

PAC120 Torch

***Field Repair Bulletin
801410 - Rev 0***



PAC120 Torch
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Purpose

The PAC120 torch field repair bulletin provides the following procedures:

- Remove and clean/replace the plunger
- Align the cap on sensor microswitch
- Remove and replace the cap on sensor microswitch

Customer Required Tools

1 Phillips head screwdriver
2 Phillips head screwdriver
Small pliers
Retaining ring removal pliers
Retaining ring installation tool

Hypertherm Parts

Torch main body, # 020360
Plunger, # 020535
Screw, # 075330
Spring, # 027097
Retaining ring, # 027242
Microswitch, # 005108
Screw (2), # 075265

Remove and Clean/Replace Plunger

To remove and clean/replace the plunger, refer to Figure 1 and the following procedure.

1. **Shut the power off at the MAX42 or MAX40cs power supply and unplug power cord. Shut off the gas supply to power supply.**
2. Remove the five (5) screws which secure the torch handle halves together and separate. Remove the torch main body and torch switch. Ensure the consumables are on the torch and the retaining cap is in place. A good rule is to tighten the retaining cap until the nozzle cannot be turned. **Do not overtighten retaining cap.**
3. On the torch main body, pull back the heat shrink covering the screw on the plunger lead.
4. Place a rag around the plunger to protect against scoring. Hold the plunger with pliers below the microswitch and remove screw and plunger lead. **Be careful not to jar or move the microswitch with pliers.**
5. Remove the retaining ring with retaining ring pliers.
6. Remove the consumables and then slide the plunger and spring out the front end of the torch main body.
7. Inspect the plunger, spring and insulator for dirt or damage. If the plunger or spring have

been damaged, replace the damaged part. Sometimes the spring has been subjected to overheating causing the spring to lose tension, replace if in doubt. If the insulator has been damaged, replace the torch main body.

Caution: Prior to reassembling the torch, ensure all parts are clean of all dirt and dust. Failure to do so will result in a torch failure. Use compressed air to clean away dirt and dust.

8. Slide the plunger with spring into the front end of the torch main body.
9. Place the retaining ring on to the plunger and ensure it sits below the microswitch.
10. Reinstall the consumables, then seat the retaining ring into the groove.
11. Place a rag around the plunger to protect against scoring. Hold the plunger with pliers below the microswitch and replace plunger lead and secure with screw. **Be careful not to jar or move the microswitch with pliers.**
12. Slide the heat shrink over the screw.
13. Check the microswitch and plunger alignment by loosening the retaining cap and listening for the cap on sensor microswitch to open. Then tighten the retaining cap and listen for the microswitch to close. If the microswitch opens and closes, go to step 14. Do not forget to tighten the retaining cap. A good rule is to tighten the retaining cap until the nozzle cannot be turned. **Do not overtighten the retaining cap.**

If the microswitch does not open and close, the microswitch is either misaligned to the plunger or the microswitch is faulty. To align the microswitch to the plunger, refer to the alignment procedure below. To checkout the microswitch, disconnect the microswitch leads and check continuity across leads.
14. Install the torch main body and torch switch into one of the handle halves. While aligning the handle halves, be careful not to pinch any leads. Secure the handle halves together with five (5) screws.
15. The torch is now ready for operation.

Align Microswitch to Plunger

To align the microswitch to the plunger, refer to Figure 2 and the following procedure.

1. **Shut the power off at the MAX42 or MAX40cs power supply and unplug power cord. Shut off the gas supply to power supply.**
2. Remove the five (5) screws which secure the torch handle halves together and separate. Remove the torch main body and torch switch. Ensure the consumables are on the torch and the retaining cap is in place. A good rule is to tighten the retaining cap until the nozzle cannot be turned. **Do not overtighten retaining cap.**
3. Loosen the two (2) microswitch screws enough, so that the microswitch can be moved with finger pressure.

4. Start by centering the microswitch actuator button on the plunger and applying light finger pressure and listening for the microswitch to close. If the microswitch does not close, position the actuator button slightly to the right or left until the microswitch closes. When this occurs, tighten the two screws until snug. Do not over tighten.
5. Check the microswitch and plunger alignment by loosening the retaining cap and listening for the cap on sensor microswitch to open. Then tighten the retaining cap, while listening for the microswitch to close. If the microswitch opens and closes, go to step 6. Do not forget to tighten the retaining cap. A good rule is to tighten the retaining cap until the nozzle cannot be turned. **Do not overtighten retaining cap.**

If the microswitch does not open and close, repeat steps 3, 4 and 5.

