

LUCAS

Quality

EQUIPMENT

WORKSHOP INSTRUCTIONS

MOTOR CYCLE HEADLAMPS INCORPORATING THE LUCAS LIGHT UNIT



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1. GENERAL

These lamps incorporate a combined reflector and front lens assembly known as the Lucas Light Unit. The construction of the Light Unit ensures that the reflector is permanently protected, with obvious advantage to its efficiency. The outer surface of the front lens is smooth, to facilitate cleaning, but the inner surface has formed in it a series of lenses which determine the spread and pattern of the light beam.



Fig. 1. Vertical-fluted lens.

Earlier lamps had straight vertical-fluted lenses and later designs are fitted with the 'block-pattern' lens. The headlamp is fitted with a double filament main bulb and a pilot bulb, the latter being mounted either

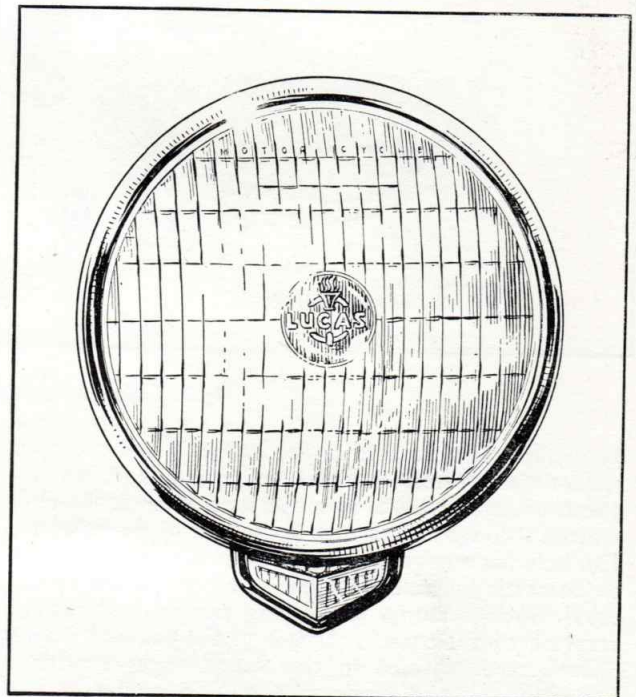


Fig. 2. Block-pattern lens.

on the back shell at the rear of the Light Unit and providing illumination through a transparent window in the reflector, or in the base of the lamp with units having an underslung pilot light.

Some earlier lamps incorporated a bayonet cap main bulb carried in a bulb holder located in the rear of the Light Unit by two spring-loaded pegs. With this type, a sliding bulb holder allows the bulb to be focused after replacement (see para. 2).

The standard main bulb fitment is known as a 'prefocus' bulb, which ensures that the filament is positioned correctly with respect to the focal point of the reflector, and eliminates the need for any focusing device in the



