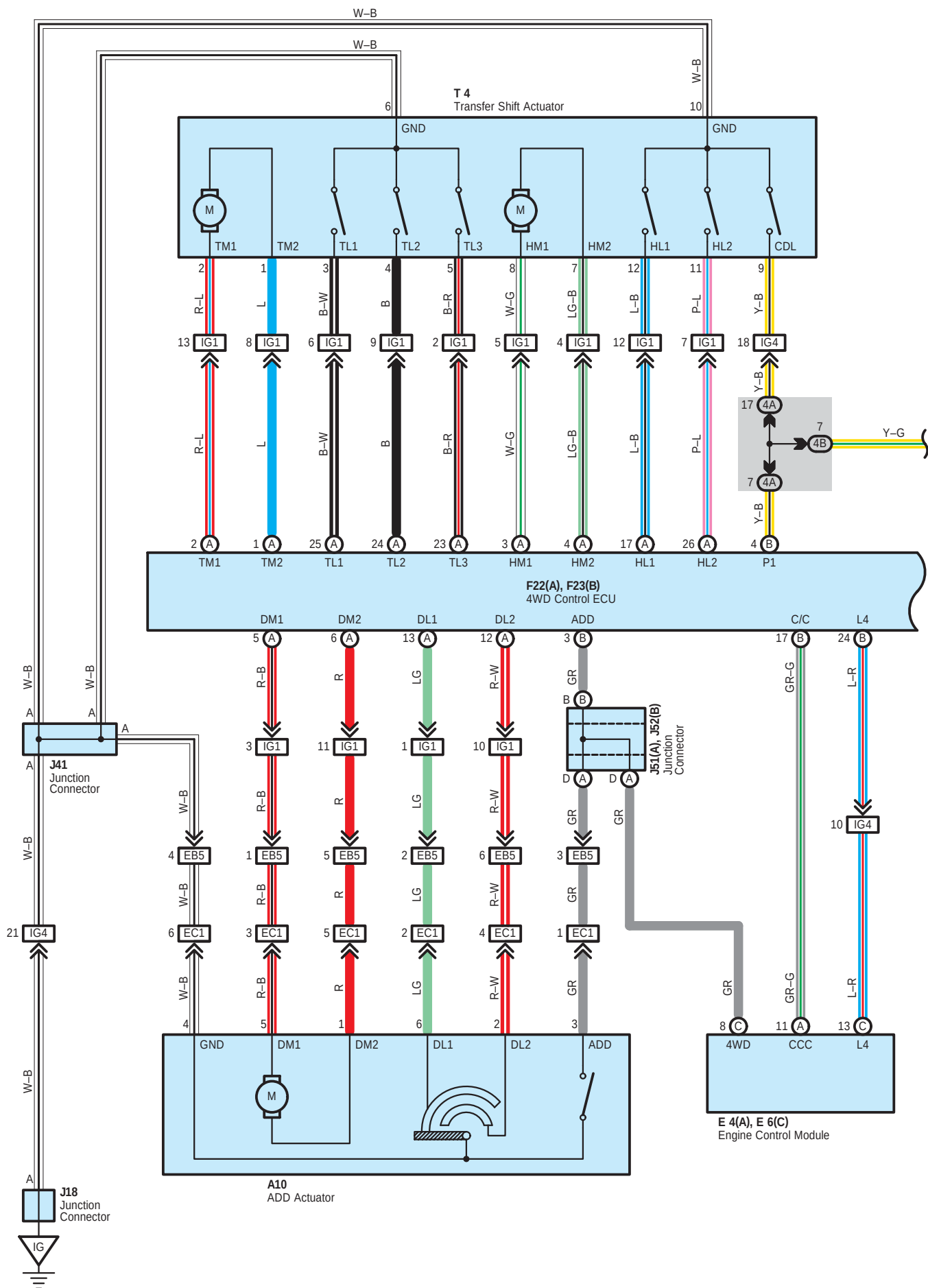
