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Sealed Beam Headlamp Assembly — SAE J580b

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SAE STANDARD
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SEALED BEAM HEADLAMP ASSEMBLY—SAE J580b

SAE Standard

Report of Lighting Committee approved March 1960 and last revised February 1974.

1. Scope—This standard applies to the design of sealed beam headlamp assemblies including the functional parts, except the sealed beam units which are covered in SAE J579.

2. Definitions

2.1 Sealed Beam Headlamp Assembly—A major lighting assembly which includes one or more sealed beam units used to provide general illumination ahead of the vehicle.

2.2 Mounting Ring—The adjustable ring upon which the sealed beam unit is mounted.

2.3 Retaining Ring—The clamping ring that holds the sealed beam unit against the mounting ring.

2.4 Aiming Screws—Horizontal and vertical adjusting screws with self-locking features used to aim and retain the headlamp unit in the proper position.

3. Reference Standards—The following sections from SAE J575 are a part of this standard:

3.1 Section B—Samples for Test
3.2 Section D—Laboratory Facilities
3.3 Section E—Vibration Test
3.4 Section H—Corrosion Test

4. Dimensional Specifications—The mounting ring and retaining ring shall comply with SAE J571, Figs. 2 and 5.

5. General Requirements

5.1 Headlamps shall be designed so that they may be inspected and aimed by mechanical aimers as specified in SAE J602 without the removal of any ornamental trim rings or other parts.

5.2 When in use, a headlamp shall not have any styling ornament or other feature, such as a glass cover or grille, in front of the lens.

6. Design Requirements and Tests—Unless otherwise specified, the following are laboratory tests in which the sealed beam headlamp assembly shall be mounted in design position with the sealed beam unit set at nominal aim (0,0).

6.1 Aiming Adjustment Test—When making the aiming adjustment test, an accurate measurement technique shall be used. A device attached to the sealed beam unit such as a spot projector, or replacing the sealed beam unit with a mirror with a separate light source, or other accurate means can be used.

6.1.1 When the headlamp assembly is tested in the laboratory, a minimum aiming adjustment of ±4.0 deg shall be provided in both the vertical and horizontal planes.

6.1.2 On headlamp assemblies with independent vertical and horizontal aiming screws, the adjustment shall be such that when tested in the laboratory neither the vertical nor horizontal aim shall deviate more than 4.0 in (102 mm) from horizontal or vertical planes respectively at a distance of 25 ft (7.6 m) through an angle of ±4 deg.

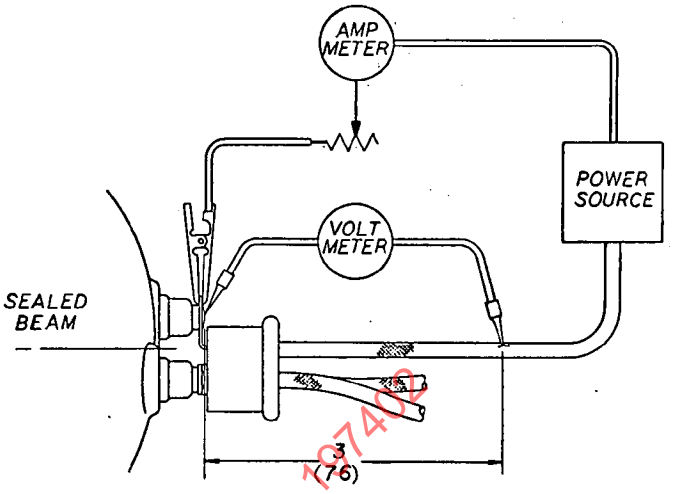
6.1.3 The self-locking devices used to hold aiming screws in position shall continue to operate satisfactorily at least for 20 adjustments on each screw, over a length of screw thread of ±⅛ in (3.2 mm).

NOTE: Paragraphs 6.1.2 and 6.1.3 are not applicable to lamps with ball and socket or equivalent adjusting means.

6.2 Inward Force Test—The mechanism, including the aiming adjusters, when subjected to an inward force of 50 lb (222 N) directed normal to the headlamp aiming plane and symmetrically about the center of the sealed beam unit face shall meet the following requirements:

6.2.1 The sealed beam unit shall not permanently recede by more than 0.1 in (2.5 mm).

6.2.2 The aim of the sealed beam unit shall not permanently deviate by more than 1.25 in (3.2 mm) at a distance of 25 ft (7.6 m).



NOTE: DIMENSIONS ARE IN (mm)

FIG. 1—CONNECTOR TEST

6.3 Retaining Ring Tests—Positive means shall be provided for holding the sealed beam unit to the mounting ring.

6.3.1 The fastening means shall be deemed adequate if it will withstand and hold the sealed beam unit securely in its proper position at the end of 20 replacements.

6.3.2 When a unit having a flange thickness of 0.465 in (11.8 mm) is secured between the retaining ring and the mounting ring, it shall be held tight enough that it will not rattle.

6.4 Connector Tests—Measure voltage drop as shown in Fig. 1.

6.4.1 The voltage drop shall not exceed 40 mV with a 10 A load.

6.5 Torque-Deflection Test—The headlamp assembly to be tested shall be mounted in designed vehicle position and set at nominal aim (0,0). The sealed unit shall be replaced by the deflectometer (Fig. 2) and a reading on the thumb wheel shall be taken. A torque of 20 lb-in (2.25 N·m) shall be applied to the headlamp assembly through the deflectometer and a second reading on the thumb wheel shall be taken.

6.5.1 The difference between the two readings shall not exceed 0.25 deg.

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