

## INCH TO METRIC CONVERSION TABLE

(Rounded-off for automotive use)

inches	mm	inches	mm
.100	<b>2.54</b>	.610	<b>15.49</b>
.110	<b>2.79</b>	.620	<b>15.75</b>
.120	<b>3.05</b>	.630	<b>16.00</b>
.130	<b>3.30</b>	.640	<b>16.26</b>
.140	<b>3.56</b>	.650	<b>16.51</b>
.150	<b>3.81</b>	.660	<b>16.76</b>
.160	<b>4.06</b>	.670	<b>17.02</b>
.170	<b>4.32</b>	.680	<b>17.27</b>
.180	<b>4.57</b>	.690	<b>17.53</b>
.190	<b>4.83</b>	.700	<b>17.78</b>
.200	<b>5.08</b>	.710	<b>18.03</b>
.210	<b>5.33</b>	.720	<b>18.29</b>
.220	<b>5.59</b>	.730	<b>18.54</b>
.230	<b>5.84</b>	.740	<b>18.80</b>
.240	<b>6.10</b>	.750	<b>19.05</b>
.250	<b>6.35</b>	.760	<b>19.30</b>
.260	<b>6.60</b>	.770	<b>19.56</b>
.270	<b>6.86</b>	.780	<b>19.81</b>
.280	<b>7.11</b>	.790	<b>20.07</b>
.290	<b>7.37</b>	.800	<b>20.32</b>
.300	<b>7.62</b>	.810	<b>20.57</b>
.310	<b>7.87</b>	.820	<b>20.83</b>
.320	<b>8.13</b>	.830	<b>21.08</b>
.330	<b>8.38</b>	.840	<b>21.34</b>
.340	<b>8.64</b>	.850	<b>21.59</b>
.350	<b>8.89</b>	.860	<b>21.84</b>
.360	<b>9.14</b>	.870	<b>22.10</b>
.370	<b>9.40</b>	.880	<b>22.35</b>
.380	<b>9.65</b>	.890	<b>22.61</b>
.390	<b>9.91</b>	.900	<b>22.86</b>
.400	<b>10.16</b>	.910	<b>23.11</b>
.410	<b>10.41</b>	.920	<b>23.37</b>
.420	<b>10.67</b>	.930	<b>23.62</b>
.430	<b>10.92</b>	.940	<b>23.88</b>
.440	<b>11.18</b>	.950	<b>24.11</b>
.450	<b>11.43</b>	.960	<b>24.38</b>
.460	<b>11.68</b>	.970	<b>24.64</b>
.470	<b>11.94</b>	.980	<b>24.89</b>
.480	<b>12.19</b>	.990	<b>25.15</b>
.490	<b>12.45</b>	1.000	<b>25.40</b>
.500	<b>12.70</b>	2.000	<b>50.80</b>
.510	<b>12.95</b>	3.000	<b>76.20</b>
.520	<b>13.21</b>	4.000	<b>101.60</b>
.530	<b>13.46</b>	5.000	<b>127.00</b>
.540	<b>13.72</b>	6.000	<b>152.40</b>
.550	<b>13.97</b>	7.000	<b>177.80</b>
.560	<b>14.22</b>	8.000	<b>203.20</b>
.570	<b>14.48</b>	9.000	<b>228.60</b>
.580	<b>14.73</b>	10.000	<b>254.00</b>
.590	<b>14.99</b>	20.000	<b>508.00</b>
.600	<b>15.24</b>		

## METRIC TO INCH CONVERSION TABLE

(Rounded-off for automotive use)

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

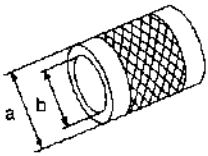
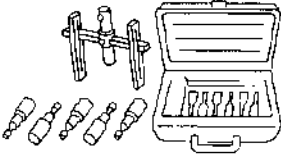
# ON BOARD DIAGNOSTIC SYSTEM DESCRIPTION

## CONSULT (Cont'd)

Monitored item [Unit]	ECM input signals	Main signals	Description	Remarks
EGRC SOL/V [ON/OFF]			<ul style="list-style-type: none"> <li>The control condition of the EGRC-solenoid valve (determined by ECM according to the input signal) is indicated.</li> <li>ON ... EGR operation is cut-off</li> <li>OFF ... EGR is operational</li> </ul>	
VENT CONT/V [ON/OFF]			<ul style="list-style-type: none"> <li>The control condition of the EVAP canister vent control valve (determined by ECM according to the input signal) is indicated.</li> <li>ON ... Closed</li> <li>OFF ... Open</li> </ul>	
FR O2 HTR-B1 [ON/OFF]			<ul style="list-style-type: none"> <li>Indicates [ON/OFF] condition of front heated oxygen sensor heater determined by ECM according to the input signals.</li> </ul>	
FR O2 HTR-B2 [ON/OFF]				
RR O2 HTR-B1 [ON/OFF]			<ul style="list-style-type: none"> <li>Indicates [ON/OFF] condition of rear heated oxygen sensor heater determined by ECM according to the input signals.</li> </ul>	
RR O2 HTR-B2 [ON/OFF]				
VC/V BYPASS/V [ON/OFF]			<ul style="list-style-type: none"> <li>The control condition of the vacuum cut valve bypass valve (determined by ECM according to the input signal) is indicated.</li> <li>ON ... Open</li> <li>OFF ... Closed</li> </ul>	
PURG CONT S/V [ON/OFF]			<ul style="list-style-type: none"> <li>The control condition of the EVAP canister purge control solenoid valve (computed by the engine control module according to the input signals) is indicated.</li> <li>ON ... Canister purge is operational</li> <li>OFF ... Canister purge operation is cut-off</li> </ul>	
CAL/LD VALUE [%]			<ul style="list-style-type: none"> <li>"Calculated load value" indicates the value of the current airflow divided by peak airflow.</li> </ul>	
ABSOL TH-P/S [%]			<ul style="list-style-type: none"> <li>"Absolute throttle position sensor" indicates the throttle opening computed by ECM according to the signal voltage of the throttle position sensor.</li> </ul>	
MASS AIRFLOW [g-m/s]			<ul style="list-style-type: none"> <li>Indicates the mass airflow computed by ECM according to the signal voltage of the mass airflow sensor.</li> </ul>	
MAP/BARO SW/V [MAP/BARO]			<ul style="list-style-type: none"> <li>The control condition of the MAP/BARO switch solenoid valve (determined by ECM according to the input signal) is indicated.</li> <li>MAP ... Intake manifold absolute pressure</li> <li>BARO ... Barometric pressure</li> </ul>	
ABSOL PRES/SE [V]			<ul style="list-style-type: none"> <li>The signal voltage of the absolute pressure sensor is displayed.</li> </ul>	
VOLTAGE [V]			<ul style="list-style-type: none"> <li>Voltage measured by the voltage probe.</li> </ul>	
PULSE [msec] or [Hz] or [%]			<ul style="list-style-type: none"> <li>Pulse width, frequency or duty cycle measured by the pulse probe.</li> </ul>	<ul style="list-style-type: none"> <li>Only "#" is displayed if item is unable to be measured.</li> <li>Figures with "#"'s are temporary ones. They are the same figures as an actual piece of data which was just previously measured.</li> </ul>

