

INSTALLATION INSTRUCTIONS

Original Issue Date: 5/06

Model: COM5

Market: Commercial

Subject: Starter Solenoid Replacement Service Kit GM40989

Introduction

Use Service Kit GM40989 to replace the starter solenoid on COM5 generator sets with serial numbers below 2094977.

Replace the older solenoid 25 435 02 with the new waterproof solenoid GM40621. These instructions describe how to replace the starter solenoid, mounting bracket, battery cable, battery harness, and ring terminals.

Read the entire installation procedure and compare the kit parts with the parts list at the end of this publication before beginning installation. Perform the steps in the order shown.

See Figure 1 for the installed kit illustration.

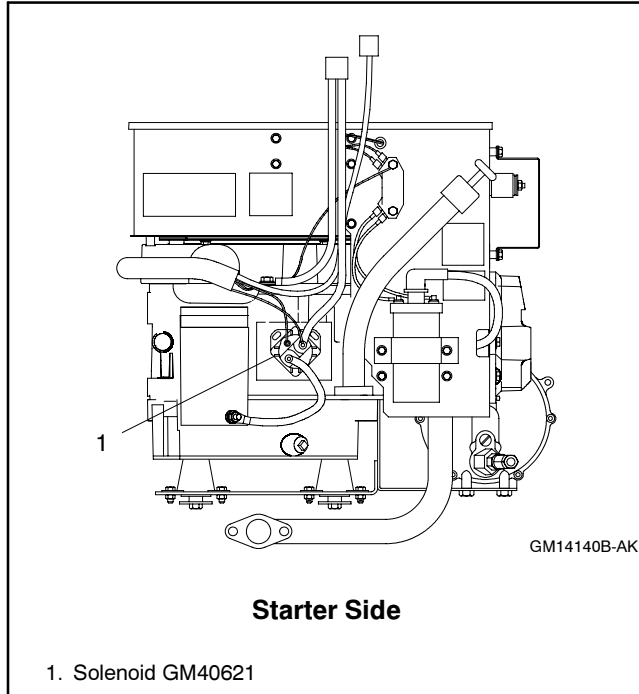
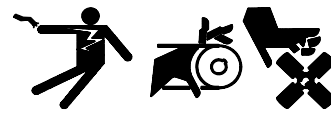


Figure 1 Starter Solenoid Location

Safety Precautions

Observe the following safety precautions while installing the kit.

⚠ WARNING



Accidental starting.
Can cause severe injury or death.

Disconnect the battery cables before working on the generator set. Remove the negative (-) lead first when disconnecting the battery. Reconnect the negative (-) lead last when reconnecting the battery.

Disabling the generator set. Accidental starting can cause severe injury or death. Before working on the generator set or equipment connected to the set, disable the generator set as follows: (1) Place the generator set start/stop switch in the STOP position. (2) Disconnect the power to the battery charger, if equipped. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent the starting of the generator set by the remote start/stop switch.

⚠ WARNING



Hot engine and exhaust system.
Can cause severe injury or death.

Do not work on the generator set until it cools.

