LIGHTING SYSTEMS

CONTENTS

DESCRIPTION AND OPERATION

LIGHTS AND SWITCHES

Light Switch

The light switch is a three position push-pull type which incorporates a manually operated rheostat for controlling the intensity of the instrument panel lights and a detent position for completing the dome light or courtesy light circuit.

When the switch is pulled out to the first notch, all exterior lights except headlights are illuminated as well as the instrument panel lights providing the rheostat is so rotated.

With the switch pulled to the second notch, the headlights are also turned on.

Thermo Circuit Breaker

A thermo circuit breaker is incorporated in the light switch assembly to protect the wiring from damage due to shorts in the headlight circuit.

The thermo circuit breaker consists of a bi-metal blade and set of contact points connected in series with the lighting circuits. An abnormal flow of current through the circuit breaker, such as would be caused by a short in a lighting circuit, heats the bi-metal blade sufficiently to separate the points and cause them to vibrate. The vibrating points alternately open and close the circuit, thus reducing the flow of current and protecting the wiring against overheating and burning.

Headlamps and Dimmer Switch

For 1975, all "A and X" series cars have single 7" dual filament sealed beam headlamps which provides both high and low beams depending upon the dimmer switch.

All "B" series cars have the dual 5 3/4" headlamp system whereby the outside sealed beam has a dual filament and the inside sealed beam has only one filament. When the dimmer switch is in DIM position, only the low beam filament of the outside sealed beam is illuminated. When the dimmer switch is in BRIGHT BEAM position, the bright beam filament of the outside sealed beam and the inside sealed beam are illuminated.

All "C-E-H" Series cars now have a dual 4 x 6.5" rectangular headlamp system. The rectangular headlamps are new for styling purposes only and function the same as the dual 5-3/4" round headlamp system.

In conjunction with the dimmer switch and headlamp circuit is the BRIGHT BEAM INDICATOR which is located in the instrument panel cluster. When the headlamps are on and the dimmer switch is in BRIGHT BEAM position, the indicator lamp lights as a constant reminder to the driver. The BRIGHT BEAM indicator should not be on when passing an approaching car.

A new headlight "ON" reminder system is an available option on all series Buick cars. The purpose of this system is to remind the driver to turn off the headlamps before leaving the car. The system has a warning light next to the headlamp switch and is also tied into the key warning buzzer circuit. If the headlights should be left on in "A", "B", "C" or "E" Series cars (with this option) the indicator light will come on and the buzzer will buzz as soon as

the drivers door is opened. By pushing the headlamp switch in, the circuit will be opened and the buzzer and warning light will cease to function. If the headlights of an "H" or "X" with this option are left on and the ignition is turned to "OFF" or "LOCK" the buzzer will buzz even though the drivers door is not opened.

Another new feature is a column mounted dimmer switch which is standard on "X" car thin pillar coupes and optional on "X" car Hatchback and sedan models. See Figure 1E-1.

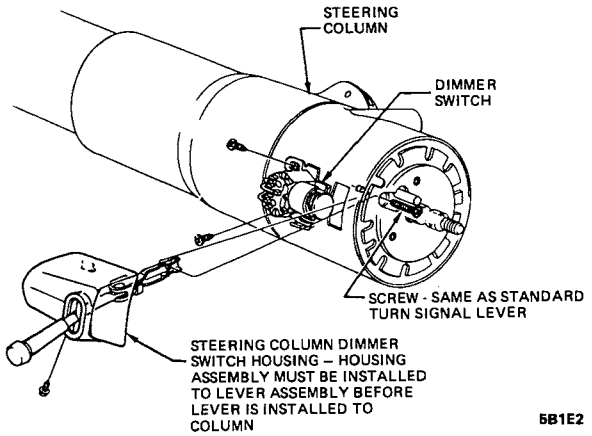

Figure 1E-1 - Column Mounted Dimmer Switch

The switch is mounted to the left side of the shift bowl. A dual purpose lever is used to operate the turn signals and the dimmer switch. Normal movement of the lever operates the turn signals while lifting of the lever operates the dimmer switch.

Neutral Start, BACKUP Lamp and Seat Belt Warning Switch

On all column shift and console shift automatic transmission cars, a combined neutral start and backup lamp and seat belt warning switch is used. This switch also includes an additional set of contacts to prevent the seat belt warning alarm from coming on in neutral on manual transmission cars and in park and neutral on automatic transmission cars. The switch is located on the steering column under the instrument panel. When the neutral start portion of the switch is properly adjusted, the backup lamp seat belt warning portion is automatically adjusted. The switch is actuated through its carrier tang by the transmission shift tube in the steering column. When properly adjusted, the engine may be started only when the selector lever is in either park or neutral position.

On manual transmission cars, the backup lamp switch is separate but is mounted in approximately the same location as on automatic transmission cars. It is actuated through its carrier tang by the shift tube in the steering column.

Clutch Start Switch

All manual transmission cars have a clutch start switch which is located on the right side of the pedal bracket. The purpose of this switch is to prevent the possibility of the engine starting while the transmission is in gear.

When the clutch pedal is fully depressed, the switch is closed completing the circuit between the ignition switch and the starter solenoid.

Parking Lights

Both the front and rear parking lamps contain a 32-3 CP light bulb which provides a 3 CP parking and or driving light and a 32 CP direction signal light. The parking lights are turned on when the light switch is pulled out to either first or second detent position. The parking lamp circuit is protected by the "TAIL" fuse.

Side Marker Lights

The side marker lights are in the parking lamp circuit and are illuminated when the parking lights are on. They are also protected by the "TAIL" fuse. The Riviera uses 3 CP bulbs in the front side markers and 2 CP bulbs in the rear side markers. All other series use 2 CP bulbs in both front and rear side markers.

Rear License Lights

All series cars have only one rear license lamp bulb except LeSabre. The LeSabre except "B" Wagon has two. All license lamp bulbs are 2 CP and are mounted so they reflect down on the license plate.

INTERIOR LIGHTS AND CIGAR LIGHTER

Instrument Panel Lights

The speedometer, gauges, heater - air-conditioner controls, radio, shift quadrant, etc., are illuminated by light bulbs to provide indirect lighting. These lights are controlled by the light switch and protected by a 4 amp fuse in the fuse block.

Brake Warning Light

The brake warning light has two functions, in that when the ignition is ON, it lights when the parking brake is depressed and it will light when the service brake pedal is depressed if there is a hydraulic pressure difference between the front and rear brake circuits.

The sending unit switch is located in the brake system combination valve.

In the event of a brake system failure where the light comes on when the service brake pedal is depressed, the only way the light can be turned off is to repair the failure and apply a pedal force, as required to develope up to 450 psi line pressure.

Cigar Lighter

The cigar lighter is heated by pressing it in until it latches. When it has heated to a predetermined temperature, it will automatically unlatch and pop up ready for use. The lighter is equipped with an ash guard to prevent the falling of ashes and loose tobacco. It is protected by a 20 amp fuse in the fuse block.

The courtesy lights are mounted when equipped one under each end of the instrument panel and use a 6 CP light bulb. They are operated by either the headlight switch or the door jam switches.

