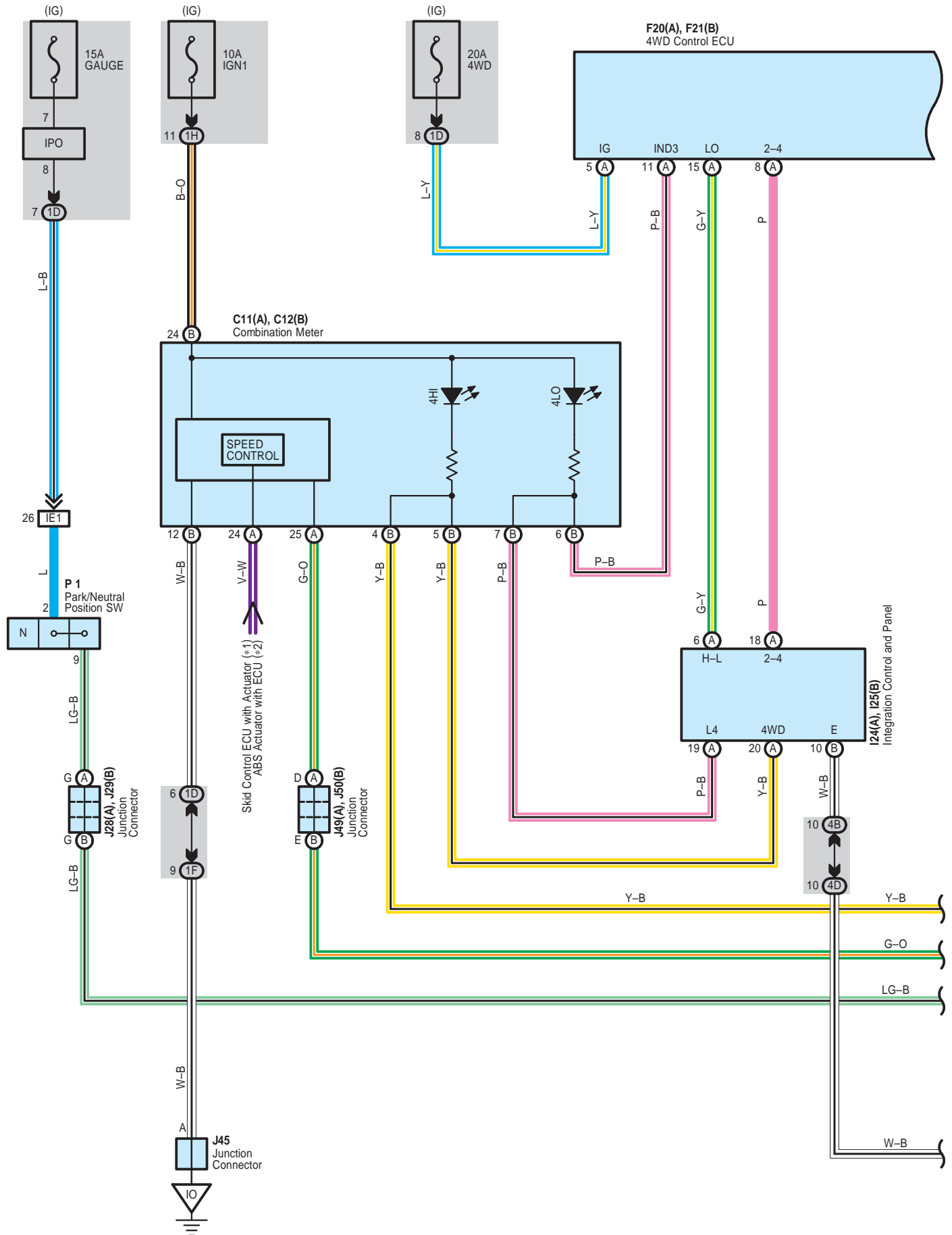
