



Model Hoyt 666

Automotive Test Meters



**2" Hoyt 666
Circuit Tester and Ohmmeter**

Features

- The compact general purpose Circuit Tester and Ohmmeter for testing starters on most 12 volt vehicle systems.
- It is very easy and safe to use, just place the meter direct over the wire.
- No direction connections are needed as it is using induction to take the measurement.
- High & Low jacks are provided for range selection.
- Includes Test Leads.
- Special Dials are available with the following options:
Additional Colors, Scales, Special Legends, Logo and Mirrors.
- Warranty: 1 Year.

Specifications

Accuracy:	±5% FS.
Range:	Low range: 0-8,000 Ohms; High range: 0-500,000 Ohms.
Movement:	Moving Magnet.
Case:	Rugged phenolic case.
Operating Temperature:	32°F to 104°F (0°C to 40°C).
Storage Temperature:	-4°F to 131°F (-20°C to 55°C).
Origin:	Made in USA.

Made in the USA from a proven design that has worked for over 40 years for several popular tool manufacturers.

IMPORTANT — Read these points before using your Hoyt 666 Ohmmeter.

1. **Do not use tester on live circuits. Always isolate component to be tested.**
Be sure to disconnect one cable from car battery.
2. Please note this ohmmeter is safe to use with diodes in alternator and transistor regulator applications if correct colored leads are used in the same color jacks and correct polarity of component is observed.
3. For proper lead connections to tester, insert black plug in black jack, red plug in HIGH or LOW jack.
4. **Zero Ohm Adjustment** - Before testing, short prods together, rotate adjuster knob until pointer reads zero ohms. This must be done when changing to either LOW or HIGH jacks for accurate readings.
5. **Battery** inside tester should be replaced when meter pointer can no longer be set to zero ohms. Simply remove four screws inside Bakelite case back thus removing meter assembly from case. Replace with same 1 1/2 volt pencil lite battery available at any drug store.

Hoyt Electrical Instrument Works, Inc.

23 Meter Street
Penacook, NH 03303

Phone: (800) 258-3652
Fax: (603) 753-9592
Email: sales@hoytmeter.com

www.hoytmeter.com

Page 1 (2)



Trouble Shooting

How to find Open Circuits in wiring, tube and lamp filaments, fuses, etc....

Use LOW jack and attach one tester prod to end of wire or component; attach other prod to other end. If meter does not read zero ohms, there is a break or open circuit.

If a fuse, bulb or radio tube cannot be inspected easily for burn out, connect the circuit tester up and tell in a jiffy. If there is no reading, fuse or bulb has burned out filaments, refer to tube manual for base diagrams of tubes. Contact proper filament pins on base of tube. If no reading, tube is burned out.

How to find Short Circuits in wiring, to trace uncoded conduit wiring, to check continuity of any component ...

Use HIGH jack and attach one prod to a good ground; the other to the wire or circuit to be checked. A zero ohm reading indicates there is a short between the wire and ground.

Checking Alternators

- To test ROTOR for short circuits, test from one of the two slip rings to rotor shaft or laminations.

There should not be any meter reading (infinity) . If meter reads, there is a short circuit present.

For open circuits, use LOW jack and test by connecting one prod to each slip ring.

Approx. 1.8 ohms reading on meter indicates fields are O.K.

- To test STATOR windings for short circuits or grounding, connect one lead to one stator contact; other to shell of stator. There should not be any reading on meter (infinity). For Open Circuit in winding, connect leads to each of contacts on stator nylon terminal holder. Meter should read zero ohms otherwise windings have open circuit.

- To test ALTERNATOR DIODES, use HIGH jack.

Make sure leads are connected with correct polarity to tester jacks and also to diode to prevent damage.

- To check for a short circuit in a diode, always connect Red Positive lead to "+" Pos. side of diode; black lead to Neg. "-" side. Readings between diodes may vary considerably but if meter reads less than 300 ohms, replace diode.

For Open Circuit test on diodes, connect Negative or black lead from tester to "+" Pos lead of diode and other lead to diode shell. If no meter reading (infinity), diode has open circuit. Replace.

Testing Voltage Regulators or Transistor type Regulator Components, use LOW jack.

The various resistors in a voltage regulator should give the same readings as are stamped on the resistors.

Check these by disconnecting one end of the resistor and attaching the two meter prods to the two ends of the resistor.

If the resistor does not read what it is stamped, it should be replaced. Refer to manufacturer's specifications if the values are not marked on the resistor. Diodes should be checked according to manufacturer's specifications.

Testing Fields of Generators, use LOW jack.

In testing a field of a 6 or 12 volt Generator for a Short circuit, the general paragraph on short circuit testing. If the field does not have a short circuit to ground, test the field resistance by connecting the tester prods to the two field wire terminals.

A 6 volt Generator field winding should read 2 to 3 ohms; a 12 volt field winding should read 4 to 6 ohms.

Testing Suppressors Resistor type Spark Plugs, 12 V. Coil Resistors

Attach one prod on one end of suppressor or spark plug, other prod to other end.

Resistance of suppressors should be 5,000 ohms and resistor spark plugs less than 20,000 ohms each.

All should read about the same. A distributor suppressor should test approximately 10,000-20,000 ohms.

High tension suppressor wiring runs about 4,000 ohms per foot.

12 volt coil resistors test approximately 1 ohm on "LOW" jack.

To Test Ignition Coil Primary, use HIGH jack.

THESE COIL TESTS SHOULD BE MADE WITH THE COIL HEATED TO OPERATING TEMPERATURE.

Remove all wires connected to coil terminals.

Connect one tester prod to BAT. terminal of coil; other to ground of coil can.

Meter should read 400,000 ohms or more. If less, shorted coil.

To Test Coil Secondary Winding

Connect one prod to center stack of coil; other prod to BAT. terminal of coil.

Good coil should not read more than 20,000 (20K) ohms.

To Test Coils on Horn Relays, Solenoids, Gas Tank Units — Use LOW jack.

Connect one prod to each terminal of coil. Some coils are grounded to one end off the can.

Reading should be 1/4 ohm approximately. If no meter reading, coil of solenoid or relay is open.

Gas tank units test 10-20 ohms.