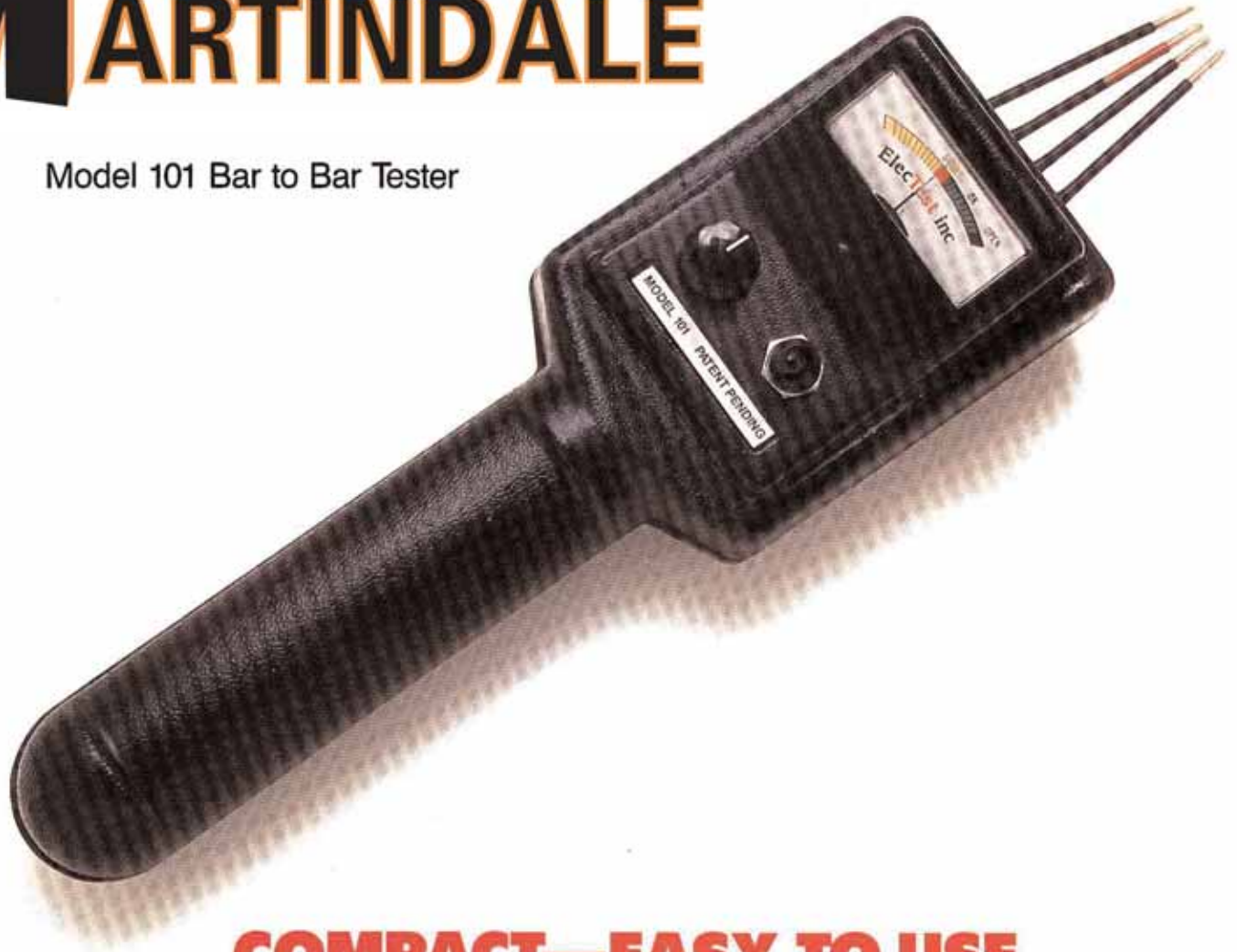


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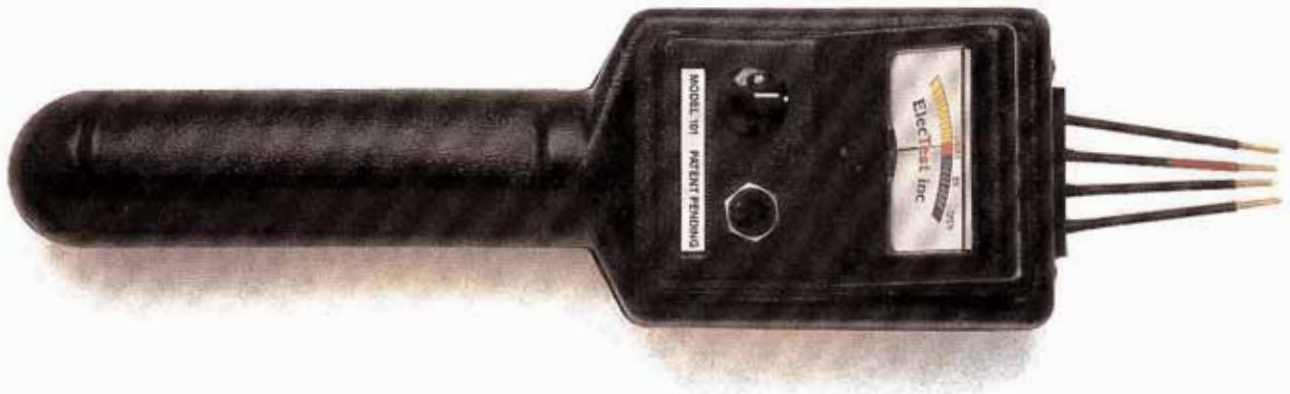
Model 101 Bar to Bar Tester



