
Moulder Feed Works Gearbox Oil Level Check & Top-Up

1.0 Maintenance Objective & Frequency

The objective of this procedure is to verify the oil level in the moulder feed works gearbox is within the OEM-specified range and to top up with the correct lubricant if necessary. Maintaining proper oil level prevents gear tooth scoring, bearing failure, and overheating due to inadequate lubrication. This check is performed weekly or every 40 hours of operation, whichever comes first.

2.0 Lockout/Tagout (LOTO) & Safety

- **Electrical Isolation:** Disconnect and lock out the main electrical disconnect for the moulder. Verify zero energy state with a voltmeter.
- **Mechanical Isolation:** Ensure the feed drive motor is stopped and the feed rolls are not under load. Engage the mechanical brake if equipped.
- **Personal Protective Equipment (PPE):** Wear safety glasses, oil-resistant gloves, and steel-toed boots. If working above floor level, use a stable ladder or platform.
- **Hot Surface Warning:** The gearbox housing may be hot after operation. Allow the gearbox to cool for at least 15 minutes before opening any fill or drain plugs.

3.0 Required Tools, Parts & Lubricants

- Clean lint-free rags
- Flashlight
- Appropriate gear oil per OEM spec (typically ISO VG 220 or 320 EP gear oil, check machine manual)
- Clean funnel with fine mesh screen (100 mesh minimum)
- Oil drain pan (capacity at least 5 litres)
- Torque wrench (range 10-50 Nm) with appropriate socket for fill/drain plugs
- Permanent marker or paint pen for marking level

4.0 Step-by-Step Maintenance Procedure

1. Perform LOTO as per Section 2.0. Confirm the machine is isolated and tagged out before proceeding.
2. Locate the feed works gearbox. It is typically mounted on the infeed side of the moulder, directly coupled to the feed roll drive motor. Refer to the machine layout drawing if necessary.
3. Clean the area around the oil level sight glass or dipstick with a clean rag to prevent contamination from entering the gearbox.
4. If equipped with a sight glass: Observe the oil level. The oil should be between the minimum and maximum marks. If the level is below the minimum mark, proceed to step 6. If the level is within range, skip to step 9.

5. If equipped with a dipstick: Remove the dipstick, wipe it clean, reinsert fully, then remove again. Read the oil level. It should be between the low and high marks. If below low, proceed to step 6.
6. If the gearbox has a separate fill plug (not the dipstick), clean the area around the fill plug with a rag. Remove the fill plug using the appropriate socket and torque wrench. Set the plug aside on a clean surface.
7. Insert a clean funnel with a fine mesh screen into the fill opening. Slowly add the correct grade of gear oil in small increments (approximately 0.25 litres at a time). Wait 30 seconds between additions to allow the oil to settle.
8. Recheck the oil level using the sight glass or dipstick. Continue adding oil until the level reaches the middle of the acceptable range (approximately 50-75% between min and max). Do not overfill.
9. Remove the funnel. Inspect the fill plug O-ring or gasket for damage. Replace if cracked or flattened. Reinstall the fill plug and torque to the OEM specification (typically 25-35 Nm). Record the torque value used.
10. Wipe away any spilled oil from the gearbox housing and surrounding area. Dispose of oil-soaked rags in the appropriate hazardous waste container.
11. Inspect the gearbox breather (if equipped). Ensure it is not clogged with debris. Clean or replace as necessary.
12. Mark the sight glass or dipstick with a permanent marker at the current oil level for quick visual reference during future checks.

5.0 Verification & Return to Service

1. Remove all tools, rags, and the oil drain pan from the work area. Verify no loose items remain near the gearbox.
2. Remove LOTO devices in the reverse order of application. Restore electrical power to the moulder.
3. Start the feed drive motor and run the feed rolls at low speed (approximately 10-15 fpm) for 2-3 minutes. Listen for unusual noises (grinding, whining) from the gearbox.
4. Stop the feed drive and immediately recheck the oil level. The level should remain stable. If the level drops significantly, inspect for leaks at the fill plug, drain plug, and shaft seals.
5. Run a short test production piece through the moulder at normal feed speed. Verify smooth feed and no abnormal vibration.
6. Complete the PM work order in ServiceGrid. Record the oil level reading, amount of oil added (if any), and any observations (e.g., oil condition, leaks, breather condition).

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.