EDSYN INC®

ZD906

LONER® Soldering

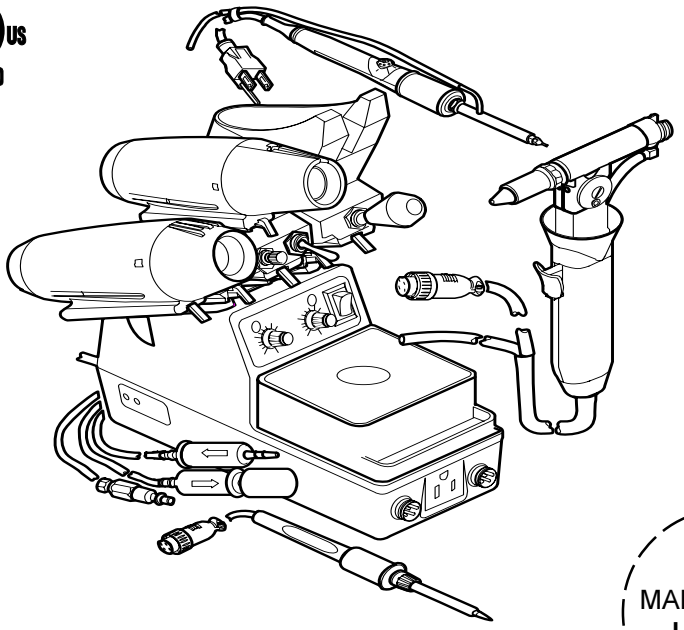
SOLDAPULLT® Hot Tip Desoldering

ATMOSCOPE® SMD Hot Air

Shop Air Powered Rework Station

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

c UL us LISTED



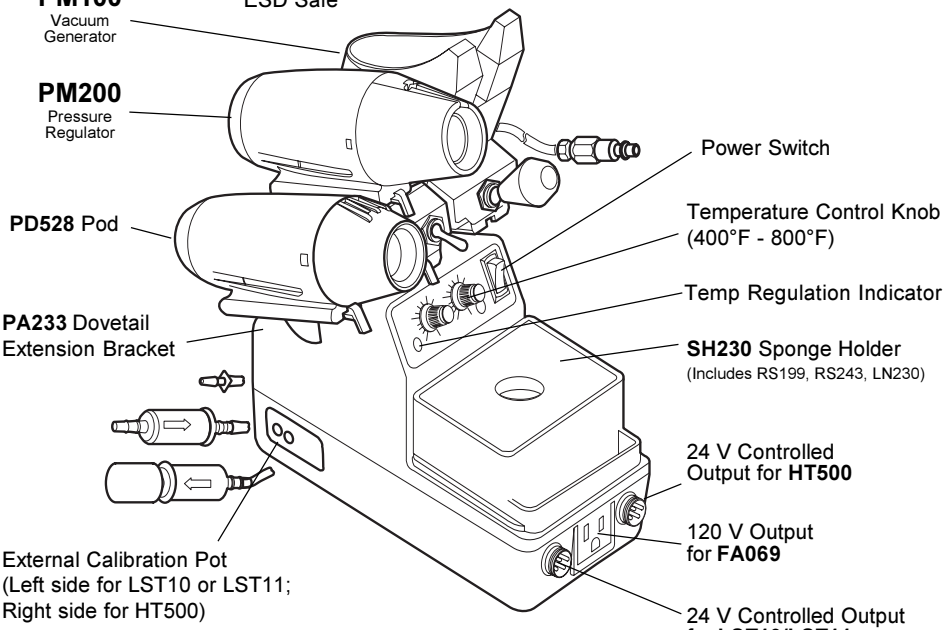
MADE IN THE U.S.A.

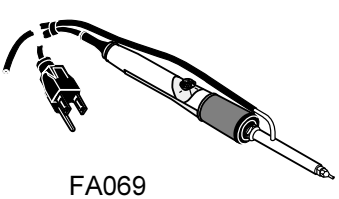
ZD906 instruction manual

FEATURES

OPERATING REQUIREMENTS:
•120 V, 60 Hz
• 60 - 90 psi shop air

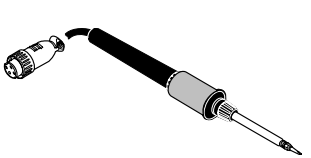
ESD Safe





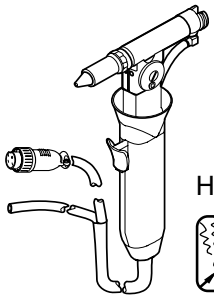
FA069

SMD Hot Air
Page 4



LST10 / LST11

Soldering
Page 7



HT500

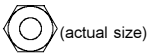
Hot Tip Desoldering
Page 9

SPECIFICATIONS

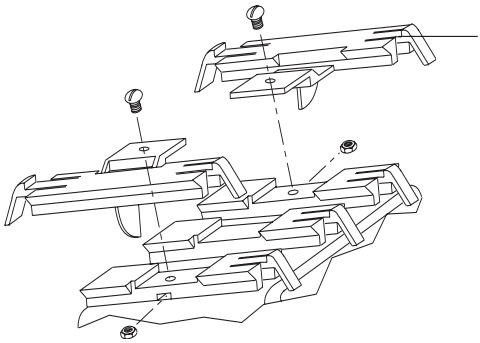
- 70 W per Tool, LST10/LST11 is 50 W
- Approx. wt.: 6 lbs. (2.7 kg)
- Temperature range: 400°F - 800°F (205°C - 425°C)
- Temperature regulation: ±6°F (±3°C)
- Voltage leakage from tip to ground less than 2MV
- Tip to ground resistance less than 2 ohm
- Complies with MIL-S-45743E, DOD-STD-2000-1B, MIL-STD-2000, WS6536E and ESD SPEC, DOD-STD-1686, DOD-HDBK-263.
- UL listed

