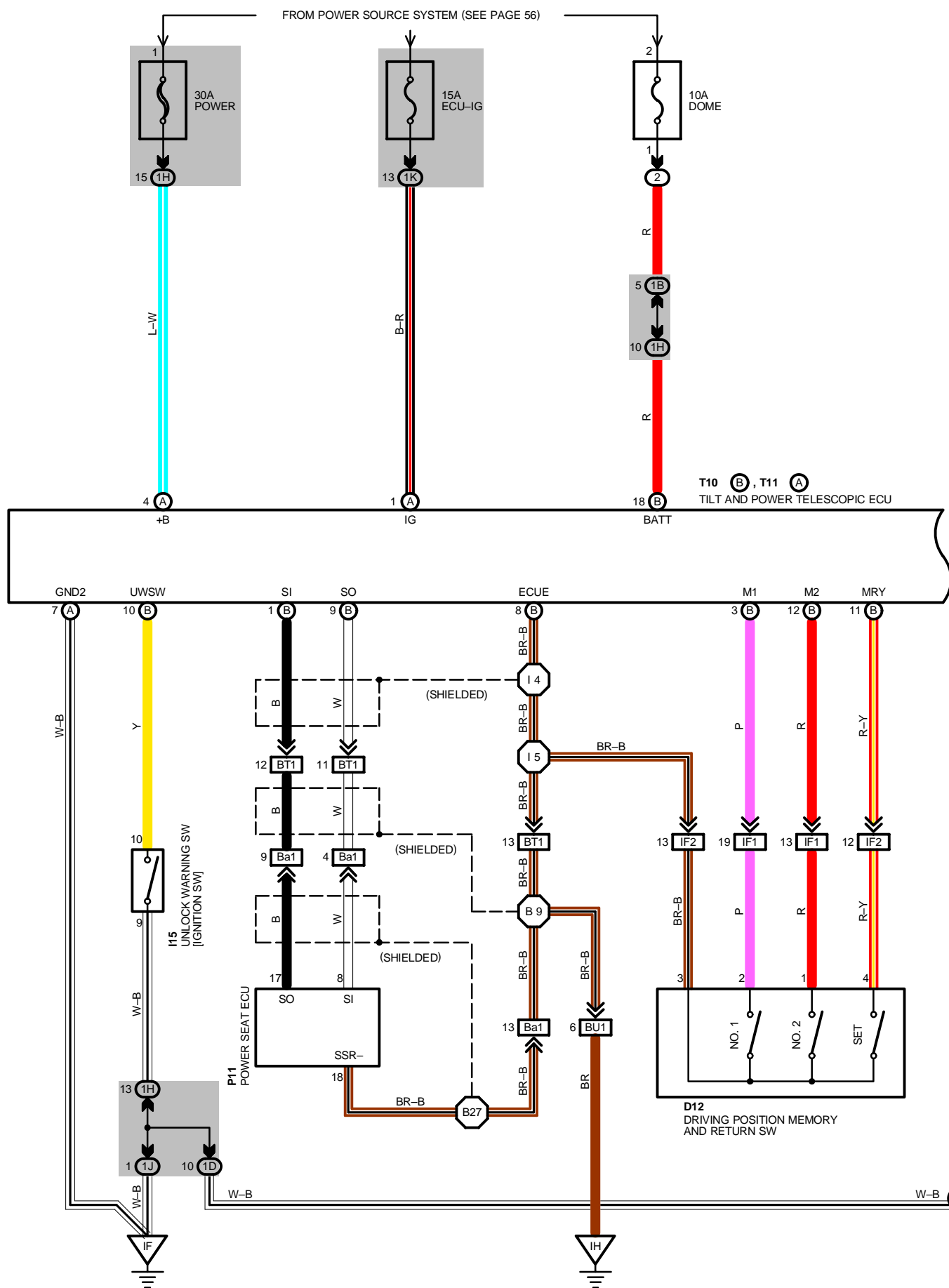
