HEXAGON: TERMINAL STUD			EA		4	*	*	*	*	D10	19
0063	X2	0			PANEL, BAKELITE: GROUND AND ELECTRODE STUD MTG	96073	8G1286	EA		1	*	*	*	*	D10	16
0064	X2	0			RECEPTACLE, REMOTE CONTROL	96073	9R1552	EA		1	*	*	*	*	D10	2
0065		0		5305-954-9543	SCREW, CAP, HEXAGON HEAD: LEAD TO TERMINAL STUD			EA		2	*	*	*	*	D10	13
0066		0		5305-271-2566	SCREW, MACHINE: REMOTE CONTROL RECEPTACLE MTG			EA		2	*	*	*	*	D10	3
0067		0		5305-017-0471	SCREW, TAPPING, THREAD FORMING: BAKELITE PANEL TO CONTROL PANEL MTG			EA		4	*	*	*	*	D10	20
0069	X2	0			STUD, TERMINAL: GROUND AND ELECTRODE, BRASS (SPECIAL)	96073	11G1705	EA		2	*	*	*	*	D10	11
0070	X2	0			SWITCH AND CABLE ASSEMBLY, REMOTE CONTROL	96073	29G1935	EA		1	*	*	*	*	D10	23
0071		0		5310-044-6221	WASHER, FLAT: TERMINAL STUD INSULATING			EA		4	*	*	*	*	D10	17
0072		0		5310-637-9541	WASHER, LOCK: LEAD TO TERMINAL STUD			EA		2	*	*	*	*	D10	12
0073		0		5310-584-5272	WASHER, LOCK: TERMINAL STUD			EA		2	*	*	*	*	D10	18
0074					4409 - PROTECTIVE DEVICES											
0075	M	0			INSULATOR			EA		1					D7	30
					MANUFACTURE FROM:											
0075A	P	0		5970-284-7201	INSULATION, SHEET, ELECTRICAL: FIBER 1 IN. W, 0.125 IN. THK, 5.562 IN. LG			FT			SEE GRP 9501					
0076	M	0			LEAD, ELECTRICAL: INTERLOCK SWITCH TO POWER SWITCH			EA		1					D7	32
					MANUFACTURE FROM:											
0076A	P	0		6145-263-6982	WIRE, ELECTRICAL (8 IN. REQUIRED)			FT			SEE GRP 9501					
0077		0		5310-262-6169	NUT, PLAIN, HEXAGON: INTERLOCK SWITCH MOUNTING			EA		2	*	*	*	*	D7	9

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY. INC. IN UNIT PACK	(6) QTY. INC. IN UNIT	(7) 15 DAY ORG. MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(8) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0078		0		5305-013-2719	SCREW, MACHINE: INTERLOCK SWITCH MTG			EA		2	*	*	*	*	D7	29
0079	P	0		5930-259-8619	SWITCH, INTERLOCK: MICRO SWITCH, SPST	96073	24R1141	EA		1	*	*	*	*	D7	31
0080	P	0		5930-083-2718	SWITCH, THERMOSTATIC	96073	24R1594	EA		1	*	*	*	*	D6	7
0081		0		5310-167-0816	WASHER, FLAT: INTERLOCK SWITCH MTG			EA		2	*	*	*	*	D7	10
0082		0		5310-013-1044	WASHER, LOCK: INTERLOCK SWITCH MTG			EA		2	*	*	*	*	D7	11
0083					4410 - SWITCHING, TIMING AND SPEED CONTROL											
0084	X2	0			ADAPTER, STRAIGHT, PIPE TO TUBE: GAS TO TORCH, PIPE TO SOLENOID, ONE END MALE, 1/4-18 THD SIZE, OTHER END FEMALE, 5/8-18 THD SIZE, LH THD (SPECIAL)	08081	15AWL	EA		2	*	*	*	*	D4	10
0085	X2	0			ADAPTER, STRAIGHT, PIPE TO TUBE: WATER TO TORCH, PIPE TO SOLENOID, ONE END MALE, 1/4-18 THD SIZE, OTHER END FEMALE, 5/8-18 THD SIZE, RH THD (SPECIAL)	08081	15AR	EA		2	*	*	*	*	D4	11
0088	M	0			BOARD, FIBER: CONTACTOR TO CHANGE OVER BOARD			EA		1					D2	20
					MANUFACTURE FROM:											
0088A	P	0		5970-284-7201	INSULATION, SHEET, ELECTRICAL (3 IN. x 3 1/2 IN. REQUIRED)			SH			SEE GRP 9501					
0089	M	0			BRACKET, SPARK CAP			EA		1					D7	6
					MANUFACTURE FROM:											
0089A	P	0		9520-517-0531	STEEL, ANGLE (1 IN. REQUIRED)			FT			SEE GRP 9501					
0090	M	0			CABLE ASSEMBLY, ELECTRICAL: CHANGE OVER BOARD			EA		1					D2	19
					MANUFACTURE FROM:											
0090A	X2	0			TERMINAL, LUG	00000	AN8-23	EA		2	*	*	*	*		
0090B	P	0		6145-284-0659	WIRE, ELECTRICAL (12 IN. REQUIRED)			FT			SEE GRP 9501					
0091	M	0			CABLE ASSEMBLY, ELECTRICAL: CONTACTOR			EA		1					D2	15
					MANUFACTURE FROM:											
0091A	X2	0			TERMINAL, LUG	00000	AN8-23	EA		2	*	*	*	*		
0091B	P	0		6145-284-0659	WIRE, ELECTRICAL (6 IN. REQUIRED)			FT			SEE GRP 9501					
0096	P	0		3431-083-2652	CONTACTOR: MODEL 6-3-2 (No. 804)	96073	18R1719	EA		1	*	*	*	2	D2	13
0097	X2	0		4730-253-4412	ELBOW, PIPE: SOLENOID TO ADAPTER			EA		4	*	*	*	*	D4	6
0098	X2	0			HANDLE, CONTROL: POLARITY SWITCH AND RANGE SWITCH	96073	1G1983	EA		2	*	*	*	*	D9	2
0099	M	0			INSULATION, PLASTIC: JUMPER LEAD, POLARITY AND RANGE SWITCHES			EA		2					D9	15
					MANUFACTURE FROM:											
0099A	P	0		5970-644-2629	INSULATION SLEEVING, ELECTRICAL (4 1/2 IN. REQUIRED FOR EACH INSULATION)			FT			SEE GRP 9501					

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 15 DAY ORG. MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(8) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0101	M	0			INSULATION, PLASTIC: RANGE AND POLARITY SWITCH TO TRANSFORMER LEAD			EA		2					D9	6
					MANUFACTURE FROM:											
0101A	P	0		5970-644-2629	INSULATION SLEEVING, ELECTRICAL (10 IN. REQUIRED FOR EACH INSULATION)			FT			SEE GRP 9501					
0102	M	0			INSULATION, PLASTIC: RANGE SWITCH LEAD			EA		1					D9	14
					MANUFACTURE FROM:											
0102A	P	0		5970-644-2629	INSULATION SLEEVING, ELECTRICAL (24 IN. REQUIRED)			FT			SEE GRP 9501					
0103	M	0			INSULATION, PLASTIC: RANGE SWITCH TO POLARITY SWITCH LEAD			EA		1					D9	12
					MANUFACTURE FROM:											
0103A	P	0		5970-644-2629	INSULATION SLEEVING, ELECTRICAL (15 IN. REQUIRED)			FT			SEE GRP 9501					
0105	M	0			LEAD, COPPER: RANGE AND POLARITY SWITCH TO TRANSFORMER			EA		6					D9	8
					MANUFACTURE FROM:											
0105A	P	0		9535-232-2293	COPPER STRIP (1 IN. X 11 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 9501					
0106	M	0			LEAD, COPPER: RANGE SWITCH			EA		3					D9	13
					MANUFACTURE FROM:											
0106A	P	0		9535-232-2293	COPPER STRIP (1 IN.X 27 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 9501					
0107	M	0			LEAD, COPPER: RANGE SWITCH TO POLARITY SWITCH			EA		3					D9	9
					MANUFACTURE FROM:											
0107A	P	0		9535-232-2293	COPPER STRIP (1 IN. X 17 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 9501					
0110	M	0			LEAD, ELECTRICAL: SPARK GAP TO CAPACITOR			EA		1					D7	4
					MANUFACTURE FROM:											
0110A	P	0		5940-681-9713	TERMINAL, LUG: COPPER, TINNED FINISH, No. 16 TO 14 AWG, STRANDED CONDUCTOR			EA		2	*	*	*	*		
0110B	P	0		6145-660-8933	WIRE, ELECTRICAL (6 IN. REQUIRED)			FT			SEE GRP 9501					
0111	M	0			LEAD, ELECTRICAL: SPARK GAP TO RHEOSTAT			EA		1					D7	3
					MANUFACTURE FROM:											
0111A	X2	0		5940-681-9713	TERMINAL, LUG			EA		1	*	*	*	*		
0111B	P	0		6145-660-8933	WIRE, ELECTRICAL (12 IN. REQUIRED)			FT			SEE GRP 9501					

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 15 DAY ORG. MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(8) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0112	M	0			LEAD, JUMPER, COPPER: POLARITY AND RANGE SWITCH			EA		6					D9	16
					MANUFACTURE FROM:											
0112A	P	0		9535-232-2293	COPPER STRIP (1/2 IN. X 6 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 9501					
0113	M	0			LEAD, JUMPER: POLARITY AND RANGE SWITCH			EA		2					D9	17
					MANUFACTURE FROM:											
0113A	P	0		9535-231-8256	COPPER SHEET (1/2 IN. X 2 1/2 IN. REQUIRED FOR EACH LEAD)			SH			SEE GRP 9501					
0116		0		5310-754-4299	NUT, PLAIN, HEXAGON: CHANGE OVER BOARD			EA		17	*	*	*	*	D2	10
0117		0		5310-012-0622	NUT, PLAIN, HEXAGON: CONTACTOR MTG			EA		3	*	*	*	*	D2	17
0118		0		5310-584-5005	NUT, PLAIN, HEXAGON: LEADS TO SWITCHES			EA		12	*	*	*	*	D9	4
0119		0		5310-207-9272	NUT, PLAIN, HEXAGON: SPARK GAP AND BRACKET MTG			EA		2	*	*	*	*	D7	8
0120	X2	0		5315-664-6439	PIN, SPRING: POLARITY AND RANGE SWITCH HANDLE			EA		2	*	*	*	*	D9	3
0121	X2	0			PLUG, DUMMY: RED PRE-FLOW AMPHENAL, 6 POINT	96073	9G1593	EA		1	*	*	*	*	D8	1
0122	X2	0			RECEPTACLE, PLUG IN TIMER	96073	9R1598	EA		4	*	*	*	*	D8	2
0124	P	0		5945-061-6965	RELAY, ARMATURE: TYPE DEG-12	96073	18G1718	EA		1	*	*	*	*	D8	4
0125	P	0		5949-061-6964	RELAY, ARMATURE: TYPE DEG-12	96073	18G1715	EA		2	*	*	*	2	D8	3
0126		0		5305-550-3934	SCREW, CAP, HEXAGON HEAD: CHANGE OVER BOARD			EA		9	*	*	*	*	D2	7
0127		0		5305-068-7837	SCREW, CAP, HEXAGON HEAD: LEADS TO SWITCHES			EA		12	*	*	*	*	D9	11
0128		0		5305-068-0500	SCREW, CAP, HEXAGON HEAD: POLARITY SWITCH AND RANGE SWITCH MTG			EA		4	*	*	*	*	D9	1
0132		0		5305-013-2768	SCREW, MACHINE: CONTACTOR MTG			EA		3	*	*	*	*	D2	12
0133		0		5305-012-2159	SCREW, MACHINE: PLUG IN TIMER MTG			EA		6	*	*	*	*	D8	5
0135		0		5305-013-2915	SCREW, MACHINE: SPARK GAP AND BRACKET MOUNTING			EA		2	*	*	*	*	D7	1
0136		0		5305-226-9268	SCREW, MACHINE: SPARK GAP LEADS			EA		2	*	*	*	*	D7	2
0137	X2	0			SPARK GAP ASSEMBLY	96073	11G129	EA		1	*	*	*	*	D7	5
0138	P	0		5930-519-4544	SWITCH, GAS, WATER, HIGH FREQUENCY, SPOT ARC, HIGH FREQUENCY DROP OUT TIMER (ST40A)			EA		4	SEE GRP 9901				D8	6
0139	P	0		5930-519-4544	SWITCH, PANEL, REMOTE (ST40A)			EA		2	SEE GRP 9901				D6	9
0141	P	0		5930-655-1582	SWITCH, POWER (ST50K)			EA		1	*	*	*	*	D8	8
0143	P	0		3431-061-5940	VALVE, SOLENOID: GAS AND WATER	96073	22R1711	EA		2	*	*	2	2	D4	5
0144		0		5310-044-6234	WASHER, FLAT: ADAPTER TO ELBOW			EA		4	*	*	*	*	D4	7
0147		0		5310-823-8804	WASHER, FLAT: LEADS TO SWITCHES			EA		14	*	*	*	*	D9	10
0150		0		5310-010-3319	WASHER, LOCK: CHANGE OVER BOARD SCREW			EA		9	*	*	*	*	D2	9

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 15 DAY ORG. MAINT. ALW. (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(8) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0151		0		5310-012-1841	WASHER, LOCK: CONTACTOR MTG			EA		3	*	*	*	*	D2	16
0152		0		5310-582-5965	WASHER, LOCK: LEADS TO SWITCHES			EA		12	*	*	*	*	D9	5
0153		0		5310-043-2226	WASHER, LOCK: SPARK GAP AND BRACKET MTG			EA		2	*	*	*	*	D7	7
0154	M	0			WIRE, COPPER, SOLID: CONTACTOR			EA		2					D2	14
					MANUFACTURE FROM:											
0154A	P	0		6145-548-2350	WIRE, ELECTRICAL (8 IN. REQUIRED FOR EACH WIRE)			FT			SEE GRP 9501					
0155					4411 - RESISTOR COMPONENTS											
0157	X2	0			KNOB, RHEOSTAT	96073	19R387	EA		1	*	*	*	*	D8	12
0173		0		5305-014-0854	SETSCREW: RHEOSTAT KNOB			EA		1	*	*	*	*	D8	11
0228					GROUP 95 - GENERAL USE STANDARDIZED PARTS											
0229					9501 - BULK MATERIAL											
0230	P	0		9535-231-8256	COPPER SHEET: 0.1250 IN. TH, 24 IN. W, 48 IN. LG			SH			*	*	*	2		
0231	P	0		9535-232-2293	COPPER STRIP: 0.032 IN. TH, 12 IN W, 36 IN. LG			SP			*	*	*	2		
0231A	P	0		5970-254-4038	INSULATION, SHEET, ELECTRICAL			SH			*	*	*	*		
0232	P	0		5970-284-7201	INSULATION SHEET, ELECTRICAL: FIBER 48 IN. W, 72 IN. LG, 0.125 IN. THK			SH			*	*	*	*		
0233	P	0		5970-284-7201	INSULATION SHEET, ELECTRICAL: FIBER 48 IN. W, 60 IN. LG, 1/8 IN. THK			SH			*	*	*	*		
0234	P	0		5970-644-2629	INSULATION SLEEVING, ELECTRICAL: 1.125 IN. DIA, 0.032 IN. THK			FT			*	2	2	3		
0239	P	0		9520-517-0531	STEEL ANGLE: 1/8 IN. THK, 1 1/2 IN. LEGS			FT			*	*	*	*		
0241	P	0		6145-548-2350	WIRE, ELECTRICAL: COPPER, No. 10 AWG, SOLID CONDUCTOR			FT			*	*	*	2		
0242	P	0		6145-284-0659	WIRE, ELECTRICAL: COPPER, TINNED FINISH, No. 8 AWG, STRANDED CONDUCTOR			FT			*	*	*	2		
0243	P	0		6145-660-8933	WIRE, ELECTRICAL: COPPER, TINNED FINISH, No. 14 AWG, STRANDED CONDUCTOR			FT			*	2	3	5		
0244	P	0		6145-263-6982	WIRE, ELECTRICAL: COPPER, TINNED FINISH, No. 18 STRANDED CONDUCTOR			FT			2	4	7	15		
0245					GROUP 99 - PARTS PECULIAR											
0245A					9901 - PARTS PECULIAR WITH MORE THAN ONE APPLICATION											
0247	P	0		5930-655-1515	SWITCH, TOGGLE			EA		6	*	*	2	2		