INSTALLING DOVETAIL EXTENSION BRACKET (PA233)

1. Insert Nut into slot of Dovetail on both sides. Use this Nut.



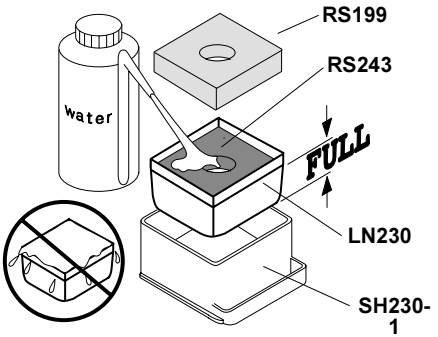
2. Screw PA233 on top on Dovetail after inserting Nut into slot.



MAINTENANCE

• Replace RS199 Cleaning Sponge

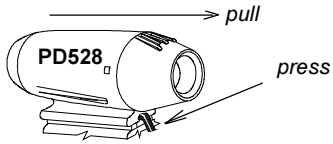
1. Fill water only up to the top of the **RS243** Leveling Pad.
2. Depress **RS199** to moisten it completely.



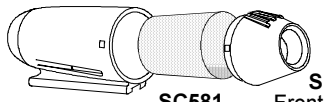
CAUTION:
Over-filling can cause thermal shock to the tip or heating element during tip cleaning.

• Replace SC581 Solder Collector

1. Hold the Housing firm and turn Cap counter-clockwise and pull it away from the Housing.
2. Remove used **SC581** and replace with a new one.
3. Reassemble Pod with TOP of the Cap in proper position.



To replace Pod, press Release Tab and slide out Pod.



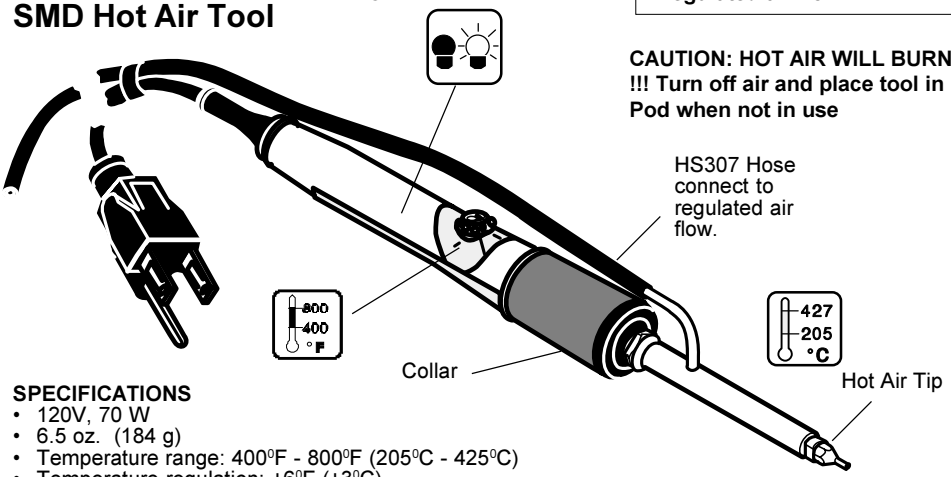
EDSYN®

FA069 ATMOSCOPE®

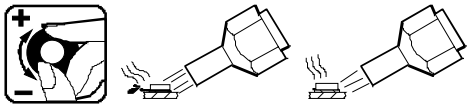
SMD Hot Air Tool

OPERATING REQUIREMENTS:
- **120V, 60 Hz**
- **Regulated air flow**

CAUTION: HOT AIR WILL BURN !!! Turn off air and place tool in Pod when not in use



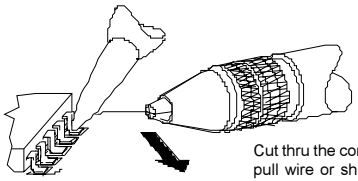
SPECIFICATIONS
- 120V, 70 W
- 6.5 oz. (184 g)
- Temperature range: 400^{0}F - 800^{0}F (205^{0}C - 425^{0}C)
- Temperature regulation: ±6^{0}F (±3^{0}C)
- Voltage leakage from tip to ground less than 2 MV
- Tip to ground resistance less than 2 ohm
- Complies with MIL-S-45743E, DOD-STD-2000-1B, MIL-STD-2000 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.

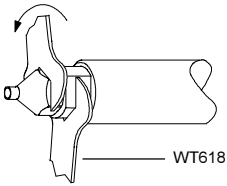


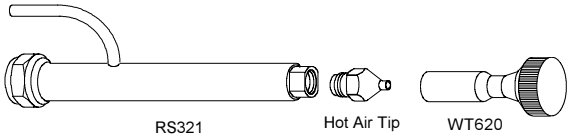
Cut thru the connection with a pull wire or shim blade while hot air melts the solder.

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.



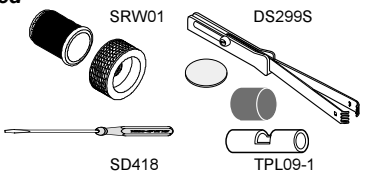


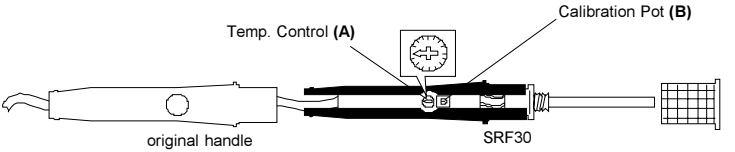
TEMPERATURE CALIBRATION

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.

