

SECTION 8B

LIGHTING SYSTEMS AND HORNS

CAUTION: This vehicle is equipped with Supplemental Inflatable Restraint (SIR). Refer to CAUTIONS in Section 9J under "ON-VEHICLE SERVICE" and the SIR Component and Wiring Location view in Section 9J before performing service on or around SIR components or wiring. Failure to follow CAUTIONS could result in possible air bag deployment, personal injury, or otherwise unneeded SIR system repairs.

NOTICE: When fasteners are removed, always reinstall them at the same location from which they were removed. If a fastener needs to be replaced, use the correct part number fastener for that application. If the correct part number fastener is not available, a fastener of equal size and strength (or stronger) may be used. Fasteners that are not reused, and those requiring thread locking compound will be called out. The correct torque value must be used when installing fasteners that require it. If the above conditions are not followed, parts or system damage could result.

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GENERAL DESCRIPTION

HALOGEN BULBS

Some bulbs in this vehicle may contain halogen gas.

CAUTION: Halogen bulbs contain a gas under pressure. Handling a bulb improperly could cause it to shatter into flying glass fragments. To help avoid personal injury:

- Turn off lamp assembly and allow bulb to cool before changing bulbs. Leave switch assembly off until bulb change is complete.
- Always wear eye protection when changing a halogen bulb.
- Handle bulb only by its base. Avoid touching glass.
- Do not drop or scratch bulb. Keep moisture away.
- Place used bulb in new bulb's carton and dispose of it properly. Keep halogen bulbs out of the reach of children.

EXTERIOR LIGHTING

Backup Lamps

The backup lamps are part of the taillamp assemblies. They are located on the innermost side of the taillamp assembly next to the taillamp filler. They will come on when the transmission is shifted into "REVERSE." On vehicles with an automatic transmission assembly, the backup lamps are activated by the park/neutral position switch assembly. On vehicles with a manual transmission, they are activated by a backup lamp switch which is part of the transmission assembly. For more information, refer to SECTION 7A or 7B.

Daytime Running Lamps (Canadian Only)

All Canadian vehicles are equipped with daytime running lamps. The daytime running lamp system includes a solid state module, a relay and a light sensor. The system lights low-beam headlamps at reduced intensity when the ignition switch is in the "RUN" position during daylight. The daytime running lamp system is designed to light the low-beam headlamps at full intensity, and the parking and taillamps when low light conditions are present.

Front Fog Lamp Assemblies

The fog lamp switch assembly is below the headlamp and instrument panel lamp dimmer switch assembly to the left of the steering column assembly. To use the front fog lamp assemblies, first turn on the headlamps or parking lamps. Then push the right side of the fog lamp switch to turn on the front fog lamp assemblies. Push the left side of the switch to turn off the front fog lamp assemblies.

The front fog lamp assemblies should not be used as a substitute for the headlamps.

Switching to high-beam headlamps will turn off the front fog lamp assemblies. Switching back to low-beam headlamps will turn the front fog lamp assemblies on again.

The front fog lamp assemblies must be aimed for proper illumination of the road. Fog lamp aim should be checked when a new bulb is installed or if service or repairs in the front end area may have disturbed the fog lamp mountings.

Front Sidemarker Lamps

The front sidemarker lamps are housed within the parking and turn signal lamp assembly. They will come on when the headlamps or parking lamps are on. The front sidemarker lamps also have reflectors that will shine when struck by light whether or not the vehicle's lamps are on.

If the headlamps or parking lamps are off when a turn is signalled, the appropriate front sidemarker lamps will flash in unison with the front turn signal lamp on the same side. If the headlamps or parking lamps are on when a turn is signalled, the front sidemarker lamp and front turn signal lamp will flash alternately.

Hazard Lamp Flasher Assembly

The hazard warning flashers are part of the turn signal circuit. The hazard warning switch is on the right side of the steering column assembly. Pressing in on the hazard warning switch button causes the front and rear turn signal lamps and front sidemarker lamps to flash. Pulling on the hazard warning switch knob will turn off the hazard warning flashers.

The hazard warning flashers will work with the ignition switch in any position. When the hazard warning flashers are "ON," the turn signals do not work. The hazard lamp flasher assembly is in the convenience center behind the instrument panel assembly on the knee bolster bracket. For more information on the hazard warning switch assembly, refer to SECTION 3F.

Headlamp Capsule Assemblies and Headlamp Assemblies

The headlamp capsule assemblies (Chevrolet) and headlamp assemblies (Pontiac) are controlled by the headlamp switch located on the headlamp and instrument panel lamp dimmer switch assembly to the left of the steering column assembly. They will come on with the ignition switch in any position. Turning the headlamp switch all the way to the right turns on the headlamps. Turning the headlamp switch all the way to the left turns off the headlamps.

Headlamp low beam and high beam are controlled by the headlamp dimmer switch lever assembly on the left side of the steering column assembly. When the headlamps are on, pulling the lever assembly toward the driver until the switch clicks changes the lamp from low beam to high beam, or from high beam to low beam. An indicator lamp on the instrument cluster assembly will come on when the high-beam headlamps are on.

The headlamps must be aimed for proper illumination of the road. Headlamp aim should be checked whenever a new headlamp assembly is installed or service

repairs to the front end area may have disturbed the headlamp assembly or its mountings.



Important

- Some state and local laws specify requirements for headlamp aim. These laws must be followed.

High-Mount Stoplamp Assembly

The high-mount stoplamp assembly is in the center of the rear end spoiler assembly. It will illuminate whenever the brake pedal assembly is pushed down. The lamp is powered separately from the taillamp assemblies through a circuit in the stoplamp switch assembly.

Parking and Turn Signal Lamp Assemblies

The parking lamps can be turned on by turning the headlamp switch to the first position on the right. The parking lamps can be turned off by turning the headlamp switch to the left. If the parking lamps are on and the ignition switch is off, a warning tone will sound as a reminder to turn the lamps off.

When the turn signals are activated, the appropriate front parking lamps flash to signal a turn. The turn signal works only when the ignition switch is on and the hazard lamp flashers are turned off.

The turn signals are controlled by the turn signal lever assembly on the left side of the steering column assembly. Moving the lever all the way up or down (past the detent) will turn on the turn signals. When the turn is completed, the lever assembly will return to horizontal and the turn signals will stop flashing.

For changing lanes or shallow turns where the steering wheel assembly does not turn far enough to cancel the signal, move the signal only to the first detent and hold it there. When the lever assembly is released, it will return to horizontal and the turn signal will cancel. For more information, refer to SECTION 8A.

Rear License Lamp Assembly

The rear license lamp assembly will come on when the headlamps or parking lamps are on. The rear license lamp assembly is mounted on the rear bumper fascia above the license plate.

Rear Sidemarkers Lamp Assemblies

The rear sidemarkers lamp assemblies are mounted on the rear bumper fascia.

The rear sidemarkers lamp assemblies will come on when the headlamps or parking lamps are on. The rear sidemarkers lamp assemblies also have reflectors that will shine when struck by light whether or not the vehicle's lamps are on.

Taillamp Assemblies

The taillamps, backup lamps and turn signal lamps are part of the taillamp assembly.

Turning on either the headlamps or parking lamps will turn on the taillamps. When the brake pedal is pushed down, the taillamps glow brighter to serve as stoplamps.

The turn signals are controlled by the turn signal lever assembly on the left side of the steering column assembly. Moving the lever all the way up or down (past the detent) will turn on the turn signals. When the turn is completed, the lever assembly will return to neutral and the turn signals will stop flashing. If the brake pedal is held down when a turn is signalled, one side will flash and the other will stay on brightly.

For changing lanes or shallow turns where the steering wheel assembly does not turn far enough to cancel the signal, move the lever assembly only to the first detent. When the lever assembly is released, it will return to neutral and the turn signals will cancel.

Turn Signal Lamp Flasher Assembly

The turn signal lamp flasher assembly is mounted behind the instrument panel assembly on the driver knee bolster bracket.

INTERIOR LIGHTING

For information on the warning/indicator lamps, cluster lamps, etc., refer to SECTION 8C. For circuit information, refer to SECTION 8A.

Ashtray Lamp

An ashtray lamp is available on vehicles with a manual transmission. It is mounted beneath the ashtray and it will come on when the parking lamps or headlamps are turned on.

Automatic Transmission Indicator Lamp

The automatic transmission indicator lamp will illuminate the automatic transmission control indicator located on the front floor console assembly on vehicles equipped with an automatic transmission. It will come on when the parking lamps or headlamps are turned on.

Console Lamp

The console lamp is mounted on the front floor console assembly. It lights when the console compartment door is opened.

Dome and Reading Lamps

The dome lamp (not available on convertible models) is located on the roof above the rear seat assembly. It will come on when a door is opened or when the inside lamp is turned on. To turn on the interior lamps, rotate the interior lights thumbwheel switch, located to the left of the headlamp switch, full up.

The front reading lamps are part of the inside rear-view mirror assembly. Use the switch to turn a reading lamp on or off when the doors are closed. With the doors open, the reading lamps are always on.

For more information on the dome and reading lamps, refer to SECTION 10-9 and SECTION 10-2.

Front Side Door Courtesy Lamps

The front side door courtesy lamps are mounted behind the front side door inside handle bezel assemblies. They come on when the parking lamps or headlamps are turned on to illuminate the door handles and controls.

Heater and Air Conditioning Control Lamp

The heater and air conditioning control lamp is mounted on the back of the heater and air conditioning control assembly. It will come on when the parking lamps or headlamps are turned on to illuminate the heater and air conditioning controls.

Instrument Panel Compartment Lamp

The instrument panel compartment lamp lights when the instrument panel compartment door is opened.

Rear Quarter Courtesy Lamps

The rear quarter courtesy lamps are mounted in the right and left quarter inner rear trim finishing panel assemblies. They will come on when a door is opened or when the interior lamps are turned on. For more information on the rear quarter courtesy lamps, refer to SECTION 10-7.

Rear Compartment Lamp

The rear compartment lamp is located in the rear compartment below the rear compartment lid latch assembly. It will come on when the rear compartment lid is opened. For more information on the rear compartment lamp, refer to SECTION 10-8.

HORN ASSEMBLIES

Pushing the pads on the left-hand or right-hand center of the steering wheel assembly sounds the horn assemblies by closing the horn relay. For wiring and circuit information, refer to SECTION 8A.

