

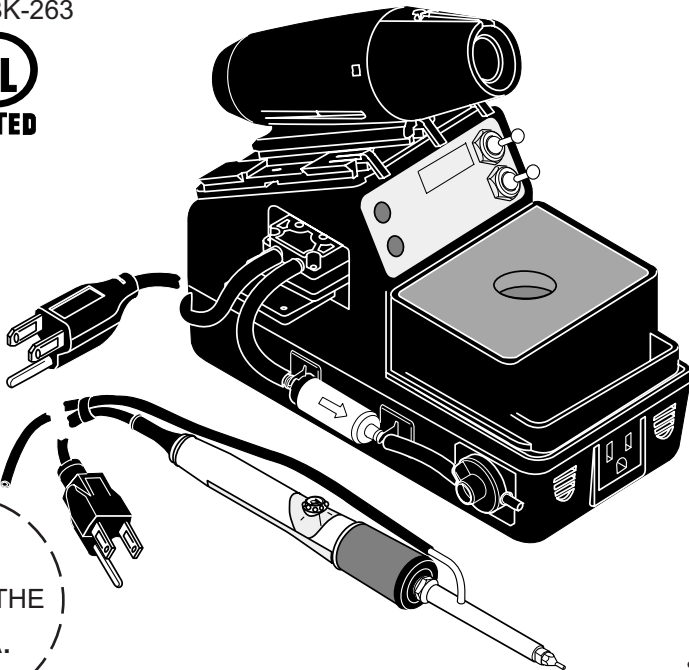
# EDSYN<sup>INC</sup>®

# 1036

## ATMOSCOPE<sup>®</sup>

### self-contained SMD HOT AIR WORK STATION

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



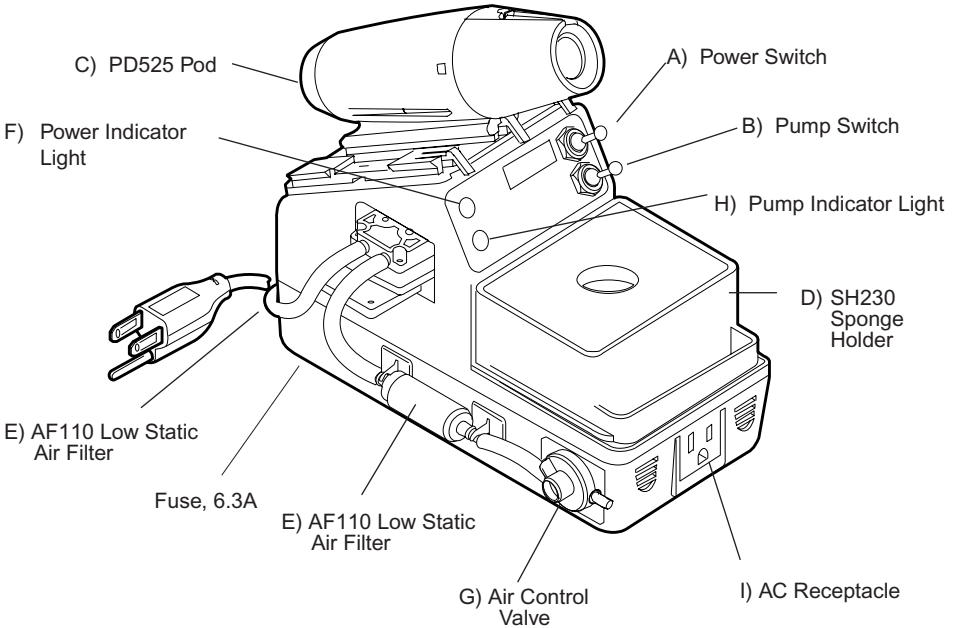
MADE IN THE  
U.S.A.

instruction manual

SMD Hot Air

## FEATURES

PS542 ATMO-  
SCOPE<sup>®</sup>  
Power Supply



- A) Activates System Power.
- B) Turns on and shuts off Pump.
- C) Tool Holder minimized heat dissipation when Tool is not in use.
- D) Includes (1) LN230 Liner, (1) RS199 Cleaning Sponge and RS243 Leveling Pad.
- E) Filters air coming in to the Pump. Acts as silencer
- F) Lights when power is on.
- G) Regulates air flow to Tool. (connect to FA069)
- H) Lights when Pump is running.
- I) Can accommodate 2 more 120V soldering Tools.