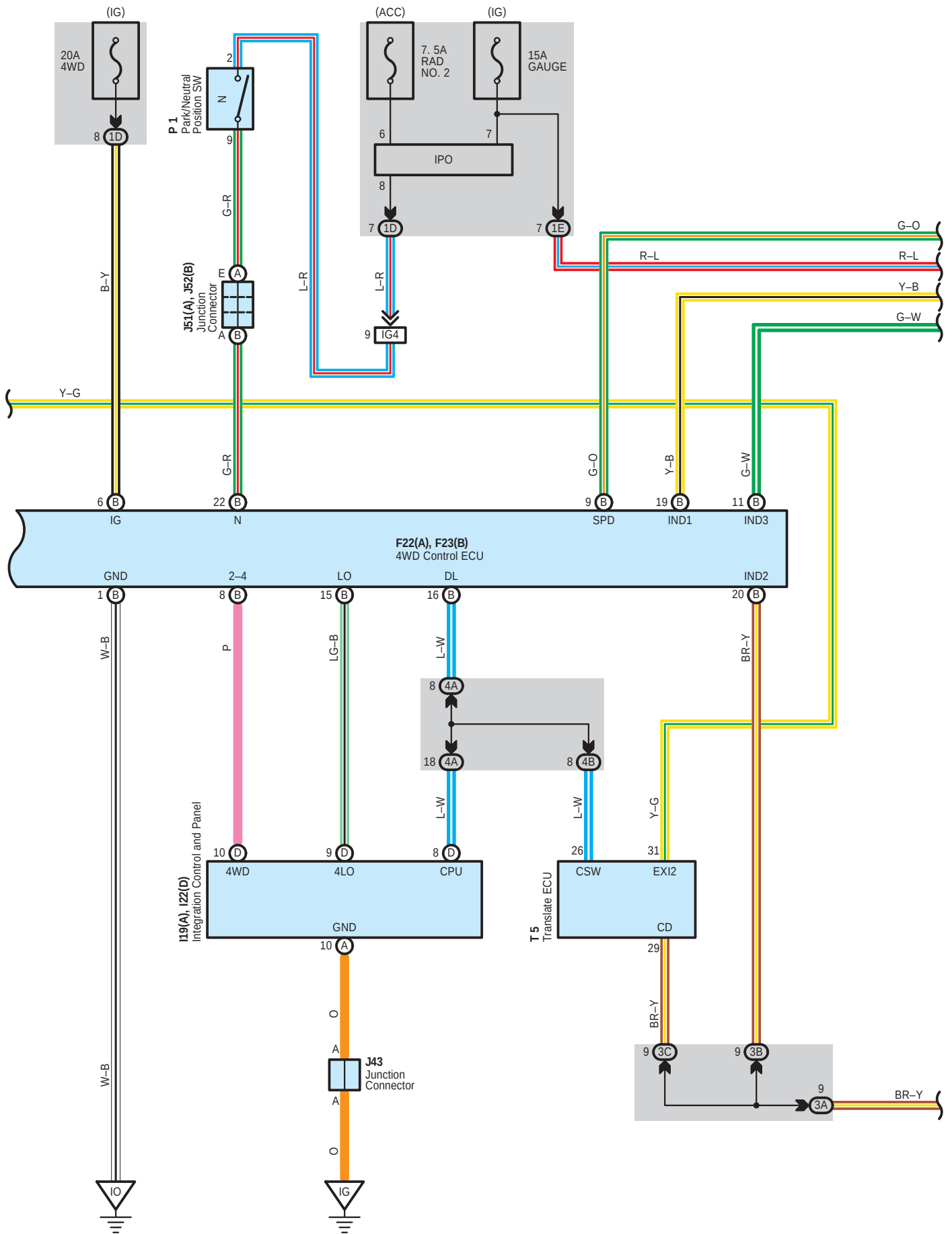
