

INCH TO METRIC CONVERSION TABLE

(Rounded-off for automotive use)

inches	mm	inches	mm
.100	2.54	.610	15.49
.110	2.79	.620	15.75
.120	3.05	.630	16.00
.130	3.30	.640	16.26
.140	3.56	.650	16.51
.150	3.81	.660	16.76
.160	4.06	.670	17.02
.170	4.32	.680	17.27
.180	4.57	.690	17.53
.190	4.83	.700	17.78
.200	5.08	.710	18.03
.210	5.33	.720	18.29
.220	5.59	.730	18.54
.230	5.84	.740	18.80
.240	6.10	.750	19.05
.250	6.35	.760	19.30
.260	6.60	.770	19.56
.270	6.86	.780	19.81
.280	7.11	.790	20.07
.290	7.37	.800	20.32
.300	7.62	.810	20.57
.310	7.87	.820	20.83
.320	8.13	.830	21.08
.330	8.38	.840	21.34
.340	8.64	.850	21.59
.350	8.89	.860	21.84
.360	9.14	.870	22.10
.370	9.40	.880	22.35
.380	9.65	.890	22.61
.390	9.91	.900	22.86
.400	10.16	.910	23.11
.410	10.41	.920	23.37
.420	10.67	.930	23.62
.430	10.92	.940	23.88
.440	11.18	.950	24.13
.450	11.43	.960	24.38
.460	11.68	.970	24.64
.470	11.94	.980	24.89
.480	12.19	.990	25.15
.490	12.45	1.000	25.40
.500	12.70	2.000	50.80
.510	12.95	3.000	76.20
.520	13.21	4.000	101.60
.530	13.46	5.000	127.00
.540	13.72	6.000	152.40
.550	13.97	7.000	177.80
.560	14.22	8.000	203.20
.570	14.48	9.000	228.60
.580	14.73	10.000	254.00
.590	14.99	20.000	508.00
.600	15.24		

METRIC TO INCH CONVERSION TABLE

(Rounded-off for automotive use)

mm	inches	mm	inches
1	.0394	51	2.008
2	.079	52	2.047
3	.118	53	2.087
4	.157	54	2.126
5	.197	55	2.165
6	.236	56	2.205
7	.276	57	2.244
8	.315	58	2.283
9	.354	59	2.323
10	.394	60	2.362
11	.433	61	2.402
12	.472	62	2.441
13	.512	63	2.480
14	.551	64	2.520
15	.591	65	2.559
16	.630	66	2.598
17	.669	67	2.638
18	.709	68	2.677
19	.748	69	2.717
20	.787	70	2.756
21	.827	71	2.795
22	.866	72	2.835
23	.906	73	2.874
24	.945	74	2.913
25	.984	75	2.953
26	1.024	76	2.992
27	1.063	77	3.031
28	1.102	78	3.071
29	1.142	79	3.110
30	1.181	80	3.150
31	1.220	81	3.189
32	1.260	82	3.228
33	1.299	83	3.268
34	1.339	84	3.307
35	1.378	85	3.346
36	1.417	86	3.386
37	1.457	87	3.425
38	1.496	88	3.465
39	1.535	89	3.504
40	1.575	90	3.543
41	1.614	91	3.583
42	1.654	92	3.622
43	1.693	93	3.661
44	1.732	94	3.701
45	1.772	95	3.740
46	1.811	96	3.780
47	1.850	97	3.819
48	1.890	98	3.858
49	1.929	99	3.898
50	1.969	100	3.937

PRECAUTIONS

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

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

NBAT0001

The supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER" used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. The SRS system composition which is available to INFINITI QX4 is as follows:

- For a frontal collision
The Supplemental Restraint System consists of driver air bag module (located in the center of the steering wheel), front passenger air bag module (located on the instrument panel on passenger side), seat belt pre-tensioners, a diagnosis sensor unit, warning lamp, wiring harness and spiral cable.
- For a side collision
The Supplemental Restraint System consists of front side air bag module (located in the outer side of front seat), satellite sensor, diagnosis sensor unit (one of components of air bags for a frontal collision), wiring harness, warning lamp (one of components of air bags for a frontal collision).

Information necessary to service the system safely is included in the **RS 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 result in air bag inflation, all maintenance must be performed by an authorized INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the RS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. Spiral cable and wiring harnesses covered with yellow insulation tape either just before the harness connectors or for the complete harness are related to the SRS.

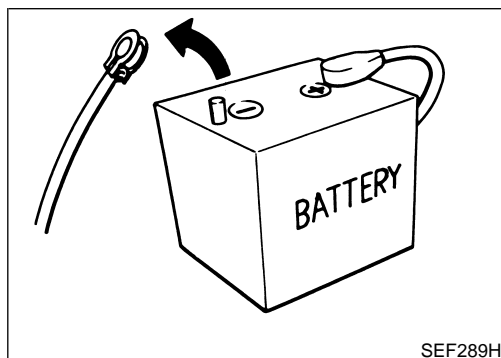
Precautions for On Board Diagnostic (OBD) System of A/T and Engine

NBAT0002

The ECM has an on board diagnostic system. It will light up the malfunction indicator lamp (MIL) to warn the driver of a malfunction causing emission deterioration.

CAUTION:

- Be sure to turn the ignition switch "OFF" and disconnect the negative battery terminal before any repair or inspection work. The open/short circuit of related switches, sensors, solenoid valves, etc. will cause the MIL to light up.
- Be sure to connect and lock the connectors securely after work. A loose (unlocked) connector will cause the MIL to light up due to an open circuit. (Be sure the connector is free from water, grease, dirt, bent terminals, etc.)
- Be sure to route and secure the harnesses properly after work. Interference of the harness with a bracket, etc. may cause the MIL to light up due to a short circuit.
- Be sure to connect rubber tubes properly after work. A misconnected or disconnected rubber tube may cause the MIL to light up due to a malfunction of the EGR system or fuel injection system, etc.
- Be sure to erase the unnecessary malfunction information (repairs completed) from the TCM and ECM before returning the vehicle to the customer.



Precautions

NBAT0003

- Before connecting or disconnecting the TCM harness connector, turn ignition switch "OFF" and disconnect negative battery terminal. Failure to do so may damage the TCM. Because battery voltage is applied to TCM even if ignition switch is turned "OFF".