## SPECIFICATIONS:

- 120 V, 60 Hz, 150 W
- Weight: 4.6 lbs. (2.09 kgs.)
- Temperature range: 400°F - 800°F (205°C - 425°C)
- Temperature regulation:  $\pm 6^{\circ}\text{F}$  ( $\pm 3^{\circ}\text{C}$ )
- Voltage leakage from tip to ground less than 2 MV
- Tip to ground resistance less than 2 ohm
- Maximum pressure: 18 psi.
- UL listed

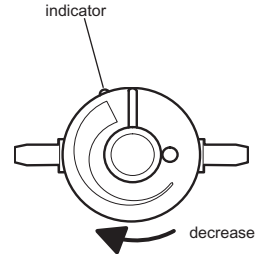
## OPERATING THE STATION

The 3 very important factors involved when working with the Hot Air Station are amount of air output, temperature setting and type of Tip used. The key to an effective soldering is to reflow the solder without blowing the solder across the board and thus creating bridges.

**CAUTION: DO NOT POINT TOOL AT ANYONE OR ANYWHERE.  
HOT AIR WILL BURN !!!**

1. Make sure the station is plugged into a 120V power outlet.
2. Turn on Power Switch .
3. Set Temperature Control Knob to around 600°F.
4. Allow Tool to heat up.(Blinking Neon Lamp means ready.)
5. Turn on Pump.

Set the Air Control Valve to a full counter clockwise position.  
This will be our reference setting which is 100%. Turning it the other way will mean less air output.



## OPTIONS:

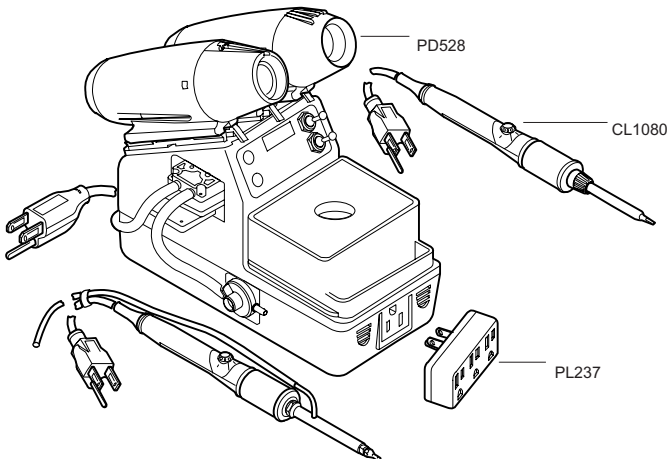
1036-3

ATMOSCOPE

SMD Workstation

A 1036 with: (1) CL1080\*  
(1) PD528  
(1) PL237

\* Temperature Controlled Soldering Instrument,  
70W. 400°F - 800°F Temp. Range.

