



How to Repair a Flow Style High-Cycle On/Off Valve (Insta 1 & H2O Hybrid) Using Kit #13685

These instructions will demonstrate how to replace components of a Flow Style High-Cycle On/Off Valve (Insta 1 & H2O Hybrid) with kit #13685

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INTRODUCTION

Hypertherm is in no way affiliated with the above mentioned manufacturer

TOOLS:

- 1-1/8" wrench (1)
- 7/8" wrench (1)
- 3/4" wrench (1)

PARTS:

- On/Off Valve Repair Kit #13685 (1)
- Poppet Seat #11141 (included in kit) (1)
- O-ring #11145 (included in kit) (1)
- High-Pressure Valve Seal #11142 (Included in Kit) (1)
- Back-up Ring #11143 (included in kit) (1)
- Actuator #12128 (1)
- Valve Body #13380 (1)
- Nozzle Tube #11358-4 (1)
- Blue Goop #11111 (1)
- Isopropyl Alcohol (1)

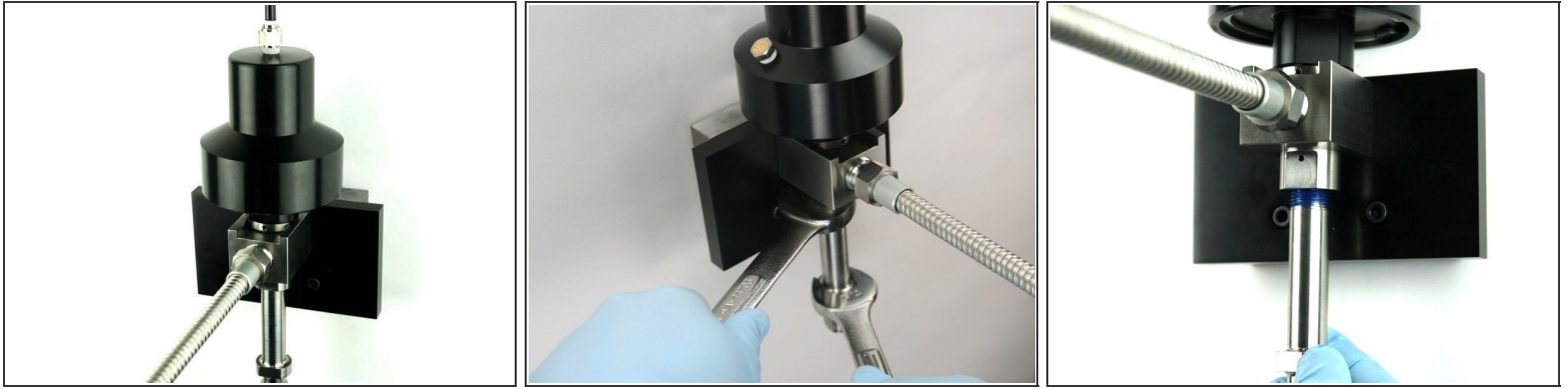
Step 1 — How to Repair a Flow Style High-Cycle On/Off Valve (Insta 1 & H2O Hybrid) Using Kit #13685



⚠ Always make sure all high-pressure water has been removed from the valve by following the machine manufacturers' safety instructions. Failure to do so can cause severe injury or death.

- Turn OFF all water pressure to the on/off valve.
- Turn the on/off valve ON to raise the poppet stem from the [high-pressure seat](#).

