



# Willoughby Locking Systems Maintenance Guide

This comprehensive guide outlines essential maintenance and troubleshooting steps to ensure peak performance of Willoughby Locking Systems Products.

## General Information

Willoughby Locking Systems products are engineered to minimize required maintenance. Here are key points to understand about their construction and operation:

- **Material Quality:** All structural components, including locking mechanisms, springs, and fasteners, are made of stainless steel. This ensures durability and resistance to corrosion.
- **Solenoids and Motors:** The solenoids are designed for continuous duty, providing long-term reliability. Motors are engineered to offer strong retraction of the latch bolt, delivering smooth and quiet operation.
- **Switches:** The switches feature memory steel switch arms that maintain their settings, preventing adjustment issues over time.

## Lubrication

Proper lubrication is crucial for the optimal performance of Willoughby locks:

- **Factory Lubrication:** Willoughby locks are pre-lubricated with HPG-49 grease, specifically formulated for locks. This grease provides lifetime lubrication, eliminating the need for regular maintenance.

- **Maintenance Lubrication:** Regular lubrication is NOT required. However, in cases where locks have been unused for an extended period, or have undergone extensive handling during repairs or part replacement, reapplying HPG-49 grease may be beneficial. It is critical to avoid using WD-40 or machine oil on any Willoughby lock.
- **Key Cylinders:** For key cylinders, Dow Corning's 'Z' Powder (Graphite) can be used to facilitate smooth key operation. If a key becomes difficult to turn, dip it in powdered graphite and insert it into the cylinder, turning it several times.

## Paracentric Locks

To ensure the proper functioning of paracentric locks, follow these maintenance steps:

- **Key Rotation:** Rotate keys every 4-5 months to ensure even wear and prevent issues caused by uneven usage.
- **Avoid Grease Inside the Lock:** Do not apply any type of grease inside the lock, as it can attract dust and debris, leading to malfunction.
- **Handle Keys Carefully:** Avoid dropping or throwing keys, as this can damage the keys and the lock mechanism.
- **Graphite for Difficult Keys:** If a key becomes difficult to turn, dip it in powdered graphite and insert it into the cylinder, turning it several times to distribute the graphite evenly within the cylinder. This method is effective for all key cylinders.

## Door Check Procedure

A thorough door check is essential to ensure proper lock function and prevent future issues. Follow these steps:

- **Wire Harness Inspection:** Check the existing wire harness for bare wires and ensure all field connections are secure. Loose or damaged wires can cause electrical issues.
- **Door Condition:** Verify that the door is free from bows, warps, or distortions, which can impede proper function.

- **Smooth Operation:** Confirm that the door swings open and closed smoothly without contacting the frame. Any resistance or contact can indicate alignment issues.
- **Frame Integrity:** Check the frame for any loosened mortar or concrete, which can cause the frame to shift and affect lock alignment.
- **Alignment:** Ensure the frame is square and level. Use a carpenter's square to check for proper alignment.
- **Hinge Alignment:** Align hinge barrels using the string method. Place a string along the top hinge barrel and let it fall straight down. All hinge barrels should be in line with the string. Replace any misaligned hinges.
- **Hinge Wear:** Test hinges for wear by opening the door halfway and pushing up on the door's leading edge. If there is any movement, the hinges are worn out and should be replaced. Always replace all hinges to maintain uniform wear.
- **Door Stops/Rubber Bumpers:** Replace missing or worn door stops or rubber bumpers. These components prevent the door from slamming and protect the frame.
- **Diagnostic Testing:** Use a Willoughby Test Box to diagnose electromechanical locks and identify any control system issues. This tool helps determine if the problem lies within the lock or the control system.

### Tips for Swing Door Check

Perform these checks to ensure the proper functioning of swing doors:

- **Gap Inspection:** With the door in the closed and locked position, check for gaps around the door and frame. Misalignment can affect latch bolt operation and cause indication issues. Adjust hinges or shim as needed to correct the alignment. Frame to door gap must be 1/8" +/- 1/16".

- **Movement Check:** Ensure there is slight in-and-out movement when pulling on a closed and locked door. If there is no movement, the latch bolt may be misaligned with the door strike opening, causing issues with solenoid operation and manual key operation. Adjust the door strike opening if necessary.
- **Solenoid Seating:** Ensure solenoids fully seat their plungers to prevent overheating. Overheating is typically caused by latch bolt misalignment, which restricts the solenoid plunger from fully seating.
- **Motor Commands:** Motors require separate commands for unlocking and relocking, even with a holdback function. The yellow wire is used to unlock, and the pink wire is used to relock.
- **Switch Adjustment:** Switches with memory steel arms maintain their adjustment. Avoid bending switch arms to compensate for door alignment issues, as this can cause false indications.
- **Key Cylinder Removal:** When removing a key cylinder, count the revolutions to ensure it is reinstalled correctly. Improper installation can cause lock failure and make future removal difficult.

## Installation and Use Guidelines

To ensure the optimal performance of Willoughby locks, follow these installation and use guidelines:

- **Proper Preparation:** Ensure proper door and frame preparation and installation to guarantee optimal lock function. Follow the specific installation instructions provided in the hardware manual.
- **Avoid Foreign Objects:** Do not introduce foreign objects or lubricants into any Willoughby security hardware, as this can cause damage and malfunction.
- **System Checks:** Ensure that all electrical or mechanical systems are properly installed and functioning before closing and locking the door. This includes verifying power supplies, connections, and control systems.
- **Handle with Care:** Handle the lock and hardware carefully to avoid abuse and potential malfunctions. Rough handling can damage components and affect performance.

- **Contact for Assistance:** For installation challenges or issues, contact Willoughby Locking Systems for assistance. Their support team can provide guidance and troubleshooting advice.

By adhering to these detailed maintenance and troubleshooting steps, you can ensure the continued performance and longevity of your Willoughby Locking Systems products. Regular checks and proper handling will help maintain the integrity and functionality of the locks, providing reliable security for your facility.

## Contact Willoughby Locking Systems

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