DIAGNOSIS

For wiring diagrams and other diagnosis information on properly repairing wiring harnesses, connectors, etc., refer to SECTION 8A.

LIGHTING SYSTEM TROUBLESHOOTING

Most lighting problems are caused by loose connectors, open or shorted wiring, burned-out bulbs, bad switch assemblies, an inadequate ground or blown fuses. Check these items first and then refer to SECTION 8A.

HORN ASSEMBLIES

If the horn assemblies do not blow, or blow constantly, follow the diagnostic procedures in SECTION 8A.

Horn Tone Poor

1. Horn tone poor – tighten horn bolts/screws in mounting area, or correct poor connections or ground.
2. Low-pitched moan – sounds like “mooing.” Caused by current too high. Adjust current. Refer to “Horns” under “On-Vehicle Service” in this section.
3. Weak tone – current too low. Correct poor connections or ground, or adjust current. Refer to “Horns” under “On-Vehicle Service” in this section.
4. Weak, strained tone – remove foreign object in horn.

5. Harsh vibration – bend bracket so horn assembly is not touching sheet metal.

ON-VEHICLE SERVICE

When replacing a part that requires a special procedure (such as a lens and housing assembly sealed together), follow the instructions normally included in the replacement parts package.

When removing a part that requires special sealing items (such as sealing washers), be sure to reinstall those items when replacing the part. Also, if any body sealing items (grommets, etc.) are disturbed, be sure to repair them so the passenger compartment remains properly sealed.

Take care to prevent waterleaks if sealing surfaces are disturbed. Damaged gaskets must be replaced. If necessary, use sealer (body caulking compound or equivalent) in critical areas or any area where the gasket doesn't seal properly.

CAUTION: Refer to “Caution” under “Disconnecting the Battery Negative Cable Assembly” in SECTION 0A.

EXTERIOR LIGHTING

Backup Lamps

To replace a backup lamp bulb, refer to “Taillamp Assemblies” under “On-Vehicle Service” in this section.

Front Fog Lamp Assemblies

Figure 1

Remove or Disconnect

1. Raise and suitably support vehicle. Refer to SECTION 0A.
2. Front bumper fascia lower deflector. Refer to SECTION 10-4.
3. Bolts/screws (3) attaching front fog lamp assembly (1) to front bumper impact bar (4).
4. Front fog lamp assembly (1) from front bumper impact bar (4).
5. Nuts (2) from front bumper impact bar (4), if necessary.

Install or Connect

NOTICE: See “Notice” on page 8B-1 of this section.

1. Nuts (2) to front bumper impact bar (4), if removed.

Tighten

- Nuts (2) to 10 N•m (89 lb. in.).
2. Front fog lamp assembly (1) to front bumper impact bar (4).
 3. Bolts/screws (3) attaching front fog lamp assembly (1) to front bumper impact bar (4).

Tighten

- Bolts/screws (3) to 10 N•m (89 lb. in.).

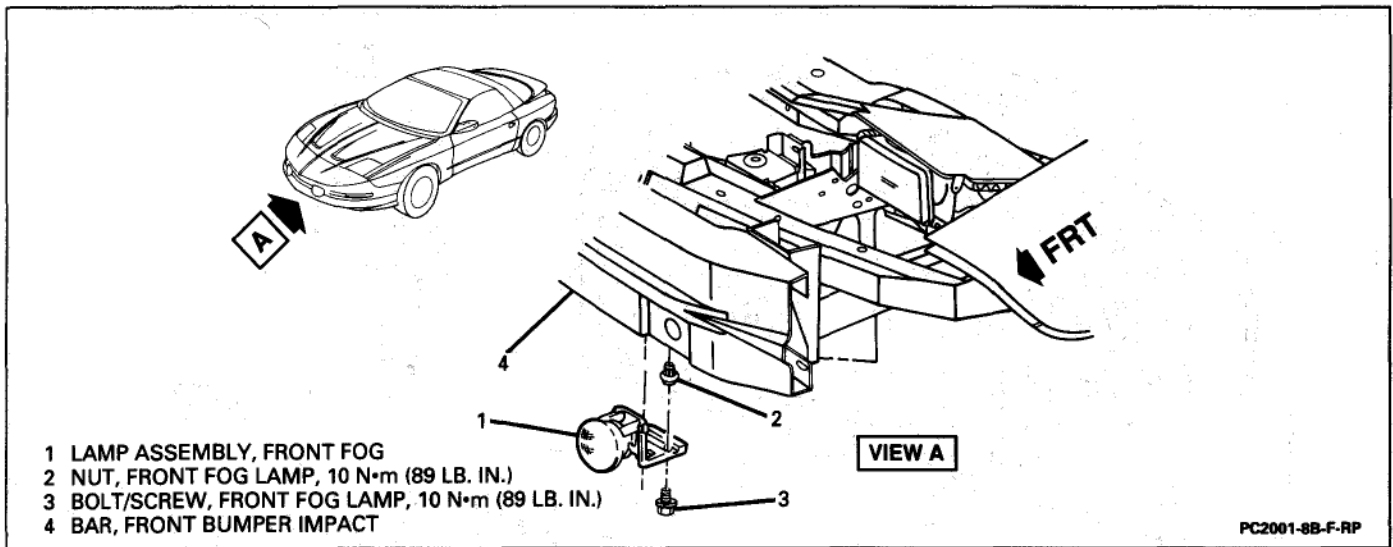


Figure 1 – Front Fog Lamp Assemblies (Typical)

4. Front bumper fascia lower deflector. Refer to SECTION 10-4.
5. Lower vehicle.

Front Fog Lamp Aiming Procedure

Horizontal aim is not adjustable on this vehicle. Vertical aim is done by an adjusting screw located at the top center of the front fog lamp assembly.

- Prepare vehicle:
 - A. Make sure all components are in place, if other service has been performed on vehicle.
 - B. Make sure vehicle has 1/2 tank of fuel or less.
 - C. Move vehicle to level area and park 7.6 m (25 feet) away from target screen.
 - D. Measure from center of front fog lamp assembly to ground line.
 - E. Turn front fog lamp assemblies on. Top edge of high intensity zone to be 102 mm (4 inches) below centerline of front fog lamp assembly.
 - F. Adjust front fog lamp assembly as required, using adjusting screw at top center of front fog lamp assembly.

Front Sidemarkers Lamp

For replacement of front sidemarkers lamp bulb, refer to "Parking and Turn Signal Lamp Assemblies" under "On-Vehicle Service" in this section.

Hazard Lamp Flasher Assembly

Figure 2

- Remove or Disconnect**
 - Hazard lamp flasher assembly (6) by pulling from convenience center.
- Install or Connect**
 - Hazard lamp flasher assembly (6) to convenience center.

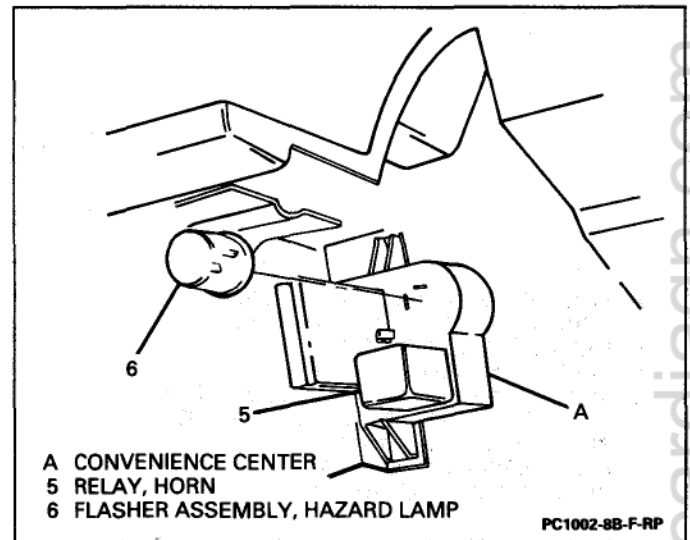


Figure 2 – Horn Relay and Hazard Lamp Flasher Assembly

Headlamp Capsule Assemblies

Chevrolet

Figure 3

- Remove or Disconnect**
 1. Open hood assembly.
 2. Bolts/screws (7).
 3. Headlamp mounting ring (8).
 4. Electrical connector.
 5. Headlamp capsule assembly (9).

- Install or Connect**

NOTICE: See "Notice" on page 8B-1 of this section.

