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2008 MAZDA RX-8 OEM Service and Repair Workshop Manual

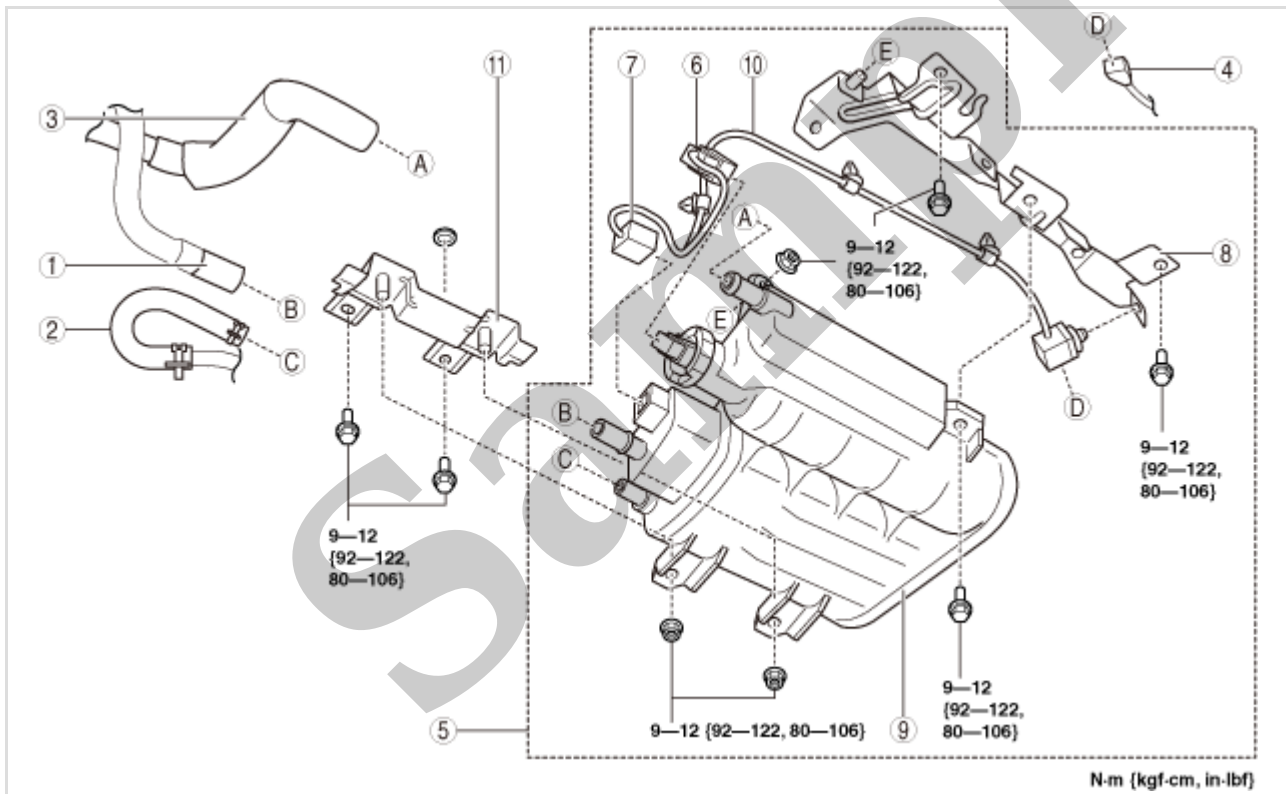
[Go to manual page](#)

CHARCOAL CANISTER REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)]

SM2897589

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1. Disconnect the negative battery terminal. (See **NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.**)
2. Remove the floor under cover No.2 (LH). (See **FLOOR UNDER COVER REMOVAL/INSTALLATION.**)
3. Remove in the order indicated in the table.
4. Install in the reverse order of removal.



