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INTERNATIONAL
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SURFACE VEHICLE RECOMMENDED PRACTICE

an American National Standard

SAE J382 REV. OCT84

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(R) WINDSHIELD DEFROSTING SYSTEMS PERFORMANCE GUIDELINES - TRUCKS, BUSES, AND MULTI-PURPOSE VEHICLES

1. SCOPE:

This SAE Recommended Practice provides a defrosting system performance guideline for trucks, buses, and multi-purpose vehicles when tested according to SAE J381 MAY84. It is limited to results of tests that can be conducted in commercially available laboratory facilities.

The current engineering practice prescribes that for laboratory evaluation of defroster systems, a known quantity of water shall be sprayed on the windshield to form an ice coating and then melted by the defroster under specific vehicle operating conditions. The procedure described by SAE J381 MAY84 provides uniform and repeatable laboratory test results, even though under actual conditions such a coating would be removed by scraping before driving the vehicle. The performance obtained, therefore, does not directly relate to actual driving conditions, but serves as a laboratory performance indicator for comparing test results within or between systems.

This SAE Recommended Practice is intended as a guide toward standard practice, but may be subject to frequent change to keep pace with experience and technical advances, and this should be kept in mind when considering its use.

2. DEFINITIONS:

2.1 DAYLIGHT OPENING (DLO): The term "daylight opening" (DLO) refers to the maximum unobstructed opening through any glass aperature, with reveal or garnish moldings adjoining the glazing surface installed according to a given direction or projection.

2.2 Other uniform terminology for the windshield defroster system may be found in Section 2 of SAE J381 MAY84.

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3. GENERAL PERFORMANCE GUIDELINES:

The windshield area to be defrosted was developed to be compatible with vision requirements necessary to operate trucks, buses, and multi-purpose vehicles. The area is based on SAE J941 MAR81 and SAE J826 APR80, with certain modifications to accommodate the wide variety of conditions encountered in these vehicles. For the purpose of this recommended practice, the head turn consideration in SAE J941 will not be used.

3.1 Area to be Defrosted: The windshield area that shall be defrosted is described by the use of two specific areas; identified in Table 1 as areas A and C. Each area has been established using the angles of Table 2 applied as shown in Figure 1. In the side view, the upper and lower boundary of the area is established by the intersection of two planes, which are seen as lines in the side view tangent to the upper and lower edges of the eyellipse, with the windshield glazing surface. The planes are fixed by angles above and below the XX line. In the plan view, the left and right boundaries of the area are established by the intersection of two vertical planes tangent to the left and right edges of the eyellipse with the windshield glazing surface. The planes are fixed by angles to the left and right of the XX line. The areas used in determining the percentage of defrosted area are those areas on the exterior glazing surface which are not within 1 in (25.4 mm) of the edge of the daylight opening (pillars, division bar, header, etc.). The percentage is the ratio of defrosted area within the defined area to the defined area.

Figure 2 illustrates all of the areas on a typical windshield.

TABLE 1[c]

Windshield Type	Minimum Percent to be Defrosted	
	Area A	Area C
One-Piece	80	99
Multipiece	65	84

[c] These tables are vision requirements established by SAE J198 JAN71.

TABLE 2[c]

Classification	F Dim	Area	Angle Up, deg	Angle Down, deg	Angle Left, deg	Angle Right, deg
Truck, CBE and CAE[a]	0–40	A	10	5	18	56
		C	5	1	10	15
	40–50	A	8	7	18	56
		C	3	3	10	15
	50–Up	A	6	9	18	56
		C	1	5	10	15
Buses, CBE—School and Commercial[b]	50–60	A	7.5	22	22	62
		C		16	22	15
Buses, Forward Control—School and Commercial	50–60	A	7	14	18	65
		C	1	11	18	25
Forward Control or Multi-purpose	All	A	9	7	18	56
		C	2	2	10	15
Light Duty Utility Vehicle[a]	All	A	7	5	16	49
		C	4	2	8	13
Van, Multistop[a]	Open	A	7	12	18	58
		C	1	6	10	15
Trucks, COE	40–Up	A	6	9	18	56
		C	1	5	10	15

NOTES: See SAE J687 for nomenclature. Angles are minimum.
[a] Specifications also cover passenger carrying derivatives.
[b] Geometric center of eyellipse located 18 in (447 mm) from centerline of vehicle.
[c] These tables are vision requirements established by SAE J198 JAN71.

