



PROPERTY OF
ENGINEERING SERVICES

DO NOT REMOVE

**OPERATION AND MAINTENANCE
INSTRUCTIONS FOR THE**

PCG SERIES
Bench Top Repair Systems

MODELS

PCG-620 PCG-621 PCG-630

MANUAL NO. 5050-0134

REV. C

GENERAL INFORMATION

Before using your PACE PCG Repair System(s), read the following instructions and procedures to become familiar with its proper operation and maintenance. Used and maintained properly, it will perform reliably for many years.

Table of Contents

Title	Page
Introduction	3
Specifications	3
Capabilities	4
Parts Identification	5
Optional Functional Accessories and Work Aids	6
Set-up	9
Operation	9
Maintenance	11
Replacements Parts	14

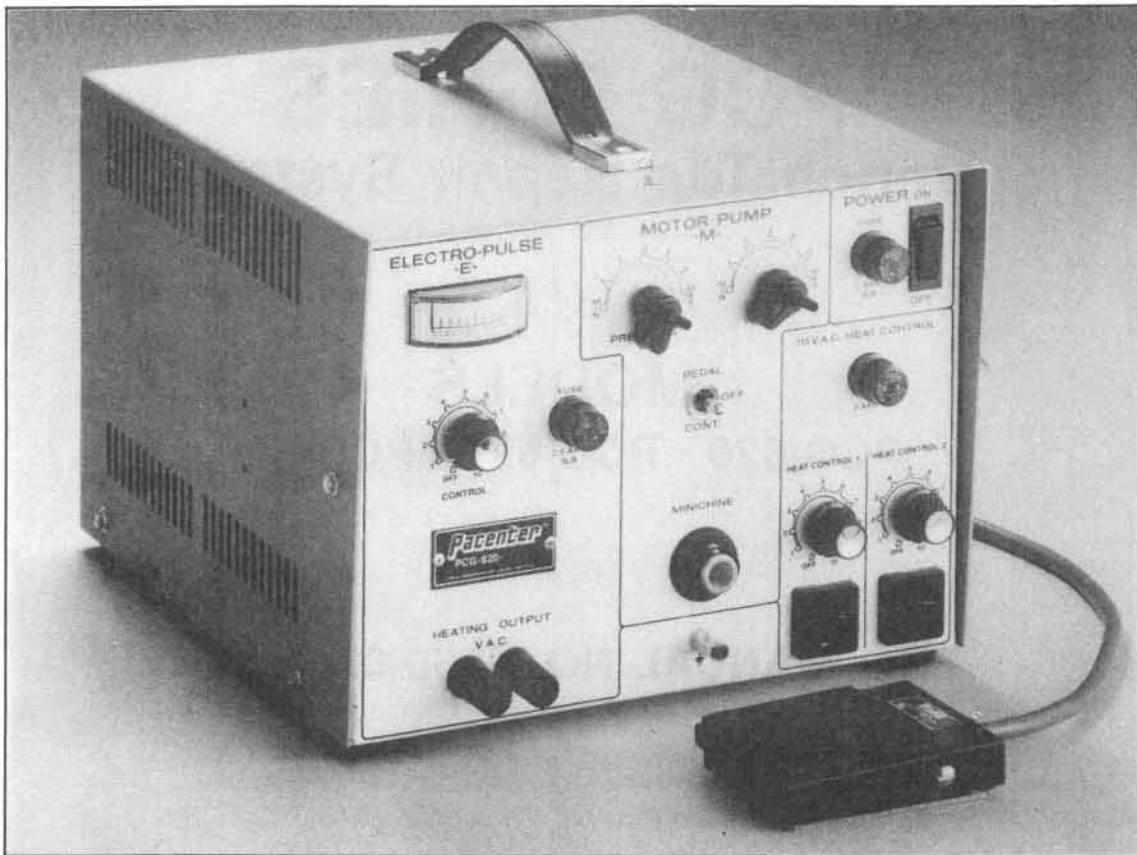


FIGURE 1. PACE REPAIR SYSTEM(s) PCG-620 (shown), PCG-621 AND PCG-630

GENERAL INFORMATION

INTRODUCTION:

There are three (3) versions of the PACE PCG Series providing a completely self-contained Bench Top Repair System for the repair, rework and modification of PCB assemblies, (refer to Figure 1).

- PCG-620,
- PCG-621 with Zero Power Switching (ZPS) for desoldering static/voltage sensitive mos-type devices
- PCG-630

The PACE PCG Repair System(s) is designed to be custom outfitted by you the user. There are additional Functional Accessories and Work Aids that are optional and should be selected based on your requirements.

The Functional Accessories utilize the controlled power from the Power Source and apply it to the workpiece, thus creating a process. The Functional Accessories may be used independently or in combination to provide the flexibility and capability to meet all your working needs. As you become skilled in using this Repair System, you will find that many difficult tasks become routine, simple operations. You will probably need additional accessories to solve other repair problems and to permit repair operations to high quality standards.

SPECIFICATIONS:

- **General Characteristics:**

- a. brushless motor/pump featuring integral high torque, low RPM mechanical output.
- b. variable air pressure and flow control.
- c. variable vacuum and flow control.
- d. dual switch control Foot Pedal.
- e. three (3) position Foot Pedal control.
- f. heavy-duty electrical output power control.

- **Variable Air Pressure:**

0.05 psi to 15.0 psi (0.03 atm to 1.36 atm)

- **Variable Vacuum Pressure:**

0.05 psi to 15.0 psi (0.0017 atm to .668 atm)

- **Power Requirements:**

PCG-620 – 120VAC, 50-60Hz, 2.6 amp

PCG-621 – 120VAC, 50-60Hz, 2.6 amp

PCG-630 – 120VAC, 50-60Hz, 2.6 amp

- **Physical Parameters:**

PCG-620 – 10 $\frac{1}{8}$ " W x 8" H x 11 $\frac{1}{2}$ " L (26 cm W x 20 cm H x 29 cm L)

15 $\frac{3}{4}$ lbs. (7 kg)

PCG-621 – 10 $\frac{1}{8}$ " W x 8" H x 11 $\frac{1}{2}$ " L (26 cm W x 20 cm H x 29 cm L)

15 $\frac{3}{4}$ lbs. (7 kg)

PCG-630 – 9 $\frac{3}{4}$ " W x 8" H x 11 $\frac{1}{2}$ " L (25 cm W x 20.3 cm H x 29 cm L)

16 $\frac{1}{4}$ lbs. (7.3 kg)

GENERAL INFORMATION

CAPABILITIES:

All capabilities are dependent upon the use of the proper Functional Accessories or Work Aids, (refer to Functional Accessories and Work Aids section.)

- **Capabilities:**
 - a. controlled desoldering for removal of solder joint configuration
 - b. abrading, milling and drilling
 - c. grinding and cutting for circuit board repair
 - d. removal of conformal coatings
 - e. high strength reflow soldering
 - f. accurate component forming
 - g. conductive and resistive heating for safe removal of components
 - h. repair of damaged plated-thru holes and terminals
- The two (2) position Foot Pedal allows foot control of power to Functional Accessories for required heat time cycle, vacuum/pressure dwell time, and fine control of rotary power.

PARTS IDENTIFICATION

Figure 2 identifies the controls and indicators required for operation on the PCG-620 Bench Top Repair System. Refer to Table 1 and Figure 2 for location and identification of each part.

TABLE 1. PACE PCG-620 POWER SOURCE PANEL IDENTIFICATION

- ELECTRO-PULSE INDICATOR—provides a readout of power to VAC Heating Outputs when Foot Pedal is depressed, (used for reference only),
- HEATING OUTPUT FUSE (F3)—provides overload protection for VAC Heating Outputs,
- PRESSURE CONTROL—variable pressure flow control,
- VACUUM CONTROL—variable vacuum flow control,
- LINE FUSE (F1)—provides overload protection for main unit,
- MAIN POWER SWITCH—controls input power,
- AC VAR FUSE (F2)—provides overload protection for AC Var Outputs 1 and 2,
- VARIABLE VOLTAGE CONTROL 1—supplies variable voltage to AC Var Output 1,
- VARIABLE VOLTAGE CONTROL 2—supplies variable voltage to AC Var Output 2,
- AC VAR OUTPUTS 1 AND 2—2 amp outlets used for Functional Accessories,
- MINICHINE™OUTPUT—provides a high torque, low RPM output, “quick-connect” while in the idle or running mode,
- GROUND TERMINAL—provides positive ground connection when required,
- MODE SELECTOR SWITCH—provides three (3) operational sequences in conjunction with two (2) position Foot Pedal,
- VAC HEATING OUTPUTS—electrical outputs controlled by Variable Output Control,
- VARIABLE OUTPUT CONTROL—adjusts output power level to VAC Heating Outputs,
- FOOT PEDAL—controls mechanical, pneumatic or primary electrical functions,
- MAIN POWER LINE CORD—provides main power from AC outlet to AC Power Receptacle.

