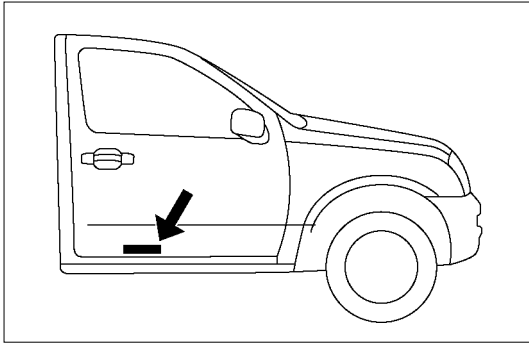


IDENTIFICATION

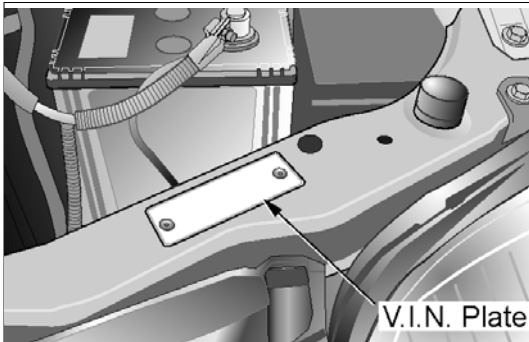
CHASSIS NUMBER

The chassis number is stamped on the right-hand side of the chassis side member under the right door.



VEHICLE IDENTIFICATION PLATE

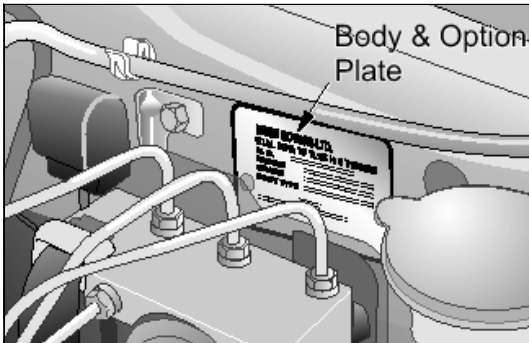
The vehicle identification plate is attached to the upper face of the radiator sill in the engine compartment.



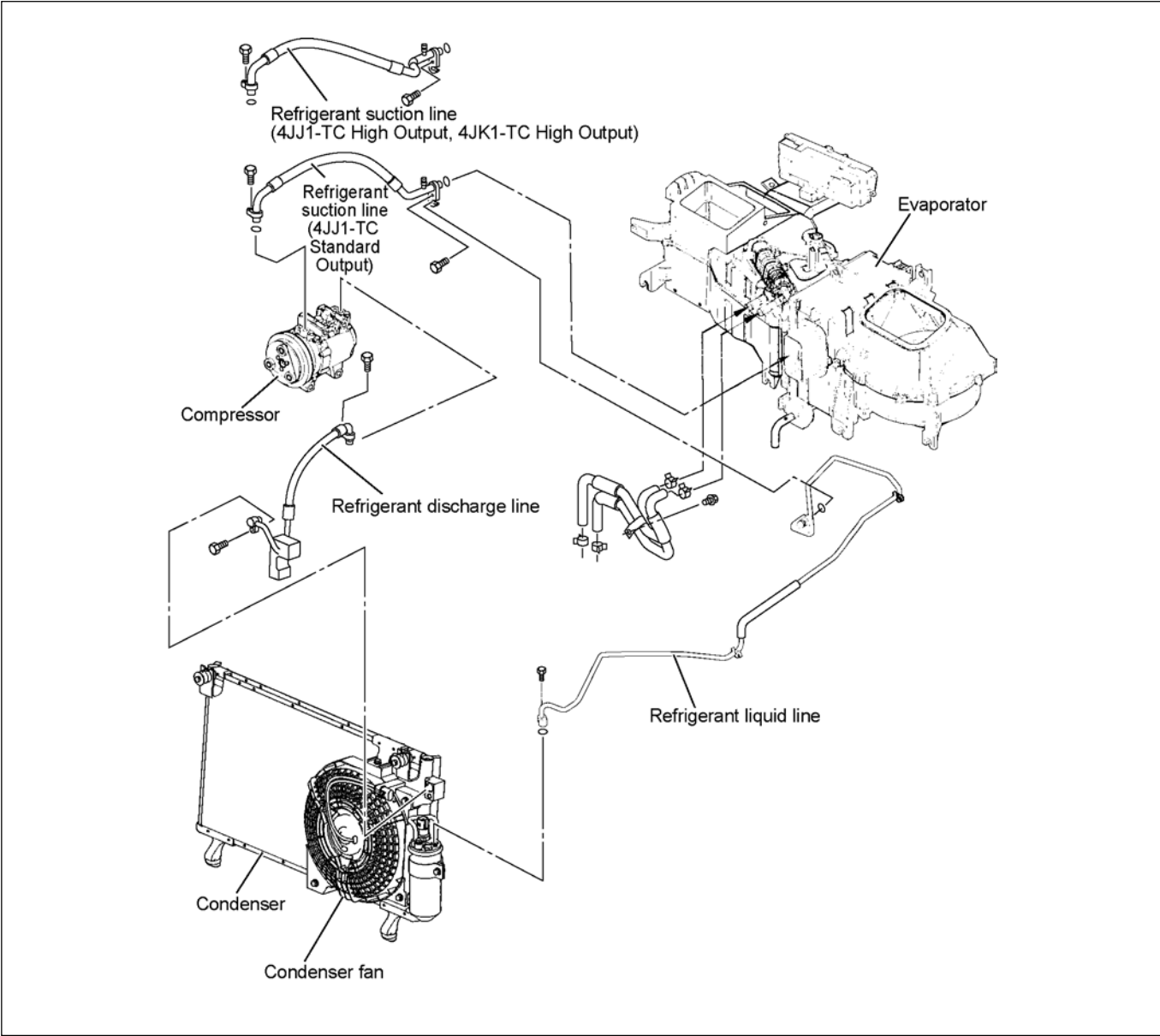
RTW50ASH000201

BODY AND OPTION IDENTIFICATION PLATE

The body and option plate shows body style, body serial number, paint and trim colour combination, paint number, engine transmissions, axle ratio options and built date. The built date is defined as 'the date of manufacture' by the calendar month and year in which the body shell and power train sub-assemblies are co-joined or moved from the production line.



