

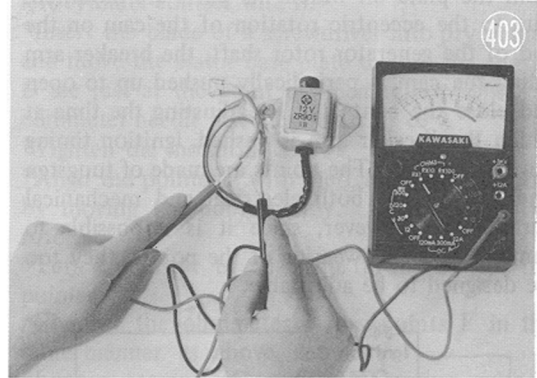
(3) High speed

When rpm increases to the point where generator voltage exceeds 14.5 volts, the increased current through relay coil B magnetizes the coil core enough to pull contact C₀ against C₂. This places a direct short across the field coil and current flows through C₂ and C₀, bypassing the coil. With this sudden loss of field current, there is a corresponding sudden drop in armature voltage, since the armature windings no longer have a magnetic field to cut through.

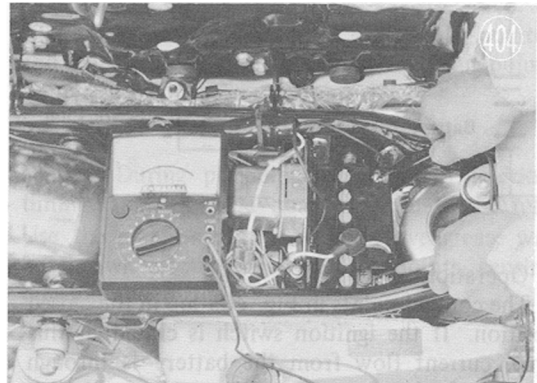
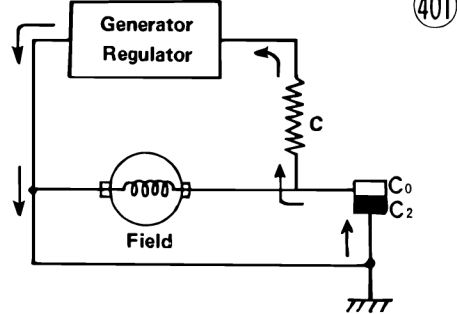
As soon as the voltage drops below 14.5 volts, current through coil B lowers enough to allow contact C₀ to pull away from C₂. This now lets field current start flowing again, and if high speed continues, the whole operation is repeated again and again. Movement of contact C₀ is fast enough so that for all practical purposes, the generator output voltage is a steady 14.5 volts at high speed.

3) Inspection

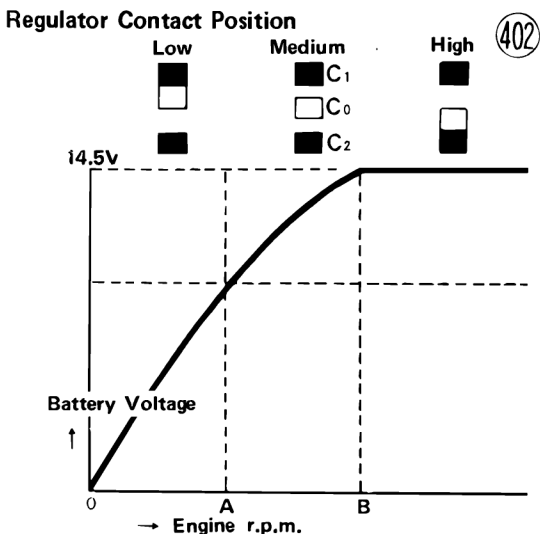
(1) Measure the resistance between the battery lead (brown) and ground (black lead). A good regulator will read between 53 and 55 Ω. A lower reading may indicate a short in coil B.



High Speed



The graph in Fig. 402 shows the relationship among engine speed, generator voltage, and the position of the movable relay contact.



(2) Since this is a non-disassembly part, check the contact setting under actual circuit conditions by measuring regulated output voltage. Connect a voltmeter between the battery lead and ground, and raise engine rotation to 5,000 rpm. If output voltage is 14–15 volts, the regulator is good. A higher or lower reading indicates the regulator is defective and should be replaced.

NOTE: Check the generator before replacing a supposedly defective regulator.

3. IGNITION SYSTEM

This system supplies the spark to ignite the gasoline mixture that is drawn into each cylinder. To enable efficient use of the exploding gas, the ignition system must supply a strong enough spark at the correct moment.