



# How to Repair a Flow Style Parallel Swivel

## Using Kit #13546

These instructions will demonstrate how to replace components of a Flow Style Parallel Swivel with kit #13546

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# INTRODUCTION

Hypertherm is in no way affiliated with the above mentioned manufacturer.



## TOOLS:

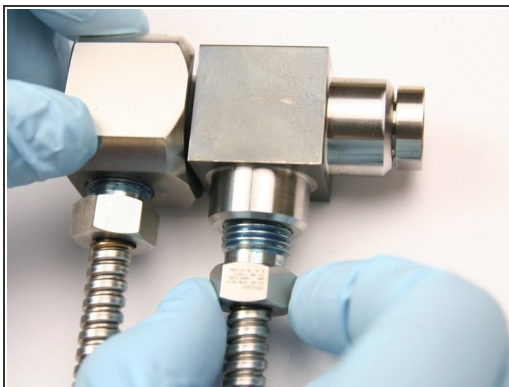
- 5/8" wrench (1)
- Vise (1)



## PARTS:

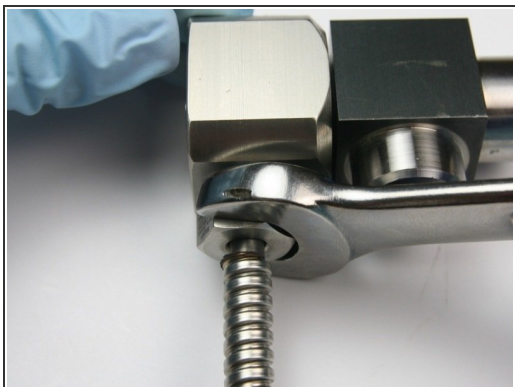
- 1/4" Swivel Repair Kit #13546 (1)
- Back-up Ring #13337 (included in kit) (1)
- Hoop #11483 (included in kit) (2)
- High-Pressure Seal #11482 (included in kit) (1)
- Spacer #13330 (included in kit) (1)
- High-Vacuum Grease #11447 (included in kit) (1)
- Dowel (included in kit) (1)
- Collar #13329 (1)
- Swivel Shaft #13331 (1)
- Thrust Nut #13332 (1)
- Swivel Housing #13333 (1)
- Swivel Plug #13334 (1)
- Set Screw #13336 (1)
- 1/4" High-Pressure Gland Nut #13158-60-4 (2)
- 1/4" High-Pressure Collar #13157-60-4 (2)

## Step 1 — How to Repair a Flow Style Parallel Swivel Using Kit #13546



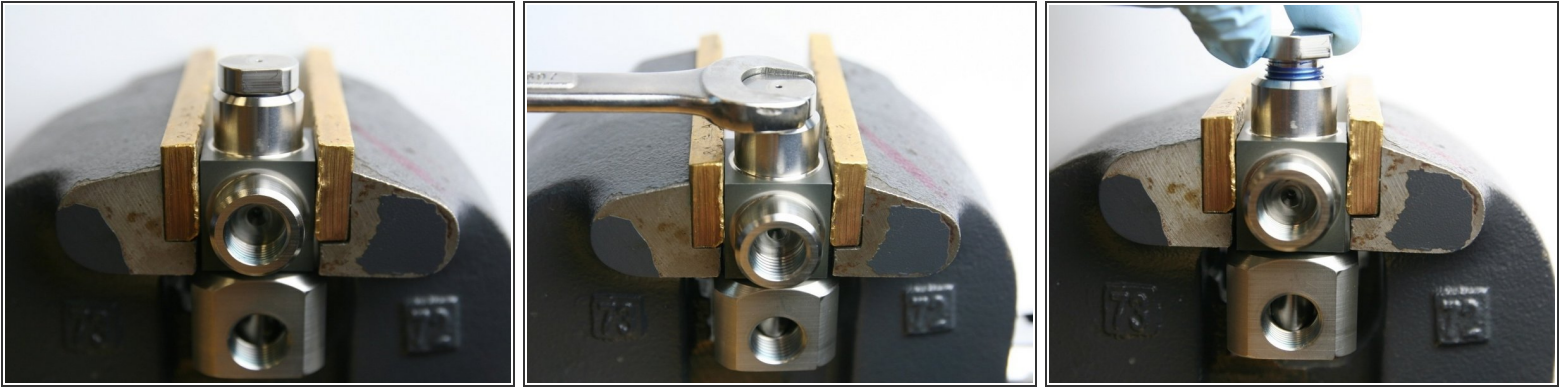
- Loosen the high-pressure gland nut from the swivel housing with 5/8" wrench.
- Unthread the high-pressure gland nut from the swivel housing.
- Clean the gland threads of all Blue Goop with isopropyl alcohol.

