



How to store a Hydraulic Cylinder or Pneumatic Cylinder

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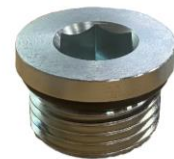
How to Care for a Hydraulic or Pneumatic Cylinder

Properly storing a hydraulic and pneumatic cylinder will prevent premature failure of the seals and other wear components. If stored correctly you can get longer life and lower your total cost of ownership.

When a cylinder is out of service and in the store room there are general rules that followed lead to the best performing cylinder. Royal has been asked by a lot of equipment owners what is the best procedure for storing cylinders for an extended period. So here are is what is recommended:

WHAT YOU SHOULD BE DOING

- Always store fully retracted
- Store indoors in a clean, dry space that has minimal temperature changes
- Protect the exposed piston rod, steel, and thread with rust inhibitor oil or grease
- Keep rod threads protected by either storing with pre-installed attachments or covering with protective sleeves
- Apply lubrication grease to any eye/clevis bushing or bearings – especially if they are steel
- Plug ports with metal plugs
- If possible fill hydraulic cylinders with oil on the rod side only before plugging.



Metal Port Plug

EXAMPLES

Royal Cylinders being ready to ship.

- ✓ Insides lubricated (Pneumatic cylinders)
- ✓ Metal port plugs
- ✓ Protection for rod end thread



Royal Custom R series cylinders ready for shipping

WHAT TO AVOID

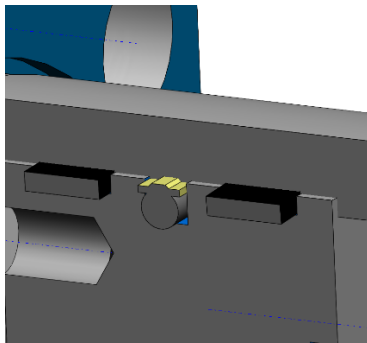
- Do not store your cylinder outside for any length of time. Exposed surfaces including the chrome rods can rust quickly and will cause rapid failure of seals and bushings
- Do not spray rods or cylinders with CRC, WD40 or other water displacement chemicals. These chemicals cause the urethane seals to swell thus leading to premature seal failure or cylinder jamming. Use a proper soluble wax rust preventer if required. A light mineral oil can be used to coat the inside for cylinders that will be stored longer than 6 months.

VERTICAL VS HORIZONTAL STORAGE

There is no argument among cylinder manufactures that the ideal way to store a cylinder is vertical with rod up to prevent any weight put on the seals that might lead them to deform. If you are capable of storing a cylinder vertically that is always the best option, but that is not always practical.

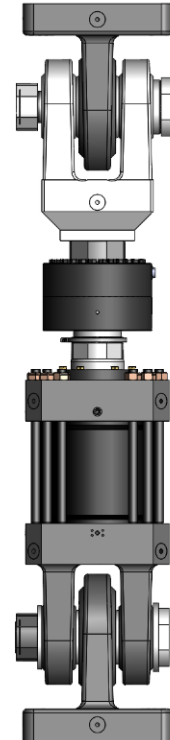
Royal designed and manufactured 20" bore hydraulic cylinders that weighed upwards of 7000 lbs. and were around 10 feet long. Asking anyone to store these cylinder vertically isn't only impractical but extremely dangerous. When designing cylinders Royal ensures the wear bearings are designed for not only low friction but also to support the weight of the items it will be seeing. Also seals and wear strips should be designed so that their critical tolerances are properly implemented.

So in most cases it is okay to store a cylinder horizontally.



Wear strips shown on either side of piston seal

20" Bore x 30" Stroke
Custom Hydraulic
Cylinder



CONCLUSION

Taking the time and care to ensure your cylinders are stored correctly will increase your cylinder life and add value to the bottom line. If ever needing Royal to review a cylinder for long term storage Royal is always happy to help.

Need help determining the right cylinder for your application. Royal Engineers and Technicians are here to answer any and all cylinder application questions. Get a quote quick!