

## SERVICE BULLETIN

Original Issue Date: **12/06**  
 Model: **8.5/12RES and 12RESM1**  
 Market: **Residential/Commercial**  
 Subject: **Starter Relay Service Kit GM50772**

### Introduction

Replace relay 345079 with Starter Relay Service Kit GM50772 on the models listed above, if relay replacement is necessary.

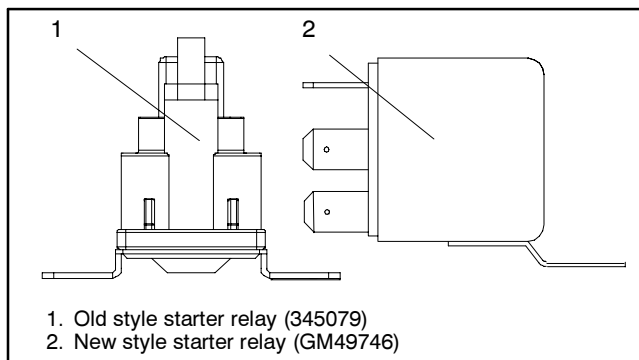
The new relay has an integrated diode, different connectors, and an additional lead (included in service kit GM50772).

Compare the relay on the generator set to Figure 1 to determine which style relay is installed.

To replace old-style relay 345079, order kit GM50772 and modify the wiring harness to remove the diode and replace the connectors as instructed in this bulletin.

If relay GM49746 is installed, order a new relay GM49746 as it is a direct replacement.

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



**Figure 1** Starter Relay(s) Comparison

Phillips® is a registered trademark of Phillips Screw Company.

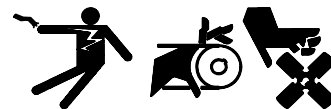
### Required Tools and Supplies

- Wrenches or sockets
- Phillips® screwdriver
- Wire cutter
- Crimper, and wire stripper
- Drill with an 3/8 in. chuck
- Drill bit set up to 9 mm (3/8 in.)

Observe the following safety precautions while performing the starter relay replacement procedure.

### Safety Precautions

#### ⚠ WARNING

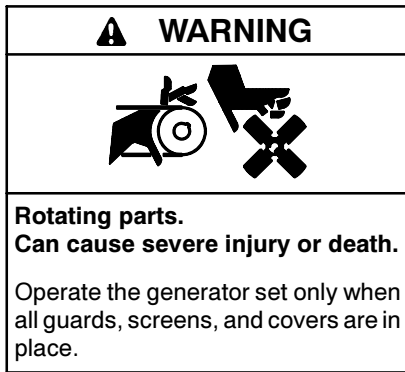


**Accidental starting.**  
**Can cause severe injury or death.**

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 connected equipment, disable the generator set as follows: (1) Move the generator set master switch to the OFF position. (2) Disconnect the power to the battery charger. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent starting of the generator set by an automatic transfer switch, remote start/stop switch, or engine start command from a remote computer.