## Step 2



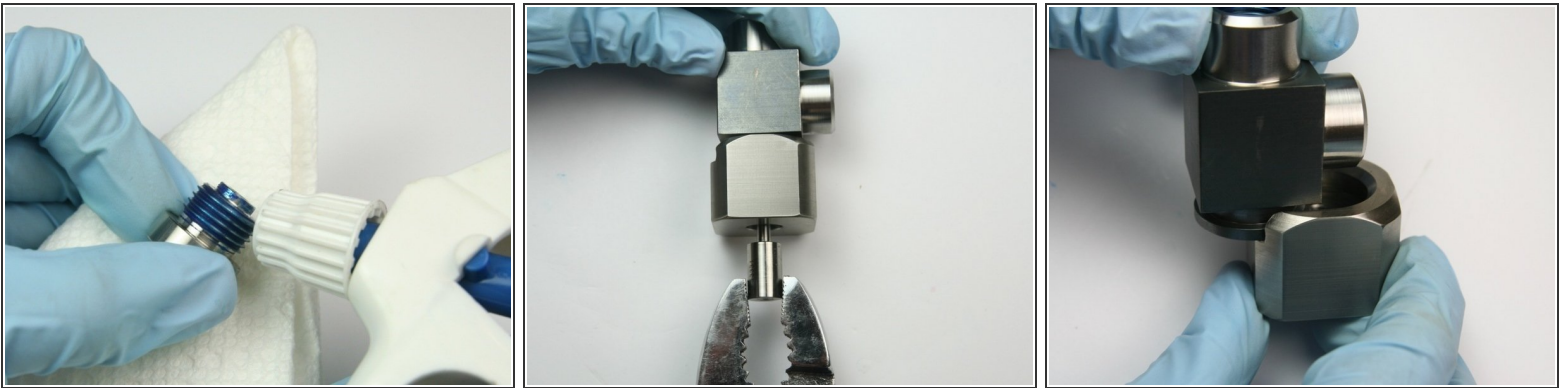
- Loosen the high-pressure gland nut from the collar using a 5/8" wrench.
- Unthread the high-pressure gland nut from the collar.
- Clean the high-pressure gland nut of all Blue Goop with isopropyl alcohol.

### Step 3



- Put the parallel swivel into a vise.
- Using a 5/8" wrench, loosen the thrust nut from the swivel housing.
- Unthread the thrust nut from the swivel housing.

### Step 4



- Clean the thrust nut of all Blue Goop with isopropyl alcohol.
- Remove the swivel shaft from the collar by grasping with a set of pliers and pulling.
- Slide the collar out from the swivel housing.