GENERAL INFORMATION

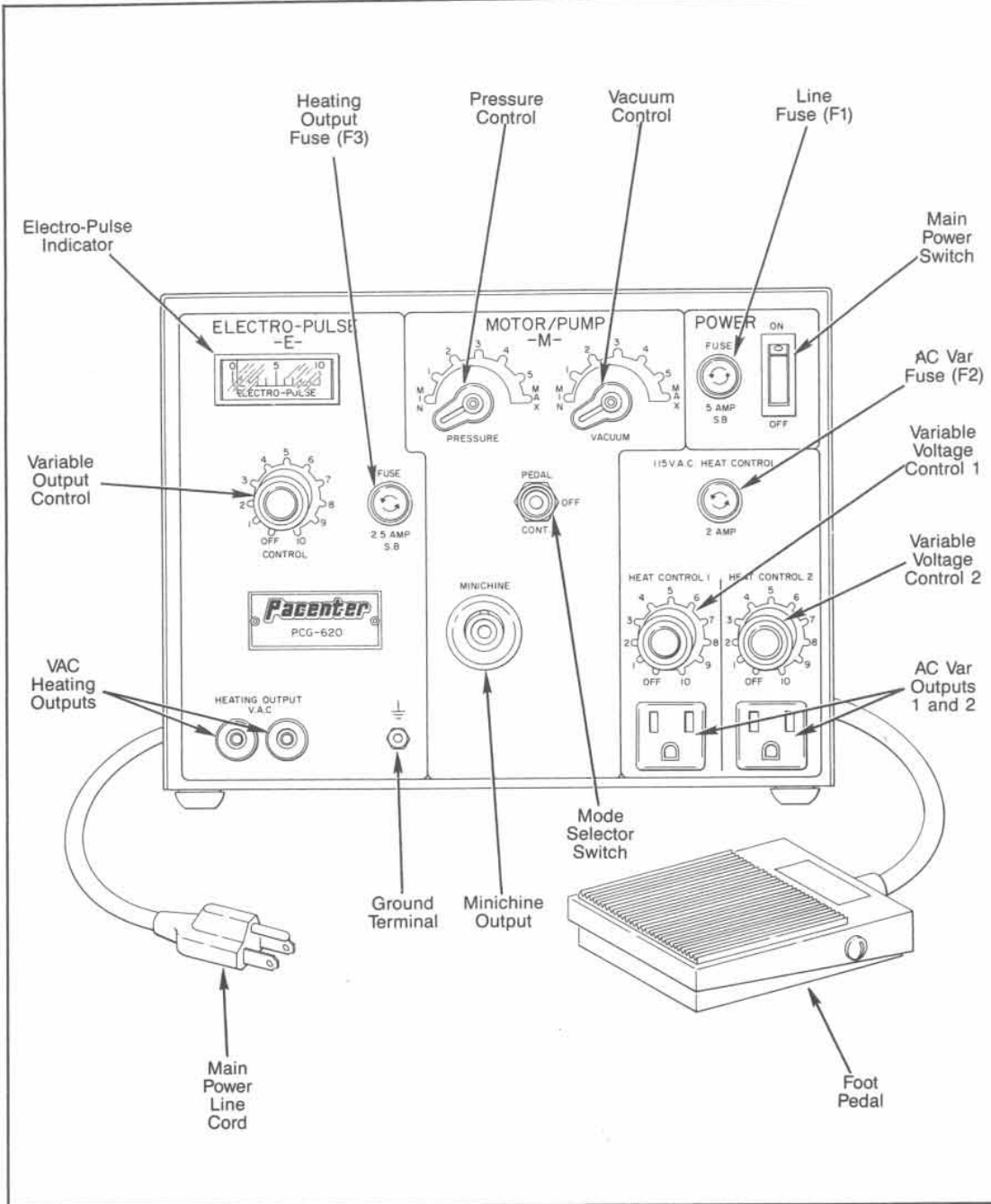


FIGURE 2. PACE PCG-620 BENCH TOP SYSTEM PANEL IDENTIFICATION

GENERAL INFORMATION

PARTS IDENTIFICATION

Figure 3 identifies the controls and indicators required for operation on the PCG-621 Bench Top Repair System. Refer to Table 2 and Figure 3 for location and identification of each part.

TABLE 2. PACE PCG-621 POWER SOURCE PANEL IDENTIFICATION

- ELECTRO-PULSE INDICATOR—provides a readout of power to VAC Heating Outputs when Foot Pedal is depressed, (used for reference only),
- HEATING OUTPUT FUSE (F3)—provides overload protection for VAC Heating Outputs,
- PRESSURE CONTROL—variable pressure flow control,
- VACUUM CONTROL—variable vacuum flow control,
- LINE FUSE (F1)—provides overload protection for main unit,
- MAIN POWER SWITCH—controls input power,
- AC VAR FUSE (F2)—provides overload protection for AC Var Outputs 1 and 2,
- VARIABLE VOLTAGE CONTROL 1—supplies variable voltage to AC Var Output 1,
- VARIABLE VOLTAGE CONTROL 2—supplies variable voltage to AC Var Output 2,
- AC VAR OUTPUTS 1 AND 2—2 amp outlets used for Functional Accessories,
- MINICHINE™OUTPUT—provides a high torque, low RPM output, “quick-connect” while in the idle or running mode,
- GROUND TERMINAL—provides positive ground connection when required,
- MODE SELECTOR SWITCH—provides three (3) operational sequences in conjunction with two (2) position Foot Pedal,
- VAC HEATING OUTPUTS—electrical outputs controlled by Variable Output Control,
- VARIABLE OUTPUT CONTROL—adjusts output power level to VAC Heating Outputs,
- FOOT PEDAL—controls mechanical, pneumatic or primary electrical functions,
- MAIN POWER LINE CORD—provides main power from AC outlet to AC Power Receptacle.

GENERAL INFORMATION

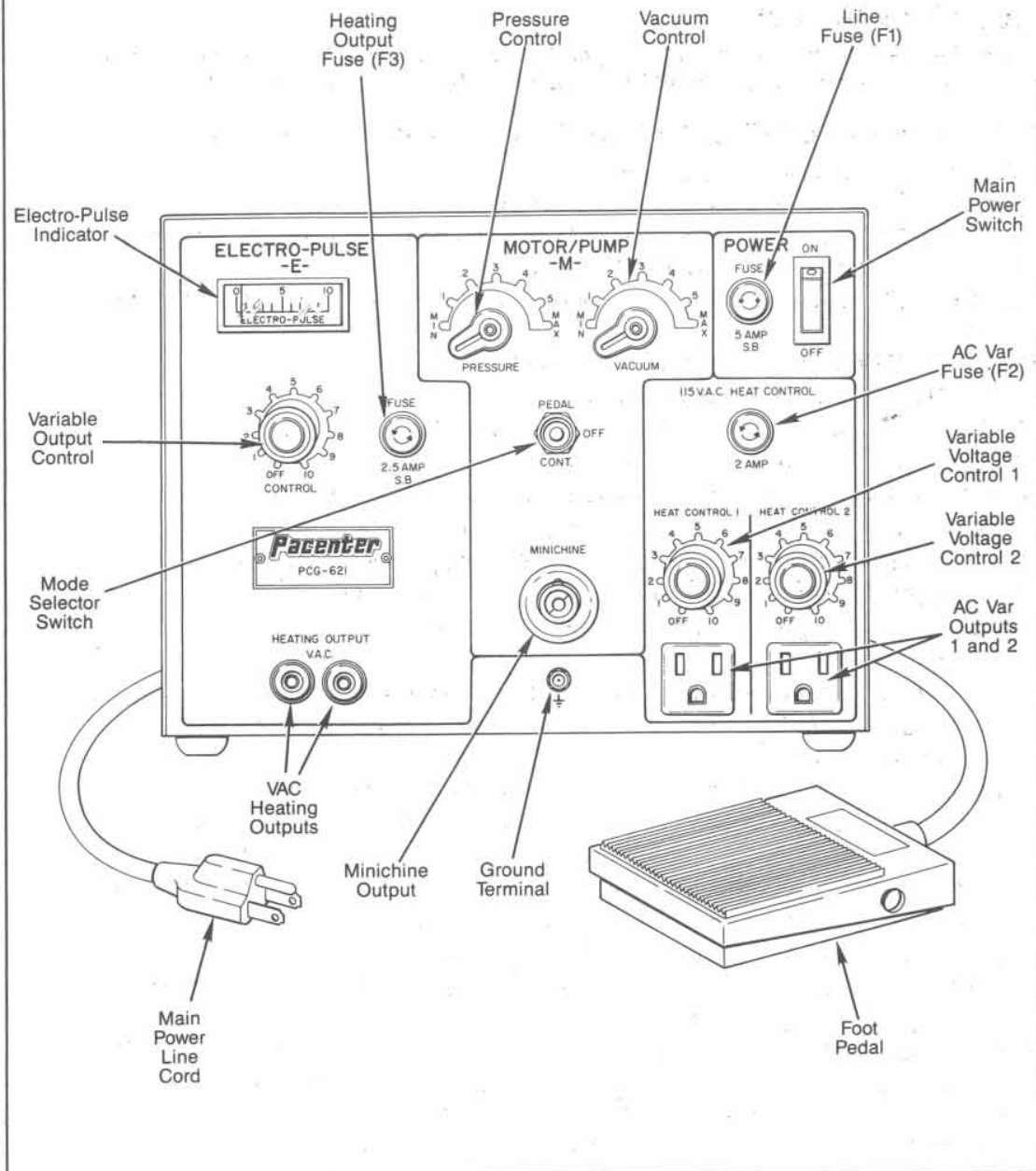


FIGURE 3. PACE PCG-621 BENCH TOP SYSTEM PANEL IDENTIFICATION

GENERAL INFORMATION

PARTS IDENTIFICATION

Figure 4 identifies the controls and indicators required for operation on the PCG-630 Bench Top Repair System. Refer to Table 3 and Figure 4 for location and identification of each part.