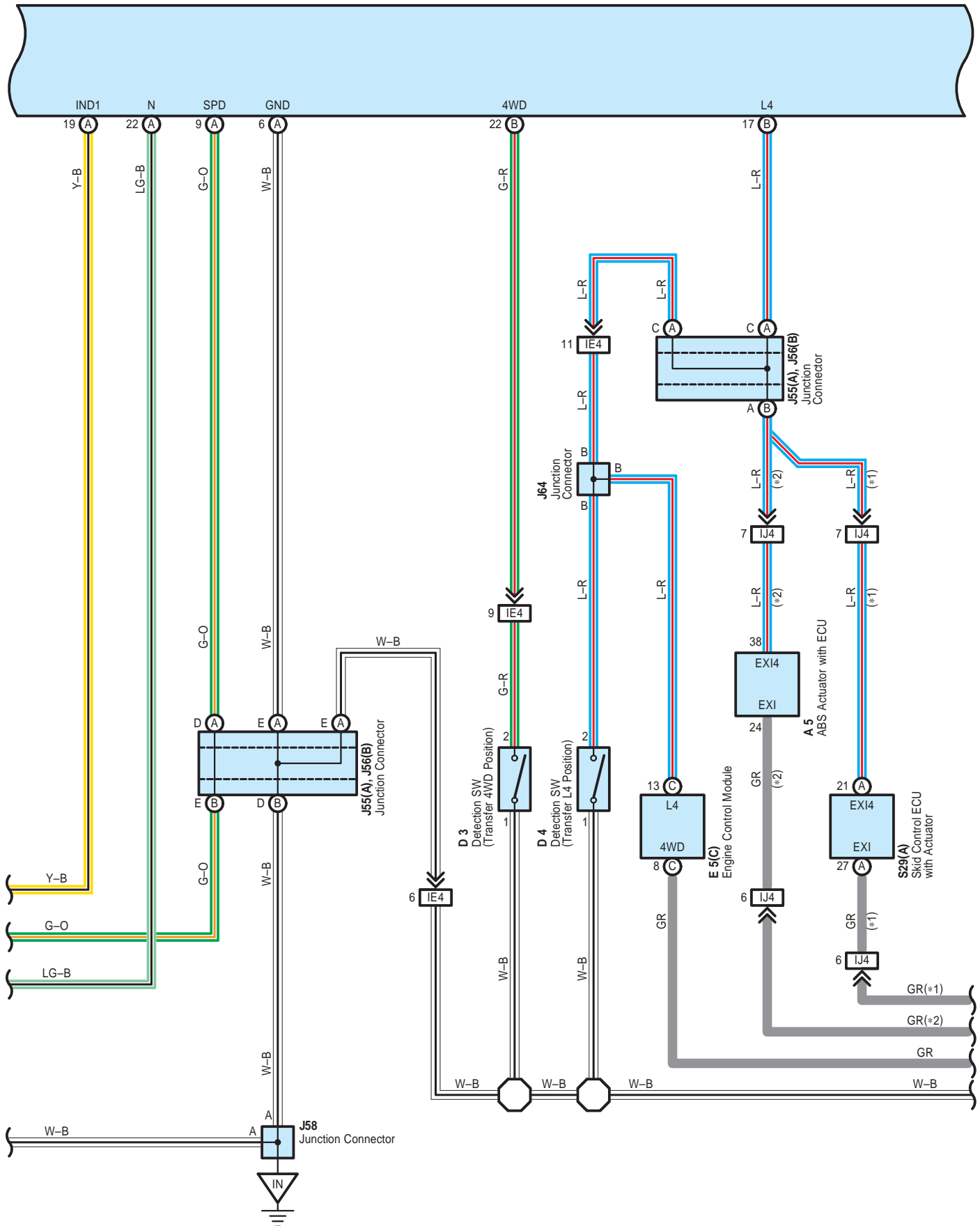