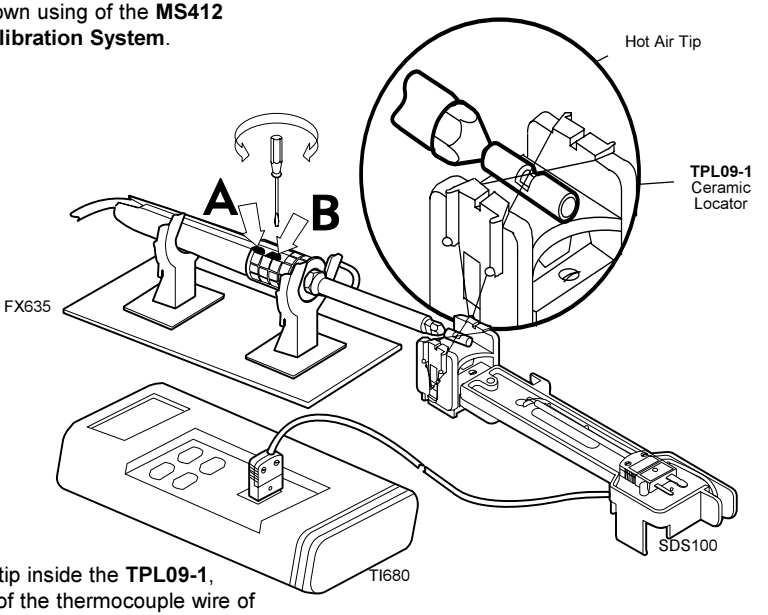
Items Needed

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





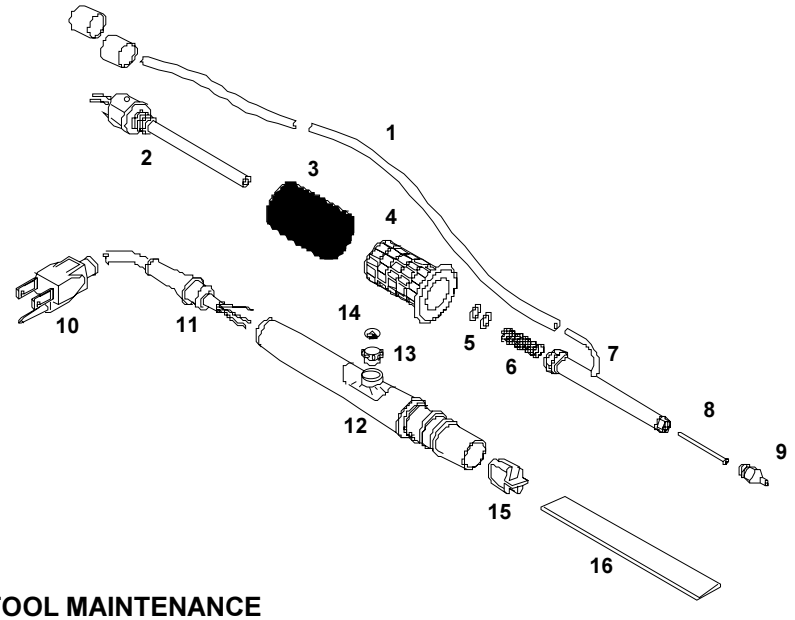
4. Follow set-up shown using of the **MS412 Temperature Calibration System**. Includes:
   - *TI680*
   - *SDS100*
   - *FX635*



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.

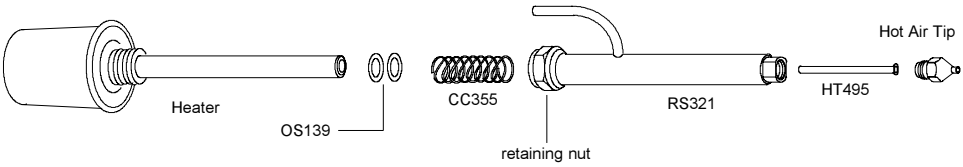
FA069 ATMOSCOPE® SMD HOT AIR TOOL
SPARE PARTS LIST

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
8	**HT495**	Hot Tube 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



TOOL MAINTENANCE

- Replace cracked Hose.
- Make sure **HT495** Hot Tube is not clogged.
- Replace worn-out **OS139** O-rings.



LST10 / LST11

ESD Safe

LST10

Hollow Threaded Heater

LST11

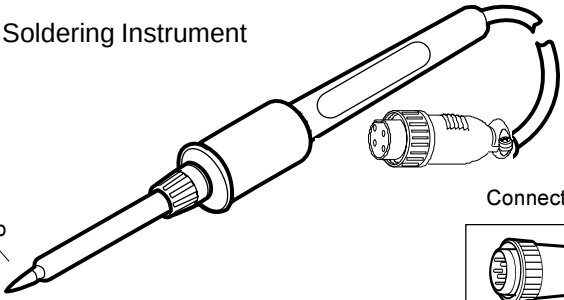
Hollow Heater

LONER ®

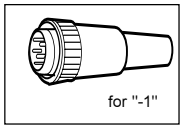
24V, 50W Soldering Instrument

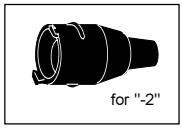
3 oz (85 g)

made in USA



Connector





TIP CARE

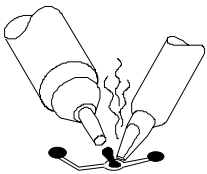
1. Plugged-in Tool to 24V *temperature controlled* Power Supply & set to desired temperature.
2. TIN the Tip (apply solder) before soldering.
3. Do not rub, bend or file Tip.
4. Always clean the Tip by wiping it against the saturated sponge.
5. Always RE-TIN the Tip before and after using.