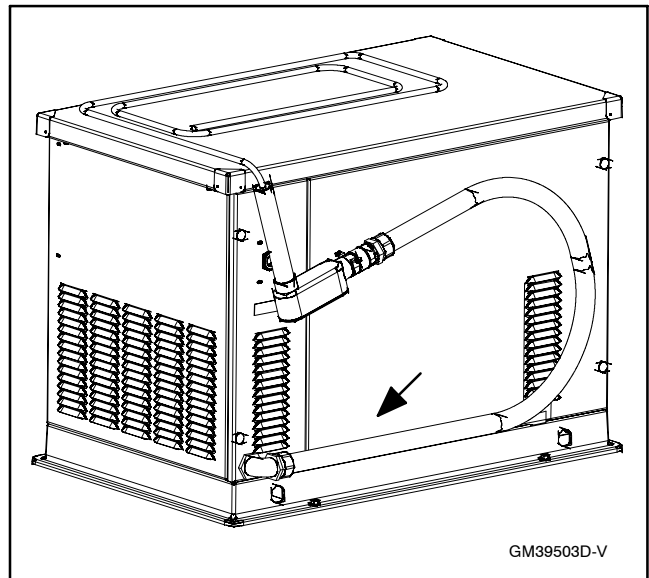
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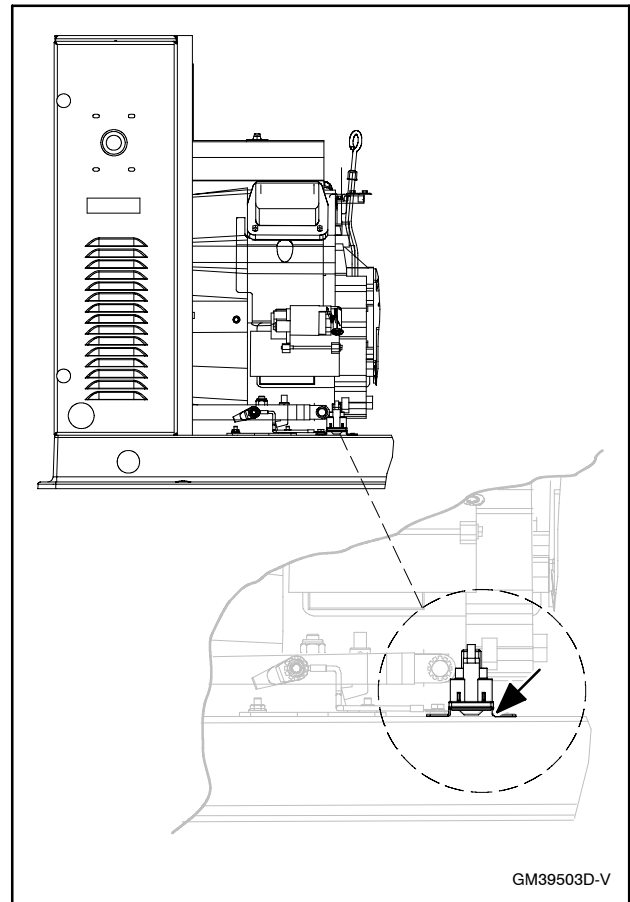
**Servicing the generator set when it is operating. Exposed moving parts can cause severe injury or death.** Keep hands, feet, hair, clothing, and test leads away from the belts and pulleys when the generator set is running. Replace guards, screens, and covers before operating the generator set.

## Installation Procedure

- 1. Remove the generator set from service.**
  - 1.1 Place the generator set master switch in the OFF position.
  - 1.2 Disconnect the power to the battery charger if equipped.
  - 1.3 Disconnect the generator set engine starting battery(ies), negative (-) lead first.
- 2. Remove the existing starter relay.**
  - 2.1 Locate and remove access panel. See Figure 2.
  - 2.2 Locate the starter relay located on the starter side of the engine. See Figure 3.
  - 2.3 Remove all connections to the relay.
  - 2.4 Remove the relay and discard.