 1. Headlamp capsule assembly (9).
 2. Electrical connector.
 3. Headlamp mounting ring (8).

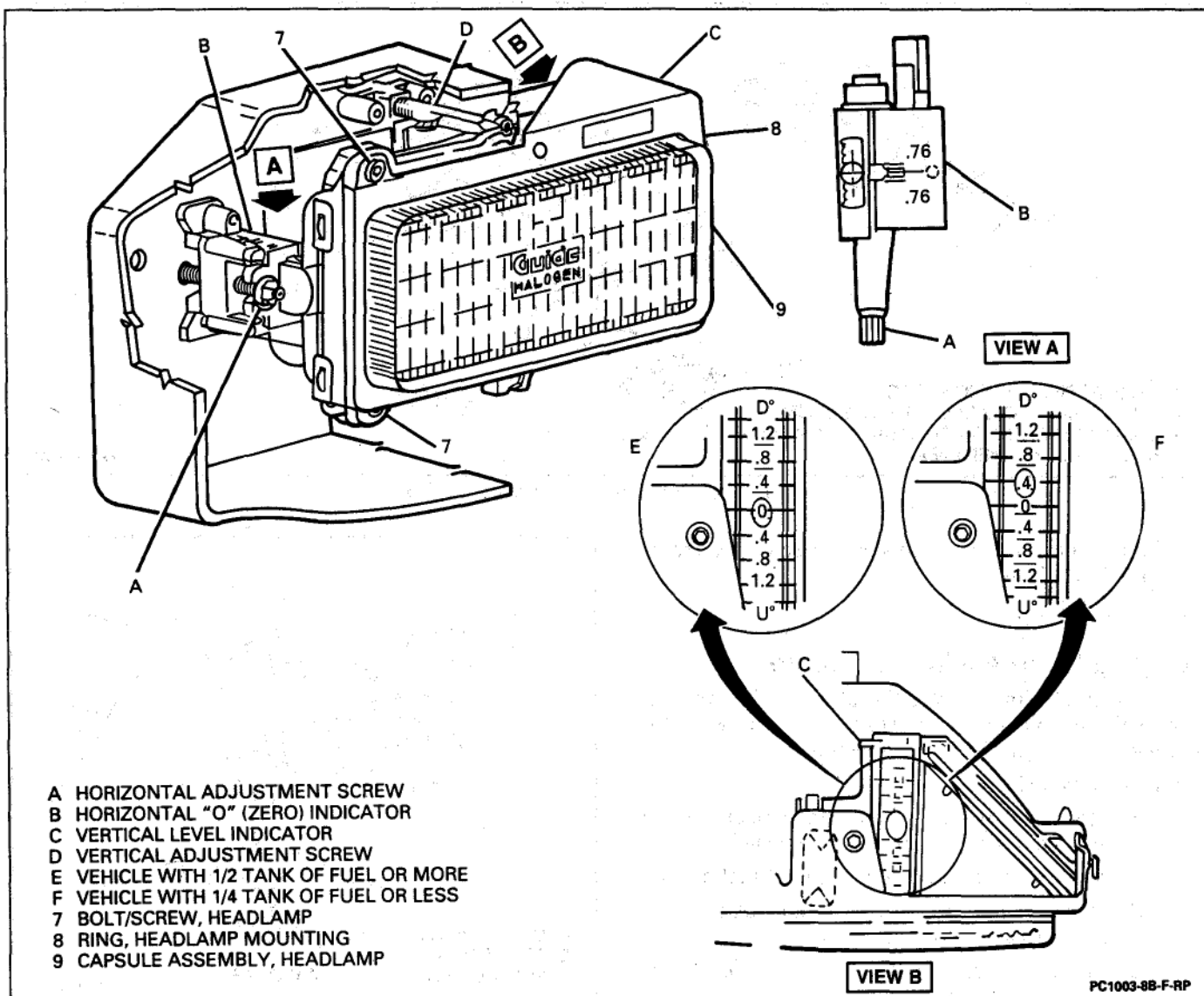


Figure 3 - Headlamp Capsule Assemblies - (Chevrolet)

- If replacing headlamp mounting ring (8), transfer undamaged vertical level indicator to new headlamp mounting ring (8).
- 4. Bolts/screws (7).
 - Tighten securely.
- 5. Close hood assembly.

Headlamp Assemblies

Pontiac

Headlamp Bulb Replacement

Figure 4

Remove or Disconnect

1. Open hood assembly.
2. Bolts/screws (44).
3. Headlamp bezel (43).

4. Headlamp bolts/screws attaching mounting ring to headlamp opening housing assembly (49).
5. Headlamp mounting ring.
6. Electrical connector.
7. Sealed-beam headlamp assembly.

Install or Connect

NOTICE: See "Notice" on page 8B-1 of this section.

1. Sealed-beam headlamp assembly.
2. Electrical connector.
3. Headlamp mounting ring.
4. Headlamp bolts/screws attaching mounting ring to headlamp opening housing assembly (49).
 - Tighten securely.
5. Headlamp bezel (43).
 - Top of headlamp bezel (43) must be flush to inner surface of headlamp opening door (42).

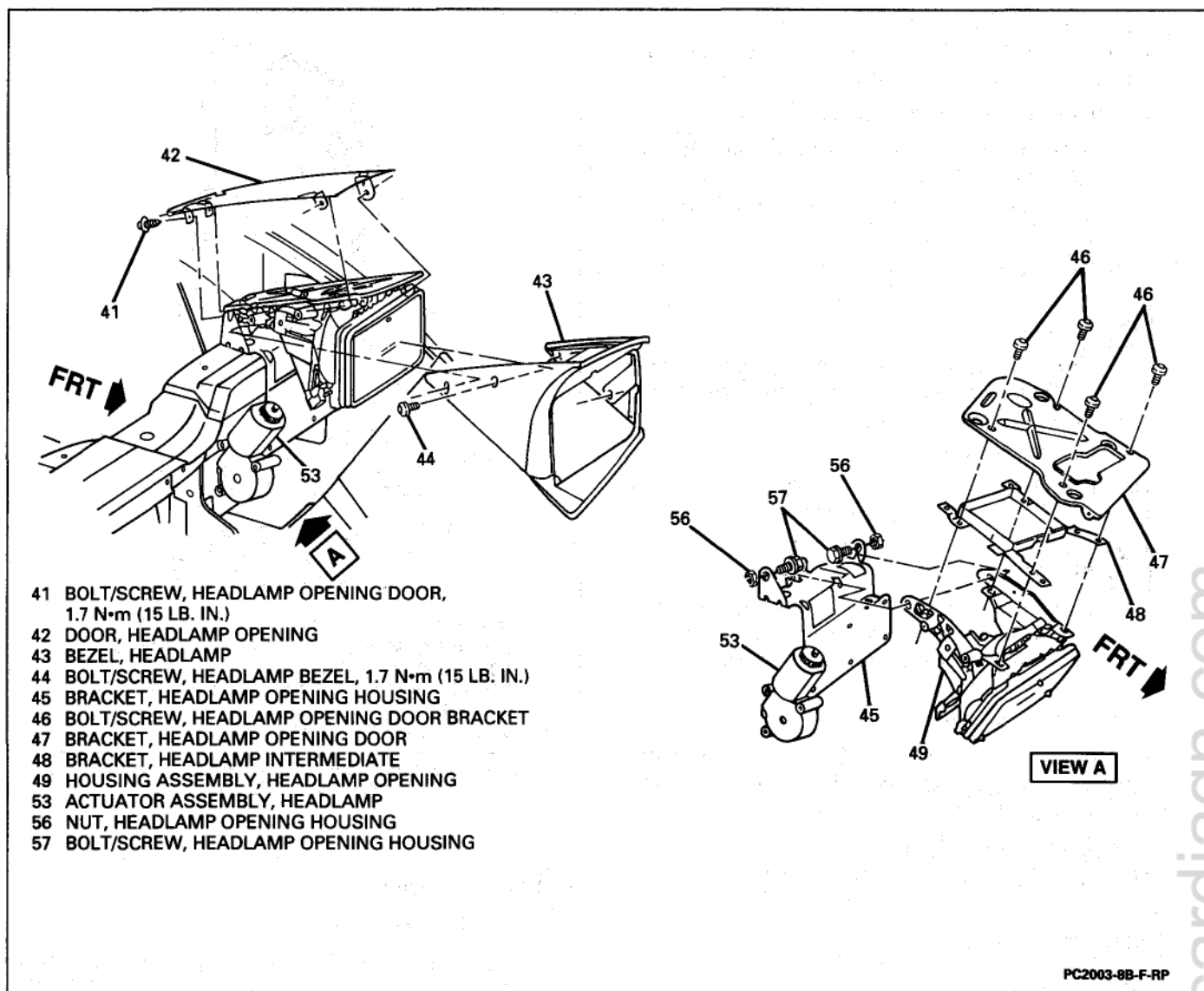


Figure 4 – Headlamp Assemblies – (Pontiac)

6. Bolts/screws (44).

**Tighten**

- Bolts/screws (44) to 1.7 N•m (15 lb. in.).

7. Close hood assembly.

Headlamp Opening Housing Assembly and Door Replacement

Pontiac

Figure 4

**Remove or Disconnect**

1. Raise headlamp manually by turning knob on headlamp actuator assembly (53).
2. Bolts/screws (44).
3. Headlamp bezel (43).
4. Bolts/screws (41).

5. Headlamp opening door (42).

6. Nuts (56) and bolts/screws (57) attaching headlamp opening housing assembly (49) to headlamp opening housing bracket (45).

7. Headlamp opening housing assembly (49) from headlamp opening housing bracket (45).

8. Bolts/screws (46).

9. Opening door bracket (47).

10. Intermediate bracket (48).

11. Headlamp actuator assembly cap (58).

12. Actuator assembly (53) from headlamp opening housing bracket (45), if necessary, by removing attaching nut and bolts/screws.

**Install or Connect**

NOTICE: See "Notice" on page 8B-1 of this section.

1. Actuator assembly (53) to headlamp opening housing bracket (45), if removed, by installing attaching nut and bolts/screws.
2. Headlamp actuator assembly cap (58).
3. Intermediate bracket (48) to headlamp opening housing assembly (49).
4. Opening door bracket (47) on top of intermediate bracket (48).
5. Bolts/screws (46).

Adjust

- Gaps and flushness of headlamp opening door (42) to surrounding area using bolts/screws (46).
 - Tighten securely.
6. Headlamp opening housing assembly (49) to headlamp opening housing bracket (45).

Adjust

- Gaps on headlamp opening housing assembly (49) to surrounding area using the forward and rearward adjustment bolts/screws (60), or side-to-side adjustment bolts/screws (59).
 - Tighten securely.
7. Bolts/screws (57) and nuts (56) attaching headlamp opening housing assembly (49) to headlamp opening housing bracket (45).
 8. Headlamp opening door (42).

9. Bolts/screws (41).

Tighten

- Bolts/screws (41) to 1.7 N•m (15 lb. in.).
10. Headlamp bezel (43).
 11. Bolts/screws (44).

Tighten

- Bolts/screws (44) to 1.7 N•m (15 lb. in.).
12. Lower headlamp.

Headlamp Opening Door Actuator Control Module Assembly

Pontiac

Figure 5

Remove or Disconnect

1. Front air intake duct. Refer to SECTION 6E3.
2. Bolts/screws (51).
3. Door actuator module assembly (50) from air intake duct (52).
4. Electrical connectors.

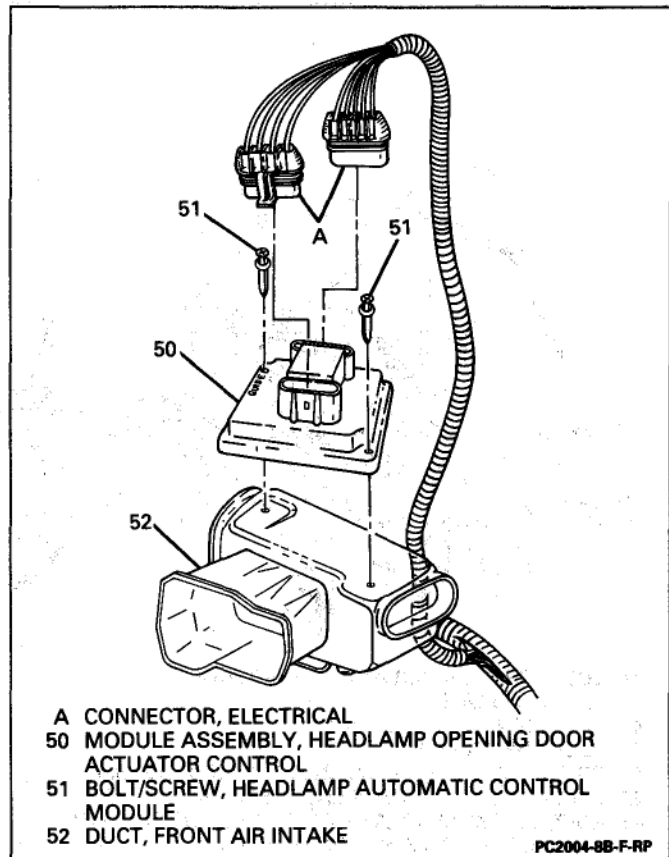


Figure 5 – Headlamp Opening Door Actuator Control Module Assembly – (Pontiac)

Install or Connect

1. Electrical connectors.
2. Door actuator module assembly (50) to air intake duct (52).
3. Bolts/screws (51).
4. Front air intake duct. Refer to SECTION 6E3.

