SECTION HA

HEATER & AIR CONDITIONING SYSTEM

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PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000004205474

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

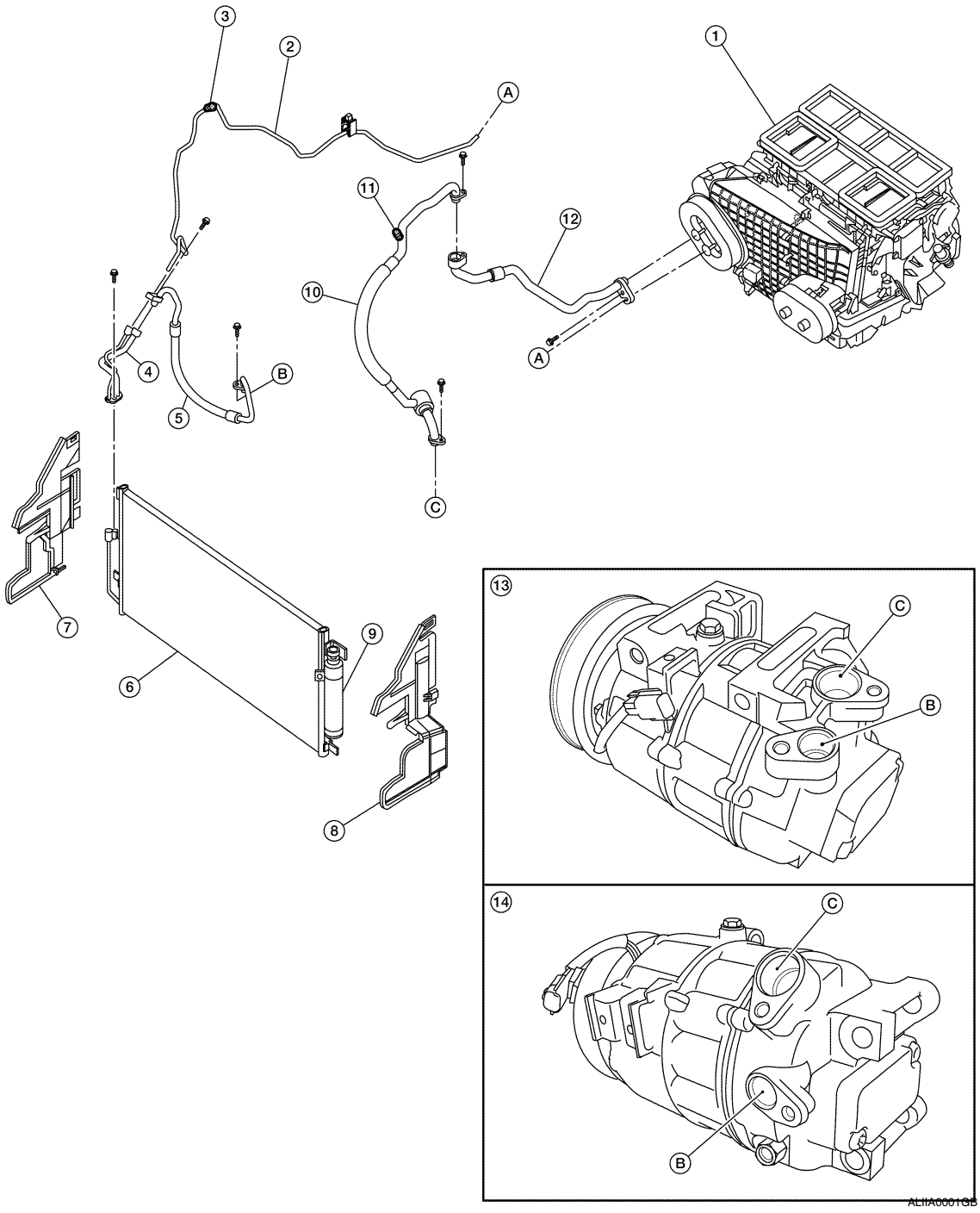
WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would**

Component Part Location

INFOID:0000000004205490

SEC. 270 • 272 • 275 • 276 • 278



1. Heater and cooling unit assembly
2. High-pressure pipe
3. High-pressure A/C service valve
4. Junction pipe
5. High-pressure flexible hose
6. Condenser and liquid tank
7. Air deflector RH (QR25DE shown, VQ35DE similar)
8. Air deflector LH (QR25DE shown, VQ35DE similar)
9. Refrigerant pressure sensor
10. Low-pressure flexible hose
11. Low-pressure A/C service valve
12. Low-pressure pipe

13. Compreesor (QR25DE)
14. Compressor (VQ35DE)
A. High-pressure pipe to heater and cooling unit assembly
B. high-pressure flexible hose to compressor
C. low-pressure flexible hose to compressor

ON-VEHICLE MAINTENANCE

OIL

Maintenance of Oil Quantity in Compressor

INFOID:0000000004205492

The oil in the compressor circulates through the system with the refrigerant. Add oil to compressor when replacing any component or after a large refrigerant leakage has occurred. It is important to maintain the specified amount.
If oil quantity is not maintained properly, the following malfunctions may result:
- Lack of oil: May lead to a seized compressor
- Excessive oil: Inadequate cooling (thermal exchange interference)

OIL
- Oil type: NISSAN A/C System Oil Type S or equivalent

CHECKING AND ADJUSTING

CAUTION:

If excessive oil leakage is noted, do not perform the oil return operation.

Start the engine and set the following conditions:

Test Condition
- **Engine speed: Idling to 1,200 rpm**
- **A/C switch: On**
- **Blower fan speed: Max. position**
- **Temperature control: Optional [Set so that intake air temperature is 25° to 30° C (77° to 86°F).]**
- **Intake position: Recirculation ( )**
- **Perform oil return operation for about ten minutes**

Adjust the oil quantity according to the following table.

Oil Adjusting Procedure for Components Replacement Except Compressor

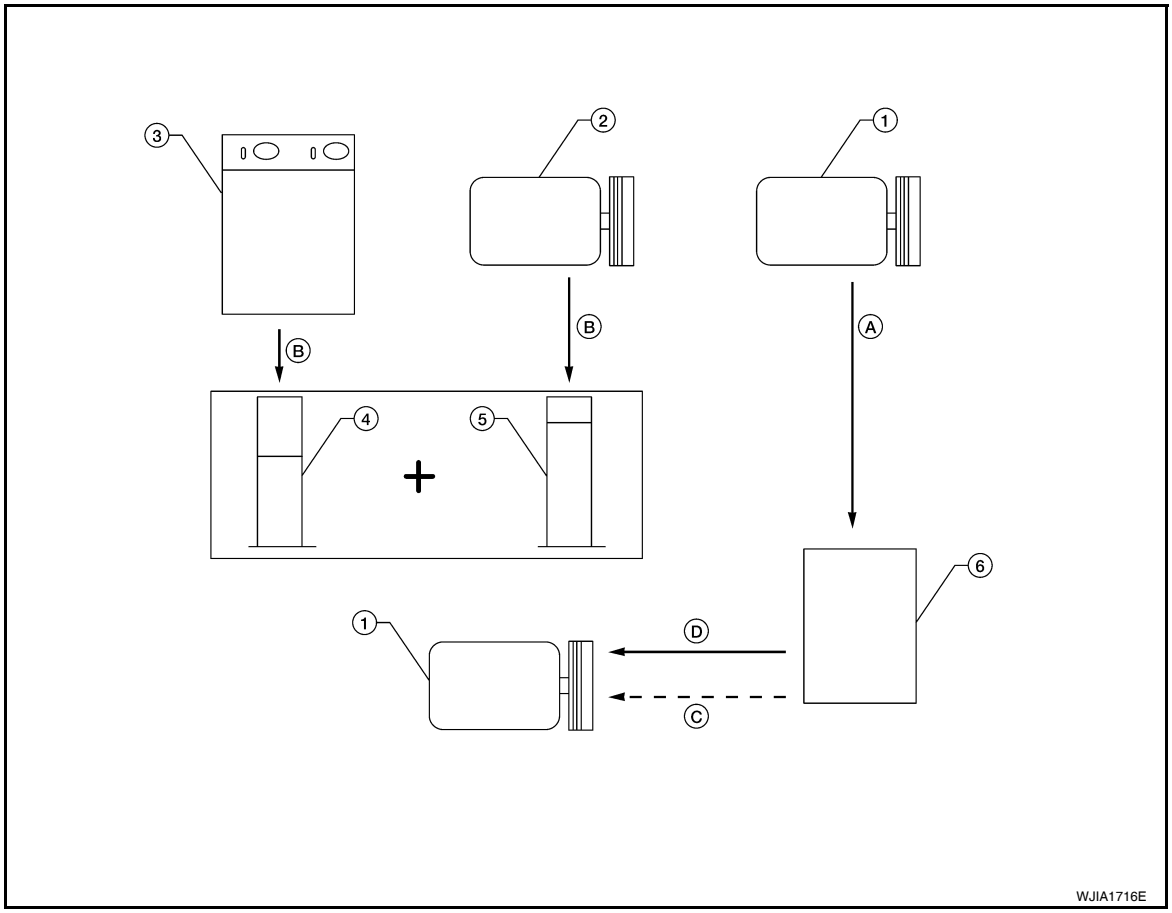
After replacing any of the following major components, add the correct amount of oil to the system.

