

PROPERTY OF  
ENGINEERING SERVICES

DO NOT REMOVE

OPERATION AND MAINTENANCE  
INSTRUCTIONS 5050-0061

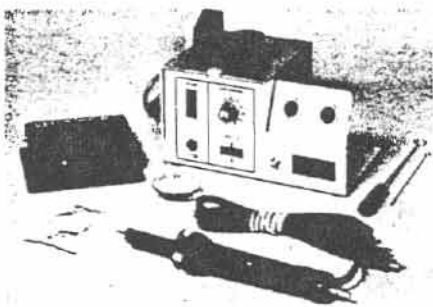
**PAGE**<sup>®</sup>  
**INCORPORATED**

**PED-A-VAC**<sup>®</sup>  
**DESOLDERING SYSTEMS**

(For models using PED-A-VAC II & III)

**With Thermo Drive**<sup>®</sup>  
**Heat Control**

213A



## Introduction

The Pace PED-A-VAC desoldering systems provides everything needed for fast reliable component removal.

The System Consists of:

A Power Source for conversion and control of the electrical output power. A convenient tip cleaning system attaches to the top of the Power Source housing. A holder is also provided for safe convenient repositioning of the heated tools.

The PED-A-VAC Foot Unit provides spike free pneumatic switching for the vacuum power.

The Sodr-X-Tractor utilizes controlled temperature and vacuum for easy removal of virtually any type of solder joint.

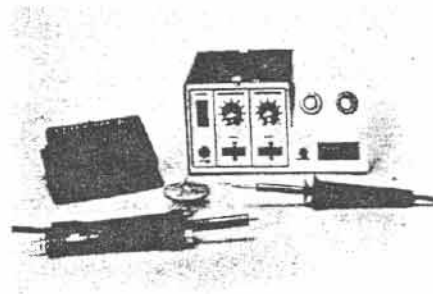
Included are vacuum hose, hose to line clips, cleaning brushes, tip kit and VisiFilter™

A Soldering Iron is provided with some systems providing the capability to quickly resolder the new component in place.

Take a few minutes to look over the instructions and follow the maintenance procedures outlined and your PED-A-VAC will give you long reliable service

1. Model SX-212BE with 24VAC Sodr-X-Tractor and Model SX-213AE with 115VAC 40 Watt Sodr-X-Tractor (Model SX-213AE not shown is equipped with a 115VAC outlet.)

2. Model SX-213A and Model SX-213AJ with 115VAC 60 watt Sodr-X-Tractor.

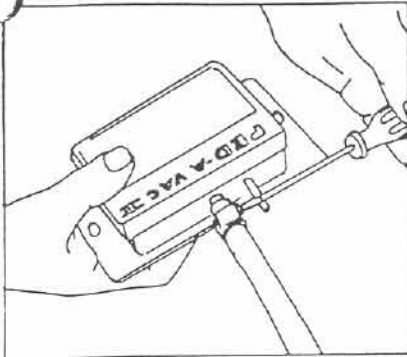


3. Model SX-214A and Model SX-214AJ with 115VAC 60 watt Sodr-X-Tractor.

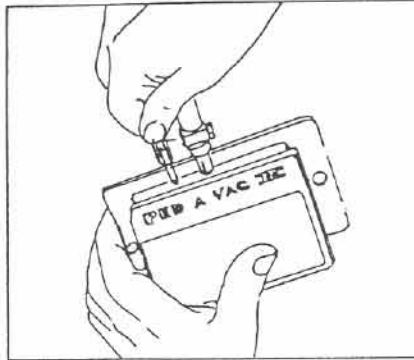
4. Model SX-215BE with 24VAC Sodr-X-Tractor.