**Figure 2** Service View Access Panel Location



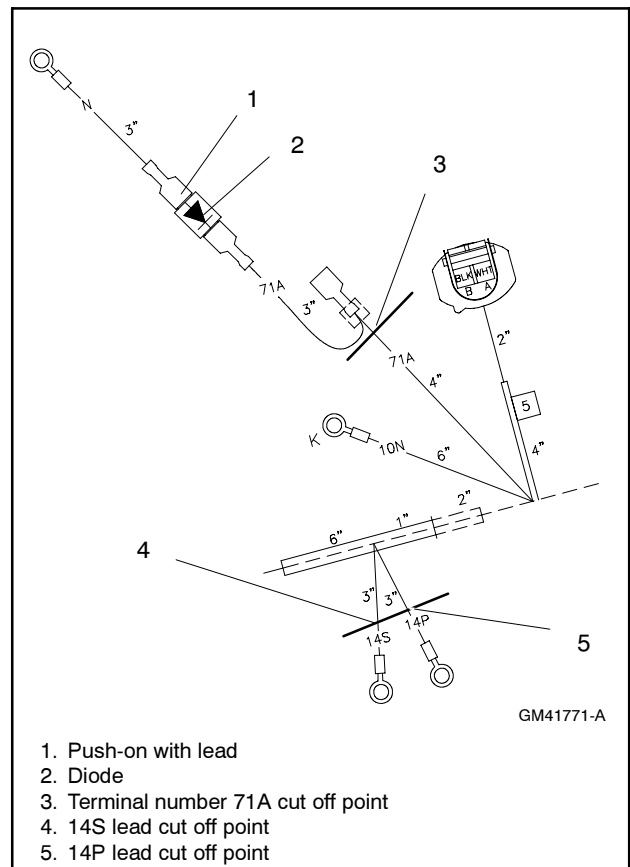
**Figure 3** Relay Location

- 2.5 Cut off the push-on terminal and lead 71A that contains the diode. See Figure 4.
- 2.6 Strip terminal lead 71A approximately 6 mm (1/4 in.) lengthwise.
- 2.7 Install female push-on terminal from the kit; Part number X-431-25.
- 2.8 Cut male ring terminals off of leads 14S and 14P. See Figure 4.
- 2.9 Strip both leads approximately 6 mm (1/4 in.) lengthwise.
- 2.10 Install female push-on the terminals from the kit; Part number X-431-25.
- 2.11 Discard rubber boots from kit.

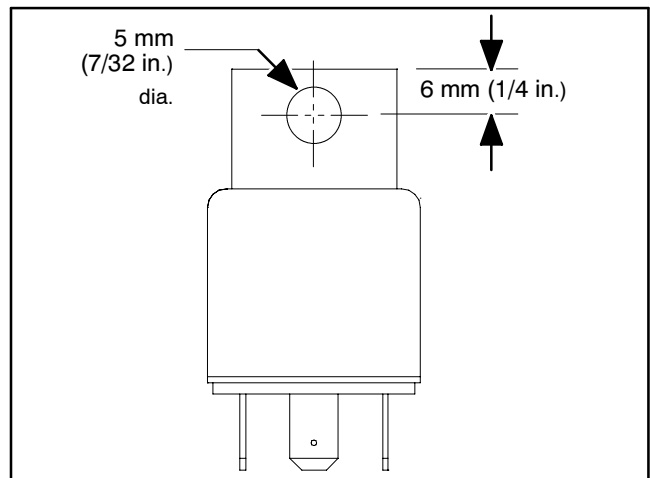
### 3. Install New Starter Relay

- 3.1 Enlarge the 5 mm (7/32 in.) mounting hole in the relay (GM49746) using a drill and drill bit. **DO NOT** use a drill bit larger than 9 mm (3/8 in.) in diameter. See Figure 5.
- 3.2 Remove burrs and metal chips.

**Note:** Be sure the relay mounting hole diameter is large enough to clear the existing bolt diameter. See Figure 5.



**Figure 4** Wiring Harness Sub Assembly



**Figure 5** New Starter Relay Mounting Hole

- 3.3 Locate the threaded insert on the metal sub-base. See Figure 6.
- 3.4 Use existing washer and bolt to mount new starter relay onto threaded insert. Tighten securely. See Figure 6.

#### 4. Connect leads

- 4.1 Connect terminal leads from harness to relay as indicated. See Figure 7.

**Note:** There is an additional separate lead N1 connection from terminal 85 to the front engine block ground bolt. See Figure 8, Figure 9, and Figure 10.