BASIC SOLDERING

1. Allow Tool to heat up.
2. Pre-heat the area to be soldered. Approximately 2 sec. for component leads.
3. With the Tip still in contact with the working area, apply solder on the working area.
   (for solder, ask for **SS652** or **SS653**)
4. Always clean the Tip by wiping it against the edge of the moist sponge and re-tin.

DESOLDERING

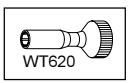
1. Melt solder in the area you want to desolder.
2. While keeping the solder in a molten state, use a Desoldering Tool , **EDSYN® SOLDAPULLT®** to extract the molten solder.

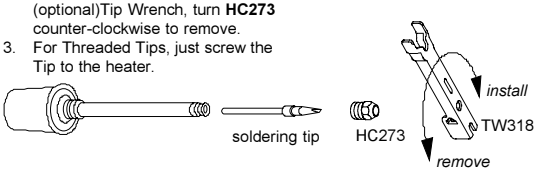


CHANGING TIP

LST10

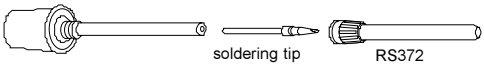
1. MAKE SURE YOUR TOOL IS COOL!
2. Using a **TW318** or **WT620** (optional)Tip Wrench, turn **HC273** counter-clockwise to remove.
3. For Threaded Tips, just screw the Tip to the heater.

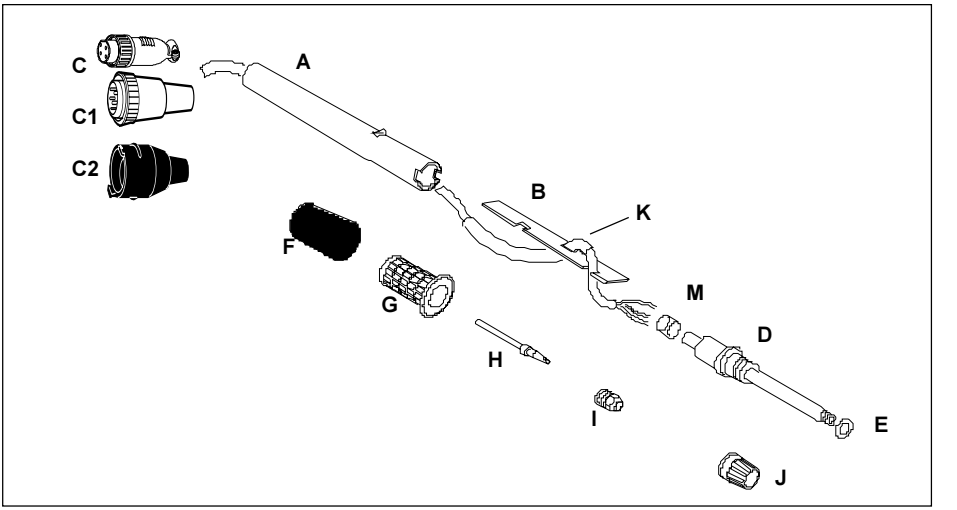




LST11

1. MAKE SURE YOUR TOOL IS COOL!
2. Turn **RS372** counter-clockwise to remove.
3. Remove old Soldering Tip.
4. Insert new Tip.
5. Install RS372.





LST10/-1/-2
SPARE PARTS LIST

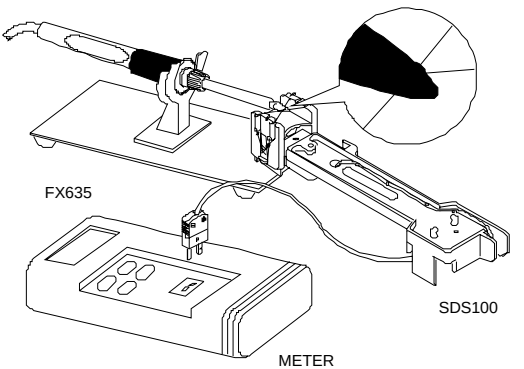
(-1 is european version)

ITEM NO.	PART NO.	DESCRIPTION	QTY REQ'D
A	**SR057**	Handle for Tool	1
B	**SR058**	Cord Strain Relief	1
C	**SR778**	Tool Cord Assy. (for LST10)	1
C1	**SR250**	Tool Cord Assy. (for LST10-1)	1
C2	**SR777**	Tool Cord Assy. (for LST10-2)	1
D	**SR103**	Heater Element Assembly Kit; O-Ring (e) & Collar (g) Included	1
E	**SR062**	O-Ring	1
F	**SR063**	Vinyl Sleeve	1
G	**SR064**	Collar	1
H	**LT375**	LONER® Standard Spade Tip	1
I	**HC273**	Retaining Collar for tip	1
J	**RB386**	Retaining Bushing	1
K	**SR525**	Hose, Low Static, 1/4 I.D. (sold per foot)	5-1/4"
M	**SR371**	Shrink Tube, 1/4" dia. Clear, (sold per foot) 1/2"	

TEMPERATURE CALIBRATION

AIR MOVEMENT WILL AFFECT THE TEMPERATURE READING. WORK IN AN AREA WHERE THIS IS MINIMAL

1. Turn on power and set Temperature Control Knob to 400°F.
2. Using a clean and well tinned Tip, apply a small amount of solder on the Tip, just enough to form a bead on top of the Tip.
3. Place the center of the thermocouple wire of the **SDS100** on top of the bead.
4. Again, apply a small amount of solder on the center of the thermo-couple wire, just enough to embed the center.
5. Adjust LO-Temp. Calibration Pot so the Meter will read 400°F.
6. Set Temperature Control Knob to 800°F.
7. Adjust HI-Temp. Calibration Pot so the Meter will read 800°F.