TABLE 3. PACE PCG-630 POWER SOURCE PANEL IDENTIFICATION

- SENSATEMP™ METER—temperature readout from Sensatemp™,
- SENSATEMP™—temperature receiving/sending thermocouple,
- ELECTRO-PULSE INDICATOR—provides a readout of power to VAC Heating Outputs when Foot Pedal is depressed, (used for reference only),
- HEATING OUTPUT FUSE (F3)—provides overload protection for VAC Heating Outputs and DC Outputs,
- PRESSURE CONTROL—variable pressure flow control,
- VACUUM CONTROL—variable vacuum flow control,
- LINE FUSE (F1)—provides overload protection for main unit,
- MAIN POWER SWITCH—controls input power,
- AC VAR FUSE (F2)—provides overload protection for AC Var Outputs 1 and 2,
- VARIABLE VOLTAGE CONTROL 1—supplies variable voltage to AC Var Output 1,
- VARIABLE VOLTAGE CONTROL 2—supplies variable voltage to AC Var Output 2,
- AC VAR OUTPUTS 1 AND 2—2 amp outlets used for Functional Accessories,
- MINICHINE™ OUTPUT—provides a high torque, low RPM output, "quick-connect" while in the idle or running mode,
- GROUND TERMINAL—provides positive ground connection when required,
- MODE SELECTOR SWITCH—provides three (3) operational sequences in conjunction with two (2) position Foot Pedal,
- VAC HEATING OUTPUTS—electrical outputs controlled by Variable Output Control,
- VARIABLE OUTPUT CONTROL—adjusts output power level to VAC Heating Outputs,
- FOOT PEDAL—controls mechanical, pneumatic or primary electrical functions,
- MAIN POWER LINE CORD—provides main power from AC outlet to AC Power Receptacle.
- DC OUTPUTS—electrical output controlled by Variable Output Control,
- AUXILIARY POWER SOURCE OUTLET—outlet for auxiliary Power Source(s),
- AUXILIARY OUTLET SWITCH—provides 115VAC line voltage or 0-115VAC Foot Pedal activated controlled voltage to Auxiliary Outlet,
- AUXILIARY OUTLET—115VAC line voltage or Pedal activated 0-115VAC controlled power outlet,
- PROGRAMMER SWITCH 1—provides electrical-mechanical and/or mechanical-electrical (EM/ME) sequences in conjunction with two (2) position Foot Pedal,
- PROGRAMMER SWITCH 2—provides electrical or mechanical (E-M) sequences in conjunction with two (2) position Foot Pedal.

GENERAL INFORMATION

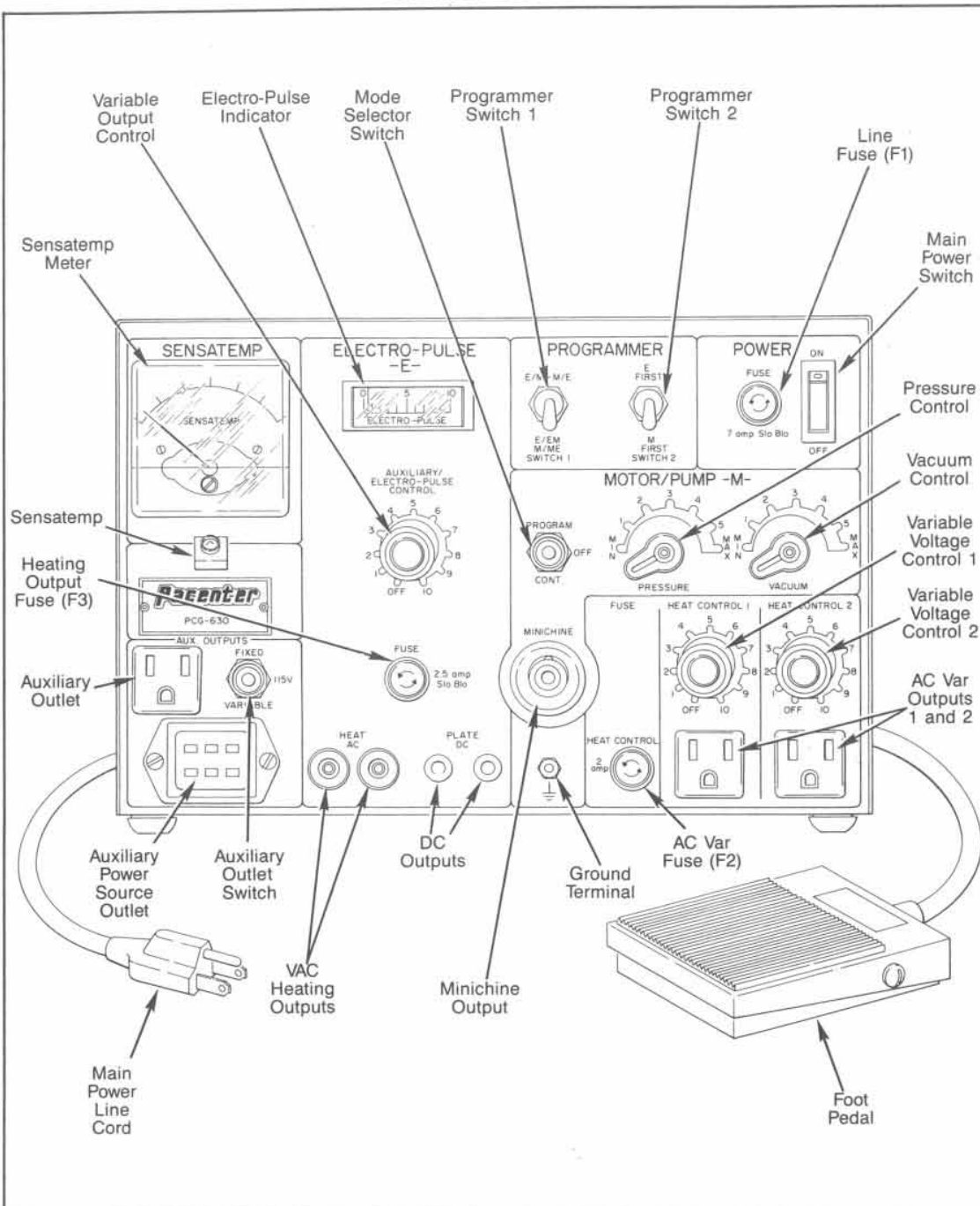
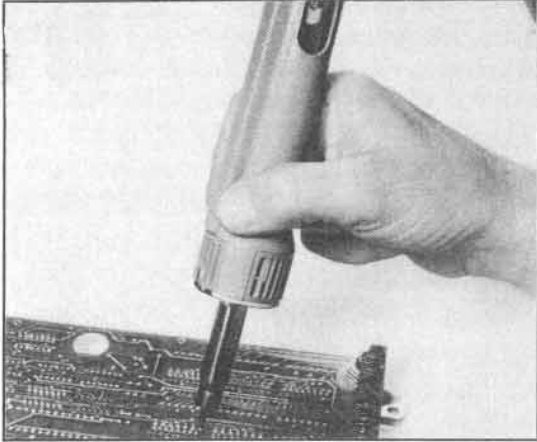


FIGURE 4. PACE PCG-630 BENCH TOP SYSTEM PANEL IDENTIFICATION

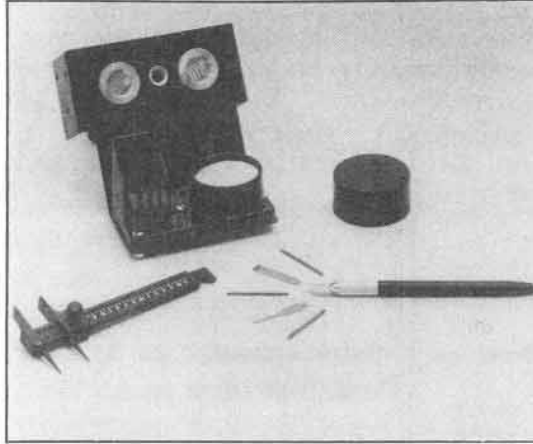
GENERAL INFORMATION

FUNCTIONAL ACCESSORIES and WORK AIDS

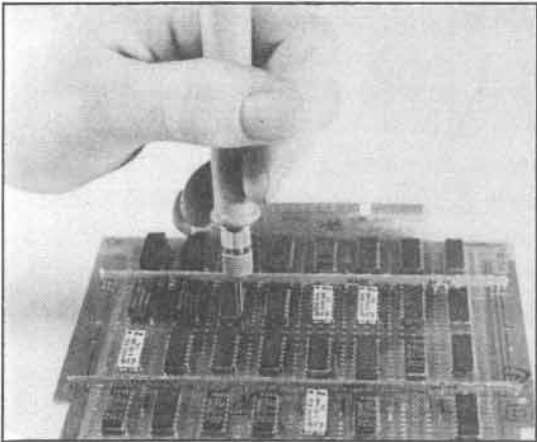
The following information is provided to help you identify the Functional Accessories and Work Aids available and their capabilities. All items shown are optional. Those necessary to perform your rework, repair or modification tasks are normally selected for delivery with the Power Source. The accessories are shown in order of importance to their usage for typical repair work.



