



# ZD505/ZD505V

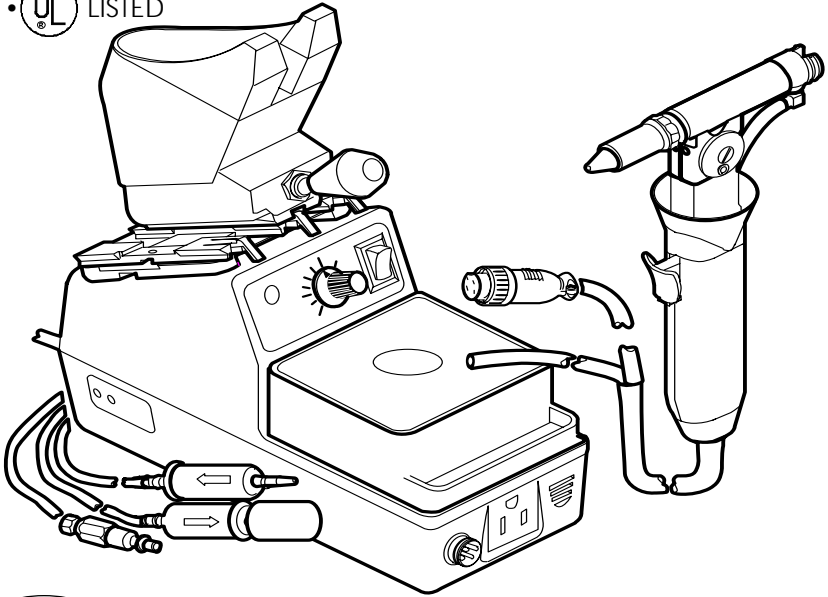
## *SOLDAPULLT*

### HOT TIP

# DESOLDERING STATION

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

-  LISTED



MADE IN THE  
U.S.A.

instruction manual



Hot Tip  
Desoldering



Vacuum  
Generator

# POWER SUPPLY

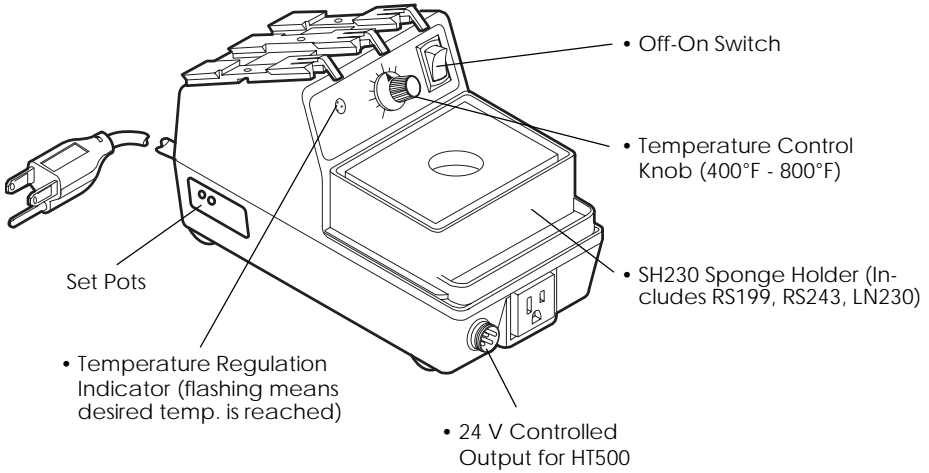
PS900 is used on both ZD505 and ZD505V.