DTC P0710 A/T FLUID TEMPERATURE SENSOR CIRCUIT

Wiring Diagram — AT — FTS

Wiring Diagram — AT — FTS

NBAT0187

AT-FTS-01 GI

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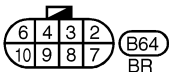
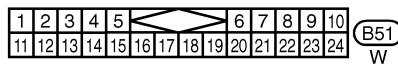
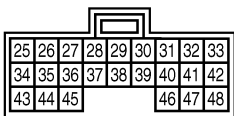
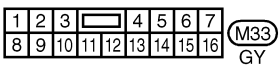
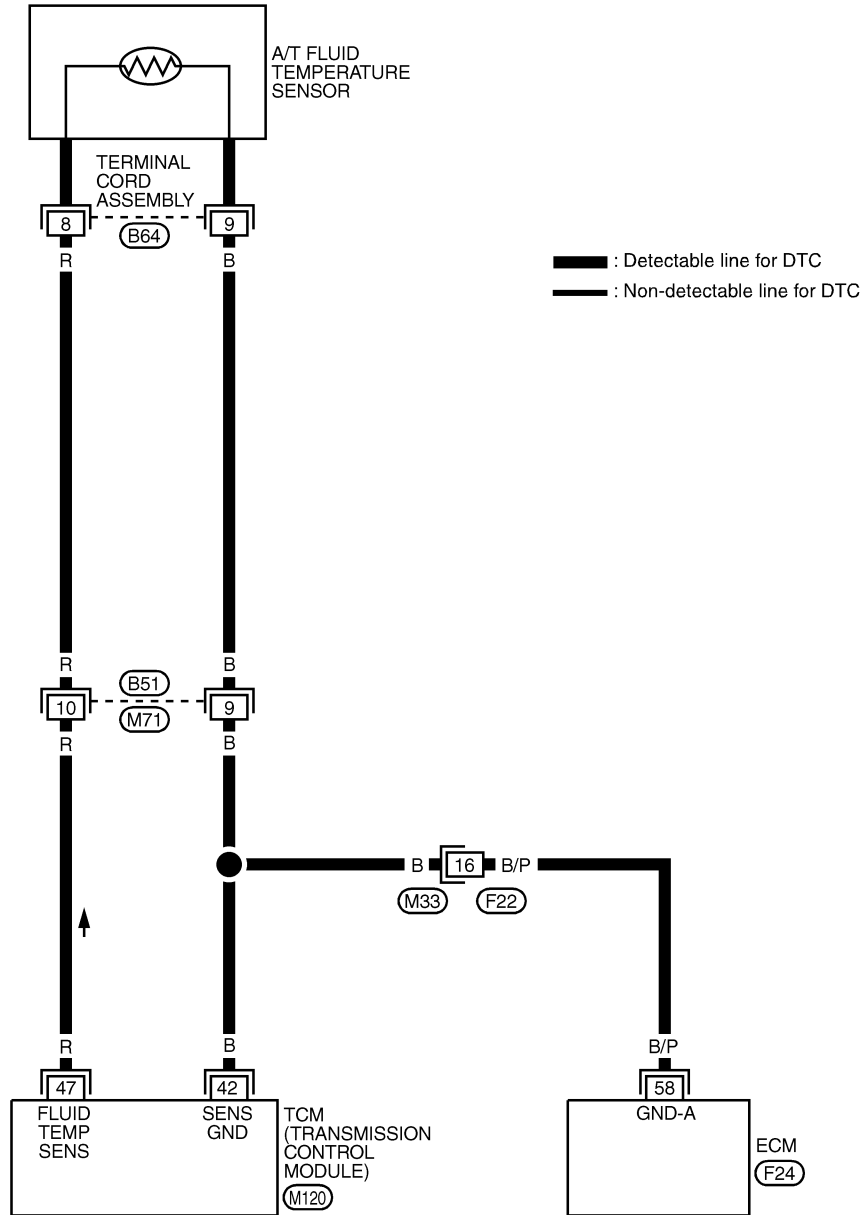
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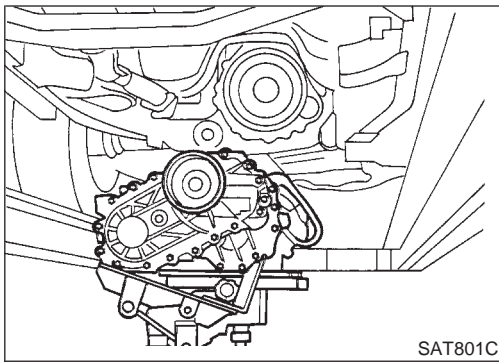


REFER TO THE FOLLOWING.
 (F24) - ELECTRICAL UNITS

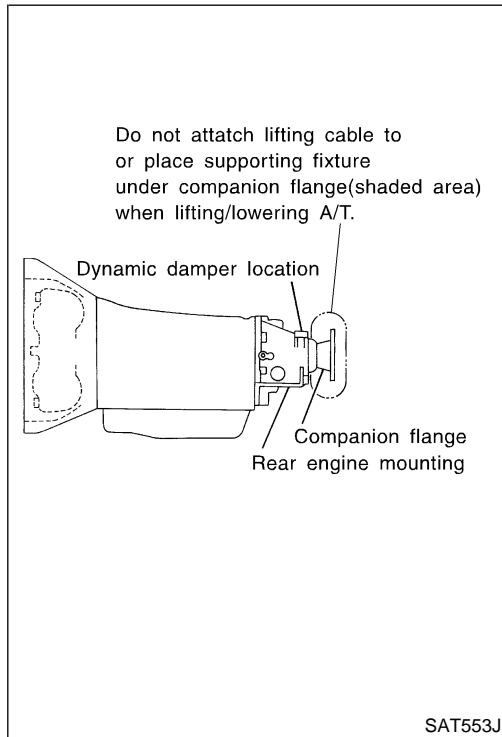
MAT909A

REMOVAL AND INSTALLATION

Removal (Cont'd)



12. Support A/T and transfer assembly with a jack.
13. Remove rear engine mounting member from body and A/T assembly. Tighten rear engine mounting member to the specified torque. Refer to EM-59, "Rear Engine Mounting".
14. Remove bolts securing A/T assembly to engine.
 - **Secure torque converter to prevent it from dropping.**
 - **Secure A/T assembly to a jack.**
15. Lower A/T assembly with transfer.