Amount of Oil to be Added

Part replaced	Oil to be added to system	Remarks
	Amount of oil m ℓ (US fl oz, Imp fl oz)	
Evaporator	75 (2.5, 2.6)	—
Condenser	75 (2.5, 2.6)	—
Liquid tank	5 (0.2, 0.2)	Add if compressor is not replaced.
In case of refrigerant leak	30 (1.0, 1.1)	Large leak
	—	Small leak *1

- *1: If refrigerant leak is small, no addition of oil is needed.

Oil Adjustment Procedure for Compressor Replacement



1. New compressor
2. Old compressor
3. Recovery/recycling equipment
4. Measuring cup X
5. Measuring cup Y
6. New oil
A. Drain oil from the new compressor into clean container
B. Record amount of oil recovered
C. Add an additional 5 m ℓ (0.2 US fl oz, 0.2 Imp fl oz) of new oil when replacing liquid tank
D. Install new oil equal to recorded amounts in measuring cups X plus Y

1. Before connecting recovery/recycling equipment to vehicle, check recovery/recycling equipment gauges. No refrigerant pressure should be displayed. If NG, recover refrigerant from equipment lines.
2. Connect recovery/recycling equipment to vehicle. Confirm refrigerant purity in supply tank using recovery/recycling equipment and refrigerant identifier. If NG, refer to HA-4, "Contaminated Refrigerant".
3. Confirm refrigerant purity in vehicle A/C system using recovery/recycling equipment and refrigerant identifier. If NG, refer to HA-4, "Contaminated Refrigerant".
4. Discharge refrigerant into the refrigerant recovery/recycling equipment. Measure oil discharged into the recovery/recycling equipment.
5. Drain the oil from the “old” (removed) compressor into a graduated container and recover the amount of oil drained.
6. Drain the oil from the “new” compressor into a separate, clean container.
7. Measure an amount of new oil installed equal to amount drained from “old” compressor. Add this oil to “new” compressor through the suction port opening.
8. Measure an amount of new oil equal to the amount recovered during discharging. Add this oil to “new” compressor through the suction port opening.
9. If the liquid tank also needs to be replaced, add an additional 5 m ℓ (0.2 US fl oz, 0.2 Imp fl oz) of oil at this time.
   CAUTION:

Do not add the 5 mℓ (0.2 US fl oz, 0.2 Imp fl oz) of oil if only replacing the compressor and not the liquid tank.

REFRIGERATION SYSTEM

HFC-134a (R-134a) Service Procedure

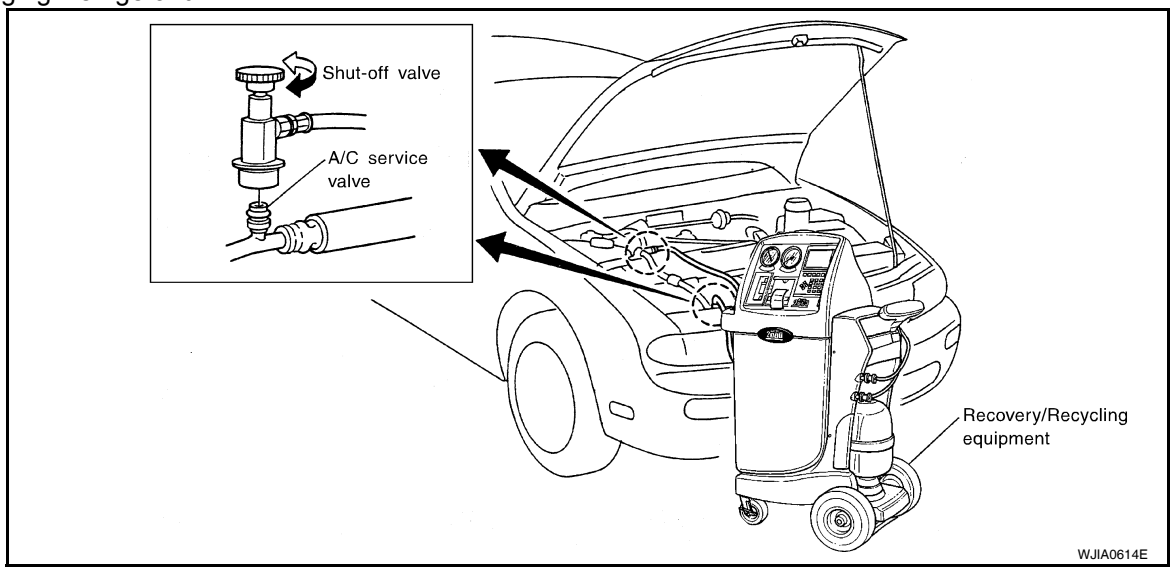
INFOID:0000000004205493

SETTING OF SERVICE TOOLS AND EQUIPMENT

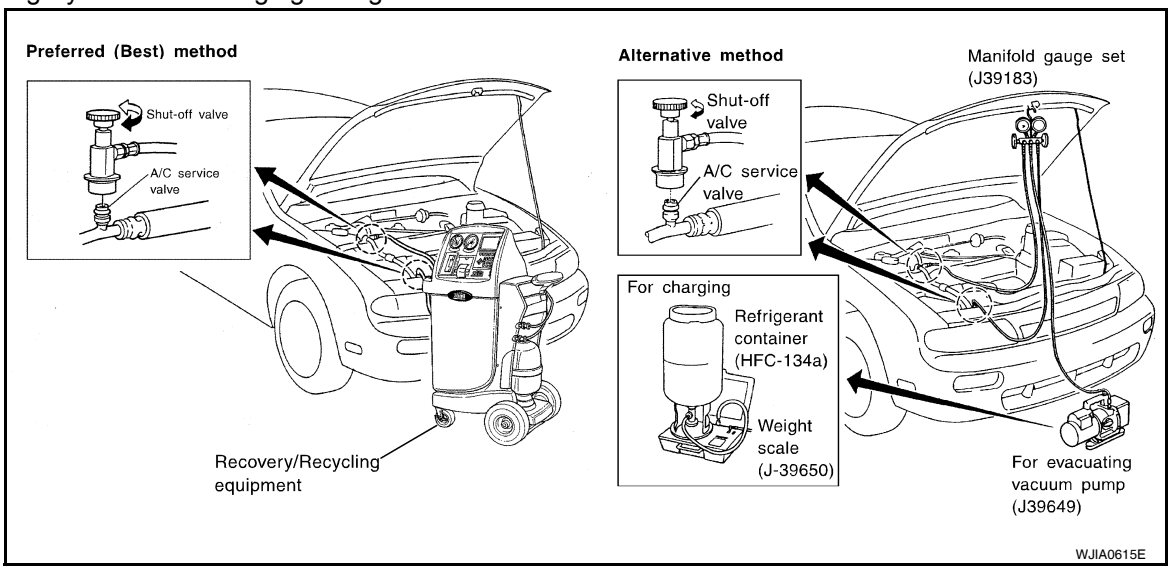
WARNING:

Avoid breathing the A/C refrigerant and oil vapor or mist. Exposure may irritate eyes, nose, and throat. Remove the HFC-134a (R-134a) from the A/C system using certified service equipment meeting the requirements of SAE J2210 (R-134a recycling equipment) or SAE J2201 (R-134a recovery equipment). If an accidental system discharge occurs, ventilate the work area before resuming service. Additional health and safety information may be obtained from the refrigerant and oil manufacturers.

