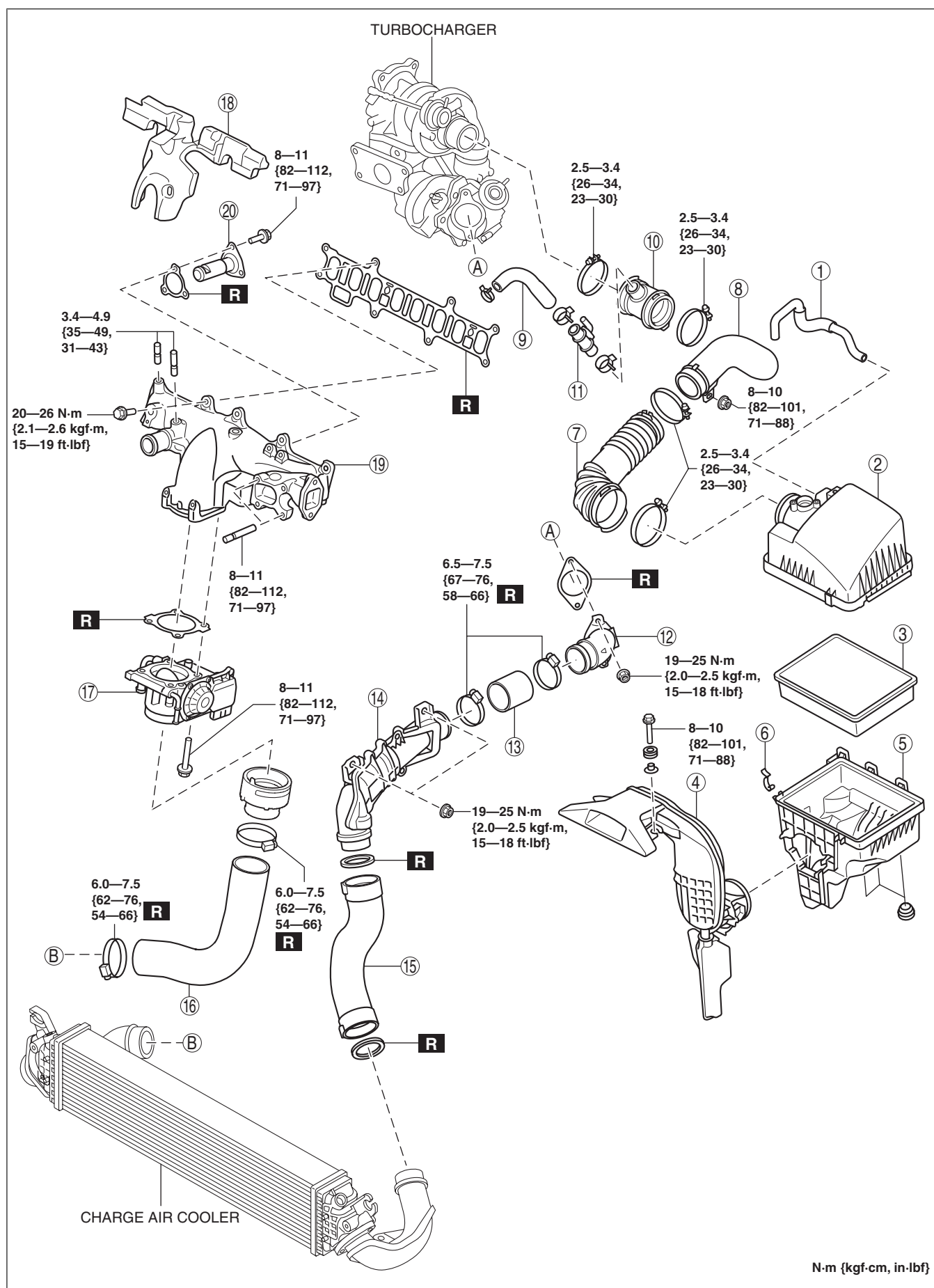


### **Warning**

- **A hot engine and intake air system can cause severe burns. Turn off the engine and wait until they are cool before removing the intake-air system.**

1. Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)
2. Remove in the order shown in the figure.
3. Install in the reverse order of removal.



