



SURFACE VEHICLE RECOMMENDED PRACTICE

J2039™

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Superseding J2039 AUG2020

(R) Side Turn Signal Lamp for Long Vehicles

RATIONALE

Eliminated Table of Contents.

Modified scope for harmonization with UN.

Moved SAE J387 from 2.1.1 to 2.2.1.

Eliminated SAE J567. Old reference no longer used.

Updated addresses and websites to respective reference organizations.

Added definition of Side Turn Signal Function and edited definition of Side Turn Signal Lamp for Long Vehicles for consistency with other SAE documents.

Relocated note for SAE J1889 to 5.1.5.3 for consistency with other SAE documents.

Modified 5.1.5.1 to use 3.05 m for consistency with other documents.

Edited 5.1.5.3 and 5.1.5.4 for clarity.

Subsections in 5.1.5.4.2 were added because the measurement of flashing incandescent or other sources that don't apply PWM are able to be measured appropriately using the "peak candela" value being equal (more or less depending on heat soaking, etc.) to the "steady state" candela. This is basically like a lamp using a timed relay to turn it on and off. However, when using PWM, the "peak candela" can be magnitudes higher than the "average" value that we generally consider to be the "steady state" value of the PWM signal. An example is a flashing LED source with a 100 Hz (the frequency is not important) and a 10% duty cycle (important). Let's say the "peak" value, similar to the 100% duty cycle version of this source (truly "on") may be 100 cd. This means each "pulse" has a peak value of 100 cd. However, the "perceived peak" value of the source at a 10% duty cycle would basically be the equivalent PWM value measured during the "on-time" (On phase) of the flash, which would be 10 cd. The PWM "average" during the "flash" on-time should be reported, not the individual "peaks" of each PWM cycle. The "PWM Average" during the "On phase" of the flash will be correct whether it is 100% duty cycle or any other duty cycle. The suggested frequency is 300 HZ to try to avoid the human-perception problems caused by temporal light modulation/flicker.

Revised 5.1.6 title to "Warping Test."

Modified 5.3 from "lamp" to function to align with the new definitions and for consistency with other SAE documents.

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Edited 6.1.5.1 for clarity.

Edited 6.1.5.2 for clarity.

Integrated 6.2 SAE J1889 requirements into 6.1 and renumbered the following sections.

Renumbered 6.5 to 6.4.

Renumbered 6.5.1 and edited wording for clarification.

Reworded 6.4.1 for simplicity and alignment with other SAE documents.

Added 6.4.2 for better alignment with other SAE documents.

Modified wording in 6.5.1 for clarity and alignment with other SAE documents.

Modified 6.5.2 to clarify visibility requirements and define a minimum intensity requirement. A quantitative value of 0.3 cd was assigned to eliminate the ambiguity of a lamp being “visible”; the value was selected to align with visibility requirements defined in SAE J588.

Updated Figure 1 for legibility, and eliminated footnotes 5 and 7 as redundant.

Updated Figure 2 for legibility.

Removed Appendix as it is no longer needed.

1. SCOPE

This SAE Recommended Practice provides test procedures, requirements, and guidelines for side turn signal lamps intended for use on vehicles 12 m or more in overall length, except pole trailers. Side turn signal lamps conforming to the requirements of this document may be used on other large vehicles such as trucks, truck tractors, buses, and other applications where this type of lighting device is desirable.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 1-877-606-7323 (U.S. and Canada only) or 1-724-776-4970 (outside U.S. and Canada), www.sae.org.

SAE J576	Plastic Material or Materials for Use in Optical Parts Such as Lenses and Reflex Reflectors of Motor Vehicle Lighting Devices
SAE J578	Chromaticity Requirements for Ground Vehicle Lamps and Lighting Equipment
SAE J588	Turn Signal Lamps for Use on Motor Vehicles Less than 2032 mm in Overall Width
SAE J759	Lighting Identification Code
SAE J914	Side Turn Signal Lamps for Vehicles Less than 12 m in Length

SAE J1690	Flashers
SAE J1889	LED Signal and Marking Lighting Devices
SAE J2139	Tests for Signal and Marking Devices Used on Vehicles 2032 mm or More in Overall Width
SAE J2261	Stop Lamps and Front- and Rear-Turn Signal Lamps for Use on Motor Vehicles 2032 mm or More in Overall Width

2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this SAE Recommended Practice.

2.2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 1-877-606-7323 (U.S. and Canada only) or 1-724-776-4970 (outside U.S. and Canada), www.sae.org.

SAE J387	Terminology - Motor Vehicle Lighting
SAE J2042	Clearance, Sidemarker, and Identification Lamps for On-Road Vehicles 2032 mm or More in Overall Width

2.2.2 TMC Publications

Available from the Technology and Maintenance Council, American Trucking Associations, 80 M Street, Suite 800, Washington, DC 20003, Tel: 703-838-1763, <https://tmc.trucking.org>.

TMC #AV7-1	Heavy-Duty Lighting Systems for Trailers
TMC #RP-702C	Trailer Lamp and Reflector Placement
TMC #RP-704C	Heavy-Duty Lighting Systems for Trailers

2.2.3 TTMA Publications

Available from TTMA, 7001 Heritage Village Plaza, Suite 220, Gainesville, VA 20155, Tel: 703-549-3010, <https://www.trucktrailer.org>.

TTMA #RP-9	Location of Lighting Devices for Trailers
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3. DEFINITIONS

3.1 SIDE TURN SIGNAL LAMP FOR LONG VEHICLES

A side-mounted device providing the turn signal function.

Side turn signal lamps are supplemental to front- and rear-mounted turn signal lamps (front and rear direction indicator lamps) described in SAE J588 or SAE J2261.

3.2 SIDE TURN SIGNAL FUNCTION

A flashing light to the side of the vehicle toward which the vehicle operator intends to turn or maneuver. The side turn signal light expands the range of lateral angles from which other traffic participants can see the indicated intent to turn or change lanes, beyond the angles where the vehicle's front and rear turn signals can be seen.