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**Auxiliary Power Take-
Off Drives for
Agricultural Tractors**

**SAE Standard
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AUXILIARY POWER TAKE-OFF DRIVES FOR AGRICULTURAL TRACTORS

1. PURPOSE AND SCOPE: This document establishes specifications for mid and side power take-off drives that will be helpful in designing implements. Design of the implement attaching means must be tailored to each tractor, depending upon attaching points available and the exact location of the auxiliary shaft.
2. DEFINITION: Auxiliary Power Take-Off (Aux. PTO): An external shaft on an agricultural tractor, other than the rear or front PTO, to provide rotational power to implements that are usually mid or side mounted.
3. SPECIFICATIONS:
 - 3.1 The Aux. PTO shall conform to SAE Standard J1170 NOV84, Rear Power Take-Off for Agricultural Tractors:
 - 3.1.1 Shafts, to the dimensions of 1000 rpm PTO, 35 mm (1-3/8 in) diameter, involute splines.
 - 3.1.2 A minimum spherical clearance radius of 82.6 mm (3.25 in) with sufficient openings to allow for equipment drives.
 - 3.1.3 Shielding similar to the power take-off shield.
 - 3.2 The ability of the Aux. PTO shaft to withstand bending loads and thrust forces shall conform to SAE J721 NOV84, Operating Requirements for Tractors and Power Take-Off Driven Implements.
 - 3.3 Position, location, and direction of rotation of the Aux. PTO shaft are shown in Table 1.

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TABLE 1

	Mid	Right	Left
Position	Extends forward parallel to rear power take-off shaft	Right side of tractor extending to right when viewed from driver's station	Left side of tractor extending to left when viewed from driver's station
Location	Within zone extending 10 in (254 mm) to both the right and the left of the centerline of the tractor	No recommendation	No recommendation
Direction of Rotation	Clockwise (when facing direction of forward travel)	Clockwise (when viewed from outer end of shaft)	Counterclockwise (when viewed from outer end of the shaft)

RATIONALE:

1. Revised to eliminate duplication included in paragraph 2.
There is no ISO standard covering auxiliary PTO; a draft ISO standard, DIS 8759/1, is being considered for front PTO.
2. Transfer this definition from Paragraph 2.9 of SAE J208 to conform with the guideline of defining terms only in one standard. Added "agricultural" before "tractor" to agree with terminology in SAE J1150. A front PTO will not be an auxiliary PTO.
3. Was "2".
 - 3.1 Revised to consolidate reference to SAE J1170.
 - 3.1.3 Added shielding requirements - was missing in this standard, but was in ASAE S333. Removed "master" to agree with terminology in SAE J208 AUG86.

Removed current paragraph 2.5; does not pertain to agricultural tractors.

RELATIONSHIP OF SAE STANDARD TO ISO STANDARD:

Not applicable.

REFERENCE SECTION:

SAE J721 NOV84, Operating Requirements for Tractors and Power Take-Off Driven Implements

J1170 NOV84, Rear Power Take-Off for Agricultural Tractors

APPLICATION:

This document establishes specifications for mid and side power take-off drives that will be helpful in designing implements. Design of the implement attaching means must be tailored to each tractor, depending upon attaching points available and the exact location of the auxiliary shaft.

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