6. Install the torch main body and torch switch into one of the handle halves. While aligning the handle halves, be careful not to pinch any leads. Secure the handle halves together with five (5) screws.
7. The torch is now ready for operation.

Remove and Replace Microswitch

To remove and replace the microswitch, refer to Figure 1 and the following procedure.

1. **Shut the power off at the MAX42 or MAX40cs power supply and unplug power cord. Shut off the gas supply to power supply.**
2. Remove the five (5) screws which secure the torch handle halves together and separate. Remove the torch main body and torch switch. Ensure the consumables are on the torch and the retaining cap is on. A good rule is to tighten the retaining cap until the nozzle cannot be turned. **Do not overtighten retaining cap.**
3. Remove the two (2) microswitch screws to remove the microswitch.
4. Disconnect the microswitch leads.
5. Align the microswitch screw holes with the holes on the torch main body. Insert the two (2) screws and tighten enough, so that the microswitch can be moved with finger pressure.
6. Perform steps 4 through 7 in the alignment procedure above.

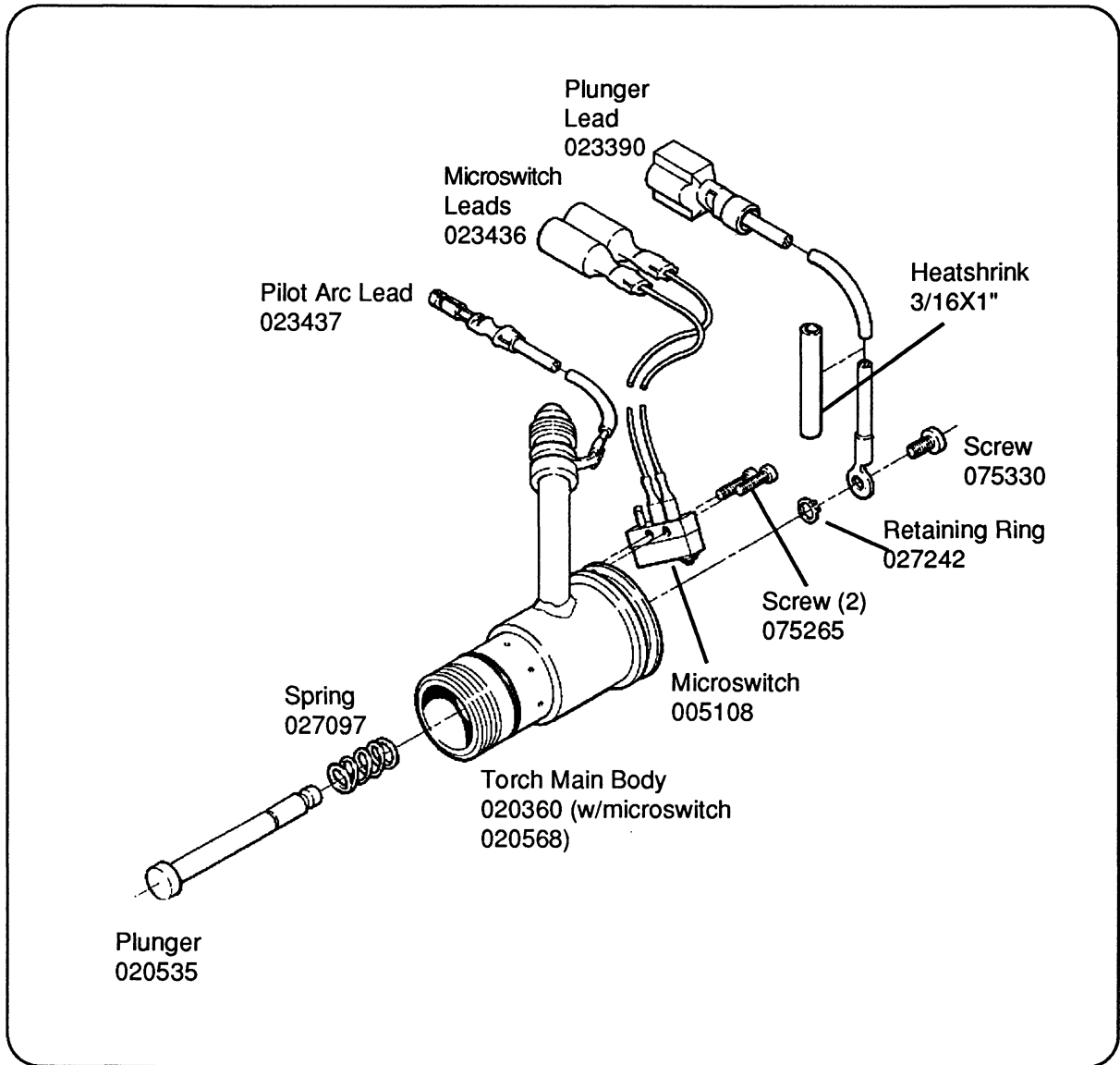
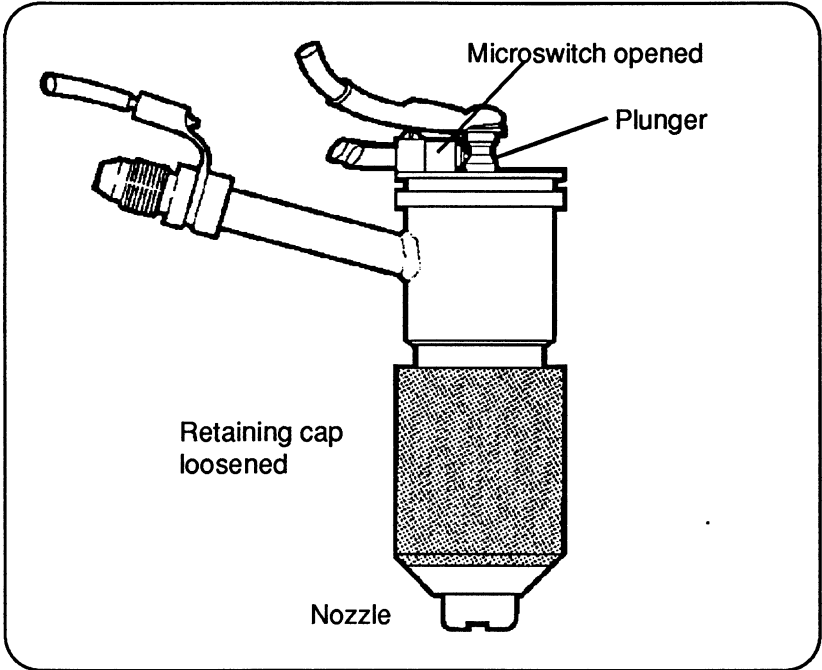
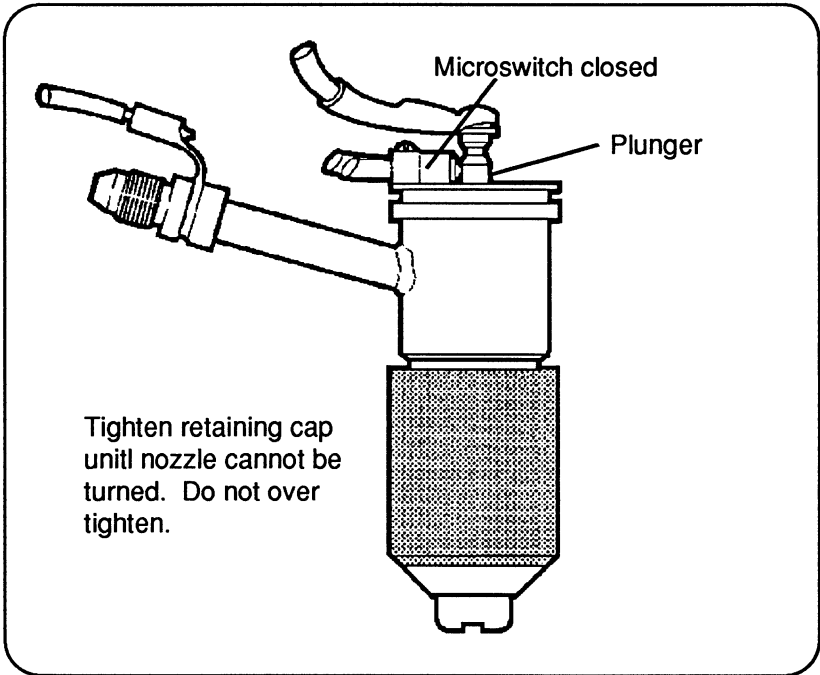


Figure 1 Torch Main Body, Exploded View



Microswitch Opened



Microswitch Closed

Figure 2 Microswitch to Plunger Alignment