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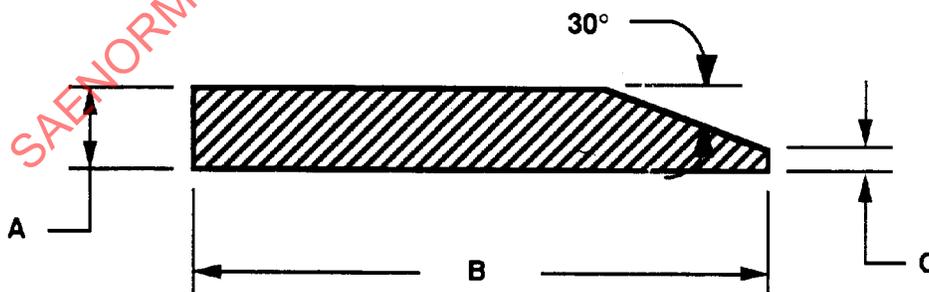
**CUTTING EDGE—OPTIONAL CROSS-SECTIONS AND DIMENSIONS LOADER STRAIGHT**

**Foreword**—This Document has not changed other than to put it into the new SAE Technical Standards Board Format.

1. **Scope**—The purpose of this SAE Recommended Practice is to specify dimensions for loader straight cutting edge cross sections without holes and with bolt holes for mounting bolt-on teeth and tooth adaptors on loader buckets described by SAE J731. This recommended practice is intended to supplement SAE J1303 and SAE J1304 with cross sections for heavier duty applications, by identifying larger blunts, greater bevel angles, larger bolt holes, and greater bolt spacing.

1.1 **Cutting Edges without Holes**—The dimensions, for cutting edges used on buckets for loaders defined in SAE J1057, are appropriate to rolled, cast, forged, flame cut, and machined sections. This recommended practice applies only to straight cutting edges, which are those whose leading edge and rear edge are parallel and, thus, are of constant cross section. Cutting edge cross-section thicknesses below 20 mm and above 35 mm are not changed from SAE J1303 and are not included. See Figure 1 and Table 1.

1.2 **Cutting Edges with Bolt Holes**—The dimensions, for cutting edges used on buckets for loaders defined in SAE J1057, are appropriate to rolled and machined sections only. This recommended practice applies only to straight cutting edges, which are those whose leading edge and rear edge are parallel and, thus, are of constant cross section. Cutting edge cross-section thicknesses below 20 mm are not changed from SAE J1304 and are not included. Maximum thickness has been increased to 45 mm. Selected cross-section widths are a minimum required to accommodate bolt-on tooth adaptors. Welded-on teeth are used on thicker bucket cutting edges. See Figure 2 and Table 2.



**FIGURE 1—DIMENSIONS ASSOCIATED WITH LOADER STRAIGHT CUTTING EDGE CROSS SECTIONS WITH AND WITHOUT HOLES**

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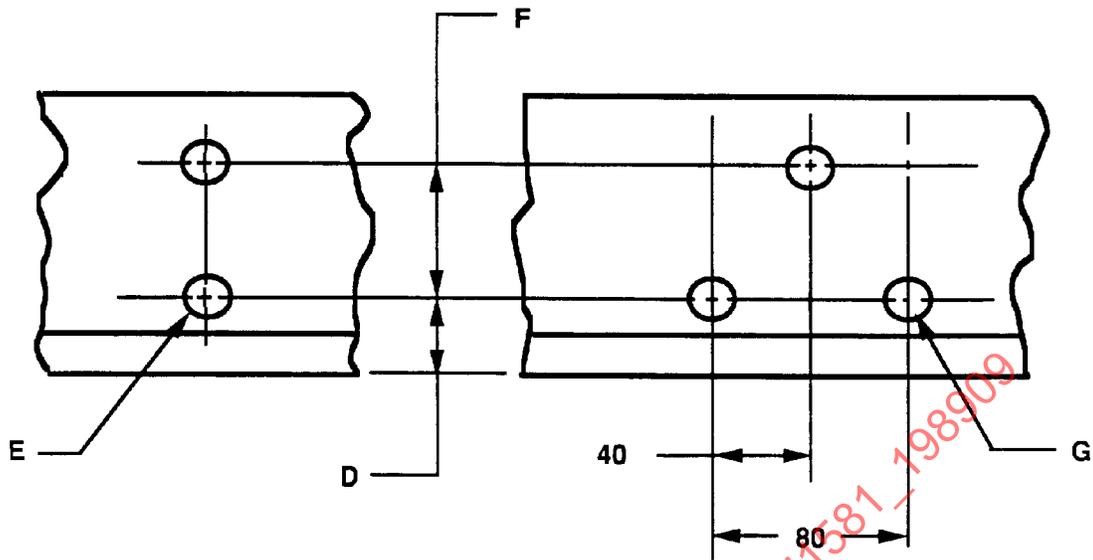


