

# SECTION 17-02 Lighting, Interior

SUBJECT	PAGE	SUBJECT	PAGE
DESCRIPTION AND OPERATION		REMOVAL AND INSTALLATION (Cont'd.)	
Illuminated Entry .....	17-02-2	Lamp Switch, Glove Compartment .....	17-02-10
Lamp, Dome/Map Combination .....	17-02-1	Lamp, Cargo .....	17-02-11
DIAGNOSIS AND TESTING		Lamp, Dome/Map Combination .....	17-02-7
Check-Out Procedure .....	17-02-4	Lamp, Front Door .....	17-02-11
Quick Checks .....	17-02-4	Lamp, Transmission Control Selector .....	17-02-10
REMOVAL AND INSTALLATION		SPECIFICATIONS .....	17-02-11
Illuminated Entry .....	17-02-9	VEHICLE APPLICATION .....	17-02-1
Lamp Switch, Courtesy/Dome .....	17-02-10		

## VEHICLE APPLICATION

Taurus / Sable.

## DESCRIPTION AND OPERATION

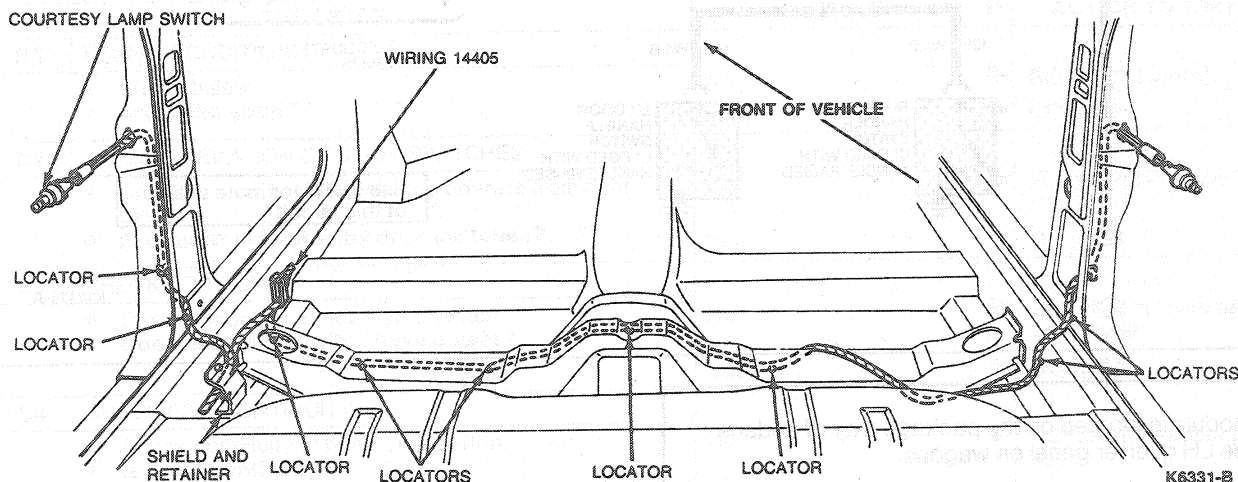
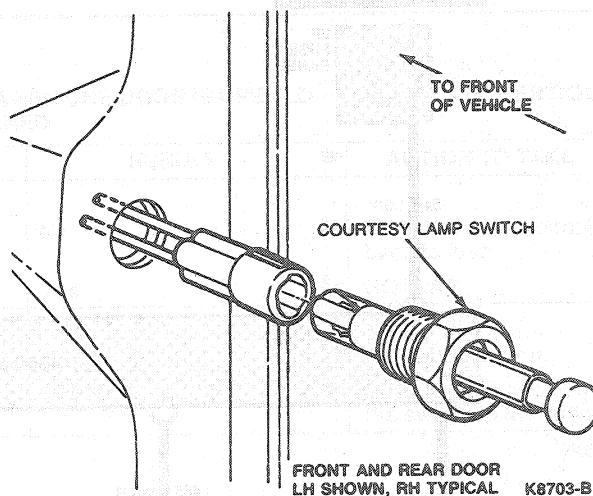
### Lamp, Dome/Map Combination

#### Without Moon Roof

The two map lamps are located on each side of the dome/map lamp housing. The map lamps are operated independently of the dome lamp by two switches located on lamp housing. The dome lamp is illuminated by turning the thumbwheel rheostat to the detented UP position. The dome lamp also illuminates when the doors are opened (switch in the pillar).