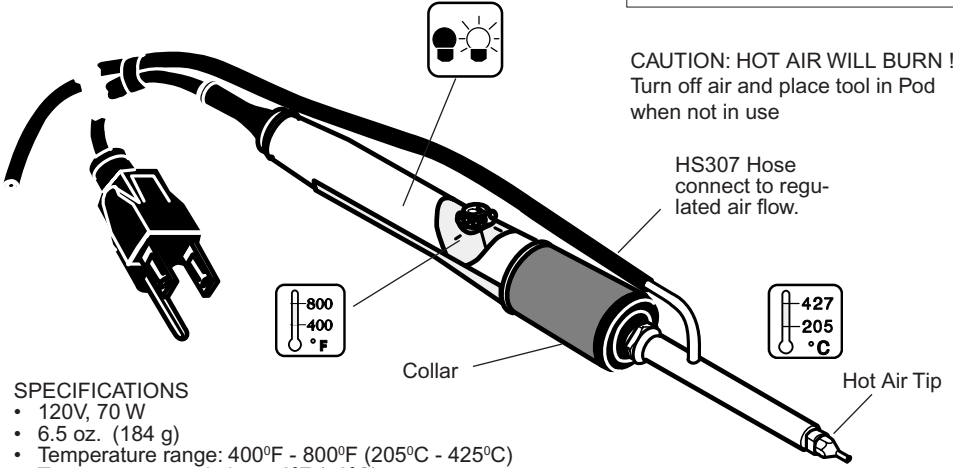


# FA069 ATMOSCOPE<sup>®</sup>

## SMD Hot Air Tool

### OPERATING REQUIREMENTS:

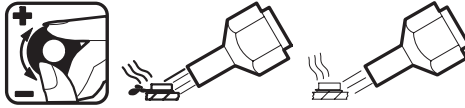
- 120V, 60 Hz
- Regulated air flow



### SPECIFICATIONS

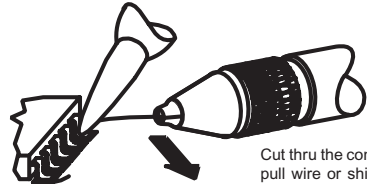
- 120V, 70 W
- 6.5 oz. (184 g)
- Temperature range: 400°F - 800°F (205°C - 425°C)
- Temperature regulation:  $\pm 6^\circ\text{F}$  ( $\pm 3^\circ\text{C}$ )
- Voltage leakage from tip to ground less than 2 MV
- Tip to ground resistance less than 2 ohm
- Complies with MIL-S-45743E, DOD-STD-2000-1B, MIL-STD-2000 WS6536E and ESD SPEC, DOD-STD-1686, DOD-HDBK-263.
- UL listed

### OPERATION



The 3 very important factors involved when working with the ATMOSCOPE SMD Hot Air Tool are amount of air output, temperature setting and type of Tip used. The key to an effective soldering is to reflow the solder without blowing the solder across the board and thus creating bridges.

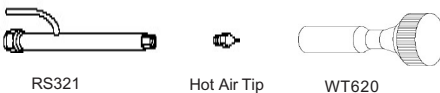
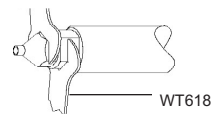
1. Have the proper Tip installed.
2. Connect Hose to regulated air source.
3. Plugged-in Tool to a power source and set desired temperature.
4. Turn on the air and adjust pressure .
5. Direct hot air towards the connection until solder melts. Using "SMD helpers" will make your job easier.



Cut thru the connection with a pull wire or shim blade while hot air melts the solder.

### CHANGING TIPS Efficiency is greatly dependent on choosing the proper tip to meet each application.

1. Turn Tip counter-clockwise by using a WT618 Tip Wrench. (set of 2, the other is to hold the RS321 Retaining Sleeve) or use a WT620.
2. Remove and replace with desired Tip.



RS321

Hot Air Tip

WT620

WT618

## REWORKING SMDs

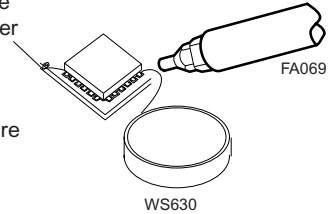
The following techniques are based on the manufacturer's point of view and should only serve as guidelines. It's effectiveness will depend on practice.

INSTRUCTIONAL VIDEOS AVAILABLE ON 30 DAY LOAN. CALL EDSYN.

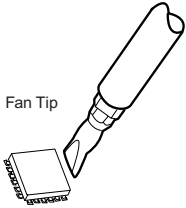
### METHOD 1

(RECOMMENDED FOR GULLWINGS, LEADLESS CHIP CARRIERS and QUAD I.C.s.)