— 2WD MODEL —

NBAT0214S02

CAUTION:

- **Do not attach lifting cable to or place supporting fixture under companion flange at rear of A/T (shown in the figure at left) when lifting/lowering A/T.**
- **Be sure to attach lifting cable to rear engine mounting or dynamic damper location when lifting/lowering A/T.**

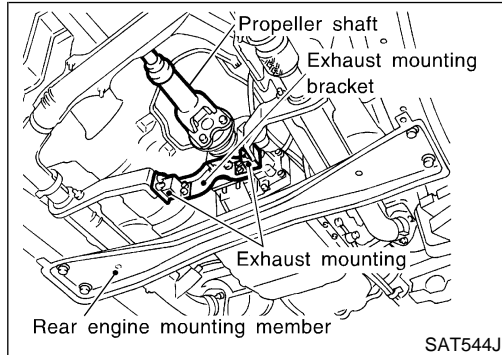
1. Remove battery negative terminal.
2. Remove exhaust front and rear tubes.
3. Remove fluid charging pipe from A/T assembly.
4. Remove oil cooler pipe from A/T assembly.
5. Plug up openings such as the fluid charging pipe hole, etc.
6. Remove propeller shaft. Refer to PD-4, "Components".
7. Remove A/T control cable from A/T assembly.
8. Disconnect A/T and speedometer sensor harness connectors.
9. Remove starter motor. Refer to SC-18, "Removal and Installation".
10. Remove gusset and rear plate cover securing engine to A/T assembly.
11. Remove bolts securing torque converter to drive plate.

- **Remove the bolts by turning crankshaft.**

12. Support A/T assembly with a jack.
13. Remove rear engine mounting member from body and A/T assembly. Tighten rear engine mounting member to the specified torque. Refer to EM-59, "Rear Engine Mounting".
14. Remove bolts securing A/T assembly to engine.
15. Pull A/T assembly backwards.

- **Secure torque converter to prevent it from dropping.**
- **Secure A/T assembly to a jack.**

16. Lower A/T assembly.



Installation

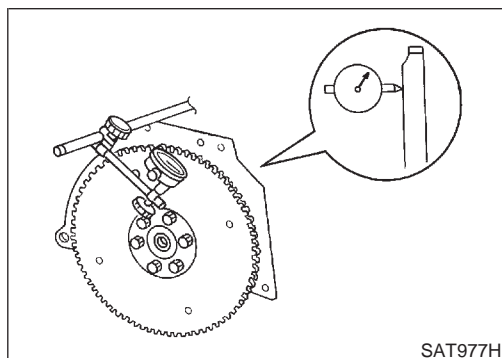
NBAT0107

- Drive plate runout

Maximum allowable runout:

Refer to EM-70, "FLYWHEEL/DRIVE PLATE RUNOUT".

If this runout is out of specification, replace drive plate with ring gear.



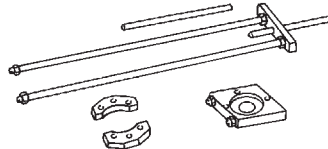
PREPARATION

Special Service Tools

Special Service Tools

NBBR0004

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
KV40106500 (J25852-B) Rear wheel bearing puller	 <p>Removing rear wheel sensor rotor</p> <p>NT724</p>

GI

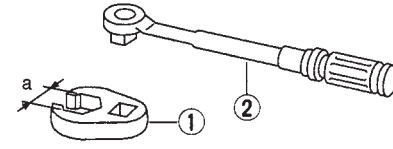
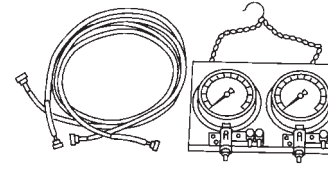
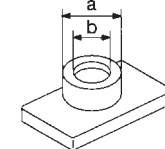
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Commercial Service Tools

NBBR0005

Tool name	Description
1 Flare nut crowfoot 2 Torque wrench	 <p>Removing and installing each brake piping a: 10 mm (0.39 in)</p> <p>NT360</p>
Brake fluid pressure gauge	 <p>Measuring brake fluid pressure</p> <p>NT151</p>
Rear wheel sensor rotor drift	 <p>Installing rear wheel sensor rotor a: 75 mm (2.95 in) dia. b: 63 mm (2.48 in) dia.</p> <p>NT509</p>

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Wheel Sensor or Rotor DIAGNOSTIC PROCEDURE

NBBR0102

Malfunction code No. 21, 22, 25, 26, 31, 32, 35, 36 or 18

NOTE:

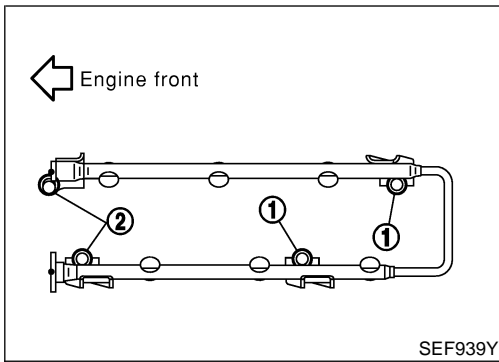
Wheel position should be distinguished by code No. except code No. 18 (sensor rotor).

1	INSPECTION START
<p>Wheel sensor inspection</p> <div style="text-align: center;"> <p>Wheel sensor inspection</p> <p>Front RH (E51) terminals 14 15</p> <p>Front LH (E14) terminals 10 35</p> <p>Rear RH (B69) terminals 38 11</p> <p>Rear LH (B8) terminals 12 40</p> </div>	
SBR485E	
▶	GO TO 2.

2	CHECK CONNECTOR
<ol style="list-style-type: none"> 1. Disconnect connectors from ABS actuator and electric unit and wheel sensor of malfunction code No. Check terminals for damage or loose connection. Then reconnect connectors. 2. Carry out self-diagnosis again. 	
Does warning lamp activate again?	
Yes	▶ GO TO 3.
No	▶ INSPECTION END

BASIC SERVICE PROCEDURE

Injector (Cont'd)



10. Tighten fuel tube assembly mounting nuts in numerical sequence (indicated in the figure at left) and in two stages.

: Tightening torque N-m (kg-m, ft-lb)

1st stage:

9.3 - 10.8 (1.0 - 1.1, 6.9 - 7.9)

2nd stage:

20.6 - 26.5 (2.1 - 2.7, 16 - 19)

11. Install all parts removed in reverse order of removal.

CAUTION:

After properly connecting fuel tube assembly to injector and fuel hose, check connection for fuel leakage.

