# CHASSIS ELECTRICAL

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## GENERAL INFORMATION

"Sealed Beam" headlights are used on all 1954 series cars. The filament, reflector, lens, and gasket in these lights are all assembled in one sealed unit. When a filament burns out or a lens is broken, the entire unit is discarded and a new one installed. This assures maximum lighting efficiency throughout the entire life of the lamp and simplifies maintenance. The headlamps provide two separate beams, selected by a foot switch:

1. A country (upper) beam, which illuminates the road evenly for a considerable distance ahead of the car.

2. A traffic (lower) beam, which is low enough on the left side of center of the road to avoid glare in the eyes of oncoming drivers.

The "Sealed Beam" reflector unit is mounted on a sub-body within the lamp housing and is held to the housing by two coil springs and adjusting screws. With this type of mounting, the horizontal light beam adjustment can be made without disturbing the vertical light beam setting, and vice-versa.

Back-up lights, which are installed in the tail lamp on all 1954 models, operate when the ignition switch is turned on and the shift lever is in the reverse position.

A map light is located under the instrument panel overhang directly over the radio dial. It is manually controlled by a switch at the light. On sedan models it is also automatically operated by a switch on each front door hinge pillar. It serves, therefore, as a courtesy light when either front door, on these models, is opened.

On coupe style bodies, the dome light serves as a courtesy light when either front door is opened. The map light must be operated manually.

The front parking and directional signal lights located in the radiator grille incorporate a double filament bulb. The double filament bulb consists of a 3 c.p. filament which is operated by the first position of the headlight switch when parking lights are desired, and a 21 c.p. filament which is operated by the directional signal switch to indicate a right or left turn.

The directional indicator control lever is mounted on the left side of the steering column. When the lever is actuated for a right or left turn, the corresponding front and rear directional signal light and dash indicator light will flash on and off when making the turn. At the same time, a clicking noise made by the flasher unit will be heard to indicate that the system is operating.

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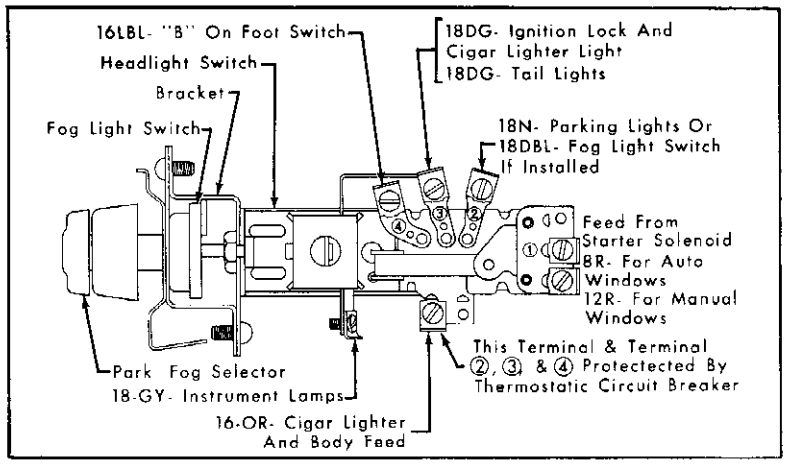



Fig. 15-1 Headlamp Switch

The 1954 clock is a spring driven, electrically wound type. The clock winds every three or four minutes, but draws only a few amperes for a fraction of a second each time it winds.

The headlight control switch, Fig. 15-1, is located on the instrument panel at the left of the instrument cluster. In addition to the headlights, it also controls operation of the parking lights, instrument panel lights, and fog lights on cars so equipped.

The parking lights come on as the knob is pulled half way out. The headlights operate when the knob is pulled all of the way out. The instrument panel lights are on when the knob is in either position. They can be turned down in intensity or "OFF" by rotating the knob to the right. Fog lights, on cars so equipped, are turned on by pulling the headlight knob to the halfway position and turning the fog light control switch, located directly behind and concentric with the headlight knob, to the right.

Twin air-tone horns of the "sea shell" type, matched in tone, are used on all series cars. They are mounted between the radiator and radiator grille on brackets on the radiator support and are positioned so that they face each other. The horn ring, when depressed, permits a small current to pass through a relay mounted on the engine side of the dash. This current closes the circuit for the heavier current that operates the horns.

The starter switch is combined with the ignition switch which is located just below the right side of the instrument cluster, and enables the driver to start the car by turning the key to the right against spring tension to energize the starter solenoid. When the engine is started, releasing the key will permit it to return to the "ON" position. The key may be turned to the left to permit the use of accessories with the ignition "OFF".

The instrument cluster on all 1954 Cadillac cars feature the "telltale" type of oil pressure and generator indicators. These indicators light up to warn the driver that the oil pressure or the generator charging rate are below normal when the engine is operating at speeds above idle.

The parking brake warning light, with the word "BRAKE" stamped on the lens, lights up when the ignition switch is turned "ON" if the hand brake is in the "ON" position. This will caution the driver to release the hand brake before moving the car.

A fuse panel is mounted under the instrument panel on the cowl insulating board just to the left of the center line of the car. The heater, radio, directional signal, back-up light, and windshield washer circuits have their fuses located on this panel. Fig. 15-2. In addition, the directional signal flasher unit is mounted on the fuse panel.