#### With Moon Roof

The roof console contains two lamps which function as door courtesy lamps when the doors are open. These lamps also function as map lamps when the doors are closed and the lamp switch is activated.



## DESCRIPTION AND OPERATION (Continued)

**Illuminated Entry**

The illuminated entry system assists vehicle entry during the hours of darkness by illuminating the door lock cylinder, so it may be easily located for key insertion. The vehicle interior will also be illuminated by the courtesy lamps.

Activation of the system is accomplished by raising the outside door handle or by pressing a code button on the keyless entry system.

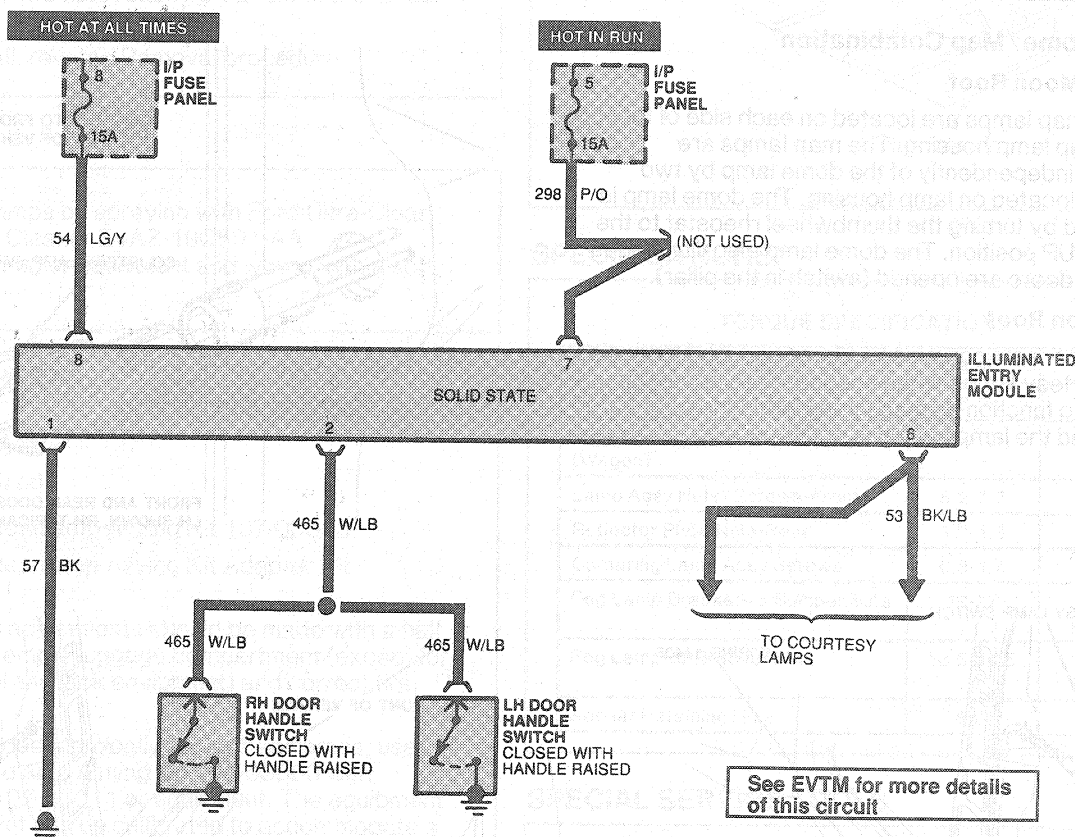
This action momentarily closes a switch mounted on the door latch mechanism, which completes the ground circuit of the electronic actuator module and switches the system on. The vehicle interior lamps turn on, and both front door lock cylinders are illuminated by a ring of light around the area where the key enters. This illumination will remain on for approximately 25 seconds, then automatically turn off. During this 25 second period, the system can be manually deactivated by turning the ignition switch to either RUN or ACC position.