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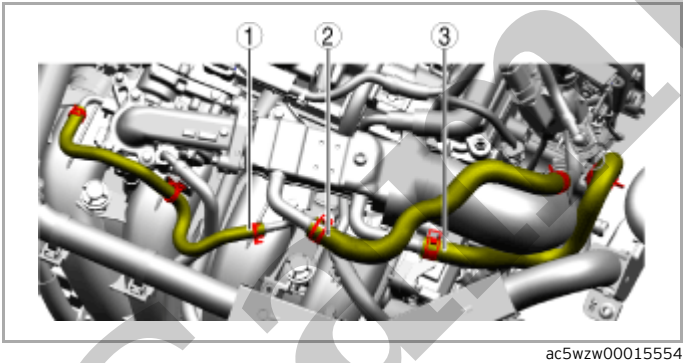
1	Quick release connector (See QUICK RELEASE CONNECTOR (EMISSION SYSTEM) REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)].)
2	Evaporative hose No.1 (See Evaporative Hose No.1 Installation Note.)
3	Evaporative hose No.2 (See Evaporative Hose No.2 Installation Note.)
4	Middle harness connector
5	Charcoal canister component (See Charcoal Canister Component Installation Note.)
6	CV solenoid valve connector
7	Fuel tank pressure sensor connector

EGR COOLER REMOVAL/INSTALLATION [SKYACTIV-G (WITH EGR COOLER)]

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- 1.Disconnect the negative battery terminal. (See [NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.](#))
- 2.Remove the plug hole plate. (See [PLUG HOLE PLATE REMOVAL/INSTALLATION \[SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\].](#))
- 3.Drain the engine coolant. (See [ENGINE COOLANT REPLACEMENT \[SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\].](#))
- 4.Disconnect the ventilation hose on the air hose side and set it aside. (See [ENGINE DISASSEMBLY/ASSEMBLY \[SKYACTIV-G \(WITH EGR COOLER\)\].](#))
- 5.Disconnect the water hoses shown in the figure.



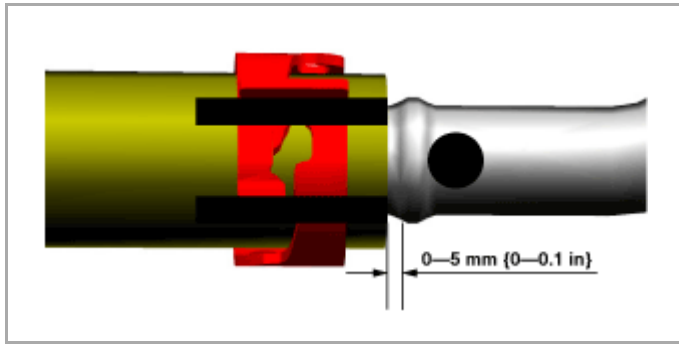
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1	Water hose No.1 (See Water Hose No.1 Installation Note.)
2	Water hose No.2 (See Water Hose No.2 Installation Note.)
3	Water hose No.3 (See Water Hose No.3 Installation Note.)

- 6.Remove the bolts shown in the figure and remove the bracket.

Water Hose No.2 Installation Note

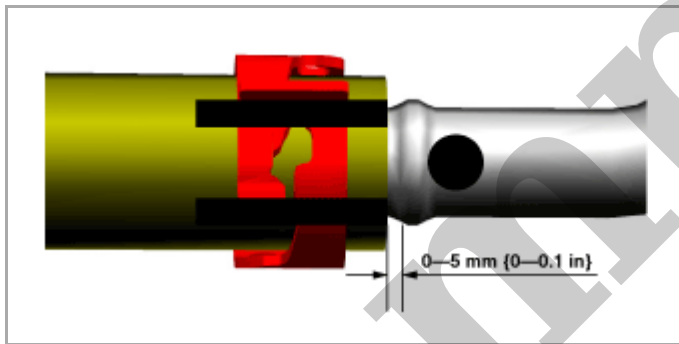
1.Install the water hose No.2 as shown in the figure.



