



# How to Repair High-Pressure Seals on a Hypertherm Pump Using Kit #11451

These instructions will demonstrate how to replace the high-pressure seals on a Hypertherm pump (as well as previous AccuStream pumps) with kit #11451

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TOOLS:

- [Locator Tool #11558](#) (1)
- [Sleeve #11811](#) (1)
- [Push Tool #11812](#) (1)
- [Seal Installation Spacer Tool #12932](#) (1)
- [Rubber Mallet](#) (1)



PARTS:

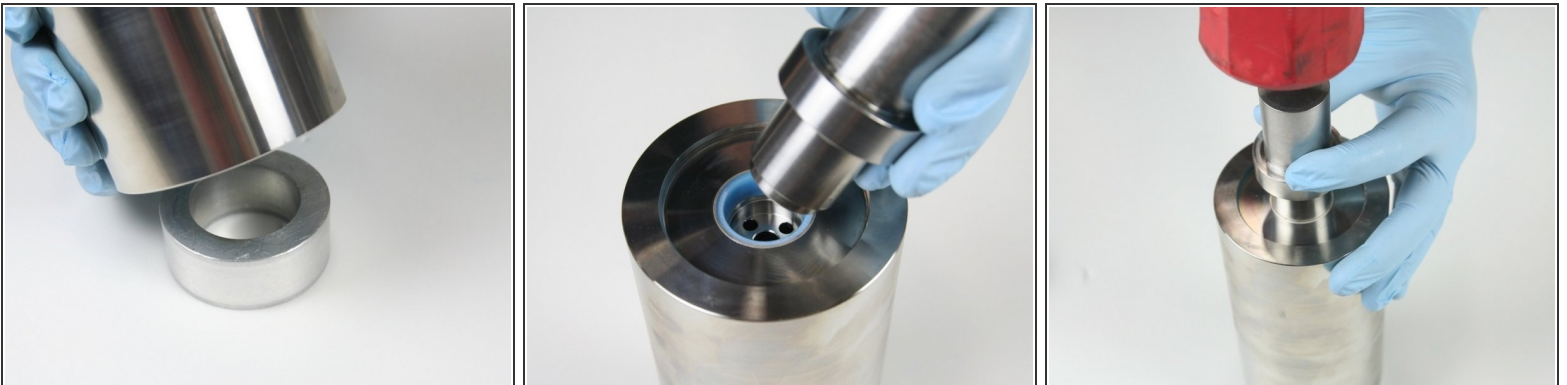
- [High-Pressure Seal Kit #11451](#) (1)
- [Hoop #11018 \(included in kit\)](#) (1)
- [High-Pressure Seal with O-ring #11024 \(included in kit\)](#) (1)
- [High-Vacuum Grease #11447 \(included in kit\)](#) (1)
- [AS Low-Pressure Poppet #11526](#) (1)
- [Low-Pressure Poppet Basket #11520](#) (1)
- [Spacer Tube #11521](#) (1)
- [AS High-Pressure Cylinder #11522](#) (1)
- [Blue Goop #11111](#) (1)
- [Isopropyl Alcohol](#) (1)

