Lexar Industrial L110

Lexar Industrial L110 Urethane Spider Insert Instruction Manual

Introduction

This manual provides essential information for the proper installation, operation, and maintenance of the Lexar Industrial L110 Urethane Spider Insert. Adhering to these instructions will ensure optimal performance and longevity of your coupling system.

Product Overview

The Lexar Industrial L110 Urethane Spider Insert is a critical component for flexible L-jaw couplings. It is designed to transmit torque between two shafts while absorbing shock and accommodating minor misalignment. Manufactured from high-quality urethane, this spider insert offers enhanced durability and performance compared to standard rubber alternatives.

- **Material:** Urethane, providing superior resistance to chemicals and oils.
- **Torque Capacity:** Rated for 1.5 times more torque than NBR/Buna-N/Nitrile rubber inserts.
- **Compatibility:** Interchangeable with L-110 style L-jaw couplers from various manufacturers including Lovejoy, Martin, Browning, and TB Woods.
- **Outside Diameter:** 3-1/4 inches.
- **Color:** Orange.

Figure 1: The Lexar Industrial L110 Urethane Spider Insert. This image displays the orange, star-shaped component with six distinct lobes, each featuring a circular indentation. The center of the spider is marked with "L110", indicating its model number. This insert is designed to fit between the jaws of two coupling hubs, providing flexibility and shock absorption in power transmission systems.

Setup and Installation

1. **Safety First:** Ensure all power to the machinery is disconnected and locked out before beginning installation.
2. **Inspect Components:** Verify that both coupling hubs are clean, free of burrs, and in good condition. Check for any damage to the shaft keys or keyways.
3. **Shaft Preparation:** Ensure shafts are properly aligned. Misalignment can lead to premature wear of the spider and coupling components.
4. **Insert the Spider:** Carefully place the L110 Urethane Spider Insert into the jaws of one coupling hub. Ensure it seats fully and evenly.
5. **Join Hubs:** Bring the second coupling hub into position, aligning its jaws with the remaining lobes of the spider insert. Gently push the hubs together until they are fully engaged with the spider.
6. **Secure Hubs:** If applicable, secure the coupling hubs to the shafts using set screws or other fastening mechanisms

as per the coupling manufacturer's instructions.

7. **Final Check:** Rotate the shafts manually to confirm smooth operation and proper engagement.

Operating Principles

The L110 Urethane Spider Insert functions as the flexible element within an L-jaw coupling. Its primary role is to transmit torque from the driving shaft to the driven shaft while providing cushioning against shock loads and dampening torsional vibrations. The urethane material's elasticity allows it to absorb minor angular, parallel, and axial misalignments between the shafts, protecting connected equipment from excessive stress. The higher torque rating of the urethane material ensures reliable power transmission in demanding applications.

Maintenance

- **Regular Inspection:** Periodically inspect the spider insert for signs of wear, cracking, softening, or discoloration. The frequency of inspection should be determined by the application's operating conditions and environment.
- **Signs of Wear:** Look for material loss, deformation of the lobes, or any indication that the spider is no longer securely seated within the coupling jaws. Excessive vibration or noise during operation can also indicate spider wear.
- **Replacement:** Replace the spider insert immediately if any signs of significant wear or damage are observed. Operating with a worn spider can lead to coupling failure and damage to connected machinery.
- **Cleaning:** If necessary, clean the spider and coupling hubs with a mild detergent and water. Avoid harsh solvents that may degrade the urethane material. Ensure all components are dry before reassembly.
- **Storage:** Store spare spider inserts in a cool, dry place away from direct sunlight and harsh chemicals to preserve their material integrity.

Troubleshooting

Symptom	Possible Cause	Solution
Excessive Vibration	Misalignment, worn spider insert, unbalanced shafts.	Check and correct shaft alignment. Inspect and replace spider if worn. Balance shafts if necessary.
Unusual Noise (e.g., knocking, grinding)	Worn spider insert, loose coupling hubs, foreign material in coupling.	Inspect and replace spider. Tighten coupling fasteners. Clean coupling components.
Premature Spider Wear	Excessive misalignment, overload, high operating temperature, chemical exposure.	Improve shaft alignment. Verify application load is within coupling limits. Ensure operating temperature is within urethane limits. Check for chemical compatibility.
Coupling Separation	Improper installation, loose set screws, excessive axial movement.	Reinstall coupling correctly. Ensure set screws are tightened to specifications. Address excessive axial thrust.

Specifications

- **Series:** L110
- **Outside Diameter:** 3-1/4 inches (82.55 mm)

- **Material:** Urethane
- **Color:** Orange
- **Torque Rating:** 1.5x standard NBR/Nitrile rubber spiders
- **Compatibility:** Designed for L-110 style L-jaw couplings

Warranty and Support

For warranty information, technical support, or assistance with your Lexar Industrial L110 Urethane Spider Insert, please contact Lexar Industrial directly. Refer to the product packaging or the official Lexar Industrial website for contact details.