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS/GS MAINT. ALW. (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR. ALW. PER 100 EQUIP. CTYGCY. PLANNING	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0001					SECTION 4 - REPAIR PARTS FOR DS, GS, AND DEPOT MAINTENANCE												
0002					GROUP 22 - BODY, CHASSIS OR HULL, AND ACCESSORY ITEMS												
0003					2210 - DATA PLATES AND INSTRUCTION HOLDERS												
0004	X2	F		9905-807-3712	PLATE, IDENTIFICATION: U.S. ARMY			EA		1	*	*	*	*	*		
0005	X2	0			PLATE, INSTRUCTION: HIGH FREQUENCY DRAWER	96073	14R1597	EA		1	*	*	*	*	*		
0006	X2	0			PLATE, INSTRUCTION: PLUG IN TIMERS	96073	14R1150	EA		1	*	*	*	*	*		
0007	X2	0			PLATE, INSTRUCTION: WELDER FRONT HOUSING	96073	14R1597	EA		1	*	*	*	*	*		
0008		F		5305-017-3185	SCREW DRIVE: U.S. ARMY PLATE MTG			EA		4	*	*	*	*	*		
0009					GROUP 40 - ELECTRIC MOTORS AND GENERATORS												
0009A					4000 - ELECTRIC MOTOR												
0010	X2	0			MOTOR, FAN: VENTILATING 230v, 1550 RPM MODEL 16-166, 60 CYCLE, 1.25 AMP SERIAL No. 1U299T8	62119	1U299T8	EA		1	*	*	*	*	*	D5	12
0011		0		5310-298-9261	NUT, PLAIN, HEXAGON: MOTOR MTG			EA		4	*	*	*	*	*	D5	3
0012		0		5310-010-6497	WASHER, LOCK: MOTOR MTG			EA		4	*	*	*	*	*	D5	4
0013					GROUP 44 - WELDING, METALIZING, METAL HEATING AND PLATING EQUIPMENT												
0014					4405 - FRAME SUPPORT, HOUSING												
0015	X2	H			BASE, WELDER	96073	13G1811	EA		1	*	*	*	*	*	D1	12
0016	X2	0			COVER, TOP	96073	8G1817	EA		1	*	*	*	*	*	D4	1
0017	X2	0			HOUSING, WELDER	96073	3G1829	EA		1	*	*	*	*	*	D4	4
0018	X2	0		5935-818-1126	JACK, TIP: NYLON TIP FOR 1/4 IN. HOLE, 1/8 IN. JACK			EA		2	*	*	*	*	*	D10	4
0019	M	0			LEAD ASSEMBLY, ELECTRICAL: MOUNTED REAR OF FRONT HOUSING PANEL			EA		2						D10	5
0019A	X2	0		5940-050-6208	MANUFACTURE FROM: TERMINAL, LUG: COPPER, TINNED FINISH, No. 16 TO 14 AWG, FOR No. 10 SCREW			EA		1	*	*	*	*	*		
0019B	P	0		6145-660-8933	WIRE, ELECTRICAL (15 IN. REQUIRED FOR EACH LEAD)			FT			SEE GRP 9501						
0020	X2	0			LIFTING EYE	71843	2404L	EA			*	*	*	*	*	D4	2
0021		0		5310-262-6169	NUT, PLAIN, HEXAGON: LEAD ASSEMBLY MTG			EA		2	*	*	*	*	*	D10	7
0022		0		5310-685-1429	NUT, PLAIN, HEXAGON: LIFTING EYE			EA		2	*	*	*	*	*	D4	3

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS/GS MAINT. ALW. (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR. ALW. PER. 100 EQUIP. CTY/GCY. PLANNING	(9) DEPOT MAINT. ALW. PER. 100 EQUIP.	(10) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0023		0		5310-685-1429	NUT, PLAIN, HEXAGON: SUPPORT AND LIFTING EYE MTG			EA		2	*	*	*	*	*	D1	8
0024	X2	0			PANEL, HOUSING FRONT	96073	3G1818	EA		1	*	*	*	*	*	D10	1
0025	X2	0			PLATE, VALVE MOUNTING	96073	3G1831	EA		1	*	*	*	*	*	D4	8
0026		0		5305-271-2566	SCREW, MACHINE: LEAD ASSEMBLY MTG			EA		2	*	*	*	*	*	D10	3
0027		0		5305-840-6694	SCREW, TAPPING, THREAD FORMING: ACCESS DOOR, VALVE, PLATE AND COVER TO HOUSING			EA		24	*	*	*	*	*	D4	9
0028		0		5305-067-9896	SCREW, TAPPING, THREAD FORMING: WELDER HOUSING TO FRAME			EA		8	*	*	*	*	*	D4	12
0029	X2	0			SUPPORT: BASE AND COVER	96073	13G1817	EA		1	*	*	*	*	*	D1	7
0030		0		5310-013-1044	WASHER, LOCK: LEAD ASSEMBLY MTG			EA		2	*	*	*	*	*	D10	5
0031					4406 - VENTILATING, COOLING SYSTEM												
0032	X2	0			BLADE, FAN, TORRINGTON: 4 BLADE, 3/8 IN. ID HUB, 15/16 IN. OD HUB, 1 IN. LG	96073	11R1837	EA		1	*	*	*	*	*	D5	2
0033	X2	0			GUARD, FAN	96073	13G1800	EA		1	*	*	*	*	*	D5	5
0034		0		5310-619-3555	NUT, PLAIN, HEXAGON: FAN GUARD MTG			EA		4	*	*	*	*	*	D5	11
0035		0		5305-988-1725	SCREW, MACHINE: FAN GUARD MTG			EA		4	*	*	*	*	*	D5	14
0036		0		5305-013-9009	SETSCREW: FAN BLADE MTG			EA		1	*	*	*	*	*	D5	1
0037		0		5310-010-3319	WASHER, LOCK: FAN GUARD MTG			EA		4	*	*	*	*	*	D5	10
0038					4407 - CONTROL PANELS												
0039	X2	0		5340-200-8503	CLAMP, LOOP: WIRE MTG, PLASTIC			EA		4	*	*	*	*	*	D7	25
0040	X2	0			DRAWER, HIGH FREQUENCY PANEL	96073	3G1823	EA		1	*	*	*	*	*	D7	27
0041	X2	0		6240-682-3411	GLOW LAMP: PILOT LIGHT	24446	NE51H	EA		3	*	*	*	*	*	D8	13
0042	M	F			HARNESS ASSEMBLY, WIRING: CONTROL PANEL MANUFACTURE FROM:	96073	29G1941	EA		1						D6	8
0042A	X2	F		5940-050-6209	TERMINAL, LUG: COPPER, TINNED FINISH, No. 16 TO 14 AWG, FOR 1/4 IN. BOLT			EA		2	*	*	*	*	*		
0042B	X2	F		5940-230-8117	TERMINAL, LUG: COPPER, TINNED FINISH, No. 16 TO 22 AWG, 0.281 IN. DIA, 47/64 IN. LG			EA		2	*	*	*	*	*		
0042C	X2	F		5940-201-2849	TERMINAL, LUG: COPPER, TINNED FINISH, No. 22 TO 18 AWG, FOR No. 10 SCREW			EA		10	*	*	*	*	*		
0042D	P	F		6145-263-6982	WIRE, ELECTRICAL (62 FT REQUIRED)			FT			SEE GRP 9501						
0042E	P	F		6145-660-8933	WIRE, ELECTRICAL (11 FT 8 IN. REQUIRED)			FT			SEE GRP 9501						
0043	X2	F			JACK, PLASTIC, FEMALE: FOR AWG No. 18 WIRE, FOR 3/8 IN. HOLE, SOLENOID VALVE	96073	9R1163	EA		2	*	*	*	*	*	D6	12
0044	X2	0		6210-840-1057	LIGHT, PILOT	72169	5240B991	EA		3	*	*	*	*	*	D8	7
0045	X2	0			LOCK, DRAWER: W/KEY	96073	3R2147	EA		1	*	*	*	*	*	D8	9
0047		0		5310-262-6169	NUT, PLAIN, HEXAGON: CLAMP MTG			EA		4	*	*	*	*	*	D7	9
0048		0		5310-207-9272	NUT, PLAIN, HEXAGON: PANEL TO DRAWER MTG			EA		4	*	*	*	*	*	D7	20

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS/GS MAINT. ALW. (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR. ALW. PER. 100 EQUIP. CTYGCY. PLANNING	(9) DEPOT MAINT. ALW. PER. 100 EQUIP.	(10) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0049	M	0			PANEL, HIGH FREQUENCY DRAWER			EA		1						D7	18
					MANUFACTURE FROM:												
0049A	P	0		5970-254-4038	INSULATION, SHEET, ELECTRICAL (7 1/4 IN. X 14 IN. REQUIRED)			SH			SEE GRP 950						
0050	X2	F			PLUG, 12 PIN	96073	9R1652	EA		1	*	*	*	*	*	D7	26
0051	X2	F			RECEPTACLE, 12 PIN: W/CLIPS	96073	9R1553	EA		1	*	*	*	*	*	D6	10
0052		0		5305-271-2566	SCREW, MACHINE: CLAMP MTG			EA		4	*	*	*	*	*	D7	12
0053		0		5305-282-9458	SCREW, MACHINE: DRAWER MTG			EA		6	*	*	*	*	*	D7	28
0054		0		5305-206-3339	SCREW, MACHINE: PANEL TO DRAWER MTG			EA		4	*	*	*	*	*	D7	24
0055		0		5310-167-0816	WASHER, FLAT: CLAMP MTG			EA		4	*	*	*	*	*	D7	10
0056		0		5310-011-4986	WASHER, FLAT: PANEL TO DRAWER MTG			EA		8	*	*	*	*	*	D7	19
0057					4408 - CONNECTING DEVICES												
0058	M	0			INSULATION, PLASTIC TUBING: LEAD INSULATING			EA		1						D10	9
					MANUFACTURE FROM:												
0058A	P	0		5970-644-2629	INSULATION SLEEVING, ELECTRICAL (20 IN. REQUIRED)			FT			SEE GRP 950						
0059	M	0			INSULATION, PLASTIC TUBING: LEAD INSULATION			EA		1						D10	15
					MANUFACTURE FROM:												
0059A	P	0		5970-644-2629	INSULATION SLEEVING, ELECTRICAL (17 IN. REQUIRED)			FT			SEE GRP 950						
0060	M	0			LEAD, COPPER: TERMINAL STUD, FLAT COPPER			EA		3						D10	10
					MANUFACTURE FROM:												
0060A	P	0		9535-232-2293	COPPER STRIP (20 IN. X 1 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 950						
0061	M	0			LEAD, COPPER: TERMINAL STUD FLAT COPPER			EA		3						D10	14
					MANUFACTURE FROM:												
0061A	P	0		9535-232-2293	COPPER STRIP (17 IN. X 1 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 950						
0062		0		5310-020-5186	NUT, PLAIN, HEXAGON: TERMINAL STUD			EA		4	*	*	*	*	*	D10	19
0063	X2	0			PANEL, BAKELITE: GROUND AND ELECTRODE STUD MTG	96073	8G1286	EA		1	*	*	*	*	*	D10	16
0064	X2	0			RECEPTACLE, REMOTE CONTROL	96073	9R1552	EA		1	*	*	*	*	*	D10	2
0065		0		5305-954-9543	SCREW, CAP, HEXAGON HEAD: LEAD TO TERMINAL STUD			EA		2	*	*	*	*	*	D10	13
0066		0		5305-271-2566	SCREW, MACHINE: REMOTE CONTROL RECEPTACLE MTG			EA		2	*	*	*	*	*	D10	3
0067		0		5305-017-0471	SCREW, TAPPING, THREAD FORMING: BAKELITE PANEL TO CONTROL PANEL MTG			EA		4	*	*	*	*	*	D10	20

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS/GS MAINT. ALW. (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR. ALW. PER 100 EQUIP. CTYGCY. PLANNING	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0069	X2	0			STUD, TERMINAL: GROUND AND ELECTRODE, BRASS (SPECIAL)	96073	11G1705	EA		2	*	*	*	*	*	D10	11
0070	X2	0			SWITCH AND CABLE ASSEMBLY, REMOTE CONTROL	96073	29G1935	EA		1	*	*	*	*	*	D10	23
0071		0		5310-044-6221	WASHER, FLAT: TERMINAL STUD INSULATING			EA		4	*	*	*	*	*	D10	17
0072		0		5310-637-9541	WASHER, LOCK: LEAD TO TERMINAL STUD			EA		2	*	*	*	*	*	D10	12
0073		0		5310-584-5272	WASHER, LOCK: TERMINAL STUD			EA		2	*	*	*	*	*	D10	18
0074					4409 - PROTECTIVE DEVICES												
0075	M	0			INSULATOR			EA		1						D7	30
					MANUFACTURE FROM:												
0075A	P	0		5970-284-7201	INSULATION, SHEET, ELECTRICAL: FIBER 1 IN. W, 0.125 IN. THK, 5.562 IN. LG			FT			SEE GRP 9501						
0076	M	0			LEAD, ELECTRICAL: INTERLOCK SWITCH TO POWER SWITCH			EA		1						D7	32
					MANUFACTURE FROM:												
0076A	P	0		6145-263-6982	WIRE, ELECTRICAL (8 IN. REQUIRED)			FT			SEE GRP 9501						
0077		0		5310-262-6169	NUT, PLAIN, HEXAGON: INTERLOCK SWITCH MOUNTING			EA		2	*	*	*	*	*	D7	9
0078		0		5305-013-2719	SCREW, MACHINE: INTERLOCK SWITCH MTG			EA		2	*	*	*	*	*	D7	29
0079	P	0		5930-259-8619	SWITCH, INTERLOCK: MICRO SWITCH, SPST	96073	24R1141	EA		1	*	*	2	7	3	D7	31
0080	P	0		5930-083-2718	SWITCH, THERMOSTATIC	96073	24R1594	EA		1	*	*	2	7	3	D6	7
0081		0		5310-167-0816	WASHER, FLAT: INTERLOCK SWITCH MTG			EA		2	*	*	*	*	*	D7	10
0082		0		5310-013-1044	WASHER, LOCK: INTERLOCK SWITCH MTG			EA		2	*	*	*	*	*	D7	11
0083					4410 - SWITCHING, TIMING AND SPEED CONTROL												
0084	X2	0			ADAPTER, STRAIGHT, PIPE TO TUBE: GAS TO TORCH, PIPE TO SOLENOID, ONE END MALE, 1/4-18 THD SIZE, OTHER END FEMALE, 5/8-18 THD SIZE, LH THD (SPECIAL)	08081	15AWL	EA		2	*	*	*	*	*	D4	10
0085	X2	0			ADAPTER, STRAIGHT, PIPE TO TUBE: WATER TO TORCH, PIPE TO SOLENOID, ONE END MALE, 1/4-18 THD SIZE, OTHER END FEMALE, 5/8-18 THD SIZE, RH THD (SPECIAL)	08081	15AR	EA		2	*	*	*	*	*	D4	11
0086	M	F			BAR, VOLTAGE CHANGE	96073	11G1281	EA		4						D2	11
					MANUFACTURE FROM:												
0086A	P	F		9535-231-8256	COPPER SHEET (3/4 IN. x 2 1/4 IN. REQUIRED FOR EACH BAR)			SH			SEE GRP 9501						
0087	X2	F			BOARD, CHANGE COVER: BAKELITE, 3 IN. WIDE, 9 IN. LG, 1/4 IN. THK	96073	8G1285	EA		1	*	*	*	*	*	D2	8

