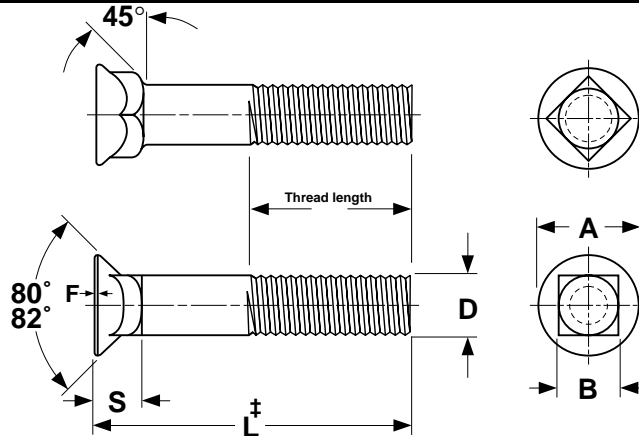
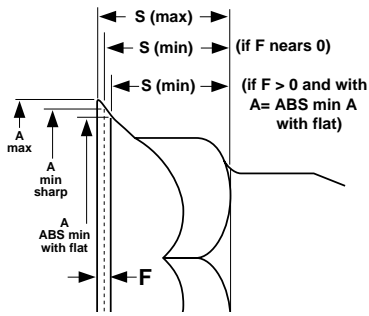


Cap Screws & Bolts

Plow Bolts

Grades 5 & 8



‡Length of a plow bolt is measured from the top of the head to the extreme end of the bolt.

No. 3 HEAD PLOW BOLTS

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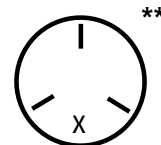
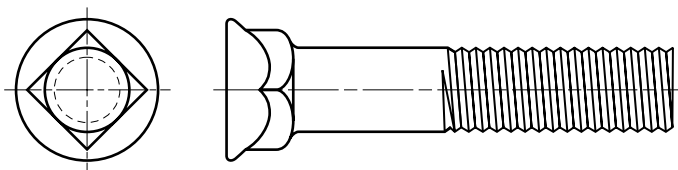
Nominal Diameter	E		A			F	S		B	
	Diameter of Full Size Body		Diameter of Head			Feed Thickness	Depth of Square and Head		Width of Square	
	Max	Min	Max	Min Sharp	Abs. Min with Flat	Max	Max	Min	Max	Min (Basic)
5/16	0.312	0.299	0.605	0.578	0.563	0.025	0.269	0.243	0.325	0.313
3/8	0.375	0.360	0.708	0.671	0.656	0.031	0.312	0.281	0.387	0.375
7/16	0.438	0.421	0.826	0.781	0.766	0.036	0.364	0.328	0.450	0.438
1/2	0.500	0.483	0.945	0.890	0.875	0.042	0.417	0.375	0.515	0.500
5/8	0.657	0.606	1.147	1.094	1.063	0.050	0.506	0.456	0.640	0.625
3/4	0.782	0.729	1.303	1.250	1.219	0.050	0.541	0.491	0.765	0.750
7/8	0.938	0.853	1.512	1.469	1.406	0.063	0.626	0.563	0.906	0.875
1	1.062	0.976	1.700	1.656	1.594	0.063	0.690	0.627	1.031	1.000

Tolerance on Length	Nominal Bolt Size	All Lengths
	1/4 through 3/8	±0.03
	7/16 and 1/2	±0.06
	5/8 through 1	±0.12

MINIMUM THREAD LENGTH OF PLOW BOLTS (2D + 0.25)

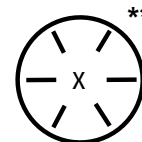
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Recommended Bolt Length	Nominal Bolt Diameter, D							
	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
1	T to H	T to H	-	-	-	-	-	-
1-1/4	0.875	T to H	T to H	T to H	T to H	-	-	-
1-1/2	0.875	1.000	T to H	T to H	T to H	T to H	T to H	-
1-3/4	0.875	1.000	1.125	1.250	T to H	T to H	T to H	T to H
2	0.875	1.000	1.125	1.250	T to H	T to H	T to H	T to H
2-1/4	0.875	1.000	1.125	1.250	1.500	T to H	T to H	T to H
2-1/2	0.875	1.000	1.125	1.250	1.500	1.750	T to H	T to H
3	0.875	1.000	1.125	1.250	1.500	1.750	2.000	2.250
3-1/2	0.875	1.000	1.125	1.250	1.500	1.750	2.000	2.250
4	0.875	1.000	1.125	1.250	1.500	1.750	2.000	2.250