# 4WD (Double Cab)



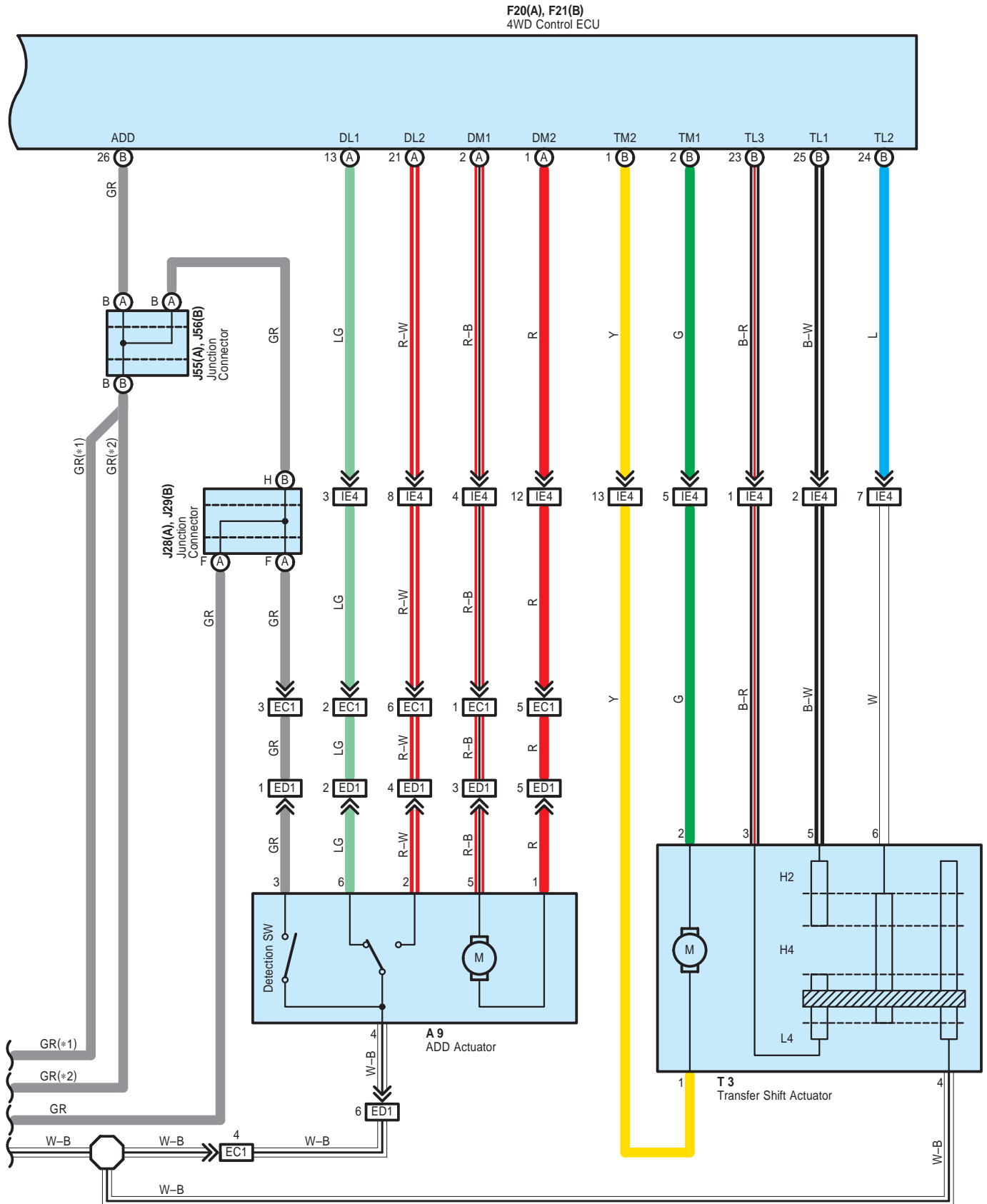
\* 1 : w/ VSC  
 \* 2 : w/o VSC

F20(A), F21(B)  
 4WD Control ECU



# 4WD (Double Cab)

\* 1 : w/ VSC  
\* 2 : w/o VSC



## System Outline

In the conventional system, the 2–4 select SW and the transfer shift lever was used to shift the mode between H–L. In this system, the transfer shift lever is not used, and the H–L mode shift can be done by the transfer shift actuator.

The mode can be changed by the touch select 2–4 SW and touch select high–low in the integration control and panel.

The shift range is controlled according to the vehicle speed sensor and Park/Neutral position SW, and the indicator light is turned ON to inform the driver if any of the following conditions are detected:

- \* The shift is not completed even though 3 seconds have elapsed after transfer operation.
- \* The vehicle speed is above approximately 100 km/h (63 mph) when shifting from H2 to H4.
- \* The vehicle speed is below approximately 5 km/h (3 mph) or the A/T shift lever is in a position other than N position, when shifting from H4 to L4 or visa versa, and from L4 to H2.

### Transfer Operation

#### H2 to H4

When the touch select 2–4 SW in the integration control and panel is turned ON, a signal is input into TERMINAL (A) 8 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 2 to transfer shift actuator TERMINAL 2 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (B) 1 to GROUND, and the transfer shifts to 4WD (H4 position.)

When the system shifts to 4WD, the detection SW (Transfer 4WD position) is turned ON, and the current flows from 4WD control ECU TERMINAL (A) 2 to ADD actuator TERMINAL 5 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (A) 1 to GROUND, and the ADD actuator is activated, and the ADD is connected. When the ADD is connected, the detection SW (ADD position SW) is turned ON, and the 4HI Indicator light comes ON.