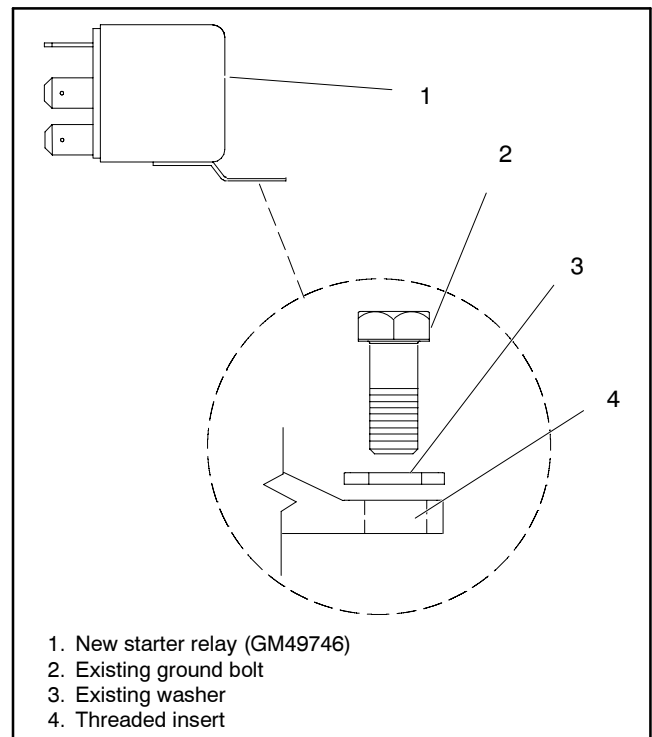
- 4.2 Install access panel.

#### 5. Restore the Generator Set to Service.

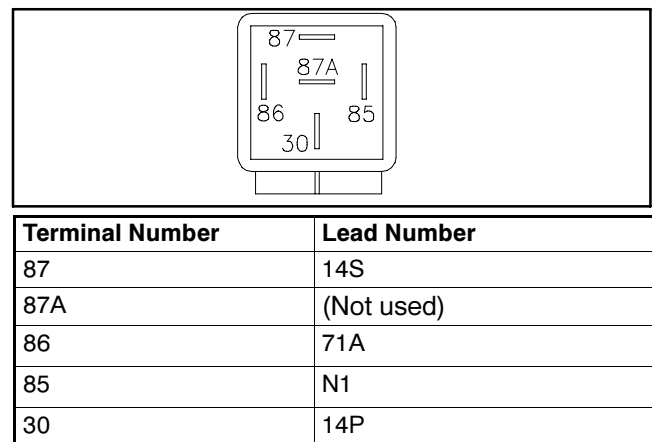
- 5.1 Check that the generator set master switch is in the OFF position.
- 5.2 Connect power to the battery charger, if equipped.
- 5.3 Reconnect the generator set engine starting battery, negative (-) lead last.

#### Parts List

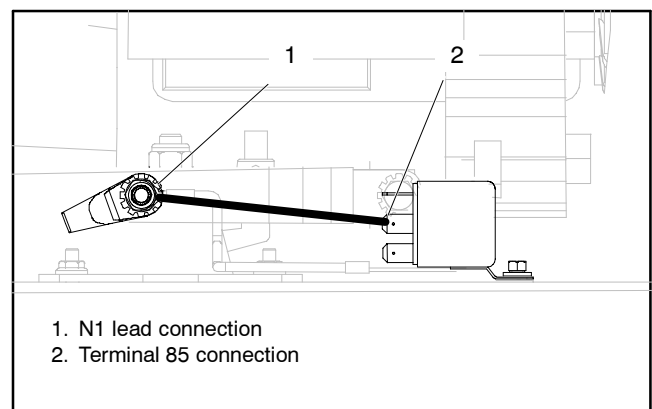
Relay Service Kit GM50772		
Part No.	Qty.	Description
GM49746	1	12V DC relay
X-43-25	3	Push-on terminal female
SWN1-1806-1657	1	N1, lead