ESD Safe

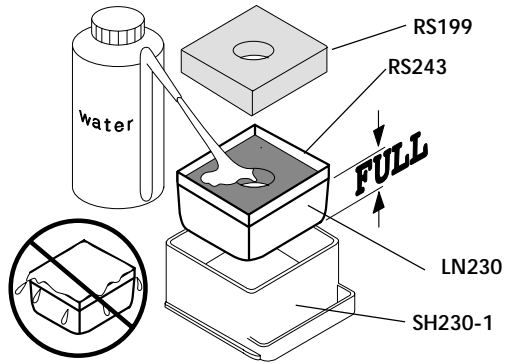


**CAUTION:** Connecting a defective Tool may damage the Power Supply.



# CLEANING SPONGE

1. Keep sponge moist by adding clean water.
2. Replace dirty sponge to prevent tip contamination during tip cleaning.

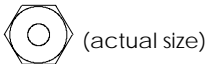


**CAUTION:**  
Over-filling can cause thermal shock to the tip or heating element during tip cleaning.

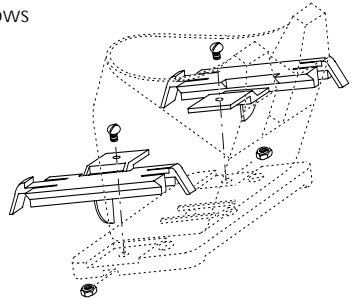
# OPTIONS

PA233 Dovetail Extension Bracket allows you to install additional Tool Pods.

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



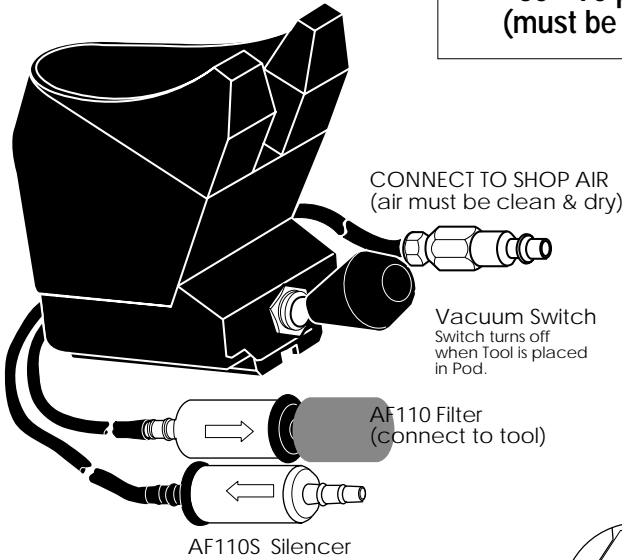
2. Screw PA233 on top on Dovetail Platform after inserting Nut into slot.



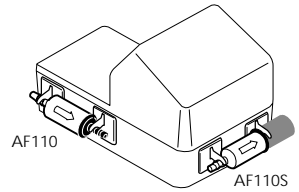
# PM100 ATMOSCOPE® Vacuum Generator



**OPERATING REQUIREMENTS:**  
**60 - 90 psi shop air**  
**(must be clean & dry)**

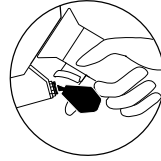


AF110 AND AF110S  
SUGGESTED MOUNTING



## INSTALLATION and OPERATION

1. Slide PM100 along DoveTail Track of Power Supply.
2. Connect to shop air 60 - 90 p.s.i.
3. Attach HT500 or ZD100 to the AF110.
4. Turn on switch to generate vacuum.



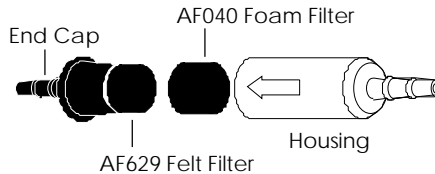
Flip the switch with index finger while taking the HT500 or ZD100 from the Tool Pod.

## CHANGING FILTER ELEMENTS

### Filter

To be done if vacuum gets weak.

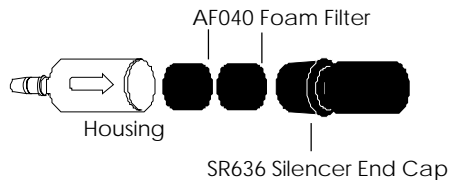
1. Pull AF110 Filter apart.
2. Replace Foam and Felt Filter.  
Insert new Felt Filter in End Cap.