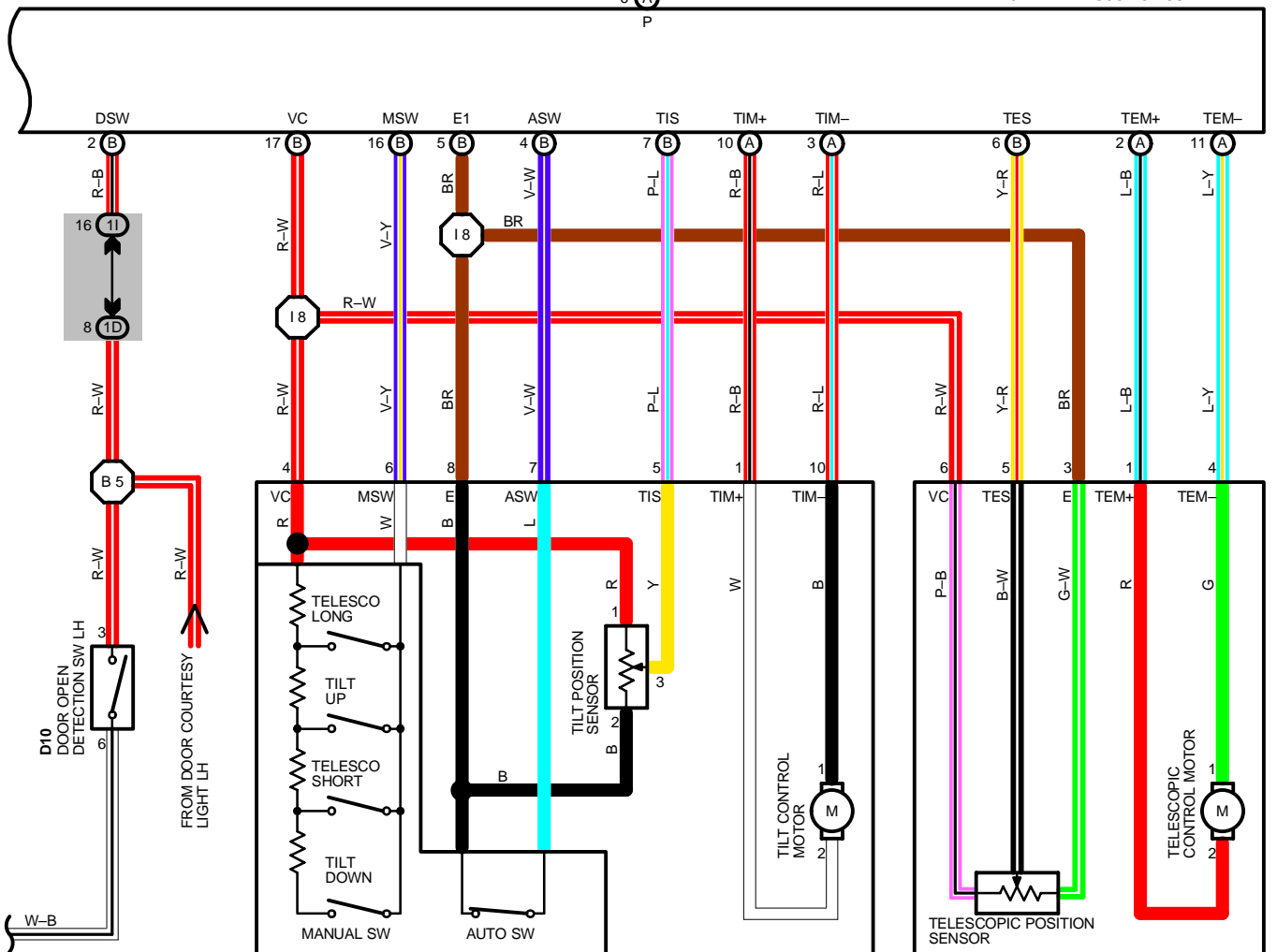
