MAINTENANCE INSTRUCTIONS

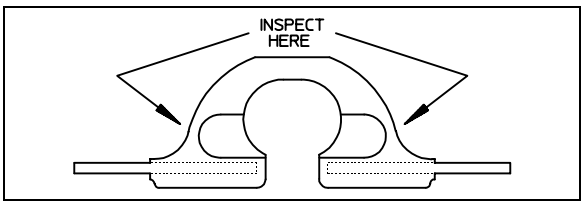
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The Rex "OMEGA" coupling is a high quality elastomer type flexible coupling designed to accommodate shock loads, vibration and other reaction forces inherent to rotating equipment. The engineering grade polyurethane material used for the Omega flex element is formulated specifically to absorb these destructive forces resulting in smooth operation, longer component life and lower overall maintenance costs of connected equipment. As the sacrificial component of the drive system, **finite** flex element life can be expected (requiring replacement of the flex element). The Omega coupling's split-in-half bonded flex element design allows for quick and inexpensive replacement of the flex element with no need to disturb the hubs on the shaft or to move connected equipment.

PREVENTATIVE MAINTENANCE

Many Omega couplings have been in operation for 10 years or more with the original flex elements in place. Where feasible, a periodic visual inspection may be all that is necessary to evaluate the condition of the flex element.

When inspecting the element, look for fatigue cracks (over 1/2") originating near the stress relief grooves (approximately 1/4" - 1/2" above the metal shoe), discoloration (a darker faded orange color signals possible material degradation) or surface cracking if used in adverse conditions such as cooling towers or severe environments (4 > pH > 10).



In critical applications, the probability of unexpected downtime can be greatly diminished by scheduling flexible element replacement at regular intervals. The frequency of replacement will depend upon the severity of the application and environmental conditions. A properly sized element which is stored and operated under normal conditions (i.e. under 85% humidity and 85°F) should obtain a minimum of 6 to 8 years of service life after the date of manufacture. A production date sticker is applied to all elements for ease of inspection (I.E. 3Q93 indicates Third Quarter 1993 production).

After the coupling has been in operation for some time, a "torsional set" may develop in the flex element (up to 1/4" on a size E40, even more on larger sizes). This does not affect the performance of the coupling, as it is simply the material creeping under the applied stress. A very large torsional set may suggest a sizing problem and will warrant a close review of the application and coupling selection parameters. For ease of assembly/disassembly, elements should be re-installed in the same "position of rotation" in which they were removed.

ELEMENT REPLACEMENT/INSTALLATION

The unique two part split-in-half flex element was engineered for ease of maintenance/replacement. All half elements are weight matched and packaged in pairs for optimum field balance and smooth operation For best performance, always install both half elements from the same box. Never replace just one half element, as matching an older and newer half element could create both torsional and balance inconsistencies. Refer to the Omega Coupling Installation Instructions for additional information, including recommended capscrew installation torques.

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PREMATURE FAILURES

Should the Omega coupling fail to provide a reasonable service life, review the application parameters and verify the coupling selection before replacing the flex element. Other factors that may contribute to decreased service life include:

- Severe Environmental Conditions
- Severe Torsional Variations
- Excessive Misalignment of Connected Equipment
- Excessive Axial Movement of Connected Equipment
- Shock Loads/Peak Torque Loads Above Rating
- Drive System Critical Speed/Components Incompatibility

Experienced technical assistance is available from Rexnord to answer questions and/or provide failure analysis.

LIMITATIONS

Although the Omega coupling is designed for most general purpose coupling applications, certain limitations should be considered:

- Temperature - Maximum 200°F, Minimum -40°F. A combination of high temperature and high humidity will reduce coupling life. Contact Rexnord for specific application analysis.

- Chemical Environment - "Rule of Thumb" - Urethane resists most chemicals better than rubber. Refer to chemical resistance chart (Important Information Letter dated 3/12/92 available from Rexnord) or contact the factory for specifics.

- Space Limitations - Larger O.D. compared to all-metal couplings.

- Reciprocating Equipment - Higher service factors required (refer to Service Factor Table and footnotes on Page E-15 of Omega Catalog #4000). Avoid applications where both driver and driven equipment are reciprocating.

- Axial Thrust Consideration - If installing Omega couplings on equipment sensitive to axial thrust, such as sleeve bearing motors or herringbone gear sets, proper motor shaft axial positioning or compressive preloading or the coupling may be required. Consult Rexnord.

- Turbines - Omega couplings are not recommended if the coupling cannot be protected from steam leakage or from speeds in excess of the coupling's published rating (see Omega Catalog #4000).

STORAGE CONDITIONS

As with any elastomer or rubber material, it is subject to aging effects. Flex elements exposed to continuous high temperature and humidity (above 85°F and 85% RH; i.e. tropical climates), while in extended storage, may experience some material degradation (hydrolysis). If these conditions cannot be avoided, elements may be ordered with special moisture-impervious packaging. To maximize service life, it is recommended that the oldest inventory always be used first. Note that flex elements in operation do not experience the same hydrolysis related deterioration rate due to the flexing heat generated. Omega elements made beginning July 1992 contain new additives for hydrolysis resistance which will significantly extend the element life in these environments.

With proper application, the Rex "OMEGA" coupling will provide many years of service driving and protecting your machinery. Prompt, technical assistance is available from your Rexnord representative or direct from the factory at 414-796-4060 (FAX 414-796-4064).