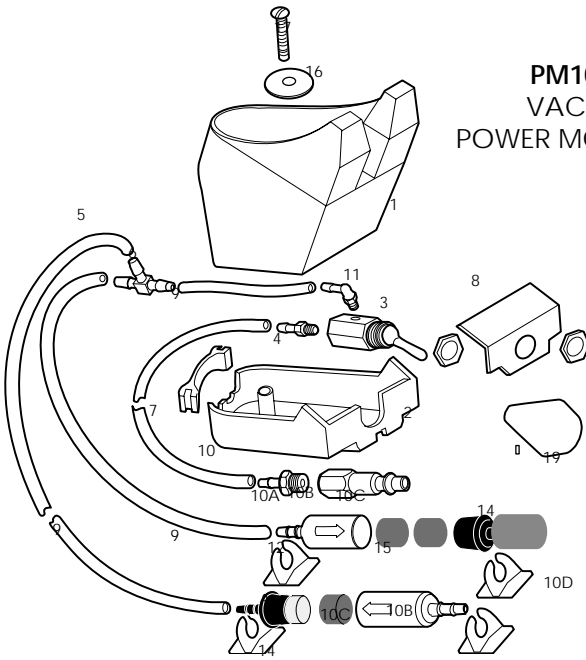
### Silencer

To be done if vacuum gets weak.

1. Pull AF110S Filter apart.
2. Replace Foam Filters and Silencer End Cap.



**PM100 ATMOSCOPE®  
VACUUM GENERATOR  
POWER MODULE SPARE PARTS LIST**



Items 10, 10A, 10B & 10C can be ordered as an assembly, part no. **AF110**

Items 10B, 10C & 10D can be ordered as an assembly, part no. **AF110S**

ITEM NO.	PART NO.	DESCRIPTION	QTY REQ'D
1	SR073	Tool Pod	1
2	SR258	Housing	1
3	SR705	Air Switch	1
4	SR261	Fitting, Barbed, for 1/8" I.D. Hose	1
5	HS307	Hose, 1/8" I.D. Low Static Silicone (sold per foot)	12"
6	SR264	Venturi Assy.	1
7	SR637	Panel, Rear Port	1
8	SR259	Panel, Front	1
9	SR283	Hose, 1/8" I.D. Polyurethane (sold per foot)	3@
		72", 9", 8"	
10	SR608	End Cap, For AF110 Filter	1
10A	AF629	Felt Filter (set of 10)	1
10B	AF040	Foam Filter (set of 10)	2
10C	SR533	Barrel, Clear	2
10D	SR636	Silencer End Cap	1
11	SR728	Fitting, Barbed, 90° Elbow for 1/8" I.D. Hose	1
12	HB357	Fitting, Barbed, for 1/8" I.D. Hose	1
14	SR439	Attachment Clip for Filter/Silencer	1
15	HB359	Fitting, Male Quick-Disconnect	1
16	SR137	Washer, 3/16" I.D.	1
17	SR268	Screw, Pan Head Phillips, 6-18 x 3/4" L	1
19	SR725	Extension Knob	1

## HT500/-1/-2 *SOLDAPULLT*®

### Hot Tip Desoldering Tool

**POWER REQUIREMENTS:**

- 24V
- VACUUM SOURCE



ESD Safe

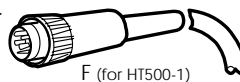
- A) Head Assembly- Includes the primary filtering system and solder debri chamber.
- B) Hot Tip Desoldering Tip- Wide range of desoldering Tips applicable.
- C) Head Shaft- Allows 4-point rotation of Head Assembly.
- D) Trigger- Activates vacuum suction.
- E) Vacuum Hose- Low Static silicone hose. Connects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



(for HT500)



(for HT500-2)