## PREPARATION AND PRECAUTIONS

### Special Service Tools (Cont'd)

Tool number (Kent-Moore No.) Tool name	Description
ST33200000 (J26082) Drift	<div style="text-align: center;">  </div> <p>Installing oil pump housing oil seal Installing rear oil seal</p> <p><b>a: 60 mm (2.36 in) dia.</b> <b>b: 44.5 mm (1.752 in) dia.</b></p> <p style="text-align: left;">NT091</p>
(J34291) Shim setting gauge set	<div style="text-align: center;">  </div> <p>Selecting oil pump cover bearing race and oil pump thrust washer</p> <p style="text-align: left;">NT101</p>

### Supplemental Restraint System (SRS) "AIR BAG"

The Supplemental Restraint System "Air Bag", used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger in a frontal collision. The Supplemental Restraint System consists of air bag modules (located in the center of the steering wheel and on the instrument panel on the passenger side), a diagnosis sensor unit, warning lamp, wiring harness and spiral cable. 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.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses are covered with yellow insulation either just before the harness connectors or for the complete harness, for easy identification.

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

The ECM (ECCS control module) 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:

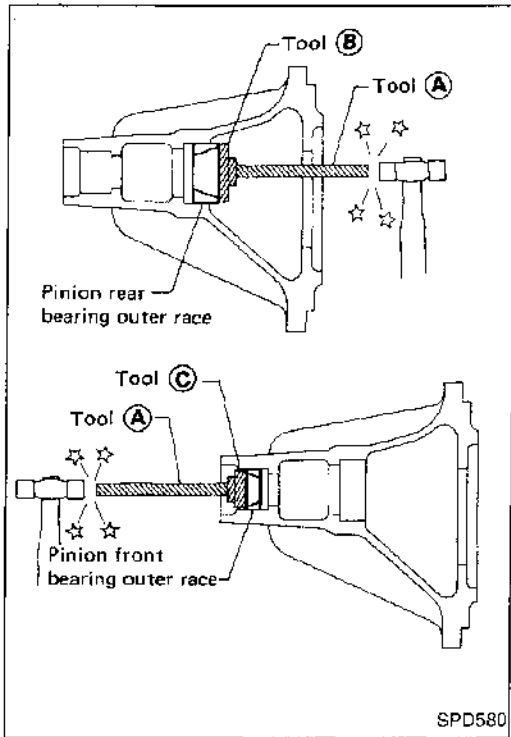
- Be sure to turn the ignition switch "OFF" and disconnect the negative battery terminal before the repair or inspection work. The open/short circuit of the related switches, sensors, solenoid valves, etc. will cause the MIL to light up.
- Be sure to connect and lock the connectors securely after the work. The loose (unlocked) connector will cause the MIL to light up due to the open circuit. (Be sure to connect the connector without water, grease, dirt, bent terminals, etc. in it.)
- Be sure to route and clamp the harnesses properly after work. The interference of the harness with a bracket, etc. may cause the MIL to light up due to the short circuit.
- Be sure to erase the unnecessary (already fixed) malfunction information in the A/T control unit or ECM before returning the vehicle to the customer.

**Differential Carrier**

1. Press-fit front and rear bearing outer races with Tools.

**Tool number:**

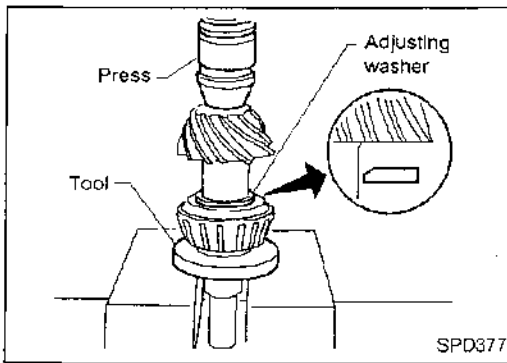
- Ⓐ ST30611000 (J25742-1)
- Ⓑ ST30621000 (J25742-5)
- Ⓒ ST30613000 (J25742-3)



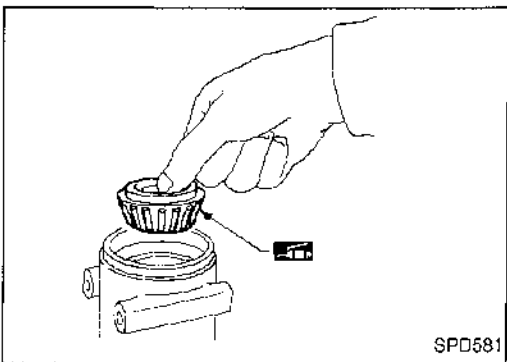
2. Select drive pinion height adjusting washer. Refer to ADJUSTMENT (PD-45).
3. Install drive pinion adjusting washer in drive pinion, and press-fit pinion rear bearing inner cone in it, with press and Tool.

**Tool number:**

**ST30901000 (J26010-01)**



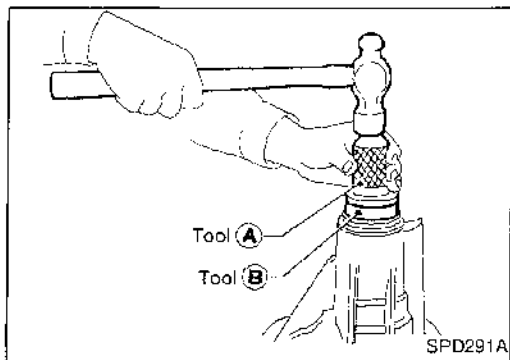
4. Place pinion front bearing inner cone in gear carrier.



