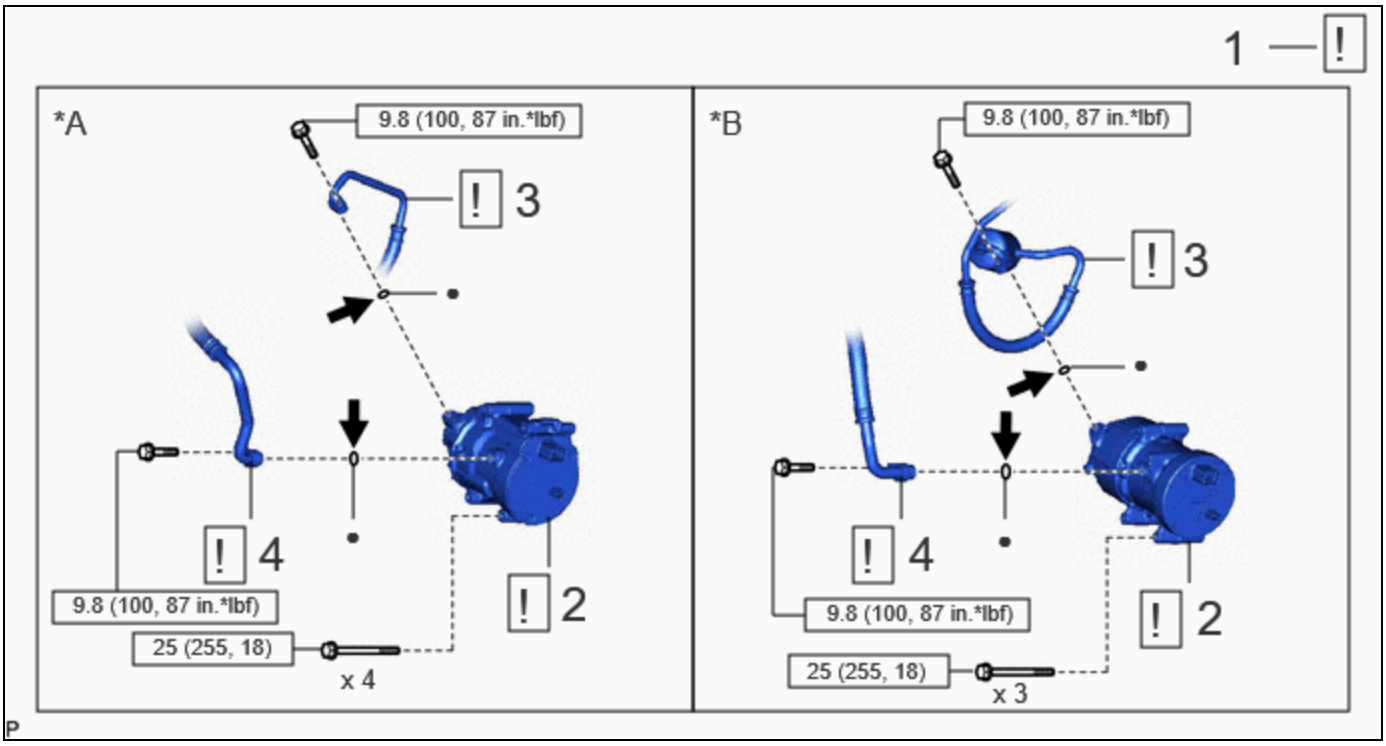
| | | |
|---|---|---|
| **Last Modified:** 12-04-2024 | 6.11:8.1.0 | **Doc ID:** RM100000002AXE4 |
| **Model Year Start:** 2023 | **Model:** Prius Prime | **Prod Date Range:** [03/2023 - ] |
| **Title:** HEATING / AIR CONDITIONING: COMPRESSOR (for M20A-FXS): INSTALLATION; 2023 - 2024 MY Prius Prius Prime [03/2023 - ] | | |