How to Check Idle Speed and Ignition Timing

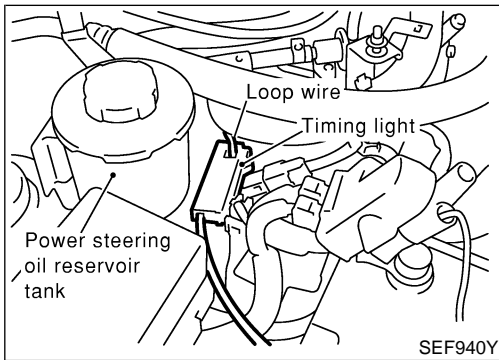
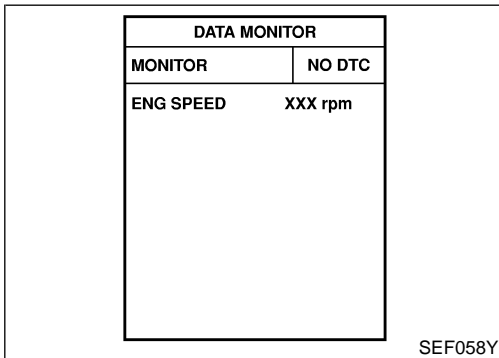
NBEC0607

IDLE SPEED

NBEC0607S01

- Using CONSULT-II

Check idle speed in "DATA MONITOR" mode with CONSULT-II.



IGNITION TIMING

NBEC0607S02

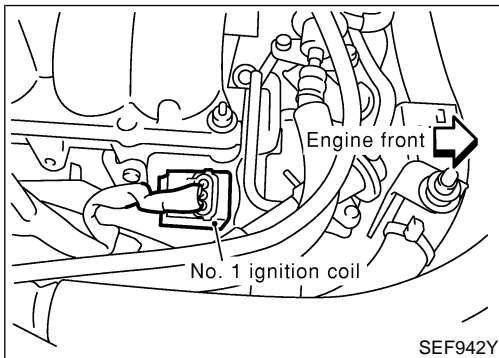
Any of following two methods may be used.

- Method A

- Attach timing light to loop wire as shown.
- Check ignition timing.

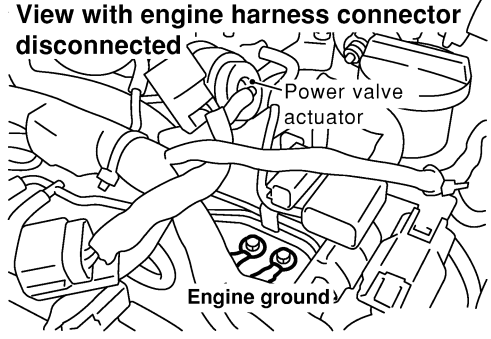
- Method B

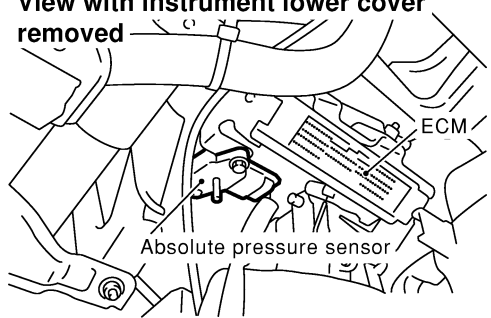
- Remove No. 1 ignition coil.



Diagnostic Procedure

NBEC0731

1	RETIGHTEN GROUND SCREWS	<p>1. Turn ignition switch "OFF". 2. Loosen and retighten engine ground screws.</p> <div style="text-align: center;"> <p>View with engine harness connector disconnected</p>  <p>Power valve actuator</p> <p>Engine ground</p> </div> <p style="text-align: right;">SEF959Y</p>	<p>GI</p> <p>MA</p> <p>EM</p> <p>LC</p> <p>EC</p> <p>FE</p>
▶		GO TO 2.	<p>AT</p> <p>TF</p>

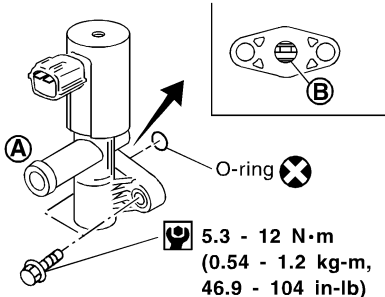
2	CHECK ABSOLUTE PRESSURE SENSOR CONNECTOR FOR WATER	<p>1. Disconnect absolute pressure sensor harness connector.</p> <div style="text-align: center;"> <p>View with instrument lower cover removed</p>  <p>ECM</p> <p>Absolute pressure sensor</p> </div> <p style="text-align: right;">SEF961Y</p> <p>2. Check sensor harness connector for water. Water should not exist.</p> <p style="text-align: center;">OK or NG</p>	<p>PD</p> <p>AX</p> <p>SU</p> <p>BR</p> <p>ST</p>
OK	▶	GO TO 3.	<p>RS</p> <p>BT</p> <p>HA</p> <p>SC</p> <p>EL</p> <p>IDX</p>
NG	▶	Repair or replace harness connector.	

DTC P1446 EVAPORATIVE EMISSION (EVAP) CANISTER VENT CONTROL VALVE (CLOSE)

Diagnostic Procedure (Cont'd)

3 CHECK EVAP CANISTER VENT CONTROL VALVE-I

1. Remove EVAP canister vent control valve from EVAP canister.
2. Check portion **B** of EVAP canister vent control valve for being rusted.




SEF337X

OK or NG

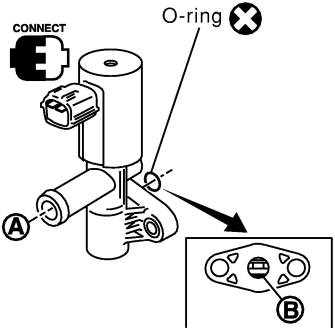
OK	▶	GO TO 4.
NG	▶	Replace EVAP canister vent control valve.

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4 CHECK EVAP CANISTER VENT CONTROL VALVE-II

 **With CONSULT-II**

1. Turn ignition switch ON.
2. Perform "VENT CONTROL/V" in "ACTIVE TEST" mode.
3. Check air passage continuity and operation delay time.




ACTIVE TEST	
VENT CONTROL/V	OFF
MONITOR	
ENG SPEED	XXX rpm
A/F ALPHA-B1	XXX %
A/F ALPHA-B2	XXX %
HO2S1 (B1)	XXX V
HO2S1 (B2)	XXX V
THRTL POS SEN	XXX V

Condition VENT CONTROL/V	Air passage continuity between A and B
ON	No
OFF	Yes

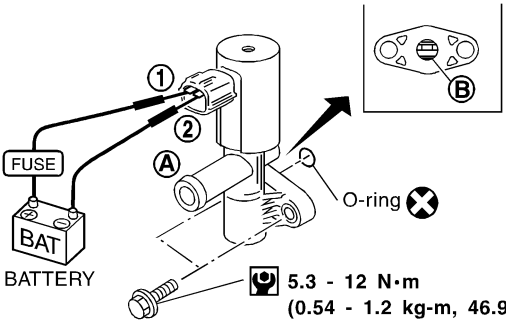
Operation takes less than 1 second.