## Step 1 — How to Repair High-Pressure Seals on a Hypertherm Pump Using Kit #11451



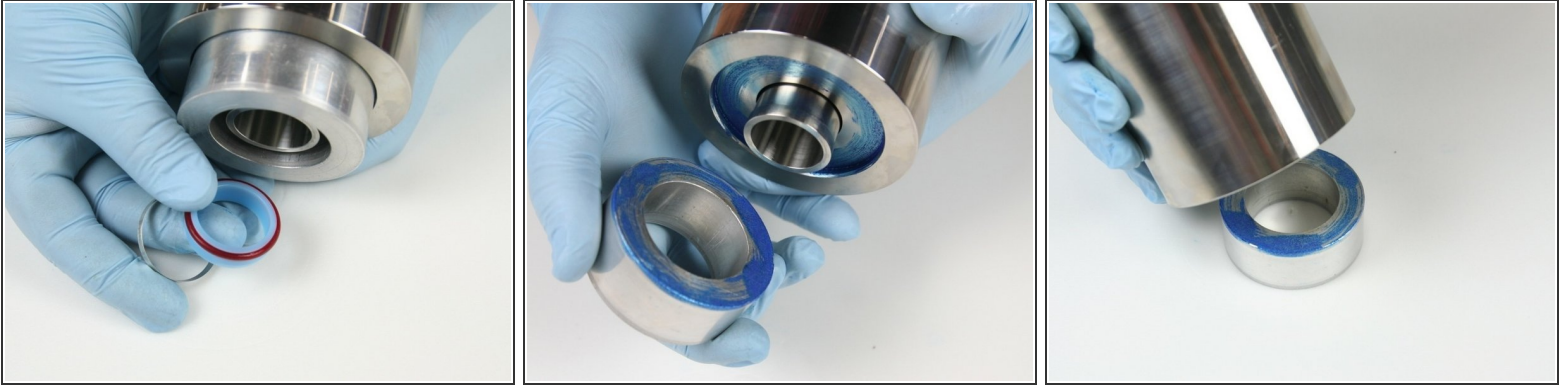
- Loosen the [check valve](#) by tapping with a rubber mallet while rolling the cylinder.
- Remove the check valve from the [high-pressure cylinder](#)
- Remove the [low-pressure poppet](#) from the high-pressure cylinder.

## Step 2



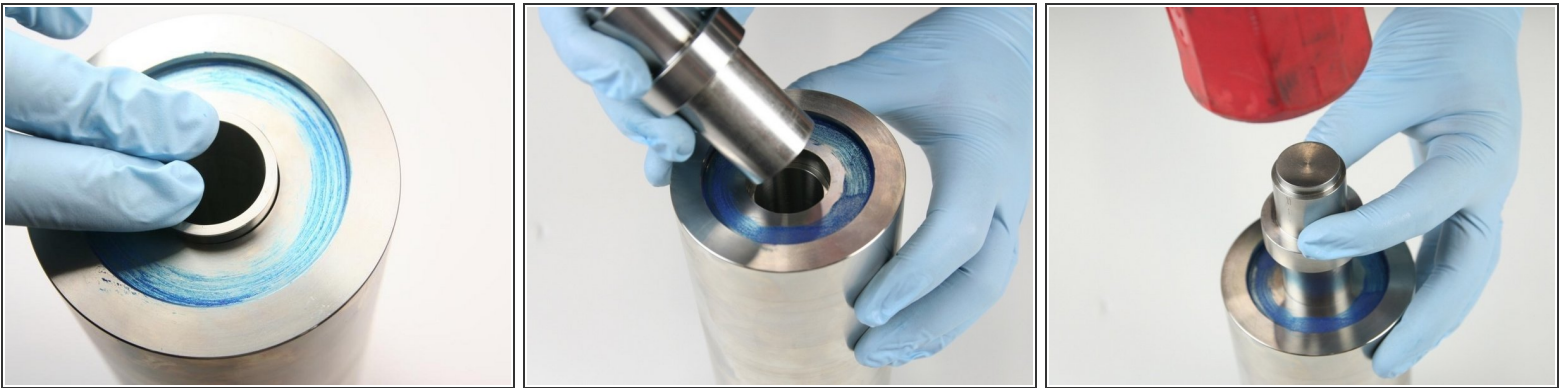
- Put the high-pressure cylinder onto the locator tool.
- Put the stepped end of the push tool into the top of the high-pressure cylinder.
- Hit the push tool with a rubber mallet to push out the [high-pressure seal](#) and [hoop](#)

### Step 3



- Remove the hoop and the high-pressure seal assembly from the end of the high-pressure cylinder.
- Remove the locator tool from the high-pressure cylinder.
- Flip the high-pressure cylinder and place it onto the locator tool.

