

5.4 FLYWHEEL A.C. GENERATOR AND IGNITION COIL

1. A.C. GENERATOR (for C50M, C65M)

- (1) Direction of rotation
Right hand rotation when viewed from the in-stalling position
- (2) Charging performance
Selenium rectifier (half-wave rectification), 6V, 11AH battery used.
- (3) Night operating load
Ignition coil + 15W + 2W + 1.5W
Charging speed, above 2400 rpm
Charging rate at 4000 rpm, 2 +1 -0.5 A
- (4) Day operating load
Ignition coil
Charging speed, above 1500 rpm
Charging rate at 4000 rpm, 2 +1 -0.5 A

2. TABLE OF SPECIFICATIONS AND PERFORMANCE

	S 65	C 65
Direction of rotation	Left hand rotation viewed from rotor end	
Sparking performances (assembled coil)	29700-111-1 Over 6 mm with 3 needle spark gap at 500 rpm Over 8 mm with 3 needle spark gap at 3000 rpm	29700-112-1 Over 6 mm with 3 needle spark gap at 500 rpm Over 8 mm with 3 needle spark gap at 3000 rpm
Lighting performance	With 15W + 2W + 1.5W load connected Over 5.8V at 2500 rpm Below 9V at 8000 rpm	With 15W + 2W + 1.5W load connected Over 5.8V at 2500 rpm Below 9V at 8000 rpm
Charging performance Day operation Night operation	Charging cut-in speed under 2000 rpm (battery voltage 6.5-7V) Charging rate at 8,000 rpm, 2.2 ± 0.5A (battery voltage 8V min) Charging cut-in speed under 2000 rpm (battery voltage 6.5-7V) Charging rate 8,000 rpm, 0.4 ± 0.2A (battery voltage 7V min)	Charging cut-in speed under 2000 rpm (battery voltage 6.5-7V) Charging rate at 8,000 rpm, 2.2 ± 0.5A (battery voltage 8V min) Charging cut-in speed under 2000 rpm (battery voltage 6.5-7V) Charging rate 8,000 rpm, 0.4 ± 0.2A (battery voltage 7V min)
Breaker	Contact pressure 750 ± 100g, point gap 0.35 ± 0.05 mm (0.020 ± 0.0020 in.)	
Governor	Advance 15° ± 1.5° Advancer operating speed 2500 ± 150 rpm Advancer terminating speed 4000 +200 -0 rpm	
Condenser capacity	0.30 mf ± 10%	

Ignition coil point cut-off current 3.5A max at 8000 rpm

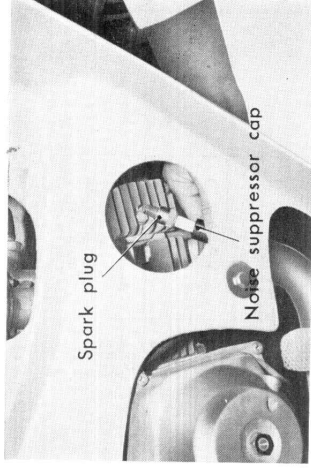


Figure 5-10. Testing spark plug firing

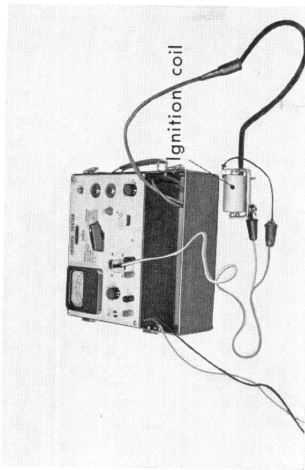


Figure 5-11. Testing ignition coil

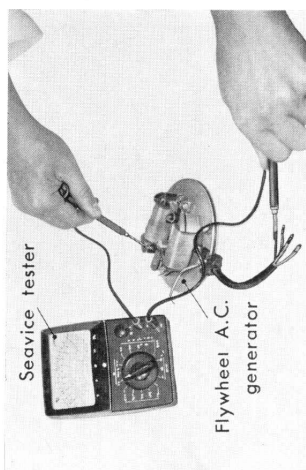


Figure 5-12. Measuring resistance

3. INSPECTING SPARKING PERFORMANCE

On the C50, C65, S50, S65 the flywheel A.C generator and an externally mounted ignition coil is used. An A.C ignition system is employed and, therefore, when performing the ignition coil test, the specified flywheel A.C generator must be used. However, a simple method of determining the serviceability is made by the following three methods.

- (1) The most simple method is to remove the spark plug and perform the starting procedure with the spark plug grounded to the engine. When a strong spark of bluish white color is produced, it is an indication of satisfactory ignition coil and flywheel A.C generator. (Fig. 5-10)
- If no spark is produced, it is an indication of defective primary coil of either the ignition coil or flywheel A.C generator.

- (2) Another method is to measure the resistance of the ignition coil and the flywheel A.C generator primary coil. (Fig. 5-11)

Ignition coil resistance (26700-111-29700-113-2)

- 1. Primary coil: Resistance between primary black leads and case should be approximately 4.5Ω
- 2. Secondary coil: Resistance between high tension lead and ground should be approximately 9.5Ω.

When the resistance measurement across the flywheel A.C generator primary coil is approximately 1.3Ω lower than the above value, the cause may be a short or grounding; an infinite resistance would indicate an open circuit.

(Caution)

Resistant measurement of the primary coil must be made with the breaker points opened and the condenser lead wire disconnected as a leaky condenser will give an improper indication.