Headlamp Aiming by Screen Method

Figures 6, 7 and 8

Horizontal aim is corrected by an adjusting screw on the outer side of the headlamp capsule assembly (Chevrolet) or headlamp assembly (Pontiac). Vertical aim is corrected by an adjusting screw in the top center of the assembly.

It is desirable to have a specific aiming area in a darkened location. This area should be large enough to accommodate the vehicle, plus an additional 25 feet measured from the face of the headlamp capsule assemblies to the front of the visual screen.

- The floor on which the vehicle rests must be flat with the bottom of the screen. If the floor is not level, then compensation must be made.
- The aiming screen should be 5 feet high by 12 feet wide with a matte white surface, well shaded from outside light, and properly adjusted to the floor on which the vehicle stands. The screen must be provided with a vertical center line, two laterally

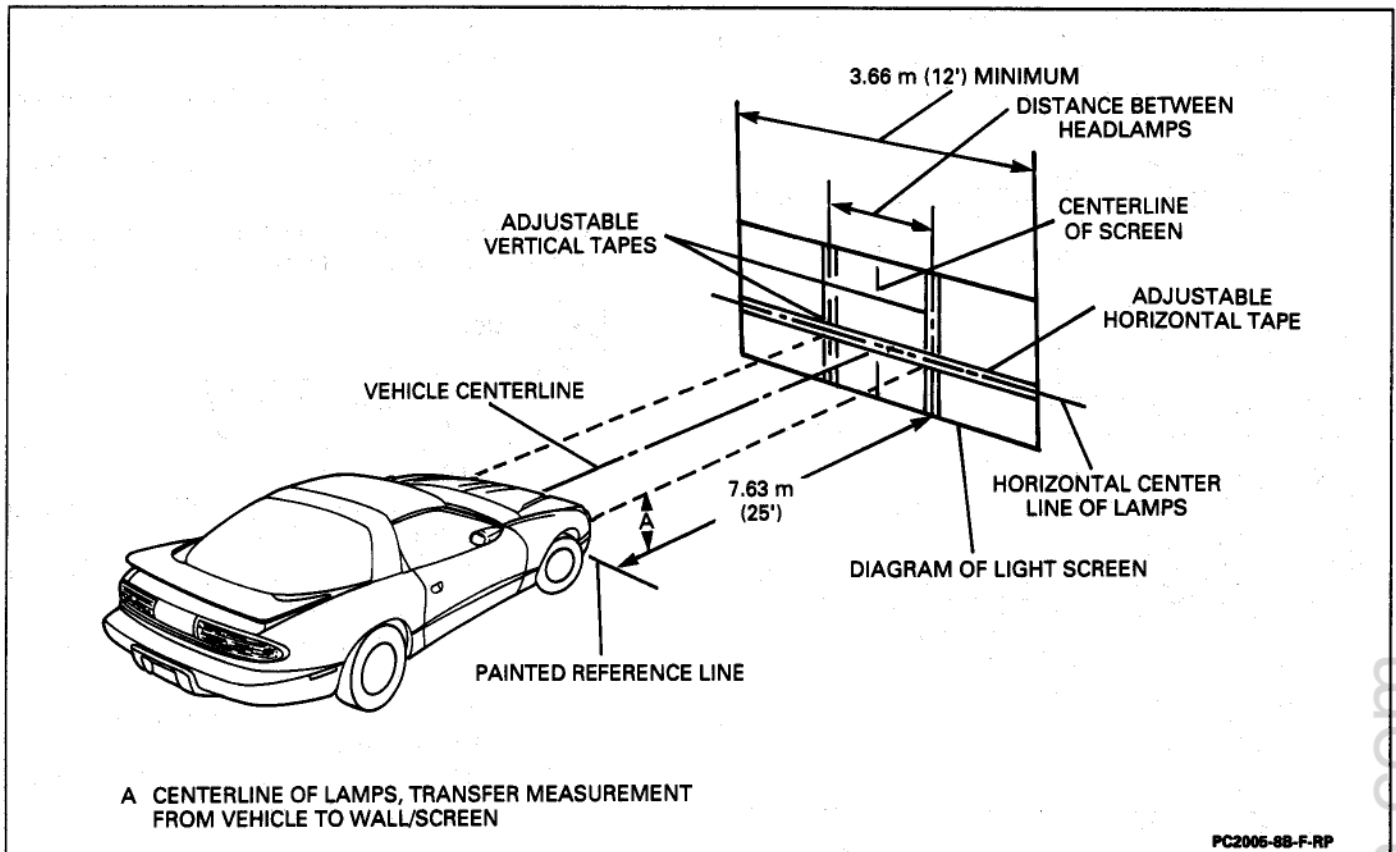


Figure 6 – Visual Headlamp Aiming Preparation

adjustable vertical tapes, and a vertically adjustable horizontal tape.

! Important

- For each vehicle checked, the horizontal lines or tape on the screen must be adjusted. Vehicles of the same model and year will have different standing height for the headlamp capsule assemblies.
 - Provisions should be made for moving the screen, so that it can be aligned parallel with the rear axle. This will allow for a horizontal line drawn perpendicular from the center line of the screen to pass through the center point between the two capsule assemblies.
 - Once the screen has been set up in a permanent location, a reference line is to be painted on the floor to identify the proper location of the headlamp capsule assemblies (Chevrolet) or headlamp assemblies (Pontiac) when they are being aimed (Figure 6).
 - If a regular commercial aiming screen is not available, the screen may consist of a vertical wall having a clear uninterrupted area approximately 6 feet high by 12 feet wide, finished with a washable non-gloss white paint.
- Prepare vehicle for checking beam aim as follows:
 - Completely assemble all components on vehicle.
 - Fuel load to be 1/2 tank or less.

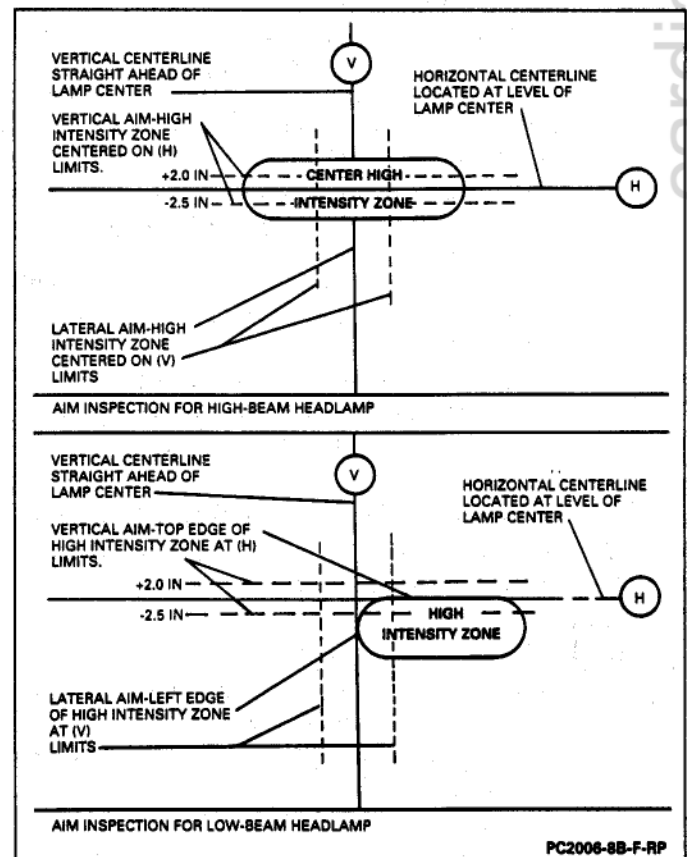
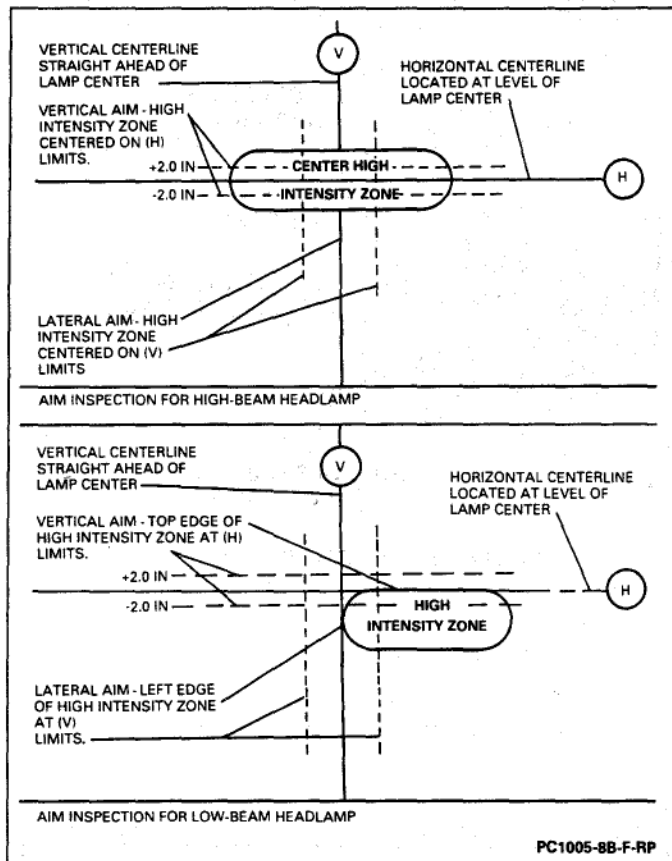


Figure 7 – Visual Headlamp Aim Limits – (Pontiac)



- Only other load in vehicle is the driver.
- C. Position vehicle so it is square with aiming screen, and with the headlamp capsule assemblies (Chevrolet) or headlamp assemblies (Pontiac) directly over reference line which has been painted on floor.
- D. Locate vertical line on aiming screen so that it is in line with center of rear window and over hood (Figure 6).
- E. Mark center of front and rear windows with narrow tape. Use these "sights" to locate center of vehicle.
 - Move the vehicle or the screen until the center line of the screen comes into alignment with the two points.
- F. Close doors.
- G. Rock vehicle sideways to stabilize suspension.
- 2. With headlamps on high beam, observe center of high intensity zone on screen.



