GROUP

(70000)

WINDOW GLASS AND MECHANISMS

PAGE

	WINDOWS, POWER
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SECTION 42-01 Window Glass and Mechanisms—Service

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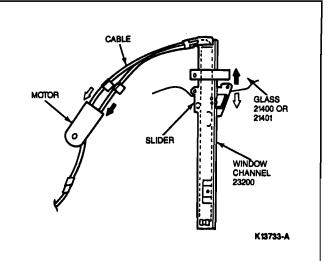
VEHICLE APPLICATION

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LUBRICATION

The front door windows are operated by two encased cables. The cables are attached from the motor to the regulator's slider bracket. The cables are secured by nylon fasteners inside the door. Lubrication of the cables is not necessary.

The door window mechanism should be well-lubricated to provide ease of operation. The mechanism should be lubricated whenever the glass channel or window regulator is removed or when excessive effort is required to operate the windows. To lubricate the door window mechanism, apply an even coating of Polyethylene Grease, DOAZ-19584-A or equivalent to the window regulator guides and entire length of channel.



SECTION 42-08 Windows, Power

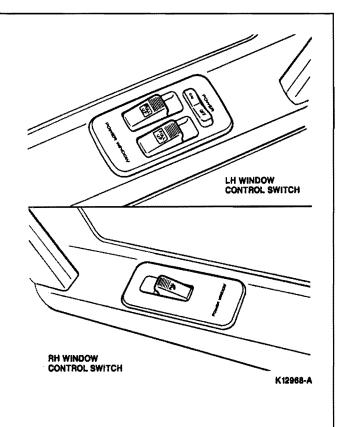
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VEHICLE APPLICATION

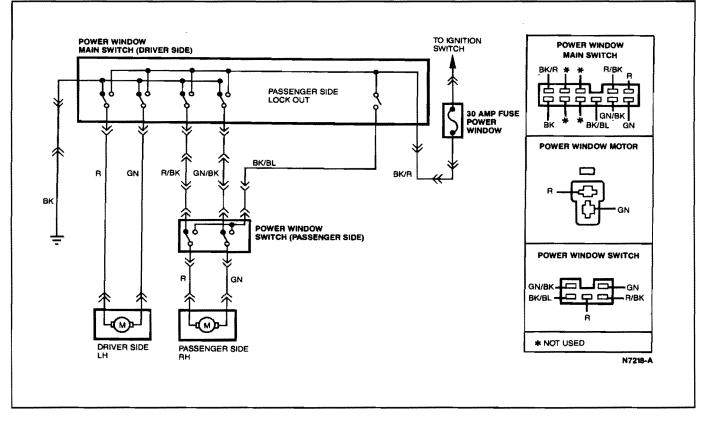
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DESCRIPTION

The power window switches are located on the door trim panels of the two doors. The master lockout switch is located on the LH door trim panel and can be used to deactivate both power window switches. A single power switch, located on the RH door trim panel will activate the RH window only.



DESCRIPTION (Continued)



DIAGNOSIS AND TESTING

Visual Inspection

1. Visually inspect the components. Check for:

Mechanical

- a. Window alignment.
- b. Window mounting (regulator and bracket).
- c. Window interference.
- d. Noises while operating.

Electrical

a. Fuse (30 amp).

- b. Damage to wiring harness.
- c. Loose or corroded connections.
- d. Damaged switches.
- With the key ON, operate all the power window switches and listen to the motor for any mechanical problems.
- 3. With the key ON, operate all the power window switches and verify the condition. Refer to the following chart.

CONDITION	POSSIBLE SOURCE	ACTION
 Power Windows Not Working 	 Fuse. Power circuit. Ground circuit. Main switch. 	• Go to PW1.
 Driver's Window Not Working 	 Power window motor. Motor circuit. Main switch. Passenger switch. 	• Go to PW7.
 Passenger Window Not Working—Main Switch On 	 Passenger switch. Passenger switch power circuit. 	• Go to PW8.