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 **Without CONSULT-II**

Check air passage continuity and operation delay time under the following conditions.



Condition	Air passage continuity between A and B
12V direct current supply between terminals 1 and 2	No
OFF	Yes

Operation takes less than 1 second.

SEF339X

Make sure new O-ring is installed properly.

OK or NG

OK	▶	GO TO 6.
NG	▶	GO TO 5.

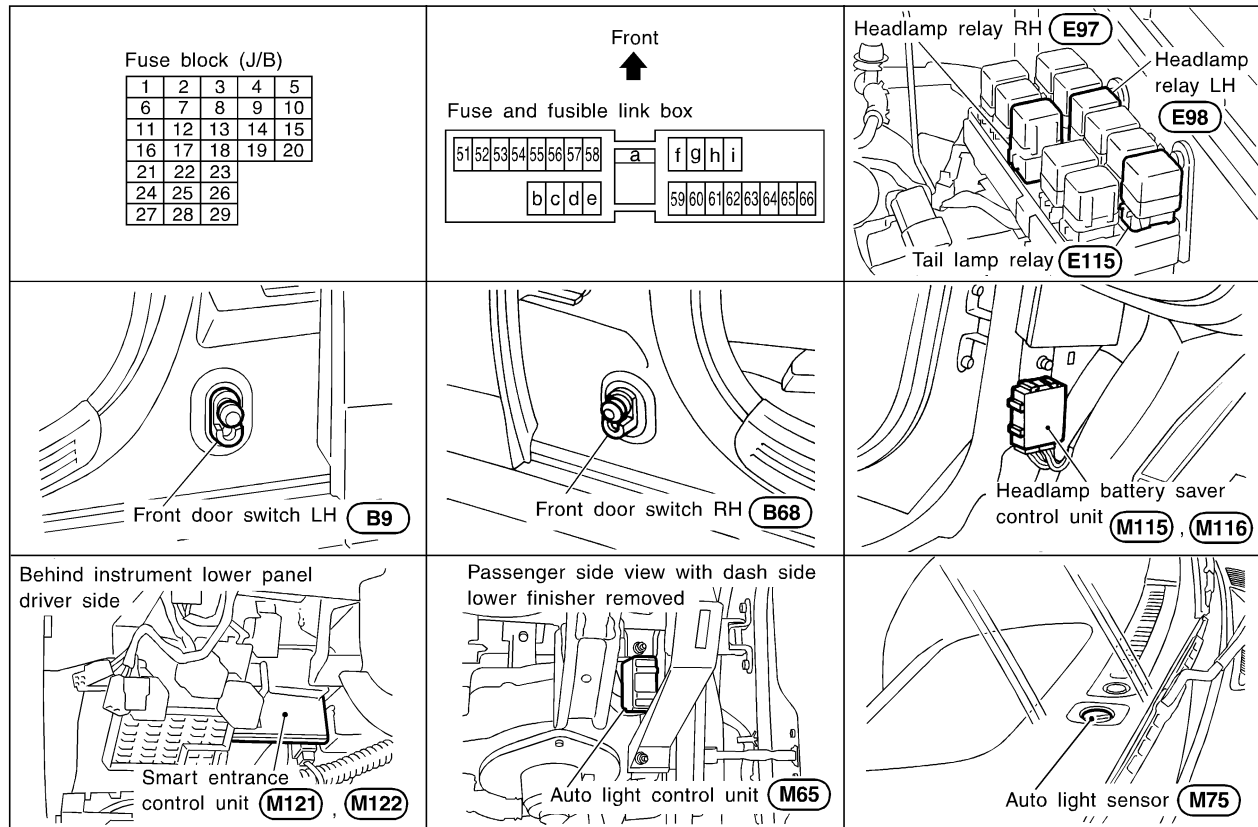
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HEADLAMP (FOR CANADA) — DAYTIME LIGHT SYSTEM —

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NBEL0161



SEL460X

System Description

NBEL0192

The headlamp system for Canada vehicles contains a daytime light control unit that activates the high beam headlamps at approximately half illumination whenever the engine is running. If the parking brake is applied before the engine is started the daytime lights will not be illuminated. The daytime lights will illuminate once the parking brake is released. Thereafter, the daytime lights will continue to operate when the parking brake is applied.

And battery saver system is controlled by the headlamp battery saver control unit and smart entrance control unit.

Power is supplied at all times

- to headlamp LH relay terminals 1 and 3
- through 15A fuse (No. 60, located in the fuse and fusible link box), and
- to headlamp LH relay terminal 6
- through 20A fuse (No. 32, located in the fuse and fusible link box), and
- to headlamp RH relay terminals 1 and 3
- through 15A fuse (No. 59, located in the fuse and fusible link box), and
- to headlamp RH relay terminal 6
- through 20A fuse (No. 31, located in the fuse and fusible link box), and
- to headlamp battery saver control unit terminal 7, and
- to smart entrance control unit terminal 10
- through 7.5A fuse [No. 24, located in the fuse block (J/B)].

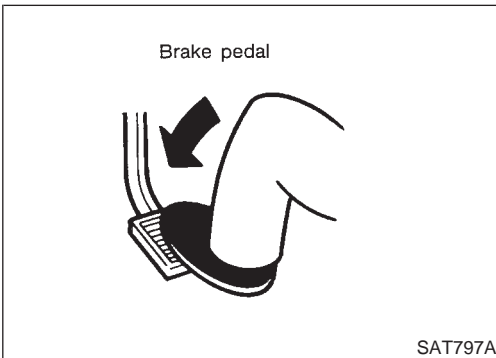
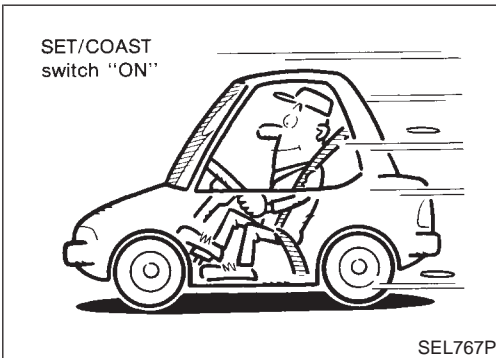
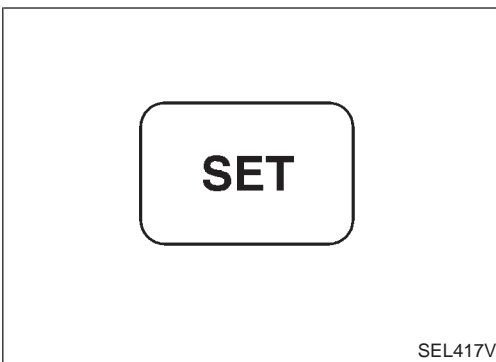
Ground is supplied

- to daytime light control unit terminal 16,
- to auto light control unit terminal 5 and
- to headlamp battery saver control unit terminals 4 and 11.