5. Apply multi-purpose grease to cavity at sealing lips of oil seal. Install front oil seal.

**Tool number:**

- Ⓐ ST30720000 (J25405)
- Ⓑ KV38102510 ( — )



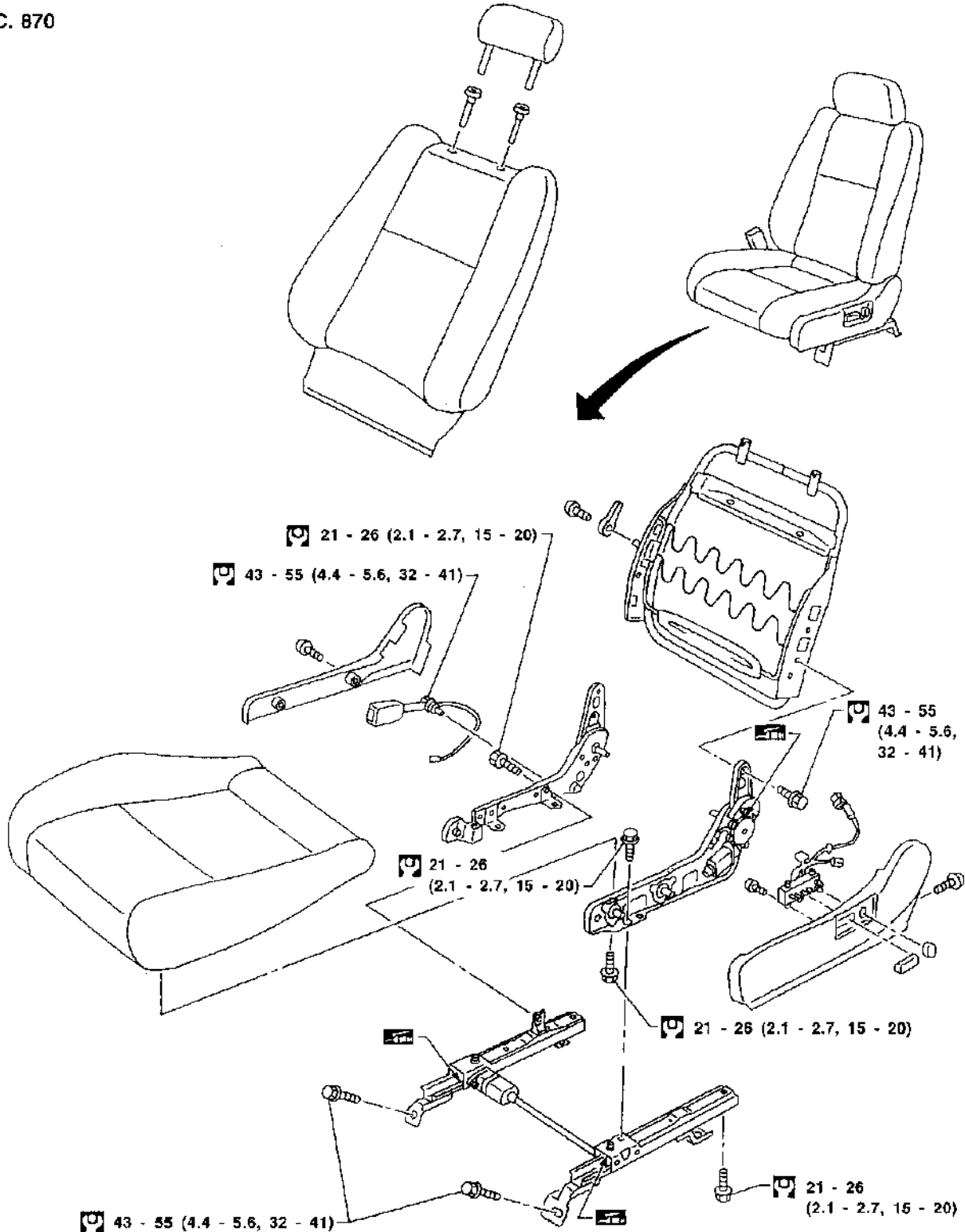
# SEAT

- When removing or installing the seat trim, carefully handle it to keep dirt out and avoid damage.
- ★ For Wiring Diagram, refer to "POWER SEAT" in EL section.

## Front Seat

### POWER SEAT

SEC. 870



: N·m (kg·m, ft·lb)

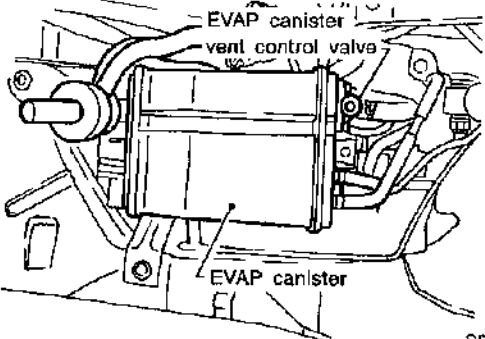
GI  
MA  
EM  
LC  
EC  
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AT  
TF  
PD  
FA  
RA  
BR  
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RS  
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HA  
EL  
IDX

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

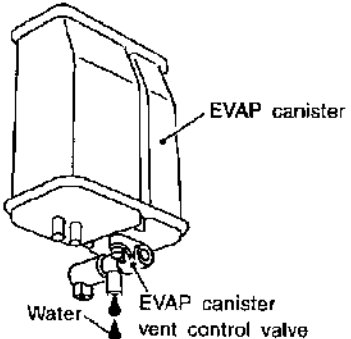
Diagnostic Procedure

## Diagnostic Procedure

NBEC0490

<b>1</b>	<b>CHECK RUBBER TUBE</b>
<ol style="list-style-type: none"> <li>Turn ignition switch "OFF".</li> <li>Check obstructed water separator and rubber tube connected to EVAP canister vent control valve.</li> <li>Clean the rubber tube using air blower. For water separator, refer to EC-398.</li> </ol>	
	
<b>OK or NG</b>	
OK	▶ GO TO 2.
NG	▶ Clean, repair or replace rubber tube and/or water separator.

