PAGE®

SX-80

SX-80 Sodr-X-Tractor Handpiece

Operation & Maintenance Instructions

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For any questions regarding this Operation & Maintenance Manual, contact your local authorized PACE distributor or contact PACE directly at the appropriate address listed below.

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SX-80
Sodr-X-Tractor Handpiece
Part Number 6010-0106
Manual Number 5050-0492
Rev. C

The following instructions detail the basic operational guidelines for using the SX-80 Sodr-X-Tractor handpiece.

Introduction

The SX-80 Sodr-X-Tractor handpiece provides thermally enhanced through-hole desoldering on extra heavy multilayer assemblies at safer, lower temperatures, even during continuous use. It features a large, easy to replace solder trap. The SX-80 also provides safe removal of TQFP (Thin Quad FlatPack) and TSOP (Thin Small Outline Package) surface mount components and continuous removal of old solder from surface mount lands. Its slim-line, pencil grip design and finger actuated vacuum switch facilitates ease of use and manipulation in tight places. The SX-80 is a member of the PACE SensaTemp family of advanced handpieces.

CAUTION

Always return heated handpieces to the appropriate Tip & Tool Stand when not in use. Failure to do so may cause burns to the operator, equipment or work surfaces and may be a potential ignition source if combustible materials are nearby. Always use this handpiece in a well ventilated area to avoid inhalation of fumes created by solder flux.

NOTE

Always use your SX-80 Sodr-X-Tractor with a clean VisiFilter (See page 6) element. Otherwise a deterioration in performance or damage to the unit may occur.

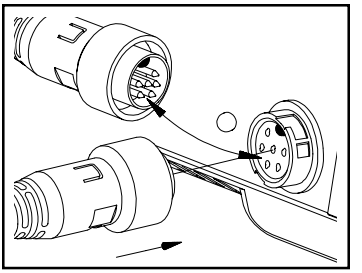
Select and enter your desired true operating temperature on your PACE power source. To save tip life and reduce the possibility of damage, PACE recommends using the lowest possible tip temperature that will provide rapid yet controllable melt of the entire solder joint to be extracted. Begin with an operating temperature in the range of 316°C (600°F) and adjust as necessary.

Handpiece Setup

Handpiece Connection

Connect the handpiece connector plug into one of the Power Receptacles on your PACE power source in the following manner.

1. Align guide on connector with slot on power receptacle.
2. Insert connector into power receptacle.
3. Turn the connector housing clockwise to lock in place.



Air Hose Connection

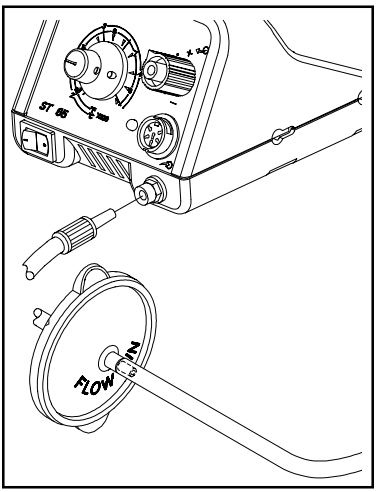
NOTE

Insure that only one air handpiece is connected to either the **Vacuum Port** or Controllable **PRESSURE** Port at one time. Attachment to both ports simultaneously will cause a deterioration of performance.

To set up your SX-80 air hose connection, perform the following steps:

1. Air Hose To Handpiece Connection
   a) Attach one end of a 137cm (54 inch) length of air hose to the metal tube in the back of the handpiece.
   b) If you have a PACE system incorporating only one handpiece, attach the air hose to the SX-80 power cable using the supplied Hose Clamps (P/N 1321-0085-01). Space them evenly along the length of the power cable starting at a point 6 inches from the ends of the handpiece.
   c) If you have a PACE system incorporating 2 or more air handpieces (e.g., SX-80, DTP-80, TJ-70, TP-65), you may wish to leave the air hose assembly unattached to allow a quick change to any air handpiece being used.