DIAGNOSIS

HEADLAMP DIAGNOSIS

Condition	Possible Cause	Correction
One headlamp inoperative or intermittent	1. Loose connection	1. Secure connections to sealed beam including ground. (Black Wire)
	2. Sealed Beam Malfunction	1. Replace sealed beam
One or more headlights are dim.	1. Open ground connection at headlight	1. Repair black wire connection between sealed beam and body ground.
	2. Black ground wire mislocated in headlight connector (type 2 sealed beam)	1. Relocate black wire in connector
One or more headlights short life	1. Voltage regulator malfunction	1. Replace voltage regulator
All headlights inoperative or intermittent	1. Loose connection	1. Check and secure connections at dimmer switch and light switch.
	2. Dimmer switch malfunction	1. Check voltage at dimmer switch with test lamp. If test lamp bulb lights only at light blue wire terminal, replace dimmer switch.
	3. Open wiring - light switch to dimmer switch	1. Check light blue wire with test lamp. If bulb lights at light switch light blue wire terminal but not at dimmer switch, repair open wire.
	4. Open wiring - light to battery	1. Check red wire terminal at light switch with test lamp. If lamp does not light, repair open red wire circuit to battery. (possible open fusible link)
	5. Shorted ground circuit	1. If, after a few minutes operation, headlights flicker "ON" and "OFF" and or a thumping noise can be heard from the light switch (circuit breaker opening and closing), repair short to ground in circuit between light switch and headlights. After repairing short, check

Condition	Possible Cause	Correction
		for headlight flickering after one minute operation. If flickering occurs, the circuit breaker has been damaged and light switch must be replaced.
	6. Light switch malfunction	1. Check red and white wire terminals at light switch with test lamp. If bulb lights at read wire terminal but not at light blue terminal, replace light switch.
Upper or lower beam will not light or intermittent	1. Dimmer switch malfunction or open connection	1. Check dimmer switch terminals with test lamp. If bulb lights at light blue or tan wire terminals, repair open wiring between dimmer switch and headlights. If bulb will not light at one of these terminals, replace dimmer switch.
	2. Short circuit to ground	1. Follow diagnosis above (All headlights inoperative or intermittent)

SIDE MARKER LAMP DIAGNOSIS

Condition	Possible Cause	Correction
One lamp inoperative	1. Turn signal bulb burnt out (Front lamp)	1. Switch turn signals on. If signal bulb does not light, replace bulb. (Bulb filament provides ground path for marker lamp bulb through the light blue or dark blue/white strip wires).
	2. Side marker bulb burnt out	1. Replace bulb.
	3. Loose connection or open in wiring	1. Using test lamp, check brown wire terminal at bulb socket. If test lamp lights, repair open ground circuit. If lamp does not light, repair open brown wire circuit.
Front or rear lamps inoperative	1. Loose connection or open ground connection	1. If associated tail or park lamps do not operate, secure all connectors in brown wire circuit. If park and turn lamps operate, repair open ground connections.

Condition	Possible Cause	Correction
	2. Multiple bulbs burnt out	1. Replace burnt out bulbs.
All lamps inoperative	1. Blown fuse	1. If park and tail lamps do not operate, replace blown fuse. If new fuse blows, check for short to ground between fuse panel and lamps.
	2. Loose connection	1. Secure connector to light switch.
	3. Open in wiring	1. Check tail light fuse with test lamp. If test lamp lights, repair open wiring between fuse and light switch. If not, repair open wiring between fuse and battery. (Possible open fusible link).
	4. Light switch malfunction	1. Check light switch with test lamp. If test lamp lights at terminal No. 5 but not at terminal No. 4, replace light switch.

TAIL, PARK AND LICENSE LAMP DIAGNOSIS

Condition	Possible Cause	Correction
One side inoperative	1. Bulb burnt out	1. Replace bulb
	2. Open ground connection at bulb socket or ground wire terminal	1. Jumper bulb base socket connection to ground. If lamp lights, repair open ground circuit.
Both sides inoperative	1. Tail lamp fuse blown	1. Replace fuse. If new fuse blows, repair short to ground in brown wire circuit between fuse panel through light switch to lamps.
	2. Loose connection	1. Secure connector at light switch.
	3. Open wiring	1. Using test light, check circuit on both sides of fuse. If lamp does not light on either side, repair open circuit between fuse panel and battery. (possible open fusible link). If test lamp lights at light switch brown wire terminal, repair open wiring between light switch and lamps.

Condition	Possible Cause	Correction
	4. Multiple bulb burnout	1. If test lamp lights at lamp socket brown wire terminal, replace bulbs.
	5. Light switch malfunction	1. If test lamp lights at light switch terminal No. 4 (Brown/ white wire) but not at terminal No. 5 (Brown wire), replace defective light switch

MAINTENANCE AND ADJUSTMENTS

HEADLAMP AIMING

The headlamps must be properly aimed in order to obtain maximum road illumination and safety that has been built into the headlight system. With the Guide T-3 type sealed beam units, proper aiming is even more important because the increased range and power of this lamp make even slight variations from recommended aiming hazardous to approaching motorists. The headlamps must be checked for proper aim whenever a sealed beam unit is replaced and after any adjustment or repair of the front end sheet metal assembly.

Regardless of method used for checking headlamp aim, car must be at normal weight, that is, with gas, oil, water, and spare tire. Tires must be uniformly inflated to specified pressure. If car will regularly carry an unusual load in rear compartment, or a trailer, these loads should be on car when headlamps are checked. Some states have special requirements for headlamp aiming adjustment and these requirements should be known and observed.

Horizontal and vertical aiming of each seal beam unit is provided by two adjusting screws, which move the mounting ring in the body against the tension of the coil spring. There is no adjustment for focus, since the sealed beam unit is set for proper focus during manufacturing assembly.

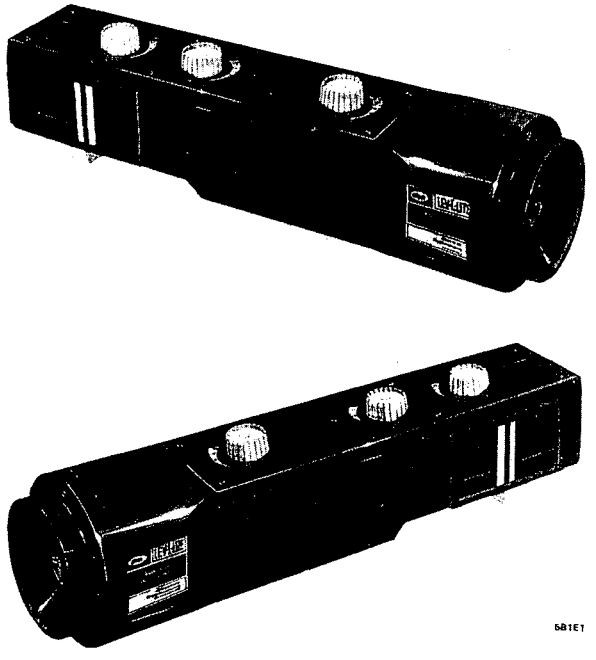

Figure 1E-2 - J-25300 Headlamp Aimers

A new headlamp aiming device has been released as an essential tool in the 1975 dealer special tool package. The tool number is J-25300. See Figure 1E-2.

This new device includes calibration fixtures and adapters for attachment to the 5-3/4 and 7 inch round headlamps as well as for the new rectangular headlamps and has a builtin transit.

It is recommended that the J-25300 aimer tools be used to aim all headlamps.

VEHICLE PREPARATION

Before the headlamp aiming process begins, it is necessary to prepare a vehicle as follows:

CLEAN FENDERS

Remove large amounts of mud or ice from the underside of fenders.

VEHICLE LOCATION

Drive vehicle on to a flat surface. It isn't necessary that this surface be exactly level.

TIRE PRESSURE

Tire pressure should be equalized to the number of pounds recommended by the manufacturer.

VEHICLE LOAD

Prior to headlamp aiming, the vehicle should be loaded with an average weight. This should include the driver and a "normal" amount of weight in the trunk or load area.

VEHICLE SPRINGS

The vehicle should be "rocked" sideways so as to equalize the springs. Also check them for sag or broken leaves and determine proper functioning of any "level-ride" mechanism.

