

Lighting and Marking of Agricultural Equipment on Highways —SAE J137c

SAE Standard
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THIS IS A PREPRINT AND WILL
APPEAR IN THE NEXT EDITION
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Society of Automotive Engineers, Inc.
400 COMMONWEALTH DRIVE, WARRENDALE, PA. 15096



PREPRINT

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ERRATA SHEET FOR PREPRINT
OF SAE J137c

second sentence under title should be changed to read:

Conforms to ASAE S279.7.

Section 3.1.6 - last sentence should be changed to read:

The SMV emblem or mounting means shall be affixed as near to the rear and center, or to left of center, of the vehicle as practicable and unobscured.

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Report of Tractor Technical Committee approved February 1970 and last revised June 1977. Conforms to ASAE S279.4. Rationale statement available.

1. **Purpose**—To provide specifications for lighting and marking of agricultural equipment whenever such equipment is operated or traveling on a highway.

2. Definitions

2.1 **Agricultural Equipment**—Agricultural tractors, self-propelled implements, implements and combinations of tractor or self-propelled implements, and implements designed primarily for use in agricultural operations.

2.2 **Propelling Vehicles**—Tractors or self-propelled units.

2.3 **Towed, Semimounted, and Mounted Equipment**—Implements or equipment used in conjunction with propelling vehicles defined in paragraph 2.2.

2.4 **Highway**—The entire width between the boundary lines of every way publicly maintained, when any part thereof is open to the use of the public for purposes of vehicular travel (Uniform Vehicle Code).

2.5 **Reflectors**—In this Standard, reflectors are defined as reflex reflectors (SAE J594), or reflective material that shall be visible at night from all distances within 182.9–30.5 m (600–100 ft), when directly in front of lawful lower beams of headlamps. Reflective material shall meet the durability requirements for such material as specified in SAE J943.

3. Lighting and Marking Requirements

3.1 Lighting and marking for equipment defined in paragraph 2.2 shall include the following:

3.1.1 At least two headlamps conforming to SAE J975, and mounted at the same level and as widely spaced laterally as practicable. Lamps projecting a trapezoidal light pattern and mounted at a height of 2.1 m (7 ft) or less shall be aimed so that the top of the beam is at least 1 deg below lamp center level but not more than 4 deg below lamp center level, and centered laterally. Such lamps mounted above 2.1 m (7 ft) high shall be aimed so that the top of the beam is at least 6 deg below lamp center level and centered laterally. Lamps projecting a general flood pattern of light shall be aimed downward to provide illumination close to the vehicle.

3.1.2 At least one red tail lamp, conforming to SAE J976 or the test specification section of SAE J585, mounted to the rear of the vehicle as far to the left as practicable. If two tail lamps are used, the second shall be mounted to the rear of the vehicle as far to the right as practicable.

3.1.3 At least two amber flashing warning lamps, conforming to SAE J974, Flashing Warning Lamp for Agricultural Equipment, as symmetrically mounted and as widely spaced laterally as practicable, visible from both front and rear, mounted at least 1.1 m (42 in) high as measured to the lamp axis. Lamps shall flash in unison at a rate of 60–85 flashes per min.

3.1.4 The flashing warning lamps may be used as turn indicators. When a turn is to be signaled, the flashing light opposite the direction of the turn shall become steady burning until such time that the turn signal is cancelled. The flashing lamp in the direction of turn shall increase its flashing rate a minimum of 20 flashes/min but not to exceed 110 flashes/min until such time as the turn signal is cancelled.

3.1.5 At least two red reflectors visible to the rear and mounted to indicate, as nearly as practicable, the extreme left and extreme right projections. Reflectors may be incorporated as part of lensing in tail lamps described in paragraph 3.1.2.

3.1.6 One SMV (slow moving vehicle) emblem as described in SAE J943 or means for mounting the SMV emblem, such as a mounting socket as described in SAE J725. The SMV emblem or mounting means shall be affixed as near to the rear and center of the vehicle as practicable.

3.1.7 Seven terminal breakaway connector as required in paragraph 3.4.3.

3.2 Marking for equipment defined in paragraph 2.3, and extending more than 1.2 m (4 ft) to the left of the center of the propelling vehicle, shall be as follows:

3.2.1 At least one amber reflector visible to the front and positioned to indicate, as nearly as practicable, the extreme left projection of the implement or equipment.

3.3 Marking for equipment defined in paragraph 2.3, and (1) extending more than 1.2 m (4 ft) to the rear of the hitch point of the propelling vehicle, or (2) more than 1.2 m (4 ft) to the right or left of the centerline of the propelling vehicle, shall be as follows:

3.3.1 At least two red reflectors visible to the rear and mounted to indicate, as nearly as practicable, the extreme left and extreme right projections.

3.4 Lighting and marking for equipment defined in paragraph 2.3, which obscures the effective illumination of any flashing warning lamp on the propelling vehicle should be as follows:

3.4.1 At least two amber flashing warning lamps, conforming to SAE J974, Flashing Warning Lamp for Agricultural Equipment, as symmetrically mounted and as widely spaced laterally as practicable and as far to the rear as practicable, visible from both front and rear, mounted at least 1.1 m (42 in) high as measured to the lamp axis. Lamps shall flash in unison with the propelling vehicle as described in paragraph 3.1.3.

3.4.2 The amber flashing warning lamps may be used as turn indicators as described in paragraph 3.1.4.

3.4.3 Means for operating the remote amber flashing warning lamps shall include; a seven terminal breakaway connector conforming to SAE J560, Seven Conductor Electrical Connector for Truck Trailer Jumper Cable, except the receptacle with cover shall be mounted on the propelling machine, cable plug, and adequate length of cable conforming to the pulling force requirements in SAE J560 routed to each flashing lamp. Using the connector identifications defined in SAE J560, the connector wiring circuits are listed below.

Conductor Identification	Wire Color	Lamp and Signal Circuit
Wht	White	Ground
Blk	Black	Work Lights
Yel	Yellow	Left-Hand Flashing and Turn Signal
Red	Red	Auxiliary
Grn	Green	Right-Hand Flashing and Turn Signal
Brn	Brown	Taillights
Blu	Blue	Auxiliary

3.5 Marking for equipment defined in paragraph 2.3, of such size as to obscure the SMV emblem on the propelling vehicle, shall be as follows:

3.5.1 One SMV (slow-moving vehicle) emblem as described in SAE J943 or means for mounting the SMV emblem, such as a mounting socket as described in SAE J725. The SMV emblem or mounting means shall be affixed as near to the rear and center or to the left of center of the equipment as practicable.