# INSTALLATION

# CAUTION / NOTICE / HINT

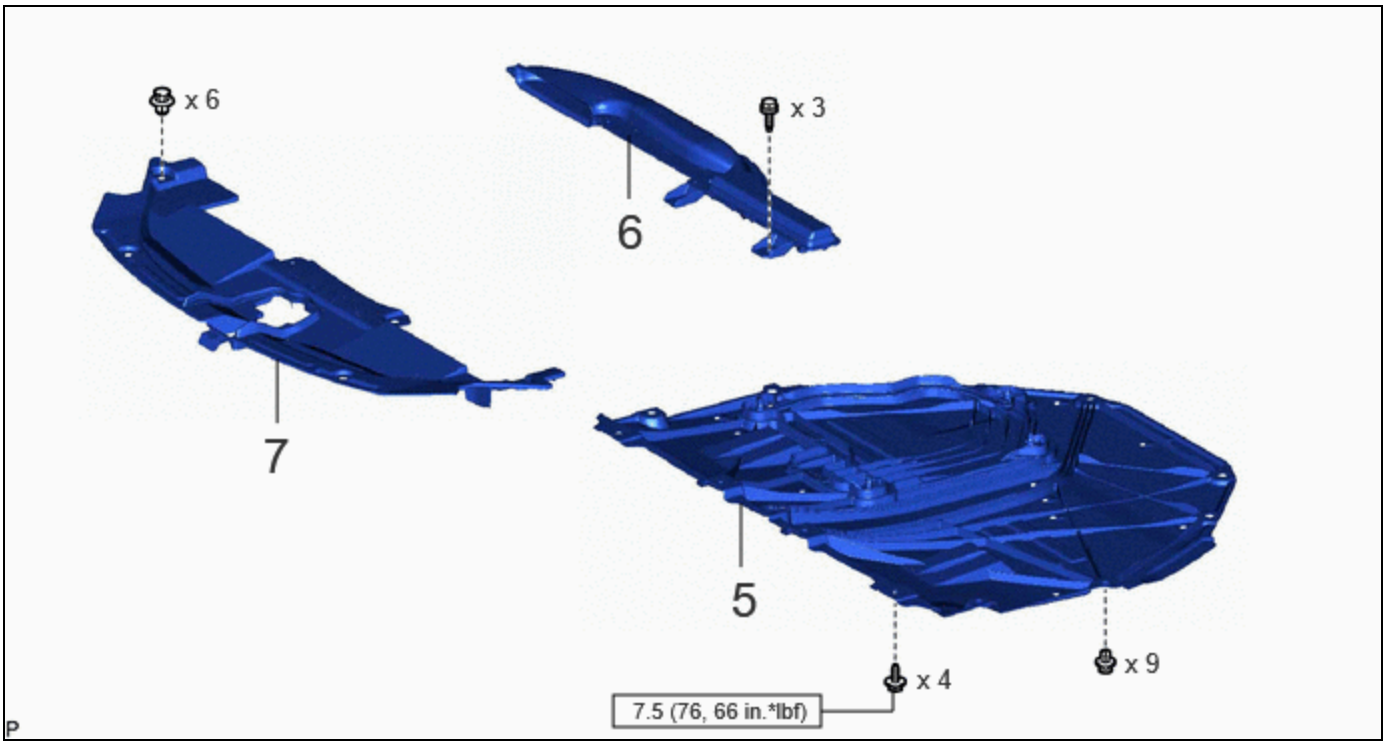
## COMPONENTS (INSTALLATION)




| | PROCEDURE | PART NAME CODE | | | |
|---|---|---|---|---|---|
| 1 | INSPECT COMPRESSOR OIL | - | INFO | - | - |
| 2 | COMPRESSOR WITH MOTOR ASSEMBLY | 88370 | INFO | - | - |
| 3 | DISCHARGE HOSE SUB-ASSEMBLY | 88703 | INFO | - | - |
| 4 | SUCTION HOSE SUB-ASSEMBLY | 88704 | INFO | - | - |