EDSYN®

HT500/-1/-2 SOLDAPULLT®

Hot Tip Desoldering Tool

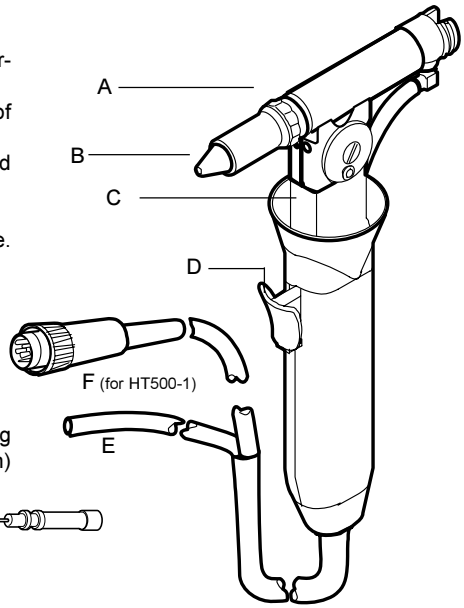
POWER REQUIREMENTS:
•24V
•VACUUM SOURCE

ESD Safe

A) Head Assembly- Includes the primary filtering system and solder debri chamber.
B) Hot Tip Desoldering Tip- Wide range of desoldering Tips applicable.
C) Head Shaft- Allows 4-point rotation of Head Assembly.
D) Trigger- Activates vacuum suction.
E) Vacuum Hose- Low Static silicone hose. Connects to vacuum source.
F) Connector- To 24 V controlled output.

(for HT500) (for HT500-2)

G) Cleaning Shaft- For cleaning Desoldering Tip orifice: .05 (1.3 mm) and .025 (0.6 mm)



SPECIFICATIONS

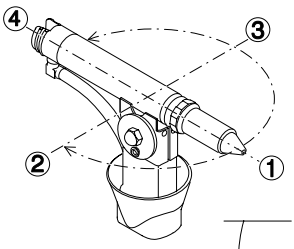
- 24V, 50/60 Hz, 70W
- Weight: 11 ozs. (312 g)
- Temperature range of 400^{0}F to 800^{0}F (205^{0}C-425^{0}C)
- Voltage leakage from tip to ground, less than 2 MV
- Tip to ground resistance, less than 2 ohms
- COMPLIES WITH MIL-S-45743E, DOD-STD-2000-1B, WS-6536E and ESD SPEC, DOD-STD-1686, DOD-HDBK-263
- UL Listed

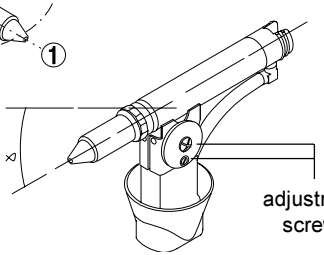
ADJUSTMENTS

The HT500 Head assembly can be adjusted into varying positions to suit the operator.

While Tool is in the Pod, push handle down and twist handle until it locks into 1 of it's 4 positions. Twisting counter-clockwise will permit a 180^0 turn. Twisting clockwise will permit a 90^0 turn.

Note: Head Assembly does not make a full 360^0 turn





To tilt the Head assembly, loosen (2) Adjustment Screws. Tilt the Head assembly to desired position. Retighten Screws.

OPERATION

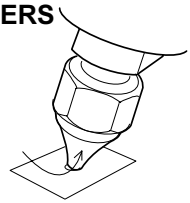
1. Connect HT500 to 24V power supply and vacuum source.
2. Press trigger to activate vacuum.
3. Always clean the Tip with wet sponge and always re-tin (add fresh solder) during and after each operation.

NOTE: When Tip orifice is blocked, use a correct size Cleaning Shaft while pressing the Trigger to clear the obstruction.

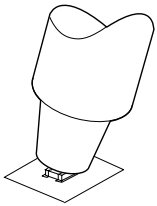
CS468 is .05 in. dia.
CS468-1 is .025 in. dia.

DESOLDERING POINTERS

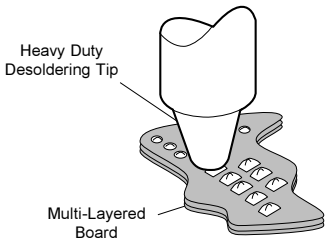
1. When desoldering small holes on flat areas, tilt Tool to allow adequate air flow to lift solder into chamber.



2. When using SMD Tips, heat up the connections by positioning the Tool perpendicularly. When solder melts tilt the Tool and depress trigger. (SMD Tips are recomended for HT500 using external vacuum).

