

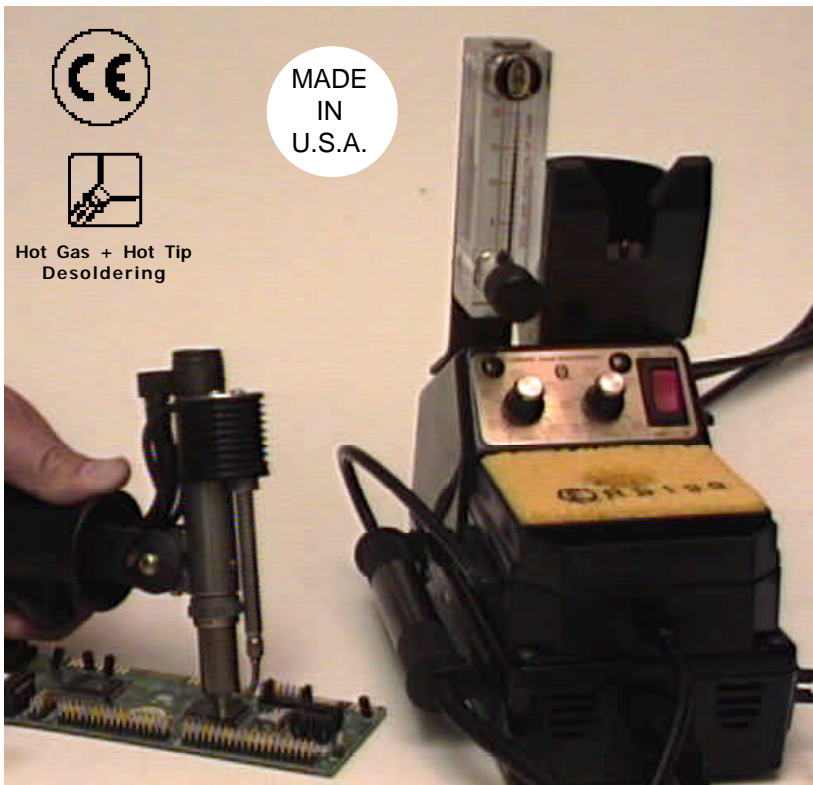
EDSYN^{INC}®

TSX70-230

SOLDAVAC®

SMT Reflow Vacuum Workstation

- COMPLIES WITH MIL-S-45743E, MIL-STD-2000, DOD-STD-2000-1B, WS6536E AND ESD SPEC, DOD-STD-1686, DOD-HDBK-263



instruction manual

TSX70-230

SOLDAVAC®

**SMT Reflow Vacuum
Workstation**

Table of Contents

- 3. Specifications
- 4. Features
- 5. Connection, Hook-up & Operation
- 6. Adjustments & Tip Replacement
- 7. Cleaning & Maintenance
- 9. Calibration
- 10. Spare Parts Hand Tool
- 12. Spare Parts Power Supply

EDSYN[®] INC[®]

TSX70-230

SOLDAVAC[®]

SMT Reflow Vacuum Workstation

SPECIFICATIONS

- 230V, 50/60 Hz, 39W - 330W
- Weight; **Power Supply:** 6.2 lbs. (2.8 kg)
Hand Tool: 13.5 ozs. (383 g)
- Temperature range of 400°F to 800°F (205°C-425°C).
- Flow is 22 SCFH (11 Li/min) @ 80 psi, 19 SCFH (9 Li/min) @ 65 psi.
- Voltage leakage from tip to ground, less than 2 MV.
- Tip to ground resistance, less than 2 ohms.
- COMPLIES WITH MIL-S-45743E, MIL-STD-2000, DOD-STD-2000-1B
WS-6536E and ESD SPEC, DOD-STD-1686, DOD-HDBK-263.

DISTINGUISHING FEATURES

Power Cord

For TSX70-230



For TSX70-230B
13A Fuse inside



For TSX70-230I
not CE Approved



For TSX70-230P

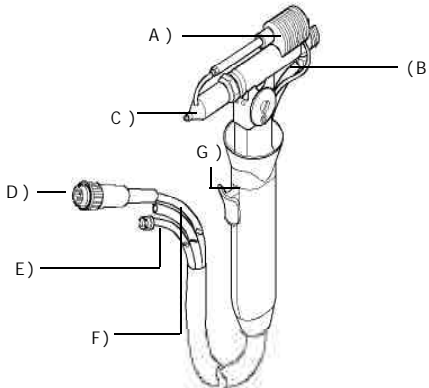
POWER CORD WIRING

BROWN to LINE
BLUE to NEUTRAL
GRN/YEL to GROUND



Hand Tool FEATURES

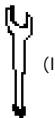
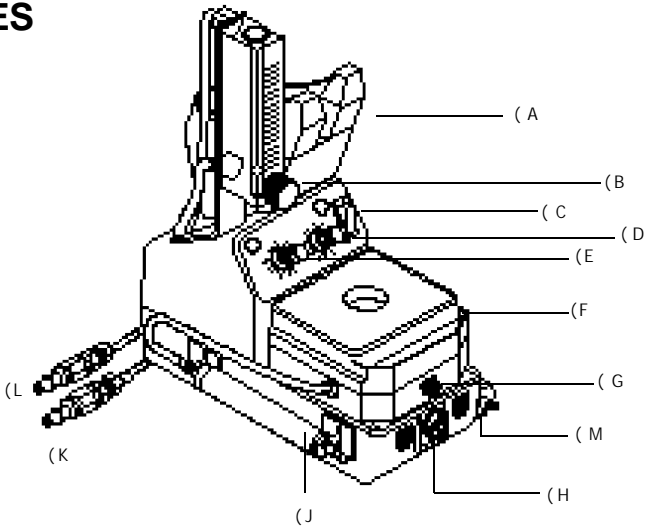
- A) Gas Heater.
- B) Desoldering Head Housing.
- C) Desoldering Tip.
- D) 24V Power Input, turn clockwise to engage.
- E) Gas Connector, turn clockwise to engage.
- F) Vacuum Line, connect to AFX73.
- G) Trigger, activates vacuum.
- H) Cleaning Tool.