1. Install the proper Tip.
2. Adjust air output to 3-4 psi.
3. Set temperature to 700°F.
4. Using a WS630 SMD Pull Wire, thread the pullwire under the leads of one side of the SMD and again thread the wire under the leads of the opposite side.
5. Anchor one end of the Pull Wire to an unused hole of the circuit board or maybe tape it securely to the board.
6. While directing hot air to the leads of the first side, pull the wire so that it will cut thru the solder connection.
7. After removing the two opposing side follow the same procedure to desolder the remaining sides.



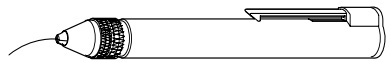
8. To resolder, use a tweezer to hold SMD in place and align the leads with the pads.
9. Use a Fan Tip whose width is as close to the size of the SMD leads as possible.
10. Direct hot air on the leads and allow solder to reflow. Release SMD when solder solidifies.



### METHOD 2

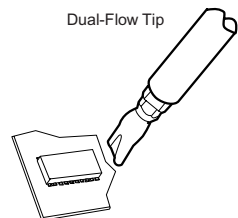
(RECOMMENDED FOR LEADLESS CHIP CARRIERS)

1. Have the proper Tip installed.
2. Adjust air output to about 3-4 psi.
3. Set temperature to 700°F.
4. Heat up one corner of the SMD.
5. When the solder melts, insert the shimblade of SMD helper as under the heated area of the chip as if cutting thru the solder connection.
6. While directing hot air ahead of the shim at all times, cut thru the sides of the SMD and lift it up from the board.
7. To resolder, use a Quadra-Flow Tip.



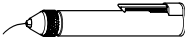

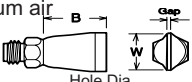
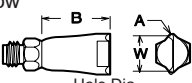
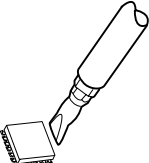
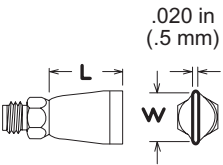
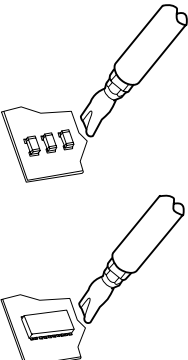
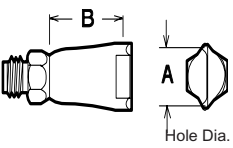
### METHOD 3

1. Use a Dual Flow Tip whose width comes close to the width of the SMD component leads.
2. Adjust temperature to about 750°F.
3. Adjust air output at around 3-5 psi.
4. Position Tool on top of the SMD (air is directed on both sides of the connection) and move back and forth, until solder melts.
5. Lift SMD off the board by using a pair of tweezers.
6. To resolder, use a tweezer to hold SMD in place and align leads with the pad.
7. Direct hot air to the leads and reflow the solder. Release SMD when solder solidifies.



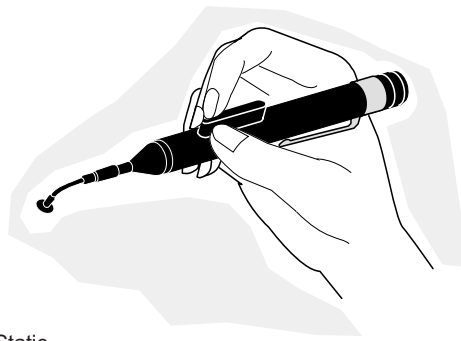
See Catalog for SMD Helpers, Pull Wires and other tools used in aiding SMD removal and placing.

