

ANSI/SAE S279.12 DEC02 Lighting and Marking of Agricultural Equipment on Highways

NOTE: this chart is for reference purposes only - please refer to the standard for full requirements.

(Changes from ANSI/SAE S279.10 OCT98 are highlighted in yellow - see page 3 for explanation)

(changes from ANSI/SAE S279.11 APR01 are shown in red - see page 3 for explanation)

Table A: Self-propelled equipment

ITEM	Clause	SPEC.	QUANTITY			VERTICAL POSITION		LATERAL SPACING		TO EXTR.	NOTES
			min	req'd	max	min	max	min	max		
1. Equipment up to 3.7 m (12 ft) wide:											
Headlamps	4.1.1	SAE J975	2			at same height		as wide as practicable			aimed as specified
Work lamps/general service lamps, front	4.1.2										aimed downward
Work lamps/general service lamps, rear	4.1.2										not illuminated during highway travel
Tail lamps, red	4.1.3	SAE J2040		2		1 m	3 m	wide as pract.	3 m (10 ft)		symmetrically mounted; may use J585 lamps for machines less than 2 m (6.7 ft.) overall width
	4.1.3.1	SAE J585				(3.3 ft)	(10 ft)	as wide as practicable			
Flashing warning lamps, amber	4.1.4	SAE J974	2			1 m	3.7 m	as wide as practicable			symmetrically mounted, visible to front and rear, flash in unison at 60 to 85 flashes per minute.
Turn indicators: amber flashers + additional lamp	4.1.5			req'd							use flashing warning lamps plus additional rear-facing red or amber lamp on turn side; flash rate on turn side + 20, off side steady burn; may use J588 lamps for mach. < 2m (6.7 ft) wide
		SAE J2261				1m (3.3 ft)	3.7m (12 ft)	wide as pract.	3m (10 ft)		
	4.1.5.1	SAE J588				1m (3.3 ft)	3m (10 ft)	as wide as practicable			
Rear retroreflective devices red	4.1.6	3.3.1 or 3.3.2	2							as near as practicable	may be incorporated in tail lamp lens, or as part of the conspicuity material.
SMV emblem	4.1.8	ASAE S276		1		0.6 m	3 m	as centered or left of center & as near to rear as practicable			within 20 degrees of vertical and perpendicular to line of travel; point of triangle upward.
Seven terminal receptacle	4.1.9	SAE J560		1		305 mm	1016 mm		254mm(10")		mounted 230 to 1145 mm (9 to 45 in.) forward of draw pin (but ahead of rear axle); not required on machines not primarily used with towed equipment
	4.1.9.1					(12 in.)	(40 in.)		{from drawbar centerline}		
	4.1.9.2					above top of drawbar					
2. Equipment over 3.7 m (12 ft) wide - additional requirements:											
Flashing extremity lamps - amber	4.1.4.1	SAE J974	2			1 m	3.7 m			400 mm	visible to front and rear, flash in unison with warning lamps, may be in addition to or in place of warning lamps
Rear conspicuity material: red retroreflective material	4.1.7							max. 1.8 m (6 ft) between blocks of each color;			mat'l is 50 x 230 mm (2 x 9 in.) blocks of each color; mounted as horizontal and in line as practicable; may count SMV as part of requirement.
	4.1.7.1	3.3.1						evenly spaced as practicable		400mm (16") 635mm (25")	
Front conspicuity material: yellow retroreflective material	4.1.7			2						400 mm	mat'l is 50 x 230 mm (2 x 9 in.) blocks
	4.1.7.2	3.3.1								(16 in.)	