TEST STEP	RESULT		ACTION TO TAKE
PW1 CHECK POWER WINDOW FUSE			
● Key OFF.	Yes		GO to PW5.
Remove and inspect power window 30 amp fuse.	No	►	GO to PW2.
Is fuse OK?			
PW2 POWER SHORT ISOLATION			
• Replace 30 fuse amp.	Yes		GO to PW3.
● Key ON.	No		GO to PW4.
Inspect fuse.			
Is fuse OK?			
PW3 WINDOW OPERATION CHECK	_		
Key ON.	Yes		Power window system OK.
 Operate all power windows with switches one at a time. 	No	►	GO to PW5.
Are windows operating properly?			
PW4 SHORT TO GROUND CHECK			
Key OFF.	Yes	►	REPLACE main switch.
• Disconnect main switch.	No		SERVICE circuit in
 Measure resistance between main switch connector (all terminals except BK) and ground. 			question for short to ground.
Is resistance greater than 10,000 ohms?			
PW5 POWER SUPPLY CHECK	_	t	
Key ON.	Yes		GO to PW6.
Disconnect main switch.	No		SERVICE BK/R wire between main switch
 Measure voltage between BK/R terminal and ground at main switch connector. 	1	e.	and fuse box for open.
Is voltage 10 volts or greater?			

		TEST ST	EP		1	RESULT		ACTI	ON TO TAKE
PW6	GROUND COM	NTINUITY CH	ECK						
	Key OFF.				Yes		GO to PW7.		
	-	disconnected			No				CE BK wire
		sistance betwe nain switch cor	en BK terminal and nnector.	d					n main switch ound for open.
	Is resistance	e less than 5 c	hms?						
PW7	MAIN SWITCH	I CHECK							
	 Key ON. Access main 	n switch			Yes		►	Drivers window does not work. GO to PW11 .	
	 Check volta 	ges between t	he BK terminal and in the chart while r					Passen	ger window ot work. GO to
					No		►	REPLA switch.	CE main
						Wire Color			
			BK/BL	GN	/BK	R/BK		GN	R
	Drivers	Up					Less	s than 1V	Greater than 10V
	Side	Down					Grea 10V	ater than	Less than 1V
	Passenger	Up		Less th	an 1V	Greater than 10V			
	Side	Down		Greate 10V	r than	Less than 1V			
	ON/OFF	ON	Greater than 10V						
	Switch	OFF	Less than 1V						
	 Are all the v 	oltages correc	t?						
PW8	PASSENGER S SWITCH - ON	SWITCH SUPP N)	PLY CHECK (MAIN						
	Key ON.				Yes			GO to P	PW9.
	Disconnect	_			No			SERVIC for oper	E BK/BL wire
	 Measure for and ground. 		en the BK/BL term	inal					
	Is voltage 10	volts or great	er						

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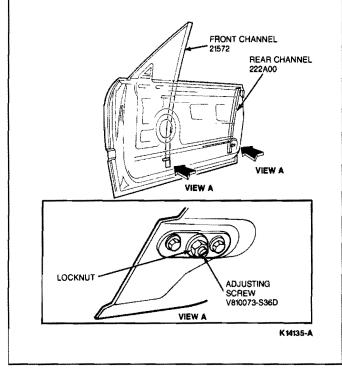
TEST STEP	RESULT		ACTION TO TAKE		
PW9 PASSENGER SWITCH CIRCUIT CONTINUITY					
Key OFF.	Yes		GO to PW10.		
 Main switch disconnected. 	No		SERVICE circuit in		
			question for open		
 Disconnect passenger switch. 			between main switch		
Measure the resistance on the GN/BK and R/BK			and passenger switch.		
wires between the main switch connector and the					
passenger switch connector.		,			
Is the resistance less than 5 ohms?					
W10 PASSENGER SWITCH CHECK					
● Key ON.	Yes		GO to PW11.		
 Access passenger switch. 	No		REPLACE switch.		
 Check voltages at the following terminals and 					
ground while moving the switch.					
GN R					
Up Less than 1 volt Greater than 10					
voits					
Down Greater than 10 Less than 1 volt volts					
1013					
Are voltages correct?					
W11 WINDOW MOTOR CIRCUIT CONTINUITY CHECK					
	-				
Key OFF.	Yes		GO to PW12.		
 Switch disconnected. 	No		SERVICE wire(s) for		
 Window motor disconnected. 			open.		
 Measure the resistance of the R and GN wires between the switch and motor. 					
Is the resistance less than 5 ohms?					
W12 WINDOW MOTOR FUNCTION CHECK					
	-				
Key OFF.	Yes		RETURN to condition		
•			chart.		
 Disconnect power window motor. 	No				
Apply 12 volts to one lead of the motor connector	No		REPLACE power window motor.		
and ground the other lead.					
-					
 Reverse polarity for two seconds. 					
Does power window motor operate in both					
directions?					