(4JJ1-TC Standard Output, 4JJ1-TC High Output, 4JK1-TC High Output RHD MODEL)

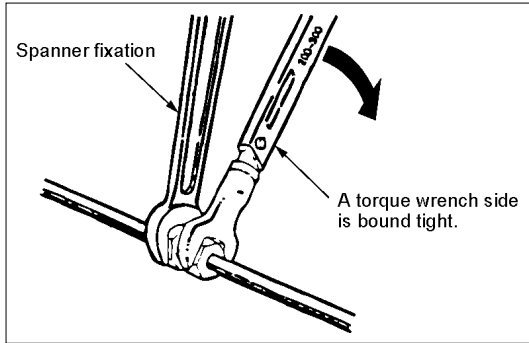


RTW710LF002001

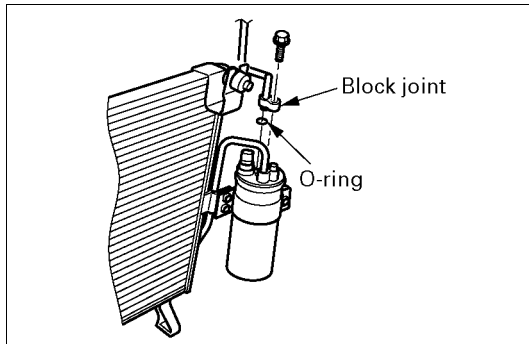
REPAIR OF REFRIGERANT LEAKS

Refrigerant Line Connections

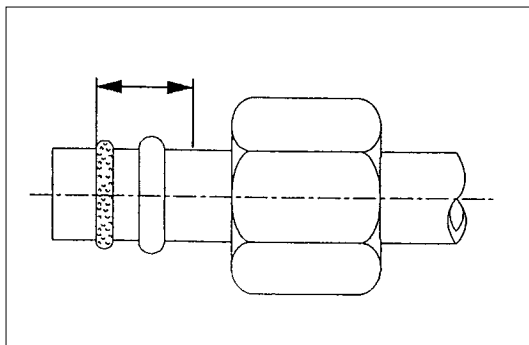
Install new O-ring, if required. When disconnecting or connecting lines, use two wrenches to prevent the connecting portion from twisting or becoming damaged.



RTW410SH000101



When connecting the refrigerant line at the block joint, securely insert the projecting portion of the joint portion into the connecting hole on the unit side and secure with a bolt.

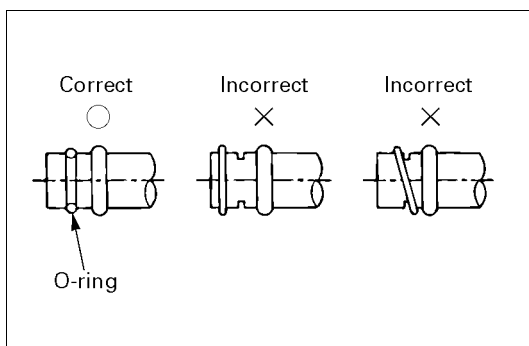


Apply specified compressor oil to the O-rings prior to connecting.



CAUTION:

Compressor (PAG) oil to be used varies according to compressor model. Be sure to apply oil specified for the model of compressor.



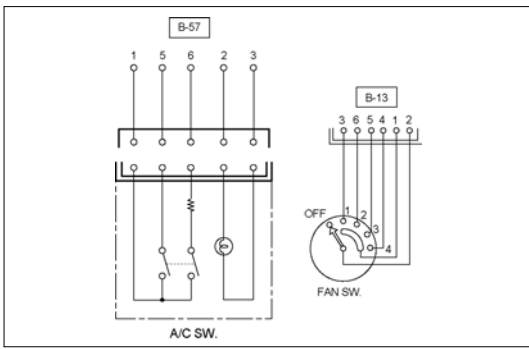
O-rings must be closely aligned with raised portion of refrigerant line.



Fan switch and A/C switch

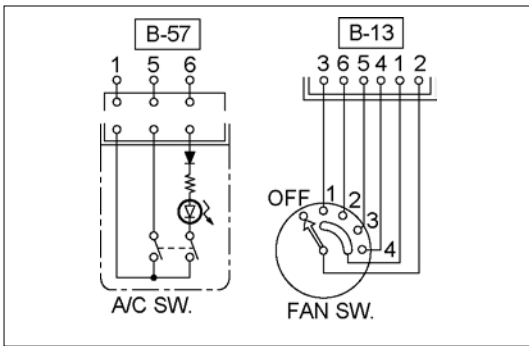
Check for continuity between fan switch and A/C switch side connector terminals.

(A/C (4JA1-T, 4JJ1-TC Standard Output, 4JJ1-TC High Output, 4JK1-TC High Output))



RTW710SH000801

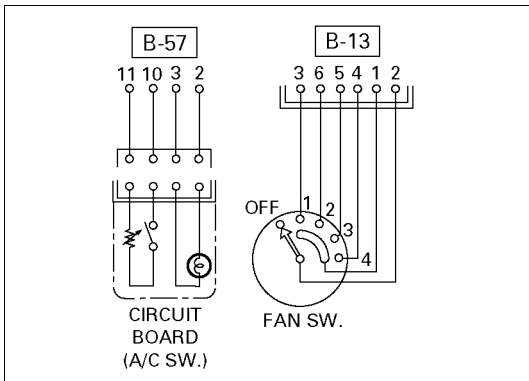
Terminal No. / SW. position		B-13						B-57					
		1	2	3	4	5	6	2	3	1	5	6	
(FAN SW.)	OFF												
	1	○	○	○									
	2	○	○	○	○	○	○						
	3	○	○	○	○	○							
	4	○	○	○	○								
(A/C SW.)	OFF							○	○				
	ON							○	○	○	○	○	



RUW710SH000501

(A/C (4JH1-TC, C24SE)).