HEADLAMP TESTING AND PREPARATION

CLEAN HEADLAMPS

Clean headlamp lenses and aiming pads.

1. ATTACH ADAPTERS

Attach the floor compensation and calibration adapters (J-25300-6) one to each aimer. The adapters will easily snap into position on the aimer (J-25300-1,-2) when properly positioned.

2. UNITS AT WHEELS

Place aimers at the center line of each wheel on one side of the vehicle. Unit B (J-25300-1) must be placed at the front wheel with the target facing to the rear. Unit A (J-25300-2) must be placed at the rear wheel with the target facing front. See Figure 1E-3.

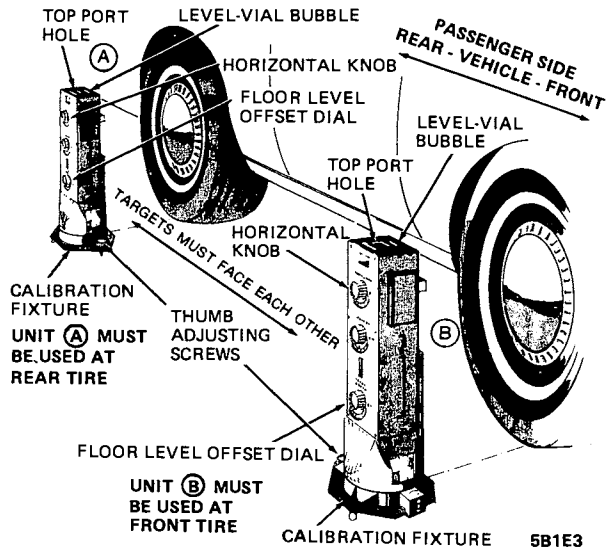

Figure 1E-3 - Adjusting for Floor Level

3. LEVEL EACH UNIT

Adjust the compensation knob (1) on each adapter by turning either clockwise or counter-clockwise until the level vial (2) bubble registers in the centered, level position.

4. ALIGN SPLIT IMAGE

Look into top port hole (3) of unit (A). Turn horizontal knob (4) in both directions until the split image is aligned. See Figure 1E-4.

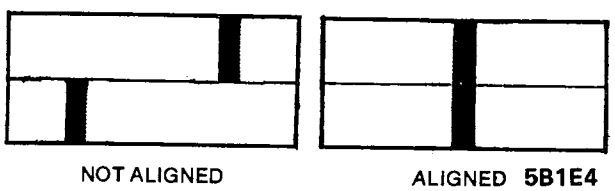

Figure 1E-4 - Split Image Alignment

5. ADJUST FLOOR SLOPE DIAL

Transfer the plus or minus reading indicated on the horizontal dial (4) to the floor slipe offset dial (5). See Figure 1E-5.

6. ADJUST HORIZONTAL DIAL

Return horizontal dial (4) to a zero setting.

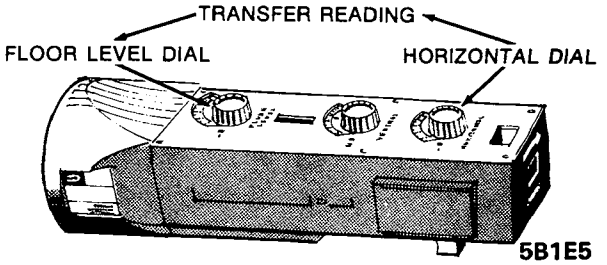

Figure 1E-5 - Transferring Readings

7. REPEAT PROCESS

Repeat steps (4), (5) and (6) with unit (B) at rear wheel.

8. REMOVE ADAPTERS

Remove floor compensation adapters (J-25300-6) from both units.

(NOTE: If you are able to regularly use one area to aim headlamps you can eliminate adjusting for floor level each time you aim. Use tape or paint to indicate on the floor a center line for the rear wheel of all vehicles. Then check the floor level for several vehicles with varying wheelbase measurements. Indicate on the floor a front wheel center line for each wheelbase along with the plus or minus reading for that position.....it saves valuable time.

If for some reason your floor is abnormally sloped, it may require that different readings be used for each side of the vehicle. In this instance, determine the floor level for both sides of the vehicle. It is then necessary to set the floor slope offset dial on each aimer half-way between the two readings obtained.

+5 +4 +3 +2 +1 0 -1 -2 -3 -4 -5

EXAMPLES: +5 and -5
Readings Equal 0 Average
+4 and -2 Readings Equal +1 Average
+2 and -4 Readings Equal -1 Average

HEADLAMP AIMING

Headlamp Configurations.

Your headlamp aiming equipment has been designed to accommodate all sealed beam headlamps in any standard shape or size and in any configuration. Different lamp shapes and sizes are accommodated through the use of adapters as provided in your kit. Regardless of configuration, headlamps are always aimed in pairs.

1. REMOVE HEADLAMP TRIM

Vehicles manufactured prior to 1970 usually require that trim around headlamps be removed to expose adjusting screws. Vehicles made after 1970, for the most part, allow the headlamp to be adjusted without having to remove the lamp trim.

2. ATTACH CORRECT ADAPTER

Each unit must have attached to it an adapter for the kind of headlamp on the vehicle.

The adapters will easily snap into position on the aimer when properly positioned. See Figure 1E-6.

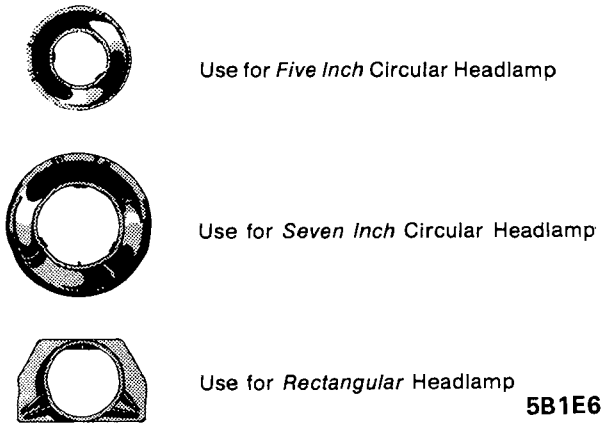

Figure 1E-6 - Headlamp Adapters

3. POSITION AIMER ON HEADLAMP

Each aimer should be placed on the hoadlamp so that the three guide points on the lamp are in contact with the three steel inserts inside the adapter.

4. SECURE AIMER TO HEADLAMP

Attach each aimer to headlamp by pushing piston handle forward, engaging rubber suction cup. Immediately pull back piston handle until it locks in place. See Figure 1E-7.

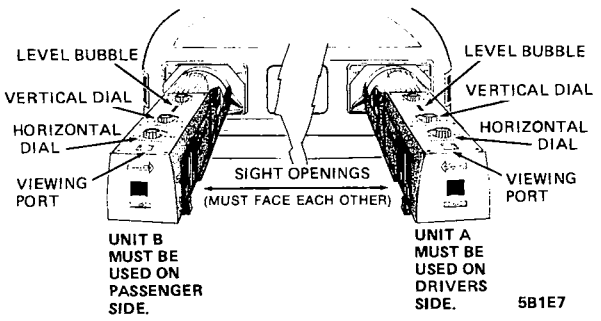

Figure 1E-7 - Aimers in Position

5. AIMING HEADLAMPS

You are now ready to aim the headlamps for both the horizontal (side to side) and the vertical (up and down).

(NOTE: It is a good practice to check the "floor slope" dials for proper setting prior to headlamp aiming.)

FOR HORIZONTAL AIM

1. ADJUST HORIZONTAL DIAL

The horizontal dial (1) should be set at zero.

2. CHECK VIEWING PORT

Check to see that the split image target lines are visible in the viewing port (2). If necessary, rotate each aimer slightly to locate the target.