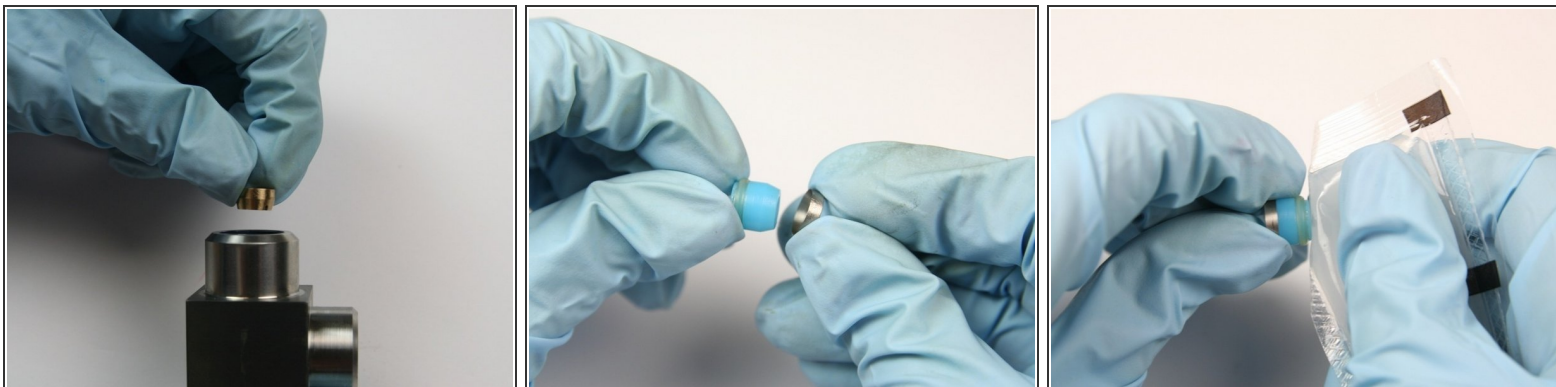


## Step 5



- Use the included dowel to push the components out from the inside of the swivel housing.
- Clean the swivel housing of all Blue Goop with isopropyl alcohol.
- Clean the collar of any residue from the assembly with isopropyl alcohol.

## Step 6



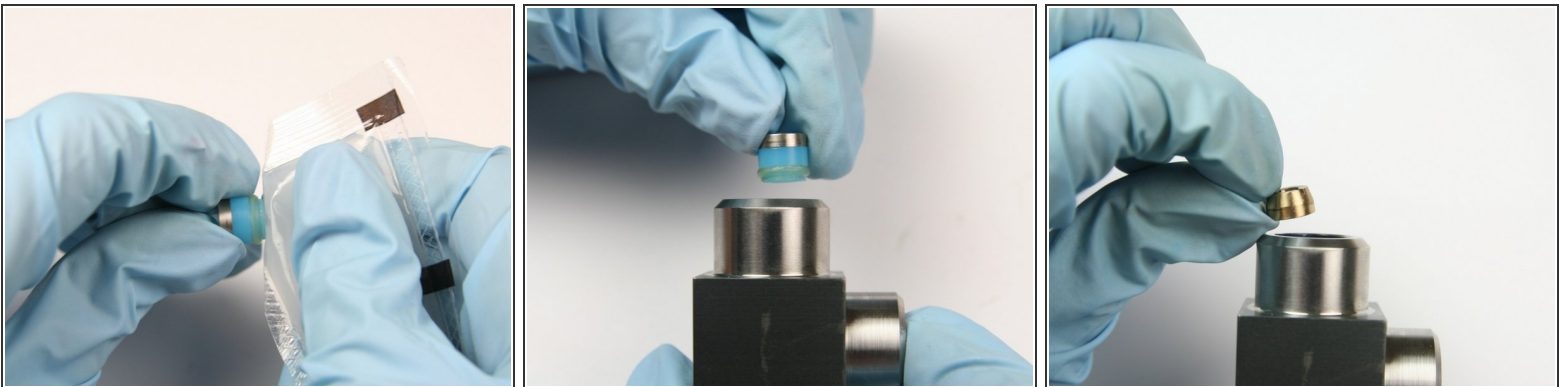
- Put the back-up ring with the smaller face down into the non-lipped side of the swivel housing.
- Put the hoop with the sharp (tapered) end onto the non O-ring side of the high-pressure seal.
- Apply [high-vacuum grease](#) to the high-pressure seal.

## Step 7



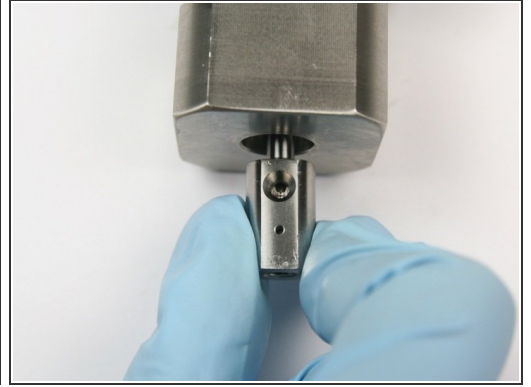
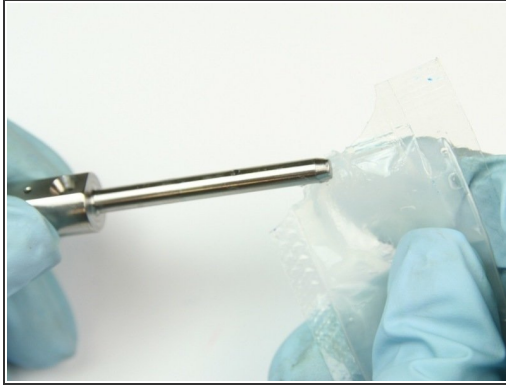
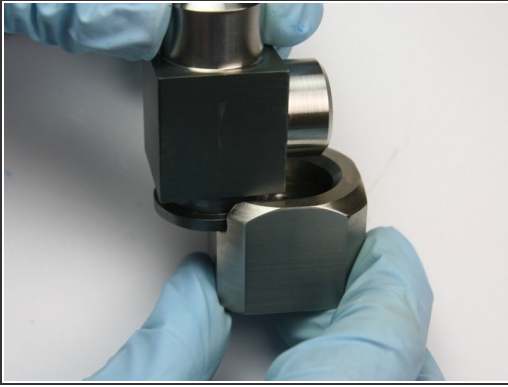
- Put the high-pressure seal assembly into the swivel housing, with the hoop first, behind the back-up ring.
- Put the spacer into the swivel housing behind the high-pressure seal assembly.
- Place the second hoop with the sharp (tapered) end onto the non O-ring side of the second high-pressure seal.