Terminal No. / SW. position		B-13						B-57		
		1	2	3	4	5	6	1	5	6
(FAN SW.)	OFF									
	1	○	○	○						
	2	○	○	○	○	○	○			
	3	○	○	○	○	○				
	4	○	○	○	○					
(A/C SW.)	OFF									
	ON							○	○	○



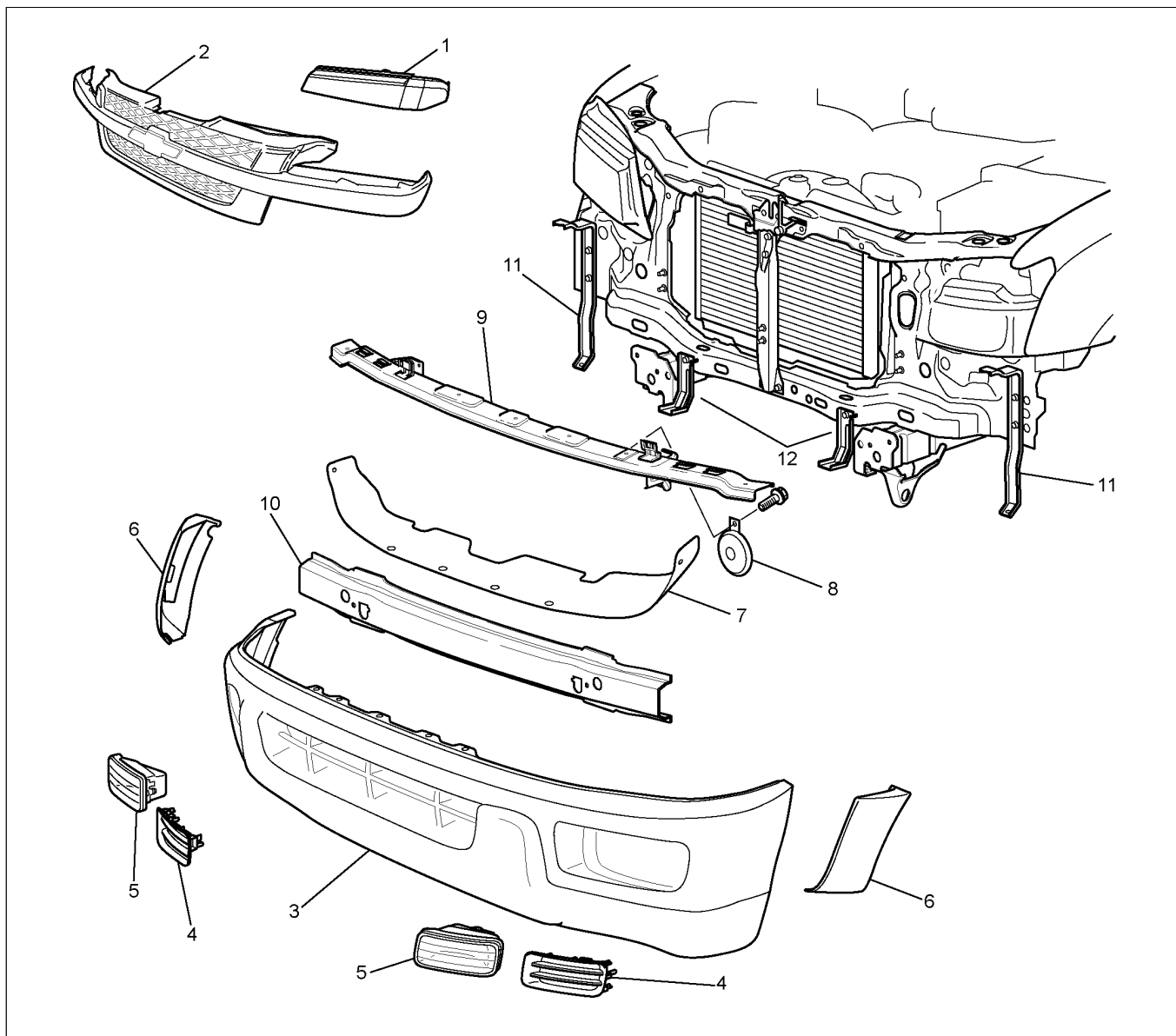
D08R300070

(Cooler)

Terminal No. / SW. position		B-13						B-57				
		1	2	3	4	5	6	2	3	10	11	
(FAN SW.)	OFF											
	1	○	○	○								
	2	○	○	○	○	○	○					
	3	○	○	○	○	○						
	4	○	○	○	○							
(A/C SW.)	OFF							○	○			
	ON							○	○	○	○	

FRONT BUMPER (B TYPE)

↔ ↔ REMOVAL AND INSTALLATION



RTW52ALF000501

Removal Steps

- ▲ 1. Front combi lamp assembly
- ▲ 2. Radiator grille
- ▲ 3. Front bumper fascia
- 4. Bezel (W/O fog light)
- 5. Fog light
- ▲ 6. Bumper seal
- 7. Front bumper flare assembly (W/ Front wheel extension)
- 8. Horn
- 9. Front bumper impact support assembly
- 10. Front bumper impact bar assembly
- 11. Fascia support side bracket
- 12. Fascia support lower bracket