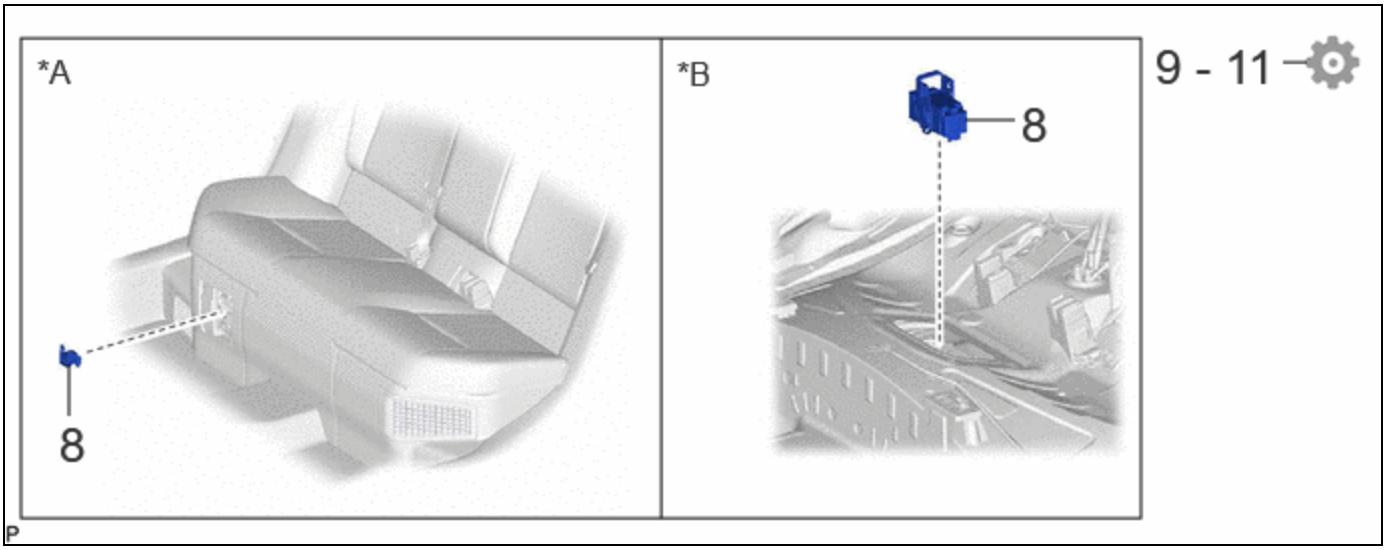
| *A | for HEV Model | *B | for PHEV Model |
|---|---|---|---|
| ▭ | N*m (kgf*cm, ft.*lbf): Specified torque | • | Non-reusable part |

| | | | |
|---|---|---|---|
| ➡ | Compressor oil ND-OIL 11 or equivalent | - | - |




| | PROCEDURE | PART NAME CODE | ! | | ⚙ |
|---|---|---|---|---|---|
| 5 | NO. 1 ENGINE UNDER COVER ASSEMBLY | 51410 | - | - | - |
| 6 | INLET NO. 1 AIR CLEANER | 17751 | - | - | - |
| 7 | RADIATOR SUPPORT OPENING COVER | 53289A | - | - | - |

| | | | |
|---|---|---|---|
| ▭ | N*m (kgf*cm, ft.*lbf): Specified torque | - | - |



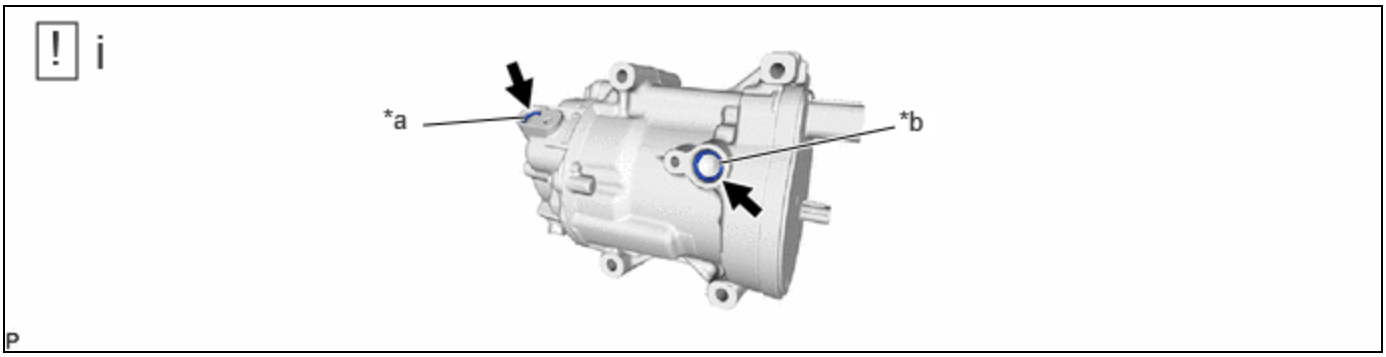

| | PROCEDURE | PART NAME CODE | ! | | ⚙ |
|---|---|---|---|---|---|
| 8 | SERVICE PLUG GRIP | G3834 | - | - | - |
| 9 | CHARGE AIR CONDITIONING SYSTEM WITH REFRIGERANT | - | - | - | INFO |
| 10 | WARM UP COMPRESSOR | - | - | - | INFO |
| 11 | INSPECT FOR REFRIGERANT LEAK | - | - | - | INFO |

| | | | |
|---|---|---|---|
| *A | for HEV Model | *B | for PHEV Model |

# PROCEDURE

### 1. INSPECT COMPRESSOR OIL

(a) for HEV Model:




| | | | |
|---|---|---|---|
| *a | Discharge Port | *b | Intake Port |

(1) When replacing the compressor with motor assembly with a new one, gradually discharge the inert gas from the service valve, and drain the following amount of oil from the new compressor with motor assembly before installation.