## SMD Hot Air Tips

Application	Description	Part No.	Hole Dia.	L	W
	Jet Tip for pin point air flow. 	LT427	.02 in. 1/64 in. (0.6 mm)	.38 in. 3/8 in. (9.5 mm)	—
	Short Jet Tip for medium air. 	LT432	.04 in. 3/64 in. (0.9 mm)	.06 in. 1/16 in. (1.5 mm)	—
	Turbo Flow for large air flow. 	LT428	.06 in. 1/16 in. (1.5 mm)	.25 in. 1/4 in. (6.4 mm)	—
	Fan Tips use a wide air flow enough to cover one whole side of the SMD. 	LT426	—	.30 in. 5/16 in. (7.6mm)	.17 in. 3/16 in. (4.3 mm)
		LT434	—	.46 in. 15/32 in. (11.7 mm)	.23 in. 15/64 in. (5.7 mm)
		LT435	—	.59 in. 19/32 in. (14.9 mm)	.35 in. 3/8 in. (8.9 mm)
		LT436	—	.65 in. 21/32 in. (16.5 mm)	.43 in. 7/16 in. (10.8 mm)
	Dual Flow Tips blow hot air on both sides of the SMD, not on the SMD. 	LT526	.03 in. 1/32 in. (0.8 mm)	.30 in. 5/16 in. (7.6 mm)	.12 in. 1/8 in. (3.2 mm)
		LT534	.05 in. 3/64 in. (1.2 mm)	.46 in. 15/32 in. (11.7 mm)	.20 in. 13/64 in. (5.1 mm)
		LT535		.59 in. 19/32 in. (14.9 mm)	.28 in. 17/64 in. (7.0 mm)
		LT536		.65 in. 21/32 in. (16.5 mm)	.35 in. 23/64 in. (8.9 mm)

Apply AN112 or AN122  
 ANTI-SEIZE COMPOUND  
 To Heater and Area of Tip Contact.  
 AN122 comes in syringe dispenser.

## ACCESSORIES:



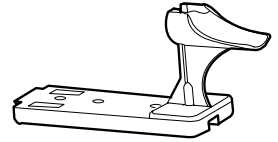
### LP250

#### Lifting Pencil

Vacuum Pick-Up Tool. Low Static.

Comes with two types of suction cups.

Needs vacuum source.



### PD532

#### Lifting Pencil Pod

Holder for the LP250. Attach to any Edsyn Station.

## POWER SUPPLY TROUBLESHOOTING

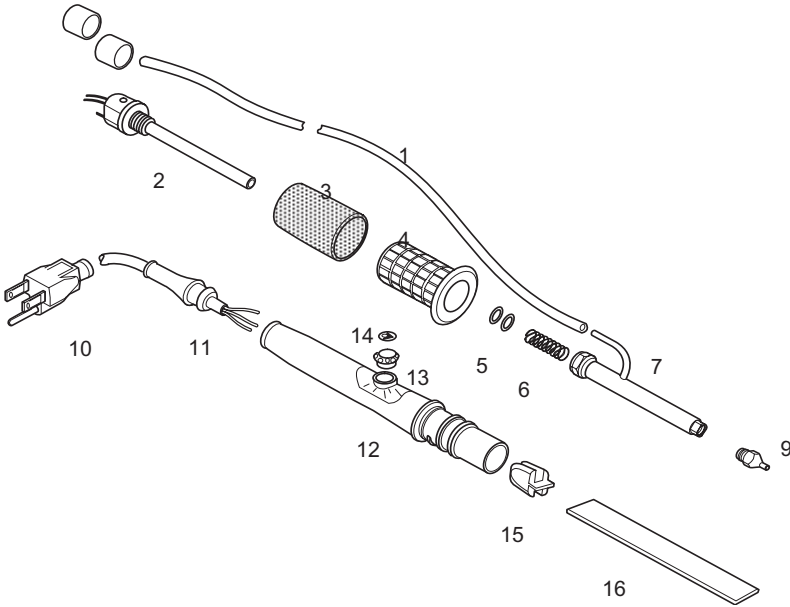
Check that all connections, switches and power source are properly installed and working.

