

D-Torch* for AGILENT 4500 & 7500

Part Number 30-808-3015

BEFORE YOU START

Congratulations on the purchase of your D-Torch.
As supplied, the D-Torch is fully assembled. Table 1, lists the D-Torch parts that can be ordered separately.

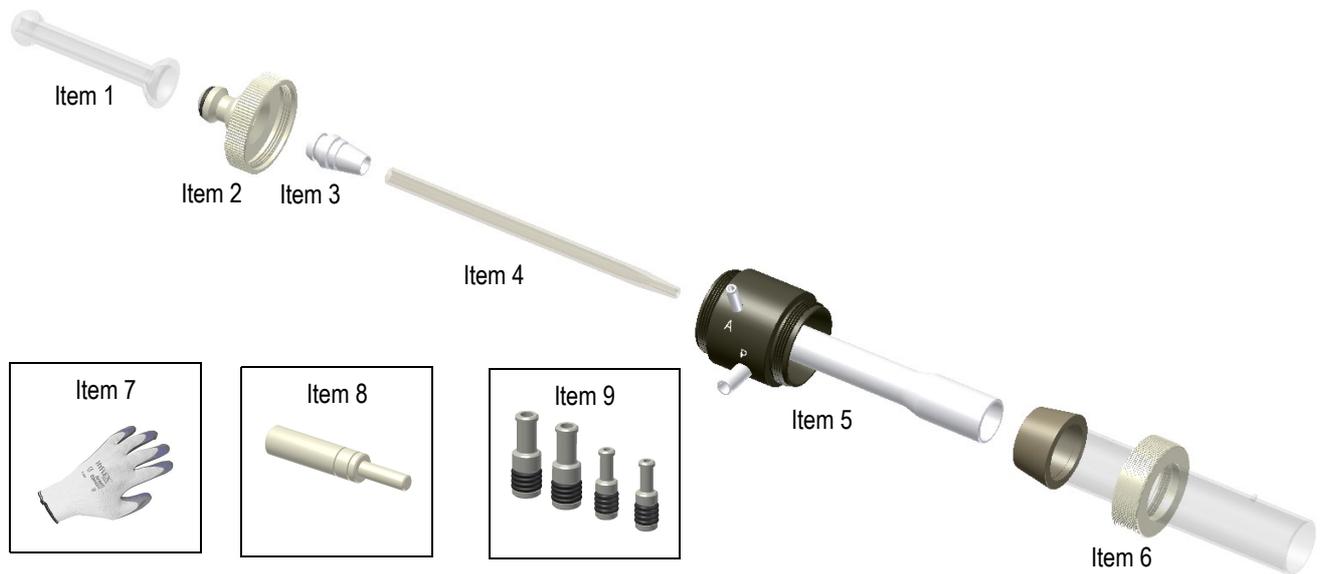
Item No.	Part Number	Description	Qty
1	31-808-3198	Quartz adaptor tube MB13 – S13 – 59mm	1
2	31-808-3072	D-Torch injector adaptor	1
3	31-808-2962	Injector ferrule	1
4	Refer note	Injector	Refer Note
5	31-808-3196	D-Torch AGILENT body	1
6	31-808-3022	D-Torch AGILENT quartz outer tube	1
7	SAFEGLOVE-MED	Safety gloves	1
8	70-803-0920	Injector ferrule tool	1
9	GAZ-0604	GazFit connectors 4mm and 6mm (two of each)	Refer Note

Table 1

Note!

Item 4. D-torch injector not supplied with standard D-torch assembly (Shown for reference only). There is a range of different injectors suitable for Agilent D-Torch – These can be purchased from your D-Torch supplier

Item 9. GazFit connectors used to attach your ICP tubes to the D-torch side arms. (two used, leaving two spare).



Scope

Pages 2 & 3 of this document will explain;

1. Precautions for personal safety and D-Torch preservation.
2. Remove D-torch outer tube.
3. Reattach D-Torch outer tube.
4. Access D-Torch injector.
5. Replace injector ferrule.

* The D-Torch is covered by US Patent 8,232,500 B2

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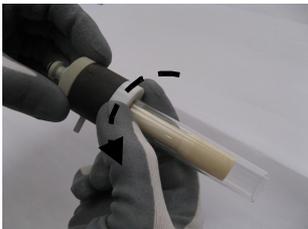
1. Precautions for personal safety and D-Torch preservation

- Always wear safety gloves (item 7) and safety glasses when handling ICP torches.
- The D-Torch is made from high grade engineered materials – *handle with extreme care*.
- Do not allow the D-Torch to be placed on hard surfaces or allow it to come into contact with hard objects.
- It is recommended you review and understand this procedure before handling the D-Torch assembly.

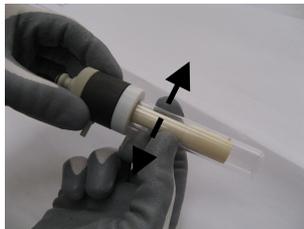
2. Remove D-Torch outer tube

The D-Torch outer tube is accurately held in place with a retainer. The outer tube can be removed at any time by completing the following steps.