DAMAGED CORD SHOULD ONLY BE REPLACE BY AN EDSYN-CERTIFIEDTECHNICIAN

- Tool should be place in Holder when not in use.
- Hot Gas flow will stop if Tool is placed in the Holder.

Power Supply FEATURES



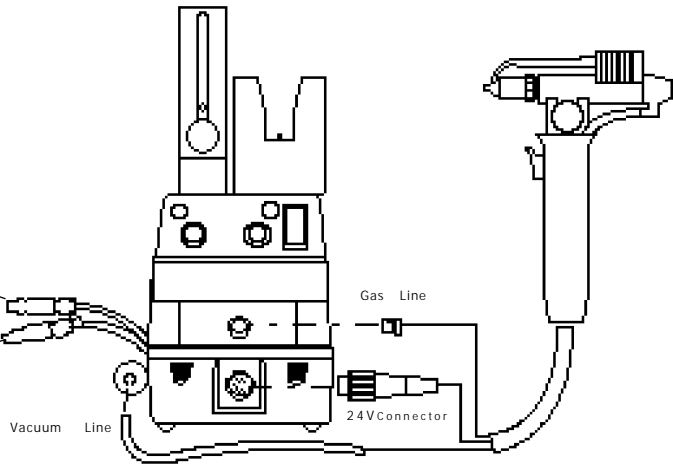
- A) Tool Pod, equipped with micro-switch to activate gas & vacuum.
- B) Gas Flow Control in standard cubic feet per hour delivered to Desoldering Tip.
- C) Power Switch, to activate WorkStation.
- D) Temp. Control Knob, Heater for Desoldering.
- E) Temp. Control Knob, Heater for Gas.
- F) **SH232** Sponge Holder, with cleaning sponge.
- G) Gas Output, controlled flow.
- H) Power output, 24V, controlled
- I) **WT623** Tip Wrench
- J) **AFX73** Filter, NOTE VACUUM FLOW DIRECTION.
- K) Gas Input, color coded sleeve.
- L) Shop air input.
- M) **CSX70** Cleaning Tool

CONNECTION & HOOK-UP

Hand Tool Connectors must be turned clockwise to engage.

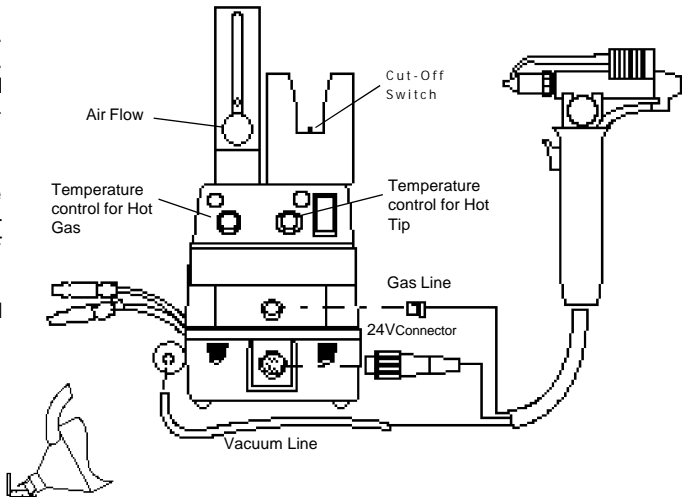
Ideal air pressure input:
60 to 90 psi
413.7 - 620.5 KPA
4.1 - 6.2 bar

Inert Gas Input
(color-coded sleeve):
13 psi max.
5 SCFH
2.4 Li/min.



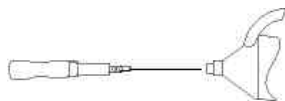
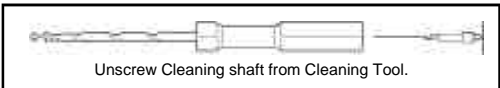
OPERATION

1. Turn on Power Switch. Heater indicator lights up. Hot Gas & Vacuum will activate if Tool is removed from the Holder.
2. Set both temperature controls to desired temperature. i.e. 600°F (315°C).
3. Adjust air flow to desired setting (3 to 5 SCFH).
4. Place Tip close to working area.
5. When solder reflows, press Trigger to desolder.



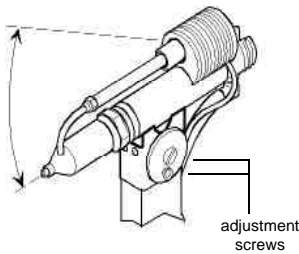
POINTERS:

- USE CLEANING SHAFT TO REMOVE ANY OBSTRUCTION IN THE TIP.
- ACTIVATE VACUUM IN PULSES RATHER THAN CONTINUOUS SUCTION.

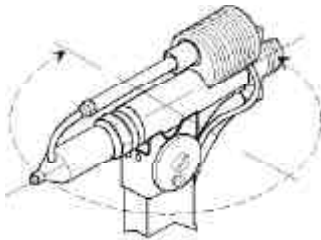


ADJUSTMENT

Should be done while the tool is cool.