The system will be activated every time the outside front door handles are operated, whether the vehicle is locked or not. Opening the doors from the inside of the vehicle will not activate the system.

If the outside door handle is held up indefinitely so that the latch switch is continuously closed, the system will operate as normal and turn off after 25 seconds. At the completion of this cycle, if the door handle is still in the raised position, the system will remain off, and it will be impossible to activate the system from the other front door handle until the raised handle is returned to its normal position. This function is built into the logic circuitry of the system to prevent battery discharge, should the outside door handle be intentionally propped up or become jammed in any way.

The system consists of four main components: electronic actuator module, illuminated door lock cylinder, door latch switch and wiring harness.

Refer to the following illustration for location of these components.



K17178-A

The module is located on the package tray of sedans and the LH quarter panel on wagons.

## DESCRIPTION AND OPERATION (Continued)

Housed within the module is a printed circuit board, the logic circuitry, and a relay to switch battery positive voltage (B+) to the various circuits. The normal operating voltage is 9 to 16 volts, but the unit will withstand voltage up to 24 volts for a period of 15 minutes. It cannot be damaged by reverse voltages and is unaffected by vehicle transients.

The rectangular door lock cylinder is unique to this system. A light-emitting diode (LED) provides the light source to a lens system built into the cylinder. Normal operating voltage for the LED is 3 volts. A resistor built into the harness protects the LED. It is important when checking the lock cylinder illumination that 12 volts is applied only to the connector terminals. If the resistor is bypassed and 12 volts is applied to the wires between the resistor and the lock cylinder by the use of needle-type probes, the LED will be instantly destroyed. Correct polarity must be observed by applying B+ to the orange wire; otherwise the LED will not light. If leads are reversed, no damage will be done to the assembly.

The lens system built into the cylinder is made of clear polycarbonate with a highly polished lustrous surface and will retain its fine appearance if given proper care. A mild soap and water solution is all that is usually required to keep the lens in its original condition. Should the lens become contaminated with oil or grease, clean with approved solvents such as hexane, dry cleaning naphtha, kerosene or methanol. Since these solvents are flammable as well as toxic, use with adequate ventilation and away from open flames. Solvents such as benzene, gasoline, acetone, carbon tetrachloride or denatured alcohol should **never** be used, as they will soften and deteriorate the lens surface, causing a permanent loss in light output.

The latch switch is a grounding-type leaf switch and is retained to the latch mechanism by one screw.

## DIAGNOSIS AND TESTING

## PINPOINT TEST A: COURTESY LAMP(S) DOES NOT TURN ON WHEN ONE DOOR IS OPENED — OK WHEN OTHER DOORS ARE OPENED

TEST STEP		RESULT	ACTION TO TAKE
A1	CHECK POWER	No	SERVICE power circuit back to fuse.
	<ul style="list-style-type: none"> <li>Check for power at door switch.</li> <li>Does power show at door switch?</li> </ul>	Yes	GO to A2.
A2	CHECK THE DOOR SWITCH	No	REPLACE switch.
	<ul style="list-style-type: none"> <li>Check the door switch for proper operation.</li> <li>Does door switch operate properly?</li> </ul>	Yes	SERVICE the circuit from the switch to the lamp(s).

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## PINPOINT TEST B: COURTESY LAMP(S) DOES NOT COME ON WHEN ROTATING THE DIMMER SWITCH UPWARD TO STOP

TEST STEP		RESULT	ACTION TO TAKE
B1	VERIFY CONDITION	No	REPLACE bulb(s).
	<ul style="list-style-type: none"> <li>Check bulbs.</li> <li>Are bulbs good?</li> </ul>	Yes	GO to B2.
B2	CHECK OPERATION OF DOOR SWITCHES	No	PERFORM Pinpoint Test C.
	<ul style="list-style-type: none"> <li>Check to see if courtesy lamps operate from door switches.</li> <li>Are lamps activated by door switches?</li> </ul>	Yes	GO to B3.
B3	CHECK FOR POWER	No	SERVICE circuits back to fuse panel.
	<ul style="list-style-type: none"> <li>Check for power at headlamp switch.</li> <li>Does headlamp switch have power?</li> </ul>	Yes	GO to B4.
B4	CHECK FOR CONTINUITY	No	REPLACE headlamp switch.
	<ul style="list-style-type: none"> <li>Check continuity of headlamp switch.</li> <li>Is there continuity?</li> </ul>	Yes	SERVICE circuits from switch to lamp(s).

