



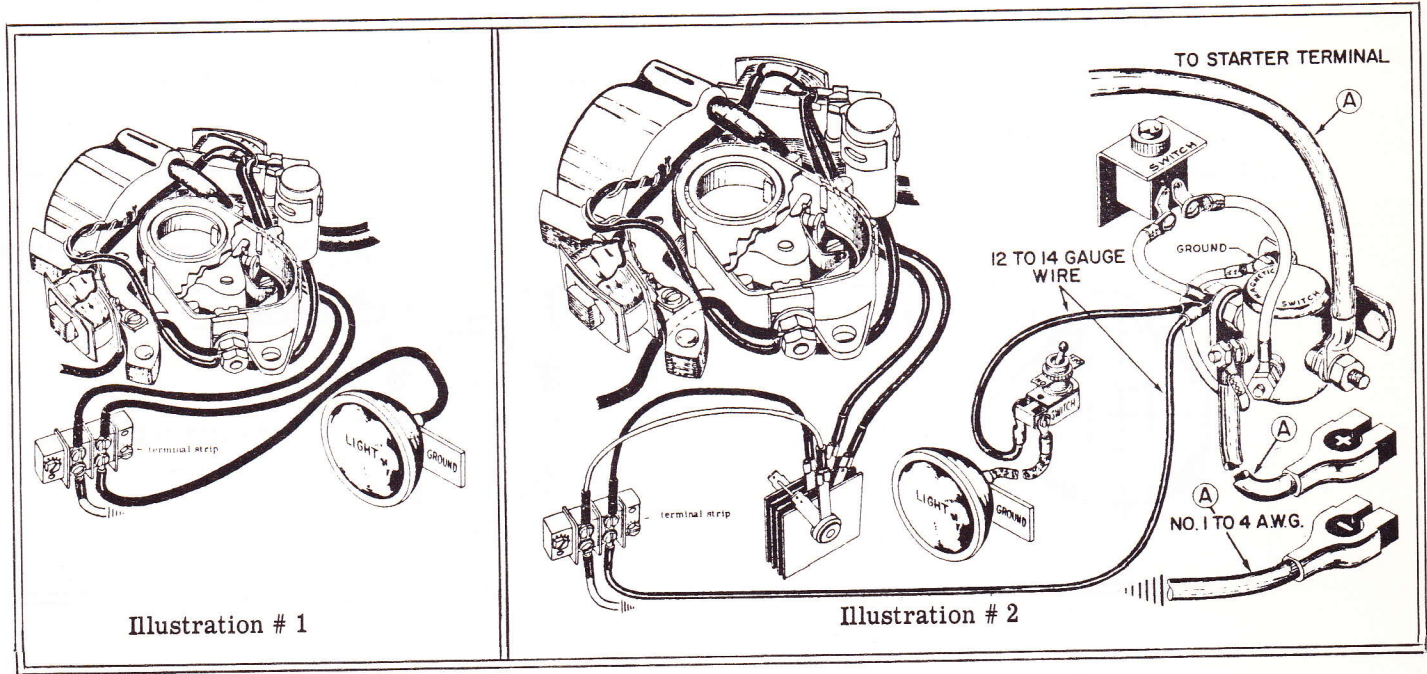
# SERVICE BULLETIN NO. 104

Section VIII, Division A  
Service Bulletin 104  
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**SUBJECT:** FLYWHEEL ALTERNATOR-MAGNETO

**MODEL ENGINE INVOLVED:** 400, 404, 412, 413, 498, 499, 500, E65, and J9 OUTBOARD

Occasionally a complaint may be registered regarding the Flywheel Alternator-Magneto not functioning properly. We would suggest reviewing the information listed below, for testing and assembly procedure.



## A. C. LIGHTING COILS

A. C. Lighting Coils consist of the usual coil, condenser and point set for firing engine, also incorporated are two extra generating coils and flywheel, for generating current for lights.

The flywheel has 10 magnets, 2 of which are used for ignition and all 10 used for generating current.

The generating coils are parallel connected with extending leads for attachment to the terminal strip, (Assembly No. 135-263). See wiring diagram for correct hook-up. (Illustration 1).

To test mounted coils remove coil leads from terminal strip. Use a test light made from a flash light bulb, (PR 12 bulb) and connect test light to coil leads. Remove spark plug to relieve compression. The bulb should glow when engine is cranked. If bulb does not glow review assembly procedure, repair or replace parts as required.

## D. C. CHARGING COILS

Alternator- Magneto, consists of the usual coil, condenser, and points set for firing engine, also incorporated are two extra generating coils and flywheel, to generate current for recharging battery. Charging rate at 3600 RPM is approximately 2-4 amps into a 12 volt battery.

The flywheel has 10 magnets, 2 of which are used for ignition and all 10 are used for generating current.

The generating coils are series connected with two extending leads for attachment to rectifier terminals, (Assembly No. 135-262). **DO NOT APPLY BATTERY CURRENT TO COIL LEADS.** Current from battery to coil leads will de-magnetize flywheel magnets, and cause coils to burn out. Connect battery to rectifier as shown in Illustration 2.

Polarity of this unit is negative ground. To test mounted coils, remove coil leads from the rectifier. Use a test light made from a flash light bulb, (PR 12 bulb), and connect test light to coil leads. Remove spark plug to relieve compression, the bulb should glow when engine is cranked. If bulb does not glow review assembly procedure and repair or replace as required.

## HOW TO ASSEMBLE GENERATOR COILS ON STATOR

1. Place stator on bench, engine side down and ignition coil away from you.
2. Place generator coils flat on bench with lead wires to your right, with the connecting lead of the two coils to the top, making sure that the start wire of each coil is facing up and to the top. (The start wire is the nearest wire to the center of coil and paper tube.) See Illustration 3.
3. Place left coil on left side of stator and right coil on right side of stator, making sure that the start of each coil is toward the center of stator and to the top.

If the coils are correctly mounted and no electrical output is obtained:

- (a) Check to be sure that there is continuity from one coil terminal to the other. If no continuity replace coils.
- (b) Check to be sure there is no continuity from either terminal to the stator. If there is continuity replace coils.