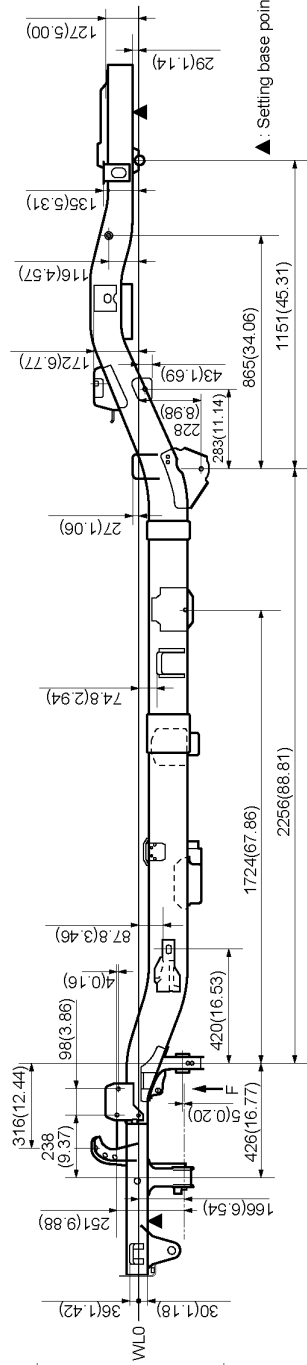
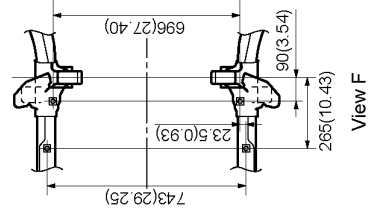
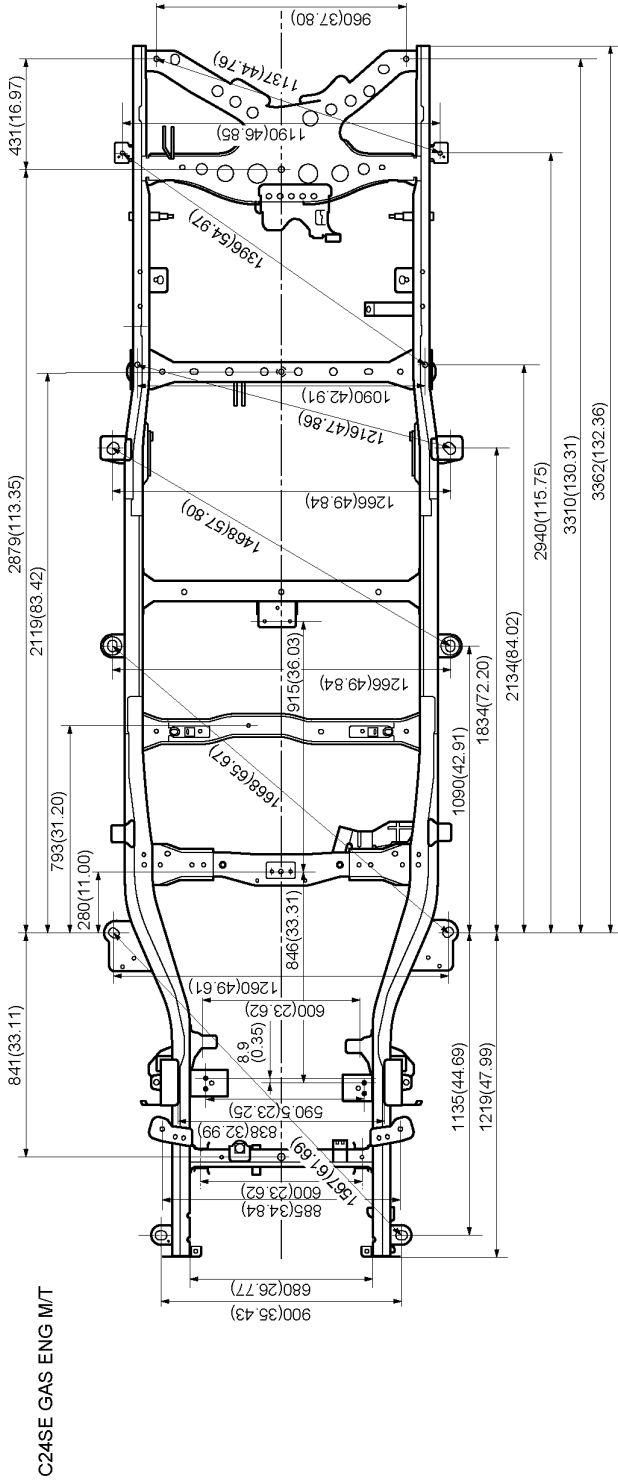
Installation Steps

- 12. Fascia support lower bracket
- 11. Fascia support side bracket
- ▲ 10. Front bumper impact bar assembly
- 9. Front bumper impact support assembly
- 8. Horn
- ▲ 7. Front bumper flare assembly (W/ Front wheel extension)
- 6. Bumper seal
- ▲ 5. Fog light
- 4. Bezel (W/O fog light)
- 3. Front bumper fascia
- 2. Radiator grille
- 1. Front combi lamp assembly

4x2, HIGH RIDE, LWB, CREW CAB MODEL

This illustration is based on the RHD model.

mm(in)



MISCELLANEOUS TEST

The state of each circuit can be tested by using miscellaneous test menus. Especially when DTC cannot be detected, a faulty circuit can be diagnosed by testing each circuit by means of these menus.

Even DTC has been detected, the circuit tests using these menus could help discriminate between a mechanical trouble and an electrical trouble.

Connect Tech 2 and select "Powertrain", "2.XL L4 HV240" & "Miscellaneous Test".

F0: Lamps

F0: Malfunction Indicator Lamp

When the Tech 2 is operated, "Malfunction Indicator Lamp (Check Engine Lamp)" is turned on or off.

The circuit is normal if the "Malfunction Indicator Lamp (Check Engine Lamp)" in the instrument panel is turned on or off in accordance with this operation.

F1: Relays

F0: Fuel Pump Relay

When the Tech 2 is operated, fuel pump relay signal turns ON or OFF.

The circuit is normal if fuel pump sound is generated in accordance with this operation when key switch is turned ON.

F1: A/C Clutch Relay

When the Tech 2 is operated, A/C clutch relay signal turns ON or OFF.

The circuit is normal if A/C compressor clutch is energized in accordance with this operation when the engine is running.

F2: EVAP

F0: Purge Solenoid

When the Tech 2 is operated, duty ratio of EVAP purge solenoid is changed 10%-by-10%.

Purge Solenoid	
Engine Speed	800 RPM
Desired Idle Speed	762 RPM
Engine Coolant Temperature	80 °C
Start Up ECT	50 °C
Intake Air Temperature	30 °C
Start Up IAT	25 °C
Manifold Absolute Pressure	35kPa
EVAP Purge Solenoid	30%

- Press "Increase" key.
Then, EVAP Purge Solenoid is increases 10%-by-10%.
- Press "Quit" Key.

F3: IAC System

F0: IAC Control

When the Tech 2 is operated, "Idle Air Control" increases or decreases 5steps-by-5steps up to 150steps.

The circuit is normal if idle engine speed is changed in accordance with this operation.

IAC Control	
Engine Speed	800 RPM
Desired Idle Speed	762 RPM
Engine Coolant Temperature	80 °C
Start Up ECT	50 °C
Intake Air Temperature	30 °C
Start Up IAT	25 °C
Manifold Absolute Pressure	35kPa
Idle Air Control	30 Steps

- Press "Increase" key.
Then, Idle Air Control is increases 10steps-by-10steps up to 160steps. Engine speed is also changed by this operation.
- Press "Quit" Key.

F1: IAC Reset

When the Tech 2 is operated, "Idle Air Control" resets. The circuit is normal if idle engine speed is dropped in accordance with this operation.

IAC Reset	
Engine Speed	800 RPM
Desired Idle Speed	762 RPM
Engine Coolant Temperature	80 °C
Start Up ECT	50 °C
Intake Air Temperature	30 °C
Start Up IAT	25 °C
Manifold Absolute Pressure	35kPa
Idle Air Control	30 Steps

- Press "Increase" key.
Then, Desired Idle speed is increases 50rpm-by-50rpm up to 1550rpm. Engine speed is also changed by this operation.
- Press "Quit" Key.