2	Air cleaner cover (See Air Cleaner Cover Removal Note.) (See Air Cleaner Cover Installation Note.)
3	Air cleaner element
4	Fresh-air duct (See Fresh-air Duct Removal Note.) (See Fresh-air Duct Installation Note.)
5	Air cleaner case (See Air Cleaner Case Installation Note.)
6	Clip
7	Air hose (See Air Hose Installation Note.)
8	Air inlet pipe (See Air Inlet Pipe Removal Note.)
9	Breather hose (See Breather Hose Installation Note.)
10	Turbocharger air inlet hose
11	Blow-by heater (See BLOW-BY HEATER INSPECTION [SKYACTIV-D 2.2].)

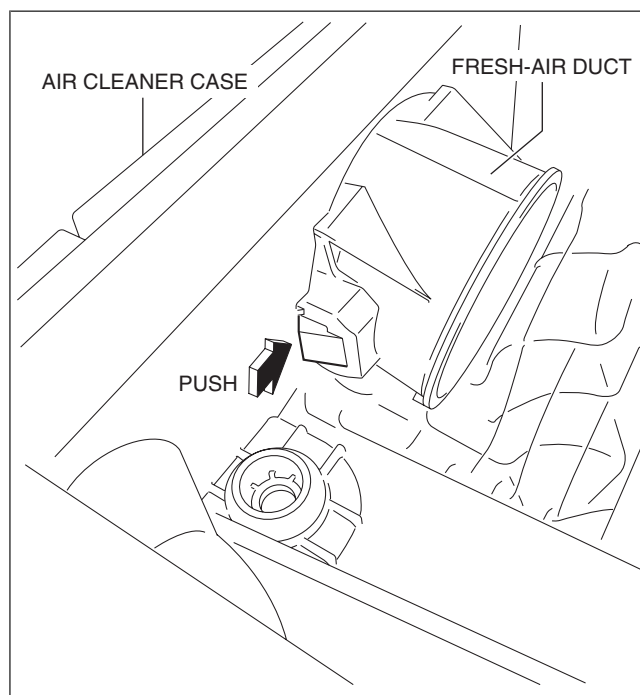
12	Turbocharger air outlet pipe (See Turbocharger Air Outlet Pipe Removal Note.)
13	Turbocharger air outlet hose
14	Air intake pipe
15	Charge air cooler inlet hose (See Charge Air Cooler Inlet Hose Removal Note.)
16	Charge air cooler outlet hose (See Charge Air Cooler Outlet Hose Removal Note.) (See Charge Air Cooler Outlet Hose Installation Note.)
17	Intake shutter valve (See INTAKE SHUTTER VALVE REMOVAL/ INSTALLATION [SKYACTIV-D 2.2].)
18	Intake manifold insulator (See Intake Manifold Insulator Removal Note.)
19	Intake manifold (See Intake Manifold Removal Note.)
20	EGR pipe (Intake manifold side)

#### Air Cleaner Cover Removal Note

1. Remove the MAF sensor/IAT sensor No.1. (See MASS AIR FLOW (MAF) SENSOR/INTAKE AIR TEMPERATURE (IAT) SENSOR NO.1 REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
2. Remove the air cleaner cover.

#### Fresh-air Duct Removal Note

1. Pull out the fresh-air duct from the air cleaner case while pressing the tab shown in the figure.



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#### Air Inlet Pipe Removal Note