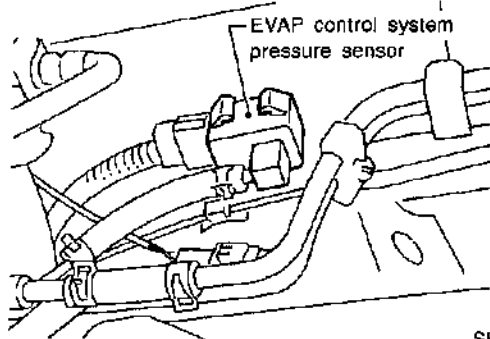
<b>2</b>	<b>CHECK COMPONENT</b>
(EVAP canister vent control valve and O-ring) Refer to "Component Inspection", EC-398.	
<b>OK or NG</b>	
OK	▶ GO TO 3.
NG	▶ Replace EVAP canister vent control valve and O-ring.

<b>3</b>	<b>CHECK IF EVAP CANISTER SATURATED WITH WATER</b>
<ol style="list-style-type: none"> <li>Remove EVAP canister with EVAP canister vent control valve attached.</li> <li>Check if water will drain from the EVAP canister.</li> </ol>	
	
<b>OK or NG</b>	
OK	▶ GO TO 4.
NG	▶ GO TO 6.

<b>4</b>	<b>CHECK EVAP CANISTER</b>
Weigh the EVAP canister with the EVAP canister vent control valve attached. <b>The weight should be less than 1.8 kg (4.0 lb).</b>	
<b>OK or NG</b>	
OK	▶ GO TO 6.
NG	▶ GO TO 5.

<b>5</b>	<b>DETECT MALFUNCTIONING PART</b>
Check the following. <ul style="list-style-type: none"> <li>EVAP canister for damage</li> <li>EVAP hose between EVAP canister and water separator for clogging or poor connection</li> </ul>	
▶ Repair hose or replace EVAP canister.	

<b>6</b>	<b>CHECK EVAP CONTROL SYSTEM PRESSURE SENSOR HOSE</b>
Check disconnection or improper connection of hose connected to EVAP control system pressure sensor.	
<b>OK or NG</b>	
OK	▶ GO TO 7.
NG	▶ Repair it.

<b>7</b>	<b>CHECK CONNECTOR</b>
<ol style="list-style-type: none"> <li>Disconnect EVAP control system pressure sensor harness connector.</li> </ol>	
	
<ol style="list-style-type: none"> <li>Check connectors for water. <b>Water should not exist.</b></li> </ol>	
<b>OK or NG</b>	
OK	▶ GO TO 8.
NG	▶ Replace EVAP control system pressure sensor.

## PRECAUTIONS

Supplemental Restraint System (SRS) "AIR BAG"

### Supplemental Restraint System (SRS) "AIR BAG"

NBTF0001

The Supplemental Restraint System "AIR BAG", used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger in a frontal collision.

The Supplemental Restraint System consists of air bag modules (located in the center of the steering wheel and on the instrument panel on the passenger side), a diagnosis sensor unit, warning lamp, wiring harness and spiral cable. Information necessary to service the system safely is included in the **RS** section of this Service Manual.

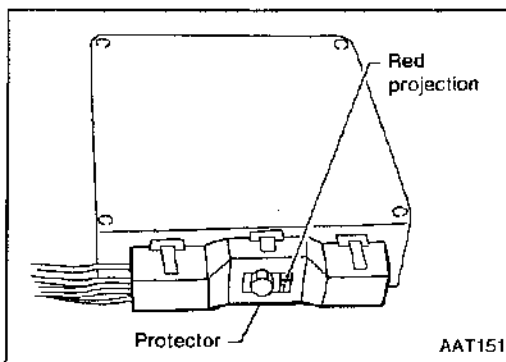
#### WARNING:

- 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.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses are covered with yellow insulation either just before the harness connectors or for the complete harness, for easy identification.

#### Service Notice

NBTF0002

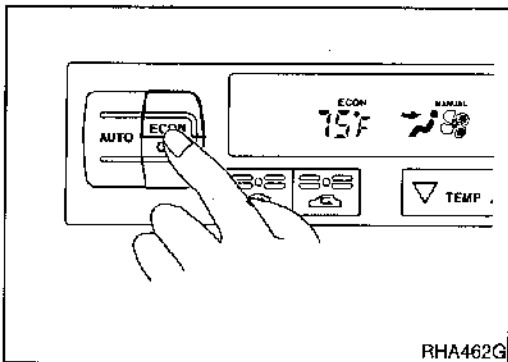
- 1) Before proceeding with disassembly, thoroughly clean the outside of the all-mode 4WD transfer. It is important to prevent the internal parts from becoming contaminated by dirt or other foreign matter.
- 2) Disassembly should be done in a clean work area.
- 3) Use lint-free cloth or towels for wiping parts clean. Common shop rags can leave fibers that could interfere with the operation of the all-mode 4WD transfer.
- 4) Place disassembled parts in order for easier and proper assembly.
- 5) All parts should be carefully cleaned with a general purpose, non-flammable solvent before inspection or reassembly.
- 6) Gaskets, seals and O-rings should be replaced any time the all-mode 4WD transfer is disassembled.
- 7) When connecting TCM harness connector, tighten bolt until red projection is in line with connector.



- 8) It is very important to perform functional tests whenever they are indicated.
- 9) The valve body contains precision parts and requires extreme care when parts are removed and serviced. Place removed parts in a parts rack in order to replace them in correct positions and sequences. Care will also prevent springs and small parts from becoming scattered or lost.
- 10) Properly installed valves, sleeves, plugs, etc. will slide along bores in valve body under their own weight.
- 11) Before assembly, apply a coat of recommended ATF to all parts. Apply petroleum jelly to protect O-rings and seals, and to hold bearings and washers in place during assembly. Do not use grease.
- 12) Extreme care should be taken to avoid damage to O-rings, seals and gaskets when assembling.
- 13) After overhaul, refill the transfer with new ATF.
- 14) When the all-mode 4WD transfer drain plug is removed, only some of the fluid is drained. Old all-mode 4WD transfer fluid will remain in torque converter and ATF cooling system. Always follow the procedures under "Changing All-mode 4WD Transfer Fluid" in the MA section when changing all-mode 4WD transfer fluid.