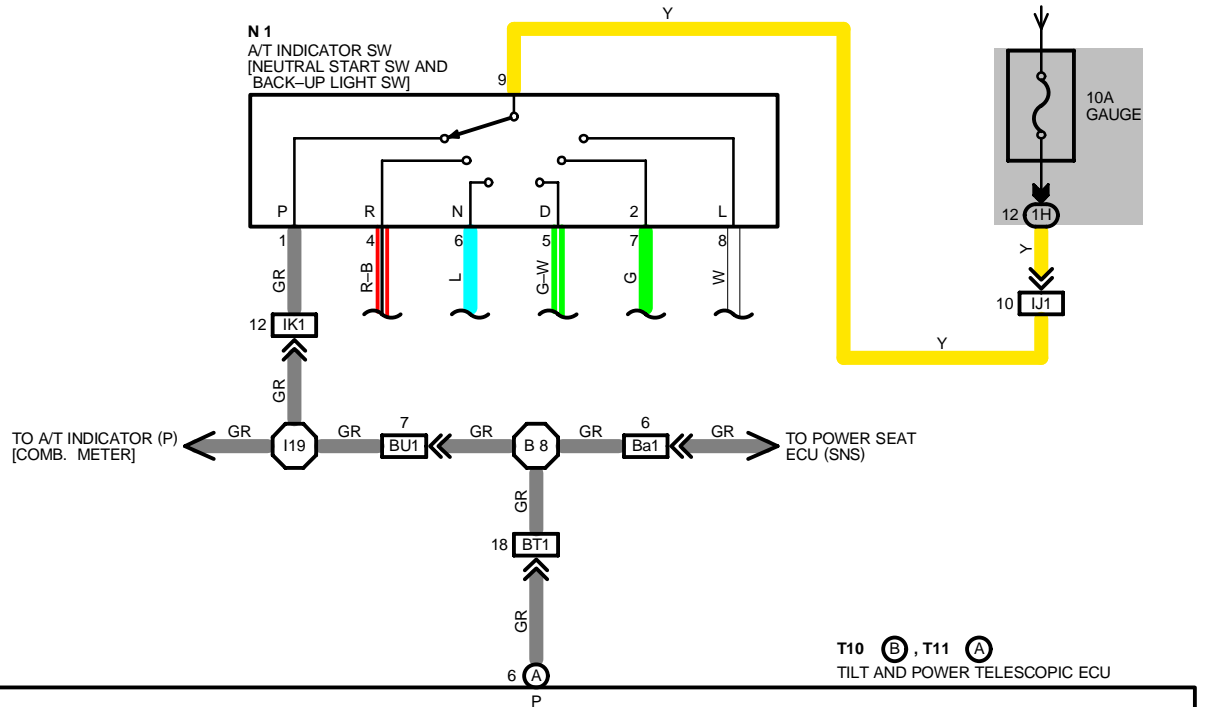