GRADE-5 PLOW BOLT

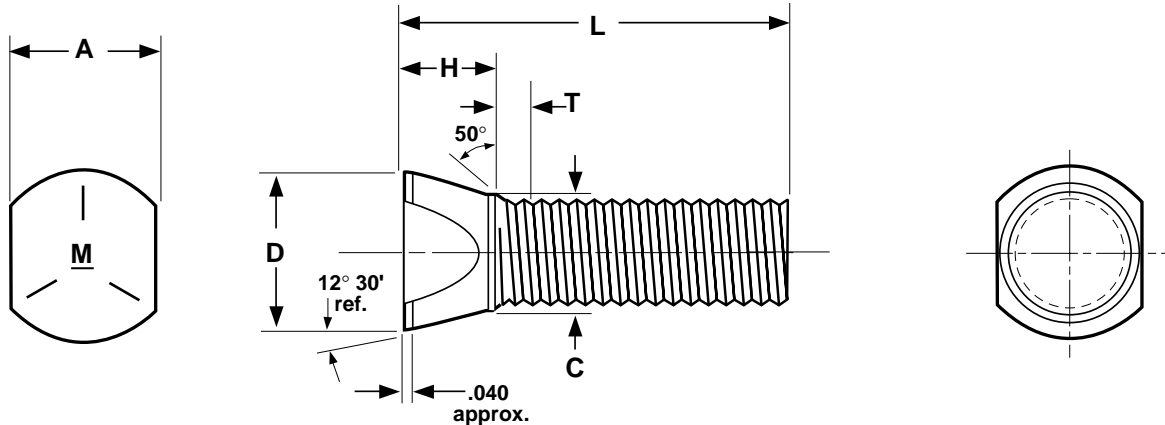
Description	Bolt with a countersunk, flat head, square neck and unified thread pitch, made from medium-carbon steel.
Applications/ Advantages	Used in road graders, scoop shovels and other heavy-duty equipment where a smooth surface is required at the spot of head protrusion.
Material	Grade-5 Plow Bolts shall be made from a medium carbon steel which conforms to the following chemical composition requirements: <i>Carbon</i> : 0.28% to 0.55%; <i>Phosphorus</i> : 0.048% maximum; <i>Sulphur</i> : 0.058% maximum.
Heat Treatment	Grade-5 Plow Bolts shall be heat treated, oil or water quenched, and tempered at a minimum tempering temperature of 800°F.
Core Hardness	Rockwell C25 - C34
Surface Hardness	Rockwell 30N 54 maximum
Proof Load	85,000 psi.
Yield Strength	92,000 psi. minimum
Tensile Strength	120,000 psi. minimum
Plating	See Appendix-A for plating information.



GRADE-8 PLOW BOLT

Description	A plow bolt made from alloy steel.
Applications/ Advantages	Greater tensile and proof load strength than a grade-5. Popular use is with bulldozer and snowplow blades.
Material	AISI 4037 and 4042 steel
Heat Treatment	Grade-8 Plow Bolts shall be heat treated, oil quenched and tempered at a minimum tempering temperature of 800°F.
Core Hardness	Rockwell C33 - C39
Surface Hardness	Rockwell 30N58.6 maximum
Proof Load	120,000 psi.
Yield Strength	130,000 psi. minimum
Tensile Strength	150,000 psi. minimum
Plating	Bolts are supplied unplated.

**Product standards require the manufacturer's head marking to appear on the top of all bolts 1/4" diameter and larger. "X" represents one location such a marking may appear.



PLOW BOLTS, CLIPPED HEAD

Nominal Size or Basic Bolt Diameter		A		D		H	C		T
		Width Across Flats		Full Head Diameter		Head Height	Diameter at Base of Head		Imperfect Thread Length
		Max	Min	Max	Min	Max	Max	Min	Max
3/8-16	0.3750	.470	.445	.565	.535	.350	.455	.440	.156
7/16-14	0.4375	.510	.495	.620	.590	.350	.510	.495	.178
1/2-13	0.5000	.570	.555	.680	.650	.350	.570	.555	.192
Tolerance on Length						± .062			

Description	Bolt with a countersunk, flat head, round neck and unified thread pitch, made from medium-carbon steel. The distinguishing characteristic of this part is the way the head diameter is reduced at opposite sides with equal sized sections removed, leaving two flat sides.
Applications/ Advantages	Used primarily in agricultural equipment.
Material	Grade-5 Clipped head Plow Bolts shall be made from a medium carbon steel which conforms to the following chemical composition requirements: <i>Carbon</i> : 0.25% to 0.58%; <i>Manganese</i> : 0.060% minimum; <i>Phosphorus</i> : 0.048% maximum; <i>Sulphur</i> : 0.058% maximum.
Heat Treatment	Grade-5 Clipped head Plow Bolts shall be heat treated by quenching in a liquid medium from above the transformation temperature and tempered at a minimum tempering temperature of 800°F.
Hardness	Rockwell C25 - C34
Yield Strength	92,000 psi.
Tensile Strength	120,000 psi. minimum
Reduction of Area	35% minimum
Plating	See Appendix-A for plating information.