3. ADJUST HORIZONTAL HEADLAMP SCREW

Turn horizontal adjusting screw on side of headlamp until split image of target line appears in mirrows as one solid line.

To remove "backlash", make final adjustment by turning screw in a clockwise direction.

4. ADJUST OPPOSITE AIMER

Repeat the last three steps with opposite aimer and headlamp.

FOR VERTICAL AIM

1. ADJUST VERTICAL DIAL

The vertical dial (3) should be set at zero.

(For passenger cars, a "0" setting is generally required. For special settings, consult the laws of your state.

2. ADJUST VERTICAL HEADLAMP SCREW

Turn vertical adjusting screw at the top of the headlamp until the level bubble (4) is centered between the lines.

3. ADJUST OPPOSITE AIMER

Repeat the last two steps with opposite aimer and headlamp.

4. RE-CHECK HORIZONTAL ALIGNMENT

Re-check target (2) alignment on both aimers and re-adjust horizontal aim if necessary.

FOUR HEADLAMP SYSTEMS

Repeat the aiming process for the second pair of lamps.

REMOVE AIMERS

Hold aimer securely and press "Vacuum Release" button located on the piston handle for easy removal of the unit.

A QUICK CHECK METHOD

You may wish to make a quick check to determine if the lamps on a particular vehicle are in need of aiming.

To do so:

1. ATTACH AIMERS to headlamps observing the instructions as given previously.

HEADLAMP TRIM NEED NOT BE REMOVED.

2. CHECK FLOOR SLOPE OFFSET DIAL for correct setting. See instructions in previous section.

3. HORIZONTAL AIM can be checked by turning the horizontal dial until the split image is in alignment. If the horizontal dial scale reads more than the following values.....HEADLAMPS SHOULD BE RE-AIMED.

	RIGHT*	LEFT*
#1 - 5 3/4" and Rectangular	4	4
#2 - 5 3/4", 7" and Rectanguler	4	4

*Check your state laws for acceptable limits.

4. VERTICAL AIM can be checked by turning the vertical dial until the level vial is centered. If the vertical dial scale reads more than the following values, HEADLAMPS SHOULD BE RE-AIMED.

	DOWN*	UP*
#1 and #2 - .5 3/4", 7" and Rectangular	4	4

*When local state requirements differ from these figures, always use local specifications. Values given represent inches at 25 feet.

CHECKING AIMERS FOR CALIBRATION

New headlamp aiming units are calibrated prior to shipment from the factory. Extended use of your aimers may cause them to lose calibration. Calibration may be easily checked and adjusted by means of the floor compensation and calibration adapter as provided in your kit.

NOTICE: California requires that the functioning of the headlamp aimers be checked and the aimers be re-calibrated at least every 60 days or after aiming headlamps on 60 vehicles, whichever comes first. Check your state regulations for maintenance and calibration requirements.

1. Attach calibration adapters so that the level vial is at the top of each unit.

2. Turn adjusting screw on each adapter until it is approximately the same distance as the supporting posts.

3. Secure the aimers, with adapters attached, to a reasonably vertical plate glass window in the same manner as attaching the aimers to headlamps. The aimers should be spaced (3) to (5) feet apart with targets visible through the viewing ports on the aimers. See Figure 1E-8.

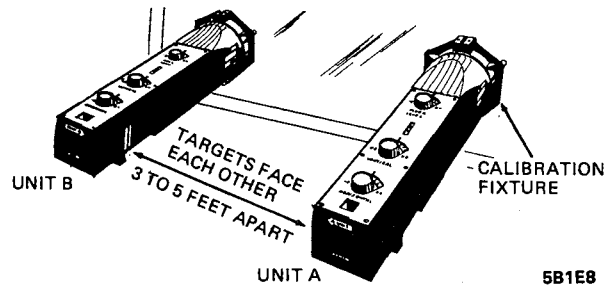

Figure 1E-8 - Checking Aimer Calibration

4. The floor slope offset dial on each aimer must be set at zero.

5. Adjust the thumb screws of each adapter until the level vials on the adapters are centered.

6. TO CHECK VERTICAL AIM CALIBRATION

With adapter level vials both centered, turn vertical dial knobs of each aimer until aimer level vials are centered.

If aimer vertical dial pointers read between 1/2 "up" and 1/2 "down", aimers are within allowable vertical tolerance limits. RE-CALIBRATE IF UNIT IS BEYOND THESE LIMITS.

7. TO CHECK HORIZONTAL AIM CALIBRATION

Adjust horizontal dial knob of each aimer until split image targets align. If aimer horizontal dial pointers read between (1) "left" and (1) "right", the aimers are within allowable horizontal tolerance limits. RE-CALIBRATE IF UNIT IS BEYOND THESE LIMITS.

AIMER CALIBRATING INSTRUCTIONS

Aimers determined to be out of calibration may be adjusted as follows:

1. With aimers attached to plate glass window, check to see that both adapter level vials are centered and both aimer floor slope dials are set at zero.

2. Set aimer vertical dial pointers at zero on both units.

3. Set aimer horizontal dial pointers at zero.

4. TO CALIBRATE VERTICAL AIM

Using a 1/16 inch Allen wrench, turn level adjusting screw (1) until the level vial (2) is centered on one aimer. Repeat this process for the second aimer.

(NOTE: Calibration can only be accomplished with the vertical dial set at zero.)

5. TO CALIBRATE HORIZONTAL AIM

Using a 1/8 inch slot screwdriver, urn the split image adjusting screw (3) until the split image (4) aligns on one aimer. Repeat this process for the second aimer.

6. Release aimers from window in the same manner as removing aimers from headlamps.

(NOTE: Reset floor slope dial on both aimers for proper setting before using units to aim headlamps.)

MAJOR REPAIR

Headlight Switch Removal and Installation

1. Disconnect negative cable from battery.

2. On "A-H-X" cars, remove left A/C duct or tube (if equipped) and on "B-C-E" cars, remove left instrument panel trim plate as described in Section G.

3. On "A-H-X" cars, pull light switch knob out to last detent, then depress spring loaded button or switch and remove knob assembly from switch.

4. On "A-H-X" cars, disconnect electrical connector from switch, remove escutcheon and take switch from under instrument panel.

5. On "B-C-E" cars, remove three screws and lift switch out of instrument panel and disconnect from wire connector.

6. Pull switch knob out to last detent, depress spring loaded button and remove knob assembly from switch.

7. Remove escutcheon, switch to bracket retaining nut and separate switch from bracket.

8. Reverse removal procedures for installation.

Dimmer Switch Removal and Installation

FLOOR MOUNTED

1. Lift carpeting to gain access to switch.

2. Disconnect electrical connector.

3. Remove two switch retaining screws and switch.

4. Reverse removal procedure for installation.

COLUMN MOUNTED

1. Remove Phillips screw and switch cover.

2. Remove three switch to column attaching screws.

3. Disconnect switch lead at lower end of column and attach a wire to lead end of harness for ease of installation.

4. By holding switch, pull harness out of column.

5. Reverse removal procedure for installation.

Sealed Beam Removal

1. Remove headlamp door by removing two screws on "A-X" cars, three screws are "B-C" cars, or four screws on "E-X" cars.

2. Remove three sealed beam retainer ring screws and retainer ring.

3. Disconnect sealed beam from electrical connector.

Installation

1. Connect sealed beam to electrical connector.

2. Hold sealed beam in place and install retaining ring and screws.

3. Reinstall headlamp door.

4. Check headlamp aim.

Front Park and Turn Signal Bulb Replacement

1. On "X" cars, reach up behind grille, turn socket and replace bulb.

2. On A and E cars, open hood, reach in, turn socket and replace bulb.

3. On B and C cars, reach under front bumper, turn socket and replace bulb.

4. On H cars, reach up under front valance, turn socket and replace bulb.

Front Side Marker Bulb Replacement

1. On A, X and E cars, open hood, turn socket and replace bulb. It may be necessary to remove the battery to get at the right bulb on A/C equipped cars.