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Water Hose No.1 Installation Note

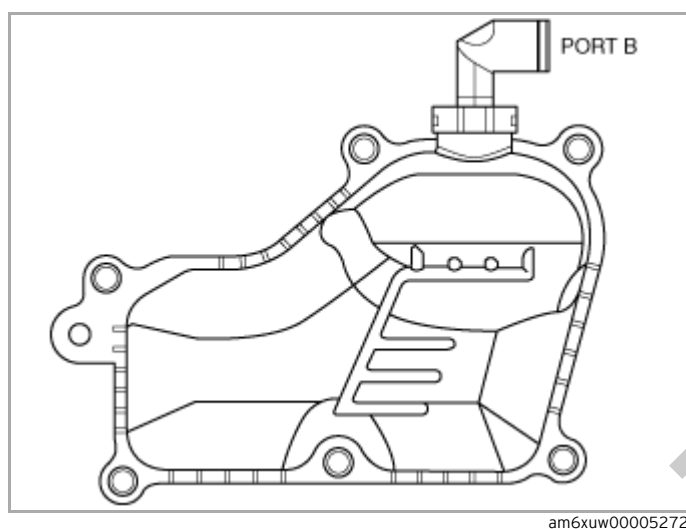
1.Install the water hose No.1 as shown in the figure.



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5.Remove the PCV valve and the oil separator as a single unit. (See [POSITIVE CRANKCASE VENTILATION \(PCV\) VALVE REMOVAL/INSTALLATION \[SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\]](#).)

6.Verify that there is no airflow when pressure is applied to port B.



- If there is airflow, replace the PCV valve and the oil separator as a single unit. (See [POSITIVE CRANKCASE VENTILATION \(PCV\) VALVE REMOVAL/INSTALLATION \[SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\]](#).)

7.Verify that there is airflow when vacuum is applied to port B.

- If there is no airflow, replace the PCV valve and the oil separator as a single unit. (See [POSITIVE CRANKCASE VENTILATION \(PCV\) VALVE REMOVAL/INSTALLATION \[SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\]](#).)

CHARCOAL CANISTER INSPECTION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)]

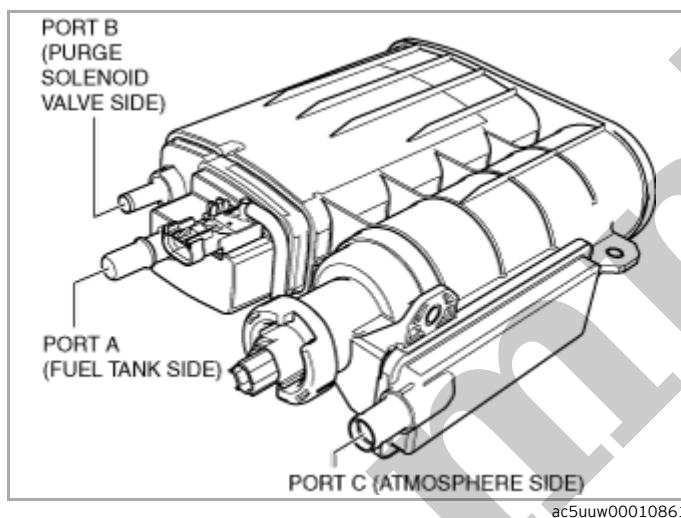
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Leakage Inspection

1. Perform the following procedures:

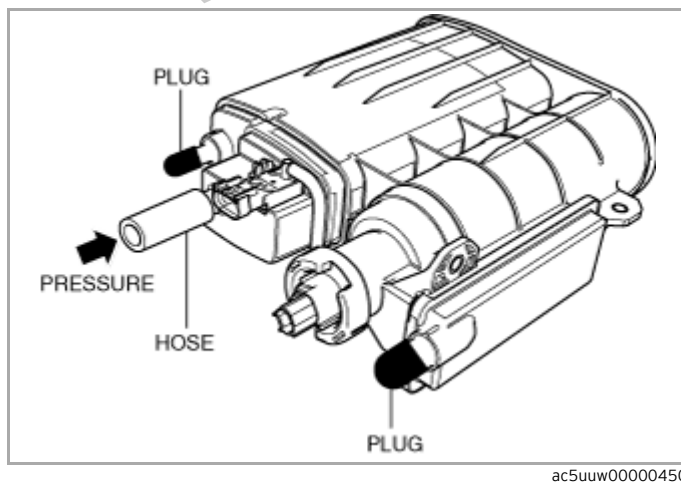
- Do not operate CV solenoid valve.
- Assemble the hose used for inspection to port A.
- Cover ports B and C with the caps.



Caution

- Do not apply a pressure 20 kPa {150 mmHg, 5.91 inHg} or more to the charcoal canister for 1 min. or more. Doing so will damage the charcoal canister.