3.2 Defrosting Time: The defroster test shall be conducted in accordance with the procedure established in SAE J381. After 30 min, the defroster areas should meet the guidelines shown in Table 1. The undefrosted portions shall be located only along the periphery of area C.

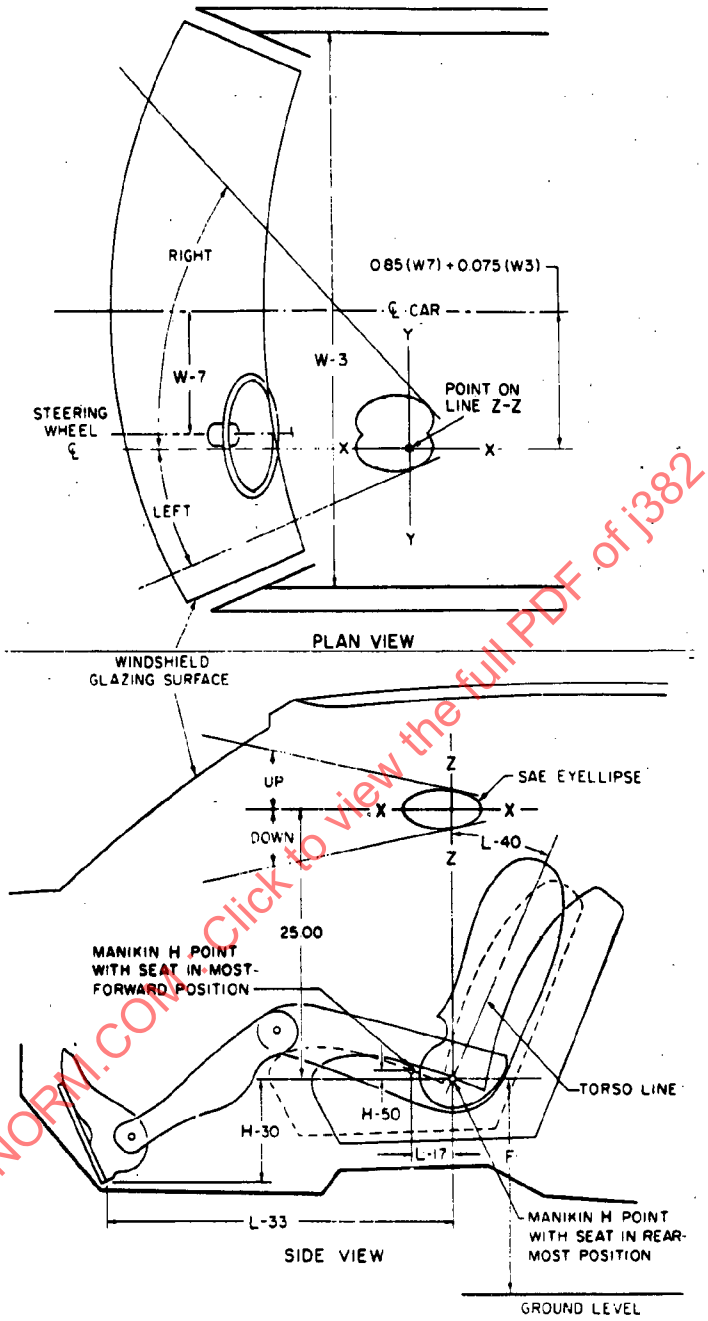

FIGURE 1 - Eyellipse Template Location

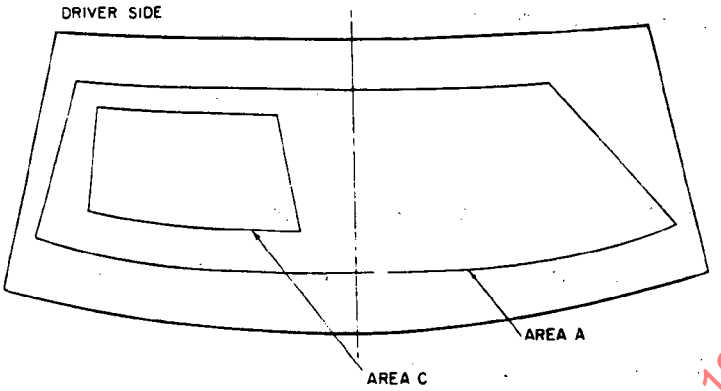

FIGURE 2 - Typical Locations of Areas A and C as Viewed From Inside Vehicle