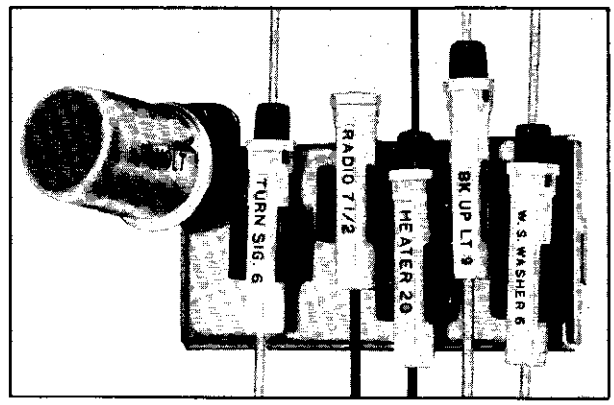



Fig. 15-2 Fuse Panel

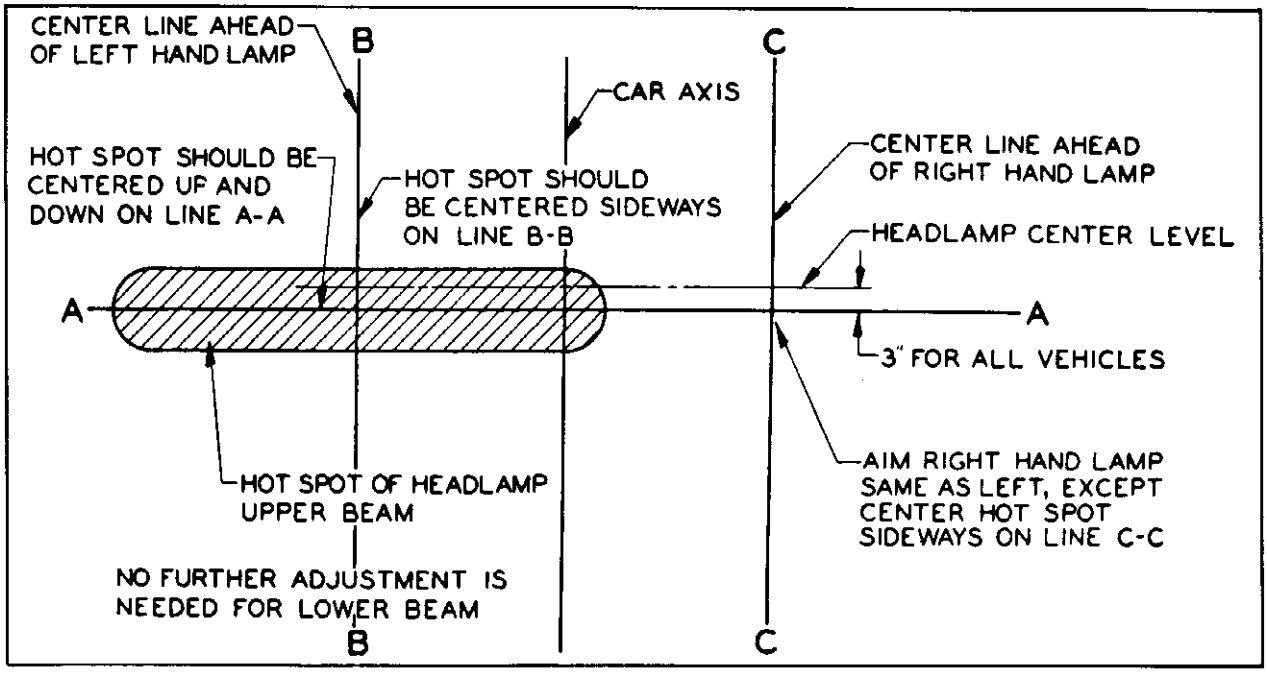



Fig. 15-3 Headlamp Aiming Diagram

## SERVICE INFORMATION

### (1) Headlamp Aiming Adjustments

Independent adjustment of both horizontal and vertical aim is provided in "Sealed Beam" headlamps. The adjustment screws are accessible from the front of the lamp after first removing door rim.

If a headlamp aiming screen is to be used in the service station, it should be marked according to the following dimensions (refer also to Fig. 15-3).

| | Distance Between Lamp Centers | Lamp Centers to Ground |
|---|---|---|
| 54-62,60S . . . . | 63" | 30-3/8" |
| 54-75 . . . . . | 63" | 31" |
| 54-86 . . . . . | 63" | 32-9/32" |

To make the adjustment:

1. Turn on lights and set foot control to produce the country (upper) beam.

2. Place car so that headlamps are 25 feet from screen.

3. Bounce car to normalize springs.

4. Cut two sticks to "A" length. Fig. 15-4.

5. Sight over sticks as shown in Fig. 15-4 to locate headlamp center level on screen.

6. Sight through rear window and line up hood ornament and moulding to locate car axis on screen.

7. Remove headlamp door.

8. Cover one lamp and then adjust beam from other lamp both up and down, and sideways, Fig. 15-5, as required until center of zone of highest intensity falls on the intersection of the horizontal line (3 inches below the headlamp center) and the vertical line directly ahead of lamp. Fig. 15-3.

