FORM NO. 3313-671

TORO®

PART NO. 70-1550
STARTER RELAY KIT

INSTALLATION INSTRUCTIONS

GROUNDSMASTER 217-D, 220, 322-D, 327

Note: Right and left hand sides are determined from the operator's seated position.

MODEL 217-D

1. Loosen battery cover capscrew and open cover. Slide battery partially out of compartment, disconnect the negative (–) battery terminal and slide battery back in.

2. Open the hood. Center punch the center of the engine fan mount bracket and drill a 7/32" hole in the bracket (Fig. 1).

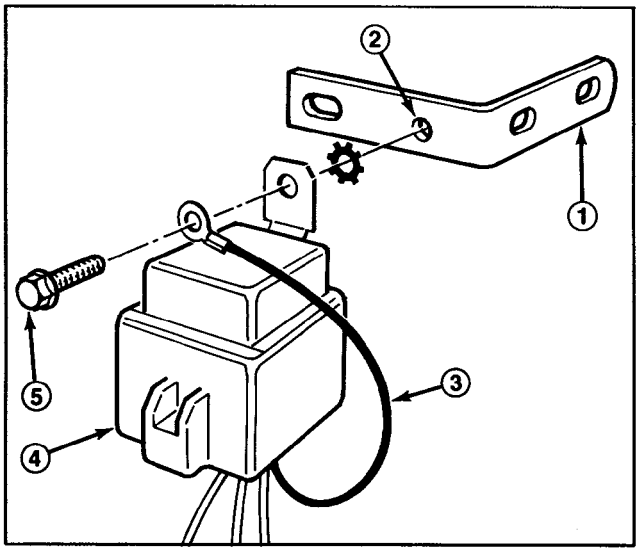

Figure 1

1. Engine fan mount bracket (Model 217-D)
2. 7/32" hole
3. Black wire
4. Starter relay
5. Self-tapping capscrew
6. External star washer

3. Slip the black starter relay wire onto the self tapping mounting capscrew and insert the capscrew through the starter relay mount bracket. Install an external star washer to the capscrew and secure the starter relay to the engine fan mount bracket (Fig. 1).

4. Remove the blue wire from the starter solenoid terminal and replace it with the blue wire with the spade connector from the starter relay (Fig. 2).

5. Cut the spade connector off the original blue wire and trim approximately 3/8" insulation off the wire end. Insert end into butt splice connector on the blue starter relay wire and crimp connector to secure wire in connector (Fig. 3).

6. Remove the nut securing the red wire to the starter solenoid. Install the red wire from the starter relay, re-install and tighten the nut (Fig. 2).