Adjust

- Horizontal aim using horizontal adjusting screw if center is more than:
 - 102 mm (4 inches) RIGHT of straight ahead.
 - 102 mm (4 inches) LEFT of straight ahead.
- Vertical aim using vertical adjusting screw if center is more than:

- 51 mm (2 inches) ABOVE the horizontal line.
- 51 mm (2 inches) BELOW the horizontal line (Chevrolet).
- 64 mm (2.5 inches) BELOW the horizontal line (Pontiac).

3. Switch headlamps on to low beam, and observe left and top edges of high intensity zone on screen.



Adjust

- Horizontal aim using horizontal adjusting screw if left edge is more than:
 - 102 mm (4 inches) RIGHT of straight ahead.
 - 102 mm (4 inches) LEFT of straight ahead.
- Vertical aim using vertical adjusting screw if top edge is more than:
 - 51 mm (2 inches) ABOVE the horizontal line.
 - 51 mm (2 inches) BELOW the horizontal line (Chevrolet).
 - 64 mm (2.5 inches) BELOW the horizontal line (Pontiac).

Headlamp Aiming Alternate Procedure

Chevrolet

Figure 3

1. Prepare vehicle for checking beam aim as follows:
 - A. Completely assemble all components on vehicle.
 - B. Place vehicle on level surface.
 - Vehicle must be level. If necessary, pads may be used on uneven floors.
 - C. Stop all other work on vehicle.
 - D. Close doors.
 - E. Rock vehicle sideways to stabilize suspension.

NOTICE: Horizontal aim of headlamp capsule assembly must be done first. Adjusting vertical aim first will result in incorrect headlamp aim.

2. Assure horizontal adjuster is set to "0" (zero) mark:
 - A. If vehicle has been damaged, refer to "Headlamp Aiming After a Collision" in the following procedure.
 - B. If horizontal pointer is not set at "0" (zero), turn horizontal aiming adjustment screw until pointer is lined up with "0" (zero).
3. Adjust vertical aim by turning vertical aiming screw until bubble in level is centered at "0" (zero).
 - If fuel tank is near empty to 1/4 full, adjust aim to center bubble at -0.4 degrees. This will reduce the chance of raising the headlamp capsule assemblies into oncoming driver's eyes when the fuel tank is filled.

Pontiac

If a headlamp testing machine is used, it should give results equivalent to those obtained using the screen method. It should be in good repair and adjustment, and should be used in accordance with the manufacturer's instructions. The machine using a photoelectric cell or cells to determine aim should also have a visual screen upon which the beam pattern is projected proportional to its appearance and aim on a screen at 25 feet. Such visual screen should be plainly visible to the operator and should have horizontal and vertical reference lines to permit visual appraisal of the lamp beam.

Tool Required:

J 25300-B Headlamp Aimer

1. Prepare vehicle for checking beam aim as follows:
 - A. Completely assemble all components on vehicle.
 - B. Place vehicle on level surface.
 - Vehicle must be level. If necessary, pads may be used on uneven floors.
 - C. Stop all other work on vehicle.
 - D. Close doors.
 - E. Rock vehicle sideways to stabilize suspension.
2. Install headlamp aimer J 25300-B to headlamp assembly.
3. Calibrate mechanical aimers (conforming to SAE J602):
 - A. Set master fixture to "0" U/D and "0" R/L.
 - B. Calibrate aimers on master fixture to read "0" and "0" R/L.

Adjust

- Horizontal aim using horizontal adjusting screw.
 - 102 mm (4 inches) left to 102 mm (4 inches) right.
- Vertical aim using vertical adjusting screw.
 - 51 mm (2 inches) up to 64 mm (2.5 inches) down.

Important

- Aim-adjusting tools should be carefully selected since one full turn of an adjusting screw will move the aim approximately 89 mm (3.5 inches) when measured at 25 feet.

Headlamp Aiming After a Collision

1. Prepare vehicle for checking beam aim as follows:
 - A. Completely assemble all components on vehicle.
 - B. Place vehicle on level surface.
 - Vehicle must be level. If necessary, pads may be used on uneven floors.
 - C. Stop all other work on vehicle.
 - D. Close doors.
 - E. Rock vehicle sideways to stabilize suspension.

NOTICE: Horizontal aim of headlamp capsule assembly (Chevrolet) or headlamp assembly (Pontiac) must be done first. Adjusting vertical aim first will result in incorrect headlamp aim.

2. Headlamp aim may be accomplished using a wall and visual aiming. Refer to "Headlamp Aiming by Screen Method" in this section.
3. It may be necessary to recalibrate horizontal adjuster after a collision. This is done after completion of the screen aiming procedure. Use a T-15 TORX® screwdriver to reset horizontal indicator to "0" (zero) (Chevrolet only).

High-Mount Stoplamp Assembly

Figure 9

Remove or Disconnect

1. Bolts/screws (11) from stoplamp assembly (10).
2. Stoplamp assembly (10) from rear end spoiler assembly (13).
3. Nut (12), if necessary.
4. Electrical connector.
5. Bulbs and sockets from stoplamp assembly (10).
6. Bulbs from sockets.

Install or Connect

NOTICE: See "Notice" on page 8B-1 of this section.

1. Bulbs to sockets.

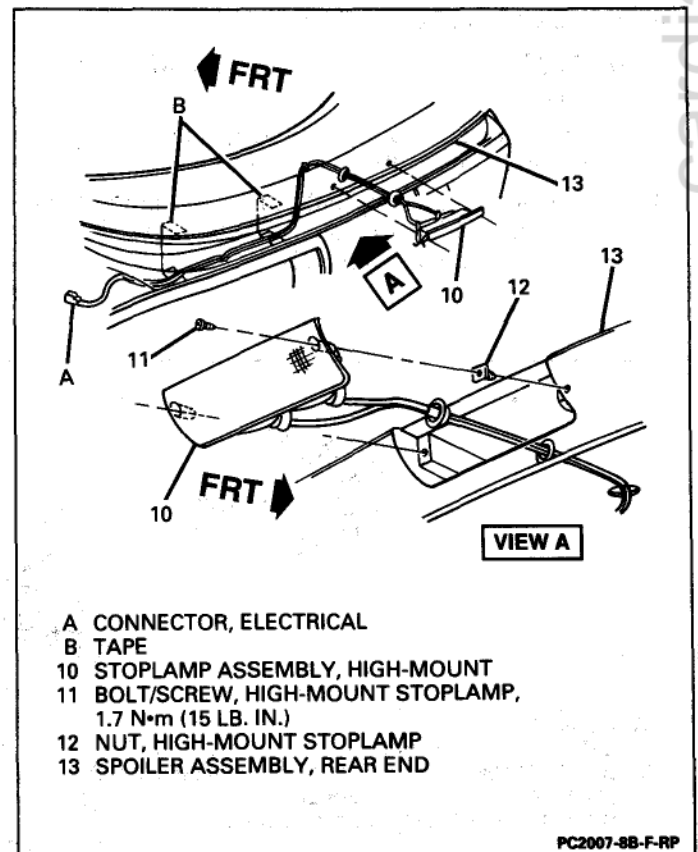


Figure 9 – High-Mount Stoplamp Assembly (Typical)

2. Bulbs and sockets to stoplamp assembly (10).
3. Electrical connector.
4. Nut (12), if removed.
5. Stoplamp assembly (10) to rear end spoiler assembly (13).
6. Bolts/screws (11) to stoplamp assembly (10).

Tighten

- Bolts/screws (11) to 1.7 N•m (15 lb. in.),

Parking and Turn Signal Lamp Assemblies

Figure 10

Remove or Disconnect

1. Raise and suitably support vehicle. Refer to SECTION 0A.
2. Front bumper fascia lower deflector. Refer to SECTION 10-4.
3. Bolts/screws (15) from parking and turn signal lamp assembly (14).
4. Parking and turn signal lamp assembly (14) from shelf on front bumper fascia.
5. Front sidemarker lamp bulb (16), parking and turn signal lamp bulb (17) and sockets from front parking and turn signal lamp assembly (14).
6. Front sidemarker lamp bulb (16) and parking and turn signal lamp bulb (17) from sockets.

Install or Connect

NOTICE: See "Notice" on page 8B-1 of this section.

1. Front sidemarker lamp bulb (16) and parking and turn signal lamp bulb (17) to sockets.
2. Front sidemarker lamp bulb (16), parking and turn signal lamp bulb (17) and sockets to parking and turn signal lamp assembly (14).

3. Parking and turn signal lamp assembly (14) to shelf on front bumper fascia.
4. Bolts/screws (15) to parking and turn signal lamp assembly (14).

Tighten

- Bolts/screws (15) to 1.7 N•m (15 lb. in.).
5. Front bumper fascia lower deflector. Refer to SECTION 10-4.
 6. Lower vehicle.

Rear License Lamp Assembly

Figure 11

Remove or Disconnect

1. Bolts/screws (18) from rear license lamp assembly (20).
2. Rear license lamp assembly (20) from rear bumper fascia (25).
3. Bulb (19) and socket from rear license lamp assembly (20).
4. Bulb (19) from socket.

Install or Connect

NOTICE: See "Notice" on page 8B-1 of this section.

1. Bulb (19) to socket.
2. Bulb (19) and socket to rear license lamp assembly (20).
3. Rear license lamp assembly (20) to rear bumper fascia (25).
4. Bolts/screws (18) to rear license lamp assembly (20).

Tighten

- Bolts/screws (18) to 1.9 N•m (17 lb. in.).

