

\$5.00



Rainbow Bolt & Supply, Inc.

rainbowboltsupply.com

951-684-3870




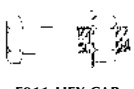


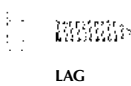


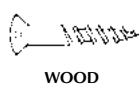


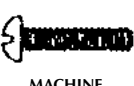



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FASTENER REFERENCE

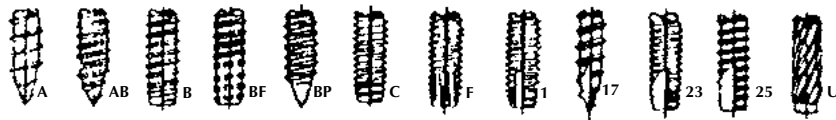
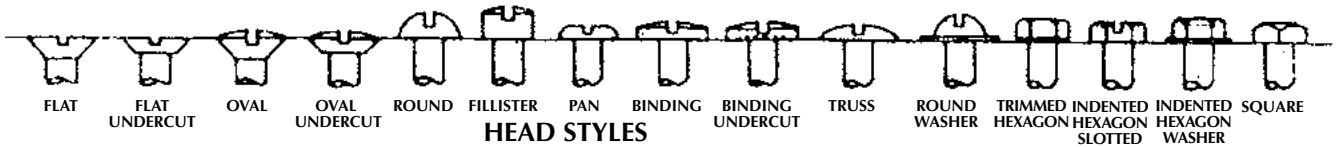
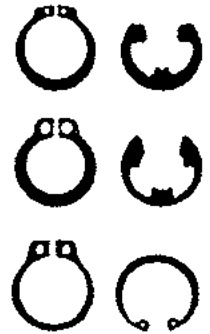
SCREWS

 TAPPING (SHEET METAL)	 GR. 5	 GR. 8	 F911-HEX CAP
 TEKS	 THUMB	 LAG	 SOCKET SET
 SEMS	 WOOD	 SCREWEYE	 SOCKET CAP
 MACHINE	 WELD	 SQUARE SET	 SHOULDER SCREW (STRIPPER BOLT)

WE HONOR



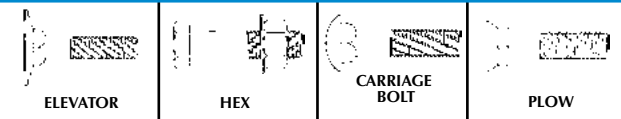
RETAINING RINGS
EXTERNAL
INTERNAL
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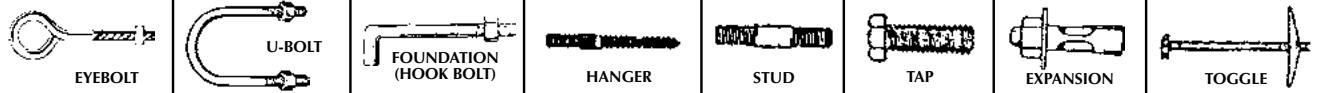
MACHINE & SET SCREW POINTS

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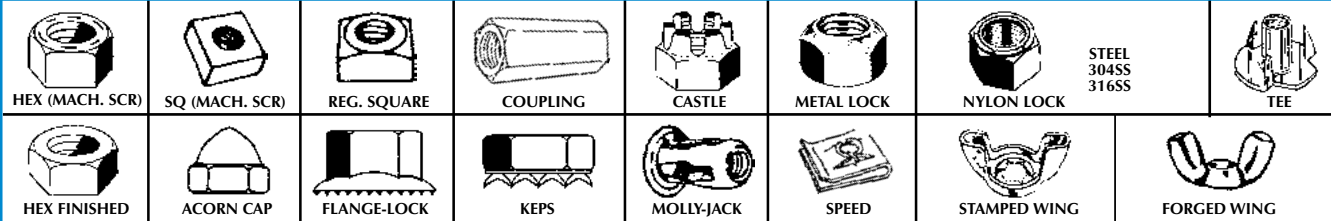
WE SET UP AND RESTOCK BIN ASSORTMENTS
CALL FOR MORE INFORMATION



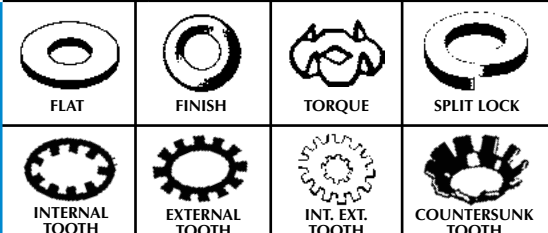
MATERIALS IN STOCK: STEEL, STAINLESS, BRASS, SILICONE BRONZE, NYLON & ALUMINUM



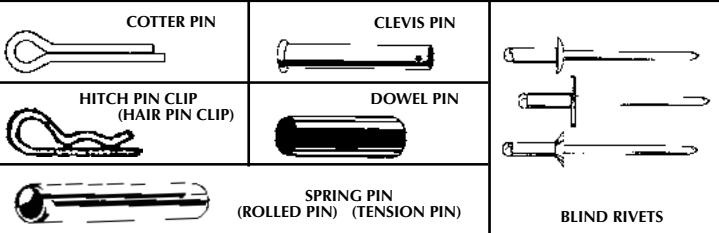
NUTS



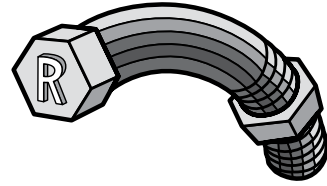
WASHERS



MISC



Rainbow Bolt & Supply, Inc.



Since 1985, Rainbow Bolt & Supply, Inc. has been providing Quality Service, Fasteners and Industrial Supplies at competitive prices.

We offer fasteners in both inch and metric sizes. With thousands of in stock items that ship daily, we are positioned to quickly meet the needs of our customers.

Rainbow Bolt & Supply, Inc. has long been the go-to supplier for non-standard items. With our comprehensive inventory, many times customers find we have that hard to find item in stock! If it is not in our stock, we can special order it for you.

Located in Southern California, Rainbow Bolt & Supply, Inc is committed to quality customer service and your satisfaction.

We are pleased to present to you this product reference guide and wish to say "Thank you!" for your interest in our company and products.

Sincerely,

The Staff of Rainbow Bolt & Supply, Inc.

If you don't see it in our catalog,
Call Us!

4030 Garner Road • Riverside, CA 92501-1006
(951) 684-3870 • Fax (951) 781-0501
E-mail - Support@rainbowboltsupply.com
www.rainbowboltsupply.com

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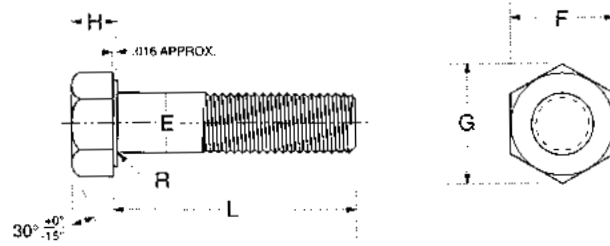
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OUR 12,000 SQUARE FOOT WAREHOUSE



HEAD DIMENSION CHART



Dimensional data for all grades of hex cap screws are shown below.

Hex cap screw dimensions (in.)

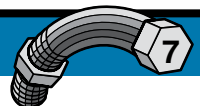
Nominal Size of Basic Product Diam	Body Diam E		Width Across Flats F			Width Across Corners G		Height H			Radius of Fillet R		
	Max	Min	Basic	Max	Min	Max	Min	Basic	Max	Min	Max	Min	
1/4	0.2500	0.2500	0.2450	7/16	0.4375	0.428	0.505	0.488	5/32	0.163	0.150	0.025	0.015
5/16	0.3125	0.3125	0.3065	1/2	0.5000	0.489	0.577	0.557	13/64	0.211	0.195	0.025	0.015
3/8	0.3750	0.3750	0.3690	9/16	0.5625	0.551	0.650	0.628	15/64	0.243	0.226	0.025	0.015
7/16	0.4375	0.4375	0.4305	5/8	0.6250	0.612	0.722	0.698	9/32	0.291	0.272	0.025	0.015
1/2	0.5000	0.5000	0.4930	3/4	0.7500	0.736	0.866	0.840	5/16	0.323	0.302	0.025	0.015
9/16	0.5625	0.5625	0.5545	13/16	0.8125	0.798	0.938	0.910	23/64	0.371	0.348	0.045	0.020
5/8	0.6250	0.6250	0.6170	15/16	0.9375	0.922	1.083	1.051	25/64	0.403	0.378	0.045	0.020
3/4	0.7500	0.7500	0.7410	1-1/8	1.1250	1.100	1.299	1.254	15/32	0.483	0.455	0.045	0.020
7/8	0.8750	0.8750	0.8660	1-5/16	1.3125	1.285	1.516	1.465	35/64	0.563	0.531	0.065	0.040
1	1.0000	1.0000	0.9900	1-1/2	1.5000	1.469	1.732	1.675	39/64	0.627	0.591	0.095	0.060
1-1/8	1.1250	1.1250	1.1140	1-11/16	1.6875	1.631	1.949	1.859	11/16	0.718	0.658	0.095	0.060
1-1/4	1.2500	1.2500	1.2390	1-7/8	1.8750	1.812	2.165	2.066	25/32	0.813	0.749	0.095	0.060
1-3/8	1.3750	1.3750	1.3630	2-1/16	2.0625	1.994	2.382	2.273	27/32	0.878	0.810	0.095	0.060
1-1/2	1.5000	1.5000	1.4880	2-1/4	2.2500	2.175	2.598	2.480	15/16	0.974	0.902	0.095	0.060

Hex bolt dimensions (in.)

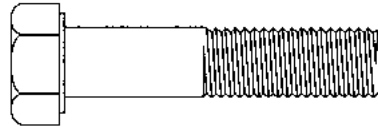
Nominal Size or Basic Product Diam	Body Diam E	Width Across Flats F			Width Across Corners G		Height H			Radius of Fillet R	
	Max	Basic	Max	Min	Max	Min	Basic	Max	Min	Max	
1/4	0.2500	0.260	7/16	0.4375	0.425	0.505	0.484	11/64	0.188	0.150	0.031
5/16	0.3125	0.324	1/2	0.5000	0.484	0.577	0.552	7/32	0.235	0.195	0.031
3/8	0.3750	0.388	9/16	0.5625	0.544	0.650	0.620	1/4	0.268	0.226	0.031
7/16	0.4375	0.452	5/8	0.6250	0.603	0.722	0.687	19/64	0.316	0.272	0.031
1/2	0.5000	0.515	3/4	0.7500	0.725	0.866	0.826	11/32	0.364	0.302	0.031
5/8	0.6250	0.642	15/16	0.9375	0.906	1.083	1.033	27/64	0.444	0.378	0.062
3/4	0.7500	0.768	1-1/8	1.1250	1.088	1.299	1.240	1/2	0.524	0.455	0.062
7/8	0.8750	0.895	1-5/16	1.3125	1.269	1.516	1.447	37/64	0.604	0.531	0.062
1	1.0000	1.022	1-1/2	1.5000	1.450	1.732	1.653	43/64	0.700	0.591	0.093
1-1/8	1.1250	1.149	1-11/16	1.6875	1.631	1.949	1.859	3/4	0.780	0.658	0.093
1-1/4	1.2500	1.277	1-7/8	1.8750	1.812	2.165	2.066	27/32	0.876	0.749	0.093
1-3/8	1.3750	1.404	2-1/16	2.0625	1.994	2.382	2.273	29/32	0.940	0.810	0.093
1-1/2	1.5000	1.531	2-1/4	2.2500	2.175	2.598	2.480	1	1.036	0.902	0.093
1-3/4	1.7500	1.785	2-5/8	2.6250	2.538	3.031	2.893	1-5/32	1.196	1.054	0.125
2	2.0000	2.039	3	3.0000	2.900	3.464	3.306	1-11/32	1.388	1.175	0.125

Heavy hex bolt dimensions (in.)

Nominal Size or Basic Product Diam	Body Diam E	Width Across Flats F			Width Across Corners G		Height H			Radius of Fillet R	
	Max	Basic	Max	Min	Max	Min	Basic	Max	Min	Max	
1/2	0.5000	0.515	7/8	0.8750	0.850	1.010	0.969	11/32	0.364	0.302	0.031
5/8	0.6250	0.642	1-1/16	1.0625	1.031	1.227	1.175	27/64	0.444	0.378	0.062
3/4	0.7500	0.768	1-1/4	1.2500	1.212	1.443	1.383	1/2	0.524	0.455	0.062
7/8	0.8750	0.895	1-7/16	1.4375	1.394	1.660	1.589	37/64	0.604	0.531	0.062
1	1.0000	1.022	1-5/8	1.6250	1.575	1.876	1.796	43/64	0.700	0.591	0.093
1-1/8	1.1250	1.149	1-13/16	1.8125	1.756	2.093	2.002	3/4	0.780	0.658	0.093
1-1/4	1.2500	1.277	2	2.0000	1.938	2.309	2.209	27/32	0.876	0.749	0.093
1-3/8	1.3750	1.404	2-3/16	2.1875	2.119	2.526	2.416	29/32	0.940	0.810	0.093
1-1/2	1.5000	1.531	2-3/8	2.3750	2.300	2.742	2.622	1	1.036	0.902	0.093



CAP SCREW — HEX BOLTS

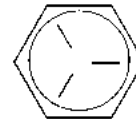


Grade 2 Cap Screws



Grade 2 Cap Screws are manufactured from Low or Medium Carbon Steel. Grade markings are not required, and may not appear on Grade 2 Bolts.

Grade 5 Cap Screws



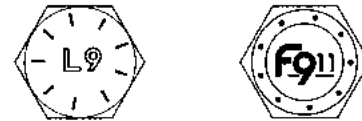
Grade 5 Cap Screws are manufactured from Medium Carbon Steel, Heat Treated, Quenched and Tempered. Three grade markings appear on the head of Grade 5 Cap Screws for identification.

Grade 8 Cap Screws



Grade 8 Cap Screws are manufactured from Medium Carbon Alloy Steel, Heat Treated, Quenched and Tempered. Six grade markings appear on the head of Grade 8 Cap Screws for identification.

Grade 9 Cap Screws

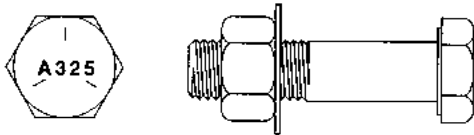


The Grade 9 Bolting System develops the highest clamp force available in a standard bolt/nut assembly. It is frequently referred to by one of the following trade names: L9 or F911. Special Alloy Steels and heat treatments are used to achieve the 180,000 psi tensile strength.



CAP SCREW — HEX BOLTS

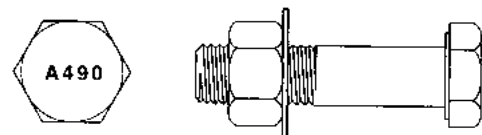
A325 Structural Bolts



A325 Structural Bolts are manufactured from Medium Carbon Steel, Heat Treated, Quenched, and Tempered. Proof load and tensile strength are the same as Grade 5 Cap Screws. The major difference is A325 has a Heavy Hex Head and slightly different thread lengths. A325 is usually sold as a unit with a heavy hex nut and is primarily used in steel construction.

Available in Plain or Galvanized Finish

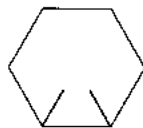
A490 Structural Bolts



A490 Structural Bolts are manufactured from Medium Carbon Alloy steel, Heat Treated, Quenched, and Tempered. Proof load and tensile strength are the same as Grade 8 Cap Screws. The A490 Structural Bolt, like the A325 Structural Bolt, has a heavy hex head and is usually sold as a unit with equivalent heavy hex nut. It is used in steel construction where higher clamping forces are specified.

Available in Plain Finish Only

Type 304 (18-8) Stainless Steel

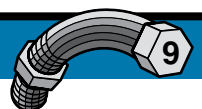


Most often referred to by their collective nickname, "18-8," the low 300 series stainless steels are used in applications where corrosion resistance is of primary concern. "18-8" stainless steels have an equivalent tensile strength to Grade 2 Cap Screws. They are frequently used in food processing and marine applications.

Type 316 Stainless Steel



Type 316 Stainless Steel Fasteners have the same relative strength as 18-8 Stainless Steel Fasteners, but, due to their different chemical composition, have a much higher tolerance to corrosive environment. Type 316 Stainless Fasteners are used in applications where acids, H₂S, or other harsh chemical conditions prevail, such as refineries, cooling towers, and mineral processing.