Step 2



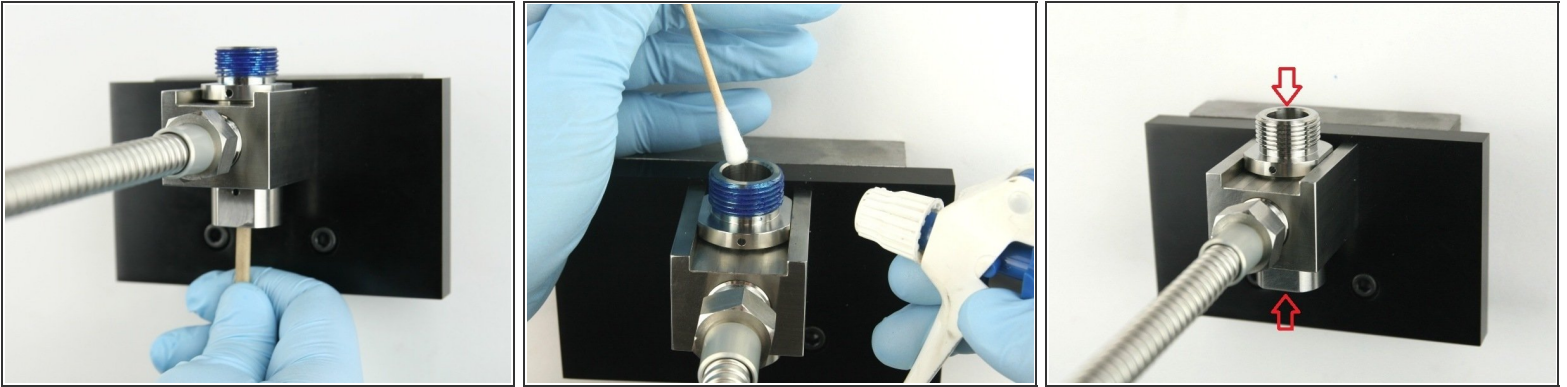
- i** The [valve kit](#) components can be replaced with the [valve body](#) in the mounting collar.
- Loosen the [nozzle tube](#) from the valve body using a 3/4" and 7/8" wrench.
 - Unthread the nozzle tube from the valve body.

Step 3



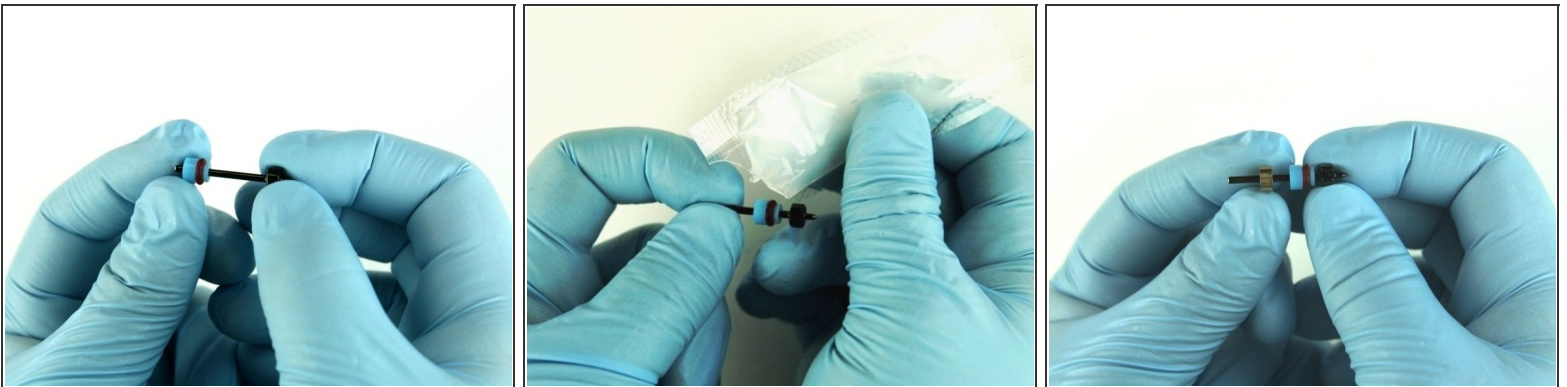
- Turn the air to the actuator OFF at the controls.
- Disconnect the air line from the [actuator](#).
- Unthread the actuator from the valve body using a 1-1/8" wrench.