2. On B and C cars, reach under front bumper, turn socket and replace bulb.

3. On "H" cars, reach under front fender, turn socket and replace bulb.

Cornering Light Bulb Replacement

1. On B and C cars, reach under front bumper, turn socket and replace bulb.

2. On E cars, open hood turn socket and replace bulb.

Rear Side Marker Bulb Replacement

1. On "A and X" cars less Hatchbacks and Wagons, open trunk, turn socket and replace bulb.

2. On Hatchbacks, open hatch, remove rear trim panel, turn socket and replace bulb.

3. On "A and B" Wagons, remove two screws, lamp, turn socket and replace bulb.

4. On "B-C and E" cars, open trunk, release trim, turn socket and replace bulb.

Rear Tail and Turn Signal Bulb Replacement

1. On "A and X" cars less Hatchbacks and Wagons, open trunk, turn socket and replace bulb.

2. On Hatchbacks, open hatch, remove rear trim panel, turn socket and replace bulbs.

3. On "A Wagons", reach under rear bumper, turn socket and replace bulb.

4. On "B, C and E" cars less "B" Wagon, open trunk, release trim, turn socket and replace bulb.

5. On "B Wagons", remove seven screws, bezel, lens and replace bulb.

Back-Up Light Bulb Replacement

1. On "A and X" cars less Hatchbacks and Wagons, open trunk, turn socket and replace bulb.

2. On Hatchbacks, open hatch, release rear trim, turn socket and replace bulb.

3. On "A and B" Wagons, remove 2 screws, lens and replace bulb.

4. On "B and C" cars open trunk, release trim, turn socket and replace bulb.

5. On "E" cars, remove 2 screws, lens and replace bulb.

License Light Bulb Replacement

1. On "X" less Hatchback, open trunk, remove socket and replace bulb. On the Hatchback, remove rear trim panel to get at socket.

2. On "H", remove 2 screws and lamp, turn socket and replace bulb.

3. On "A, B, E and Wagons", remove two screws, turn socket and replace bulb.

4. On "C" cars, turn socket and replace bulb.

Riviera Hi-level Bulb Replacement

1. Open trunk, remove three screws, filler panel, turn socket and replace bulb.

SPECIFICATIONS

LIGHTING SYSTEM

Headlamp, Make and Type	
"A and X" Series	Guide Single Power Beam
"B" Series	Guide, Dual T-3 Sealed Beam
"C-E-H" Series	Guide, Dual Rectangular
Headlamp Lens Size	
"A and X" Series	7"
"B" Series	5 3/4"
"C-E-H" Series	4 x 6 1/2"
Tail, Stop, Parking, Signal Lamps, Make	Guide
Lighting Switch, Make	Delco-Remy
Wiring Circuit Type	Single Wire
Wiring Circuit Protection for Head and Front Parking Lights	Thermo Circuit Breaker
Thermo Circuit Breaker Location	In Lighting Switch
Thermo Circuit Breaker Calibration at 75 F.	
Stay Closed Indefinitely at Amps	15
Open Within 60 Seconds at Amps	26

