

## Vista and Liberty Series II Axial Spraychamber Upgrade Instructions

To reduce the memory effects for Hg and B and improve the tolerance to varying oxidation states for As and Se, we recommend that the spraychamber on axial instruments be moved. Moving the spraychamber will reduce the length of the spraychamber to torch tubing.

Two kits are provided for this upgrade. The Rework Tool Kit (part number 9910100300) contains the required tools and templates. The Axial Update Parts Kit (part number 9910100400) contains the required brackets and fixings for cyclonic or Sturman/Masters spraychambers.

### Rework Tool Kit (part number 9910100300)

Part	Part Number
Chassis feed-through template	7210031500
Spraychamber bracket template	7210031600
Chassis punch 50 mm diameter	7210031700
RF oscillator removal tool	7210026900
De-burring tool	7210032000
Tapered boring tool	7210032100
3 mm drill bit	7210032300
4.8 mm drill bit	7210032400
7 mm drill bit	7210032500

### Locally Supplied Tools

Electric pistol drill with 3/8 in. chuck  
Adjustable wrench suitable to turn 1 in. bolt

### Axial Update Parts Kit

Part	Part Number	Quantity
Assembly holder cyclonic spraychamber	0110665500	1 ea.
Assembly holder Sturman/Masters spraychamber	0410328600	1 ea.
Snap cap washer	1510134600	4 ea.
Cover snap cap black	0910028100	4 ea.
Washer flat 4.2 ID x 11.2 OD	1518028000	4 ea.
Feed-through plug	0810143600	1 ea.
Screw captive washer stainless	1510108200	3 ea.
Nut M4	1510110100	4 ea.
Washer spring	1518029700	4 ea.



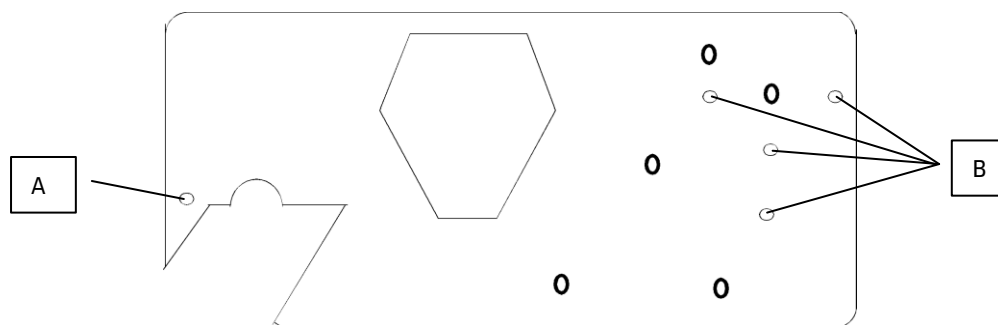
**Axial Update Parts Kit**

Screw M4 x 12	1510120900	4 ea.
Quartz torch ICP-OES axial right angle	2010090400	1 ea.

**Template Description**

Two templates are supplied in the tool kit. Template 1 is used to rework the top tray and RF oscillator. The burst pierce holes locate the template on the top tray. Refer to Figure 1. The squares on template 1 are used to locate the holes on the floor of the RF oscillator.

Template 2 is attached to the instrument chassis with two M4 screws in place of the Argon Saturation mounting bracket. The three 3 mm holes are then used to mark the holes for the poly propylene mountings.



**Figure 1.** Template 1

**Instructions**

**To install the axial spraychamber upgrade:**

- 1 Turn off and unplug the instrument.
- 2 Turn off the instrument water cooler.

**CAUTION**

For installations where the water cooling system is shared between the ICP-OES instrument and other devices, the water cooling supply may be configured in parallel. Secure both supply and return water-cooling lines at the instrument before servicing.

- 3 Open the water cooling filter assembly to release residual line pressure from the water cooling system.