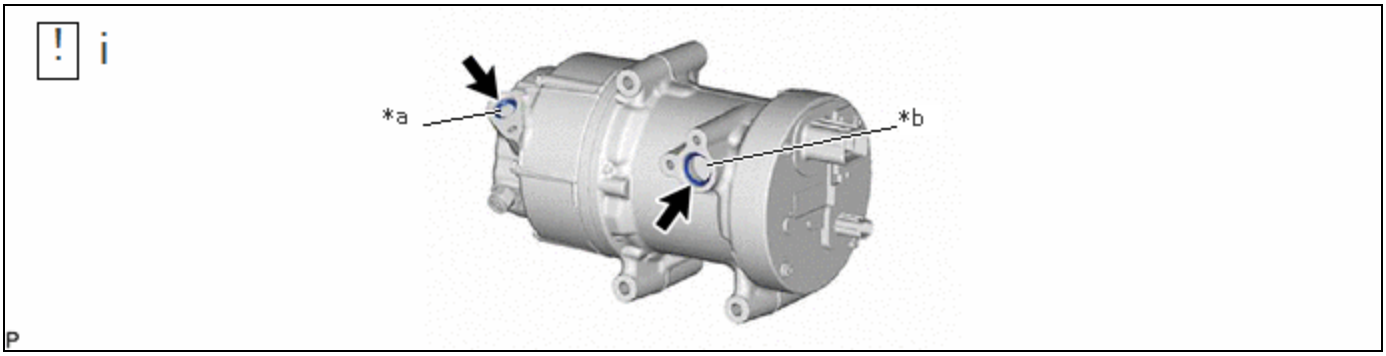
Standard:

(Oil capacity inside the new compressor with motor assembly: 110 to 125 cc (3.73 to 4.22 fl.oz)) - (Remaining oil amount in the removed compressor with motor assembly) - 65 cc (2.20 fl.oz) = (Oil amount to be removed from the new compressor)

**NOTICE:**

- When checking the compressor oil level, observe the precautions on the cooler removal/installation.
- If a new compressor with motor assembly is installed without removing some oil, there will be too much oil in the system due to the oil remaining in the pipes of the vehicle. Excessive oil in the system prevents heat exchange in the refrigeration cycle and causes ineffective cooling.
- If the amount of oil remaining in the old compressor with motor assembly is too small, check the air conditioning system for oil leaks.
- Be sure to use ND-OIL 11 or equivalent compressor oil. If any compressor oil other than ND-OIL 11 is used, compressor with motor assembly insulation performance may decrease, resulting in leakage of electric power.
- Make sure to drain compressor oil from the intake port.
- Make sure to add compressor oil from the intake port.
- If the amount of oil from the removed compressor with motor assembly plus an additional 65 cc (2.20 fl.oz) is then greater than the amount of oil in a new compressor with motor assembly, do not drain the compressor oil from the new compressor with motor assembly.
- When it is not possible to confirm the amount of oil in the system such as when compressor oil is spilt due to damage caused by a vehicle collision, etc., install a new compressor without draining any oil. If also replacing the cooler condenser assembly, do not add the supplied oil (40 cc (1.35 fl.oz)).

(b) for PHEV Model:




| | | | |
|---|---|---|---|
| *a | Discharge Port | *b | Intake Port |

(1) When replacing the compressor with motor assembly with a new one, gradually discharge the inert gas from the service valve, and drain the following amount of oil from the new compressor with motor assembly before installation.

Standard:

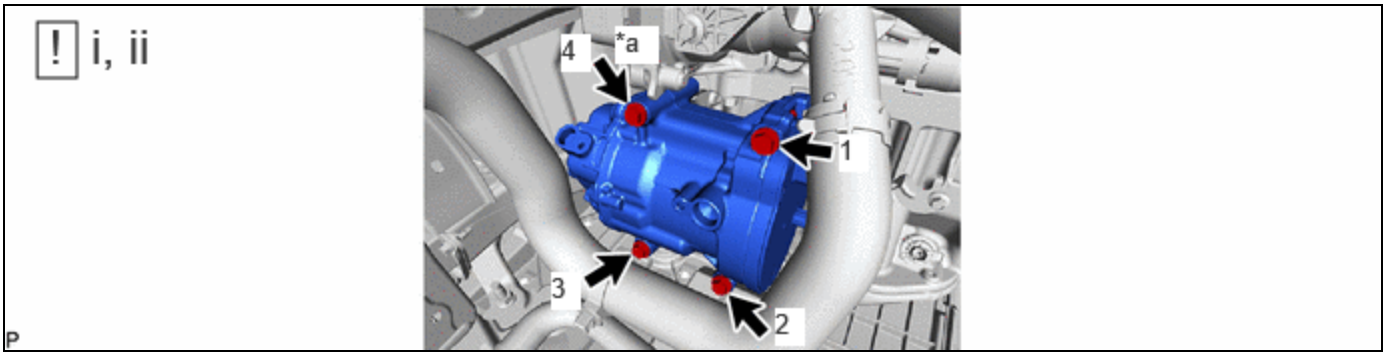
(Oil capacity inside the new compressor with motor assembly: 220 to 235 cc (7.44 to 7.94 fl.oz)) - (Remaining oil amount in the removed compressor with motor assembly) = (Oil amount to be removed from the new compressor)

