







# POWER WINDOW

## SYSTEM OUTLINE

WITH THE IGNITION SW TURNED ON, THE CURRENT FLOWS THROUGH THE **GAUGE** FUSE TO **TERMINAL 3** OF THE POWER RELAY → **TERMINAL 1** → **GROUND**. THIS ACTIVATES THE RELAY AND THE CURRENT FROM **FL POWER** FUSE FLOWS TO **TERMINAL 4** OF THE POWER RELAY → **TERMINAL 2** → **TERMINALS 7** AND **8** OF THE POWER WINDOW MASTER SW, TO **TERMINAL 5** OF THE POWER WINDOW SW FRONT RH, REAR LH AND REAR RH.

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

WITH THE IGNITION SW TURNED ON AND WITH THE POWER WINDOW MASTER SW (MANUAL SW) AT **UP** POSITION, THE CURRENT FLOWS TO **TERMINALS 7** AND **8** OF THE POWER WINDOW MASTER SW → **TERMINAL 6** → **TERMINAL 3** OF THE POWER WINDOW MOTOR FRONT LH → **TERMINAL 1** → **TERMINAL 13** OF THE POWER WINDOW SW → **TERMINALS 2** AND **1** → **GROUND**, CAUSING THE POWER WINDOW MOTOR TO ROTATE IN THE UP DIRECTION. THE WINDOW ASCENDS ONLY WHILE THE POWER WINDOW MASTER IS BEING PULLED. IN DOWN OPERATION, THE CURRENT FLOW TO **TERMINALS 7** AND **8** OF THE POWER WINDOW MASTER SW → **TERMINAL 13** → **TERMINAL 1** OF THE POWER WINDOW MOTOR FRONT LH → **TERMINAL 3** → **TERMINAL 6** OF THE POWER WINDOW MASTER SW → **TERMINALS 2** AND **1** → **GROUND**. ACCORDING TO THE FLOW, THE MOTOR ROTATES IN THE DOWN DIRECTION, LOWERING THE WINDOW.

### 2. AUTO DOWN OPERATION (DRIVER'S SIDE)

WITH THE IGNITION SW ON AND WITH THE AUTO DOWN SW OF THE POWER WINDOW MASTER SW IN **DOWN** POSITION, THE CURRENT FLOWS TO **TERMINAL 7** AND **8** OF THE POWER WINDOW MASTER SW → **TERMINAL 13** → **TERMINAL 1** OF THE POWER WINDOW MOTOR FRONT LH → **TERMINAL 3** → **TERMINAL 6** OF THE POWER WINDOW MASTER SW → **TERMINALS 1** AND **2** → **GROUND**, CAUSING THE MOTOR TO ROTATE TOWARDS THE DOWN SIDE.

THEN THE SOLENOID IN THE POWER WINDOW 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 BETWEEN **TERMINAL 6** OF THE POWER WINDOW MASTER SW AND **TERMINALS 1** AND **2** INCREASES. AS A RESULT, THE SOLENOID STOPS OPERATING, AUTO DOWN SW TURNS OFF, AND THE CURRENT FROM **TERMINALS 7** AND **8** OF THE POWER WINDOW 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 PUSHED TO THE UP SIDE DURING AUTO DOWN OPERATION, A GROUND CIRCUIT OPENS IN THE POWER WINDOW MASTER SW AND THE CURRENT DOES NOT FLOW FROM **TERMINAL 6** OF THE POWER WINDOW MASTER SW TO **GROUND**, SO THE MOTOR STOPS, CAUSING AUTO DOWN OPERATION TO STOP. IF THE MANUAL SW IS PUSHED CONTINUOUSLY, THE MOTOR ROTATES IN THE UP DIRECTION IN MANUAL UP OPERATION.

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

WITH THE POWER WINDOW SW (PASSENGER'S) PULLED TO THE UP SIDE, THE CURRENT FROM **TERMINAL 5** OF THE POWER WINDOW SW FRONT RH FLOWS TO **TERMINAL 1** OF THE POWER WINDOW SW → **TERMINAL 3** OF THE POWER WINDOW MOTOR → **TERMINAL 1** → **TERMINAL 4** OF THE POWER WINDOW SW → **TERMINAL 3** → **TERMINAL 5** OF THE POWER WINDOW MASTER SW → **TERMINALS 1** AND **2** → **GROUND**, CAUSING THE POWER WINDOW MOTOR FRONT RH (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 TO THE MOTOR FLOWS IN THE OPPOSITE DIRECTION, FROM **TERMINAL 1** TO **TERMINAL 3**, AND THE MOTOR ROTATES IN REVERSE.

WHEN THE WINDOW LOCK SW IS PUSHED OUT TO THE NORMAL 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 **TERMINALS 1** AND **2** OF THE POWER WINDOW MASTER SW IS NOT GROUNDED AND THE MOTOR DOES NOT ROTATE, SO THE PASSENGER'S WINDOW CANNOT BE OPERATED AND WINDOW LOCK OCCURS.

