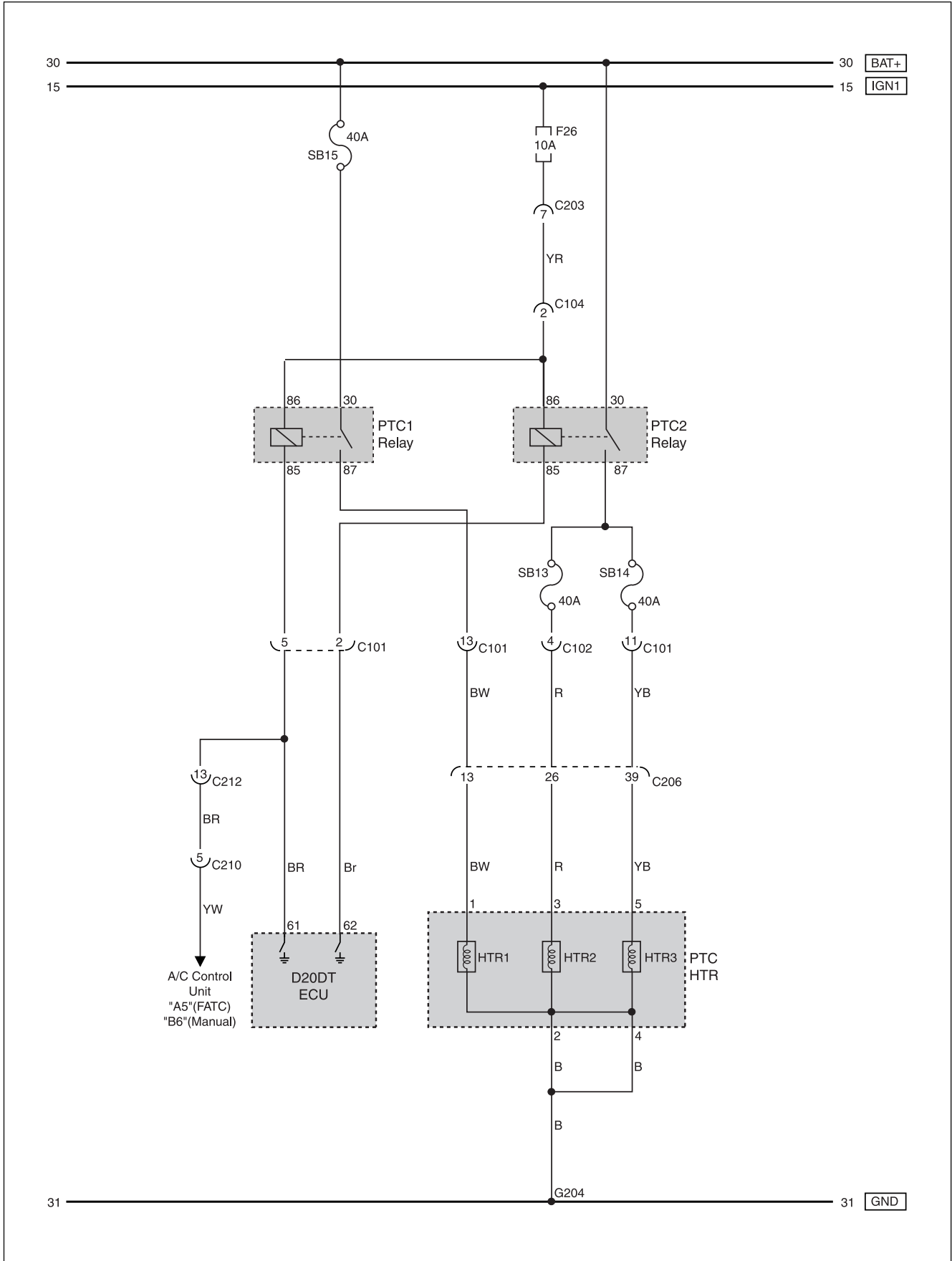


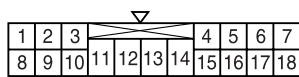
33. PTC (POSITIVE TEMPERATURE COEFFICIENT) HEATER 6810



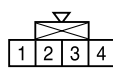
A. CONNECTOR INFORMATION

Connector Number (Pin Number, Color)	Connecting Wiring Harness	Connector Position	Remark
C101 (18Pin, White)	W/H Floor - Eng Room Fuse & Relay Box	Eng Room Fuse & Relay Box	
C102 (4Pin, White)	W/H Floor - Eng Room Fuse & Relay Box	Eng Room Fuse & Relay Box	
C104 (14Pin, White)	W/H Floor - Eng Room Fuse & Relay Box	Eng Room Fuse & Relay Box	
C203 (18Pin, White)	W/H Main - W/H Floor	Driver Cowl Side C/Holder	
C206 (39Pin, Black)	W/H Main - W/H Floor	Upper the Driver Legroom	C/Holder
C210 (16Pin, White)	W/H Main - W/H A/Con	Inside the Middle I/P (Right PTC)	
C212 (20Pin, L/Green)	W/H Main - W/H Floor	Passenger Cowl Side C/Holder	
G204	W/H Main	LH Eng ECU	PTC

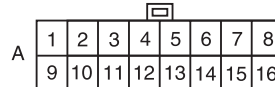
B. CONNECTOR IDENTIFICATION SYMBOL & PIN NUMBER POSITION



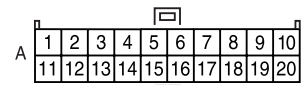
C101
W/H Floor
(Eng Room Fuse & Relay Box)



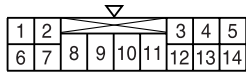
C102
W/H Floor
(Eng Room Fuse & Relay Box)



A
A/C Control Panel(Manual)



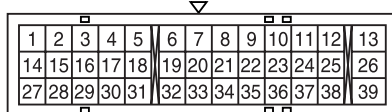
A
A/C Control Panel(FATC)



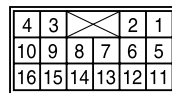
C104
W/H Floor
(Eng Room Fuse & Relay Box)



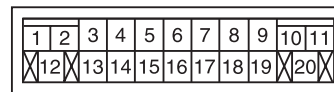
C203
W/H Floor



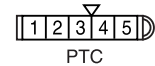
C206
W/H Floor



C210
W/H A/Con



C212
W/H Floor