**NOTICE:**

- When checking the compressor oil level, observe the precautions on the cooler removal/installation.
- If a new compressor with motor assembly is installed without removing some oil, there will be too much oil in the system due to the oil remaining in the pipes of the vehicle. Excessive oil in the system prevents heat exchange in the refrigeration cycle and causes ineffective cooling.
- If the amount of oil remaining in the old compressor with motor assembly is too small, check the air conditioning system for oil leaks.
- Be sure to use ND-OIL 11 or equivalent compressor oil. If any compressor oil other than ND-OIL 11 is used, compressor with motor assembly insulation performance may decrease, resulting in leakage of electric power.
- Make sure to add compressor oil from the intake port.
- When it is not possible to confirm the amount of oil in the system such as when compressor oil is spilt due to damage caused by a vehicle collision, etc., install a new compressor without draining any oil. If also replacing the cooler condenser assembly, do not add the supplied oil (40 cc (1.35 fl.oz)).

## 2. INSTALL COMPRESSOR WITH MOTOR ASSEMBLY

(a) for HEV Model:




| | | | |
|---|---|---|---|
| *a | Bolt (A) | - | - |

(1) Temporarily install the compressor with motor assembly with the bolt (A).

(2) Install the compressor with motor assembly with the 4 bolts.

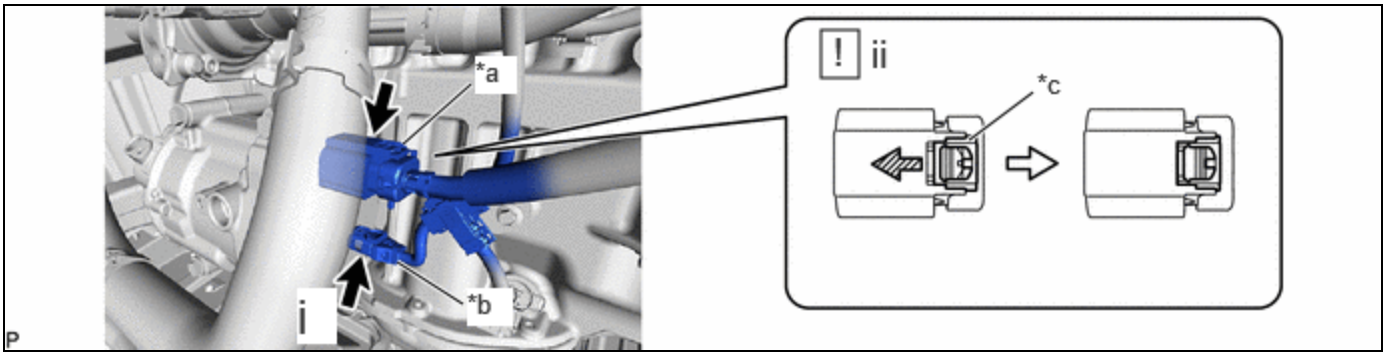
**Torque:**

**25 N·m {255 kgf·cm, 18 ft·lbf}**

**HINT:**

Tighten the bolts in the order shown in the illustration.

(b) for HEV Model:




| | | | |
|---|---|---|---|
| *a | Connector (A) | *b | Connector (B) |
| *c | Green-colored Lock | - | - |
| | Slide | - | - |

(1) Connect the connector (B).

(2) Remove the insulating tape from the connector (A), and connect the connector (A) and slide the green-colored lock as shown in the illustration to securely lock it.

