



# MODEL 6054 & 7155

## GROWLER ARMATURE - TESTER

**SAVE THESE INSTRUCTIONS** - This manual contains important safety and operating instructions for the tester you have purchased. You may need to refer to these instructions at a later date.

**WARNING: RISK OF EXPLOSION** This equipment incorporates parts, such as snap switches and probes that tend to produce arcs or sparks and therefore, when located in a garage, it should be in a room or enclosure provided for the purpose, or should be 18 inches (457 mm) or more above the floor.

**CAUTION:** Do not operate this tester without an armature in place. The transformer may burn out.

Do not expose this tester to rain or snow.

This tester is equipped with an electric cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

**DANGER** - Never alter AC cord or plug provided - if it will not fit outlet, have proper outlet installed by a qualified electrician. Improper connection can result in a risk of an electric shock.

### IMPORTANT SAFETY INSTRUCTIONS

When using your garage equipment, basic safety precautions should always be followed, including the following:

1. Read all instructions.
2. Care must be taken as burns can occur from touching hot parts.
3. Do not operate equipment with a damaged cord or if the equipment has been dropped or damaged - until it has been examined by a qualified serviceman.
4. Do not let cord hang over edge of table, bench or counter or come in contact with hot manifolds or moving fan blades.
5. If an extension cord is necessary, a cord with a current rating equal to or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
6. Always unplug equipment from electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
7. Let equipment cool completely before putting away. Loop cord loosely around equipment when storing.
8. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
9. Adequate ventilation should be provided when working on operating internal combustion engines.
10. Keep hair, loose clothing, fingers, and all parts of body away from moving parts.
11. To reduce risk of electric shock, do not use on wet surfaces or expose to rain.
12. Use only as described in this manual. Use only manufacturer's recommended attachments.
13. ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.

### SAVE THESE INSTRUCTIONS

#### GENERAL INFORMATION:

The Armature Tester can be used to check the armatures of electric motors and starter motors. It can be used to check for short and open circuits to ground. The jaws will accommodate armatures up to eight (8) inches in diameter.

Always be sure that power switch is off when connecting or disconnecting the AC cord.

Always be sure power switch is off when placing or removing an armature from the jaws.

Do not operate this tester without an armature in place. The transformer may burn out.

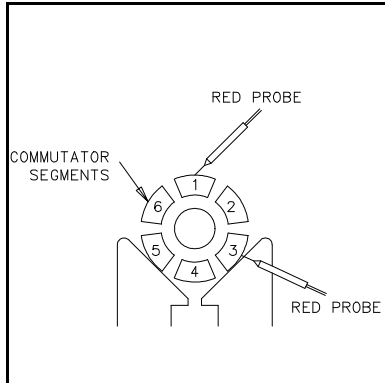
The test light and the two black probes are used to check the armature for shorts to ground and other insulation problems. The test light may be checked by placing an armature in place in the jaws, turning the power on, and shorting the two black probes together. The test light should come on.

The meter, two red probes, and the Hi-Lo switch is a separate circuit used to check the windings for defects. Shorting the probes will not cause the meter to operate. They must be pressed against adjacent commutator segments. The meter is more sensitive when used in the Lo position.

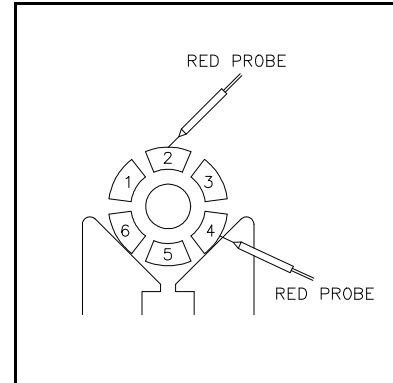
#### TO TEST FOR TURNS SHORTS IN WINDINGS:

1. Place armature in the jaws.
2. Turn power on.

3. Hold a hacksaw blade or other similar strip of steel (not aluminum or stainless steel) lengthwise against the armature lamination's and slowly rotate the armature under the blade. A shorted winding will create a magnetic field and the metal strip will be attracted to the slot where the shorted winding is located. When this happens, the blade will vibrate and cause a growling noise.
4. You may also test for a shorting winding by using the meter circuit. The red test probes should be touched to adjacent commutator segments, or to every other segment depending on armature design. The probes should be moved around the armature until the maximum reading is achieved. The test probes should be held in this position while the armature is rotated for testing. The meter reading will be the same for all good windings. If there are shorts between turns in a winding you will get a low reading. A winding shortened to ground will read zero. An open (broken) winding will read zero.



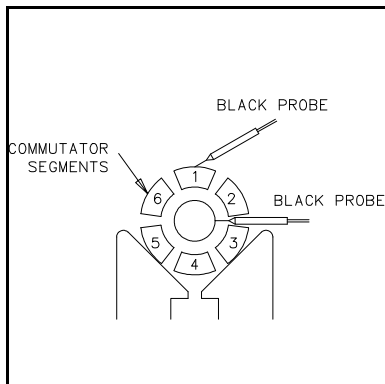
STEP 1  
TOUCH PROBES TO GET MAXIMUM  
METER READING.



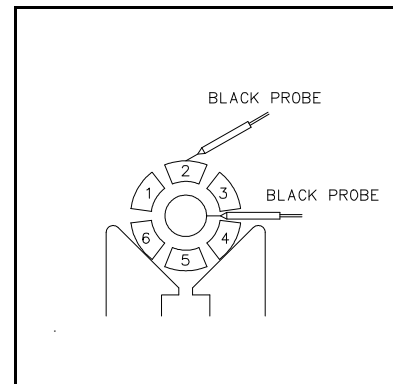
STEP 2  
ROTATE THE ARMATURE AND  
COMPARE READINGS.

**TO TEST FOR WINDINGS SHORTED TO GROUND:**

1. Place armature in jaws.
2. Turn power on.
3. Press one black probe to the shaft of the armature, press the other probe to each segment of the commutator. If the lights comes on, that indicates there is a short to ground. If the light does not come on, that indicates the insulation is good. If the light is dim or intermittent, it may mean there is dirt or metal chips bridging between electrical points and ground. Clean armature with stiff bristle brush and repeat tests.
4. If the light comes on indicating a short to ground, the grounded winding can be located with the meter circuit as follows:
  - a) Place the Hi-Lo switch on Hi.
  - b) Place one red probe against the shaft and the other against one segment of the commutator. Rotate commutator as shown and repeat test. Repeat for all segments. When you touch the commutator of the winding that is grounded, there will be a low or no reading. The segments of the commutator on either side of the grounding winding will show a higher reading.



STEP 1



STEP 2  
ROTATE ARMATURE AND REPEAT  
TEST.

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