2. Apply pressure (19.6 kPa {147 mmHg, 5.79 inHg}) through the hose, and verify that air does not leak from the charcoal canister.



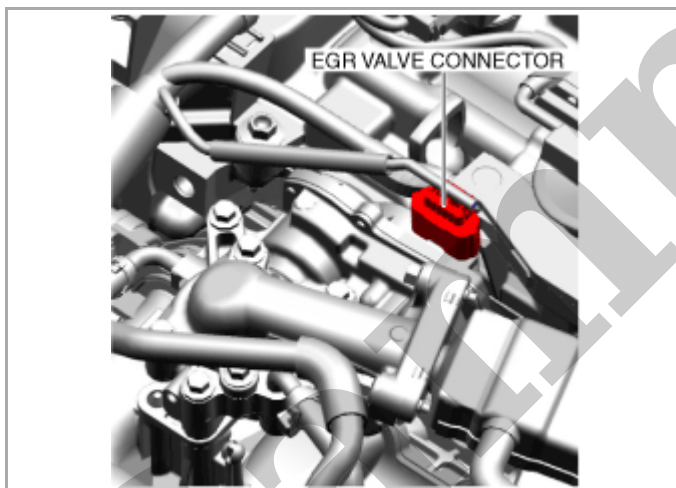
- If there is airflow, replace the charcoal canister. (See [CHARCOAL CANISTER REMOVAL/INSTALLATION \[SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\]](#).)

EGR VALVE REMOVAL/INSTALLATION [SKYACTIV-G (WITH EGR COOLER)]

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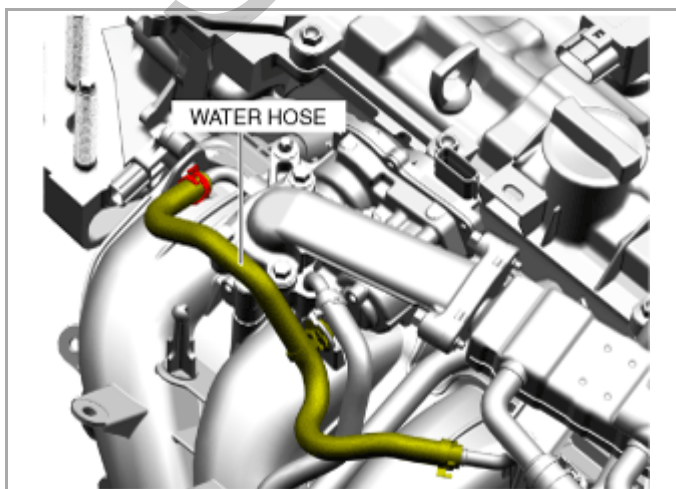
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1. Disconnect the negative battery terminal. (See [NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.](#))
2. Remove the plug hole plate. (See [PLUG HOLE PLATE REMOVAL/INSTALLATION \[SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\].](#))
3. Drain the engine coolant. (See [ENGINE COOLANT REPLACEMENT \[SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\].](#))
4. Disconnect the EGR valve connector shown in the figure.



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5. Disconnect the water hose shown in the figure.



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WARM-UP THREE-WAY CATALYTIC CONVERTER (WU-TWC) INSPECTION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)]

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Caution

- Perform the following procedures, when DTC P0421:00 is only indicated.

1. Connect the M-MDS to the DLC-2.

2. Perform the KOEO self-test. (See [KOEO/KOER SELF TEST \[PCM \(SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\)\]](#) .)

- If the following DTCs are detected, repair the applicable malfunctioning part according to the applicable DTC troubleshooting. (See [DTC TABLE \[PCM \(SKYACTIV-G 2.5 \(WITH CYLINDER DEACTIVATION\)\)\]](#) .)