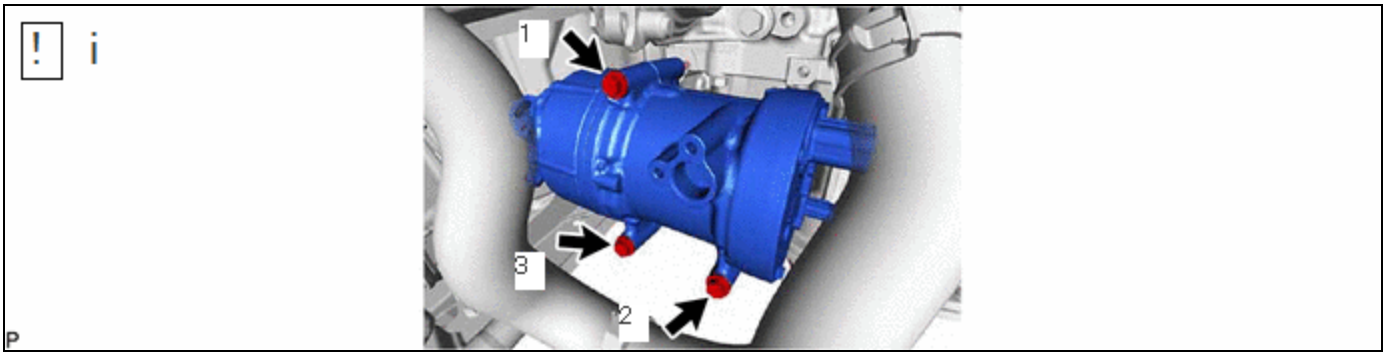
**CAUTION:**

Make sure to wear insulated gloves.

**NOTICE:**

Make sure that the connector is connected securely.

(c) for PHEV Model:




(1) Install the compressor with motor assembly with the 3 bolts.

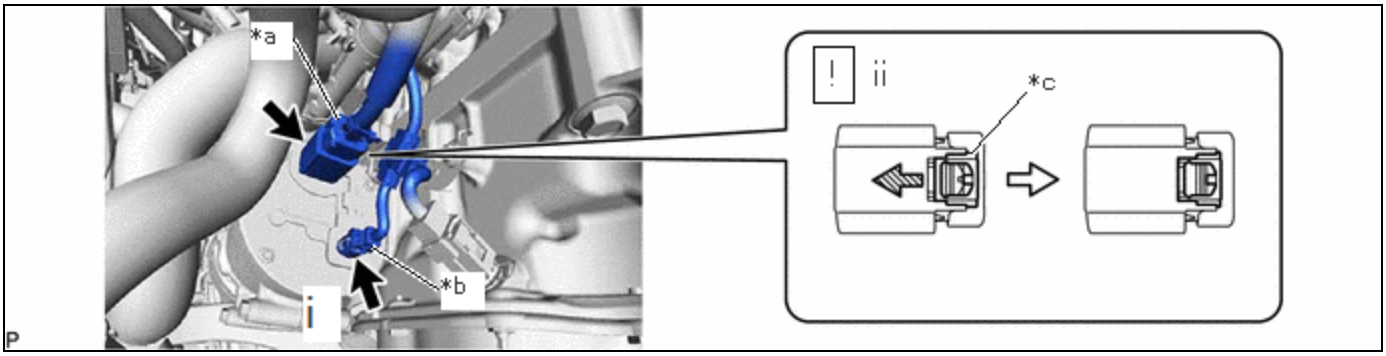
**Torque:**

**25 N·m {255 kgf·cm, 18 ft·lbf}**

**HINT:**

Tighten the bolts in the order shown in the illustration.

(d) for PHEV Model:




| | | | |
|---|---|---|---|
| *a | Connector (A) | *b | Connector (B) |
| *c | Green-colored Lock | - | - |
| ⇨ | Slide | - | - |

(1) Connect the connector (B).

(2) Remove the insulating tape from the connector (A), and connect the connector (A) and slide the green-colored lock as shown in the illustration to securely lock it.

**CAUTION:**

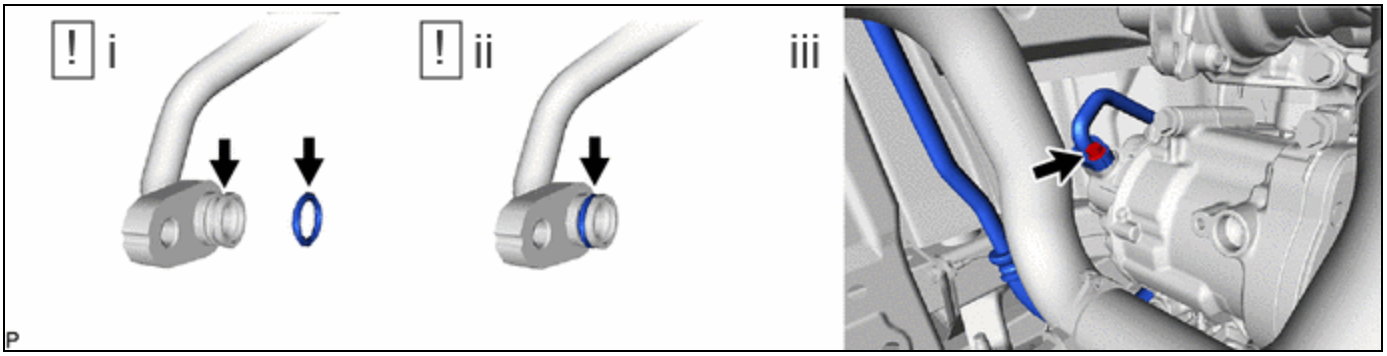
Make sure to wear insulated gloves.