EQUIPMENT PROVIDED	PED-A-VAC Model SX-212B (and Export Models)	PED-A-VAC Model SX-213A (and Export Models)	PED-A-VAC Model SX-214A (and Export Models)	PED-A-VAC Model SX-215B (and Export Models)
	Sodr-X-Tractor tool (24VAC, 50/60Hz) with vacuum line, cleaning brushes, and replaceable tips. Ped-A-Vac Foot Pedal Unit Integral Power Supply with Temperature Control, 24VAC, 50/60Hz output, tool holders, and tip cleaning unit.	Sodr-X-Tractor tool (115VAC, 50/60Hz) with vacuum line, cleaning brushes and replaceable tips. Ped-A-Vac Foot Pedal Unit Integral Power Supply with Temperature Control and 115VAC, 50/60Hz output, tool holders, and tip cleaning unit.	Sodr-X-Tractor tool (115VAC, 50/60Hz) and Soldering Iron (115VAC, 50/60Hz), vacuum line, cleaning brushes and replaceable tips. Ped-A-Vac Foot Pedal Unit Integral Power Supply with two Temperature Controls and two 115VAC, 50/60Hz outputs, tool holders, and tip cleaning unit.	Sodr-X-Tractor tool (24VAC, 50/60Hz) and Soldering Iron (24VAC, 50/60 Hz), vacuum line, cleaning brushes, and replaceable tips. Ped-A-Vac Foot Pedal Unit Integral Power Supply with two Temperature Controls and two 24VAC, 50/50Hz outputs, tool holders, and tip cleaning unit.
ELECTRICAL POWER REQUIRED	115VAC, 50/60Hz (SX-212B) Special 220/240VAC, 50/60Hz (SX-212BE) 100VAC, 50/60Hz (SX-212BJ) Special 24VAC, 50/60Hz (SX-212BL) Special	115VAC, 50/60Hz (SX-213A) 220/240VAC, 50/60Hz (SX-213E) 100VAC, 50/60Hz (SX-213AJ)	115VAC, 50/60Hz (SX-214A) 220/240VAC, 50/60Hz (SX-214E) Special 100VAC, 50/60Hz (SX-214EJ)	115VAC, 50/60Hz (SX-215B) Special 220/240VAC, 50/60Hz (SX-215BE)
SHOP AIR REQUIRED	4.0cfm 60-90psi (nominal)	4.0cfm 60-90psi (nominal)	4.0cfm 60-90psi (nominal)	4.0cfm 60-90psi (nominal)
DIMENSIONS Handpiece Integral Power Supply and Stand Ped-A-Vac Foot Pedal	9" long, 1 1/4" wide, 5 oz. 6 1/4" x 4-3/4" x 8-3/4" 1-3/4" x 5 1/4" x 5" SX-212BL has same dimensions as SX-213A.	9" long, 1 1/4" wide, 5 oz. 7" x 4-3/4" x 5" 1-3/4" x 5 1/4" x 5" SX-213E has same dimensions as SX-212B.	9" long, 1 1/4" wide, 5oz. 6 1/4" x 4-3/4" x 8-3/4" 1-3/4" x 5 1/4" x 5"	9" long, 1 1/4" wide, 5oz. 6 1/4" x 4-3/4" x 8-3/4" 1-3/4" x 5 1/4" x 5"
SHIPPING WEIGHT	7 pounds	7 pounds	8 pounds	8 pounds
Where use of central factory vacuum is desired, a *V* Series Ped-A-Vac is available, and should be so noted when ordering.				

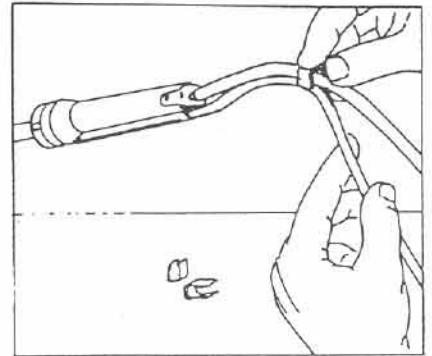
## SET UP



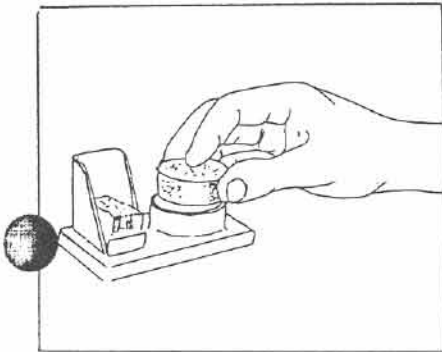
1. Attach filtered air supply regulated to between 60 and 90 psi to input pipe at rear of PED-A-VAC. Filtered air will assure trouble-free operation. Use quick connect fittings or hose clamps.



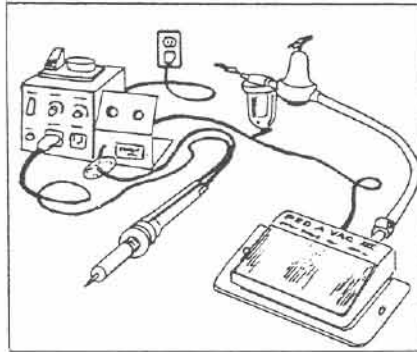
2. Attach the supplied hose to vacuum fitting. Place PED-A-VAC Foot Unit in a convenient location for foot operation.



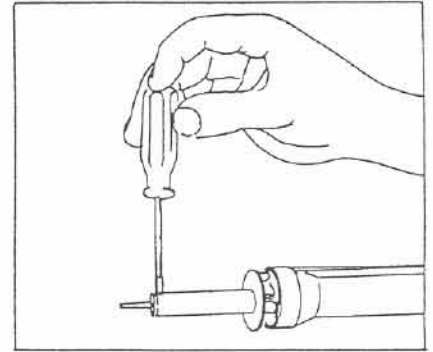
3. Attach vacuum hose to fitting at rear of the SODR-X-TRACTOR Handpiece. Assemble black nylon clips to conveniently attach Vacuum hose to SODR-X-TRACTOR Power Cord.