## Step 8



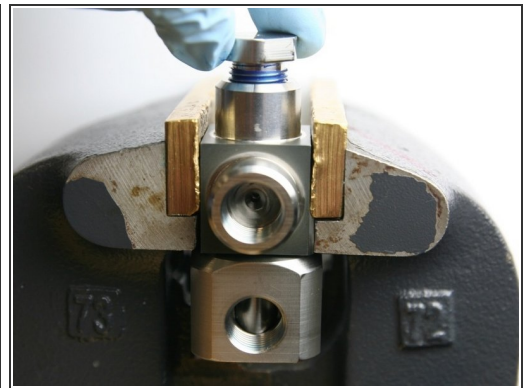
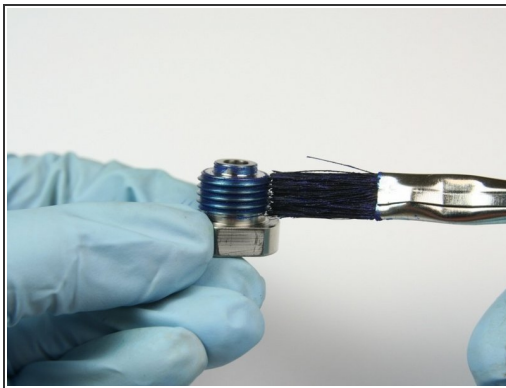
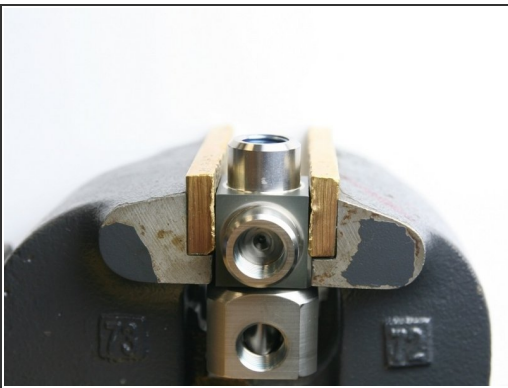
- Put a high-vacuum grease onto the high-pressure seal.
- Put the second high-pressure seal assembly into the swivel housing with the O-ring first.
- Put the second back-up ring into the swivel housing behind the high-pressure seal assembly with the larger face down.

## Step 9



- Slide the collar onto the swivel housing so it fits into the groove.
- Apply a thin layer of high-vacuum grease to the swivel shaft.
- Put the swivel shaft into the collar end of the assembly with the swivel shaft holes aligned with the hole in the collar.
  - Press the swivel shaft into the assembly until it bottoms out.

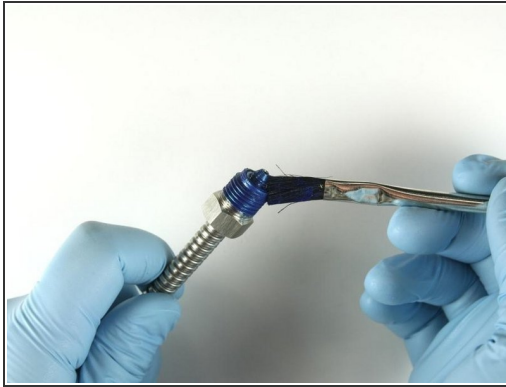
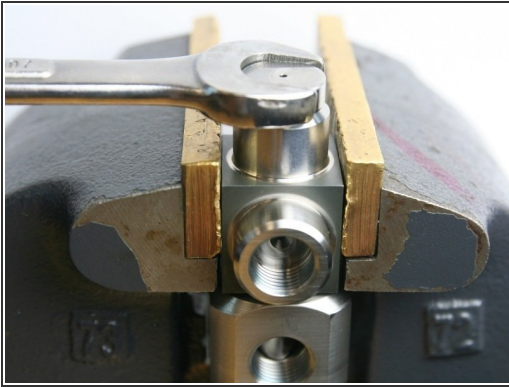
## Step 10