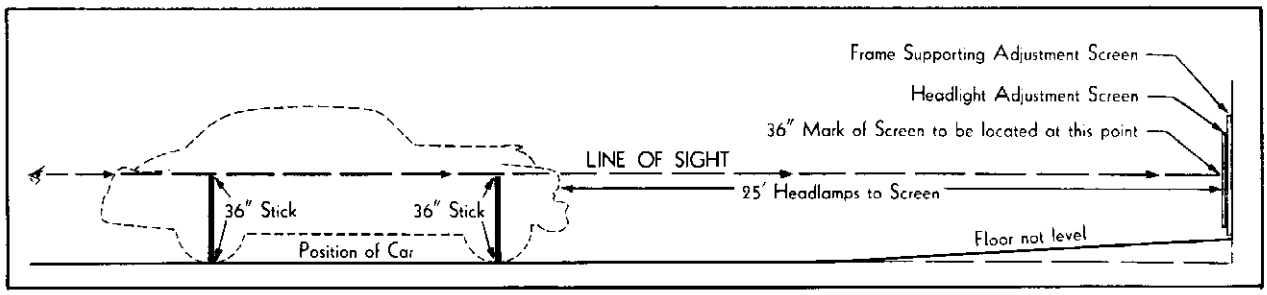



Fig. 15-4 Locating Headlamp Aiming Screen

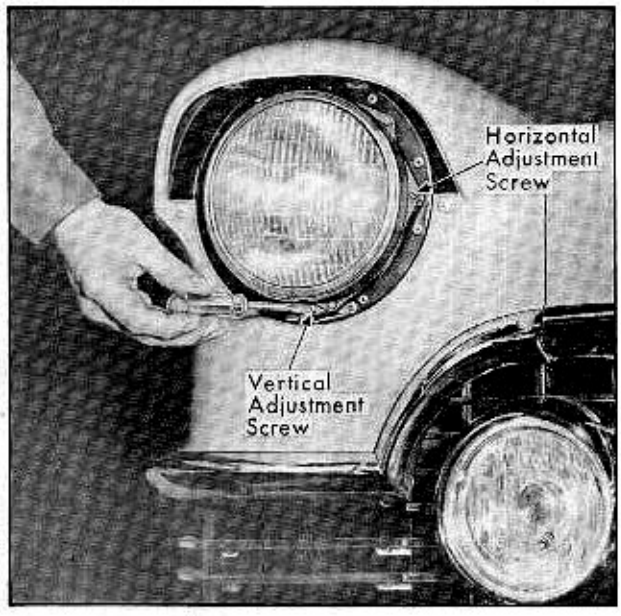



Fig. 15-5 Sealed Beam Aiming Adjustments

## (2) Replacement of Headlamp Unit

Two types of "Sealed Beam" headlamp units are used. One is made entirely of hard glass, and the other is a composite unit consisting of a metal reflector and a glass lens. Both are completely interchangeable from the standpoint of electrical connections, beam patterns, and physical dimensions. Furthermore, they are so designed that they cannot be installed improperly, nor connected incorrectly. The same unit is used in both right and left hand headlamps. To replace a unit:

1. Remove three headlamp door rim screws, and remove rim by pulling out at top.

2. Remove three screws holding retaining ring.

3. Remove retaining ring and sealed beam unit.

4. Remove connector plug from sealed beam unit.

5. Install new unit by reversing above operations.

## (3) Replacement of Bulbs

The complete list of replacement bulbs required for the 1954 series cars is given in the bulb chart, Page 15-13. Procedures for making bulb replacements are as follows:

### a. Parking or Front Signal Lamps (Standard Lamps)

Remove the two lamp door retaining screws from front of lamp and remove the bezel and lens. Replace the bulb and install retaining parts. Both right and left lamps are interchangeable as to lens and other parts. The lens has no special top and bottom position.

NOTE: The lamp body itself must always be installed with the feed wire outlet on the bottom side of the lamp.

### b. Rear Lamps

Remove the lucite lens after taking out two screws, one at the top and one at the bottom. The lamp contains one 32-4 c.p. bulb, which constitutes the tail light, stop signal, and directional signal light.

### c. License Plate Lamps

Remove the two screws, retainer, and lens in the lamp assembly which is located in the rear bumper guard.

### d. Instrument Lamps

CAUTION: Before doing any work behind the instrument panel, always disconnect the negative terminal from the battery to prevent accidental shorting of the 12 volt wiring.

To replace bulbs in the instrument cluster, it is necessary to remove the instrument panel cover as described in Section 3, Note 1. When replacing bulbs on the left side, remove the defroster duct at the cowl. After replacing instrument bulbs, (see Fig. 15-6 for correct location) check their operation to make sure they are in their proper places.

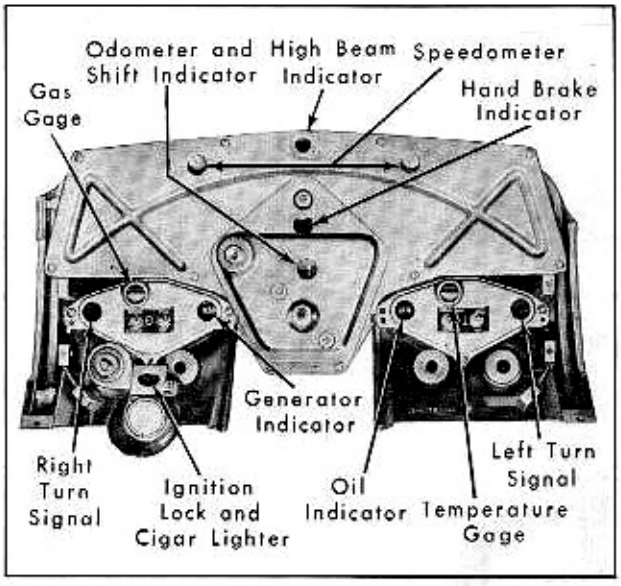



Fig. 15-6 Instrument Bulb Location

**e. Map Light**

The map light bulb can be removed by removing the two screws from the lens and removing the lens.

**f. Back-Up Lights**

Remove the retaining screws, sleeves, and lens. Replace bulb and retaining parts in reverse order of removal.

## (4) Operation of Directional Signal Indicator

The directional indicator control lever is mounted on the left side of the steering column, and the switch is located below the steering wheel hub. The flasher unit and fuse are mounted on the fuse panel assembly on the dash, and the connectors are on a bracket just above the hand brake handle. The circuit diagram of the system is shown in Fig. 15-7.

When a right turn is to be signalled, the control lever is moved upwards, and the signal filament 21 cp in the right front parking lamp bulb and the 21 cp filament in the right rear lamp begin flashing, as does an arrow shaped indicator lamp in the right portion of the speedometer face. When a left turn is to be made, the lever is moved downward and the left lamps and the indicator flash. After the turn is completed, the return of the steering wheel to the straight ahead position automatically turns off the signal.

The automatic turn-off is achieved by means of a pair of pins, intergral with the steering wheel, and a special ratchet. When steering wheel is turned in the direction for which the control is set, the pin passes over the cam without engaging, but when the wheel is turned in the opposite direction, the pin engages the cam and turns off the signal.