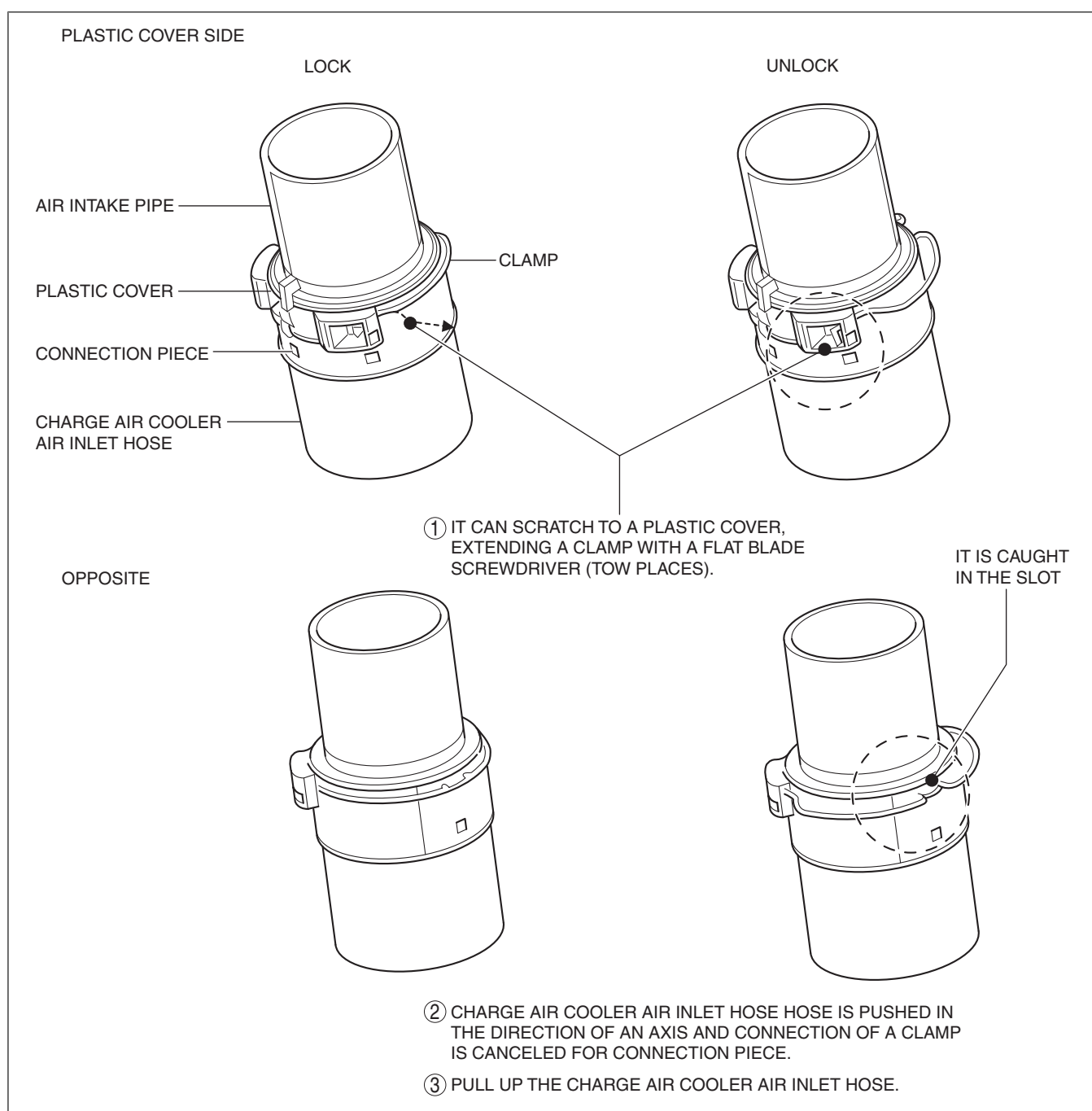
1. Remove the battery. (See BATTERY REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
2. Remove the air inlet pipe.

#### Turbocharger Air Outlet Pipe Removal Note

1. Remove the battery tray. (See BATTERY REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
2. Remove the turbocharger air outlet pipe.