ADJUSTMENTS

Window Channels

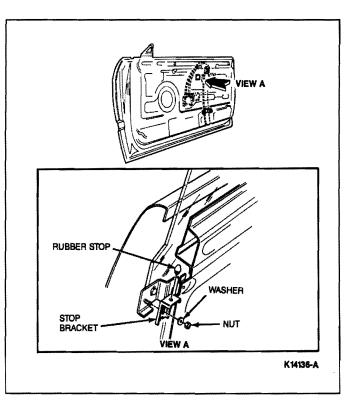
The position of the front or rear channel can be adjusted at the bottom. The channel should be adjusted to provide smooth operation of the window without binding.

- 1. Remove door trim panel and watershield. Refer to Section 45-03. Leave power window switch connected.
- 2. Loosen locknut at front or rear channel.
- 3. Turn adjustment screw in or out to provide smooth operation of window. Check operation of window and adjust as required.
- 4. Tighten locknut securely.
- 5. Install watershield and door trim panel.



Window Stop

- 1. Remove door trim panels and watershield. Refer to Section 45-03. Leave power window switch connected.
- 2. Loosen nut at stop bracket.
- 3. Position stop bracket and tighten nut securely. Check operation of window and adjust bracket as required.
- 4. Ensure rubber stop is in correct position.
- 5. Install watershield and door trim panel. Refer to Section 45-03.

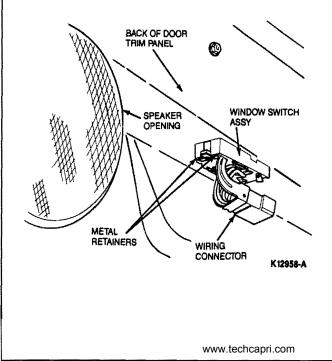


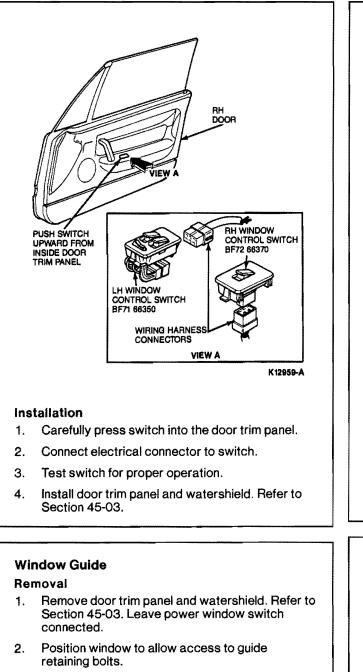
REMOVAL AND INSTALLATION

Door Window Switch

Removal

- 1. Remove door trim panel and watershield. Refer to Section 45-03.
- 2. Disconnect electrical connector at switch.
- 3. Depress metal retainers on bottom of switch, and push switch out of door trim panel.





