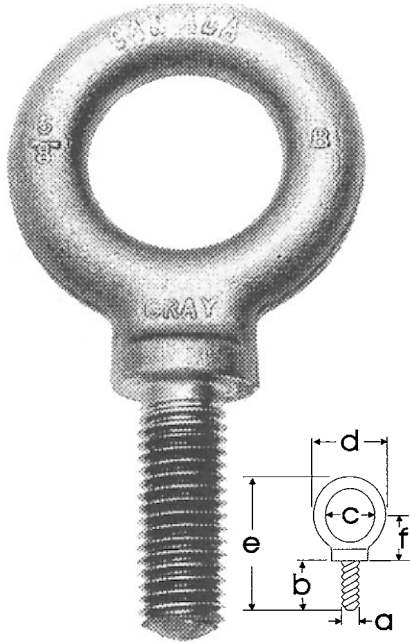
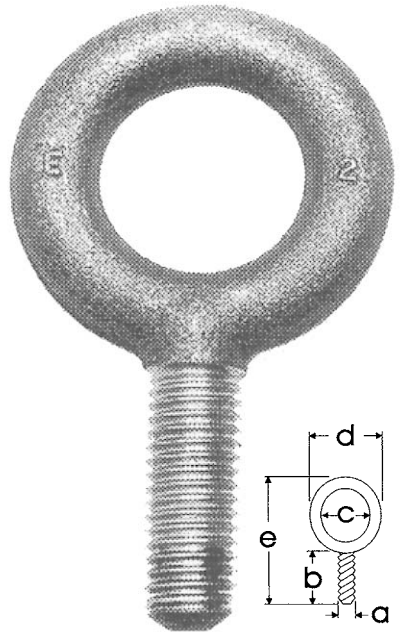


**EYE BOLTS**

**SHOULDER  
PATTERN**



**SHOULDER  
PATTERN**



**FORGED – CARBON STEEL – SELF COLOURED**

ITEM#	THREAD SIZE UNC-2A						RATED CAPACITY LB
	A IN	B IN	C IN	D IN	E IN	F IN	
GRYBS08	1/4-20	1	3/4	1 3/16	2 3/8	3/4	500
GRYBS10	5/16-18	1 1/8	7/8	1 7/16	2 13/16	15/16	900
GRYBS12	3/8-16	1 1/4	1	1 11/16	3 9/32	1 1/8	1300
GRYBS14	7/16-14	1 3/8	1 3/32	1 13/16	3 9/16	1 1/4	1800
GRYBS16	1/2-13	1 1/2	1 3/16	2 1/8	3 31/32	1 3/8	2400
GRYBS18	9/16-12	1 3/4	1 3/8	2 9/16	4 3/4	1 21/32	3200
GRYBS20	5/8-11	1 3/4	1 3/8	2 9/16	4 3/4	1 21/32	4000
GEYBS24	3/4-10	2	1 1/2	2 13/16	5 1/4	1 13/16	5000
GRYBS28	7/8-9	2 1/4	1 11/16	3 3/16	5 31/32	2 1/8	7000
GRYBS32	1-8	2 1/2	1 13/16	3 9/16	6 5/8	2 5/16	9000
GRYBS36	1 1/8-7	2 3/4	2	4 1/16	7 17/32	2 11/16	12000
GRYBS40	1 1/4-7	3	2 3/16	4 7/16	8 7/32	2 15/16	15000
GRYBS48	1 1/2-6	3 1/2	2 1/2	5 3/16	9 15/32	3 5/16	21000
GRYBS56	1 3/4-5	3 3/4	2 7/8	6	10 13/16	4	28000
GRYBS64	2-4 1/2	4	3 1/4	6 7/8	11 7/8	4 3/8	38000

NOTE: GRYBS18 dimensions are not in accordance with ASTM A489 and ANSI B18.15.

**Quality Checklist**

- Forged from special bar quality fine grain domestic carbon steel
- Normalized prior to machining
- Heat treated for strength and desired properties
- Roll threads 1/4" thru 1 1/4"
- Cut threads 1 1/2" thru 2 1/2"
- Proof tested in accordance with ASTM A489 and Federal Spec. ANSI B18.15
- ASTM A489 test data available on request (no charge with order)
- Shoulder style eyebolt 1/4" thru 1" military style collar – MS51937 specification

**Proof Tested To Insure Finest Quality**

Minimum breaking strengths are based on vertical loading and verified by actual physical testing of samples chosen via random selection from each lot of a size produced. Actual breaking tests are performed on sample specimens.

