REXPO
CUTTING & BLASTING SOLUTIONS

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

These instructions will demonstrate how to replace components of a Flow Style High-Cycle On/Off Valve (Insta 1) 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:

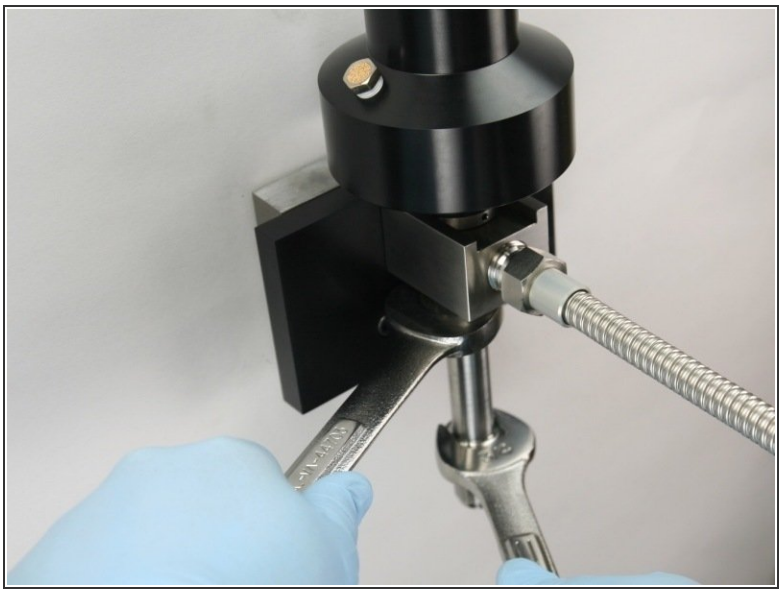
- On/Off Valve Repair Kit #13685 (1)
- O-ring #11145 (included in kit) (1)
- Valve Seal #11142 (Included in Kit) (1)
- Back-up Ring #11143 (included in kit) (1)
- Poppet Seat #11141 (included in kit) (1)
- Actuator #12128 (1)
- Valve Body #11144 (1)
- Valve Screw #11218 (1)
- Nozzle Tube #11358-4 (1)
- Blue Goop #11111 (1)
- Isopropyl Alcohol (1)

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

⚠ Always make sure all high-pressure water has been removed from the valve by the following 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.

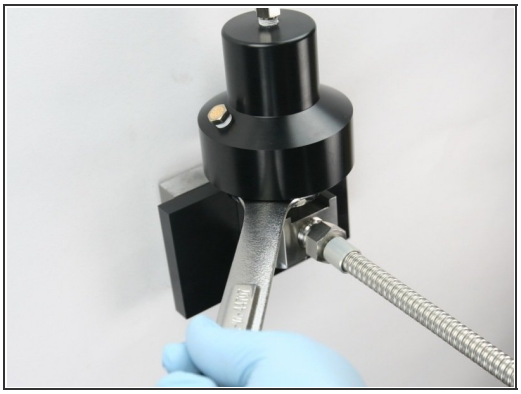
Step 2



The valve kit components can be replaced with the valve body in the mounting collar.

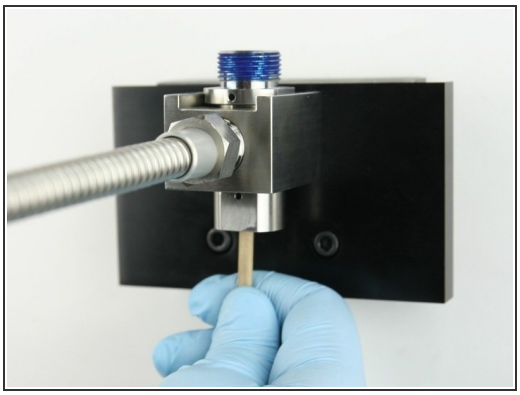
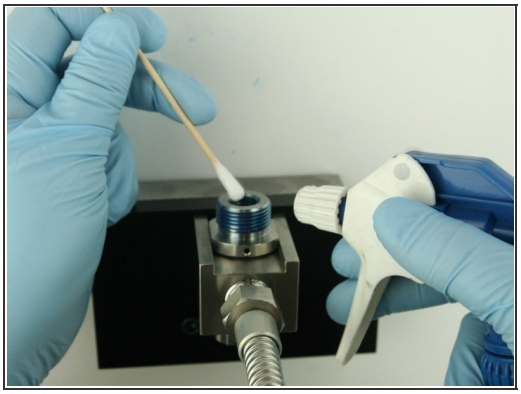
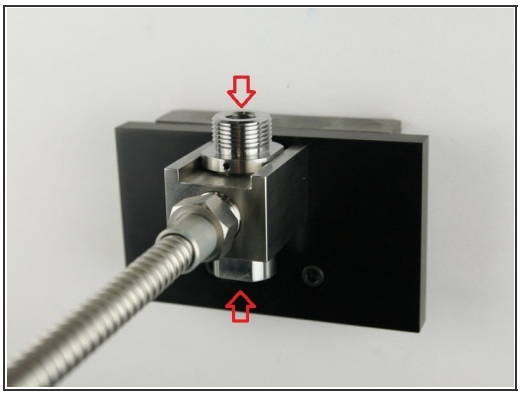
- Unthread the nozzle tube from the valve body using a 3/4" and 7/8" wrench.