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0088	M	0			BOARD, FIBER: CONTACTOR TO CHANGE OVER BOARD			EA		1						D2	20
					MANUFACTURE FROM:												
0088A	P	0		5970-284-7201	INSULATION, SHEET, ELECTRICAL (3 IN. x 3 1/2 IN. REQUIRED)			SH			SEE GRP 9501						
0089	M	0			BRACKET, SPARK CAP			EA		1						D7	6
					MANUFACTURE FROM:												
0089A	P	0		9520-517-0531	STEEL, ANGLE (1 IN. REQUIRED)			FT			SEE GRP 9501						
0090	M	0			CABLE ASSEMBLY, ELECTRICAL: CHANGE OVER BOARD			EA		1						D2	19
					MANUFACTURE FROM:												
0090A	X2	0			TERMINAL, LUG	00000	AN8-23	EA		2	*	*	*	*	*		
0090B	P	0		6145-284-0659	WIRE, ELECTRICAL (12 IN. REQUIRED)			FT			SEE GRP 9501						
0091	M	0			CABLE ASSEMBLY, ELECTRICAL: CONTACTOR			EA		1						D2	15
					MANUFACTURE FROM:												
0091A	X2	0			TERMINAL, LUG	00000	AN8-23	EA		2	*	*	*	*	*		
0091B	P	0		6145-284-0659	WIRE, ELECTRICAL (6 IN. REQUIRED)			FT			SEE GRP 9501						
0092	P	F		5910-581-8494	CAPACITOR, FIXED, CERAMIC DIELECTRIC: ON COPPER BAR, WAFFER	14655	BYA6S1	EA		1	SEE GRP 9901					D3	17
0093	P	F		5910-581-8494	CAPACITOR, FIXED, CERAMIC DIELECTRIC: ON POLARITY SWITCH, WAFFER	14655	BYA6S1	EA		1	SEE GRP 9901					D9	25
0094	P	F		5910-280-6333	CAPACITOR, FIXED, PAPER DIELECTRIC: CAN, HIGH FREQUENCY DRAWER	96073	4R120	EA		1	2	2	3	30	10	D7	21
0095	P	F		5910-083-2712	CAPACITOR: MICA, TYPE F28, 5.1 AMPS, 1000 KC, UF 0015, 5000v	96073	4R1180	EA		1	2	2	3	30	10	D7	15
0096	P	0		3431-083-2652	CONTACTOR: MODEL 6-3-2 (No. 804)	96073	18R1719	EA		1	*	2	2	15	5	D2	13
0097	X2	0		4730-253-4412	ELBOW, PIPE: SOLENOID TO ADAPTER			EA		4	*	*	*	*	*	D4	6
0098	X2	0			HANDLE, CONTROL: POLARITY SWITCH AND RANGE SWITCH	96073	1G1983	EA		2	*	*	*	*	*	D9	2
0099	M	0			INSULATION, PLASTIC: JUMPER LEAD, POLARITY AND RANGE SWITCHES			EA		2						D9	15
					MANUFACTURE FROM:												
0099A	P	0		5970-644-2629	INSULATION SLEEVING, ELECTRICAL (4 1/2 IN. REQUIRED FOR EACH INSULATION)			FT			SEE GRP 9501						
0101	M	0			INSULATION, PLASTIC: RANGE AND POLARITY SWITCH TO TRANSFORMER LEAD			EA		2						D9	6
					MANUFACTURE FROM:												
0101A	P	0		5970-644-2629	INSULATION SLEEVING, ELECTRICAL (10 IN. REQUIRED FOR EACH INSULATION)			FT			SEE GRP 9501						

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0102	M	0			INSULATION, PLASTIC: RANGE SWITCH LEAD			EA		1						D9	14
					MANUFACTURE FROM:												
0102A	P	0		5970-644-2629	INSULATION SLEEVING, ELECTRICAL (24 IN. REQUIRED)			FT			SEE GRP 9501						
0103	M	0			INSULATION, PLASTIC: RANGE SWITCH TO POLARITY SWITCH LEAD			EA		1						D9	12
					MANUFACTURE FROM:												
0103A	P	0		5970-644-2629	INSULATION SLEEVING, ELECTRICAL (15 IN. REQUIRED)			FT			SEE GRP 9501						
0104	X2	F		5935-259-6765	JACK, MALE: 1/8 IN. PIN			EA		1	*	*	*	*	*	D7	17
0105	M	0			LEAD, COPPER: RANGE AND POLARITY SWITCH TO TRANSFORMER			EA		6						D9	8
					MANUFACTURE FROM:												
0105A	P	0		9535-232-2293	COPPER STRIP (1 IN. X 11 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 9501						
0106	M	0			LEAD, COPPER: RANGE SWITCH			EA		3						D9	13
					MANUFACTURE FROM:												
0106A	P	0		9535-232-2293	COPPER STRIP (1 IN.X 27 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 9501						
0107	M	0			LEAD, COPPER: RANGE SWITCH TO POLARITY SWITCH			EA		3						D9	9
					MANUFACTURE FROM:												
0107A	P	0		9535-232-2293	COPPER STRIP (1 IN. X 17 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 9501						
0108	M	F			LEAD, COPPER STRAP: CHANGE OVER BOARD			EA		2						D2	18
					MANUFACTURE FROM:												
0108A	P	F		9535-232-2293	COPPER STRIP (1/2 IN. X 4 IN. REQUIRED FOR EACH LEAD)			SH			SEE GRP 9501						
0109	M	F			LEAD, ELECTRICAL: CAPACITOR TO MALE JACK			EA		1						D7	16
					MANUFACTURE FROM:												
0109A	X2	F		5940-681-9713	TERMINAL, LUG			EA		1	*	*	*	*	*		
0109B	P	F		6145-660-8933	WIRE, ELECTRICAL (12 IN. REQUIRED)			FT			SEE GRP 9501						
0110	M	0			LEAD, ELECTRICAL: SPARK GAP TO CAPACITOR			EA		1						D7	4
					MANUFACTURE FROM:												
0110A	P	0		5940-681-9713	TERMINAL, LUG: COPPER, TINNED FINISH, No. 16 TO 14 AWG, STRANDED CONDUCTOR			EA		2	*	*	*	*	*		
0110B	P	0		6145-660-8933	WIRE, ELECTRICAL (6 IN. REQUIRED)			FT			SEE GRP 9501						

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS/GS MAINT. ALW. (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR. ALW. PER 100 EQUIP. CTYGCY. PLANNING	(9) DEPOT MAINT. ALW. PER. 100 EQUIP.	(10) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0111	M	0			LEAD, ELECTRICAL: SPARK GAP TO RHEOSTAT			EA		1						D7	3
					MANUFACTURE FROM:												
0111A	X2	0		5940-681-9713	TERMINAL, LUG			EA		1	*	*	*	*	*		
0111B	P	0		6145-660-8933	WIRE, ELECTRICAL (12 IN. REQUIRED)			FT			SEE GRP 950						
0112	M	0			LEAD, JUMPER, COPPER: POLARITY AND RANGE SWITCH			EA		6						D9	16
					MANUFACTURE FROM:												
0112A	P	0		9535-232-2293	COPPER STRIP (1/2 IN. X 6 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 950						
0113	M	0			LEAD, JUMPER: POLARITY AND RANGE SWITCH			EA		2						D9	17
					MANUFACTURE FROM:												
0113A	P	0		9535-231-8256	COPPER SHEET (1/2 IN. X 2 1/2 IN. REQUIRED FOR EACH LEAD)			SH			SEE GRP 950						
0114		F		5310-262-6169	NUT, PLAIN, HEXAGON: CAPACITOR MTG			EA		4	*	*	*	*	*	D7	9
0115		F		5310-262-6169	NUT, PLAIN, HEXAGON: CAPACITOR MTG			EA		1	*	*	*	*	*	D3	19
0116		0		5310-754-4299	NUT, PLAIN, HEXAGON: CHANGE OVER BOARD			EA		17	*	*	*	*	*	D2	10
0117		0		5310-012-0622	NUT, PLAIN, HEXAGON: CONTACTOR MTG			EA		3	*	*	*	*	*	D2	17
0118		0		5310-584-5005	NUT, PLAIN, HEXAGON: LEADS TO SWITCHES			EA		12	*	*	*	*	*	D9	4
0119		0		5310-207-9272	NUT, PLAIN, HEXAGON: SPARK GAP AND BRACKET MTG			EA		2	*	*	*	*	*	D7	8
0120	X2	0		5315-664-6439	PIN, SPRING: POLARITY AND RANGE SWITCH HANDLE			EA		2	*	*	*	*	*	D9	3
0121	X2	0			PLUG, DUMMY: RED PRE-FLOW AMPHENAL, 6 POINT	96073	9G1593	EA		1	*	*	*	*	*	D8	1
0122	X2	0			RECEPTACLE, PLUG IN TIMER	96073	9R1598	EA		4	*	*	*	*	*	D8	2
0123	P	F		3431-083-2653	RELAY	96073	18R1600	EA		1	*	*	*	*	*	D8	4
0124	P	0		5945-061-6965	RELAY, ARMATURE: TYPE DEG-12	96073	18G1718	EA		1	*	*	2	8	3	D7	34
0125	P	0		5949-061-6964	RELAY, ARMATURE: TYPE DEG-12	96073	18G1715	EA		2	*	2	2	15	6	D8	3
0126		0		5305-550-3934	SCREW, CAP, HEXAGON HEAD: CHANGE OVER BOARD			EA		9	*	*	*	*	*	D2	7
0127		0		5305-068-7837	SCREW, CAP, HEXAGON HEAD: LEADS TO SWITCHES			EA		12	*	*	*	*	*	D9	11
0128		0		5305-068-0500	SCREW, CAP, HEXAGON HEAD: POLARITY SWITCH AND RANGE SWITCH MTG			EA		4	*	*	*	*	*	D9	1
0129		F		5305-272-5306	SCREW, MACHINE: CAPACITOR MTG			EA		1	*	*	*	*	*	D3	16
0130		F		5305-271-2566	SCREW, MACHINE: CAPACITOR MTG			EA		2	*	*	*	*	*	D7	12
0131		F		5305-013-2715	SCREW, MACHINE: CAPACITOR MTG			EA		2	*	*	*	*	*	D7	14
0132		0		5305-013-2768	SCREW, MACHINE: CONTACTOR MTG			EA		3	*	*	*	*	*	D2	12
0133		0		5305-012-2159	SCREW, MACHINE: PLUG IN TIMER MTG			EA		6	*	*	*	*	*	D8	5
0134		F		5305-543-5763	SCREW, MACHINE: RELAY MTG			EA		2	*	*	*	*	*	D7	33

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS/GS MAINT. ALW. (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR. ALW. PER. 100 EQUIP. CTYGCY. PLANNING	(9) DEPOT MAINT. ALW. PER. 100 EQUIP.	(10) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0135		0		5305-013-2915	SCREW, MACHINE: SPARK GAP AND BRACKET MOUNTING			EA		2	*	*	*	*	*	D7	1
0136		0		5305-226-9268	SCREW, MACHINE: SPARK GAP LEADS			EA		2	*	*	*	*	*	D7	2
0137	X2	0			SPARK GAP ASSEMBLY	96073	11G129	EA		1	*	*	*	*	*	D7	5
0138	P	0		5930-519-4544	SWITCH, GAS, WATER, HIGH FREQUENCY, SPOT ARC, HIGH FREQUENCY DROP OUT TIMER (ST40A)			EA		4	SEE GRP 9901					D8	6
0139	P	0		5930-519-4544	SWITCH, PANEL, REMOTE (ST40A)			EA		2	SEE GRP 9901					D6	9
0140	P	F		3431-083-2650	SWITCH, POLARITY	96073	24R1595	EA		1	*	*	2	8	3	D9	26
0141	P	0		5930-655-1582	SWITCH, POWER (ST50K)			EA		1	*	*	2	8	3	D8	8
0142	P	F		3431-083-2651	SWITCH, RANGE	96073	24R1596	EA		1	*	*	2	8	3	D9	7
0143	P	0		3431-061-5940	VALVE, SOLENOID: GAS AND WATER	96073	22R1711	EA		2	2	2	3	30	10	D4	5
0144		0		5310-044-6234	WASHER, FLAT: ADAPTER TO ELBOW			EA		4	*	*	*	*	*	D4	7
0145		F		5310-167-0816	WASHER, FLAT: CAPACITOR MTG			EA		2	*	*	*	*	*	D3	18
0146		F		5310-011-4986	WASHER, FLAT: CAPACITOR MTG			EA		2	*	*	*	*	*	D7	19
0147		0		5310-823-8804	WASHER, FLAT: LEADS TO SWITCHES			EA		14	*	*	*	*	*	D9	10
0148		F		5310-167-0816	WASHER, FLAT: RELAY MTG AND CAPACITOR MOUNTING			EA		4	*	*	*	*	*	D7	10
0149		F		5310-013-1044	WASHER, LOCK: CAPACITOR MTG			EA		2	*	*	*	*	*	D7	11
0150		0		5310-010-3319	WASHER, LOCK: CHANGE OVER BOARD SCREW			EA		9	*	*	*	*	*	D2	9
0151		0		5310-012-1841	WASHER, LOCK: CONTACTOR MTG			EA		3	*	*	*	*	*	D2	16
0152		0		5310-582-5965	WASHER, LOCK: LEADS TO SWITCHES			EA		12	*	*	*	*	*	D9	5
0153		0		5310-043-2226	WASHER, LOCK: SPARK GAP AND BRACKET MTG			EA		2	*	*	*	*	*	D7	7
0154	M	0			WIRE, COPPER, SOLID: CONTACTOR MANUFACTURE FROM:			EA		2						D2	14
0154A	P	0		6145-548-2350	WIRE, ELECTRICAL (8 IN. REQUIRED FOR EACH WIRE)			FT			SEE GRP 9501						
0155					4411 - RESISTOR COMPONENTS												
0156	X2	F			HANDLE, CONTROL, RHEOSTAT	96073	19R1551	EA		1	*	*	*	*	*	D10	22
0157	X2	0			KNOB, RHEOSTAT	96073	19R387	EA		1	*	*	*	*	*	D8	12
0158	M	F			LEAD, COPPER: RESISTOR TO RECTIFIER MANUFACTURE FROM:			EA		3						D5	8
0158A	P	F		9535-232-2293	COPPER STRIP (1 IN. x 6 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 9501						
0159	M	F			LEAD, COPPER: RESISTOR TO RESISTOR MANUFACTURE FROM:			EA		4						D5	9
0159A	P	F		9535-232-2293	COPPER STRIP (1/2 IN. x 9 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 9501						
0160	M	F			LEAD, ELECTRICAL: RESISTOR TO RECTIFIER MANUFACTURE FROM:			EA		4						D3	14
0160A	X2	F		5940-050-6204	TERMINAL, LUG: COPPER, TINNED FINISH, No. 22 TO 18 AWG, FOR 1/4 IN. BOLT			EA		4	*	*	*	*	*		
0160B	P	F		6145-263-6982	WIRE, ELECTRICAL (5 IN. REQUIRED FOR EACH LEAD)			FT			SEE GRP 9501						