POWER TILT AND POWER TELESCOPIC



FROM POWER SOURCE SYSTEM (SEE PAGE 56)



C17
TILT AND POWER TELESCOPIC UNIT [COMB. SW]

T7
TELESCOPIC POSITION SENSOR

POWER TILT AND POWER TELESCOPIC

SYSTEM OUTLINE

THIS SYSTEM OPERATES WITH BOTH THE TILT FUNCTION AND TELESCOPIC FUNCTION DRIVEN AUTOMATICALLY BY THE MOTOR AND CONTROLLED BY THE ECU. THE STEERING CAN BE ADJUSTED STEPLESSLY FORWARD AND BACK, AND UP AND DOWN, TO PROVIDE THE MOST SUITABLE STEERING POSITION FOR EASY DRIVING, WITH AUTOMATIC MOVEMENT OF THE STEERING TO A POSITION WHICH FACILITATES GETTING IN AND OUT OF THE VEHICLE.

THE DRIVER CAN HAVE THE MOST APPROPRIATE DRIVING POSITION MEMORIZED BY OPERATING THE POWER SEAT AND REMOTE CONTROL MIRROR TOGETHER WITH THE TILT AND POWER TELESCOPIC STEERING.

CURRENT IS ALWAYS APPLIED THROUGH THE **POWER FUSE** TO **TERMINAL +B** OF TILT AND POWER TELESCOPIC ECU AND THROUGH THE **DOMES FUSE** TO **TERMINAL BATT** OF TILT AND POWER TELESCOPIC ECU.

WITH THE IGNITION SW TURNED ON, THE CURRENT FLOWS FROM **ECU-IG FUSE** TO **TERMINAL IG** AND FROM **GAUGE FUSE** TO **TERMINAL 9** OF A/T INDICATOR SW.

1. MANUAL TILT OPERATION

WHEN THE IGNITION KEY IS INSERTED INTO THE IGNITION KEY CYLINDER (UNLOCK WARNING SW ON), A SIGNAL IS INPUT TO **TERMINAL UWSW** OF TILT AND POWER TELESCOPIC ECU. IF THE MANUAL SW IS PUSHED TO THE "TILT UP" SIDE, CURRENT FLOWS FROM **TERMINAL VC** OF TILT AND POWER TELESCOPIC ECU TO **TERMINAL MSW** OF TILT AND POWER TELESCOPIC ECU PASSING THROUGH THE MANUAL SW. (THE ECU DETECTS THE MANUAL SW POSITION BY THE VOLUME OF CURRENT.)

AS A RESULT, TILT AND POWER TELESCOPIC ECU OPERATES AND THE CURRENT TO **TERMINAL +B** OF ECU FLOWS FROM **TERMINAL TIM+** → **TERMINAL 1** OF COMB. SW → **TERMINAL 2** OF TILT CONTROL MOTOR → **TERMINAL 1** → **TERMINAL 10** OF COMB. SW → **TERMINAL TIM-** OF TILT AND POWER TELESCOPIC ECU → **TERMINAL GND2** → **GROUND**, AND THE TILT UP FUNCTION OPERATES AS LONG AS THE MANUAL SW IS PUSHED TO THE "TILT UP" SIDE.

FOR "TILT DOWN" OPERATION, WHEN THE MANUAL SW IS PUSHED TO THE DOWN SIDE, THE CURRENT FLOWING FROM ECU TO MOTOR FLOWS TO **TERMINAL TIM-** OF TILT AND POWER TELESCOPIC ECU → **TERMINAL 10** OF COMB. SW → **TERMINAL 1** OF TILT CONTROL MOTOR → **TERMINAL 2** → **TERMINAL 1** OF COMB. SW → **TERMINAL TIM+** OF TILT AND POWER TELESCOPIC ECU, SO THE MOTOR ROTATES IN THE REVERSE DIRECTION TO TILT UP OPERATION, AND TILT DOWN OPERATION OCCURS ONLY WHILE THE MANUAL SW IS BEING PUSHED.

2. MANUAL TELESCOPIC OPERATION

WHEN THE IGNITION KEY IS INSERTED INTO THE IGNITION KEY CYLINDER (UNLOCK WARNING SW ON), A SIGNAL IS INPUT TO **TERMINAL UWSW** OF TILT AND TELESCOPIC ECU. WHEN THE MANUAL SW IS PUSHED TOWARD "TELESCOPIC SHORT" SIDE, CURRENT FLOWS FROM **TERMINAL VC** OF TILT AND POWER TELESCOPIC ECU TO **TERMINAL MSW** OF TILT AND POWER TELESCOPIC ECU THROUGH THE MANUAL SW.

AS A RESULT, THE TILT AND POWER TELESCOPIC ECU OPERATES AND THE CURRENT TO **TERMINAL +B** OF TILT AND POWER TELESCOPIC ECU FLOWS FROM **TERMINAL TEM+** OF TILT AND POWER TELESCOPIC ECU → **TERMINAL 1** OF COMB. SW → **TERMINAL 2** OF TELESCOPIC CONTROL MOTOR → **TERMINAL 1** → **TERMINAL 4** OF COMB. SW → **TERMINAL TEM-** OF TILT AND POWER TELESCOPIC ECU → **TERMINAL GND2** → **GROUND**, AND "TELESCOPIC SHORT" OPERATION OCCURS AS LONG AS THE MANUAL SW IS PUSHED THE TO "TELESCOPIC SHORT" SIDE.