Disassemble

- 1 Using an appropriately sized deep socket (1) and a plastic hammer (2), lightly tap on the valve spring retainer to loosen the valve collets.

CAUTION

Ensure valve heads will not contact anything during this step in order to avoid bending or damage.

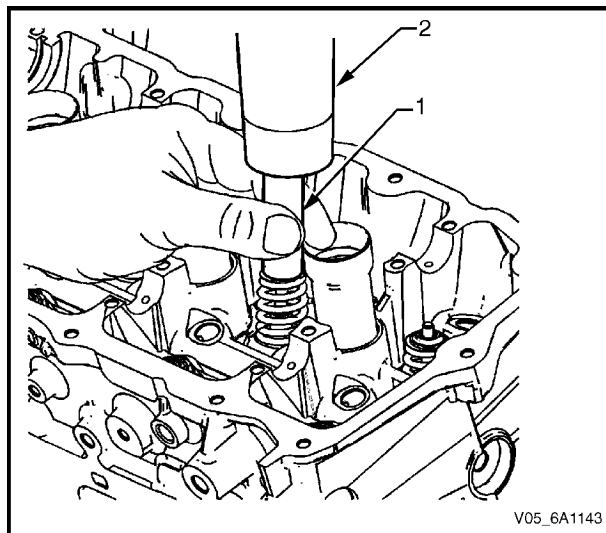


Figure 6A1 - 369

CAUTION

Do not compress the valve springs less than 24.0 mm. Contact between the valve spring retainer and the valve stem oil seal can cause potential valve stem oil seal damage.

WARNING

Compressed valve springs (1) have high tension against the valve spring compressor (2). Valve springs that are not correctly compressed by, or are released from the valve spring compressor with intense force. Use care when compressing or releasing the valve spring with the valve spring compressor and when removing or installing the valve stem keys. Failing to use care may cause personal injury.

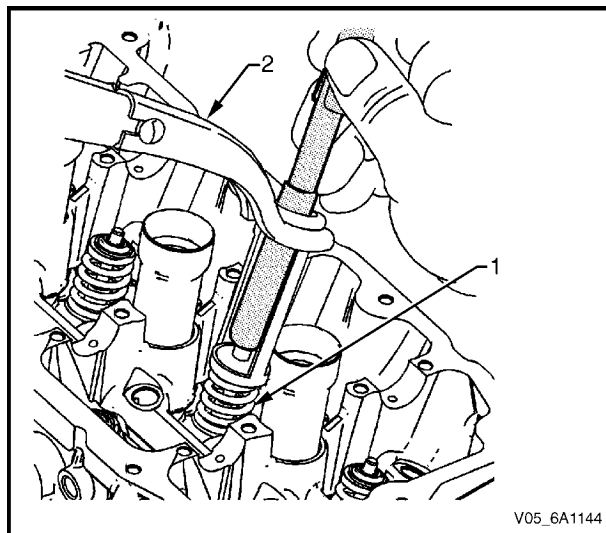


Figure 6A1 - 370

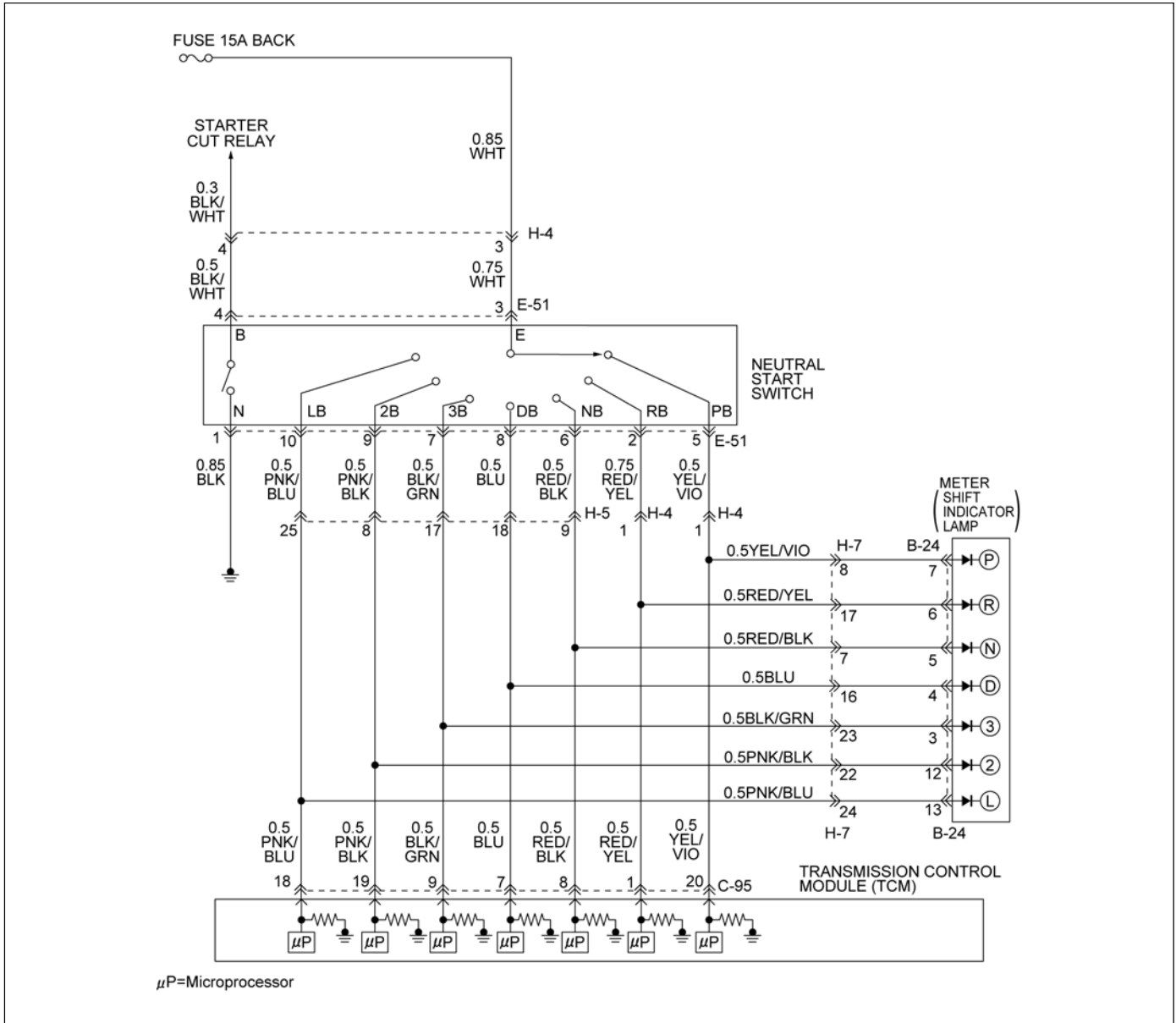
- 2 Compress the valve spring (1) using valve spring compressor Tool No. J-8062 (2) and adaptor Tool No. EN-46119.

