



# How to Repair a Pneumatic Valve 100K N/C

## Using Kit #14323

These instructions will demonstrate how to replace components of a KMT Style Pneumatic Valve 100K Normally Closed with kit #14323

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# INTRODUCTION

Hypertherm is in no way affiliated with the above mentioned manufacturer



## TOOLS:

- 1-1/4" wrench (1)



## PARTS:

- Pneumatic Valve Repair Kit #14323 (1)
- Bronze Back-up Ring #14314 (included in kit) (1)
- High-Pressure Seal Assembly #14322 (included in kit) (1)
- O-ring #11240 (included in kit) (1)
- Seat #11099 (included in kit) (1)
- Actuator #12089 (1)
- Valve Body #14317 (1)
- Valve Stem #14310 (1)
- Stainless Steel Back-up Ring #12733 (1)
- High-Pressure Gland Fitting #12347 (1)
- Nozzle Tube #11436 (1)
- Blue Goop #11111 (1)

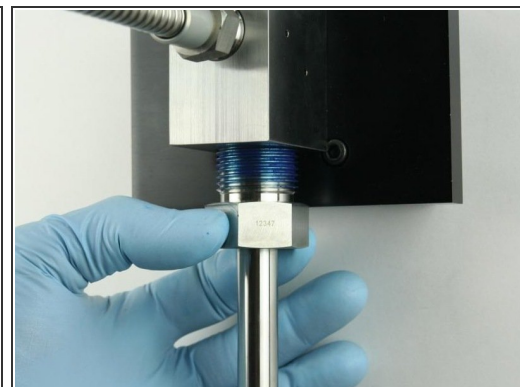
## Step 1 — How to Repair a Pneumatic Valve 100K N/C Using Kit #14323



**⚠ 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.**

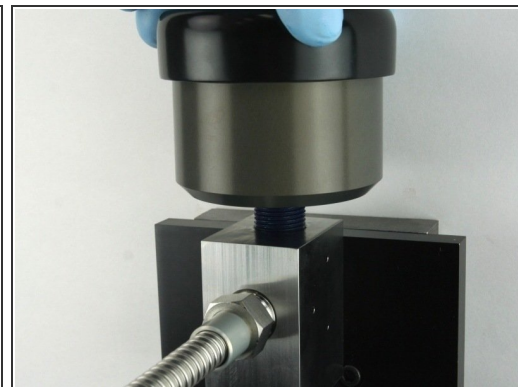
- Turn OFF all water pressure to the on/off valve.
- Turn the On/Off valve ON to make sure there is no pressurized water in the valve.

## Step 2



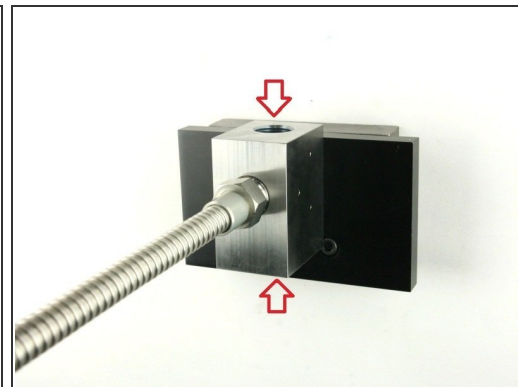
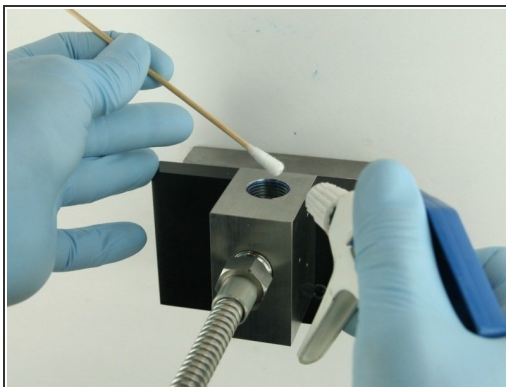
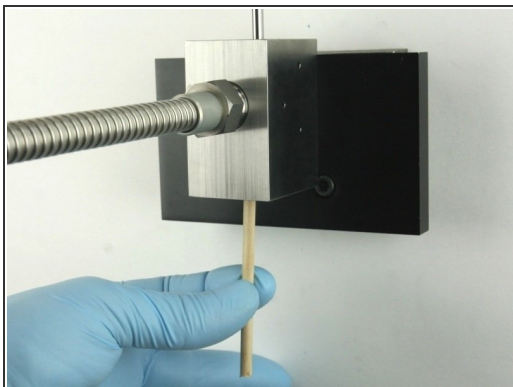
- Valve components can be replaced with the [valve body](#) mounted to the table.
- Loosen the [high-pressure gland fitting](#) using a 1-1/4" wrench.
- Unthread high-pressure gland fitting from the valve body.

