
Edgebander Pre Melt Hopper Level Sensor Clean

1.0 Maintenance Objective & Frequency

The objective of this procedure is to clean the level sensor located inside the pre-melt hopper of the edgebander. Over time, adhesive residue and dust accumulate on the sensor face, causing false low-level alarms or failure to detect a low adhesive condition. This can lead to inconsistent glue application, starved glue pots, and production defects. Cleaning restores sensor accuracy and ensures reliable hopper level monitoring.

Frequency: Every 40 operating hours or weekly, whichever comes first. Perform more frequently if processing high-dust materials (e.g., MDF) or using high-residue adhesives.

2.0 Lockout/Tagout (LOTO) & Safety

- **Electrical Isolation:** Disconnect main power to the edgebander at the disconnect switch. Apply personal lock and tag.
- **Thermal Hazard:** The pre-melt hopper and adhesive are hot (typically 180-220°C). Allow the hopper to cool to below 50°C before opening or inserting tools. Use a non-contact infrared thermometer to verify temperature.
- **PPE:** Wear heat-resistant gloves (rated for at least 250°C), safety glasses with side shields, and long sleeves. Avoid synthetic fabrics that can melt.
- **Chemical Hazard:** Some adhesive cleaners contain solvents. Review SDS for the cleaner in use. Work in a well-ventilated area. Wear nitrile gloves if handling solvent-based cleaners.

3.0 Required Tools, Parts & Lubricants

- Non-contact infrared thermometer
- Heat-resistant gloves (250°C+ rating)
- Lint-free, non-abrasive wipes (e.g., Kimwipes or clean cotton rags)
- Plastic or brass scraper (to avoid scratching sensor face)
- Approved adhesive cleaner or isopropyl alcohol (99% concentration)
- Small soft-bristle brush (e.g., acid brush or toothbrush)
- Flashlight or inspection mirror
- Personal lock and tag for LOTO

4.0 Step-by-Step Maintenance Procedure

1. **Perform Lockout/Tagout:** Turn off the edgebander main disconnect switch. Apply your personal lock and tag. Verify zero energy by attempting to power on the control panel.
2. **Verify hopper temperature:** Using the infrared thermometer, check the temperature of the pre-melt hopper exterior near the sensor location. Do not proceed if above 50°C. Allow additional cooling time if needed.
3. **Access the sensor:** Open the hopper access door or remove the inspection panel as per the machine manual. Use the flashlight to locate the level sensor (typically a capacitive or ultrasonic sensor mounted on the side or top of the hopper).

4. Remove bulk adhesive residue: Using the plastic or brass scraper, gently scrape away any thick adhesive buildup on the sensor face. Work carefully to avoid scratching the sensor surface. Collect scrapings and dispose of them in a waste bin.
5. Apply cleaner: Dampen a lint-free wipe with the approved adhesive cleaner or isopropyl alcohol. Do not saturate; the wipe should be damp, not dripping. Wipe the sensor face thoroughly to dissolve and remove remaining residue.
6. Brush crevices: Use the soft-bristle brush to clean any adhesive or dust from the sensor housing threads, mounting bracket, and cable entry point. Follow with a dry lint-free wipe to remove loosened debris.
7. Inspect sensor condition: With the flashlight, examine the sensor face for cracks, pitting, or discoloration. Check the cable for cuts, abrasion, or heat damage. If any damage is found, replace the sensor before returning to service.
8. Reassemble: Close the access door or reinstall the inspection panel. Ensure all fasteners are tightened to the torque specified in the machine manual (typically hand-tight plus 1/4 turn).
9. Remove LOTO: Remove your personal lock and tag. Restore main power by turning the disconnect switch to the ON position.

5.0 Verification & Return to Service

1. Power on the edgebander and navigate to the hopper level display on the HMI. Confirm the sensor reads the correct state (e.g., empty or low level if hopper is empty, or full if hopper is full).
2. Initiate a manual adhesive fill cycle (if equipped) to verify the sensor triggers the fill sequence correctly. Observe that the hopper fills to the expected level and the sensor stops the fill at the high-level setpoint.
3. Run a short production cycle (at least 5 panels) to confirm consistent glue application and no false low-level alarms. Monitor the sensor reading on the HMI during the run.
4. If the sensor fails to read correctly or alarms persist, repeat the cleaning procedure. If the issue continues, replace the sensor per the machine manual.
5. Sign off on the PM work order in ServiceGrid, noting the date, time, sensor condition, and any parts replaced. Update the maintenance log with the next scheduled cleaning date.

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.