Basic dimensions of UNRC, UNRF, and 8UNR thread series AN Standard B1.1

Coarse Thread Series – UNRC				Fine Thread Series – UNRF				8 Thread Series – 8UNR			
Nominal Size and Threads Per In.	Basic Pitch Diam	Section at Minor Diam Ar	Tensile Stress Area As	Nominal Size and Threads Per In.	Basic Pitch Diam	Section at Minor Diam Ar	Tensile Stress Area As	Nominal Size and Threads Per In.	Basic Pitch Diam	Section at Minor Diam Ar	Tensile Stress Area As
	in.	sq. in.	sq. in.		in.	sq. in.	sq. in.		in.	sq. in.	sq. in.
1/4-20	0.2175	0.0269	0.0318	1/4-28	0.2268	0.0326	0.0364	—	—	—	—
5/16-18	0.2764	0.0454	0.0524	5/16-24	0.2854	0.0524	0.0580	—	—	—	—
3/8-16	0.3344	0.0678	0.0775	3/8-24	0.3479	0.0809	0.0878	—	—	—	—
7/16-14	0.3911	0.0933	0.1063	7/16-20	0.4050	0.1090	0.1187	—	—	—	—
1/2-13	0.4500	0.1257	0.1419	1/2-20	0.4675	0.1486	0.1599	—	—	—	—
9/16-12	0.5084	0.162	0.182	9/16-18	0.5264	0.189	0.203	—	—	—	—
5/8-11	0.5660	0.202	0.226	5/8-18	0.5889	0.240	0.256	—	—	—	—
3/4-10	0.6850	0.302	0.334	3/4-16	0.7094	0.351	0.373	—	—	—	—
7/8-9	0.8028	0.419	0.462	7/8-14	0.8286	0.480	0.509	—	—	—	—
1-8	0.9188	0.551	0.606	*1-14	0.9459	0.625	0.663	1-8	0.9188	0.551	0.606
1-1/8-7	1.0322	0.693	0.763	1-1/8-12	1.0709	0.812	0.856	1-1/8-8	1.0438	0.728	0.790
1-1/4-7	1.1572	0.890	0.969	1-1/4-12	1.1959	1.024	1.073	1-1/4-8	1.1688	0.929	1.000
1-3/8-6	1.2667	1.054	1.155	1-3/8-12	1.3209	1.260	1.315	1-3/8-8	1.2938	1.155	1.233
1-1/2-6	1.3917	1.294	1.405	1-1/2-12	1.4459	1.521	1.581	1-1/2-8	1.4188	1.405	1.492
—	—	—	—	—	—	—	—	1-5/8-6	1.5438	1.68	1.78
1-3/4-5	1.6201	1.74	1.90	—	—	—	—	1-3/4-8	1.6688	1.98	2.08
—	—	—	—	—	—	—	—	1-7/8-8	1.7938	2.30	2.41
2-4-1/2	1.8557	2.30	2.50	—	—	—	—	2-8	1.9188	2.65	2.77
2-1/4-4-1/2	2.1057	3.02	3.25	—	—	—	—	2-1/4-8	2.1688	3.42	3.56
2-1/2-4	2.3376	3.72	4.00	—	—	—	—	2-1/2-8	2.4188	4.29	4.44
2-3/4-4	2.5876	4.62	4.93	—	—	—	—	2-3/4-8	2.6688	5.26	5.43
3-4	2.8376	5.62	5.97	—	—	—	—	3-8	2.9188	6.32	6.51
3-1/4-4	3.0876	6.72	7.10	—	—	—	—	3-1/4-8	3.1688	7.49	7.69
3-1/2-4	3.3376	7.92	8.33	—	—	—	—	3-1/2-8	3.4188	8.75	8.96
3-3/4-4	3.5876	9.21	9.66	—	—	—	—	3-3/4-8	3.6688	10.11	10.34
4-4	3.8376	10.61	11.08	—	—	—	—	4-8	3.9188	11.57	11.81

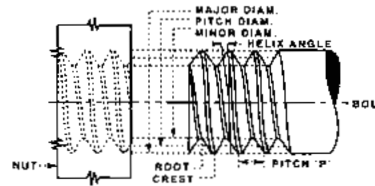
Formulae:—

$$As = 0.7854 \left(D - \frac{0.9743}{N} \right)^2$$

$$Ar = 0.7854 \left(D - \frac{1.3}{N} \right)^2$$

where D = Nominal size in inches
and N = Threads per inch

*12 threads per inch are the UNRF standard in this size, but 14 threads per inch (UNRS – United National Radius-Root Special) are generally preferred by the industry.



ELEMENTS OF THREAD DIMENSIONS

ASTM and SAE grade markings for steelbolts and screws

ASTM Specifications

- A307— Low Carbon Steel Externally and Internally Threaded Standard Fasteners
- A325— High Strength Steel Bolts for Structural Steel Joints, including Suitable Nuts and Plain Hardened Washers
- A449— Quenched and Tempered Steel Bolts and Studs
- A354— Quenched and Tempered Alloy Steel Bolts and Studs with Suitable Nuts
- A490— High Strength Alloy Steel Bolts for Structural Steel Joints, including Suitable Nuts and Plain Hardened Washers

SAE Specifications

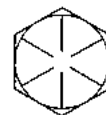
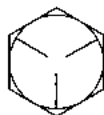
- J429— Mechanical and Quality Requirements for Threaded Fasteners
- *Three radial lines may be shown at manufacturer's option

Grade Marking	Specification	Material	Bolt and Screw Size in.	Proof Load psi	Tensile Strength min. psi.
NO MARK or: A307	SAE—Grade 1	Low Carbon Steel	1/4 thru 1-1/2	33,000	60,000
	ASTM—A307		1/4 thru 4		60,000
	SAE—Grade 5	Low Carbon Steel	1/4 thru 3/4	55,000	74,000
	ASTM—A449	Medium Carbon Steel Quenched and Tempered	Over 3/4 thru 1-1/2	33,000	60,000
	SAE—Grade 5	Medium Carbon Steel	1/4 thru 1	85,000	120,000
	ASTM—A325	Quenched and Tempered	Over 1 thru 1-1/2	74,000	105,000
	SAE—Grade 5	Medium Carbon Steel	1/4 thru 1	85,000	120,000
	ASTM—A325	Quenched and Tempered	Over 1 thru 1-1/2	74,000	105,000
	SAE—Grade 8	Medium Carbon Steel	1/2 thru 1	85,000	120,000
	ASTM—A325	Quenched and Tempered	1 1/8 thru 1-1/2	74,000	105,000
	SAE—Grade 8	Medium Carbon Alloy Steel, Quenched and Tempered	1/4 thru 1-1/2	120,000	150,000
	ASTM—A354 Grade BB	Low Alloy Steel Quenched and Tempered	1/4 thru 2-1/2	80,000	105,000
	SAE—Grade 8	Medium Carbon Alloy Steel, Quenched and Tempered	1/4 thru 1-1/2	120,000	150,000
	ASTM—A354 Grade BC	Low Alloy Steel Quenched and Tempered	Over 2-1/2 thru 4	80,000	105,000
	SAE—Grade 8	Medium Carbon Alloy Steel, Quenched and Tempered	1/4 thru 1-1/2	120,000	150,000
	ASTM—A354 Grade BC	Low Alloy Steel Quenched and Tempered	Over 2-1/2 thru 4	95,000	115,000
	SAE—Grade 8	Medium Carbon Alloy Steel, Quenched and Tempered	1/4 thru 1-1/2	120,000	150,000
	ASTM—A354 Grade BD	Alloy steel, Quenched and Tempered	1/4 thru 2-1/2	105,000	140,000
	SAE—Grade 8	Medium Carbon Alloy Steel, Quenched and Tempered	1/4 thru 1-1/2	120,000	150,000
	ASTM—A490	Alloy Steel, Quenched and Tempered	Over 2 1/2 thru 4	105,000	140,000



Call For Prices (951) 684-3870

SUGGESTED ASSEMBLY TORQUE VALUES



GRADE 2 STEEL TENSILE STRENGTH: 74,000 Lbs. 1/4" thru 3/4" 60,000 Lbs. 7/8" thru 1-1/2"	GRADE 5 STEEL TENSILE STRENGTH: 120,000 Lbs. 1/4" thru 1" 105,000 Lbs. 1-1/8" thru 1-1/2"	GRADE 8 STEEL TENSILE STRENGTH: 150,000 Lbs. 1/4" thru 1-1/2"
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COARSE, IC, UNC, U.S.S. THREAD

FASTENER THREAD SIZE	PROOF LOAD (LBS.)	TORQUE (Lb. Ft.)			PROOF LOAD (LBS.)	TORQUE (Lb. Ft.)			PROOF LOAD (LBS.)	TORQUE (Lb. Ft.)		
		UNPLATED	PLATED	LUBRICATED		UNPLATED	PLATED	LUBRICATED		UNPLATED	PLATED	LUBRICATED
1/4-20	1,750	7	5	4	2,700	11	8	7	3,810	16	12	10
5/16-18	2,880	15	11	9	4,450	23	17	14	6,290	33	25	20
3/8-16	4,260	27	20	16	6,580	41	31	25	9,290	58	44	35
7/16-14	5,840	43	32	26	9,030	66	49	40	12,750	93	70	56
1/2-13	7,800	65	49	39	12,060	101	75	60	17,020	142	106	85
9/16-12	10,000	94	70	56	15,460	145	109	87	21,830	205	153	123
5/8-11	12,430	129	97	78	19,200	200	150	120	27,120	283	212	170
3/4-10	15,230	222	167	133	28,420	355	266	213	40,130	502	376	301
7/8-9	18,390	230	172	138	39,240	572	429	343	55,400	808	606	485
1-8	19,980	333	250	200	51,480	858	644	515	72,680	1,211	909	727
1-1/8-7	25,180	472	354	283	64,870	1,216	912	730	91,590	1,717	1,288	1,030
1-1/4-7	31,980	666	500	400	82,370	1,716	1,287	1,030	116,290	2,423	1,817	1,454
1-3/8-6	38,110	873	655	524	98,160	2,250	1,687	1,350	138,580	3,176	2,382	1,905
1-1/2-6	46,370	1,159	869	696	119,440	2,986	2,240	1,792	168,630	4,216	3,162	2,529

FINE, NF, S.A.E., UNF THREAD

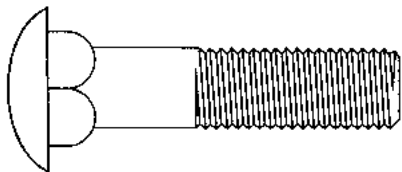
FASTENER THREAD SIZE	PROOF LOAD (LBS.)	TORQUE (Lb. Ft.)			PROOF LOAD (LBS.)	TORQUE (Lb. Ft.)			PROOF LOAD (LBS.)	TORQUE (Lb. Ft.)		
		UNPLATED	PLATED	LUBRICATED		UNPLATED	PLATED	LUBRICATED		UNPLATED	PLATED	LUBRICATED
1/4-28	2,000	8	6	5	3,090	13	10	8	4,360	18	14	11
5/16-24	3,190	17	12	10	4,930	26	19	15	6,960	36	27	22
3/8-24	4,830	30	23	18	7,460	47	35	28	10,530	66	49	39
7/16-20	6,530	48	36	29	10,090	74	55	44	14,240	104	78	62
1/2-20	8,790	73	55	44	13,590	113	85	68	19,190	160	120	96
9/16-18	11,160	105	78	63	17,250	162	121	97	24,350	228	171	137
5/8-18	14,080	147	110	88	21,750	227	170	136	30,710	320	240	192
3/4-16	16,810	245	184	147	31,700	396	297	238	44,750	559	420	336
7/8-14	20,510	256	192	154	43,300	631	474	379	61,130	891	669	535
1-14	21,880	365	274	219	56,350	939	704	564	79,560	1,326	995	796
1-1/8-12	28,230	529	397	318	72,730	1,364	1,023	818	102,680	1,925	1,444	1,155
1-1/4-12	35,400	738	553	443	91,190	1,900	1,425	1,140	128,750	2,682	2,012	1,609
1-3/8-12	43,380	994	746	596	111,740	2,561	1,921	1,536	157,760	3,615	2,712	2,169
1-1/2-12	52,170	1,304	783	783	134,380	3,360	2,520	2,016	189,720	4,743	3,557	2,846

NOTE: The above assembly torques are offered as a guide only. Tightening should be checked under actual field conditions due to the many variables possible.



CARRIAGE BOLTS

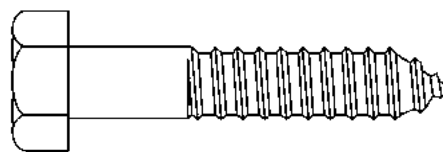
PLATED
AVAILABLE IN GRADES 2 AND 5



Diameters 3/16" thru 3/4"
Lengths 1/2" thru 24"

LAG SCREWS

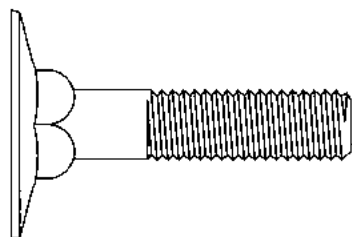
PLAIN and PLATED



Diameters 1/4" thru 3/4"
Lengths 1" thru 12"

ELEVATOR BOLTS

PLATED

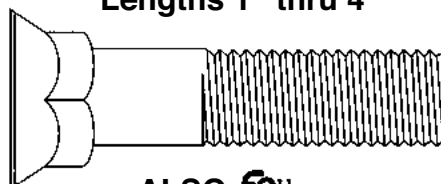


Diameters 1/4" thru 3/8"
Lengths 3/4" thru 3"

PLOW BOLTS

AVAILABLE IN GRADE 5
PLAIN

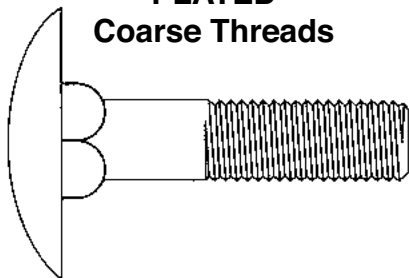
Diameters 3/8" thru 1/2"
Lengths 1" thru 4"



ALSO F911
Diameters 5/8" - 3/4" - 7/8" - 1" - 1 1/4"

STEP BOLTS

PLATED
Coarse Threads

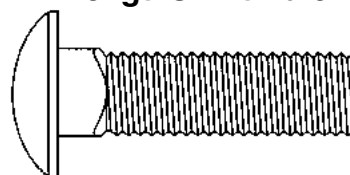


Diameters 1/4" thru 3/8"
Lengths 3/4" thru 3"

SHAKER SCREEN BOLTS

MED. CARBON STEEL HEAT-TREATED

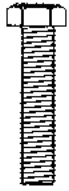
AVAILABLE IN GRADE 5
Diameters 3/8" thru 1/2"
Lengths 1" thru 6"



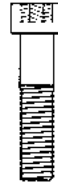
F911
Diameters 1/2" - 5/8" - 3/4"



METRIC FASTENERS

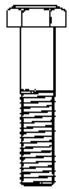


DIN 933/961 FULL THREAD
HEX SCREW
DIN 933: Coarse Thread Pitch
DIN 961: Fine Thread Pitches

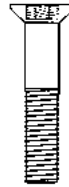


DIN 912 SOCKET HEAD CAP SCREW
(GRADE 12.9)

8.8 = (Grade 5)



DIN 931/960 PARTIAL THREAD
HEX SCREW
DIN 931: Coarse Thread Pitch
DIN 960: Fine Thread Pitch



DIN 7991 FLAT HEAD SOCKET
CAP SCREW (GRADE 10.9)

10.9 = (Grade 8)



DIN 934 FINISHED HEX NUT

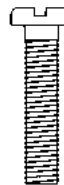


DIN 916 SOCKET SET SCREW
(GRADE 12.9)

A2 = (18-8 S/S)



DIN 985 NYLON INSERT LOCKNUT



DIN 85 PAN HEAD SLOTTED
MACHINE SCREW

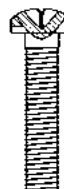


DIN 980 ALL STEEL PREVAILING
TORQUE LOCKNUT

A4 = (316 S/S)



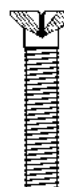
DIN 935 CASTLE OR SLOTTED NUT



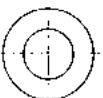
DIN 7985 PAN HEAD PHILLIPS
MACHINE SCREW



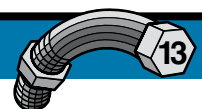
DIN 127 SPLIT LOCK WASHER



DIN 965 FLAT HEAD PHILLIPS
MACHINE SCREW



DIN 125 FLAT WASHER



METRIC THREAD

Preference classes/diameter-pitch combinations/
metric tap drill size and clearance holes
(US-drill sizes for reference)

Preference Class			Pitch		Drill size for tapping M course	Closest recommended US size ⁴	Drill size for tapping M fine	Closest recommended US size ⁴	Clearance hole	Closest recommended US size ⁴	Wrench size for hex heads c/s
1 ¹	2 ²	3 ³	coarse	fine							
1			0.25		0.75	#69			1.2	#56	2.5
1.2			0.25		0.95	#63			1.4	#54	
	1.4		0.3		1.1	#57			1.6	#52	3
1.6			0.35		1.25	#55			1.8	#50	3.2
	1.8		0.35		1.4	#54			2.0	#46	
2			0.4		1.6	#52			2.4	#41	4
	2.2		0.45		1.7	#50			2.8	#35	4.5
2.5			0.45		2.0	#46			2.9	#32	5
3			0.5		2.5	#40			3.4	#29	5.5
	3.5		0.6		2.9	#33			3.9	#24	6
4			0.7		3.3	#30			4.5	#16	7
5			0.8		4.2	#19			5.5	7/32	8
6			1.0		5.0	#9			6.6	G	10
		7	1.0		6.0	15/64			7.6	N	11
8			1.25	1	6.8	17/64	7.0	J	9.0	T	13
10			1.5	1.25 (1.0)	8.5	Q	8.8 (9.0)	11/32(T)	11.0	27/64	17
		11	1.5	1	9.5	3/8		X	12.5	1/2	
12			1.75	1.25 (1.5)	10.2	J	10.8 (10.5)	27/64(Z)	13.5	17/32	19
14	14		2.0	1.5	12.0	15/32	12.5	1/2	15.5	39/64	22
		15		1.0			14.0	35/64	16.5	21/32	
16			2.0	1.5	14.0	35/64	14.5	37/64	17.5	11/16	24
	18		2.5	1.5	15.5	39/64	16.5	21/32	20.0	51/64	27
20			2.5	1.5	17.5	11/16	18.5	47/64	22.0	55/64	30
	22		2.5	1.5	19.5	49/64	20.5	13/16	24.0	15/16	32
24			3.0	2.0	21.0	53/64	22.0	7/8	26.0	1-1/64	36
		25		1.5			23.5	50/64	27.0	1-1/16	
		26		1.5			24.5	31/32	28.0	1-7/64	
	27		3.0	2.0	24.0	15/16	25.0	63/64	30.0	1-11/64	41
		28		2.0			26.0	1-1/32	31.0	1-7/32	
30			3.5	2.0	26.5	1-3/64	28.0	1-7/64	33.0	1-9/32	46
	33		3.5	2.0	29.5	1-5/32	31.0	1-7/32	36.0	1-27/64	50
36			4.0	3.0	32.0	1-1/4	33.0	1-19/64	39.0	1-9/16	55
	39		4.0	3.0	35.0	1-3/8	36.0	1-27/64	42.0	1-21/32	60
42			4.5	3.0	37.5	1-15/32	39.0	1-17/32	45.0	1-25/32	65
	45		4.5	3.0	40.5	1-19/32	42.0	1-21/32	48.0	1-29/32	70
48			5.0	3.0	43.0	1-11/16	45.0	1-25/32	52.0	2-1/16	75
	52		5.0	3.0	47.0	1-27/32	49.0	1-15/16	56.0	2-7/32	80
56			5.5	4.0	50.5	2	52.0	2-1/16	62.0	2-7/16	85
	60		5.5	4.0	54.5	2-1/8	56.0	2-7/32	66.0	2.5984 ⁵	90
64			6.0	4.0	58.0	2-5/16	60.0	2-3/8	70.0	2.7559 ⁵	95
	68		6.0	4.0	62.0	2-7/16	64.0	2.5197 ⁵	74.0	2.9134 ⁵	110
72			6.0	4.0	66.0	2-5/8	66.0	2.5984 ⁵	78.0	3.0709 ⁵	105
	76		6.0				70.0	2.7559 ⁵	82.0	3.228 ⁵	110
80			6.0				74.0	2.9134 ⁵	86.0	3.3858 ⁵	115
	85		6.0				79.0	3.1102 ⁵	91.0	3.5826 ⁵	
90			6.0				84.0	3.3070 ⁵	96.0	3.7795 ⁵	130
	95		6.0				89.0	3.5039 ⁵	101.0	3.9763 ⁵	
100			6.0				94.0	3.7007 ⁵	107.0	4.2125 ⁵	145