### 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.

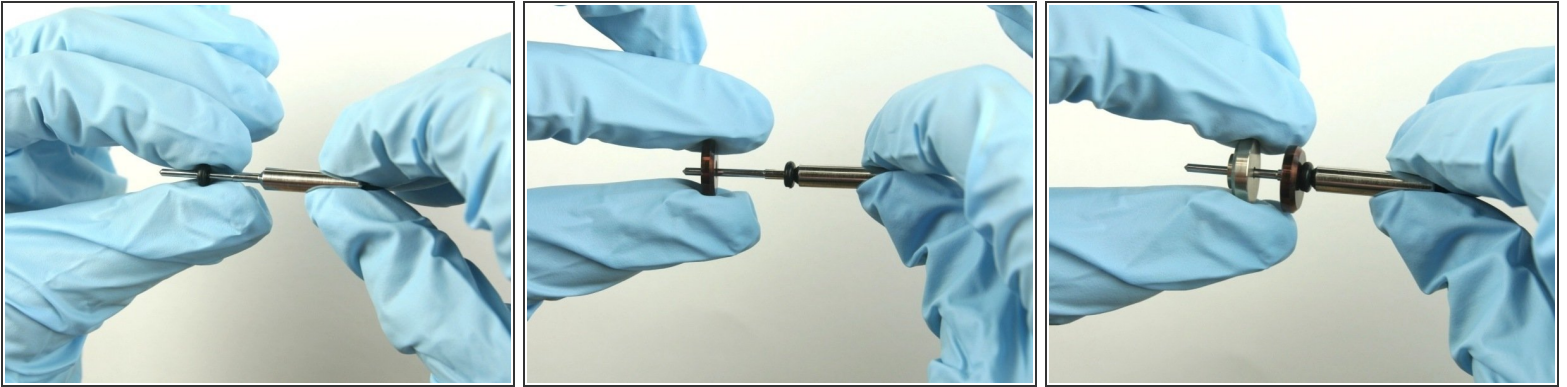
### Step 4



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

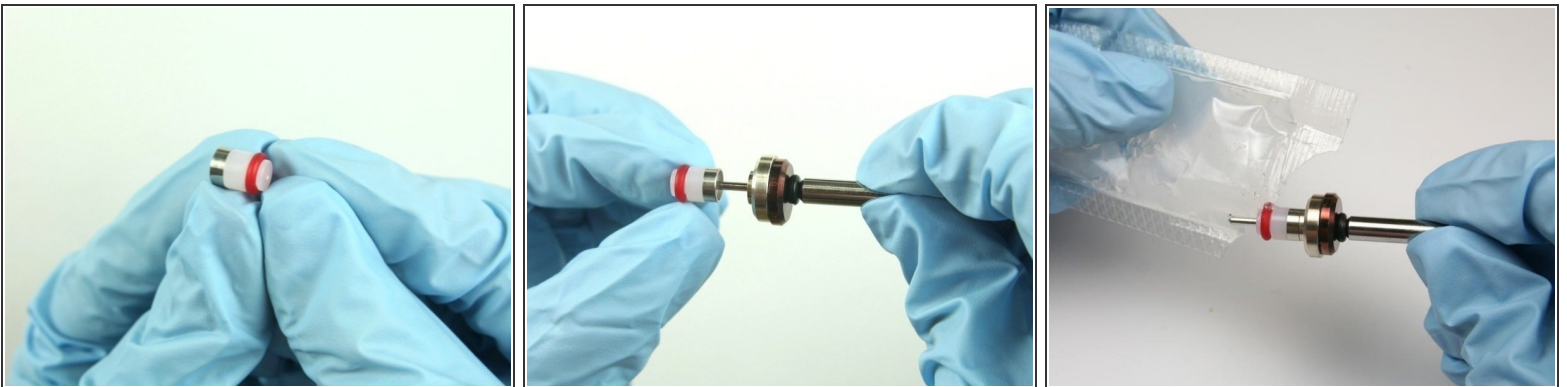


## Step 5



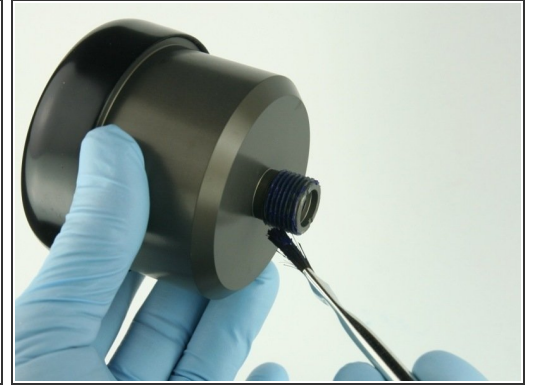
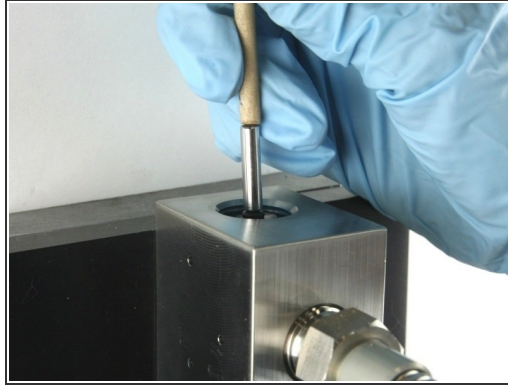
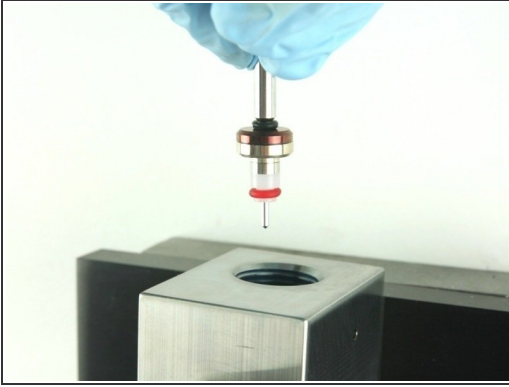
- Slide the [O-ring](#) on to the point of the valve stem.
- Slide the [stainless steel back-up ring](#) on to the valve stem point with the chamfer side towards O-ring.
- Slide the [brass back-up ring](#) on to the valve stem point with the chamfer side away from the stainless steel back-up ring.

