



Electric Starter Kit

For CCR 2000 and CCR 3000 Snowthrowers
Serial Nos. 7000001 and Up

Part Nos. 84-5291, 84-5292,
105-2955, and 105-2956

Installation Instructions

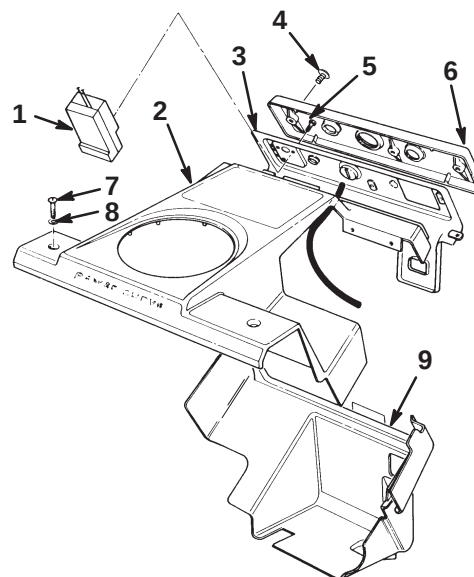


Warning



Installing the new starter improperly may result in an electric shock or even death when operating the starter.

- Have a Toro Master Service Dealer or an Authorized Service Dealer with a high potential tester to perform a high potential test on the new starter before using it for the first time.
- If you are uncomfortable installing the starter kit, have a Toro Master Service Dealer or an Authorized Service Dealer with a high potential tester to install the kit.



m-2837

Figure 1

Removing the Old Starter

1. Stop the engine and wait for all moving parts to stop.
2. Remove the key from the switch.
3. Remove the 3 short self-tapping screws, and remove the control nameplate from the control panel (Fig. 1).

- | | |
|---------------------------------|-----------------------|
| 1. Switch assembly | 6. Control nameplate |
| 2. Upper shroud assembly | 7. Phillips screw (2) |
| 3. Control panel | 8. Flat washer (4) |
| 4. Short self-tapping screw (3) | 9. Lower shroud |
| 5. Long self-tapping screw (3) | |

Note: You can leave the control nameplate on the starter rope.

4. Disconnect the wire from the spark plug.
5. Remove the fuel tank cap and use a hand pump to pump the fuel into an approved fuel container.

Removing the Chute Crank Assembly

Remove the 2 hex-head bolts and locknuts that hold the chute crank support to the lower handle, and remove the chute crank assembly from the handle (Fig. 2).

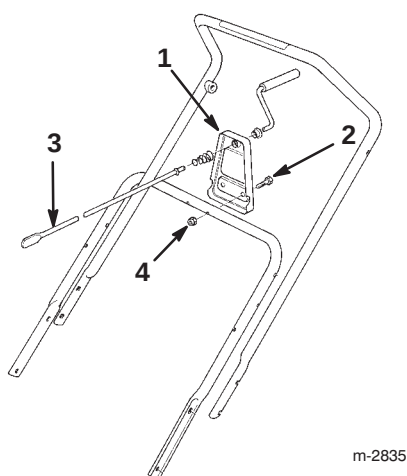


Figure 2

- | | |
|------------------------|-------------------------|
| 1. Chute crank support | 3. Chute crank assembly |
| 2. Hex-head bolt (2) | 4. Locknut (2) |

Removing the Discharge Chute

Remove the 3 carriage bolts and locknuts that hold the discharge chute to the chute gear ring, and remove the discharge chute from the chute gear ring (Fig. 3).