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

### 5. KEY OFF POWER WINDOW OPERATION

WITH THE IGNITION SW TURNED FROM ON TO OFF, THE DOOR LOCK CONTROL RELAY OPERATES AND KEEPS THE CURRENT FLOW FROM **FL POWER** FUSE TO **TERMINAL 8** OF THE DOOR LOCK CONTROL RELAY → **TERMINAL 15** → **TERMINAL 3** OF THE POWER RELAY → **TERMINAL 1** → **GROUND** FOR ABOUT **60** SECONDS. THE SAME AS NORMAL OPERATION, THE CURRENT FLOWS FROM **FL POWER** FUSE TO **TERMINAL 4** OF THE POWER RELAY → **TERMINAL 2** → **TERMINAL 7** AND **8** OF THE POWER WINDOW MASTER SW, TO **TERMINAL 5** OF THE POWER WINDOW SW FRONT RH. AS A RESULT, FOR ABOUT **60** SECONDS AFTER THE IGNITION SW IS TURNED OFF, IT IS POSSIBLE TO RAISE AND LOWER THE WINDOW BY THE FUNCTIONING OF THIS RELAY. ALSO, BY OPENING THE FRONT DOOR (THE DOOR COURTESY SW ON) WITHIN ABOUT **60** SECONDS AFTER TURNING THE IGNITION SW TO OFF, A SIGNAL IS INPUT TO **TERMINAL 2** OR **14** OF DOOR LOCK CONTROL RELAY. AS A RESULT, THE RELAY TURNS OFF, AND UP AND DOWN MOVEMENT OF THE WINDOW STOPS.

## SERVICE HINTS

## P6 POWER WINDOW MASTER SW

7,8-GROUND : APPROX. **12** VOLTS WITH THE IGNITION SW AT **ON** POSITION OR KEY OFF OPERATED

## 1.2-GROUND : ALWAYS CONTINUITY

6-GROUND : APPROX. 12 VOLTS WITH THE IGNITION SW **ON** AND MASTER SW (DRIVER'S WINDOW) AT **UP** POSITION

**13-GROUND : APPROX. 12 VOLTS WITH THE IGNITION SW **ON** AND MASTER SW (DRIVER'S WINDOW) AT **DOWN** OR **AUTO DOWN** POSITION**

**WINDOW LOCK SW**

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

○ : PARTS LOCATION

|      |          |      |          |      |          |
|------|----------|------|----------|------|----------|
| CODE | SEE PAGE | CODE | SEE PAGE | CODE | SEE PAGE |
| D16  | 26       | J 2  | 25       | P10  | 27       |
| D17  | 26       | P 6  | 27       | P11  | 27       |
| D22  | 26       | P 7  | 27       | P12  | 27       |
| F11  | 25       | P 8  | 27       | P13  | 27       |
| J 1  | 25       | P 9  | 27       |      |          |

 : RELAY BLOCKS

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

 : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

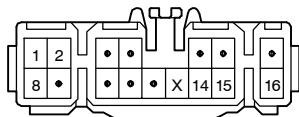
| CODE       | SEE PAGE | JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)   |
|------------|----------|--------------------------------------------------------------|
| <b>ID1</b> | 32       | COWL WIRE AND FLOOR NO.1 WIRE (LEFT KICK PANEL)              |
| <b>ID2</b> |          |                                                              |
| <b>II1</b> | 32       | COWL WIRE AND FLOOR NO.2 WIRE (RIGHT KICK PANEL)             |
| <b>II2</b> |          |                                                              |
| <b>BJ1</b> | 34       | FRONT DOOR LH WIRE AND COWL WIRE (LEFT KICK PANEL)           |
| <b>BJ2</b> |          |                                                              |
| <b>BK1</b> | 34       | FRONT DOOR RH WIRE AND COWL WIRE (RIGHT KICK PANEL)          |
| <b>BN1</b> | 34       | REAR DOOR LH WIRE AND FLOOR NO. 1 WIRE (LEFT CENTER PILLAR)  |
| <b>BP1</b> | 34       | REAR DOOR RH WIRE AND FLOOR NO. 2 WIRE (RIGHT CENTER PILLAR) |

 : GROUND POINTS

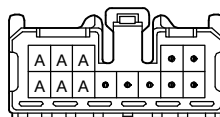
|      |          |                        |
|------|----------|------------------------|
| CODE | SEE PAGE | GROUND POINTS LOCATION |
| ID   | 32       | LEFT KICK PANEL        |
| IE   | 32       | RIGHT KICK PANEL       |

 : SPLICE POINTS

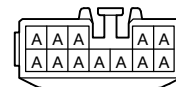
| CODE | SEE PAGE | WIRE HARNESS WITH SPLICE POINTS | CODE | SEE PAGE | WIRE HARNESS WITH SPLICE POINTS |
|------|----------|---------------------------------|------|----------|---------------------------------|
| I 2  | 32       | COWL WIRE                       | B 2  | 36       | FRONT DOOR LH WIRE              |
| I 3  |          |                                 | B 4  |          |                                 |
| I12  |          |                                 |      |          |                                 |



(SEE PAGE 20)



(HINT : SEE PAGE 7)



(HINT : SEE PAGE 7)