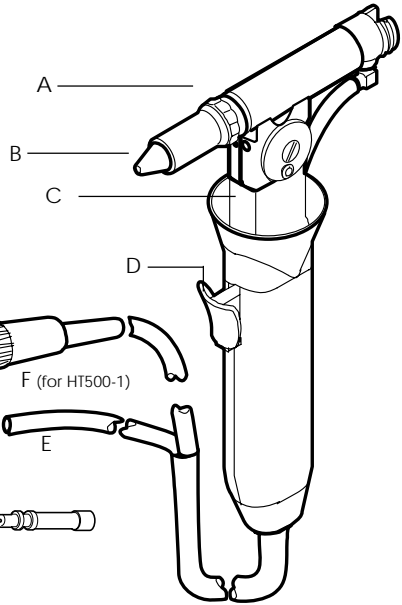
F (for HT500-1)



E



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



### SPECIFICATIONS

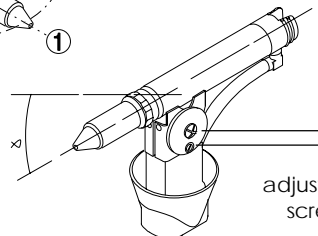
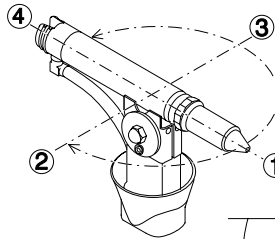
- 24V, 50/60 Hz, 70W
- Weight: 11 ozs. (312 g)
- Temperature range of 400°F to 800°F (205°C-425°C)
- Voltage leakage from tip to ground, less than 2 MV
- Tip to ground resistance, less than 2 ohms
- COMPLIES WITH MIL-S-45743E, DOD-STD-2000-1B, WS-6536E and ESD SPEC, DOD-STD-1686, DOD-HDBK-263
- UL Listed

### 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° turn. Twisting clockwise will permit a 90° turn.



adjustment screws

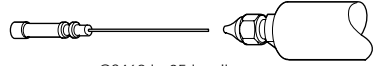
To tilt the Head assembly, loosen (2) Adjustment Screws. Tilt the Head assembly to desired position. Retighten Screws.

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

## 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.

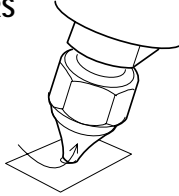
NOTE: When Tip orifice is blocked, use a correct size Cleaning Shaft while pressing the Trigger to clear the obstruction.



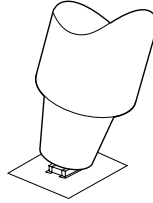
CS468 is .05 in. dia.  
CS468-1 is .025 in. dia.

## DESOLDERING POINTERS

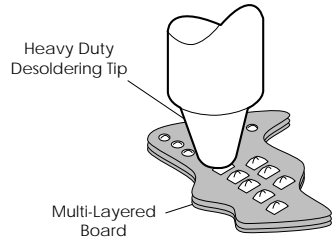
1. When desoldering small holes on flat areas, tilt Tool to allow adequate air flow to lift solder into chamber.



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 recommended for HT500 using external vacuum).

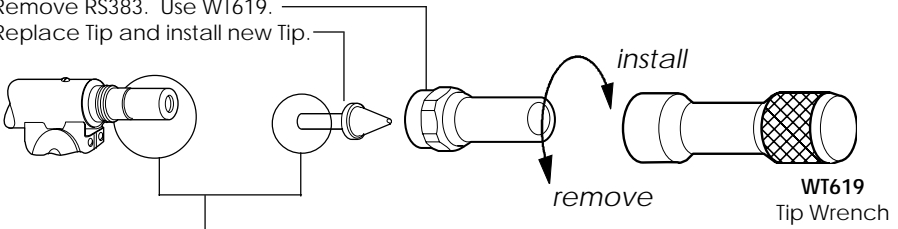


3. Extra-heavy duty desoldering on a multi-layered board is done by using a Heavy Duty Desoldering Tip and a Hi-Heat Soldering Tip simultaneously. Although pre-heating of the circuit board will speed up the process, it is not always necessary.



## REPLACING DESOLDERING TIPS

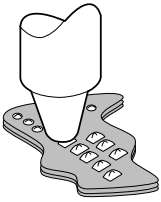
1. Remove RS383. Use WT619.
2. Replace Tip and install new Tip.



