



**RE-BUILD PROCEDURE FOR NITROGEN CYLINDER SERIES:
CH 750, CS/CH1500, CS/CH3000, CS/CH5000, CS/CH8000**

CAUTION

THE RE-BUILDING OF NITROGEN GAS CYLINDERS SHOULD ONLY BE DONE BY PERSONNEL FORMALLY TRAINED BY THE CYLINDER MANUFACTURER'S FACTORY REPRESENTATIVE. FAILURE TO FOLLOW PROPER PROCEDURES COULD RESULT IN SERIOUS BODILY INJURY. IT IS IMPORTANT TO MAKE SURE THAT, AFTER RE-BUILD, THE NITROGEN CYLINDER IS ASSEMBLED EXACTLY AS IT WAS ORIGINALLY ENGINEERED. IF YOU ARE IN DOUBT ABOUT RE-ASSEMBLY, OR HAVE ANY QUESTIONS REGARDING THE RE-BUILD PROCEDURE, **STOP IMMEDIATELY AND CONTACT STANDFAST INDUSTRIES AT (800) 424-7602 FOR TECHNICAL ASSISTANCE.**

CAUTION:

THIS NITROGEN GAS CYLINDER CAN BE UNDER HIGH PRESSURE.

NEVER POINT THE ROD IN ANY UNSAFE DIRECTION AND/OR TOWARD ANY PERSON.

NEVER POSITION YOUR FACE IN DIRECT ALIGNMENT WITH THE CHARGING PORT.

TO BEGIN THE RE-BUILD:

We recommend the following tools be used for a successful re-build:

- Charging Adapter
- Discharge Tool
- End Cap Punch
- Large Snap Ring Pliers
- Red Loc-Tite or equivalent
- T-Handle
- Valve Core Removal tool
- Wiper Housing Assembly Wrench
(all available from Standfast Industries)

Step 1. Secure the gas cylinder in a vise, in a horizontal position with the sealing screw facing upward.

Step 2. Remove sealing screw from port.

Step.3 While standing in a position that will ensure the nitrogen vents safely away from you, install the discharge tool in the port, **FINGER TIGHT ONLY**, to release all nitrogen from the gas cylinders.

DO NOT ATTEMPT ANY FURTHER MAINTENANCE ON GAS CYLINDER UNTIL ALL NITROGEN PRESSURE IS EXHAUSTED FROM THE CYLINDER AND ROD CAN BE MANUALLY DEPRESSED INTO THE CAN.

- Step 4 When rod can be depressed manually into the can, remove discharge tool to prevent damage to the charging port.
- Step 5. Move cylinder to a vertical position - secure in a vice.
- Step 6. Visually inspect wiper housing for possible damage.
- Step 7. Insert proper size End Cap Punch in one of the drilled holes on top of wiper housing, and using a hammer, gently tap the punch to unscrew the wiper housing - **Approximately 1/8 turn.**
- Step 8. Insert T-handle into M8 threaded hole located at the top of the rod.
- Step 9. Re-install the discharge tool into the cylinder port. This will allow air into the cylinder while you raise the rod approx. 1-2 inches, using the T-handle.
- Step 10. Remove both the discharge tool and T-handle from the cylinder.
- Step 11. Insert Wiper Housing Assembly Wrench onto wiper housing, lining up holes of wiper housing with the wrench pins, unscrew and remove wiper housing.
- Step 12. Install discharge tool into port using light finger pressure only to release any air that may still be in the cylinder. Depress internal cartridge approximately 1/2 inch into cylinder. This will expose a large retaining ring with 2 holes in it.
- Step 13. To safely remove the retaining ring, insert tips of Large Snap Pliers into the retaining ring holes, cover the retaining ring with one hand, compress the retaining ring with the pliers and remove from cylinder. **Take care not to damage the threads on the inside of the cylinder body.**
- Step 14. Insert T-handle back into the M8 thread, located on top of rod, and remove the rod. The cartridge and piston assemblies will be removed, along with the rod. Remove T-handle from the rod. Remove discharge tool from port.