DIAMETER CONVERSION		
metric mm	inch approx.	Pitch mm
1	3/64"	0.25
1.2	3/64"	0.25
1.4		0.3
1.6	1/16"	0.35
2	5/64"	0.4
2.2	5/64"	0.45
2.3	3/32"	0.45
2.5	3/32"	0.45
2.6		0.45
3	1/8"	0.5
3.5	9/64"	0.6
4	5/32"	0.7
5	3/16"	0.8
6	1/4"	1.0
7	9/32"	1.0
8	5/16"	1.25
10	3/8"	1.5
12	1/2"	1.75
14	9/16"	2.0
16	5/8"	2.0
18	11/16"	1.5
20	3/4"	2.5
22	7/8"	2.5
24	1"	3.0
27	1-1/16"	3.0
30	1-3/16"	3.5
33	1-5/16"	3.5
36	1-7/16"	4.0
39	1-1/2"	4.0
42	1-5/8"	4.5
45	1-3/4"	4.5
48	1-7/8"	5.0

LENGTH CONVERSION			
metric mm	inch approx.	metric mm	inch approx.
1	3/64"	70	2-3/4"
1.5	1/16"	75	3"
2	5/64"	80	3-3/16"
2.5	3/32"	85	3-3/8"
3	1/8"	90	3-1/2"
4	5/32"	100	2"
5	3/16"	110	4-3/8"
6	1/4"	120	4-3/4"
6.5	1/4"	130	5"
8	5/16"	140	5-1/2"
9.5	3/8"	150	6"
10	3/8"	160	6-1/4"
12	1/2"	170	6-3/4"
13	1/2"	180	7"
14	3/16"	190	7-1/2"
16	5/8"	200	8"
18	11/16"	220	8-3/4"
19	3/4"	240	9-9/16"
20	3/4"	260	10-1/4"
22	7/8"	270	9-3/4"
25	1"	280	11"
30	1-3/16"	300	12"
32	1-1/4"	320	12-1/2"
35	1-3/8"	340	13-1/2"
36	1-7/16"	360	14-1/4"
38	1-1/2"	380	15"
40	1-9/16"	400	15-3/4"
45	1-3/4"	420	16-1/2"
50	2"	440	17-3/8"
55	2-3/16"	460	18"
60	2-3/8"	480	19"
65	2-9/16"	500	20"

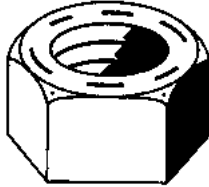
- ¹ The fastener sizes in preference class 1 are suggested to be used in all designs. The sizes in this category are generally, readily available.
- ² Fasteners in preference class 2 should be chosen only if a size in preference class 1 is not feasible. For preference class 2 sizes, longer lead times have to be expected.
- ³ Preference class 3 sizes are not recommended for fasteners (normally used for shaft ends etc.)
- ⁴ Note: Use metric drill sizes whenever possible. The listed US-drill sizes are as close as they possibly can be. Nevertheless, they may not be adequate in all circumstances.
- ⁵ No fractional size is close enough.



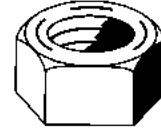
STEEL NUTS

GRADE 8 FINISHED HEX NUTS

Available
Coarse or Fine



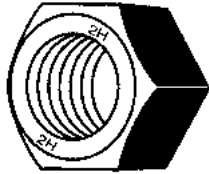
GRADE 5 FINISHED HEX NUTS



Available
Coarse or Fine

HEAVY HEX NUTS

Grade 2H



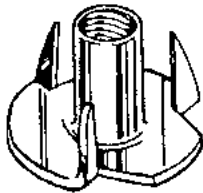
WING NUTS

Stamped and Forged

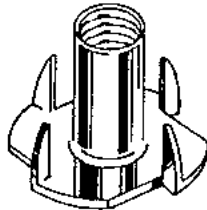


T-NUTS, STRAIGHT BARREL

3 PRONG



4 PRONG



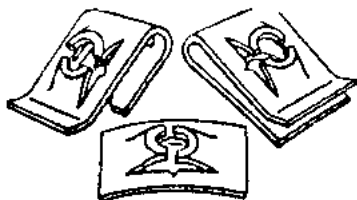
CAP NUTS

(Acorn)

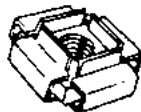


SPRING TENSION

CLIP ON NUTS



CAGE NUTS



ACME

(HEAVY PATTERN)



WE HONOR

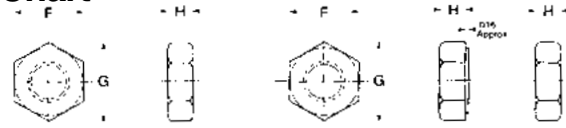


JAM NUTS - HEX AND HEAVY HEX

Dimension Chart

AN Standard b18.2.2 (Dimensions)

Double-chamfered hex jam nuts are offered with UNC-2B or UNF-2B threads in diameters ranging from 1/4 in. to 1 in., inclusive. Heavy hex jam nuts are available with UNC-2B threads, double-chamfered in diameters of 1/4 in. to 1 in., inclusive, or washer-faced in diameters of 1-1/8 in. to 2 in., inclusive.



Hex Jam Nut, double chamfered

Heavy Hex Jam Nuts, washer-faced and double chamfered

Heavy hex jam nut dimensions (in.)

Nominal Size or Basic Major Diam. of Thread	Width Across Flats F			Width Across Corners G		Thickness Heavy Hex Jam Nuts H		
	Basic	Max	Min	Max	Min	Basic	Max	Min
1/4 0.2500	1/2	0.5000	0.488	0.577	0.566	11/64	0.188	0.156
5/16 0.3125	9/16	0.5625	0.546	0.650	0.622	13/64	0.220	0.186
3/8 0.3750	11/16	0.6875	0.669	0.794	0.763	15/64	0.252	0.216
7/16 0.4375	3/4	0.7500	0.728	0.866	0.830	17/64	0.285	0.247
1/2 0.5000	7/8	0.8750	0.850	1.010	0.969	19/64	0.317	0.277
9/16 0.5625	15/16	0.9375	0.909	1.083	1.037	21/64	0.349	0.307
5/8 0.6250	1-1/16	1.0625	1.031	1.227	1.175	23/64	0.381	0.337
3/4 0.7500	1-1/4	1.2500	1.212	1.443	1.382	27/64	0.446	0.398
7/8 0.8750	1-7/16	1.4375	1.394	1.660	1.589	31/64	0.510	0.458
1 1.0000	1-5/8	1.6250	1.575	1.876	1.796	35/64	0.575	0.519
1-1/8 1.1250	1-13/16	1.8125	1.750	2.093	2.002	39/64	0.639	0.579
1-1/4 1.2500	2	2.0000	1.938	2.309	2.209	23/32	0.751	0.687
1-3/8 1.3750	2-3/16	2.1875	2.119	2.526	2.416	25/32	0.815	0.747
1-1/2 1.5000	2-3/8	2.3750	2.300	2.742	2.622	27/32	0.880	0.808
1-5/8 1.6250	2-9/16	2.5625	2.481	2.959	2.828	29/32	0.944	0.868
1-3/4 1.7500	2-3/4	2.7500	2.662	3.175	3.035	31/32	1.009	0.929
1-7/8 1.8750	2-15/16	2.9375	2.844	3.392	3.242	1-1/32	1.073	0.989
2 2.0000	3-1/8	3.1250	3.025	3.608	3.449	1-3/32	1.138	1.050

Hex jam nut dimensions (in.)

Nominal Size or Basic Major Diam. of Thread	Width Across Flats F			Width Across Corners G		Thickness Hex Jam Nuts H		
	Basic	Max	Min	Max	Min	Basic	Max	Min
1/4 0.2500	7/16	0.4375	0.428	0.505	0.488	5/32	0.163	0.150
5/16 0.3125	1/2	0.5000	0.489	0.577	0.557	3/16	0.195	0.180
3/8 0.3750	9/16	0.5625	0.551	0.650	0.628	7/32	0.227	0.210
7/16 0.4375	11/16	0.6875	0.675	0.794	0.768	1/4	0.260	0.240
1/2 0.5000	3/4	0.7500	0.736	0.866	0.840	5/16	0.323	0.302
9/16 0.5625	7/8	0.8750	0.861	1.010	0.982	5/16	0.324	0.301
5/8 0.6250	1-5/16	0.9375	0.922	1.083	1.051	1/8	0.387	0.363
3/4 0.7500	1-1/8	1.1250	1.088	1.299	1.240	27/64	0.446	0.398
7/8 0.8750	1-5/16	1.3125	1.269	1.516	1.447	31/64	0.510	0.458
1 1.0000	1-1/2	1.5000	1.450	1.732	1.653	35/64	0.575	0.519

JAM NUTS - HEX AND HEAVY HEX

Dimension Chart

AN Standard b18.2.2 (Dimensions)

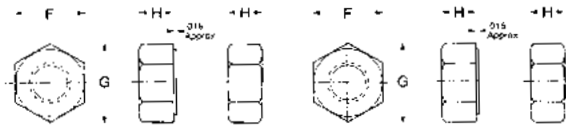
Hex nuts are made in two dimensional standards. The smaller standard (designated as "hex") is of adequate size to furnish proper bearing and torquing strength for use with most bolting applications. The larger standard (designated as "heavy hex") has greater width and thickness for use where maximum bearing area is required.

Hex nuts with either UNC-2B or UNF-2B threads are available in diameters ranging from 1/4 in. to 2 in. These are double-chamfered through the 1-in. size, and washer-faced in sizes over 1 in. Heavy hex nuts with UNC-2B threads are available in diameters ranging from 1/4 in. to 4 in., washer-faced in the full range of sizes, as well as double-chamfered in sizes through 1 in.

Drawings and dimensional data for both types are shown below. ANSI dimensional standards for hex must apply only for diameters of 1-1/2 in. and under.

Heavy hex nut dimensions (in.)

Nominal Size or Basic Major Diam. of Thread	Width Across Flats F			Width Across Corners G		Thickness Hex Nuts H		
	Basic	Max	Min	Max	Min	Basic	Max	Min
1/4 0.2500	7/16	0.4375	0.428	0.505	0.488	7/32	0.226	0.212
5/16 0.3125	1/2	0.5000	0.489	0.577	0.557	17/64	0.273	0.258
3/8 0.3750	9/16	0.5625	0.551	0.650	0.628	21/64	0.337	0.320
7/16 0.4375	11/16	0.6875	0.675	0.794	0.768	3/8	0.385	0.365
1/2 0.5000	3/4	0.7500	0.736	0.866	0.840	7/16	0.448	0.427
9/16 0.5625	7/8	0.8750	0.861	1.010	0.982	31/64	0.496	0.473
5/8 0.6250	15/16	0.9375	0.922	1.083	1.051	35/64	0.559	0.535
3/4 0.7500	1-1/8	1.1250	1.088	1.299	1.240	41/64	0.685	0.617
7/8 0.8750	1-5/16	1.3125	1.269	1.516	1.447	3/4	0.776	0.724
1 1.0000	1-1/2	1.5000	1.450	1.732	1.653	55/64	0.887	0.831
1-1/8 1.1250	1-11/16	1.6875	1.631	1.949	1.859	31/32	0.999	0.939
1-1/4 1.2500	1-7/8	1.8750	1.812	2.165	2.066	1-1/16	1.094	1.030
1-3/8 1.3750	2-1/16	2.0625	1.994	2.382	2.273	1-11/64	1.206	1.138
1-1/2 1.5000	2-1/4	2.2500	2.175	2.598	2.480	1-9/32	1.317	1.245
1-3/4 1.7500	2-5/8	2.6250	2.538	3.031	2.893	1-1/2	1.540	1.460
2 2.0000	3	3.0000	2.900	3.464	3.306	1-23/32	1.763	1.675



Hex Nuts, washer-faced and double chamfered

Heavy Hex Nuts, washer-faced and double chamfered

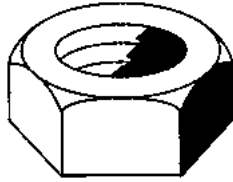
Heavy hex nut dimensions (in.)

Nominal Size or Basic Major Diam. of Thread	Width Across Flats F			Width Across Corners G		Thickness Heavy Hex Nuts H		
	Basic	Max	Min	Max	Min	Basic	Max	Min
1/4 0.2500	1/2	0.5000	0.488	0.577	0.556	15/64	0.250	0.218
5/16 0.3125	9/16	0.5625	0.546	0.650	0.622	19/64	0.314	0.280
3/8 0.3750	11/16	0.6875	0.669	0.794	0.763	23/64	0.377	0.341
7/16 0.4375	3/4	0.7500	0.728	0.866	0.830	27/64	0.441	0.403
1/2 0.5000	7/8	0.8750	0.850	1.010	0.969	31/64	0.504	0.464
9/16 0.5625	15/16	0.9375	0.909	1.083	1.037	35/64	0.568	0.526
5/8 0.6250	1-1/16	1.0625	1.031	1.227	1.175	39/64	0.631	0.587
3/4 0.7500	1-1/4	1.2500	1.212	1.443	1.382	47/64	0.758	0.710
7/8 0.8750	1-7/16	1.4375	1.394	1.660	1.589	55/64	0.885	0.833
1 1.0000	1-5/8	1.6250	1.575	1.876	1.796	63/64	1.012	0.956
1-1/8 1.1250	1-13/16	1.8125	1.756	2.093	2.002	1-7/64	1.139	1.079
1-1/4 1.2500	2	2.0000	1.938	2.309	2.209	1-7/32	1.251	1.187
1-3/8 1.3750	2-3/16	2.1875	2.119	2.526	2.416	1-11/32	1.378	1.310
1-1/2 1.5000	2-3/8	2.3750	2.300	2.742	2.622	1-15/32	1.505	1.433
1-5/8 1.6250	2-9/16	2.5625	2.481	2.959	2.828	1-19/32	1.632	1.556
1-3/4 1.7500	2-3/4	2.7500	2.662	3.175	3.035	1-23/32	1.759	1.679
1-7/8 1.8750	2-15/16	2.9375	2.844	3.392	3.242	1-27/32	1.886	1.802
2 2.0000	3-1/8	3.1250	3.025	3.608	3.449	1-31/32	2.013	1.925
2-1/4 2.2500	3-1/2	3.5000	3.388	4.041	3.862	2-13/64	2.251	2.155
2-1/2 2.5000	3-7/8	3.8750	3.750	4.474	4.275	2-29/64	2.505	2.401
2-3/4 2.7500	4-1/4	4.2500	4.112	4.907	4.688	2-45/64	2.759	2.647
3 3.0000	4-5/8	4.6250	4.475	5.340	5.102	2-61/64	3.013	2.893
3-1/4 3.2500	5	5.0000	4.838	5.774	5.515	3-3/16	3.252	3.124
3-1/2 3.5000	5-3/8	5.3750	5.200	6.207	5.928	3-7/16	3.506	3.370
3-3/4 3.7500	5-3/4	5.7500	5.562	6.640	6.341	3-11/16	3.760	3.616
4 4.0000	6-1/8	6.1250	5.925	7.073	6.755	3-15/16	4.014	3.862



FINISHED HEX NUTS

PLAIN and PLATED
Coarse and Fine



ALSO STOCKED IN LEFTHAND THREAD

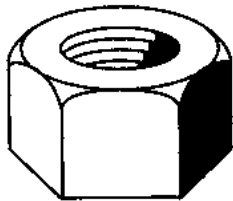
**FINISHED HEX JAM NUTS
HEAVY HEX JAM NUTS**

PLAIN and PLATED

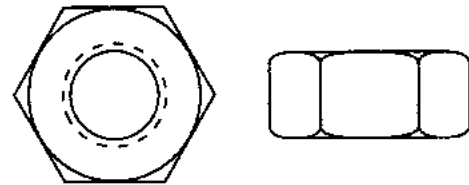


HEAVY HEX NUTS

PLAIN and PLATED
Coarse Thread



**HEX MACHINE
SCREW NUTS**



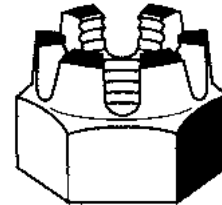
**FINISHED HEX NUTS
SLOTTED**

PLAIN and PLATED



**FINISHED HEX
CASTLE NUTS**

Fine Thread



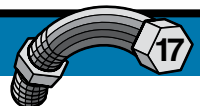
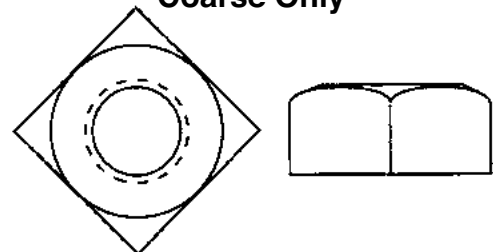
STEEL HEX HI-NUTS