When the ignition switch is in the ON or START position, power is also supplied

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)



FAIL-SAFE SYSTEM CHECK

=NBEL0218S02

1. Turn ignition switch to ON position.
2. Turn ASCD main switch to ON and check if the SET indicator blinks.

If the indicator lamp blinks, check the following.

- ASCD steering switch. Refer to EL-234.

3. Drive the vehicle at more than 40 km/h (25 MPH) and push SET/COAST switch.

If the indicator lamp blinks, check the following.

- Vehicle speed sensor. Refer to EL-235.
- ASCD pump circuit. Refer to EL-235.
- Replace control unit.

4. Depress brake pedal slowly (brake pedal should be depressed more than 5 seconds).

If the indicator lamp blinks, check the following.

- ASCD brake/stop lamp switch. Refer to EL-233.

5. END. (System is OK.)

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INFINITI COMMUNICATOR (IVCS)

System Description

NBEL0180

OUTLINE

NBEL0180S01

INFINITI Communicator system uses the Global Positioning System (GPS), cellular phone technology and the Communicator Response Center to provide the following functions.

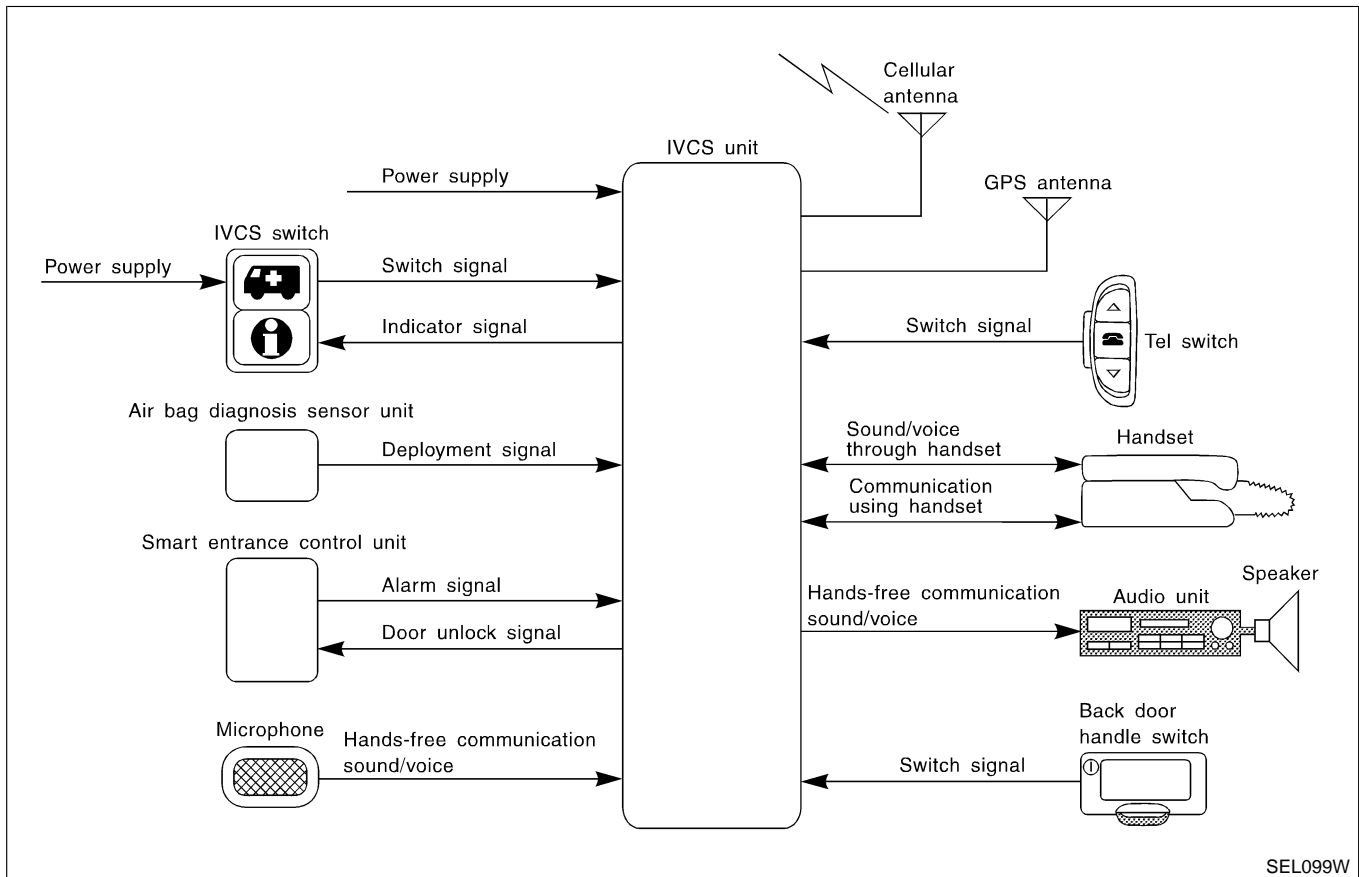
- One touch "Information" dialing
- One touch "Mayday" emergency dialing
- Automatic air bag inflation notification
- Stolen vehicle tracking
- Alarm notification
- Remote door unlock

There are limitations to the INFINITI Communicator system. To understand the system, read SYSTEM LIMITATIONS (EL-351) thoroughly.

SYSTEM COMPOSITION

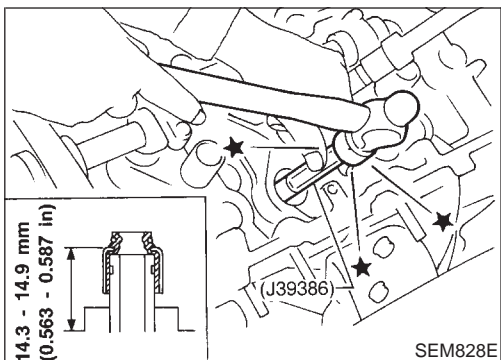
NBEL0180S02

- The INFINITI Communicator system is controlled by the IVCS (In Vehicle Communication System) unit. System status ("Mayday"-emergency dialing, or re-dialing, etc.) is displayed by the indicators in the IVCS switch.
- The INFINITI Communicator system can only make calls to the Communicator Response Center and receive calls from the center, unless the customer chooses to have the optional handset install.