**NOTICE:**

Make sure that the connector is connected securely.

### 3. CONNECT DISCHARGE HOSE SUB-ASSEMBLY

(a) for HEV Model:




(1) Remove the vinyl tape, and sufficiently apply compressor oil to a new O-ring and the fitting surface of the compressor with motor assembly.

Compressor Oil:
ND-OIL 11 or equivalent

(2) Install the O-ring to the discharge hose sub-assembly.

**NOTICE:**

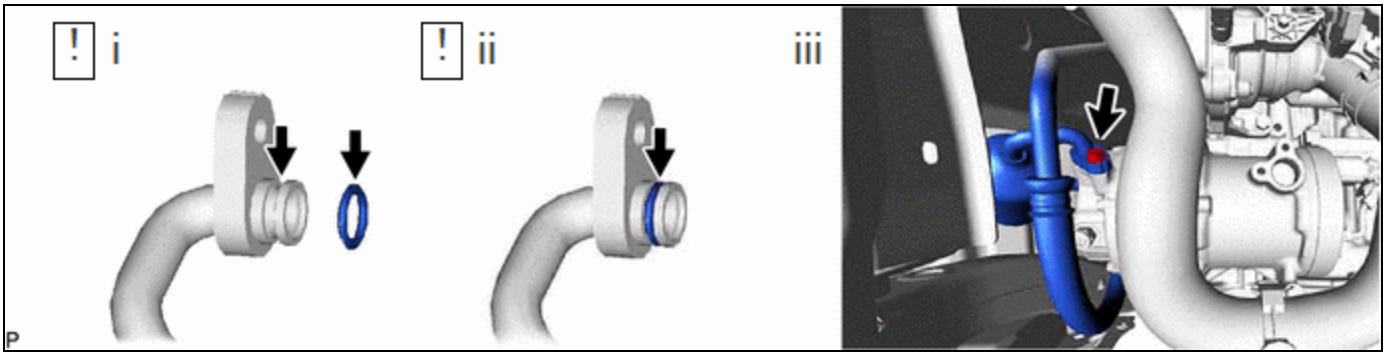
Keep the O-ring and O-ring fitting surface free of foreign matter.

(3) Connect the discharge hose sub-assembly to the compressor with motor assembly with the bolt.

**Torque:**

**9.8 N·m {100 kgf·cm, 87 in·lbf}**

(b) for PHEV Model:




(1) Remove the vinyl tape, and sufficiently apply compressor oil to a new O-ring and the fitting surface of the compressor with motor assembly.

Compressor Oil:
ND-OIL 11 or equivalent

(2) Install the O-ring to the discharge hose sub-assembly.

**NOTICE:**

Keep the O-ring and O-ring fitting surface free of foreign matter.

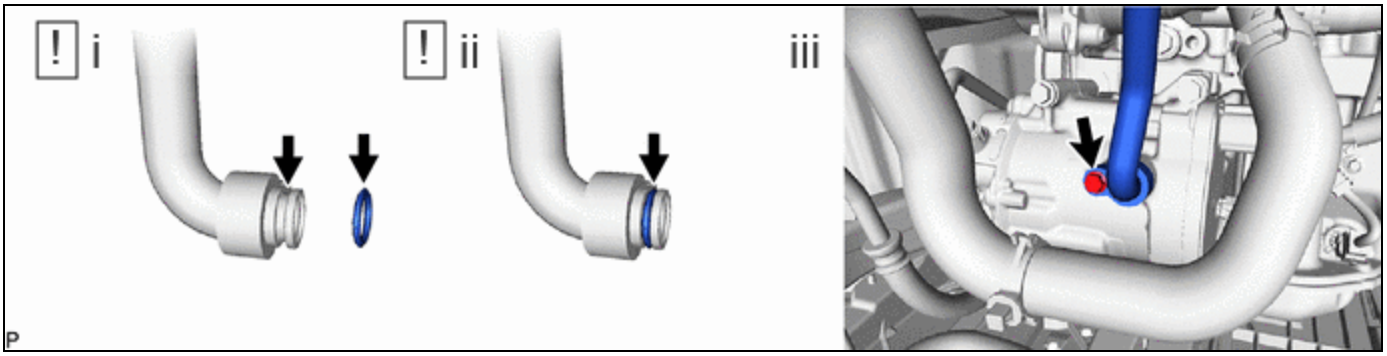
(3) Connect the discharge hose sub-assembly to the compressor with motor assembly with the bolt.