To tilt the Head Assembly, loosen (2) Adjustment Screws. Tilt the Head Assembly to desired position and retighten screws.



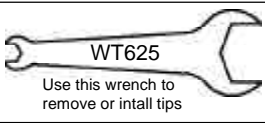
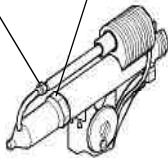
Twist until it locks into 1 of it's 4 positions. Twisting counter-clockwise will permit a 180° turn. Twisting clockwise will permit a 90° turn.

Note: Head Assembly does not make a full 360° turn

CHANGING TIP

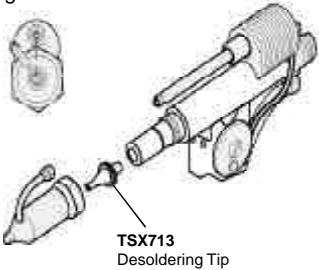
REMOVING:

Loosen this first
Loosen this last



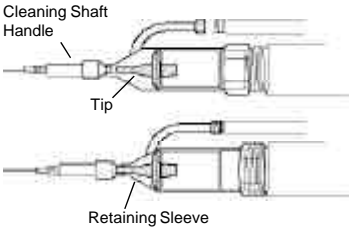
INSTALLING:

1. Tighten by hand to position shown.
2. Tighten with WT625 to align with hot air heater.
3. Tighten hot air nut.



Before tightening the Retaining Sleeve

Check tip alignment by inserting the end of the Cleaning Shaft handle inside the tip, then tighten Retaining Sleeve

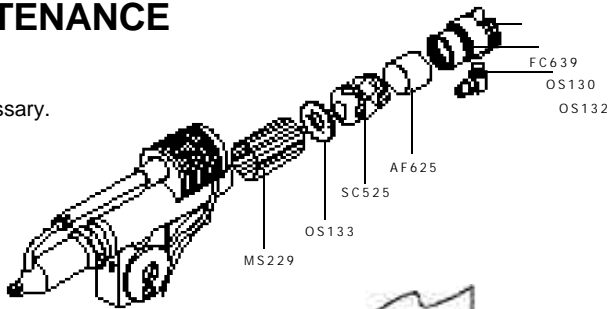


IT IS RECOMMENDED FOR THE OPERATOR TO REMOVE AND INSPECT THE TIP DAILY. REPLACE TIP THERE IS ANY SIGN OF CORROSION. DOING THIS WILL ALSO PREVENT THE TIP FROM SEIZING ON TO THE HEATER.

CLEANING & MAINTENANCE

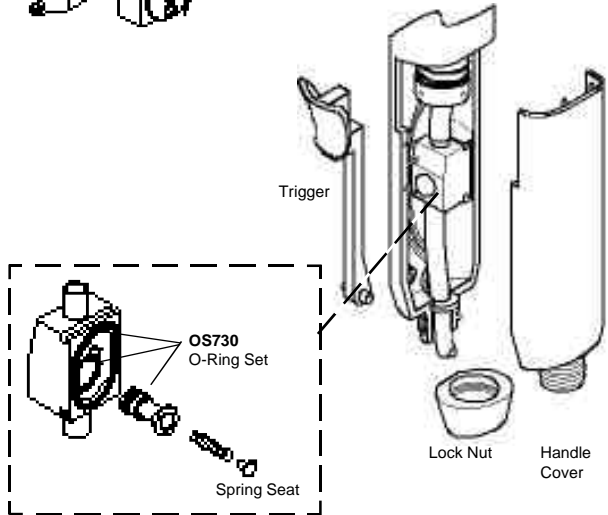
1. Replace AF625 Filter.
2. Clean SC525.
3. Clean or replace OS133 if necessary.
4. Replace MS229.
5. Replace worn-out Tip.

INSPECT OVER-ALL TIP
CONDITION REGULARLY.



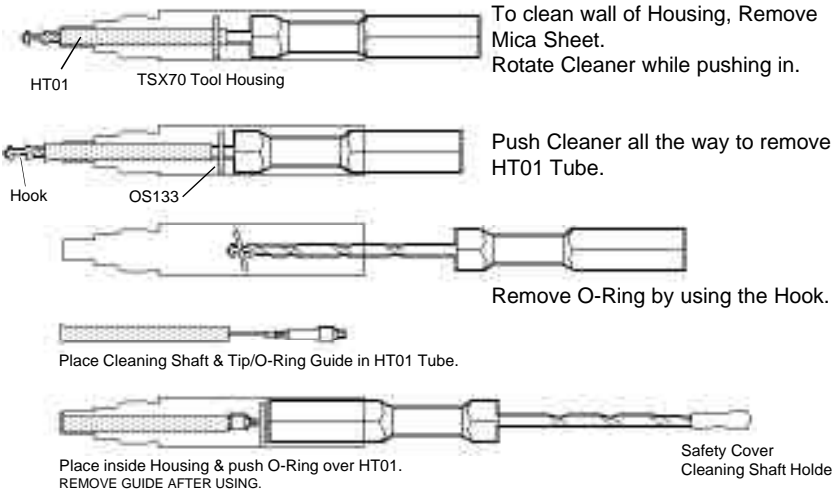
O-Rings Replacement inside Valve Assembly

- a) Unscrew Lock Nut at the end of the Tool Handle.
- b) Remove Handle Cover.
- c) Slide out Valve Assembly while placing your finger over the Spring Seat. BE CAREFUL NOT TO LET THE SPRING AND THE SPRING SEAT SHOOT OUT FROM THE HOUSING
- d) Clean all parts with **alcohol only**.
- e) Replace **OS730** O-Ring Set (set of 3).
- f) Lube new O-Rings with **OL111** O-Ring Lube.