#### H4 to H2

When the touch select 2–4 SW in the integration control and panel is turned OFF, a signal is input into TERMINAL (A) 8 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 1 to transfer shift actuator TERMINAL 1 to motor to TERMINAL 2 to 4WD control ECU TERMINAL (B) 2 to GROUND, and the transfer shifts to 2WD (H2 position.)

When the system shifts to 2WD, the detection SW (Transfer 4WD position) is turned OFF, and the current flows from 4WD control ECU TERMINAL (A) 1 to ADD actuator TERMINAL 1 to motor to TERMINAL 5 to 4WD control ECU TERMINAL (A) 2 to GROUND, and the ADD actuator is activated, and the ADD is disconnected. When the ADD is disconnected, the detection SW (ADD position SW) is turned OFF, and the 4HI indicator Light turns OFF.

#### H4 to L4

When the touch select high–low SW in the integration control and panel is turned ON, a signal is input into TERMINAL (A) 15 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 2 to transfer shift actuator TERMINAL 2 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (B) 1 to GROUND, and the transfer shifts to 4WD LO position (L4 position.)

The 4HI Indicator is turned OFF and the 4LO indicator is turned ON.

#### L4 to H4

When the touch select high–low SW in the integration control and panel is turned OFF, a signal is input into TERMINAL (A) 15 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 1 to transfer shift actuator TERMINAL 1 to motor to TERMINAL 2 to 4WD control ECU TERMINAL (B) 2 to GROUND, and the transfer shifts to 4WD HI position (H4 Position.)

The 4HI indicator is turned ON and the 4LO indicator is turned OFF.

The shift is not completed even though 3 seconds have elapsed after transfer operation.

- \* The vehicle speed is above approximately 100 km/h (63 mph) when shifting from H2 to H4.
- \* The vehicle speed is below approximately 5 km/h (3 mph) or the A/T Shift Lever is in a position other than N position, when shifting from H4 to L4 or visa versa, and from L4 to H2.

#### L4 to H2

When the touch select 2–4 SW in the integration control and panel is turned OFF, a signal is input into TERMINAL (A) 8 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 1 to transfer shift actuator TERMINAL 1 to motor to TERMINAL 2 to 4WD control ECU TERMINAL (B) 2 to GROUND, and the detection SW (Transfer L4 position) is turned OFF.

Furthermore, the motor rotates to shift the transfer to 2WD (H2 position.)

When the system shifts to 2WD, the detection SW (Transfer 4WD position) is turned OFF, and the current flows from 4WD control ECU TERMINAL (A) 1 to ADD actuator TERMINAL 1 to motor to TERMINAL 5 to 4WD control ECU TERMINAL (A) 2 to GROUND, and the ADD actuator is activated, and the ADD is disconnected. When the ADD is disconnected, the detection SW (ADD position SW) is turned OFF, and the 4LO indicator light turns OFF.

## 4WD (Double Cab)

### H2 to L4

When the touch select 2–4 SW in the integration control and panel is turned ON, and the touch select high–low SW is turned ON, a signal is input into TERMINAL (A) 8 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 2 to transfer shift actuator TERMINAL 2 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (B) 1 to GROUND, and the transfer shifts to 4WD (H4 position.)

When the system shifts to 4WD, the detection SW (Transfer 4WD position) is turned ON, and the current flows from 4WD control ECU TERMINAL (A) 2 to ADD actuator TERMINAL 5 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (A) 1 to GROUND, and the ADD actuator is activated, and the ADD is connected. Then a signal is input into TERMINAL (A) 15 of the 4WD control ECU and the 4WD control ECU is activated by this, so the current flows from the 4WD control ECU TERMINAL (B) 2 to transfer shift actuator TERMINAL 2 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (B) 1 to GROUND. The transfer shifts to 4WD LO position (L4 position), and the 4LO indicator light comes ON.

### : Parts Location

Code		See Page	Code		See Page	Code		See Page
A5		70	F21	B	73	J55	A	74
A9		70	I24	A	73	J56	B	74
C11	A	72	I25	B	73	J58		74
C12	B	72	J28	A	74	J64		74
D3		70	J29	B	74	P1		71
D4		70	J45		74	S29	A	71
E5	C	73	J49	A	74	T3		71
F20	A	73	J50	B	74			

### : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	49	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1F		
1H		
4B	54	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4D		

### : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EC1	90	Engine No.2 Wire and Engine Wire (Near the Starter)
ED1	90	Engine No.2 Wire and Differential Wire (Near the Transmission)
IE1	93	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IE4		
IJ4	93	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)

### : Ground Points

Code	See Page	Ground Points Location
IN	92	Right Kick Panel
IO	92	Left Kick Panel