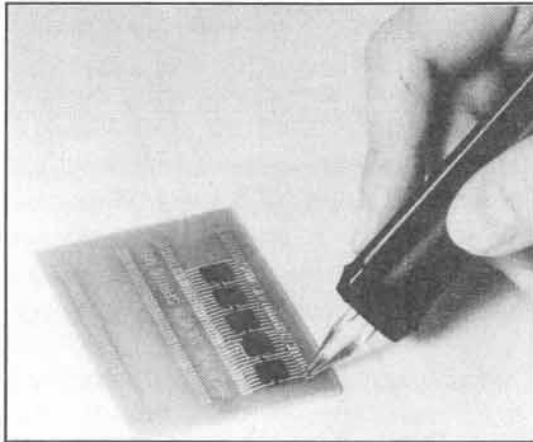
1. SODR-X-TRACTOR SYSTEM—Provides the capabilities to melt solder joints and remove via vacuum of pressure.



2. SPECIAL AIDS—Includes the Hot Cubby and Cleaning System for storing and cleaning both the SODR-X-TRACTOR and soldering iron; and the Conform I for forming axial lead components and straightening and cutting transistor leads to length.

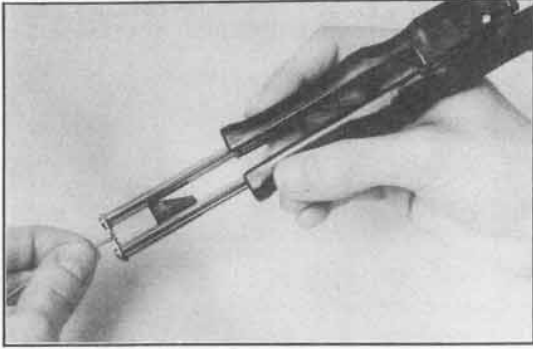


3. MINICHINE™ MINIATURE MACHINING SYSTEM—Provides the capability to drill, mill, abrasive clean, grind and polish various metallic and non-metallic materials.

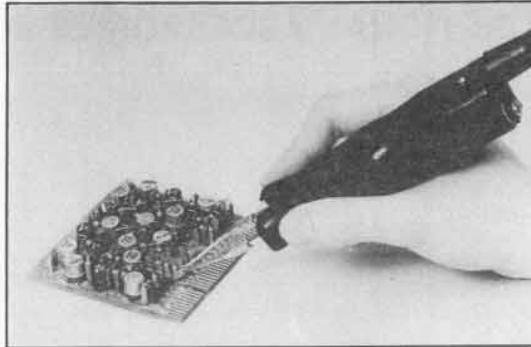


4. THERMOPARTING and LAFPLO SOLDERING SYSTEMS—Thermoparting provides a primary and safe means for removing thick conformal coatings from circuit board assemblies without damage. Lapflo pencil-like unit provides a dependable and safe means of producing reflow soldered joints for flat packs on circuit boards.

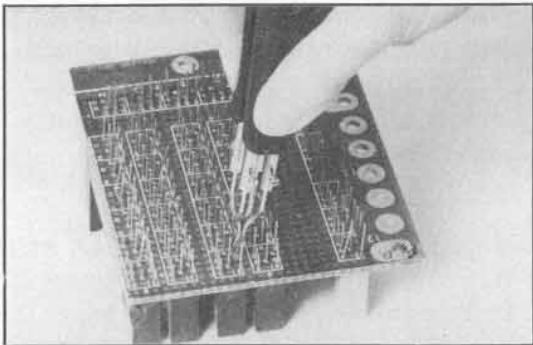
GENERAL INFORMATION



5. THERMAL STRIP SYSTEM—Provides capability for stripping wire insulations from 12AWG to 30AWG, solid or stranded wires, without damaging the wire conductor.



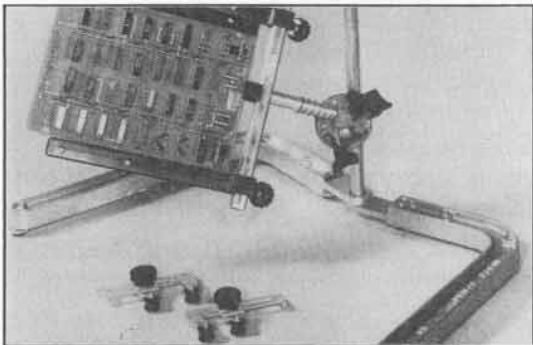
6. RESISTWEEZ RESISTANCE TWEEZERS—Provides capability to solder very closely spaced pins, terminals and lugs, as found in connectors and small parts.



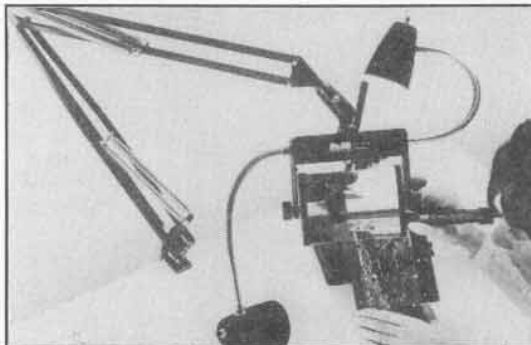
7. CONDUCTWEEZ HEATING TWEEZERS—Pulse-type tweezer heating system is used for soldering and desoldering closely spaced, limited access areas where pulsed conductive heating is desired to prevent stray currents which could damage components.



8. CIRKIT SELECTOR PACK—Includes everything needed to repair and/or replace lifted, damaged or missing pads or conductors on printed circuit boards.



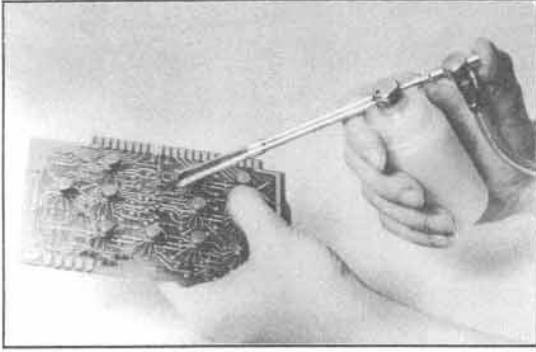
9. WORK HANDLING AND POSITION SYSTEM—Provides the holding and positioning of modules, chassis, connectors and delicate work.



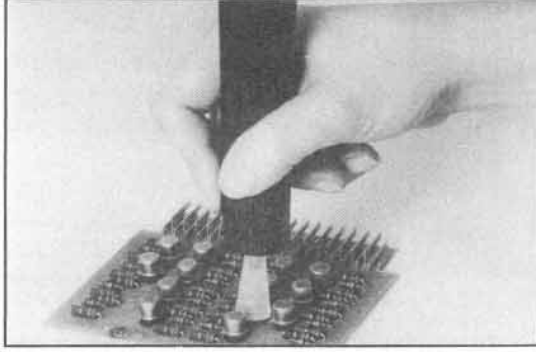
10. OPTICAL LIGHTING SYSTEM—A large lens with full binocular capability up to 14 inches. Manipulative qualities and balanced lighting arrangement provides infinite adjusting capability. Models available for mounting to upright column of work handling system.

GENERAL INFORMATION

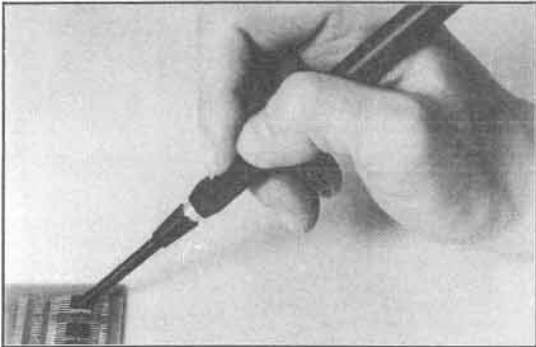
FUNCTIONAL ACCESSORIES and WORK AIDS (continued)



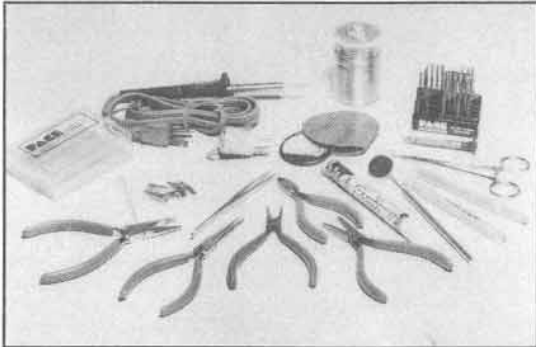
11. **SPRAY** —Provides ability to spray small areas with fine coatings of solvents, paints, cleaners, etc.



12. **ENVIRONMENTAL PROBE SYSTEM**—Provides a flow of heated air at 140° for safely isolating component thermal intermittents and spot drying capability.



13. **VACUUM CLEANING AND HANDLING SYSTEM**—permits the air pressure removal of particles from limited access areas. Handling of delicate parts can be accomplished.