Fine Thread



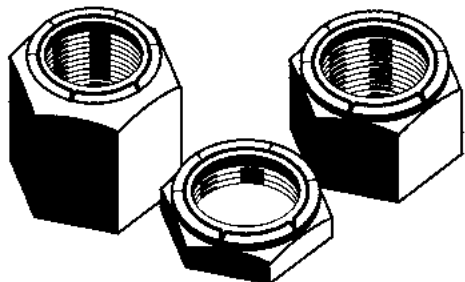
SQUARE NUTS

PLAIN and PLATED
Coarse Only



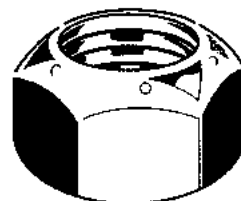
**FINISHED NYLON INSERT
LOCK NUTS**

PLATED
Coarse and Fine



**ALL STEEL LOCK NUTS
Grade C**

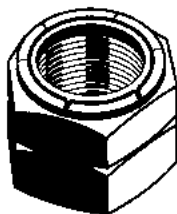
PLATED
Coarse and Fine



aka - Stover

**GRADE 8 NYLON INSERT
LOCK NUTS**

PLAIN and PLATED
Coarse and Fine



FLANGE NUTS

With or Without Serrations



Also Grade 8

REVERSIBLE LOCK NUTS



K-LOCK NUTS

(Keps)



PAL NUTS



FLEXLOCK LOCK NUTS

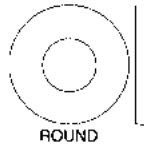


Special Order Only



WASHER SPECIFICATIONS

**A325 / A490 / I9
Hardened Round
High-Strength Washers**



Stock Sizes

BOLT SIZE	O.D. (Inches) A	I.D. (Inches) B	THICKNESS GAUGE C
1/4	5/8	9/32	.050/.095
5/16	11/16	11/32	.050/.095
3/8	13/16	13/32	.050/.095
7/16	59/64	15/32	.050/.095
1/2	1-1/16	17/32	.097/.177
9/16	1-3/16	19/32	.097/.177
5/8	1-5/16	11/16	.122/.177
3/4	1-15/32	13/16	.122/.177
7/8	1-3/4	15/16	.136/.177
1	2	1-1/8	.136/.177
1-1/8	2-1/4	1-1/4	.136/.177
1-1/4	2-1/2	1-3/8	.136/.177
1-3/8	2-3/4	1-1/2	.136/.177
1-1/2	3	1-5/8	.136/.177
1-3/4	3-3/8	1-7/8	.187
2	3-3/4	2-1/8	.187
2-1/4	4	2-3/8	.250
2-1/2	4-1/2	2-5/8	.250

Fender Washers

BOLT SIZE	I.D. (Inches) A	O.D. (Inches) B	THICKNESS GAUGE C	ESTIM. NO./PCS. PER LB.
3/16	7/32	1	.051/.080	105
3/16	7/32	1-1/4	.051/.080	51
1/4	17/64	1	.051/.080	80
1/4	9/32	1-1/4	.051/.080	51
1/4	9/32	1-1/2	.051/.080	40
5/16	11/32	1-1/4	.051/.080	54
5/16	11/32	1-1/2	.051/.080	45
3/8	25/64	1-1/4	.051/.080	59
3/8	25/64	1-1/2	.051/.080	41
3/8	13/32	2	.051/.080	20
1/2	17/32	1-1/2	.051/.080	38
1/2	17/32	2	.051/.080	22

SAE Washers

Bolt Size In.	Outside Dia., In.	Inside Dia., In.	Birmingham Gauge	Estim. Wt. per M Pcs., lbs.	Estim. No./Pcs. 100 lbs.	Estim. No./Pcs. Per Lb.
#4	5/16	1/8	21 (1/32)	.6	90,000	1650
#6	3/8	5/32	18 (3/64)	1.26	79,000	790
#8	7/16	3/16	18 (3/64)	1.7	58,500	585
#10	1/2	7/32	18 (3/64)	2.3	43,500	435
#12	9/16	1/4	16 (1/16)	3.7	36,200	280
1/4	5/8	9/32	16 (1/16)	4.5	22,200	222
5/16	11/16	11/32	16 (1/16)	5.2	19,200	192
3/8	13/16	13/32	16 (1/16)	7.2	14,000	140
7/16	59/64	15/32	16 (1/16)	9.5	10,500	105
1/2	1-1/16	17/32	13 (3/32)	18.3	5,500	55
9/16	1-3/16	19/32	13 (3/32)	23.4	4,300	43
5/8	1-5/16	21/32	13 (3/32)	27.7	3,600	36
3/4	1-1/2	13/16	10 (9/64)	47.4	2,100	21
7/8	1-3/4	15/16	10 (9/64)	63	1,600	16
1	2	1-1/16	10 (9/64)	83	1,200	12
1-1/8	2-1/4	1-3/16	10 (9/64)	109	920	9.2
1-1/4	2-1/2	1-5/16	9 (5/32)	160	630	6.3
1-3/8	2-3/4	1-7/16	9 (5/32)	190	525	5.25
1-1/2	3	1-9/16	9 (5/32)	240	425	4.25

Standard Washers - USS

Manufacturers' Standard Sizes

Bolt Size In.	Outside Dia., In.	Inside Dia., In.	Birmingham Gauge	Estim. Wt. per M Pcs., lbs.	Estim. No./Pcs. 100 lbs.	Estim. No./Pcs. Per Lb.
3/16	9/16	1/4	18 (3/64)	2.8	36,200	301
1/4	3/4	5/16	16 (1/16)	6.7	14,900	149
5/16	7/8	3/8	14 (5/64)	11.5	9,000	87
3/8	1	7/16	14 (5/64)	14.9	6,700	67
7/16	1-1/4	1/2	14 (5/64)	24.4	4,100	41
1/2	1-3/8	9/16	12 (7/64)	38.5	2,600	26
9/16	1-1/2	5/8	12 (7/64)	45.5	2,200	22
5/8	1-3/4	11/16	10 (9/64)	77	1,300	13
3/4	2	13/16	9 (5/32)	110	910	9.1
7/8	2-1/4	15/16	8 (11/64)	153	650	6.5
1	2-1/2	1-1/16	8 (11/64)	188	530	5.3
1-1/8	2-3/4	1-1/4	8 (11/64)	220	450	4.5
1-1/4	3	1-3/8	8 (11/64)	260	380	3.8
1-3/8	3-1/4	1-1/2	7 (3/16)	333	300	3
1-1/2	3-1/2	1-5/8	7 (3/16)	385	260	2.6
1-5/8	3-3/4	1-3/4	7 (3/16)	448	230	2.3
1-3/4	4	1-7/8	7 (3/16)	500	200	2
1-7/8	4-1/4	2	7 (3/16)	569	176	1.8
2	4-1/2	2-1/8	7 (3/16)	630	159	1.6
2-1/4	4-3/4	2-3/8	5 (7/32)	826	121	1.2
2-1/2	5	2-5/8	4 (15/64)	961	104	1
2-3/4	5-1/4	2-7/8	3 (1/4)	1100	91	.9
3	5-1/2	3-1/8	2 (9/32)	1300	77	.8

Thickness: Reflecting long established trade practice, the nominal thicknesses of washers are Birmingham gauge sizes. The limits specified represent a tolerance of plus or minus one gauge or the spread from the minimum of one gauge minus to the maximum of one gauge plus.

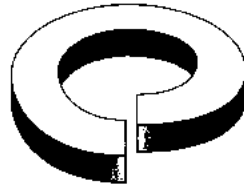


Call For Prices (951) 684-3870

LOCK WASHERS

Plain and Plated

MEDIUM SPLIT



HEAVY SPLIT

HI-TENSILE ALLOY

HI-COLLAR SPLIT

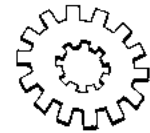
INTERNAL TOOTH



EXTERNAL TOOTH



INTERNAL-EXTERNAL



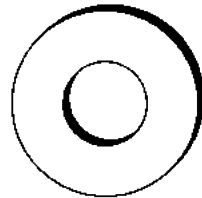
COUNTERSUNK



WASHERS

Plain and Plated

USS STANDARD-STEEL
3/16" thru 3" (Larger OD)



SAE - STEEL

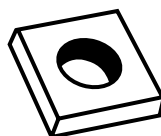
#6 thru 1-1/2" (Smaller OD)

COUNTERSUNK FINISHING

Nos. 4 - 6 - 8 - 10 - 12 - 14

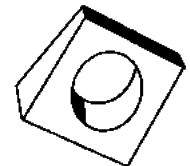


SQUARE PLATE
1/2" THRU 1"



MALLEABLE-BEVEL

1/4" thru 1-1/2"



MALLEABLE- ROUND

3/8" thru 1-1/4"



STRUCTURAL F-436

1/2" thru 2"
For use with A-325 Structural Bolts



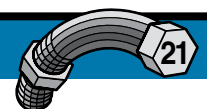
FENDER

3/16" thru 1/2"



ALLOY

1/4" thru 1-1/2"



SOCKET HEAD CAP SCREWS

Coarse and Fine
ALLOY STEEL



AVAILABLE IN STAINLESS, METRIC
AND NON STANDARD SIZES

SOCKET SET SCREWS CUP POINT

Coarse and Fine
ALLOY STEEL



(Also available in Knurled, Cone, 1/2 Dog,
Flat and other point styles upon request)
ALSO AVAILABLE IN STAINLESS
AND METRIC SIZES

FLAT HEAD SOCKET CAP SCREWS

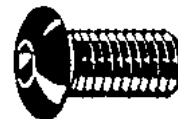
Coarse and Fine
ALLOY STEEL



ALSO AVAILABLE IN STAINLESS
AND METRIC SIZES

BUTTON HEAD SOCKET CAP SCREWS

Coarse and Fine
ALLOY STEEL



ALSO AVAILABLE IN STAINLESS
AND METRIC SIZES

SOCKET HEAD SHOULDER SCREWS

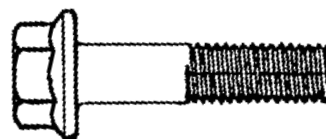
ALLOY STEEL



ALSO AVAILABLE IN STAINLESS
AND METRIC SIZES

FLANGE SCREW Grade 8

PHOSPHATE & OILED



ALSO AVAILABLE IN
METRIC 10.9 ZINC



SOCKET PIPE PLUG

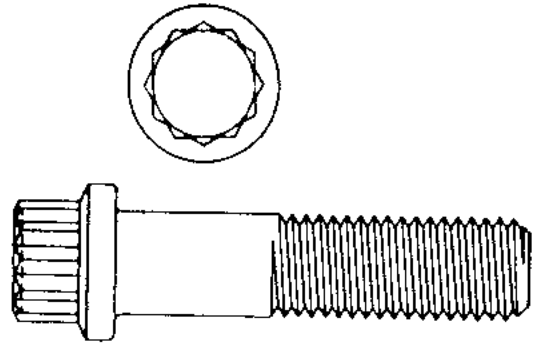
ALLOY STEEL



1/16" NPT — 1-1/2" NPT
Diameter
ALSO AVAILABLE IN STAINLESS

12-POINT FLANGE SCREWS

PLAIN FINISH GRADE 8
COARSE & FINE



ALSO AVAILABLE IN METRIC CLASS 12.9

DOWEL PINS

ALLOY STEEL

1/16" — 1" Diameter



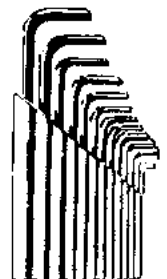
SQUARE HEAD SET SCREWS-CUP POINT

Steel - Case Hardened - Coarse Thread



1/4" — 1-1/2" Diameter

HEX KEYS HEX KEY SETS



THE SIMPLE, COST EFFECTIVE SYSTEM FOR REPAIRING OR CREATING STRONGER THREADS.

THREAD REPAIR KITS

Recoil Thread Repair Kits contain a quality HSS tap, installation tool, precision stainless steel inserts and instructions, in a sturdy reusable container. Recoil has a full range of problem solving repair kits, available in single or multiple size format.

INSERTS

Recoil stainless steel inserts are manufactured in a full range of thread forms and lengths and available in convenient replacement packets, or bulk.

TOOLING

Features the simple Recoil repair kit installation tool for general maintenance use. Also offered is a wide range of semi-automatic, electric and pneumatic installation tools, High Speed Steel Taps, and complete Installation Systems for production applications.



RECOIL ADVANTAGES

Recoil inserts are the quick and easy method for repairing damaged threads, or creating stronger original threads in alloys and composite materials in original equipment manufacture.

- Create stronger threads in most materials.
- Made from corrosion resistant stainless steel.
- Simplifies changeover from unified to metric and vice versa.
- Interchangeable with other brands of inserts and tooling.
- Reduces thread wear.
- Wide temperature tolerance

This versatility makes Recoil Inserts suitable for a wide range of applications.

AUTOMOTIVE REPAIRS

Commonly used in automotive machine shops for spark plug and general thread repairs.

MACHINE SHOPS

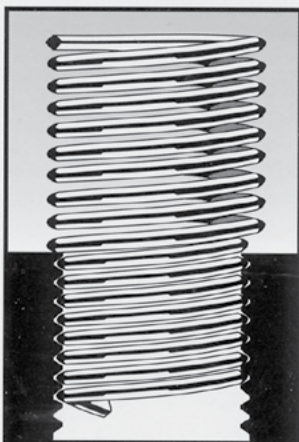
Recoil thread repair kits help prevent costly machine downtime. Range Kits, a multiple size kit format, are widely used in maintenance workshops.

OEM

As Recoil creates superior threads with greater holding power in most materials they are widely used in original equipment manufacture such as electronics, automotive, aerospace, plastics, etc.

HOW RECOIL WORKS

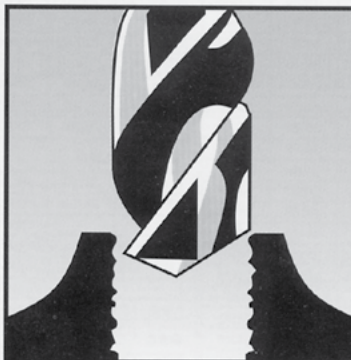
Recoil insert are made from high quality stainless steel wire, with a diamond shaped cross section, wound to the shape of a spring thread. The insert, which is larger in diameter than the tapped hole, is compressed during installation then



allowed to spring back, permanently anchoring the insert in the tapped hole.

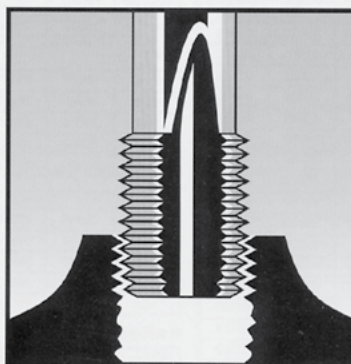
Because of its larger diameter, the Recoil Insert has a greater contact area and is normally stronger than the original threads.

HOW TO USE RECOIL



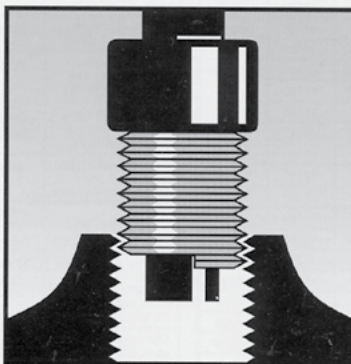
1. DRILL

Drill to clear out the damaged thread (if necessary).



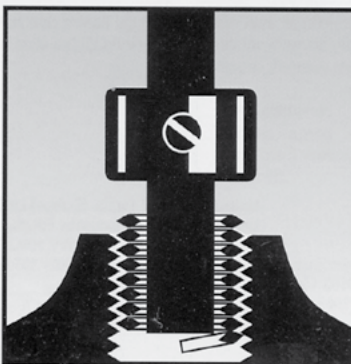
2. TAP

Thread insert tap supplied. Tap thread should match up with bolt.



3. INSTALL

Wind insert in with light downward pressure until 1/4 to 1/2 turn below the surface, driving tang towards the bottom of the hole.



4. TANG REMOVAL

Remove tool and sit back on top of tang. Tap down sharply. Do not try to twist tang off. For sparkplug and large fine thread inserts, use long nose pliers and pull tang out.