**FORGED – CARBON STEEL – SELF COLOURED**

ITEM#	THREAD SIZE UNC-2A						RATED CAPACITY LB
	A IN	B IN	C IN	D IN	E IN		
GRYBP08	1/4-20	1	3/4	1 3/16	2 7/32	500	
GRYBP10	5/16-18	1 1/8	7/8	1 7/16	2 19/32	900	
GRYBP12	3/8-16	1 1/4	1	1 11/16	3	1300	
GRYBP14	7/16-14	1 3/8	1 3/32	1 13/16	3 7/32	1800	
GRYBP16	1/2-13	1 1/2	1 3/16	2 1/8	3 21/32	2400	
GRYBP18	9/16-12	1 3/4	1 3/8	2 9/16	4 3/8	3200	
GRYBP20	5/8-11	1 3/4	1 3/8	2 9/16	4 3/8	4000	
GEYBP24	3/4-10	2	1 1/2	2 13/16	4 7/8	5000	
GRYBP28	7/8-9	2 1/4	1 11/16	3 3/16	5 1/2	7000	
GRYBP32	1-8	2 1/2	1 13/16	3 9/16	6 1/8	9000	
GRYBP36	1 1/8-7	2 3/4	2	4 1/16	6 7/8	12000	
GRYBP40	1 1/4-7	3	2 3/16	4 7/16	7 1/2	15000	
GRYBP48	1 1/2-6	3 1/2	2 1/2	5 3/16	8 3/4	21000	
GRYBP56	1 3/4-5	3 3/4	2 7/8	6	9 13/16	28000	
GRYBP64	2-4 1/2	4	3 1/4	6 7/8	11	38000	

NOTE: GRYBP18 dimensions are not in accordance with ASTM A489 and ANSI B18.15.

**WARNING:** RATED CAPACITY IS DRASTICALLY REDUCED WHEN LOADING AT ANY ANGLE. LOADING MUST NEVER BE MADE AT AN ANGLE GREATER THAN 45° FROM BOLT CENTERLINE. AT AN ANGLE OF 45° RATED CAPACITY IS REDUCED TO 1/4 OF THE TABULATED VALUE.

THREAD LENGTHS ALL STANDARD BOLTS EXCEPT LAG SCREWS														
Diameter of Bolt Inches	No. 10	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	1 3/8	1 1/2
THREAD LENGTH IN INCHES														
6" and shorter	5/8	3/4	7/8	1	1 1/8	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4
Longer than 6"	7/8	1	1 1/8	1 1/4	1 3/8	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2

**Thread Length Formula:**

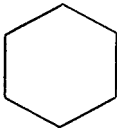
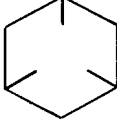
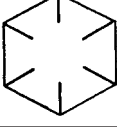
For bolts 6" and shorter – twice the diameter plus 1/4". (2D + 1/4") Longer than 6" – twice the diameter plus 1/2". (2S + 1/2").

When bolts are short for formula thread length, thread will extend as close to head or shoulder as practical. In actual production, thread lengths may be longer than the formula thread lengths.

BOLT THREADS NUMBER OF THREADS PER INCH UNIFIED STANDARD																
Diameter of Bolt Inches	No. 10	No. 12	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1 1/8	1 1/4	1 3/8	1 1/2
Coarse Thread Series	24	24	20	18	16	14	13	12	11	10	9	8	7	7	6	6
Fine Thread Series	32	38	28	24	24	20	20	18	18	16	14	14 12 x	12	12	12	12

x – Indicates number of threads per inch for Unified Fine (1" – 12 thread is UNF standard).

**PHYSICAL PROPERTIES**

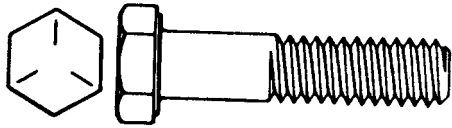
HEAD MARKING	SPECIFICATION	MATERIAL	BOLT SIZE (INCHES)	PROOF LOAD PSI	TENSILE STRENGTH PSI
	<b>S.A.E. GRADE 2</b>	Low carbon steel	1/4" thru 3/4"	55,000	74,000 min.
			over 3/4"	33,000	60,000 min.
	<b>S.A.E. GRADE 5</b>	Medium Carbon Steel Quenched and Tempered	1/4" thru 1"	85,000	120,000 min.
			over 1"	74,000	105,000 min.
	<b>S.A.E. GRADE 8</b>	Medium Carbon Alloy Steel Quenched and Tempered	1/4" thru 1 1/2"	120,000	150,000 min.

Diameter	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1
Head Width Across Flats	7/16	1/2	9/16	5/8	3/4	13/16	15/16	1 1/8	1 5/16	1 1/2
Head Height	5/32	13/64	15/64	9/32	5/16	23/64	25/64	15/32	35/64	39/64

## GRADE 5 HEXAGON HEAD BOLTS

## COARSE THREAD U.N.C



GRADE 5 – Three radial bars, made for S.A.E. medium carbon steel quenched and tempered. These screws should be ordered where a stronger screw is needed.