3. Remove bolts and slide guide out from channel.

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VIEW A

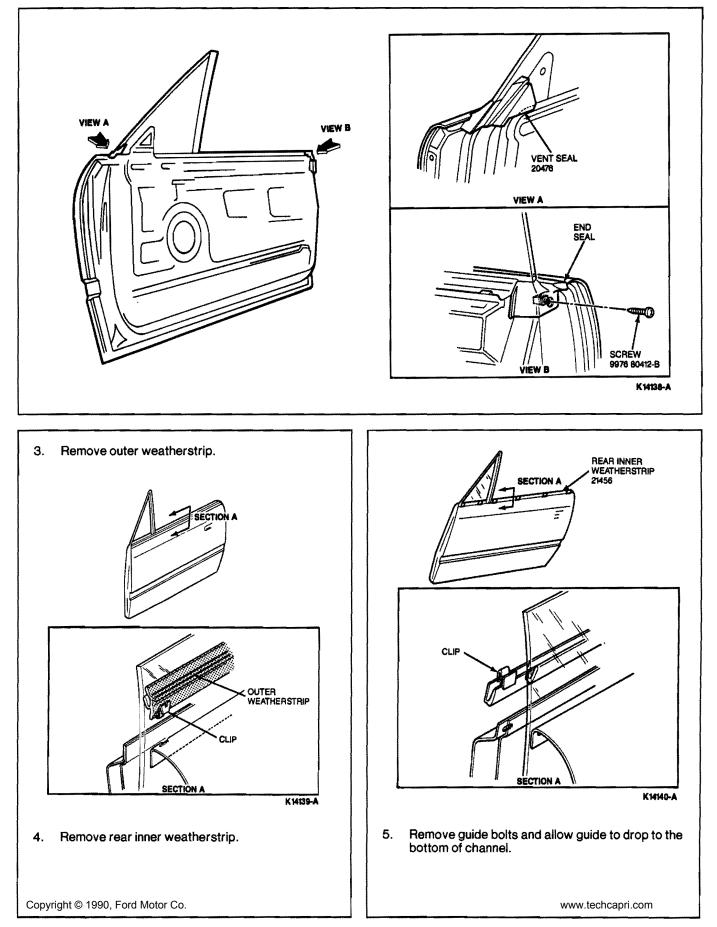
Installation

- 1. Position guide in window channel and install retaining bolts.
- 2. Check window for proper operation.
- 3. Install watershield and door trim panel. Refer to Section 45-03.

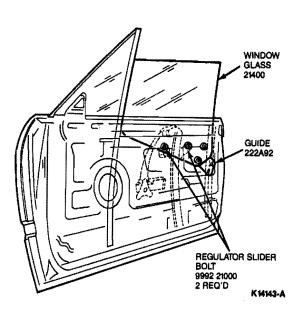
Window Glass

Removal

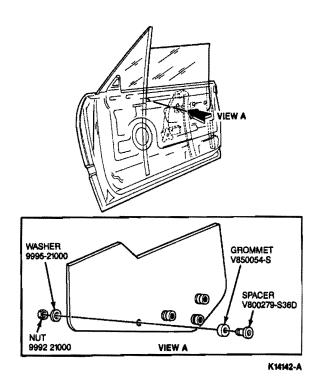
- 1. Remove door trim panel and watershield. Refer to Section 45-03. Leave power window switch connected.
- 2. Remove screw and end seal.



6. Support window and remove both regulator slider retaining bolts.



- 7. Remove window glass from door.
- 8. Remove nut, washer, grommet, and spacer as required.

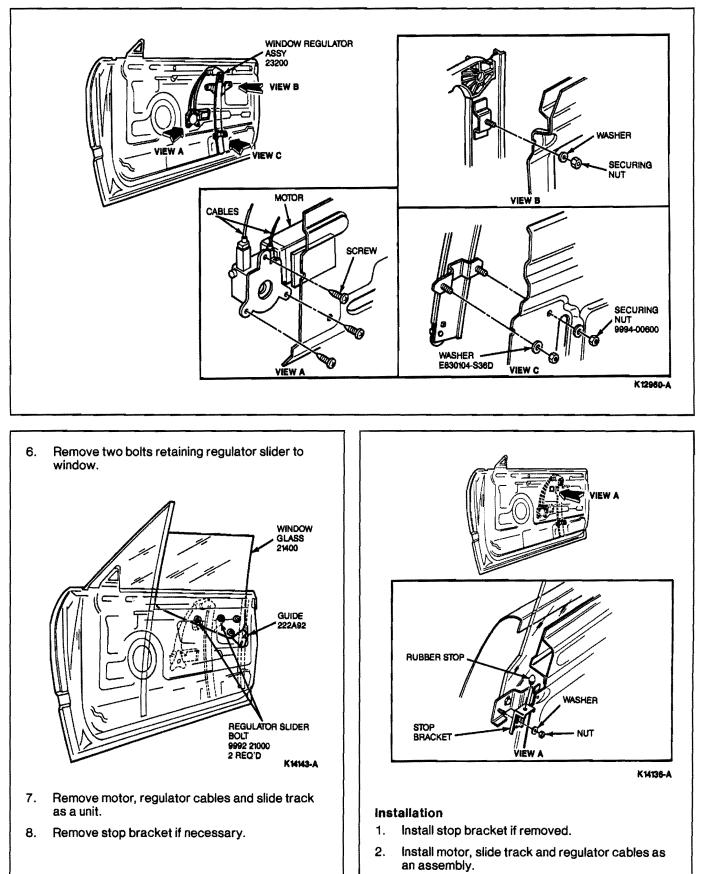


Installation

- 1. Install spacer, grommet, washer and nut if removed.
- 2. Position window glass and attach regulator slider with two bolts. Tighten securely.
- 3. Install guide to glass with retaining bolts.
- 4. Install inner and outer weatherstrips. Install end seal and retaining screw.
- 5. Adjust stops and channels as outlined.
- 6. Install watershield and door trim panel. Refer to Section 45-03.