SNAPS AND SWIVELS



ITEM#	TRADE#	SIZE	WT. PER PKG	PKG QTY.
DOUBLE, ROUND EYE SWIVEL - NICKEL				
06169	TC2225MS	5/8"	0.91	10
06170	TC2225MS	3/4"	1.30	10
06172	TC2225MS	1"	1.08	10

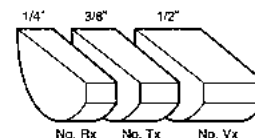
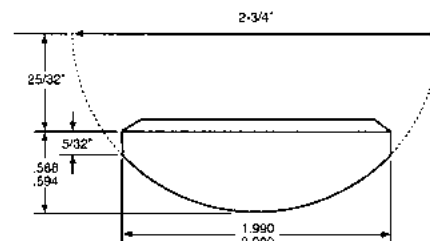
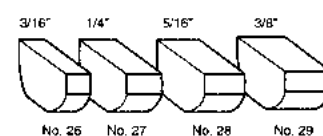
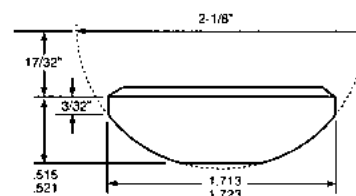
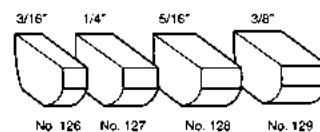
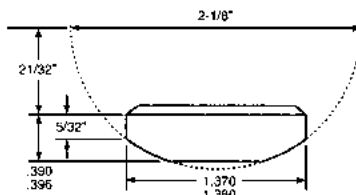
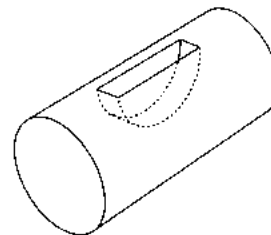
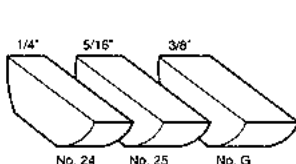
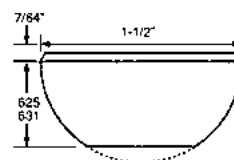
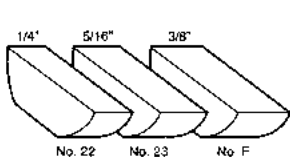
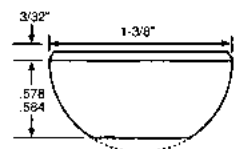
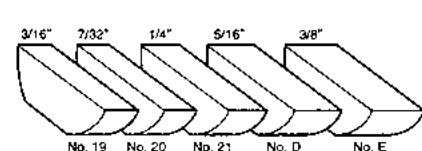
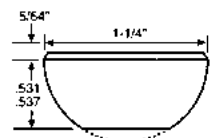
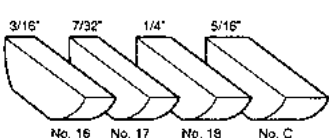
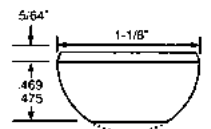
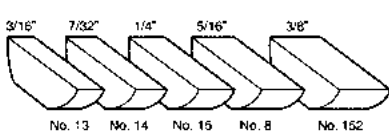
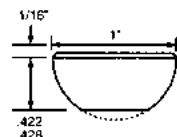
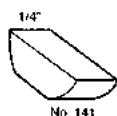
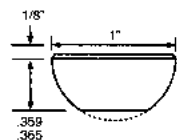
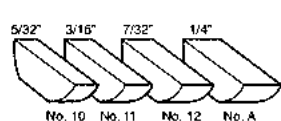
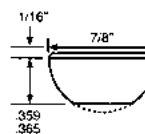
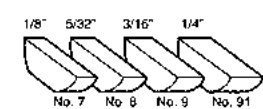
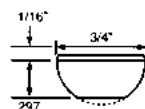
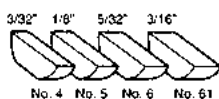
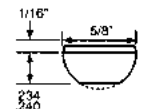
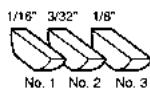
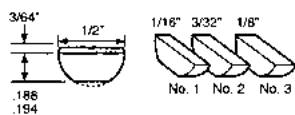
FOR USE WITH PROOF COIL CHAIN

ITEM#	TRADE#	SIZE	WT. PER PKG	PKG QTY.
MALLEABLE STEEL SNAPS NIC PLTD - BULK				
06004	TC017MS	1X3-3/16"	1.25	10
06008	TC025MS	1X3-3/8"	1.10	10
06014	TC125MS	5/8X3-7/16"	0.90	10
06016	TC161MS	3-3/8"	0.85	10
06017	TC162MS	4-1/8"	1.35	10
06018	TC163MS	4-11/16"	1.80	10
06020	TC200MS	3/4X2-7/8"	0.85	10
06025	TC200MS	1X3-1/4"	0.95	10
06029	TC200MS	1-1/4X3-3/4"	1.58	10
06046	TC204MS	3/4X1-7/8"	1.76	10
06047	TC204MS	7/8X1-7/8"	0.80	10
06049	TC222MS	3/4X3-7/8"	1.28	10
06051	TC225MS	1/2X3-7/8"	1.28	10
06052	TC225MS	5/8X4"	1.33	10
06053	TC225MS	3/4X4-1/8"	1.40	10
06055	TC225MS	1X4-7/8"	2.45	10
06062	TC231MS	3/8X3-1/2"	1.15	10
06063	TC232MS	1/2X4"	1.55	10
06065	TC245MS	1/2X5-1/8"	3.90	10
06070	TC249MS	11/16X3"	1.38	10
06081	TC333MS	7/8X5"	12.35	10
06084	TC334MS	3/8X2"	0.23	10
06094	TC340MS	5/8X1-7/8"	0.23	10
06105	TC407MS	3/4X4-3/8"	1.38	10
06110	TC424MS	2-1/2"	1.38	10
06127	TC830MS	1/2X3-3/8"	1.25	10
06128	TC830MS	5/8X3-1/2"	1.28	10
06129	TC830MS	3/4X3-5/8"	1.30	10
06131	TC830MS	1X4-5/8"	2.60	10
06143	TC1001MS	1/2X4"	3.33	10
06144	TC1002MS	1X4-1/4"	3.93	10
06146	TC1406MS	3-1/4"	0.55	10
06147	TC1407MS	3-3/8"	0.75	10
06156	TC3142MS	7/8X4-5/8"	4.05	10
06165	TC5025MS	5/8X2-7/8"	0.73	10
06166	TC5025MS	3/4"X2-15/16"	0.75	10

MALLEABLE STEEL SNAPS

SNAP TYPE	NUMBER	DESCRIPTION
	TC017	SWIVELING STRAP EYE BOLT SNAP
	TC25	RIGID STRAP EYE BOLT SNAP
	TC125	RIGID ROUND EYE BOLT SNAP
	TC161	DOUBLE ENDED BOLT SNAP
	TC162	DOUBLE ENDED BOLT SNAP
	TC163	DOUBLE ENDED BOLT SNAP
	TC200	RIGID STRAP EYE SPRING SNAP
	TC204	RIGID STRAP EYE TRIGGER SNAP
	TC222	SWIVELING ROUND EYE SPRING SNAP
	TC225	SWIVELING ROUND EYE BOLT SNAP
	TC231	RIGID OPEN EYE BOLT SNAP
	TC232 TC245	RIGID OPEN EYE BOLT SNAP
	TC249	RIGID ROUND EYE CLICK SNAP
	TC333	SWIVELING ROUND EYE ANIMAL TIE SNAP
	TC334	SWIVELING ROUND EYE SPRING SNAP
	TC340	RIGID STRAP EYE SPRING SNAP
	TC406,7	SWIVELING ROUND EYE SPRING SNAP
	TC424	BREECHING SNAP
	TC830	SWIVELING ROUND EYE CAPSNAP
	TC1406 TC1407	SWIVELING OPEN EYE SPRING SNAP
	TC3142	SWIVELING ROUND EYE ANIMAL TIE SNAP
	TC5025	SWIVELING ROUND EYE BOLT SNAP

WOODRUFF/HALF MOON KEYS



SQUARE KEYSTOCK

(rectangular sizes also available)



Decimal Equivalents/Drill Sizes

Fractional, Wire, Letter, Metric

Decimal	Drill Size	Decimal	Drill Size	Decimal	Drill Size	Decimal	Drill Size
.0135	80	.0935	42	.2165	5.50mm	.3819	9.70mm
.0138	.35mm	.0938	3/32"	.2188	7/32"	.3839	9.75mm
.0145	79	.0945	2.40mm	.2205	5.60mm	.3858	9.80mm
.0156	1/64"	.0960	41	.2210	2	.3860	W
.0157	.40mm	.0965	2.45mm	.2244	5.70mm	.3898	9.90mm
.0160	.45mm	.0980	40	.2264	5.75mm	.3906	25/64"
.0177	.50mm	.0984	2.50mm	.2280	1	.3937	10.00mm
.0180	77	.0995	39	.2283	5.80mm	.3970	X
.0197	.55mm	.1015	38	.2323	5.90mm	.4040	Y
.0200	76	.1024	2.60mm	.2340	A	.4062	13/32"
.0210	75	.1040	37	.2344	15/64"	.4130	Z
.0217	.55mm	.1063	2.70mm	.2362	6.00mm	.4134	10.50mm
.0225	74	.1065	36	.2380	B	.4219	27/64"
.0236	.60mm	.1083	2.75mm	.2402	6.10mm	.4331	11.00mm
.0240	73	.1094	7/64"	.2420	C	.4375	7/16"
.0250	72	.1100	35	.2411	6.20mm	.4528	11.50mm
.0256	.65mm	.1102	2.80mm	.2460	D	.4531	29/64"
.0260	71	.1110	34	.2461	6.25mm	.4688	15/32"
.0276	.70mm	.1130	33	.2480	6.30mm	.4724	12.00mm
.0280	70	.1142	2.90mm	.2500	1/4" E	.4844	31/64"
.0292	69	.1160	32	.2520	6.40mm	.4921	12.50mm
.0295	.75mm	.1181	3.00mm	.2559	6.50mm	.5000	1/2"
.0310	68	.1200	31	.2570	F	.5118	13.00mm
.0312	1/32"	.1220	3.10mm	.2598	6.60mm	.5156	33/64"
.0315	.80mm	.1250	1/8"	.2610	G	.5312	17/32"
.0320	67	.1260	3.20mm	.2638	6.70mm	.5315	13.50mm
.0330	66	.1280	3.25mm	.2656	17/64"	.5469	35/64"
.0335	.85mm	.1285	30	.2657	6.75mm	.5512	14.00mm
.0350	65	.1299	3.30mm	.2660	H	.5625	9/16"
.0354	.90mm	.1339	3.40mm	.2677	6.80mm	.5709	14.50mm
.0360	64	.1360	29	.2717	6.90mm	.5781	37/64"
.0370	63	.1378	3.50mm	.2720	I	.5906	15.00mm
.0370	.95mm	.1405	28	.2756	7.00mm	.5938	19/32"
.0380	62	.1406	9/64"	.2770	J	.6094	39/64"
.0390	61	.1417	3.60mm	.2795	7.10mm	.6102	15.50mm
.0394	1.00mm	.1440	27	.2810	K	.6250	5/8"
.0400	60	.1457	3.70mm	.2812	9/32"	.6299	16.00mm
.0410	59	.1470	26	.2835	7.20mm	.6406	41/64"
.0413	1.05mm	.1476	3.75mm	.2854	7.25mm	.6496	16.50mm
.0420	58	.1495	25	.2874	7.30mm	.6562	21/32"
.0430	57	.1496	3.80mm	.2900	L	.6693	17.00mm
.0433	1.10mm	.1520	24	.2913	7.40mm	.6719	43/64"
.0453	1.15mm	.1535	3.90mm	.2950	M	.6875	11/16"
.0465	56	.1540	23	.2953	7.50mm	.6890	15.00mm
.0469	3/64"	.1562	5/32"	.2969	19/64"	.7031	45/64"
.0472	1.20mm	.1570	22	.2992	7.60mm	.7087	18.00mm
.0492	1.25mm	.1575	4.00mm	.3020	N	.7188	23/32"
.0512	1.30mm	.1590	21	.3031	7.70mm	.7283	18.50mm
.0520	55	.1610	20	.3051	7.75mm	.7344	47/64"
.0531	1.35mm	.1614	4.10mm	.3071	7.80mm	.7480	19.00mm
.0550	54	.1654	4.20mm	.3110	7.90mm	.7500	3/4"
.0551	1.40mm	.1660	19	.3125	5/16"	.7656	49/64"
.0571	1.45mm	.1673	4.25mm	.3150	8.00mm	.7677	19.50mm
.0591	1.50mm	.1693	4.30mm	.3160	O	.7813	25/32"
.0595	53	.1695	18	.3189	8.10mm	.7874	20.00mm
.0610	1.55mm	.1719	11/64"	.3228	8.20mm	.7969	51/64"
.0625	1/16"	.1730	17	.3230	P	.8071	20.50mm
.0630	1.60mm	.1732	4.40mm	.3248	8.25mm	.8125	13/16"
.0635	52	.1770	16	.3268	8.30mm	.8268	21.00mm
.0650	1.65mm	.1772	4.50mm	.3281	21/64"	.8281	53/64"
.0669	1.70mm	.1800	15	.3307	8.40mm	.8438	27/32"
.0670	51	.1811	4.60mm	.3320	Q	.8465	21.50mm
.0689	1.75mm	.1820	14	.3346	8.50mm	.8594	55/64"
.0700	50	.1850	13	4.70mm	8.60mm	.8661	22.00mm
.0709	1.80mm	.1870	4.75mm	.3390	R	.8750	7/8"
.0728	1.85mm	.1875	3/16"	.3425	8.70mm	.8858	22.50mm
.0730	49	.1890	12	4.80mm	8.75mm	.8906	57/64"
.0748	1.90mm	.1910	11	.3445	8.75mm	.9055	23.00mm
.0760	48	.1929	4.90mm	.3465	8.80mm	.9062	29/32"
.0768	1.95mm	.1935	10	.3480	S	.9219	59/64"
.0781	5/64"	.1960	9	.3504	8.90mm	.9252	23.50mm
.0785	47	.1969	5.00mm	.3543	9.00mm	.9375	15/16"
.0787	2.00mm	.1990	8	.3580	T	.9449	24.00mm
.0807	2.05mm	.2008	5.10mm	.3583	9.10mm	.9531	61/64"
.0810	46	.2010	7	.3594	33/64"	.9646	24.50mm
.0820	45	.2031	13/64"	.3622	9.20mm	.9688	31/32"
.0827	2.10mm	.2040	6	.3642	9.25mm	.9843	25.00mm
.0846	2.15mm	.2047	5.20mm	.3661	9.30mm	.9844	63/64"
.0860	44	.2055	5	.3680	U	1.0000	1
.0866	2.20mm	.2067	5.25mm	.3701	9.40mm		
.0886	2.25mm	.2087	5.30mm	.3740	9.50mm		
.0890	43	.2090	4	.3750	3/8"		
.0906	2.30mm	.2126	5.40mm	.3770	V		
.0925	2.35mm	.2130	3	.3780	9.60mm		

Tap Drill Sizes

Tap Size, Tap Drill Size, Prob. % of Thread

Tap Size	Tap Drill Size	Prob. % of Thread
0-80	56	74
	3/64	71
	1.25mm	57
1-64	54	81
	1.45mm	71
	53	59
1-72	1.50mm	68
	53	67
	1.55mm	68
2-56	51	74
	1.75mm	66
	50	62
2-64	50	70
	1.80mm	67
	49	56
3-48	48	78
	5/64	70
	46	60
3-56	46	69
	45	56
	2.10mm	62
4-40	44	74
	43	65
	2.30mm	60
4-48	2.35mm	72
	42	61
	2.40mm	57
5-40	39	71
	38	65
	2.60mm	63
5-44	38	72
	2.60mm	69
	37	63
6-32	36	72
	7/64	64
	34	60
6-40	33	69
	2.90mm	65
	32	60
8-32	3.40mm	74
	29	62
	3.50mm	65
8-36	29	70
	3.50mm	65
	9/64	60
10-24	3.70mm	76
	25	69
	24	64
10-32	5/32	75
	22	73
	21	68
12-24	11/64	75
	17	73
	16	66
12-28	16	77
	15	70
	14	66
1/4-20	9	77
	7	70
	13/64	66
1/4-28	5.40mm	72
	3	70
	5.50	67
5/16-18	F	72
	6.60mm	68
	G	66
5/16-24	H	82
	6.80mm	78
	I	70
3/8-16	7.80mm	81
	5/16	74
	O	69
3/8-24	8.40mm	77
	75	75
	8.50mm	70
7/16-14	U	75

Metric Tap Drill Sizes

Tap Size, Tap Drill Size, Prob. % of Thread

Tap Size	Tap Drill Size	Prob. % of Thread
M1.6x.35	1.25mm	69
M1.8x.35	1.45mm	69
M2.0x.4	1.60mm	69
	52	66
M2.2x.45	1.75mm	70
M2.5x.45	2.05mm	69
	46	67
M3.0x.5	2.50mm	68
	40	70
M3.5x.6	2.90mm	68
	33	72
M4.0x.7	3.30mm	69
	30	73
M4.5x.75	3.70mm	74
	26	70
M5.0x.8	4.20mm	69
	19	68
M5.5x.9	4.60mm	68
	14	67
M6.0x.75	5.30mm	74
	4	73
M6.0x1.0	5.00mm	70
	9	71
M7.0x.75	6.30mm	74
	D	72
M7.0x1.0	6.00mm	70
	15/64	73
M8.0x1.25	6.70mm	74
	17/64	71
M8.0x1.0	7.00mm	69
	J	66
M9.0x1.25	7.75mm	73
M10x1.5	8.50mm	71
	Q	75
M10x1.25	8.70mm	73
	11/32	71
M11x1.5	9.50mm	70
	3/8	71
M12x1.75	10.20mm	74
	Y	71
M12x1.25	10.80mm	67
	27/64	72
M14x2.0	12.00mm	72
	15/32	76
M14x1.5	12.50mm	71
M16x2.0	14.00mm	72
	35/64	76
M16x1.5	14.50mm	71
M18x2.5	15.50mm	73
	39/64	74
M18x1.5	16.50mm	70
M20x2.5	17.50mm	73
	11/16	74
M22x2.5	19.50mm	73
	49/64	75
M24x3.0	21.00mm	73
	53/64	72
M27x3.0	24.00mm	73
	15/16	78
M30x3.5	26.50mm	74
	1-3/64	73
M33x3.5	29.50mm	74
	1-11/64	72

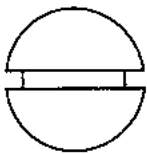
Pipe Tap Drill Sizes

Tap Size	NPT Tap Drill	NPS Tap Drill
1/16-27	D	1/4
1/8-27	Q	11/32
1/4-18	7/16	7/16
3/8-18	9/16	37/64
1/2-14	45/64	23/32
3/4-14	29/32	59/64
1-11-1/2	1-9/64	1-5/32
1-1/4-11-1/2	1-31/64	1-1/2
1-1/2-11-1/2	1-47/64	1-3/4
2-11-1/2	2-13/64	2-7/32
2-1/2-8	2-5/8	2-21/32



MACHINE SCREWS — STEEL SLOTTED

FLAT, ROUND, OVAL, TRUSS, FILLISTER, PAN, HEX and BINDING



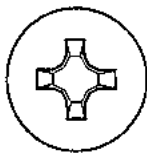
Diameters 2-56 thru 1/2-13

Lengths 1/8" thru 6"

**ALSO AVAILABLE IN:
STAINLESS STEEL - BRASS - ALUMINUM - NYLON**

MACHINE SCREWS — STEEL PHILLIPS

FLAT, ROUND, OVAL, TRUSS, PAN, and BINDING



Diameters 2-56 thru 3/8-16

Lengths 3/16" thru 4"

**ALSO AVAILABLE IN:
STAINLESS STEEL - BRASS - ALUMINUM - NYLON**

THREAD CUTTING SCREWS — STEEL



HEX, HEX WASHER



FLAT, PAN
FLATHEAD TORX DRIVE



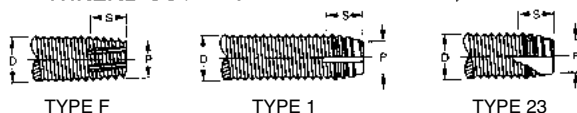
Diameters 2-56 thru 3/8-16



Lengths 1/8" thru 3"



THREAD CUTTING SCREWS TYPES F, 1 & 23



TYPE F

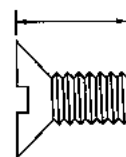
TYPE 1

TYPE 23

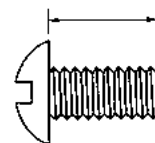
Measuring Threaded Fasteners

LENGTH

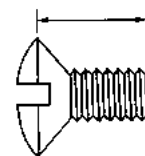
Flat



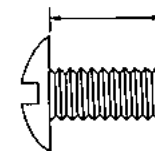
Round



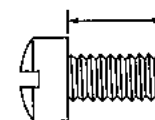
Oval



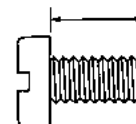
Truss



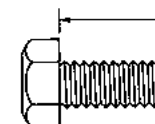
Fillister



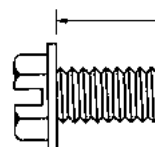
Pan and Binding



Hex



Hex Washer



THREAD-CUTTING SELF-TAPPING SCREWS

For making fastenings to ferrous and non-ferrous Castings, Bronze or Brass Forgings, heavy gage Sheet Metals, Structural Steel, Plastics, Resin-impregnated Plywood, etc.

