

Operator Controls for Agricultural Wheeled Tractors

1. **Scope**—These recommendations are intended to improve operator efficiency and convenience by providing guidelines for the uniformity of location and direction of motion of operator controls used on agricultural tractors. The controls covered are those centrally located at the operator's normal position.

2. References

2.1 **Applicable Publications**—The following publications form a part of the specification to the extent specified herein. Unless otherwise indicated, the latest revision of SAE publications shall apply.

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

SAE J298—Universal Symbols for Operator Controls on Industrial Equipment

SAE J389—Universal Symbols for Operator Controls on Agricultural Equipment

SAE J1150—Terminology for Agricultural Equipment

3. Definitions

3.1 **Agricultural Tractors**—See SAE J1150.

3.1.1 Right-hand, left-hand, and forward designations are those related to the operator when sitting in the operating position.

3.1.2 For this standard, the secondary motion requirement is met by an L, Z, or U shaped slot, a slot latch, a thumb button, or other functional designs, but it shall exclude a simple detent alone. When an electrical control switch is used, a partial shield or a spring-loaded shield over that portion of the switch which allows movement from the off position or a secondary motion shall be provided.

4. General

4.1 This recommendation is based on the principle that a given direction of movement of any control produces a consistent and expected effect.

4.2 Where confusion may result from the motion of the control, the effect from movement of the control shall be clearly and permanently identified (see SAE J389).

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5. Brake Control

- 5.1 The brake pedal(s) shall be actuated by the operator's right foot with the direction of motion forward and/or downward for engagement.
- 5.2 When separate brake pedals are provided for the independent right-hand and left-hand brake control, it shall be possible to obtain combined and/or equalized control.
- 5.3 The parking brake or parking device control shall be located convenient to the operator.

6. Clutch Control

6.1 Traction Control

- 6.1.1 When a foot pedal control is provided, it shall be actuated by the operator's left foot with the direction of motion forward and/or downward for disengagement.
- 6.1.2 When a hand-operated control is provided, it shall be moved toward the operator (generally rearward) for disengagement.

- 6.2 **Combination Traction Control and Brake Control**—When a foot-operated combination traction control and brake control is used, it shall be left-foot operated with the direction of motion to be forward and/or downward to cause clutch disengagement and brake engagement.

6.3 Power Take-Off Control

- 6.3.1 When a hand-operated clutch control is provided, its movement shall be generally rearward and/or downward for disengagement.
- 6.3.2 Movement from the off or disengaged position of friction clutch controls shall include secondary motion.
 - 6.3.2.1 Controls for PTO engagement devices such as splined couplings and jaw clutches are excluded from the secondary motion requirement.
- 6.3.3 The combination traction clutch and constant running or transmission-driven power take-off clutch controls are governed by 6.1.1 and/or 6.1.2.

7. Engine Speed Control

- 7.1 The engine speed control shall be convenient to the operator.
- 7.2 When the direction of motion of the engine speed hand control is in a plane parallel to the longitudinal axis of the propelling vehicle, the direction of motion shall be generally forward or upward to increase engine speed.
- 7.3 When the direction of motion of the engine speed hand control is in a plane parallel to the rim of the steering wheel, the direction of motion shall be rearward and/or downward to increase engine speed.
- 7.4 On future designs, it is recommended that the engine speed hand control operate as defined in paragraph 7.2.
- 7.5 When a foot operated engine speed control is provided, it shall be right-foot operated with the direction of motion forward and/or downward to increase engine speed.