COMPACT—EASY TO USE
STATE OF THE ART
PAYBACK IN AS LITTLE AS ONE JOB
ULTRA SENSITIVE
ELIMINATES GUESSWORK

MARTINDALE

AT THE LEADING EDGE OF TECHNOLOGY



State-of-the-art Model 101 bar-to-bar tester | PATENT NUMBER
4 8 9 3 0 8 6

- One meter/One setting indicates circuit OK, shorted, open, or reversed
- Eliminates guesswork—zeroes right in on problem circuit
- Never again strip a good armature only to find equalizers caused a short to be indicated
- Sensitive enough to identify unsatisfactory circuits that other testers cannot find
- Pays for itself by eliminating unnecessary repairs or expensive second teardowns
- A quality buy, this highly scientific and advanced test equipment will maintain or increase in value



Figure 1
Circuit OK



Figure 2
Circuit shorted
(red probe indicates
location)



Figure 3
Circuit reversed
(red probe indicates
location)



Figure 4
Circuit open
(red probe indicates
position)

Note: reversed circuit will be indicated before and after open circuit.

OPERATING INSTRUCTIONS

1. Remove 3 screws from back — install two D cell batteries.
2. Adjust probe spacing by loosening screws on terminal block and re-tightening (Caution: do not over-tighten).
3. Rotate rheostat **COMPLETELY** to counter clockwise position—turn switch on. Failure to do this will peg out needle, and cause the tester to no longer function, **which will void your warranty.**
4. Position probes on commutator bars; turn rheostat clockwise until meter hand indicates OK (Fig. 1).
5. Systematically check all commutator bars.



ONE YEAR LIMITED WARRANTY

This unit was thoroughly tested and in proper working order when leaving the factory. It is warranted against defects in materials and workmanship to the original purchaser for a period of one year from date of sale.

During the warranty period, we will repair or replace at our option free of charge to the original purchaser any part of the tester that our examination shows to be defective in workmanship or materials.

This warranty does not apply to damage in transit or damage caused by misuse, abuse, neglect, accident, or alterations by unauthorized persons.

Non-warrantable units will be repaired and returned C.O.D.

Note: Upon purchase, warranty card must be returned, or warranty will be voided.



BAR TO BAR TESTER MODEL 101

The only low cost tester that assures product stability. A simple check takes less than 30 seconds and eliminates those troublesome comebacks and many dollars of additional expense.

Note: Be sure and read instructions in brochure that comes with your Bar to Bar Tester.

FEATURES:

- I. The #101 will clearly show an open or partial open in the armature winding. Many times, solder loosening, slung out, or damaged connections have occurred within the armature and are not visible to the naked eye. Most often, growler testing will not show any of these faults. With a black or open indication on the #101's meter, simply follow the red probe to the exact location of problem on the armature. At this point the armature can be resoldered, saving a rewind replacement or costly warranty.
- II. The #101 will immediately pinpoint a reverse coil by indicating yellow or reverse on the meter.
- III. The #101 quickly locates a short by pointing the red or short .
- IV. The #101 will further show a good, re-usable armature by continually reading in the green or ok.

The Model #101 is the fastest, simplest, most time saving device of it's kind. The test and results are 100% accurate. It offers at minimal cost both time and equipment savings, and quality that assures a long and dependable life.

ADDITIONAL INSTRUCTIONS:

- I. This meter will check any armature that has enough resistance to move the meter hand into the green. On a large armature which has very little resistance the meter hand will move only slightly into the green, which is alright, all we are looking for is a point to get a pattern all the way around the commutator.
- II. A dead short will keep the hand of the meter in the red. A partial short will not let the hand come back to the red position, but will show a lower reading in the green from where you had your rheostat set for a pattern to go by. This will show you where your problem is by following the red probe to the lead in your armature coil.
- III. If you use a growler on your armature and it shows shorted all the way around. It is very possible that you have an armature with an equalizer. Be sure to use the Bar to Bar Tester and set your meter

on "OK" or anywhere in the green. If you get the same pattern all the way around the commutator, then your armature is OK. It should read like this - One High and Two Lows or Two Highs and One Low, depending on how the equalizer is put in. If you have a short it will read in the red or read low green. If you do not get the same pattern then the equalizer is shorted or coils in the armature are shorted.

IV. For a unbalanced winding the armature should check good with a growler. To make sure the coils are put in the armature correctly and connected correctly to the commutator use your Bar to Bar Tester to check them. You should get the same pattern all the way around the commutator - For example: If we have a 3 bundle coil with 1 turn and 2 with 2 turns - your pattern should read like this - 1 Low and 2 Highs and should repeat this pattern all the way around the commutator. If it does not have the same pattern then the leads from the coil were set in the commutator wrong which will cause hot spots on the armature and will not operate properly under a load.

V. In some cases we may check an armature that has so many turns of small wire that you will not be able to move the rheostat. It will come up into the green just by turning the switch on. This is fine as long as the meter hand doesn't go out of the green, it will check the armature just the same as if you were using the rheostat. If on a small tool armature the hand goes all the way past the green scale, then this armature has too much resistance to check unless you change batteries and use some that are very weak - For example - Batteries that will slightly light a flashlight bulb - As you can see by these instructions the more resistance the more voltage the armature coils will build up.

VI. When the meter shows an open, first check for a loose connection, such as not soldered or tig welded in the commutator properly. If that checks "OK" than look for a broken wire or lead. Sometimes an armature will short causing an open and not show on the growler as a short.

VII. Reverse coil this happens mostly in a lap winding and when we are using a top connection. It is easy to pick up a bottom lead for a top lead which will cause a reversed coil. This will not show on a growler.