sparkfun®
ELECTRONICS

937b

SOLDERING STATION

937b Thermo-control Anti-Static

User's Manual

Precautions

In this instruction manual, "WARNING" and "CAUTION" are defined as follows.

CAUTION!

Before use this unit, make sure comply with the following measures, against risk of electric shock or give rise to fire.

In order to ensure body safe, must use the components or accessories that recommended by original factory, otherwise it may cause serious consequences.

It should be maintained by qualified electric technician or service personnel specified by original factory.

When the power is on, the tip temperature is between 200℃/392 ℉ and 480℃/896 ℉.

Since mishandling may lead to burns or fire, be sure to comply with the following precautions.

- Do not touch the metallic parts near the tip.
- Do not use the product near flammable items.
- Advise other people in the work area: the unit can reach a very high temperature and should be considered potentially dangerous.
- Turn the power off while taking breaks and when finished using the unit.
- Before replacing parts or storing the unit, turn the power off and allow the unit to cool down to room temperature.

To prevent damage to the unit and ensure a safe working environment, be sure to comply with the following precautions.

- Do not use the unit for applications other than soldering.
- Do not rap the soldering iron against the workbench to shake off residual solder, or otherwise subject the iron to severe shocks.
- Do not modify the unit.
- Use only genuine replacement parts.
- Do not wet the unit or use the unit when your hands are wet.
- The soldering process will produce smoke, so make sure the area is well ventilated.
- While using the unit, don't do anything that may cause bodily harm or physical damage.

WARNING!

WARNING: *The ATTEN 907 Must be Use ATTEN Heating Element.*

CAUTION: *Misuse may potentially cause injury to the user or physical damage to the objects involved. For your own safety, be sure to comply with these Precautions.*

Packing list

Please check the contents of the package and confirm that all the items listed below are included.

Station	1pc
Soldering Iron	1pc
Iron Holder *(With Cleaning Sponge)*	1set
Instruction Manual	1pc

Specification

Power Voltage	AC 220V 50Hz *(AC 110V 60Hz Optional)*
Power Consumption	60W (max)
Temperature Range	220 ~480 ℃
Tip Leakage Voltage	<0.5mV
Standard Tip	900M

Names of Parts

Setting up & Operating the Unit

CAUTION!

The sponge is compressed. It will swell when moistened with water. Before using the unit, dampen the sponge with the water and squeezed it dry. Failure to do so may result in damage to the soldering tip.

1. Iron Holder

- Small Cleaning Sponge. Dampen the small cleaning sponge with water and then squeeze it dry. Place it in one of the 4 openings of the iron holder base.
- Add water to approximately the level as shown. The small sponge will absorb water to keep the larger sponge above it wet at all times. The large sponge may be used alone *(w/o small sponge & water)*.
- Dampen the large cleaning sponge and place it on the iron holder base.

CAUTION: *Be sure to turn off the power switch before connection or disconnecting the soldering iron. Failure to do so may damage the P. C. B.*

2. Connections

- Connect the cord assembly to the receptacle.
- Place the soldering iron in the iron holder.
- Plug the power cord into the power supply. Be sure to ground the unit.

3. Set the Temperature

- Set the temperature control knob to the desired temperature.
- Lock the knob. The sparkfun 937 station is equipped with a temperature control knob lock. After setting the desired temperature, tighten the hex nut on the underside of the knob mount using the supplied hex wrench. Turn the nut clockwise to tighten the knob lock.

CAUTION: *- Don't overtighten the knob lock. - Don't attempt to turn the knob when the knob lock is on.*

4. Turn on the Power Switch.

The heater lamp blinks on and off when the tip temperature reaches the set temperature. The unit is now ready to perform soldering work.

CAUTION: *The soldering iron must be placed in the iron holder when not in use.*

Tip Care and Use

1. Tip Temperature

High soldering temperatures can degrade the tip.
Use the lowest possible soldering temperature. The excellent thermal recovery characteristics ensure efficient and effective soldering even at low temperatures.

2. Cleaning

Clean the tip regularly with a cleaning sponge, as oxides and carbides from the solder and flux can form impurities on the tip.
These impurities can result in defective joints or reduce the tip's heat conductivity.
When using the soldering iron continuously, be sure to loosen the tip and remove all oxides at least once a week.
This helps prevent seizure and reduction of the tip temperature.

3. When Not in Use

Never leave the soldering iron sitting at high temperature for long periods of time, as the tip's solder plating will become covered with oxide, which can greatly reduce the tip's heat conductivity.

4. After Use

Wipe the tip clean and coat the tip with fresh solder. This helps prevent tip oxidation.

Maintenance

1. Inspect and Clean the Tip

CAUTION: *Never file the Tip to remove oxide.*

- Set the temperature to 250℃(482℉).
- When the temperature stabilizes, clean the tip with the cleaning sponge and check the condition of the tip.
- If there is black oxide on the solder-plated portion of the tip, apply new solder *(containing flux)* and wipe the tip on the cleaning sponge.
  Repeat until the oxide is completely removed. Coat with new solder.
- If the tip is deformed or heavily eroded, replace it with a new one.

2. Calibrating the Iron Temperature

The soldering iron should be recalibrated after changing the iron, or replacing the heating element or tip.