Step 3



- Turn the air to the actuator OFF at the controls.
- Disconnect the air tube from the actuator.
- Unthread the actuator from the valve body using a 1-1/8" wrench.

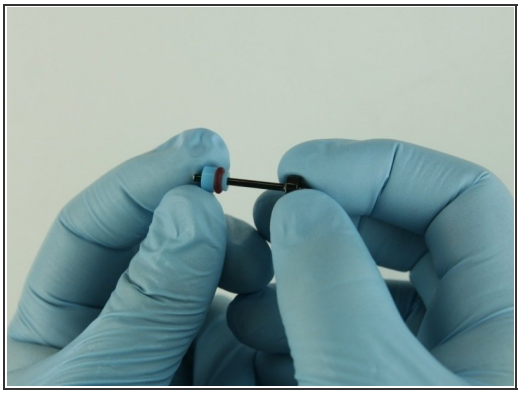
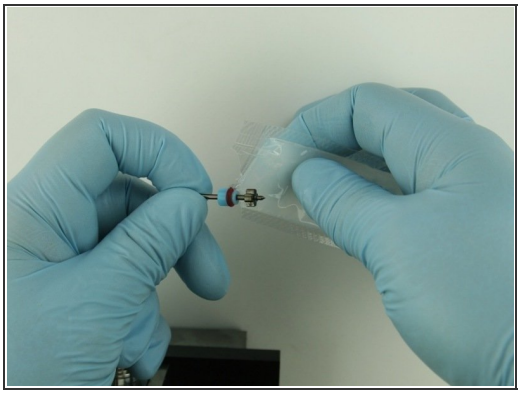
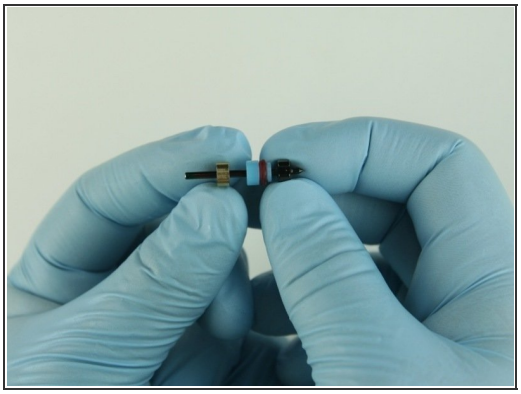
Step 4

- 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 a similar cleaning agent before replacing the components.

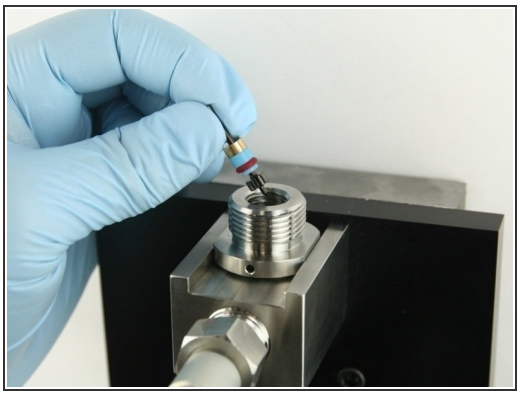
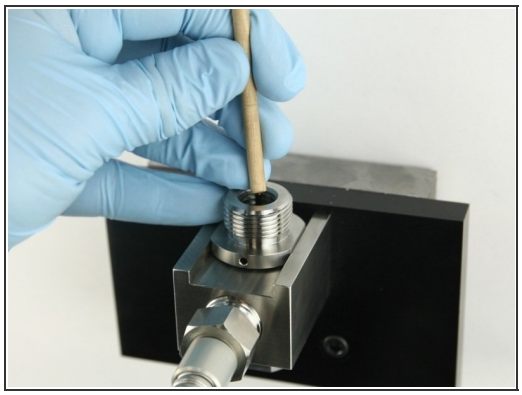
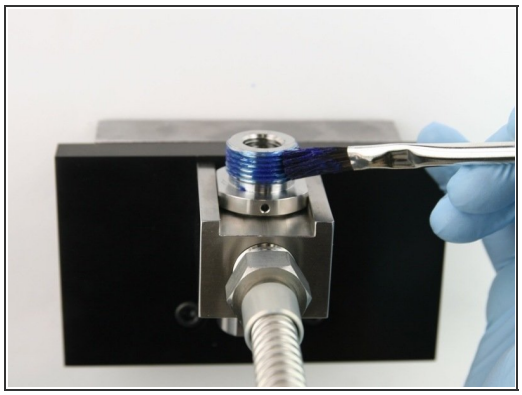
ⓘ Visually inspect the top and bottom of the bore for cracks/blemishes. If excessive wear or cracks are visible, replace the valve body.

