

Symptom	Location	Probable cause	Corrective action
Hard Starting	A. Spark plug	Dirty or fouled plug Too wide a gap	Clean or replace Adjust or replace
	B. Breaker	Dirty or burnt points Punctured condenser	Repair or replace Replace
	C. Timing	Too far advanced	Adjust
	D. Coil	Primary winding opened Secondary winding opened, started between layers, defective insulation Pin-hole in high tension cord	Replace Replace Replace
	E. Rotor	Loss of magnetism	Replace
	F. Lamp	Too large a rating Poor contact	Replace Repair
Low intensity of lamps	G. Wiring	Poor connection Poor contact in lighting switch	Repair Replace
	H. Lamp coil	Shorted across the layers	Replace
	I. Rotor	Loss of magnetism	Replace
	J. Battery	Discharged Poor terminal contact	Recharge or replace Repair
Lamp not lit	K. Lamp	Burnt filament	Replace
	L. Wiring	Broken wire Poor contact in lighting switch	Repair Replace
Battery discharges	M. Charging coil	Open coil winding	Replace
	N. Selenium rectifier	Punctured condenser Broken wire, poor connection	Replace Repair
	O. Wiring	Loss of magnetism	Replace
	P. Rotor	Open coil winding	Replace

Inspection Procedure

- Hard starting**
First conduct the spark performance test in section 4 (1) and check to see that the condition of the spark plug is satisfactory; perform the starting operation and if a good spark is produced at the plug gap, it indicates that the ignition coil, magnet and breaker are all in satisfactory condition. The fault can be assumed to be in the timing. When no spark is produced, check the breaker, ignition coil and flywheel A.C. generator.
- Whenever there is any malfunction of the lamps or the battery system, first check for poor wiring connection or grounding. Next, start the engine and measure the voltage at the output terminals. If the output voltage are normal, check the battery and the lighting system for trouble.

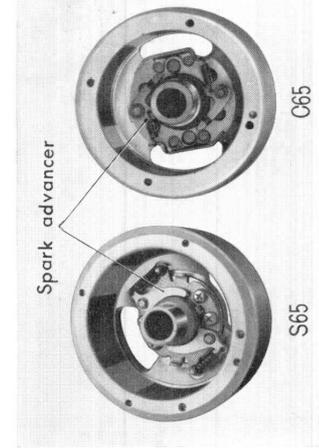


Figure 5-13. Spark advancer

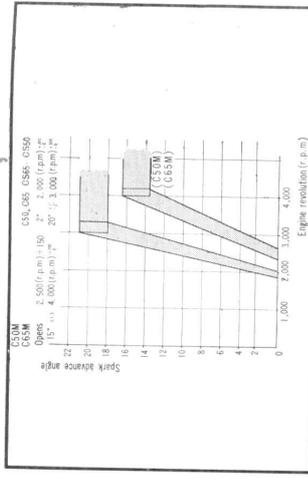


Figure 5-14. Spark advance performance chart

a. Inspecting the Spark Advancer

- The check of the spark advancer operation may be performed on the engine with a timing light. When checking a removed unit, spread the counterweights apart with the fingers and if the weights return to the normal position smoothly when released, the advancer is operating satisfactorily. (Fig. 5-15)
- Check for broken spring.

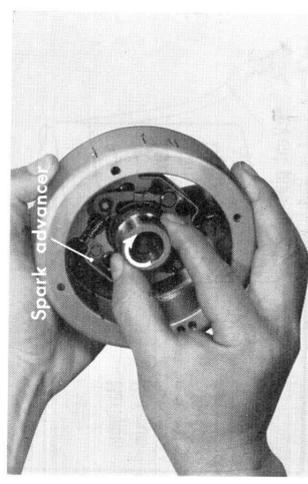


Figure 5-15. Inspecting spark advancer

5.5 BATTERY

1. CONSTRUCTION

The battery stores the electricity produced by the generator for use as a source of power for the safety items such as the turn signal lamps. At present, all battery used for small type vehicles are of a lead storage type inclosed in a plastic case. The construction and the name of the component parts are shown in Fig 5.17 (Fig. 5-16, 5-17)

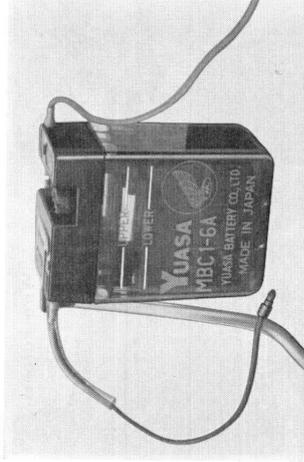


Figure 5-16. Battery

2. RATING

Type	MBC 1-6
Voltage	6V
Capacity	2AH (10 hour rate)
Normal charging rate	0.2A
Specific gravity of electrolyte (when fully charged)	1,260-1,280 at 20°C(68°F)

5.4 SPARK ADVANCER

The C50M, C65M use the battery as a source of power and produces the high voltage spark across the plug gap with the ignition coil and contact breaker. However, a good strong spark is of little value unless the sparking is timed to the engine's requirement. For this purpose, a spark advancer is incorporated to automatically regulate the ignition timing. The spark advance characteristic is shown in Fig 5.14.

Performance and Specification

- Spark Advancer
- Direction of rotation : Left hand
 - Mechanically allowable maximum RPM : 15,000 RPM

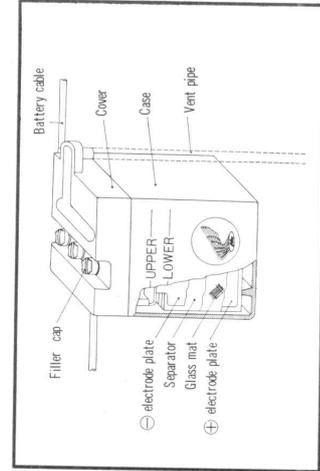


Figure 5-17. Construction of battery