FOR "TELESCOPIC LONG" OPERATION, WHEN THE MANUAL SW IS PUSHED TO THE TELESCOPIC LONG SIDE, CURRENT FLOWING FROM TILT AND POWER TELESCOPIC ECU TO THE MOTOR FLOWS THROUGH **TERMINAL TEM-** OF TILT AND POWER TELESCOPIC ECU → **TERMINAL 4** OF COMB. SW → **TERMINAL 1** OF TELESCOPIC CONTROL MOTOR → **TERMINAL 2** → **TERMINAL 1** OF COMB. SW → **TERMINAL TEM+** OF TILT AND POWER TELESCOPIC ECU → **TERMINAL GND2** → **GROUND**.

AS A RESULT, THE MOTOR ROTATES IN REVERSE TO THE TELESCOPIC SHORT MODE AND TELESCOPIC LONG OPERATION OCCURS AS LONG AS THE MANUAL SW IS PUSHED TO THE "TELESCOPIC LONG" SIDE.

3. AUTO AWAY OPERATION

WHEN THE IGNITION SW IS TURNED FROM ON TO OFF, THE CURRENT STOPS FLOWING FROM ECU-IG TO **TERMINAL IG** OF TILT AND POWER TELESCOPIC ECU AND IS INPUT AS A SIGNAL THAT THE IGNITION SW IS OFF. WHEN THE AUTO SW IS TURNED ON, AN "AUTO SW ON" SIGNAL IS INPUT TO **TERMINAL ASW** OF TILT AND POWER TELESCOPIC ECU.

IF THE IGNITION KEY IS REMOVED FROM THE IGNITION KEY CYLINDER (UNLOCK WARNING SW OFF) AT THIS TIME, A SIGNAL IS INPUT FROM **TERMINAL UWSW** OF TILT AND POWER TELESCOPIC ECU. ALSO, THE TILT POSITION SENSOR (COMB. SW) INPUTS INTO **TERMINAL TIS** OF THE TILT AND TELESCOPIC ECU A SIGNAL OF THE STEERING TILT POSITION JUST BEFORE THE IGNITION SW (FOR UNLOCK WARNING) IS TURNED FROM ON TO OFF.

AS A RESULT, THE TILT AND POWER TELESCOPIC ECU OPERATES AND THE CURRENT TO **TERMINAL +B** OF TILT AND POWER TELESCOPIC FLOWS FROM **TERMINAL TIM+** OF TILT AND POWER TELESCOPIC ECU → **TERMINAL 1** OF COMB. SW → **TERMINAL 2** OF TILT CONTROL MOTOR → **TERMINAL 1** → **TERMINAL 10** OF COMB. SW → **TERMINAL TIM-** OF TILT AND POWER TELESCOPIC ECU → **TERMINAL GND2** → **GROUND**, CAUSING THE MOTOR TO ROTATE SO THAT "TILT UP" OPERATION OCCURS AUTOMATICALLY.

AT THE SAME TIME, THE CURRENT FROM **TERMINAL +B** OF TILT AND POWER TELESCOPIC ECU TO **TERMINAL TEM+** FLOWS FROM **TERMINAL 1** OF COMB. SW → **TERMINAL 2** OF TELESCOPIC CONTROL MOTOR → **TERMINAL 1** → **TERMINAL 4** OF COMB. SW → **TERMINAL TEM-** OF TILT AND POWER TELESCOPIC ECU → **TERMINAL GND2** → **GROUND**, CAUSING THE MOTOR TO ROTATE SO THAT TELESCOPIC SHORT OPERATION OCCURS ON AUTO AND WITH TILT UP OPERATION OCCURRING SIMULTANEOUSLY ON AUTO, AUTO AWAY OPERATION OCCURS.