Motor—Regulator Assembly Removal

- Raise the window and support in the full-up position. If the glass cannot be raised and is in a partially down or full-down position, it must be supported so that it will not fall into the door during removal of the motor.
- 2. Remove door trim panel and watershield. Refer to Section 45-03.
- 3. Disconnect window motor electrical connector.
- 4. Remove three window motor retaining screws.
- 5. Remove the three nuts securing window slide track to door frame.



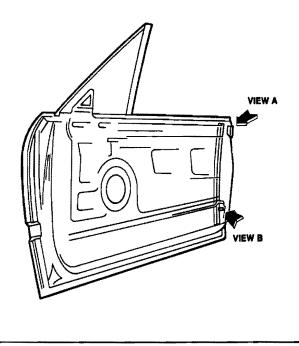
- 3. Install window motor mounting and three retaining screws to the door frame.
- 4. Install three regulator retaining nuts.
- 5. Attach regulator slider to window with two bolts.
- 6. Connect window motor electrical connector.

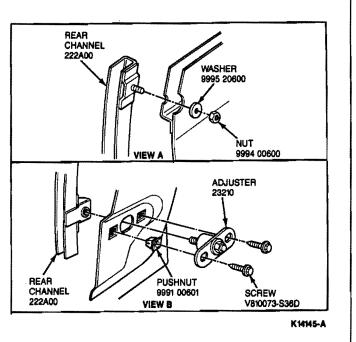
Window Channel, Rear

Removal

- 1. Remove door trim panel and watershield. Refer to Section 45-03.
- 2. Remove window glass as outlined.

- 7. Connect window control switch and check window mechanism for proper operation. Service as required.
- 8. Install door trim panel and watershield. Refer to Section 45-03.
- 3. Remove upper nut and washer.
- 4. Remove two screws connecting adjuster assembly.
- 5. Remove rear channel assembly.





Installation

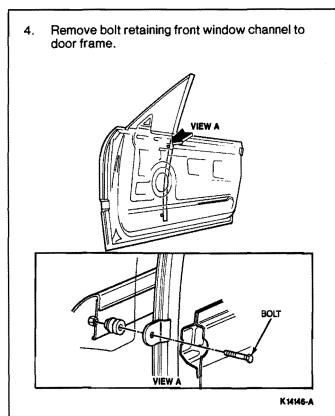
- 1. Install rear channel, washer and upper nut. Tighten securely.
- 2. Install adjuster assembly and two screws.
- 3. Install window glass as outlined.
- 4. Check window mechanism for proper operation. Adjust as outlined, if required.
- 5. Install watershield and door trim panel. Refer to Section 45-03.

Door Quarter Window

NOTE: The front window channel is part of the quarter window assembly.

Removal

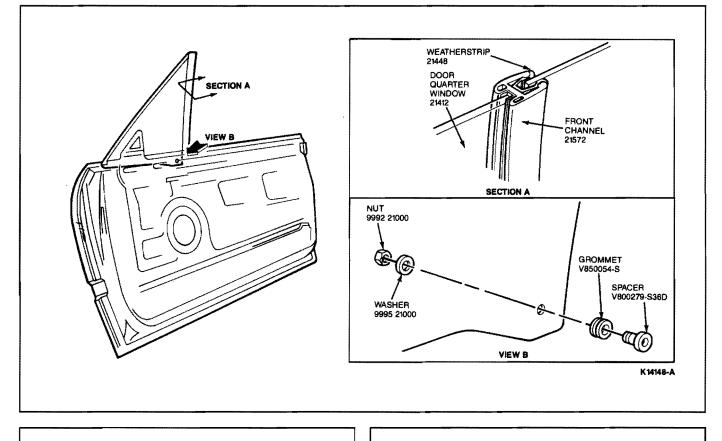
- 1. Remove door trim panel and watershield. Refer to Section 45-03.
- 2. Remove side view mirror. Refer to Section 42-25.
- 3. Remove door window glass as outlined.