## Step 6



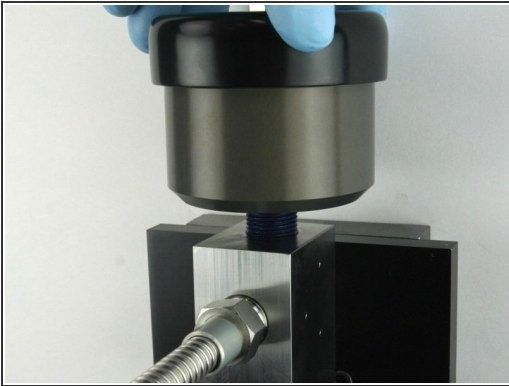
- Put the [hoop](#) on the [high-pressure seal](#) with the sharp edge of the hoop towards the seal.
- Slide the hoop and the high-pressure valve seal onto the valve stem with the hoop towards the brass back-up ring.
- Apply [high vacuum grease](#) to the outside diameter of the high-pressure valve seal.

## Step 7



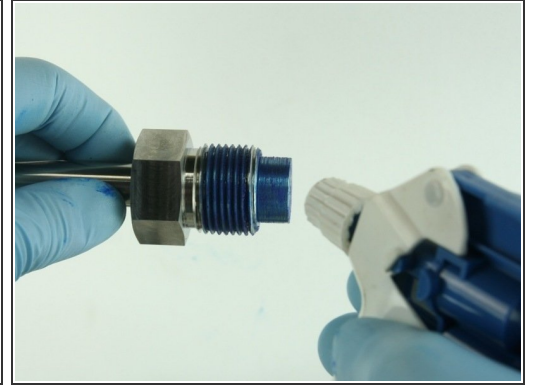
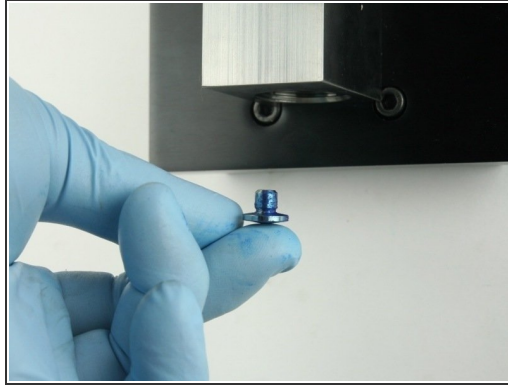
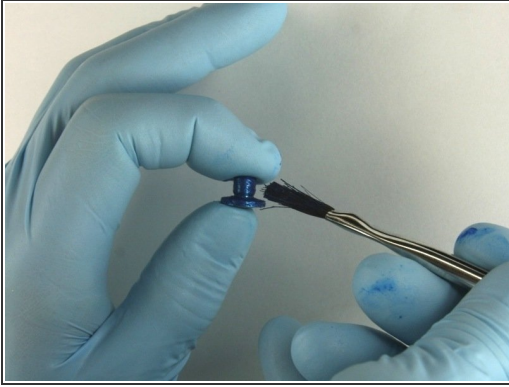
- Put the point of the valve stem into the valve body.
- Push the valve stem with the dowel until it bottoms out.
- Apply [Blue Goop](#) to the actuator threads.

