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### **PCI Clutches, Brakes and Clutch/Brakes**

- Recommended mounting shaft size = nominal shaft size with (+.000/- .001) tolerance.
- Min shaft engagement for end mounted units should be no less than the shaft bore depth (0.25")
- All keyways are standard size unless otherwise noted.
- NEVER rigidly mount the housing with the anti-rotate holes.
- Always use filtered, lubricated and regulated air
- Exceeding the maximum suggested air pressure only shortens the useable life of the unit.
- Always use a flexible connection between the air supply line and the air fitting.
- The maximum supplied air pressure should not exceed 80 PSI.
- Operating the units at the minimum required air pressure to achieve the required torque will lengthen the usable life of the unit. (For example: a unit operated at 60 PSI supplied air pressure will have a longer useable life than a unit operated at 80 PSI supplied air pressure.)

#### **Usable Life Information**

The normal expected cycle life for units operated under standard conditions:

Clutches - 5,000,000 cycles.

Brakes - 5,000,000 cycles.

Clutch/Brakes - 3,000,000 cycles.

The units, in some cases, can be rebuilt by the manufacturer to “like-new” condition. Typical rebuild kits include friction disks, springs and O-rings. Proper disassembly and reassembly of units is highly sensitive and should only be done by qualified personnel. It is recommended that units are returned to manufacturer for rebuilding to ensure proper functioning of the unit. Please contact the manufacturer's customer service department if assistance is required.

#### **Preventative Maintenance**

- Ensure the units are protected from any lubricating medium that may contaminate the friction disks or brake pads.
- Ensure the units are protected from excessive moisture or condensation.

To avoid unexpected shutdowns due to Clutch or Brake failure it is recommended to have one (1) replacement Clutch or Brake on hand for replacement for every fifty (50) Clutches or Brakes. A preventative maintenance schedule should allow Clutches or Brakes to be inspected and/or rebuilt when they have reached 5,000,000 cycles.

To avoid unexpected shutdowns due to Clutch/Brake failure it is recommended to have one (1) Clutch/Brake on hand for replacement for every twenty-five (25) Clutch/Brakes. A preventative maintenance schedule should allow Clutch/Brakes to be inspected and/or rebuilt when the Clutch/Brakes have reached 3,000,000 cycles.

The useable life of Clutches, Brakes and Clutch/Brakes is usually determined by the number of cycles the units have accumulated. However, if the units are operated at constant or near constant engagement with relatively very low cycles, other factors may determine the usable life of the unit. Contact the manufacturer for a useable life estimation of the unit based on constant engagement for a specific supplied air pressure and operating rpm.



Troubleshooting Guide

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>POTENTIAL SOLUTION</b>
Unit does not supply rated torque when air is supplied to the unit.	Unit shaft if not properly secured to mounting shaft	Replace key in keyway and/or tighten set screws
	Proper air pressure is not supplied to the unit	Ensure that air supply lines are free of kinks or debris and restore proper air flow
	Friction disks or brake pads are no operating properly	Ensure friction disks and brake pads are free of debris and/or contamination. Have the unit rebuilt or replaced.
Unit provides torque when no air is supplied to the unit	Air is not allowed to be relieved from the unit	Ensure that air supply lines are free of kinks or debris and restore proper air flow, and/or replace the air exhaust valve
	Debris has entered the unit causing constant engagement of friction disks or brake pads	Remove debris to restore slight movement to friction disks or brake pads when no air is supplied to the unit and/or have the unit rebuilt or replaced
	Air solenoid valves may not be positioned properly to allow air to be relieved from the unit	Correct air logic circuit so the valves are operating properly
	Brake springs are not supplying sufficient braking force due to spring breakage and/or spring fatigue	Have the Clutch/Brake unit rebuilt or replaced