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Chisel Plows, Field Cultivators, Row Crop Cultivators, Ripper Shanks and Ground Tool Mountings

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1 Purpose and Scope

1.1 The purpose of this Standard is to provide greater interchangeability of cultivator sweeps, shovels, and points used on various types of footpieces for row crop cultivators, field cultivators, chisel plows and rippers; to provide a good fit and thereby better mechanical support for sweeps, shovels and points on such footpieces; and to provide ground clearance between the lowest portion of footpieces or attaching bolts and the cutting edge of sweeps to accommodate wear.

1.2 This Standard includes the following specifications for row crop cultivators, field cultivators, chisel plows and rippers:

1.2.1 Mounting specifications for the ground tool attaching portion of the shank as applied to spring trip and friction trip shanks, stiff shanks and square coil spring tool shanks, and flat spring tooth shanks.

1.2.2 Attaching specifications for sweeps with curved stems; double pointed shovels, teeth and spikes; and spear point and single end shovels; and ripper shank points.

2 Specifications for Ground Tool Portion of Shank

2.1 Dimensions related to the following specifications are shown in Figure 1 and Table 1.

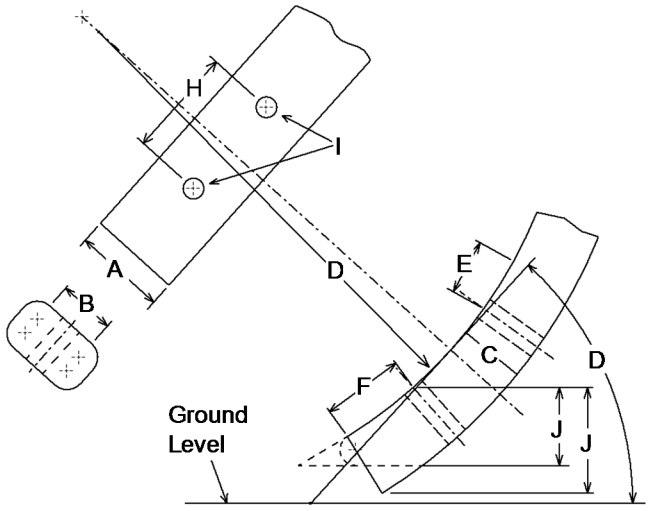

Figure 1 – Chisel and cultivator shanks

Table 1 – Dimensions for ground tool attaching portion of shank (see Figure 1)

Dimension	Description	Chisel Plow				Field Cultivator				Spring Trip Shanks*				Flat Spring Shanks			
		Inches		Millimeters		Inches		Millimeters		Inches		Millimeters		Inches		Millimeters	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
A	Width of footpiece	2.0 nominal		50.8 nominal		1.75 nominal		44.5 nominal		–	1.5	–	38.1	1.75 nominal		44.5 nominal	
B	Width of footpiece flat surface	1.6	–	40.6	–	1.6	–	40.6	–	–	–	–	–	1.6	–	40.6	–
C	Thickness of footpiece	–	–	–	–	–	–	–	–	–	1.38	–	35.1	–	–	–	–
D	Radius of curvature in tool attached area	11.0 nominal		279.4 nominal		9.0 nominal		228.6 nominal		8.0 nominal		203.2 nominal		8.0 nominal		203.2 nominal	
E	Length of curvature ext. above top bolt hole	0.75	–	19.1	–	0.75	–	19.1	–	0.75	–	19.1	–	0.75	–	19.1	–
F	Length of curvature ext. below lower bolt hole	1.0	–	25.4	–	1.0	–	25.4	–	1.0	–	25.4	–	1.0	–	25.4	–
G	Angle of attachment	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†
H	Attaching bolt hold spacing	2.25 nominal‡		57.2 nominal‡		1.75 nominal‡		44.5 nominal‡		2.0 nominal		50.8 nominal		2.0 nominal		50.8 nominal	
I	Holes to provide clearance for specified No. 3 plow bolt	0.44 std. 0.50 opt.		11.2 std. 12.7 opt.		0.38 std. 0.44 opt.		9.7 std. 11.2 opt.		0.44 nominal		11.2 nominal		0.44 nominal		11.2 nominal	
J	Height of lower bolt hole	–	1.5	–	38.1	–	1.38		35.1	–	1.38		35.1	–	1.38		35.1

* Includes square coil spring, friction trip and stiff shanks.

† Shanks shall provide desired working angle for standard sweeps.

‡ The upper hole may be slotted to increase the center to center distance by 0.25 in. (6.4 mm).

2.1.1 Width of footpiece, dimension A. Dimensions are nominal or maximum as specified.

2.1.2 Width of flat surface on footpiece, dimension B. The width of the flat surface on the shank footpiece shall not be less than the minimum specified unless the footpiece is recessed at the bolt holes. All shank footpieces with less than the specified flat surface width shall be recessed at the bolt holes to accommodate the extrusion on the sweep stem.

2.1.3 Thickness of footpiece, dimension C. This dimension applies only to trip shanks of row crop cultivators.

2.1.4 Radius of curvature, dimension D. The arc of curvature extends through dimensions E, H, and F.

2.1.5 Length of curvature extension above bolt hole, dimension E. A good fit requires radius of curvature of the shank to extend a minimum distance above the upper bolt hole. This dimension is measured on the chord.

2.1.6 Length of curvature extension below bolt hole, dimension F. A good fit requires radius of curvature of the shank to extend a minimum distance below the lower bolt hole, but not more than the maximum specified. This dimension is measured on the chord.