Engine Oil Tester OTO300
Instruction Sheet

FRONT PANEL

Light

LEDs — Bowl — Sensor

Selector Switch — Power Switch

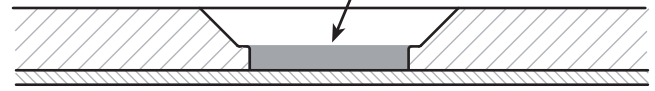"TEST" Button — "LIGHT" Button

OTO300 ENGINE OIL TESTER

Carrying Strap

OPERATING INSTRUCTION

1. Do not put oil on the sensor before turning on the tester. Make sure that the sensor and the inner surface of the bowl are clean and dry. (Refer to Step 8 below.)
2. Select engine type: Set the selector switch in " **GAS** " position for gasoline engines, or in " **DSL** " position for diesel engines.
3. Place this tester on a flat surface, set the power switch in the " **ON** " position to turn on the tester. (If only red LED #10 lights constantly, replace the button cells.)
4. Wait about 5 seconds. If #1 LED and #10 LED flash alternately, the tester has finished self-calibration and is ready for testing oil.
   Note: If #7-8-9 LEDs flash in turn, the sensor is dirty. Turn off the tester and clean the sensor.
5. Do not test hot oil. Put several drops of oil on the sensor until the oil surface reaches the required height which is indicated in Figure 2. Be careful not to scratch the sensor or spill oil in switch or button openings.
   Note: For best results, the temperature of the oil sample to be tested should be same as, or close to, the temperature of the tester, and both should be between 15°C and 27°C.

Figure 2   surface level of oil sample

6. Press the " **TEST** " button briefly. The 10 numbered LEDs light briefly and sequentially. Then a LED will flash and keep flashing to indicate the oil quality, the result is explained in the following table.

Explanation for Test Result

Test Result	Explanation
Any of the #1 - 7 LEDs flashes green	Excellent/good oil quality
#8 or #9 LED flashes yellow	fair oil quality
#10 LED flashes red slowly	Recommend oil change
#10 LED flashes red quickly	Recommend engine check

7. Now the test has been completed, set the power switch in the " **OFF** " position to turn off the tester.
8. Clean and then dry all the inner surface of the bowl. It is important that the sensor is clean and dry. Testing with a dirty or oily sensor will give bad results and may rate bad oil as OK. Use cotton terrycloth, soft tissue like soft toilet paper, microfiber, or cotton swabs to clean the sensor. Press firmly with a twisting motion to remove all oil from the sensor (including sensor's edge) and the other area of the inner surface of the bowl.
9. The tester has illumination function. Press and hold down the " **LIGHT** " button to turn on the light. To turn it off, just release the " **LIGHT** " button. The light is not controlled by the power switch.
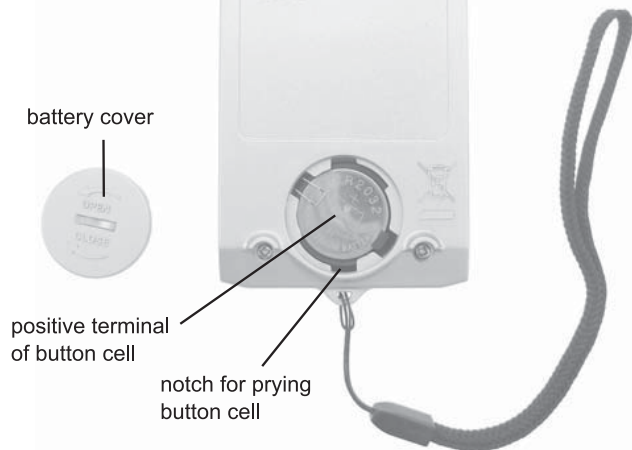
How Does the Tester Work?

The tester primarily reacts to the increase in acidity of oil. As the oil degrades, it becomes more acidic and will begin to pit metal engine parts. The red LED #10 reading usually means that the level of acid in the oil has reached a maximum acceptable level, and the oil should be changed. However, other contaminants (such as dirt, soot, water, antifreeze and metal particles) also influence the reading. Water or antifreeze in the oil may indicate a bad seal or head gasket. Metal particles result from unusual wear of bearings, pistons, rings, etc. Excessive carbon or soot may be caused by poor compression and excessive blow-by. Fuel leaking can dilute the oil and may cause an artificially good oil quality reading. If test results show that oil quality does not drop as expected over time, or seems to improve, check engine for fuel leaks. (Try a drop of oil on paper. Look for a gray ring.) If a significantly worse oil rating than expected is displayed, we recommend having the engine checked, or send a sample to an oil laboratory for analysis.

REPLACING THE BUTTON CELLS

The button cells are low and must be replaced immediately if #10 LED lights constantly after you set the power switch in the " **ON** " position or if the light illuminates dimly when you press the " **LIGHT** " button.

To replace the button cells, set the power switch in the " **OFF** " position to turn off the tester. Use a suitable tool (such as a coin) to rotate the battery cover anticlockwise to unlock the battery cover, and then remove the battery cover by tapping the tester on palm. Stick a suitable tool (such as a small screwdriver) in the notch (see Figure 3) and gently pry up the button cells one by one. Then install two button cells of the same type (3V button cell, CR2032 or equivalent) in the button cell compartment, make sure that the polarity connections of the button cells are correct (see Figure 3). Reinstall the battery cover. Then rotate the battery cover clockwise to secure the battery cover.

Figure 3

battery cover

positive terminal
of button cell

notch for prying
button cell

My old oil tests like new.

The sensor was not cleaned well before the test, or your oil may not be as bad as you think. Some oil can last over 10000 miles.

My test results are inconsistent.

Make sure that the surface of each oil sample under test reaches the required height as indicated in Figure 2. Sensor must be well cleaned after each test.

SPECIFICATION

Application: The tester is designed to test gasoline or diesel engine oil
Power Supply: 3V button cell, CR2032 or equivalent, 2 pieces
Operating Environment: Temperature: 15°C ~ 27°C
Relative Humidity: < 80%
Storage Environment: Temperature: -10°C ~ 50°C
Relative Humidity: < 80%
Size: 88 × 54 × 16 mm
Weight: About 44g (including button cell)

DECLARATION

1. This Instruction Sheet is subject to change without notice.
2. Our company will not take the other responsibilities for any loss.
3. The contents of this Instruction Sheet can not be used as the reason to use the instrument for any special application.

TROUBLE SHOOTING

#10 LED lights constantly after the tester is turned on.

The button cells are low. Replace the button cells with two new button cells of the same type (3V button cell, CR2032 or equivalent).

#7-8-9 LEDs flash in turn.

The sensor is dirty, or you added oil on the sensor before turning on the power switch.