

Moulder Feed Chain Tension and Lubrication PM

1.0 Maintenance Objective & Frequency

The objective of this procedure is to inspect, adjust, and lubricate the feed chain(s) on a wood moulder to ensure consistent feed rate, prevent chain slippage, reduce wear on sprockets and chain links, and minimize unplanned downtime. Proper tension and lubrication are critical for maintaining product quality and extending chain life.

This PM is to be performed every 40 operating hours (weekly) or as specified by the OEM. More frequent inspection is required if the moulder is running at high feed speeds or processing abrasive materials.

2.0 Lockout/Tagout (LOTO) & Safety

- **Electrical Isolation:** Disconnect and lockout the main electrical disconnect for the moulder. Verify zero energy state with a voltmeter.
- **Pneumatic Isolation:** Close the main compressed air supply valve and bleed any residual pressure from the feed roll pneumatic circuits.
- **Mechanical Lockout:** Ensure the feed chain drive motor is locked out and the chain cannot be moved by hand without tools.
- **Mandatory PPE:** Safety glasses, cut-resistant gloves, steel-toed boots, and hearing protection (if running adjacent equipment).

3.0 Required Tools, Parts & Lubricants

- Chain tension gauge (or straightedge and ruler for deflection measurement)
- Open-end or combination wrench set (metric, sizes as per OEM: typically 13mm, 17mm, 19mm)
- Torque wrench (range 10-50 Nm)
- Chain lubricant (ISO VG 150 or 220, food-grade if applicable, or OEM-recommended spray)
- Clean lint-free rags
- Parts: Replacement chain master link or connecting link (if chain is worn beyond adjustment)
- Parts: Replacement sprocket (if teeth are hooked or worn)

4.0 Step-by-Step Maintenance Procedure

1. Perform full LOTO as per Section 2.0. Confirm zero energy state before proceeding.
2. Open the feed chain access covers or guards. Inspect the chain for visible damage: cracked or stretched links, missing pins, or excessive rust.
3. Measure chain slack at the midpoint of the longest unsupported span. Using a straightedge and ruler, apply moderate finger pressure to the chain. Slack should be 1-2% of the span length (e.g., 10-20mm on a 1m span). Refer to OEM spec if available.

4. If slack exceeds specification, loosen the lock nuts on the chain tensioner (typically located on the tail sprocket or idler). Turn the adjusting bolt clockwise to increase tension. Re-measure slack. Do not overtighten; chain should not be bar-tight.
5. Tighten the lock nuts to the OEM torque specification (typically 25-35 Nm for M10 bolts). Verify the sprocket alignment visually; the chain should run straight and not ride on the sprocket flanges.
6. Inspect sprockets for wear. Look for hooked or sharpened teeth, or excessive wear on the tooth face. If sprocket wear exceeds 10% of tooth thickness, replace the sprocket and chain as a set.
7. Clean the chain and sprockets with a lint-free rag to remove sawdust, pitch, and old grease. Do not use solvents that may damage seals or remove internal lubrication.
8. Apply chain lubricant evenly along the entire length of the chain while rotating the chain by hand. Ensure lubricant penetrates between the pins and bushings. Wipe off excess to prevent attracting debris.
9. Rotate the chain manually through at least two full revolutions to distribute lubricant evenly. Re-check tension after rotation; adjust if necessary.
10. Close and secure all access covers and guards. Remove all tools and rags from the work area.

5.0 Verification & Return to Service

1. Remove LOTO devices and restore power and compressed air to the moulder.
2. Jog the feed chain drive to ensure smooth rotation and no unusual noise. Listen for clicking or binding.
3. Run the moulder at low feed speed (e.g., 10 ft/min) with no material for 2 minutes. Verify chain runs true and does not vibrate excessively.
4. Run a test piece of scrap material at normal feed speed. Confirm consistent feed without slipping or jerking. Inspect the test piece for feed marks or unevenness.
5. Sign off on the PM work order in ServiceGrid, noting any adjustments made, parts replaced, or observations for future maintenance.

Regulatory Disclaimer: This document is a generic maintenance template provided for educational and informational purposes only. It does not constitute professional engineering or reliability advice. The end-user assumes all liability for validating all step sequences, torque specs, and LOTO protocols against specific machinery OEM manuals before deployment to a live production floor.