Vehicle Speed	km/h	0	0
Engine Runtime	h:m:s	00:00:00	00:10:25
Fuel Pump Relay	Off / On	Off	On
(1) Automatic Transmission Only (2) Manual Transmission Only			

Fuel Trim Data

Tech 2 Display	Units Displayed	Ignition On	Engine Running
B1 Short Term Fuel Trim (Bank 1)	%	0	-1
B1 LTFT Idle/Deceleration (Bank 1 Long Term Fuel Trim)	%	0	1
B1 LTFT Cruise/Acceleration (Bank 1 Long Term Fuel Trim)	%	0	0
B1 Total Fuel Trim (Bank 1)	%	0	4
B2 Short Term Fuel Trim (Bank 2)	%	0	0
B2 LTFT Idle/Deceleration (Bank 2 Long Term Fuel Trim)	%	0	1
B2 LTFT Cruise/Acceleration (Bank 2 Long Term Fuel Trim)	%	0	0
B2 Total Fuel Trim (Bank 2)	%	0	4
Fuel Trim Learn	Disabled / Enabled	Disabled	Disabled
Loop Status B1S1 (Bank 1 Sensor 1)	Open / Closed	Open	Closed
Loop Status B2S1 (Bank 2 Sensor 1)	Open / Closed	Open	Closed
Injection Time Cylinder 1	ms	0.0	2.5
Injection Time Cylinder 2	ms	0.0	2.5
Injection Time Cylinder 3	ms	0.0	2.5
Injection Time Cylinder 4	ms	0.0	2.5
Injection Time Cylinder 5	ms	0.0	2.5
Injection Time Cylinder 6	ms	0.0	2.5
Requested Torque	%	99	99
Catalyst Protection Mode	Inactive / Active	Inactive	Inactive
B1 Catalyst Temperature (Bank 1)	°C	300	300
B2 Catalyst Temperature (Bank 2)	°C	300	300
B1S1 O2 Sensor (Bank 1 Sensor 1)	:1 (= Lambda)	0.99	0.99
B1S2 O2 Sensor (Bank 1 Sensor 2)	mV	438	520
B2S1 O2 Sensor (Bank 2 Sensor 1)	:1 (= Lambda)	0.99	0.99
B2S2 O2 Sensor (Bank 2 Sensor 2)	mV	438	516
B1 Average Injection Time (Bank 1)	ms	0.0	2.5
B2 Average Injection Time (Bank 2)	ms	0.0	2.5
Power Enrichment	No / Yes	No	No
Dec. Fuel Cutoff (Deceleration)	Inactive / Active	Inactive	Inactive
EVAP Purge Solenoid (Evaporative Emission)	%	0	32

DTC P0707 or P0708 (Flash Code 17)



RTW77ALF001401

Circuit Description

The neutral start switch gives the signals related to the selector lever position (PRND32L) to the Transmission Control Module (TCM). The neutral start switch turns on when the select lever is shifted to the P, R, N, D, 3, 2 or L position. The neutral start switch, which is connected to the starter switch circuit, is available only when the select lever is in the P or N position (Engine run).

The neutral start switch is connected to the transmission manual shaft and mounted on the transmission case.

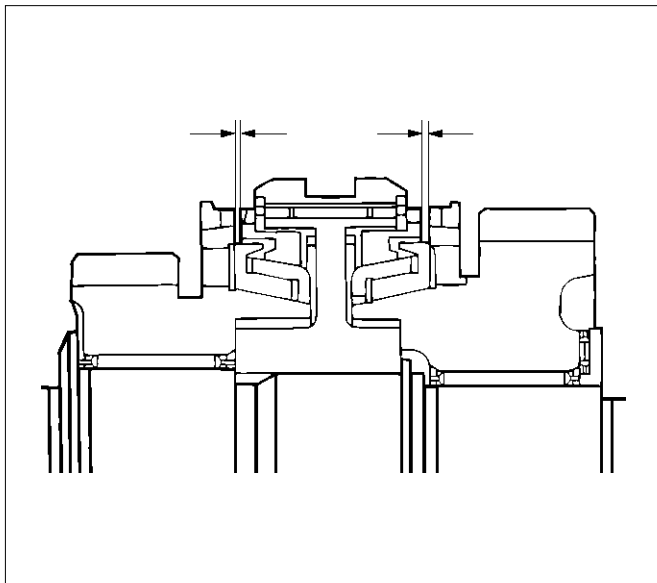
Condition For Running The DTC

All of the following conditions are met.

- (1) All of the following conditions are met for 2 seconds or more continuously.
 - The supply voltage is more than 10.2 volts and less than 15.5 volts.
 - DTC U2104 is not detecting failure or not deciding failure.
 - DTC U2105 is not detecting failure or not deciding failure.
 - Engine revolution signal is not detecting failure or not deciding failure.
 - The engine revolution is more than 550rpm.

1st-2nd Synchronizer (3-CONE)

- Use a thickness gauge to measure the clearance between the block ring and the dog teeth.