Symptom	Cause	Remedy
No power Pump won't run.	Blown fuse Damaged motor	Replace fuse at bottom. Replace motor
Pump running but weak or no air output.	a) Leak along the air lines and O-rings inside Heater assembly. b) Dirty filter elements. c) No air connection.  d) Clogged RS321 or clogged tip. e) Dirty CC355 Chamber Coil. f) Damaged diaphragm	a) Make sure all connections are properly installed. Replace cracked hoses and O-rings. b) Replace with clean filters. c) FA069 should be connected to Air Control Valve. d) Clean Air passages along RS321 and Tip. e) Clean CC355. f) send to factory

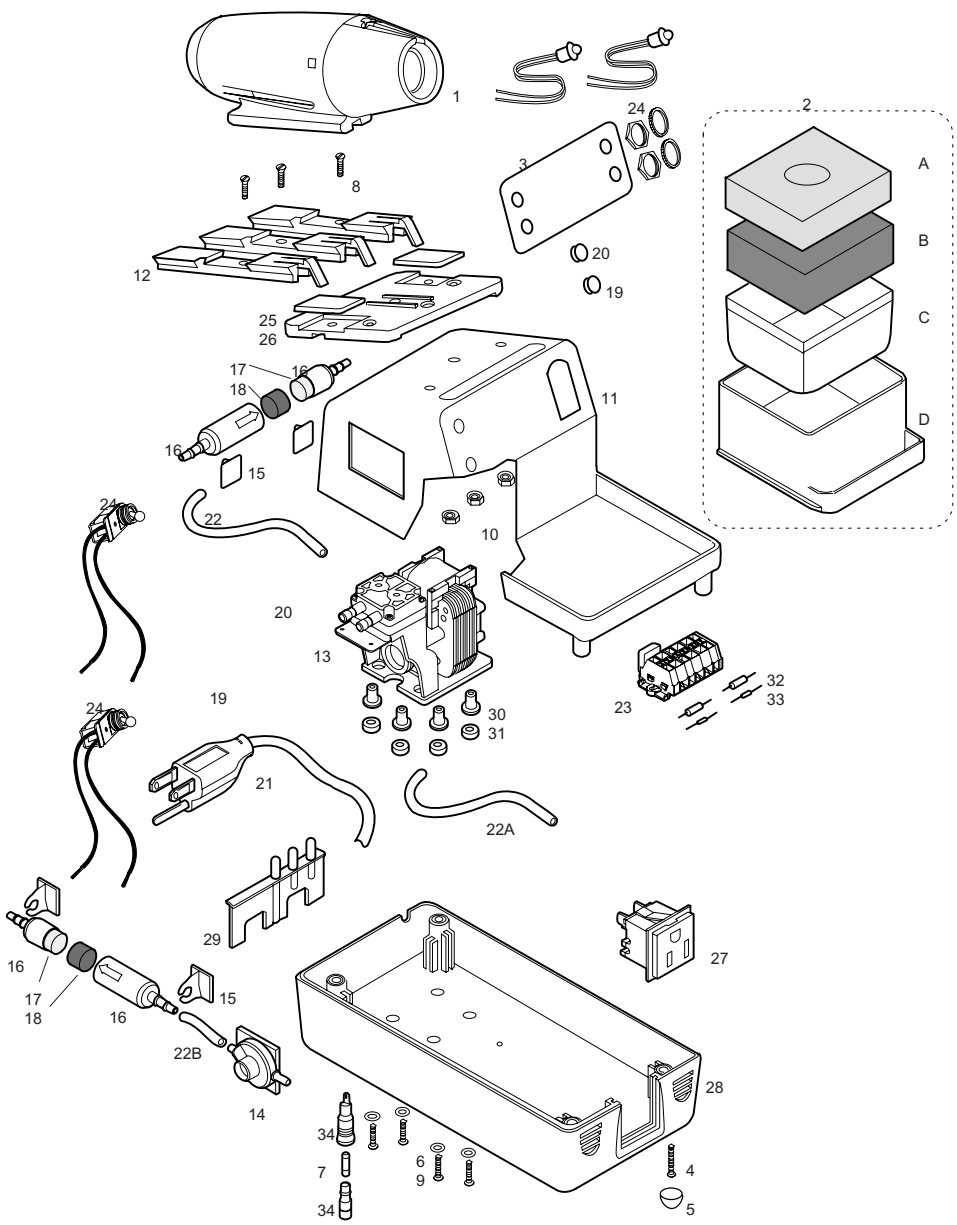
For Factory Repair, ship to: EDSYN INC.Customer Service Department  
15958 Arminta Street, Van Nuys, CA 91406-1896

