

Submitted for recognition as an American National Standard

## ALL-TERRAIN VEHICLE HEADLAMPS

**Foreword**—This Document has not changed other than to put it into the new SAE Technical Standards Board format.

1. **Scope**—This SAE Recommended Practice provides test procedures and performance requirements for all-terrain vehicle headlamps.

### 2. References

2.1 **Applicable Publication**—The following publication forms a part of this specification to the extent specified herein.

2.1.1 SAE PUBLICATION—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J575 JUL83—Tests for Motor Vehicle Lighting Devices and Components

### 2.2 Definitions

2.2.1 ALL-TERRAIN VEHICLE (ATV)—An all-terrain vehicle is any motorized off-highway vehicle 1270 mm (50 in) or less in overall width, with an unladen dry weight of 275 kg (600 lb) or less, designed to travel on four low-pressure tires, having a seat designed to be straddled by the operator and handlebars for steering control, and intended for use by a single operator and no passenger. Width and weight shall be exclusive of accessories and optional equipment.

2.2.2 ALL-TERRAIN VEHICLE (ATV) HEADLAMP—An all-terrain vehicle headlamp is one or more lamps used as the major lighting device to provide general illumination ahead of an all-terrain vehicle.

### 3. General Requirements

3.1 If multiple headlamps are used to meet this document, the combination of lamps, as mounted on the ATV, shall meet the requirements when treated as one lamp.

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3.2 The following sections from SAE J575 JUL83 are a part of this document:

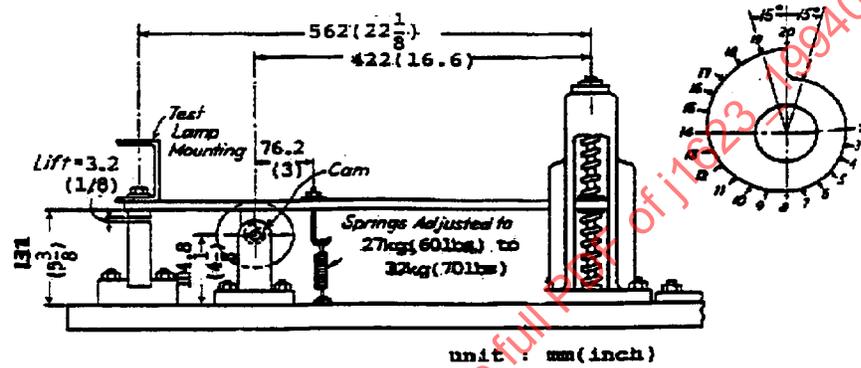
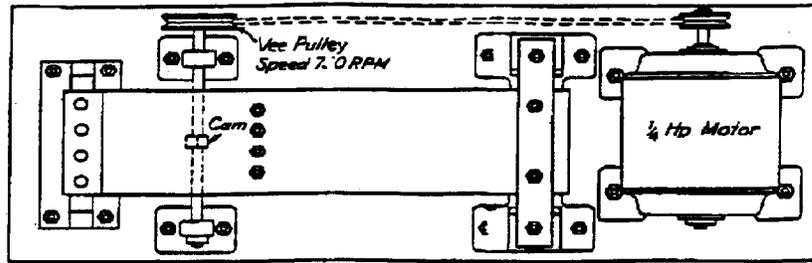
- a. Section 2—Samples for Tests
- b. Section 2.2—Bulbs
- c. Section 3—Laboratory Facilities
- d. Section 4.2—Moisture Test
- e. Section 4.3—Dust Test
- f. Section 4.4—Corrosion Test
- g. Section 4.6—Photometry Test
- h. Section 4.8—Warpage Test on Devices With Plastic Components

#### 4. *Vibration Test*

- 4.1 **Scope**—This test evaluates the ability of the sample device to resist damage from vibration-induced stresses. This test is not intended to test the vibration resistance of bulbs or the internal components of sealed-beam units.
- 4.2 **Test Equipment**—Illustrations giving the essential arrangement and dimensions for a test machine is satisfactory for the vibration test required are shown in Figure 1. Any vibration test machine which provides the displacement and frequency specified may be used.
- 4.3 **Test Procedure**—A sample unit shall be mounted to a vibration test machine and vibrated 12.5 Hz through a distance of 3.2 mm.
- 4.4 **Test Duration**—The test shall be continuous for 1 h.
- 4.5 **Requirements**—Upon completion of test procedure 4.3 and 4.4, any unit showing evidence of material physical weakness, lens or reflector rotation, displacement, cracking or rupture of parts except bulb failure(s), shall be considered to have failed. Any rotation of a lens or reflector that occurs does not constitute failure of the test if the device still meets the photometric requirements with the component(s) in their rotated, post-vibration test position.

#### 5. *Photometric Test*

- 5.1 **Scope**—This test evaluates the ability of the headlamp or headlamps to meet the applicable luminous intensity requirements in Tables 1 and 2.
- 5.2 **Beam Aim**—If the test unit is equipped with upper- and lower-beam patterns, the upper beam shall be aimed so that the center of the zone of highest intensity falls at 1/2D-V. If the test unit has a single beam, the beam shall be aimed so that the zone of highest intensity falls at 1-1/2D-V. The center of the zone of highest intensity shall be established by the intersection of a horizontal plane passing through the point of maximum intensity, and the vertical plane established by balancing the photometric values at 3 degrees left and 3 degrees right.
- 5.3 **Requirements**—The headlamp shall be operated at its designed voltage during the photometric test. When treated as one lamp, the beam or beams from the headlamp shall be designed to conform to the applicable luminous intensity requirements in Tables 1 and 2, measured by a photometer positioned at least 18 m from the headlamp. A tolerance of 0.25 degree in location may be allowed for any test point.



CAM PROFILE RADII

Point	Radius mm (in)						
1	12.70 (0.5000)	6	13.98 (0.5504)	11	15.96 (0.6284)	16	17.94 (0.7064)
2	12.70 (0.5000)	7	14.38 (0.5660)	12	16.36 (0.6440)	17	18.34 (0.7220)
3	12.92 (0.5088)	8	14.77 (0.5816)	13	16.75 (0.6596)	18	18.74 (0.7376)
4	13.19 (0.5192)	9	15.17 (0.5972)	14	17.15 (0.6752)	19	18.96 (0.7466)
5	13.58 (0.5348)	10	15.57 (0.6128)	15	17.55 (0.6908)	20	19.05 (0.7500)

The cam width is to be between 12.70 mm (1/2 in) and 25.40 mm (1 in).

FIGURE 1—VIBRATION TEST MACHINE

TABLE 1—UPPER BEAM

Test Point (degrees)	Intensity (cd)
H-V	3000 min
1/2D-V	10 000 min
1/2D-3L & R	3000 min
1/2D-6L & R	750 min
1D-V	5000 min
2D-V	2500 min
3D-V	1500 min
3D-6L & R	400 min
4D-V	5000 max
Any	75 000 max

TABLE 2—LOWER BEAM OR SINGLE BEAM

Test Point (degrees)	Intensity (cd)
1/2U-2L & R	2500 max
1/2U-4L & R	2000 max
2D-V	2500 min
3D-4L & R	1500 min
3D-6L & R	750 min

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