226RS036

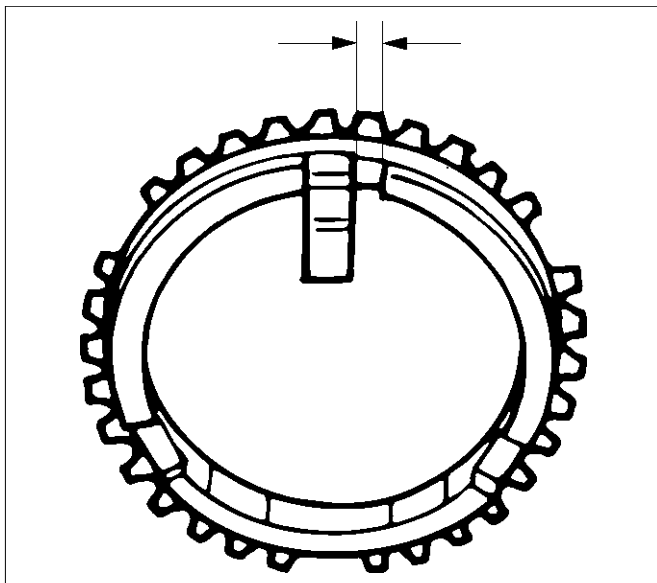
If the measured value exceeds the specified limit, the 1st-2nd synchronizer assembly must be replaced.

Block Ring and Dog Teeth Clearance

Standard	Limit
1.5 mm (0.059 in)	0.8 mm (0.031 in)

Block Ring and Insert Clearance

- Use a vernier caliper or thickness gauge to measure the clearance between the block ring and the insert.



226RS037

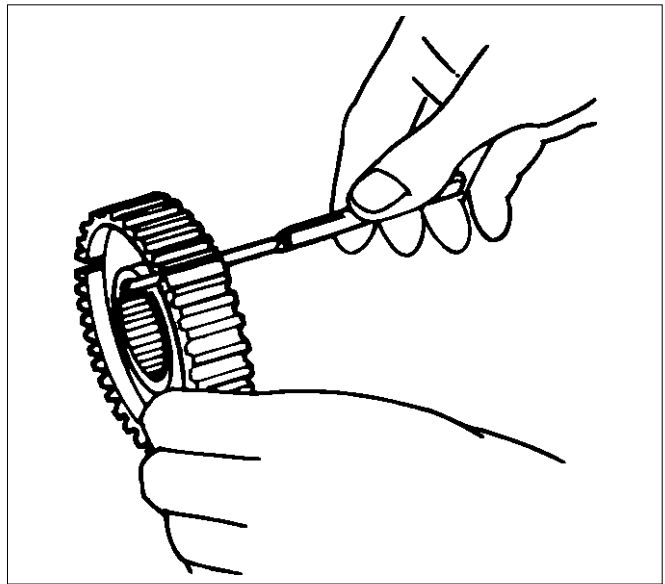
If the measured value exceeds the specified limit, the block ring and the insert must be replaced.

Block and Insert Clearance

	Standard	Limit
3rd-4th	3.46 - 3.76 mm (0.136 - 0.148 in)	4.0 mm (0.157 in)
1st-2nd	3.86 - 4.16 mm (0.152 - 0.164 in)	4.9 mm (0.193 in)
Rev.5th	3.59 - 3.91 mm (0.141 - 0.154 in)	4.1 mm (0.161 in)

Clutch Hub and Insert Clearance

- Use a thickness gauge to measure the clearance between the clutch hub and the insert.