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 a similar one(11136) 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.

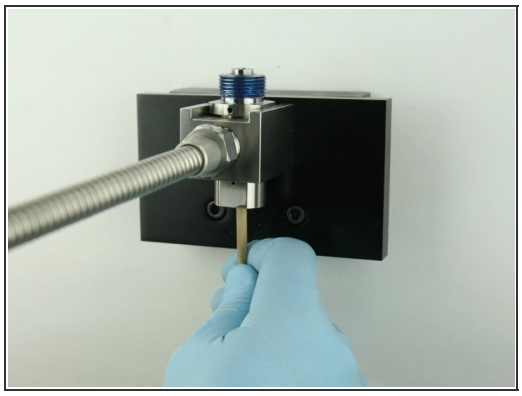
Step 6

- 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.

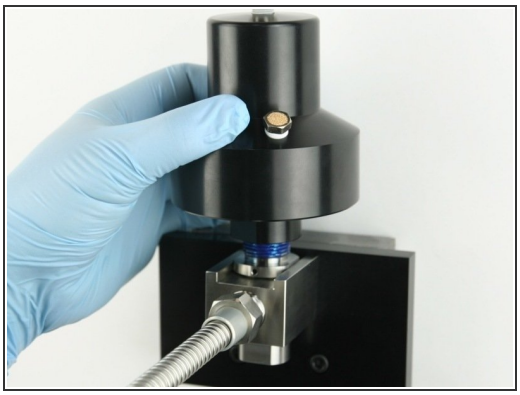
Step 7





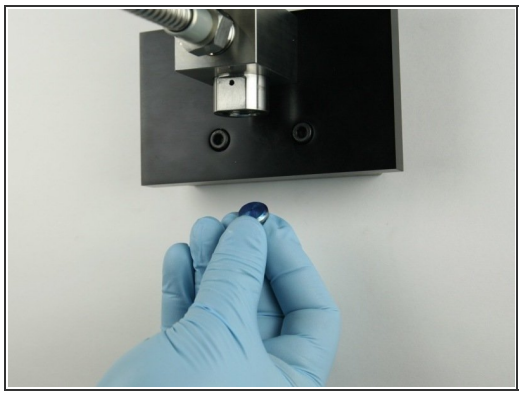
- Apply Blue Goop to the valve screw threads.
- Thread the valve screw into the valve body until it bottoms out.
- With the dowel, push the poppet stem point flush with the bottom of the bore.

Step 8



- 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.

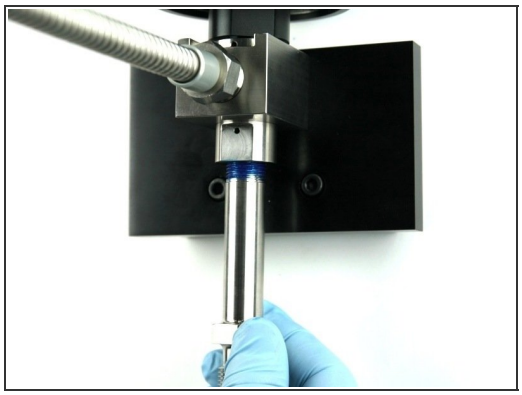
Step 9


- Apply Blue Goop to all surfaces of the high-pressure seat.
- Put the high-pressure seat into the bottom of the valve body.
- Put the O-ring behind the high-pressure seat so it will be held in place.

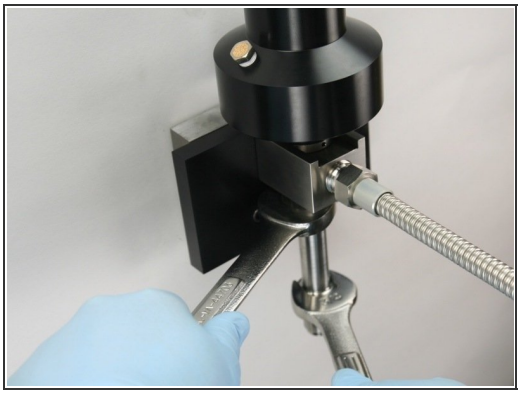
Step 10

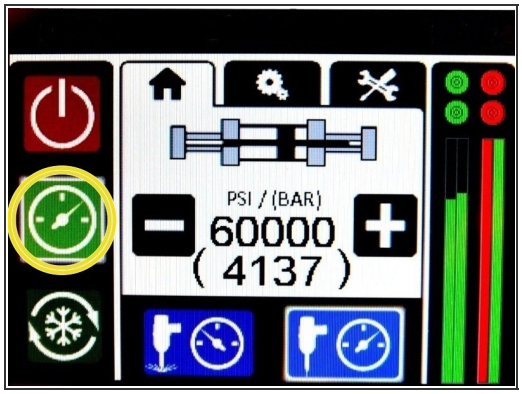




- Thoroughly clean the nozzle tube of all Blue Goop.
- Reapply Blue Goop to the threads of the nozzle tube.
- Thread the nozzle tube into the bottom of the valve body.

Step 11



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

Step 12

- 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.