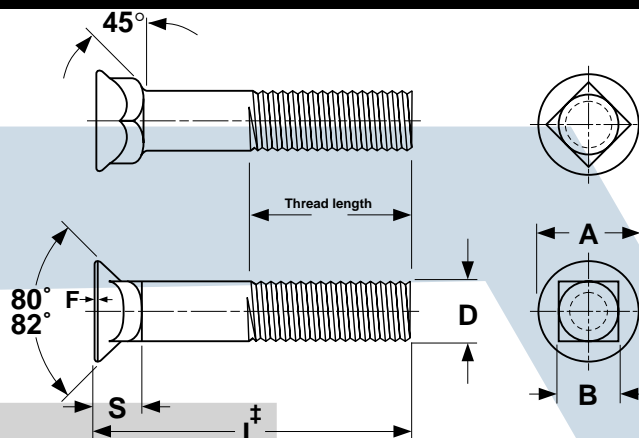
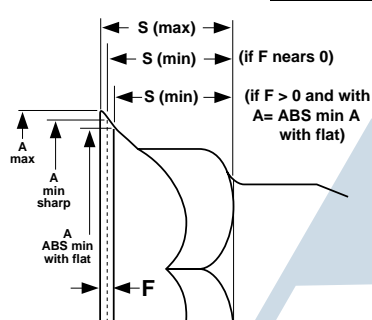


# Cap Screws & Bolts

## 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

ASME  
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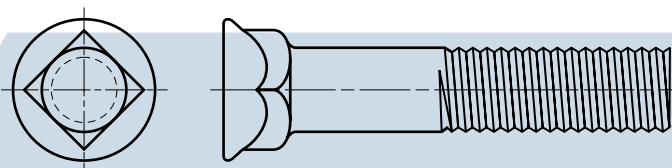
D	E		A			F	S		B	
Nominal Diameter	Diameter of Full Size Body		Diameter of Head			Feed Thickness	Depth of Square and Head		Width of Square	
	Max	Min	Max	Min Sharp	Abs. Min with Flat	Max	Max	Min	Max	Min (Basic)
5/16	0.312	0.299	0.605	0.578	0.563	0.025	0.269	0.243	0.325	0.313
3/8	0.375	0.360	0.708	0.671	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)

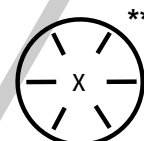
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1996

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**

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



### **GRADE-8 PLOW BOLT**

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