Table B: Non self-propelled equipment

ITEM	Clause	SPEC.	QUANTITY			VERTICAL POSITION		LATERAL SPACING		TO EXTR.	NOTES
			min	req'd	max	min	max	min	max		
3. Equipment which obscures lamps/markings on propelling machine (individual items as applicable only those lamps/devices obscured need to be provided)											
Tail lamps, red	4.3.1.1	SAE J2040		2		1 m	3 m	1.2 m (4 ft)	3 m (10 ft)		symmetrically mounted; may use J585 lights for machines less than 2 m (6.7 ft) overall width
	4.3.1.1.1	SAE J585				(3.3 ft)	10 ft)	as wide as practicable			
Flashing warning lamps, amber	4.3.1.1	SAE J974		2		0.6m(2 ft)	3.7m(12ft)	symmetrically mounted;			flash in unison with propelling machine warning lamps; visible front/rear as applicable; only one required on non-symmetrical equipment, < 400 mm (16 in.) from extr.
	4.3.1.1.2					{1m(3.3ft) preferred}	{3m(10ft) preferred}	as wide as practicable			
Turn indicators: amber flashers + additional lamp	4.3.1.1.3			req'd							use flashing warning lamps plus additional rear-facing red or amber lamp on turn side; flash rate on turn side + 20, off side steady burn; may use J588 lamps for mach. < 2m (6.7 ft) wide
	4.1.5	SAE J2261				1m (3.3 ft)	3.7m (12 ft)	wide as pract.	3m (10 ft)		
	4.1.5.1	SAE J588				1m (3.3 ft)	3m (10 ft)	as wide as practicable			
SMV emblem	4.2.1	ASAE S276		1		0.6 m	3 m	as centered or left of center & as near to rear as practicable			within 20 degrees of vertical and perpendicular to line of travel; point of triangle upward.
Seven terminal plug	4.3.4	SAE J560		1							plug location and cable length compatible with location of receptacle on propelling machine

Table B (continued): Non self-propelled equipment

ITEM	SPEC.	QUANTITY			VERTICAL POSITION		LATERAL SPACING		TO EXTR.	NOTES
		min	req'd	max	min	max	min	max	max	
4. Equipment extending more than 1.2 m (4 ft) to the left of center of propelling machine:										
Front retroreflective material, yellow	4.2.2 4.2.2.1	3.3.1	1						as near as practicable	visible to the front and positioned, as near as practicable to indicate the extreme left projection
5. Equipment extending more than 1.2 m (4 ft) to the right or left of center of propelling machine:										
Rear retroreflective material, red	4.2.2 4.2.2.2	3.3.1	2						as near as practicable	visible to rear, may be incorporated in tail lamp lens, or as part of the conspicuity material.
6. Equipment over 3.7 m (12 ft) wide or extending more than 1.8 m (6 ft) to right or left of center of propelling machine:										
Flashing extremity lamps, amber	4.3.2.1 4.3.2.2.1	SAE J974	2		0.6m(2 ft) {1m(3.3ft) preferred}	3.7m(12ft) {3m(10ft) preferred}			400 mm (16 in.)	flash in unison with propelling machine warning lamps; visible front/rear as applicable; only one required on non-symmetrical equipment (plows, windrowers, etc.)
Tail lamps, red	4.3.2.1 4.3.2.1.2	SAE J2040		2	1 m (3.3 ft)	3 m (10 ft)	1.2 m (4 ft)	3 m (10 ft)		symmetrically mounted; as close to rear as practicable; only one req'd on equipment < 1.2 m (4 ft) wide at rear
Turn indicators: amber flashers + additional lamp	4.3.2.1.3 4.1.5 4.1.5.1	SAE J2261 SAE J588		req'd	1m (3.3 ft) 1m (3.3 ft)	3.7m (12 ft) 3m (10 ft)	wide as pract. as wide as practicable	3m (10 ft)		use flashing warning lamps plus additional rear-facing red or amber lamp on turn side; flash rate on turn side + 20, off side steady burn; may use J588 lamps for mach. < 2m (6.7 ft) wide
Rear conspicuity mat'l, rear mounted: red retroreflective material	4.2.2.3 4.2.2.3.1	3.3.1					max. 1.8 m (6 ft) between blocks of each color evenly spaced as practicable	400mm (16")		mat'l is 50 x 230 mm (2 x 9 in.) blocks of each color; mounted as horizontal and in line as practicable; may count SMV as part of requirement.
red orange fluorescent material		3.6								
Front conspicuity mat'l, rear mounted: yellow retroreflective material	4.2.2.3 4.2.2.3.2	3.3.1	2						400mm (16")	mat'l is 50 x 230 mm (2 x 9 in.) blocks
Rear conspicuity mat'l: front mounted: red retroreflective material	4.2.2.4 4.2.2.4.2	3.3.1					max. 1.8 m (6 ft) between blocks of each color evenly spaced as practicable	400mm (16")		mat'l is 50 x 230 mm (2 x 9 in.) blocks of each color; as horizontal and in line as practicable; no material req'd 1.2 m (4 ft) either side of center of prop. vehicle.
red orange fluorescent material		3.6							635mm (25")	
Front conspicuity mat'l: front mounted yellow retroreflective material	4.2.2.4 4.2.2.4.1	3.3.1	2						400mm (16")	mat'l is 50 x 230 mm (2 x 9 in.) blocks
Seven terminal plug	4.3.4	SAE J560		1						plug location and cable length compatible with location of receptacle on propelling machine
7. Equipment extending more than 1.2 m (4 ft) to the rear of the hitch point of propelling machine:										
Rear retroreflective material, red	4.2.3 4.2.3.1	3.3.1	2						as near as practicable	may be incorporated in tail lamp lens, or as part of the conspicuity material.
8. Equipment extending more than 5 m (16.4 ft) to the rear of the hitch point of propelling machine (including combinations of towed equipment hitched together)										
SMV emblem	4.2.3 4.2.3.2	ASAE S276	1		0.6 m (2 ft)	3 m (10 ft)	as centered or left of center & as near to rear as practicable			within 20 degrees of vertical and perpendicular to line of travel; point of triangle upward. At least one unobscured SMV required.
Side retroreflective material, yellow	4.2.3 4.2.3.2	3.3.1					max 5 m (16.4 ft), measuring from tractor or sp machine hitch point			rearmost reflector positioned as far rearward as practicable; both sides
9. Equipment extending more than 7.6 m (25 ft) to the rear of the hitch point of propelling machine:										
Flashing extremity lamps, amber	4.3.3.1 4.3.2.1.1	SAE J974	2		0.6m(2ft) {1m(3.3ft) preferred}	3.7m(12ft) {3m(10ft) preferred}			400 mm (16 in.)	flash in unison with propelling machine warning lamps; visible front/rear as applicable; only one required on non-symmetrical equipment (plows, windrowers, etc.)
Tail lamps, red	4.3.3.1 4.3.2.1.2	SAE J2040		2	1 m (3.3 ft)	3 m (10 ft)	1.2 m (4 ft)	3 m (10 ft)		symmetrically mounted; as close to rear as practicable; only one req'd on equipment < 1.2 m (4 ft) wide at rear
Turn indicators: amber flashers + additional lamp	4.3.3.1 4.1.5 4.1.5.1	SAE J2261 SAE J588		req'd	1m (3.3 ft) 1m (3.3 ft)	3.7m (12 ft) 3m (10 ft)	wide as pract. as wide as practicable	3m (10 ft)		use flashing warning lamps plus additional rear-facing red or amber lamp on turn side; flash rate on turn side + 20, off side steady burn; may use J588 lamps for mach. < 2m (6.7 ft) wide
Seven terminal plug	4.3.4	SAE J560		1						plug location and cable length compatible with location of receptacle on propelling machine