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS/GS MAINT. ALW. (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR. ALW. PER 100 EQUIP. CTYGCY. PLANNING	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0161		F		5310-619-3555	NUT, PLAIN, HEXAGON: LEAD TO RESISTOR			EA		5	*	*	*	*	*	D5	11
0162		F		5310-262-6169	NUT, PLAIN, HEXAGON: RESISTOR MTG			EA		2	*	*	*	*	*	D7	9
0163		F		5310-298-9261	NUT, PLAIN, HEXAGON: RESISTOR MTG			EA		4	*	*	*	*	*	D5	3
0164	P	F		5905-280-1597	RESISTOR, ADJUSTABLE: 1000 OHMS RECTIFIER PLATE			EA		2	2	3	5	60	20	D3	15
0165	P	F		5905-081-2898	RESISTOR, FIXED: NON-INDUCTIVE	96073	19R1746	EA		1	2	2	3	30	10	D7	13
0166	X2	F		5905-755-2432	RESISTOR, VARIABLE	44655	0310	EA		1	*	*	*	*	*	D8	10
0167	X2	F		5905-083-2713	RESISTOR ASSEMBLY: RECTIFIER, MOUNTED ON FAN BRACKET	96073	19R1764	EA		2	*	*	*	*	*	D5	13
0168	P	F		5905-083-8225	RHEOSTAT	96073	19R1550	EA		1	2	2	3	30	10	D10	8
0169		F		5305-021-3616	SCREW, CAP, HEXAGON HEAD: LEAD MTG, RESISTOR TO RESISTOR			EA		5	*	*	*	*	*	D5	6
0170		F		5305-271-2566	SCREW, MACHINE: RESISTOR MTG			EA		2	*	*	*	*	*	D7	12
0171		F		5305-988-9265	SCREW, MACHINE: RHEOSTAT MTG			EA		2	*	*	*	*	*	D10	21
0172		F		5305-010-2571	SETSCREW: RHEOSTAT HANDLE			EA		2	*	*	*	*	*	D10	24
0173		O		5305-014-0854	SETSCREW: RHEOSTAT KNOB			EA		1	*	*	*	*	*	D8	11
0174	M	F			SPACER, RHEOSTAT			EA		2						D10	25
					MANUFACTURE FROM:												
0174A	P	F		4710-278-5380	PIPE, STEEL (1 IN. REQUIRED FOR EACH SPACER)			FT			SEE GRP 950						
0175		F		5310-014-7577	WASHER, FLAT: LEAD TO RESISTOR			EA		10	*	*	*	*	*	D5	7
0176		F		5310-167-0816	WASHER, FLAT: RESISTOR MTG			EA		2	*	*	*	*	*	D7	10
0177		F		5310-010-3319	WASHER, LOCK: LEAD TO RESISTOR			EA		5	*	*	*	*	*	D5	10
0178		F		5310-010-6497	WASHER, LOCK: RESISTOR MTG			EA		4	*	*	*	*	*	D5	4
0179					4412 - TRANSFORMER, COMPONENTS												
0180		F		5306-680-6004	BOLT, MACHINE: LEAD TO COIL			EA		2	*	*	*	*	*	D9	20
0181	X2	H		5306-680-6004	BOLT, MACHINE: MAIN TRANSFORMER TO FRAME			EA		4	*	*	*	*	*	D1	13
0182	P	F		5910-083-2715	CAPACITOR, POWER: 1555547 KGT 4300-4, 30 UF, 440V, AC	96073	4R419	EA		2	2	3	5	60	20	D2	6
0183	X2	F			CLAMP, HOLD DOWN: CAPACITOR	96073	4R2159	EA		4	*	*	*	*	*	D2	1
0184	P	F		3431-083-2654	COIL, TESLA	96073	26G1748	EA		1	*	*	2	8	2	D9	18
0185	M	F			INSULATION, PLASTIC: TESLA COIL LEAD			EA		1						D9	24
					MANUFACTURE FROM:												
0185A	P	F		5970-644-2629	INSULATION SLEEVING, ELECTRICAL (8 IN. REQUIRED)			FT			SEE GRP 950						
0186	M	F			LEAD, COPPER: TESLA COIL			EA		3						D9	21
					MANUFACTURE FROM:												
0186A	P	F		9535-232-2293	COPPER STRIP (1 IN. X 9 IN. REQUIRED FOR EACH LEAD)			SP			SEE GRP 950						
0187		H		5310-545-2629	NUT, PLAIN, HEXAGON: MAIN TRANSFORMER TO FRAME			EA		4	*	*	*	*	*	D1	10

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS/GS MAINT. ALW. (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR. ALW. PER 100 EQUIP. CTYGCY. PLANNING	(9) DEPOT MAINT. ALW. PER. 100 EQUIP.	(10) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0188		F		5310-619-3555	NUT, PLAIN, HEXAGON: REACTOR MTG			EA		4	*	*	*	*	*	D1	2
0189		F		5310-012-0376	NUT, PLAIN, HEXAGON: TESLA COIL LEAD MTG			EA		2	*	*	*	*	*	D9	23
0190		F		5310-207-9272	NUT, PLAIN, HEXAGON: TRANSFORMER MTG			EA		4	*	*	*	*	*	D7	20
0191		F		5310-012-0622	NUT, PLAIN, HEXAGON: TRANSFORMER TO FRAME MTG			EA		4	*	*	*	*	*	D6	1
0192		F		5305-206-3339	SCREW, MACHINE: TRANSFORMER MTG			EA		4	*	*	*	*	*	D7	24
0193	X2	F			REACTOR ASSEMBLY, FILTER	96073	27G1581	EA		1	*	*	*	*	*	D1	4
0194	X1				COIL ASSEMBLY, FILTER REACTOR	96073	26G1849	EA		1						D1	1
0195		F		5305-071-2229	SCREW, CAP, HEXAGON HEAD: REACTOR MTG			EA		4	*	*	*	*	*	D1	6
0196		F		5305-276-7951	SCREW, MACHINE: TRANSFORMER TO FRAME MOUNTING			EA		4	*	*	*	*	*	D6	11
0197		F		5305-840-6694	SCREW, TAPPING, THREAD FORMING: CAPACITOR CLAMP MTG			EA		8	*	*	*	*	*	D2	3
0198	X2	F			TERMINAL, GROUND: CAPACITOR CLAMP	54978	KPA4C	EA		1	*	*	*	*	*	D2	2
0199	X2	H			TRANSFORMER ASSEMBLY	96073	27G1580	EA		1	*	*	*	*	*	D1	9
0200	X2	F		3431-083-2655	TRANSFORMER (230v)	96073	27R1289	EA		1	*	*	*	*	*	D7	22
0201	X2	F		5950-083-2714	TRANSFORMER, CONTROL	96073	27R1548	EA		1	*	*	*	*	*	D6	6
0202		F		5310-209-0709	WASHER, FLAT: LEAD TO COIL			EA		2	*	*	*	*	*	D9	19
0203		F		5310-209-0710	WASHER, FLAT: REACTOR MTG			EA		4	*	*	*	*	*	D1	5
0204		F		5310-044-6179	WASHER, FLAT: TRANSFORMER MTG			EA		8	*	*	*	*	*	D7	23
0205		F		5310-012-0214	WASHER, LOCK: TESLA COIL LEAD MTG			EA		2	*	*	*	*	*	D9	22
0206		F		5310-012-1841	WASHER, LOCK: TRNASFORMER TO FRAME MTG			EA		4	*	*	*	*	*	D6	2
0207		H		5310-012-0214	WASHER, LOCK: MAIN TRANSFORMER TO FRAME			EA		4	*	*	*	*	*	D1	11
0208		F		5310-261-7340	WASHER, LOCK: REACTOR MTG			EA		4	*	*	*	*	*	D1	3
0209	M	F			WIRE, COPPER, STRANDED CONDUCTOR: CAPACITOR			EA		2						D2	4
					MANUFACTURE FROM:												
0209A	X2	F		5940-050-6209	TERMINAL, LUG: CAPACITOR WIRE, COPPER, TINNED FINISH, No. 16 TO 14 AWG, FOR 1/4 IN. BOLT			EA		2	*	*	*	*	*		
0209B	P	F		6145-660-8933	WIRE, ELECTRICAL (12 IN. REQUIRED FOR EACH WIRE)			FT			SEE GRP 9501						
0210	M	F			WIRE, COPPER, STRANDED CONDUCTOR: CAPACITOR TO CAPACITOR			EA		2						D2	5
					MANUFACTURE FROM:												
0210A	P	F		6145-660-8933	WIRE, ELECTRICAL (12 IN. REQUIRED FOR EACH WIRE)			FT			SEE GRP 9501						
0211					4413 - RECTIFIER, COMPONENT												
0212	M	F			BAR, COPPER: RECTIFIER TO RECTIFIER			EA		1						D3	13
					MANUFACTURE FROM:												
0212A	P	F		9535-231-8256	COPPER, SHEET (1/2 IN. x 16 IN. REQUIRED)			SH			SEE GRP 9501						
0213		F		5310-584-5005	NUT, PLAIN, HEXAGON: BAR TO RECTIFIER DIODE TERMINAL MTG			EA		5	*	*	*	*	*	D3	10

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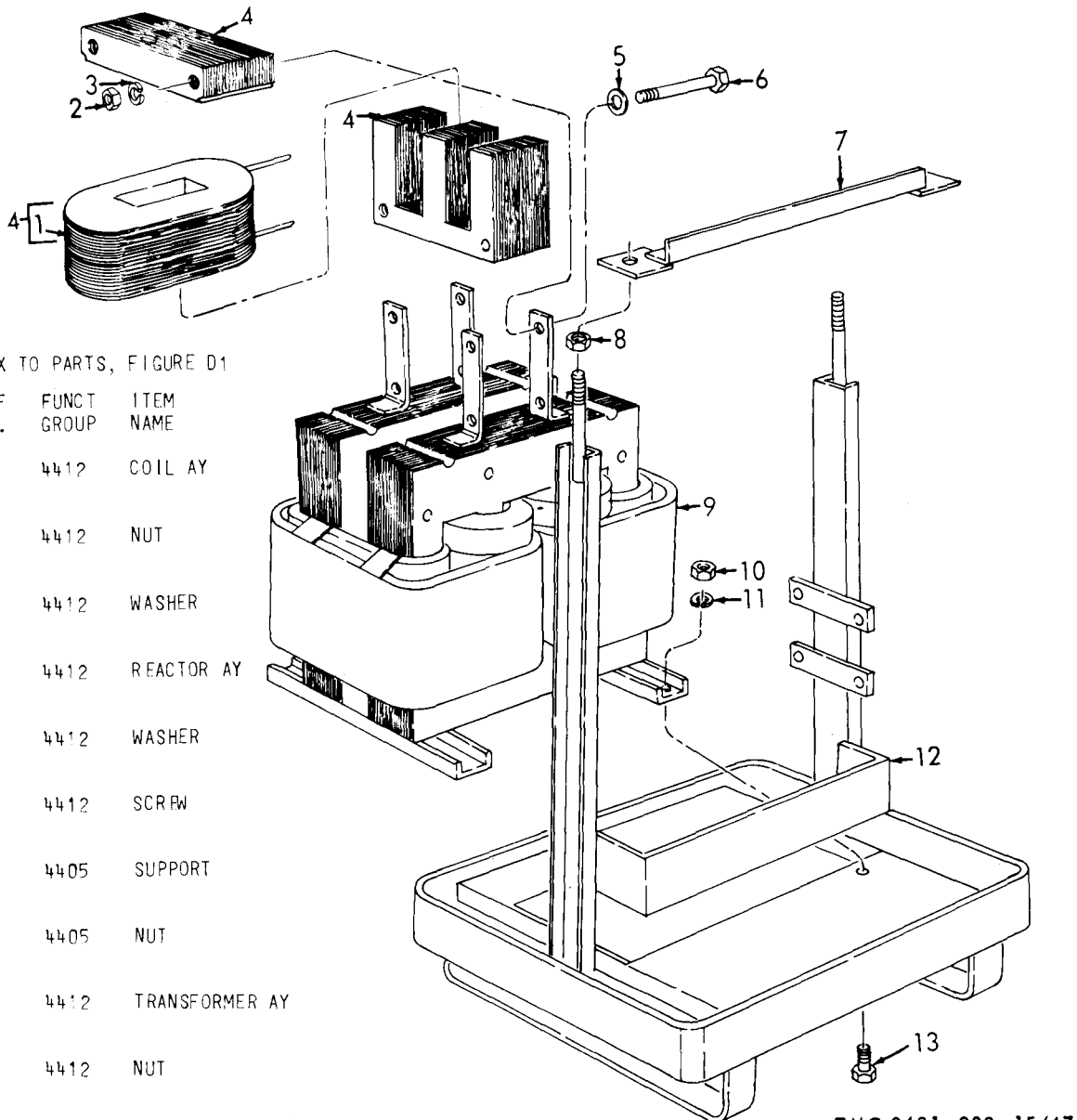
0214		F		5310-012-0377	NUT, PLAIN, HEXAGON: RECTIFIER MTG			EA		16	*	*	*	*	*	D3	1
0215		F		5310-012-0377	NUT, PLAIN, HEXAGON: RECTIFIER TO FRAME MTG			EA		1	*	*	*	*	*	D6	3
0216	X2	F		6130-553-6218	RECTIFIER ASSEMBLY	81483	JD510G	EA		1	*	*	*	*	*	D3	5
0217	P	F		5960-083-2716	SEMI CONDUCTOR DEVICE, DIODE: 300 AMP	96073	17R1588	EA		4	2	2	3	30	12	D3	2
0218	P	F		6130-553-6218	RECTIFIER, METALLIC	96073	17R1549	EA		1	*	2	2	15	5	D6	5
0219	M	F			ROD, RECTIFIER			EA		2						D3	11
					MANUFACTURE FROM:												
0219A	P	F		9510-288-6059	STEEL BAR, ALLOY, COLD FINISHED (23 IN. REQUIRED FOR EACH ROD)			FT			SEE GRP 9501						
0220		F		5305-068-0505	SCREW, CAP, HEXAGON HEAD: BAR TO RECTIFIER, DIODE TERMINAL MTG			EA		5	*	*	*	*	*	D3	8
0221	M	F			SPACER, PLASTIC: RECTIFIER MTG (LARGE)			EA		4						D3	6
					MANUFACTURE FROM:												
0221A	P	F		4710-838-9382	PLASTIC, TUBING (2 1/4 IN. REQUIRED FOR EACH SPACER)			FT			SEE GRP 9501						
0222	M	F			SPACER, PLASTIC: RECTIFIER MTG (SMALL)			EA		4						D3	7
					MANUFACTURE FROM:												
0222A	P	F		4710-599-9479	PLASTIC, TUBING (2 3/4 IN. REQUIRED FOR EACH SPACER)			FT			SEE GRP 9501						
0223		F		5310-209-0711	WASHER, FLAT: RECTIFIER MTG			EA		8	*	*	*	*	*	D3	3
0224		F		5310-582-5965	WASHER, LOCK: BAR TO RECTIFIER AND DIODE TERMINAL MTG			EA		5	*	*	*	*	*	D3	9
0225		F		5310-637-9541	WASHER, LOCK: RECTIFIER MTG			EA		2	*	*	*	*	*	D3	12
0226		F		5310-637-9541	WASHER, LOCK: RECTIFIER TO FRAME MTG			EA		1	*	*	*	*	*	D6	4
0227	X2	F			WASHER, INSULATING			EA		8						D3	4
					MANUFACTURE FROM:												
0227A	P	F		5970-284-7201	INSULATION, SHEET, ELECTRICAL: FIBER 1/2 IN. ID, 7/8 IN. OD, 1/8 IN. THK			FT			SEE GRP 9501						
0228					GROUP 95 - GENERAL USE STANDARDIZED PARTS												
0229					9501 - BULK MATERIAL												
0230	P	O		9535-231-8256	COPPER SHEET: 0.1250 IN. THK, 24 IN. W, 48 IN. LG			SH			*	2	2	15	3		
0231	P	O		9535-232-2293	COPPER STRIP: 0.032 IN. THK, 12 IN. W, 36 IN. LG			SP			*	2	2	15	3		
0231A	P	O		5970-254-4038	INSULATION, SHEET, ELECTRICAL			SH			*	*	2	10	2		