#### Charge Air Cooler Inlet Hose Removal Note

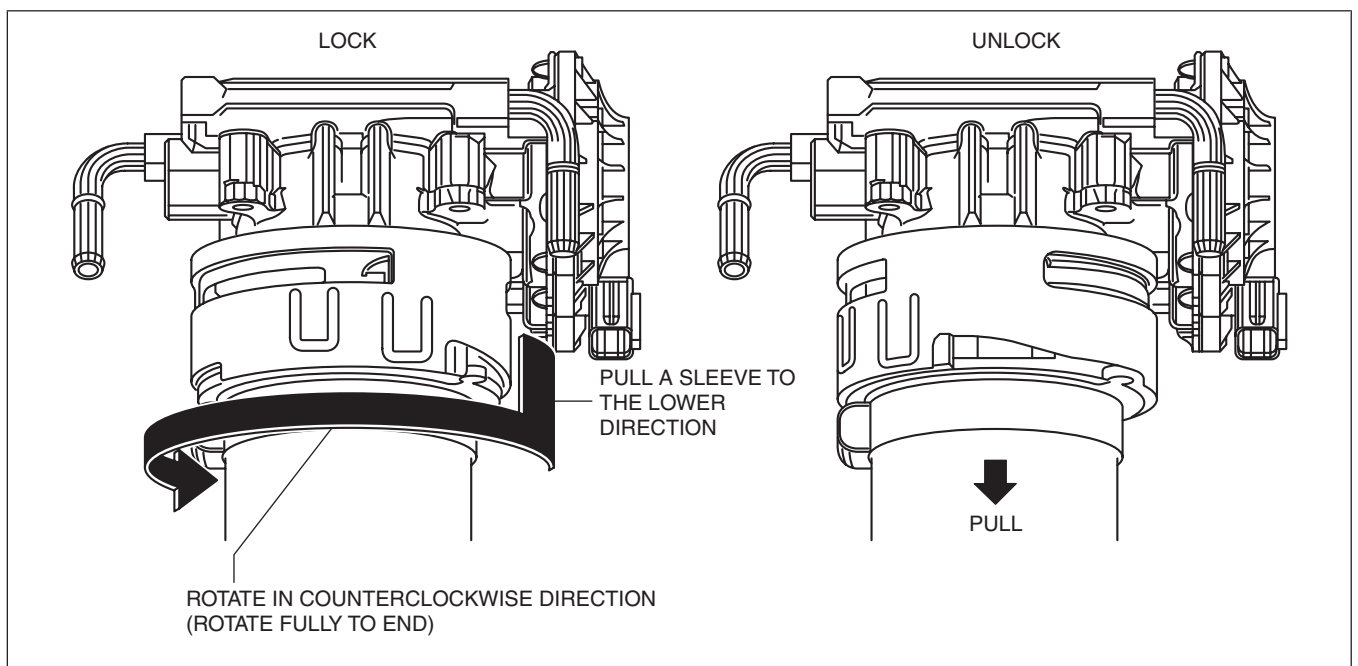
1. Release the lock and remove the charge air cooler inlet hose as shown in the figure.



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### Charge Air Cooler Outlet Hose Removal Note

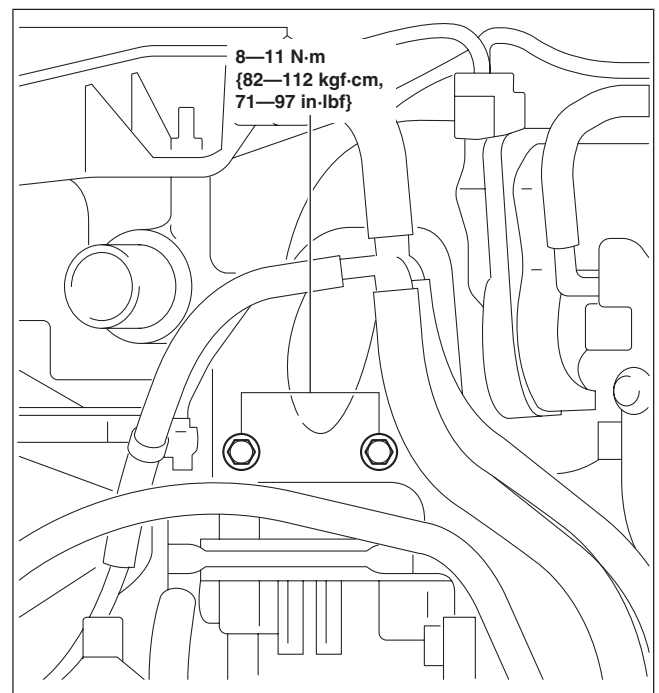
1. Release the lock of connector and remove the charge air cooler air outlet hose.