4. AUTO RETURN OPERATION

WHEN THE STEERING IS IN "AUTO AWAY" CONDITION AND THE IGNITION KEY IS INSERTED INTO THE IGNITION KEY CYLINDER (UNLOCK WARNING SW ON), A SIGNAL IS INPUT TO **TERMINAL UWSW** OF TILT AND POWER TELESCOPIC ECU.

AS A RESULT, THE TILT AND POWER TELESCOPIC ECU OPERATES AND THE CURRENT TO **TERMINAL +B** OF TILT AND POWER TELESCOPIC ECU FLOWS FROM **TERMINAL TEM-** OF TILT AND POWER TELESCOPIC ECU → **TERMINAL 4** OF COMB. SW → **TERMINAL 1** OF TELESCOPIC CONTROL MOTOR → **TERMINAL 2** → **TERMINAL 1** OF COMB. SW → **TERMINAL TEM+** OF TILT AND POWER TELESCOPIC ECU → **TERMINAL GND2** → **GROUND**, AND AT THE SAME TIME, CURRENT FLOWS FROM **TERMINAL TIM-** OF TILT AND POWER TELESCOPIC ECU → **TERMINAL 10** OF COMB. SW → **TERMINAL 1** OF TILT CONTROL MOTOR → **TERMINAL 2** → **TERMINAL 1** OF COMB. SW → **TERMINAL TIM+** OF TILT AND POWER TELESCOPIC ECU → **TERMINAL GND2** → **GROUND**, CAUSING BOTH THE TILT CONTROL MOTOR AND TELESCOPIC CONTROL MOTOR TO ROTATE. THE MOTORS CONTINUE TO ROTATE UNTIL THE SIGNALS INPUT FROM THE TILT POSITION SENSOR TO **TERMINAL TIS** OF TILT AND POWER TELESCOPIC ECU AND FROM THE TELESCOPIC POSITION SENSOR **TERMINAL TES** OF TILT AND POWER TELESCOPIC ECU (SIGNALS INFORMING THE ECU OF THE CURRENT POSITION OF THE STEERING) MATCH THE POSITION MEMORIZED BY THE ECU PRIOR TO AUTO AWAY OPERATION.

IN THIS WAY, THE STEERING POSITION IS AUTOMATICALLY RETURNED TO THE ORIGINAL POSITION.

WHEN THE IGNITION SW IS TURNED FROM OFF TO ON OR THE SHIFT LEVER IS SHIFTED TO A POSITION OTHER THAN P OR N, AUTO OPERATION IS STOPPED.

SERVICE HINTS

C15 TILT AND POWER TELESCOPIC UNIT [COMB. SW]

- 4-6 : APPROX. **160Ω** WITH TELESCOPIC LONG OPERATION
- : APPROX. **360Ω** WITH TILT UP OPERATION
- : APPROX. **790Ω** WITH TELESCOPIC SHORT OPERATION
- : APPROX. **2.0KΩ** WITH TILT DOWN OPERATION
- 8-7 : CONTINUITY WITH AUTO SW OFF
- 8-4 : APPROX. **5KΩ**

T 7 (D) TELESCOPIC POSITION SENSOR

- 6-3 : APPROX. **5KΩ**

D10 DOOR LOCK MOTOR, DOOR UNLOCK DETECTION SW AND DOOR OPEN DETECTION SW LH

- 3-6 GROUND :CLOSED WITH FRONT DOOR LH OPEN

D12 DRIVING POSITION MEMORY AND RETURN SW

- 2-3 : CLOSED WITH DRIVING POSITION MEMORY SW (NO. 1) ON
- 1-3 : CLOSED WITH DRIVING POSITION MEMORY SW (NO. 2) ON
- 4-3 : CLOSED WITH DRIVING POSITION MEMORY SW (SET) ON

I15 UNLOCK WARNING SW [IGNITION SW]

- 9-10: CLOSED WITH IGNITION KEY IN CYLINDER

N 1 A/T INDICATOR SW [NEUTRAL START SW]