## DIAGNOSIS AND TESTING (Continued)

## PINPOINT TEST C: COURTESY LAMP(S) DOES NOT COME ON WHEN ALL DOORS ARE OPEN

TEST STEP		RESULT	ACTION TO TAKE
C1	VERIFY CONDITION <ul style="list-style-type: none"> <li>Check courtesy lamps.</li> <li>Is there more than one courtesy lamp?</li> </ul>	No	GO to C2.
		Yes	GO to C5.
C2	CHECK OPERATION OF FUSE CIRCUIT <ul style="list-style-type: none"> <li>Check operation of other circuits that share the same fuse.</li> <li>Are all circuits from same fuse good?</li> </ul>	No	GO to C5.
		Yes	GO to C3.
C3	CHECK FOR POWER <ul style="list-style-type: none"> <li>Check for power to bulb.</li> <li>Does bulb illuminate?</li> </ul>	No	SERVICE circuit between bulb and common point with other circuits.
		Yes	GO to C4.
C4	CHECK CONTINUITY <ul style="list-style-type: none"> <li>Check continuity of bulb.</li> <li>Is there continuity?</li> </ul>	No	REPLACE bulb.
		Yes	SERVICE bulb ground.
C5	CHECK FUSE <ul style="list-style-type: none"> <li>Check courtesy lamp fuse(s).</li> <li>Are courtesy lamp fuse(s) good?</li> </ul>	No	REPLACE fuse. If fuse blows again, CHECK for shorted circuit(s).
		Yes	GO to C6.
C6	CHECK FOR POWER <ul style="list-style-type: none"> <li>Check for power through the fuse.</li> <li>Is there power to the fuse?</li> </ul>	No	SERVICE power feed circuit.
		Yes	SERVICE open circuit between fuse and common point in courtesy lamp power circuit(s).

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**NOTE:** Before performing diagnosis, verify that the system is malfunctioning. The illuminated entry module will not turn off the courtesy lamp if the lamp is turned on by the headlamp rheostat or if the door is open. For diagnosis of Illuminated Entry on vehicles with Keyless Entry, refer to Section 01-14B.

## Quick Checks

1. Verify that courtesy lamp circuit is working properly. If not, check fuse.
2. With ignition switch in ACC or RUN position, verify that other systems which share same accessory fuse are functional. If not, check fuse.
3. If any above systems are not working properly, service inoperative circuit and check operation of illuminated entry system before proceeding with the following complete check-out procedure.

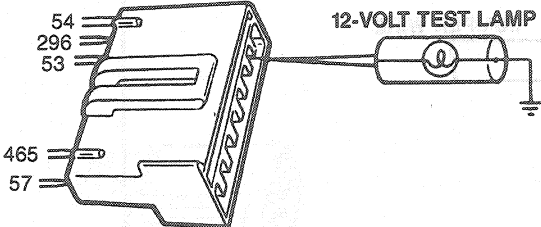
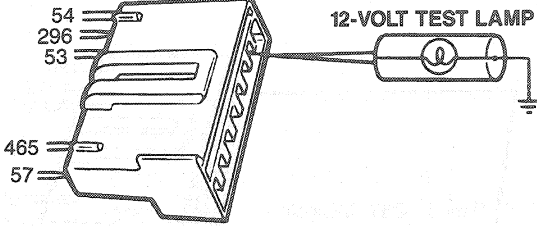
## Check-Out Procedure

1. Terminal numbers referred to in the following procedure relate to illuminated entry actuator connector. The terminals are numbered from left to right (when the connector is held as shown).
2. Any malfunctions diagnosed in Steps 4 and 5 in the charts could be located in either front door.
3. When necessary to trace and/or service various circuits, refer to vehicle wiring diagrams in Group 18.
4. Check system fuses (two) before proceeding.