When the signal system is operating properly, the lights flash about 90 times per minute. If either front or rear signal bulb burns out, the reduced current in the circuit will double the flashing speed of the remaining bulb. If a rear bulb is burned out, both indicator bulbs will flash in unison at approximately double speed and at very low brilliance. If a front bulb is burned out and the signal switch is set to indicate a turn on the side of the burned out bulb, the action will be the same as above. If the switch is set to indicate a turn on the opposite side from the burned out bulb, the front and rear signal lights will operate correctly but the indicator bulbs will not operate at all. If both signal bulbs are burned out, the indicator bulbs will not light.

In addition to the indicator lights, a clicking noise in the flasher unit makes an audible signal when the circuit is on. This is purposely created as an additional warning that the signal is operating, and flashers should not be replaced for this noise.

The signal flasher is a sealed unit and is non-adjustable. If inoperative, it must be replaced.

## (5) Removal and Disassembly of Directional Signal Switch

1. Disconnect signal switch wires at connectors under dash where wires come out of steering column cover.

2. Disconnect horn wire from connector at lower end of steering column.

3. Press down on horn button, turn, and remove button and spring.

4. Remove steering column nut and horn ring retainer.

5. Remove horn ring.

6. Remove directional signal switch by unscrewing it from carrier housing.

7. Remove the steering wheel using Puller, Tool No. J-1859, as described in Section 7, Note 8.

8. Remove two screws holding the directional signal carrier to the shift lever carrier.

9. Attach a cord or wire to the directional signal switch wires so that when the wires are pulled out of the steering cover, the cord or wire can be used to pull them back down into position.

10. Pull the carrier with switch and wires out of steering column cover and remove cord from wires. Tie cord to shift lever so that it will not slip back out of column.

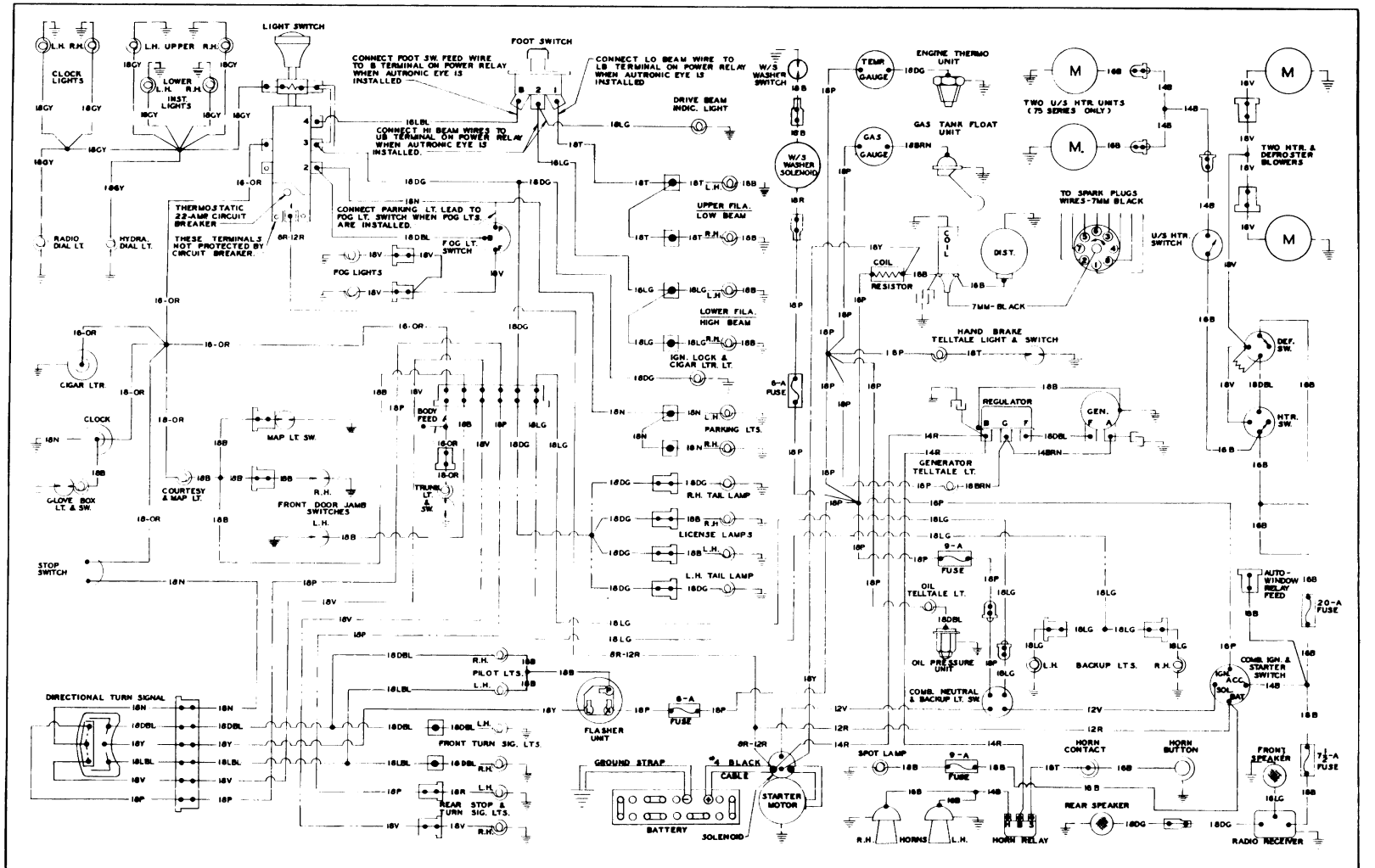
11. Remove switch cable clamp from carrier and remove switch back screws from carrier.