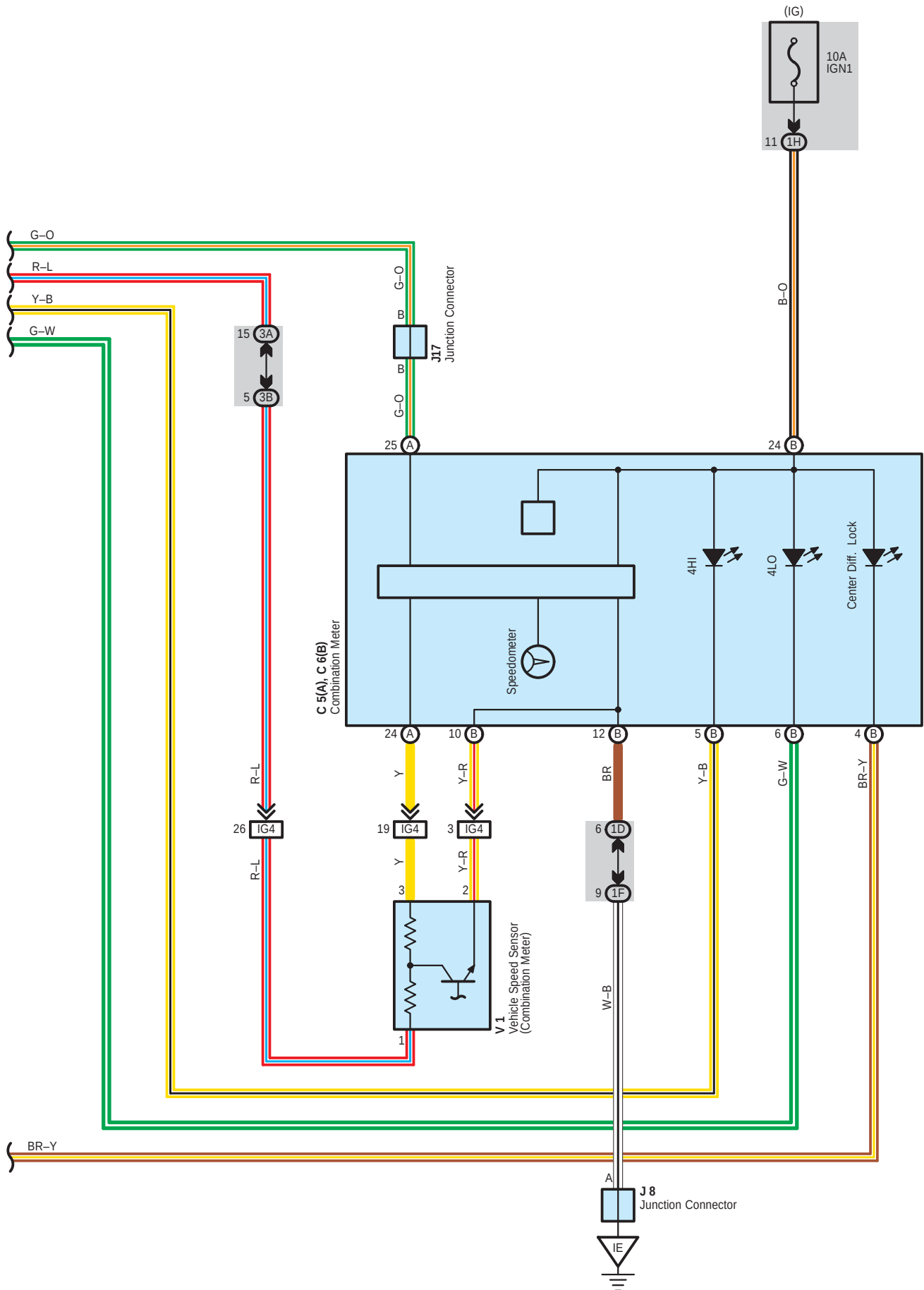