## After Testing

If all of the following tests check out OK and the illuminated entry system is still malfunctioning, the actuator assembly is the cause of the concern and must be replaced.

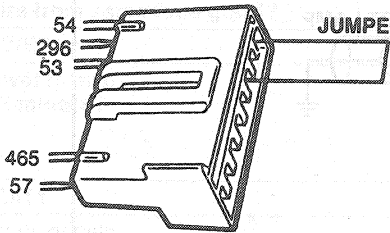
DIAGNOSIS AND TESTING (Continued)

RESULT	OPERATION	RESULT
<p><b>Step 1</b> — Connect a 12-volt test lamp between terminal No. 8 and a good ground.</p>	 <p>K15987-A</p>	<p>Whether ignition is on or off, the test lamp should glow. If not, trace Circuit 54 (light green with yellow stripe) back to fuse panel and service.</p>
<p><b>Step 2</b> — Connect a 12-volt test lamp between terminal No. 7 and a good ground.</p>	 <p>K15988-A</p>	<p>The test lamp should glow when the ignition switch is in ACC or RUN and go out when the switch is turned to OFF or LOCK. If not, trace Circuit 296 (white with purple stripe) back to fuse panel and service.</p>

(Continued)

## DIAGNOSIS AND TESTING (Continued)

(Continued)

OPERATION	RESULT
<p><b>Step 3 —</b> Connect a jumper wire between terminals No. 6 and 8.</p>  <p style="text-align: center;"><b>K15989-A</b></p>	<p>With vehicle doors closed, interior courtesy and door lock cylinder lamps should be on. If not, trace Circuit 53 (black with light blue stripe) and service.</p>

(Continued)

## Quick Checks

1. Verify that battery is fully charged and voltage is at least 12.5 volts.
2. Verify that engine is in OFF or RUN position, not in START position, when testing courtesy and door lock cylinder lamps.
3. If any courtesy or door lock cylinder lamps are not working, check the fuse and check the ground connection for the lamps.

4. Check for a shorted lamp or wiring.
- After testing:

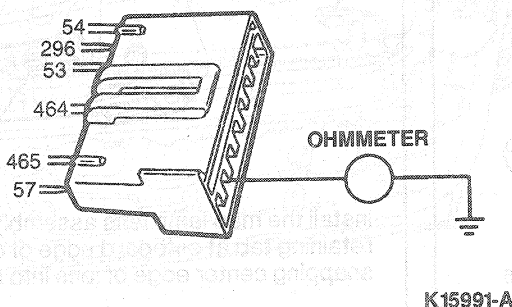
1. If any courtesy or door lock cylinder lamps are not working, check the fuse and check the ground connection for the lamps.



## DIAGNOSIS AND TESTING (Continued)

## OPERATION

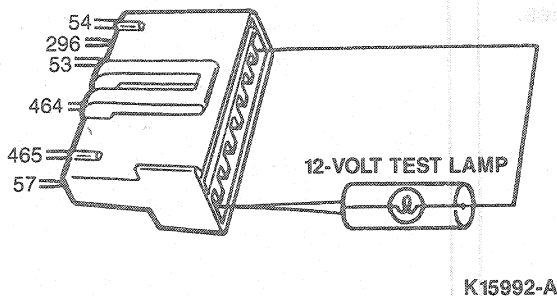
**Step 4** — Connect an ohmmeter between terminal No. 2 and a good ground.



## RESULT

The ohmmeter should show over 10,000 ohms (open). Then, operate each outside door handle in turn, ohmmeter should show not more than 50 ohms (closed). If either readings are incorrect, then trace Circuit 465 (white with light blue stripe) back to latch switches and service. **NOTE:** When operating door handle, hold in raised position.

