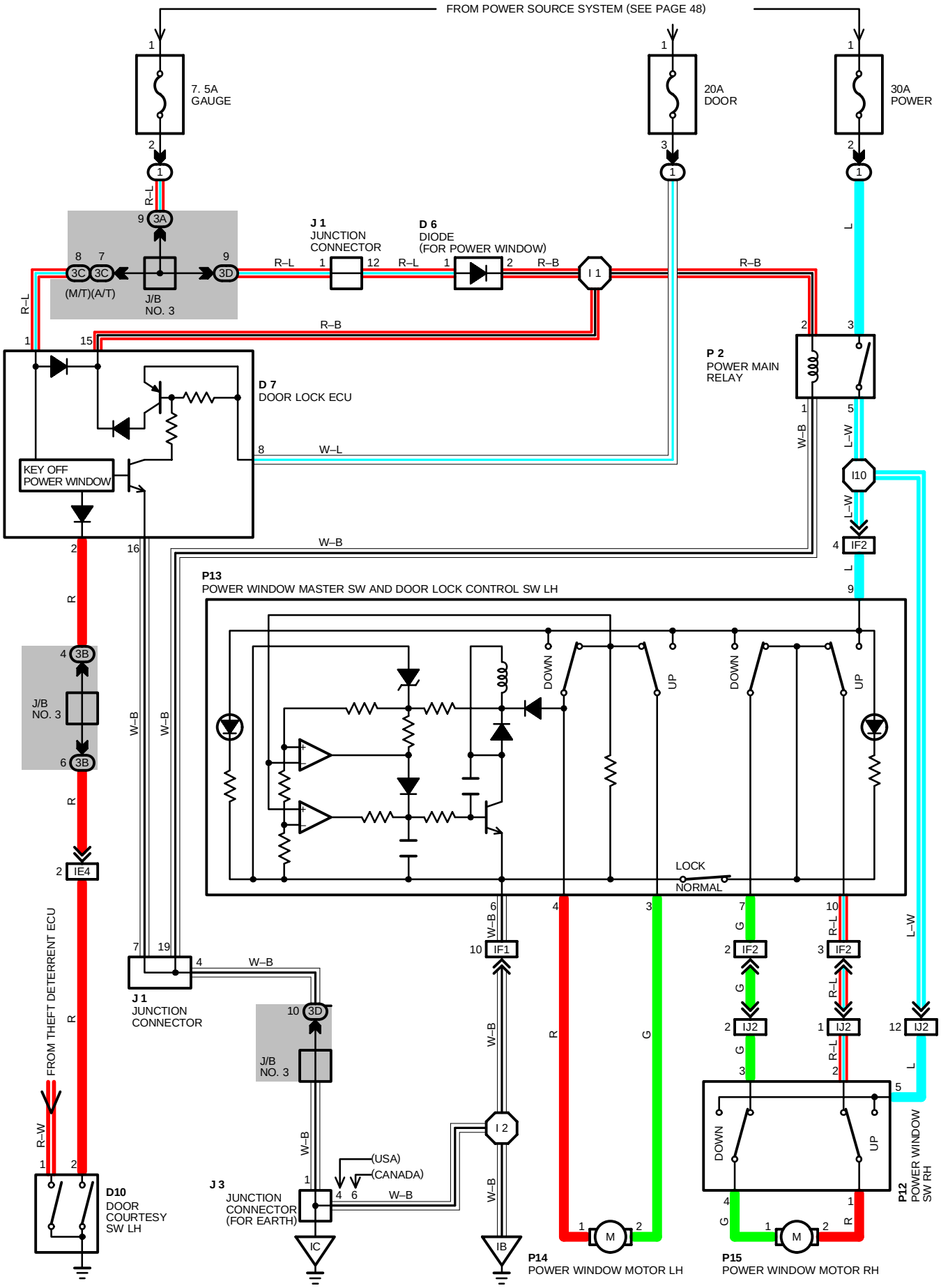
POWER WINDOW



SYSTEM OUTLINE

CURRENT ALWAYS FLOWS TO **TERMINAL 2** OF THE POWER MAIN RELAY THROUGH THE **POWER** FUSE. WITH THE IGNITION SW TURNED ON, CURRENT FLOWS THROUGH THE **GAUGE** FUSE TO **TERMINAL 3** OF THE POWER MAIN RELAY → **TERMINAL 1** → **GROUND**. THIS ACTIVATES THE RELAY AND CURRENT FLOWING TO **TERMINAL 4** OF THE POWER MAIN RELAY → **TERMINAL 9** OF THE POWER WINDOW MASTER SW AND **TERMINAL 5** OF THE POWER WINDOW SW RH (PASSENGER'S).

1. MANUAL OPERATION (DRIVER'S WINDOW)

WITH THE IGNITION SW TURNED ON AND THE POWER WINDOW MASTER SW IN **UP** POSITION, THE CURRENT FLOWING TO **TERMINAL 9** OF THE POWER WINDOW MASTER SW FLOWS TO **TERMINAL 3** OF THE MASTER SW → **TERMINAL 2** OF THE POWER WINDOW MOTOR LH (DRIVER'S) → MOTOR → **TERMINAL 1** → **TERMINAL 4** OF THE MASTER SW → **TERMINAL 6** → **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 9** OF THE POWER WINDOW MASTER SW TO **TERMINAL 4** OF THE MASTER SW CAUSES THE FLOW OF CURRENT FROM **TERMINAL 1** OF THE MOTOR → MOTOR → **TERMINAL 2** → **TERMINAL 3** OF THE MASTER SW → **TERMINAL 6** → **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 DRIVER'S SW OF THE POWER WINDOW MASTER SW IN **DOWN** POSITION, CURRENT FLOWING TO **TERMINAL 9** OF THE MASTER SW FLOWS TO **TERMINAL 4** OF THE MASTER SW → **TERMINAL 1** OF THE POWER WINDOW MOTOR → MOTOR → **TERMINAL 2** → **TERMINAL 3** OF THE MASTER SW → **TERMINAL 6** → **GROUND**, CAUSING THE MOTOR TO ROTATE TOWARDS THE DOWN SIDE. THEN THE SOLENOID IN THE MASTER SW IS ACTIVATED AND IT LOCKS THE DRIVER'S 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 3** OF THE MASTER SW AND **TERMINAL 6** INCREASES. AS A RESULT, THE SOLENOID STOPS OPERATING, THE DRIVER'S SW TURNS OFF AND FLOW FROM **TERMINAL 9** OF THE MASTER SW TO **TERMINAL 4** IS CUT OFF, STOPPING THE MOTOR SO THAT AUTO STOP OCCURS.