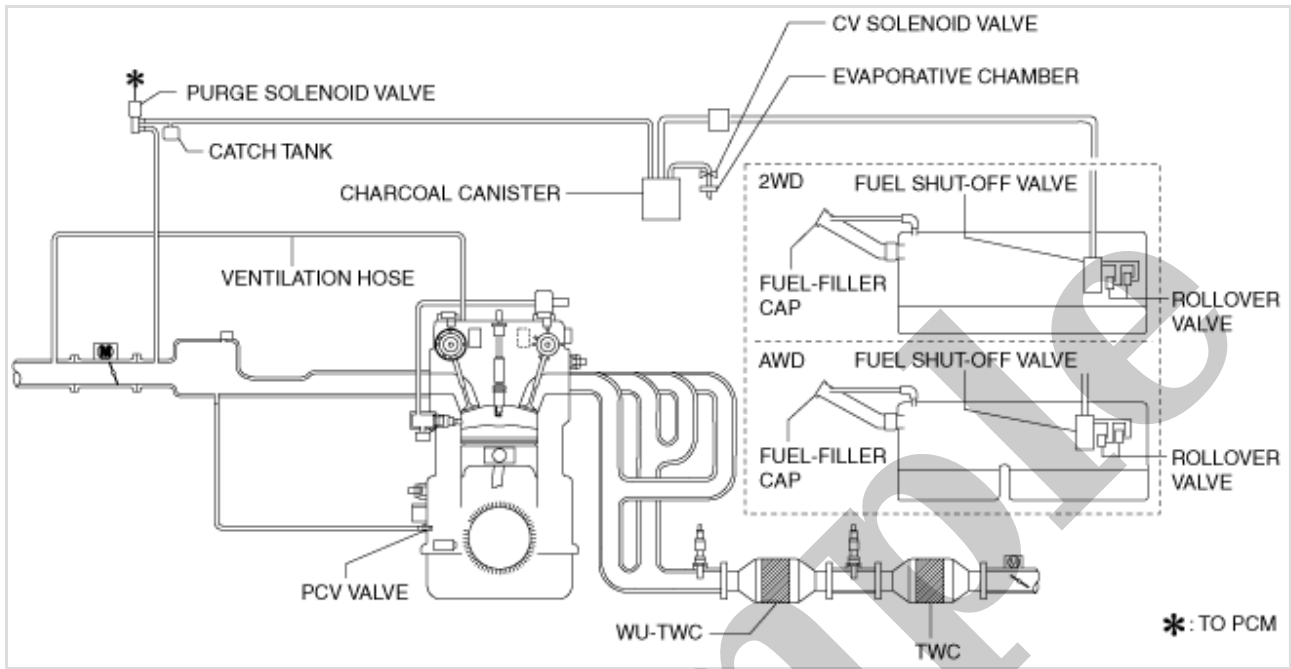
— P0421:00

EMISSION SYSTEM DIAGRAM [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)]