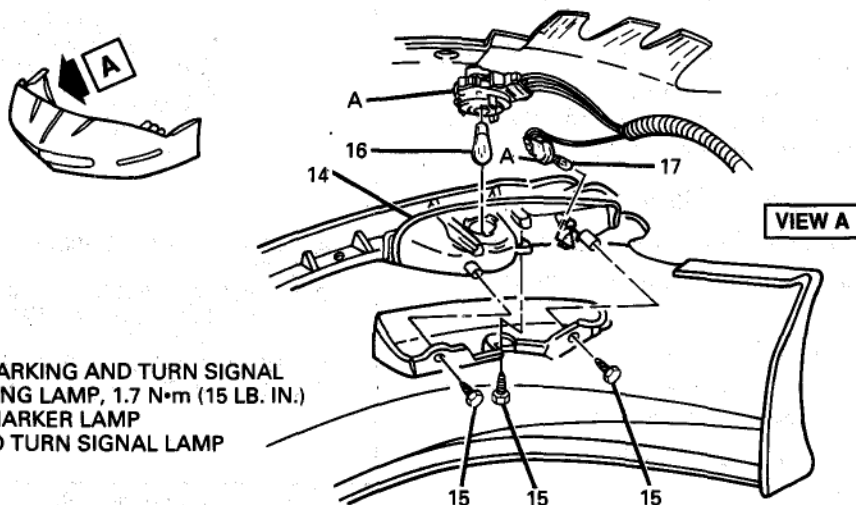


Figure 10 – Parking and Turn Signal Lamp Assemblies (Typical)

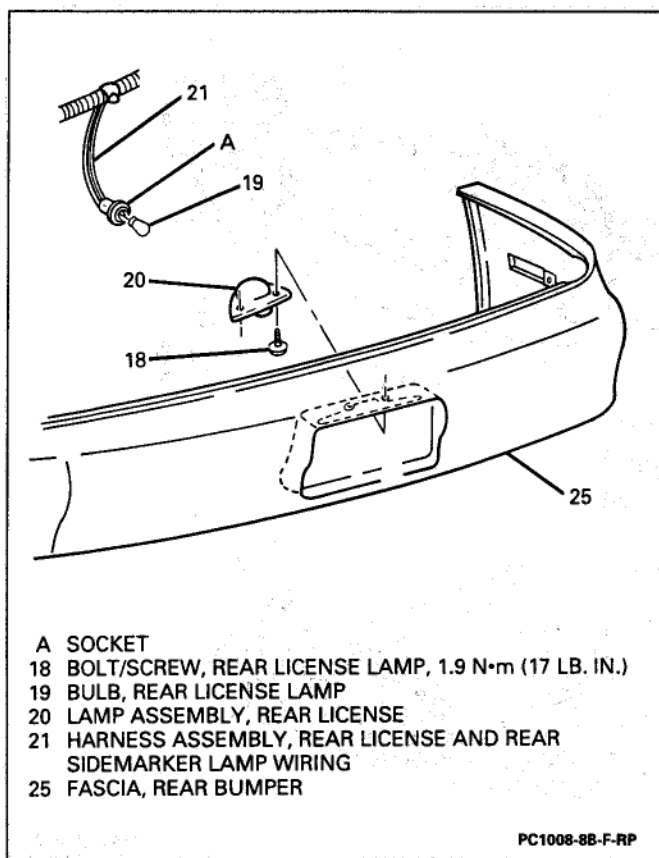


Figure 11 – Rear License Lamp Assembly (Typical)

Rear Sidemarker Lamp Assemblies

Figure 12

Remove or Disconnect

1. Bolts/screws (22) from rear sidemarker lamp assembly (23).
2. Rear sidemarker lamp assembly (23) from rear bumper fascia (25).
3. Bulb (24) and socket from rear sidemarker lamp assembly (23).
4. Bulb (24) from socket.

Install or Connect

NOTICE: See “Notice” on page 8B-1 of this section.

1. Bulb (24) to socket.
2. Bulb (24) and socket to rear sidemarker lamp assembly (23).
3. Rear sidemarker lamp assembly (23) to rear bumper fascia (25).
4. Bolts/screws (22) to rear sidemarker lamp assembly (23).

Tighten

- Bolts/screws (22) to 1.4 N•m (12 lb. in.).

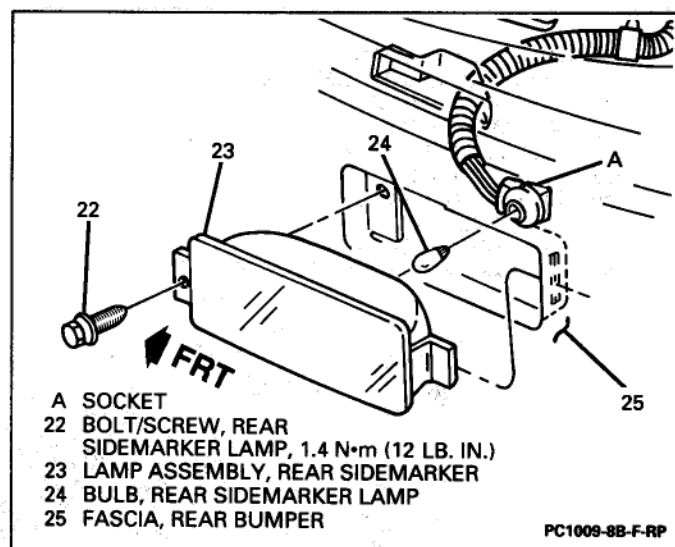


Figure 12 – Rear Sidemarker Lamp Assemblies

Taillamp Assemblies

Chevrolet

Figure 13

Remove or Disconnect

1. Reposition rear compartment trim assembly.
2. Nuts (131) attaching taillamp assembly (126) to rear end finishing panel assembly.
3. Taillamp assembly (126) from rear end finishing panel assembly.
4. Taillamp, turn signal and backup lamp bulbs (127, 128, 129 and 130) and sockets from taillamp assembly (126).
5. Taillamp, turn signal and backup lamp bulbs (127, 128, 129 and 130) from sockets.

Install or Connect

NOTICE: See “Notice” on page 8B-1 of this section.

1. Taillamp, turn signal and backup lamp bulbs (127, 128, 129 and 130) to sockets.
2. Taillamp, turn signal and backup lamp bulbs (127, 128, 129 and 130) and sockets to taillamp assembly (126).
 - Rotate socket 90 degrees in taillamp assembly (126) to lock and secure.
3. Taillamp assembly (126) to rear end finishing panel assembly.
4. Nuts (131) attaching taillamp assembly (126) to rear end finishing panel assembly.

Tighten

- Nuts (131) to 4 N•m (35 lb. in.).
5. Position rear compartment trim assembly.

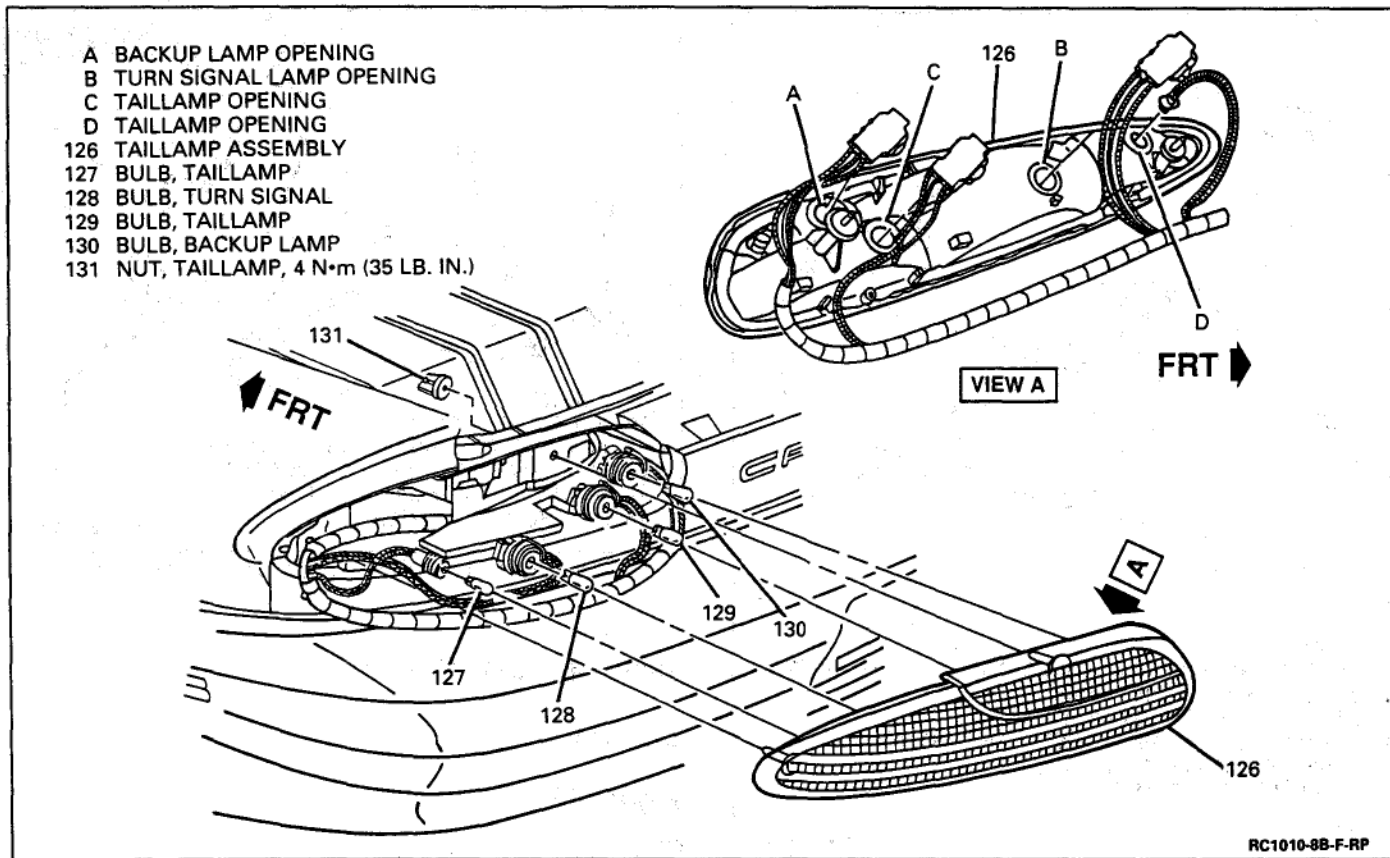


Figure 13 – Taillamp Assemblies – (Chevrolet)

Pontiac**Figure 14****↔ Remove or Disconnect**

1. Reposition rear compartment trim assembly.
2. Nuts (31) attaching taillamp assembly (26) to rear end panel assembly.
3. Taillamp assembly (26) from rear end panel assembly.
4. Taillamp filler (40), if necessary.
 - Both taillamp assemblies (26) must be removed to replace taillamp filler (40).
5. Taillamp, turn signal and backup lamp bulbs (27, 28 and 30) and sockets from taillamp assembly (26).
6. Taillamp, turn signal and backup lamp bulbs (27, 28 and 30) from sockets.

