

Full-Cut Method Description

Note:

- If corrosion of the pinch-weld flange is present, or if sheet metal repairs or replacements are required, refinish the pinch-weld flange in order to present a clean, primer-only surface.
- If paint repairs are required, mask the flange bonding area, prior to applying the color coat, in order to provide a clean, primer-only surface.
- Appropriate materials for these primer applications are typically 2 component catalyzed products. Use materials such as BASF DE15®, DuPont 2610®, Sherwin-Williams PSE 4600 and NP70® and Martin-Semour 5120 ,5130® , PPG DP90LF SPIES/HECKER 3688/8590 – 3688/5150 – 4070/5090 STANDOX 11158/13320 – 14653/14980 products are approved for this application. Follow the manufacturer's directions for the mix, the application, and the drying times.
- After repairing the opening as indicated, shake the pinch-weld primer black #3 well. Using a new dauber, apply the primer to the primed surface of the flange in the bonding area. Allow the primer to dry for 10 minutes.

Use only the full cut method, also known in the field as full strip method, when installing windows.

This method includes the following:

- The replacement of a majority of the urethane adhesive bead. Remove all but approximately 2 mm (3/64 in) of the existing bead of urethane adhesive from the pinch-weld flange.
- Apply pinch-weld primer to any exposed painted areas on the pinch-weld flange.

No mounds or loose pieces of urethane adhesive should remain on the pinch-weld flange. Do not remove all traces of urethane adhesive.

Power Windows Description and Operation

Power Windows System Components

The power window system consists of the following components:

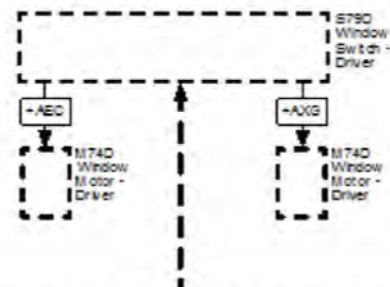
- Driver window switch
- Passenger window switch
- Left rear window switch
- Right rear window switch
- Window motors in each of the doors
- 30A Fuse
- Body control module (BCM)

Power Window System

This vehicle may be equipped with the following power window configurations:

- Driver door with express up and express down window motor
- Driver door with express down only window motor
- Passenger door with express up and express down window motor
- Passenger door with express down only window motor
- Left rear door with express down only window motor
- Right rear door with express down only window motor

14 Power Windows AXG or AEC-AEF or AEO-AEQ Block Diagram



(DA) Serial Data
(HW) Hard-Wired
(HW) Hard-Wired
(AEC) WINDOW REG DRVR DR: POWER OPERATED,EXPRESS DOWN
(AXG) WINDOW REG DRVR DR: POWER OPERATED, EXPRESS UP/DOWN
(HW) Hard-Wired
(DA) Serial Data
(HW) Hard-Wired
(DA) Serial Data
(DA) Serial Data
(DA) Serial Data
(HW) Hard-Wired
(HW) Hard-Wired
(AEF) WINDOW REG PASS DR: POWER OPERATED, EXPRESS UP/DOWN
(AED) WINDOW REG PASS DR: POWER OPERATED, EXPRESS DOWN
(AEQ) WINDOW REG REAR DR: POWER OPERATED, EXPRESS DOWN
(AEQ) WINDOW REG REAR DR: POWER OPERATED, EXPRESS DOWN
(K9) K9 Body Control Module
(S79D) S79D Window Switch – Driver
(M74D) M74D Window Motor – Driver
(M74D) M74D Window Motor – Driver
(S79P) S79P Window Switch – Passenger
(S79P) S79P Window Switch – Passenger
(S79LR) S79LR Window Switch – Left Rear
(S79RR) S79RR Window Switch – Right Rear
(M74P) M74P Window Motor – Passenger
(M74P) M74P Window Motor – Passenger
(M74LR) M74LR Window Motor – Left Rear
(M74RR) M74RR Window Motor – Right Rear

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Driver and Passenger Express Up and Express Down Power Window Motors

The driver and passenger doors contains a window motor is smart motor that will detect excessive resistance while performing the express up function and automatically reverse direction to prevent injury to any occupants that may become trapped between the closing

control circuit and ground to the other window motor control circuit causing that window to open. When the individual window switch is pulled in the up position, voltage and ground is applied to the window motor in the opposite direction causing that window to close. The return path to ground is supplied through the inactive control circuit being normally grounded through the window switch.