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE (a) SOURCE	(b) MAINT.	(c) RECOV.	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	MANUFACTURER'S CODE	MANUFACTURER'S PART NUMBER	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT PACK	(6) QTY INC IN UNIT	(7) 30-DAY DS/GS MAINT. ALW. (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR. ALW. PER. 100 EQUIP. CTYGCY. PLANNING	(9) DEPOT MAINT. ALW. PER. 100 EQUIP.	(10) ILLUSTRATION (a) FIG. NO.	(b) ITEM OR SYM. NO.
0232	P	O		5970-284-7201	INSULATION SHEET, ELECTRICAL: FIBER 48 IN. W, 72 IN. LG, 0.125 IN. THK			SH			*	*	2	10	2		
0233	P	O		5970-284-7201	INSULATION SHEET, ELECTRICAL: FIBER 48 IN. W, 60 IN. LG, 1/8 IN. THK			SH			*	*	2	10	2		
0234	P	O		5970-644-2629	INSULATION SLEEVING, ELECTRICAL: 1.125 IN. DIA, 0.032 IN. THK			FT			2	3	6	75	15		
0236	P	F		4710-278-5380	PIPE, STEEL: 3/8 IN. ID			FT			*	*	2	10	2		
0237	P	F		4710-599-9479	PLASTIC, TUBING: 0.563 IN. DIA			FT			*	2	2	20	4		
0238	P	F		4710-838-9382	PLASTIC, TUBING: 0.875 IN. DIA			FT			*	2	2	20	4		
0239	P	O		9520-517-0531	STEEL ANGLE: 1/8 IN. THK, 1 1/2 IN. LEGS			FT			*	*	2	10	2		
0240	P	F		9510-288-6059	STEEL BAR, ALLOY, COLD FINISHED: 3/8 IN. DIA			FT			2	2	3	30	6		
0241	P	O		6145-548-2350	WIRE, ELECTRICAL: COPPER, No. 10 AWG, SOLID CONDUCTOR			FT			*	2	2	15	3		
0242	P	O		6145-284-0659	WIRE, ELECTRICAL: COPPER, TINNED FINISH, No. 8 AWG, STRANDED CONDUCTOR			FT			*	2	2	15	3		
0243	P	O		6145-660-8933	WIRE, ELECTRICAL: COPPER, TINNED FINISH, No. 14 AWG, STRANDED CONDUCTOR			FT			3	5	10	125	25		
0244	P	O		6145-263-6982	WIRE, ELECTRICAL: COPPER, TINNED FINISH, No. 18 STRANDED CONDUCTOR			FT			7	15	29	350	70		
0245					GROUP 99 - PARTS PECULIAR												
0245A					9901 - PARTS PECULIAR WITH MORE THAN ONE APPLICATION												
0246	P	F		5910-581-8494	CAPACITOR, FIXED CERAMIC DIELECTRIC	14655	BYA6S1	EA		2	2	3	5	60	20		
0247	P	O		5930-655-1515	SWITCH, TOGGLE			EA		6	2	2	4	45	18		



INDEX TO PARTS, FIGURE D1

REF NO.	FUNCT GROUP	ITEM NAME
1	4412	COIL AY
2	4412	NUT
3	4412	WASHER
4	4412	REACTOR AY
5	4412	WASHER
6	4412	SCREW
7	4405	SUPPORT
8	4405	NUT
9	4412	TRANSFORMER AY
10	4412	NUT
11	4412	WASHER
12	4405	BASE
13	4412	BOLT

Figure D1. Main Transformer and Base.

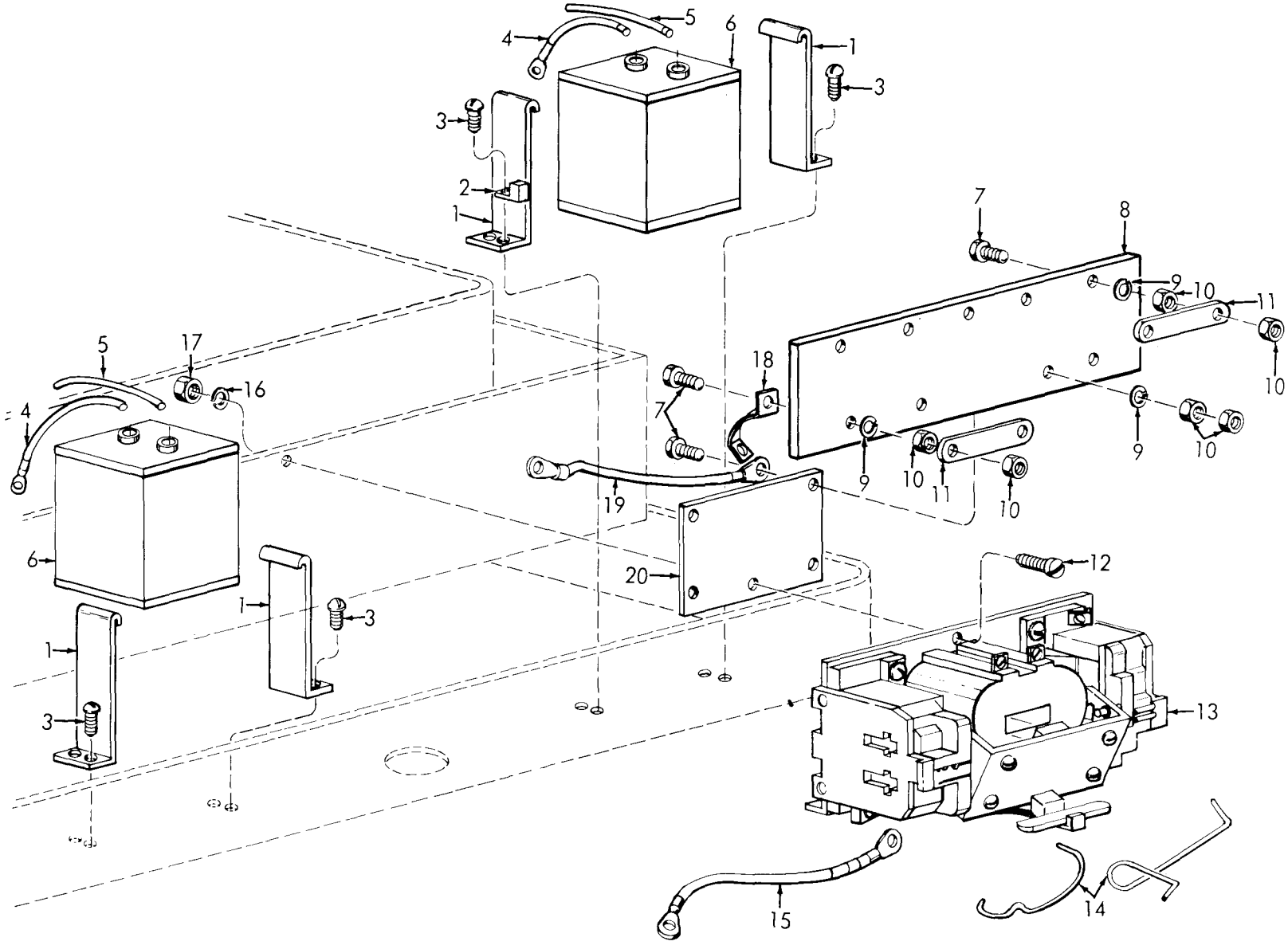
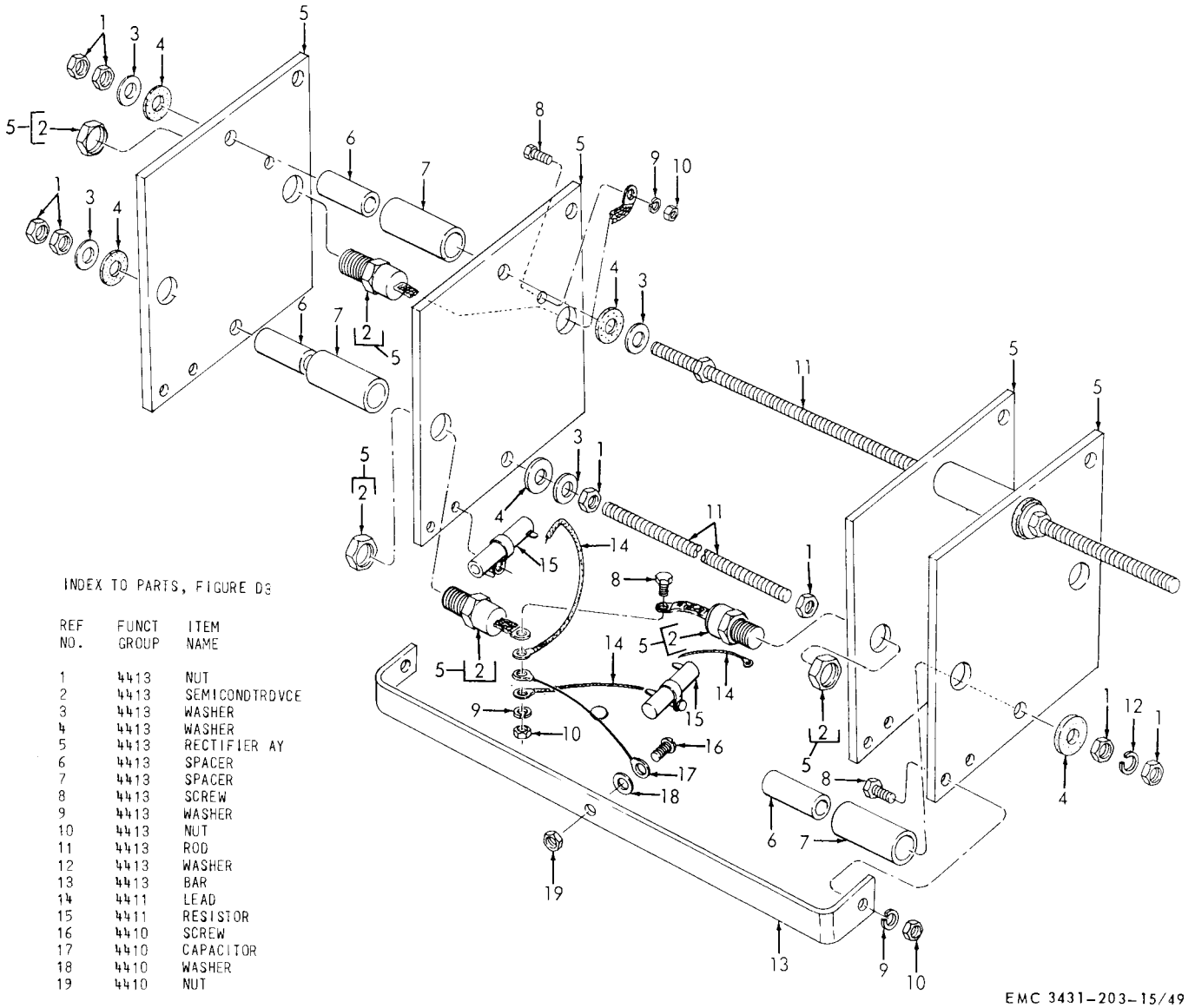


Figure D2. Contactors and Capacitors.

INDEX TO PARTS, FIGURE D2

REF No.	FUNCT GROUP	ITEM NAME	REF No.	FUNCT GROUP	ITEM NAME
1	4412	CLAMP	11	4410	BAR
2	4412	TERMINAL	12	4410	SCREW
3	4412	SCREW	13	4410	CONTACTOR
4	4412	WIRE	14	4410	WIRE
5	4412	WIRE	15	4410	CABLE AY
6	4412	CAPACITOR	16	4410	WASHER
7	4410	SCREW	17	4410	NUT
8	4410	BOARD	18	4410	LEAD
9	4410	WASHER	19	4410	CABLE AY
10	4410	NUT	20	4410	BOARD



INDEX TO PARTS, FIGURE D3

REF NO.	FUNCT GROUP	ITEM NAME
1	4413	NUT
2	4413	SEMICONDTRDVCE
3	4413	WASHER
4	4413	WASHER
5	4413	RECTIFIER AY
6	4413	SPACER
7	4413	SPACER
8	4413	SCREW
9	4413	WASHER
10	4413	NUT
11	4413	ROD
12	4413	WASHER
13	4413	BAR
14	4411	LEAD
15	4411	RESISTOR
16	4410	SCREW
17	4410	CAPACITOR
18	4410	WASHER
19	4410	NUT

Figure D3. Rectifier.