↔ Install or Connect

NOTICE: See “Notice” on page 8B-1 of this section.

1. Taillamp, turn signal and backup lamp bulbs (27, 28 and 30) to sockets.
2. Taillamp, turn signal and backup lamp bulbs (27, 28 and 30) and sockets to taillamp assembly (26).
 - Rotate socket 90 degrees in taillamp assembly (26) to lock and secure.

3. Taillamp filler (40), if removed.
4. Taillamp assembly (26) to rear end panel assembly.
5. Nuts (31) attaching taillamp assembly (26) to rear end panel assembly.

⌚ Tighten

- Nuts (31) to 4 N•m (35 lb. in.).

6. Position rear compartment trim assembly.

Turn Signal Lamp Flasher Assembly**Figure 15****↔ Remove or Disconnect**

1. Clip (33) from driver knee bolster bracket.
2. Electrical connector.
3. Flasher assembly (32) from clip (33), if necessary.

↔ Install or Connect

1. Flasher assembly (32) to clip (33), if removed.
2. Electrical connector.
3. Clip (33) to driver knee bolster bracket.

INTERIOR LIGHTING

For information on warning/indicator lamps, instrument cluster lamps, etc., refer to SECTION 8C. For circuit information, refer to SECTION 8A.

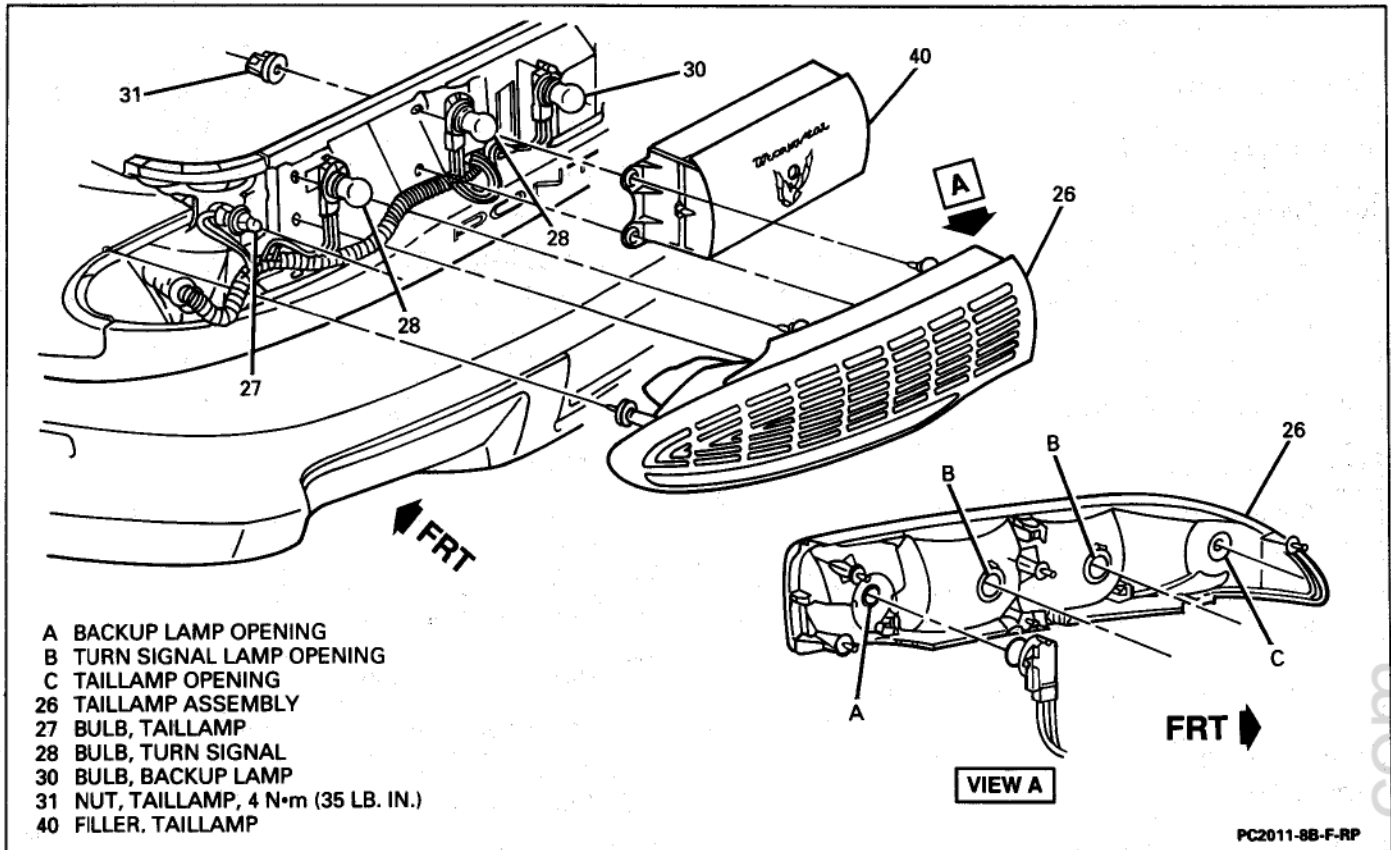


Figure 14 - Taillamp Assemblies - (Pontiac)

Ashtray Lamp

Bulb Replacement

Remove or Disconnect

1. Open ashtray opening cover.
2. Ashtray.
3. Pull bulb, socket and shield through opening in front floor console assembly.
4. Bulb and socket from shield.
5. Bulb from socket.

Install or Connect

1. Bulb to socket.
2. Shield to bulb and socket.
3. Bulb, socket and shield to opening in front floor console assembly.
4. Ashtray.
5. Close ashtray opening cover.

Automatic Transmission Indicator Lamp

Bulb Replacement

Remove or Disconnect

1. Front floor console transmission opening trim plate assembly.

2. Bulb and socket from front floor console transmission opening trim plate assembly.
3. Bulb from socket.

Install or Connect

1. Bulb to socket.
2. Bulb and socket to front floor console transmission opening trim plate assembly.
3. Front floor console transmission opening trim plate assembly.

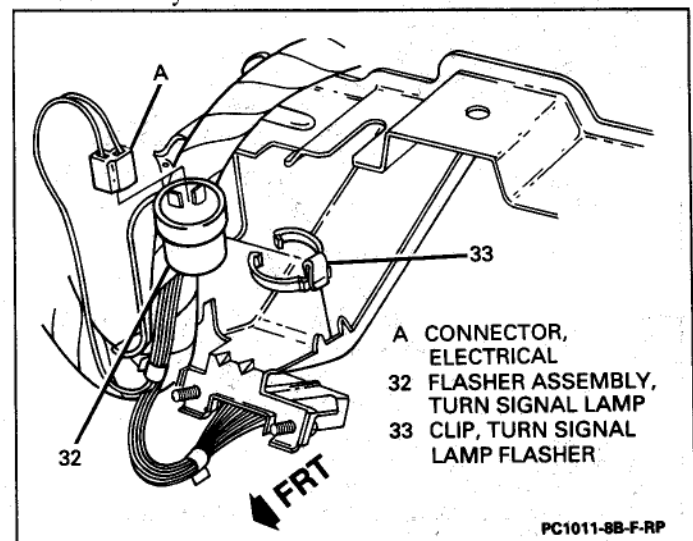


Figure 15 - Turn Signal Lamp Flasher Assembly

- Snap in place to secure.

Console Lamp

Bulb Replacement

Remove or Disconnect

1. Open front floor console compartment door.
2. Console lamp and retainer from front floor console transmission shift opening trim plate assembly.
3. Bulb from socket.
4. Retainer from console lamp, if necessary.

Install or Connect

1. Retainer to console lamp, if removed.
2. Bulb to socket.
3. Lamp and retainer to opening in front floor console transmission shift opening trim plate assembly until retainer is seated.
4. Close front floor console compartment door.

Dome Lamp

Figure 16

Remove or Disconnect

1. Bolts/screws (35).
 - Loosen enough to pull dome lamp housing assembly (34) from headlining trim finish panel assembly.
2. Dome lamp housing assembly (34) by pulling from headlining trim finish panel assembly.
3. Electrical connector.
4. Bulb (36) from dome lamp housing assembly (34).

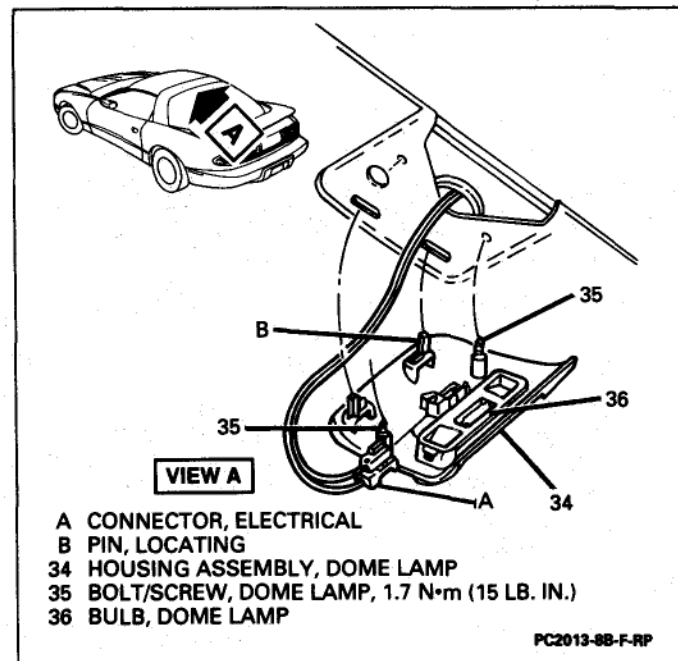


Figure 16 – Dome Lamp Housing Assembly (Typical)

Install or Connect

NOTICE: See “Notice” on page 8B-1 of this section.

