

Centricut[®] Quick Disconnect Torch Upgrade for Kaliburn[®] Spirit[®] & ProLine[®]

Field Service Bulletin

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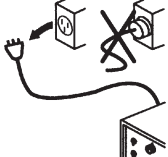
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		DANGER! ELECTRIC SHOCK CAN KILL
		
Before working on the plasma torch or system, safely disconnect gasses, coolant, and power. Follow your company's safety guidelines for system maintenance.		

Introduction

Purpose

This Field Service Bulletin (FSB) describes the procedure for replacing a torch on Kaliburn Spirit & Proline systems.

Tools and materials needed

Note: Adjustable wrenches may be used but open-end wrenches are recommended.

- 3/16 inch open-end wrench
- 3/8 inch open-end wrench
- 7/16 inch open-end wrench
- 1/2 inch open-end wrench
- Assorted standard tools to remove the torch clamp (typically hex-wrenches)

C107-1050 Kit contents (Torch upgrade kit, ProLine/Spirit 150–275 amp)

Part number	Description	Quantity
C107-9050	Torch base, ProLine/Spirit 150–275 amp	1
C107-9150	Torch head, ProLine/Spirit 150–275 amp	1
C107-300	Plasma gas tube	1
N/A	Insulation material	1

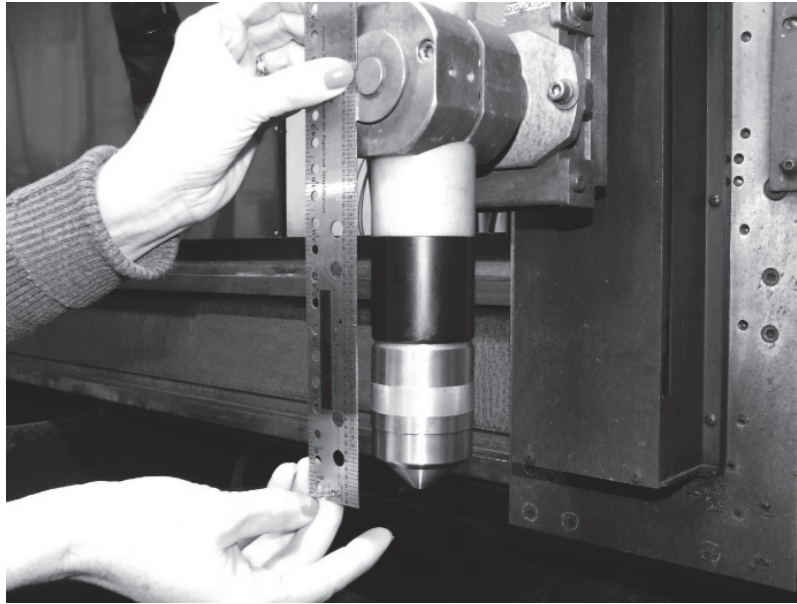
C107-1000 Kit contents (Torch upgrade kit, Spirit 400 amp)

Part number	Description	Quantity
C107-9000	Torch base, Spirit 400 amp	1
C107-9100	Torch head, Spirit 400 amp	1
C107-300	Plasma gas tube	1
N/A	Insulation material	1

Torch removal procedure

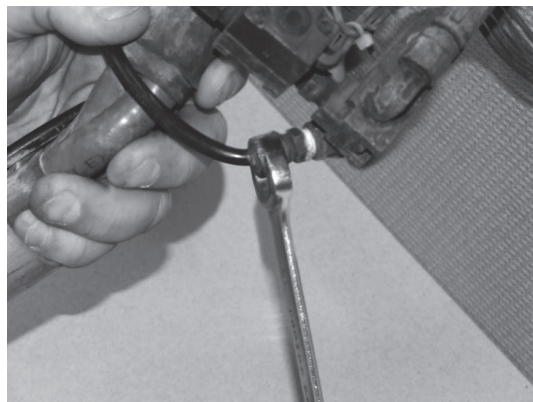
1. Using your Kaliburn system manual, confirm that the system has adequate coolant flow and coolant volume.
2. Measure the distance from the bottom of the torch clamp to the tip of the assembled torch. The distance should be the same after installing the new torch.

Figure 1 – Measuring from torch clamp to tip of torch



3. If replacing a quick-disconnect torch, remove the lower torch body from the torch base.
4. Disconnect the plasma gas hose from the plasma gas outlet on the 2-gang manifold (off valve assembly) located at the top of torch handle (mounting tube).