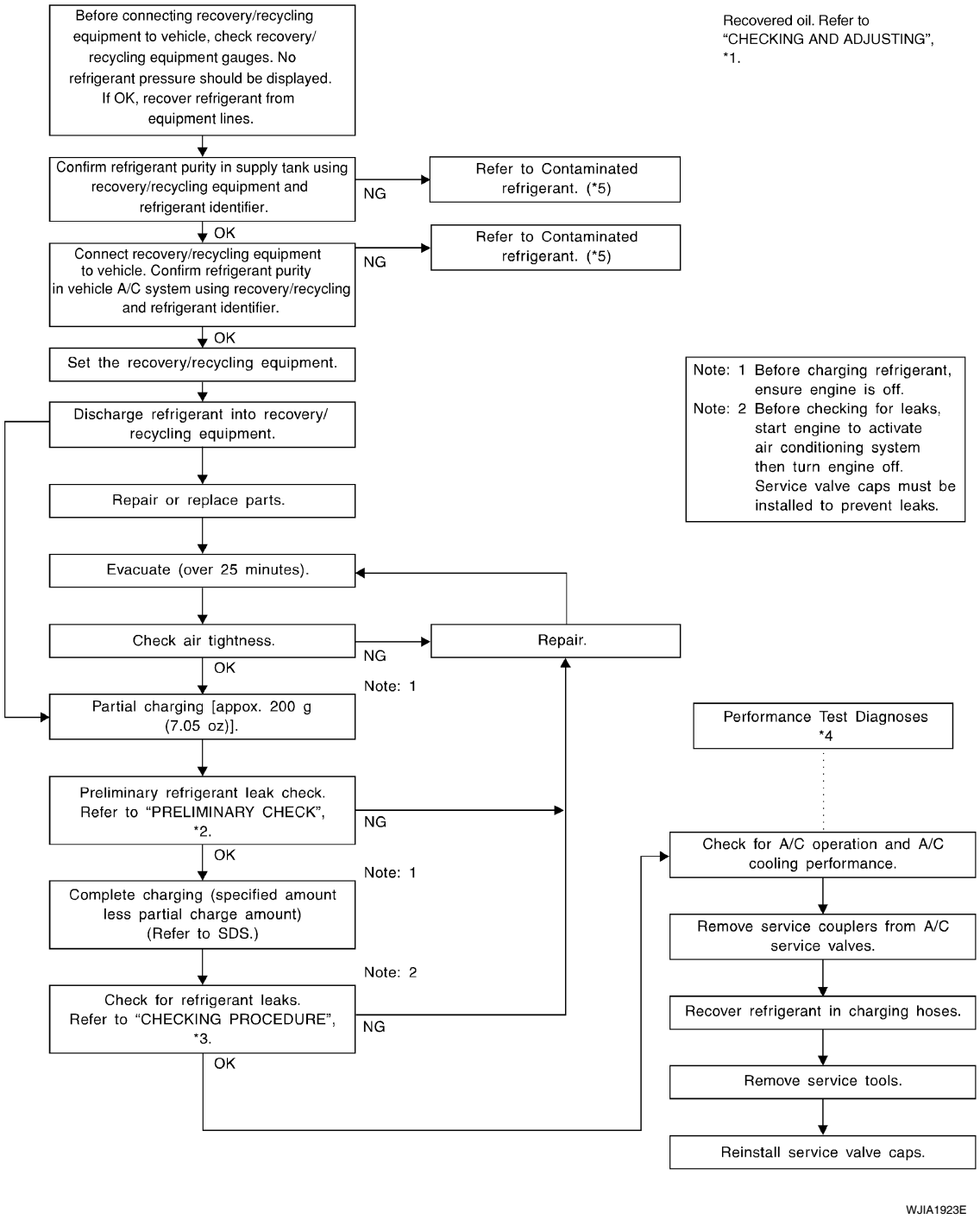
Discharging Refrigerant



Evacuating System and Charging Refrigerant



Discharging, Evacuating, and Recharging the A/C System



*1 HA-21, "Maintenance of Oil Quantity in Compressor"
*2 HA-25, "Checking of Refrigerant Leaks"
*3 HA-25, "Checking of Refrigerant Leaks"
*4 HAC-5, "Operational Check"
*5 HA-4, "Contaminated Refrigerant"

Checking of Refrigerant Leaks

INFOID:0000000004205494

Perform a visual inspection of all refrigeration parts, fittings, hoses and components for signs of A/C oil leakage, damage and corrosion. A/C oil leakage may indicate an area of refrigerant leakage. Allow extra inspection time in these areas when using either an electronic refrigerant leak detector or fluorescent dye leak detector.

If dye is observed, confirm the leak with an electronic refrigerant leak detector. It is possible a prior leak was repaired and not properly cleaned.
When searching for leaks, do not stop when one leak is found but continue to check for additional leaks at all system components and connections.
When searching for refrigerant leaks using an electronic leak detector, move the probe along the suspected leak area at 25 - 50 mm (1 - 2 in) per second and no further than 6 mm (1/4 in) from the component.

CAUTION:

Moving the electronic leak detector probe slower and closer to the suspected leak area will improve the chances of finding a leak.

FLUORESCENT LEAK DETECTOR

Checking System for Leaks Using the Fluorescent Leak Detector

INFOID:0000000004205495

1. Check A/C system for leaks using the UV lamp and safety goggles (J-42220) in a low sunlight area (area without windows preferable). Illuminate all components, fittings and lines. The dye will appear as a bright green/yellow area at the point of leakage. Fluorescent dye observed at the evaporator drain opening indicates an evaporator core assembly (tubes, core or TXV) leak.
2. If the suspected area is difficult to see, use an adjustable mirror or wipe the area with a clean shop rag or cloth, with the UV lamp for dye residue.
3. After the leak is repaired, remove any residual dye using refrigerant dye cleaner (J-43872) to prevent future misdiagnosis.
4. Perform a system performance check and verify the leak repair with an approved electronic refrigerant leak detector.

NOTE:
Other gases in the work area or substances on the A/C components, for example, anti-freeze, windshield washer fluid, solvents and oils, may falsely trigger the leak detector. Make sure the surfaces to be checked are clean.
Clean with a dry cloth or blow off with shop air.
Do not allow the sensor tip of the detector to contact with any substance. This can also cause false readings and may damage the detector.

Dye Injection

INFOID:0000000004205496

NOTE:
This procedure is only necessary when recharging the A/C system or when the compressor has seized and has been replaced.

1. Check the A/C system static (at rest) pressure. Pressure must be at least 345 kPa (3.52 kg/cm^2, 50 psi).
2. Pour one bottle (1/4 ounce / 7.4 cc) of the A/C refrigerant dye into the injector tool (J-41459).
   CAUTION:
   If repairing the A/C system or replacing a component, pour the dye directly into the open system connection and proceed with the service procedures.
3. Connect the injector tool to the A/C LOW PRESSURE side service valve.
4. Start the engine and switch the A/C ON and fan ON.
5. While the A/C is operating (compressor running), inject one bottle (1/4 ounce / 7.4 cc) of fluorescent dye through the low-pressure service valve using dye injector tool (J-41459), refer to the manufacturer's operating instructions.
6. With the engine still running, disconnect the injector tool from the low-pressure service valve.
7. Operate the A/C system for a minimum of 20 minutes to mix the dye with the system oil. Depending on the leak size, operating conditions and location of the leak, it may take from a few minutes to a few days for the dye to penetrate the leak and become visible.

ELECTRICAL LEAK DETECTOR

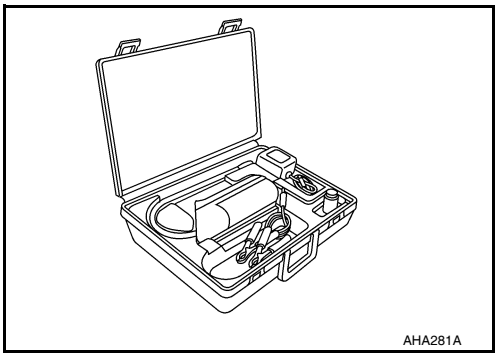
Electronic Refrigerant Leak Detector

INFOID:0000000004205497

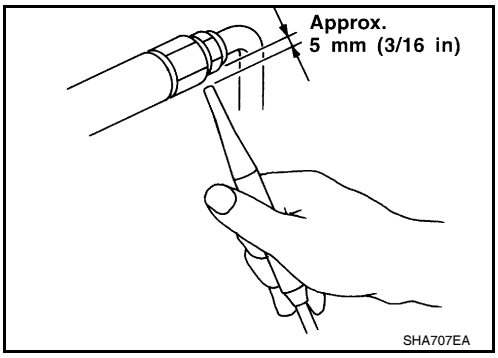
PRECAUTIONS FOR HANDLING THE LEAK DETECTOR

When performing a refrigerant leak check, use a electronic refrigerant leak detector (J-41995) or equivalent. Ensure that the instrument is calibrated and set properly per the manufacturer's operating instructions.

