







4WD (w/ 2-4 SELECT SW)

SYSTEM OUTLINE

THE 4WD ECU OPERATES THE 2-4 SELECT MOTOR IN ACCORDANCE WITH THE CONDITIONS OF THE 2-4 SELECT SW, DETECTION SW (TRANSFER 4WD POSITION) AND DETECTION SW (TRANSFER L4 POSITION). IT ALSO CONTROLS THE RANGE OVER WHICH SHIFTING FROM **H2** TO **H4** IS POSSIBLE BASED ON THE A/T OIL TEMP. SENSOR AND VEHICLE SPEED SENSOR. IF THE 2-4 SELECT SW IS PUSHED IN WHILE SHIFTING IS PROHIBITED, IT CAUSES THE 4WD INDICATOR LIGHT TO FLASH AND SOUNDS A WARNING BUZZER TO INFORM THE DRIVER. THE WARNING BUZZER IS BUILT INTO THE ECU. THE OPERATION OF THE ECU IS AS FOLLOWS.

2-4 SELECT SYSTEM

THE 2-4 SELECT SYSTEM SELECTS BETWEEN 2WD AND 4WD BY MEANS OF A 2-4 SELECT SW LOCATED IN THE TRANSFER SHIFT LEVER KNOB WHICH PROVIDES GOOD OPERABILITY.

THIS SYSTEM USES AN ECU WHICH DRIVES THE 2-4 SELECT MOTOR IN ACCORDANCE WITH SIGNALS FROM VARIOUS SENSORS AND ACCOMPLISHES SHIFTING BETWEEN 2WD AND 4WD. SHIFTING BETWEEN **H4** AND **L4** IS ACCOMPLISHED BY OPERATING THE TRANSFER SHIFT LEVER AS BEFORE. THIS SYSTEM ALSO PERMITS SHIFTING BETWEEN **H2** AND **L4** WITHOUT FIRST SHIFTING TO **H4**. ALL MODELS EQUIPPED WITH THE 2-4 SELECT SYSTEM ARE ALSO EQUIPPED WITH THE ADD, EXPLAINED LATER.

(1) SHIFTING FROM **H4** TO **H2**

WHEN THE 2-4 SELECT SW IS TURNED OFF, A SIGNAL IS INPUT TO THE 2-4 SELECT MOTOR FROM THE 4WD ECU, ACTIVATING THE 2-4 SELECT MOTOR SO THAT THE TRANSFER CHANGES TO 2WD (**H2** POSITION).

AT THIS TIME, THE DETECTION SW (TRANSFER 4WD POSITION) AND ADD INDICATOR SW ARE OFF, SO THE 4WD INDICATOR LIGHT GOES OFF.

(2) SHIFTING FROM **H2** TO **H4** (DURING NORMAL DRIVING)

WHEN THE 2-4 SELECT SW IS TURNED ON, A SIGNAL IS INPUT TO THE 2-4 SELECT MOTOR FROM THE 4WD ECU, ACTIVATING THE 2-4 SELECT MOTOR SO THAT THE TRANSFER CHANGES TO 4WD (**H4** POSITION).

(3) SHIFTING FROM **H2** TO **H4** (HIGH SPEED DRIVING)

THE VEHICLE SPEED WITHIN BELOW APPROX. **100** KM/H, **62** MPH, ACTIVATING THE 2-4 SELECT MOTOR SO THAT THE TRANSFER CHANGES TO 4WD (**H4** POSITION).

THE 4WD ECU STOPS THE SIGNAL TO THE 2-4 SELECT MOTOR WITH THE SIGNAL FROM THE SPEED SENSOR. AT THE SAME TIME, IT CAUSES THE 4WD INDICATOR LIGHT TO LIGHT UP AND THE WARNING BUZZER INSIDE THE 4WD ECU TO SOUND.

(4) SHIFTING TO **L4**

WHEN THE TRANSFER SHIFT LEVER IS MOVED TO **L4** POSITION, THE TRANSFER CHANGES TO **L0** POSITION. THIS TURNS THE DETECTION SW (TRANSFER **L4** POSITION) ON, SO REGARDLESS OF WHETHER THE 2-4 SELECT SW IS ON OR OFF, A SIGNAL IS INPUT TO THE 2-4 SELECT MOTOR FROM THE 4WD ECU, ACTIVATING THE 2-4 SELECT MOTOR SO THAT THE TRANSFER CHANGES TO 4WD (**L4** POSITION) IN LO CONDITION.