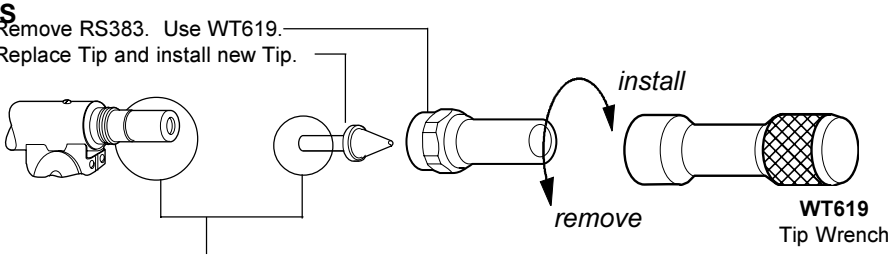


3. Extra-heavy duty desoldering on a multi-layeredboard is done by using a Heavy Duty Desoldering Tip and a Hi-Heat Soldering Tip simultaneously. Although pre-heating of the circuit board will speed up the process, it is not always necessary.



REPLACING DESOLDERING TIPS

1. Remove RS383. Use WT619.
2. Replace Tip and install new Tip.

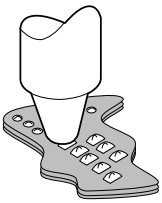


3. Apply **AN112** (in tube) or **AN122** (in syringe) Anti-Seize Compound before assembling.
   INSPECT DAILY

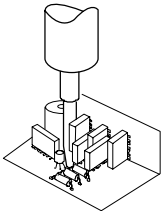
4. Install **RS383**.

Hot Tip Desoldering Tips

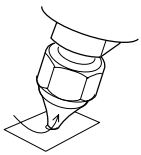
Fractional dimensions are approx.



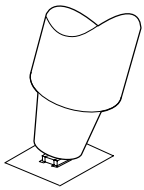
Extra-heavy duty desoldering on a multi-layered board is done by using a **Medium Life Desoldering Tip**.



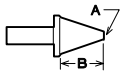
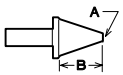
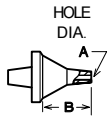
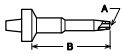
To reach deep, dense and compact areas, use a Long Funnel tip



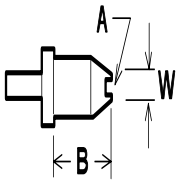
When using a **Replacement Desoldering Tip** to desolder small holes on flat areas, tilt Tool to allow adequate air flow to lift solder into chamber.



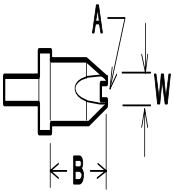
When using **SMD Tips**, heat up the connections by positioning the Tool perpendicularly. When solder melts, tilt the Tool and depress trigger.

DESCRIPTION	PART NO.	HOLE DIAMETER			B		
		in.	in.	mm	**in.**	in.	mm
Medium Life (High Heat Transfer) 	**ZD12**	**.03**	1/32	0.8			
	ZD13	**.04**	3/64	1.0			
	ZD14	**.06**	1/16	1.5	**.50**	1/2	12.7
	ZD18	**.07**	5/16	1.8			
	ZD19	**.12**	1/8	3.2			
Long Life (Low Heat Transfer) 	**ZD08**	**.03**	1/32	0.8			
	ZD10	**.04**	3/64	1.0	**.44**	7/16	11.8
	ZD11	**.06**	1/16	1.5			
Funnel 	**ZD107**	**.02**	1/64	0.5			
	ZD112	**.03**	1/32	0.8	**.48**	31/64	12.2
	ZD113	**.04**	3/64	1.0			
Long Funnel 	**ZD111**	**.03**	1/32	.08	**1.22**	1 7/32	31
Replacement* 	**ZD25**	**.03**	1/32	0.8			
	ZD26	**.04**	3/64	1.0	**.39**	32/64	9.9
	ZD27	**.07**	5/16	1.7			
SMD** (FOR ZD505/905 series) 	**ZD57**	**.10**	7/64	2.5			
	ZD58	**.13**	1/8	3.2			
	ZD60	**.15**	5/32	3.8	**.55**	9/16	13.9
	ZD61	**.25**	1/4	4.5			

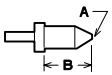
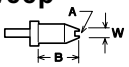
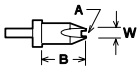
Hot Tip Desoldering Tip



Surface Sweep Tips removes excess solder on pads for flatter surface, prior to SMD remounting.

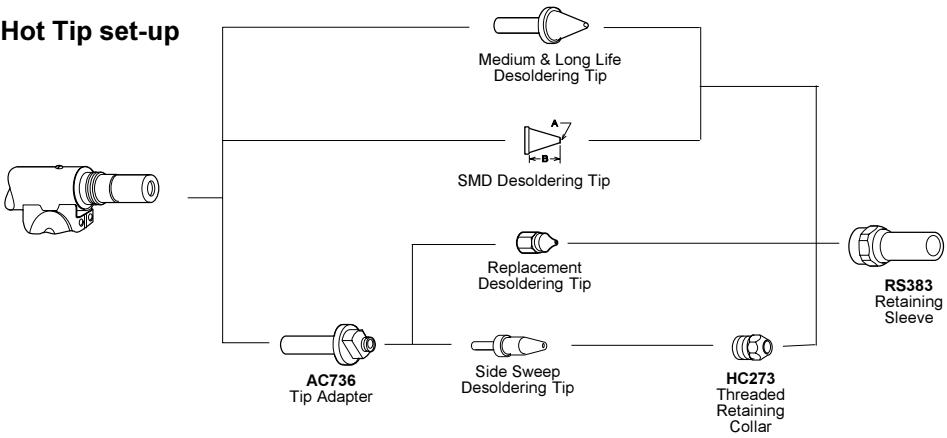


Side Sweep Tips allows removal of solder from the component side of the board.

