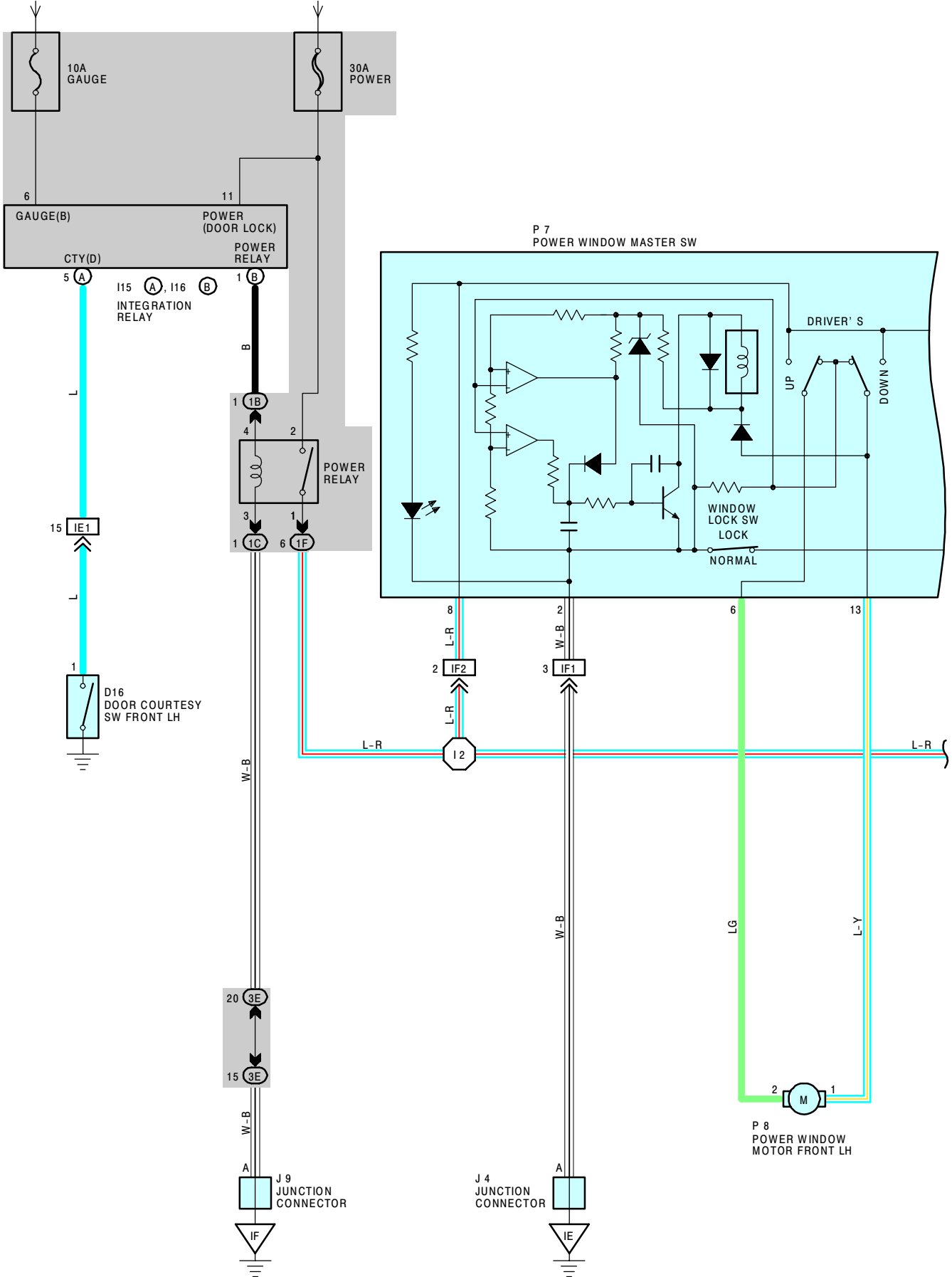


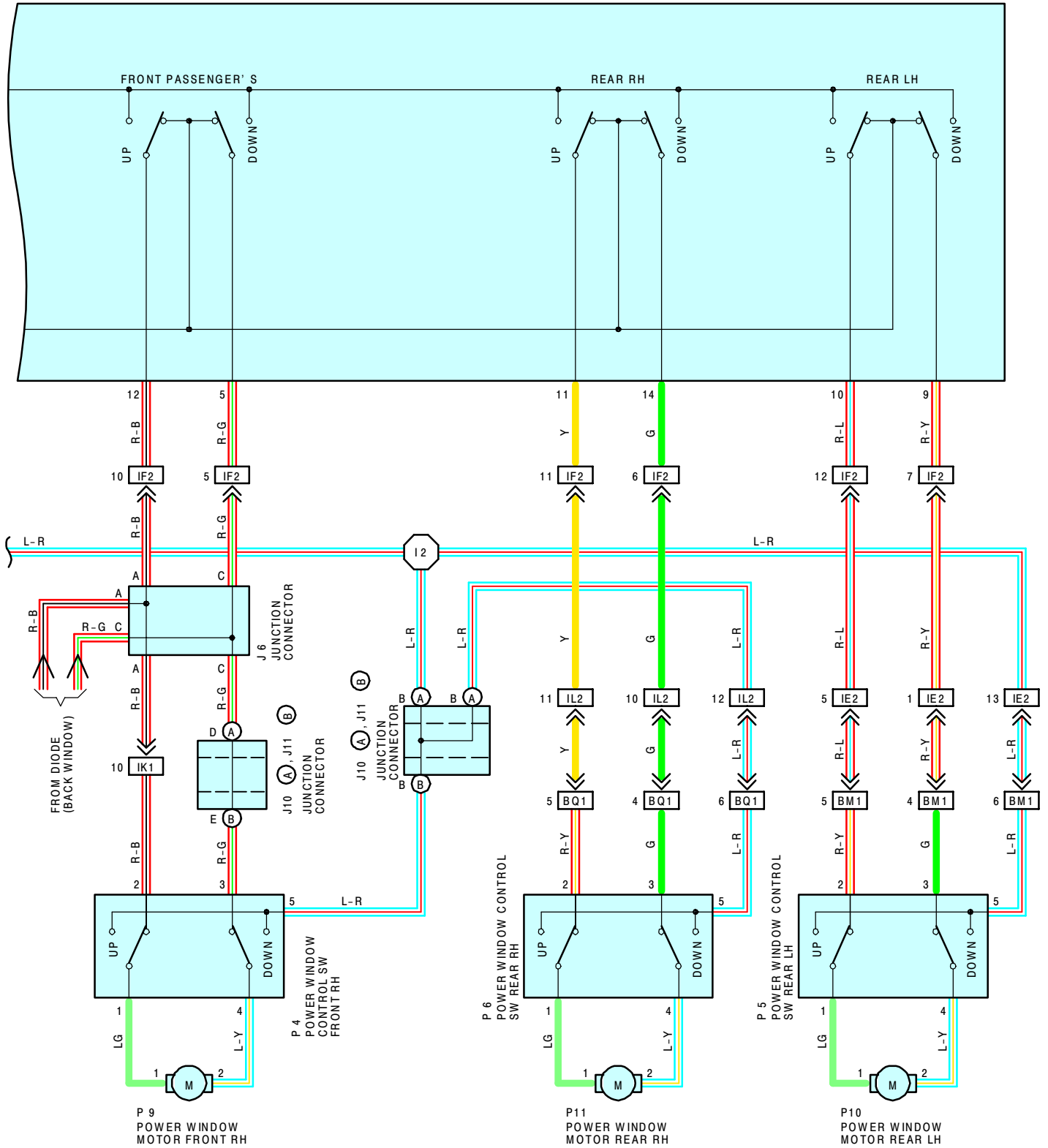


# POWER WINDOW

FROM POWER SOURCE SYSTEM (SEE PAGE 58)



