

# ET5672 REFRACTOMETER (Antifreeze / Battery Fluid / Windscreen / AdBlue)

## Instruction manual

### 1. SAFETY INSTRUCTIONS

#### 1.1. General Safety

- ✓ Familiarise yourself with the applications and limitations of this refractometer.
- ✓ Keep the meter clean and in good condition.
- ✗ **DO NOT** use the meter for any purpose other than that for which it is designed.

**WARNING! When testing fluids, especially battery fluid, ensure that none comes into contact with your eyes or skin since serious injury could result. Wear protective gloves and clothes. Ensure that all general workshop safety rules are applied.**

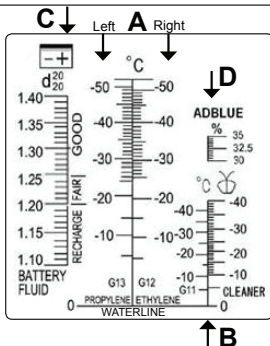
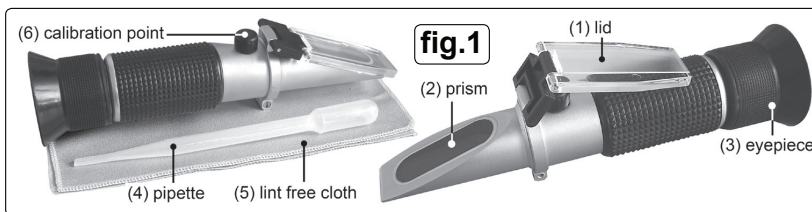
### 2. INTRODUCTION

This meter measures the strength of battery fluid, windscreen wash, antifreeze and AdBlue by measuring the refractive index of light passing through the mixture. Suitable for synthetic antifreeze mixtures including long life OAT (Organic Acid Technology) and aqueous / urea content of AdBlue. Temperature corrected prism ensures accuracy. Eyepiece with adjustable focus. Simple calibration check using distilled water. Supplied with pipette and carry-case.

### 3. TEST PROCEDURE

- 3.1 Check that the prism (2) and lid (1) are clean.
- 3.2 Open lid, hold tester so that prism surface is level and with pipette supplied (4), place a drop of the fluid onto the prism (2).
- 3.3 Close the lid (1) to disperse the fluid evenly with equal opacity / no bubbles.
- 3.4 Turn eyepiece (3) so that the display is correctly focused.
- 3.5 Read off the value, on the appropriate scale, indicated by the pronounced LIGHT-DARK dividing line.

On completion of each test carefully clean the prism with a lint-free dry cloth (5). The tester incorporates a display, subdivided into five scales (fig. 2) from which to check the following fluids.



**fig.2**

#### 4. ANTIFREEZE TEST

4.1 Read the test procedure.

4.2 For "Propylene Glycol" read the left side of **Scale A**. For "Ethylene" read the right side of Scale A.

#### 5. WINDSCREEN FLUID

5.1 Read the test procedure

5.2 Refer to **Scale B**. Note: variations in formulation of windscreen washer fluids may result in an average value for a variety of alcohol based anti-freeze mixtures, this test is therefore a guideline only.

#### 6. BATTERY FLUID TEST

6.1 Read the test procedure.

6.2 Refer to **Scale C** which indicates the density of the battery fluid in kg per litre and the ranges for Recharge, Fair and Good.

#### 7. ADBLUE TEST

7.1 Read the test procedure.

7.2 Refer to **Scale D** which Indicates the percentage of urea to distilled water in AdBlue; **32.5** indicates the most desirable percentage of urea in the solution.

#### 8. MAINTENANCE / CALIBRATION

8.1 Keep unit clean. Protect eye lens, display lid and prism to prevent scratching.

8.2 For best results an ambient temperature of 20 degrees C for both the refractometer and the fluid being tested is recommended.

8.3 To test instrument accuracy, place distilled water on the prism and check that the LIGHT-DARK dividing line is level with the "WATERLINE". If the reading is incorrect remove the black rubber cover from the calibration point (6). Insert the small supplied screwdriver into the hole in the calibration point. Turn the screwdriver whilst looking through the eyepiece until the waterline mark is on the light-dark dividing line.

8.4 After use and cleaning store in supplied foam lined and plastic case.