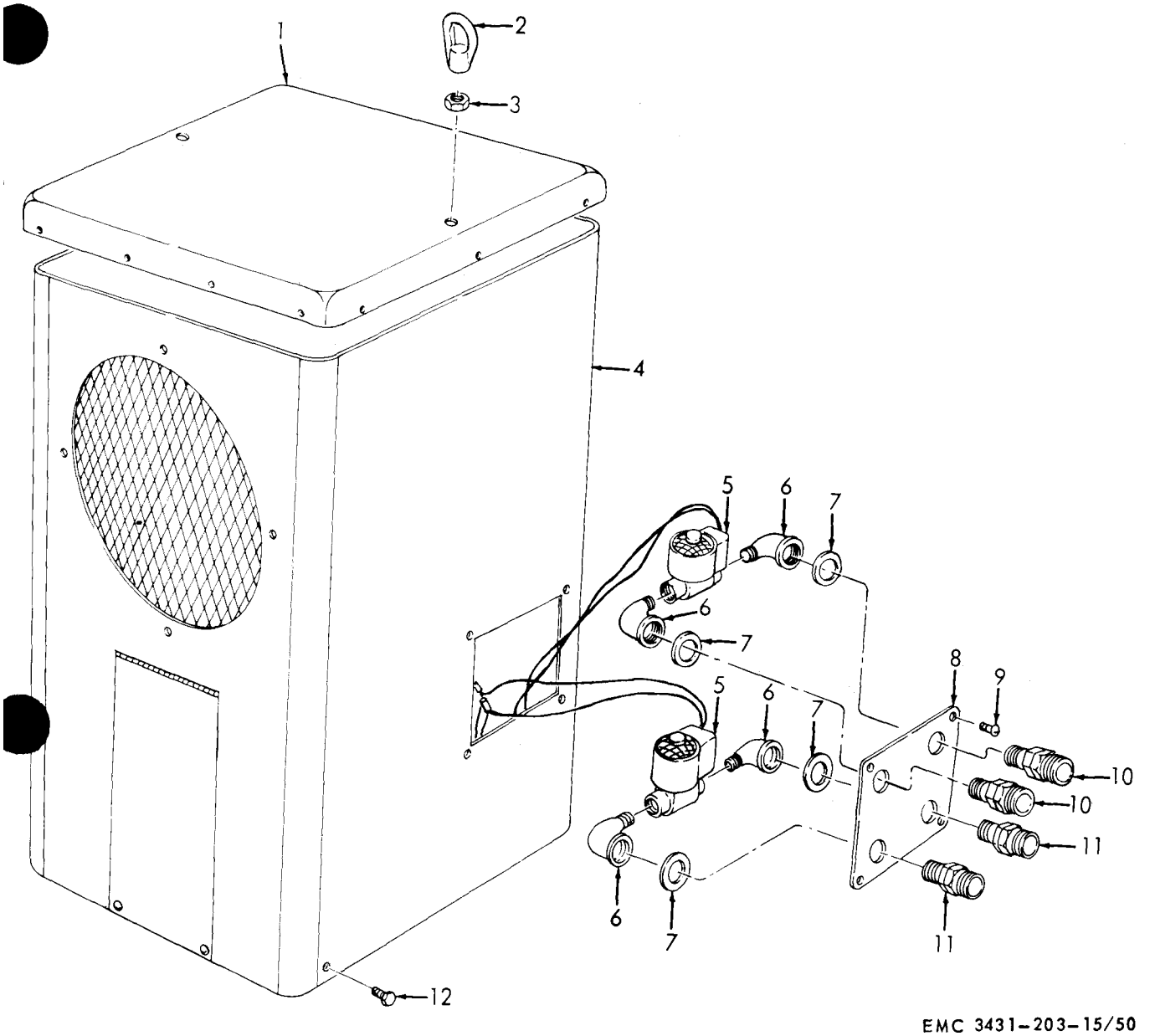
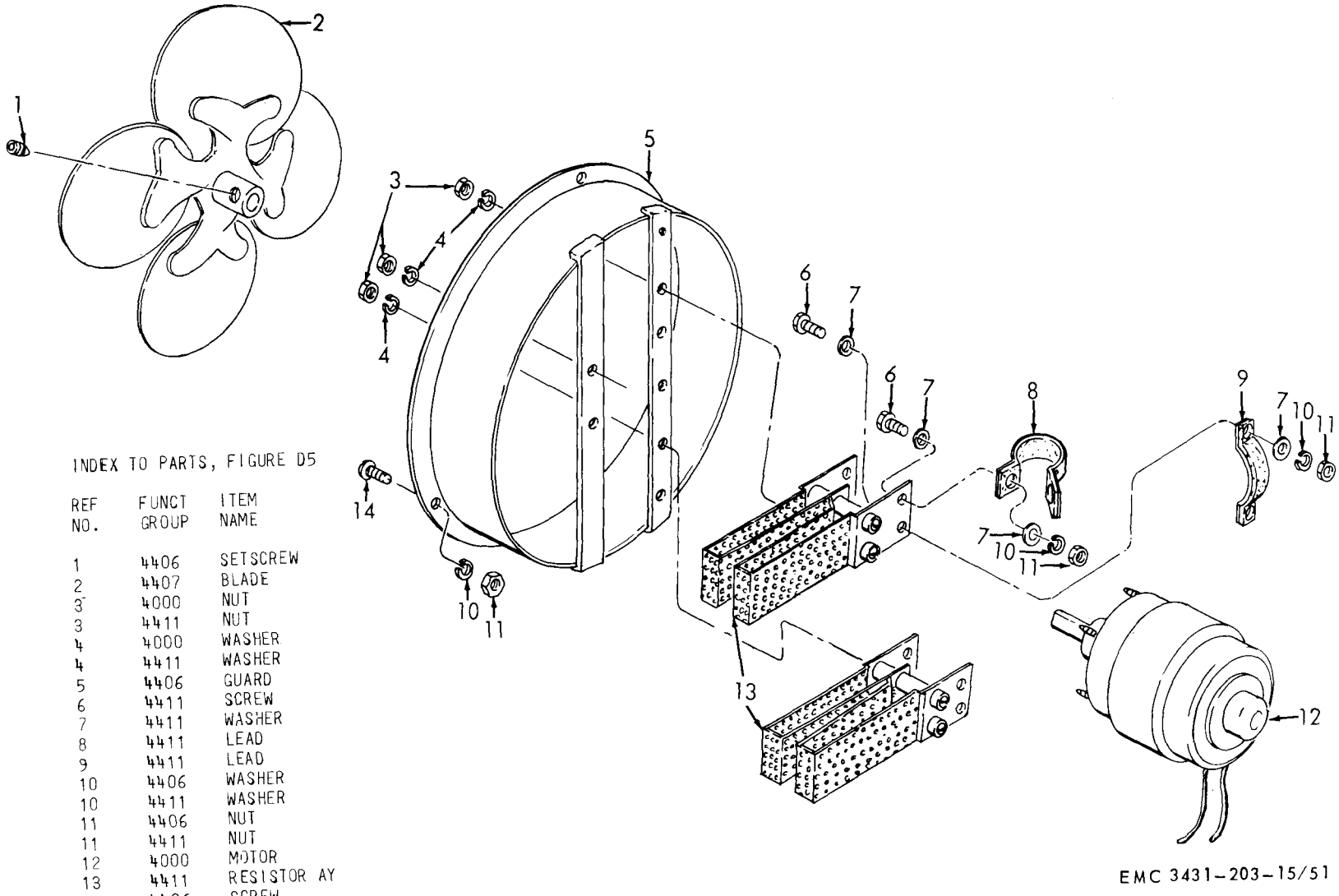


Figure D4. Housing and Solenoid Valve.

INDEX TO PARTS, FIGURE D4

REF NO.	FUNCT GROUP	ITEM NAME	REF NO.	FUNCT GROUP	ITEM NAME
1	4405	COVER	7	4410	WASHER
2	4405	LIFTING EYE	8	4405	PLATE
3	4405	NUT	9	4405	SCREW
4	4405	HOUSING	10	4410	ADAPTER
5	4410	VALVE	11	4410	AOAPTER
6	4410	ELBOW	12	4405	SCREW



INDEX TO PARTS, FIGURE D5

REF NO.	FUNCT GROUP	ITEM NAME
1	4406	SETSCREW
2	4407	BLADE
3	4000	NUT
3	4411	NUT
4	4000	WASHER
4	4411	WASHER
5	4406	GUARD
6	4411	SCREW
7	4411	WASHER
8	4411	LEAD
9	4411	LEAD
10	4406	WASHER
10	4411	WASHER
11	4406	NUT
11	4411	NUT
12	4000	MOTOR
13	4411	RESISTOR AY
14	4406	SCREW

Figure D5. Fan and Motor.

INDEX TO PARTS, FIGURE D6

REF NO.	FUNCT GROUP	ITEM NAME	REF NO.	FUNCT GROUP	ITEM NAME
1	4412	NUT	7	4409	SWITCH
2	4412	WASHER	8	4407	HARNESS AY
3	4413	NUT	9	4410	SWITCH
4	4413	WASHER	10	4407	RECEPTACLE
5	4413	RECTIFIER	11	4412	SCREW
6	4412	TRANSFORMER	12	4407	JACK

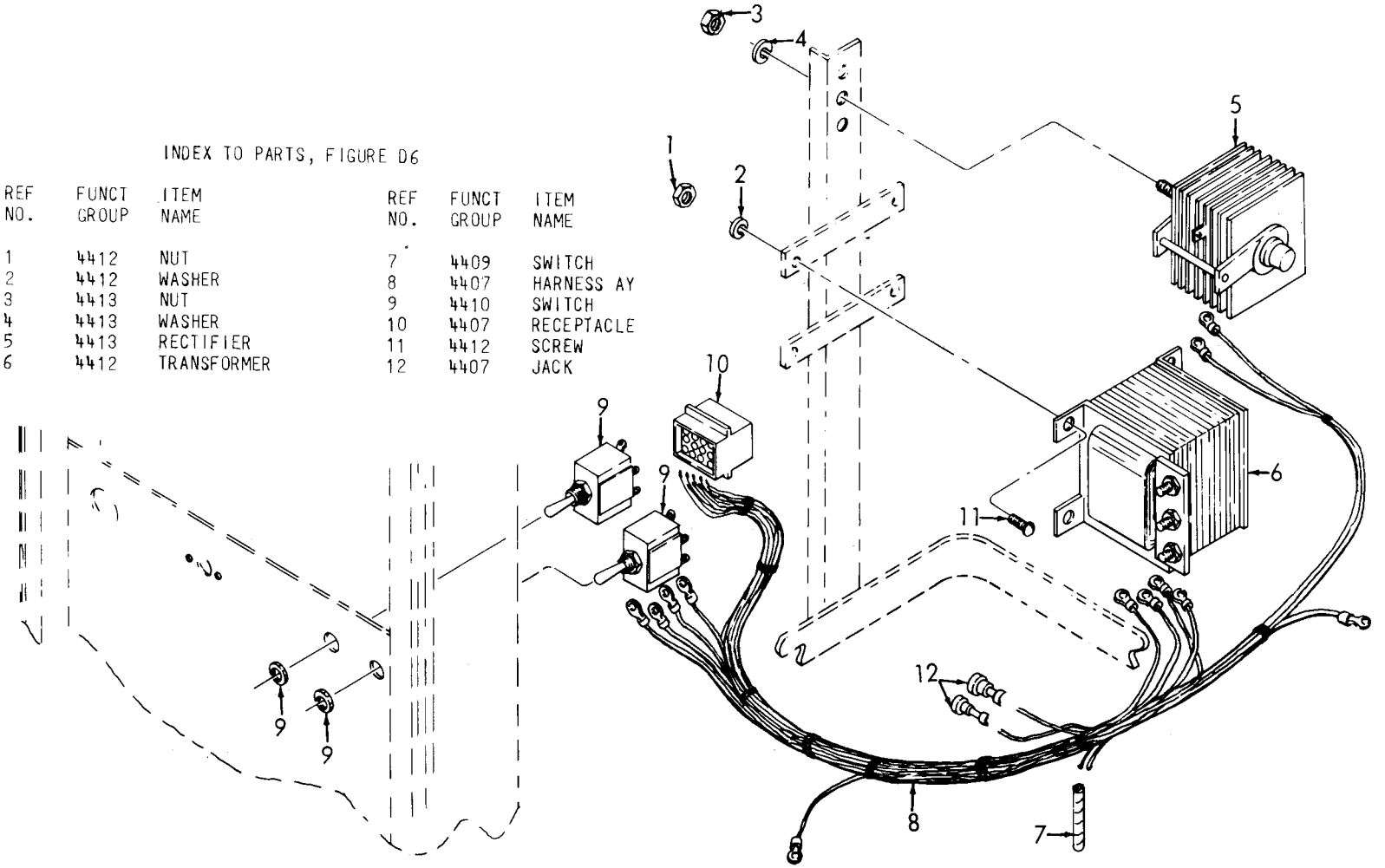


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Figure D6. Transformer, Rectifier, and Wiring Harness.

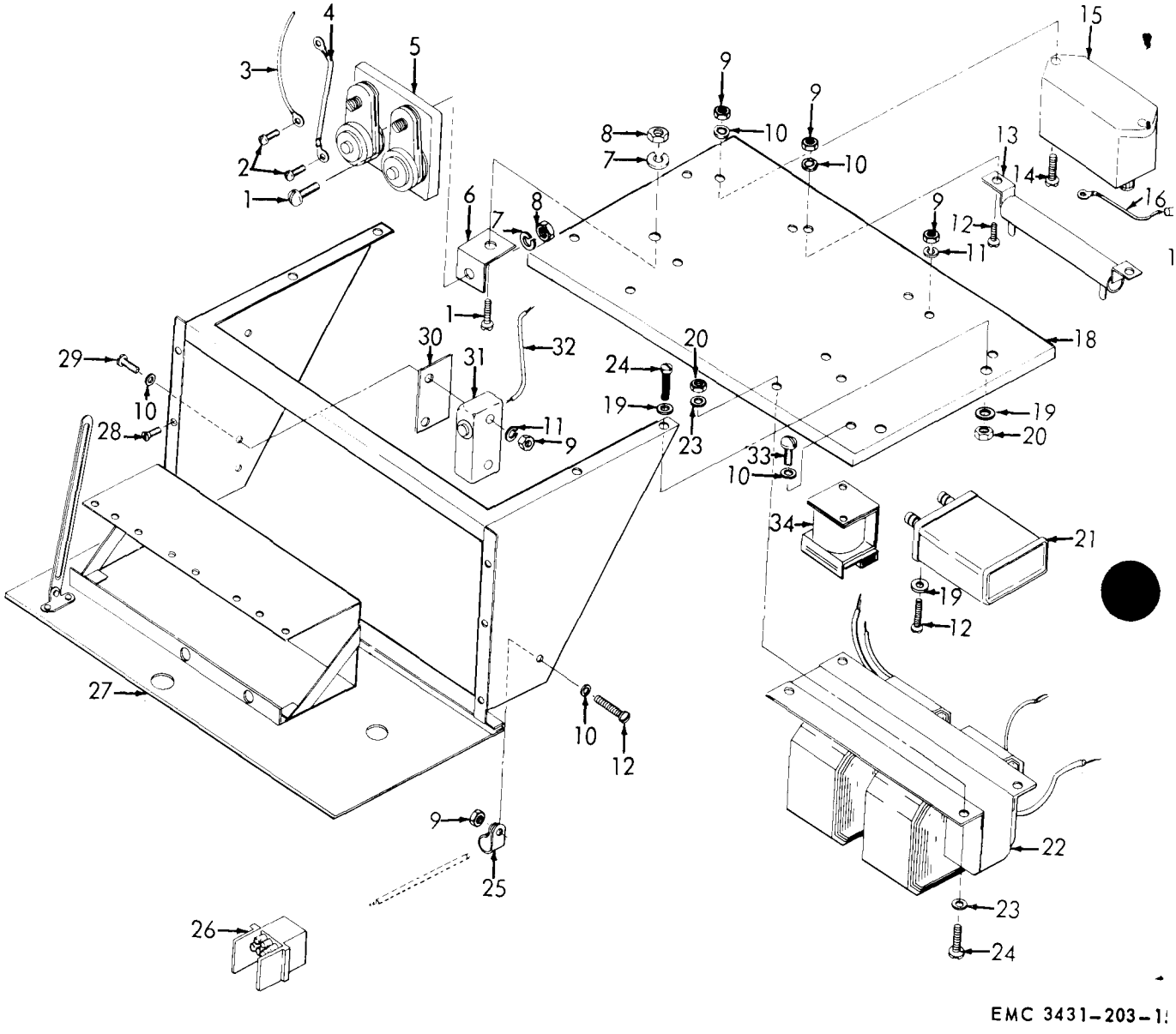

Figure D7. High Frequency Drawer.