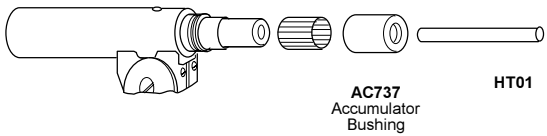
DESCRIPTION	PART NO.	HOLE DIAMETER			B		
		in.	in.	mm	**in.**	in	mm
Economy** HOLE DIA. 	**ZD28**	**.03**	1/32	.08	**.30**	5/16	7.6
	ZD29	**.04**	3/64	1.0			
	ZD30	**.06**	1/16	1.5			
Surface Sweep**  Hole Dia. = .06 in.	**ZD70**	**.08**	3/32	2.0			
Side Sweep**  Hole Dia. = .06 in.	**ZD71**						

*Tin New Iron Tips at Low Temperaturebefore using.
**Non-Plated Alloy

Hot Tip set-up



Heater Set-up



DAILY MAINTENANCE

- Remove and inspect Tip and Heater Assy.
- Inspect all Filters
- Remove solder debri from Desoldering Head Housing

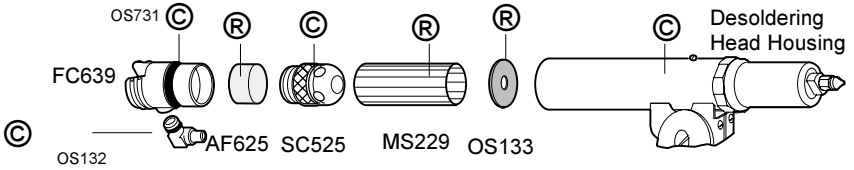
WEEKLY MAINTENANCE

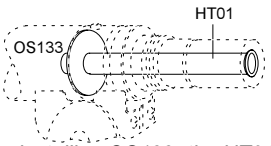
- Inspect Valve Assy.
- Inspect all O-Rings and Seals

TO REPLACE FILTER & O-RING INSIDE DESOLDERING HEAD ASSY.

1. Pull out FC639 from Housing.
2. Unscrew SC525 from FC639 to remove AF625.
3. Insert new AF625 inside SC525 and screw back on.
4. Clean and apply OL111 on OS731 & OS132 O-Ring.

Ⓒ - Clean
Ⓡ - Replace

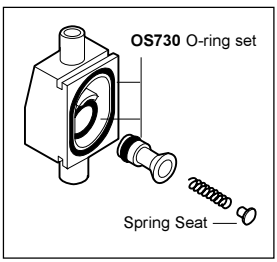


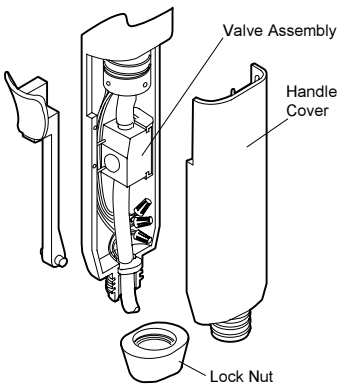


When installing OS133, the HT01 should go thru the OS133.

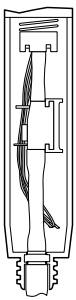
TO REPLACE O- RINGS INSIDE VALVE ASSEMBLY

a) Unscrew Lock Nut at the end of the **HT500** 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.