4. Remove and soak sponge in warm water. Replace in cleaning unit container.

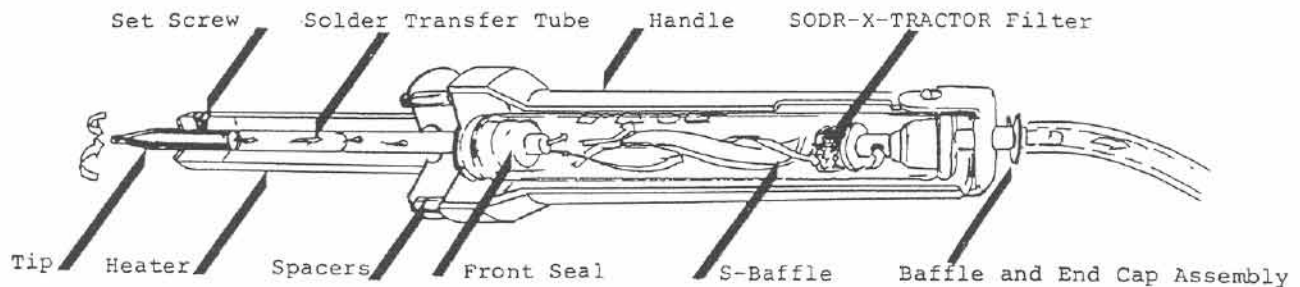


5. Pictorial Schematic of PED-A-VAC System Set-up for operation.



6. Select proper tip and heat setting for the job. Please read and follow simple instructions for best results.

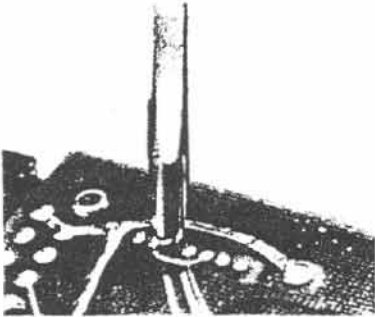
### PED-A-VAC DESOLDERING SYSTEM OPERATING PRINCIPLE



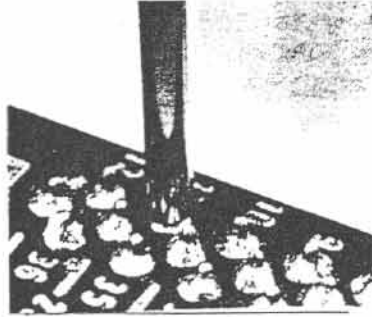
The PED-A-VAC II Desoldering System functions as a vacuum cleaning device for solder removal. The heated SODR-X-TRACTOR tip quickly melts the solder. Depressing the PED-A-VAC activates the vacuum airflow, transferring the solder from the circuit board to the protective safety chamber in the handle.

Pneumatic switching in the PED-A-VAC eliminates electrical spikes which may damage highly sensitive MOSFET and C-MOS devices.

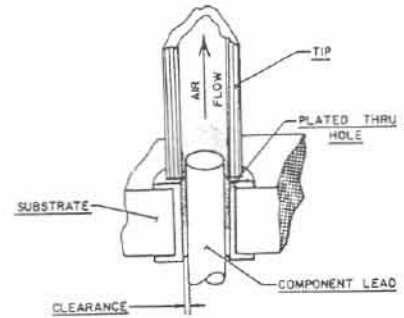
## TIP SELECTOR GUIDE



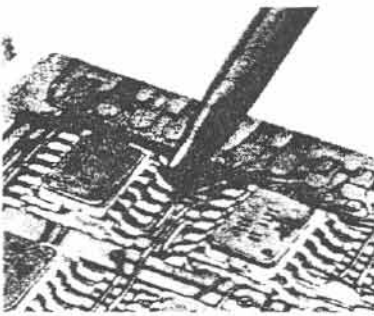
1. Match the tip to the work. Small tips for small pads.



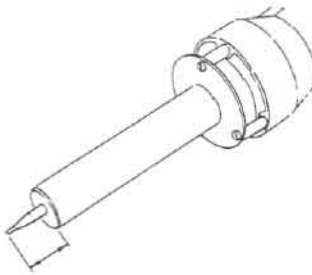
2. Larger tips for heavier work.



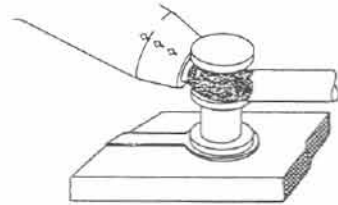
3. The tip should fit loosely over the component lead to be desoldered. The loose fit provides the necessary clearance for air and molten solder flow.