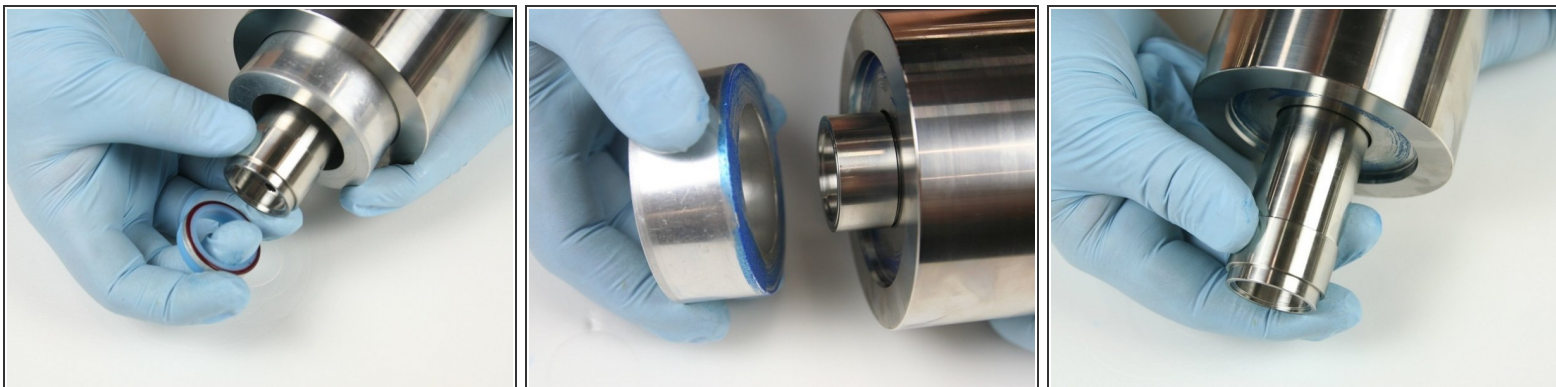
### Step 4



- Push the [spacer tube](#) down until it bottoms out.
- Put the nonstepped end of the push tool into the high-pressure cylinder.
- Hit the push tool with a rubber mallet to push the second hoop and the high-pressure seal assembly out of the high-pressure cylinder.



## Step 5



- Remove the hoop and high-pressure seal assembly from the high-pressure cylinder.
- Remove the locator tool from the high-pressure cylinder.
- Remove the spacer tube and [low-pressure poppet basket](#) from the high-pressure cylinder.

## Step 6



- Clean the high-pressure cylinder of all [Blue Goop](#) with isopropyl alcohol or a similar cleaning agent.
- Clean the removal/installation tools with isopropyl alcohol or a similar cleaning agent.
- Clean the spacer tube, check valve, low-pressure poppet, and low-pressure poppet basket.

## Step 7



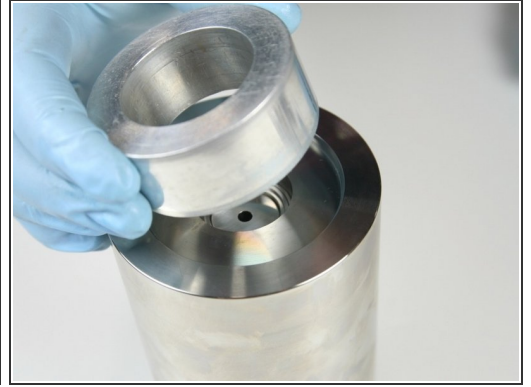
- Roll scouring pad in both ends of the bore of the high-pressure cylinder to remove any blemishes.
- Clean the high-pressure cylinder once more to remove all excess material from Scotch Brite
- Put the high-pressure cylinder onto the high-pressure seal installation spacer tool.

## Step 8



- Apply a light coat of [high vacuum grease](#) to both ends of the spacer tube.
- Put the low-pressure poppet into the low-pressure poppet basket with the stem of the poppet facing basket.
- Make sure that the low-pressure poppet moves freely in the low-pressure poppet basket.

