

## INSTALLATION INSTRUCTIONS

Original Issue Date: **3/08**

Model: **6VSG, 8.5RES, 12RES(L), 14RES(A)(AL)(L), 15RES(A)/REYG/RYG, 17/18RES(L), 20RES(A)(AL)(B)(L), 24RCL, 30RCLH, 30RES(A)/REYG/RYG, 38RCL, 48RCL, and 60RCL Generator Sets**

Market: **Residential/Commercial**

Subject: **Maintenance Service Kits GM62345, GM62346, GM62347, GM62348, GM83718, GM86771, GM89979, and GM93396**

### Introduction

This kit provides items necessary for general engine maintenance and service on 6–60 kW residential generator sets.

Read the entire installation procedure before beginning installation. Perform the steps in the order shown.

Generator Set	Kit Number
8.5RES	GM62345
6VSG, 12RES(L), 14RES(A)(AL)(L)	GM62346
15RES(A)/REYG/RYG, 30RES(A)/REYG/RYG	GM62348
17/18RES(L), 20RES(A)(AL)(B)(L)	GM62347
24RCL, 30RCLH	GM93396
38RCL	GM86771
48RCL	GM83718
60RCL	GM89979

Figure 1 Kits

### Safety Precautions

Observe the following safety precautions while installing the kit.



**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.

**⚠ WARNING**

**Hot engine oil.**  
**Can cause severe injury or death.**

Avoid skin contact with hot oil. Do not start or operate the generator set with the engine oil filler cap removed, as hot oil can spray out. Ensure that the lubrication system is not under pressure when servicing. Do not work on the generator set until it cools.

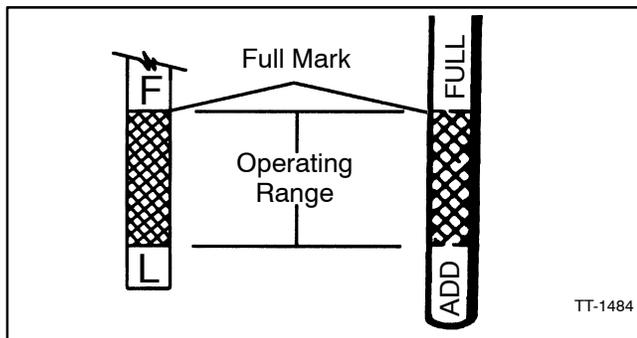
**Used engine oil. Contact with used engine oil may cause severe skin irritation. Repeated and prolonged skin exposure may have other health risks.** Used engine oil is a suspected carcinogen. Avoid contact with skin. Thoroughly wash your hands and nails with soap and water shortly after handling used engine oil. Wash or dispose of clothing or rags containing used engine oil. Dispose of used engine oil in a responsible manner. Contact your local recycling center for disposal information and locations.

**Servicing the air cleaner. A sudden backfire can cause severe injury or death.** Do not operate the generator set with the air cleaner removed.

# Installation Procedure

## Oil and Oil Filter

1. A drain plug is located on the service side of the oil sump, opposite the starter.
2. Remove one oil drain plug and the oil fill cap/dipstick. Aim the drain tube into catch basin and open the valve near the oil sump. Allow ample time for complete drainage.
3. Close the valve and place the tube back in the clip on the bulkhead wall.
4. Remove the old filter and wipe off the adapter/base on the engine.
5. Place a new replacement filter in a shallow pan with the open end up. Pour new oil (provided) through the threaded center hole. Stop pouring when the oil reaches the bottom of threads. Allow a minute or two for the oil to be absorbed by the filter material.
6. Apply a thin film of clean oil to the rubber gasket on the new oil filter.
7. Install new oil filter. Hand tighten filter clockwise until the rubber gasket contacts the adapter, then tighten the filter an additional 3/4-1 turn.
8. Fill the crankcase with the new oil to the *F* or *FULL* mark on the dipstick. Always check the level with the dipstick before adding more oil. Never operate the engine with the oil level below the *L* or *ADD* mark, or above the *F* or *FULL* mark. See Figure 2.

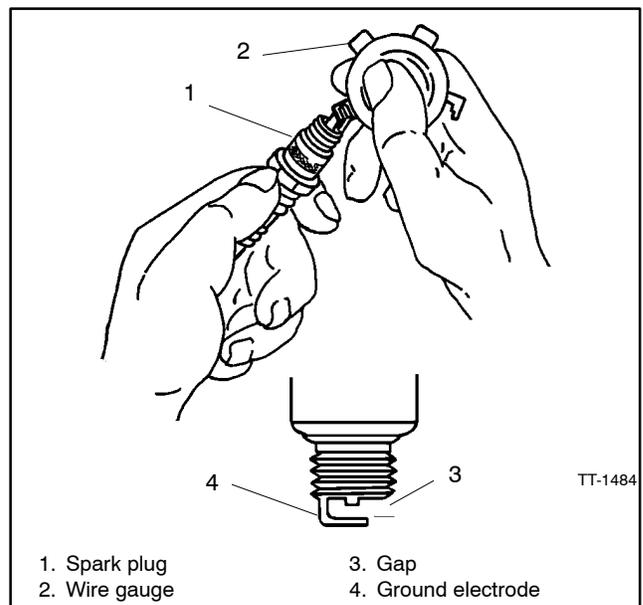


**Figure 2** Oil Level/Dipstick Detail

9. Reinstall the oil fill cap/dipstick and tighten securely.
10. Reconnect the negative battery cable and spark plug lead(s). Test run the engine, check for leaks and recheck the oil level.