Make sure wires and hoses are not pinched or kinked.

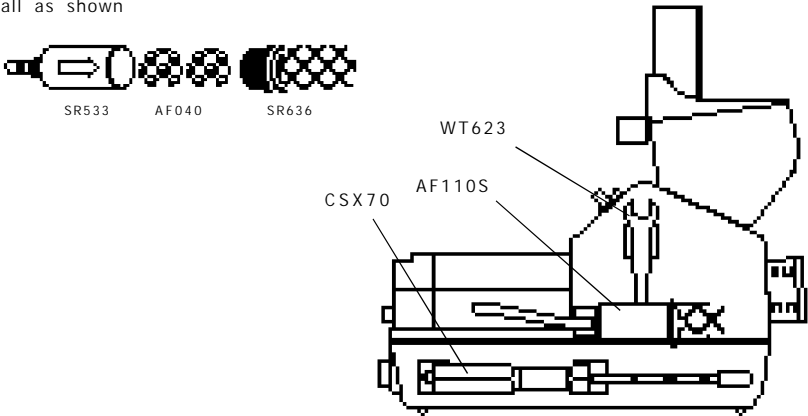
HT01 & OS133 Replacement Cleaning the Desoldering Head Housing



CLEANING & MAINTENANCE

AF110S Silencer

Install as shown

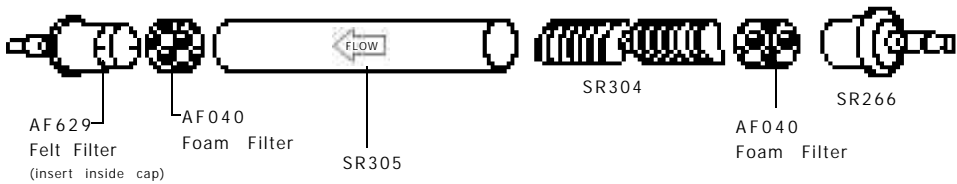


AFX73 Maintenance

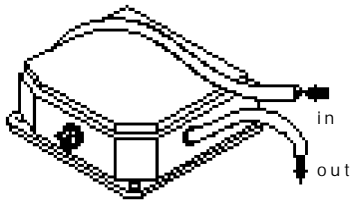
Replace dirty Filter Element.
Clean SR304 and SR305 with
alcohol.



Tip Wrench can be
use to remove SR266
filter cap.



If flux gets in the venturi, disconnect the
AFX73 and AF110S.
Flush the venturi with alcohol.
You may need to pump the alcohol
through the venturi



CALIBRATION

NOTE: The TI680 has only one input jack. Calibrate each heater separately.

Remove these.
Then install
thermocouple
probes.



For heater A:

- Using option 1, turn on power and set **left** Temperature Control Knob to 400°F (205°C). Allow heater **A** to warm up.
- Adjust **LO**-Temp. Calibration Pot on the left side of the station so the TI680 Meter will read 500°F (260°C).
If you are using option 2, adjust pot so meter will read 640°F (338°C)
- Set Temperature Control Knob to 800°F (427°C).
- Adjust **HI**-Temp. Calibration Pot so the Meter will read 900°F (482°C).
If you are using option 2, adjust pot so meter will read 1120°F (604°C)



For heater B:

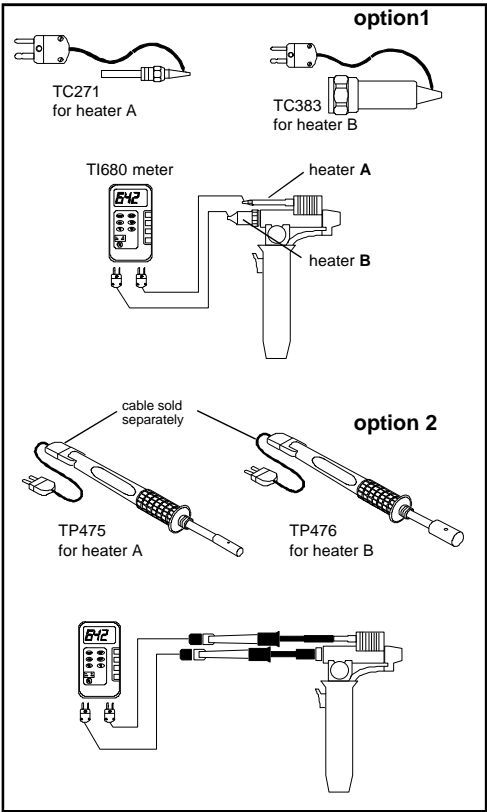
- Using option 1, set **right** Temperature Control Knob to 400°F (205°C). Allow heater **B** to warm up.
- Adjust **LO**-Temp. Calibration Pot on the right side of the station so the TI680 Meter will read 500°F (260°C).
If you are using option 2, adjust pot so meter will read 490°F (254°C)
- Set Temperature Control Knob to 800°F (427°C).
- Adjust **HI**-Temp. Calibration Pot so the Meter will read 900°F (482°C).
If you are using option 2, adjust pot so meter will read 980°F (527°C)



IMPORTANT:

