Positive Crankcase Ventilation (PCV) System Components — Exploded View

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>—</td>
<td>Crankcase vent hose clamp (part of 6758)</td>
</tr>
<tr>
<td>2</td>
<td>6758</td>
<td>Crankcase vent hose</td>
</tr>
<tr>
<td>3</td>
<td>6A666</td>
<td>Positive crankcase ventilation (PCV) valve</td>
</tr>
<tr>
<td>4</td>
<td>W500214</td>
<td>Crankcase vent oil separator bolt (8 required)</td>
</tr>
<tr>
<td>5</td>
<td>6A785</td>
<td>Crankcase vent oil separator</td>
</tr>
</tbody>
</table>

1. For additional information, refer to the procedures in this section.
Crankcase Vent Oil Separator

Removal and Installation

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02.

2. Remove the intake manifold. For additional information, refer to Section 303-01A.

3. Remove the 8 bolts and the crankcase vent oil separator.
   - To install, tighten to 10 Nm (89 lb-in).

4. To install, reverse the removal procedure.
   - Clean the engine block mating surface.
Positive Crankcase Ventilation (PCV) Valve

Removal and Installation

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02.

2. Remove the intake manifold. For additional information, refer to Section 303-01A.

3. Disengage the positive crankcase ventilation (PCV) valve cap from the 2 tabs and remove the PCV valve.

4. To install, reverse the removal procedure.
Torque Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Nm</th>
<th>lb-ft</th>
<th>lb-in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhaust gas recirculation (EGR) tube fittings</td>
<td>40</td>
<td>30</td>
<td>—</td>
</tr>
<tr>
<td>EGR vacuum regulator stud bolts</td>
<td>6</td>
<td>—</td>
<td>53</td>
</tr>
<tr>
<td>EGR vacuum regulator stud bolt nut</td>
<td>6</td>
<td>—</td>
<td>53</td>
</tr>
<tr>
<td>EGR valve bolts</td>
<td>25</td>
<td>18</td>
<td>—</td>
</tr>
</tbody>
</table>
DESCRIPTION AND OPERATION

CAUTION: Do not remove any part of the engine emission control system. Operating the engine without the engine emission control system intact will reduce fuel economy and engine ventilation. This will weaken engine performance and shorten engine life.

The engine emission control system consists of the:

- positive crankcase ventilation (PCV) system.
- exhaust gas recirculation (EGR) system.

Positive Crankcase Ventilation (PCV) System

The PCV system:

- uses intake manifold vacuum to ventilate blow-by fumes from the crankcase.
- returns the fumes to the intake manifold for combustion.

The PCV valve:

- varies the amount of blow-by gases returned to the intake manifold based on available engine vacuum.
- prevents the entry of combustion gases backfiring into the crankcase.

The PCV system consists of the:

- crankcase ventilation tube.
- positive crankcase ventilation valve.

Exhaust Gas Recirculation (EGR) System

The EGR system:

- returns a small amount of exhaust gas into the engine for recombustion.
- reduces the overall combustion temperature and provides a significant reduction of oxides of nitrogen (NOx).

The EGR valve:

- is electronically controlled by the powertrain control module (PCM).
- controls the vacuum to the EGR valve.

The EGR valve:

- is connected to the exhaust manifold by the EGR valve to exhaust manifold tube.
- controls recirculated exhaust gas flow to the intake manifold.
- monitors the flow of recirculated exhaust gases through the EGR valve to exhaust manifold tube.
- returns a signal to the PCM.

The amount of recirculated exhaust gas depends upon:
• engine rpm.
• intake manifold vacuum.
• exhaust back pressure.
• engine coolant temperature.
• throttle position.

The vehicle emission control information (VECI) decal:

• is located on the hood.
• lists the exhaust emission control system information.
Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual.
## Exhaust Gas Recirculation (EGR) System Components — Exploded View

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>14A464</td>
<td>EGR vacuum regulator electrical connector (part of 9H589)</td>
</tr>
<tr>
<td>2</td>
<td>—</td>
<td>Vacuum tube fitting (part of 9E498)</td>
</tr>
<tr>
<td>3</td>
<td>—</td>
<td>EGR vacuum regulator stud bolt nut</td>
</tr>
<tr>
<td>4</td>
<td>—</td>
<td>Wiring harness retainer (part of 9H589)</td>
</tr>
<tr>
<td>5</td>
<td>W705779</td>
<td>EGR vacuum regulator stud bolt (2 required)</td>
</tr>
<tr>
<td>6</td>
<td>9J459</td>
<td>EGR vacuum regulator</td>
</tr>
<tr>
<td>7</td>
<td>14A464</td>
<td>Differential pressure feedback EGR sensor electrical connector (part of 12A522)</td>
</tr>
<tr>
<td>8</td>
<td>9J460</td>
<td>Differential pressure feedback EGR sensor</td>
</tr>
<tr>
<td>9</td>
<td>—</td>
<td>Vacuum tube fitting (part of 9E498)</td>
</tr>
<tr>
<td>10</td>
<td>—</td>
<td>EGR tube upper fitting (part of 9D477)</td>
</tr>
<tr>
<td>11</td>
<td>W500229</td>
<td>EGR valve bolts (2 required)</td>
</tr>
<tr>
<td>12</td>
<td>9D475</td>
<td>EGR valve</td>
</tr>
<tr>
<td>13</td>
<td>9D476</td>
<td>EGR valve gasket</td>
</tr>
<tr>
<td>14</td>
<td>—</td>
<td>EGR tube lower fitting (part of 9D477)</td>
</tr>
<tr>
<td>15</td>
<td>9D477</td>
<td>EGR tube</td>
</tr>
</tbody>
</table>

1. For additional information, refer to the procedures in this section.
Exhaust Gas Recirculation (EGR) Valve

Removal and Installation

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02.

2. Disconnect the exhaust manifold-to-exhaust gas recirculation (EGR) tube fitting from the EGR valve.
   • To install, tighten to 40 Nm (30 lb-ft).

3. Disconnect the vacuum tube fitting from the EGR valve.

4. **NOTE:** The EGR valve sealing surfaces are soft metals.
   **NOTE:** Do not reuse the EGR valve gasket.

   Remove the 2 bolts and the EGR valve.
   • Remove and discard the EGR valve gasket.
   • Carefully clean the EGR valve sealing surfaces.
   • To install, tighten to 25 Nm (18 lb-ft).

5. To install, reverse the removal procedure.
Removal and Installation

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02.

2. Carefully detach the differential feedback exhaust gas recirculation (EGR) system sensor vacuum tubes and position the sensor aside.

3. Disconnect the exhaust manifold-to-EGR tube fitting from the EGR valve.
   • To install, tighten to 40 Nm (30 lb-ft).

4. Disconnect the exhaust manifold-to-exhaust EGR tube fitting from the RH exhaust manifold.
   • To install, tighten to 40 Nm (30 lb-ft).

5. Remove the EGR valve tube.

6. To install, reverse the removal procedure.