4. The O.D. of the tip should be smaller than diameter or width of the pad. Keep the hot tip in contact with the pad, not the substrate.

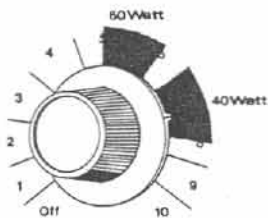


5. The selected tip extends approximately 5/8" or 1.5cm beyond the heater body for all normal desoldering.

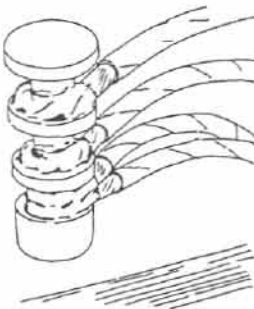


6. Use the largest tip which can be applied to the soldered area to be extracted.

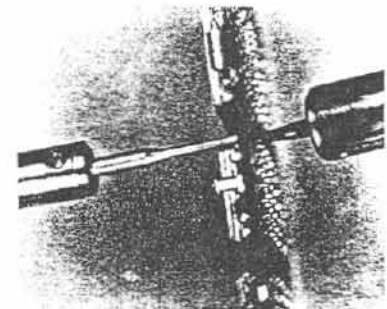
## HEAT SELECTION



1. Adjust operating temperature for extractor. 6.5-8 for 40 Watt heater. 5-6 for 60 Watt heater.

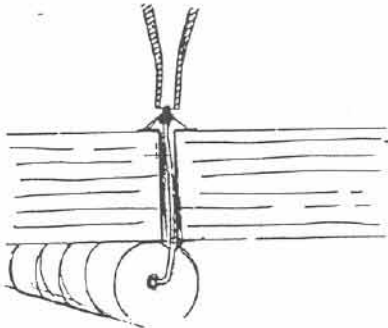


2. Higher temperature settings may be required for solder extraction on large turret terminals or multilayered printed circuit boards.

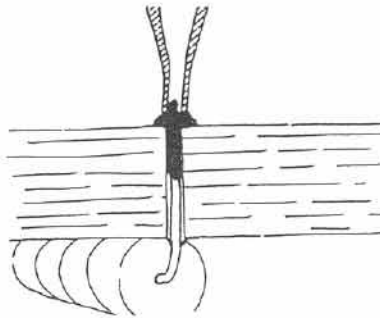


3. Auxiliary heating is required if extractor tip alone can not melt solder joint in 3 seconds or less.

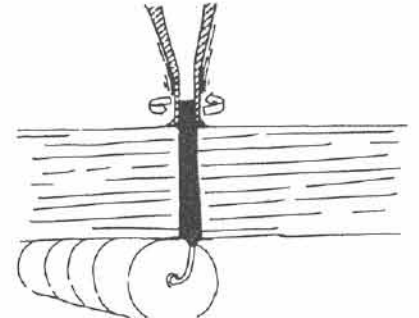
## OPERATION



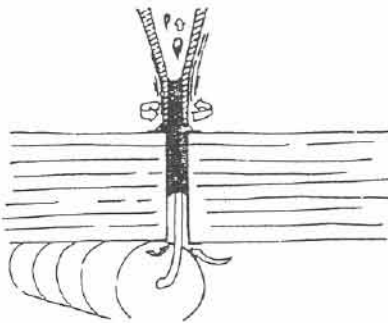
1. Select the proper dia. tip per Tip Selection Guide. Select heat setting.



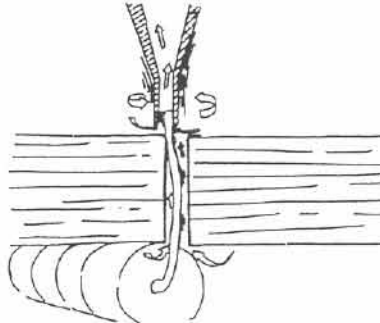
2. Place tip at end of clinched lead, lift lead to perpendicular position. Slip tip over lead as shown.



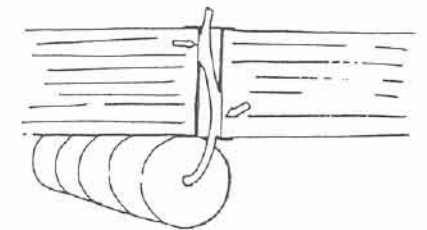
3. Move Desoldering Tool with rotary stirring motion dwelling until the lead moves freely within hole. Free movement of lead within the hole indicates complete solder melt ready for extraction.