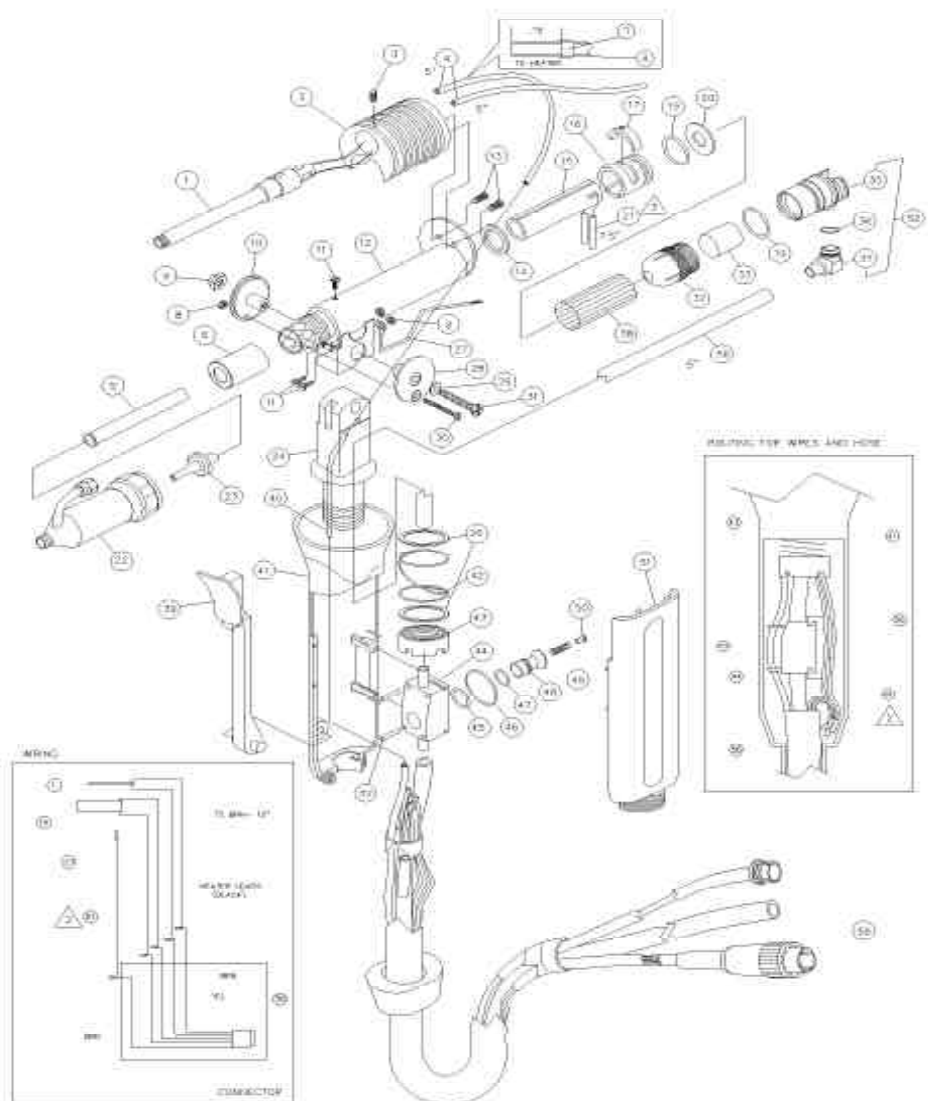
User must understand the principle of wire probe (option 2). See Form.800. Procedure may yield different temperatures than noted above.

THERMOCOUPLE PROBES



SOLDERING TIPS

	Hole Dia.	Length
TSX715 Focus Nozzle	.09 (2.3 mm)	.55 (14.0 mm)
TSX713 Small	.05 (1.3 mm)	.43 (10.9 mm)
TSX716 Round Needle	.02 (.5 mm)	.80 (20.3 mm)
TSX717 Small Oval Needle	.01 (.3 mm)	.63 (16.0 mm)
TSX718 Medium Oval Needle	.02 (.5 mm)	.80 (20.3 mm)