## Spark Plug

1. Before removing the spark plug(s), clean or blow out the area around the base of the plug(s) to keep dirt and debris out of the engine. Wear suitable eye protection, as required.
2. Using a 5/8 in. spark plug socket (**13/16 in.** socket for models **24RCL** and **30RCLH**), remove and discard the old spark plug(s).
3. Check and set the gap of the new spark plug(s) using a wire feeler gauge. See Figure 4. Adjust the gap by carefully bending the ground electrode. See Figure 3.
4. Install the new spark plug(s) and torque as shown in Figure 4.



**Figure 3** Servicing Spark Plug

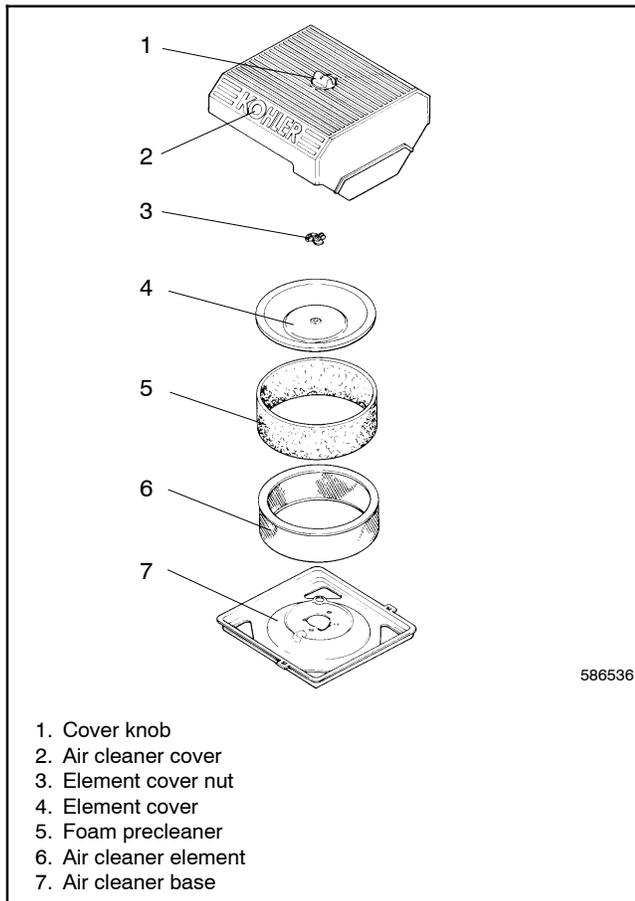
	8.5RES	6VSG,12RES(L), 14RES(A)(AL)(L), 17/18RES(L), 20RES(A)(AL)(B)(L)	15RES(A)/REYG/RYG, 30RES(A)/REYG/RYG	24RCL, 30RCLH	38RCL, 48RCL, 60RCL
Spark plug gap, mm (in.)	0.51 (0.02)	0.76 (0.03)	0.8-0.9 (0.03-0.04)	0.9-1.0 (0.036-0.04)	0.89 (0.035)
Torque, Nm (ft. lb.)	24.4-29.8 (18-22)	24.4-29.8 (18-22)	25 (18)	18 (13.3)	15 (11)

**Figure 4** Spark Plug Gap and Torque

## Air Cleaner Element and Precleaner

### 6VSG, 8.5RES, 12RES(L), 14RES(A)(AL)(L)

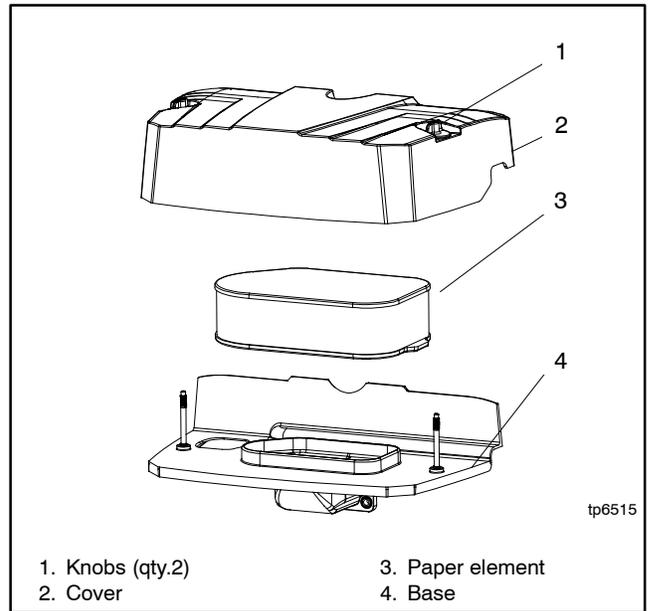
1. Loosen the cover retaining knob and remove the cover.
2. Remove and discard the old air cleaner element and precleaner (if equipped).
3. Install the precleaner over the new air cleaner element.
4. Install the paper element, precleaner, element cover, element cover nut, and the air cleaner cover.
5. Secure the cover with the cover retaining knob.