System Outline

Depending on the transfer shift actuator status and ADD actuator status, the 4WD control ECU drives the transfer shift actuator and ADD actuator to electrically change the gear position selected by the driver according to vehicle speed signal and neutral start switch signal.

1. Shift Select Control

Shifting from H2 into H4 position

When the 4WD control switch is turned from H2 into H4, this signal is input into 4WD control ECU (TERMINAL 2–4). Then, the 4WD control ECU moves the 2–4 select motor (TERMINAL 2, TERMINAL 1) in the transfer shift actuator until the shift fork shaft shifts to the diff. free position, performing a shift into H4 position

Switching diff. lock ON when in H4 position.

When the diff. lock switch is turned ON with the 4WD control switch in H4 position, this signal is input into the 4WD control ECU (TERMINAL DL). Then, the 4WD control ECU drives the 2–4 select motor (TERMINAL 2, TERMINAL 1) in the transfer shift actuator until the shift fork shaft shifts to the diff. lock position, locking it in H4 position with the diff. lock.

Shifting from H4 into L4 position

When the 4WD control switch is turned from H4 into L4, this signal is input into 4WD control ECU (TERMINAL LO). Then, the 4WD control ECU drives the H–L select motor (TERMINAL 8, TERMINAL 7) in the transfer shift actuator, shifting the shift fork shaft, performing a shift into L4 position.

Switching diff. lock ON when in L4 position.

When the diff. lock switch is turned ON with the 4WD control switch in L4 position, this signal is input into the 4WD control ECU (TERMINAL DL). Then, the 4WD control ECU drives the 2–4 select motor (TERMINAL 2, TERMINAL 1) in the transfer shift actuator until the shift fork shaft shifts to the diff. lock position, locking it in L4 position with the diff. lock.

2. Function of Limit Switch

H4L limit switch (TERMINAL 12 and TERMINAL 11 of transfer shift actuator)

The H4L limit switch in the transfer shift actuator feeds back the current shift position status (H4 or L4) information, which is based on the ON/OFF combination of the two switches, to the 4WD control ECU.

4WD limit switch (TERMINAL 3, TERMINAL 4 and TERMINAL 5 of transfer shift actuator)

The 4WD limit switch in the transfer shift actuator feeds back the current shift position status (H2 or H4) and diff. lock or diff. free status information, which is based on the ON/OFF combination of the three switches, to the 4WD control ECU.

ADD limit switch (TERMINAL 6 and TERMINAL 2 of ADD actuator)

The ADD limit switch in the ADD actuator feeds back the current front diff. lock or free status information, which is based on the ON/OFF combination of the two switches, to the 4WD control ECU.

3. Shift Limit Control

The 4WD control ECU interrupts the shift select control and give the driver a warning by means of buzzer (Integrated into the ECU) sound and blinking indicator light on the combination meter when the following shift change conditions exist.

The warning, however, can be canceled — when the 4WD control switch is canceled and the switch position is returned to where it was before the warning occurred.

- * Shift change from H2 into H4 with vehicle traveling at a speed reaching or exceeding 100 km/h (Buzzer sound and blinking 4WD and center diff. lock indicator lights)
- * Shift change from H4 into L4 with vehicle traveling at a speed reaching or exceeding 5 km/h but within the A/T shift position N range (Buzzer sound and blinking L4 indicator light)

4. ADD Actuator Control

When switching between H2 (2WD) and H4 (4WD), the 4WD control ECU controls the way power is supplied to the ADD motor in the ADD actuator, as shown below, to run the ADD motor in normal or reverse direction, thereby changing the status of the front diff. from free to lock, or vice versa.

For locking front diff.	TERMINAL DM1 +B
	TERMINAL DM2 GROUND
For unlocking front diff.	TERMINAL DM1 GROUND
	TERMINAL DM2 +B

Multi Mode 4WD

: Parts Location

Code		See Page	Code		See Page	Code		See Page
A10		40	I19	A	43	J51	A	44
C5	A	42	I22	D	43	J52	B	44
C6	B	42	J8		44	P1		41
E4	A	43	J17		44	T4		41
E6	C	43	J18		44	T5		45
F22	A	43	J41		44	V1		41
F23	B	43	J43		44			

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	33	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
1F		
1H		
3A	36	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3B		
3C		
4A	38	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4B		

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB5	50	Engine No.2 Wire and Engine Wire (Near the Starter)
EC1	50	Engine No.2 Wire and Differential Wire (Near the Transmission)
IG1	51	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IG4		

: Ground Points

Code	See Page	Ground Points Location
IE	51	Cowl Side Panel LH
IG	51	Cowl Side Panel RH
IO	51	Instrument Panel Brace RH