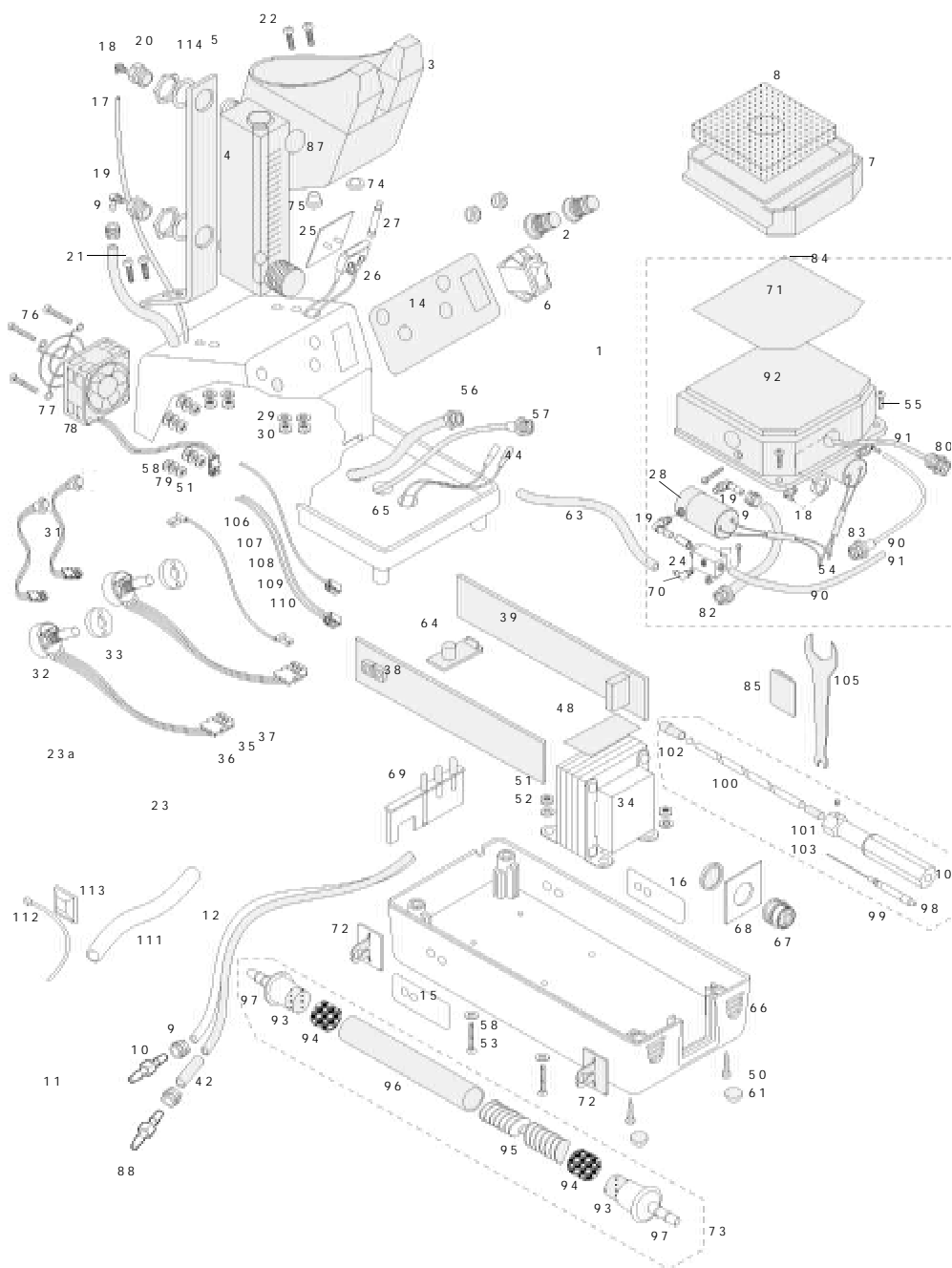


TSX70-1 *SOLDAVAC*® SOLDER HANDLING TOOL SPARE PARTS LIST

ITEM NO.	PART NO.	DESCRIPTION	QTY REQD
1	SR341	Heater Assy. 24V, Hollow Threaded	1
2	SR342	Housing, Hot Gas Heater	1
3	SR343	Set Screw	1
4	HS305	Low Static Silicone Hose, 3/32 i.d.	2
5	HT01	Hot Tube	1
6	AC737	Accumulator Bushing	1
8	SR007	Nut, Hex, 2-56	3
9	SR170	Nut, Hex, Cap, 8-32	1

ITEM NO.	PART NO.	DESCRIPTION	QTY REQ'D
10	SR006	Index Flange (nut side)	1
11	SR122	Screw, Pan Hd, Slotted, 2-56 x 1/8	3
12	SR440	Housing, Desold Head Assy.	1
13	SR345	Screw, Pan Hd, Phillips, 4-40 x 3/8	2
14	SR119	Teflon Spacer	1
15	SR120	Heater Element, 24V, 70W	1
16	SR117	Teflon Bushing	1
17	SR118	Heater Restrainer	1
19	OS731	O-Ring for Heater Bushing and End Cap	2
20	OS133	Silicone Washer	1
21	SR145	Teflon Braided Fiberglass	2
22	RSX72	Retaining Sleeve for Heater Assy.	1
23	TSX713	Desoldering Tip	1
24	SR629	Head Shaft	1
26	SR126	Washer, Nylon	2
27	SR121	Grounding Wire	1
28	SR005	Index Flange (screw side)	1
29	SR169	Washer, Flat, .32 O.D. x .17 I.D	1
30	SR008	Screw, Flat Head, Slotted, 2-56 x 1	2
31	SR168	Screw, Pan Head, Phillips, 8-32 x 1	1
32	SC525	Solder Cone	1
33	AF625	Felt Filter (set of 10)	1
35	SR148	Housing for End Cap	1
36	OS132	O-Ring for Elbow Connector of End Cap	1
37	SR147	Elbow Connector of End Cap	1
38	MS229	Mica Sheet	3
39	SR128	Trigger	1
40	SR348	Gas Tube	1
41	SR349	Handle Base	1
42	SR125	Spring for Head Shaft	1
43	SR127	Retaining Nut for Head Shaft	1
44	SR129	Valve Housing	1
46	OS730	O-Ring Set for Valve Assy. (3 O-Rings)	1 set
48	SR130	Poppet (O-Ring included)	1
49	SR131	Spring	1
50	SR132	Seat for Spring	1
51	SR350	Handle Cover	1
52	FC639	End Cap Assy.	1
55	SR352	Fitting, Quick Disconnect, Female	1
56	HL603	Hose, Low Static Silicone, 3/16 i.d.	5"
57	SR353	Plug, Male Cable Connector	1
60	SR393	Retaining Nut for Handle	1
62	SR143	Wire Guide, 3/8 Length, Nylon	2
68	SR335	Valve Assy.	1
69	SR356	Hose and Wiring Assy.	1