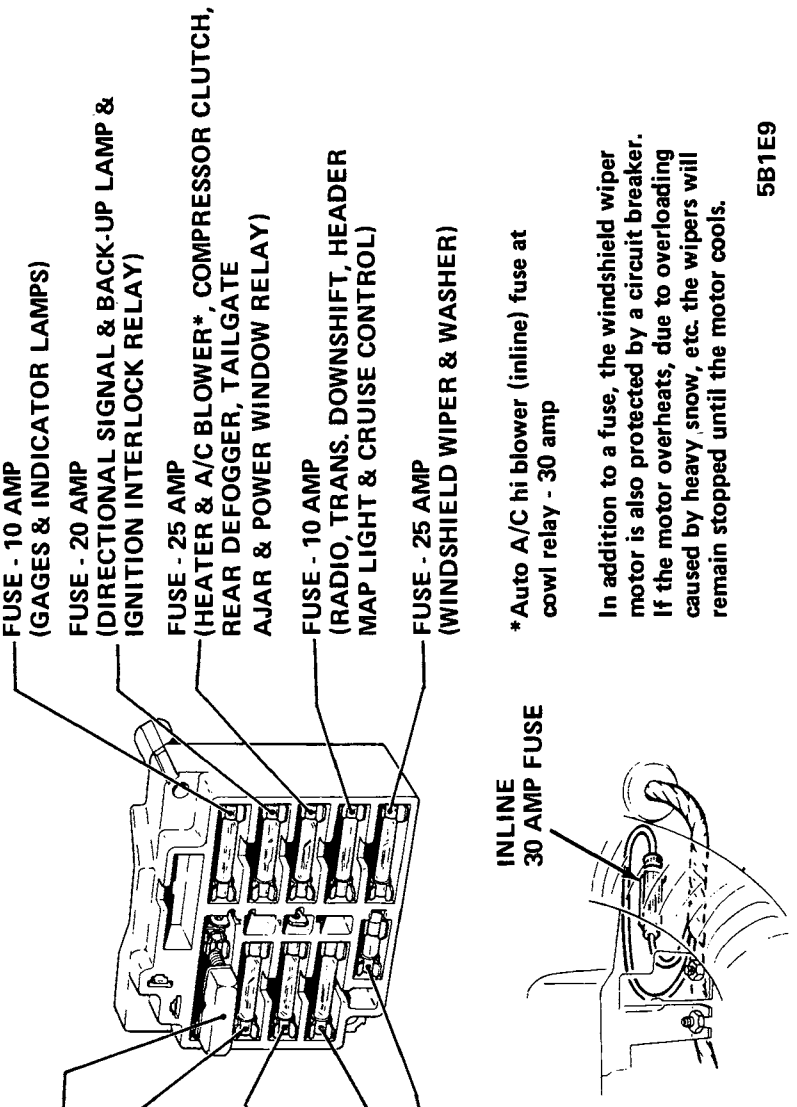

Figure 1E-9 Fuse Chart "A" Series

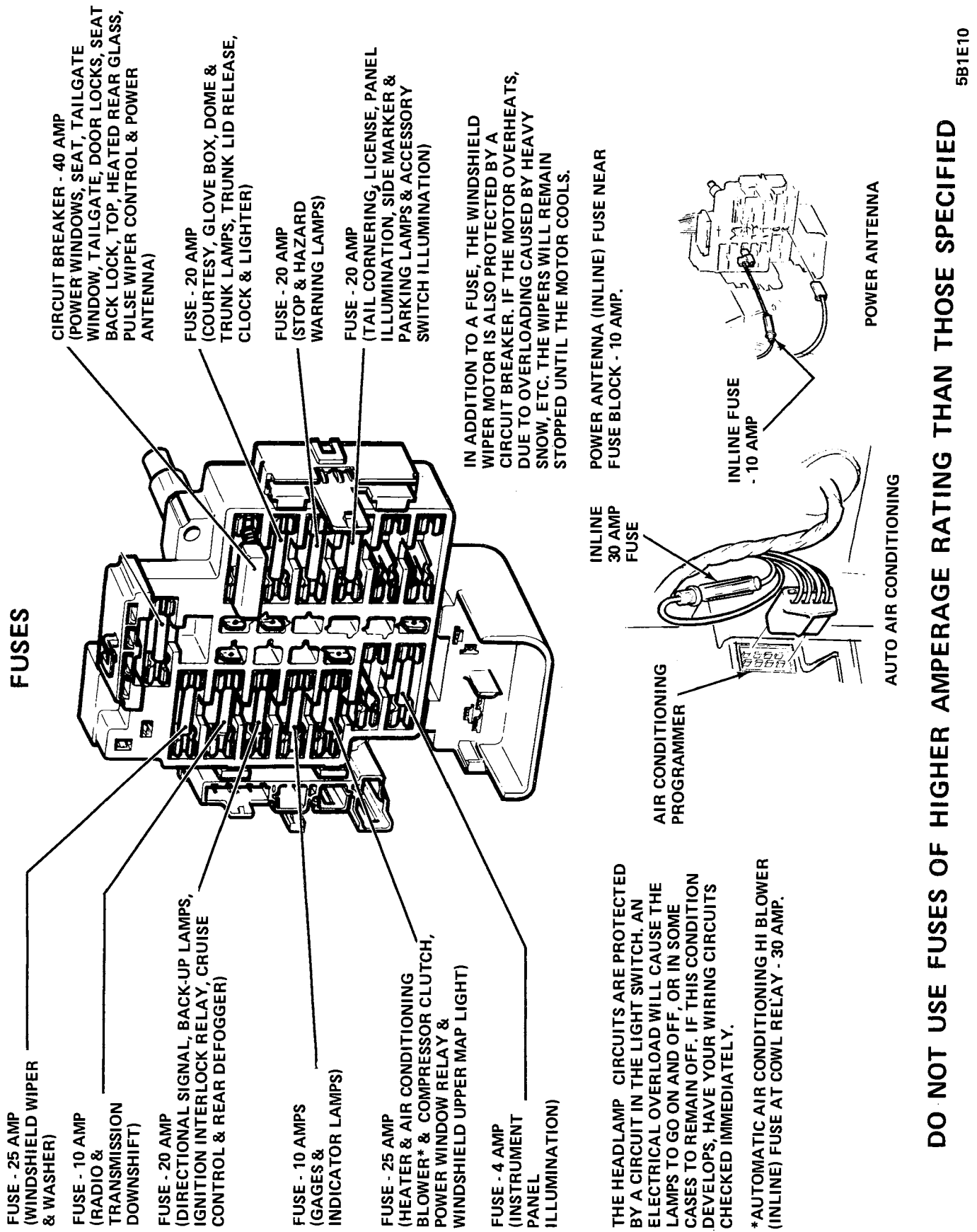

Figure 1E-10 Fuse Chart "B-C-E" Series

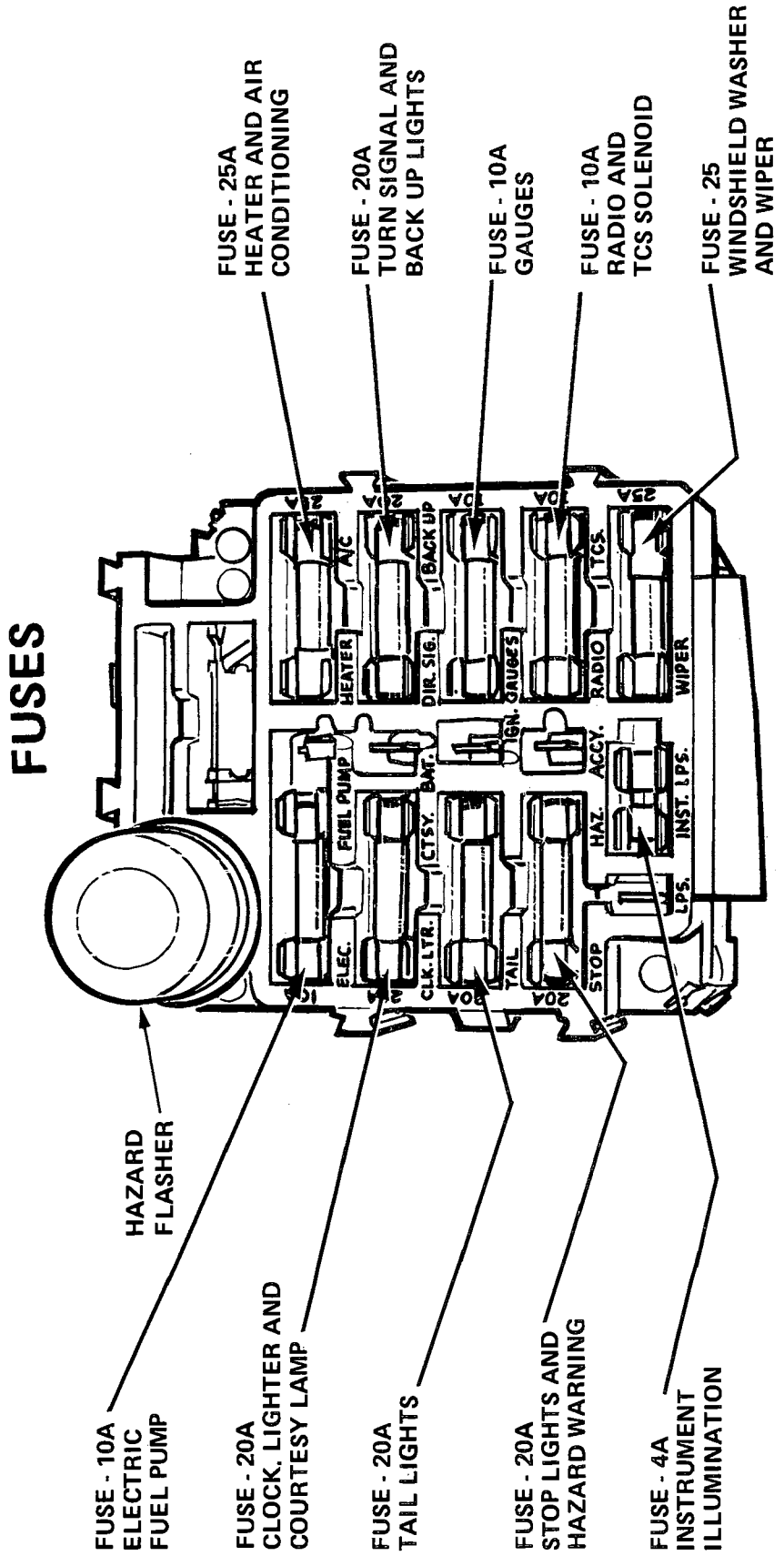

Figure 1E-11 - Fuse Chart "H" Series

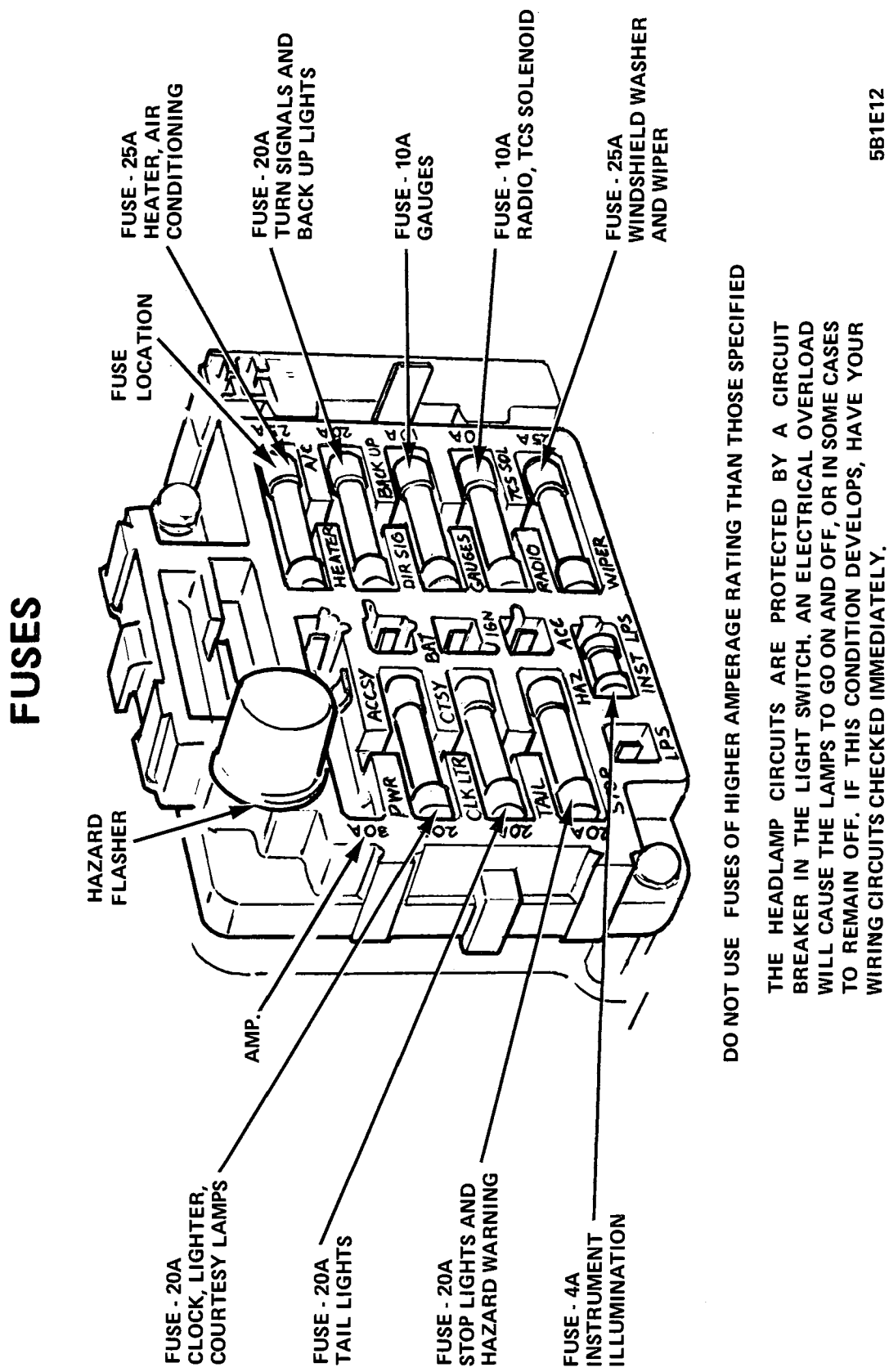

Figure 1E-12 Fuse Chart "X" Series

WHERE USED	BULB NO.	NO. USED	CANDLE POWER	MODEL
FRONT				
HEADLAMP - 7" DIA. - TYPE 1&2	6014	2	50-60W	ALL
HEADLAMP - 7" DIA. - TYPE 1&2 EXPORT	6112	2	45-55W	ALL
PARK & DIR. SIGNAL LAMP	1157NA	2	32 & 3	ALL
SIDE MARKER LAMP	194	2	2	ALL
REAR				
TAIL - STOP & DIR. SIGNAL LAMP	1157	6	32&3	ALL LESS WAG.
TAIL - STOP & DIR. SIGNAL LAMP	1157	4	32&3	WAGONS ONLY
BACK-UP LAMP	1157	2	32&3	ALL LESS WAG.
BACK-UP LAMP	1157	2	32	WAGON
LICENSE LAMP	194	1	2	ALL LESS WAG.
LICENSE LAMP	194	1	2	WAGON
SIDE MARKER LAMP	194	2	2	ALL
LUGGAGE COMPARTMENT LAMP	89	1	6	ALL LESS WAG.
INSTRUMENT PANEL				
INDIRECT LAMP (SPEEDO)	194	2	2	ALL
INDIRECT LP. (FUEL GAGE & IND. LP.)	194	3	2	ALL
INDIRECT LP. (GAGES)	168	2	3	ALL
CLOCK	1893	2	2	ALL
"LIGHTS-WIPER" ILLUMINATION	161	1	1	ALL
INDIRECT LP. (FUEL GAGE & FUEL ECON.)	194	4	2	ALL
INDICATORS				
HEADLAMP HI BEAM	194	1	2	ALL
DIRECTIONAL SIGNAL	194	2	2	ALL
OIL PRESS. (FUEL GAGE & TELLTALES)	194	1	2	ALL