3. STOPPING OF AUTO DOWN AT DRIVER'S WINDOW

WHEN THE DRIVER'S SW 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 3** OF THE MASTER SW → TO **TERMINAL 6,** SO THE MOTOR STOPS, CAUSING AUTO DOWN OPERATION TO STOP. IF THE DRIVER'S SW IS PUSHED CONTINUOUSLY, THE MOTOR ROTATES IN THE UPWARD DIRECTION IN MANUAL UP OPERATION.

4. MANUAL OPERATION BY POWER WINDOW SW (PASSENGER'S WINDOW)

WITH POWER WINDOW SW (PASSENGER'S) PULLED TO THE **UP** SIDE, CURRENT FLOWING FROM **TERMINAL 5** OF THE POWER WINDOW SW FLOWS TO **TERMINAL 1** OF THE POWER WINDOW SW → **TERMINAL 2** OF THE WINDOW MOTOR → MOTOR → **TERMINAL 1** → **TERMINAL 4** OF THE POWER WINDOW SW → **TERMINAL 3** → **TERMINAL 7** OF THE MASTER SW → **TERMINAL 6** → **GROUND,** AND CAUSES THE POWER WINDOW MOTOR (PASSENGER'S) TO ROTATE IN THE UP DIRECTION. UP OPERATION CONTINUES ONLY WHILE THE POWER WINDOW SW IS PULLED TO THE UP SIDE. WHEN THE WINDOW DESCENDS, THE CURRENT FLOWING TO THE MOTOR FLOWS IN THE OPPOSITE DIRECTION, FLOM **TERMINAL 1** → MOTOR → **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 9** 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 DOOR LOCK ECU OPERATES AND CURRENT FLOWS FROM **POWER** FUSE → **TERMINAL 8** OF THE DOOR LOCK ECU → **TERMINAL 15** → **TERMINAL 3** OF THE POWER MAIN RELAY → **TERMINAL 1** → TO **GROUND** FOR ABOUT **60** SECONDS. THE SAME AS NORMAL OPERATION, THE CURRENT FLOWS FROM **POWER** FUSE → **TERMINAL 2** OF THE POWER MAIN RELAY → **TERMINAL 4** → **TERMINAL 9** OF THE POWER WINDOW MASTER SW AND **TERMINAL 5** OF POWER WINDOW SW RH (PASSENGER'S). 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 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 2** OF THE DOOR LOCK ECU. AS A RESULT, THE ECU TURNS OFF AND UP AND DOWN MOVEMENT OF THE WINDOW STOPS.

POWER WINDOW

SERVICE HINTS

D7 DOOR LOCK ECU

8–GROUND: ALWAYS APPROX. **12** VOLTS
16–GROUND: ALWAYS CONTINUITY
1–GROUND: APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
2–GROUND: CONTINUITY WITH DRIVER'S DOOR OPEN
15–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

D10 DOOR COURTESY SW LH

2–GROUND: CONTINUITY WITH DRIVER'S DOOR OPEN

P12 POWER WINDOW SW 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

P13 POWER WINDOW MASTER SW AND DOOR LOCK CONTROL SW LH

6–GROUND: ALWAYS CONTINUITY
9–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
3–GROUND: APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION AND DRIVER'S SW AT **UP** POSITION
4–GROUND: APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION AND DRIVER'S 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
D 6	26	**J 3**	26	**P14**	27
D 7	26	**P 2**	26	**P15**	27
D10	27	**P12**	27		
J 1	26	**P13**	27		

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
1	20	R/B NO. 1 (LEFT KICK PANEL)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
3A	22	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)
3B		
3C		
3D		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IE4	32	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)
IF1	32	COWL AND WIRE FRONT DOOR LH WIRE (LEFT KICK PANEL)
IF2	32	FRONT DOOR LH WIRE AND COWL WIRE (LEFT KICK PANEL)
IJ2	34	FRONT DOOR RH WIRE AND COWL WIRE (RIGHT KICK PANEL)

: GROUND POINTS

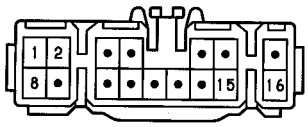
CODE	SEE PAGE	GROUND POINTS LOCATION
IB	32	LEFT KICK PANEL
IC	32	INSTRUMENT PANEL BRACE LH

: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 1	34	COWL WIRE	**I10**	34	COWL WIRE
I 2					

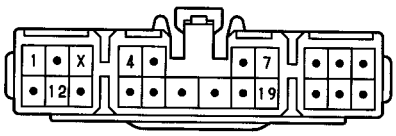
D 6 BLACK

D 7 ORANGE

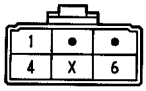


D10

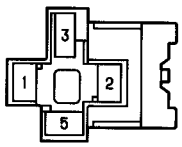
J 1



J 3



P 2



P12

P13

P14, P15