INDEX TO PARTS, FIGURE D7

R EF No.	FUNCT GROUP	ITEM NAME
1	4410	SCREW
2	4410	SCREW
3	4410	LEAO
4	4410	LEAO
5	4410	SPARK GAP AY
6	4410	BRACKET
7	4410	WASHER
8	44’0	NUT
9	4407	NUT
9	4409	NuT
9	4410	NuT
9	4411	NUT
10	4407	WASHER
10	4409	WASHER
10	4410	WASHER
10	4411	WASHER
11	4409	WASHER
11	4410	WASHER
12	4407	SCREW
12	4410	SCREW
12	4411	SCREW
13	4411	RESISTOR
14	4410	SCREW
15	4410	CAPACITOR
16	4410	LEAO
17	4410	JACK
18	4407	PANEL
19	4407	WASHER
19	4407	WASHER
20	4407	NUT
20	4412	NUT
21	44.0	CAPACITOR
22	441.2	TRANSFORMER
23	441.2	WASHER
24	4407	SCREW
24	441.2	SCREW
25	4407	CLAMP
76	4407	PLUG
27	4407	DRAWER
28	4407	SCREW
29	4409	SCREW
30	4409	INSULATOR
31	4409	SWITCH
32	4409	LEAD
33	4410	SCREW
34	4410	RELAY

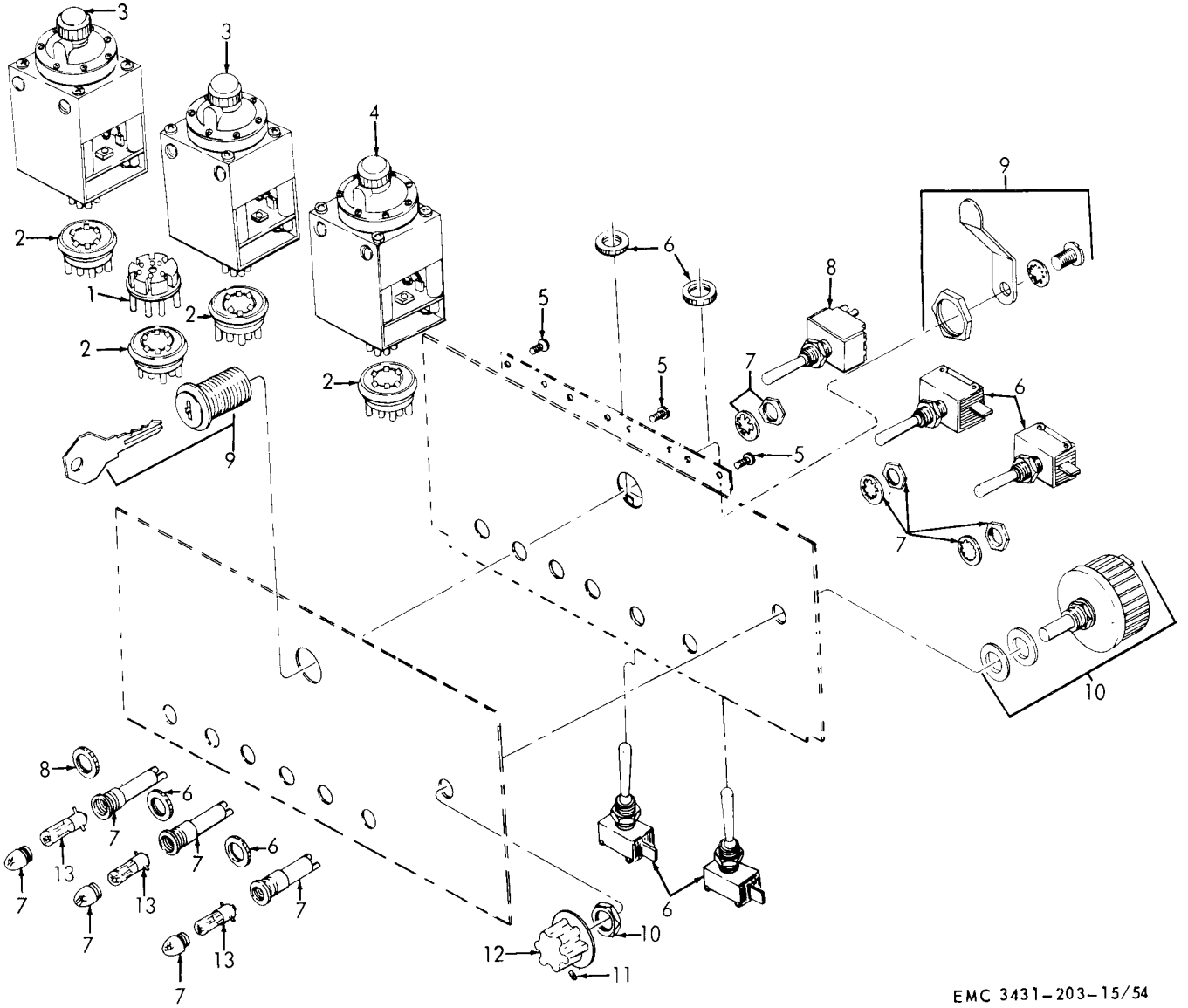

Figure D8. High Frequency Panel and Related P

INDEX, TO PARTS, FIGURE D8

REF No.	FUNCT GROUP	ITEM NAME	REF NO.	FUNCT GROUP	ITEM NAME
1	4410	PLUG	8	4410	SWITCH
2	4410	RECEPTACLE	9	4407	LOCK
3	4410	RELAY	10	4411	RESISTOR
4	4410	RELAY	11	4411	SETSCREW
5	4410	SCREW	12	4411	KNOB
6	4410	SWITCH	13	4407	GLOW LAMP
7	4407	LIGHT			

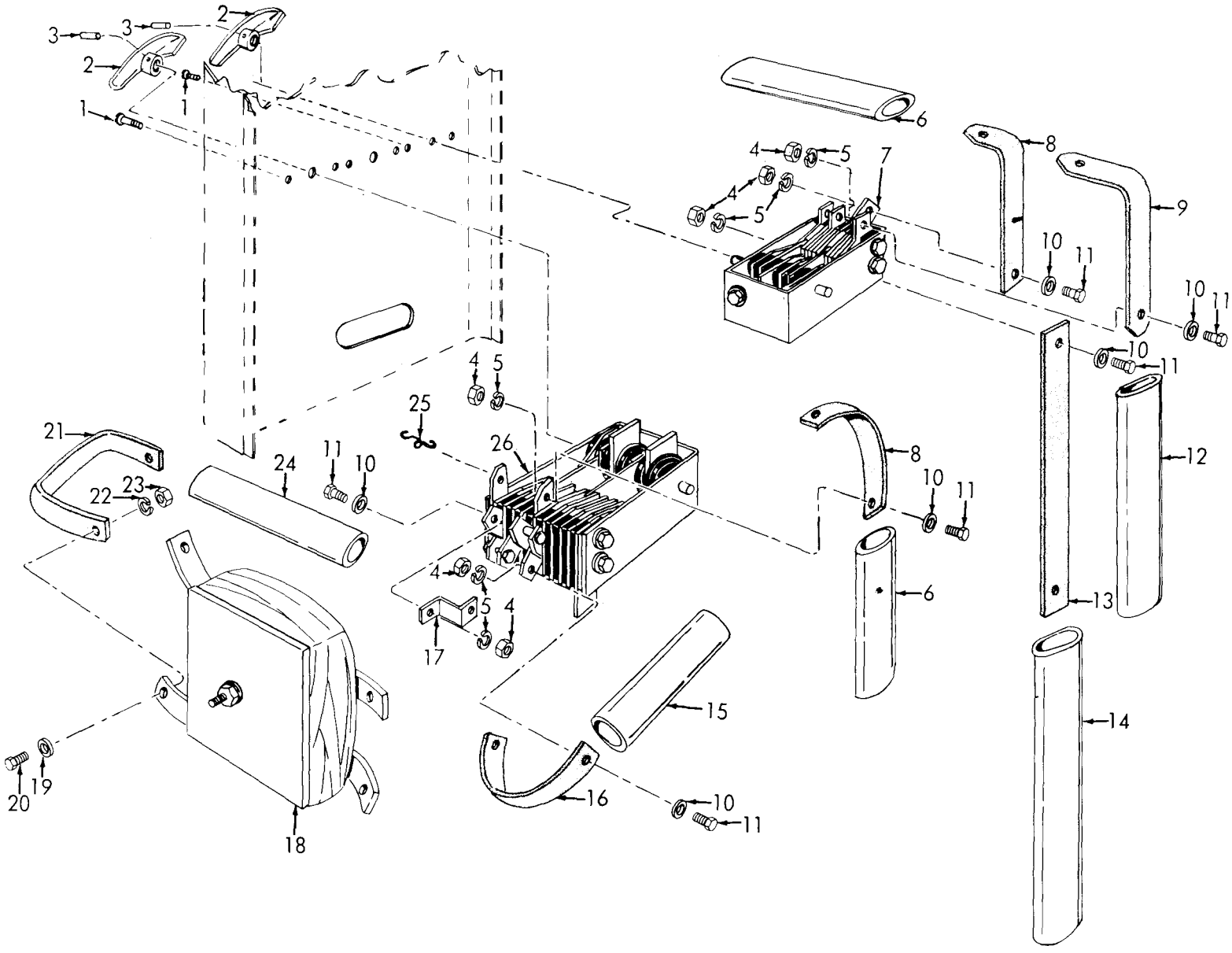

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Figure D9. [illegible]tches and Coils.

INDEX TO PARTS, FIGURE D9

REF No.	FUNCT GROUP	ITEM NAME	REF No.	FUNCT GROUP	ITEM NAME	REF No.	FUNCT GROUP	ITEM NAMF
	4410	SCREW	10	4410	WASHER	19	4412	WASHER
2	4410	HANDLE	11	4410	SCREW	20	4412	BOLT
3	4410	PIN	12	4410	INSULATION	21	4417	LEAD
4	44’0	NUT	13	4410	LEAO	22	4412	WASHER
5	4410	WASHER	14	4410	INSULATION	23	4412	NUT
6	4410	INSULATION	15	4410	INSULATION	24	4412	INSULATION
7	4410	SWITCH	16	4410	LEAD	25	4410	CAPACITOR
8	4410	LEAD	17	4410	LEAD	26	4410	SWITCH
9	44’0	LEAO	18	4412	COIL			

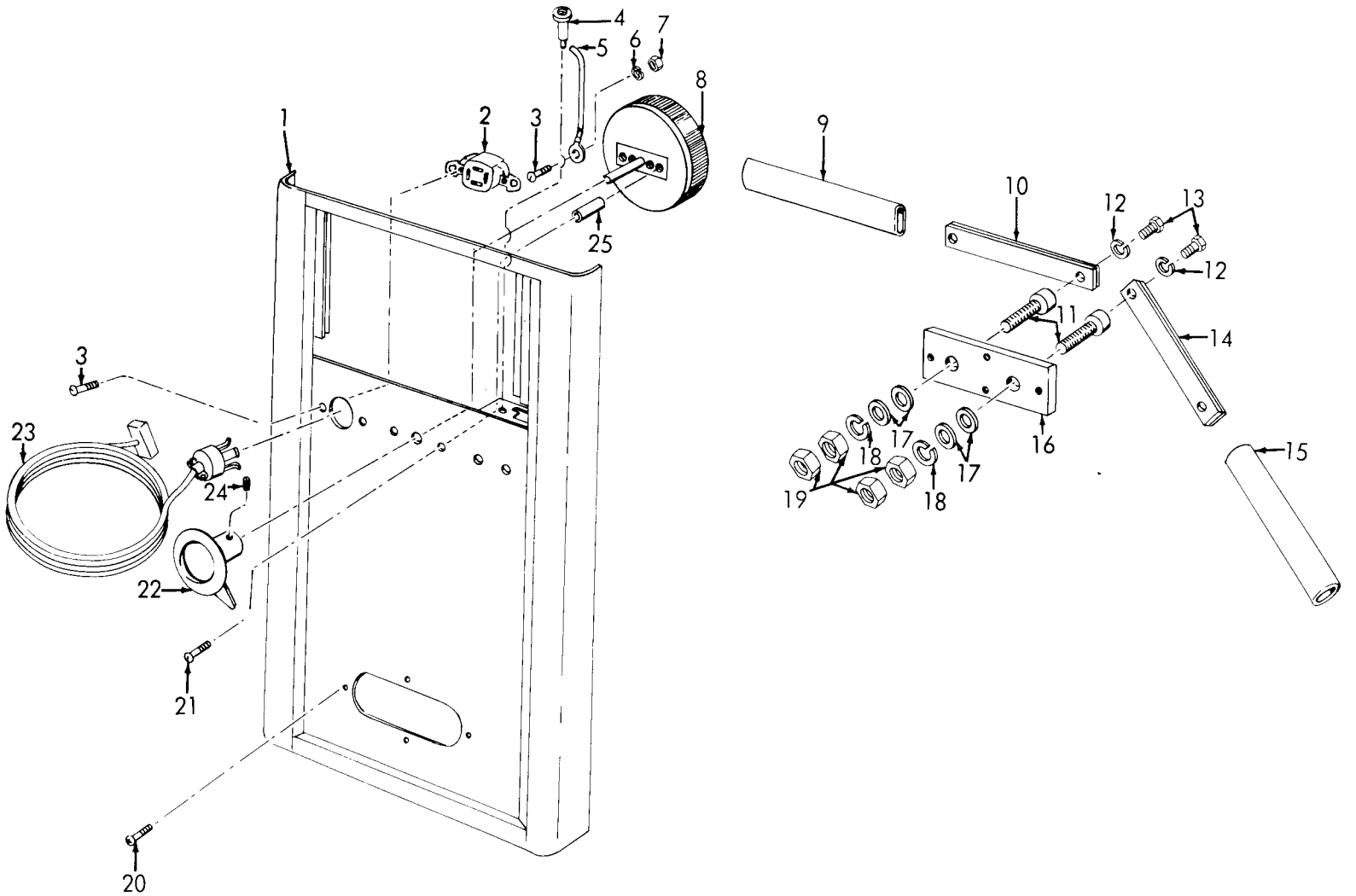

Figure D10. Front Housing Panel and Rheostat.