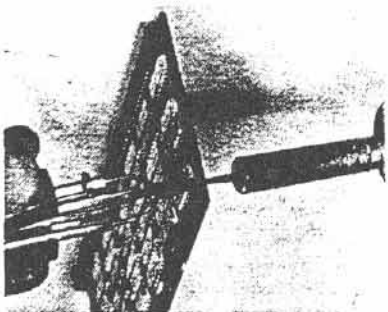
4. Apply vacuum and continue stirring action during Vacuum application.  
NOTE: - Tip is in light contact only with pad. Heat transfer is through the lead wire and molten solder; not the pad and hole plating.



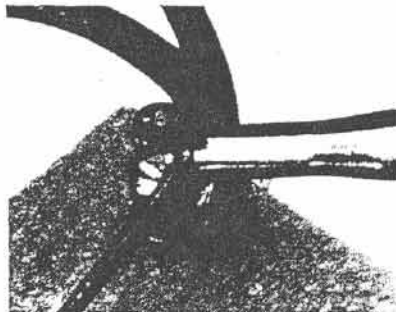
5. Continue Tip Motion and Vacuum Flow to cool joint area. Vacuum AIR Flow must continue for a second or so after the tip is removed from the work. CAUTION: - Don't push; light contact between the pad and the tip works best.



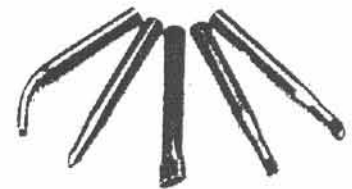
6. Check your work. If all solder is not extracted from any thru-plated hole, re-solder and extract again. Allow cool down between soldering and extraction.



7. Solder joint removal from multi-layer printed circuit boards may require application of a second heating source. Auxiliary heat can be applied with the PACE ConductTweez Heating System or with a soldering iron tip.

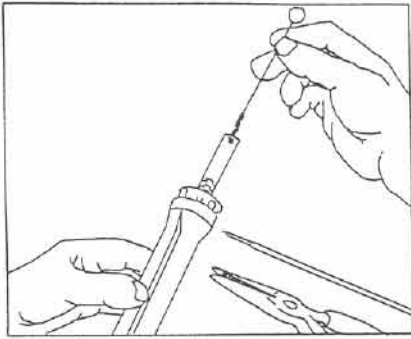


8. Place heated extractor tip in intimate contact with wire and solder; watch for complete solder melt. Apply motion to wire. Depress PED-A-VAC to activate vacuum and extract solder.

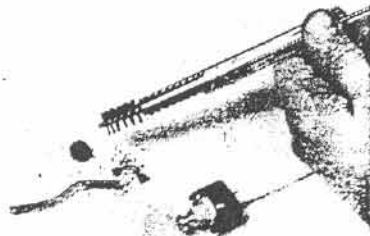


9. Tips may be modified by filing, notching or bending for special desoldering applications.

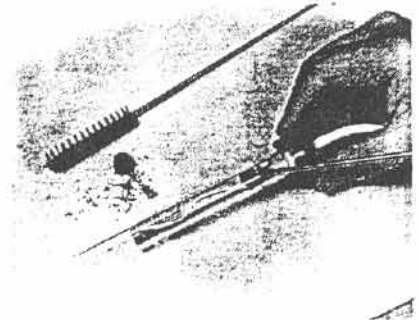
## CARE AND MAINTENANCE OF SODR-X-TRACTOR



1. Keep the SODR-X-TRACTOR Heater Tube Assembly clean with the wire brush.



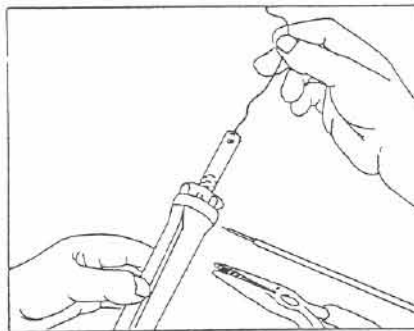
2. Use the bristle brush to clean the Glass Chamber and S-Baffle. Lightly coat inside of chamber with mineral oil to ease cleaning.



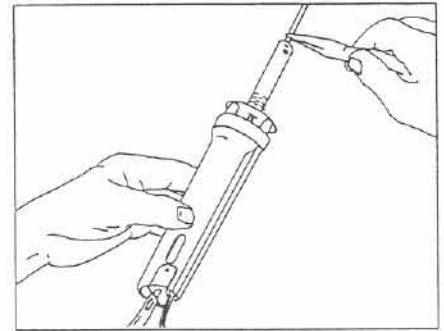
3. The SODR-X-TRACTOR Filter: at rear of Glass Chamber prevents flux and coating residues from reaching the PED-A-VAC. Replace filter as required, for maximum air flow.



