NOTICE OF ADOPTION

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TITLE OF DOCUMENT: Sealed Beam Headlamp Assembly

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HIGHWAY VEHICLE STANDARD

an American National Standard

SAE J580

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Ø SEALED BEAM HEADLAMP ASSEMBLY

1. SCOPE: This standard applies to the design and testing of sealed beam headlamp assemblies, including the functional parts which are mounted on the exterior of a vehicle. The standard does not apply to sealed beam units which are covered in SAE J571, J579, and J1132.

2. DEFINITIONS:

2.1 Sealed Beam Headlamp Assemby: 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. LIGHTING IDENTIFICATION CODE: Sealed beam headlamp assemblies for use on vehicles may be identified by the code "HH" in accordance with SAE J759, Lighting Identification Code.

4. TEST PROCEDURES:

4.1 SAE J575: Tests for Motor Vehicle Lighting Devices and Components is a part of this report. The following tests are applicable:

4.1.1 Vibration Test

4.1.2 Corrosion Test

4.2 Aiming Adjustment Test: When making the aiming adjustment test, an accurate measurement technique shall be used. This may consist of: a) attaching a device such as a spot projector to the sealed beam unit; or b) replacing the sealed beam unit with a mirror having a separate light source; or c) other equally accurate means.

When conducting the test, the headlamp assembly shall be mounted in the design position with the unit at nominal aim (0,0).

4.3 Inward Force Test: The mechanism, including the aiming adjusters, shall be subjected to an inward force of 222 N directed normal to the headlamp aiming plane and symmetrically about the center of the sealed beam unit face.

4.4 Connector Tests: Effectiveness of the connector shall be tested by measuring the voltage drop in accordance with Figure 1 when a 10A. load is applied.

4.5 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 appropriate deflectometer (Figures 2, 3, and 4). A torque of 2.25 Nm shall be applied to the headlamp assembly through the deflectometer and a reading on the thumbwheel shall be taken. The torque shall then be removed and a second reading on the thumbwheel shall be taken.

5. REQUIREMENTS:

5.1 Performance Requirements:

5.1.1 SAE J575: Sealed beam headlamp assemblies shall meet requirements in SAE J575 for the following conditions:

5.1.1.1 Vibration

5.1.1.2 Corrosion

5.1.2 Aiming Adjustment Requirements: When tested in accordance with paragraph 4.2, the unit shall meet the following requirements:

5.1.2.1 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.

5.1.2.2 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 100 mm from horizontal or vertical planes, respectively, at a distance of 7.6 m through an angle of ±4.0 deg.

5.1.2.3 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 not less than 3 mm.

Note: Paragraphs 5.1.2.2 and 5.1.2.3 are not applicable to lamps with ball and socket or equivalent adjusting means.

5.1.3 Inward Force Requirements: When subjected to the tests in paragraph 4.3, the unit shall meet the following requirements:

5.1.3.1 The sealed beam unit shall not permanently recede by more than 2.5 mm.

5.1.3.2 The aim of the sealed beam unit shall not permanently deviate by more than 3.2 mm at a distance of 7.6 m.

5.1.4 Connector Requirements: When tested in accordance with paragraph 4.4, the voltage drop shall not exceed 40 mV.

5.1.5 Torque Deflection Requirement: When subjected to the tests in paragraph 4.5, the difference between the two readings shall not exceed 0.30 deg.

5.1.6 Retaining Ring Requirements: Positive means shall be provided for holding the sealed beam unit to the mounting ring.

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.

When a unit having a flange thickness (shown below) is secured between the retaining ring and the mounting ring, it shall be held tight enough that it will not rattle:

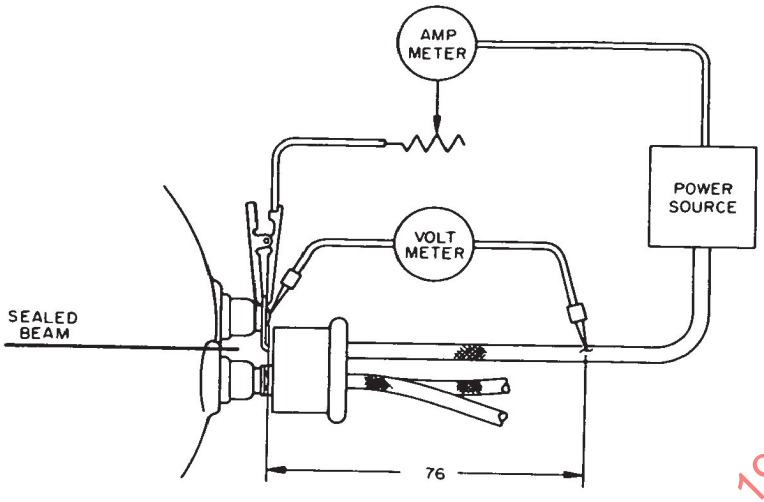
	Flange Thickness
146 mm	11.8 mm
178 mm	11.8 mm
100 x 165 mm	31.5 mm
142 x 200 mm	10.1 mm