12. Remove switch back and wires from switch carrier assembly.

## (6) Assembly and Installation of Directional Signal Switch

1. Install switch back with wires in switch carrier assembly and install two attaching screws.

2. Install switch cable in clamp.




## WIRE IDENTIFICATION

| | | |
|---|---|---|
| N-NATURAL | V-VIOLET | DBL-DARK BLUE |
| B-BLACK | Y-YELLOW | LBL-LIGHT BLUE |
| R-RED | OR-ORANGE | DG-DARK GREEN |
| T-TAN | GY-GRAY | LG-LIGHT GREEN |
| P-PINK | BRN-BROWN | |

## SYMBOLS

- BULB
- BAYONET TYPE CONNECTOR
- DOUGLAS CONNECTOR
- LOCK-ON TYPE CONNECTOR (PACKARD)
- LOCK-ON TYPE CONNECTOR (WADE)
- TERMINAL BLOCK CONNECTOR
- MULTIPLE CONNECTOR
- BODY WIRING
- INTERNAL GROUND

Fig. 15-7 Circuit Diagram

3. Connect upper end of cord to switch wires and pull wires down through steering column cover and through opening in lower end of cover. Remove cord from wire.

4. Install carrier in position and install two screws.

5. Install steering wheel, aligning mark on steering wheel with mark on steering shaft.

6. Position horn ring over steering wheel, install large washer and steering wheel retaining nut. Tighten nut to 45 to 50 ft. lbs. torque.

7. Install horn button spring and horn button, being sure emblem is in correct position.

8. Connect directional signal wires at their proper connectors.

9. Connect horn wire at lower end of steering column.

## (7) Removal and Installation of Tail Light Assembly

### a. Removal

1. Disconnect tail light and back up light wires at their connectors inside the trunk.

2. Remove back up light lens.

3. Remove four screws that hold tail light assembly to fender.

4. Remove assembly, feeding wires through grommet in fender. Remove tail light wire from clip.

### b. Assembly

1. Install tail light assembly, feeding wire through grommet.

2. Connect wires at their connectors inside trunk.

NOTE: On left hand tail light, wire should be positioned in the clip so that wire will flex smoothly when lamp is raised or lowered.

3. Install four screws that hold assembly to fender.

4. Install back up light lens.

## (8) Installing Electrical Accessories

When installing additional electrical equipment, such as heaters or auxiliary lights, they should ordinarily be connected to the accessory terminal on the ignition switch or the accessory terminal on the light switch.

Cadillac Fog Lights should, however, be connected to the parking lamp terminal on the lighting switch, and Spot Light to the battery terminal on the ignition switch.

If the owner installs so much electrical equipment to the protected terminals of the light switch that the total normal load causes the circuit breaker to vibrate, it will be necessary to connect some of the equipment to the unprocted side of the light switch. Equipment so connected will not have circuit breaker protection.

## (9) Gasoline Gauge Service

The first thing to do when checking a gasoline gauge is to determine whether the unit wiring is at fault. To check for a defective tank unit, disconnect dash unit to tank unit wire at tank unit and connect red lead on AC Gasoline Gauge Tester, Part No. 1516000, to wire from dash unit. The tester black lead should be grounded. See Fig. 15-8.

With ignition switch "On", the tester arm should be moved from "full" to "empty" position. If dash unit then works correctly, tank unit is at fault. A

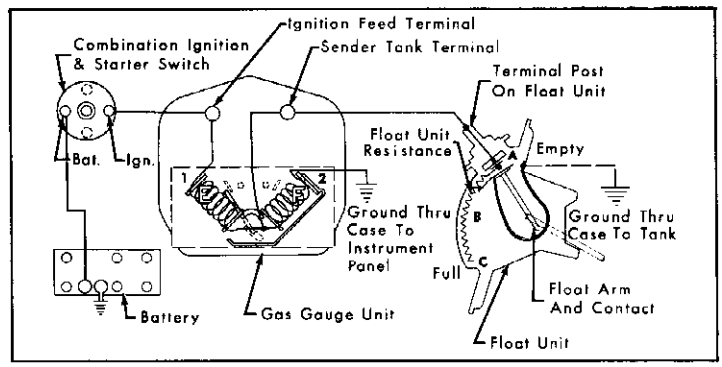



Fig. 15-8 Fuel Gauge Circuit

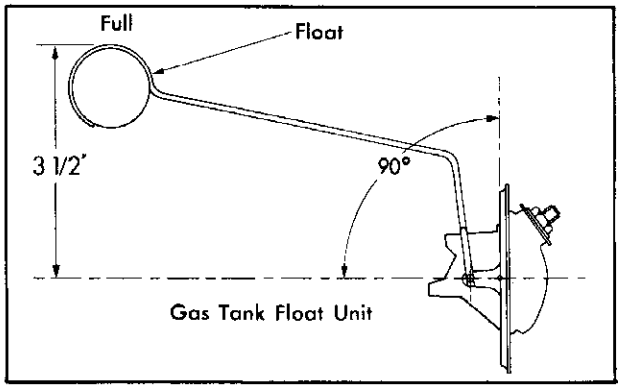



Fig. 15-9 Checking Gage Float Arm

gauge whose needle just touches either edge of "full" or "empty" marks on the dial may be considered as satisfactory.

If dash unit operates incorrectly, the difficulty is either due to dash unit or to wiring from dash unit to tank unit. Faulty wiring may be checked by connecting tester directly to tank unit terminal on dash unit. If the gauge dash unit then operates correctly, the wiring is either grounded or open.

Although above tests will show which unit or wiring is at fault, other checks should be made before replacing either unit.

Before replacing a tank unit, make sure that mounting screws are tight and that gasoline tank is grounded to body. Check tank unit or a bent float arm by measuring the distance from top of float to a line perpendicular to float mounting boss surface at the float arm pivot. This distance should be 3-1/2". Fig. 15-9.

