# Angle Finder Calibration Procedure

## 1.0 Maintenance Objective & Frequency

The objective of this procedure is to calibrate the angle finder to ensure it provides accurate angular measurements within ±0.1 degrees. Proper calibration prevents errors in machining setups, layout work, and inspection tasks that rely on precise angle readings. This procedure is to be performed annually or whenever the angle finder is dropped, exposed to extreme temperatures, or shows signs of measurement drift.

## 2.0 Lockout/Tagout (LOTO) & Safety

- No electrical or mechanical energy isolation required for this calibration procedure.
- Ensure the work area is clean and free of debris to prevent slips or drops.
- Wear safety glasses to protect against potential debris or spring-loaded components.
- Handle the angle finder with care to avoid damage to precision surfaces.

## 3.0 Required Tools, Parts & Lubricants

- Certified precision angle block set (e.g., 30°, 45°, 60°, 90°)
- Surface plate (grade B or better)
- Calibration standard with known angle (e.g., sine bar or optical protractor)
- Small flathead screwdriver (for zero adjustment screw)
- Lint-free cloth
- Isopropyl alcohol (99%)
- Calibration log sheet or digital CMMS (ServiceGrid)

## 4.0 Step-by-Step Maintenance Procedure

1. Clean the surface plate and the base of the angle finder with isopropyl alcohol and a lint-free cloth to remove any oil, dust, or debris.
2. Place the angle finder on the surface plate and ensure it sits flat without rocking. If the base is not flat, do not proceed; replace the angle finder.
3. Set the angle finder to 0° and place it on the surface plate. Verify that the bubble vial or digital display reads exactly 0°. If using a digital model, press the zero/reset button.
4. Place a certified 90° angle block on the surface plate. Position the angle finder against the vertical face of the block. Record the reading. It should be 90° ±0.1°.
5. Repeat step 4 with a 45° angle block. Record the reading. It should be 45° ±0.1°.
6. Repeat step 4 with a 30° angle block. Record the reading. It should be 30° ±0.1°.

7. If any reading deviates by more than ±0.1°, locate the zero adjustment screw (typically on the base or side of the angle finder). Use a small flathead screwdriver to adjust the zero point slightly.

8. Re-zero the angle finder on the surface plate, then re-check the 90°, 45°, and 30° readings. Repeat adjustment steps until all readings are within tolerance.

9. For digital angle finders, perform a full reset per manufacturer instructions if adjustment fails to bring readings into tolerance. Replace batteries if low.

10. If the angle finder cannot be calibrated to within ±0.1° after three adjustment attempts, tag it as 'Out of Service' and initiate a replacement order.

11. Document all readings and adjustments in the calibration log sheet or ServiceGrid CMMS.

## 5.0 Verification & Return to Service

1. Perform a final verification by measuring a known angle (e.g., a 60° angle block) that was not used during calibration. The reading must be within ±0.1°.

2. Clean the angle finder and store it in its protective case or designated storage location.

3. Update the calibration sticker on the angle finder with the current date and next due date.

4. Sign off on the calibration work order in ServiceGrid, attaching the calibration log as a note or file.