AB Tools TE107B

AB Tools Metric Dial Test Indicator (Model TE107B) User Manual

Precision Measurement for Automotive and Engineering Applications

1. Introduction

This manual provides comprehensive instructions for the safe and effective use of your AB Tools Metric Dial Test Indicator, Model TE107B. This precision instrument is designed for accurate measurement of small distances and angles, making it an essential tool for automotive, engineering, and general workshop applications. Please read this manual thoroughly before operation to ensure proper usage and to maintain the longevity of your device.

2. Product Overview

The AB Tools Metric Dial Test Indicator features a robust steel body and a clear 58mm dial face for easy reading. It is equipped with a plunger for measurement, a locking screw to secure the bezel, and adjustable circlips for setting measurement ranges. The indicator can be mounted via a rear lug or by clamping its stem.

Figure 2.1: Front view of the AB Tools Metric Dial Test Indicator. Shows the 58mm dial face, measurement scale (0-10mm, 0.01mm increments), and the plunger.

Key Components:

- **Dial Face:** 58mm diameter, clearly marked with 0-10mm range and 0.01mm increments.
- **Plunger:** The movable rod that contacts the surface being measured.
- **Bezel:** The rotating outer ring of the dial, used for zeroing.
- **Locking Screw:** Secures the bezel in position after zeroing.
- **Circlips (Tolerance Markers):** Two adjustable clips on the dial for setting maximum and minimum tolerance limits.

- **Mounting Lug:** A tab with a hole on the rear for attaching to a magnetic base or other fixtures.
- **Stem:** The cylindrical body of the indicator, also used for mounting.

3. Safety Information

Always handle precision instruments with care. Dropping or impacting the dial test indicator can affect its accuracy and cause damage. Store the instrument in a clean, dry environment away from dust and corrosive materials. Avoid applying excessive force to the plunger or other components.

4. Setup

1. **Mounting:** Secure the dial test indicator firmly. It can be mounted using the lug on the rear of the dial, typically attached to a magnetic base, or by clamping the stem. Ensure the mounting is stable and free from vibration.
2. **Positioning:** Position the indicator so that the plunger is perpendicular to the surface being measured. This ensures accurate readings.
3. **Zeroing:** Gently bring the plunger into contact with the reference surface. Rotate the bezel until the main needle points to '0' on the dial. Tighten the locking screw to secure the bezel in this position.

5. Operating Instructions

1. **Measurement:** Once zeroed on a reference point, move the indicator to the point of measurement. The main needle will indicate the deviation from the reference point. Each major division on the dial represents 0.1mm, and each small division represents 0.01mm.
2. **Range Indicator:** The small inner dial indicates full revolutions of the main needle, typically showing the total travel within the 0-10mm range.
3. **Tolerance Setting:** Use the two adjustable circlips on the dial face to mark your desired maximum and minimum tolerance limits. This allows for quick visual inspection of whether a measurement falls within acceptable parameters.
4. **Lifting the Plunger:** If equipped, use the puller mechanism to retract the plunger for easier positioning over the workpiece without scratching the surface.

6. Maintenance

- **Cleaning:** After each use, wipe the indicator clean with a soft, lint-free cloth. For stubborn grime, use a small amount of isopropyl alcohol. Avoid harsh chemicals or abrasive cleaners.
- **Lubrication:** The internal mechanisms are factory-lubricated. Do not attempt to lubricate the plunger or other moving parts unless specifically instructed by the manufacturer, as this can attract dust and affect accuracy.
- **Storage:** Store the dial test indicator in its protective case (if provided) or a clean, dry place to prevent dust accumulation and physical damage.
- **Calibration:** For critical applications, periodic calibration by a qualified technician is recommended to ensure continued accuracy.

7. Troubleshooting

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
Inaccurate readings	Improper zeroing; plunger not perpendicular; dirt on plunger/surface; damaged mechanism.	Re-zero the indicator; ensure perpendicular contact; clean plunger and surface; inspect for damage. If damaged, seek professional repair.
Sticky or jerky plunger movement	Dust or debris in mechanism; lack of lubrication (rare); bent plunger.	Clean the plunger and surrounding area. Do not attempt to lubricate unless specified. If bent, professional repair or replacement may be necessary.
Bezel does not lock securely	Loose locking screw; worn threads.	Tighten the locking screw. If threads are worn, contact support for repair options.

8. Specifications

Brand	AB Tools
Model Number	TE107B
Measuring Range	0 - 10mm
Reading (Increments)	0.01mm
Dial Face Diameter	58mm
Body Material	Steel / Metal Casting
Item Weight	4.9 ounces
Product Dimensions	5.51 x 3.15 x 2.36 inches
Display Type	Analogue

9. Warranty Information

Specific warranty details for the AB Tools Metric Dial Test Indicator (Model TE107B) are typically provided at the point of purchase or can be obtained directly from AB Tools. Please retain your proof of purchase for any warranty claims. Warranty coverage generally applies to manufacturing defects and does not cover damage resulting from misuse, neglect, or unauthorized repairs.

10. Support & Contact

For technical assistance, spare parts, or further information regarding your AB Tools Metric Dial Test Indicator, please contact AB Tools customer support. Refer to the packaging or the official AB Tools website for the most current contact details.

AB Tools Official Website: www.abtools.co.uk (Please verify actual website)