ANSI/SAE S279.11 APR01 Lighting and Marking of Agricultural Equipment on Highways
Substantive changes from ANSI/SAE S279.10 OCT98

1. Minimum lateral spacing of tail lamps for self-propelled equipment greater than 2 m (6.7 ft) wide changed from 1.2 m (4 ft) {0.6 m (2 ft) either side of center} to "as wide as practicable". Maximum lateral spacing remains at 3 m (10 ft) {1.5 m (5 ft) either side of center}.
2. Minimum lateral spacing of additional lamps for turn indicators for equipment greater than 2 m (6.7 ft) wide changed from 1.2 m (4 ft) {0.6 m (2 ft) either side of center} to "as wide as practicable". Maximum lateral spacing remains at 3 m (10 ft) {1.5 m (5 ft) either side of center}.
3. Specification for the additional lamp specified for turn indicators changed from SAE J585 to SAE J588 (correction).
4. Terminology changed from "reflector" to either "retroreflective device" or "retroreflective material" as appropriate (correction).
5. Specification for rear red retroreflective devices modified to enable incorporation into tail lamp lens, if desired.
6. Provision added that tail lamps on non-self-propelled equipment may be positioned more than 1.5 m (5 ft) to the left and right of the machine center provided that the tail lamps of the propelling vehicle are not obscured.

ANSI/SAE S279.12 DEC02 Lighting and Marking of Agricultural Equipment on Highways
Changes from ANSI/SAE S279.11 APR01

1. Added clarification that requirement for side retroreflective material applies to combinations of towed equipment that are hitched together, with length for this purpose measured from the tractor or self-propelled machine hitch point.
2. Added clarification that, for combinations of towed equipment, requirement for an SMV emblem is for at least one unobscured emblem.
3. Corrected wording in paragraph dealing with "obscured" lamps/markings to specify that only those items obscured need to be provided on the non-self-propelled equipment.