The leak detector is a delicate device. In order to use the leak detector properly, read the manufacturer's operating instructions and perform any specified maintenance.

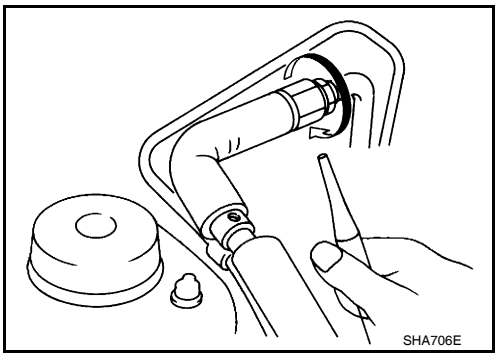

AHA281A

1. Position the leak detector probe approximately 5 mm (3/16 in) away from the point to be checked.



SHA707EA

2. When testing, circle each fitting completely with the leak detector probe.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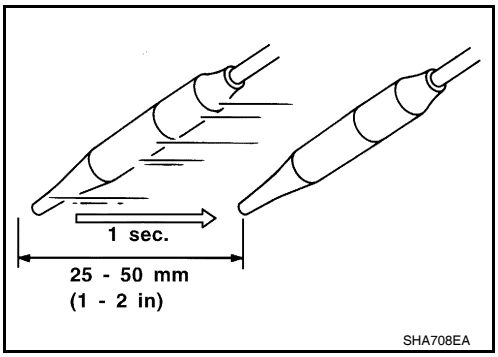
3. Move the leak detector probe along the component at approximately 25 to 50 mm (1 to 2 in)/sec.



SHA708EA

CHECKING PROCEDURE

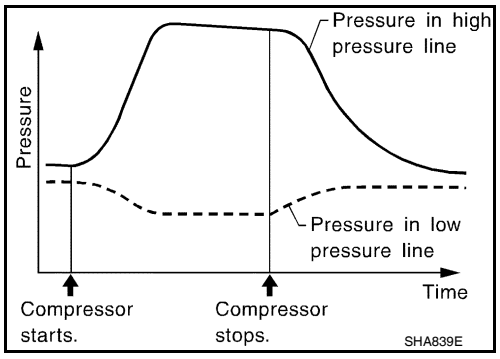
NOTE:

To prevent inaccurate or false readings, make sure there is no refrigerant vapor, shop chemicals, or cigarette smoke in the vicinity of the vehicle. Perform the leak test in a calm area (low air/wind movement) so that the leaking refrigerant is not dispersed.

1. Turn engine OFF.
2. Connect a suitable A/C manifold gauge set to the A/C service ports.
3. Check if the A/C refrigerant pressure is at least 345 kPa (3.52 kg/cm^2, 50 psi) above 16°C (61°F). If less than specification, recover/evacuate and recharge the system with the specified amount of refrigerant.
   NOTE:
   At temperatures below 16°C (61°F), leaks may not be detected since the system may not reach 345 kPa (3.52 kg/cm^2, 50 psi) pressure.
4. Conduct the leak test from the high side (compressor discharge to evaporator inlet) to the low side (evaporator drain hose to the compressor shaft seal). Refer to HA-31, "Component". Clean the component to be checked and move the leak detector probe completely around the connection/component.
   Perform a leak check for the following areas:
   • Compressor
   • High and low-pressure hose fittings, relief valve and shaft seal.
   • Liquid tank
   • Refrigerant pressure sensor
   • Service valves
   - Check that all the service valve caps are secure on the service valves (to prevent leaks).
   - After removing A/C manifold gauge set from service valves, wipe any residue from the valves to prevent any false readings by the leak detector.
   • Evaporator
   - With engine OFF, turn blower fan on high speed for at least 15 seconds to dissipate any refrigerant trace around the evaporator. Wait a minimum of 10 minutes accumulation time (refer to the manufacturer's recommended procedure for actual wait time) before inserting the leak detector probe into the drain hose.
   - Keep the probe inserted for at least 10 seconds. Use caution not to contaminate the probe tip with water or dirt that may be in the drain hose.
5. If a leak detector detects a leak, verify at least once by blowing compressed air into area of suspected leak, then repeat check as outlined above.
6. Do not stop when one leak is found. Continue to check for additional leaks at all system components.
   If no leaks are found, perform steps 7 - 10.
7. Start engine.
8. Set the front air control as follows;

a. A/C switch: ON
b. Mode: Vent
c. Intake position: Recirculation
d. Temperature: MAX cold
e. Blower fan speed: High

9. Run engine at 1,500 rpm for at least 2 minutes.
10. Turn engine off and perform leak check again following steps 4 through 6 above.
    Refrigerant leaks should be checked immediately after stopping the engine. Begin with the leak detector at the compressor. The pressure on the high pressure side will gradually drop after refrigerant circulation stops and pressure on the low pressure side will gradually rise, as shown in the graph. Some leaks are more easily detected when pressure is high.



11. Before connecting the recovery/recycling equipment to the A/C system, check the recovery/recycling equipment gauges. No refrigerant pressure should be displayed. If pressure is displayed, recover the refrigerant from the equipment lines and then check the refrigerant purity.
12. Confirm the refrigerant purity in the supply tank using the recovery/recycling equipment and the refrigerant identifier equipment.

13. Confirm the refrigerant purity in the A/C system using the recovery/recycling equipment and the refrigerant identifier equipment.
14. Discharge the A/C system using approved refrigerant recovery/recycling equipment. Repair the leaking fitting or component as necessary.
15. Evacuate and recharge the A/C system and perform the leak test to confirm there are no refrigerant leaks.
16. Conduct the A/C performance test to ensure that the system works properly. Refer to HAC-5, "Operational Check".

