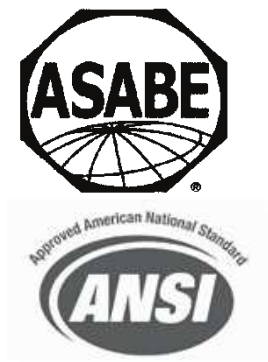


ANSI/ASABE S625 MAR2015

Drawbar Pin Dimensions and Requirements for Towed Equipment



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Developed by the ASABE Tractor Implement Interface/PTO committee. Approved as an ASABE standard March 2015; approved by ANSI March 2015.

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1 Purpose and Scope

This standard establishes the dimensional and minimum strength requirements for agricultural drawbar hitch pins used in the single point attaching of a towed machine to towing machines or leading machines. Application of this standard assumes that there is a clevis on the towing machine conforming to ANSI/ASABE AD 6489-3:2004 and a ring on the towed machine conforming to ASABE/ISO 21244:2008. Additionally, this standard defines loading conditions for drawbar pin retention systems.

When the towing machine does not conform to ANSI/ASABE AD 6489-3:2004 and/or the towed machine does not conform to ASABE/ISO 21244:2008, fit and performance of pins designed per this standard may be affected. However, usage of applicable specifications derived from this standard is encouraged for such cases.

Note: ANSI/ASABE AD6489-3:2004 and ASABE/ISO 21244:2008 provide essential information related to tractor drawbars and associated implement hitch rings.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ANSI/ASABE AD6489-3:2004 Agricultural vehicles — Mechanical connections between towed and towing vehicles — Part 3: Tractor drawbar

ASABE/ISO 21244:2008 Agricultural equipment — Mechanical connections between towed and towing vehicles — Implement hitch rings and attachment to tractor drawbars.

3 Terms and Definitions

3.1 drawbar pin: cylindrical component by which the motive and controlling forces are transferred from the towing machine to the towed machine under normal operating conditions

3.2 drawbar pin keeper: a mechanical means by which the drawbar pin is vertically retained and prevents the drawbar pin from being inadvertently dislodged due to upward loading from the towed machine during normal operations

3.3 drawbar pin keeper secondary latch: a mechanical means, independent of the drawbar pin keeper that prevents the drawbar pin keeper from being inadvertently dislodged due to upward loading from the towed machine or passing crop

3.4 drawbar pin secondary keeper: a lynch pin or similar device, independent of the drawbar pin keeper, placed through a cross drilled hole near the bottom of the drawbar pin to prevent the drawbar pin from being inadvertently dislodged due to upward loading from the towed machine, if the drawbar pin keeper fails

Note: Some Original Equipment Manufacturers may have a need to minimize the amount that the drawbar pin extends below the Drawbar to reduce a raking effect, crop damage or crop entanglement. In this case the drawbar pin secondary keeper may be at another location.

3.5 towing machine: any tractor or self-propelled vehicle providing the forces to move and control a unit of agricultural field equipment

3.6 towed machine: any unit of agricultural field equipment that receives the forces for movement and control from a towing machine

Note: in trains of multiple units of agricultural field equipment, a unit of agricultural field equipment may be both a towing and a towed machine. See Figure 4.

3.7 towed machine hitch: mechanical connection by which the motive and controlling forces are transferred from the towing or leading machine to the towed machine

3.8 leading machine: any unit of agriculture field equipment that furnishes the forces necessary to move and control another towed machine

3.9 clevis: mechanical device combined with a drawbar to form a U shaped structure with holes in both the top and bottom of the structure allowing a pin to be passed through the holes in to connect two machines

4 Requirements

4.1 Drawbar pin

4.1.1 Shall be designed according to Figure 1 and with the dimensions in Table 1.

4.1.2 Shall be designed with a head or similar means to resist the downward forces experienced during normal transport and field operations

4.1.3 Shall be designed with a cross drilled hole or similar feature near the bottom for the use of a drawbar pin secondary keeper.

4.1.4 Shall have adequate strength to resist both the impact loading and longitudinal loading. See Section 5.

4.1.5 Shall be permanently marked with identification on the head of the pin, as shown in Figure 1, in the following format; "ANSI/ASABE S625, Cat _". The size of the lettering shall be as large as the pin head dimensions will allow so that it is easily read.

4.1.6 May have a handle to aid the operator during hitching and unhitching operations with a maximum height dimension as specified in Table 1 and Figure 1. The end user is responsible for selecting the appropriate pin for the application.

4.1.7 Length and head configurations may be optimized on pins supplied by the original equipment manufacturer.