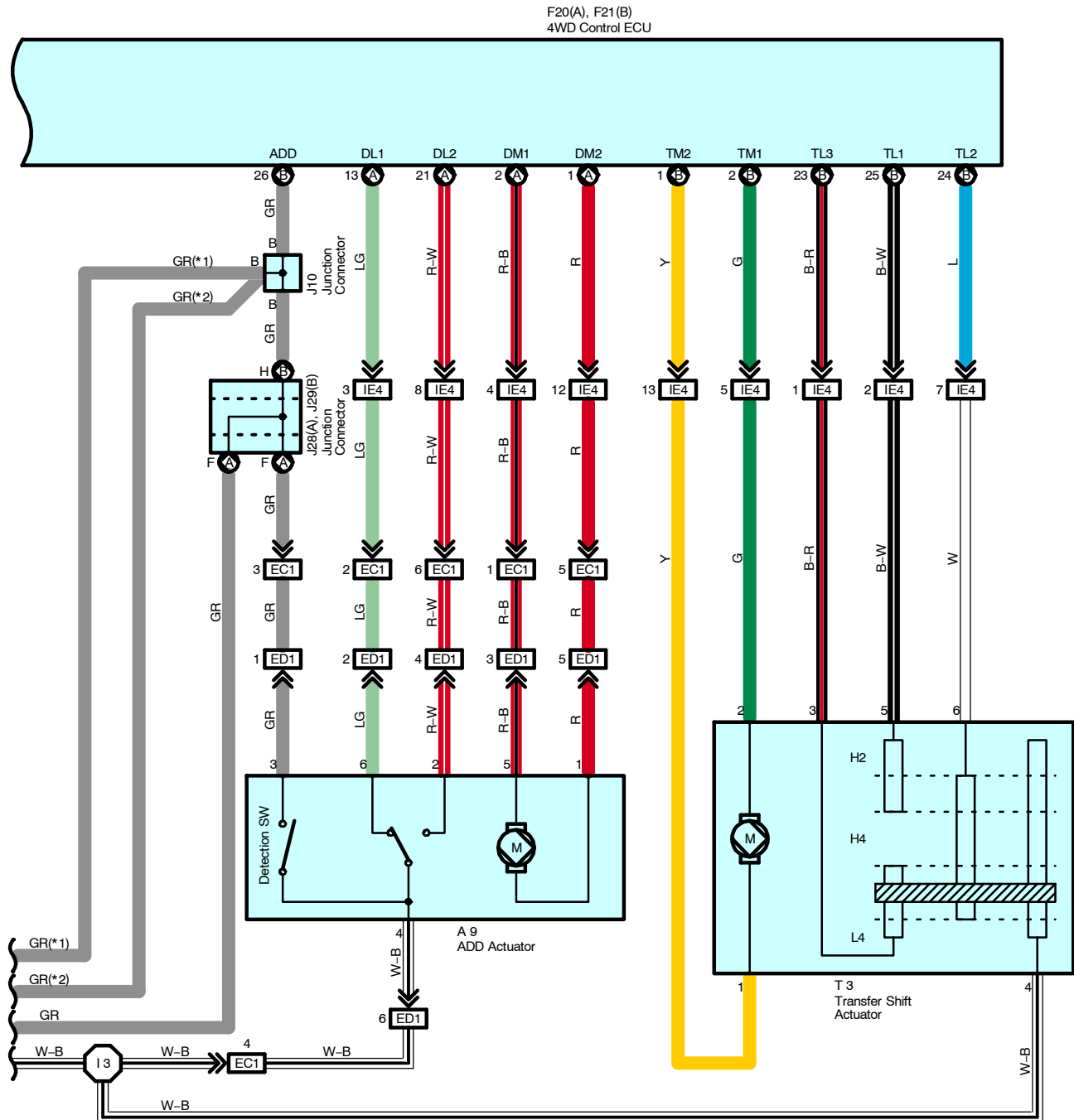


4WD (Access/Standard Cab)

* 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 (Access/Standard 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.

Service Hints

F20 (A) 4WD Control ECU

(A) 5-Ground : Approx. 12 volts with ignition SW at ON or ST position

(A) 6-Ground : Always continuity

(A) 9-Ground : 4 pulses with 1 rotation

(A) 8-Ground : 2 volts or less with touch select 2-4 SW on

(A)17-Ground : 2 volts or less with detection SW (Transfer L4 position) on and transfer shift lever at L4 position

I24 (A), I25 (B) Integration Control and Panel

(A) 5-(B) 1 : Closed with touch select 2-4 SW on

P1 Park/Neutral Position SW

2-9 : Closed with A/T shift lever at N position



: Parts Location

Code		See Page		Code		See Page		Code		See Page	
A5		52 (2UZ-FE)		F20	A	57		J29	B	58	
		54 (1GR-FE)		F21	B	57		J64		58	
A9		52 (2UZ-FE)		I24	A	57		J66	A	58	
C11	A	56		J8		58		J67	B	58	
C12	B	56		J9		58		P1		53 (2UZ-FE)	
D3		52 (2UZ-FE)		J10		58				55 (1GR-FE)	
D4		52 (2UZ-FE)		J12		58		S29		53 (2UZ-FE)	
D8		57		J13		58				55 (1GR-FE)	
E5		57		J28	A	58		T3		53 (2UZ-FE)	



: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1G	24 (*2)	
	28 (*1)	
1J	24 (*2)	
	28 (*1)	



: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EC1	74 (2UZ-FE)	Engine No.2 Wire and Engine Wire (Near the Starter)
ED1	74 (2UZ-FE)	Engine No.2 Wire and Differential Wire (Near the Transmission)
IE1	80	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IE4		
IJ1	80	Cowl Wire and Cowl Wire (Instrument Panel Reinforcement RH)

* 1 : w/ Daytime Running Light * 2 : w/o Daytime Running Light * 3 : Access Cab * 4 : Standard Cab * 5 : Bench Seat

* 6 : Captain Seat * 7 : Access Cab Captain Seat * 8 : Standard Cab Bench Seat * 9 : Access Cab w/o Power Seat



: Ground Points

Code	See Page	Ground Points Location
IH	78	Right Kick Panel
II		



: Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I3	80	Engine Wire	I4	80	Cowl Wire