SERVICE HINTS

F 7 4WD ECU

- 16-GROUND : APPROX. **12** VOLTS WITH IGNITION SW ON
- 8-GROUND : ALWAYS CONTINUITY
- 5-GROUND : PULSE GENERATION WITH VEHICLE MOVING
- 15-GROUND : **12** VOLTS OR LESS WITH 2-4 SELECT SW ON
- 14-GROUND : **12** VOLTS OR LESS WITH DETECTION SW (TRANSFER **L4** POSITION) ON
(TRANSFER SHIFT LEVER AT **L4** POSITION)

T 3 2-4 SELECT SW

- 1-2 : CLOSED WITH 2-4 SELECT SW ON

P1 PARK/NEUTRAL POSITION SW

- 4-7 : CLOSED WITH A/T SHIFT LEVER AT **P** POSITION

○ : PARTS LOCATION

CODE		SEE PAGE		CODE		SEE PAGE		CODE		SEE PAGE	
A10		26 (5VZ-FE)		E 12	H	31		J 9		31	
A17		30		F 6		31		P 1		27 (5VZ-FE)	
C10		30		F 7		31		T 1		27 (5VZ-FE)	
D 3		26 (5VZ-FE)		J 1	A	27 (5VZ-FE)		T 3		31	
D 4		26 (5VZ-FE)		J 2	B	27 (5VZ-FE)		V 4		27 (5VZ-FE)	
D 5		26 (5VZ-FE)		J 7	A	31		V 5		27 (5VZ-FE)	
E9	E9	31		J 8	B	31					

○ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1E	22	COWL WIRE AND DRIVER SIDE J/B (LOWER FINISH PANEL)
1F		
3C		
3D	24	COWL WIRE AND CENTER J/B (NEAR THE STEERING COLUMN TUBE)
3E		

□ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
ED1	36 (5VZ-FE)	ENGINE WIRE AND FRONT DIFFERENTIAL WIRE (NEAR THE FRONT DIFFERENTIAL)
IG1	40	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)
II2	40	ENGINE WIRE AND COWL WIRE (ON THE GLOVE BOX)
II3		

▽ : GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
EB	36 (5VZ-FE)	FRONT LEFT FENDER
IF	40	COWL SIDE PANEL RH

○ : SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 1	40	COWL WIRE	I10	40	COWL WIRE
I 5			I11	40	ENGINE WIRE

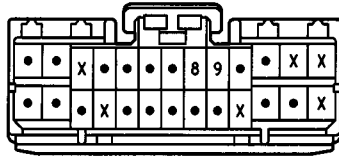


4WD (w/ 2-4 SELECT SW)

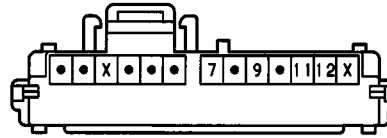
A10 GRAY



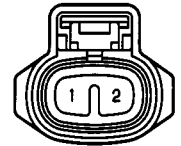
A17



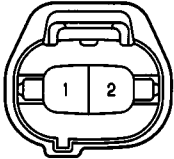
C10 BROWN



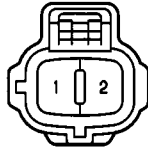
D 3 GRAY



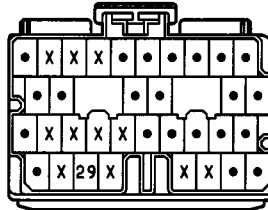
D 4 BLUE



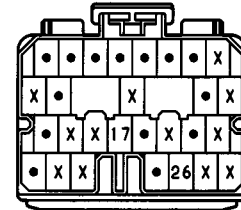
D 5 GRAY



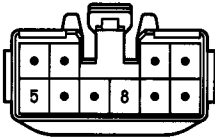
E 9 **E** DARK GRAY



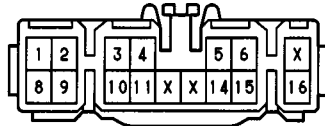
E12 **H** DARK GRAY



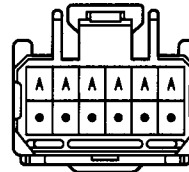
F 6



F 7

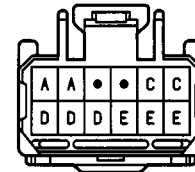


J 1 **A**, J 2 **B** GRAY



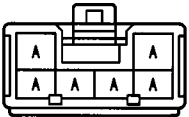
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J 7 **A**, J 8 **B** BLACK



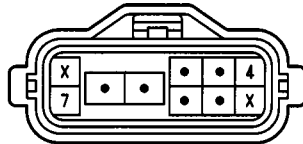
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J 9



(HINT:SEE PAGE 7)

P 1 GRAY



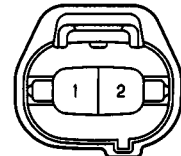
T 1 GRAY



T 3



V 4 BROWN



V 5 BLUE