# TROUBLE DIAGNOSES

## Operational Check (Cont'd)



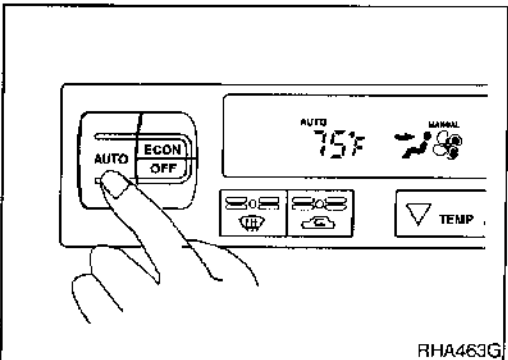
### 7. Check ECON (Economy) Mode

NBHA0019S0207

1. Set the temperature 75°F or 25°C.
2. Press ECON switch.
3. Display should indicate ECON (no AUTO).  
Confirm that the compressor clutch is not engaged (visual inspection).  
(Discharge air and blower speed will depend on ambient, in-vehicle, and set temperatures.)

If NG, go to trouble diagnosis procedure for ECON (Economy) mode (HA-84).

If OK, continue with next check.



### 8. Check AUTO Mode

NBHA0019S0208

1. Press AUTO switch.
2. Display should indicate AUTO (no ECON).  
Confirm that the compressor clutch engages (audio or visual inspection).  
(Discharge air and blower speed will depend on ambient, in-vehicle, and set temperatures.)

If NG, go to trouble diagnosis procedure for A/C system (HA-45), then if necessary, trouble diagnosis procedure for magnet clutch (HA-67).

If all operational check are OK (symptom can not be duplicated), go to "Incident Simulation Tests" (GI section) and perform tests as outlined to simulate driving conditions environment. If symptom appears, refer to "Symptom Table" (HA-41) and perform applicable trouble diagnosis procedures.

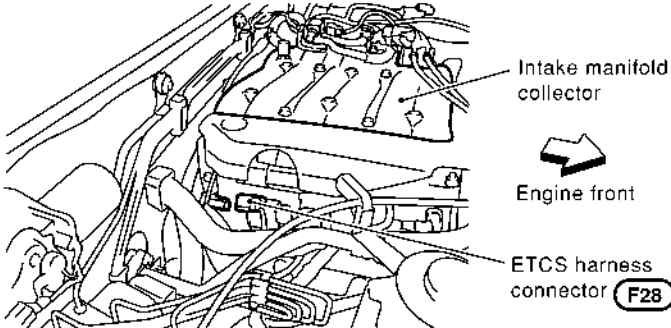
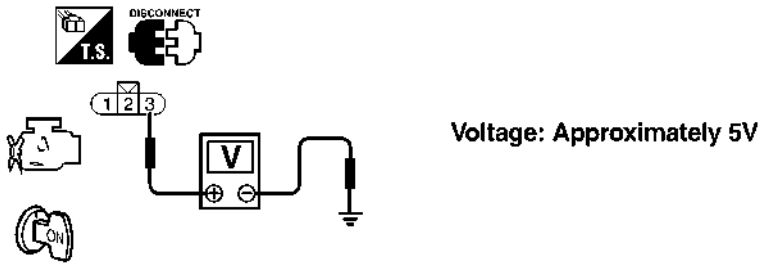


# DTC P0125 ENGINE COOLANT TEMPERATURE SENSOR (ECTS)

Diagnostic Procedure

## Diagnostic Procedure

NBEC0085

<b>1</b>	<b>CHECK ECTS POWER SUPPLY CIRCUIT</b>
<p>1. Turn ignition switch "OFF".                  2. Disconnect engine coolant temperature sensor harness connector F112, F28.</p> <div style="text-align: right;">  </div> <p style="text-align: right;">SEF370Z</p> <p>3. Turn ignition switch "ON".                  4. Check voltage between ECTS harness connector F28 terminal 3 and ground with CONSULT-II or tester.</p> <div style="text-align: center;">  <p style="text-align: right;">Voltage: Approximately 5V</p> </div> <p style="text-align: right;">SEF371Z</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ GO TO 3.
NG	▶ Repair open circuit or short to ground or short to power in harness or connectors.

<b>2</b>	<b>DETECT MALFUNCTIONING PART</b>
<p>Check the following.</p> <ul style="list-style-type: none"> <li>● Harness connectors F112, F28</li> <li>● Harness for open or short between ECM and engine coolant temperature sensor</li> </ul>	
▶	Repair harness or connectors.

<b>3</b>	<b>CHECK ECTS GROUND CIRCUIT FOR OPEN AND SHORT</b>
<p>1. Turn ignition switch "OFF".                  2. Check harness continuity between ECTS terminal 2 and engine ground.                  Refer to Wiring Diagram.  <b>Continuity should exist.</b>                  3. Also check harness for short to power.</p> <p style="text-align: center;"><b>OK or NG</b></p>	
OK	▶ GO TO 5.
NG	▶ GO TO 4.