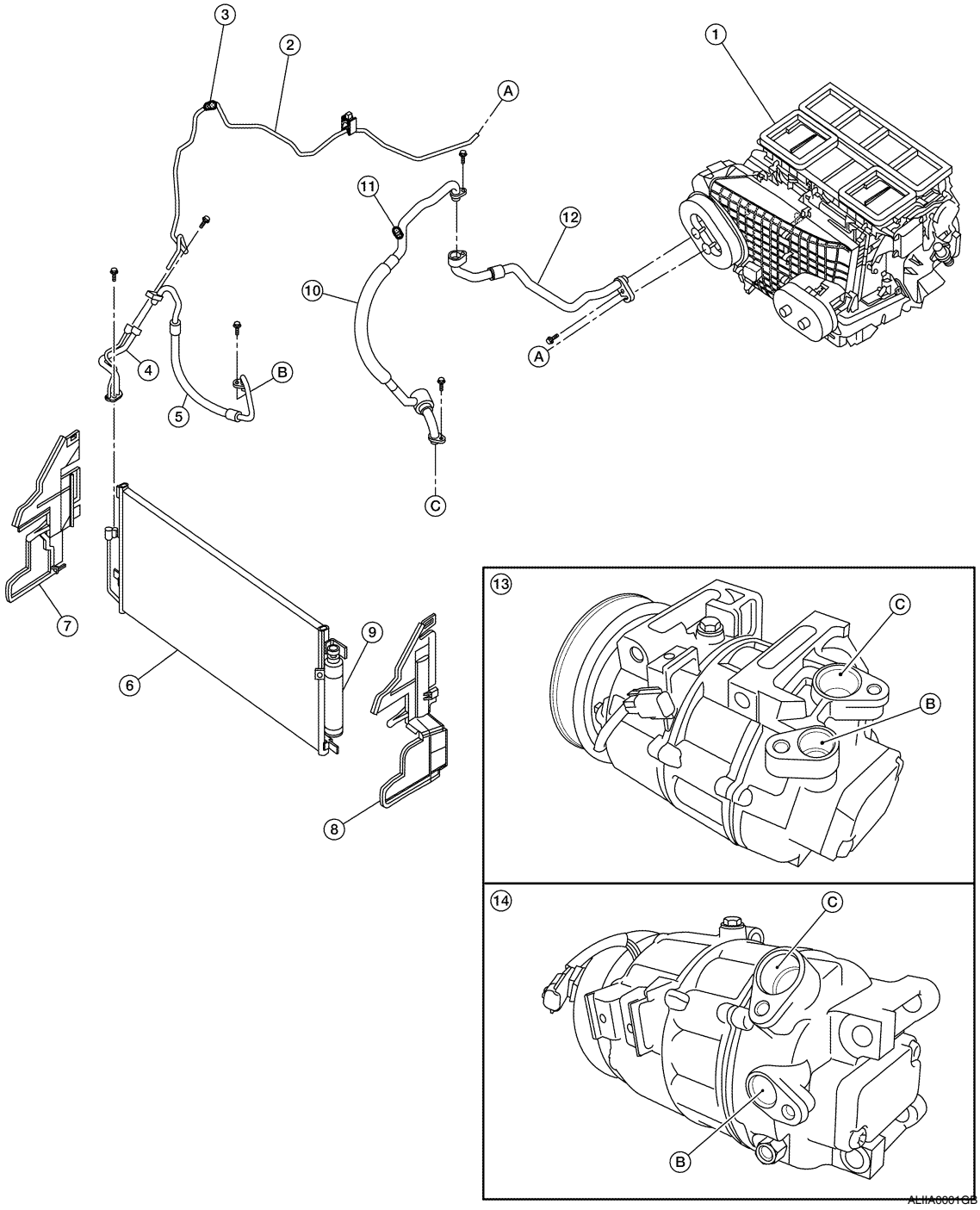
ON-VEHICLE REPAIR

REFRIGERATION SYSTEM

Component

INFOID:0000000004205498

SEC. 270 • 272 • 275 • 276 • 278



1. Heater and cooling unit assembly	2. High-pressure pipe	3. High-pressure A/C service valve
4. Junction pipe	5. High-pressure flexible hose	6. Condenser and liquid tank
7. Air deflector RH (QR25DE shown, VQ35DE similar)	8. Air deflector LH (QR25DE shown, VQ35DE similar)	9. Refrigerant pressure sensor
10. Low-pressure flexible hose	11. Low-pressure A/C service valve	12. Low-pressure pipe
13. Compreesor (QR25DE)	14. Compressor (VQ35DE)	A. High-pressure pipe to heater and cooling unit assembly
B. high-pressure flexible hose to compressor	C. low-pressure flexible hose to compressor	

NOTE:
Refer to HA-5, "Precaution for Refrigerant Connection".

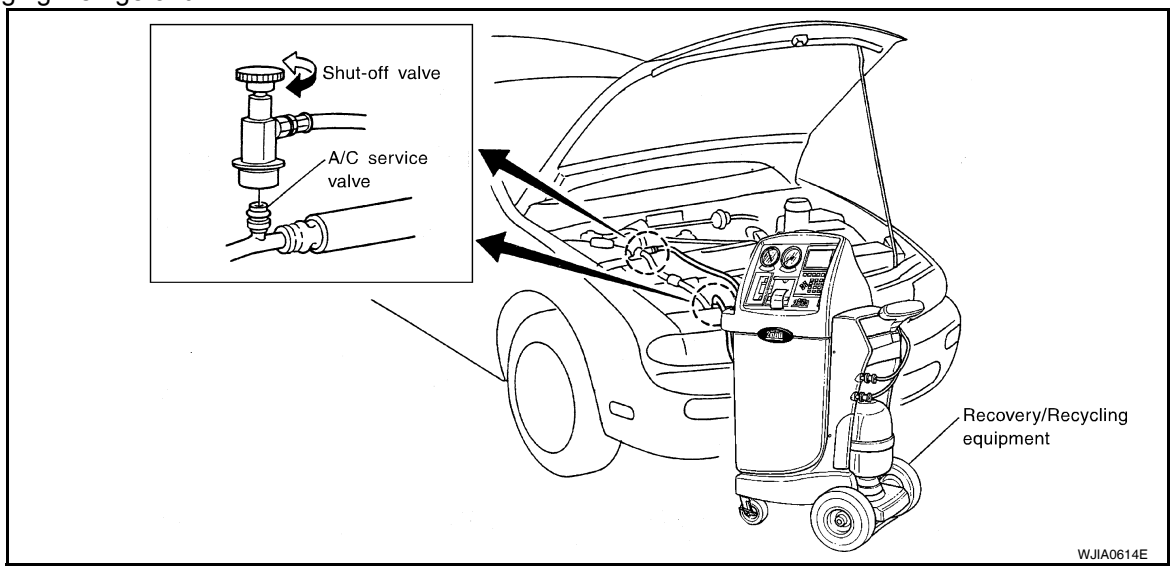
HFC-134a (R-134a) Service Procedure

INFOID:0000000004205499

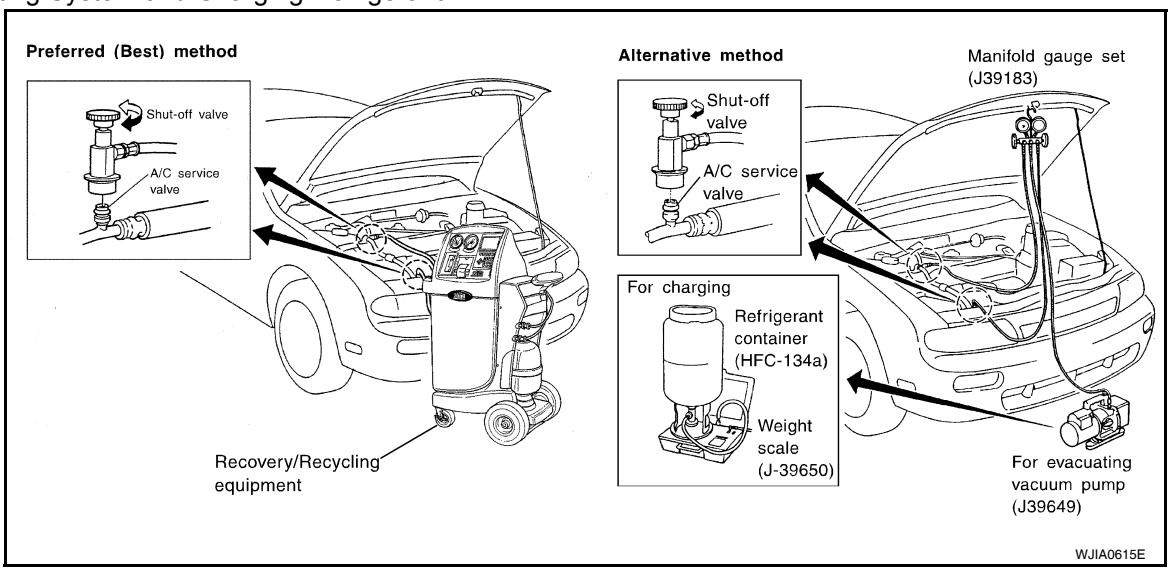
SETTING OF SERVICE TOOLS AND EQUIPMENT

WARNING:
Avoid breathing the A/C refrigerant and oil vapor or mist. Exposure may irritate eyes, nose, and throat. Remove the HFC-134a (R-134a) from the A/C system using certified service equipment meeting the requirements of SAE J2210 (R-134a recycling equipment) or SAE J2201 (R-134a recovery equipment). If an accidental system discharge occurs, ventilate the work area before resuming service. Additional health and safety information may be obtained from the refrigerant and oil manufacturers.