P 7  
POWER WINDOW MASTER SW





# POWER WINDOW

## SYSTEM OUTLINE

WITH THE IGNITION SW TURNED ON, CURRENT FLOWS THROUGH THE **GAUGE FUSE** TO **TERMINAL 6** OF THE INTEGRATION RELAY. THIS ACTIVATES THE RELAY AND AT ALL TIMES THE CURRENT FLOWING TO **TERMINAL 11** OF THE RELAY FROM **POWER FUSE** AND FLOWS TO **TERMINAL 2** OF THE POWER RELAY → **TERMINAL 1** → **TERMINAL 8** OF THE POWER WINDOW MASTER SW AND **TERMINAL 5** → (FRONT RH, REAR LH, REAR RH) OF THE POWER WINDOW CONTROL SW.

### 1. MANUAL UP OPERATION (DRIVER'S WINDOW)

WITH THE IGNITION SW TURNED ON AND WITH THE POWER WINDOW MASTER SW (MANUAL SW) IN **UP** POSITION, THE CURRENT FLOWING TO **TERMINAL 8** OF THE POWER WINDOW MASTER SW FLOWS TO **TERMINAL 6** → **TERMINAL 2** OF THE POWER WINDOW MOTOR FRONT LH → **TERMINAL 1** → **TERMINAL 13** OF THE MASTER SW → **TERMINAL 2** → **GROUND** AND CAUSES THE POWER WINDOW MOTOR TO ROTATE IN THE UP DIRECTION. THE WINDOW ASCENDS ONLY WHILE THE SW IS BEING PUSHED. IN DOWN OPERATION, THE FLOW OF CURRENT FROM **TERMINAL 8** OF THE POWER WINDOW MASTER SW → **TERMINAL 13** → **TERMINAL 1** OF THE POWER WINDOW MOTOR FRONT LH → **TERMINAL 2** → **TERMINAL 6** OF THE MASTER SW → **TERMINAL 2** → **GROUND**, FLOWING IN THE OPPOSITE DIRECTION TO MANUAL UP OPERATION AND CAUSING THE MOTOR TO ROTATE IN REVERSE, LOWERING THE WINDOW.

### 2. AUTO DOWN OPERATION

WITH THE IGNITION SW ON AND WITH THE AUTO SW OF THE POWER WINDOW MASTER SW IN **DOWN** POSITION, CURRENT FLOWING TO **TERMINAL 8** OF THE POWER WINDOW MASTER SW → **TERMINAL 13** → **TERMINAL 1** OF THE POWER WINDOW MOTOR FRONT LH → **TERMINAL 2** → **TERMINAL 6** OF THE MASTER SW → **TERMINAL 2** → **GROUND**, CAUSING THE MOTOR TO ROTATE TOWARDS THE DOWN SIDE. THEN THE SOLENOID IN THE MASTER SW IS ACTIVATED AND IT LOCKS THE AUTO SW BEING PUSHED, CAUSING THE MOTOR TO CONTINUE TO ROTATE IN AUTO DOWN OPERATION. WHEN THE WINDOW HAS COMPLETELY DESCENDED, THE CURRENT FLOW BETWEEN **TERMINAL 6** OF THE MASTER SW AND **TERMINAL 2** INCREASES. AS A RESULT, THE SOLENOID STOPS OPERATING, THE AUTO SW TURNS OFF AND FLOW FROM **TERMINAL 8** OF THE MASTER SW TO **TERMINAL 13** IS CUT OFF, STOPPING THE MOTOR SO THAT AUTO STOP OCCURS.

### 3. STOPPING OF AUTO DOWN AT DRIVER'S WINDOW

WHEN THE MANUAL SW (DRIVER'S) IS PULLED TO THE UP SIDE DURING AUTO DOWN OPERATION, A GROUND CIRCUIT OPENS IN THE MASTER SW AND CURRENT DOES NOT FLOW FROM **TERMINAL 6** OF THE MASTER SW → **TERMINAL 2**, SO THE MOTOR STOPS, CAUSING AUTO DOWN OPERATION TO STOP. IF THE MANUAL SW IS PULLED CONTINUOUSLY, THE MOTOR ROTATES IN THE UP DIRECTION IN MANUAL UP OPERATION.