5. Remove two adjuster assembly retaining screws.

<image><image>

- 6. Lift up on lower front edge of window and pull out of track.
- 7. Remove quarter window and front channel.
- 8. Remove nut, washer, grommet and spacer if required.
- 9. Remove weatherstrip from front channel if required.



Installation

- 1. Install weatherstrip into front channel if removed.
- 2. Install spacer, grommet, washer and nut if removed.
- 3. Assemble quarter window and front channel. Install front window channel retaining bolt.
- 4. Position quarter window assembly into door.
- 5. Install adjuster assembly and two retaining screws.

- 6. Install door window glass as outlined.
- 7. Check door window mechanism for proper operation. Adjust as outlined, if required.
- 8. Install side view mirror. Refer to Section 42-25.
- 9. Install door trim panel and watershield. Refer to Section 45-03.

PAGE

SECTION 42-21 Mirrors, Inside

SUBJECT

PAGE SUBJECT

REMOVAL AND INSTALLATION Mirror, Inside Rearview42-21-1 VEHICLE APPLICATION42-21-1

VEHICLE APPLICATION

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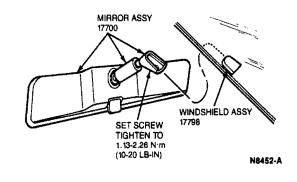
REMOVAL AND INSTALLATION

Mirror, Inside Rearview

Setscrew Type

Removal

- 1. Loosen mirror assembly-to-mounting bracket setscrew.
- 2. Remove mirror assembly by sliding upward and away from mounting bracket.
- 3. If bracket vinyl pad remains on windshield, apply low heat from an electric heat gun until the vinyl softens. Peel vinyl off the windshield and discard.



Installation

1. Make sure glass, bracket and adhesive kit (Rearview Mirror Repair Kit D9AZ-19554-B or equivalent) are at least at room temperature of 18.3 - 23.9 °C (65-75 °F).

- 2. Locate and mark mirror mounting bracket location on the outside surface of the windshield with a wax pencil.
- 3. Thoroughly clean bonding surfaces of glass and bracket to remove old adhesive. Use mild abrasive cleaner on glass and fine sandpaper on bracket to lightly roughen surface. Wipe clean with alcohol moistened cloth.
- Crush accelerator vial (part of Rearview Mirror Adhesive Kit D9AZ-19554-CA or equivalent), and apply accelerator to bonding surface of bracket and windshield. Let dry for three minutes.
- Apply two drops of adhesive (Rearview Mirror Adhesive D9AZ-19554-CA or equivalent) to the mounting surface of the bracket. Using a clean toothpick or wooden match, quickly spread the adhesive evenly over the mounting surface of the bracket.
- Quickly position the mounting bracket on the windshield. The 9.6mm (3/8 inch) circular depression in the bracket must be toward the inside of the passenger compartment. Press the bracket firmly against the windshield for one minute.
- 7. Allow bond to set for five minutes. Remove any excess bonding material from the windshield with an alcohol dampened cloth.
- 8. Attach the mirror to the mounting bracket and tighten the setscrew to 1.13-2.26 N·m (10-20 lb-in).

SECTION 42-25 Mirrors, Exterior

SUBJECT PAGE	SUBJECT PAGE
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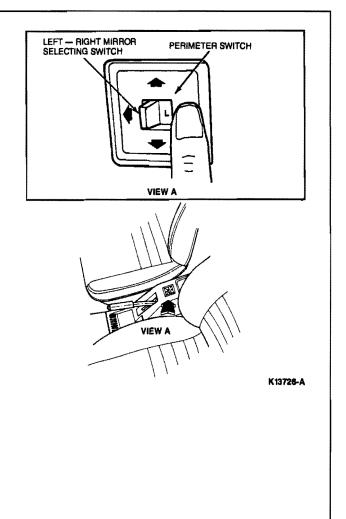
VEHICLE APPLICATION