5.2 Design Requirements:

5.2.1 Dimensional Requirements: The mounting ring and retaining ring shall comply with SAE J571, Figures 2,5, and 8, SAE J1132, Figure 2.

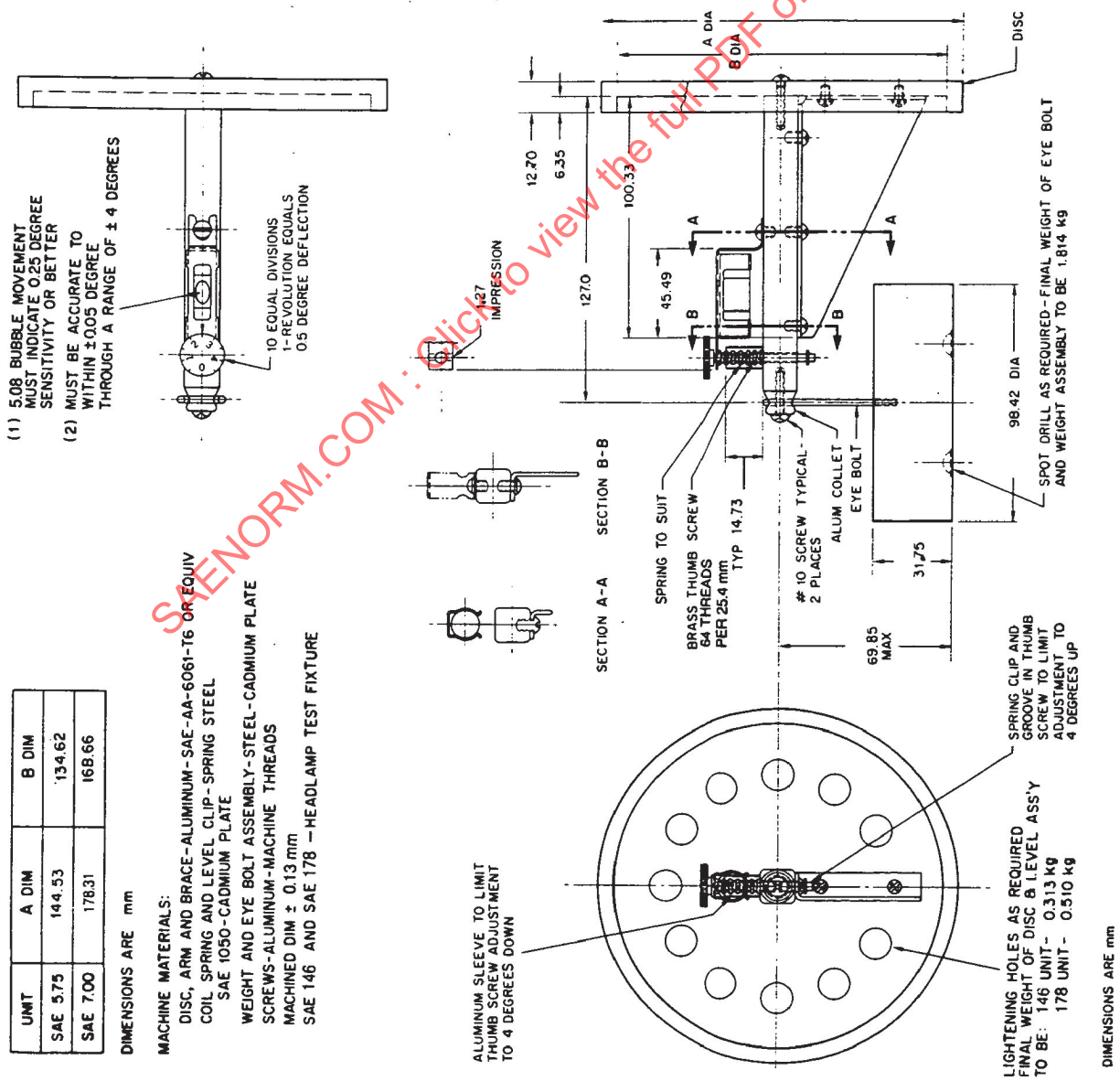
5.2.2 Aimer Compatability: Headlamps shall be designed and installed so that they may be inspected and aimed by mechanical aimers as specified in SAE J602 without the removal of any ornamental trim rings or other parts.