2. Prepare a VisiFilter (P/N 1309-0028) in the following manner:
   a) Connect a 1 inch (2.5cm) length of clear pvc air hose to the FLOW OUT side of the VisiFilter; push and turn the hose onto the VisiFilter nipple to seat.
   b) Insert the ribbed end of a male quick connect hose mount fitting (P/N 1259-0087) into the free end of the 1 inch (2.5cm) length of air hose connected to the FLOW OUT side of the VisiFilter.
   c) Connect the free end of the 137cm (54 inch) length of air hose to the FLOW IN side of the VisiFilter.
   d) Insert the end of the quick connect hose mount fitting (on VisiFilter FLOW OUT side) into the power source Vacuum Port.



3. When using air pressure, and/or utilizing multiple air handpieces, PACE recommends the use of the following set up procedure which utilizes additional quick connect hose mount fittings. An assortment of quick connect air fittings are supplied with each additional air handpiece.
   a) Disconnect the 137cm (54 inch) length of air hose from the FLOW IN side of the VisiFilter assembly. Insert the ribbed end of a male quick connect hose mount fitting (P/N 1259-0087) into the free end of this air hose.
   b) Connect the free end of a 1 inch (2.5cm) length of air hose with an installed female quick connect hose mount fitting (P/N 1259-0086) to the FLOW IN side of the VisiFilter Assembly.
   c) The 137cm (54 inch) length of air hose can now be easily moved between the VisiFilter Assembly and the Controllable Pressure Port. The VisiFilter assembly remains connected to the Vacuum Port.

4. Additional fittings may also be added to the hose connection at the rear of each air handpiece to ease changing of handpieces.

NOTE

When removing any air hose, turn and pull. Do not attempt to pull hose directly off. Damage to or breakage of fitting or VisiFilter may occur. Use your SX-80 Sodr-X-Tractor with a clean VisiFilter element. Otherwise a deterioration in performance or damage to the unit may occur.

Tip Selection

SX-80 Sodr-X-Tractor Tips come in three basic types:

1. **Endura Desoldering Tips -** These tips are tinnable and provide enhanced thermal performance for thru-hole desoldering on high mass boards.

2. **Endura Pik-Tips -** Provides safe removal of TQFP (Thin Quad FlatPack) and TSOP (Thin Small Outline Package) surface mount components.

3. **Endura Flo-D-Sodr Tips -** These tips provide rapid, continuous extraction of old or excess solder from SMT lands.

Size selection of tips is important. For thru-hole desoldering, select a tip with an I.D. just large enough to allow the lead to freely pass inside. The tip O.D. should not exceed the diameter of the land to minimize risk of damage to the board substrate. When removing TQFPs or TSOPs, the Pik-Tip should be sized so that the tip blades make proper contact with all the lead/land connections simultaneously.

NOTE

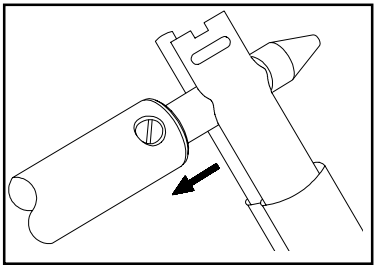
The SX-80 Sodr-X-Tractor will only use the new Endura line of desoldering tips.

Tip Installation

For maximum productivity and proper fit, install tips into your SX-80 Sodr-X-Tractor when the heater is hot and the Flux/Sodr trap and door are installed.

CAUTION

Hold the handpiece with the heater pointed at an angle up to prevent injury to personnel.



1. Insert the Tip fully into heater bore using supplied Tip Tool.
2. Gently tighten the Heater Set Screw.
3. Recheck the Heater Set Screw periodically to insure that it remains snug.

NOTE

Periodically, clean the heater bore with a properly sized wire brush (3/16" O.D.) to insure optimum heat transfer and proper tip grounding.

Temperature Setting

To save tip life and reduce the possibility of damage to the PCB, PACE recommends using the lowest possible tip temperature that will provide rapid yet controllable melt of the entire solder joint. Begin with an operating temperature of 316°C (600°F) and adjust as necessary. Tip temperatures in excess of 399°C (750°F) may cause damage. For safest removal, some components on extra heavy assemblies may require preheating or auxiliary heating.

Tip Cleaning

During heavy, continuous desoldering, on boards with flux residues or other contamination, the tip may occasionally become clogged with such material. If this should occur, clean the tip with the Tip Cleaning Kit (PACE part number 6993-0200) by inserting the wire tool into the tip end.

