

Service Tools

Model	Seal Kit P/N	Spanner Wrench	Torque Spec.
HRC 4 RC 4 JH RC 4 HP	18-262-7000-JH	FS-434 HFS-4	200 +/- 20 Lb ft 270 +/- 27 N-m



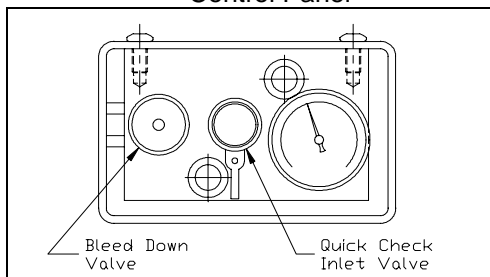
Warnings

- Put on safety glasses and hearing protection before servicing any nitrogen gas spring system.
- Failure to exhaust all gas pressure prior to disassembly could result in serious injury.
- Do not depress piston rods with your hand directly. Place a block of wood between the rod and your hand. The piston rod may pop up after being manually depressed.
- The maximum charging pressure for a standard manifold is 103 bar (1500 psi). Higher pressure manifold systems do exist. Refer to the information tag attached to the manifold plate for maximum charge pressure information.
- Prior to pressurizing any manifold, inspect for proper assembly of cylinders and components. Cylinders and plugs are available in both English and metric thread types and may appear to be very similar in size. **Never mix thread types!** Intermixing English and metric thread types could result in serious injury. If there is any doubt about thread type, contact Hyson Products' Customer Service at 1-800-876-4976.

Discharging manifold systems

1. Slowly open bleed down valve on control panel.
2. When gauge reaches zero and the gas flow stops, depress piston rods.
3. Close bleed down valve on control panel.

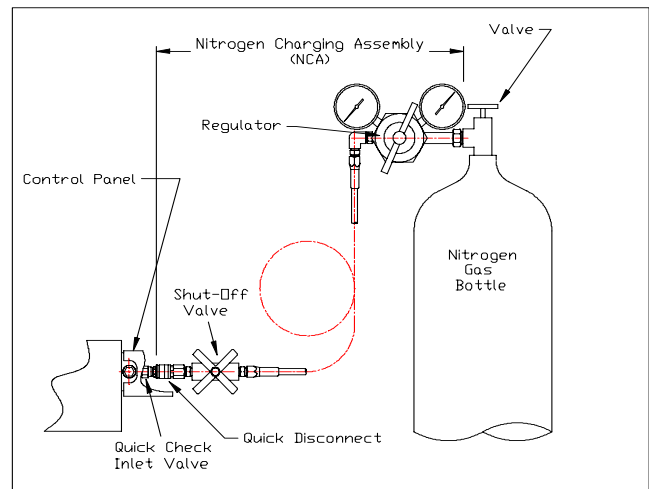
Control Panel



Charging manifold systems

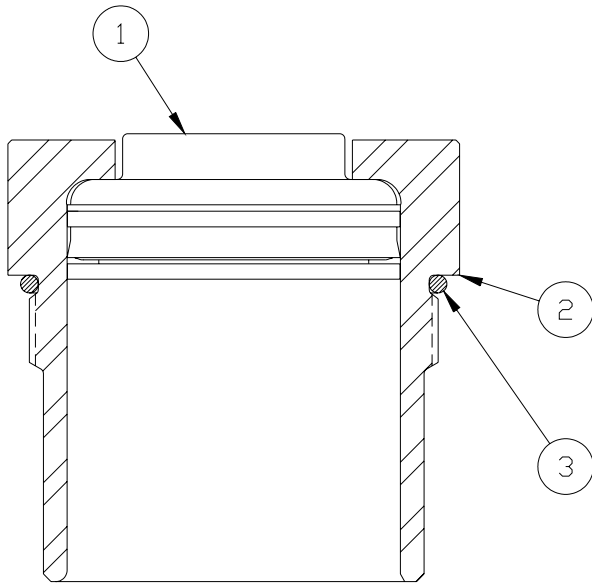
1. Attach Nitrogen Charging Assembly (NCA) to nitrogen gas bottle.
2. Set NCA regulator to zero pressure.

3. Close the shut-off valve on NCA hose.
4. Close bleed down valve on control panel.
5. Attach NCA quick disconnect to quick check inlet valve on control panel.
6. Open valve on nitrogen gas bottle.
7. Set desired pressure on NCA regulator.
8. Slowly open shut-off valve on NCA hose.
9. When correct pressure is obtained, close valve on NCA hose.
10. Disconnect NCA from control panel.
11. Replace protective cap on quick check inlet valve.
12. Close valve on nitrogen bottle.
13. Open shut-off valve on NCA hose to vent charging assembly.
14. When gas flow stops, close NCA shut-off valve.



Verification of Assembly (Leak test)

1. Charge the manifold to at least 69 bar (1000 psi). Refer to charging instructions.
2. Pour lightweight oil in the gap between the piston (1) and the cylinder body (2). If bubbles appear, nitrogen is leaking past the piston seal (5). **Note:** It may take several minutes for a small leak to be seen. If a leak is found, the cylinder needs to be discharged, disassembled, and inspected. A scratch on the cylinder body bore, rod or seal could be the cause.



Disassembly

1. Verify all pressure has been exhausted from the system by following the discharging instructions.
2. Unthread the manifold cylinder from the plate by using a spanner wrench. Once the cylinder is removed from the plate, cover the port to prevent dirt from falling into the manifold plate.
3. Remove the piston (1) from the cylinder body (2).
4. Remove o-ring (3) from the cylinder body.
Note: If using a screwdriver to lift the o-ring, be careful not to scratch the cylinder body seal surface.
5. Save the cylinder body (2). All other parts are included in the seal kit and can be discarded.
6. Visually inspect the cavities in the manifold plate. If contamination such as drawing fluid, metal shavings, or other debris is found, the manifold must be cleaned.

Inspection

7. Inspect the cylinder body (2). The inner diameter of the cylinder body is critical. Any scratches or dents will lead to premature leakage. If defects exist, replace the part.
8. Clean the cylinder body (2).
9. Unpack the seal kit. The seal kit consists of a complete piston assembly, o-ring, label and assembly oil.

Assembly

10. The seal kit contains Nitro-Dyne[®] Lube XP-206. This is used as assembly oil. The remaining oil is poured into the cylinder body just prior to installation into the ram cushion.
11. Liberally lubricate the o-ring (3) and carefully install on cylinder body. If the o-ring is cut when installing over the threads, it will not seal properly.
12. Liberally lubricate the inner diameter of the cylinder body (2). Push the piston (1) into the cylinder body to the fully extended position. The piston should extend out past the cylinder body slightly when installed correctly.
13. Install cylinder in test fixture hand tight and test for leaks (See Verification of Assembly section on previous page).
14. When installing the cylinder into the ram cushion, torque to 200 lb-ft. (270 N-m).
15. If storing the cylinder, turn the cylinder so that the open end is facing up and place the remaining oil from the XP-206 into the bore. Place a protective cap over the end of the cylinder.