Robinair 75240

Robinair 75240 Coolant and Battery Refractometer User Manual

Model: 75240

Introduction

The Robinair 75240 Coolant and Battery Refractometer is a precision optical instrument designed for accurately measuring the freeze point of engine coolants (ethylene glycol and propylene glycol based) and the specific gravity of battery electrolyte solutions. This handheld device provides quick and reliable readings essential for vehicle maintenance and ensuring optimal performance in various temperature conditions.

Kit Contents

The complete Robinair 75240 kit includes the following components:

- Refractometer with rugged aluminum housing
- Eyedropper
- Screwdriver (for calibration)
- Vial of distilled water (for calibration)
- Cleaning cloth
- Foam-lined rigid plastic case
- Usage instructions (this manual)

Image: The complete Robinair 75240 kit, including the refractometer, eyedropper, screwdriver, distilled water vial, cleaning cloth, and protective case.

Setup and Calibration

1. **Focusing the Eyepiece:** Look through the eyepiece and rotate the diopter adjustment ring until the scale is clearly in focus.
2. **Calibration Procedure:**
    - Open the cover plate.
    - Place 2-3 drops of distilled water onto the main prism.
    - Close the cover plate gently, ensuring the water spreads evenly across the prism surface without air bubbles.
    - Wait approximately 30 seconds for the sample to reach the ambient temperature of the refractometer.
    - Point the front end of the refractometer towards a light source and look through the eyepiece.
    - The blue/white boundary line should align with the "WATERLINE" or "0" mark on the scale.
    - If it does not, use the provided screwdriver to turn the calibration screw (located under the rubber cap) until the boundary line is precisely at the "WATERLINE" or "0" mark.
    - Wipe the prism and cover plate dry with the cleaning cloth after calibration.

Operating Instructions

Follow these steps for accurate measurements:

1. Ensure the refractometer is clean and calibrated.

2. Open the cover plate.
3. Using the eyedropper, place 2-3 drops of the sample liquid (coolant or battery electrolyte) onto the main prism.
4. Close the cover plate gently, ensuring the liquid spreads evenly across the prism surface without air bubbles.
5. Wait approximately 30 seconds for the sample to reach the ambient temperature of the refractometer.
6. Point the front end of the refractometer towards a light source and look through the eyepiece.
7. Read the value where the blue/white boundary line crosses the appropriate scale.
8. After each use, clean the prism and cover plate thoroughly with the cleaning cloth.

Measuring Coolant Freeze Point

The refractometer features scales for both Ethylene Glycol (EG) and Propylene Glycol (PG) based coolants. Identify the type of coolant being tested and read the corresponding scale. The reading indicates the freeze protection temperature in degrees Fahrenheit.

- **Ethylene Glycol Scale:** Typically marked "EG" or "Ethylene Glycol".
- **Propylene Glycol Scale:** Typically marked "PG" or "Propylene Glycol".
- **Scale Range:** -60°F to +32°F.

Measuring Battery Electrolyte Specific Gravity

The refractometer also includes a scale for checking the specific gravity of battery electrolyte solutions. This indicates the charge level of lead-acid batteries.

- **Battery Electrolyte Scale:** Typically marked "BATTERY FLUID" or "SG".
- Read the specific gravity value directly from this scale.
- Consult your battery manufacturer's specifications for optimal specific gravity ranges.

Maintenance

- **Cleaning:** Always clean the prism and cover plate with the provided cleaning cloth after each use. Do not rinse the refractometer under running water or immerse it in liquid.
- **Storage:** Store the refractometer in its protective foam-lined case when not in use. Keep it in a dry, cool place, away from direct sunlight and extreme temperatures.
- **Handling:** Handle the instrument with care. Avoid dropping it or subjecting it to harsh impacts.

Troubleshooting

Problem	Possible Cause	Solution
Scale is blurry or out of focus.	Eyepiece not adjusted.	Rotate the diopter adjustment ring until the scale is clear.
Inaccurate readings.	Instrument not calibrated; prism dirty; sample not at ambient temperature.	Recalibrate with distilled water; clean prism thoroughly; wait 30 seconds for temperature stabilization.

Problem	Possible Cause	Solution
Blue/white boundary line not visible.	Insufficient light; sample too dark or opaque.	Point towards a brighter light source; ensure sample is clear enough for testing.

Specifications

- **Model:** Robinair 75240
- **Measurement Range (Coolant):** -60°F to +32°F (Ethylene Glycol and Propylene Glycol)
- **Measurement Range (Battery Electrolyte):** Specific Gravity (SG)
- **Material:** Aluminum housing
- **Dimensions:** Approximately 26.42 x 20.83 x 13.72 cm (packaged)
- **Weight:** Approximately 408 g (packaged)
- **Optics:** High-quality with ultra-smooth focusing

Warranty and Support

Robinair products are manufactured to high standards. For warranty information, technical support, or service inquiries, please contact Robinair customer service or visit the official Robinair website. As a Bosch Automotive Service Solutions brand, Robinair is committed to providing quality tools and support.
For further assistance, please refer to the contact information provided with your purchase or on the official Robinair website.