Installation Procedure

1. Place the generator set master switch in the STOP position.
2. Disconnect the generator set battery harness, engine wiring harness, and load leads at the quick-disconnect plugs.
3. Refer to the generator set service manual for instructions to slide the generator set out of the enclosure, if necessary.
4. Locate the starter solenoid (between the starter motor and oil dipstick tube) on the side of the genset. See Figure 2.
5. Remove and discard the cable connecting the starter solenoid to the starter motor.
6. Connect the smaller (1/4 in.) connector of new starter cable X-545-146 to the starter motor. Reuse the existing hardware to fasten the cable to the starter motor.
7. Cut off the eyelet ring terminal from the wire lead labeled SM. Strip approximately 1/2 in. of wire and attach the new 5/16 in. eyelet ring terminal X-283-5 (sized for 14 gauge wire) to the lead.
8. Disconnect the battery harness from the starter solenoid and the engine block ground. Discard the old harness. Connect negative (black) side of new battery harness GM11854 to the engine block ground location. Reuse existing hardware.
9. Cut off the eyelet ring terminal from the lead labeled P. Strip approximately 1/2 in. of wire and attach the new 5/16 in. eyelet ring terminal X-283-15 (sized for 18 gauge wire) to the lead.
10. Disconnect the remaining leads (labeled 71) from starter solenoid.
 - a. Cut off the female tab terminal from the single lead 71. Strip approximately 1/2 in. of wire and attach the new #10 eyelet ring terminal X-283-3 (sized for 16 gauge wire) to the lead.
 - b. Cut off the female tab terminal from the paired leads 71. Strip approximately 1/2 in. from both leads and attach the two leads to one new #10 eyelet ring terminal X-283-8 (sized for 18 gauge wire).
11. Remove the starter solenoid and bracket from the genset and discard. Save the bracket mounting hardware for reuse.

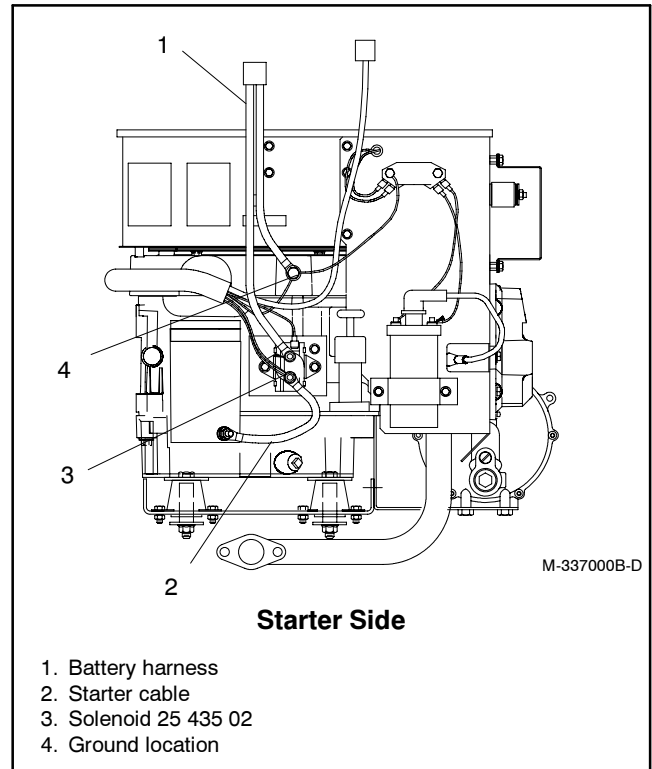


Figure 2 Existing Starter Solenoid

12. Mount the new bracket (12 126 74) and starter solenoid (GM40621) onto the genset as shown in Figure 3. Reuse the hardware from step 11 to attach the bracket to the genset.

- a. Position the solenoid as shown in Figure 3. Align the 3 o'clock mounting hole with the lower mounting hole on the bracket and insert fastener through both mounting brackets.
- b. Use the new hex flange screw (M7500D-06016-81) to attach the solenoid to the mounting bracket through the upper mounting hole.

13. See Figure 4 for solenoid connections.

- a. Connect all of the #71 leads to the small stainless steel terminal post and use the 10-32 hex nut X-6210-1 to fasten the leads.
- b. Use one of the 5/16-18 hex nuts X-6210-7 to fasten both starter motor (SM) leads to the copper post near the starter motor.
- c. Connect the positive (red) cable from the battery harness and lead P to the other copper post and use the remaining 5/16-18 hex nut X-6210-7 to fasten both leads.