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### Intake Manifold Insulator Removal Note

1. Remove the bolts shown in the figure.
2. Remove the intake manifold insulator.

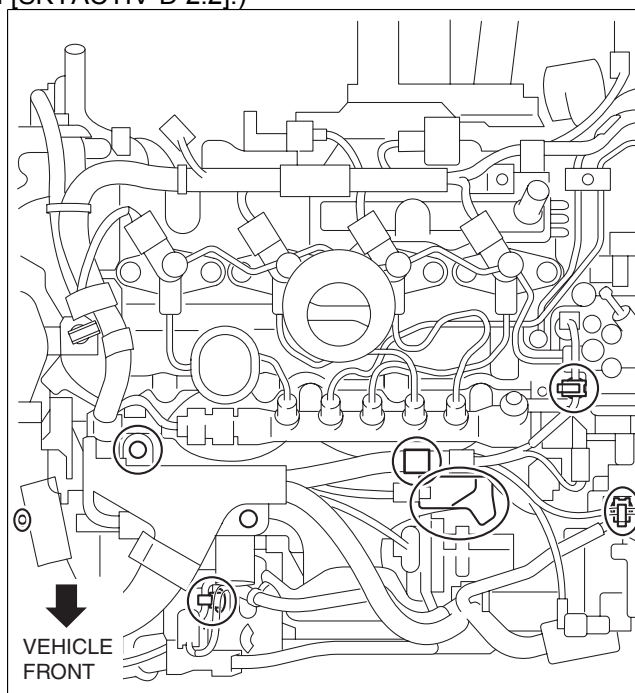


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### Intake Manifold Removal Note

1. Disconnect the connectors of the following parts:
  - Engine oil temperature sensor/engine oil pressure sensor (See ENGINE OIL TEMPERATURE SENSOR/ENGINE OIL PRESSURE SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
  - ECT sensor (See ENGINE COOLANT TEMPERATURE (ECT) SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
  - MAP sensor No.2 (See MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
  - Fuel pressure sensor (See COMMON RAIL REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
  - Fuel temperature sensor (See LOWER CASE REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
  - Fuel pressure relief valve (See COMMON RAIL REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
  - Glow plug short-cord (See GLOW PLUG REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
  - IAT sensor No.2 (See INTAKE AIR TEMPERATURE (IAT) SENSOR NO.2 REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)

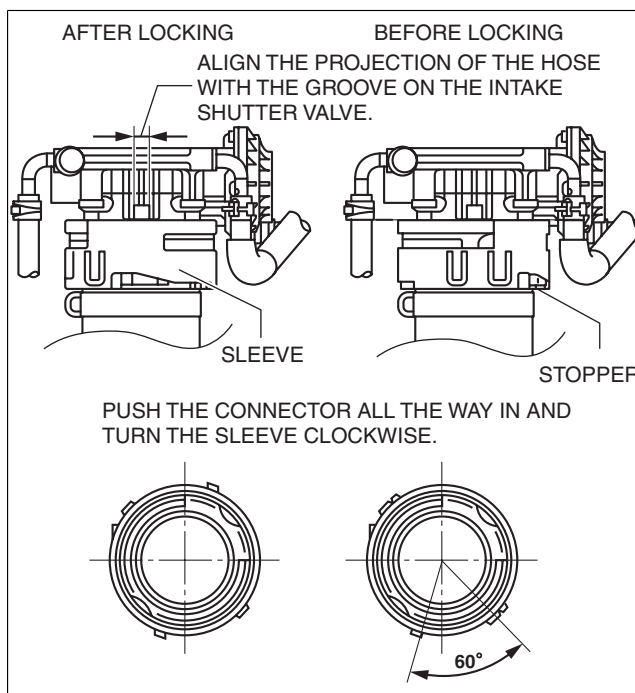
- Camshaft position sensor (See CAMSHAFT POSITION (CMP) SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
  - EGR cooler bypass valve (See EGR COOLER BYPASS VALVE REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
  - Starter (See STARTER REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
2. Remove the wiring harness clips, bolts, nuts and harness bracket shown in the figure.
  3. Disconnect the upper radiator hose from the intake manifold side.
  4. Remove the EGR valve. (See EGR VALVE REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
  5. Set the EGR cooler out of the way. (See EGR COOLER REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
  6. Set the EGR cooler bypass valve out of the way. (See EGR COOLER BYPASS VALVE REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
  7. Remove the intake manifold.