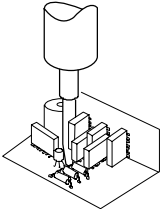
3. Apply **AN112** (in tube) or **AN122** (in syringe) Anti-Seize Compound before assembling.  
*INSPECT DAILY*

4. Install **RS383**.

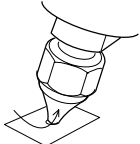
# Hot Tip Desoldering Tips Functional dimensions are approx.



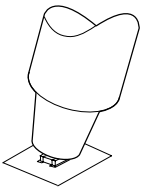
Extra-heavy duty desoldering on a multi-layered board is done by using a **Medium Life Desoldering Tip**.



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

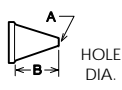
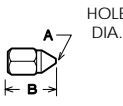
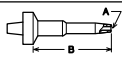
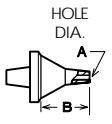
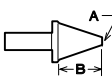
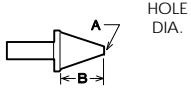


When using a **Replacement Desoldering Tip** to desolder small holes on flat areas, tilt Tool to allow adequate air flow to lift solder into chamber.

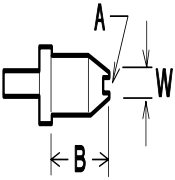


When using **SMD Tips**, heat up the connections by positioning the Tool perpendicularly. When solder melts, tilt the Tool and depress trigger

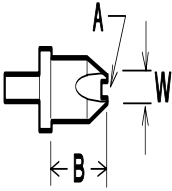
DESCRIPTION	PART NO.	HOLE DIAMETER			B		
		in.	in.	mm	in.	in.	mm
<b>Medium Life</b> (High Heat Transfer)	ZD12	.03	1/32	0.8	.50	1/2	12.7
	ZD13	.04	3/64	1.0			
	ZD14	.06	1/16	1.5			
	ZD18	.07	5/16	1.8			
	ZD19	.12	1/8	3.2			
<b>Long Life</b> (Low Heat Transfer)	ZD08	.03	1/32	0.8	.44	7/16	11.8
	ZD10	.04	3/64	1.0			
	ZD11	.06	1/16	1.5			
<b>Funnel</b>	ZD107	.02	1/64	0.5	.48	31/64	12.2
	ZD112	.03	1/32	0.8			
	ZD113	.04	3/64	1.0			
<b>Long Funnel</b>	ZD111	.03	1/32	.08	1.22	17/32	31
<b>Replacement*</b>	ZD25	.03	1/32	0.8	.39	32/64	9.9
	ZD26	.04	3/64	1.0			
	ZD27	.07	5/16	1.7			
<b>SMD**</b> (FOR ZD505/905 series)	ZD57	.10	7/64	2.5	.55	9/16	13.9
	ZD58	.13	1/8	3.2			
	ZD60	.15	5/32	3.8			
	ZD61	.25	1/4	4.5			



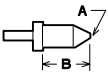

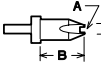
## Hot Tip Desoldering Tip



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



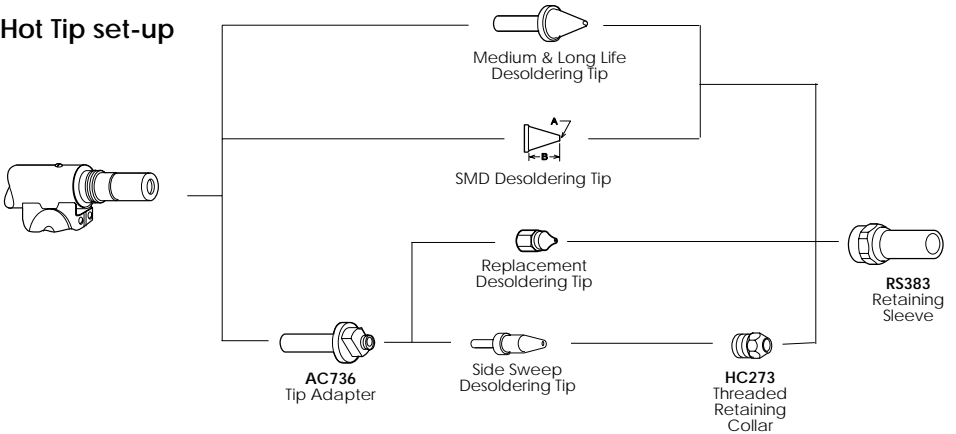
**Side Sweep Tips** allows removal of solder from the component side of the board.