WATER TEMP (FUEL GAGE & TELLTALES)	194	1	2	ALL
GEN. CHARGE (FUEL GAGE & TT.) 3-GAGE	194	1	2	ALL
BRAKE WARN. (FUEL GAGE & TT.) 3-GAGE	194	1	2	ALL
OIL PRESS. (FUEL ECON. CLUSTER)	74	1	.7	ALL
WATER TEMP. (FUEL ECON. CLUSTER)	74	1	.7	ALL
GEN. CHARGE (FUEL ECON. CLUSTER)	74	1	.7	ALL
BRAKE WARN. (FUEL ECON. CLUSTER)	74	1	.7	ALL
CRUISE CONTROL	1445	1	.5	ALL
FASTEN SEAT BELT	1893	1	2	ALL
TAILGATE AJAR	1893	1	2	WAGON
REAR WINDOW DEF. (HEATED GLASS)	194	1	2	ALL
HEADLAMP "ON" WARNING	194	1	2	ALL
SERVICE ILLUMINATION				
GLOVE COMPARTMENT LAMP	1891	1	2	ALL
RADIO DIAL (AM)	1893	1	2	ALL
RADIO DIAL (RADIO-TAPE)	564	1	2	ALL
RADIO DIAL (AM-FM & AM-FM STEREO)	216	1	1	ALL
ASH TRAY ASSEMBLY	1445	1	.5	ALL
HEATER OR A/C CONTROL	1893	1	2	ALL
TROUBLE LAMP	1004	1	15	ALL
HEADERMAP LAMP	211-2	1	12	ALL
STEREO INDICATOR LIGHT (AM-FM STEREO)	66	1	.1	ALL
STEREO INDICATOR LIGHT (RADIO-TAPE)		1	.3	ALL
INTERIOR ILLUMINATION				
SAIL PANEL LAMPS (OPT.)	212-1	2	6	4AH57 & 4AJ57
SAIL PANEL LAMPS	212	2	6	4AH57 & 4AJ57
DOME - CENTER (OPT.)	211-1	1	12	ALL LESS H & J57
DOME - CENTER	211	1	12	ALL LESS H & J57
COURTESY LAMP	89	2	6	ALL
FLASHER - DIR. SIGNAL		1		ALL
FLASHER - HAZARD		1		ALL
DOME WITH READING LAMP	212	1	6	ALL
READING LAMP	1004	2	15	ALL