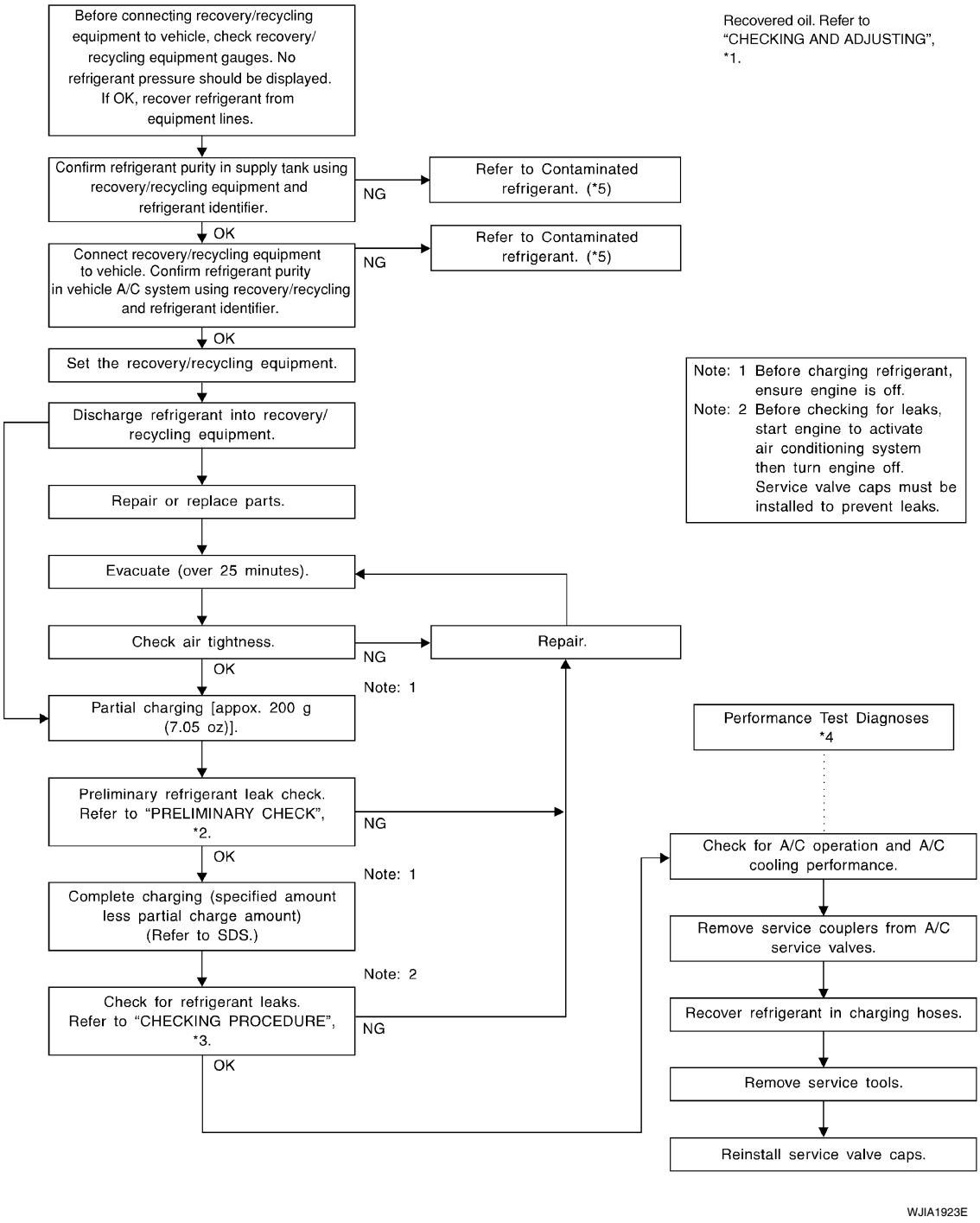
Discharging Refrigerant



Evacuating System and Charging Refrigerant



Discharging, Evacuating, and Recharging the A/C System



*1 HA-21, "Maintenance of Oil Quantity in Compressor"
*2 HA-25, "Checking of Refrigerant Leaks"
*3 HA-25, "Checking of Refrigerant Leaks"
*4 HAC-5, "Operational Check"
*5 HA-4, "Contaminated Refrigerant"

COMPRESSOR

Removal and Installation for Compressor - QR25DE Models

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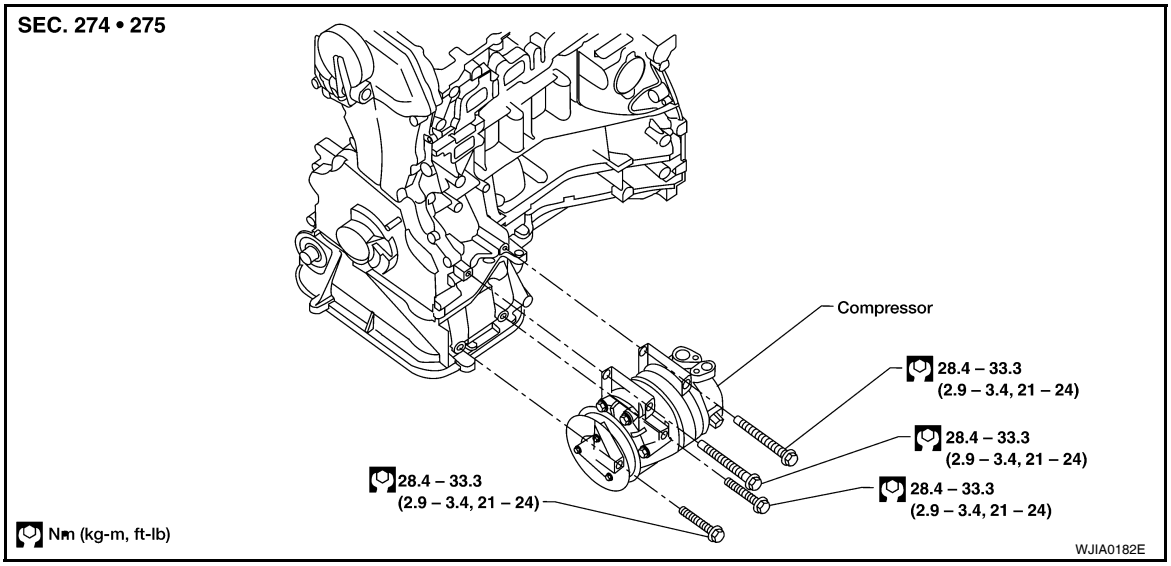


REMOVAL

1. Discharge the refrigerant. Refer to HA-24, "HFC-134a (R-134a) Service Procedure".
2. Remove the drive belt. Refer to EM-16, "Removal and Installation".
3. Remove the engine undercover.
4. Remove the front RH wheel and tire.
5. Remove the side cover from inside the front RH wheel well.
6. Remove the clip and reposition the power steering pipe out of the way.
7. Disconnect the compressor connector.
8. Disconnect the high-pressure flexible hose and low-pressure flexible hose from the compressor.
   CAUTION:
   Cap or wrap the joint of the hose with a suitable material such as vinyl tape to avoid the entry of any contaminants.
9. Remove the compressor bolts, then remove the compressor using power tools.

INSTALLATION

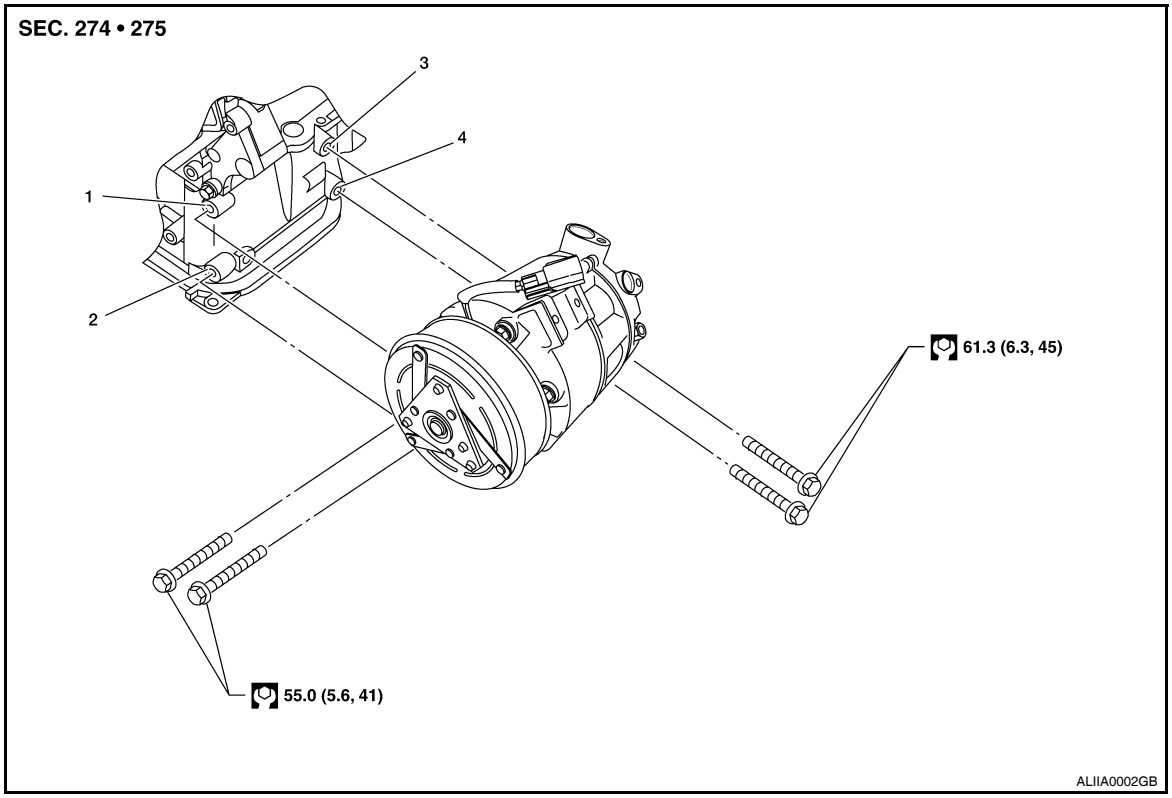
Installation is in the reverse order of removal.