Figure 2 – Disconnecting the plasma gas hose from the plasma gas outlet



5. Remove the torch from the torch clamp.

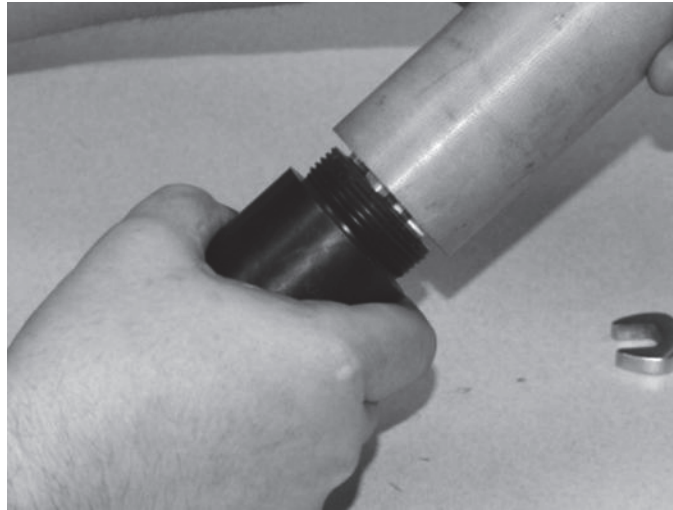
Most torches are held in a pinch block (torch clamp) that clamps onto the torch handle (mounting tube).

6. Unscrew the torch handle (mounting tube) from the back of the torch.

Note: Turn the torch handle, not the torch, to prevent twisting the hoses and wires attached to the torch.

7. Slide the torch handle (mounting tube) out of the way to reveal the lead connections.

Figure 3 – Removing the torch handle (mounting tube)

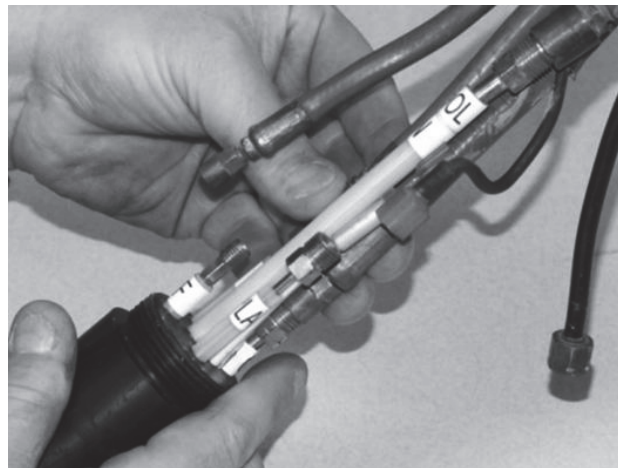


8. Using two wrenches for each fitting, disconnect the following five connections from the back of the torch:

- a. Plasma gas
- b. Shield gas
- c. Pilot arc
- d. Coolant in
- e. Coolant out

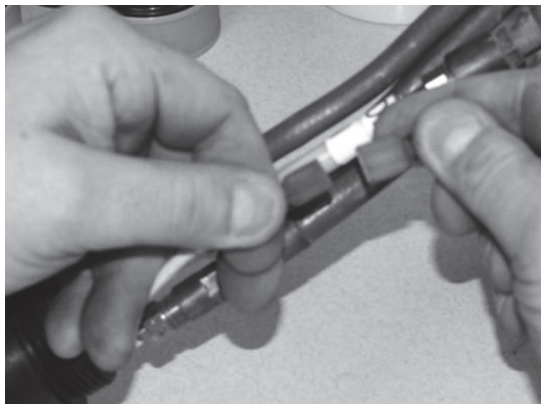
Note: All connections are standard right-hand thread except the coolant return connections (with the long hose) which is a left-hand thread as indicated by the notches on the fitting.