**Torque:**

**9.8 N·m {100 kgf·cm, 87 in·lbf}**

## 4. CONNECT SUCTION HOSE SUB-ASSEMBLY

(a) for HEV Model:




(1) Remove the vinyl tape, sufficiently apply compressor oil to a new O-ring and the fitting surface of the compressor with motor assembly.

Compressor Oil:
ND-OIL 11 or equivalent

(2) Install the O-ring to the suction hose sub-assembly.

**NOTICE:**

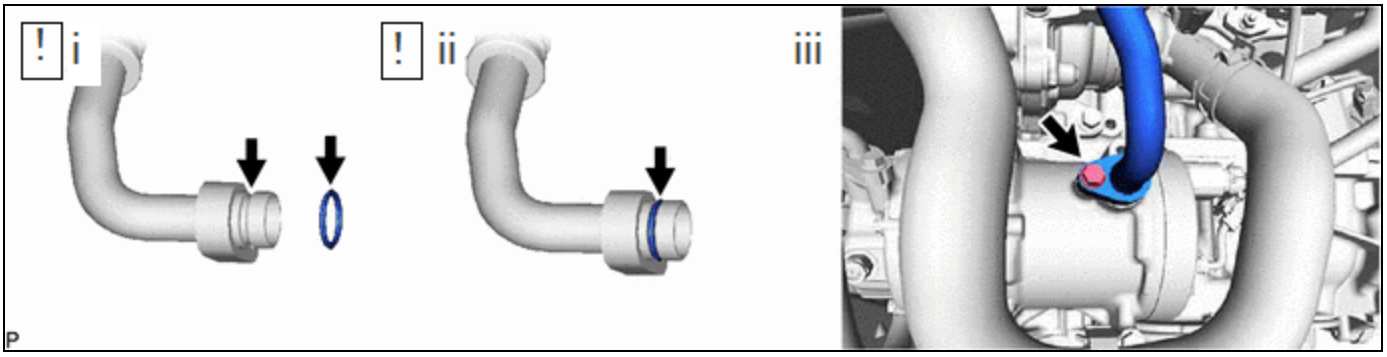
Keep the O-ring and O-ring fitting surface free of foreign matter.

(3) Connect the suction hose sub-assembly to the compressor with motor assembly with the bolt.

**Torque:**

**9.8 N·m {100 kgf·cm, 87 in·lbf}**

(b) for PHEV Model:




(1) Remove the vinyl tape, sufficiently apply compressor oil to a new O-ring and the fitting surface of the compressor with motor assembly.

Compressor Oil:
ND-OIL 11 or equivalent

(2) Install the O-ring to the suction hose sub-assembly.

**NOTICE:**

Keep the O-ring and O-ring fitting surface free of foreign matter.

(3) Connect the suction hose sub-assembly to the compressor with motor assembly with the bolt.

**Torque:**

**9.8 N·m {100 kgf·cm, 87 in·lbf}**

## 5. INSTALL NO. 1 ENGINE UNDER COVER ASSEMBLY

Click here INFO

## 6. INSTALL INLET NO. 1 AIR CLEANER

Click here INFO

### 7. INSTALL RADIATOR SUPPORT OPENING COVER

### 8. INSTALL SERVICE PLUG GRIP

(a) for HEV Model:

Click here INFO

(b) for PHEV Model:

Click here INFO

### 9. CHARGE AIR CONDITIONING SYSTEM WITH REFRIGERANT

(a) for HFC-134a (R134a):

Click here INFO

(b) for HFO-1234yf (R1234yf):

Click here INFO

### 10. WARM UP COMPRESSOR

(a) for HFC-134a (R134a):

Click here INFO

(b) for HFO-1234yf (R1234yf):

Click here INFO

### 11. INSPECT FOR REFRIGERANT LEAK

(a) for HFC-134a (R134a):

Click here INFO

(b) for HFO-1234yf (R1234yf):

Click here INFO