# DTC P0464 FUEL LEVEL SENSOR CIRCUIT

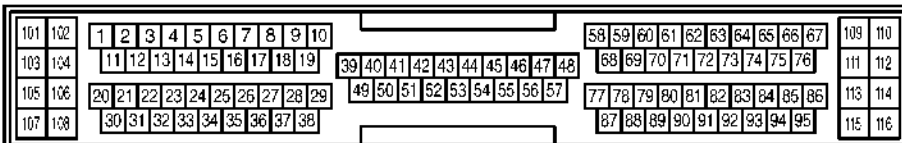
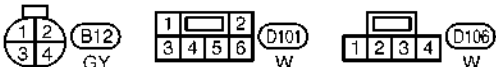
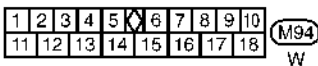
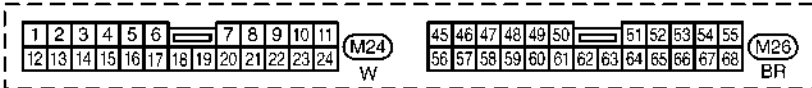
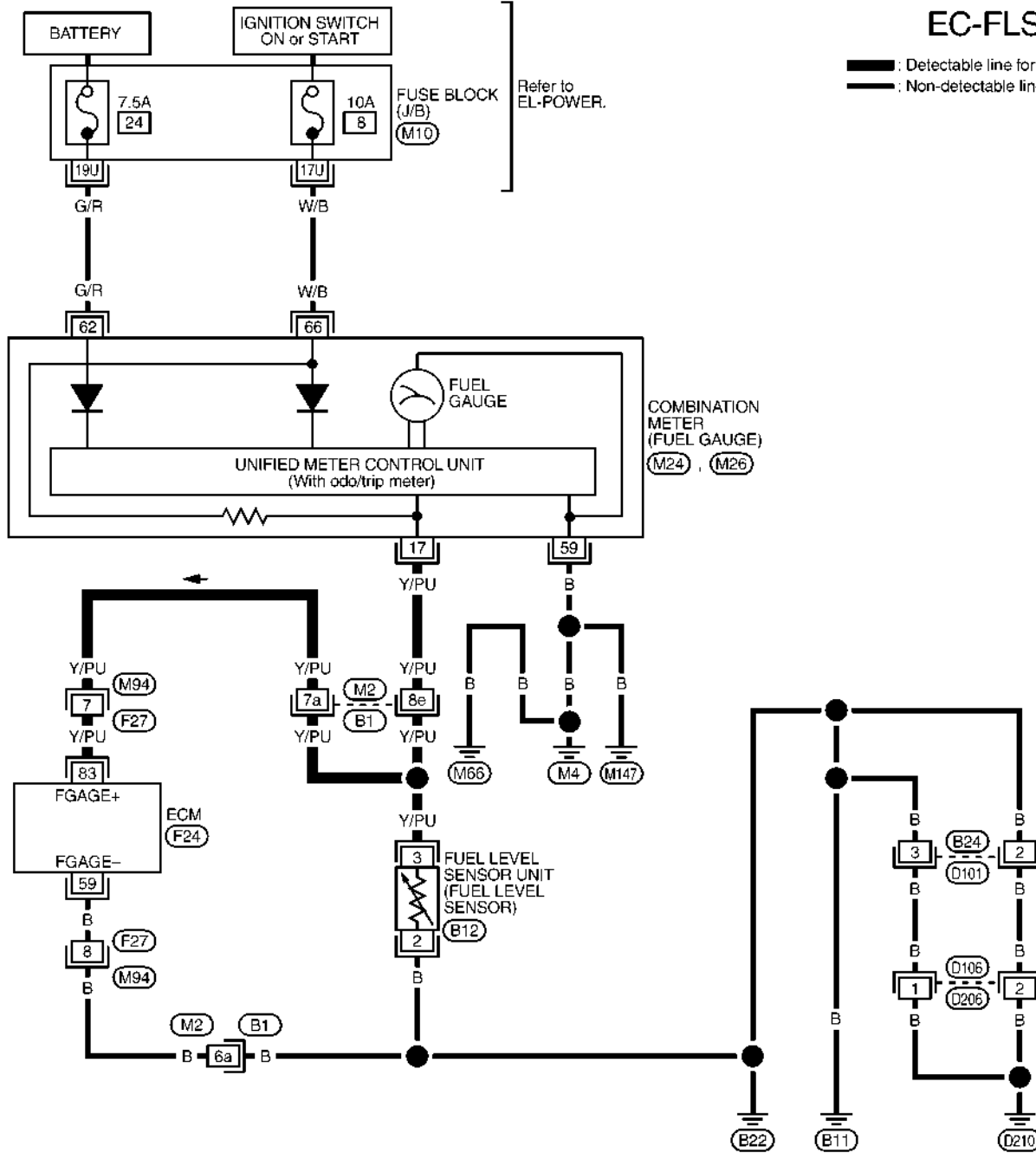
Wiring Diagram

## Wiring Diagram

NBEC0630

### EC-FLS2-01

: Detectable line for DTC  
 : Non-detectable line for DTC



REFER TO THE FOLLOWING.

- (B1) -SUPER
- MULTIPLE JUNCTION (SMJ)
- (M10) - FUSE BLOCK- JUNCTION BOX (J/B)