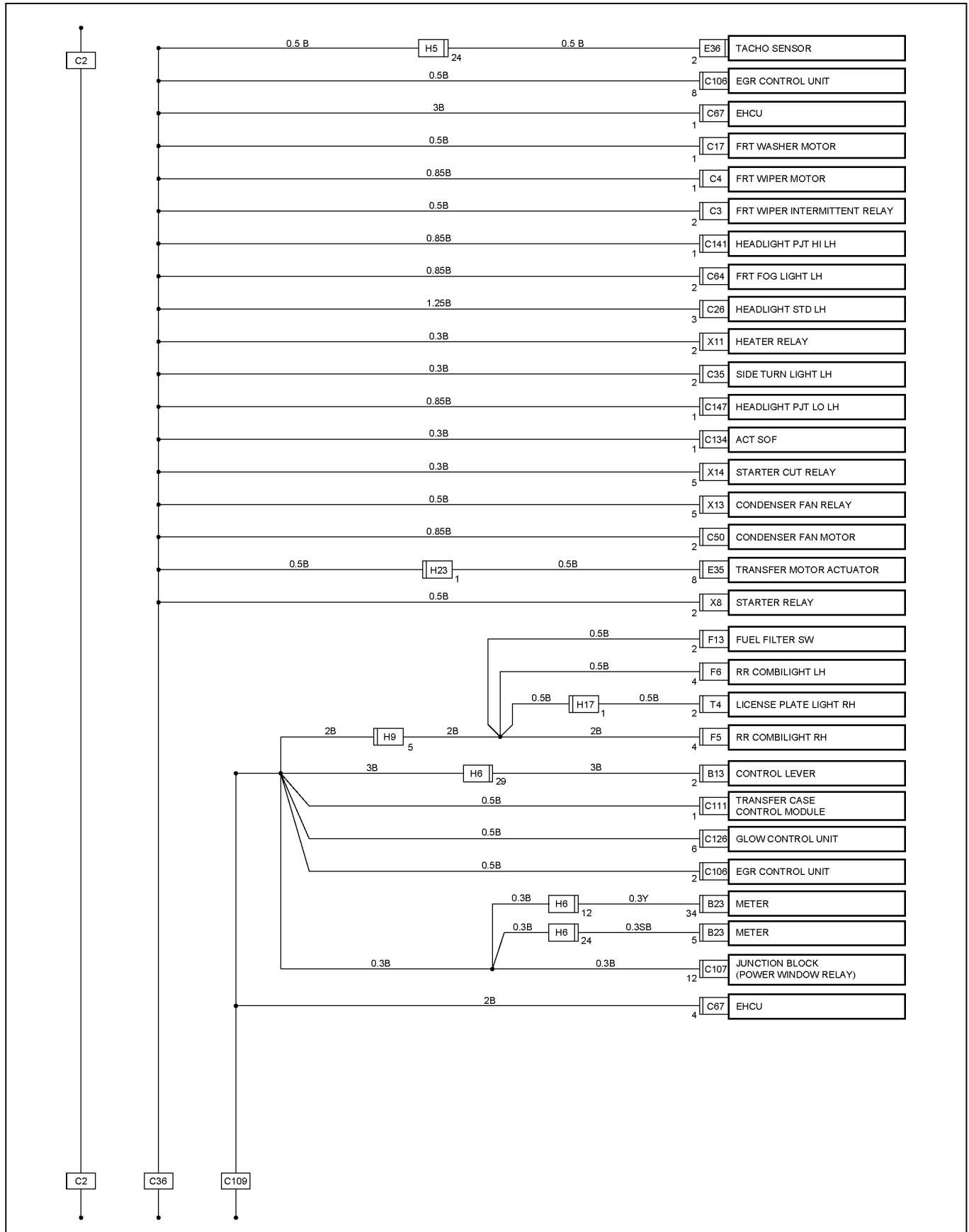


226RS038

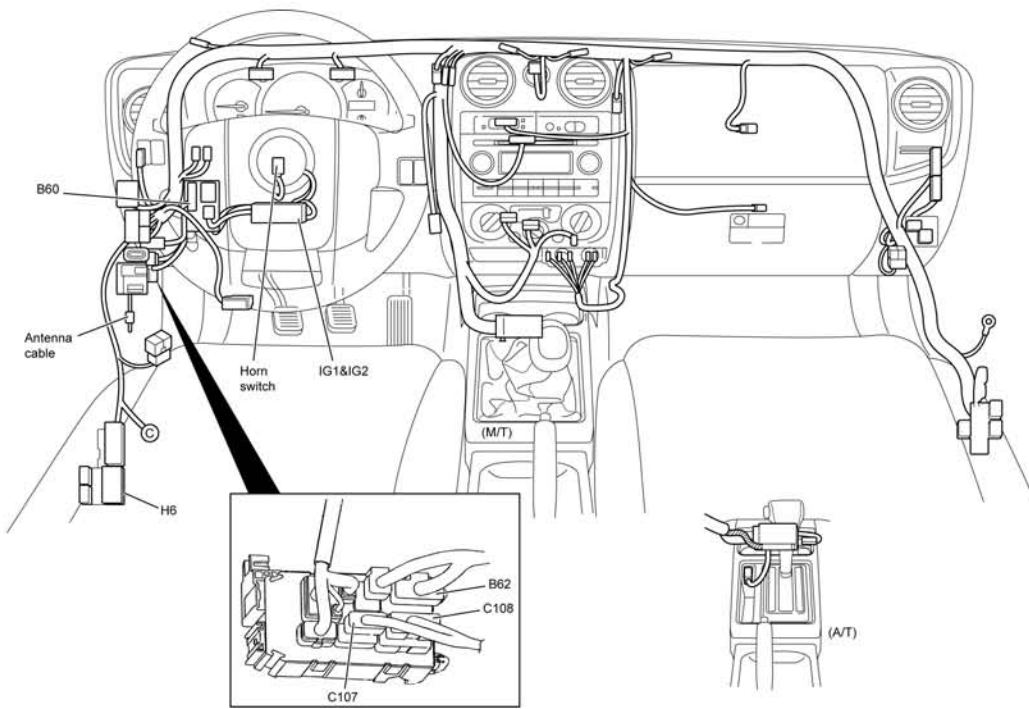
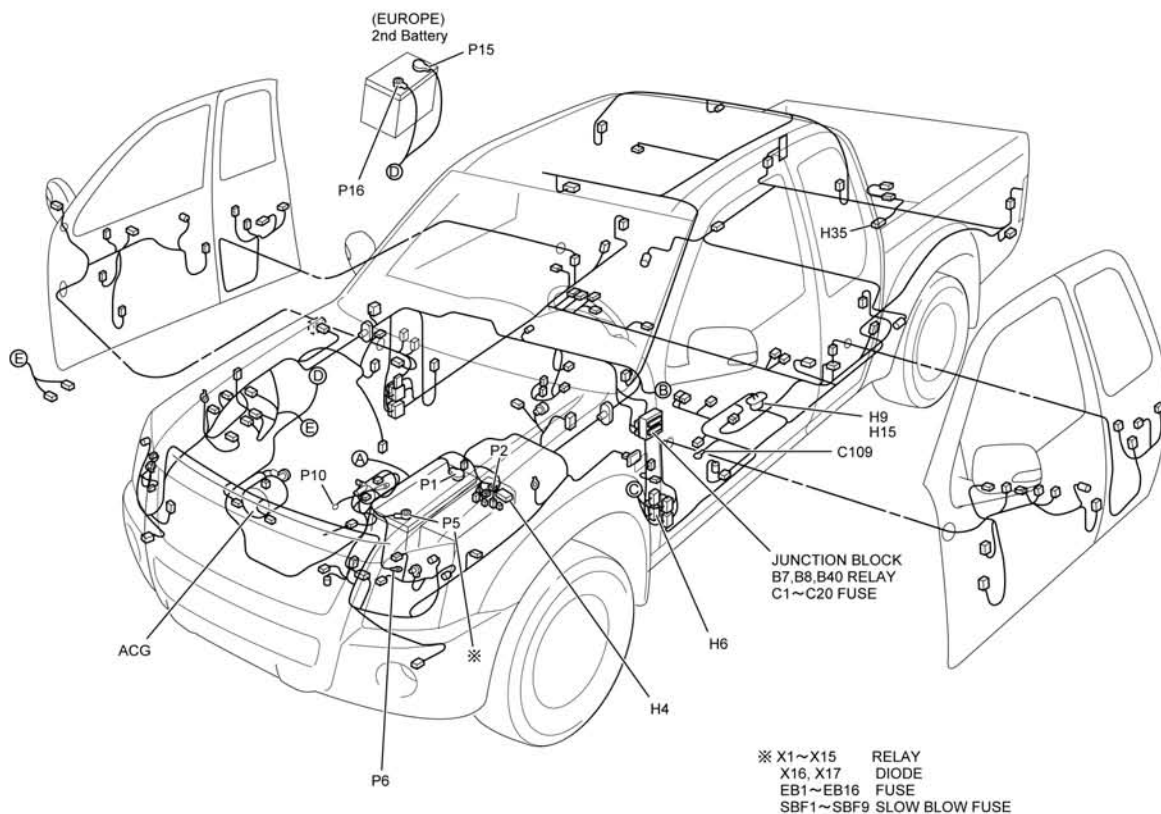
If the measured value exceeds the specified limit, the clutch hub and the insert must be replaced.

Clutch Hub and Insert Clearance

	Standard	Limit
1st-2nd	0.01 - 0.21 mm (0.0004 - 0.0083 in)	0.3 mm (0.012 in)
3rd-4th	0.09 - 0.31 mm (0.0035 - 0.0122 in)	0.4 mm (0.016 in)



PARTS LOCATION (LHD)



Parts Location (RHD) (2)