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#### Charge Air Cooler Outlet Hose Installation Note

1. Install the charge air cooler outlet hose as shown in the figure.

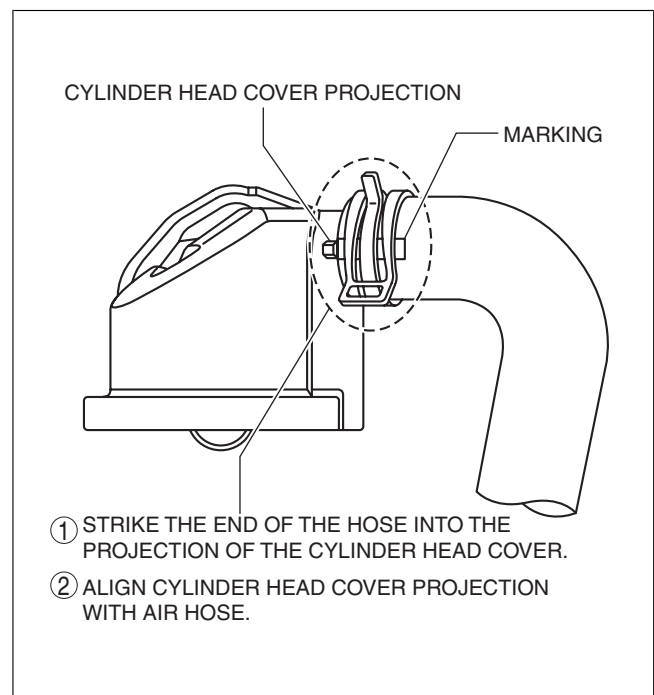


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#### Breather Hose Installation Note

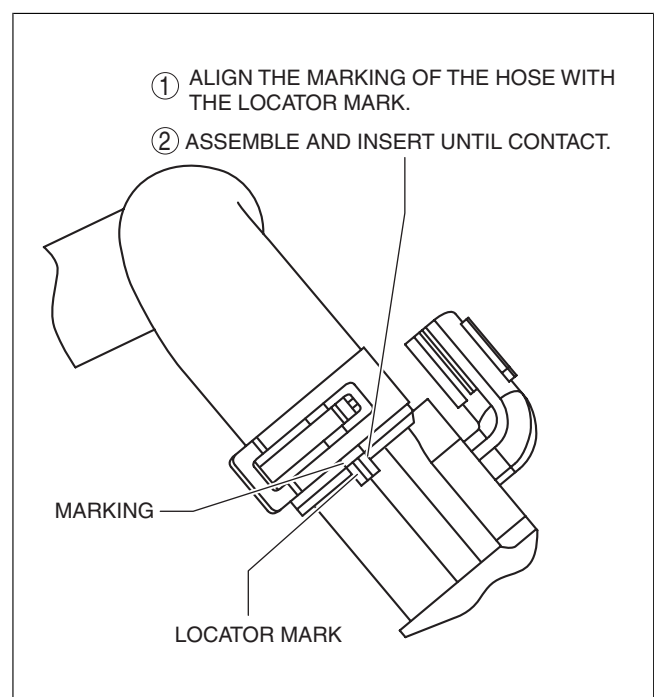
1. Install the breather hose as shown in the figure.

## Cylinder head cover side



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## Blow-by heater side

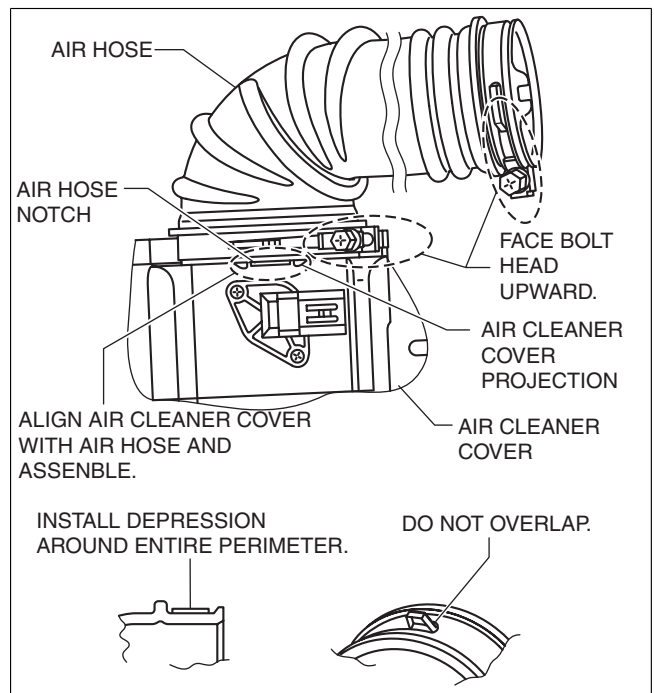


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## Air Hose Installation Note