Figure 4 – Torch lead connections



9. Disconnect the shield sensor wire by grasping the plastic shells over the connectors and pulling them apart.

Figure 5 – Disconnecting the shield sensor wire



10. Remove the torch assembly and set aside.
11. Remove the plasma gas hose and set aside.

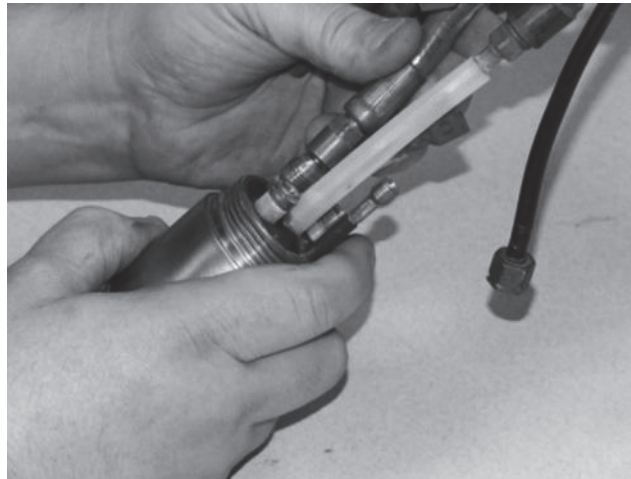
Torch installation procedure

1. Feed the new plasma gas hose through the torch handle (mounting tube) from the top of the handle down toward the torch.
2. Install insulating material over the coolant-in lead (longest lead) on the torch base.
3. With the lower torch body detached from the torch base assembly, connect all the hose fittings and hand tighten.

Note: All connections are standard right-hand thread except the coolant return connections (with the long hose) which is a left-hand thread as indicated by the notches on the fitting.

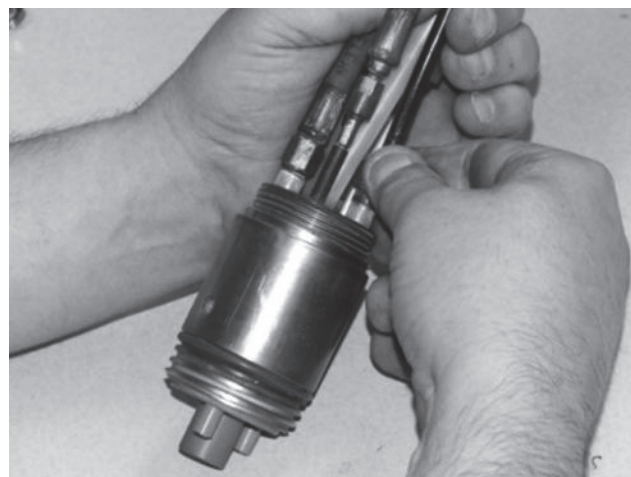
- a. Connect the coolant-in and coolant-out.

Figure 6 – Coolant in/coolant out



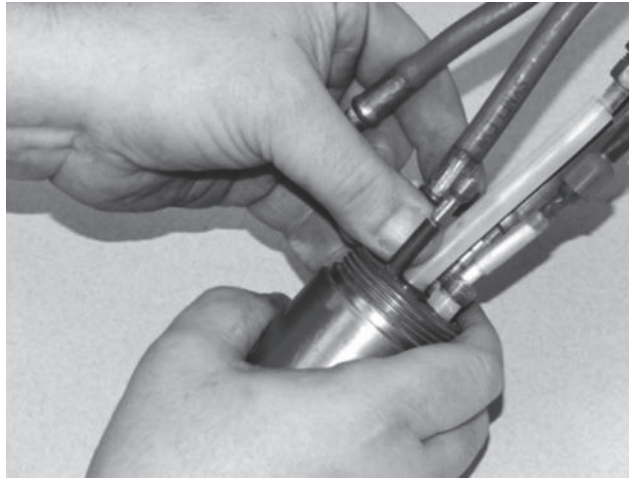
- b. Connect the plasma gas.

Figure 7 – Plasma gas



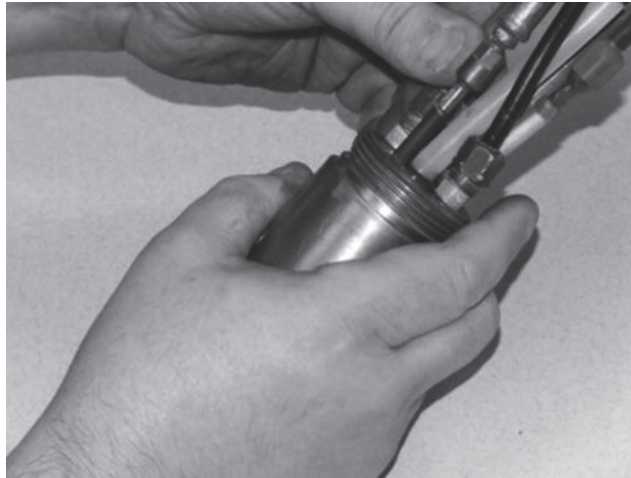
- c. Connect the shield gas.