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

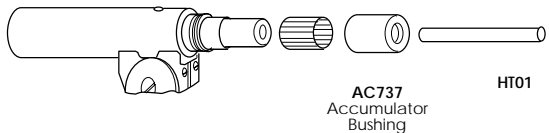
\*Tin New Iron Tips at Low Temperature before using.

\*\*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

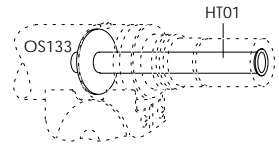
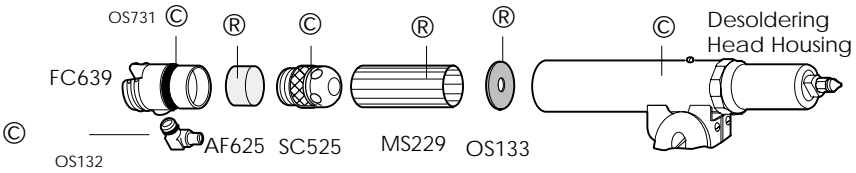
- Inspect Valve Assy.
- Inspect all O-Rings and Seals

### 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

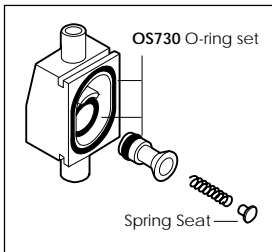
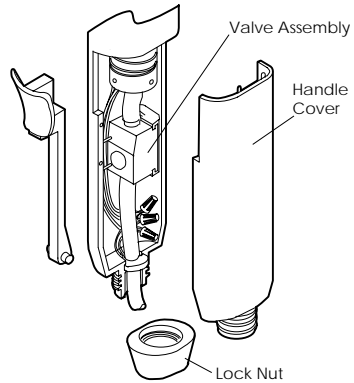
Ⓓ - Replace



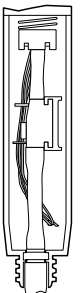
When installing OS133, the HT01 should go thru the OS133.

