Edgebander End Trim Saw Angle Setting for 45-Degree Cuts

1.0 Maintenance Objective & Frequency

The objective of this procedure is to calibrate the end trim saw assembly on a CNC edgebander to achieve a precise 45-degree miter cut angle. Proper calibration prevents chipped edges, misaligned joints, and excessive scrap during panel processing. This PM is required after any saw blade change, following a collision or jam, or as part of the quarterly preventive maintenance schedule (every 500 operating hours).

2.0 Lockout/Tagout (LOTO) & Safety

- Electrical Isolation: Disconnect main power to the edgebander at the disconnect switch and apply a personal lock and tag.
- Pneumatic Isolation: Close the compressed air supply valve and bleed any residual pressure from the trim saw cylinder lines.
- Mechanical Lockout: Ensure the saw blade has come to a complete stop and is not under spring tension.
- PPE: Wear safety glasses, cut-resistant gloves, and hearing protection.

3.0 Required Tools, Parts & Lubricants

- Digital protractor or angle gauge (0.1° resolution)
- Precision machinist square (90° reference)
- Hex key set (metric, 4mm, 5mm, 6mm)
- Torque wrench (Nm scale, range 10-50 Nm)
- Clean lint-free cloth and isopropyl alcohol
- Replacement saw blade (if worn or damaged)
- Medium-strength threadlocker (Loctite 242 or equivalent)

4.0 Step-by-Step Maintenance Procedure

1. Perform full LOTO as per Section 2.0. Verify zero energy state by attempting to start the saw motor.
2. Remove the safety guard and chip extraction hood covering the end trim saw assembly. Clean any accumulated dust or debris from the area.
3. Inspect the saw blade for wear, chipped teeth, or resin buildup. Replace if necessary. Clean the blade with isopropyl alcohol and a cloth.
4. Loosen the four M8 socket head cap screws securing the saw arbor bracket to the pivot plate using a 5mm hex key. Do not remove them completely.
5. Place the digital protractor against the saw blade face (not the teeth) and reference the machine's base plate or a known flat surface. Adjust the bracket angle until the protractor reads 45.0° ± 0.1°.

6. Tighten the four M8 screws in a cross pattern to 25 Nm using the torque wrench. Re-check the angle after tightening; adjust if necessary.

7. Apply one drop of medium-strength threadlocker to each screw to prevent loosening from vibration.

8. Reinstall the safety guard and chip extraction hood. Ensure all fasteners are snug and no tools remain inside the machine.

9. Remove LOTO devices and restore power and compressed air to the machine.

5.0 Verification & Return to Service

1. Run a dry cycle without material to confirm the saw moves freely and the guard functions correctly.

2. Feed a test panel (scrap MDF or particleboard) through the edgebander and inspect the end trim cut. The cut should be clean, with no tear-out or angle deviation.

3. Measure the cut angle on the test panel using the digital protractor. Acceptable tolerance is 45.0° ± 0.2°.

4. If the angle is out of tolerance, repeat Section 4.0 steps 4 through 9. If within tolerance, sign off on the PM work order in ServiceGrid.