### 4. MANUAL OPERATION BY POWER WINDOW CONTROL SW (FRONT RH)

WITH POWER WINDOW CONTROL SW (FRONT RH) PULLED TO THE UP SIDE, CURRENT FLOWING FROM **TERMINAL 5** OF THE POWER WINDOW CONTROL SW → **TERMINAL 1** → **TERMINAL 1** OF THE POWER WINDOW MOTOR → **TERMINAL 2** → **TERMINAL 4** OF THE POWER WINDOW CONTROL SW → **TERMINAL 3** → **TERMINAL 5** OF THE MASTER SW → **TERMINAL 2** → **GROUND** AND CAUSES THE POWER WINDOW MOTOR (FRONT RH) TO ROTATE IN THE OPERATING ONLY WHILE THE POWER WINDOW CONTROL SW IS PULLED TO THE UP SIDE. WHEN THE WINDOW DESCENDS, THE CURRENT FLOWING TO THE MOTOR FLOWS IN THE OPPOSITE DIRECTION. FROM **TERMINAL 1** TO **TERMINAL 2**, AND THE MOTOR ROTATES IN REVERSE. WHEN THE WINDOW LOCK SW IS PUSHED TO THE LOCK SIDE, THE GROUND CIRCUIT TO THE PASSENGER'S WINDOW BECOMES OPEN AS A RESULT. EVEN IF OPEN/CLOSE OPERATION OF THE PASSENGER'S WINDOW IS TRIED. THE CURRENT FROM **TERMINAL 2** OF THE POWER WINDOW MASTER SW IS NOT GROUNDED AND THE MOTOR DOES NOT ROTATE, SO THE PASSENGER'S WINDOW CAN NOT BE OPERATED AND WINDOW LOCK OCCURS.

### 5. KEY OFF POWER WINDOW OPERATION

WITH THE IGNITION SW TURNED FROM ON TO OFF, THE INTEGRATION RELAY OPERATES AND CURRENT FLOWS FROM **TERMINAL 11** → **TERMINAL (B) 1** → **TERMINAL 4** OF THE POWER RELAY → **TERMINAL 3** → **GROUND** FOR ABOUT **60** SECONDS. THE SAME AS NORMAL OPERATION, THE CURRENT FLOWS FROM **TERMINAL 2** OF THE POWER RELAY → **TERMINAL 1** → **TERMINAL 8** OF THE POWER WINDOW MASTER SW AND **TERMINAL 5** (FRONT RH, REAR LH, REAR RH) OF THE POWER WINDOW CONTROL SW. AS A RESULT, FOR ABOUT **60** SECONDS AFTER THE IGNITION SW IS TURNED OFF, IT IS POSSIBLE TO RAISE AND LOWER THE POWER WINDOW BY THE FUNCTIONING OF THIS RELAY. ALSO, BY OPENING THE DOOR (DOOR COURTESY SW ON) WITHIN ABOUT **60** SECONDS AFTER TURNING THE IGNITION SW TO OFF, A SIGNAL IS INPUT TO **TERMINAL (A) 5** OF THE DOOR CONTROL RELAY. AS A RESULT, THE RELAY TURNS OFF AND UP AND DOWN MOVEMENT OF THE WINDOW STOPS.

FURTHERMORE. REAR LH, RH WINDOW OPERATE THE SAME AS THE ABOVE CIRCUIT.