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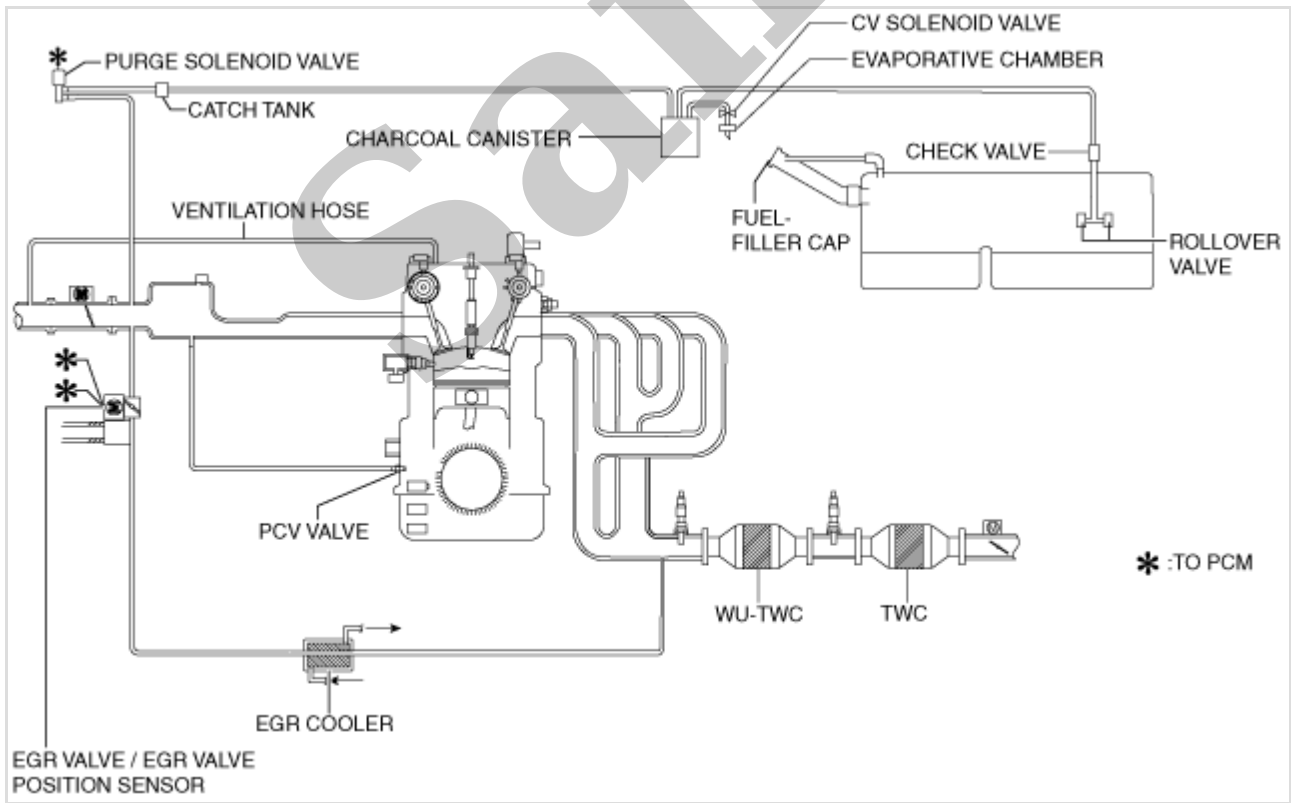
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Without EGR cooler



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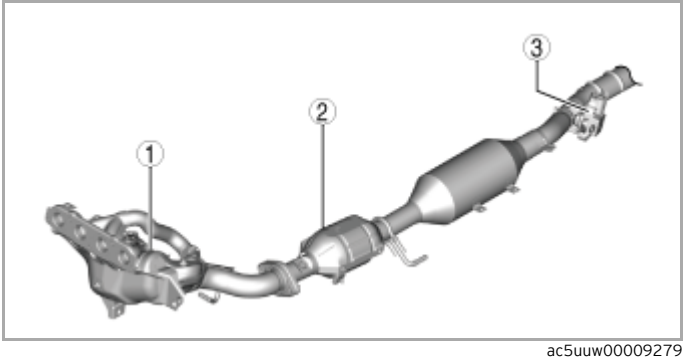
With EGR cooler



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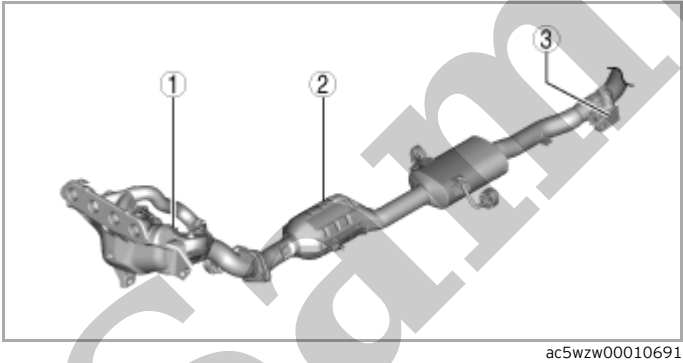
Exhaust System Side

2WD



1	WU-TWC (See EXHAUST SYSTEM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)]..)
2	TWC (See EXHAUST SYSTEM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)]..)
3	Exhaust shutter valve (See EXHAUST SHUTTER VALVE REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)]..) (See EXHAUST SHUTTER VALVE INSPECTION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)]..)

AWD



1	WU-TWC (See EXHAUST SYSTEM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)]..)
2	TWC (See EXHAUST SYSTEM REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)]..)
3	Exhaust shutter valve (See EXHAUST SHUTTER VALVE REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)]..) (See EXHAUST SHUTTER VALVE INSPECTION [SKYACTIV-G 2.5 (WITH CYLINDER DEACTIVATION)]..)

Fuel Tank Side

2WD