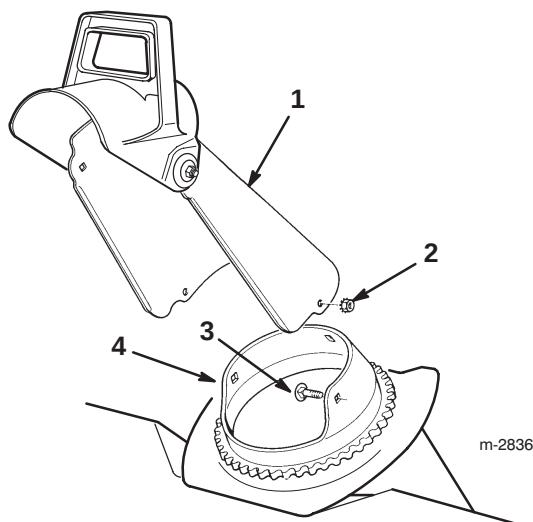


Figure 3

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|--------------------|----------------------|
| 1. Discharge chute | 3. Carriage bolt (3) |
| 2. Locknut (3) | 4. Chute gear ring |

Removing the Shrouds, Control Panel, and Switch Assembly

1. Remove the 2 Phillips screws, 4 flat washers, and 2 locknuts that hold the upper shroud assembly to the frame, and remove the upper shroud assembly (Fig. 1).

2. Remove the 2 hex-head bolts and curved washers, and remove the lower shroud and control panel from the lower handle (Fig. 1).
3. Remove the 3 long self-tapping screws, and remove the switch assembly and attached starter wires from the control panel (Fig. 1).
4. Remove the hex-head bolt, the flat washer, and the locknut, and remove the R-clamp from the starter wires (Fig. 4).
5. Slide the bottom cover from under the axle and hold it out of the way.

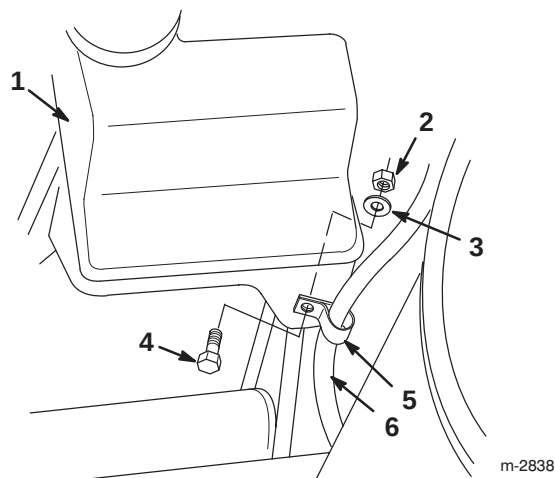


Figure 4

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|----------------|------------------|
| 1. Fuel tank | 4. Hex-head bolt |
| 2. Locknut | 5. R-clamp |
| 3. Flat washer | 6. Starter wires |

Removing the Old Starter Motor

1. Remove the upper starter motor mounting bolt (Fig. 5).

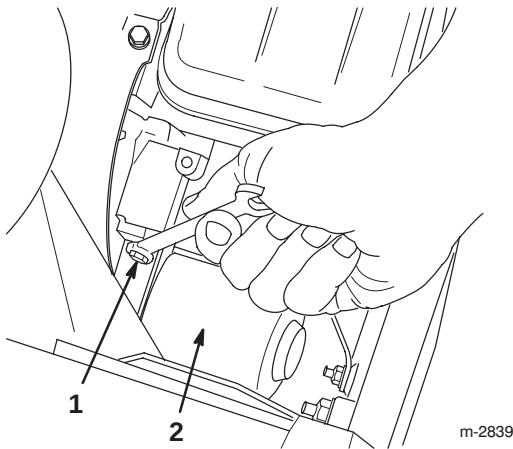


Figure 5

1. Upper starter motor mounting bolt
2. Starter motor

2. Carefully tip the snowthrower upside down.
3. Pull the bottom cover down below the axle and remove the lower starter motor mounting bolt (Fig. 6).