4. Heater tube blockage may result from failure to maintain Vacuum flow 2 seconds after solder joint extraction.



5. To clear blockage, remove tip, set heat to maximum, melt about 18" of 1/16" solder into heater tube.



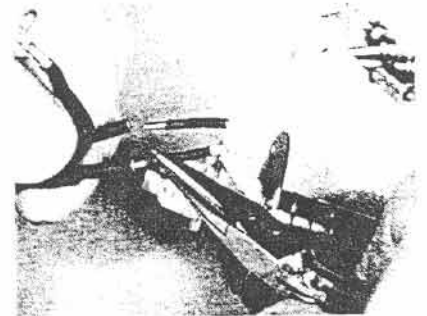
6. Insert a 3/32" dia. copper or brass rod into heater tube. Solder and rod transfer heat to melt and clear blockage.



7. S-Baffle must fit firmly in place away from heater. Bend for firm retention.



8. To replace heater, disconnect cord and allow it to cool; remove 3 heater retaining screws and ground terminal hardware, pull center ground wire through handle.

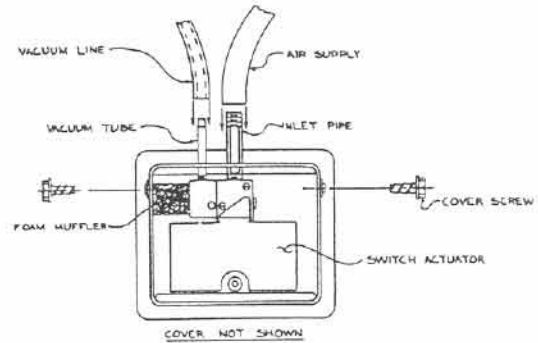


9. Carefully slide heater connector pins from line cord receptacles. Reverse operation to install new heater and seal assembly.

# CARE AND MAINTENANCE OF PED-A-VAC III FOOT PEDAL ASSEMBLY

Clearing Ped-A-Vac Foot Pedal Assembly of flux and unfilterable line contaminants:

- a) Remove the cover from the Ped-A-Vac by removing the two hex head slotted screws in the sides of the unit and the 4-40 filister head screw in the top of the unit.
- b) Remove foam muffler, then clean by soaking in PACE solvent (P/N .6997-0001) for approximately 5 minutes. Allow to dry completely before reinstalling the muffler.
- c) Draw approximately .2 oz. (6cc) of PACE solvent thru vacuum generator. This is done by placing vacuum line in solvent and actuating the switch.
- d) Disconnect air supply and remove the inlet pipe. Remove tapered spring and valve. Swab clean the valve bore using PACE solvent on a cotton swab. Lubricate the valve sparingly with silicone grease (use Parker Super-O-Lube or equivalent).
- e) Reassemble valve, spring, and inlet pipe.
- f) Replace foam muffler and cover. The Ped-A-Vac is then ready for service.



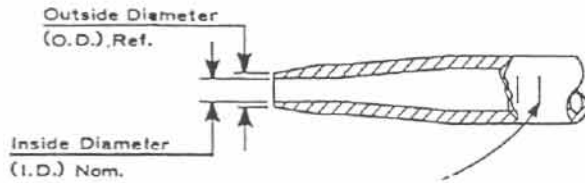
NOTE: The lubrication of the valve is necessary each time the Ped-A-Vac is cleaned or once a month.

## TROUBLESHOOTING

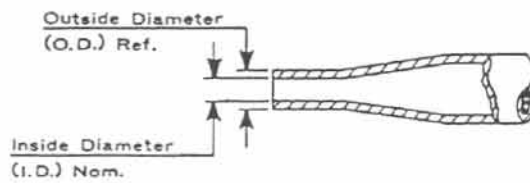
Symptom	Cause and Remedy
1. Loss of Vacuum from Ped-A-Vac	<p>A. Incorrect air supply pressure or flow. Check air line pressure and flow. Should be 70 to 80 psi., 4.0 cfm.</p> <p>B. Hole in Vacuum Line. Replace Vacuum Line.</p> <p>C. Vacuum Line Disconnected. Re-attach Vacuum Line to Sodr-X-Tractor Handpiece and Ped-A-Vac foot pedal.</p> <p>D. Vacuum Generator restriction. Service Vacuum Generator.</p>
2. Continuous Vacuum	<p>A. Air valve clogged with contaminants. Clean Vacuum Generator</p> <p>B. Air valve requires lubrication. Lubricate Vacuum Generator.</p>

# PACE SODR-X-TRACTOR TIPS

## SUPER & STANDARD



## ECONOMY



### SUPER TIPS

I.D. Nom.		O.D. Ref.		PACE Part No.
Ins.	mm	Ins.	mm	
.061	1.55	.104	2.64	1121-0217
.050	1.27	.085	2.16	1121-0216
.036	.91	.072	1.83	1121-0215
.025	.63	.060	1.52	1121-0214
.018	.45	.053	1.34	1121-0213