TSX70-2 **SOLDAVAC®** SOLDER HANDLING TOOL SPARE PARTS LIST

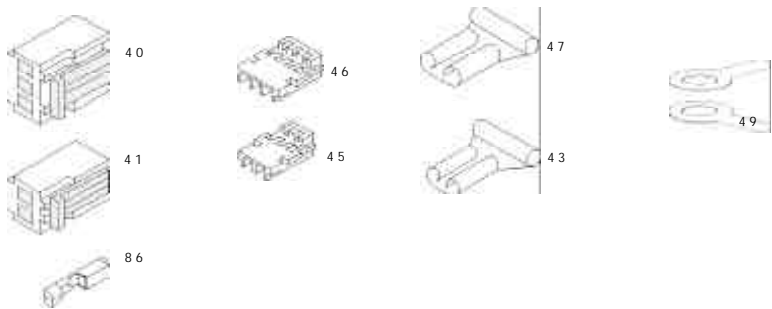


ITEM NO.	PART NO.	DESCRIPTION	QTY REQD
1	SR408	Solenoid & Vacuum Ejector Assy.	1
2	SR068	Knob, Temperature Control, Front Panel	2
3	SR376	Tool Pod, Holder for Hot Gas Tool	1
4	SR375	Flow Meter	1
5	SR443	Mounting Bracket for Flow Meter	1
6	SR065	Power Switch	1
7	SH232	Sponge Holder	1
8	RS199	Cleaning Sponge	1
9	LC363	Locking Sleeve for 1/4" Hose (set of 5)	4
10	HB357	Hose Barb Fitting, 1/8 i.d. 1/8-27 NPT	2
11	SR377	Fitting, Quick-Disconnect Air Input, Male, Long Nose	1
12	SR378	Hose, 1/8 i.d. Twin Tubing Polyurethane, Black (sold per foot)	6 ft.
13	SR379	Reducer, Fitting, 1/4 to 1/8	1
14	SR380	Label, Front Control Panel	1
15	SR310	Label, Temperature, External Calibration, Right Side	1
16	SR311	Label, Temperature, External Calibration, Left Side	1
17	SR351	Hose, 1/16 i.d. Polyurethane, Black (sold per foot)	15"
18	SR381	Elbow Connector, 1/16 i.d. 10-32 UNF (set of 3)	3
19	SR382	Elbow Connector, 1/8 i.d. 10-32 UNF (set of 3)	4
20	SR383	Reducer, Fitting, 1/4-18 npt to 10-32 UNF (set of 3)	2
21	SR384	Screw, Button Head, Socket, 8-32 x 1/2	2
22	SR385	Screw, Button Head, Socket, 8-32 x 5/8	2
23	SR386	Power Cord Assy. w/ Fuse and Connectors	1
23a	SR026	Power Cord Only	1
24	SR418	Vacuum Generator, Micro-Ejector, Single/Double Step	1
25	SR115	Retainer Plate for Micro Switch	1
26	SR113	Micro Switch, Tool Holder	1
27	SR114	Push Rod For Micro Switch	1
28	SR419	Solenoid Valve, 24V, Normally Close, 4-Way	1
29	SR431	Washer, Flat, .#10	4
30	SR388	Nut, Hex, 8-32	4
31	SR246	LED Assy. Green, Lens Included	2
32	SR243	Potentiometer Assy. 5K	2
33	SR255	Spacer, 1" Dia. For Potentiometer	2
34	SR387	Transformer, 24V, 4-Pt. Mounting	1
35	SR106	Fuse, Pigtail, 250V, 3A	1
36	SR370	Connector, Parallel, Solderless, Non-Insulated	2
37	SR371	Shrink Sleeve, Clear, 1/4 Dia. (sold per foot)	2"
38	15242W45	PCB Assy. 24V, 45W, 2-Wire	1
39	15242W70H10	PCB Assy. 24V, 70W, 2-wire	1
40	SR432	Housing, VH Connector, 3 Circuit (set of 3)	2
41	SR389	Housing, VH Connector, 2 Circuit (set of 3)	1
42	SR390	Shrink Sleeve, Blue, 3/64 Dia. (sold per foot)	1"
43	SR433	Connector, Flag, Non-Insulated, 22-18 AWG. .187 Tab(set of 5)	7
44	SR437	Connector, Female, Fully Insulated, Red, 22-18 AWG. .187 Tab (set of 5)	2
45	SR436	Receptacle, HR Connector, 2 Circuit (set of 3)	1