If gasoline gauge does not register when ignition switch is turned on, check for:

1. Open circuit between dash unit and ignition switch.

2. Open circuit in No. 1 coil of panel gauge, Fig. 15-8.

If the gauge shows full under all conditions, check for:

1. Open circuit between dash unit and tank unit.

2. Tank unit burned out. Replace tank unit.

3. Tank unit improperly grounded or tank itself not grounded.

If gauge shows empty under all conditions, check for:

1. Wires reversed on dash unit.

2. Ungrounded dash unit.

3. Grounded lead to tank unit or grounded tank unit rheostat.

4. Open circuit in No. 2 coil, Fig. 15-8.

## (10) Temperature Gauge Service

Some difficulties with the temperature gauge system are due to the thermogauge unit on the engine, not the gauge on the instrument panel. When checking either unit, however, a definite series of tests should be employed to determine the correct nature of the difficulty and what should be done to repair it.

To check engine thermogauge unit:

1. Disconnect wire to thermogauge unit at the unit.

2. Connect a test light consisting of a 3 candlepower bulb and a pair of test leads in circuit by clipping one lead to battery terminal on starter and other lead to terminal of thermogauge unit. Test bulb should not light; if it does light when connected in this manner, thermogauge is shorted and should be replaced.

3. Remove test lead from gauge terminal and touch it to body of unit. Bulb will light if unit is grounded properly. If it does not light, check for presence of sealing compound around threads of unit, remove compound, and repeat test.

NOTE: Never use any sealing compound on thermogauge unit to stop water leaks. If tightening unit does not stop leakage, it should be replaced.

4. Remove test light and install dash gauge wire on thermogauge unit if it tests satisfactorily.

Check following items according to nature of difficulty:

a. If dash unit does not register when ignition switch is turned on, it may be caused by a break in the line between dash unit and the ignition switch.

b. If gauge shows "High Temperature" under all conditions, it may be caused by left coil wire in dash unit being broken, poor dash unit ground, or the wire leading from dash unit to engine unit may be shorted to ground.

c. If gauge registers "Low Temperature" under all conditions, the lead to engine unit or the right coil wire in dash unit may be broken.

## (11) Removal of Instrument Panel Cluster

1. Remove negative terminal from battery.

2. Remove two rear screws that hold steering gear housing to frame. Loosen front screw.

3. Pull floor mat away from steering column area.

4. Remove three screws holding triangular steering column cover plate to toe riser.

5. Remove five screws holding square cover plate to toe riser.

6. Remove stop light brake switch.

7. Remove lower steering column cover.

8. Remove steering column "U" clamp and lower the steering column.

9. Disconnect vent cables from firewall and vent.

10. Disconnect trip odometer reset stem.

11. Remove three cluster mounting screws.

12. Place a cloth over the steering column and pull cluster out far enough for access to defroster and heater control arms.

13. Remove defroster and heater knobs from control arms and remove control arms.

14. Cluster may now be pulled out further for instrument service.

## (12) Disassembly of Instrument Panel Cluster Assembly

1. Remove three screws which hold temperature gauge base plate to instrument cluster casting and remove gauge assembly.

2. Remove screws that hold fuel gauge to cluster casting and remove fuel gauge assembly.

3. Remove ten screws which hold speedometer assembly to cluster casting and remove speedometer assembly.

4. Remove three screws which hold backing plate stamping to speedometer cluster and remove cluster from backing plate.

5. Remove six screws which hold speedometer backing plate casting to cluster casting and remove backing plate.

NOTE: Further disassembly of the speedometer is not recommended because it involves removal of speedometer pointer, an operation which should be performed by a United Motors Service Station. In order to protect the delicate pointer which protrudes when the assembly is removed from the cluster, a shipping guard should be used. This guard is available from the factory Parts Department under Part No. 1581194. All distributors should obtain a supply of these guards to take care of their own and larger dealers requirements.

6. Remove plastic speed indicator, glass lens, and two rubber insulators from casting.

7. Remove three screws which hold Hydra-Matic indicator backing plate to cluster casting and remove backing plate.

8. Remove plastic Hydra-Matic indicator lens and plastic bracket.

## (13) Assembly of Instrument Panel Cluster Assembly

1. Install Hydra-Matic indicator lens and plastic bracket.

2. Install Hydra-Matic indicator backing plate on cluster casting.

3. Install rubber insulators, glass lens, and plastic speed indicator in cluster casting.

4. Install speedometer backing plate on cluster housing.

5. Install speedometer cluster on backing plate stamping.

6. Install speedometer assembly in cluster casting.

7. Install fuel gauge assembly on cluster casting.

NOTE: Fuel gauge should be on the right side of cluster when looking at the rear of the cluster.

8. Install temperature gauge assembly on cluster casting.

## (14) Installation of Instrument Panel Cluster

1. With a cloth placed over the steering column, place the cluster assembly in position in front of the opening in the instrument panel, and connect gauge wires to gauge terminals according to the wiring code on the gauge plates.

2. Install instrument cluster lights in cover making sure lights are in correct holes. Fig. 15-6.

3. Connect speedometer cable to speedometer head.

4. Connect ignition switch wire, windshield wiper control, and vent controls on cluster.

5. Install defroster and heater control arms.

6. Install cluster in opening in instrument panel with three mounting screws.

7. Connect trip odometer reset stem.

8. Connect vent cables to firewall and vent. Check for free operation of the cables.

9. With rubber insulator in place in instrument cluster, raise steering column into position and install "U" clamp.

10. Install lower steering column cover.

11. Install stop light brake switch with switch lever above brake pedal.

12. Install square cover plate to toe riser.

13. Position brake grommet bracket between the two plates and install triangular cover plate to toe riser.

14. Replace floor mat.

15. Install two rear screws that hold steering gear housing to frame. Tighten front screw.

## (15) Resetting and Starting Clock

The clock hands are reset by pulling out the reset knob and turning hands to proper position. The clock starts automatically when it is connected to a source of direct current of proper voltage.

## (16) Regulation of Clock

The accuracy of automobile clocks operating on direct current should not be compared too closely with that of electric clocks operating on alternating current. The cycles of alternating current are controlled and corrected daily at the power house, thereby eliminating accumulation of errors. Direct current, in contrast, flows continuously in one direction and time errors in clocks operated on this type of current are accumulated day by day.

