KOHLER GENERATORS

TT-599
INSTRUCTIONS

SCR Replacement Kit #255368 For 24-Volt Battery Charger D-269215 and Earlier Models

WARNING

UNIT STARTS WITHOUT NOTICE! Units with Automatic Transfer Switches start automatically. Turn Generator Main Switch on controller to OFF position to disable generator set before working on any equipment connected to generator.

WARNING

ELECTRICAL SHOCK! Disconnect AC power source to battery charger. Remove plug from outlet or turn off AC supply before working on any equipment.

WARNING

EXPLOSIVE GASES! Remove AC power plug from outlet or turn off AC supply before connecting or disconnecting charger clips to battery terminals to avoid sparks igniting explosive battery gases.

1. Place generator set controller main switch to OFF position.
2. Remove AC power plug from outlet or turn off AC supply.
3. Disconnect battery clips, negative clip first.
4. If charger has a cranking disconnect relay, remove red lead from cranking control solenoid on engine.
5. Remove battery charger cover by removing eight screws, lock washers and flat washers.
6. Remove bracket holding circuit board and diode assembly by removing four screws, lock washers and nuts. Hardware will not be reused.
7. Cut leads connected to diodes about 4 inches (102 mm) from transformer solder connections.
8. Remove diode assembly heat sink from bracket by removing four screws and grounding hardware. Diode assembly heat sink, mounting hardware and grounding hardware will not be reused.
9. Remove bracket holding SCRs by removing four screws, lock washers and nuts.
10. Cut small copper wires from SCRs to transformer.

NOTE

Cut wires at transformer solder connections. When properly done, yellow/brown leads and large black leads will still be connected to transformer leads.

11. Cut blue and orange leads from SCRs.
12. Remove SCR heat sink from bracket by removing four screws and grounding hardware. Grounding hardware and bracket will not be reused.
13. Cut suppressor lamp (neon light) wires at solder connections.
14. Cut old SCR leads flush to SCRs.

NOTE

For best heat dissipation, do not remove SCRs from heat sink.

15. Drill two .219 inch (5.6 mm) diameter holes, 2.0 inches (51 mm) apart using new SCR module as a template. See Figure 1. Remove burrs.
16. With mating surfaces clean and dry, apply a thin coating of thermal compound to SCR module base.
17. Mount SCR module to heat sink with two screws, flat washers, lock washers and nuts. Place flat washers between screw head and SCR module base.

NOTE

Torque screws to 20-25 in.-lbs. (2.3-2.8 Nm).

18. Mount heat sink bracket to chassis with four screws, lock washers and nuts. Locate in the set of four holes farthest from the transformer. When mounting bottom screws, place lock washers and nuts to the outside of chassis.

NOTE

Check that no wires are pinched under bracket.

19. Cut off eyelet terminal from loose end of lead connected to ammeter (-). Strip and crimp-on 1/4 inch push-on terminal.
20. Cut off eyelet terminal from loose end of lead connected to circuit breaker. Strip and crimp-on 1/4 inch push-on terminal.

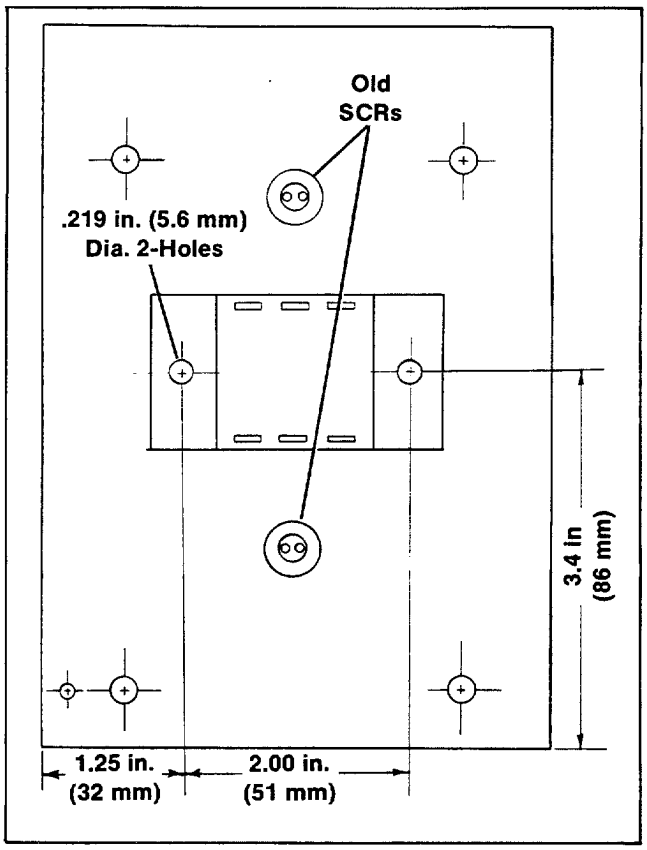

Figure 1. SCR Module Mounting

21. Strip blue and orange leads and crimp-on 1/4 inch fully insulated terminals.
22. Strip large black leads from transformer and crimp-on 1/4 inch push-on terminals.
23. Remove the top two nylon posts from bracket and install in lower square holes directly below.
24. Using a stubby flat-blade screwdriver, mount heat sink to bracket with four screws.
25. Wire new SCR module according to wiring diagram, see Figure 2.