FIGURE 2—DIMENSIONS ASSOCIATED WITH LOADER STRAIGHT CUTTING EDGE WITH BOLT HOLES TO ACCOMMODATE TWO-HOLE AND THREE-HOLE BOLT-ON TEETH

TABLE 1—CUTTING EDGES WITHOUT HOLES

A Thickness mm	A Thickness in	B Section Width mm	B Section Width in	C Blunt mm	C Blunt in
20	0.79	100	3.94	6	0.24
20	0.79	150	5.91	6	0.24
20	0.79	200	7.87	6	0.24
22	0.87	100	3.94	6.5	0.26
22	0.87	150	5.91	6.5	0.26
22	0.87	200	7.87	6.5	0.26
25	0.98	200	7.87	7.5	0.30
25	0.98	250	9.84	7.5	0.30
30	1.18	200	7.87	9	0.35
30	1.18	250	9.84	9	0.35
35	1.38	250	9.84	10.5	0.41
35	1.38	300	11.81	10.5	0.41

TABLE 2—CUTTING EDGES WITH HOLES

A	A	B	B	C	C	D	D	E	E	F	F	G	G		
Thickness	Thickness	Section	Section	Blunt	Blunt	Front	Front	Bolt	Hole	Hole	Hole	Hole	Hole		
mm	in	Width	Width	mm	in	Hole	Hole	Size	Size	Size	Spacing	Spacing	Size		
		mm	in	mm	in	Location	Location	in	mm	in	mm	in	mm		
						mm	in						in		
20	0.79	150	5.91	6	0.24	45	1.77	0.75	22.23	0.88	65	2.56	0.75	22.23	0.88
20	0.79	200	7.87	6	0.24	45	1.77	0.75	22.23	0.88	65	2.56	0.75	22.23	0.88
22	0.87	150	5.91	6.5	0.26	50	1.97	0.75	22.23	0.88	65	2.56	0.75	22.23	0.88
22	0.87	200	7.87	6.5	0.26	50	1.97	0.75	22.23	0.88	65	2.56	0.75	22.23	0.88
25	0.98	200	7.87	7.5	0.30	55	2.17	0.75	22.23	0.88	75	2.95	0.75	22.23	0.88
25	0.98	250	9.84	7.5	0.30	55	2.17	0.75	22.23	0.88	75	2.95	0.75	22.23	0.88
30	1.18	200	7.87	9	0.35	65	2.56	0.88	25.40	1.00	75	2.95	0.88	25.40	1.00
30	1.18	250	9.84	9	0.35	65	2.56	0.88	25.40	1.00	75	2.95	0.88	25.40	1.00
35	1.38	250	9.84	10.5	0.41	75	2.95	1.00	28.58	1.13	90	3.54	1.00	28.58	1.13
35	1.38	300	11.8	10.5	0.41	75	2.95	1.00	28.58	1.13	90	3.54	1.00	28.58	1.13
40	1.57	250	9.84	12	0.47	85	3.35	1.00	28.58	1.13	90	3.54	1.00	28.58	1.13
40	1.57	300	11.8	12	0.47	85	3.35	1.00	28.58	1.13	90	3.54	1.00	28.58	1.13
45	1.77	300	11.8	14	0.55	95	3.74	1.25	34.93	1.38	120	4.72	1.25	34.93	1.38

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## 2. References

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

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

SAE J731—Component Nomenclature—Loader  
SAE J1057—Identification Terminology of Earthmoving Machines  
SAE J1303—Cutting Edge—Cross Sections Loader Straight  
SAE J1304—Cutting Edge—Cross Sections Loader Straight with Bolt Holes

## 3. Tolerances

- a. Thickness and blunt tolerance are each to be as follows: (1)  $\pm 1.0$  mm for 20 through 25 mm thick, (2)  $\pm 1.2$  mm for 30 mm through 50 mm thick.
- b. Width tolerance to be as follows: (1) +2.4 mm and - 1.6 mm for widths 100 through 125 mm, (2) +3.2 mm and -2.4 mm for widths 125 through 200 mm, (3)  $\pm 3.2$  mm for all widths over 200 mm.
- c. Angle tolerance to be  $\pm 1/2$  deg for all thicknesses through 35 mm, and  $\pm 1$  deg for thicknesses over 35 mm.
- d. Tolerance on hole location to be  $\pm 0.80$  mm.
- e. Tolerances for hole diameters are as follows: (1) +0.48 mm and -0.28 mm for diameters up through 30 mm, (2) +0.64 mm and -0.28 mm for diameters over 30 mm.
- f. Tolerance on hole spacing to be  $\pm 0.80$  mm.

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