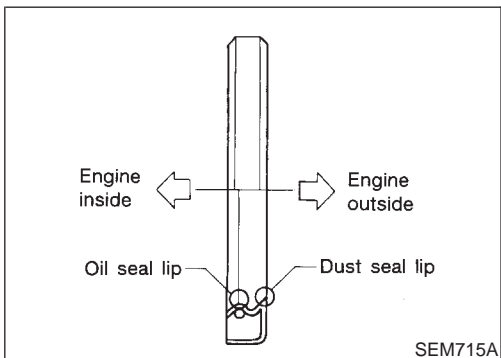


OIL SEAL

Replacement (Cont'd)



7. Apply engine oil to new valve oil seal and install it with Tool.



OIL SEAL INSTALLATION DIRECTION

- Install new oil seal in the direction shown in the figure.

NBEM0015S02

FRONT OIL SEAL

1. Remove the following parts:

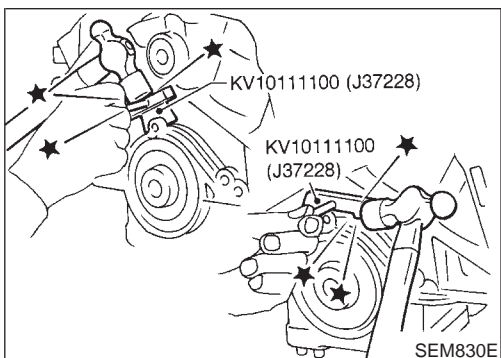
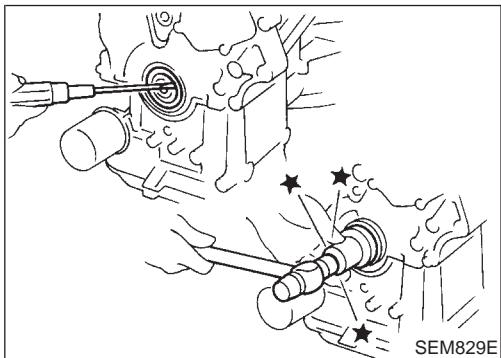
- Engine undercover
- Suspension member stay
- Drive belts
- Crankshaft position sensor (REF)
Be careful not to damage sensor edge.
- Crankshaft pulley
- Radiator
- Cooling fan

NBEM0015S03

2. Remove front oil seal using a suitable tool.

Be careful not to scratch front cover.

3. Apply engine oil to new oil seal and install it using a suitable tool.



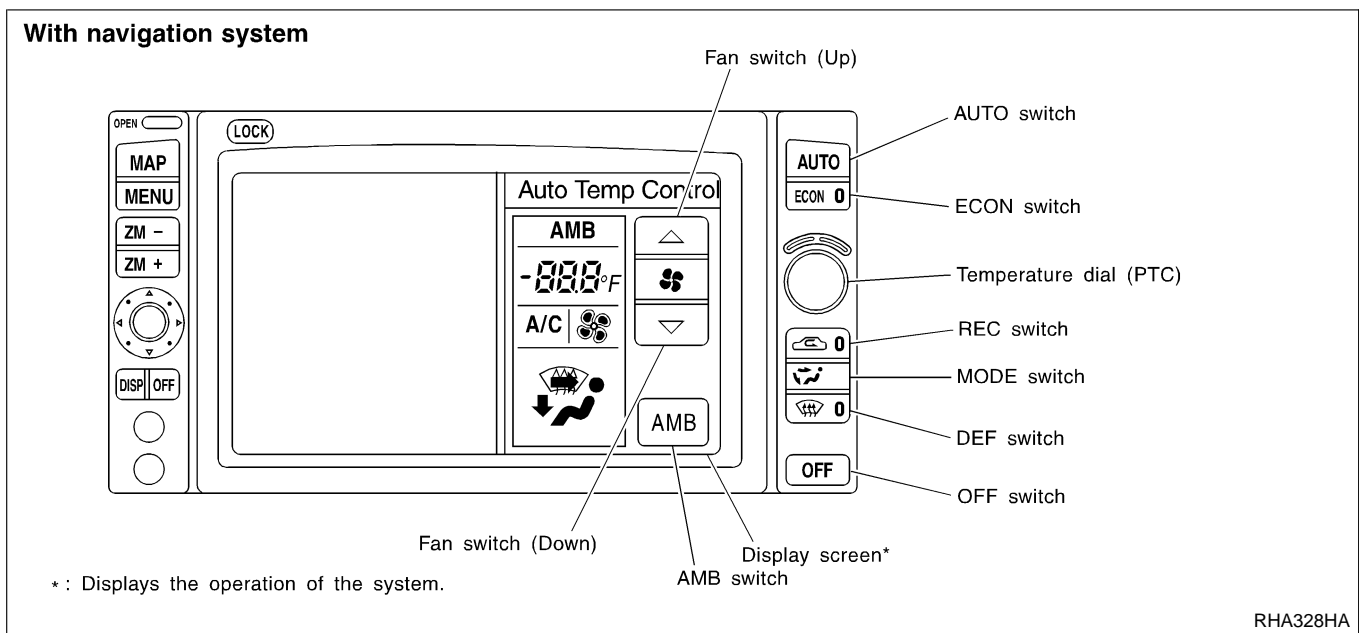
REAR OIL SEAL

1. Remove transmission. Refer to AT-277, "Removal".
2. Remove drive plate.
3. Remove oil pan. Refer to EM-15.
4. Remove rear oil seal retainer.

NBEM0015S04

DESCRIPTION

Control Operation (Cont'd)



DISPLAY SCREEN

Displays the operational status of the system.

NBHA0016S01

AUTO SWITCH

The compressor, intake doors, air mix door, outlet doors, and blower speed are automatically controlled so that the in-vehicle temperature will reach, and be maintained at the set temperature selected by the operator.

NBHA0016S02

ECON SWITCH

By pressing the ECON switch, the display should indicate ECON and the compressor always turns OFF. With the compressor OFF, the system will not remove heat (cool) or de-humidify. The system will maintain the in-vehicle temperature at the set temperature when the set temperature is above the ambient (outside) temperature. The system will set the intake doors to the outside air position.