6. GUIDELINE: 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.



NOTE: DIMENSIONS ARE mm

FIG. 1 - CONNECTOR TEST



UNIT	A DIM	B DIM
SAE 5.75	144.53	134.62
SAE 7.00	178.31	168.66

DIMENSIONS ARE mm

MACHINE MATERIALS:
DISC, ARM AND BRACE-ALUMINUM-SAE-AA-6061-T6 OR EQUIV
COIL SPRING AND LEVEL CLIP-SPRING STEEL SAE 1050-CADMIUM PLATE
WEIGHT AND EYE BOLT ASSEMBLY-STEEL-CADMIUM PLATE
SCREWS-ALUMINUM-MACHINE THREADS
MACHINED DIM ± 0.13 mm
SAE 146 AND SAE 178 - HEADLAMP TEST FIXTURE

FIG. 2 - DEFLECTOMETER

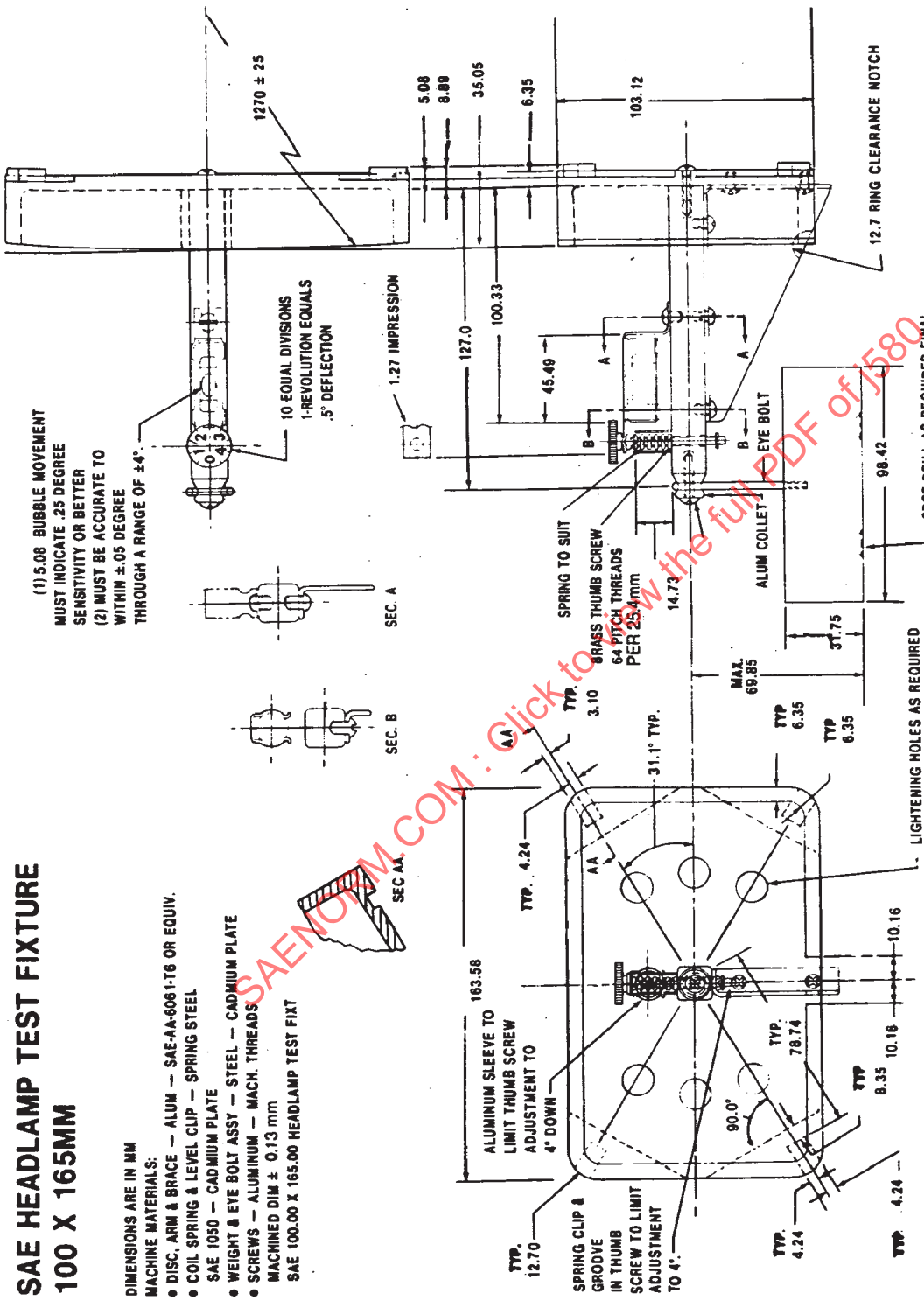


FIG. 3 - DEFLECTOMETER

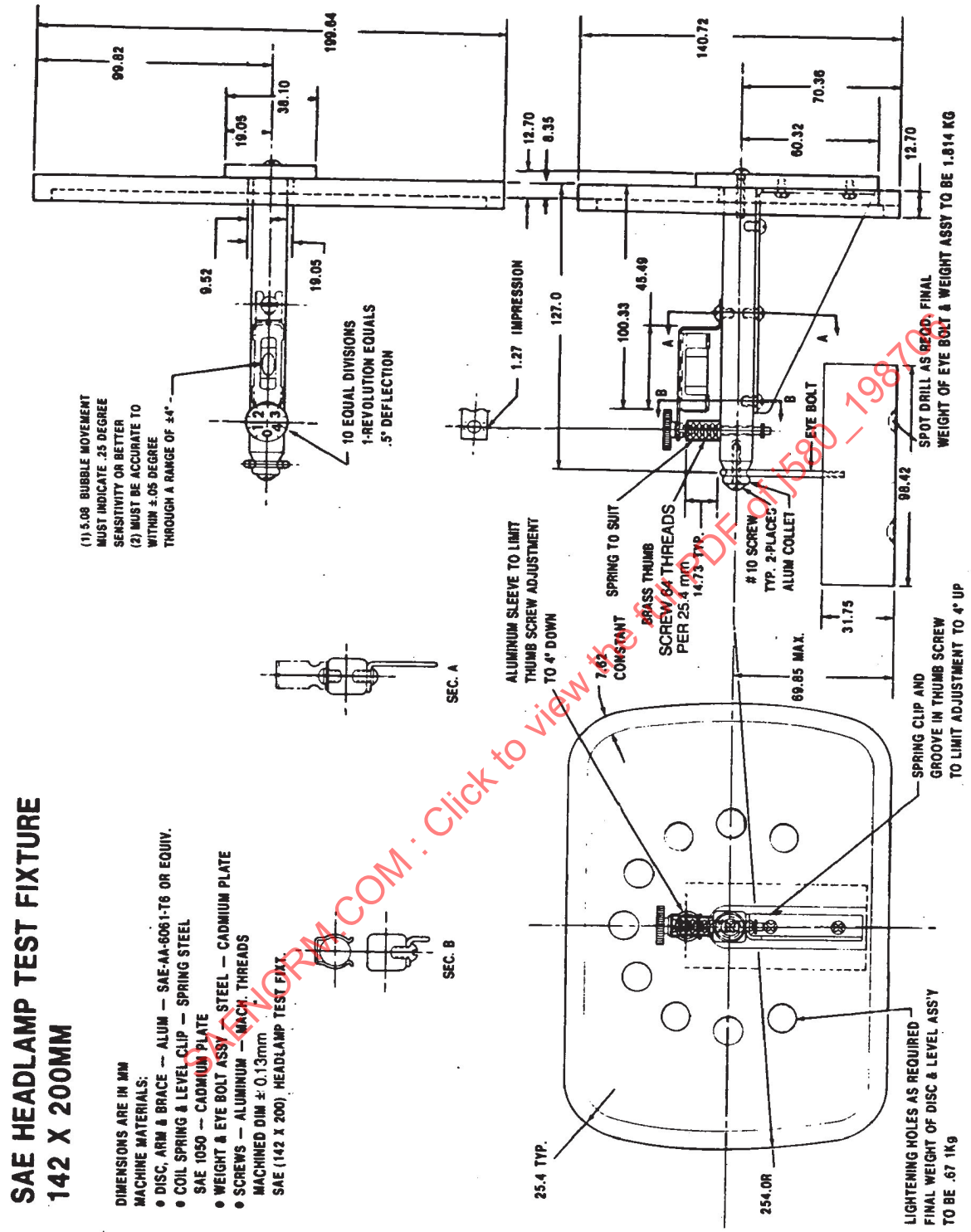


FIG. 4 - DEFLECTOMETER