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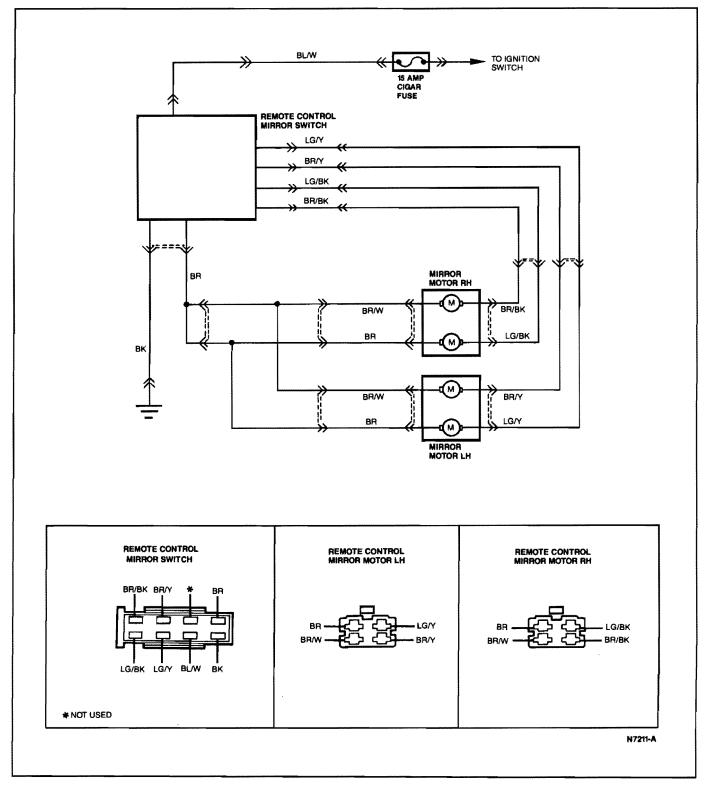
DESCRIPTION

Electric, remote control side view mirrors are used on both sides of the vehicle. The remote control mirror switch is located in the center console. The switch controls adjustment for both the left and right mirrors. Both outside mirrors are spring loaded to swing out of the way on minor impacts.

WARNING: RIGHT HAND MIRRORS ARE CONVEX AS NOTED ON FACE OF MIRROR. OBJECTS SEEN IN MIRROR ARE CLOSER THAN THEY APPEAR. THE MIRROR SHOULD NOT BE USED TO ESTIMATE RELATIVE DISTANCES OF FOLLOWING VEHICLES WHEN CHANGING LANES.



DESCRIPTION (Continued)



DIAGNOSIS AND TESTING

Visual Inspection

1. Visually inspect the components of the system. Check for:

Electrical

- a. Blown fuse.
- b. Damage to wiring.
- c. Loose or corroded connectors.

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DIAGNOSIS AND TESTING (Continued)

d. Cigar lighter (refer to Section 35-40.)

Mechanical

- a. Damaged switch.
- b. Damaged mirror(s).

- 2. Flex the harness and connectors at the control switch, and mirrors. Look for obvious signs of opens or shorts.
- 3. Operate the power mirror switch and determine condition. Refer to the following chart.

CONDITION	POSSIBLE SOURCE	ACTION
 Both Mirrors Do Not Operate 	 Fuse. Power circuit. Ground circuit. Control switch. Mirror circuit. 	• Go to RM1.
 Mirror(s) Do Not Operate Properly 	 Control switch. Mirror motor(s). Mirror circuit. 	• Go to RM6.

	TEST STEP	RESULT		ACTION TO TAKE
RM1	CHECK REMOTE CONTROL MIRROR FUSE			
	 Remove and inspect the 15 amp cigar fuse. 	Yes		GO to RM4.
	• Is the fuse OK?	No		GO to RM2.
RM2	POWER SHORT ISOLATION			
	 Replace the 15 amp cigar fuse. 	Yes		GO to RM3.
	Cycle the ignition.	No		GO to RM6.
	• Did the fuse blow again?			
RM3	POWER SHORT TO GROUND			
	• Disconnect the remote control mirror switch.	Yes		SERVICE short to ground in BL/W wire
	 Measure the resistance of the BL/W wire between the remote control mirror switch and ground. 			between fuse panel and remote control mirror switch.
	• Is the resistance less than 5 ohms?	No		GO to FM6 .
RM4	POWER SUPPLY CHECK	-		
	 Disconnect the remote control mirror switch. 	Yes		GO to RM5.
	● Key ON.	No		SERVICE open in BL/W wire between
	 Measure the voltage of the BL/W wire at the connector. 			fuse panel and remote control mirror switch.
	Is the voltage greater than 10 volts?			
RM5	SWITCH GROUND CHECK			
	 Measure the resistance of the BK wire at the switch and ground. 	Yes	►	GO to RM6.
	Is the resistance less than 5 ohms?	No		SERVICE open in BK wire.