## SERVICE HINTS

### I15 (A), I16 (B) INTEGRATION RELAY

11-GROUND : ALWAYS APPROX. 12 VOLTS

6-GROUND : APPROX. 12 VOLTS WITH IGNITION SW AT **ON** POSITION

(A) 5-GROUND : CONTINUITY WITH FRONT LH DOOR OPENED

### POWER RELAY

2-1 : CLOSED WITH IGNITION SW ON AND STAYS AT 12 VOLTS FOR 60 SECONDS AFTER THE IGNITION SW IS TURNED OFF, BUT IF A DOOR IS OPENED IN THIS 60 SECOND PERIOD, VOLTAGE WILL DROP TO 0 VOLTS

### D16 DOOR COURTESY SW FRONT LH

1-GROUND : CONTINUITY WITH DOOR OPENED

### P 4 POWER WINDOW CONTROL SW FRONT RH

5-GROUND : APPROX. 12 VOLTS WITH IGNITION SW ON AND STAYS AT 12 VOLTS FOR 60 SECONDS AFTER THE IGNITION SW IS TURNED OFF, BUT IF A DOOR IS OPENED IN THIS 60 SECOND PERIOD, VOLTAGE WILL DROP TO 0 VOLTS

### P 5, P 6 POWER WINDOW CONTROL SW REAR LH, RH

5-GROUND : APPROX. 12 VOLTS WITH IGNITION SW ON AND STAYS AT 12 VOLTS FOR 60 SECONDS AFTER THE IGNITION SW IS TURNED OFF, BUT IF A DOOR IS OPENED IN THIS 60 SECOND PERIOD, VOLTAGE WILL DROP TO 0 VOLTS

### P 7 POWER WINDOW MASTER SW

2-GROUND : ALWAYS CONTINUITY

8-GROUND : APPROX. 12 VOLTS WITH IGNITION SW ON AND STAYS AT 12 VOLTS FOR 60 SECONDS AFTER THE IGNITION SW IS TURNED OFF, BUT IF A DOOR IS OPENED IN THIS 60 SECOND PERIOD, VOLTAGE WILL DROP TO 0 VOLTS

6-GROUND : APPROX. 12 VOLTS WITH IGNITION SW AT **ON** POSITION AND MASTER SW AT **UP** POSITION

13-GROUND : APPROX. 12 VOLTS WITH IGNITION SW AT **ON** POSITION AND MASTER SW AT **DOWN** OR **AUTO DOWN** POSITION

### WINDOW LOCK SW

OPEN WITH WINDOW LOCK SW AT **LOCK** POSITION

## ○ : PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE		
D16	32	J10	A	31	P 8	33	
I15	A	31	J11	B	31	P 9	33
I16	B	31	P 4	33	P10	33	
J 4	31	P 5	33	P11	33		
J 6	31	P 6	33				
J 9	31	P 7	33				

## ○ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

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

## □ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IE1		
IE2	40	COWL WIRE AND FLOOR NO.2 WIRE (LEFT KICK PANEL)
IF1		
IF2	40	FRONT DOOR LH WIRE AND COWL WIRE (LEFT KICK PANEL)
IK1	40	FRONT DOOR RH WIRE AND COWL WIRE (RIGHT KICK PANEL)
IL2	40	COWL WIRE AND FLOOR WIRE (RIGHT KICK PANEL)
BM1	42	REAR DOOR LH WIRE AND FLOOR NO.2 WIRE (LEFT CENTER PILLAR)
BQ1	42	REAR DOOR RH WIRE AND FLOOR WIRE (RIGHT CENTER PILLAR)

## ▽ : GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
IE	40	COWL SIDE PANEL LH
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 2	40	COWL WIRE			

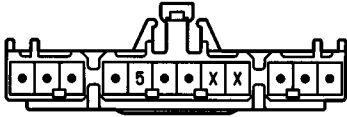


# POWER WINDOW

D16



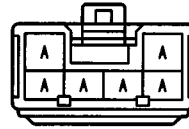
I15 (A)



I16 (B)

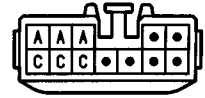


J 4, J 9



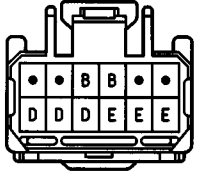
(HINT:SEE PAGE 7)

J 6 BLACK



(HINT:SEE PAGE 7)

J10 (A), J11 (B) BLACK



(HINT:SEE PAGE 7)

P 4, P 5, P 6



P 7



P 8, P 9, P10, P11