1. Bulb (36) to dome lamp housing assembly (34).
2. Electrical connector.
3. Dome lamp housing assembly (34).
 - Use locating pins to position dome lamp housing assembly (34) to headlining trim finish panel assembly.
4. Bolts/screws (35).

Tighten

- Bolts/screws (35) to 1.7 N•m (15 lb. in.).

Front Reading Lamps

Bulb Replacement

Remove or Disconnect

1. Lamp lens from inside rearview mirror assembly, using a flat-bladed tool.
2. Bulb from socket, using a flat-bladed tool.

Install or Connect

1. Bulb into socket.
2. Lens to inside rearview mirror assembly by snapping into place.

Front Side Door Courtesy Lamps

Bulb Replacement

Remove or Disconnect

1. Front side door inside handle bezel bolt/screw.
2. Front side door inside handle bezel assembly.
3. Bulb and socket from front side door inside handle bezel assembly.
4. Bulb from socket.

Install or Connect

NOTICE: See “Notice” on page 8B-1 of this section.

1. Bulb to socket.
2. Bulb and socket to front side door inside handle bezel assembly.
3. Front side door inside handle bezel assembly.
4. Front side door inside handle bezel bolt/screw.

Tighten

- Front side door inside handle bezel bolt/screw to 1.4 N•m (12 lb. in.).

Heater and Air Conditioning Control Lamp Bulb Replacement

↔ Remove or Disconnect

1. Instrument panel cluster trim plate bezel assembly. Refer to SECTION 8C.
2. Heater and air conditioning control bolts/screws.
3. Heater and air conditioning control assembly.
4. Electrical connectors.
5. Bulbs and sockets from heater and air conditioning control assembly.
6. Bulbs from sockets.

→ Install or Connect

NOTICE: See "Notice" on page 8B-1 of this section.

1. Bulbs to sockets.
2. Bulbs and sockets to heater and air conditioning control assembly.
3. Electrical connectors.
4. Heater and air conditioning control assembly.
5. Heater and air conditioning control bolts/screws.

🔧 Tighten

- Heater and air conditioning control bolts/screws to 1.9 N•m (17 lb. in.).
6. Instrument panel cluster trim plate bezel assembly. Refer to SECTION 8C.

Instrument Panel Compartment Lamp

Bulb Replacement

↔ Remove or Disconnect

1. Open instrument panel compartment door.
2. Instrument panel compartment lamp and retainer from instrument panel assembly.
3. Bulb from socket.
4. Retainer from instrument panel compartment lamp, if necessary.

→ Install or Connect

1. Retainer to instrument panel compartment lamp, if removed.
2. Bulb to socket.
3. Lamp and retainer to opening in instrument panel assembly until retainer is seated.
4. Close instrument panel compartment door.

HORNS

Current Adjustment

Figure 17

Current draw for a horn assembly while operating should be 4.5 to 5.5 amperes at 11.5 to 12.5 volts. High

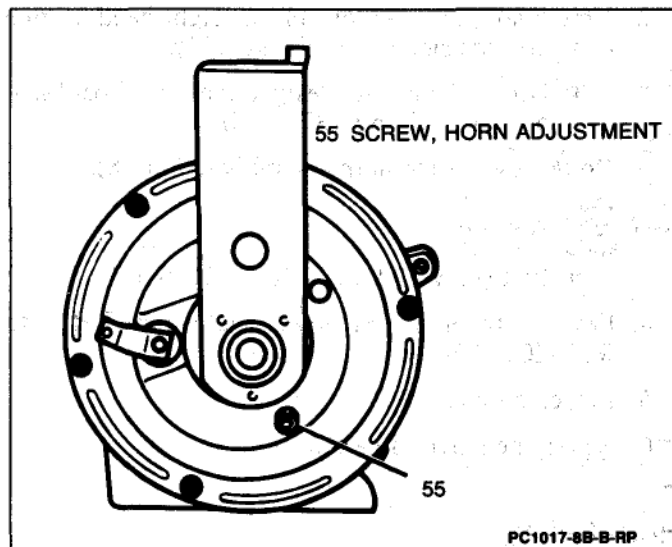


Figure 17 – Horn Adjustment

current (more than 20 amperes) indicates an overheated winding or shorted horn assembly; replace the horn assembly. A current reading of about 18 amperes means contacting points are not open; adjust horn current.

No current reading indicates a broken connection or an open circuit due to a broken lead or overheated horn assembly. An overheated horn assembly must be replaced. No current reading may also mean contact points are open; adjust horn assembly.

🔧 Adjust

1. Increase current – turn adjustment screw (55) clockwise.
2. Decrease current – turn adjustment screw (55) counterclockwise.
3. Current adjustments should be made 1/4 turn (90 degrees) at a time.

Horn Assemblies

Figure 18

↔ Remove or Disconnect

CAUTION: Refer to "Caution" under "Disconnecting the Battery Negative Cable Assembly" in SECTION 0A.

1. Battery negative cable assembly.
2. Raise and suitably support vehicle. Refer to SECTION 0A.
3. Front bumper fascia lower deflector. Refer to SECTION 10-4.
4. Bolt/screw (39) from horn assembly (37 or 38).
5. Horn assembly (37 or 38) from right-hand engine compartment side outer rail assembly.
6. Electrical connector.

→ Install or Connect

NOTICE: See "Notice" on page 8B-1 of this section.

1. Electrical connector.

2. Horn assembly (37 or 38) to right-hand engine compartment side outer rail assembly.
 - Use "F" and "A" designations on inboard side of horn assembly (37 or 38).
 3. Bolt/screw (39) to horn assembly (37 or 38).
- Tighten**
- Bolt/screw (39) to 27 N•m (20 lb. ft.).
4. Front bumper fascia lower deflector. Refer to SECTION 10-4.
 5. Lower vehicle.
 6. Battery negative cable assembly.

Horn Relay

Figure 2

The horn relay (5) is in the convenience center, behind the instrument panel assembly on the driver knee bolster bracket.

Remove or Disconnect

- Horn relay (5) from convenience center.

Install or Connect

- Horn relay (5) to convenience center.

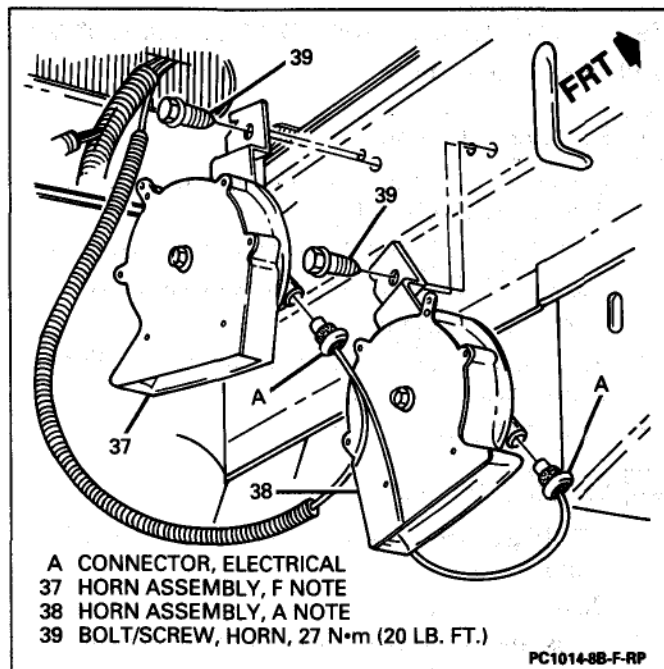


Figure 18 - Horn Assemblies

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

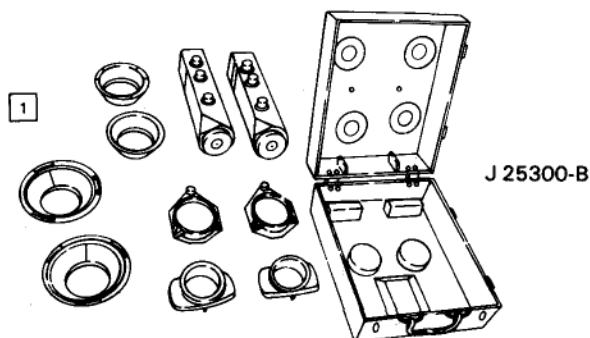
Dome Lamp Bolt/Screw	1.7 N•m (15 lb. in.)
Front Fog Lamp Bolt/Screw	10 N•m (89 lb. in.)
Front Fog Lamp Nut	10 N•m (89 lb. in.)
Front Side Door Inside Handle Bezel Bolt/Screw	1.4 N•m (12 lb. in.)
Headlamp Bezel Bolt/Screw (Pontiac Only)	1.7 N•m (15 lb. in.)
Headlamp Opening Door Bolt/Screw (Pontiac Only)	1.7 N•m (15 lb. in.)
Heater and Air Conditioning Control Bolt/Screw	1.9 N•m (17 lb. in.)
High-Mount Stoplamp Bolt/Screw	1.7 N•m (15 lb. in.)
Horn Bolt/Screw	27 N•m (20 lb. ft.)
Parking Lamp Bolt/Screw	1.7 N•m (15 lb. in.)
Rear License Lamp Bolt/Screw	1.9 N•m (17 lb. in.)
Rear Sidemarkers Lamp Bolt/Screw	1.4 N•m (12 lb. in.)
Taillamp Nut	4 N•m (35 lb. in.)

BULB USAGE CHART

Exterior Lamps	Trade No.	Interior Lamps	Trade No.
Backup (Chevrolet)	1151	Ashtray*	194
Backup (Pontiac)	1156	Automatic Transmission Indicator (PRNDL)	73
Front Fog	885	Cluster Illumination	161
Front Sidemarker	194	Console	194
Headlamp (Chevrolet)		Dome	906
Low Beam	H-4351	Front Reading	212-2
High Beam	H-4352	Front Side Door Courtesy	74
Headlamp (Pontiac)	H6545	Heater and Air Conditioning Control	37
High-Mount Stoplamp	921	Instrument Panel Compartment	194
Parking and Turn Signal	2397	Rear Compartment (Convertible Only)	562
Rear License	194	Rear Courtesy (Convertible Only)	562
Rear Sidemarker	194	Turn Signal Indicator	161
Taillamp	194	Warning/Indicator (Chevrolet)	161
Turn Signal	2057	Warning/Indicator (excluding Turn Signal Indicator) (Pontiac)	PC74

RC0001-8B-F-RP

SPECIAL TOOLS



1 HEADLAMP AIMER

MC0023-8B-F-RP