### STANDARD TIPS

.061	1.55	.104	2.64	1121-0246
.050	1.27	.085	2.16	1121-0245
.036	.91	.072	1.83	1121-0244
.025	.63	.060	1.52	1121-0243
.018	.45	.053	1.34	1121-0242

### ECONOMY TIPS

.095	2.43	.125	3.17	1121-0091
.061	1.55	.100	2.54	1121-0092
.036	.91	.087	2.21	1121-0093
.025	.63	.080	2.03	1121-0094



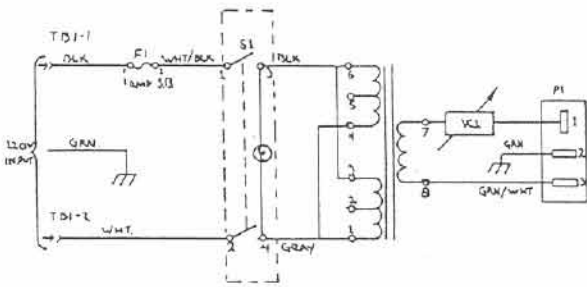
## REPLACEMENT PARTS

Power Source		PED-A-VAC	
Description	Models	Qty/Unit	Part No.
PED-A-VAC			
Foot Pedal Assy	All SX-Models	1	6014-0005
Ped-A-VAC			
Foot Pedal Assy	All VSX-Models	1	6014-0003
Overhaul Kit	All SX-Models	1	6993-0043
Knob	All Models	1 or 2	1222-0006
Fuse Holder	VSX-213A, SX-213A, SX-213AJ	1	1161-0002
	SX-212B, VSX-212B		
Fuse Holder	SX-212BL, SX-215BE, SX-212BE	1	1161-0008
	VSX-212BE, SX-213AE, VSX-213AE		
AC Var. Voltage	SX-213A, SX-213AJ	1 or 2	1285-0014
Controller 115VAC	SX-213AE, VSX-213AE		
AC Var. Voltage	SX-212B, VSX-212B	1 or 2	1285-0030
Controller 24VAC	SX-212BL, SX-215BE		
	SX-212BE, VSX-212BE		
Fuse 1 Amp SloBlo	SX-213AE, VSX-213AE	1	1159-0216
Fuse 1 Amp SloBlo	SX-213A, SX-213AJ	1	1159-0011
Fuse 1 Amp SloBlo	SX-212B, VSX-212B	1	1159-0020
Fuse .5 Amp SloBlo	SX-215BE, SX-212BE, VSX-212BE	1	1159-0213
Fuse 2 Amp	SX-212BL	1	1159-0113
Transformer	SX-213AE, VSX-213AE	1	1192-0028
Transformer	SX-215BE	1	1192-0042
Transformer	SX-212BE, VSX-212BE	1	1192-0029

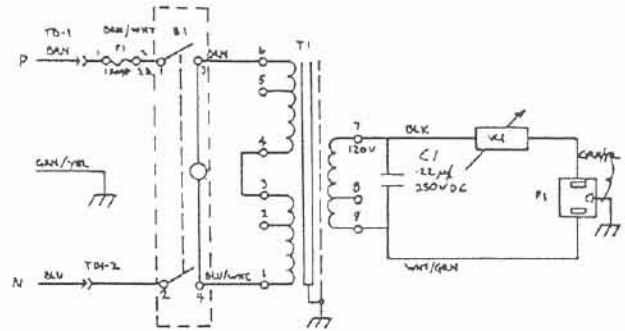
  

Sodr-X-Tractor Replacement Parts			
Description	Model	Qty/Unit	Part No.
Sodr-X-Tractor	SX-201	1	7010-0011
115 VAC, 60 Watt			
Sodr-X-Tractor	SX-199	1	7010-0017
Tube Ass'y <sup>TM</sup> , Clear		2	1325-0003
VisiFilter <sup>TM</sup>	Fixed Type	1	1309-0020
VisiFilter <sup>TM</sup>	Replaceable Element Type	1	1309-0028
Replaceable Elements		10/pk	1309-0027
for VisiFilter 1309-0028			
Handle	All	1	6010-0024
Baffle & End Cap Assy.	All	1	4010-0031
Chamber, glass	All	1	1265-0003
Spacer and Hardware Kit	All	1	6993-0014
Seal, .240 I.D., forward	All	1	1213-0008
Seal, rear	All	1	1213-0001
Heater & Seal Assy (120VAC			
60 watt, std)		1	6010-0013
Heater & Seal Assy		1	6010-0016
(24VAC) 40 watt			
Filter, Sodr-X-Tractor	All	pk/5	1309-0018
Set Screw	All	pk/10	1348-0285
Brush, bristle	All	pk/5	1127-0002
(Chamber Cleaning)			
Brush, wire	All	pk/5	1127-0006
Power Cord Assy. 115VAC		1	1332-0009
Power Cord Assy. 24VAC		1	1332-0032
Clamps, Hose to Cord	All	pk/6	1211-0002
S Baffle	All	1	4010-0033
Cleaning Unit Assy, Comp	All	1	6021-0001
a) Cap		1	1313-0007
b) Sponge		pk/5	4021-0001
c) Brush		1	1127-0012
Experimenter Tip Kit,	All	1	6993-0038
consisting of: 2 ea Tips 1121-0214;0215;0217			
1 ea Set Screw; 1ea Sodr-X-Tractor Filter			