- Put the swivel housing into the vise.
- Apply Blue Goop to the thrust nut threads.
- Thread in the thrust nut into the top of the swivel housing.

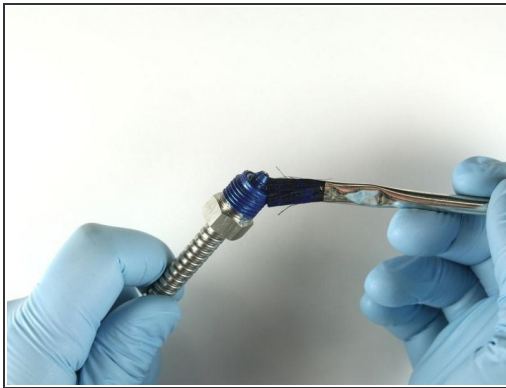
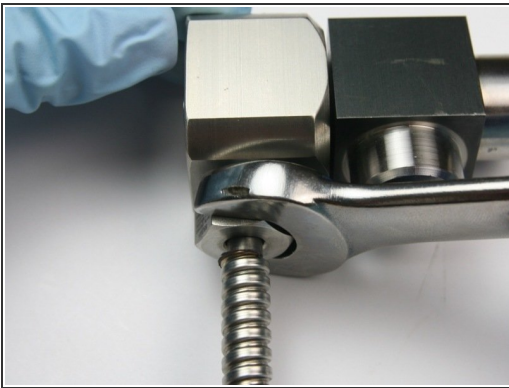


## Step 11



- Tighten the thrust nut into the swivel housing with a 5/8" wrench.
- Reapply Blue Goop to the threads of high-pressure gland nut.
- Thread in the high-pressure gland nut into the collar housing.

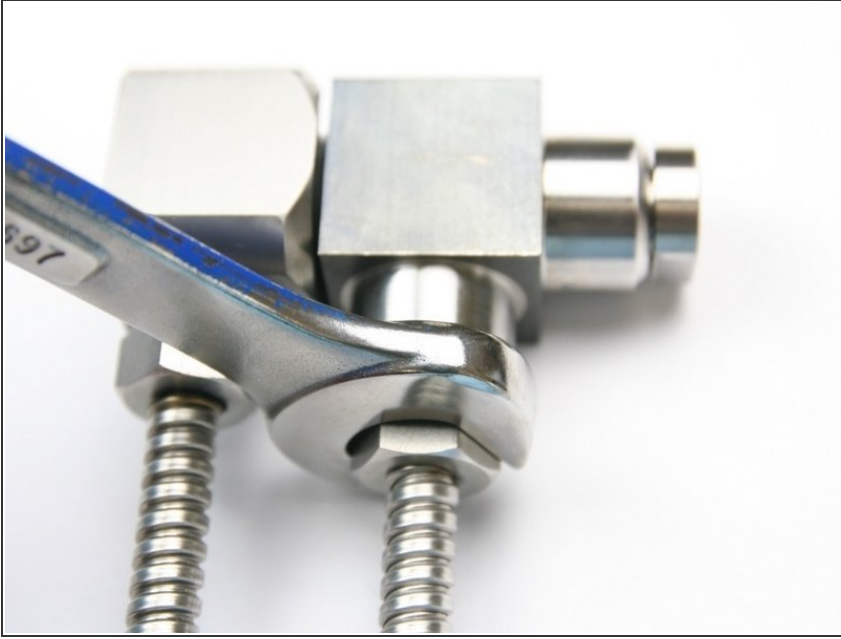
## Step 12



- Tighten the high-pressure gland into the swivel collar using a 5/8" wrench.
- Reapply Blue Goop to the threads of the second high-pressure gland nut.
- Thread in the high-pressure gland nut into the swivel housing.



## Step 13



- Tighten the high-pressure gland nut into the swivel housing with a 5/8" wrench.