

D-Torch* user guide

Spectro Blue EOP

30-808-3600

BEFORE YOU START

Congratulations on the purchase of your D-Torch.

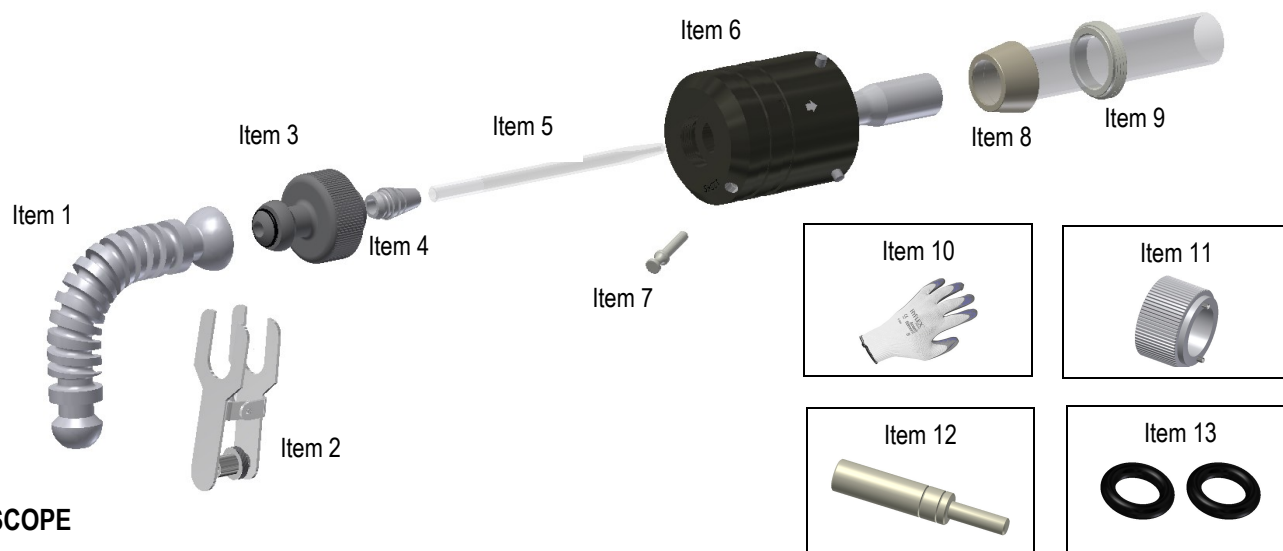
As supplied, the D-Torch is fully assembled -- Table 1, lists all the D-Torch components that can be ordered separately.

Item No.	Part Number	Description	Qty
1	21-809-4045	Adaptor S19/B19-90	1
2	JC-19	Metal Ball-joint Clip	1
3	31-808-3651	D-Torch Spectro Blue injector adaptor	1
4	31-808-2962	D-Torch injector ferrule 6.0mm	1
5	Refer note	Quartz tapered injector 1.8mm	Refer note
6	31-808-3605	D-Torch Spectro Blue Body	1
7	31-808-3628	Plug	1
8	31-808-3601	D-Torch Spectro Blue EOP quartz outer tube	1
9	31-808-3595	Retainer	1
10	SAFEGLOVE-MED	Safety gloves	1
11	70-803-1252	Tool for outer tube retainer	1
12	70-803-0920	Injector ferrule tool	1
13	VT-6/2	O-ring 6mm x 2mm	2

Notes;

Table 1

- Item 5. D-torch injector not supplied with standard D-torch assembly (Shown for reference only). There are a range of different injectors suitable for this D-Torch – These can be purchased from your D-Torch supplier.
- Item 7. Do not remove plug from D-Torch body - This plug is only removed when using a ceramic outer tube.
- Item 13. Two new o-rings are supplied for the D-Torch / ICP interface.
We recommend you install both these o-rings should the existing ICP o-rings show signs of wear or other defect.



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. Re-attach 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 10) 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 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 located in place with the 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 Using the tool (item 11) supplied, unscrew the outer tube retainer (at the tube base) by approximately 1/2 turn.
- 2.3 Grip outer tube (lower end, near D-Torch body) and gently wriggle it from side to side.
You will hear a “click” as the outer tube releases.
- 2.4 Then fully unscrew the retainer and carefully withdraw the outer tube from the torch body.



Step 2.2



Step 2.3



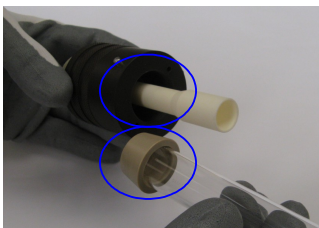
Step 2.4

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. RE-ATTACH D-TORCH OUTER TUBE

To replace the outer tube, complete the following steps.

- 3.1 Check that both locating surfaces (outer tube and torch body) are clean and free from damage.
- 3.2 Carefully slide the outer tube over the inner tube – the outer tube will self locate into the torch body.
- 3.3 Fix the outer tube in place with the retainer from earlier - Using the same tool (item 11), apply moderate tightening force - Do Not over tighten.



Step 3.1




Step 3.2



Step 3.3

- 3.4 You can now return the D-Torch to your ICP as normal (not shown).

Note! Align the arrow symbol  (on the D-Torch body) with the appropriate indicator on your ICP instrument.
The front face of the torch body and ICP interface o-rings are in good order - **Replace** o-rings if necessary

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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 4.1



Step 4.1 continued



Step 4.1 complete

- 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 4.2



Step 4.2 complete

To re-install Injector to the D-Torch

Repeat steps 4.1 and 4.2 in reverse order.

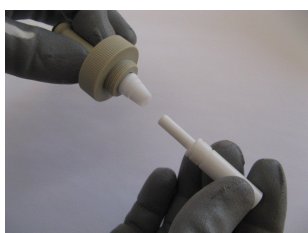
Critical note! Push the injector all the way into the adaptor (injector must be seated in the correct position).

5. REPLACE INJECTOR FERRULE

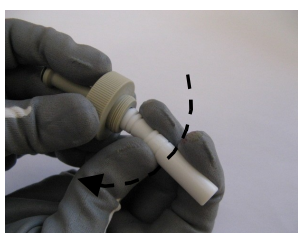
To replace the injector ferrule, complete the following steps: -

- 5.1 Insert the injector ferrule tool (item 12) into injector ferrule then pivot tool sideways to unseat the ferrule from the injector adaptor - Discard ferrule.

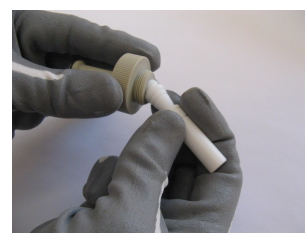
You may need to apply a moderately high amount of force to un-seat the injector ferrule from the adaptor.



Step 5.1

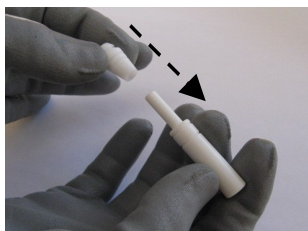


Step 5.1 continued



Step 5.1 complete

- 5.2 Place a new injector ferrule (item 4) 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 5.2



Step 5.2 continued



Step 5.2 complete

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.