Accusize Industrial Tools S908-C685

Accusize Industrial Tools 8" Master Precision Level User Manual

Model: S908-C685

1. Introduction and Application

The Accusize Industrial Tools Master Precision Level is designed for precise measurement and leveling tasks. It is primarily used for checking the straightness or parallelism of surfaces on machine tools and other equipment, as well as verifying the correct horizontal and vertical installation positions. This instrument can also be utilized to measure an object's inclination with high accuracy.
This manual provides detailed instructions for the proper use, adjustment, and maintenance of your precision level.



Figure 1: Accusize 8-inch Master Precision Level.



Figure 2: The precision level stored in its protective fitted wooden box.

2. Structure and Features

The Accusize Master Precision Level features a robust design for high accuracy and durability:

- **Cast Iron Body:** Provides stability and durability, with a ground finished base for high accuracy.
- **Plastic Knobs:** Located on the frame to insulate the instrument from the heat of the hand, preventing thermal expansion that could affect readings.
- **Adjustable Main Vial:** Features high transparency and an accuracy of 0.0002" per 10 inches.
- **V-Grooved Base:** Allows for stable placement on cylindrical surfaces.
- **Cross Test Vial:** Aids in ensuring the level is not tilted sideways during measurement.
- **Insulating Grip:** Further reduces heat transfer from the user's hand.
- **Standard Compliance:** Designed to DIN 887 (& ANSI standard).



Figure 3: Key components of the Accusize Master Precision Level, including the main bubble, deputy bubble, adjusting screw, body, and V-grooved base.

3. Setup and Adjustment

The Accusize Master Precision Level is constructed from materials with different coefficient expansions. Before operation, ensure the work surface is sturdy and clean. Remove all dirt and dust. It is crucial to ensure the level returns to the same position after each rotation during adjustment.

Adjustment Procedure:

1. Place the level on a reasonably wiped, stable, and flat surface. If the surface is horizontal, the bubble should be flowing in the middle between the two long reference lines.
2. If the surface is not horizontal, the bubble may be at one end, as shown in Figure 4 (similar to Fig.1 in the diagram). Mark down the measurement of the bubble’s position.
3. Rotate the level by 180° end-to-end. If the bubble is still at the same position (similar to Fig.2 in the diagram)

or at a similar position with a division of less than 1/2, mark the position down. It should be roughly the same as the bubble in Figure 4.

4. Rotate it by 180° again. Slightly rotate the adjusting screw with a wrench by a small degree until the bubble reaches the middle between the two long reference lines. If the level is like Figure 5 (similar to Fig.3 in the diagram) and the difference between the two measurements is the same or at a position where the division is less than 1/2, the level is horizontal and ready to use.
5. If the level still seems incorrect, repeat step 1.