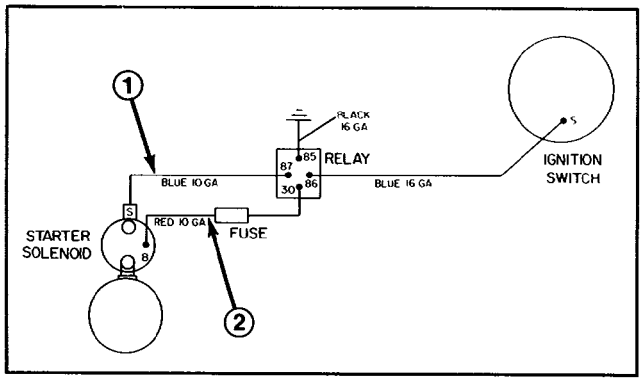

Figure 2

1. Blue wire w/spade connector
2. Red wire w/ring terminal

7. Use the kit tie strap to bundle excess wire together to keep it away from hot or moving parts.

8. Re-connect the negative (–) battery cable, close the hood and resume operation.

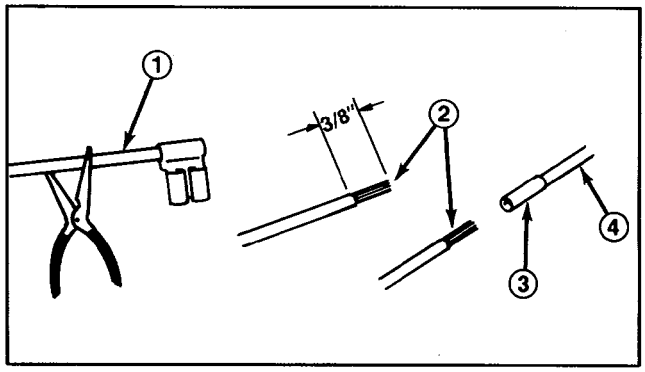

Figure 3

1. Original blue wire
2. Trim & insert into connector
3. Butt splice connector
4. Blue starter relay wire

MODEL 220

1. Loosen battery cover capscrew and open cover. Slide battery partially out of compartment, disconnect the negative battery terminal and slide battery back in.

2. Open the hood. On the right hand side, measure and mark approximately 8" back on top of the frame from the center of the rear mounting capscrew for the seat support (Fig. 4).

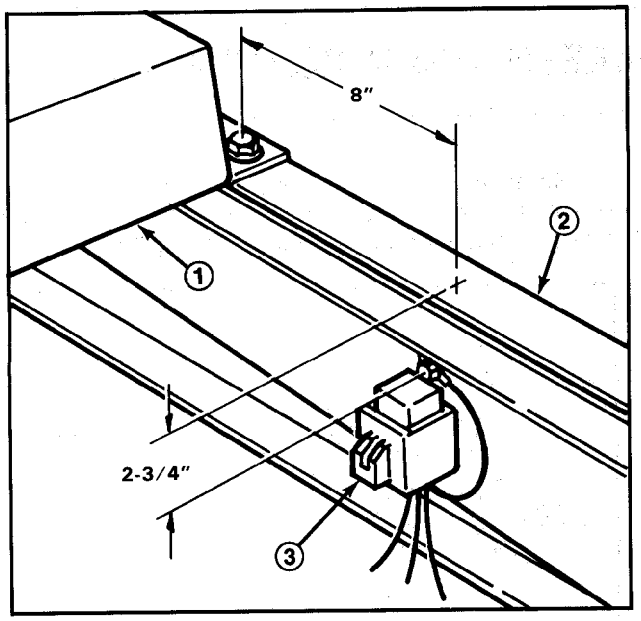

Figure 4

1. Seat support
2. Right hand frame
3. Mount to inside of frame

3. From the mark, measure down the frame approximately 2-3/4", center punch and drill a 7/32" hole completely through the frame.

IMPORTANT: Be careful not to damage wire harness with the drill bit.

4. Mount the starter relay. Slip the black starter relay wire onto the self tapping mounting capscrew and insert the capscrew through the starter relay mount bracket. Install an external star washer to the capscrew and secure the starter relay to the inside of the machine frame (Fig. 4).

5. Remove the blue wire from the starter solenoid terminal and replace it with the blue wire with the spade connector from the starter relay (Fig. 2).

6. Cut the spade connector off the original blue wire and trim approximately 3/8" insulation off the wire end. Insert end into butt splice connector on the blue starter relay wire and crimp connector to secure wire in connector (Fig. 3).

7. Remove the nut securing the red wires to the starter solenoid. Install the red wire from the starter relay, re-install and tighten the nut (Fig. 2).

8. Use the kit tie strap to bundle excess wire together to prevent it from hanging loosely and keep it away from hot or moving parts.

9. Re-connect the negative (–) battery cable, lower the hood and resume operation.

MODEL 322-D

1. Unlatch and raise hood, unhook instrument cover latches, remove cover and disconnect the negative (–) battery terminal.

2. On the left side of the radiator, locate the predrilled hole midway between the center and bottom radiator mount screws and use it to mount the starter relay (Fig. 5).