14. **HAND TOOLS**—A selected variety of hand tools to meet a broad variety of electronic repair problems.

Additional items available are:

15. **MATERIALS KIT**—Includes solvent, coating material, epoxy and flux in safe individual containers. Provided with devices to meter, mix and apply them.
16. **ACCESSORY CASE**—A convenient case for the storage and transportation of Functional Accessories.

OPERATION

SET-UP:

Using Figures 2, 3 or 4 for reference, set-up the Power Source as outlined in the following steps:

- position the Power Source on a convenient bench and plug in the "MAIN POWER LINE CORD" into a three wire grounded outlet,
- attach the Hot Cubby to the bracket located at the right side of the Power Source,
- place the PACE Extractor and Soldering Iron into the Hot Cubby. Assemble clips to attach vacuum hose to AC Power Cord,
- connect the Extractor AC Power Cord plug into the right "AC VAR Output" receptacle and the Soldering Iron to the other "AC VAR OUTPUT" receptacle of the Power Source,
- attach the Extractor's clear plastic hose to either the "VACUUM CONTROL" for solder removal or "Pressure Control" for pressure or hot air jet modes,
- adjust the "VACUUM CONTROL" on the Power Source to "MAX" position for solder removal,
- adjust the "PRESSURE CONTROL" on the Power Source to "MAX" position for air pressure, and the "MIN" for hot air jet,
- adjust the "AC VARIABLE VOLTAGE CONTROLS" to a setting of "10" so that the Extractor and Soldering Iron will be ready for use,
- position the "FOOT PEDAL" for operators convenience.

OPERATION:

The Power Source is now set-up and ready to place into operation. Perform the following steps to become operable, again using Figures 2, 3 or 4 for reference:

- place the "MAIN POWER SWITCH" to the "ON" position (switch will illuminate),
- adjust the right "AC VARIABLE VOLTAGE CONTROL" on the Power Source to a setting of "8". Allow a approximately 5 minutes of warm up time for the Extractor,
- after the Extractor has heated up for 10-15 minutes, adjust the "AC VARIABLE VOLTAGE CONTROL" for an operating temperature of between 7-8½ setting,

To use the "MINICHINE":

- insert the Flex Shaft into "MINICHINE" drive output (refer to Figure 5),
- tap the Foot Pedal to rotate drive for easy engagement.

IMPORTANT

Double detent of the Foot Pedal provides "READY" and "RUN" position



FIGURE 5. MINICHINE DRIVE CONNECTION

OPERATION

To use the Functional Accessories:

- attach Functional Accessories Tool(s) to Universal Power Cord (refer to Figure 6). (**NOTE:** Universal Power Cord permits rapid interchange of various Tools, eliminating the need for a separate integral Power Cord),
- adjust the "VARIABLE OUTPUT CONTROL" for desired power to Functional Accessories Tool(s). Start with lowest setting, increasing control to desired heat,
- attach Universal Power Cord (PACE Part No. 7000-0023) to the "VAC HEATING OUTPUT" terminals. Depress Foot Pedal to activate power (refer to Figure 7).

IMPORTANT

For auxiliary heating operations, set "MOTOR/PUMP SWITCH" to "PEDAL" position. Depress Foot Pedal to the first position to activate low range voltage power.

Low Voltage DC

- for plating operation, set "MOTOR/PUMP SWITCH" to "PEDAL" position. Depress the Foot Pedal and adjust the "VARIABLE OUTPUT CONTROL" to the desired DC voltage on the "ELECTRO-PULSE INDICATOR",
- attach the Plating Cables to the *black* and *red* "DC OUTPUTS". For reversed polarity, reverse connections (refer to Figure 8),

IMPORTANT

Protect Tools and Tips from heat damage. Turn "VARIABLE OUTPUT CONTROL" to the "OFF" position after each task is completed.

Refer to Table 5. Heat Application Chart for recommended low voltage settings. (**NOTE:** These settings are approximate, actual use may be varied for variations in power. It is always best to start with the lowest setting, increasing the heat in small increments to prevent overheating and damage to the workpiece).

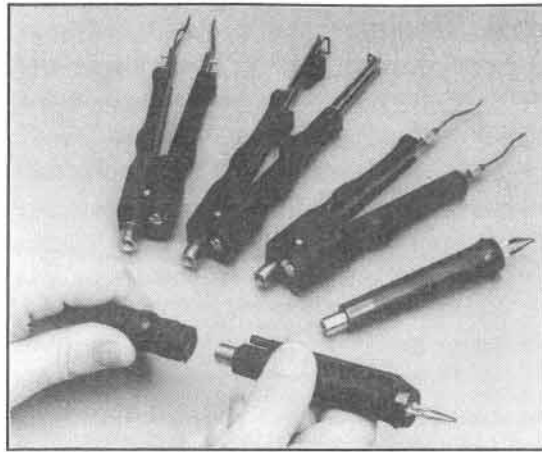


FIGURE 6. ATTACHING FUNCTIONAL TOOLS

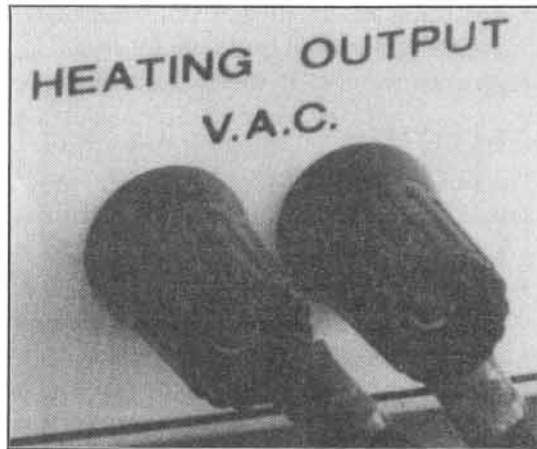


FIGURE 7. UNIVERSAL CORD ATTACHMENT

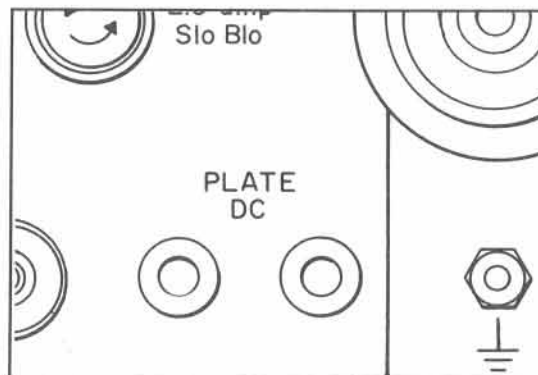


FIGURE 8. PLATING CABLE ATTACHMENT

PROGRAM OPERATION

TABLE 4. PROGRAM OPERATION FOR PCG-630 REPAIR SYSTEM

Programmer		Motor Pump-M	Auxiliary Electro-Pulse Control	Foot Pedal		Operation	
Switch 1	Switch 2	Switch	Adjust for desired output	Position 1	Position 2	Task	Function Accessory
E/M M/E	E	Program	Adjust for desired output	E	M	Solder Extraction with Auxiliary Heating	Solder Extractor and Conductweez
E/M M/E	M	Program	Adjust for desired output	M	not required	Solder Extraction Hot Jet Heating Minichine Work	Solder Extractor Solder Extractor Minichine System
E/ME M/ME	E	Off	Adjust for desired output	E	not required	Solder Cup Terminal Planar Soldering Thermal Coating Removal Thermal Wire Stripping	Resistweez Lapflo Striptweez
E/EM M/ME	M	Program	Adjust for desired output	M	ME	Provides Motor Operation First-Motor & Electricals	Solder Extractor Minichine
E/M M/E	E	Off	Adjust for desired output	E		Soldering Coating Removal Thermal Wire Stripping	Resistweez Thermopart Conductweez Lapflo Striptweez
E/M M/E	M	Off	Adjust for desired output		E	Electrical outputs only	
E/EM M/ME	E	Off	Adjust for desired output	E	E	Electrical outputs only	
E/EM M/ME	M	Off	Adjust for desired output		E	Electrical outputs only	
Any	Any	Cont.	Adjust for desired output	Pedal override motor runs continuously		Hot Air Jet Extensive Machining	Solder Extractor Minichine System

MAINTENANCE

TABLE 5. HEAT APPLICATION CHART

Functional Accessories Tool	Control Setting	Operation
Resistweez	10	Soldering cup terminals and feed thru capacitor removal.
Thermo Part	5	Foam and poly V removal.
	6	Epoxy removal.
	7.25	Lifting clinched leads.
Striptweez	5.5	Wired stripping, vinyl insulation.
	8.5	Wire stripping, Teflon insulation.
Conductweez	8	Soldering light work.

MAINTENANCE

Maintenance of the PACE PCG-620, 621 and 630 Power Sources is minor and relatively easy to perform. Maintenance should be performed regularly as outlined in Table 6. Corrective Maintenance for PCG-621 and 630, and Table 7. Corrective Maintenance for PCG-620.

