NuMax Door Operator
Maintenance Guide

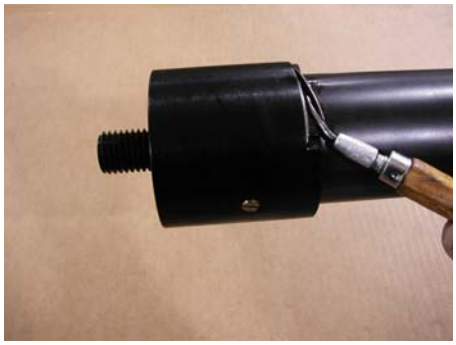
CAUTION: (SAFETY FIRST)

- Your NuMax pneumatic door operator contains strong magnetic material. The cylinder should only be maintained by a trained professional.
- This is an air operated system. Shut off air supply at compressor during maintenance. Disconnect air supply lines from cylinder head prior to performing cylinder maintenance.
- DO NOT FULLY REMOVE CYLINDER CARRIER AND PISTON FROM CYLINDER TUBE WITHOUT FIRST DECOUPLING. FAILURE TO DO SO WILL RESULT IN PERMENANT DAMAGE TO CYLINDER AND POSSIBLE BODILY INJURY DUE TO EXTREME MAGNETIC ATTRACTION FORCES.
- **FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PROPERTY DAMAGE AND BODILY INJURY.**

Important: If your cylinder requires replacement of the wearable parts review the following instructions to re-install your NuMax genuine replacement parts. USE EXTREME CAUTION WHEN DE-COUPLING AS LARGE FORCES ARE GENERATED BY INCREASING AIR PRESSURE. ONLY DE-COUPLE WITH CYLINDER MOUNTED FIRMLY IN PLACE AT BOTH ENDS.

Step 1/2 – In order to replace the carrier bearings the cylinder carrier must be de-coupled from the cylinder piston. De-coupling should only be done when the cylinder is firmly mounted on both ends. To de-couple, block the cylinder carrier at least 6 inches from the header mount side cylinder head. Increase air pressure to 135 psi or until a distinct noise is heard which signifies de-coupling. Dis-mount the cylinder from the mounting brackets and lay cylinder on an even, clean surface (be careful not to damage the cylinder during the repair process).

Step 1- On the side of the cylinder that you wish to re-install the carrier bearing, remove the cylinder head. With a pointed tool remove the starting edge of the tube retaining ring from ring groove and pull out past edge of head. While holding tube, rotate head into the open ring and continue to rotate head until ring is completely removed from the cylinder head. Be careful not to scratch tube with ends of retaining ring during this step.



Step 2- Remove head from cylinder tube by pulling head directly away from tube. Remove retaining ring from cylinder tube. **Be careful not to damage head o-ring and not to deform retaining ring.**

Step 3- Remove the complete carrier assembly from tube. Make sure to mark on carrier the original direction it was installed. Failure to re-install the carrier or piston assembly in proper direction will result in failure to properly re-couple magnet arrays.

Step 4- Remove carrier bearing retaining rings and remove carrier bearings from carrier housing and replace with new bearings provided. Insert one bearing wiper on one side of carrier only. Save other wiper for install after carrier is back on the tube. Lubricate new carrier bearings and wipers with Accrolube-FG grease.

Step 5 – Remove the piston from the bore of the cylinder making sure to mark direction same as carrier. Remove piston bearing ends by holding one and rotating the other CCW to unthread from each other. Replace both piston ends with new ends provided. Install new piston o-ring seals on each piston end. Lubricate o-rings Magnalube-G grease.

Step 6- Thoroughly clean both inside and outside of tube and re-grease inside with Magnalube-G grease and re-grease outside tube wall with Accrolube-FG grease.

Step 7 – Reinstall carrier on tube by putting the carrier end without wiper on tube first. Slide carrier all the way to other end of tube to overhand enough to install second wiper in bearing groove. Pull carrier back onto tube leaving at one end.

Step 8 – On opposite end of tube install piston into tube making sure it is facing same direction of carrier as originally installed. Insert piston fully into tube.

Step 9- Re-install the tube/head retaining ring. Ring must be installed on the inside of the tube ring groove to alloy head to be inserted on end of tube **(be careful not to scratch tube with ends of ret ring)**. With the ring installed push head onto end of tube **(be careful not to damage head o-ring).** The head ring groove should align with the tube ring groove. Insert leading edge of retaining ring into groove and rotate head to insert ring into head groove. While holding tube continue to rotate head until retaining ring is fully inserted.

Step 10 – Re-mount cylinder into brackets and tighten mount nuts and lock washers. Re-couple cylinder by pressurizing the piston end of cylinder which will drive the piston towards the carrier. Increase pressure until a distinct noise is heard which indicates coupling. Check that the end of carrier is approximately 1/8 inch from cylinder head. Cycle cylinder to other side and check the same distance, if both ends match coupling is complete.

Step 11- Wipe on a thin layer of grease (Accrolube FG) to entire surface of tube and cycle cylinder several time to evenly distribute grease.

Cleaning and lubricating cylinder should be done on a monthly preventive maintenance program. Keeping your cylinder clean and lubricated will prevent future wiper re-install incidents.

For more information please visit our website at www.carwashdoors.com

NuMax Door Operator Troubleshooting Guide

What are the problem symptoms being experienced?

Has the NuMax Operator been regularly maintained? (Cleaning and lubricating with Accrolube-FG on a monthly bases is required to ensure maximum operator performance.)

When was the last time the operator was cleaned and lubricated? (Clean and lubricate with Accrolube-FG immediately upon symptoms.)

What is the ambient temperature in the wash bay? (Minimum 40 deg F. required)

What air pressure is being regulated to the cylinder? (Minimum 60 PSI required, increase pressure if additional speed is necessary, pressure can be increased to 100 PSI)