






## Charging System Symptom Diagnosis

Condition	Possible Cause	Action
<b>Generator does not charge</b>	Open- or short-circuited lead wires, or loose lead connections.	<i>Repair, replace or connect properly.</i>
	Short-circuited, grounded or open generator coil.	<i>Replace.</i>
	Short-circuited or punctured regulator/rectifier.	<i>Replace.</i>
<b>Generator does charge, but charging rate is below the specification</b>	Lead wires tend to get short- or open-circuited or loosely connected at terminals.	<i>Repair or retighten.</i>
	Grounded or open-circuited generator coil.	<i>Replace.</i>
	Defective regulator/rectifier.	<i>Replace.</i>
	Defective cell plates in the battery.	<i>Replace the battery.</i>
<b>Generator overcharges</b>	Internal short-circuit in the battery.	<i>Replace the battery.</i>
	Damaged or defective regulator/rectifier.	<i>Replace.</i>
	Poorly grounded regulator/rectifier.	<i>Clean and tighten ground connection.</i>
<b>Unstable charging</b>	Lead wire insulation frayed due to vibration, resulting in intermittent short-circuiting.	<i>Repair or replace.</i>
	Internally short-circuited generator.	<i>Replace.</i>
	Defective regulator/rectifier.	<i>Replace.</i>
<b>Battery overcharges</b>	Faulty regulator/rectifier.	<i>Replace.</i>
	Faulty battery.	<i>Replace.</i>
	Poor contact of generator lead wire coupler.	<i>Repair.</i>
<b>Battery runs down quickly</b>	Trouble in charging system.	<i>Check the generator, regulator/rectifier and circuit connections and make necessary adjustments to obtain specified charging operation.</i>
	Cell plates have lost much of their active materials a result of overcharging.	<i>Replace the battery and correct the charging system.</i>
	Internal short-circuit in the battery.	<i>Replace the battery.</i>
	Too low battery voltage.	<i>Recharge the battery fully.</i>
	Too old battery.	<i>Replace the battery.</i>

<b>Battery "sulfation"</b>	Incorrect charging rate. (When not in use battery should be checked at least once a month to avoid sulfation.)	<i>Replace the battery.</i> 
	The battery was left unused in a cold climate for too long.	<i>Replace the battery if badly sulfated.</i> 
<b>"Sulfation", acidic white powdery substance or spots on surface of cell plates</b>	Cracked battery case.	<i>Replace the battery.</i> 
	Battery has been left in a run-down condition for a long time.	<i>Replace the battery.</i> 