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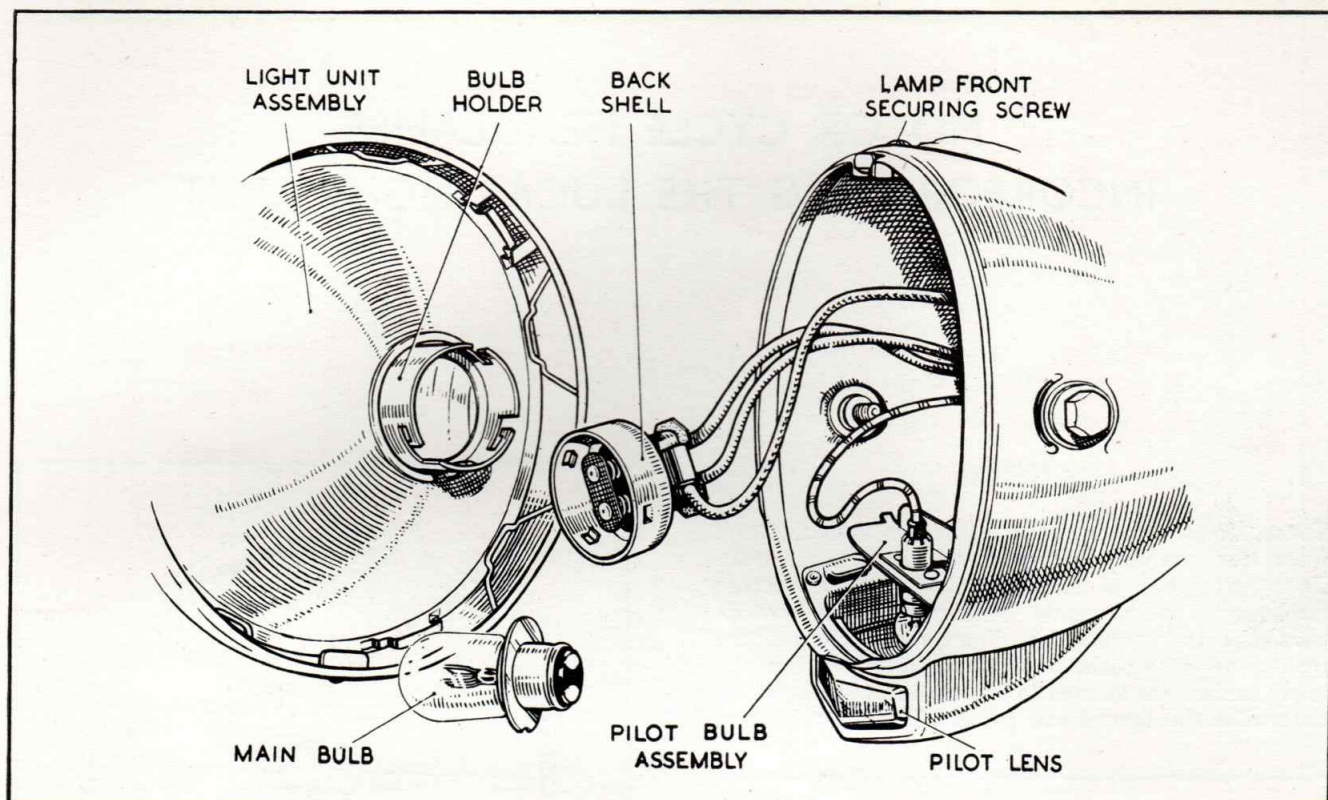


Fig. 3. Lamp with pre-focus bulb and underslung pilot.

headlamp. The bulb is cylindrical in shape so as to reduce the overall diameter to a minimum, an important feature where, as in this type of lamp, the bulb is fitted through an aperture in the rear of the reflector. The bulb has a large cap, of the same diameter as those on domestic bulbs, but instead of being located by the usual bayonet fixing, the cap is carried on a flange accurately positioned in relation to the filament during manufacture. A slot in the flange engages with a projection on the inside of the bulb holder at the back of the reflector, thus ensuring correct positioning of the filament. A bayonet fitting cap with spring-loaded contacts secures the bulb firmly in position and also carries the supply to the bulb contacts.

2. FOCUSING

As explained above, focusing is unnecessary on lamps fitted with pre-focus bulbs.

Earlier type lamps fitted with the small bayonet cap bulb and sliding bulb holder must be focused so that, when the main driving beam is switched on, a uniform beam without any dark centre is given. If the bulb needs adjusting, remove the lamp front and Light Unit assembly as described below, and slacken the

bulb holder clamping clip. Move the bulb backwards and forwards until the correct position is obtained, and then tighten the clamping clip.

3. SETTING

In overseas markets, lamps must be set to comply with local lighting regulations.

Ministry of Transport Lighting Regulations (United Kingdom).

The Lighting Regulations state that a lighting system must be arranged so that it can give a light which is 'incapable of dazzling any person standing on the same horizontal plane as the vehicle at a greater distance than twenty-five feet from the lamp, whose eye level is not less than three feet six inches above that plane'. (This regulation applies equally to any other lamps mounted on the front of the motorcycle, such as spot lights and foglamps). The headlamp must therefore be set so that the main beam is directed straight ahead and parallel with the road when the motorcycle is fully loaded.



