



Replaces costly special parts – shafts, pivots, pins, guides, linkages and trunnion mountings. Also standard for tool and die industries.

### Equivalent Standard

ASME B18.3, BS 2470

### Mechanical Properties

Hardness: Rockwell C 39-43;  
 Shear Strength: 108,000 lbf/in<sup>2</sup>  
 Working temperature: -50° to +300° C  
 Thread class: 3A

### Seating Torques and Strength

Thread size nom.	seating torque in-lbs.	ult. tensile strength lbs. (min)	single shear strength of body lbs. (min)
1/4	45	2,220	4,710
5/16	112	4,160	7,360
3/8	230	7,060	10,500
1/2	388	10,600	18,850
5/8	990	19,810	29,450
3/4	1,975	31,670	42,410
1	3,490	47,680	75,400
1-1/4	5,610	66,230	117,800
1-1/2	12,000	110,000	169,500
1-3/4	16,000	141,000	231,000
2	30,000	205,000	301,500

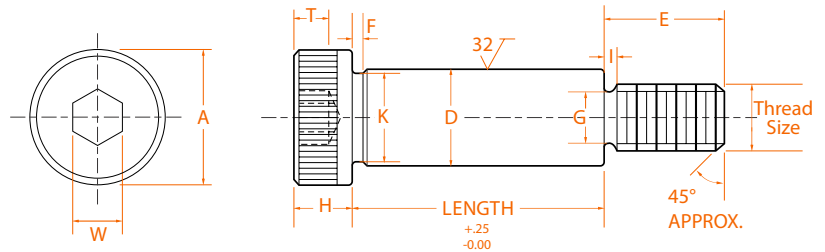
### Note

Because of their configuration, these screws cannot be tensile tested.

### Head Marking



Head markings may vary slightly depending on manufacturing practice. UNBRAKO and UNB are recognized identifications for 1/4" diameter & larger.



### Product Dimensions

Body size nom.	Thread size	Threads per Inch UNRC	Head Diameter A max.	Hex Socket Size W nom	Head Height H max	Socket Depth T min.	Shoulder diameter D max. min.
1/4	#10	24	.375	.125	.188	.094	.248 .246
5/16	1/4	20	.438	.156	.219	.117	.311 .309
3/8	5/16	18	.562	.188	.250	.141	.373 .371
1/2	3/8	16	.750	.250	.312	.188	.498 .496
5/8	1/2	13	.875	.312	.375	.234	.623 .621
3/4	5/8	11	1.000	.375	.500	.281	.748 .746
1	3/4	10	1.312	.500	.625	.375	.998 .996
1 1/4	7/8	9	1.750	.625	.750	.469	1.248 1.246
1 1/2	1 1/8	7	2.125	.875	1.000	.656	1.498 1.496
1 3/4	1 1/4	7	2.375	1.000	1.125	.750	1.748 1.746
2	1 1/2	6	2.750	1.250	1.250	.937	1.998 1.996

Body size nom.	Thread Length				
	G max.	K min	I max	F max	E max
1/4	.142	.227	.083	.093	.375
5/16	.193	.289	.100	.093	.438
3/8	.249	.352	.111	.093	.500
1/2	.304	.477	.125	.093	.625
5/8	.414	.602	.154	.093	.750
3/4	.521	.727	.182	.093	.875
1	.638	.977	.200	.125	1.000
1-1/4	.750	1.227	.222	.125	1.125
1-1/2	.964	1.478	.286	.125	1.500
1-3/4	1.089	1.728	.286	.125	1.750
2	1.307	1.978	.333	.125	2.000

### NOTES

**Concentricity:** Head to body – within .005 T.I.R. when checked in "V" block equal to or longer than body length. Pitch diameter to body – within .004 T.I.R. when held in threaded bushing and checked at a distance of 3/16" from shoulder at threaded end.

Shoulder must rest against face of shoulder of standard "GO" ring gage.  
 Bearing surface of head – perpendicular to axis of body within 2° maximum deviation.

Tensile strength based on minimum neck area "G." Shear strength based on shoulder diameter "D."

**Screw point chamfer:** The point shall be flat or slightly concave, and chamfered. The plane of the point shall be approximately normal to the axis of the screw. The chamfer shall extend slightly below the root of the thread, and the edge between flat and chamfer may be slightly rounded. The included angle of the point should be approximately 90°.