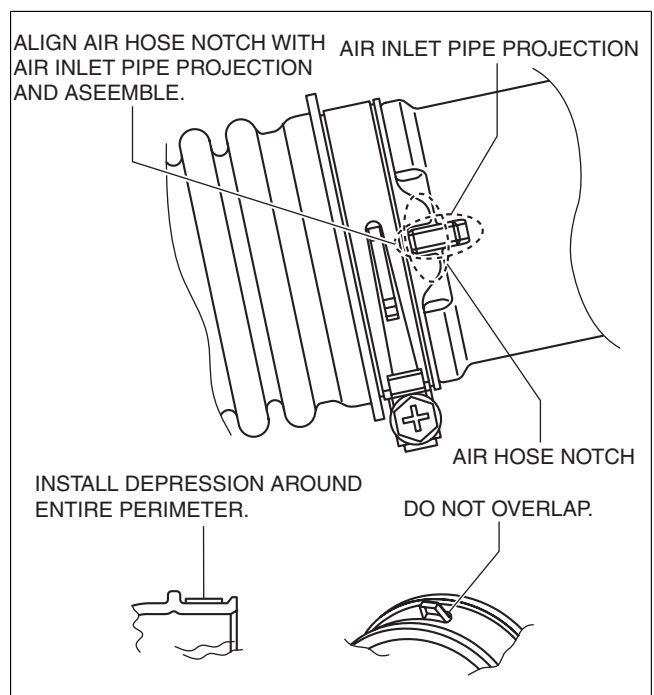
1. Install the air hose as shown in the figure.