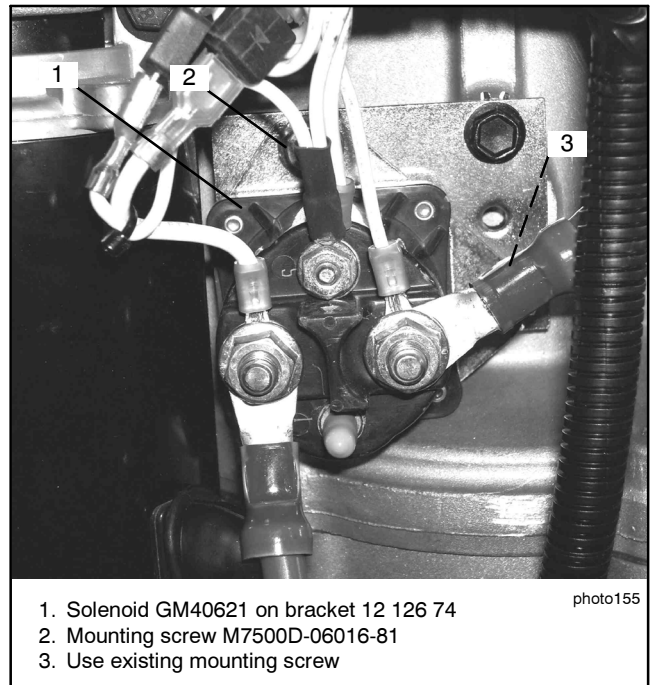


Figure 3 New Solenoid Mounting Location

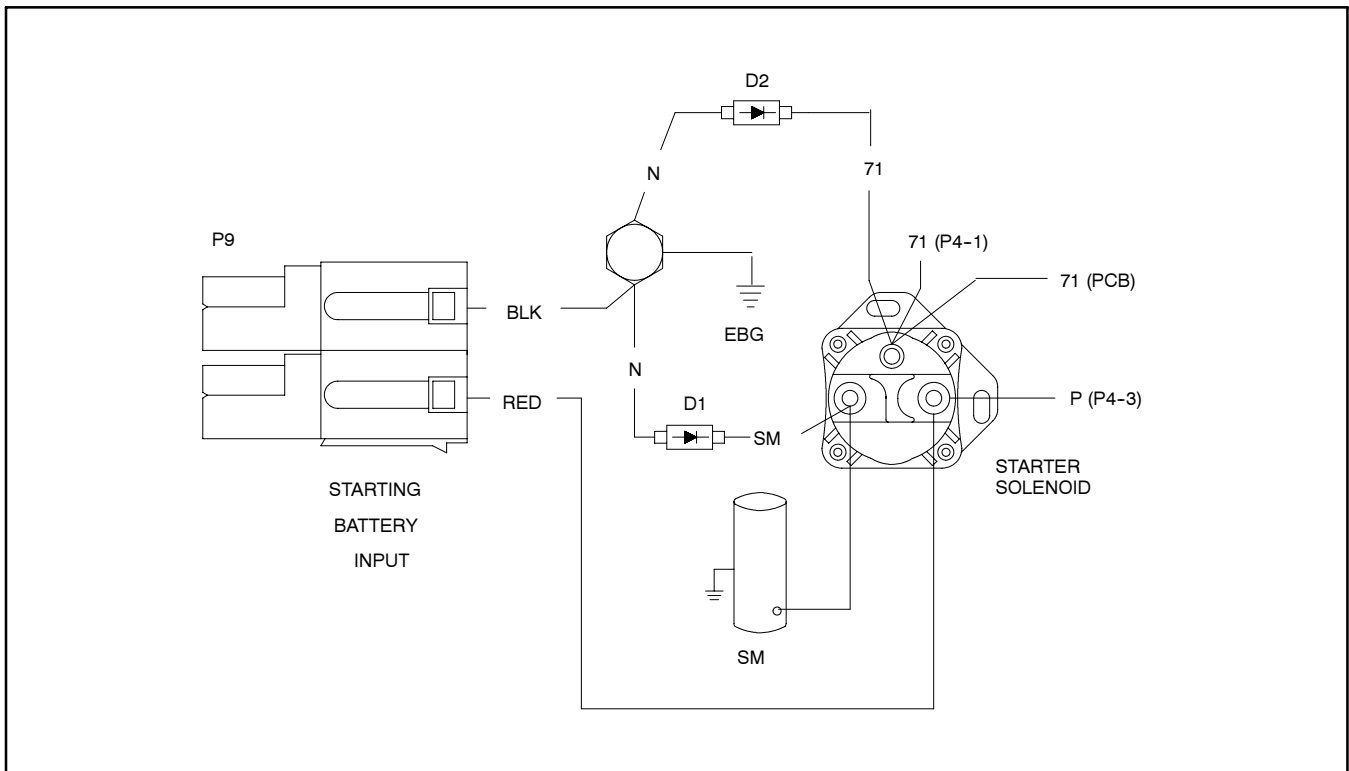


Figure 4 Solenoid Connections

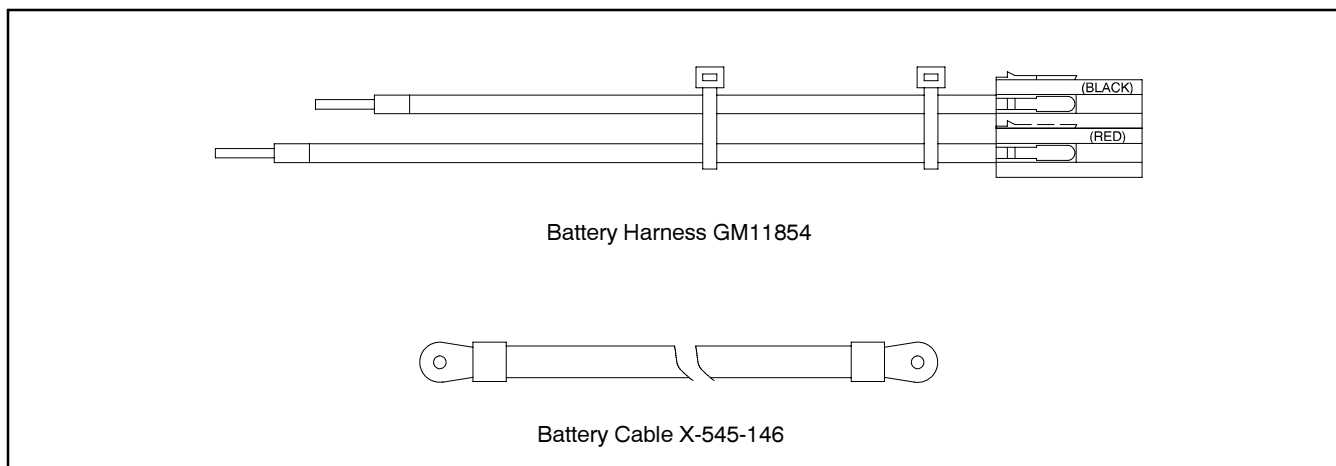


Figure 5 Battery Cable and Harness

14. Verify that the generator set master switch is in the STOP position.
15. Follow the instructions in the generator set service manual to reinstall the generator set in the enclosure.
16. Reconnect the engine wiring harness, load leads, and battery harness.
17. Reconnect the generator set engine battery harness.
18. Move the generator set master switch to the center (AUTO) position to return the generator set to standby service.

Parts List

Starter Solenoid Service Kit

Kit: GM40989		
Qty.	Description	Part Number
1	Bracket, cranking relay	12 126 74
1	Harness, COM5 battery	GM11854
1	Solenoid, Starter	GM40621
1	Screw, metric thread forming 16mm	M7500D-06016-81
1	Terminal, ring, male, 22-16 AWG	X-283-15
1	Terminal, ring, male, 16-14 AWG	X-283-3
1	Terminal, ring, male, 16-14 AWG	X-283-5
2	Terminal, ring, male, 22-16 AWG	X-283-8
1	Cable, battery (No.6 x 8.86") red+	X-545-146
1	Nut, flange whiz, 10-32	X-6210-1
2	Nut, flange spiralock, 5/16-18	X-6210-7