NBHA0016S03

TEMPERATURE SWITCH (POTENTIAL TEMPERATURE CONTROL) WITHOUT NAVIGATION SYSTEM

Increases or decreases the set temperature.

NBHA0016S04

OFF SWITCH





The compressor and blower are OFF, the intake doors are set to the outside air position, and the air outlet doors are set to the foot (80% foot and 20% defrost) position.

NBHA0016S05

FAN SWITCH

Manually controls the blower speed. Four speeds are available for manual control (as shown on the display screen):

NBHA0016S06

low , medium low , medium high , high 

RECIRCULATION (REC) SWITCH

OFF position: Outside air is drawn into the passenger compartment.
ON position: Interior air is recirculated inside the vehicle.

NBHA0016S07

DEFROSTER (DEF) SWITCH

Positions the air outlet doors to the defrost position. Also positions the intake doors to the outside air position.

NBHA0016S08

MODE SWITCH

Controls the air discharge outlets.

NBHA0016S09

TEMPERATURE DIAL (POTENTIAL TEMPERATURE CONTROL) WITH NAVIGATION SYSTEM

Increases or decreases the set temperature.

NBHA0016S10

AMB (AMBIENT) SWITCH (WITH NAVIGATION SYSTEM)

Shows the ambient (outside) air temperature on the display screen for 5 seconds.

NBHA0016S11

SERVICE PROCEDURE

Refrigerant Lines

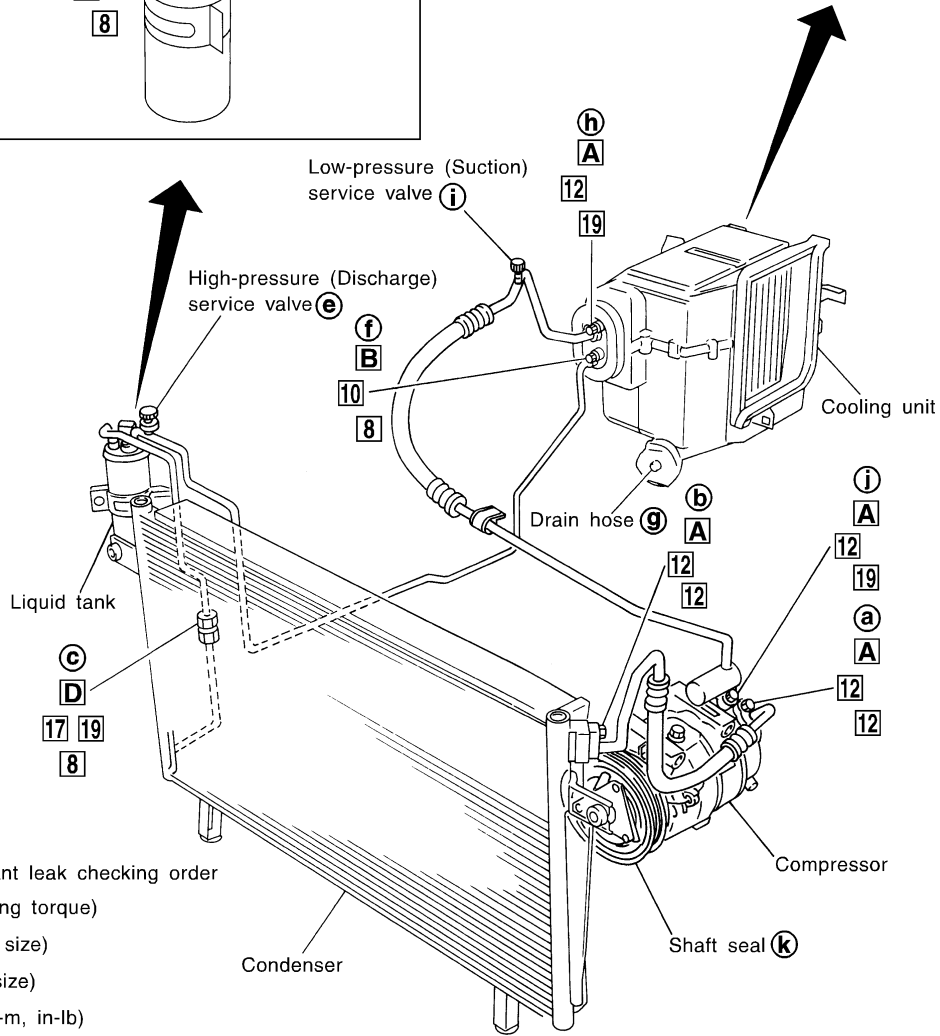
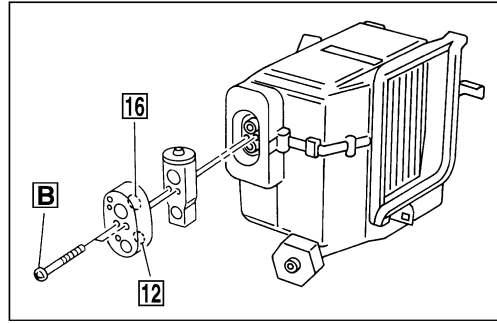
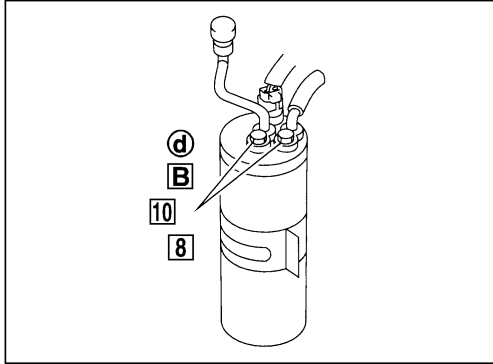
Refrigerant Lines

REMOVAL AND INSTALLATION

=NBHA0077

- Refer to page HA-4 regarding "Precautions for Refrigerant Connection".

SEC. 271•274•276



- : Refrigerant leak checking order
- : (Tightening torque)
- □ : (Wrench size)
- : (O-ring size)
- Ⓜ : N·m (kg-m, in-lb)
- Ⓐ : 8 - 20 (0.8 - 2.0, 69 - 174)
- Ⓑ : 3 - 5 (0.3 - 0.5, 26 - 43)
- Ⓜ : N·m (kg-m, ft-lb)
- Ⓒ : 20 - 29 (2 - 3, 14 - 22)
- Ⓓ : 14 - 18 (1.4 - 1.8, 10 - 13)

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