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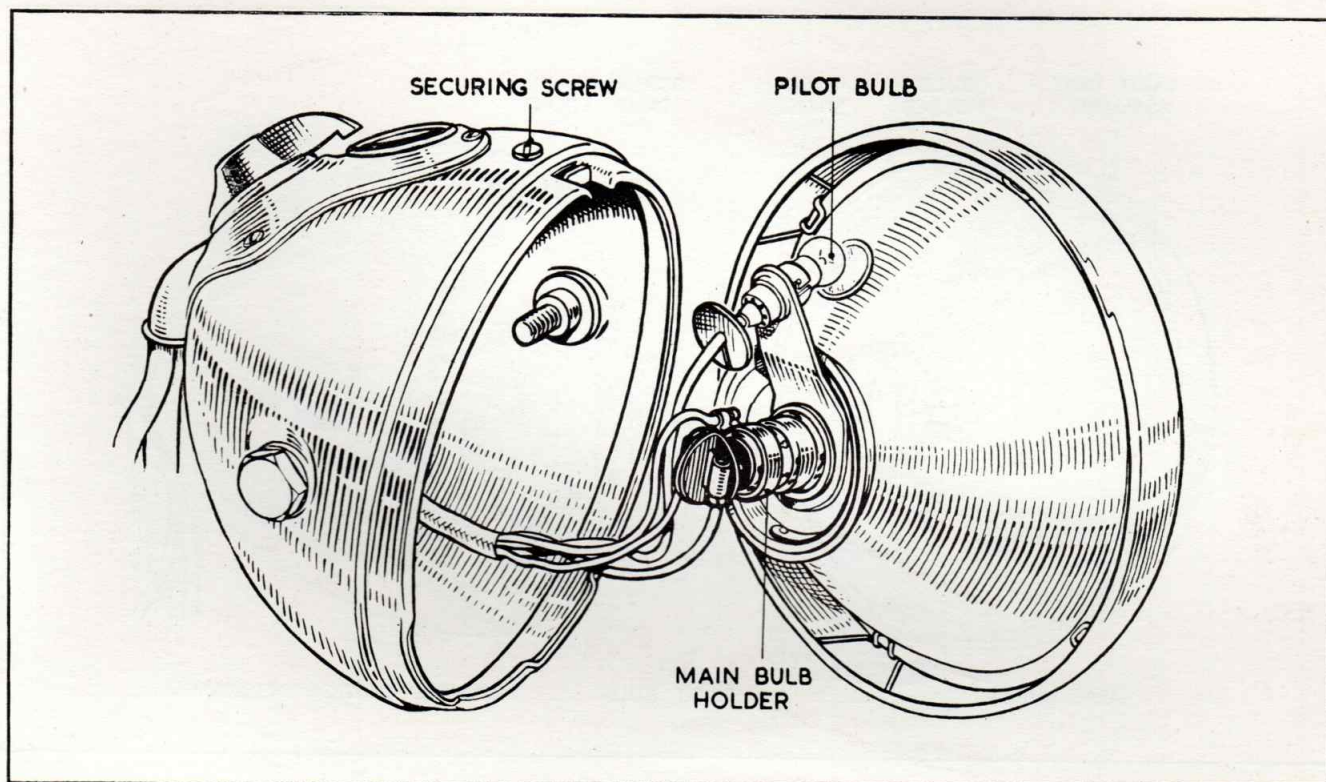


Fig. 4. Lamp with S.B.C. main bulb.

4. REMOVAL OF FRONT RIM AND LIGHT UNIT

Slacken the securing screw on the top of the lamp body and remove the front rim and Light Unit assembly.

5. BULB RENEWAL

When fitting a main headlamp bulb, care must be taken that the dipped beam filament is above the main beam filament. To assist, bulbs are often marked TOP on the metal cap. With most lamps using prefocus bulbs, there is only one location for the bulb, thus ensuring correct positioning.

(a) Lamps with prefocus main bulb.

The bulb is made accessible by removal of the backshell.

To do this, twist the backshell in an anticlockwise direction and pull it off. The bulb can now be removed from its locating sleeve on the rear of the reflector.

Fit the correct replacement bulb. Engage the projections on the inside of the back shell with the slots in locating sleeve, press on and secure by twisting clockwise.

(b) Lamps with S.B.C. main bulb.

Detach the bulb holder, held in position by two spring loaded pegs, when the bulb can be removed.

Fit the new bulb in the correct position and refit the bulb holder to the reflector.

(c) Pilot Lights.

On lamps with underslung pilot lights, the bulb is carried on a small metal plate which can be slid to the rear and withdrawn. On other lamps, the pilot bulb is carried on a bracket on the main bulb backshell.