An automobile clock is considered a good timepiece when the consistent gain or loss does not exceed seven minutes per week. Accumulation of this error, during a month may amount to as much as thirty minutes.

The owner must, therefore, anticipate resetting the hands occasionally to the correct time. This should be explained to owners at the new car delivery. It is possible to regulate the clock so that the variation will be less than seven minutes weekly if extreme care is taken in adjusting the regulator as described below.

A small regulating screw is located above the numeral "12". If clock loses time, turn screw to the right with a screw driver. If clock gains time, turn screw to the left.

CAUTION: Turn screw slowly and listen for a clicking noise. Each click adjusts the clock approximately 30 seconds in twenty-four hours.

## (17) Back-Up Light Switch

### a. Location

The safety (neutral) switch and back-up light switch are combined into one unit which is mounted on the steering column just below the floor.

### b. Removal

1. Loosen mounting screw and rotate switch to clearance hole in bracket.

2. Remove switch from steering column.

3. Disconnect wires from switch.

### c. Installation

1. Connect wires to switch, as shown in wiring diagram, Fig. 15-7.

2. Position switch on steering column and tighten screw. Switch should be located on the steering column in such a position that when the shift lever is in the reverse position, the back-up lights will work.

CAUTION: By placing the shift lever in any position except neutral, it should be impossible to start the car. Neutral is the only starting position.

## (18) Oil Pressure Indicator Service

The "telltale" oil pressure indicator light is connected in a circuit with the ignition switch and

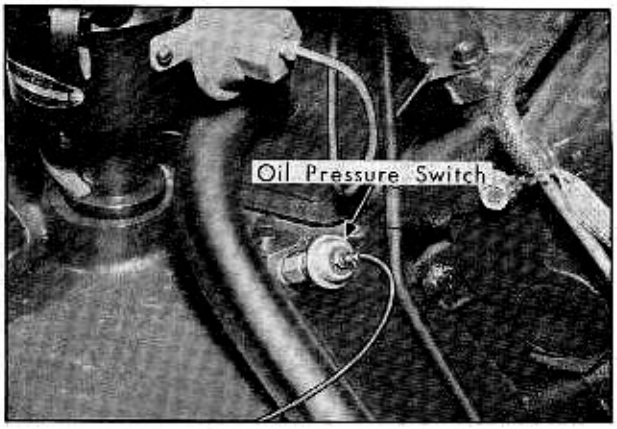



Fig. 15-10 Oil Pressure Switch

a pressure operated switch, Fig. 15-10, threaded into the oil header galley at the rear of the engine to warn the driver when the oil pressure is below seven pounds.

If the light does not come on when the ignition switch is turned on, or if the light stays on after the engine is started, either the pressure is low or one of the units or the wiring is defective and should be checked as follows:

**a. Light On—Engine Running**

1. Circuit grounded between "telltale" light and pressure switch.

2. Switch shorted. Replace switch.

3. Switch improperly calibrated. Increase engine speed slightly and check to see if light goes off with increased pressure.

4. Oil pressure too low. Remove switch and test pressure with a reliable pressure gauge. Repair as necessary.

**b. Ignition On—Engine Not Running—Light Off**

1. Bulb burned out--replace bulb.

2. Open circuit between ignition switch and light or light and pressure switch.

3. Switch not grounded--check for presence of sealing compound on threads of switch.

4. Switch stuck--Replace switch.

## (19) Generator Charging Indicator Service

The generator "telltale" light is connected in a

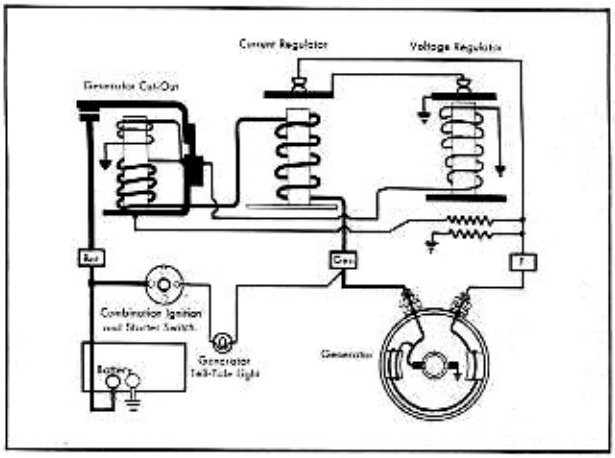



Fig. 15-11 Generator Tell Tale Light Circuit

circuit with the battery and generator, Fig. 15-11. When the generator begins to charge, the voltage built up in the circuit opposes the battery voltage to the indicator light and as the differential between these two voltages decreases, the light goes out. If the indicator light stays on after the engine is started, the generator should be checked.

If the light does not go on when the ignition switch is turned on before the engine is started, the indicator bulb should be checked and also the "telltale" light circuit should be inspected for the possibility of an open circuit or loose connections.

## (20) Horn Operation and Testing

Conditions which may affect horn performance and the procedure for checking these conditions are listed below.

**a. Horn Inoperative**

1. Connect a voltmeter between the horn terminal or lead and the horn ground, checking the voltage at the horn when the horn button is pressed down.

2. If there is no voltage at the horn, the trouble is in the horn button, the relay, the wiring, or the ground circuit.

3. If the voltage is less than 6.5 volts, the trouble is defective wiring or poor electrical connections. Check all horn wiring and connections for condition and proper grounding.

Specifications:

Horns must start to blow at 6.5 volts or less.

Low note unit Current Draw - 10 - 12 amps. (minimum) at 13 volts

High note unit Current Draw - 9 - 11 amps. (minimum) at 13 volts

4. If the voltage is between 6.5 and 8.5 volts, the horn is sticking due to foreign material in the air gap or improper current adjustment. Remove from car and adjust as specified in Note 3c.