**Step 5** — Connect a 12-volt test lamp between terminal No. 1 and terminal No. 8.



The test lamp should glow. If not, trace Circuit 57 (black) back to ground and service.

## REMOVAL AND INSTALLATION

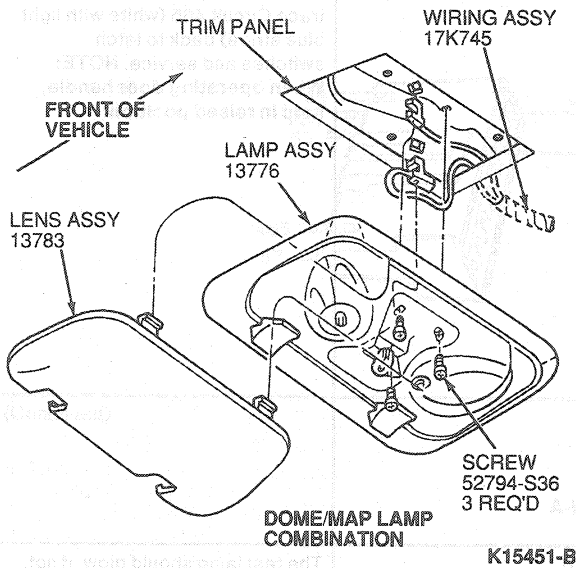
## Lamp, Dome / Map Combination

## Without Moon Roof

To replace the dome lamp bulb, carefully squeeze lens inward to release locking tabs and remove the lens from the lamp body. Pull the wedge base bulb directly out of its socket.

# REMOVAL AND INSTALLATION (Continued)

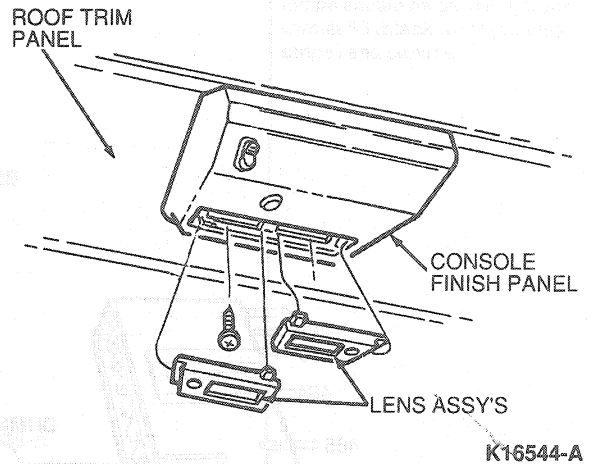
To replace the map lamp bulbs, remove the lens and three screws that retain the lamp assembly to its mounting surface. Lower the lamp assembly and replace the bulbs from rear of lamp using a thin-bladed screwdriver to remove the bulb(s).



## With Moon Roof

To replace the bulb(s) remove the map lens assembly by holding lens in, switch depressed position. Use a thin-bladed screwdriver and carefully pry out lens assembly at center gap between two lens assemblies. Remove bulb from socket.

To remove lamp assembly, carefully pry out center section of lamp and remove two retaining screws. Disconnect electrical connector.