CAUTION:

- **Replace the O-ring of the low-pressure flexible hose and high-pressure flexible hose with new ones, then apply A/C oil to them for installation.**
- **After charging the A/C refrigerant, check for leaks. Refer to HA-25, "Checking of Refrigerant Leaks".**

Removal and Installation for Compressor - VQ35DE Models

INFOID:0000000004205501



CAUTION:
For installation, tighten the compressor bolts in the order as shown.

REMOVAL

1. Discharge the refrigerant. Refer to HA-32, "HFC-134a (R-134a) Service Procedure".
2. Remove the engine cooling fan and shroud assembly. Refer to CO-40, "Removal and Installation".
3. Disconnect the high-pressure flexible hose and low-pressure flexible hose from the compressor.
   CAUTION:
   Cap or wrap the joint of the hose with suitable material such as vinyl tape to avoid the entry of any contaminants.
4. Remove the front RH wheel and tire.
5. Remove the RH engine side undercovers.
6. Disconnect the clamp and reposition the power steering pipe out of the way.
7. Disconnect the compressor connector.
8. Remove the drive belt. Refer to EM-121, "Removal and Installation".
9. Remove the RH compressor bolts..
10. Remove the front compressor bolts using power tool.
11. Disconnect the compressor wire harness clip from the compressor.
12. Remove the compressor.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- **For installation, tighten the compressor bolts in the order as shown.**
- **Replace the O-rings on the low-pressure flexible hose and high-pressure flexible hose with new ones, then apply A/C oil to them for installation.**
- **After charging the A/C refrigerant, check for leaks. Refer to HA-25, "Checking of Refrigerant Leaks".**

LOW-PRESSURE FLEXIBLE HOSE

Removal and Installation for Low-Pressure Flexible Hose

INFOID:0000000004205503

QR25DE

Removal

1. Discharge the refrigerant. Refer to HA-32, "HFC-134a (R-134a) Service Procedure".
2. Remove the low-pressure flexible hose. Refer to HA-31, "Component".
   CAUTION:
   Cap or wrap the joint of the hose with a suitable material such as vinyl tape to avoid the entry of contaminants.

Installation

Installation is in the reverse order of removal.

CAUTION:

- **Replace the O-ring on the low-pressure flexible hose with a new one, then apply A/C oil to it for installation.**
- **After recharging the refrigerant, check for leaks. Refer to HA-25, "Checking of Refrigerant Leaks".**

VQ35DE

Removal

1. Discharge the refrigerant. Refer to HA-32, "HFC-134a (R-134a) Service Procedure".
2. Remove the engine cooling fan and shroud assembly. Refer to CO-40, "Removal and Installation".
3. Remove the low-pressure flexible hose. Refer to HA-31, "Component".
   CAUTION:
   Cap or wrap the joint of the hose with a suitable material such as vinyl tape to avoid the entry of contaminants.

Installation

Installation is in the reverse order of removal.

CAUTION:

- **Replace the O-ring on the low-pressure flexible hose with a new one, then apply A/C oil to it for installation.**
- **After recharging the refrigerant, check for leaks. Refer to HA-25, "Checking of Refrigerant Leaks".**

LOW-PRESSURE PIPE

Removal and Installation for Low-Pressure Pipe

INFOID:0000000004205504

QR25DE

Removal

1. Discharge the refrigerant. Refer to HA-24, "HFC-134a (R-134a) Service Procedure".
2. Remove the strut tower bar. Refer to FSU-12, "Exploded View".
3. Remove the upper cowl. Refer to EXT-18, "Removal and Installation".
4. Remove the lower RH cowl.
5. Remove the low-pressure pipe. Refer to HA-31, "Component".
   CAUTION:
   Cap or wrap the joint of the pipe with a suitable material such as vinyl tape to avoid the entry of contaminants.

Installation

Installation is in the reverse order of removal.

CAUTION:

- **Replace the O-ring on the low-pressure pipe with a new one, then apply A/C oil to it for installation.**
- **After recharging the refrigerant, check for leaks. Refer to HA-25, "Checking of Refrigerant Leaks".**

VQ35DE

Removal

1. Discharge the refrigerant. Refer to HA-24, "HFC-134a (R-134a) Service Procedure".
2. Remove the strut tower bar. Refer to FSU-12, "Exploded View".
3. Remove the upper cowl. Refer to EXT-18, "Removal and Installation".
4. Remove the lower RH cowl.
5. Disconnect the power steering hose clamp to reposition the power steering hose out of the way.
6. Disconnect the harness bracket from the engine cover.
7. Remove the low-pressure pipe. Refer to HA-31, "Component".
   CAUTION:
   Cap or wrap the joint of the pipe with a suitable material such as vinyl tape to avoid the entry of contaminants.

Installation

Installation is in the reverse order of removal.

CAUTION:

- **Replace the O-ring on the low-pressure pipe with a new one, then apply A/C oil to it for installation.**
- **After recharging the refrigerant, check for leaks. Refer to HA-25, "Checking of Refrigerant Leaks".**

HIGH-PRESSURE FLEXIBLE HOSE

Removal and Installation for High-Pressure Flexible Hose

INFOID:0000000004205505

QR25DE

Removal

1. Discharge the refrigerant. Refer to HA-32, "HFC-134a (R-134a) Service Procedure".
2. Reposition the power steering reservoir out of the way without disconnecting the hose.
3. Reposition the engine coolant reservoir out of the way without disconnecting the hose.
4. Remove the high-pressure flexible hose. Refer to HA-31, "Component".
   CAUTION:
   Cap or wrap the joint of the hose with a suitable material such as vinyl tape to avoid the entry of contaminants.

Installation

Installation is in the reverse order of removal.

CAUTION:

- **Replace the O-ring of the high-pressure flexible hose with a new one, then apply A/C oil to it for installation.**
- **After charging the refrigerant, check for leaks. Refer to HA-25, "Checking of Refrigerant Leaks".**

VQ35DE

Removal

1. Discharge the refrigerant. Refer to HA-32, "HFC-134a (R-134a) Service Procedure".
2. Remove the engine cooling fan and shroud assembly. Refer to CO-40, "Removal and Installation".
3. Reposition the power steering reservoir out of the way without disconnecting the hose.
4. Reposition the engine coolant reservoir out of the way without disconnecting the hose.
5. Remove the high-pressure flexible hose. Refer to HA-31, "Component".
   CAUTION:
   Cap or wrap the joint of the hose with a suitable material such as vinyl tape to avoid the entry of contaminants.

Installation

Installation is in the reverse order of removal.

CAUTION:

- **Replace the O-ring of the high-pressure flexible hose with a new one, then apply A/C oil to it for installation.**
- **After charging the refrigerant, check for leaks. Refer to HA-25, "Checking of Refrigerant Leaks".**

HIGH-PRESSURE PIPE

Removal and Installation for High-Pressure Pipe

INFOID:0000000004205506

QR25DE

Removal

1. Discharge the refrigerant. Refer to HA-24, "HFC-134a (R-134a) Service Procedure".
2. Remove the strut tower bar. Refer to FSU-12, "Exploded View".
3. Remove the upper cowl. Refer to EXT-18, "Removal and Installation".
4. Remove the lower RH cowl.
5. Reposition the power steering reservoir out of the way without disconnecting the hose.
6. Reposition the engine coolant reservoir out of the way without disconnecting the hose.
7. Remove the high-pressure pipe. Refer to HA-31, "Component".
   CAUTION:
   Cap or wrap the joint of the pipe with suitable material such as vinyl tape to avoid the entry of air.

Installation

Installation is in the reverse order of removal.