- 9-1 : CLOSED WITH SHIFT LEVER AT P POSITION

T10, T11 TILT AND POWER TELESCOPIC ECU

- (A) 4-GROUND : ALWAYS APPROX. **12 VOLTS**
- (A) 1-GROUND : APPROX. **12 VOLTS** WITH IGNITION SW AT **ON** POSITION
- (B) 18-GROUND : ALWAYS APPROX. **12 VOLTS**
- (A) 6-GROUND : APPROX. **12 VOLTS** WITH IGNITION SW ON AND SHIFT LEVER AT "P" RANGE
- (B) 10-GROUND : CONTINUITY WITH IGNITION KEY IN CYLINDER
- (A) 7-GROUND : ALWAYS CONTINUITY
- (B) 8-GROUND : ALWAYS CONTINUITY
- (B) 2-GROUND : CONTINUITY WITH FRONT DOOR LH OPEN
- (B) 3-GROUND : CONTINUITY WITH DRIVING POSITION MEMORY SW (NO. 1) ON
- (B) 12-GROUND : CONTINUITY WITH DRIVING POSITION MEMORY SW (NO. 2) ON
- (B) 11-GROUND : CONTINUITY WITH DRIVING POSITION MEMORY SW (SET) ON
- (A) 10-GROUND : APPROX. **12 VOLTS** WITH TILT UP OPERATION
- (A) 3-GROUND : APPROX. **12 VOLTS** WITH TILT DOWN OPERATION
- (A) 2-GROUND : APPROX. **12 VOLTS** WITH TELESCOPIC SHORT OPERATION
- (A) 11-GROUND : APPROX. **12 VOLTS** WITH TELESCOPIC LONG OPERATION

POWER TILT AND POWER TELESCOPIC

○ : PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
C17	28	I15	29	T 7	29
D10	30	N 1	27	T10	B 29
D12	30	P11	32	T11	A 29

○ : RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
2	19	ENGINE COMPARTMENT LEFT

○ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1B	20	ENGINE ROOM MAIN WIRE
1D	20	FRONT DOOR LH WIRE
1H	20	COWL WIRE
1I		
1J		
1K		

□ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IF1	36	FRONT DOOR LH WIRE AND COWL WIRE (LEFT KICK PANEL)
IF2		
IJ1	36	ENGINE WIRE AND COWL WIRE (RIGHT KICK PANEL)
IK1	36	ENGINE WIRE AND INSTRUMENT PANEL WIRE (RIGHT KICK PANEL)
BT1	40	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
BU1	40	FLOOR WIRE AND INSTRUMENT PANEL WIRE (LEFT KICK PANEL)
Ba1	40	FLOOR WIRE AND FRONT SEAT LH WIRE (UNDER THE FRONT LH SEAT)

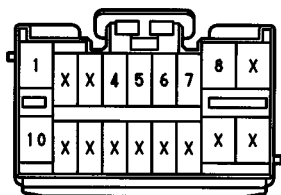
▽ : GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
IF	36	LEFT KICK PANEL
IG	36	INSTRUMENT PANEL BRACE LH

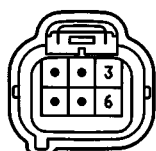
○ : SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 4	38	COWL WIRE	B 5	40	FRONT DOOR LH WIRE
I 5			B 8	40	FLOOR MAIN WIRE
I 8			B 9		
I19	38	INSTRUMENT PANEL WIRE	B27	42	FRONT SEAT LH WIRE

C17 GRAY



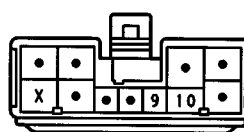
D10 GRAY



D12 BLACK



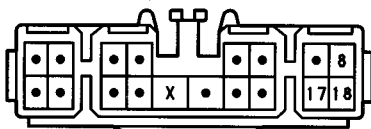
I15 BLACK



N 1 GRAY



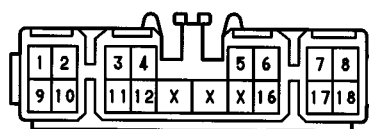
P11



T 7



T10 Ⓑ



T11 Ⓐ