## FA069 ATMOSCOPE® SMD HOT AIR TOOL SPARE PARTS LIST

ITEM NO	PART NO.	DESCRIPTION	QTY REQ'D
1	HS307	Hose, Low Static Silicone (Sold Per Foot)	5 ft.
2	SR102	120 V Hollow Heater Assembly for FA069	1
3	SR081	Vinyl Finger Grip	1
4	RC349	Threaded Retaining Collar	1
5	OS139	O-Ring, Silicone, for FA069 (Set of 2)	1 set
6	CC355	Chamber Coil for FA069 Hot Air Tool	1
7	RS321	Retaining Sleeve for FA069 Hot Air Tool	1
9	LT428	LONER® S.M.D. Hot Air Turbo Flow Tip	1
10	SR028	Power Cord, 3-Prong, 120 VAC	1
11	SR029	Boot for Power Cord	1
12	SR030	Clear Handle for Model 930	1
13	SR031	Knob, Temperature Control for Clear Handle	1
14	SR111	Logo, 3/8" Dia. Aluminum, Self Adhesive	1
15	SR032	Cord Strain Relief	1
16	SR033	Circuit Board, Model 930	1







PS542 POWER SUPPLY  
SPARE PARTS LIST

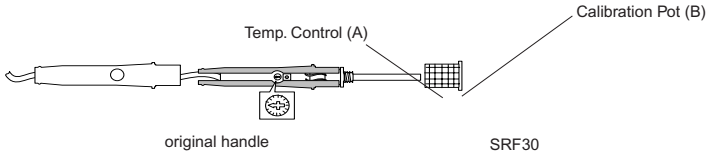
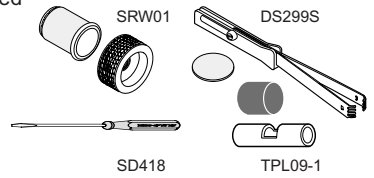
ITEM NO.	PART NO.	DESCRIPTION	QTY REQ'D
1	PD525	Tool Pod for SMD Hot Air Tools	1
2	SH230	Sponge Holder with LN230, RS199, RS243	1
2A	RS199	Cleaning Sponge for SH230	1
2B	RS243	Leveling Pad for SH230	1
2C	LN230	Liner for SH230	1
2D	SH230-1	Sponge Holder Tray	1
3	SR010	Label, Control Panel for 1036	1
4	SR011	Screw, Pan Head Phillips	4
5	SR012	Rubber Foot	4
6	SR016	Flat Washer	4
7	SR724	Fuse, 6.3A	1
8	SR015	Screw, Flat Head Slotted	3
9	SR468	Screw, Rd. Head Phillips	4
10	SR467	Nut, Square Cone	3
11	SR018	Top Cover	1
12	SR019	Dovetail Mount	1
13	SR535	Vacuum Pump, 115 VAC, 60 Hz	1
14	SR719	Air Flow Control Valve	1
15	SR439	Holder, Clip for AF110	4
16	AF110	In-Line Filter (includes items 17 & 18)	2
17	AF627	Felt Filter (set of 10)	2
18	AF040	Foam Filter (set of 10)	2
19	SR802	LED, Yellow	1
20	SR801	LED, Green	1
21	SR726	Power Cord Assy., 120 VAC	1
22	HS307	Hose, Low Static Silicone, 1/8" I.D. (sold per foot)	6 1/2"
22A			5 3/4"
22B			2"
23	SR160	Terminal Block, 9 Port	1
24	SR034	Toggle On/Off Switches	2
25	SR036	Shelf Plate	2
26	SR035	Dovetail Riser Adapter Plate	1
27	SR037	3-Prong 120 VAC Receptacle	1
28	SR038	Bottom Base for PS542	1
29	SR241	Strain Relief for Power Cord	1
30	SR470	Well Nut	4
31	SR469	Spacer	4
32	SR721	Resistor for LED	2
33	SR720	Diode for LED	2
34	SR569	Fuse Holder	1