TABLE 6. CORRECTIVE MAINTENANCE FOR PCG-621 AND 630
(Refer to Figures 9 and 10 for reference)

Symptom	Condition	Solution
Dirty Filter(s) or Motor/Pump	Normal usage	<ol style="list-style-type: none"> 1. Check Filters weekly and replace monthly. <ol style="list-style-type: none"> a. Disconnect Main Power Line Cord from Power Source before opening cover. b. Remove screws on cover of Power Source and lift cover off. c. Locate Motor/Pump in the center of the chassis. d. Remove black Cap(s) from the Muffler on the Motor/Pump Assembly, see Figure 8. Clean and/or replace if necessary.
General loss of vacuum	Buildup of flux or coating of residue within the Pump	<ol style="list-style-type: none"> 1. Disconnect Main Power Line Cord from Power Source before opening cover. 2. Remove screws on cover of Power Source and lift cover off. 3. Locate Motor/Pump in the center of the chassis. 4. Loosen the three (3) Retaining Screws on Pump Housing, remove screws, Cover Plate and Carbon Wear Plate assembly, see Figure 9. 5. Remove Vanes from Rotor, flush Pump Housing and Rotor with flux solvent. 6. Clean Vanes with solvent. 7. Reassemble Vanes in Rotor. 8. Replace Cover Plate, Carbon Wear Plate and screws as an assembly. 9. Refer to Replacement Parts List for Motor/Pump Overhaul Kit.

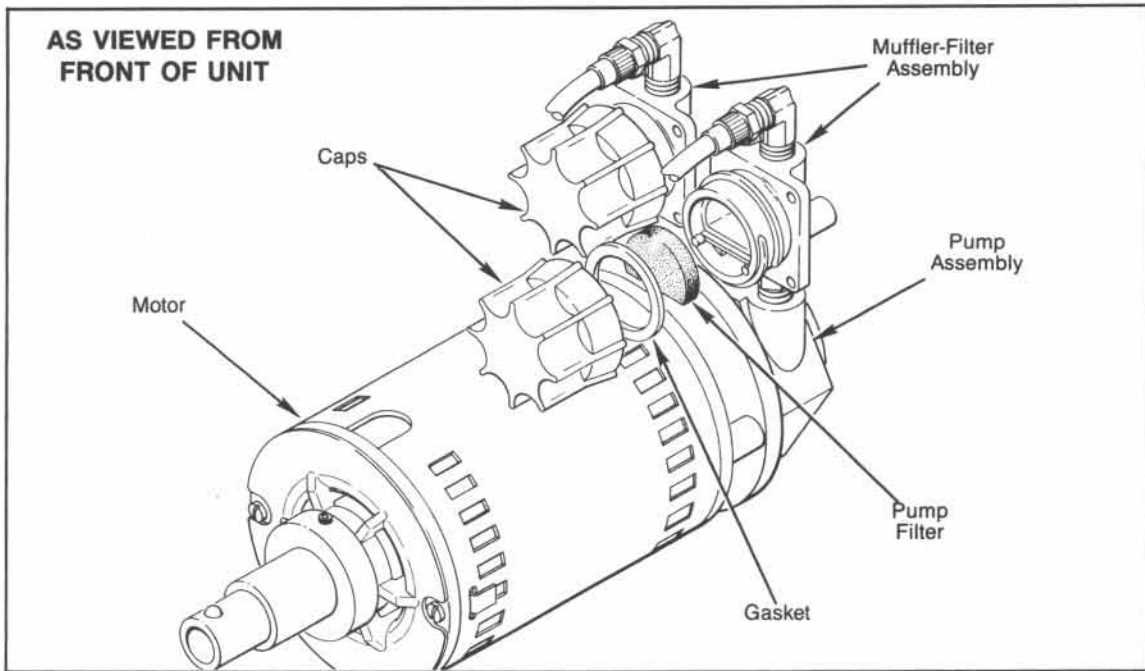


FIGURE 8. LOCATION OF FILTERS ON MOTOR/PUMP ASSEMBLY (PRC-621 AND 630 ONLY)

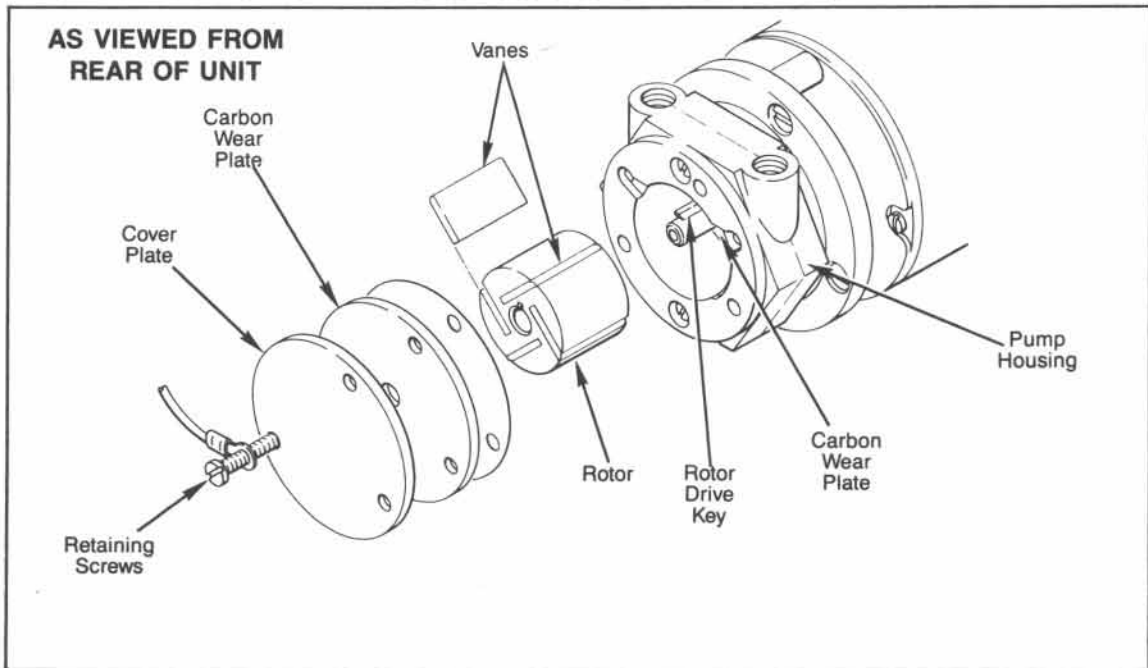


FIGURE 9. PUMP HOUSING ASSEMBLY (PRC-621 AND 630 ONLY)

MAINTENANCE

MAINTENANCE

Maintenance of the PACE Power Source is minor and relatively easy to perform. Following is a maintenance table and should be performed as outlined.

TABLE 7. CORRECTIVE MAINTENANCE FOR PCG-620
(Refer to FIGURE 11 for reference)

Symptom	Condition	Solution
General loss of vacuum	Normal usage	<ol style="list-style-type: none"> 1. Check VisiFilter weekly or daily if used constantly. 2. Replace VisiFilter as needed when discoloration occurs.
Improper Minichine Drive	Build up of flux or coating of residue within the Pump. (NOTE: This normally happens if the unit is run without the Visi-Filter).	<ol style="list-style-type: none"> 1. Disconnect Main Power Plug. 2. Locate Motor/Pump in the center of the chassis. 3. Remove the three (3) screws from bottom of chassis and nut from back of Minichine. (NOTE: Do Not, at any time, loosen the four (4) #6-32 nuts that holds the Pump housing of the Motor. 4. Remove the Fan from the Motor shaft by loosening the set screw on the Fan shaft. 5. Remove the nuts from the standoff studs located on bottom of the Motor/Pump bracket. Remove the Pump from bracket and place on a bench with open side of Pump housing down. 6. Remove the four (4) #10-32 x 1 1/8" screws which hold the Pump housing and remove the Pump plates and valve sheet from the housing. 7. Separate the Pump plates (with valve sheet between them) and remove the valve sheet. Clean the valve sheet by wiping it on a lint free cloth dampened with PACE Solvent (P/N 6997-0001) or equivalent, such as Trichlorethane 1.1.1. Clean both sides and allow to dry. 8. Clean Pump plates, using a cotton swab and solvent, allow to dry before reassembling. 9. Clean the Pump diaphragm using the PACE Solvent on a proper towel. Clean both sides and allow to dry immediately. 10. Clean recessed area of the Pump housing using PACE Solvent on a cotton swab. 11. Reassemble the Pump. When reassembling, it is imperative that the rubber diaphragm be centered around the raise circular center of the plastic support washer. The notches in the Pump plates must line up, and the valves in the valve sheet must line up with the valves in the Pump plates. 12. Replace the four (4) #10-32 x 1 1/8" screws. Tighten the screws approximately 1/4 turn after contact with Pump plate and in a diagonal method. 13. Replace the Fan insuring that a 1/16" gap exists between the Fan and Motor.

ELECTRICAL PROTECTION

All electrical circuits of the PCG Power Sources are fully protected. Replacement of electrical components should not be necessary.