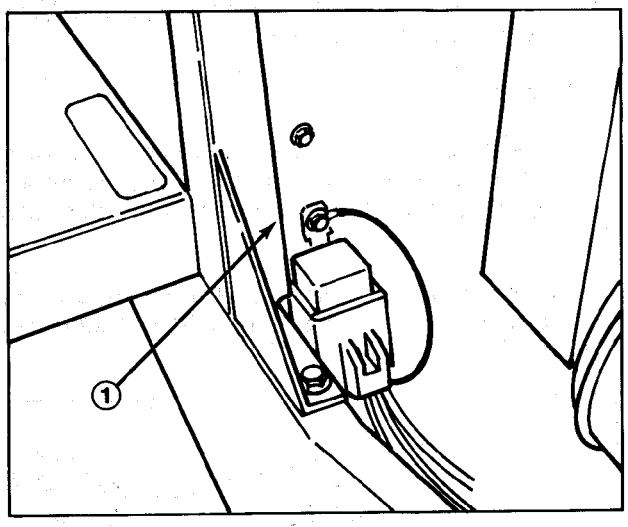

Figure 5

1. Radiator

Note: The hole may not be on all machines. If no hole is evident, center punch a spot midway between the center and bottom radiator mounting capscrews and drill a 7/32" hole.

3. Slip the black starter relay wire onto the self tapping mounting capscrew and insert the capscrew through the starter relay bracket hole. Install an external star washer to the capscrew and secure the starter relay to the radiator mount frame.

4. Remove the blue wire from the starter solenoid terminal and replace it with the blue wire with the spade connector from the starter relay (Fig. 2).

5. Cut the spade connector off the original blue wire and trim approximately 3/8" insulation off the wire end. Insert end into butt splice connector on the blue starter relay wire and crimp connector to secure wire in connector (Fig. 3).

6. Remove the nut securing the red wire to the starter solenoid. Install the red wire from the starter relay, re-install and tighten the nut (Fig. 2).

7. Use the kit tie strap to bundle excess wire together to keep it away from hot or moving parts.

8. Lower the hood, re-connect the negative (–) battery cable, install the instrument cover and resume operation.

MODEL 327

1. Unlatch and raise hood, unhook instrument cover latches, remove cover and disconnect the negative (–) battery terminal.

CAUTION

Take care while working around hot engine components to prevent possible personal injury.

2. Position the starter relay on the rear inner left side of the frame (Fig. 6). Locate the relay high enough to keep the wires from rubbing on the frame and far enough toward the outside to keep the wires away from the engine.

3. Center punch relay mount bracket hole and drill a 7/32" hole.

4. Slip the black starter relay wire onto the self tapping mounting capscrew and insert the capscrew through the starter relay bracket hole. Install an external star washer to the capscrew and secure the starter relay to the frame.

5. Remove the blue wire from the starter solenoid terminal and replace it with the blue wire with the spade connector from the starter relay (Fig. 2).

6. Cut the spade connector off the original blue wire and trim approximately 3/8" insulation off the wire end. Insert end into butt splice connector on the blue starter relay wire and crimp connector to secure wire in connector (Fig. 3).

7. Remove the nut securing the red wire to the starter solenoid. Install the red wire from the starter relay, re-install and tighten the nut (Fig. 2).

8. Use the kit tie strap to bundle excess wire together to keep it away from hot or moving parts.

9. Lower the hood, re-connect the negative (–) battery cable, install the instrument cover and resume operation.

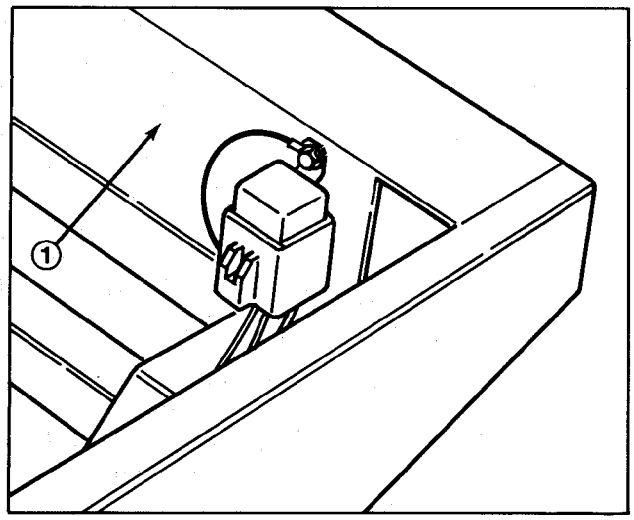

Figure 6

1. Left inner frame


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