NOTE

Use electrical tape at solder connections on transformers with flexible leads.

a. Connect black lead from circuit breaker to SCR module terminal (+).

b. Connect orange lead to SCR module terminal G1.

c. Connect large black lead from transformer (black lead soldered with yellow lead) to SCR module terminal AC2.

d. Connect large black lead from transformer (black lead soldered with brown lead) to SCR module terminal AC1.

e. Connect blue lead to SCR module terminal G2.

f. Connect black lead from ammeter (-) to SCR module terminal (-).

26. Remove brown and yellow leads from circuit board terminals 3 and 6 respectively.
27. Cut off terminals from brown and yellow leads. Strip ends and connect suppressor lamp wires to brown and yellow leads. Crimp-on new 3/16 inch push-on terminals.
28. Connect brown lead to terminal 3 and yellow lead to terminal 6 of circuit board.

CAUTION

Be certain suppressor lamp wires do not contact any other metal objects, including the charger cover when replaced.

29. Replace battery charger cover with eight screws, lock washers and flat washers.
30. If charger has a cranking disconnect relay, connect red lead with eyelet terminal to cranking control solenoid on engine.
31. Reconnect battery clips to battery terminals, negative clip last.
32. Reconnect AC power plug to outlet or turn on AC supply.

PART LISTING

Part No.	Description	Qty.
241961	Module, SCR (24 V.)	1
287945	Compound, Thermal	1
X-22-9	Washer, #10 Lock	2
X-25-36	Washer, #10 Flat	2
X-50-15	Screw, 10-24 x 1/2"	2
X-70-2	Nut, 10-24	2
X-431-19	Terminal, 3/16" Push-on	2
X-431-25	Terminal, 1/4" Fully Ins. Push-on	2
X-431-33	Terminal, 1/4" Push-on	4

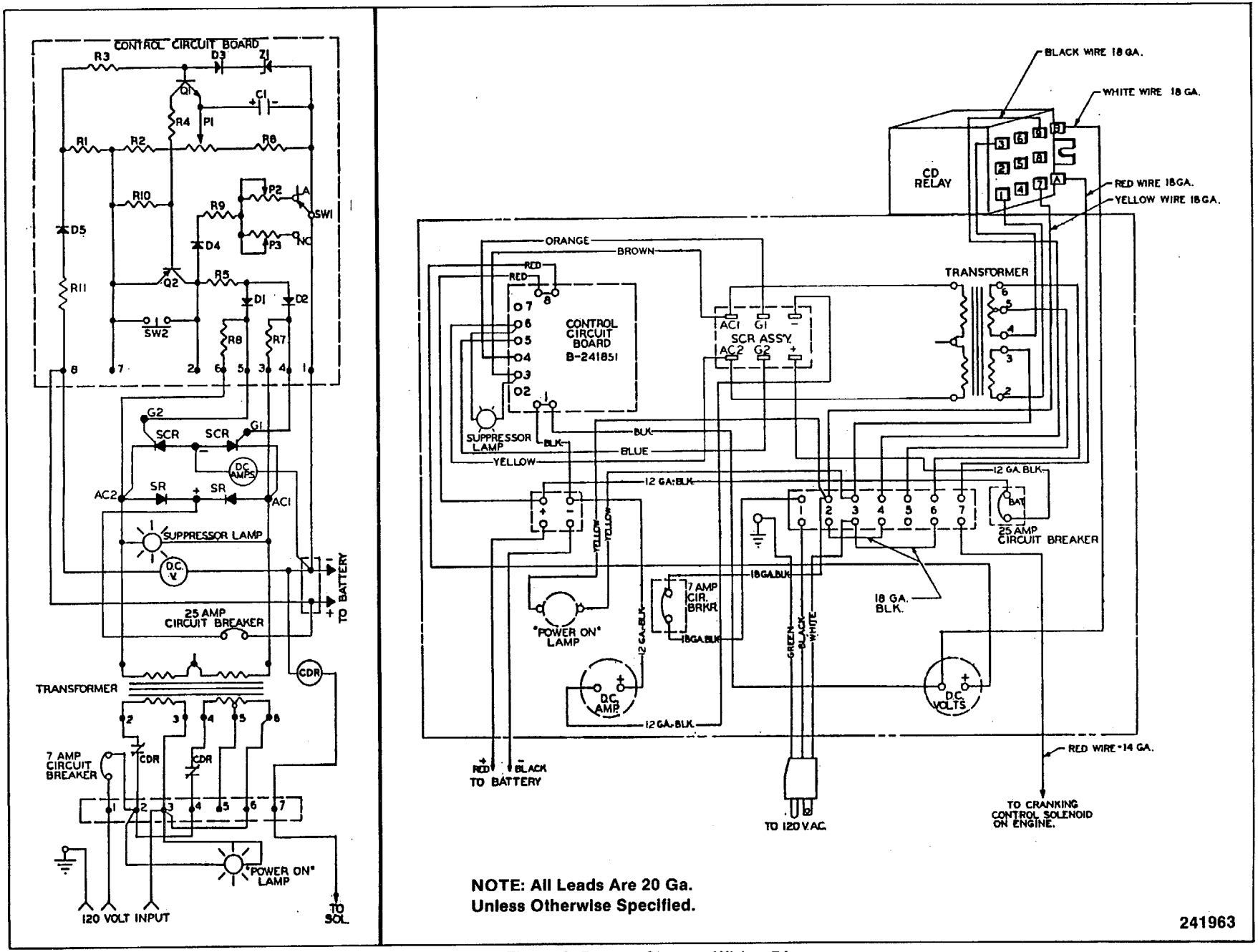

Figure 2. Battery Charger Wiring Diagram