MEC984C

# TROUBLE DIAGNOSIS — GENERAL DESCRIPTION

*Symptom Chart (Cont'd)*

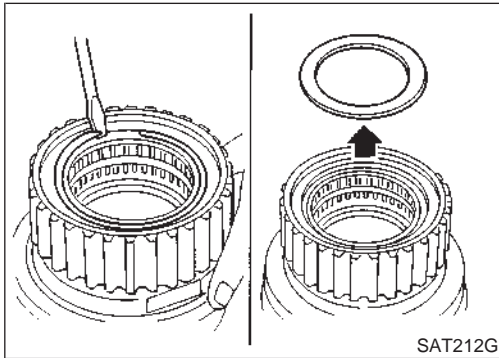
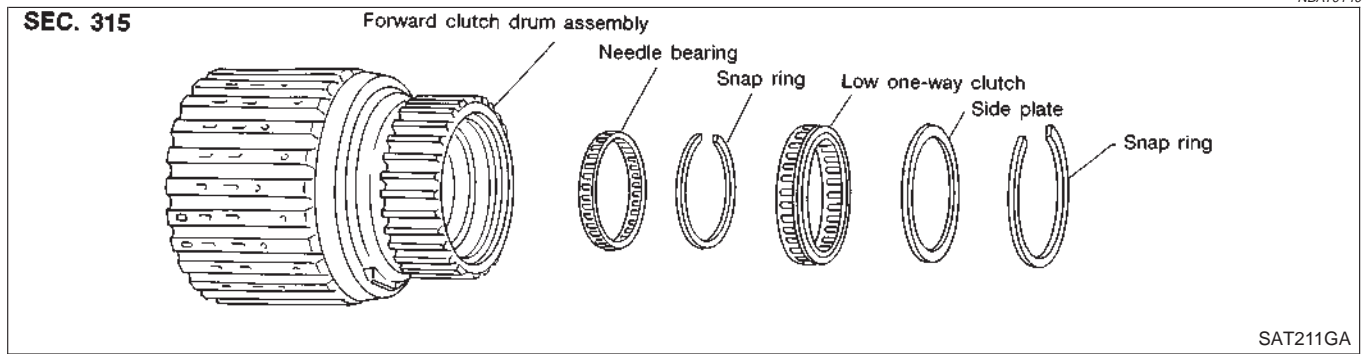
Items	Symptom	Condition	Diagnostic Item	Reference Page	
Slips/Will Not Engage	Almost no shock or slipping in change from D <sub>2</sub> to D <sub>3</sub> .	ON vehicle	1. Fluid level	AT-59	GI
			2. Throttle position sensor (Adjustment)	EC-174	
			3. Line pressure test	AT-62	MA
			4. Control valve assembly	AT-273	
		OFF vehicle	5. High clutch	AT-317	EM
			6. Forward clutch	AT-320	
	Almost no shock or slipping in change from D <sub>3</sub> to D <sub>4</sub> .	ON vehicle	1. Fluid level	AT-59	LC
			2. Throttle position sensor (Adjustment)	EC-174	
			3. Line pressure test	AT-62	EC
			4. Control valve assembly	AT-273	
		OFF vehicle	5. High clutch	AT-317	FE
			6. Brake band	AT-333	<b>AT</b>
	Races extremely fast or slips in changing from D <sub>4</sub> to D <sub>3</sub> when depressing pedal.	ON vehicle	1. Fluid level	AT-59	
			2. Throttle position sensor (Adjustment)	EC-174	TF
			3. Line pressure test	AT-62	
			4. Line pressure solenoid valve	AT-162	PD
		OFF vehicle	5. Control valve assembly	AT-273	
			6. High clutch	AT-317	AX
	Races extremely fast or slips in changing from D <sub>4</sub> to D <sub>2</sub> when depressing pedal.	ON vehicle	1. Fluid level	AT-59	SU
			2. Throttle position sensor (Adjustment)	EC-174	
			3. Line pressure test	AT-62	BR
			4. Line pressure solenoid valve	AT-162	
			5. Shift solenoid valve A	AT-168	ST
			6. Control valve assembly	AT-273	
OFF vehicle	7. Brake band	AT-333	RS		
	8. Forward clutch	AT-320	BT		
Races extremely fast or slips in changing from D <sub>3</sub> to D <sub>2</sub> when depressing pedal.	ON vehicle	1. Fluid level	AT-59		
		2. Throttle position sensor (Adjustment)	EC-174	HA	
		3. Line pressure test	AT-62		
		4. Line pressure solenoid valve	AT-162	SC	
		5. Control valve assembly	AT-273		
		6. A/T fluid temperature sensor	AT-105	EL	
	OFF vehicle	7. Brake band	AT-333		
		8. Forward clutch	AT-320	IDX	
		9. High clutch	AT-317		

# REPAIR FOR COMPONENT PARTS

Forward Clutch Drum Assembly

## Forward Clutch Drum Assembly COMPONENTS

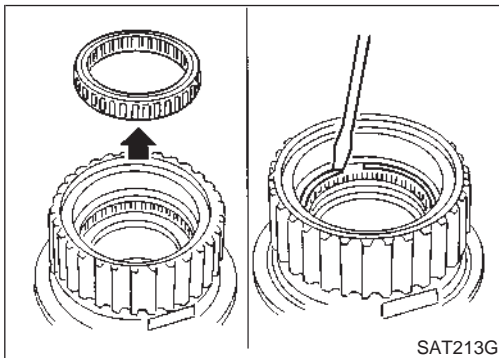
NBAT0140



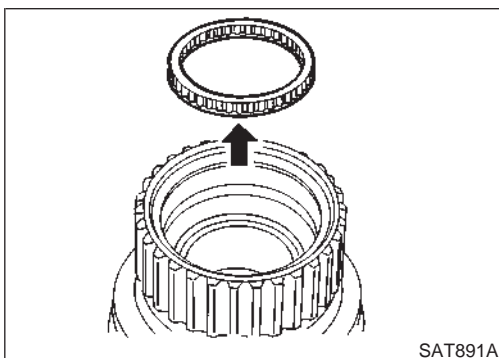
### DISASSEMBLY

NBAT0141

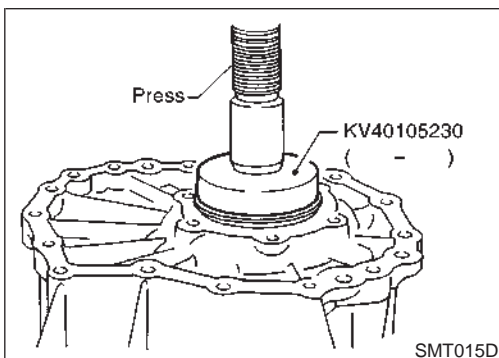
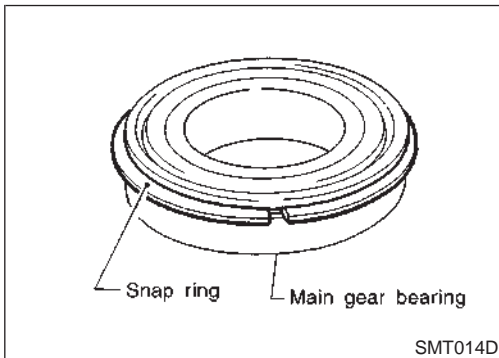
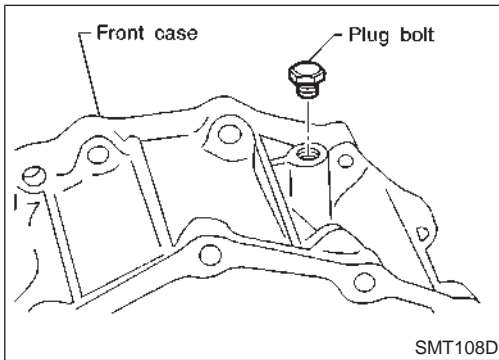
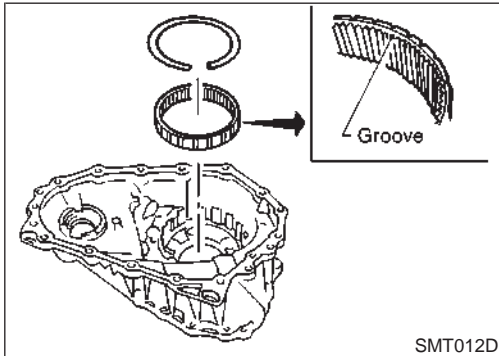
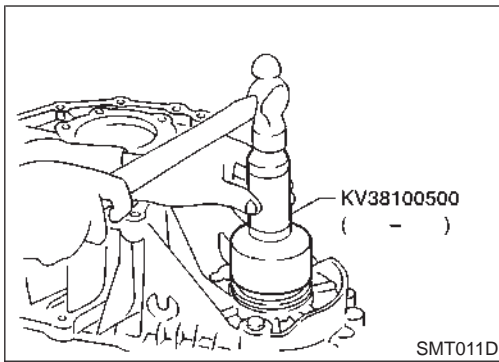
1. Remove snap ring from forward clutch drum.
2. Remove side plate from forward clutch drum.