ITEM NO.	PART NO.	DESCRIPTION	QTY REQ'D
46	SR438	Receptacle, HR Connector, 3 Circuit (set of 3)	1
47	SR435	Connector, Flag, Non-Insulated, .250 Tab (set of 5)	3
48	SR434	Insulator, Aramid Paper (1-3/16 x 2-1/2)	1
49	SR400	Ring Tongue Connector, #6, Non-Insulated (5 per set)	2
50	SR011	Screw, Round Head, Phillips, 6-18, Self-Tapping	4
51	SR017	Nut, Hex, 6-32	9
52	SR139	Washer, Star, Lock, #6	8
53	SR144	Screw, Round Head, Slotted, 6-32 x 1/2	4
54	SR420	Connector, Male, Red, Fully Insulated, 22-18 AWG, .187 Tab (set of 5)	2
55	SR401	Screw, Button Head, Socket, 6-32 x 1/2	2
56	SR402	Coupling, Female Quick-Disconnect Fitting, For 1/8 Hose	1
57	SR352	Coupling, Male Quick-Disconnect Fitting, For 1/16 Hose	1
58	SR016	Washer, Flat, #6	4
59	SR421	Nut, Hex. 4-40	2
60	SR422	Washer, Flat, #4	2
61	SR251	Rubber Foot (set of 4)	4
62	SR423	Screw, Flat Head, Phillips, 4-40 x 1	2
63	HS307	Hose, Low Static Silicone, 1/8 i.d. (sold per foot)	9"
64	SR403	PCB Assy. Power Supply Board For Cooling Fan	1
65	SR404	Top Cover, w/ Threaded Insert, For Power Supply	1
66	SR405	Bottom Base, For Power Supply	1
67	SR406	Connector, DIN, Female, Socket, 5-Pin Circular	1
68	SR430	Plate, Molded Frame For Connector	1
69	SR241	Strain Relief for Power Cord	1
70	SR424	Elbow Connector, 3/16 i.d. 1/8 NPT, For 1/8" Hose	1
71	SR409	Label, Cleaning Instruction For TSX70	1
72	SR439	Clip, Holder for Tools and Accessories, Self-Adhesive	4
73	AFX73	Air Filter Assy. Flux Condenser	1
74	SR410	Spacer, Flat, For Tool Pod, Back Side	1
75	SR411	Spacer, Flat with Stem, For Tool Pod, Front Side	1
76	SR412	Screw, Round Head, Slotted, 6-32 x 1.25	4
77	SR413	Fan Guard, Grill For Cooling Fan	1
78	SR414	Fan Assy. 12V w/ Connector	1
79	SR366	Washer, Split, Lock, #6	2
80	SR425	Coupling, Male, Quick-Disconnect for 1/16 Hose (Panel Mount)	1
81	SR426	Plug, Hex. 250 Dia.	2
82	SR427	Coupling, Female, Quick-Disconnect, 1/16 Hose	1
83	SR428	Coupling, Male, Quick-Disconnect, 1/8 Hose	1
84	SR008	Screw, Flat Head, Slotted, 2-56 x 1	2
85	SR416	Holder, Wrench Hanger, Self-Adhesive	1
86	SR415	Terminal, Crimp for VH Connector (10 per bag)	10
87	SR229	Medallion, EDSYN Logo, Self-Adhesive	1
88	HB359	Fitting, Quick-Disconnect Air Input, Male	1
89	SR007	Nut, Hex. 2-56	2

ITEM NO.	PART NO.	DESCRIPTION	QTY REQ'D
90	SR283	Hose, 1/8 i.d. Polyurethane, Black (sold per foot)	2.5"
			3.5"
91	SR429	Hose, 1/16 i.d. Polyurethane, Clear (sold per foot)	1.5"
			3.5"
92	SR417	Cover for Solenoid & Vacuum Ejector Assy.	2
93	AF629	Felt Filter (set of 10)	2
94	AF040	Foam Filter (set of 10)	2
95	SR304	Flux Condenser, Cooling Fin	1
96	SR305	Barrel, Filter Housing	1
97	SR266	End Cap for Filter	2
98	CSX71	Cleaning Shaft for Soldering Tip	1
99	CSX70	Cleaning Tool for Solder Debri Removal (CSX71 included)	1
100	SR307	Drill, Cleaner and Hook	1
101	SR308	Set Screw, 10-32 x 3/16, Socket	1
102	SR309	Cover for Drill and Hook	1
103	SR444	Bushing, 1/4 O.D. x 3/4 Length, Stainless Steel Tubing	1
104	SR306	Handle for Cleaning Tool	1
105	WT623	Wrench for Soldering Tip	1
106	SR442	Wire, White, 24 AWG (sold per foot)	4"
107	SR445	Wire, Black, 22 AWG (sold per foot)	12" 3@
			10.5" 2@
			4.5" 2@
			2" 3@
108	SR446	Wire, White, 22 AWG (sold per foot)	12" 2@
			4.5" 2@
			11.5"
			15"
109	SR447	Wire, Red, 22 AWG (sold per foot)	12"
110	SR448	Wire, Green, 18 AWG (sold per foot)	5"
111	HS320	Hose, Low Static, Silicone, 1/4 Dia. (sold per foot)	3"
112	SR050	Cable Tie (set of 5)	7
113	SR051	Mount for Cable Tie (set of 2)	1
114	SR126	Washer, 5/8 i.d. Nylon	2

Connectors



TSX70-230 instruction manual



ALL RIGHTS RESERVED.

NO PART OF THIS PUBLICATION INCLUDING THE INDIVIDUAL ICONS
MAY BE REPRODUCED OR UTILIZED IN ANY FORM OR BY ANY MEANS
WITHOUT THE PERMISSION OF EDSYN, INC.

THE NAMES LONER, SOLDAPULLT, SOLDAVAC, ATMOSCOPE
AUTO-VAC, IDLE-REST, PIXTER, FUMINATOR, OCTAVAC AND KLATCH
ARE REGISTERED TRADEMARKS OF EDSYN, INC.



Intellectual
Property

MOST PRODUCTS ARE COVERED BY U.S. AND
FOREIGN PATENTS AND PENDING APPLICATIONS.

DESIGN, COLOR AND MATERIALS
SUBJECT TO CHANGE WITHOUT NOTICE.

TIP STYLE ON SOLDERING, DESOLDERING AND HOT AIR TOOLS MAY VARY.

PRINTED IN U.S.A.



15958 Arminta Street • Van Nuys • CA 91406-1896
Web Site www.edsyn.com • eMail info@edsyn.com