6. RENEWAL OF LIGHT UNIT

In the event of damage to either the front lens or reflector, a replacement Light Unit must be fitted.

To do this remove the Light Unit and rim, twist off the backshell and withdraw the bulb from the locating



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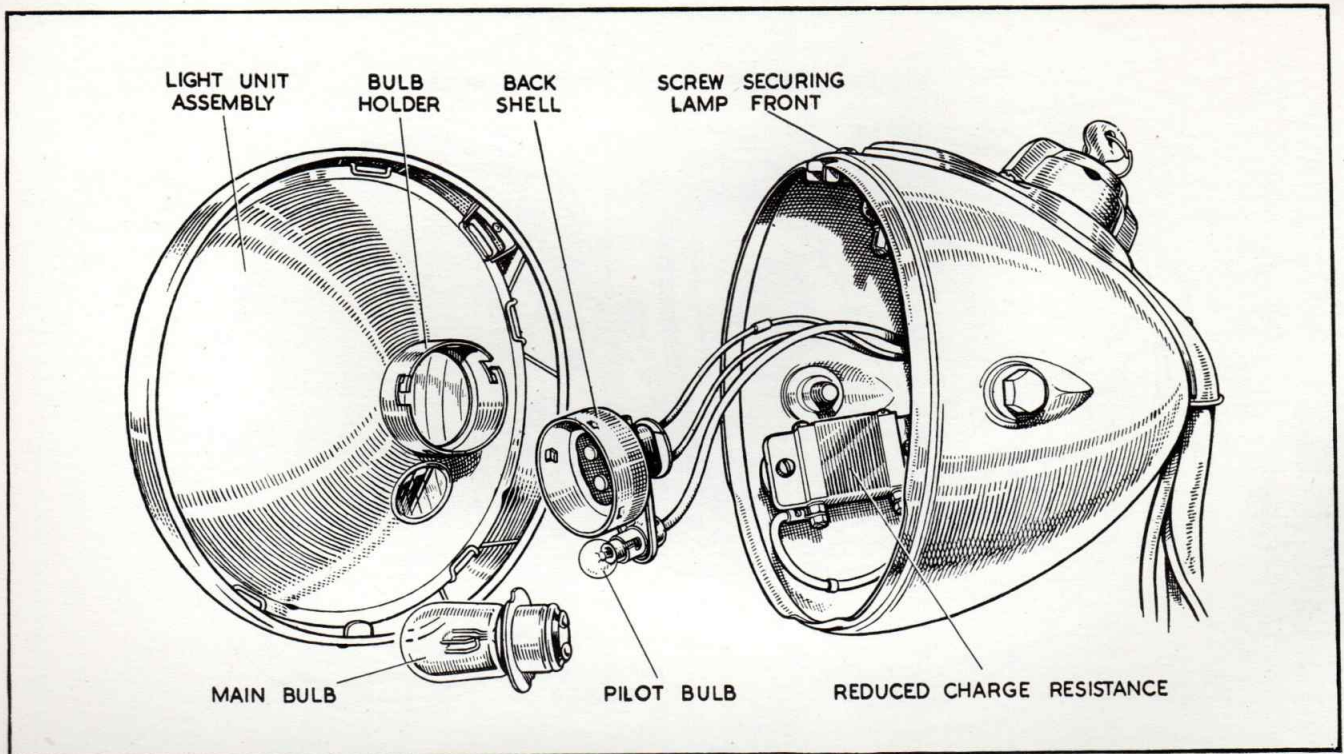


Fig. 5. Lamp used with IA45 Alternator sets.

sleeve. Disengage the Light Unit securing springs from the rim and lift out the Light Unit. Position the new unit in the rim so that the word TOP on the lens is correctly located when the assembly is mounted on the lamp body. Refit the securing springs, spaced equally around the rim. Replace the bulb, back shell and Light Unit and rim.

7. REFITTING LIGHT UNIT AND FRONT RIM ASSEMBLY

Locate the bottom of the Light Unit and front rim assembly in the lamp body. On most lamps a metal tongue on the inside of the rim is located in a slot on the lower edge of the body. Press the front on, and secure by tightening the securing screw at the top of the lamp.