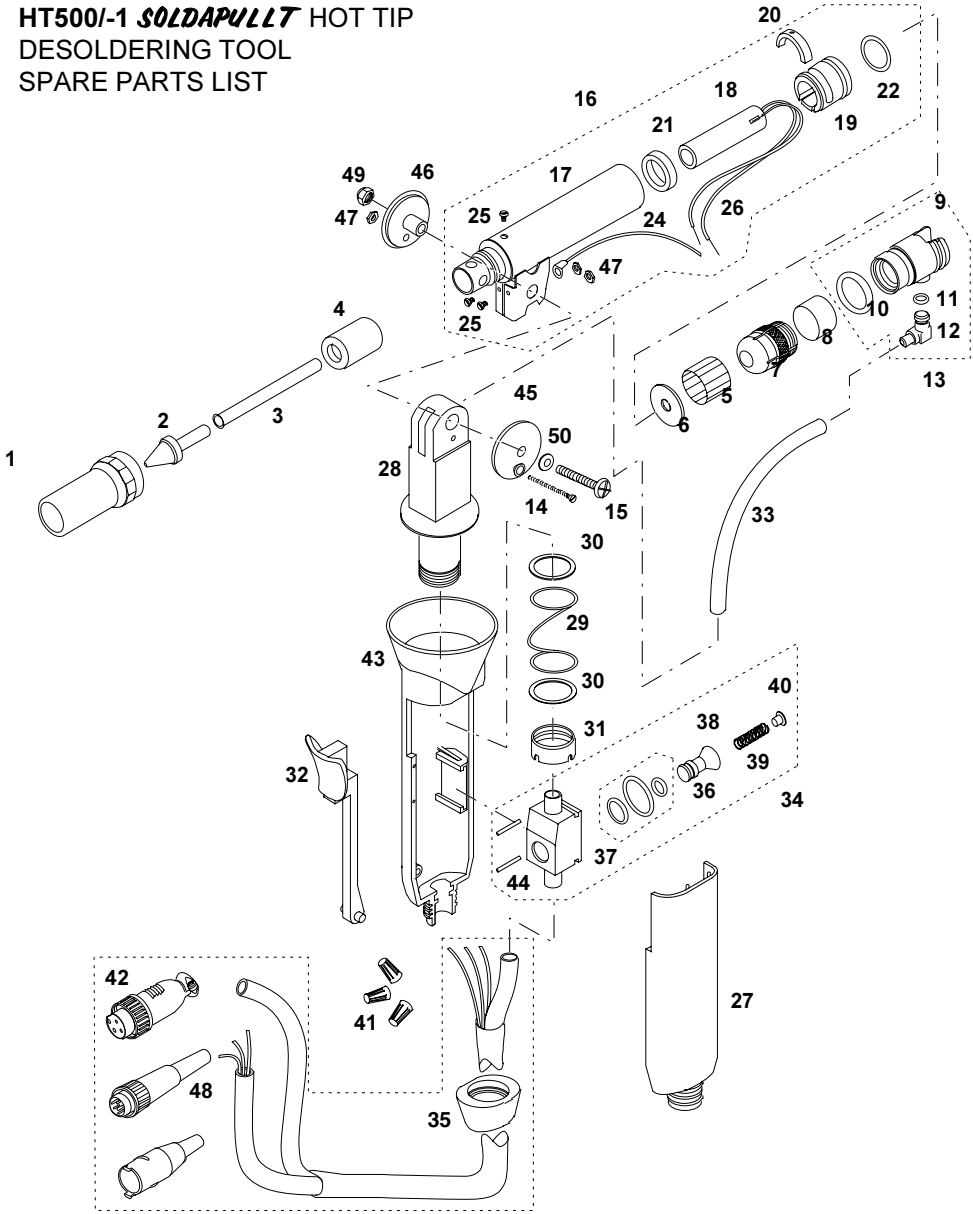




CAUTION: Make sure the wires are not pinched by Valve Assembly.



HT500/-1 *SOLDAPULLT* HOT TIP
DESOLDERING TOOL
SPARE PARTS LIST



ITEM NO.	PART NO.	DESCRIPTION	QTY REQ'D
1	**RS383**	Retaining Sleeve	1
2	**ZD13**	Hot Tip Desoldering Tip	1
3	**HT01**	Hot Tube	1
4	**AC737**	Accumulator Bushing 1	
5	**MS229**	Mica Sheet	1
6	**OS133**	Silicone Washer	1
7	**SC525**	Solder Cone	1

ITEM NO.	PART NO.	DESCRIPTION	QTY REQ'D
8	**AF625**	Felt Filter	1
9	**SR148**	Housing for End Cap 1	
10	**OS731**	O-Ring for End Cap	1
11	**OS132**	O-Ring for End Cap Elbow Connector	1
12	**SR147**	Connector for End Cap	1
13	**FC639**	End Cap	1
14	**SR008**	Flat Head Slotted Screw for Index Flange 1	
15	**SR168**	Pan Head Phillip Screw for adjusting Desoldering Head Assy. 1	
16	**HT500H**	Desoldering Head Assembly- Repairable by EDSYN Customer Service Dept. 1	
17	**SR136**	Desoldering Head Housing	1
18	**SR120**	Heater Element	1
19	**SR117**	Heater Element Bushing (O-Ring included)	1
20	**SR118**	Retaining Key for Heater Element Bushing	1
21	**SR119**	Teflon Spacer for Heater Element	1
22	**OS731**	O-Ring for Heater Bushing	1
24	**SR121**	Grounding Wire	1
25	**SR122**	Screw, 2-56 x 1/8 Pan Head Slotted	3
26	**SR145**	Sleeving, Braided Fiberglass	2
27	**SR004**	Handle Cover	1
28	**SR124**	Head Shaft	1
29	**SR125**	Spring for Head Shaft 1	
30	**SR126**	Washer, Nylon	2
31	**SR127**	Retaining Nut for Head Shaft	1
32	**SR128**	Trigger	1
33	**HL603**	Hose, Low Static Silicone, 3/16" I.D.	5"
34	**SR335**	Valve Assy.	1
35	**SR393**	Nut, Retaining, for Handle	1
36	**OS730**	O-Ring Set (Three O-Rings)	1 set
37	**SR129**	Valve Housing	1
38	**SR130**	Poppet (O-Ring Included)	1
39	**SR131**	Return Spring for Poppet	1
40	**SR132**	Seat for Return Spring	1
41	**SR133**	Wire Nuts	3
42		**SR134** Hose and Wiring Assembly for HT500	1
		SR565 for HT500-1 **SR635** for HT500-2	
43	**SR123**	Handle Base	1
44	**SR143**	Wire Guide, Nylon, 3/8" Length	2
45	**SR005**	Index Flange (Screw Side)	1
46	**SR006**	Index Flange (Nut Side)	1
47	**SR007**	Nut, Hex, 2-56 thread 3	
48		**SR135** Connector for HT500	1
		SR353 for HT500-1 **SR633** for HT500-2	
49	**SR170**	Cap Nut, Hex #8-32 x 5/16"	1
50	**SR169**	Washer, Flat, 1/16" thick	1

ZD906 instruction manual

CALIBRATION (for ZD500DX, 505, 905 series only)

AIR MOVEMENT WILL AFFECT THE TEMPERATURE READING. WORK IN AN AREA WHERE THIS IS MINIMAL.

1. Using a clean Tip, turn on power and set Temperature Control Knob to approx. 500°F (260°C). Allow Tip to warm up.
2. Tin the tip properly and place center of the thermo-couple wire on tip.
3. Apply a small amount of solder on the center of the thermo-couple wire, to form a good contact between the tip and the thermo-couple wire.
4. Set Temperature Control Knob to 400°F (205°C).
5. Adjust **LO**-Temp. Calibration Pot so the Meter will read 400°F (205°C).
6. Set Temperature Control Knob to 800°F (427°C).
7. Adjust **HI**-Temp. Calibration Pot so the Meter will read 800°F (427°C).

Temperature Control Knob

Calibration Pot

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FORM.658
Rev E