Available in bulk quantities. To order add “**BK**” to end of Item#. Example: Grade 5 UNC 1” x 3” = HXB5C1X3BK.

Also available in plated sizes. To order add “**P**” to end of Item#. Example: Grade 5 UNC 1/2” x 2” = HXB5C12X2P.

ITEM#	SIZE	ITEM#	SIZE	ITEM#	SIZE
HXB5C14X12	1/4" x 1/2"	HXB5C38X4	3/8" x 4"	HXB5C58X412	5/8" x 4 1/2"
HXB5C14X34	1/4" x 3/4"	HXB5C38X412	3/8" x 4 1/2"	HXB5C58X5	5/8" x 5"
HXB5C14X1	1/4" x 1"	HXB5C38X5	3/8" x 5"	HXB5C58X6	5/8" x 6"
HXB5C14X114	1/4" x 1 1/4"	HXB5C38X512	3/8" x 5 1/2"	HXB5C34X112	3/4" x 1 1/2"
HXB5C14X112	1/4" x 1 1/2"	HXB5C38X6	3/8" x 6"	HXB5C34X2	3/4" x 2"
HXB5C14X2	1/4" x 2"	HXB5C12X34	1/2" x 3/4"	HXB5C34X212	3/4" x 2 1/2"
HXB5C14X212	1/4" x 2 1/2"	HXB5C12X1	1/2" x 1"	HXB5C34X3	3/4" x 3"
HXB5C14X3	1/4" x 3"	HXB5C12X114	1/2" x 1 1/4"	HXB5C34X312	3/4" x 3 1/2"
HXB5C14X312	1/4" x 3 1/2"	HXB5C12X112	1/2" x 1 1/2"	HXB5C34X4	3/4" x 4"
HXB5C14X4	1/4" x 4"	HXB5C12X134	1/2" x 1 3/4"	HXB5C34X412	3/4" x 4 1/2"
HXB5C516X34	5/16" x 3/4"	HXB5C12X2	1/2" x 2"	HXB5C34X5	3/4" x 5"
HXB5C516X1	5/16" x 1"	HXB5C12X214	1/2" x 2 1/4"	HXB5C34X6	3/4" x 6"
HXB5C516X114	5/16" x 1 1/4"	HXB5C12X212	1/2" x 2 1/2"	HXB5C78X2	7/8" x 2"
HXB5C516X112	5/16" x 1 1/2"	HXB5C12X3	1/2" x 3"	HXB5C78X212	7/8" x 2 1/2"
HXB5C516X134	5/16" x 1 3/4"	HXB5C12X312	1/2" x 3 1/2"	HXB5C78X3	7/8" x 3"
HXB5C516X2	5/16" x 2"	HXB5C12X4	1/2" x 4"	HXB5C78X312	7/8" x 3 1/2"
HXB5C516X212	5/16" x 2 1/2"	HXB5C12X412	1/2" x 4 1/2"	HXB5C78X4	7/8" x 4"
HXB5C516X3	5/16" x 3"	HXB5C12X5	1/2" x 5"	HXB5C78X412	7/8" x 4 1/2"
HXB5C516X4	5/16" x 4"	HXB5C12X6	1/2" x 6"	HXB5C78X5	7/8" x 5"
HXB5C38X34	3/8" x 3/4"	HXB5C58X1	5/8" x 1"	HXB5C78X6	7/8" x 6"
HXB5C38X1	3/8" x 1"	HXB5C58X114	5/8" x 1 1/4"	HXB5C1X212	1" x 2 1/2"
HXB5C38X114	3/8" x 1 1/4"	HXB5C58X112	5/8" x 1 1/2"	HXB5C1X3	1" x 3"
HXB5C38X112	3/8" x 1 1/2"	HXB5C58X2	5/8" x 2"	HXB5C1X312	1" x 3 1/2"
HXB5C38X134	3/8" x 1 3/4"	HXB5C58X214	5/8" x 2 1/4"	HXB5C1X4	1" x 4"
HXB5C38X2	3/8" x 2"	HXB5C58X212	5/8" x 2 1/2"	HXB5C1X412	1" x 4 1/2"
HXB5C38X212	3/8" x 2 1/2"	HXB5C58X3	5/8" x 3"	HXB5C1X5	1" x 5"
HXB5C38X3	3/8" x 3"	HXB5C58X312	5/8" x 3 1/2"	HXB5C1X6	1" x 6"
HXB5C38X312	3/8" x 3 1/2"	HXB5C58X4	5/8" x 4"		

Also available in Grade 2 and Grade 8 U.N.C. and U.N.F.  
See page M3 for specifications.