## Step 8



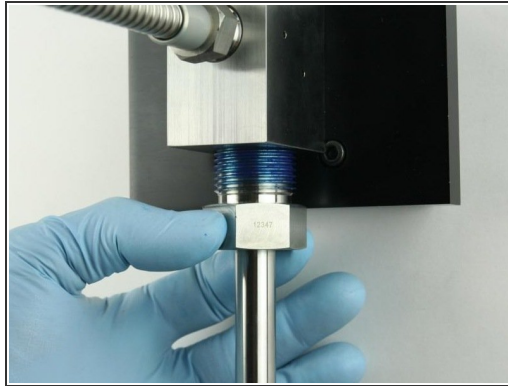
- Thread (hand tighten) the actuator into the top of the valve body until it bottoms out.
- Reconnect the air line to the top of actuator.
- Turn the air to the actuator ON at the controls.

## Step 9



- Apply Blue Goop to all surfaces of the seat.
- Put the seat into the bottom of the valve body.
- Clean the valve nut threads and the top of the [nozzle tube](#) of all Blue Goop.

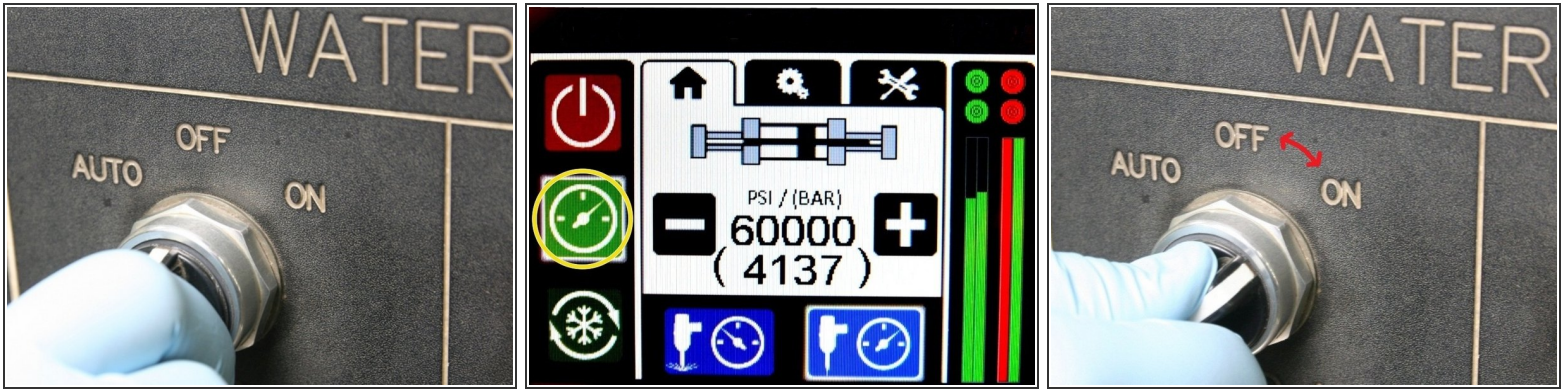
## Step 10



- Reapply Blue Goop to the threads of the high-pressure gland fitting and to the top of the nozzle tube.
- Thread the high-pressure gland fitting into the bottom of the valve body.
- Tighten the high-pressure gland fitting using a 1-1/4" wrench.



## Step 11



- Turn the air to the actuator OFF at the controls.
- Apply water pressure to the valve assembly to verify there are no leaks.
- Quickly cycle the valve on and off a few times to purge the system of all contaminants before installing the cutting head.

## Step 12



- Re-install the cutting head and continue the cutting process.