### TO REPLACE O- RINGS INSIDE VALVE ASSEMBLY

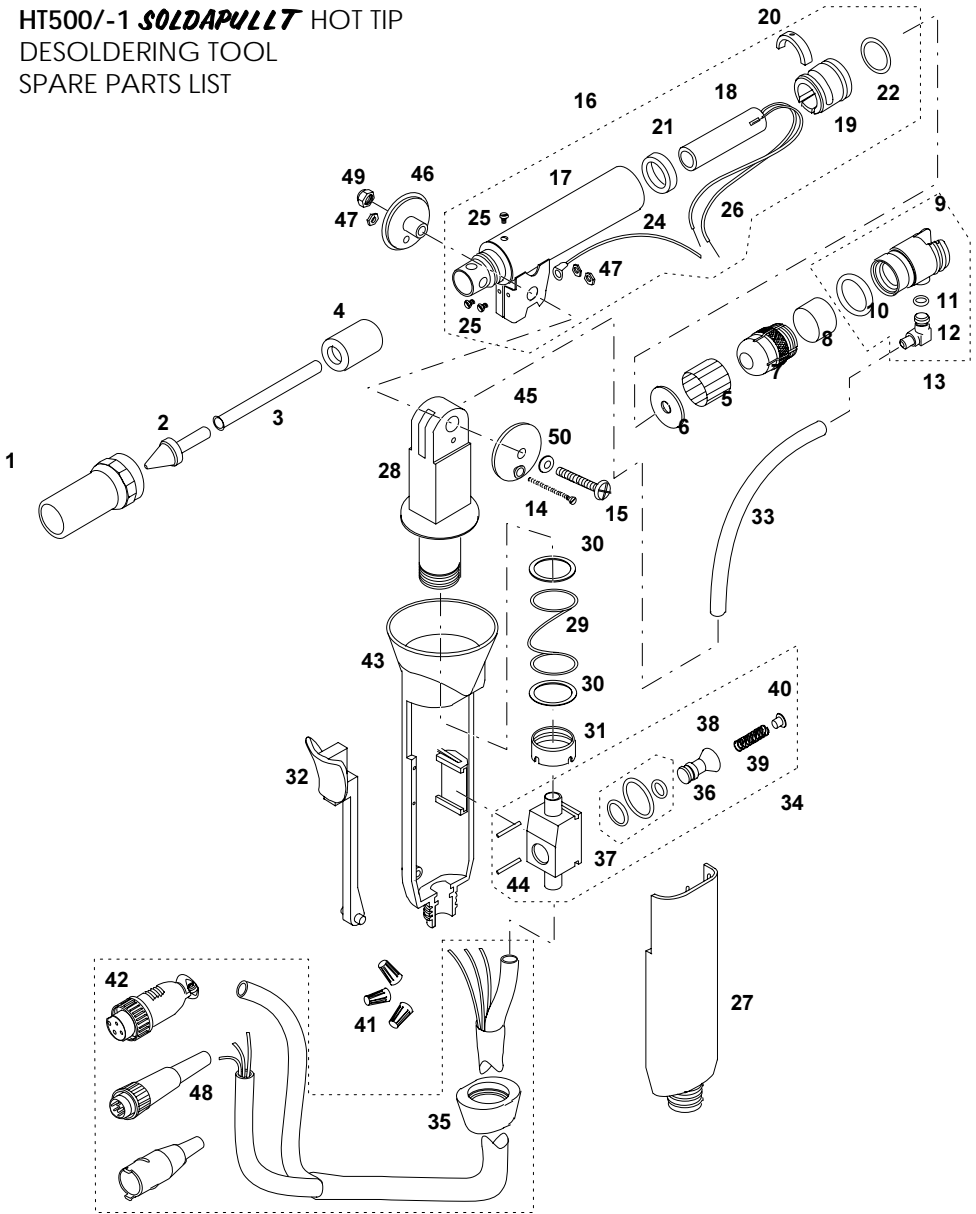
- a) Unscrew Lock Nut at the end of the HT500 Handle.
- b) Remove Handle Cover.
- c) Slide out Valve Assembly while placing your finger over the Spring Seat. BE CAREFUL NOT TO LET THE SPRING AND THE SPRING SEAT SHOOT OUT FROM THE HOUSING
- d) Clean all parts with alcohol only.
- e) Replace **OS730** 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 *SOLDAPULL* HOT TIP**  
**DESOLDERING TOOL**  
**SPARE PARTS LIST**



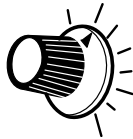
ITEM NO.	PART NO.	DESCRIPTION	QTY REQ'D
1	RS383	Retaining Sleeve	1
2	ZD13	Hot Tip Desoldering Tip	1
3	HT01	Hot Tube	1
4	AC737	Accumulator Bushing	1
5	MS229	Mica Sheet	1
6	OS133	Silicone Washer	1
7	SC525	Solder Cone	1

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

# CALIBRATION (for ZD505 & ZD505V)

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

1. Set knob at 400°F.
2. Adjust LO to 400°F.
3. Set knob at 800°F.
4. Adjust HI to 800°F.

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

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15958 Arminta Street, Van Nuys, CA 91406-1896

EDSYN@INC. PHONE (818) 989-2324 FAX (sales): 818-997-0895 FAX (service): 818-997-0460