INDEX TO PARTS, FIGURE D10

REF No.	FUNCT GROUP	ITEM NAME
1	4405	PANEL
2	4408	RECEPTACLE
3	4405	SCREW
3	4408	SCREW
4	4405	JACKTIP
5	4405	LEAD AY
6	4405	WASHER
7	4405	NuT
8	4411	RHEOSTAT
9	4408	INSULATION
10	4408	LEAO
11	4408	STUD
12	4408	WASHER
13	4408	sCREW
14	4408	LEAD
15	4408	INSULATION
16	4408	PANEL
17	4408	WASHER
18	4408	WASHER
19	4408	NUT
20	4408	SCREW
21	4411	SCREW
22	4411	HANDLE
23	4408	SWITCH-CABLE AY
24	4411	SETSCREW
25	4411	SPACER

INDEX

By Order of the Secretary of the Army:

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Chief of Staff.

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Army Dep (2) except
TOAD (3)
USA Tml Cored (2)
Army TmI (1)
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Engr Dist (2)
USA Engr R&D Lab (3)
USAMEC (46)
Engr Cen (5)
AME (3)
MAAG (1)
JBUSMC (1)
Engr FLDMS (2)
Ft Knox FLDMS (10)
USACOMZEUR (2)
Fld Cored, DASA (8)
USAREUR Engr Proc Cen (2)
USAREUR Engr Sup Con Agcy (10)
Units org under fol TOE : -2 ea. UNOINDC
5-5
5-6
5-15
5–16
5-48
5-145
5-146
5-155
5-156
5-237 (5)
5-262 (5)
5-267 (1)
5-278 (5)
5-279
7
9-87
9-510
17
29–16
29–17
29–26
29–27
29–36
29–37
37
55–158
57-100

NG: State AG (3)

USAR: Same as Active Army except allowance is one (1) copy for each unit.

For explanation of abbreviations used, see AR 320-50

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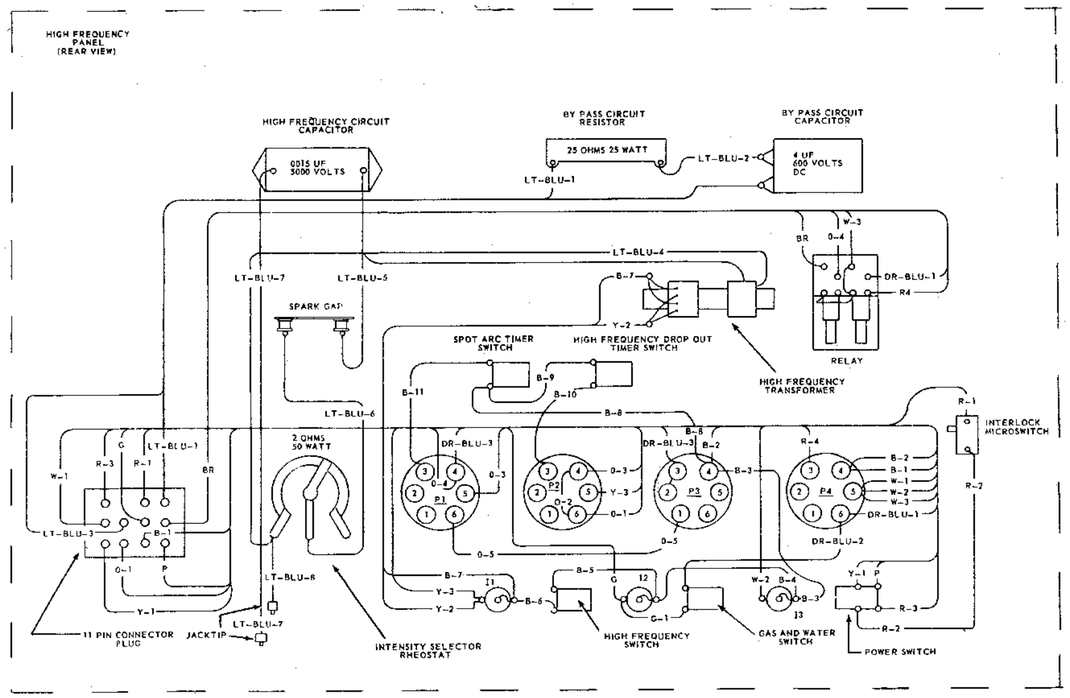

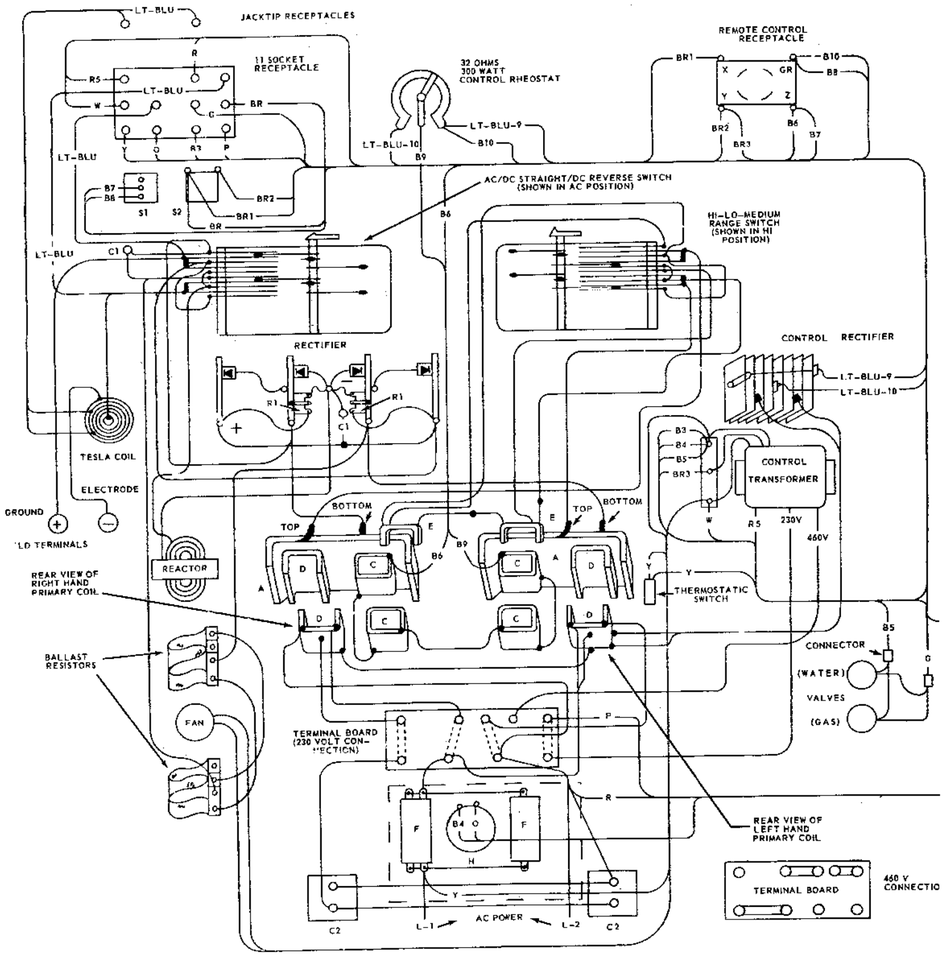

Figure 1-4. Practical wiring diagram.

SYMBOL LEGEND

V	VOLT
AC	ALTERNATING CURRENT
DC	DIRECT CURRENT
+	POSITIVE
—	NEGATIVE

WIRE CODE

R	(RED)	BLU	(BLUE)
B	(BLACK)	BR	(BROWN)
Y	(YELLOW)	G	(GREEN)
W	(WHITE)	O	(ORANGE)
DR	(DARK)	LT	(LIGHT)

-R-1 OR R1- ETC., DENOTES COLOR AND CIRCUIT INDENTIFICATION

DEVICE LEGEND

A	SECONDARY COILS (MAIN TRANSFORMER)
C	CONTROL COILS (MAIN TRANSFORMER)
D	PRIMARY COILS (MAIN TRANSFORMER)
E	BOOSTER COILS (MAIN TRANSFORMER)
F	MAIN CONTACTOR
H	MAIN CONTACTOR COIL
C1	CAPACITOR, (.01 UF, 1,000 WORKING VOLTS DC)
C2	CAPACITOR (30 UF, 440 VOLTS)
I1	HIGH FREQUENCY INDICATING LAMP
I2	GAS AND WATER INDICATING LAMP
I3	POWER INDICATING LAMP
P1	SPOT ARC TIMER SOCKET
P2	HIGH FREQUENCY DROP OUT TIMER SOCKET
P3	PRE FLOW TIMER SOCKET
P4	POST FLOW TIMER SOCKET
R1	RESISTOR, 1000 OHMS 10 WATT
S1	PANEL AND REMOTE AMPERAGE SWITCH
S2	PANEL AND REMOTE CONTACTOR SWITCH

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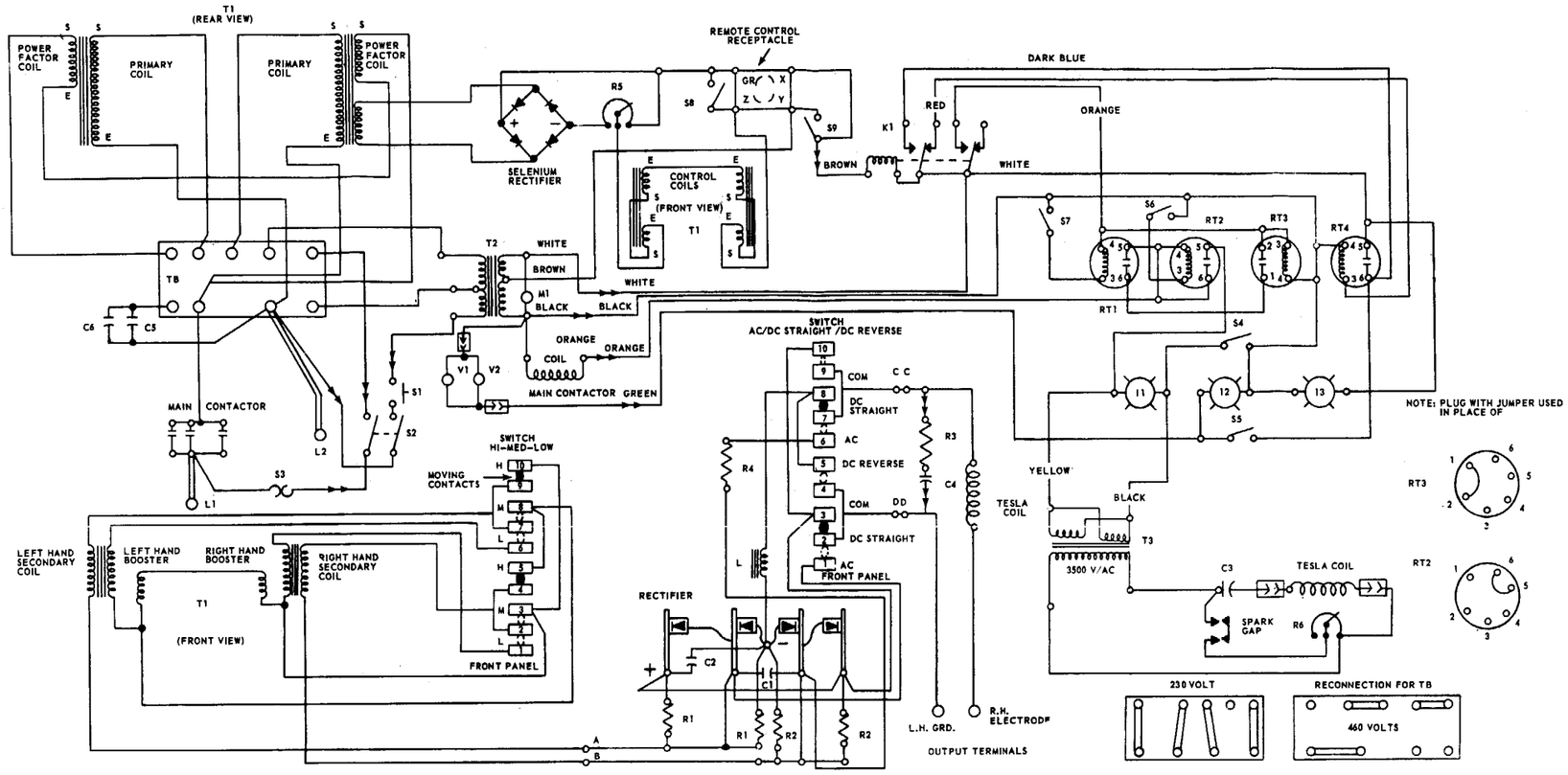

SYMBOL LEGEND

- 11 PIN PLUG CONNECTION
- SINGLE PLUG CONNECTION
- COIL OR WINDING
- NORMALLY CLOSED CONTACTS
- NORMALLY OPEN CONTACTS
- RESISTOR
- SINGLE POLE, SINGLE THROW SWITCH
- DOUBLE POLE, SINGLE THROW SWITCH
- RELAY CONTACTS
- SILICON DIODE RECTIFIER
- CAPACITOR
- COM COMMON
- AC ALTERNATING CURRENT
- DC DIRECT CURRENT
- S START OF WINDING
- E END OF WINDING
- \+ POSITIVE
- — NEGATIVE
- UF MICROFARAD

DEVICE LEGEND

- C1, C2 CAPACITOR (.01 UF/1000 WORKING VOLTS DC)
- C3 CAPACITOR (.0015 UF/5000 VOLTS/5.5 AMPS.)
- C4 CAPACITOR (4 UF/600 VOLTS)
- C5, C6 CAPACITOR (30 UF/440 VOLTS/AC)
- I1 HIGH FREQUENCY ON INDICATING LAMP
- I2 GAS AND WATER ON INDICATING LAMP
- I3 POWER ON INDICATING LAMP
- K1 RELAY (24 V/AC)
- L SMOOTHING REACTOR
- L1, L2 AC POWER INPUT CONNECTIONS
- M1 FAN MOTOR (230 VOLTS AC, 1.25 AMPERE, 1550 RPM)
- R1, R2 ADJUSTABLE TAP RESISTOR (1000 OHMS 10 WATTS)
- R3 FIXED RESISTOR (25 OHMS 25 WATTS NON INDUCTIVE)
- R4 BALLAST RESISTOR
- R5 AMPERAGE CONTROL RHEOSTAT (32 OHMS 300 WATTS)
- R6 INTENSITY SELECTOR RHEOSTAT (2 OHMS 50 WATTS 5 AMPERE)
- RT1 SPOT ARC TIMER
- RT2 HIGH FREQUENCY DROP OUT TIMER
- RT3 PREFLOW TIMER
- RT4 POST FLOW TIMER
- S1 PANEL INTERLOCK SWITCH
- S2 POWER SWITCH
- S3 MAIN TRANSFORMER THERMOSTATIC SWITCH
- S4 HIGH FREQUENCY SWITCH
- S5 GAS AND WATER SWITCH
- S6 HIGH FREQUENCY DROP OUT TIMER SWITCH
- S7 SPOT ARC TIMER SWITCH
- S8 AMPERAGE PANEL OR REMOTE SWITCH
- S9 MAIN CONTACTOR PANEL OR REMOTE SWITCH
- T1 MAIN TRANSFORMER
- T2 CONTROL TRANSFORMER
- T3 HIGH FREQUENCY TRANSFORMER
- TB VOLTAGE CHANGE BOARD
- V1 GAS SOLENOID VALVE
- V2 WATER SOLENOID VALVE

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Figure 4-1. Schematic wiring diagram.