Special Applications

If you require assistance in the use of this handpiece or with a special application, contact PACE Technical Support at:

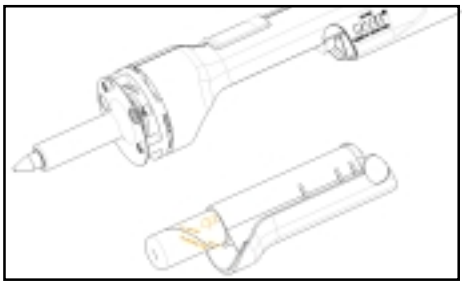
Telephone: 1(888)535-7223(toll-free)

Fax: (301)604-8782

Replacing the Disposable Flux/Sodr Trap

As the Sodr-X-Tractor is used, solder and flux build-up will begin to impede the airflow and decrease system performance. The SX-80 utilizes a disposable chamber which makes maintenance of the SX-80 a quick and simple process. Regular replacement of the Sodr-Flux Trap will keep the Sodr-X-Tractor operating at peak performance. To replace the Sodr-Flux Trap follow the procedures outlined below.

1) While holding the Sodr-X-Tractor with the tip facing away from you and the handpiece in an downward position, remove the door assembly from the handpiece. This action is accomplished by pulling the plunger lock approximately ¼" and turning it approximately ten (10) degrees to the right or left. The door assembly can now be removed by simply gripping the door near the ear shaped protrusions and lifting straight up.



2) Replace the disposable chamber by holding the door assembly in the palm of your hand with the filter assembly facing up. With your free hand use a fresh solder chamber with the arrows facing away to push the spent chamber out of the door assembly and into a waste receptacle. The fresh chamber is now in position and ready for reassembly.

CAUTION

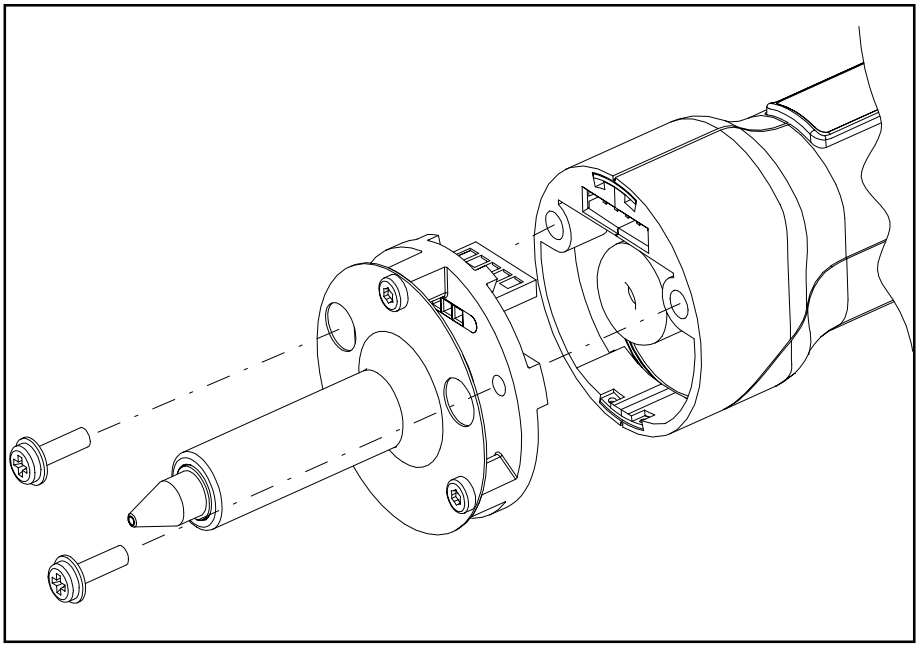
The handpiece will not function properly if the chamber is inserted incorrectly. The directional arrows on the solder chamber must be pointed at the heater.

3) Complete the process by lowering the door into the handle assembly. Insure that the door is properly situated with the ears seated in their respective detents. Now return the plunger assembly to its locked position by simply twisting the plunger lock mechanism so that it returns to the channels in the handle assembly.
4) Insure that the door assembly is securely in place by attempting to lift the door from the handle assembly. It should now be held firmly in place.
5) Check all air hose fittings. Actuate the vacuum and insure that proper vacuum is present at the tip.
6) Return the handpiece to the cubby or resume work as required.