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TEST STEP				RESULT		ACTIO	N TO TAKE		
M6	REMOTE CON	TROL MIRROR	SWITCH CHECK						
	 Access the r 	emote mirror sw	itch.		Yes			GO to RI	W7.
 Check the voltages at the remote control mirror switch as shown in the chart while moving the switch. Do all positions operate correctly? 				No		REPLACE remote control mirror swite			
						Wire Color	L		
Switch Position Up Left Down Mirror Left Right			LG/Y	B	R/Y	BR/BK	L	G/BK	BR
		Up						12V	٥٧
		Down						0V	12V
	Mirror	Left				12V			0V
		Right				0V			12V
		Up	12V						0٧
	Right	Down	0V						12V
	Mirror	Left		1	2V				0٧
		Right		(ov		-		12V
1		witch is in restin 11V — 13V) (0V — 1V)	g position, 0 volt s	should t	e on all w	vires.			

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	TEST S	RESULT		ACTION TO TAKE						
WIRE CONT	INUITY CHEC	К								
 Access the 	e mirror conne	ctors.	Yes	►	REPLAC	E motor.				
 Check the chart whi 	e voltages at the le moving the s	No	►		wire with rect value.					
Do all pos	sitions operate (correctly?								
			Wire Color							
Switch Po	sition	LG/Y	BR	BR/Y	LG/BK	BR	BR/BK			
	Up	12V	٥٧							
Left	Down	ov	12V							
Mirror	Left		٥٧	12V						
	Right		12V	0V						
	Up				12V	0V				
Right	Down				ov	12V				
Mirror	Left					0V	12V			
	Right					12V	0V			
12V =	a switch is in re = (11V — 13V) = (0V — 1V)	sting position, () volt should	be on all wires.						

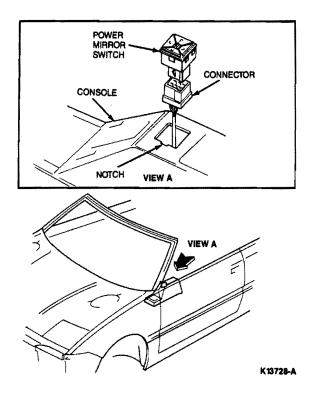
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REMOVAL AND INSTALLATION

Switch

Removal

- 1. Insert a small, flat tool at notch as shown and gently pry out switch.
- 2. Remove connector and switch.



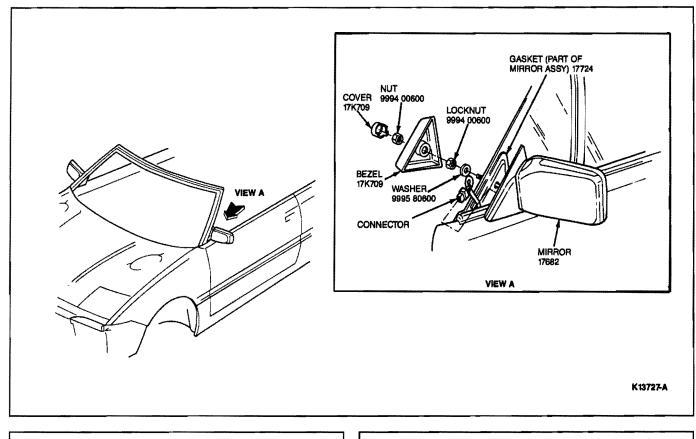
Installation

- 1. Plug connector into switch. NOTE: Make sure to orient switch correctly so that LEFT/RIGHT switch operates properly.
- 2. Install switch into console.
- 3. Check switch for proper operation.

Mirror Assembly LH and RH Door

Removal

- 1. Remove trim cover, nut and bezel.
- 2. Remove locknut, washer and mirror assembly.
- 3. Unplug connector from mirror.



Installation

- 1. Make sure gasket is in position.
- 2. Plug connector into mirror assembly and position wiring to avoid interference.
- 3. Install mirror assembly with washer and locknut.
- 4. Install trim cover, nut and bezel.
- 5. Check mirror for proper operation.

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