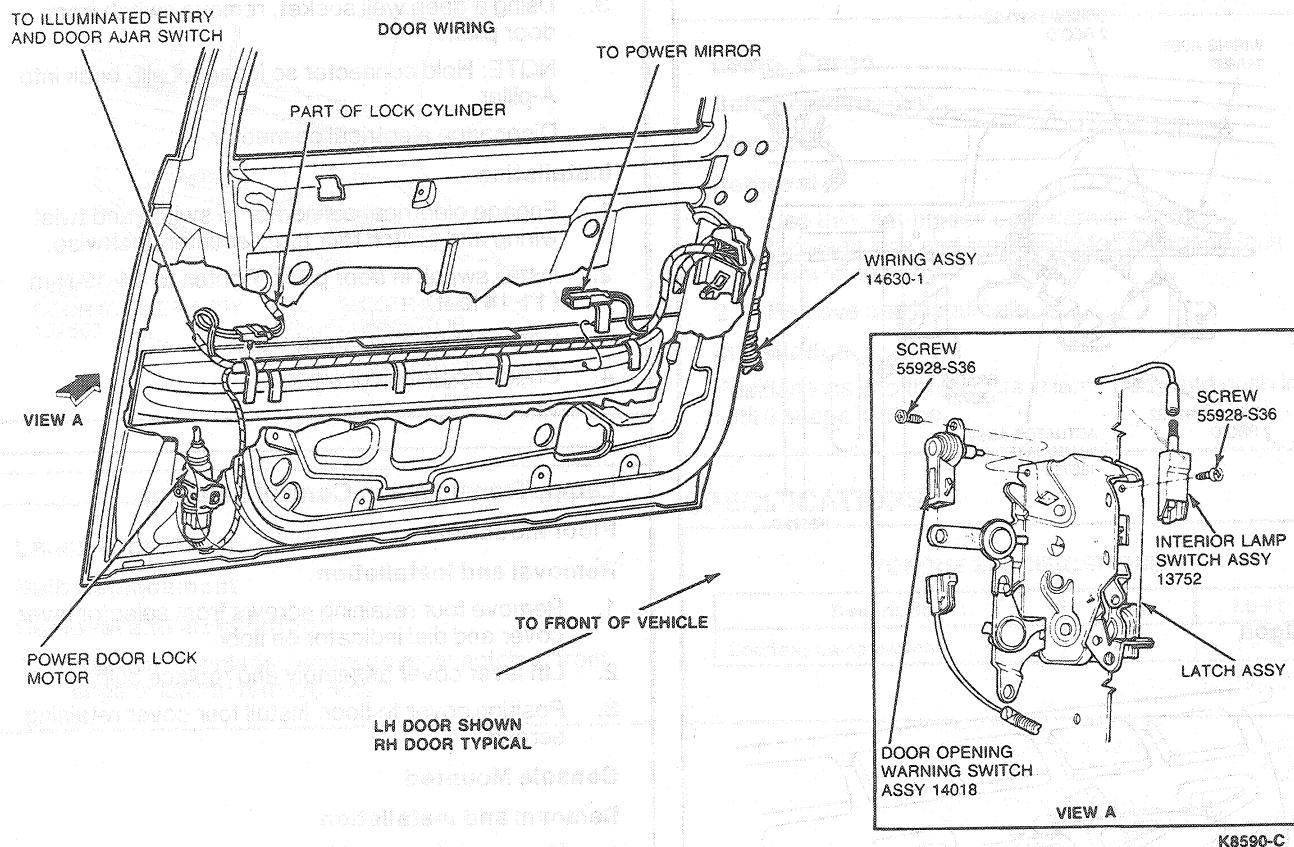
Install the map lamp lens assembly by engaging lens retaining tab at outboard edge of opening and snapping center edge of lens into console.



## REMOVAL AND INSTALLATION (Continued)

**Illuminated Entry**

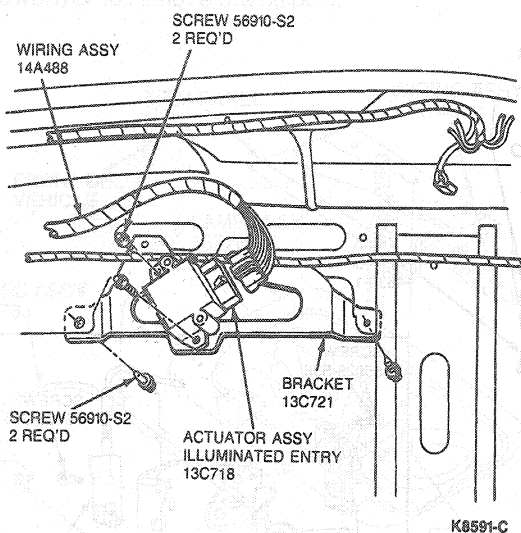
Refer to the illustrations for Removal and Installation and electrical disconnect points.