5B1E13

Figure 1E-13 Bulb Chart "A" Series

WHERE USED	BULB NO.	NO. USED	CANDLE POWER	MODEL
FRONT				
HEADLAMP 4 X 6.5 TYPE 2A	4652	2	40/60W	C & E
HEADLAMP 4 X 6.5 TYPE 1A	4651	2	50W	C & E
HEADLAMP - 5 3/4 DIA. TYPE 1	4001	2	37.5W	ALL LESS C-E
HEADLAMP - 5 3/4 DIA. TYPE 2	4000L	2	37.5/60W	ALL LESS C-E
HEADLAMP - 5 3/4 DIA. TYPE 2 EXPORT	4003	2	37.5/55W	ALL LESS C-E
PARK & DIR. SIGNAL LAMP	1157NA	2	32 & 3	ALL
CORNERING LAMP	1295	2	50	ALL
SIDE MARKER LAMP	1157NA	2	3	EA
SIDE MARKER LAMP	194	2	2	BA-CA
REAR				
TAIL, STOP & DIR. SIGNAL LAMP	1157	8	32 & 3	CA
TAIL, STOP & DIR. SIGNAL LAMP	1157	6	32 & 3	E
TAIL, STOP & DIR. SIGNAL LAMP	1157	4	32 & 3	BA
BACK-UP LAMP	1157	2	32 & 3	E & B LESS WAG.
BACK-UP LAMP	1157	2	32 & 3	WAG. & C
LICENSE LAMP	194	1	2	WAG. & E
LICENSE LAMP	194	2	2	B LESS WAG.
LICENSE LAMP	194	1	2	CA
SIDE MARKER LAMP	194	2	2	ALL
LUGGAGE COMPT. LAMP	89	1	6	ALL LESS WAG.
AUXILIARY BUMPER LAMP	194	4	2	CA
HI LEVEL LAMPS	168	10	3	E
INSTRUMENT PANEL				
INDIRECT INSTRUMENT PANEL	168	3	3	ALL
CLOCK (ROTATING NUMERAL)	194	1	2	ALL
ACC. SW. WIPER & LIGHTS (SEELITE)	192	1	3	ALL
INDICATORS				
HEADLAMP - HI BEAM	194	1	2	ALL
DIRECTIONAL SIGNAL	161	2	1	ALL
OIL PRESSURE	194	1	2	ALL
WATER TEMPERATURE	194	1	2	ALL
GENERATOR CHARGE	194	1	2	ALL
BRAKE WARNING	194	1	2	ALL
CRUISE CONTROL	161	1	1	ALL
RADIO (STEREO INDICATOR AM-FM)	66	1	.1	ALL
REAR WINDOW DEF. (HEATED GLASS)	161	1	1	ALL
FASTEN SEAT BELT	194	1	2	ALL LESS AR3
AIR CUSHION	1893	1	2	ALL WITH AR3
HEADLAMP "ON" WARNING	192	1	3	ALL
RADIO (STEREO IND. - RADIO-TAPE)		1	.3	ALL
SERVICE ILLUMINATION				
GLOVE COMPARTMENT LAMP	1891	1	2	ALL
RADIO DIAL (AM)	1893	1	2	ALL
RADIO DIAL (AM-FM & AM-FM STEREO)	216	1	1	ALL
RADIO DIAL (RADIO-TAPE)	564	1	2	ALL
ASH TRAY ASSEMBLY	1445	2	.5	ALL
HEATER OR A/C CONTROL	1893	1	2	ALL
TROUBLE LAMP	1004	1	15	ALL
WINDSHIELD - UPPER MAP LP. (OPT.)	211-2	1	12	ALL
WINDSHIELD - UPPER MAP LP. (OPT.)	211-1	1	12	ALL
INTERIOR ILLUMINATION				
VANITY MIRROR	562	2	6	ALL
DOME - CENTER (OPT.)	211	1	12	BN ALL BP39. 69
DOME - CENTER (OPT.)	211-1	1	12	BR35 & CV39
DOME - REAR (OPT.)	211-1	1	12	BR45
DOME - REAR (OPT.)	211	1	12	BR45
DOME - WITH READING LAMP	212	1	6	B-C-E LESS CONVERT.
READING LAMP	1004	2	15	B-C-E LESS CONVERT.
PILLAR (OPT.)	212	2	6	CV-CX37 & E
PILLAR (OPT.)	212-1	2	6	CV-CX37 & E
REAR ARM REST (CONVERTIBLE)	90	2	6	B
COURTESY	89	2	6	ALL
CENTER CONSOLE - REAR	1816	1	3	E-CX
DOOR COURTESY & WARN. LP. (2PER DR.)	212	4/8	6	ALL
CONSOLE LAMP (DE9 OPT.)	563	1	4	CX

5B1E14

Figure 1E-14 Bulb Chart "B-C-E" Series

WHERE USED	BULB NO.	NO. USED	CANDLE POWER	MODEL
FRONT				
HEADLAMP 4 X 6.5 TYPE 2A	4652	2	40/60W	H
HEADLAMP 4 X 6.5 TYPE 1A	4651	2	50W	H
PARK & DIRECTIONAL SIGNAL LAMP	1157NA	2	32 & 3	H
SIDE MARKER LAMP	194	2	2	H
REAR				
TAIL, STOP & DIRECTIONAL SIGNAL LAMP	1157	4	32 & 3	H
BACK-UP LAMP	1156	2	32	H
LICENSE LAMP	194	1	2	H
SIDE MARKER LAMP	194	2	2	H
INSTRUMENT PANEL				
INDIRECT INSTRUMENT PANEL	194	5	2	H
INDICATORS				
HEADLAMP - HI BEAM	194	1	2	H
DIRECTIONAL SIGNAL	194	2	2	H
BRAKE WARNING	194	1	2	H
REAR WINDOW DEFOGGER	168	1	3	H
FASTEN SEAT BELT	194	1	2	H
SERVICE ILLUMINATION				
GLOVE COMPARTMENT LAMP	1891	1	2	H
RADIO DIAL	1816	1	3	H
TROUBLE LAMP (UNDER HOOD)	93	1	15	H
INTERIOR ILLUMINATION				
DOME	561	1	12	H
CONSOLE LAMP	194	1	2	H

5B1E15

Figure 1E-15 - Bulb Chart "H" Series

WHERE USED	BULB NO.	NO. USED	CANDLE POWER	MODEL
FRONT				
HEADLAMP - 7" DIAMETER - TYPE 1 & 2	6012	2	50-60W	ALL
PARK & DIRECTIONAL SIGNAL LAMP	1157	2	32 & 3	ALL
SIDE MARKER LAMP	194	2	2	ALL
REAR				
TAIL - STOP & DIRECTIONAL SIGNAL LAMP	1157	2	32 & 3	ALL
BACK-UP LAMP	1156	2	32	ALL
LICENSE LAMP	194	1	2	ALL
SIDE MARKER LAMP	194	2	2	ALL
LUGGAGE COMPARTMENT LAMP	1003	1	15	ALL
INSTRUMENT PANEL				
INDIRECT LAMP (SPEEDO & GAUGES)	168	5	3	ALL
"LIGHTS - WIPER" ILLUMINATION	194	1	2	ALL
ILLUMINATION - INSTRUMENT CLUSTER	168	4	3	ALL
INDICATORS				
HEADLAMP HI BEAM	194	1	2	ALL
DIRECTIONAL SIGNAL	194	2	2	ALL
OIL PRESSURE	194	1	2	ALL
WATER TEMPERATURE	194	1	2	ALL
GENERATOR CHARGE	194	1	2	ALL
BRAKE WARNING	194	1	2	ALL
FASTEN SEAT BELT	194	1	2	ALL
CRUISE CONTROL	194	1	2	ALL
FUEL ECONOMY	194	1	2	ALL
SERVICE ILLUMINATION				
GLOVE COMPARTMENT LAMP	1891	1	2	ALL
RADIO DIAL (AM) P.B.	293	1	2	ALL
RADIO DIAL (AM-FM) P.B.	1893	1	2	ALL
ASH TRAY ASSEMBLY	1445	1	.5	ALL
HEATER OR AIR CONDITIONER CONTROL	1895	1	2	ALL
TROUBLE LAMP (UNDERHOOD)	93	1	15	ALL
INTERIOR ILLUMINATION				
DOME - CENTER	561	1	2	ALL
COURTESY LAMP - INSTRUMENT PANEL LOWER	631	2	6	ALL
FLASHER - DIRECTIONAL SIGNAL		1		ALL
FLASHER - HAZARD		1		ALL

5B1E16

Figure 1E-16 Bulb Chart "X" Series