**Figure 6** New Starter Relay Mounting Hole



**Figure 7** New Starter Relay Terminal Connections



**Figure 8** Mounting and Ground Connections

**Figure 9** 8.5/12 RES Wiring Diagram GM49759

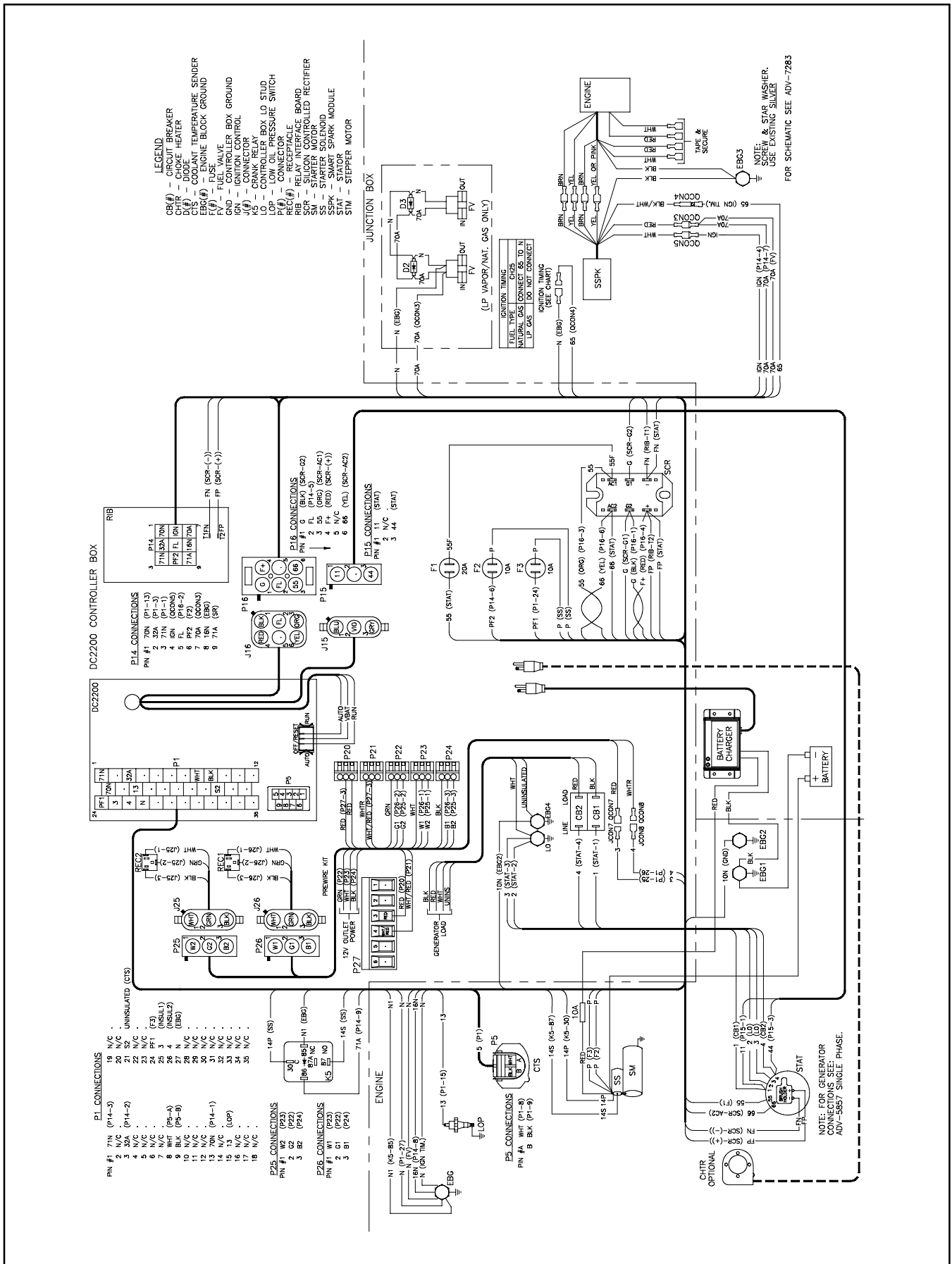


Figure 10 8.5/12 RES Wiring Diagram GM49761