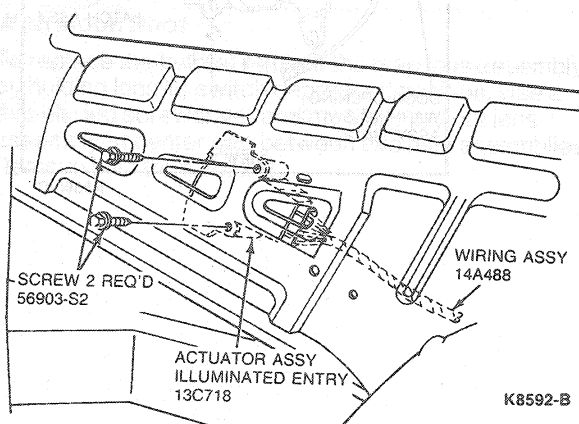
## REMOVAL AND INSTALLATION (Continued)

## Actuator Module

## Sedan



## Wagon



## Removal

1. Disconnect battery ground cable.
2. Open door.
3. Using a deep well socket, remove switch from door pillar.

NOTE: Hold connector so it cannot slip back into A-pillar.

4. Disengage electrical connector.

## Installation

1. Engage electrical connector to switch and twist wiring and switch four turns counterclockwise.
2. Install switch in door pillar. Tighten to 14-19 N·m (11-14 lb-ft).
3. Connect battery ground cable.
4. Check operation of switch.

## Lamp, Transmission Control Selector

## Floor Mounted

## Removal and Installation

1. Remove four retaining screws from selector lever cover and dial indicator on floor.
2. Lift lever cover assembly and replace bulb.
3. Position cover to floor. Install four cover retaining screws.

## Console Mounted

## Removal and Installation

1. Remove finish panel from the console.
2. Remove quadrant bezel.
3. Position selector lever in first position (LOW) and remove lamp socket and bulb from its retainer.
4. Replace bulb and install socket in retainer.
5. Install quadrant bezel.
6. Position finish panel and install retaining screws.

## Lamp Switch, Courtesy /Dome

Refer to the illustrations under Description and Operation.

**CAUTION:** Retention of courtesy lamp switch to the wiring connector is by one of three tabs positioned 120 degrees apart on the switch. If, when the switch is disconnected from the wiring connector, the engaged locking tab breaks off, the switch must be rotated 120 degrees to engage a new tab. When all three tabs have been broken, replace the switch.

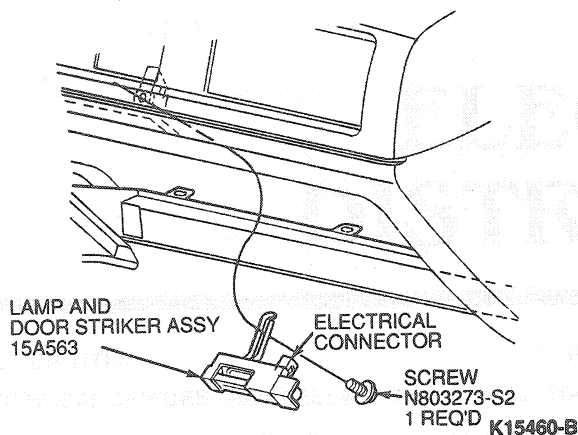
## Lamp Switch, Glove Compartment

## Removal and Installation

1. Remove one screw retaining lamp assembly and door striker.
2. Disconnect electrical connector.

**REMOVAL AND INSTALLATION (Continued)**

3. To install, reverse Removal procedure. Check and adjust door margin and fit as needed.

**Lamp, Front Door****Bulb Replacement****Removal and Installation**

1. Use thin, flat-bladed screwdriver in notch at front edge of lens to remove lens.

2. Remove and install bulb.
3. To install, position rear edge of lens under reflector and snap into position.

**Lamp, Cargo****Bulb Replacement****Wagon****Removal**

1. Use thin, flat-bladed screwdriver in notch between lens and lamp body to disengage lens from lamp body.
2. Remove and install bulb.

**Installation**

Position lens into three slots in lamp body and push in until it snaps in place.

**SPECIFICATIONS****TORQUE SPECIFICATIONS**

Description	N-m	Lb-Ft
Courtesy Lamp Switch	14-19	11-14