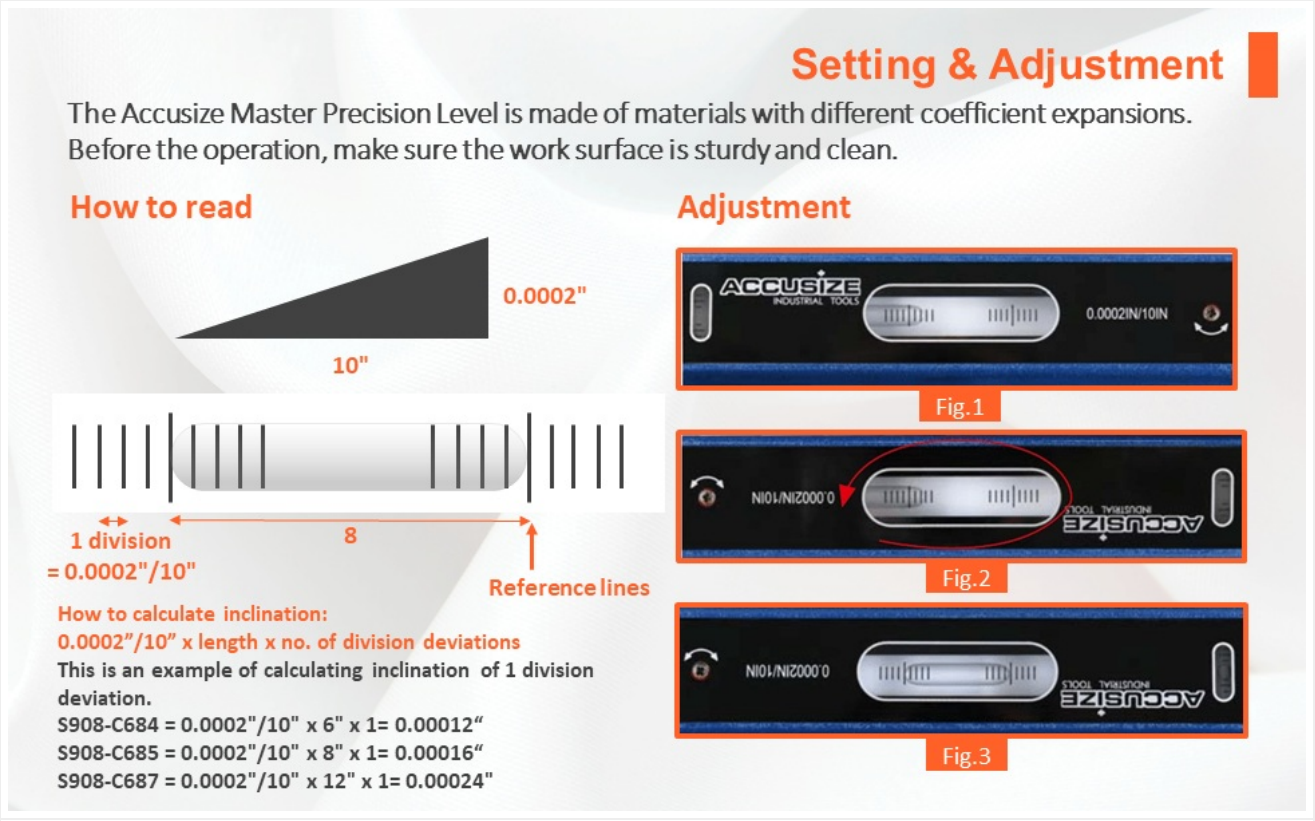


Figure 4 & 5: Visual guide for setting and adjusting the level, showing bubble positions (Fig.1, Fig.2, Fig.3) and the adjusting screw.

Video Guide:

For a visual demonstration of the operation and adjustment of the Master Precision Level, please watch the official product video:

Video 1: Operation of Accusize Master Precision Level. This video demonstrates the cleaning, placement, and adjustment steps for the precision level.

4. Calibration

To determine whether calibration is correct, observe if the bubble flows in the same position in both two measurements with the same number of deviations after the level is rotated by 180° every time. The average measurements of these two positions represent the true horizontal level. If the bubble flows between the same number of deviations when the level is rotated by 180° every time, it does not necessarily have to be at the center. However, if the bubble flows in different positions in two measurements, the level is not calibrated successfully. Repeat the adjustment steps until the level is calibrated correctly.



Figure 6: Illustration of correct and incorrect calibration based on bubble position after 180° rotation.

5. Measuring Increment

To measure the increment, mark down the datum of the two measurements obtained during calibration. Create graphs to visualize the data and see if these two curves are symmetrical. Then, calculate the increment. To measure the increment, slide the level along the surface and mark down the deviations.

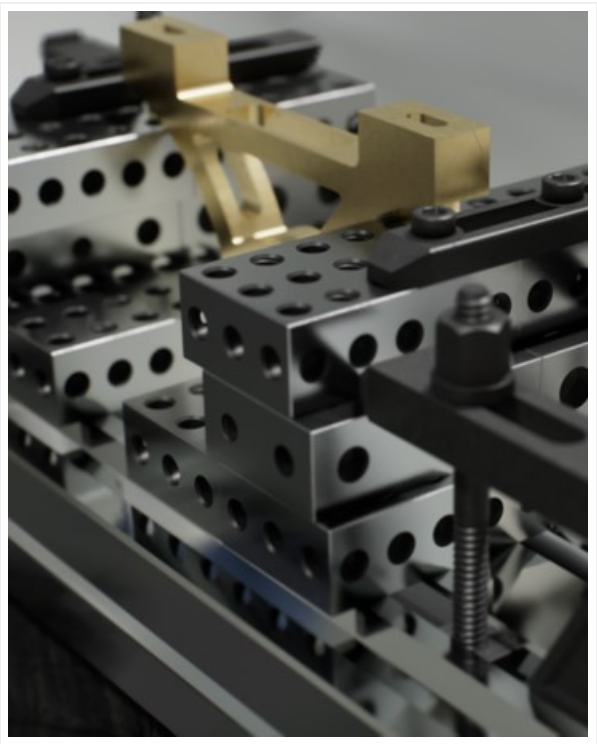


Figure 7: Method for measuring the increment by sliding the level and noting deviations.

6. Maintenance and Warnings

Proper maintenance ensures the longevity and accuracy of your precision level.

General Warnings:

- **Keep Clean:** Before use, the measuring surface and the working surface of the level must be thoroughly cleaned.
- **Always Avoid:** Handle with care to avoid shocks or impacts, which can damage the precision mechanism.
- **Wait:** When leveling, allow the bubble to settle completely before taking a reading.
- **Vertical Observation:** When reading, observe vertically to avoid parallax errors.
- **Always Anti-rust:** After use, apply anti-rust processing. When placed, ensure it is shockproof and protected from moisture.



Figure 8: General warning symbol.

7. Specifications

Attribute	Value
Brand	Accusize Industrial Tools
Model Number	S908-C685
Accuracy	0.0002"/10"
Material	Cast Iron
Product Dimensions	3.54"L x 2.36"W
Item Weight	4.07 pounds
Operation Mode	Manual

8. Support and Additional Resources

For further assistance or detailed inquiries, please refer to the official PDF user manual or contact Accusize Industrial Tools directly.
Official User Manual (PDF): Download PDF
Manufacturer: Accusize Co., Ltd.