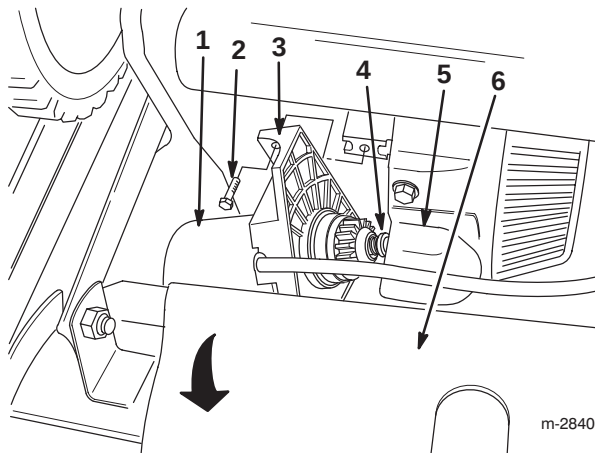


Figure 6

1. Starter motor
2. Lower starter motor mounting bolt
3. Housing mount
4. Pinion stop
5. Pinion cup
6. Bottom cover (shown down)

4. Slide the starter motor away from the pinion cup, and remove the starter motor and the attached switch assembly from the snowthrower (Fig. 6).

Installing the New Starter

Installing the New Wiring

Parts 84-5291 and 84-5292 only

1. Push in the locking tabs and separate the switch housing cover from the switch housing base (Fig. 7).

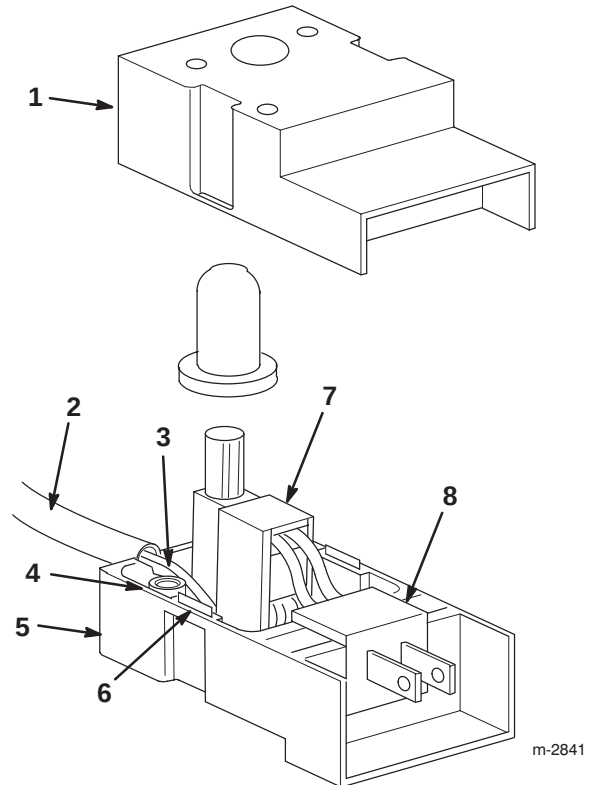


Figure 7

1. Switch housing cover
2. Outer insulation
3. Switch wire
4. Screw boss
5. Switch housing base
6. Locking tab (2)
7. Switch
8. AC connector

2. Pull the switch and the AC connector out of the switch housing base (Fig. 7).
3. Insert the smooth end of a small drill bit into the switch contact openings, depress the flat springs inside the contact openings, and pull the old starter wires out of the switch (Fig. 8).

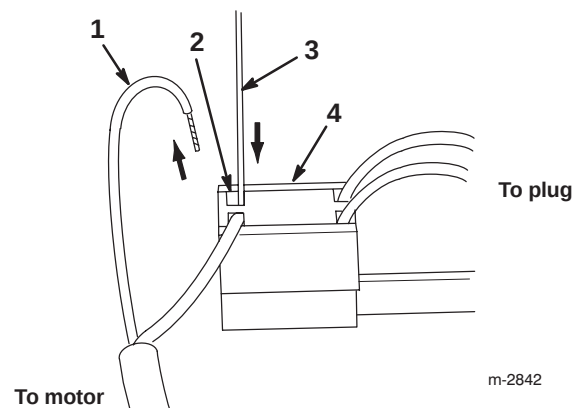


Figure 8

1. Starter wire
2. Contact opening
3. Smooth end of drill bit
4. Switch

- Twist the new starter wires and insert them all the way into the contact openings (Fig. 8).
- Install the switch, the switch wires, and the AC connector into the switch housing base.