## TEMPERATURE CALIBRATION

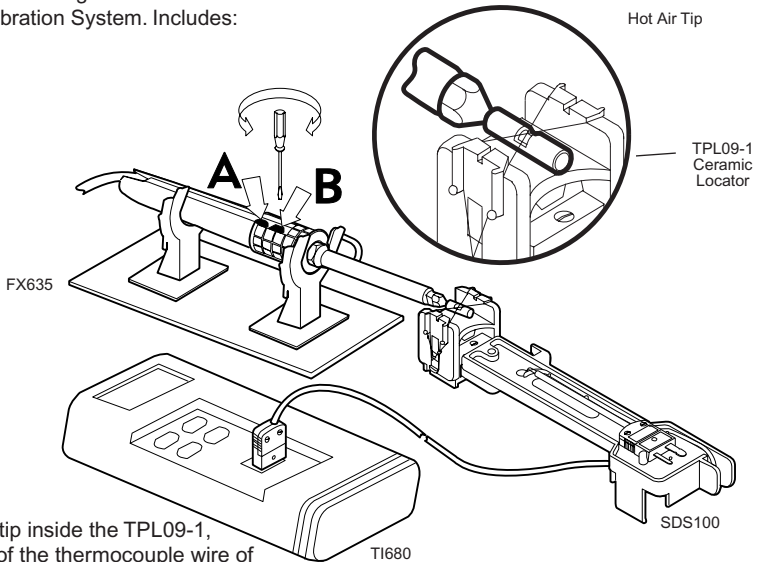
1. Use the DS299S to remove the temperature control knob. Remove RS321 sleeve. Turn temp. control (A) so arrow points to cord.
2. Use the SRW01 to pull out heater assembly, PCB & power cord from handle. Leave enough power cord slack to install SRF30.
3. Place heater assembly, PCB & power cord inside SRF30. Install RS321 and connect to air source.

### Items Needed

- SRW01
- DS299S
- SRF30
- MS412
- TPL09-1
- SD418

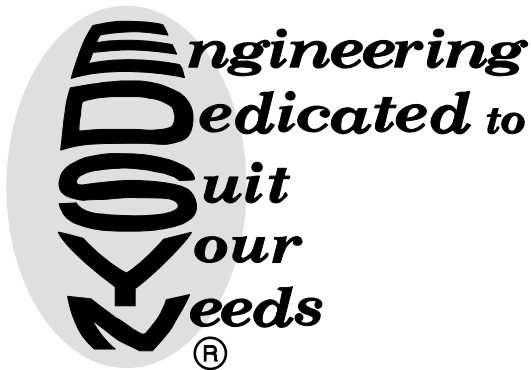


4. Follow set-up shown using of the MS412 Temperature Calibration System. Includes:
  - TI680
  - SDS100
  - FX635



5. Insert the hot air tip inside the TPL09-1, place the center of the thermocouple wire of the SDS100 inside the slot of TPL09-1 locator. Use only CLEAN thermocouple wires.
6. Turn on air, adjust to 5 scfh airflow.
7. Turn temp. control (A) fully clockwise. Adjust calibration pot (B) until reading stabilizes at 850°F.
8. Assemble unit in original handle.

# 1036 instruction manual



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FORM.450  
Rev H