MAINTENANCE

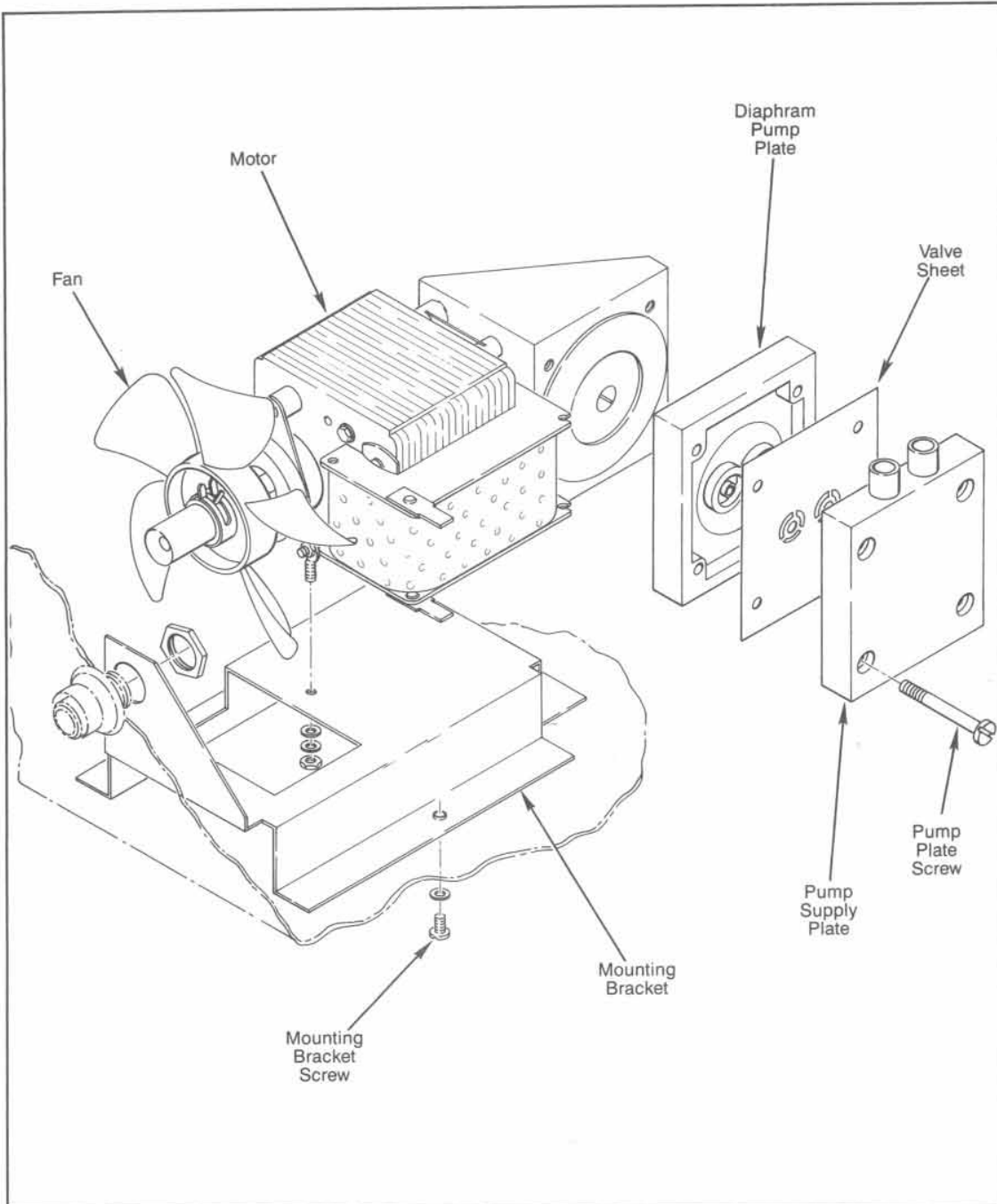


FIGURE 11. LOCATION OF MOTOR/PUMP ASSEMBLY (PCG-620 ONLY)

- REPLACEMENT PARTS

REPLACEMENT PARTS:

When ordering replacement parts for your PACE PCG-620, 621 and 630 Bench Top Repair Systems, use Table 8 and Figure 12, Table 9 and Figure 13, and Table 10 and Figure 14 for locating the desired part(s). Use the item number in the Figure, then refer to the Table for that item number and part description/part number.

**TABLE 8. LIST OF REPLACEMENT PARTS COMMON TO
PACE REPAIR SYSTEMS PCG-620**
(Refer to FIGURE 12 for Item Number)

Item No.	Description	Pace Part No.
	PCG-620 Power Source, 120V	7008-0095
1	Motor/Pump Assembly	1336-0020
2	Foot Pedal Assembly	6008-0022
3	Transformer	1192-0009
4	Lamp/Switch Assembly	1157-0027
5	Line Cord Assembly	1332-0023
6	Switch (SPDT)	1157-0004
7	Knob	1222-0006
8	Fuse Holder	1161-0002
9	Fuse (F2), 2A	1159-0004
10	Fuse (F3), 2.5A Slo-Blo	1159-0022
11	Fuse (F1), 5A Slo-Blo	1159-0002

REPLACEMENT PARTS

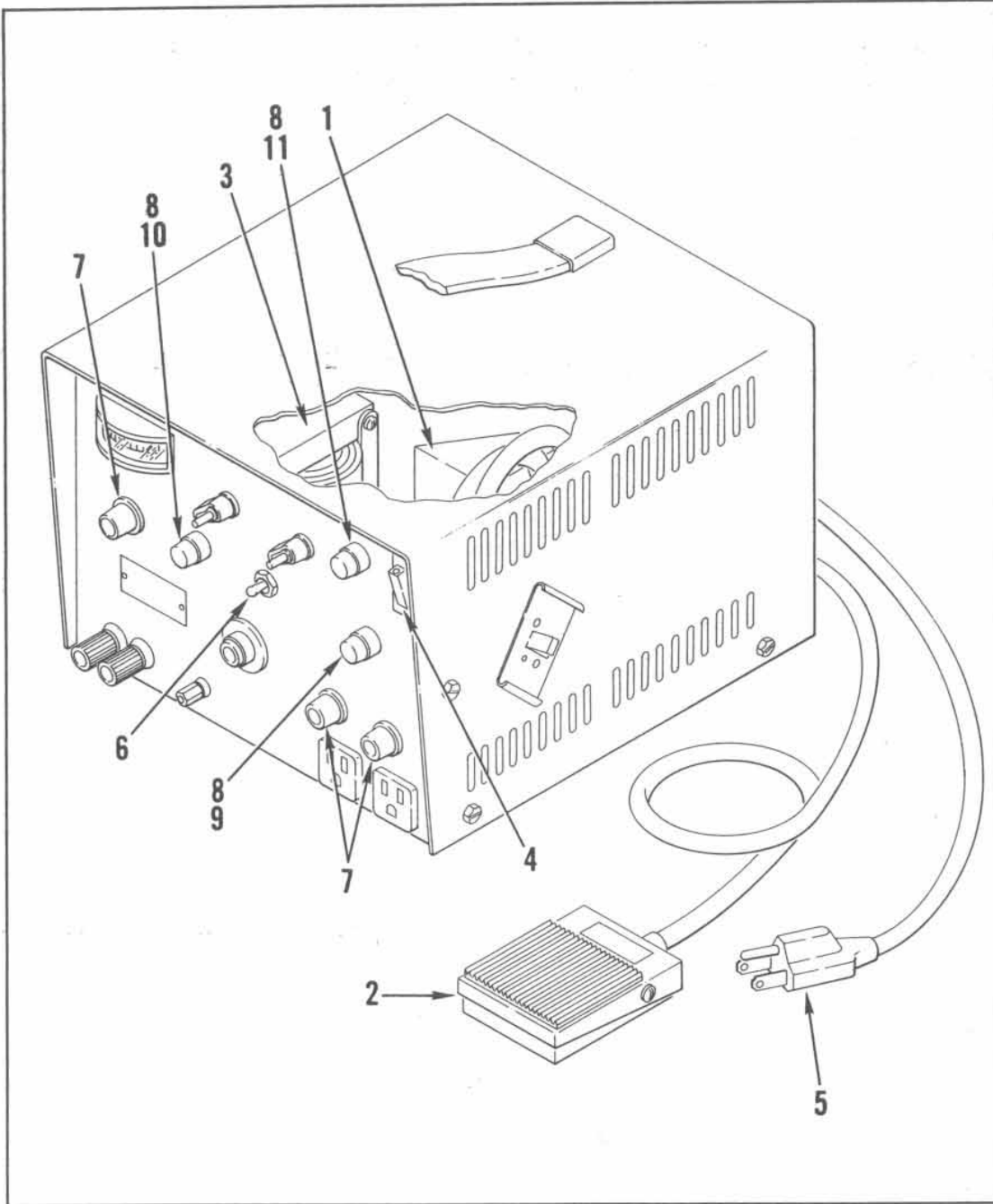


FIGURE 12. REPLACEMENT PARTS FOR PACE REPAIR SYSTEM PCG-620

REPLACEMENT PARTS

**TABLE 9. LIST OF REPLACEMENT PARTS COMMON TO
PACE REPAIR SYSTEMS PCG-621**
(Refer to FIGURE 13 for Item Number)

Item No.	Description	Pace Part No.
1	PCG-621 Power Source, 120V	7008-0151-02
2	Motor/Pump Assembly	6008-0038-02
3	Starter	1194-0011
4	Foot Pedal Assembly	6008-0022
5	Transformer	1192-0009
6	Lamp/Switch Assembly	1157-0027
7	Line Cord Assembly	1332-0023
8	Switch (SPDT)	1157-0004
9	Knob	1222-0006
10	Fuse Holder	1161-0002
11	Fuse (F2), 2A	1159-0004
12	Fuse (F3), 2.5A Slo-Blo	1159-0022
13	Fuse (F1), 5A Slo-Blo	1159-0002
	ZPS Module Assembly	6020-0012