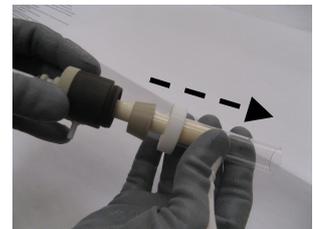
- 2.1 If fitted, remove D-Torch assembly from ICP (not shown).
- 2.2 Unscrew retainer ½ turn.
- 2.3 Grip outer tube (lower end, near D-Torch body) then wriggle tube from side to side – refer figure 2.3
You will hear a “click” as the outer tube releases.
- 2.4 Fully unscrew the retainer then carefully withdraw the outer tube from the torch body.



Step 2.2



Step 2.3



Step 2.4

Note! Outer tube is permanently fitted with a tapered ferrule - **Do not** attempt to remove ferrule from outer tube.
Inner tube is permanently fixed to D-Torch body - **Do not** attempt to remove inner tube from D-Torch body.

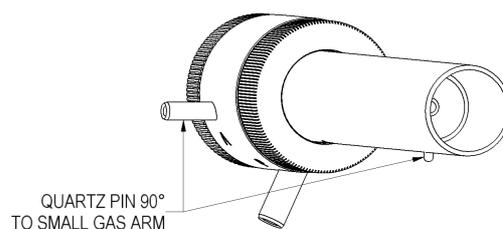
3. Reattach D-Torch outer tube

To attach the outer tube, complete the following steps.

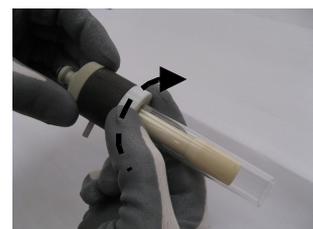
- 3.1 Check that both locating surfaces of the D-torch body and outer tube are clean and free from damage.
- 3.2 Slide the outer tube with its retainer over the D-Torch body's inner tube - Tube will self-seat in the D-Torch body.
Rotate the outer tube to position its quartz pin 90° to the small gas arm.
Note! Position of the quartz pin is only important, if you intend to use a torch shield (this is optional)
- 3.3 Tighten the retainer to fix the outer tube in place.
Do not over tighten retainer (Hand tightening is adequate).



Step 3.1



Step 3.2



Step 3.3

- 3.4 If required, return D-Torch to ICP and connect as normal (not shown).

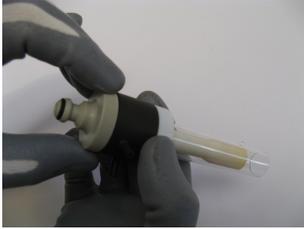
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4. Access D-Torch Injector

To remove the injector

- 4.1 Unscrew the injector adaptor from the rear of the D-Torch and carefully remove the adaptor from D-Torch body.



Step 4.1a



Step 4.1b



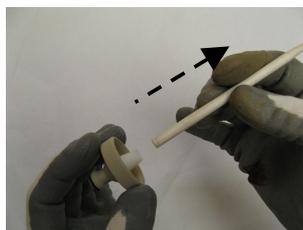
Step 4.1c

- 4.2 Slide the injector out from the injector adaptor

Check condition of the ferrule – Replace ferrule if damaged or deteriorated (refer section 5).



Step 4.2a



Step 4.2b

To reinstall Injector to the D-Torch

Repeat steps 4.1 and 4.2 in reverse order.

Note! Push injector all the way into the injector ferrule. (End of injector must butt-up against inside of adaptor).

5. Replace injector ferrule

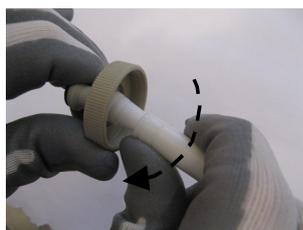
To replace the injector ferrule, complete the following steps: -

- 5.1 Insert the injector ferrule tool (item 8) into injector ferrule then pivot tool sideways to unseat the ferrule from the injector adaptor - Discard ferrule.

You may need to apply a moderately high amount of force to un-seat the injector ferrule from the adaptor.



Step 5.1a

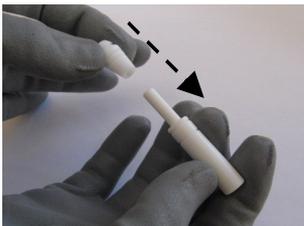


Step 5.1b

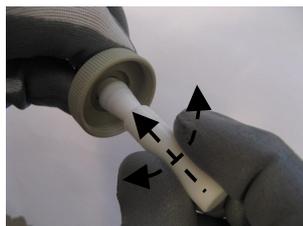


Step 5.1c

- 5.2 Place a new injector ferrule (item 3) onto the stem of injector ferrule tool. Position the ferrule into the adaptor and push together until you feel the ferrule 'seat' with adaptor o-ring.



Step 5.2a



Step 5.2b



Step 5.2c

Hint! It will help if you pivot the injector ferrule tool (like step 5.1b) whilst pushing-in the injector ferrule.

Finished! If you have any questions regarding the D-Torch assembly or this procedure, please contact your supplier.