In friable, granular, or brittle materials, it is preferable that, in cutting the thread, the material be removed rather than displaced. The Type F Hardened Thread Cutting Screw was

designed for that need.

Because of its tap-fluted pilot, it *cuts* a machine screw thread in the material as it is turned in. Tests show greater resistance to torque, shear, and tension loads than machine screws in tapped holes, and crossed or mistapped threads are eliminated.

RECOMMENDED HOLE SIZES

IN SHEET METAL & STRUCTURAL STEEL								
SCREW DIAM.	SHEET STEEL, STRUCTURAL STEEL, STAINLESS STEEL, MONEL METAL, BRASS, ALUMINUM ALLOY			SCREW DIAM.	SHEET STEEL, STRUCTURAL STEEL, STAINLESS STEEL, MONEL METAL, BRASS, ALUMINUM ALLOY			
	Metal Thickness	Drilled or Clean-Punched Hole			Metal Thickness	Drilled or Clean-Punched Hole		
		Hole Required	Drill Size No.			Hole Required	Drill Size No.	
2-56	.048"	.073"	49	10-32	.048"	.159"	21	
	.060"	.073"	49		.060"	.161"	20	
	.075"	.076"	48		.075"	.166"	19	
	.105"	.078"	47		.105"	.169"	18	
	to .156"				.125"	.169"	18	
4-40	.048"	.093"	42		10-24	.135"	.169"	18
	.060"	.096"	41			.144"	.173"	17
	.075"	.096"	41			.164"	.177"	16
	.105"	.099"	39			.187"		
	to .156"					.060"	.166"	19
6-32	.048"	.111"	34	1/4"-20	.075"	.169"	18	
	.060"	.113"	33		.105"	.169"	18	
	.075"	.116"	32		.125"	.173"	17	
	.105"	.120"	31		.135"	.173"	17	
	to .375"				.164"	.173"	17	
8-32	.048"	.140"	28	15/64"	.187"	.177"	16	
	.060"	.144"	27		.060"	.213"	3	
	.075"	.144"	27		.075"	.221"	2	
	.105"	.147"	26		.105"	.221"	2	
	.125"	.147"	26		.125"	.226"	1	
	.135"	.147"	26		.135"	.228"	1	
	.164"	.149"	25		.164"	.228"	1	
	to .375"	.234"	Letter B		.187"	.234"	1	
	.250"			.238"	Letter B			
	to .625"							

IN PLASTICS				
SCREW DIAM.	PHENOL FORMALDEHYDE			
	Hole Required	Drill Size No.	Depth of Penetration*	
			Min.	Max.
2-56	.073"	49	7/32"	3/8"
4-40	.098"	40	1/4"	5/16"
6-32	.116"	32	1/4"	5/16"
8-32	.144"	27	5/16"	1/2"
10-32	.166"	19	3/8"	1/2"
10-24	.161"	20	3/8"	1/2"
1/4"-20	.228"	1	3/8"	5/8"

IN PLASTICS				
SCREW DIAM.	CELLULOSE ACETATE, CELLULOSE NITRATE, ACRYLIC RESINS, STYRENE RESINS			
	Hole Required	Drill Size No.	Depth of Penetration*	
			Min.	Max.
2-56	NOT RECOMMENDED (SEE TYPE Z)			
4-40	.093"	42	1/4"	5/16"
6-32	.116"	32	1/4"	5/16"
8-32	.144"	27	5/16"	1/2"
10-32	.166"	19	3/8"	1/2"
10-24	.161"	20	3/8"	1/2"
1/4"-20	.228"	1	3/8"	1"

HOLE SIZE FOR TYPE "F" TAPPING SCREWS - 5/16-18 & 3/8-16								
Screw Size	Metal Thickness in Inches							
	.109	.125	.140	3/16	1/4	5/16	3/8	1/2
In Sheet Metal								
5/16-18	.277	.277	.281	.290	.290	.290	.290	.290
3/8-16	.339	.339	.348	.358	.358	.358	.358	.358
In Sheet Aluminum								
5/16-18	.266	.272	.272	.281	.290	.290	.290	.290
3/8-16	.328	.332	.339	.348	.348	.348	.348	.348
In Cast Iron								
5/16-18	.290	.290	.290	.295	.295	.295	.295	.295
3/8-16	.348	.348	.348	.348	.348	.348	.348	.348
In Zinc and Aluminum Die Castings								
5/16-18	.277	.281	.281	.281	.281	.290	.290	.290
3/8-16	.339	.339	.339	.343	.344	.348	.348	.348

IN CASTINGS				
SCREW DIAM.	ALUMINUM, MAGNESIUM, ZINC, BRASS, BRONZE, GRAY IRON, MALLEABLE IRON, STEEL			
	Hole Required	Drill Size No.	Depth of Penetration*	
			Min.	Max.
2-56	.078"	47	3/16"	1/4"
4-40	.099"	39	3/16"	1/4"
6-32	.120"	31	3/16"	1/4"
8-32	.147"	26	7/32"	5/16"
10-32	.169"	18	1/4"	3/8"
10-24	.169"	18	1/4"	3/8"
1/4"-20	.228"	1	5/16"	3/8"

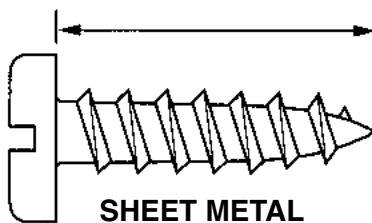
IN PLYWOOD (Resin Impregnated)					
SCREW DIAM.	COMPREG, PREGWOOD, ETC.				
	Hole Required	Drill Size No.	Min. Material Thickness	Depth of Penetration*	
				Min.	Max.
2-56	.073"	49	3/16"	7/32"	3/8"
4-40	.101"	38	3/16"	1/4"	1/2"
6-32	.120"	31	1/4"	5/16"	5/8"
8-32	.149"	25	1/4"	5/16"	5/8"
10-32	.173"	17	1/4"	5/16"	5/8"
10-24	.169"	18	1/4"	5/16"	3/4"
1/4"-20	.234"	15/64"	5/16"	3/8"	1"

IMPORTANT: For satisfactory results holes must be neither too large nor too small. Size of hole depends upon kind of material, its hardness, uniformity, etc. In most cases hole sizes shown are suitable. If material is very hard, a size larger drill might be necessary; if material is very soft, a size smaller drill should be used.

*Includes Taper



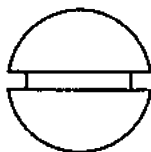
Call For Prices (951) 684-3870



SHEET METAL

TAPPING SCREWS STEEL - SLOTTED

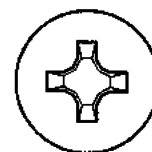
FLAT- ROUND - PAN - OVAL- TRUSS



DIAMETER	LENGTH
# 4	1/4" thru 1"
# 6	1/4" thru 2"
# 8	1/4" thru 2-1/2"
#10	3/8" thru 3"
#12	1/2" thru 3"
#14	1/2" thru 3"

TAPPING SCREWS STEEL - PHILLIPS

FLAT- ROUND - PAN - OVAL- TRUSS



DIAMETER	LENGTH
# 4	1/4" thru 1"
# 6	1/4" thru 2"
# 8	3/8" thru 3"
#10	3/8" thru 3"
#12	1/2" thru 3"
#14	1/2" thru 3"

TAPPING SCREWS HEX WASHER HEAD

WE HONOR



HEX WASHER
HEX WASHER SLOTTED



DIAMETER	LENGTH
# 4	1/4" thru 1"
# 6	1/4" thru 2"
# 8	1/4" thru 2-1/2"
#10	3/8" thru 3"
#12	1/2" thru 3"
#14	1/2" thru 3"



TYPE A TAPPING SCREWS - HOLE SIZE - RECOMMENDATIONS*

Type A Diam. of Screw	Thickness of Metal		Pierced Hole	Drilled or Clean Punched Hole		Diam. of Screw	Thickness of Metal		Pierced Hole	Drilled or Clean Punched Hole	
	U.S.S. Gage No.	Equi- valent	Hole Diam.	Hole Diam.	Drill Size		U.S.S. Gage No.	Equi- valent	Hole Diam.	Hole Diam.	Drill Size
4 .112	28	.0156	.086	.0860	44	8 .165	26	.0188	.137	.1130	33
	26	.0188	.086	.0860	44		24	.0250	.137	.1130	33
	24	.0250	.093	.0935	42		22	.0313	.137	.1160	32
	22	.0313	.098	.0935	42		20	.0375	.137	.1200	31
	20	.0375	.100	.0980	40		18	.0500	—	.1280	30
6 .138	28	.0156	.111	.0995	39	10 .191	26	.0188	.158	.1285	30
	26	.0188	.111	.0995	39		24	.0250	.158	.1285	30
	24	.0250	.111	.0995	39		22	.0313	.158	.1285	30
	22	.0313	.111	.1015	38		20	.0375	.158	.1360	29
	20	.0375	.111	.1065	36		18	.0500	.158	.1495	25
7 .155	28	.0156	.121	.1040	37	12 .218	24	.0250	—	.1470	26
	26	.0188	.121	.1040	37		22	.0313	.185	.1495	25
	24	.0250	.121	.1100	35		20	.0375	.185	.1520	24
	22	.0313	.121	.1130	33		18	.0500	.185	.1570	22
	20	.0375	.121	.1160	32		14 .251	24	.0250	—	.1800
18	.0500	—	.1200	31	22	.0313		.212	.1890	12	
							20	.0375	.212	.1910	11
							18	.0500	.212	.1960	9

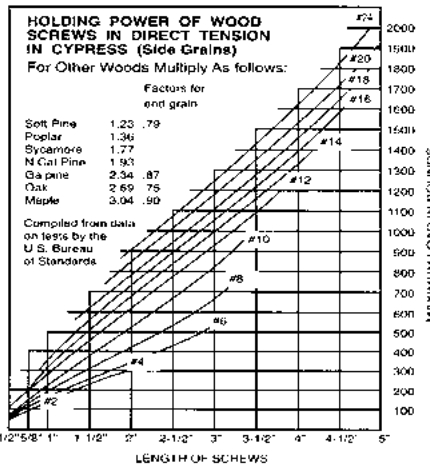
WOOD SCREW HOLE BORING RECOMMENDATIONS

No. of Screw	BIT or DRILL SIZES						NO. OF AUGER BIT To counterbore for sinking head (by 16ths)
	FOR SHANK CLEARANCE HOLES		FOR PILOT HOLES				
	TWIST BIT (Nearest size in fractions of an inch)	DRILL Gauge No. or Letter To be used for maximum holding power	HARD WOODS		SOFT WOODS		
			TWIST BIT (Nearest size in fractions of an inch)	DRILL Gauge No. To be used for maximum holding power	TWIST BIT (Nearest size in fractions of an inch)	DRILL Gauge No. To be used for maximum holding power	
0	1/16	52	1/32	66	1/64	75	----
1	5/64	47	—	57	1/32	71	----
2	3/32	42	—	54	1/32	65	3
3	7/64	37	1/16	53	3/64	58	4
4	7/64	32	1/16	51	3/64	55	4
5	1/8	30	5/64	47	1/16	53	4
6	9/64	27	—	44	1/16	52	5
7	5/32	22	—	39	1/16	51	5
8	11/64	18	7/64	35	5/64	48	6
9	3/16	14	7/64	33	5/64	45	6
10	3/16	10	1/8	31	3/32	43	6
11	13/64	4	—	29	3/32	40	7
12	7/32	2	—	25	7/64	38	7
14	1/4	D	3/16	14	7/64	32	8
16	17/64	I	—	10	9/64	29	9
18	19/64	N	13/64	6	9/64	26	10
20	21/64	P	7/32	3	11/64	19	11
24	3/8	V	1/4	D	3/16	15	12

NECESSITY OF PILOT HOLE

One of the questions often asked is the necessity of drilling a lead hole or pilot hole. In general, it helps to make driving easier. A pilot hole is also good insurance against splitting, particularly in hard wood. In the case of fastening or assembling two or more pieces together, a shank clearance hole should be bored in the first piece large enough to insert the screw without forcing.

A pilot hole equal in size to about 70% of the root diameter of the screw for soft woods, and 90% for hard woods, should be made in the second piece. This will give the maximum grip to both pieces, as the screw tapers at the end. In soft woods, such as poplar, it makes for maximum efficiency when the lead hole is about 50% of the core diameter of the screw. As the lead hole diameter approaches the core diameter, or when no lead hole is used, there is a marked decrease in efficiency. If the recommendations are used as shown on this page, satisfactory results can be obtained.



*Sizes of holes recommended for average application.

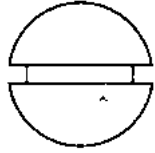
Slightly larger or smaller holes may be required.



Call For Prices (951) 684-3870

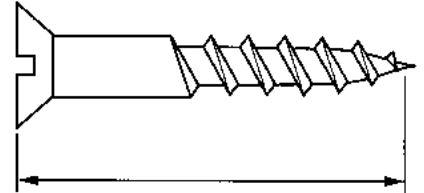
**WOOD SCREWS - STEEL
SLOTTED**

FLAT - ROUND - OVAL



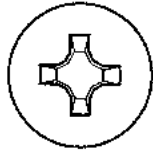
**Measuring
Threaded Fasteners**

Flat Head

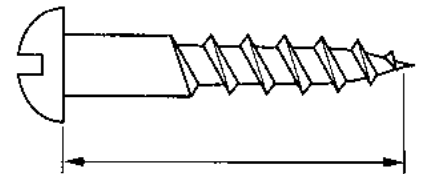


**WOOD SCREWS - STEEL
PHILLIPS**

FLAT - ROUND - OVAL



Round Head

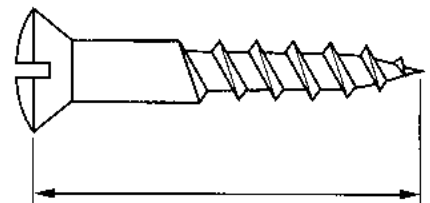


**WOOD SCREWS - STEEL
SQUARE DRIVE**

FLAT HEAD

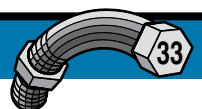


Oval Head



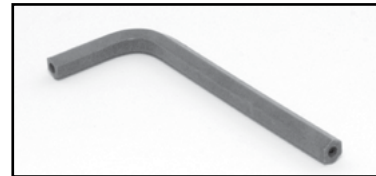
SPECIAL ORDER

Most sizes available in: **STAINLESS STEEL OR BRASS**



TAMPERPROOF

The TAMPERPROOF Line of Security Screws



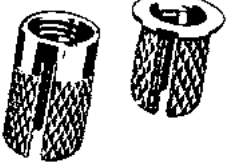
TAMPERPROOF INSTALLATION TOOLS AVAILABLE

E-Z LOK THREAD INSERTS

*For Strong
Threads In Metal*



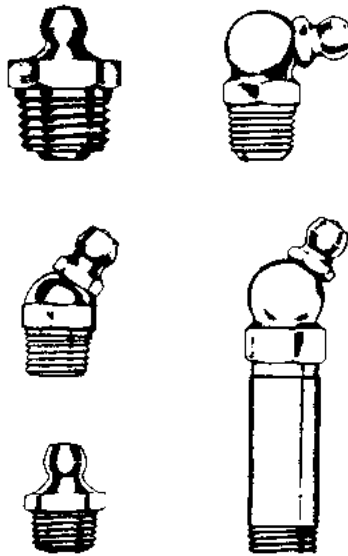
*For Strong
Threads In Plastics*



*For Strong
Threads In Wood*



GREASE FITTINGS



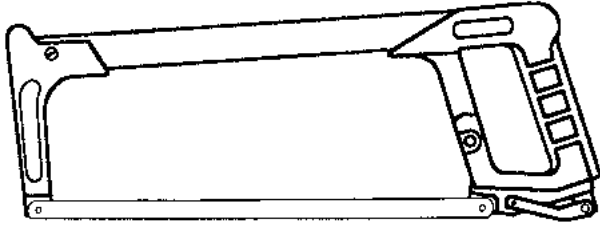
SHOP RAGS OR TOWELS



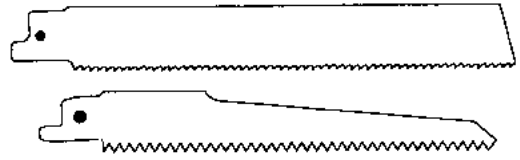
Also
Oil & Grease Absorbent
Sweeping Compound