**Figure 5** Air Cleaner; 6VSG, 8.5RES, 12RES(L), 14RES(A)(AL)(L)

### 17/18RES(L), 20RES(A)(AL)(B)(L)

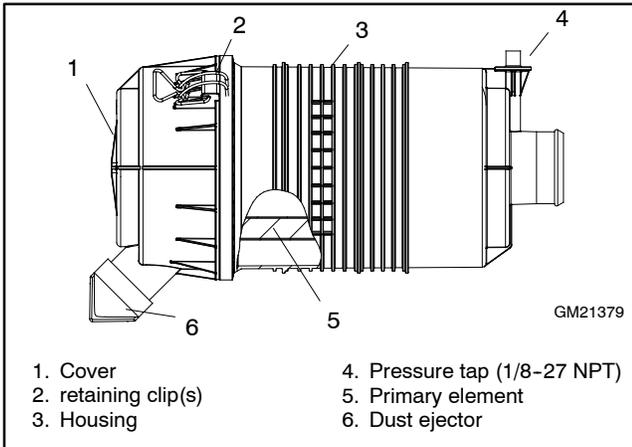
1. Loosen the two cover retaining knobs and remove the cover.
2. Rotate the air filter latch counterclockwise to unlock, then remove the paper element.
3. Install the paper element onto the air cleaner base. Make sure the element is flat and properly seated. Rotate the latch clockwise, over the molded lip on the element.
4. Install the air cleaner cover and secure with the two retaining knobs.



**Figure 6** Air Cleaner; 17/18RES(L), 20RES(A)(AL)(B)(L)

### 15RES(A)/REYG/RYG, 30RES(A)/REYG/RYG

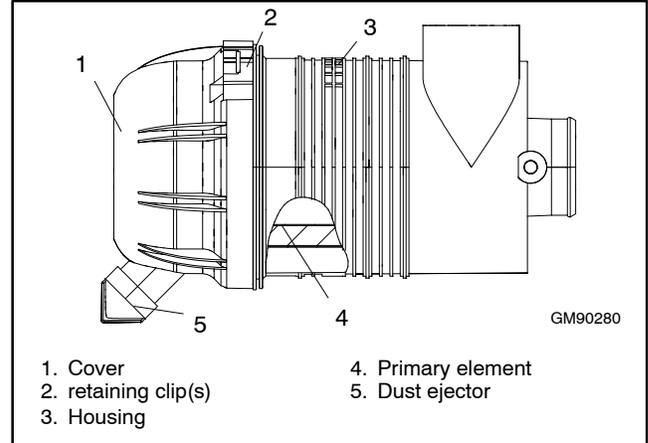
1. Release the retaining clips to open the housing and then remove the air cleaner element.
2. Remove and discard the old air cleaner element.
3. Install the new element.
4. Wipe the cover and housing with a clean rag. Make sure the sealing surfaces fit correctly and reattach the retaining clips.



**Figure 7** Air Cleaner; 15RES(A)/REYG/RYG, 30RES(A)/REYG/RYG

### 24RCL, 30RCLH, 60RCL

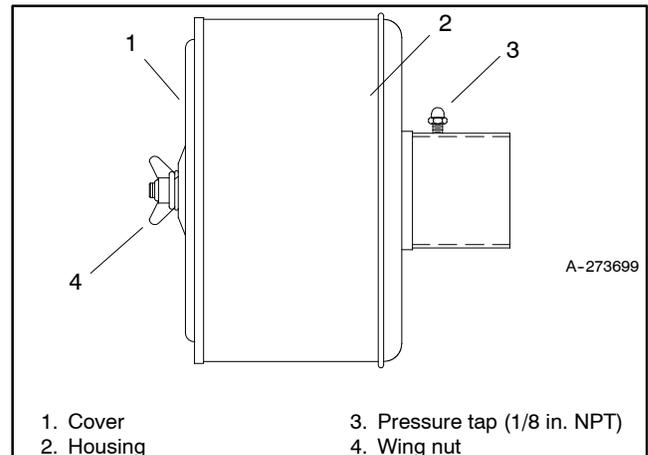
1. Release the retaining clips to open the housing and then remove the air cleaner element.
2. Remove and discard the old air cleaner element.
3. Install the new element.
4. Wipe the cover and housing with a clean rag. Make sure the sealing surfaces fit correctly and reattach the retaining clips.



**Figure 8** Air Cleaner; 24RCL, 30RCLH, 60RCL

### 38RCL, 48RCL

1. Remove the wing nut and remove the air cleaner retaining plate.
2. Remove and discard the old air cleaner element.
3. Install the new element.
4. Wipe the cover and housing with a clean rag. Reinstall the retaining plate and secure with the wing nut.



**Figure 9** Air Cleaner; 38RCL, 48RCL

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