- Connect the cord assembly plug to the receptacle on the station.
- Set the temperature control knob to 400℃ (750℉).
- Turn the power switch to "ON" and wait until the temperature stabilizes. Remove the CAL pot plug.
- When the temperature stabilizes, use a straightedge (−) screwdriver or small plus (+) screwdriver to adjust the screw *(marked CAL at the station)* Until the tip thermometer indicates a temperature of 400℃(750℉). Turn the screw clockwise to increase the temperature and counterclockwise to reduce the temperature. Replace the CAL pot plug.

We recommend the thermometer for measuring the tip temperature.

3. Tips

The tip temperature will vary according to the Shape of the tip. The preferred method of adjustment uses a tip thermometer *(See "Calibrating the Iron Temperature")*.

Troubleshooting Guide

WARNING!

Disconnect the power plug before servicing. Failure to do so may result in electric shock.

If the power cord is damaged, it must be replaced by the manufacturer, its service agent or similarity qualified person in order to avoid personal injury or damage to the unit.

Problem 1.

The heater lamp does not light up.

[Check 1.]

Is the power cord and/or connecting plug disconnected?

- Connect it.

[Check 2.]

Is the fuse blown?

- Determine why the fuse blew and eliminate the cause, then replace the fuse.

a. Is the inside of the iron short-circuited?

b. Is the grounding spring touching the heating element?

c. Is the heating element lead twisted and short-circuited?

Problem 2.

The heater lamp lights up but the tip does not heat up.

[Check 3.]

Is the soldering iron cord broken?

- Refer to "Checking for breakage in the cord assembly."

[Check 4.]

Is the Heating Element broken?

- Refer to "Checking for breakage in the heating element."

Problem 3.

The tip heats up intermittently.

[Check 3.]

Problem 4.

The tip is not wet.

[Check 5.]

Is the tip temperature too high?

- Set an appropriate temperature.

[Check 6.]

Is the tip clean?

- Refer to 'Tip Care and Use '.

Problem 5.

The tip is not wet.

[Check 7.]

Is the tip coated with oxide?

- Refer to "Insect and clean the tip" .

[Check 8.]

Is the iron calibrated correctly?

- Recalibrate.

Problem 6.

The tip cannot be pulled off.

[Check 9.]

Is the tip seized?

Is the tip swollen because of deterioration?

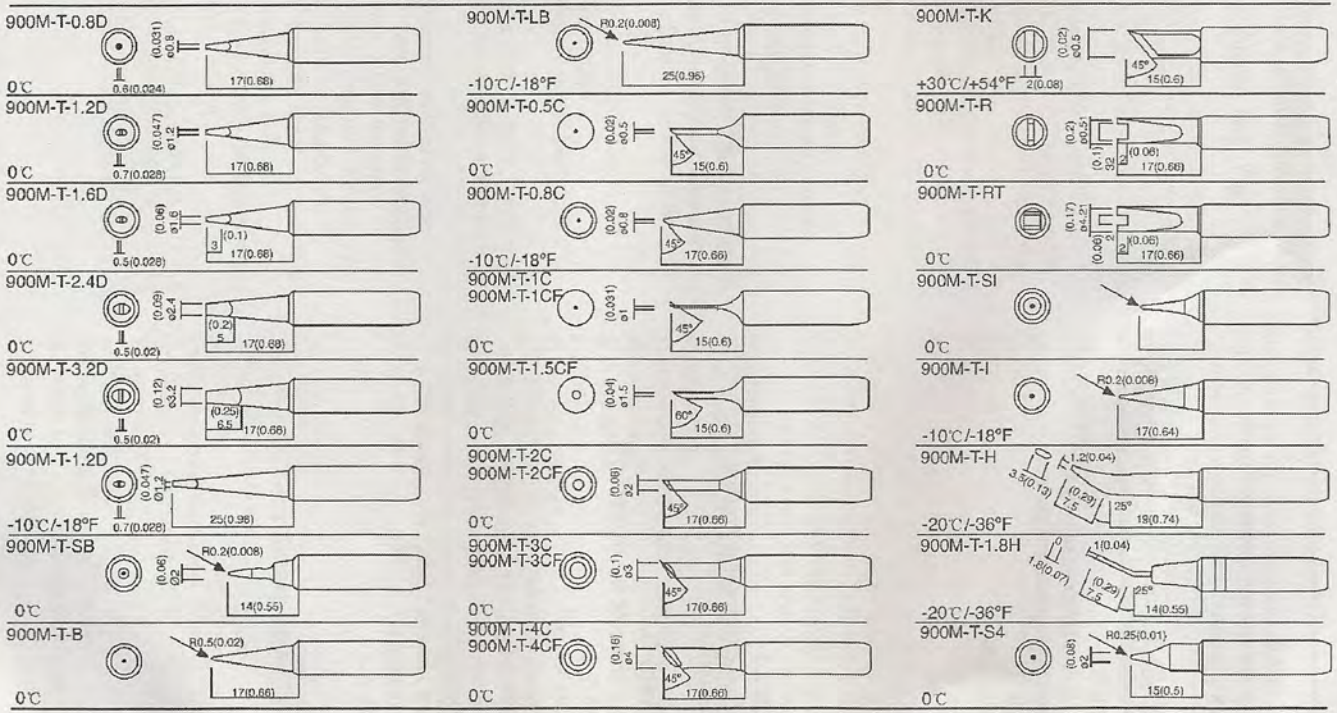
- Replace the tip and the heating element.

Problem 7.

The tip doesn't hold the desired temperature

[Check 8.]

Interchangeable Soldering Tips of Soldering Station



☐ 900M tip OutDiam ϕ6.5