CAUTION:

- **Replace the O-ring of the high-pressure pipe with a new one, then apply compressor oil to it when installing it.**
- **After charging the refrigerant, check for leaks. Refer to HA-25, "Checking of Refrigerant Leaks".**

VQ35DE

Removal

1. Discharge the refrigerant. Refer to HA-24, "HFC-134a (R-134a) Service Procedure".
2. Remove the strut tower bar. Refer to FSU-12, "Exploded View".
3. Remove the upper cowl. Refer to EXT-18, "Removal and Installation".
4. Remove the lower RH cowl.
5. Disconnect the power steering hose clamp to reposition the power steering hose out of the way.
6. Reposition the power steering reservoir out of the way without disconnecting the hose.
7. Reposition the engine coolant reservoir out of the way without disconnecting the hose.
8. Remove the high-pressure pipe. Refer to HA-31, "Component".
   CAUTION:
   Cap or wrap the joint of the pipe with suitable material such as vinyl tape to avoid the entry of air.

Installation

Installation is in the reverse order of removal.

CAUTION:

- **Replace the O-ring of the high-pressure pipe with a new one, then apply compressor oil to it when installing it.**
- **After charging the refrigerant, check for leaks. Refer to HA-25, "Checking of Refrigerant Leaks".**

Removal and Installation for Junction Pipe

INFOID:0000000004205507

REMOVAL

1. Discharge the refrigerant. Refer to HA-24, "HFC-134a (R-134a) Service Procedure".
2. Remove the front grille. Refer to EXT-17, "Removal and Installation".
3. Remove the junction pipe. Refer to HA-31, "Component".
   CAUTION:
   Cap or wrap the joint of the pipe with suitable material such as vinyl tape to avoid the entry of air.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- **Replace the O-ring of the junction pipe with a new one, then apply compressor oil to it when installing it.**
- **After charging the refrigerant, check for leaks. Refer to HA-25, "Checking of Refrigerant Leaks".**

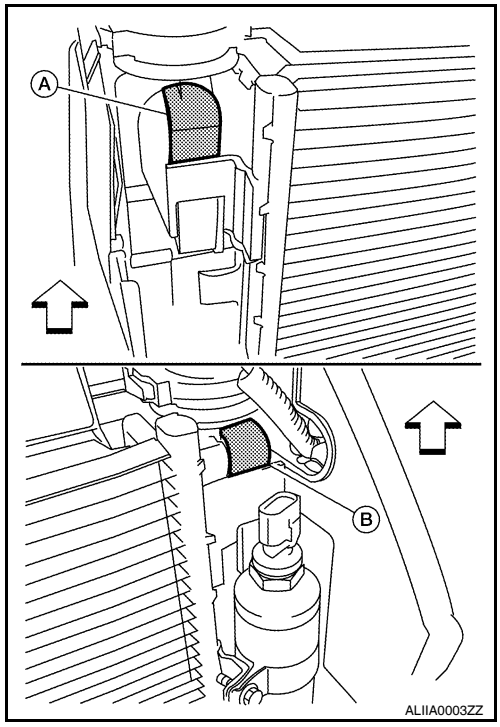
CONDENSER

Removal and Installation for Condenser

INFOID:0000000004205508

REMOVAL

1. Discharge the refrigerant. Refer to HA-32, "HFC-134a (R-134a) Service Procedure".
2. Remove the front fascia (coupe only). Refer to EXT-17, "Removal and Installation".
3. Remove the front grille (sedan only). Refer to EXT-38, "Removal and Installation".
4. Remove the junction pipe. Refer to HA-40, "Removal and Installation for Junction Pipe".
   CAUTION:
   Cap or wrap the joint of the pipe with suitable material such as vinyl tape to avoid the entry of contaminants.
5. Disconnect the refrigerant pressure sensor connector.
6. Depress the top RH clip (A) and the top LH clip (B) to release the top condenser brackets as shown.
7. Slide the condenser up to release the condenser from the clips as shown.



8. Remove the condenser.
   CAUTION:
   Do not damage the condenser fins

INSTALLATION

Installation is in the reverse order of removal.
Refer to HA-31, "Component".

CAUTION:

- **Do not damage the condenser fins.**
- **Replace the O-rings of the junction pipe and refrigerant pressure sensor with new ones, then apply A/C oil to them after installing them.**
- **When charging refrigerant, check for leaks. Refer to HA-25, "Checking of Refrigerant Leaks".**

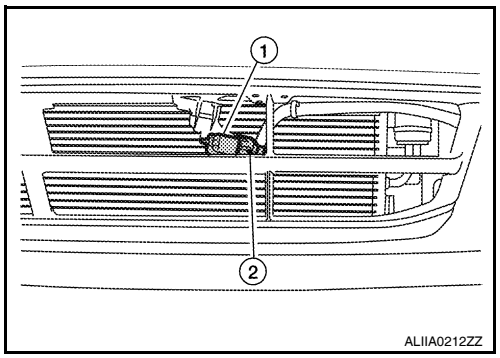
AMBIENT SENSOR

Removal and Installation

INFOID:0000000004205509

REMOVAL

1. From under the vehicle, disconnect the ambient sensor connector (2).
2. Release the ambient sensor clip and remove the ambient sensor (1).



INSTALLATION

Installation is in the reverse order of removal.

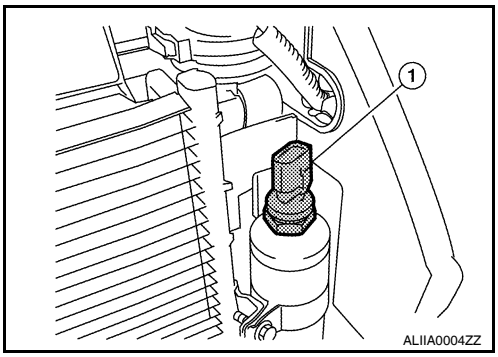
REFRIGERANT PRESSURE SENSOR

Removal and Installation for Refrigerant Pressure Sensor

INFOID:0000000004205510

REMOVAL

1. Discharge the refrigerant. Refer to HA-32, "HFC-134a (R-134a) Service Procedure".
2. Remove the front grille. Refer to EXT-17, "Removal and Installation".
3. Disconnect the refrigerant pressure sensor connector and remove the refrigerant pressure sensor (1) from the liquid tank on the condenser.
   CAUTION:
   Do not damage the condenser fins.



INSTALLATION

Installation is in the reverse order of removal.
Refer to HA-31, "Component".

CAUTION:
Replace the O-ring of the refrigerant pressure sensor with a new one, then apply compressor oil to it when installing it.

EXPANSION VALVE

Removal and Installation for Expansion Valve

INFOID:0000000004205511

REMOVAL

1. Discharge the refrigerant. Refer to HA-32, "HFC-134a (R-134a) Service Procedure".
2. Remove the strut tower bar. Refer to FSU-12, "Exploded View".
3. Remove the upper cowl. Refer to EXT-18, "Removal and Installation".
4. Remove the lower RH cowl.
5. Reposition the power steering reservoir aside without disconnecting the power steering hose.
6. Disconnect the A/C pipes from the expansion valve. Refer to HA-31, "Component".
   CAUTION:
   Cap or wrap the joint of the pipe with suitable material such as vinyl tape to avoid the entry of air.
7. Remove the expansion valve.

INSTALLATION

Installation is in the reverse order of removal.

Expansion valve mounting bolts : 2.9 - 5.0 N·m (0.29 - 0.51 kg-m, 26 - 44 in-lb)

CAUTION:

- **Replace the O-rings with new ones, then apply compressor oil to them when installing them.**

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Service Data and Specification (SDS)

INFOID:0000000004205512

COMPRESSOR

Model	VALEO
Type	DCS-171C
Displacement	171 cm^3 (10.43 in^3) / revolution
Cylinder bore × stroke	30.5 mm (1.201 in) x 21.4 mm (0.84 in)
Direction of rotation	Clockwise (viewed from drive end)
Drive belt	Poly V 6-grooves

OIL

Name		NISSAN A/C System Oil Type S or equivalent
Capacity	Total in system	150 m ℓ (5.03 US fl oz, 5.3 Imp fl oz)
	Compressor (service part) charging amount	Refer to HA-21, "Maintenance of Oil Quantity in Compressor".

REFRIGERANT

Type	HFC-134a (R-134a)
Capacity	0.50 ± 0.025 kg (1.10 ± 0.055 lb)