PTC

C. CIRCUIT DESCRIPTION

PTC (POSITIVE TEMPERATURE COEFFICIENT) SYSTEM

The supplementary electrical heater is installed in DSL engine equipped vehicle as a basic equipment. The PTC system is operated according to two temperature values measured at the coolant temperature sensor and HFM sensor. This device is mounted in the heater air outlet and increase the temperature of air to the passenger room. Because PTC system is heated by electrical power, high capacity alternator is required. (Alternator of 12 V 75 A/90 A has changed to 12 V 140A)

PTC OPERATING (ON) CONDITION

The operating condition of PTC is controlled by two step. Generally, ECU control the power relay for PTC depending on the coolant temperature and ambient temperature sensor.

1. 1st step (Initial PTC operating condition)
 - 1) When coolant temperature < 15°C, PTC is operating (ON).

- 2) When coolant temperature ≥ 15°C, tow conditions decribed below must be satisfied.
2. 2nd step (Coolant temperature: 15°C)
 - 1) When coolant temperature 65°C ≤ and ambient temperature ≤ 10°C PTC operates (ON)
 - 2) When coolant temperature 65 ~ 60°C and ambient temperature -10°C ~ 0°C PTC operates (ON)
 - 3) When coolant temperature ≤ 60°C and ambient temperature ≤ 0°C ~ 5°C, PTC operates (ON)

PTC “OFF” CONDITION

1. Airconditioner blower switch OFF
2. Ambient temperature sensor error (wiring short or open)
3. When engine craking
4. Battery voltage is lower than 11V
5. When preheating the engine (Glow indicator “ON”)