HACKSAW FRAMES



RECIPROCATING SAW BLADES

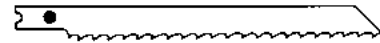


HACKSAW BLADES

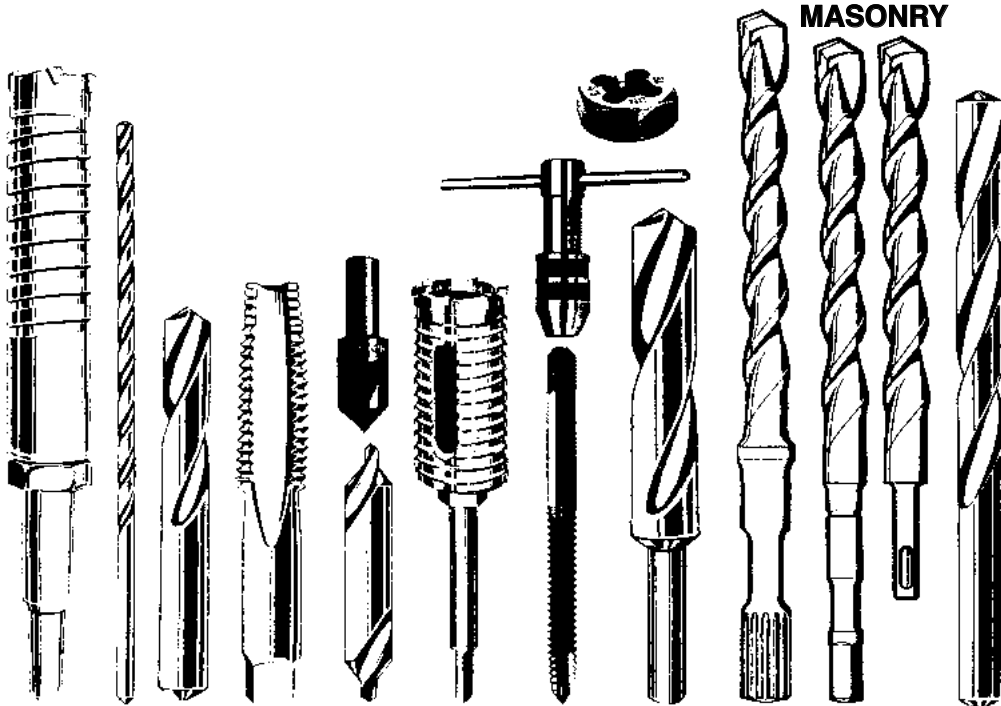


18 / 24 / 32 Teeth X 12" Long

JIGSAW BLADES



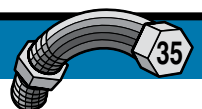
DRILL BITS & TAPS



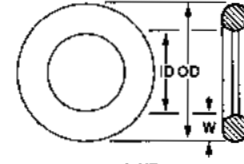
MASONRY

**HIGH SPEED STEEL
FRACTIONAL
NUMERICAL
LETTER
NITRO
COUNTERSINK**

**COBALT
FRACTIONAL
NUMERICAL**



O-RINGS REFERENCE CHARTS



Reference Chart for Standard O-Ring Sizes

AS568A Dash No.	ID x OD	AS568A Dash No.	ID x OD	AS568A Dash No.	ID x OD	AS568A Dash No.	ID x OD	AS568A Dash No.	ID x OD
1/32" Width		1/16" Width (Cont.)		3/32" Width (Cont.)		1/8" Width		3/16" Width (Cont.)	
001	1/32" x 3/32"	032	1 1/8" x 2"	123	1 3/16" x 1 3/8"	204	3/8" x 5/8"	238	3 1/2" x 3 3/4"
3/64" Width		033	2" x 2 1/8"	124	1 1/4" x 1 7/16"	206	1/2" x 3/4"	239	3 5/8" x 3 7/8"
002	3/64" x 9/64"	034	2 1/8" x 2 1/4"	125	1 5/16" x 1 1/2"	207	5/16" x 3/8"	240	3 3/4" x 4"
1/16" Width		035	2 1/4" x 2 3/8"	126	1 3/8" x 1 9/16"	208	5/8" x 7/8"	242	4" x 4 1/4"
003	1/16" x 3/16"	036	2 3/8" x 2 1/2"	127	1 7/16" x 1 5/8"	210	3/4" x 1"	243	4 1/8" x 4 3/8"
004	3/64" x 1 3/64"	037	2 1/2" x 2 5/8"	128	1 1/2" x 1 11/16"	211	1 3/16" x 1 1/8"	246	4 1/2" x 4 3/4"
005	7/64" x 1 5/64"	038	2 5/8" x 2 3/4"	129	1 9/16" x 1 3/4"	212	7/8" x 1 1/8"	250	5" x 5 1/4"
006	1/8" x 1/4"	039	2 3/4" x 2 7/8"	130	1 5/8" x 1 13/16"	213	1 1/8" x 1 1/16"	264	7 1/2" x 7 3/4"
007	5/32" x 9/32"	040	2 7/8" x 3"	131	1 11/16" x 1 7/8"	214	1" x 1 1/4"	3/16" Width	
008	3/16" x 5/16"	041	3" x 3 1/8"	132	1 3/4" x 1 1 1/16"	215	1 1/16" x 1 3/16"	312	5/8" x 1"
009	7/32" x 1 1/32"	042	3 1/4" x 3 3/8"	133	1 3/4" x 2"	216	1 1/8" x 1 3/8"	320	1 1/8" x 1 1/2"
010	1/4" x 3/8"	043	3 1/2" x 3 5/8"	134	1 7/8" x 2 1/16"	217	1 3/16" x 1 7/16"	322	1 1/4" x 1 9/8"
011	3/8" x 7/8"	044	3 3/4" x 3 7/8"	135	1 9/16" x 2 1/8"	218	1 1/4" x 1 1/2"	324	1 5/8" x 1 3/4"
012	3/8" x 1 1/2"	045	4" x 4 1/8"	136	2" x 2 3/16"	219	1 5/16" x 1 9/16"	325	1 1/2" x 1 7/8"
013	7/16" x 9/16"	046	4 1/4" x 4 3/8"	137	2 1/16" x 2 1/4"	220	1 3/8" x 1 5/8"	326	1 5/8" x 2"
014	1/2" x 5/8"	3/8" Width		138	2 1/8" x 2 5/16"	221	1 7/16" x 1 11/16"	327	1 3/4" x 2 1/8"
015	9/16" x 1 1/16"	105	5/32" x 1 1/32"	139	2 3/16" x 2 3/8"	222	1 1/2" x 1 3/4"	328	1 7/8" x 2 1/4"
016	5/8" x 3/4"	106	3/16" x 3/8"	140	2 1/4" x 2 7/16"	223	1 5/8" x 1 7/8"	329	2" x 2 1/8"
017	1 1/16" x 1 3/16"	108	1/4" x 7/16"	141	2 5/16" x 2 1/2"	224	1 3/4" x 2"	330	2 1/8" x 2 1/2"
018	3/4" x 7/8"	109	5/16" x 1/2"	142	2 3/8" x 2 9/16"	225	1 7/8" x 2 1/8"	331	2 1/4" x 2 5/8"
019	1 3/16" x 1 5/16"	110	3/8" x 9/16"	143	2 7/16" x 2 9/8"	226	2" x 2 1/4"	332	2 3/8" x 2 3/4"
020	7/8" x 1"	111	7/16" x 5/8"	144	2 1/2" x 2 11/16"	227	2 1/8" x 2 3/8"	333	2 1/2" x 2 7/8"
021	1 5/16" x 1 11/16"	112	1/2" x 1 1/16"	145	2 5/16" x 2 3/4"	228	2 1/4" x 2 1/2"	334	2 5/8" x 3"
022	1" x 1 1/8"	113	9/16" x 3/4"	146	2 5/8" x 2 13/16"	229	2 3/8" x 2 5/8"	335	2 3/4" x 3 1/8"
023	1 1/16" x 1 3/16"	114	5/8" x 1 1/16"	147	2 7/16" x 2 7/8"	230	2 1/2" x 2 3/4"	336	2 5/8" x 3 1/4"
024	1 1/8" x 1 1/4"	115	1 1/16" x 7/8"	148	2 3/4" x 2 15/16"	231	2 5/8" x 2 7/8"	337	3" x 3 3/8"
025	1 3/16" x 1 5/16"	116	3/4" x 1 5/16"	149	2 13/16" x 3"	232	2 3/4" x 3"	338	3 1/8" x 3 1/2"
026	1 1/4" x 1 3/8"	117	1 3/16" x 1"	150	2 7/8" x 3 1/16"	233	2 7/8" x 3 1/8"	339	3 1/4" x 3 5/8"
027	1 5/16" x 1 7/16"	118	7/8" x 1 1/16"	151	3" x 3 3/16"	234	3" x 3 1/4"	340	3 3/8" x 3 3/4"
028	1 3/8" x 1 1/2"	119	1 5/16" x 1 1/8"	152	3 1/4" x 3 7/16"	235	3 1/8" x 3 3/8"	343	3 3/4" x 4 1/8"
029	1 1/2" x 1 5/8"	120	1" x 1 1/16"	153	3 1/2" x 3 11/16"	236	3 1/4" x 3 1/2"	345	4" x 4 3/8"
030	1 5/8" x 1 3/4"	121	1 1/16" x 1 1/4"	155	4" x 4 3/16"	237	3 3/8" x 3 5/8"	346	4 1/8" x 4 1/2"
031	1 3/4" x 1 7/8"	122	1 1/4" x 1 5/16"	168	7 1/4" x 7 7/16"				

General Properties of O-Ring Materials

	Buna-N	Viton	Kalrez®	Silicone	Polyurethane	Ethylene Propylene	Teflon	Neoprene
Temperature Range	-65° to +275° F	-31° to +400° F	0° to +500° F	-65° to +450° F	-60° to +200° F	-65° to +300° F	-300 to +500° F	-40° to +212° F
Compression Set	Good	Good	Excellent	Good	Good	Good	Poor	Good
Resistance To:								
Tearing	Good	Good	Good	Poor	Excellent	Fair	Good	Good
Abrasion	Excellent	Good	Good	Poor	Excellent	Good	Poor	Excellent
Ozone	Poor	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Weather	Poor	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Cold Water	Excellent	Fair	Good	Good	Fair	Excellent	Excellent	Fair
Hot Water	Good	Poor	Not Recomm'd	Good	Poor	Excellent	Excellent to Boiling	Fair
Steam	Poor	Poor	Not Recomm'd	Poor	Poor	Good	Excellent	Poor
Dilute Acids	Good	Excellent	Excellent	Good	Poor	Good	Excellent	Good
Concentrated Acids	Good	Excellent	Excellent	Fair	Poor	Good	Excellent	Good
Dilute Alkalies	Good	Excellent	Excellent	Excellent	Poor	Excellent	Excellent	Good
Concentrated Alkalies	Good	Excellent	Excellent	Excellent	Poor	Excellent	Excellent	Good
Synthetic Lubricants (silicone grease)	Good	Excellent	Excellent	Not Recomm'd	Poor	Good	Excellent	Poor
High Aniline Lubricants (ASTM oil #1 or MIL-L-6082)	Excellent	Excellent	Excellent	Good	Good	Not Recomm'd	Excellent	Excellent
Low Aniline Lubricants (ASTM oil #3 or MIL-H-5606)	Excellent	Excellent	Excellent	Fair	Fair	Not Recomm'd	Excellent	Good
Animal/Vegetable Oils	Good	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Fair
Aliphatic Hydrocarbons (Fuel Oil A)	Excellent	Excellent	Excellent	Not Recomm'd	Good	Not Recomm'd	Excellent	Fair
Aromatic Hydrocarbons (Fuel Oil C or Toluene)	Poor	Excellent	Excellent	Not Recomm'd	Fair	Not Recomm'd	Excellent	Poor

Temperature ranges and chemical compatibility are for general comparisons.

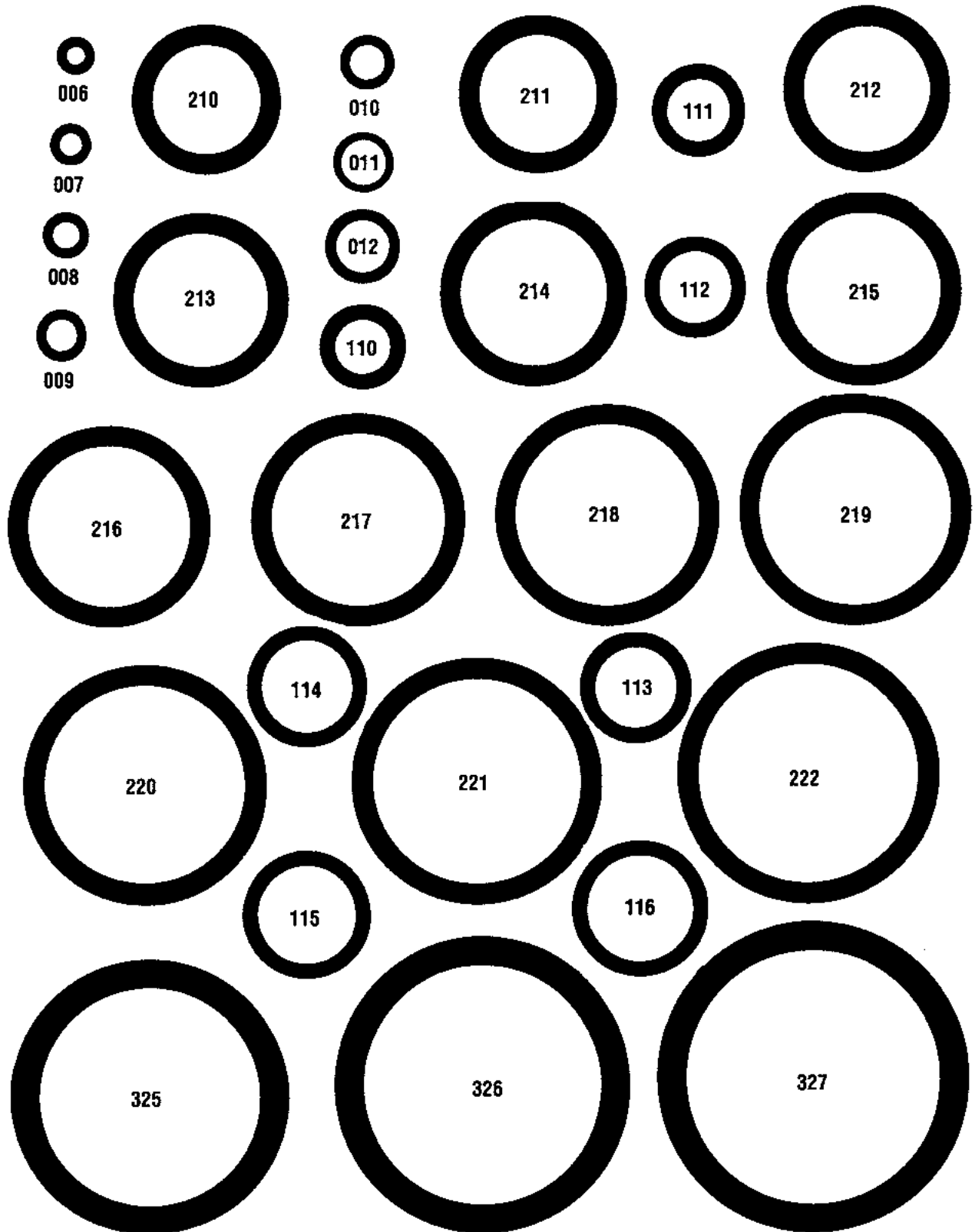
Additional Items Available

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O-RINGS

Actual Size

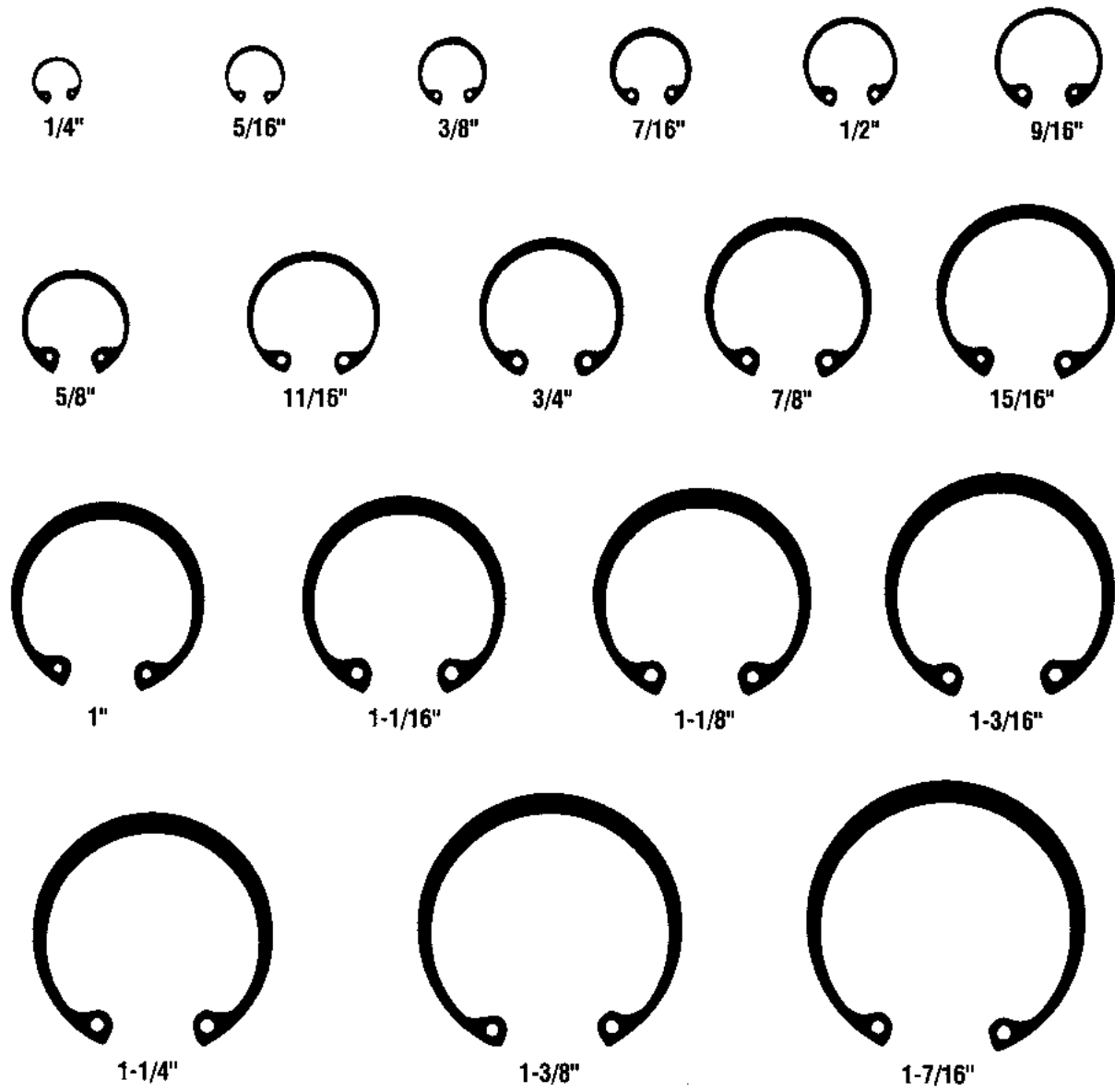


Additional Items Available

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INTERNAL RETAINING RINGS Actual Size Illustrations