## Air cleaner cover side



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## Air inlet pipe side

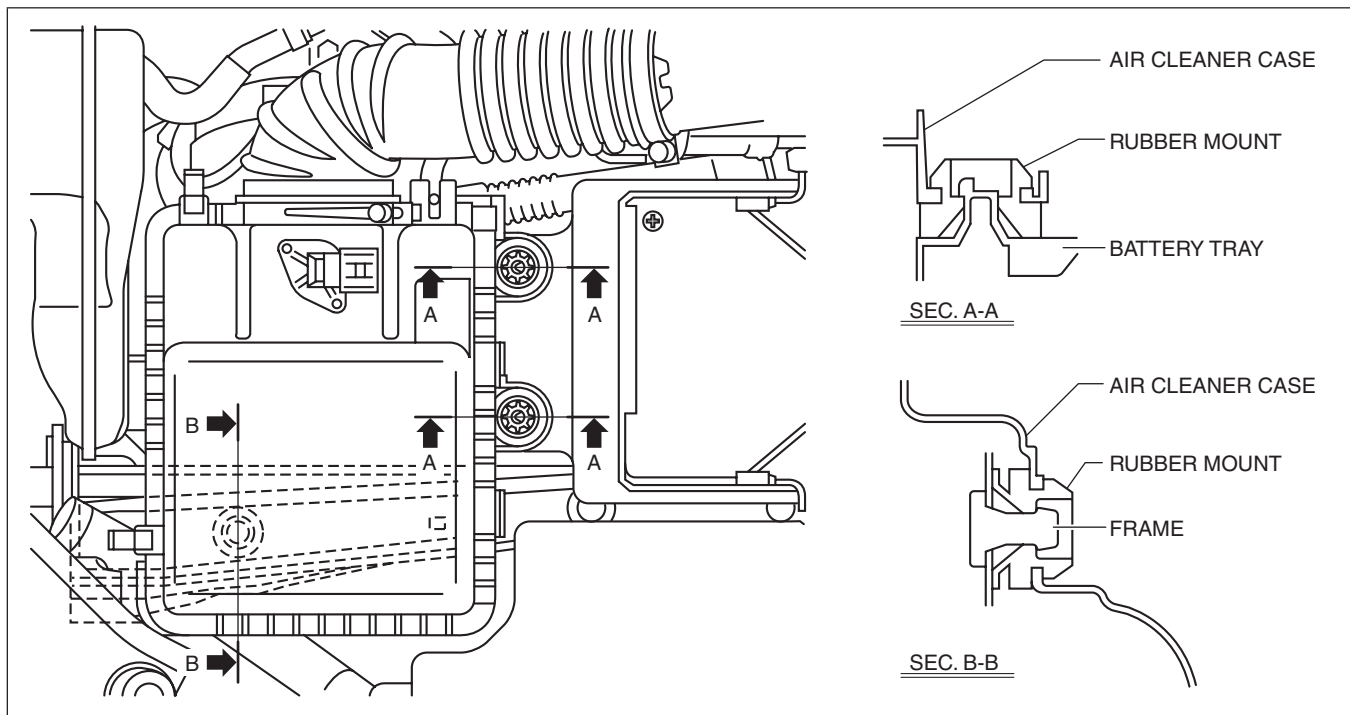


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## Air Cleaner Case Installation Note

1. Install the air cleaner case as shown in the figure.

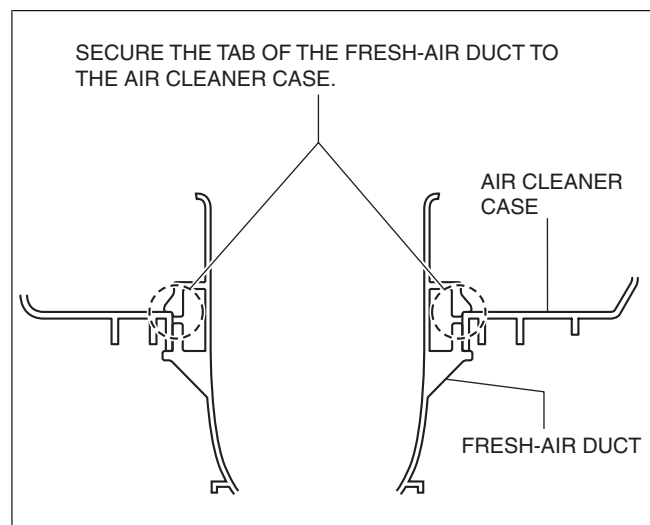




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### Fresh-air Duct Installation Note

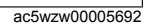
1. Install the fresh-air duct as shown in the figure.



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1. Install the air cleaner cover as shown in the figure.

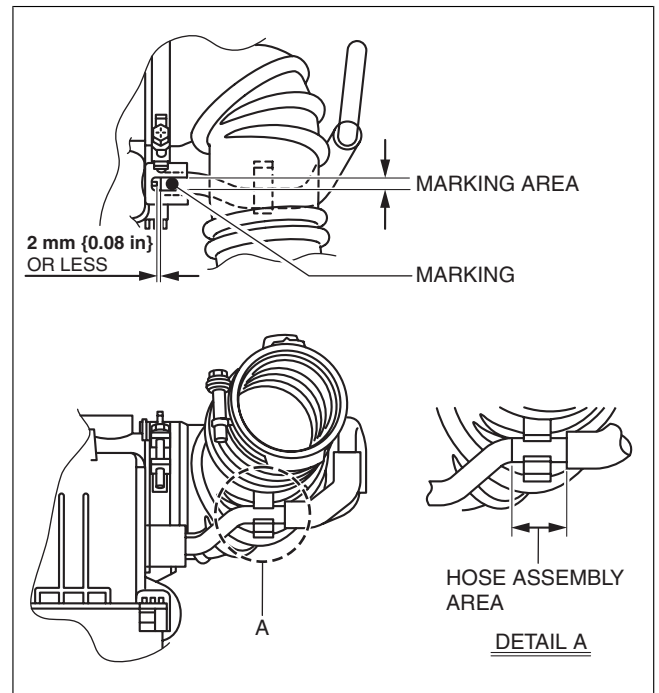
1. Install the air cleaner cover as shown in the figure.



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### Vacuum Hose Installation Note

1. Install the vacuum hose as shown in the figure.



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