Note: Ensure that the slots in the AC connector fit into the matching cutout in the base (Fig. 7).

- Route the starter wires between the switch and the inside of the screw boss, then out through the serrated cord opening in the switch housing base (Figs. 7 and 9).
- Carefully push the starter wires down between the switch and the screw boss with a blunt object (Figs. 7 and 9).

Important Route the starter wires between the switch and the inside of the screw boss in the switch housing base. This prevents the screw from cutting into the insulation and/or wires when you install the switch assembly to the control panel.

- Ensure that the end of the outer insulation is at least 3/16 in. (5 mm) from the inside edge of the serrated cord opening in the switch housing base (Fig. 9).

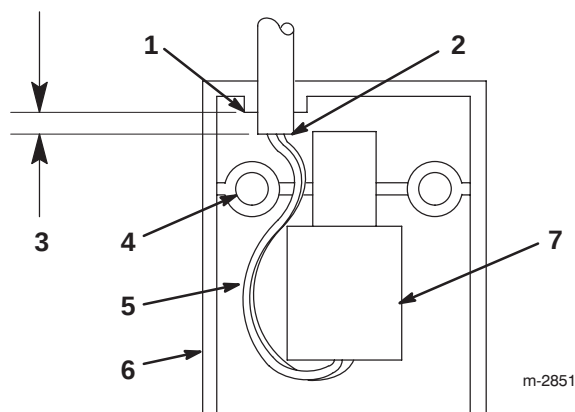


Figure 9

- | | |
|---|------------------------|
| 1. Inside edge of serrated cord opening | 4. Screw boss |
| 2. End of outer insulation | 5. Switch wires |
| 3. 3/16 in. (5 mm) minimum | 6. Switch housing base |
| | 7. Switch |

- Snap the switch housing cover back onto the switch housing base (Fig. 7).

Installing the New Starter Motor

- Hold the bottom cover down and insert the new starter motor up through the frame.

Note: Position the motor so that the housing mount contacts the mating surfaces on the engine.

- Push gently on the pinion stop as necessary and insert the pinion into the pinion cup (Fig. 6).

Important Be careful not to pinch your finger in the pinion stop or pinion cup when you install the new starter motor.

- Install and tighten the upper and lower starter motor mounting bolts (Figs. 5 and 6).
- Install the bottom cover back into its original position above the axle (Fig. 6).

Mounting the Switch Assembly, Control Panel, and the Shrouds

- Return the snowthrower to its upright position.
- Install the R-clamp onto the new starter wires (Fig. 4).
- Fasten the R-clamp and the attached wires to the fuel tank tab with the hex-head bolt, the flat washer, and the locknut (Fig. 4).
- Route the starter wires over the top of the fuel tank and install the switch assembly to the control panel with the 3 long self-tapping screws (Fig. 1).
- Fasten the lower shroud and the control panel to the lower handle with the 2 hex-head screws and curved washers (Fig. 1).
- Fasten the upper shroud assembly to the frame with the 2 Phillips screws, 4 flat washers, and 2 locknuts (Fig. 1).

Installing the Discharge Chute

Fasten the discharge chute to the chute gear ring using the 3 carriage bolts and locknuts (Fig. 3).

Installing the Chute Crank Assembly

- Insert the chute crank assembly through the hole in the upper shroud, ensuring that the end of the crank assembly seats correctly in the face gear (Fig. 2).
- Fasten the chute crank support to the lower handle with 2 hex-head bolts and locknuts (Fig. 2).

Completing the Installation

- Install the fuel tank cap.
- Connect the wire to the spark plug.
- Install the control nameplate onto the control panel (Fig. 1).

Note: Ensure that the control nameplate fits over the flanges on the upper and lower shrouds, then install and tighten the control nameplate with 3 short self-tapping screws.

- Insert the key in the switch.