5. If the voltage is about 8.5, the horn is open due to a broken coil lead. If current adjustment as given in Note 3c does not correct condition, replace horn.

**b. Horn Tone Poor**

1. If horn only operates part of the time, the cause may be improper current adjustment. Remove horn and adjust as specified in Note 3c.

2. If horn tone is weak, remove from car and test for proper current adjustment and tone. If current and tone are satisfactory, reinstall in the car and check voltage at the horn. If reading is less than 10 volts, check for cause of voltage drop.

**c. Current Adjustment**

Adjustment Procedure

1. Remove horn cover.

2. Inspect air gap for steel burrs or other foreign material, and clean if necessary.

3. Connect ammeter in horn circuit and adjust current consumption by varying the position of the adjusting nut.

4. Loosen the adjusting lock nut, Fig. 15-12, and turn adjusting nut to the left to increase current, or the right to decrease the current.

CAUTION: Increasing the current, increases the volume. Too much current will cause the horn to have a high cut-in voltage. The nut, therefore, should be moved only 1/10 of a turn each time and locked in position each time before trying the horn.

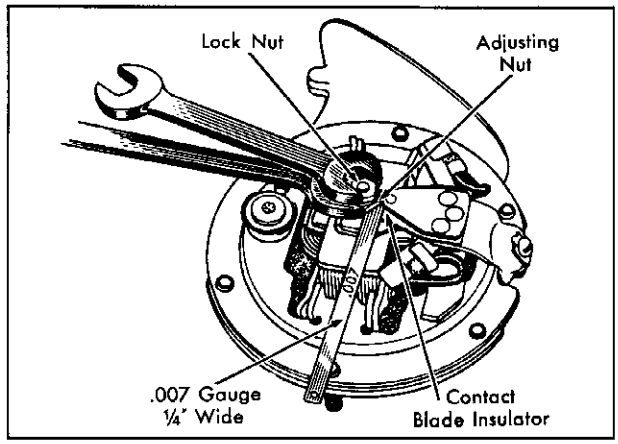



Fig. 15-12 Horn Contact Adjustment

Alternate Adjustment Procedure

1. Insert a feeler gage. .007" thick (not more than 1/4" wide) between adjusting nut and contact blade insulator, Fig. 15-12. Do not allow gage to touch contact points.

2. Loosen lock nut and turn adjusting nut to position where the horn will just operate.

3. Lock in position and check horn performance with feeler gage removed.

## SPECIFICATIONS

### FUSE LOCATIONS

| Unit | Type | Location |
|---|---|---|
| Headlight, Cigar Lighter, Clock, Map and Courtesy, Glove Box, Dome Light, Fog Light, Inst. Lights, Parking Light, Stop Light, Trunk Light | None | 22A Circuit Breaker |
| Hydro-Lectric | None | 15A Circuit Breaker |
| Windshield Washer | 6A | Fuse Panel* |
| Back-Up-Light | 9A | Fuse Panel* |
| Automatic Heating System | 20A | Fuse Panel* |
| Radio (all) | 7.5A | Fuse Panel* |
| Spotlight | 9A | Under Hood, Defroster Mounting Screw |
| Air Conditioner | 2A/20A | Under Dash, Side of Glove Box |
| Turn Signal | 6A | Fuse Panel* |
| Autronic Eye | 14A | Amplifier |

*Fuse panel located under instrument panel, on cowl insulation board, just to left of center of car.

# CHASSIS ELECTRICAL

## SPECIFICATIONS (Cont'd)

### BULB DATA CHART

| Unit | c/p | Contact | No. | Unit | c/p | Contact | No. |
|---|---|---|---|---|---|---|---|
| Headlamp | Sealed | Beam Unit | | Dome Lamp (except 6267, 6267S) | 15 | Single | 1004 |
| Parking and Signal | 32-4 | Double | 1034 | Bow Dome Lamp (6267, 6267S) | 6 | Single | 90 |
| Glove Compartment | 2 | Single | 57 | Rear Door Courtesy Lamp (75) | 6 | Single | 90 |
| Clock | 2 | Single | 57 | Corner Lamp (75) | 6 | Single | 90 |
| Instrument Lights | 2 | Single | 57 | Radio Dial | 2 | Single | 57 |
| Oil Telltale | 2 | Single | 57 | Hydra-Matic Shift Indicator Dial | 2 | Single | 57 |
| Generator Telltale | 2 | Single | 57 | Back-Up Light | 32 | Single | 1073 |
| Brake Emergency | 2 | Single | 57 | Map and Courtesy | 6 | Double | 90 |
| Beam Indicator | 2 | Single | 57 | Spotlight | Sealed | Beam Unit | |
| Direct, Signal Ind. | 2 | Single | 57 | Fog Lamp | 32-32 | Double | 1026 |
| Ignition Lock and Cigar Lighter | 1 | Single | 53 | Parking Lamp Bulb in Fog Lamp | 3 | Single | 67 |
| Trunk | 6 | Single | 89 | | | | |
| Tail Lamps | 32-4 | Double | 1034 | | | | |
| License Plate Lamp | 3 | Single | 67 | | | | |

### SPEEDOMETER PINION APPLICATION CHART

| Car Model | Speedo Pinion Part No. | Axle Ratio | No. of Teeth | Ident. Marking | Tire Size |
|---|---|---|---|---|---|
| 60-62 | 1460172 | 3.07 | 17 | S-8 | 8.00-15 |
| 60-62 | 1457320 | 3.36 | 19 | S-1 | 8.00-15 |
| 75 | 1457322 | 3.77 | 21 | S-3 | 8.20-15 (6 ply) |
| 86 | 1457324 | 4.27 | 23 | S-5 | 8.90-15 (6 ply) |

OTHER NOTES AND REFERENCES

# CHASSIS ELECTRICAL

OTHER NOTES AND REFERENCES