ANSI/ASABE S619.1 AUG2019
Safety for Tractor-Mounted, Boom-Type Post Hole Diggers

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ASABE, 2950 Niles Road, St. Joseph, MI 49085-9659, USA, phone 269-429-0300, fax 269-429-3852, hq@asabe.org

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Safety for Tractor-Mounted, Boom-Type Post Hole Diggers

Reviewed by the Post Hole Digger Council of the Farm Equipment Manufacturers Association; approved by the ASABE Ergonomics, Safety and Health Division; Agricultural Safety Committee; adopted by ASABE December 2013; approved by ANSI as an American National Standard March 2014; revised August 2019.

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1 Purpose

The purpose of this Standard is to establish the safety requirements for tractor-mounted, boom-type post hole diggers.

2 Scope

2.1 This Standard applies to boom-type post hole diggers designed and intended for digging vertical, cylindrical holes.

2.2 This Standard applies to boom-type post hole diggers designed for attachment to the three-point hitch of agricultural tractors as specified in ANSI/ASAE S390, equipped with Category I or Category II three-point linkage as specified in ANSI/ASABE AD730:2009, and powered by a 540-rpm power take-off or by the agricultural tractor's hydraulic power.

3 Normative References

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

ASAE S207.13, Operating Requirements for Tractors and Power Take-off Driven implements

ANSI/ASAE S279, Lighting and Marking of Agricultural Equipment on Highways

ASAE S304, Graphical Symbols for Operator Controls and Displays on Agricultural Equipment

ANSI/ASAE S318.18, Safety for Agricultural Field Equipment

ANSI/ASAE S390 (ISO 12934:2013), Tractors and machinery for agriculture and forestry — Basic types — Definitions

ANSI/ASABE S604.1, Safety for Power Take-off (PTO), PTO Drive Shafts, and Power Input Connection (PIC) for Agricultural Field Equipment

ANSI/ASABE AD730:2009, Agricultural wheeled tractors — Rear-mounted three-point linkage — Categories 1N, 1, 2N, 2, 3N, 3, 4N and 4

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ANSI/ASABE AD3600:2015, Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Operator's manual — Content and presentation

ANSI/ASABE AD5673-1:2005, Agricultural tractors and machinery — Power take-off drive shafts and power-input connection — Part 1: General manufacturing and safety requirements

ANSI/ASABE AD11684:1995, Tractors, machinery for agricultural and forestry, powered lawn and garden equipment — Safety signs and hazard pictorials — General principles

ASABE/ISO 15077:2008, Tractors and self-propelled machinery for agriculture — Operator controls — Actuating forces, displacement, location and method of operation

ISO 2332, Agricultural tractors and machinery — Connection of implements via three-point linkage — Clearance zone around implement

SAE J517, Hydraulic Hose

SAE J1360, Product Identification Numbering System of Off-Road Work Machines

4 Definitions

4.1 auger: attachment designed to be lowered into soil to dig vertical, cylindrical holes (see Figure 1 and Figure 2). Augers are commonly manufactured in varying diameters. Components include:

4.1.1 center point: protrusion from the lower end of the auger with the purpose of centering the auger during the digging operation (typically removable/replaceable).

4.1.2 cutting teeth or cutting edges: metal mounted to leading edges of the lower end of flighting (typically removable/replaceable) to facilitate loosening of material to be removed from the hole by flighting.

4.1.3 flighting: metal formed and attached in such a way to move soil from the bottom of the hole to the surface of the ground.

4.2 auger retaining bolt: a bolt through two auger tube walls and the output shaft with the purposes of transmitting torque from the output shaft to the auger and/or holding the auger in position on the output shaft.

4.3 boom: a structure connecting the upper link point of the tractor three-point hitch to the gearbox of the post hole digger (see Figure 1 and Figure 2).

4.4 boom-type post hole digger: an agricultural implement that attaches to the three-point hitch of a tractor to allow vertical movement and is powered by the tractor power take-off or hydraulic system to dig vertical, cylindrical holes in the ground (see Figure 1 and Figure 2).

4.5 gearbox: mechanism to transfer rotational power from the input drive shaft or hydraulic motor to the output shaft and to change rotational speed of the output shaft (see Figure 1 and Figure 2).

4.6 guard: a protective device designed and fitted to reasonably minimize the possibility of inadvertent contact with machinery hazards, as well as to restrict access to other hazardous areas.

[SOURCE: ANSI/ASAE S318.18, definition 3.3].

4.7 guarding by location: a hazard is guarded by location when it is guarded by other parts or components of the machine that are not themselves guards, or when the hazard is beyond the safety distance.

[SOURCE: ANSI/ASAE S318.18, definition 3.4]

4.8 hydraulic hoses: flexible tubes for conveying pressurized hydraulic fluid.

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