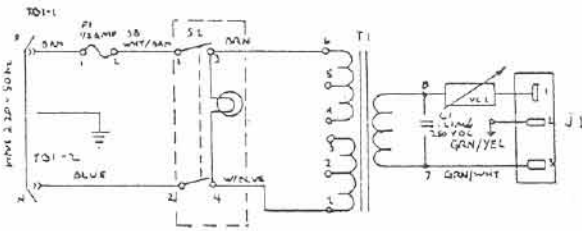
# SCHEMATICS



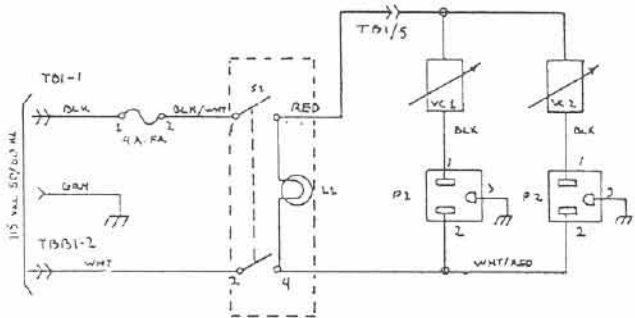
POWER SOURCE PPS-4B USED WITH MODELS SX-212B AND VSX-212B



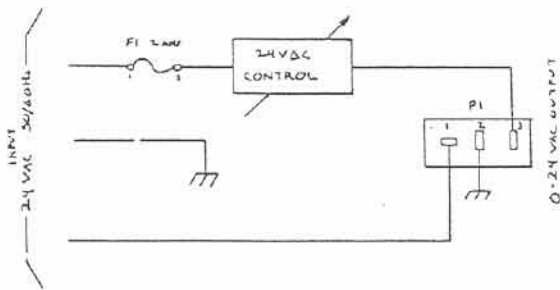
POWER SOURCE PPS-6AE USED WITH MODELS SX-213AE AND VSX-213AE



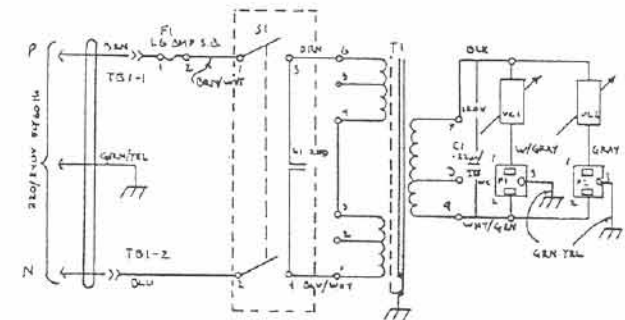
POWER SOURCE PPS-4BE USED WITH MODELS SX-212BE AND VSX-212BE



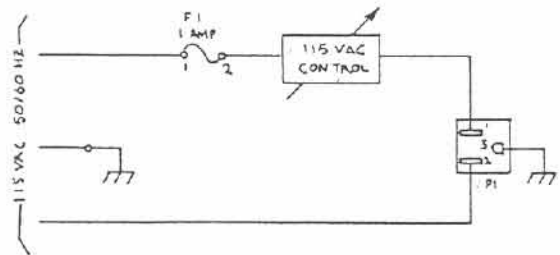
POWER SOURCE PPS-8A USED WITH MODELS SX-214A AND VSX-214A



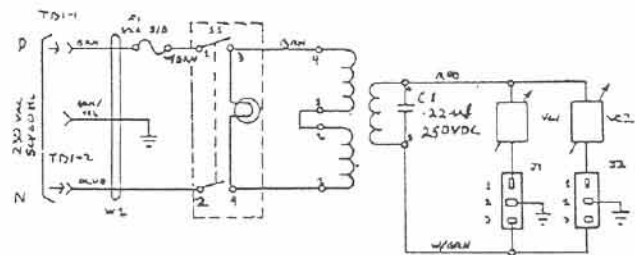
POWER SOURCE USED WITH MODEL SX-212BL



POWER SOURCE PPS-8AE USED WITH MODELS SX-214AE, VSX-214AE AND SX-214AJ



POWER SOURCE USED WITH MODEL SX-213A AND SX-213AJ



POWER SOURCE PPS-7BE USED WITH MODEL SX-215BE