REPLACEMENT PARTS

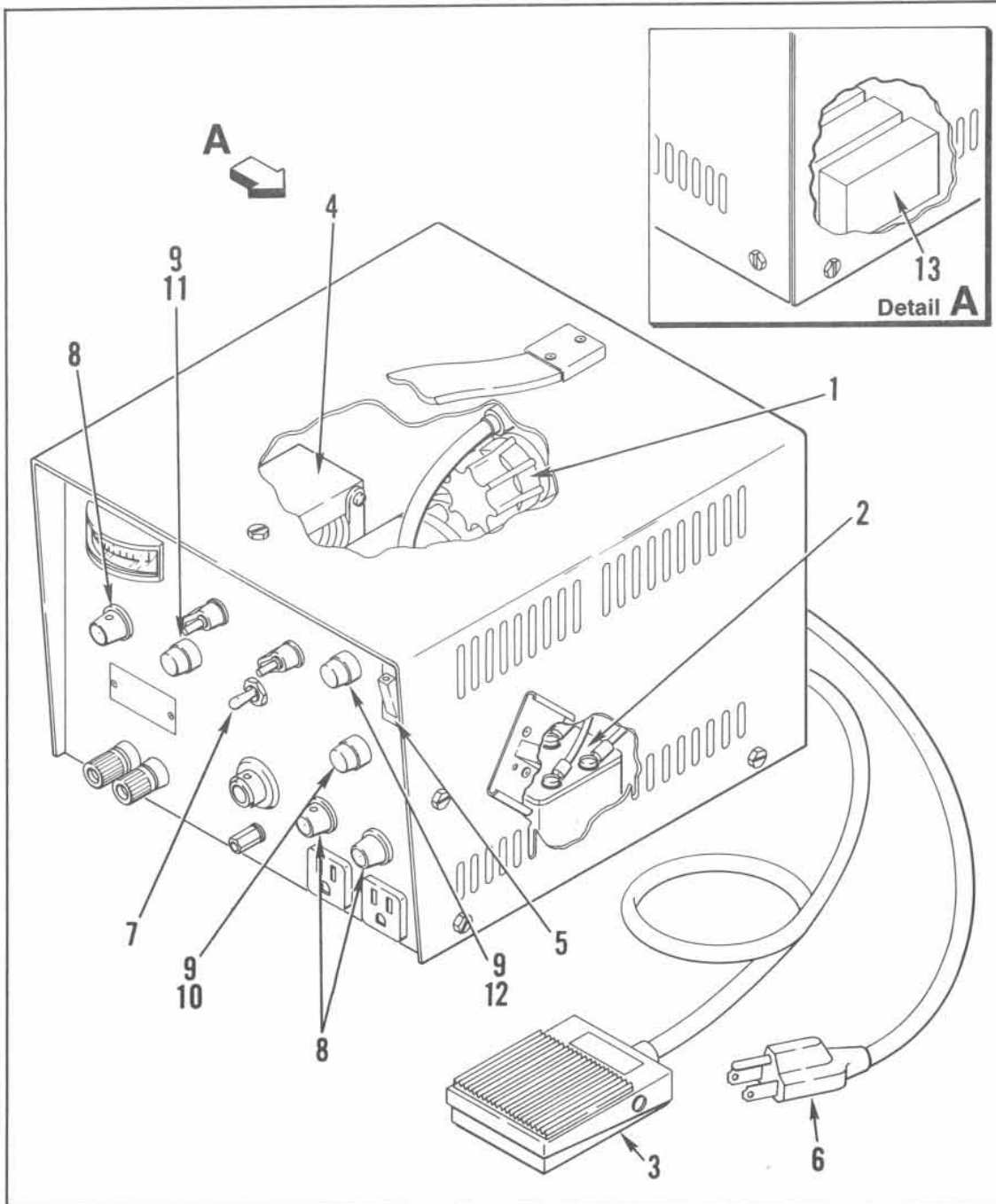


FIGURE 13. REPLACEMENT PARTS FOR PACE REPAIR SYSTEM PCG-621

REPLACEMENT PARTS

**TABLE 10. LIST OF REPLACEMENT PARTS COMMON TO
PACE REPAIR SYSTEMS PCG-630**
(Refer to FIGURE 14 for Item Number)

Item No.	Description	Pace Part No.
	PCG-630 Power Source, 120V	7008-0092
1	Motor/Pump Assembly	6008-0038-02
2	Starter	1194-0003
3	Foot Pedal Assembly	6008-0067
4	Transformer	6008-0066
5	Lamp/Switch Assembly	1157-0027
6	Line Cord Assembly	1332-0070
7	Switch (SPDT)	1157-0004
8	Switch (SPDT)	1157-0018
9	Switch (DPST)	1157-0010
10	Switch (SPST)	1157-0003
11	Knob	1222-0006
12	Fuse Holder	1161-0002
13	Fuse (F2), 2A	1159-0004
14	Fuse (F3), 2.5A Slo-Blo	1159-0022
15	Fuse (F1), 7A Slo-Blo	1159-0013

REPLACEMENT PARTS

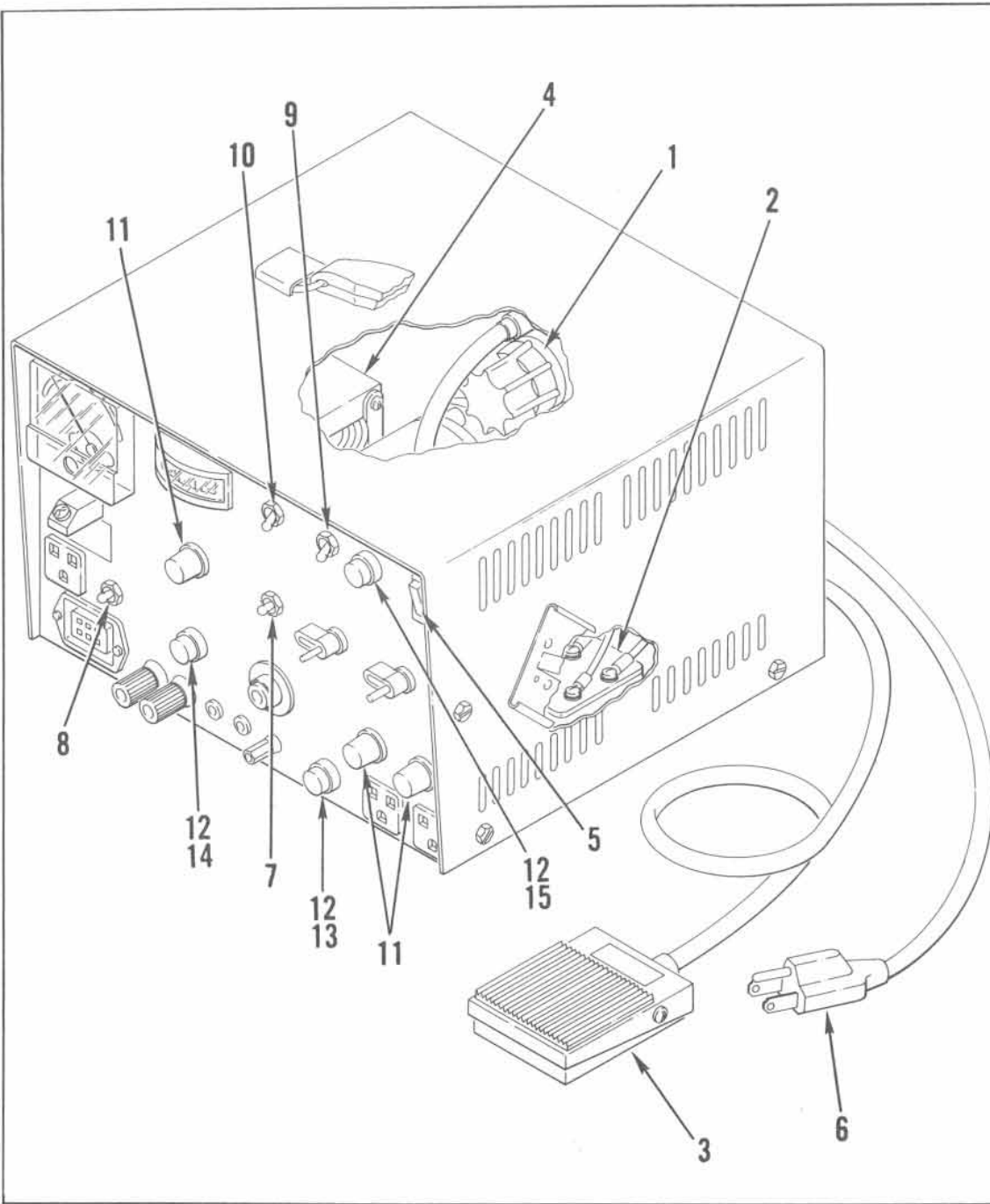


FIGURE 14. REPLACEMENT PARTS FOR PACE REPAIR SYSTEM PCG-630