Heater Replacement

NOTE

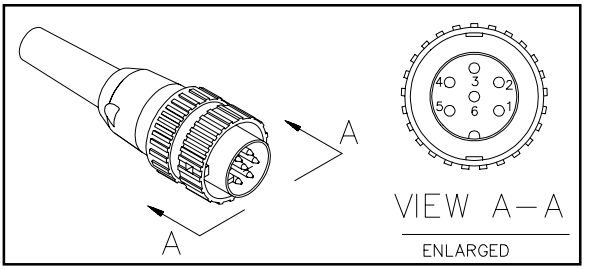
Confirm that the heater assembly of your handpiece is defective by referring to the Corrective Maintenance section of the manual.



Corrective Maintenance

Your SX-80 requires no special maintenance other than being kept clean. The heater bore and the heater assembly set screw which secures the tip must be kept free of oxidation and debris in order to maintain the proper tip-to-ground resistance.

Refer to the Handpiece Connector Plug pin out illustration and the table below for information on troubleshooting most handpiece problems. Disconnect the handpiece from the Power Source and perform the "Heater Assembly Checkout Procedures" with the handpiece (and heater) at room temperature. Use a meter to check resistance across the Handpiece Connector Plug pins as outlined in the "Checkout Procedure" column.

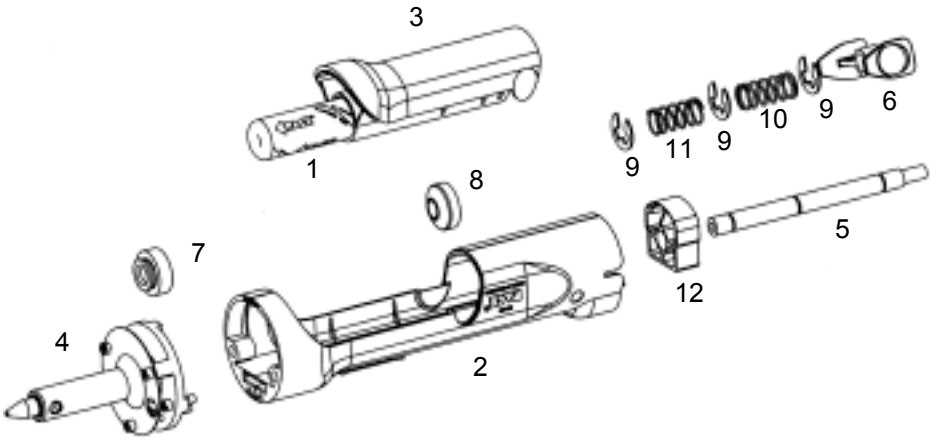


Handpiece Connector Plug

Symptom	Checkout Procedure	Cause	Solution
No heat	Check resistance - Pin 2 to Pin 5. Resistance should be 8.2 to 9.5 ohms. If not - -	Open Heater	Replace Heater
	Check resistance - Pin 3 to Pin 6. If circuit reads open - -	Open Sensor	Replace Heater
Handpiece overheating	Check resistance - Pin 3 to Pin 6. Resistance should be 110 ohms. If circuit reads less than 105 ohms - -	Shorted Sensor	Replace Heater
Fuse blows when unit is turned on	Check resistance - Pin 2 to Pin 5. Resistance should be 8.2 to 9.5 ohms. If not - -	Shorted Heater	Replace Heater Assembly
No Ground on Tip	Check resistance - Pin 4 to a NEW Tip. Resistance should be less than 2 ohms. If not - -	Oxidation buildup in Heater Bore	Clean Heater Bore using appropriate wire brush
		Defective Heater	Replace Heater

Heater Assembly Checkout Procedures

Replacement Parts



SX-80 Exploded Diagram

Ref #	Description	Part #
1	Flux/Sodr Trap	1309-0054-P100 1309-0054-P1000
2	Handle Assembly	6010-0115-P1
3	Door Assembly	1119-0141-P1
4	Heater Assembly	6010-0107-P1
5	Plunger Shaft	1261-0154-P1
6	Plunger Lock	1500-0063-P1
7	Front Seal	1213-0087-P1
8	Rear Seal	1213-0086-P1
9	“C” Clips	1348-0387-P1
10	Spring (Long Side)	1221-0136-P1
11	Spring (Short Side)	1221-0137-P1
12	Door Lock	1119-0142-P1

Heater Assembly Replacement Part Numbers