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SURFACE VEHICLE STANDARD

SAE J2131

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Submitted for recognition as an American National Standard

FRONT-MOUNTED LINKAGE FOR AGRICULTURAL WHEELED TRACTORS

Foreword—This SAE Standard is technically equivalent to ISO 8759/2-1985, Agricultural Wheeled Tractors—Front Mounted Linkage and Power Take-Off—Part 2: Front Linkage except for dimension T and M plus footnotes thereto, depiction of power take-off master shield, and reference to SAE J208, Safety for Agricultural Tractors and ASAE S513, Agricultural Wheeled Tractors—Front Mounted Linkage. This SAE document is also equivalent to ASAE S513, Agricultural Wheeled Tractors—Front Mounted Linkage.

- 1. Scope**—This SAE Standard describes the requirements of the linkage to attach implements or equipment to the front of agricultural wheeled tractors. This shall be a three-point linkage in association with a power lift. It applies to the categories defined in ISO 730/1.

NOTE—Part 1 of ISO 8759 specifies requirements for the power take-off.

2. References

- 2.1 Applicable Documents**—The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply.

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

SAE J208—Safety for Agricultural Tractors

SAE J715—Three-Point Free Link Hitch Attachment of Implements to Agricultural Wheeled Tractors

SAE J909—Three-Point Hitch, Implement Quick Attaching Coupler, Agricultural Tractors

- 2.1.2 ASAE PUBLICATIONS**—Available from ASAE, 2950 Niles Road, St. Joseph, MI 49085-9659.

ASAE S513—Agricultural Wheeled Tractors, Front Mounted Linkage

- 2.1.3 ISO PUBLICATIONS**—Available from ANSI, 11 West 42nd Street, New York, NY 10036-8002.

ISO 730/1—Agricultural wheeled tractors—Three-point linkage—Part 1: Categories 1, 2, and 3

ISO 2332—Agricultural tractors and machinery—Connections—Clearance zone for the three-point linkage of implements

ISO 8759/1—Agricultural wheeled tractors—Front-mounted linkage and power take-off—Part 1: Power take-off

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3. Definitions

3.1 For the purposes of this document, the definitions given in ISO 2332 and ISO 8759/1 apply.

4. Dimensions

4.1 **Hitch Points and Surrounding Zone**—The hitch point dimensions shall be given in Tables 1 and 2. For implement to tractor linkage clearance, see ISO 2332.

4.2 **Lift Range**—The lift range shall be as given in Table 3.

4.3 **Relationship Between PTO and Front-Hitch Points**—The distance, T, from the front end of the power take-off, PTO, to the center of the lower hitch points (with the lower link horizontal) (see Figure 1) shall be given in Table 1.

TABLE 1—DIMENSION T
Dimensions in millimeters

Dimension	min	max
T ¹	550	625

¹ If T dimension exceeds 559 mm, use of a frame-type quick-attaching coupler per SAE J909 is not recommended.

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TABLE 2—HITCH POINT DIMENSIONS (SEE FIGURE 2)
Dimensions in millimeters

Dimension	Description	Value min	Value max
Upper hitch point			
A	Diameter of hitch pin	25.27	25.4
B	Diameter of hitch pin hole	25.7	25.91
C	Width of ball	--	51
D	Linch-pin hole distance	93	--
E	Width between outer faces of yoke	--	86
F	Width between inner faces of yoke	52	--
Lower hitch points			
G	Diameter of hitch pin	27.79	28
H	Diameter of hitch pin hole	28.7	29.03
J	Width of ball	44.80	45.0
K	Linch-pin hole distance	49	--
Linch-pin hole diameter			
L	for upper hitch pin	12	--
L	for lower hitch pins	12	--
M ²	Mast height	610 ± 1.5	610 ± 1.5
N	Lower hitch point span	825 ± 1.5 ¹	825 ± 1.5 ¹
P	Side distances from lower hitch point to centerline of tractor	435 ¹	435 ¹

¹ It may be necessary to vary these dimensions in cases of specialized implements. Where a shorter distance between the lower hitch points is necessary, the following values are preferred:

N = 683

P = 364

² The hitch design may provide for the mast height of 483 mm for Category II three-point hitch implements as specified in SAE J715.