3. Remove low one-way clutch from forward clutch drum.
4. Remove snap ring from forward clutch drum.



5. Remove needle bearing from forward clutch drum.



## Front Case

### ASSEMBLY

#### Planetary Carrier, Sun Gear and Internal Gear

NBTF0082

NBTF0082S01

1. Apply ATF to oil seal periphery, and install oil seal so that it is flush with the end face of front case.


- Do not reuse oil seal.

2. Install internal gear with its groove facing snap ring into front case. Then secure it with snap ring.

- Do not reuse snap ring.

3. Remove all the liquid gasket on plug bolt and front case. Apply locking sealant to plug bolt, install it to front case and tighten it to specified torque.

- With one crest of plug bolt inserted in the hole, apply liquid gasket 1215 to the thread.

 : 19 - 25 N·m (1.9 - 2.5 kg·m, 14 - 18 ft·lb)

4. Install snap ring to main gear bearing.

- Do not reuse snap rings.

5. Set main gear bearing to front case, then press it.

GI

MA

EM

LC

EC

FE

AT

TF

PD

AX

SU

BR

ST

RS

BT

HA

SC

EL

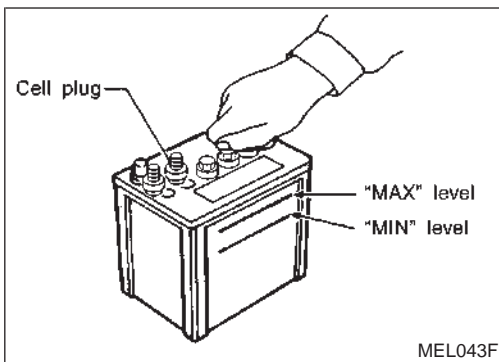
IDX

<b>5</b>	<b>CHECK G SENSOR POWER SUPPLY CIRCUIT</b>	
<p>Check voltage between G sensor connector terminals 1, 2 and ground.</p>		
SBR861D		
<b>Does battery voltage exist?</b>		
Yes	▶	GO TO 6.
No	▶	<p><b>Check the following. If NG, repair harness or connectors.</b></p> <ul style="list-style-type: none"> <li>● Harness connectors B58, B81</li> <li>● Harness for open or short between G sensor and fuse</li> </ul>

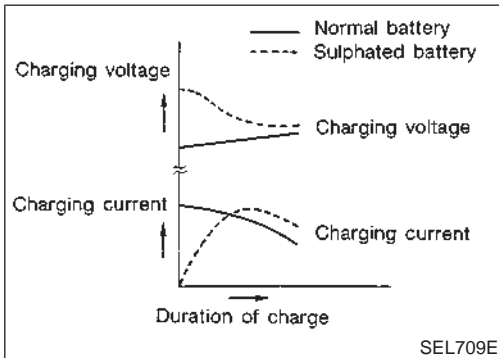
<b>6</b>	<b>CHECK CIRCUIT</b>	
<p>1. Disconnect harness connector from ABS actuator and electric unit.</p> <p>2. Check continuity between ABS actuator and electric unit connector terminals 20, 10 and G sensor connector terminals 17, 51.</p>		
SBR505E		
<b>Does continuity exist?</b>		
Yes	▶	Check actuator and electric unit pin terminals for damage or the connection of actuator and electric unit harness connector. Reconnect actuator and electric unit harness connector. Then retest.
No	▶	<p><b>Check the following. If NG, repair harness or connectors.</b></p> <ul style="list-style-type: none"> <li>● Harness connectors E111, B58, B81</li> <li>● Harness for open or short between G sensor connector and actuator and electric unit</li> </ul>

# BATTERY

How to Handle Battery (Cont'd)



- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.

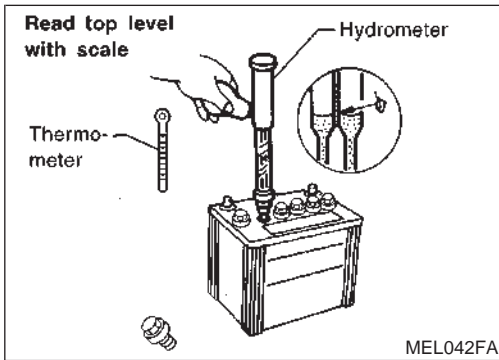


## Sulphation

A battery will be completely discharged if it is left unattended for a long time and the specific gravity will become less than 1.100. This may result in sulphation on the cell plates.

To determine if a battery has been "sulphated", note its voltage and current when charging it. As shown in the figure, less current and higher voltage are observed in the initial stage of charging sulphated batteries.

A sulphated battery may sometimes be brought back into service by means of a long, slow charge, 12 hours or more, followed by a battery capacity test.



## SPECIFIC GRAVITY CHECK

1. Read hydrometer and thermometer indications at eye level.

2. Use the chart below to correct your hydrometer reading according to electrolyte temperature.

## Hydrometer Temperature Correction

Battery electrolyte temperature °C (°F)	Add to specific gravity reading
71 (160)	0.032
66 (150)	0.028
60 (140)	0.024
54 (130)	0.020
49 (120)	0.016
43 (110)	0.012
38 (100)	0.008
32 (90)	0.004
27 (80)	0
21 (70)	-0.004
16 (60)	-0.008
10 (50)	-0.012

GI  
MA  
EM  
LC  
EC  
FE  
AT  
TF  
PD  
AX  
SU  
BR  
ST  
RS  
BT  
HA  
SC  
EL  
IDX