**CAUTION**

Vista instruments require water-cooling systems that use positive displacement pumps. Before the water-cooling filter is opened place a site supplied bucket beneath it to catch any water that may spill.

**NOTE**

Periodic cleaning of the Vista water-cooling filter is required. Remove the filter mesh element and clean it by running it under a tap before re-sealing the system.

- 4 Turn-off all gas supplies to the instrument.
- 5 Remove all instrument covers.
- 6 Remove the torch compartment door and door fascia panel.
- 7 Disconnect the water hoses at the bottom of the RF oscillator at the swagelok fittings.
- 8 Remove the air pipe connections from the instrument fan to the RF oscillator.
- 9 Disconnect filament connections at the filament transformer.
- 10 Disconnect torch compartment door interlock loom.
- 11 Disconnect ALC loom, RF fiber optical cable and earth lead from RF oscillator to RF pwb.
- 12 Disconnect two earthing connections from the RF filter compartment to the instrument top tray.
- 13 Remove the auxiliary gas supply feed-through L on D
- 14 Remove the transfer tubing feed-through L on D.
- 15 Disconnect the relay coil loom and mains supply to the igniter.
- 16 Locate the RF removal tool in the tool kit and remove the four special screws securing the oscillator to the chassis.
- 17 Remove the RF oscillator from the instrument.
- 18 Take template 1 from the tool kit and place it on the top tray of the instrument.
- 19 Use the burst pierce holes to align the template by placing the burst pierce holes in the current transfer tubing feed-through L on D holes in the top tray.
- 20 With a ruler ensure the template is square with the front instrument.
- 21 Using the locally-supplied drill and the 3 mm drill bit, spot mark hole 'A' on the instrument top tray (refer to Figure 1).
- 22 Remove the template from the top tray and drill the 3 mm spot through the instrument top tray.

**NOTE**

Placing masking tape on the area below where the drill will pass through will catch the swarf and make clean-up easier.

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- 23 Locate the tapered boring tool and enlarge the hole to suit the bolt of the chassis punch.
- 24 Install the chassis punch and with the bolt head facing upwards, punch the 50 mm hole through the top tray.

**NOTE**

Tighten the bolt clinching the chassis punch completely to enable the punch to be removed from the instrument top tray.

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- 25 Locate the de-burring tool and de-burr the hole as required.
- 26 Re-install the auxiliary feed-through L on D.
- 27 Re-install the transfer tubing L on D.
- 28 Place the RF oscillator upside down on the floor and position template 1 over the L/Ds with the burst pierce hole facing upwards.
- 29 With the drill and the 3 mm drill bit spot mark the 4 holes labeled 'B' on the bottom of the RF oscillator (refer to Figure 1).

- 30 Remove the template and drill the 3 mm spots through the oscillator bottom cover.
- 31 Use the 4.8 mm drill bit to enlarge the three outer holes to suit the M4 screws that hold the torch L/D in place.
- 32 Use the tapered drill bit to enlarge the center hole to 15 mm diameter.
- 33 Use the de-burring tool to de-burr the holes.
- 34 Remove existing transfer tubing feed-through L on D and replace with round cover plate.
- 35 Use two M4 screws in the ASA bracket nutserts to install template 2. Using the drill and the 3 mm drill bit, mark the 3 holes to be used for mounting the spraychamber studs.

**CAUTION**

Use care to avoid damaging the instrument fan.

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- 36 Remove the template and drill through the holes. Enlarge them with the 7 mm drill bit to suit the spraychamber studs.
- 37 Use the de-burring tool to deburr the holes.
- 38 Remove the spraychamber studs from the rear wall of the sample introduction compartment and install them on the left wall.
- 39 Locate the snap caps and associated hardware and install the same in the holes in the rear of the sample compartment.
- 40 Re-assemble the instrument in the reverse order.
- 41 Ignite plasma and perform a horizontal and vertical torch scan.

**NOTE**

Sample tubing to nebulizer capillary and drain tubing may have to be extended to suit.

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This information is subject to change without notice.



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