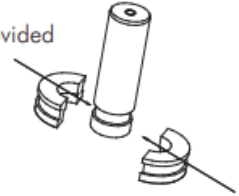
- Step 15. Place M8 end of rod down on the bench and push cartridge down to end of rod and remove from rod.
- Step 16. Remove piston assembly from rod by removing the wear ring from the piston assembly and separating the piston halves. **Important: If more than one cylinder is being re-built at the same time, be sure to keep the piston and rod from each cylinder together as a set.** Discard used cartridge and wear ring.
- Step 17. Using the Valve Core Removal Tool, remove and discard valve core from charging port.
- Step 18. Remove cylinder from vise.
- Step 19. Thoroughly clean all remaining cylinder parts that will be used during re-assembly.
- Step 20. Carefully inspect rod for dents, scratches or nicks that might adversely affect cylinder performance. If damage is detected, then the rod will need to be replaced.
- Step 21. Using the small bottle of lubrication provided in the re-build kit, put a small amount of lubrication on the rod, internal rod seal, external "O" ring and back-up ring located on new cartridge assembly from re-build kit.

Step 22. Assemble piston halves back onto the rod using the new wear ring provided in the re-build kit. Piston must be re-assembled to the rod in the exact position that it was in, before being disassembled.

Step 23. Insert all remaining lubrication on the inside wall of the cylinder body.



Step 24. Place cylinder body on work bench in a vertical position. Place new cartridge assembly from re-build kit on rod - **MAKE SURE THE WORD "TOP" IS FACING UP AND VISIBLE AS YOU RE-ASSEMBLE THE CYLINDER.**



Step 25. Using Valve Core Removal Tool, install new valve core included in re-build kit.

Step 26. Insert rod and cartridge assembly into cylinder body. Care should be taken at this time not to damage the "O" ring or back-up ring installed on the outside of the cartridge.

Step 27. Lay cylinder in a horizontal position with port facing upward. Install discharge tool, FINGER TIGHT ONLY, into port.

Step 28. Press cartridge assembly approximately 1/2 inch below retaining ring groove. Re-install retaining ring using Large Snap Ring Pliers. Care should be taken not to damage I.D. threads on can.

Step 29. Insert T-handle into M-8 threaded hole in end of rod and pull rod until the cartridge is seated over the retaining ring. Remove discharge tool.

Step 30. Secure cylinder in a vertical position in a vise. **MAKE SURE THAT THE CYLINDER ROD IS POINTING AWAY FROM ANY/ALL PEOPLE.**

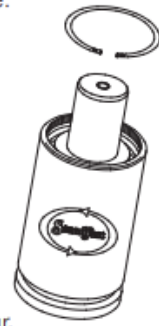
Step 31. Install charging adapter, FINGER TIGHT ONLY, and charge cylinder to desired pressure. Maximum charge pressure not to exceed 2175 psi/150 bar.

Step 32. Visually verify that the cartridge is properly seated against the metal retaining ring. Spray soapy water all around the cartridge and rod to check for leaks (Windex or equivalent works great). Remove charging adapter.

Step 33. Make sure threads on metal wiper housing are clean before installing new rod wiper, Install new wiper into the wiper housing by the press fit method (You may wish to use a tube with the same OD size as the wiper - Pressing in carefully until the wiper bottoms out). **Care should be taken not to damage or crush the wiper during assembly.**

Step 34. Apply a small amount of lock-tite on threaded surface of wiper housing. Using the Wiper Housing Assembly Wrench, re-install the metal wiper housing to the torque specification located on outside of the assembly wrench.

Step 35. Remove cylinder from vise and install new sealing screw with washer in charging port.



CYLINDER RE-BUILD PROCESS HAS BEEN COMPLETED