Each driver, passenger and rear window switch communicates to the BCM by a serial data circuit. When the driver wishes to control the passenger, left rear or right rear window, the driver will use the appropriate switch on the driver window switch. When this switch is used, a serial data message is sent to the BCM requesting a window motor command, the BCM will then send a serial data message to the appropriate door window switch which will then command that window to move in the direction requested.

Lockout Switch Feature

The driver power window switch contains a window lockout switch, when the driver presses the window lockout switch, a serial data message is sent to the BCM which will send a disable command to the rear window switches, deactivating them. The rear windows will still function normally from the switches on the driver window switch.

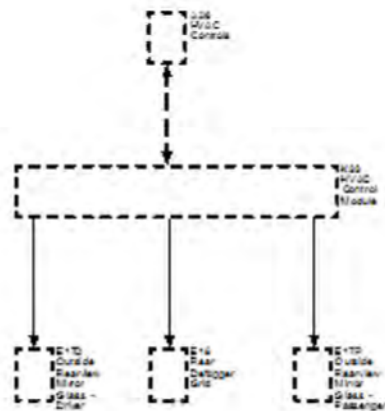
Rear Window Defogger Description and Operation

Rear Window Defogger System Components

The rear window defogger system consists of the following components:

- HVAC Control Module
- HVAC Controls
- Rear Defogger Relay
- Rear Defogger Grid
- Driver Outside Rearview Mirror
- Passenger Outside Rearview Mirror
- 40A Fuse

A26-K33-X50A Defogger Block Diagram



(K33) K33 HVAC Control Module

Rear Window Defogger Operation

The rear defog control system utilizes a single zone backlight design, driven with a single relay configuration. Additionally, up to two outside rear view mirrors can be heated if required. A switch for the customer to control the system is provided within the HVAC controls. Also included in the HVAC controls is an indicator to inform the customer with the current state of the system. The system is only operational when engine is running or during remote start.

Pressing the heated rear window switch causes the HVAC controls to send a serial data message to the HVAC control module requesting rear window defog operation. The HVAC control module upon receipt of the serial data message will provide voltage to the coil side of the rear defogger relay, this will energize the relay causing the relay switch contacts to close allowing B+ voltage to flow through the rear defogger grid control circuit to the rear defogger grid.

When the rear heated window switch is pressed and the engine is running, the rear defog control system will remain active for 10 minutes. After the initial cycle has lapsed, pressing the switch again will continue rear window defogger operation, but the cycle will only last 5 minutes. The rear defog control system will function continuously if the vehicle speed is greater than 70 kilometers per hour (45 mph).

Heated Mirrors

The heated mirrors are also controlled through the rear defogger relay. Whenever the rear window defogger is turned on battery voltage is supplied to the mirror heater elements through the left and right mirror heater element control circuits.

Stationary Window Description

Warning: Refer to [Cracked Window Warning](#).

Stationary windows consist of all the windows on the vehicle which are immovable within its frame, such as the windshield, the rear window, and the inside rearview mirror.

Urethane Adhesive Description

For replacement of any adhesive-installed window, use the full cut method only.

Use an adhesive that is approved by GM, Specification GMW-15672.

Use these materials based on specific manufacturer. Do NOT intermix primers or adhesives from one manufacturer to another.

Always follow the system manufacturers instructions for application, handling, and curing.