

Service BULLETIN

THE HEAD LAMPS

Satisfactory automobile headlights should combine the following features: 1. Sufficient light to illuminate the road at such a distance that the driver will have ample time to stop before reaching an object. 2. The illumination should extend to the sides of the road near the car so that objects not in the path of the headlamps may be seen as the car approaches them. 3. Necessary penetrative powers in dust or fog.

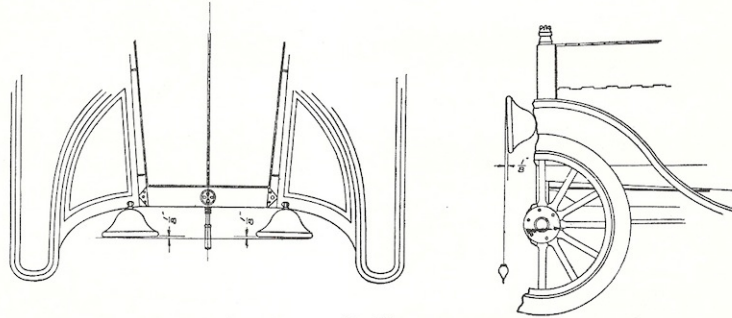


Fig 113

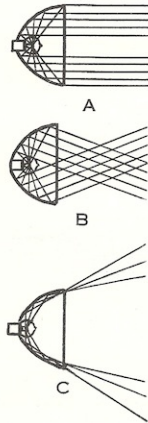
In order to secure these conditions, the lamps must be evenly spaced from the radiator and point toward each other and the ground. When holding a plumb line at the top of the door of the lamp, the lower part of the door should be $\frac{1}{8}$ -inch from the line. When holding a line on the outer edges of the door, the inner edges should be $\frac{1}{8}$ -inch from the line (See Fig. 113). The lamps may be brought to this position by bending the brackets, using a bending iron or large wrench. The lamps must also be properly focused. This is accomplished by turning the screw in back of the lamp housing just above the wire plug hole to either right or left. This adjustment is a matter of taste and driving conditions.

Fig. 114-A shows the distribution of light when the lamp is in focus, the light rays being projected in approximately parallel rays. This concentration of light produces a strong, far reaching beam of

several thousand candle power and provides adequate road illumination and also supplies enough stray light to distinguish objects near the side of the road. If the lamps are so moved that the filament is in front of the focus as shown in Fig. 114-B, the light is projected in the form of converging rays. Similarly if the filament is back of focus, the light rays are divergent and the board distribution results (See Fig. 114-C). Neither of these latter settings of the lamp provide satisfactory illumination. Proper reflecting equipment is essential. The parabolic type of reflectors gathers the light from the lamp and assists in projecting it in nearly parallel rays.

There is a wide variation in the voltage at which lamps operate, regardless of whether connected directly to the magneto or taking current from the generator or from the storage battery. This variation is due in the first instance to

the speed at which the motor is running and in the second case to whether or not the battery is completely charged or partly run down. It is accordingly necessary to use a lamp which will give sufficient light when the motor is running slowly or the battery partly discharged, and that will not burn out when the motor is running at a high speed or battery fully charged.



Mazda B (Vacuum) lamps made in what is known as the G-12 bulb have been adopted as standard equipment on the Model T car. In order to destroy the last of the air which may remain in the bulb of the vacuum lamp to reduce the

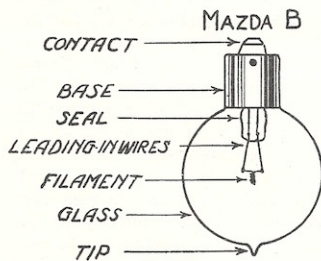


Fig. 115

possibility of the bulb blackening, a substance called the "Getter" is introduced. This "Getter" acts upon the substance which tends to blacken the bulb, decomposing it so as to make it colorless. The filament in Mazda B lamps (See Fig. 115) is wound in the form of a double helix and at present is made of tungsten which is capable of withstanding the vibration both when cold and when heated. There is very little in headlamps to get out of order except the bulbs and they do not require any attention unless they meet with an accident or burn out. In all such cases, replace the bulb.

STARTER DON'TS

- Don't*—Run the engine when *GENERATOR* is disconnected from *BATTERY*, until you have *grounded* generator to valve cover stud nut, with *iron wire*, at least 1/16 inch diameter.
- Don't*—Force *STARTER* on a new or stiff engine.
- Don't*—Advance spark too far. A *backfire* may damage *STARTER-SHAFT*.
- Don't*—*Don't* forget to add *distilled water* to cells in Storage Battery as needed. Keep electrolyte *above plates* at all times. *Water* is cheap; *Batteries* expensive.
- Don't*—Attempt to adjust *CUT-OUT* contacts. If cut-out does not work, *exchange* it for a new one.
- Don't*—Attempt repairs to *GENERATOR* or *STARTING MOTOR*. Return immediately to Branch for *exchange*.
- Don't*—Neglect to look over all wiring occasionally. Chafed insulation means a *short-circuit* and trouble.
- Don't*—Fail to read the general instructions on the *STARTING AND LIGHTING SYSTEM* in the *FORD MANUAL* from time to time until you are thoroughly familiar with them.