Step 4



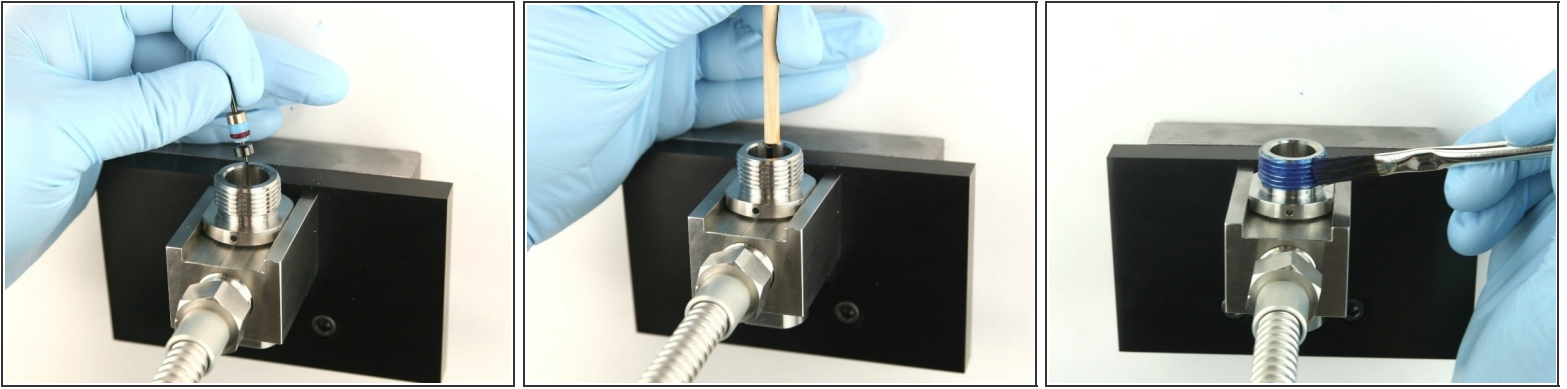
- Remove the old valve components from the valve body with the included dowel.
- Thoroughly clean the interior/exterior of the valve body with isopropyl alcohol or similar cleaning agent before replacing the components.
- ⓘ Visually inspect the top and bottom of the bore for cracks/blemishes. If excessive wear or cracks are visible, replace the [valve body](#).

Step 5



- With the O-ring towards the point of the poppet stem, slide the [high-pressure valve seal](#) on to the poppet stem.
- Apply a high-pressure lubricant or similar ([11336](#)) to the outside diameter of the high-pressure valve seal.
- Slide the [back-up ring](#) on to the poppet stem behind the high-pressure valve seal.

Step 6



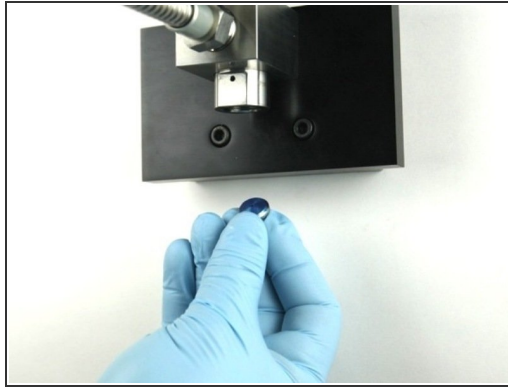
- Put the poppet stem, with the point down, at the top of the valve body.
- Use the dowel to push the poppet stem down until the back-up ring is flush with the top of the bore.
- Apply [Blue Goop](#) to the top threads of the valve body.

Step 7



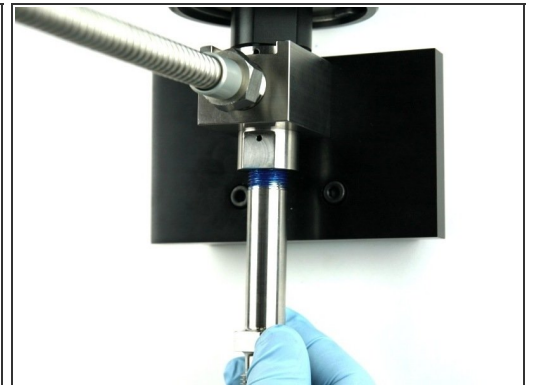
- Thread (hand tighten) the actuator to the top of the valve body.
- Reconnect the air line to the top of the actuator.
- Turn the air to the actuator ON to relieve the pressure from the poppet stem.