Figure 8 – Shield gas



- d. Connect the pilot arc.

Figure 9 – Pilot arc



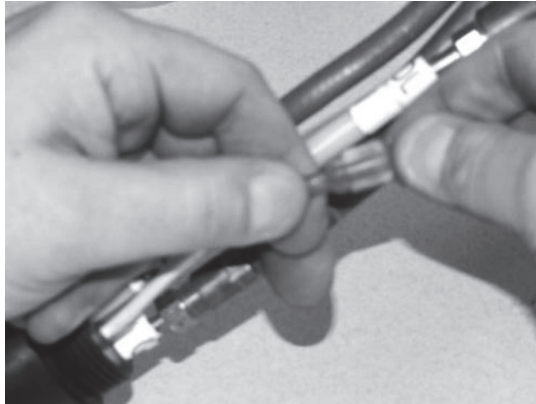
4. Tighten each hose connection snugly using two wrenches.

Note:

- Do not over-tighten the hose connections.
 - Do not allow the fittings on the torch to twist as this can cause damage.
5. Slide insulating material on the coolant-in lead up over all exposed brass fittings.

6. Connect the shield sensor wire.

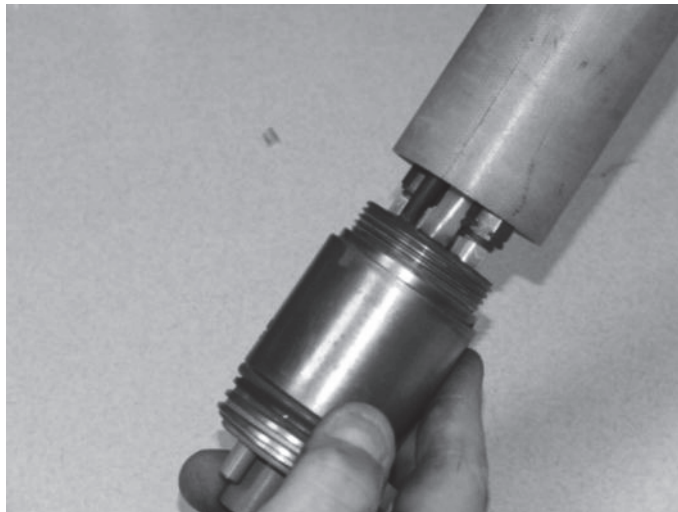
Figure 10 – Shield sensor wire



7. Slide the torch handle (mounting tube) down over the leads and screw it onto the torch base threads. Hand-tighten by turning the torch handle.

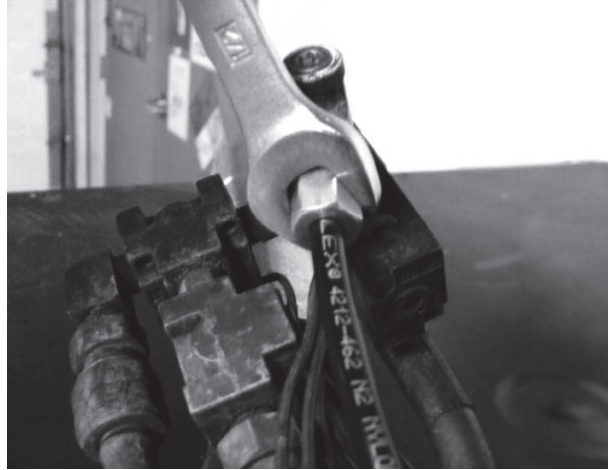
Note: Turn the torch handle, not the torch, to prevent twisting the hoses and wires attached to the torch.

Figure 11 – Connecting the torch handle (mounting tube) to the torch base



8. Connect the plasma gas hose to the 2-gang manifold (off valve assembly).

Figure 12 – Connecting the plasma hose to the 2-gang manifold



9. Slide the torch and torch handle (mounting tube) back into the torch clamp (pinch block).
10. Attach the lower torch body to the torch base assembly and tighten the retaining ring.
11. Set the distance from the base of the torch clamp to the front of the shield equal to distance measured before the torch was removed.
Note: In order to easily mount the torch head to the base once installed, align the torch base in the torch clamp with the aligning mark facing the front (Centricut name and part number toward the back).
12. Tighten the torch clamp.
13. Verify that there are no leaks at any of the connections.
14. Conduct standard pre-cutting tests.