## Step 9



- Put the low-pressure poppet and basket into the spacer tube.
- Put the spacer tube with the poppet and basket up into the high-pressure cylinder.
- Put the locator tool onto the high-pressure cylinder.

## Step 10



- Put the sleeve into the locator tool with the tapered end up.
- Apply high vacuum grease to the O-rings.
- Put the O-rings onto the high-pressure seals.



## Step 11



- Put the high-pressure seal into the sleeve with the O-ring down.
- Put the non-stepped end of the push tool into the sleeve and press the high-pressure seal into the high-pressure cylinder until it bottoms out.
- ① Hold the sleeve down against the cylinder with one hand to be sure it doesn't raise up while installing the seal.
- Put the hoop into the sleeve with the tapered end down towards the high-pressure seal.



## Step 12



- Put the non-stepped end of the push tool into the sleeve and be sure that the tool is level with the sleeve.
- Use a rubber mallet to set the hoop into the high-pressure cylinder (until the push tool bottoms out).
- ① Hold the sleeve down against the cylinder with one hand to be sure it doesn't raise up while installing the hoop.
- Remove the installation tools from the top of the high-pressure cylinder.

## Step 13



- Put the check valve on the high-pressure cylinder.
- Use a rubber mallet to tap the check valve into the high-pressure cylinder.
- Flip the high-pressure cylinder over so the cylinder is resting on the check valve.

## Step 14



- Remove the seal installation spacer tool from the end of the high-pressure cylinder.
- Put the locator tool on the high-pressure cylinder.
- Put the sleeve into the locator tool with the tapered end up.

## Step 15



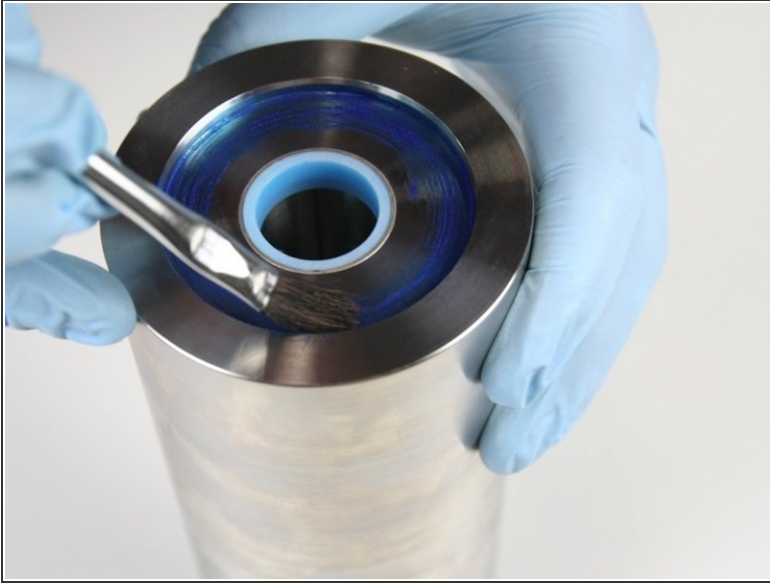
- Put the high-pressure seal into the sleeve with the o-ring down.
- Put the non-stepped end of the push tool into the sleeve and press the high-pressure seal into the high-pressure cylinder until it bottoms out.
- ❗ Hold the sleeve down against the cylinder with one hand to be sure it doesn't raise up while installing the seal.
- Put the hoop into the sleeve with the tapered end down towards the high-pressure seal.

## Step 16



- Put the non-stepped end of the push tool into the sleeve and be sure that the tool is level with the sleeve.
- Use a rubber mallet to set the hoop into the high-pressure cylinder (until the push tool bottoms out).
- ① Hold the sleeve down against the cylinder with one hand to be sure it doesn't raise up while installing the hoop.
- Remove the installation tools from the top of the high-pressure cylinder.

## Step 17



- Apply Blue Goop to the outer edge of the high-pressure cylinder inset.
- Continue with the installation with the high-pressure cylinder onto the intensifier.