Step 8



- Apply Blue Goop to all surfaces of the high-pressure seat.
- Put the high-pressure seat at the bottom of the valve body.
- Put the [O-ring](#) behind the high-pressure seat so it will be held in place within the valve body.

Step 9



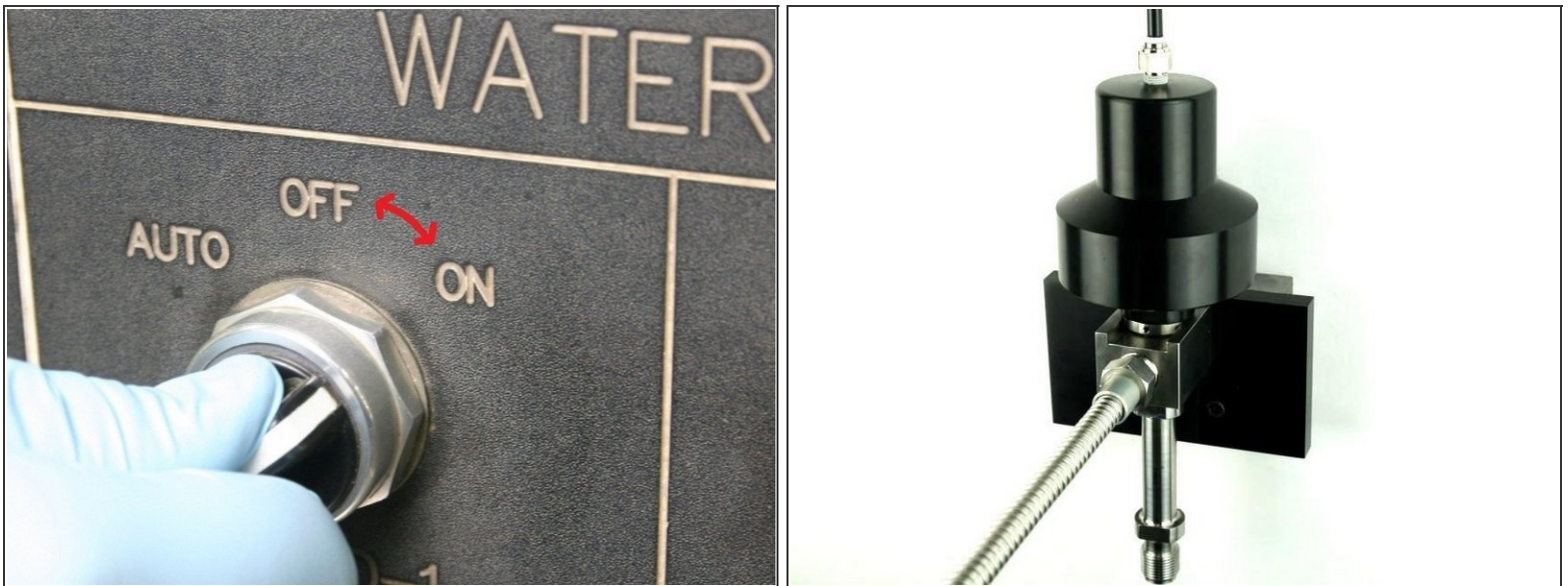
- Thoroughly clean the nozzle tube of all the Blue Goop.
- Reapply Blue Goop to the threads of the nozzle tube.
- Thread the nozzle tube into the bottom of the valve body.

Step 10



- Tighten the nozzle tube to the valve body using a 3/4" and 7/8" wrench.
- Turn the air to the actuator OFF to set the poppet stem into the high-pressure seat.
- Apply water pressure to the valve assembly to verify there are no leaks.

Step 11



- Quickly cycle the valve on and off a few times to purge the system of all contaminants before installing the cutting head.
- Re-install the cutting head and continue the cutting process.