Listing by Size

SIZE	
FRACTIONAL	METRIC
1/4"	6.4mm
5/16"	7.9mm
3/8"	9.5mm
7/16"	11.1mm
1/2"	12.7mm
9/16"	14.3mm
5/8"	15.9mm
11/16"	17.5mm
3/4"	19.1mm

SIZE	
FRACTIONAL	METRIC
7/8"	22.2mm
15/16"	23.8mm
1"	25.4mm
1-1/16"	27.0mm
1-1/8"	28.6mm
1-3/16"	30.2mm
1-1/4"	31.8mm
1-3/8"	34.9mm
1-7/16"	36.5mm

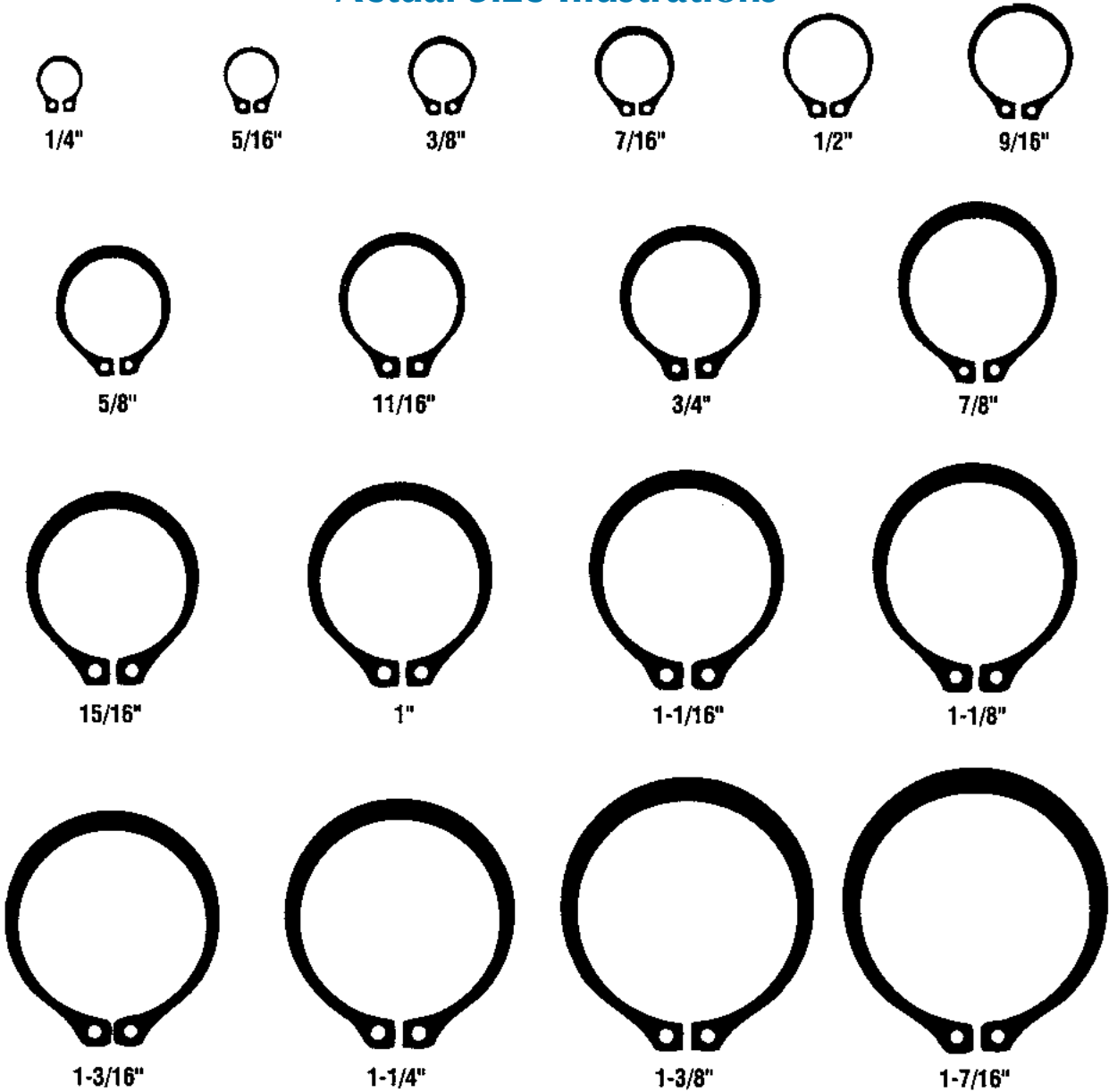
Additional Items Available



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EXTERNAL RETAINING RINGS

Actual Size Illustrations



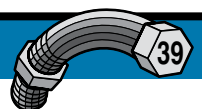
Listing by Size

SIZE	
FRACTIONAL	METRIC
1/4"	6.4mm
5/16"	7.9mm
3/8"	9.5mm
7/16"	11.1mm
1/2"	12.7mm
9/16"	14.3mm
5/8"	15.9mm
11/16"	17.5mm
3/4"	19.1mm

SIZE	
FRACTIONAL	METRIC
7/8"	22.2mm
15/16"	23.8mm
1"	25.4mm
1-1/16"	27.0mm
1-1/8"	28.6mm
1-3/16"	30.2mm
1-1/4"	31.8mm
1-3/8"	34.9mm
1-7/16"	36.5mm

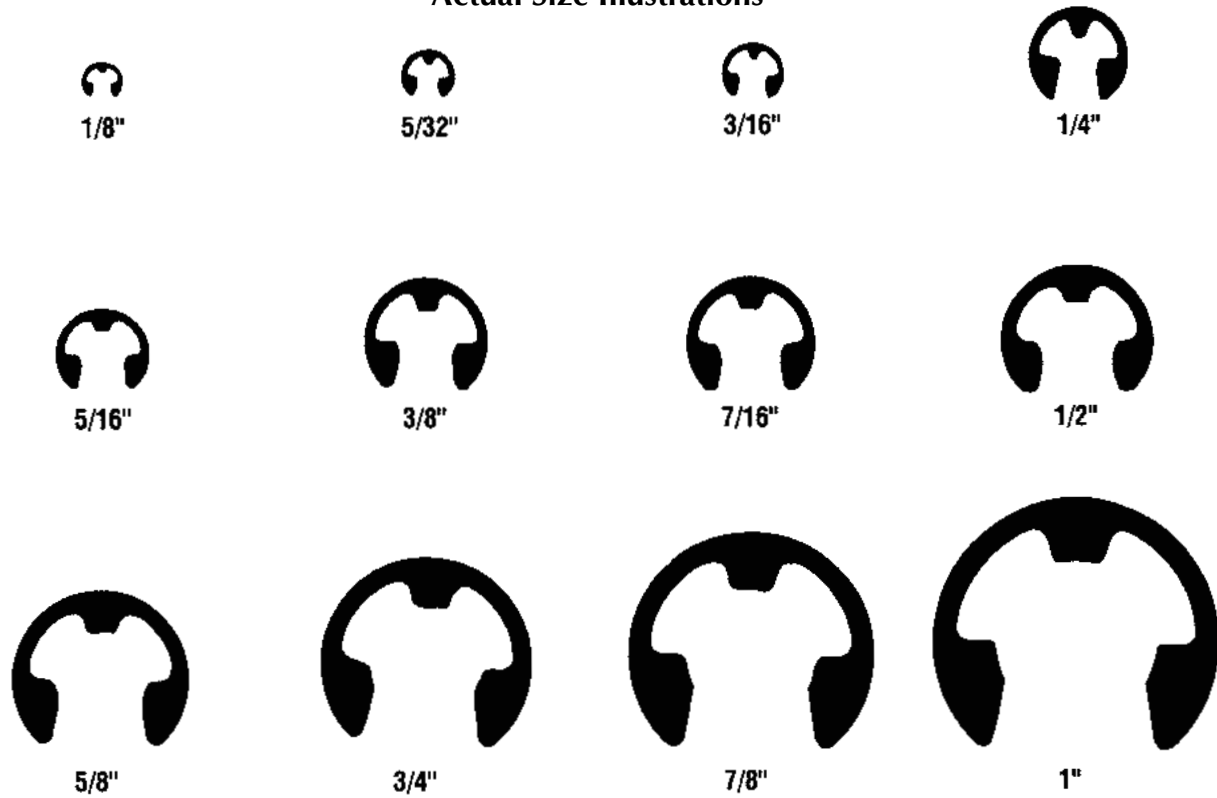
Additional Items Available

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"E" CLIPS

Actual Size Illustrations

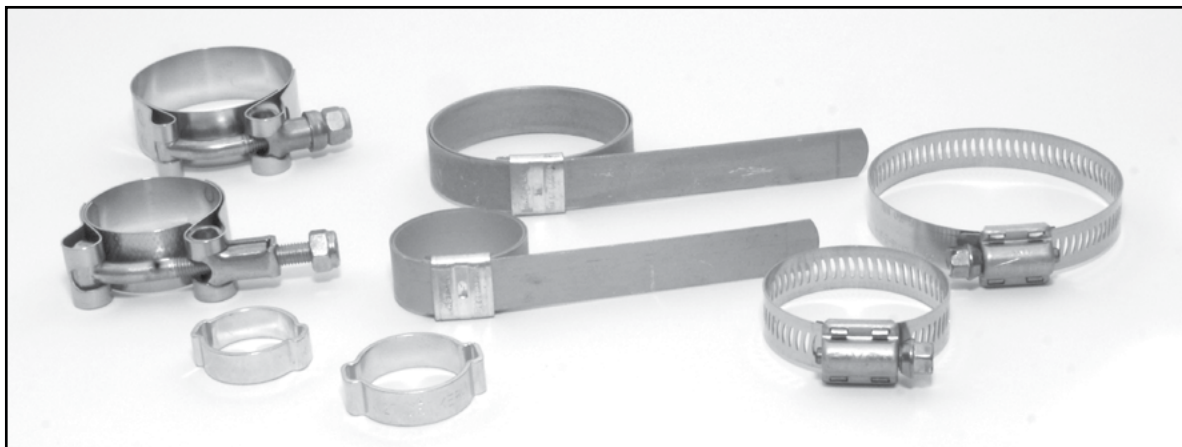


Listing by Size

SIZE	
FRACTIONAL	METRIC
1/8"	3.2mm
5/32"	4.0mm
3/16"	4.8mm
1/4"	6.4mm
5/16"	7.9mm
3/8"	9.5mm

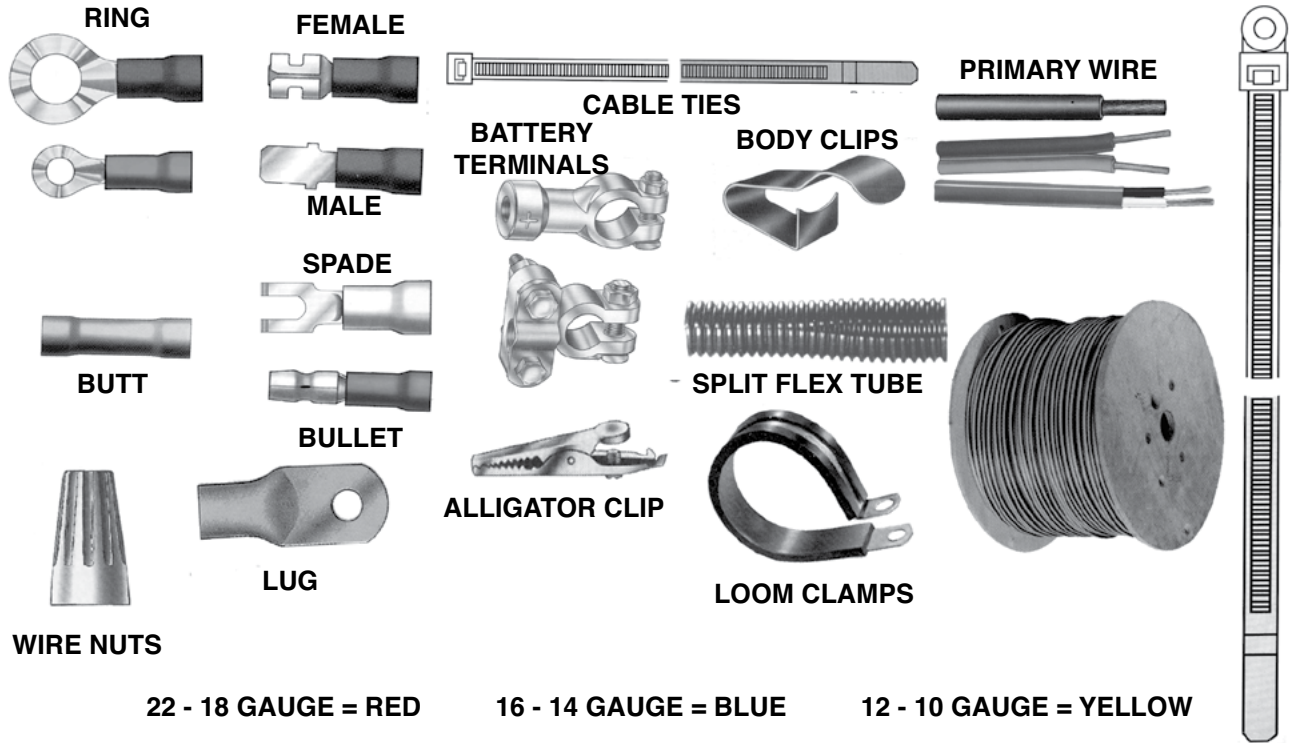
SIZE	
FRACTIONAL	METRIC
7/16"	11.1mm
1/2"	12.7mm
5/8"	15.9mm
3/4"	19.1mm
7/8"	22.2mm
1"	25.4mm

HOSE CLAMPS

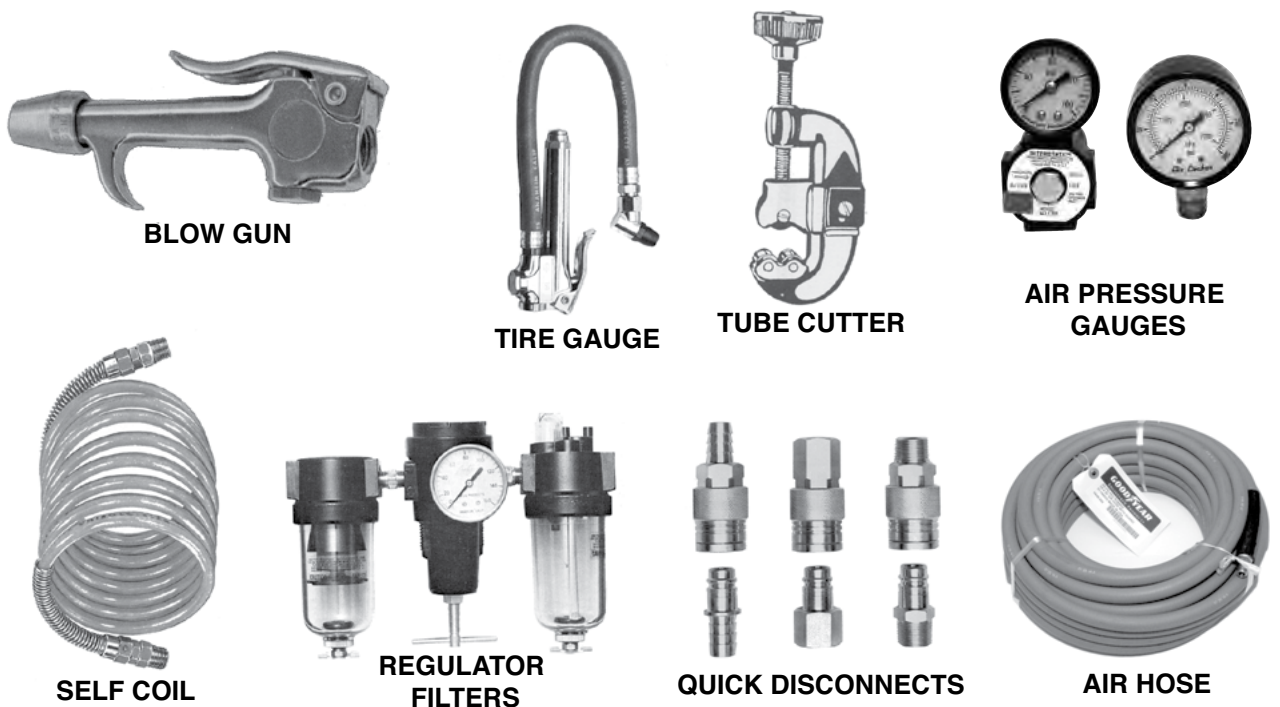


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ELECTRICAL



AIR HOSE & FITTINGS



BRASS FITTINGS



Visual Index

AIR BRAKE FITTINGS FOR COPPER TUBING

NUT 1361X	MALE CONN 1366X		FEMALE CONN 1366X	UNION 1362X
45° MALE ELBOW 1360X	90° MALE ELBOW 1369X	90° MALE ELBOW <small>LONG</small> 1368X	90° FEMALE ELBOW 1370X	UNION ELBOW 1365X
ADAPTER 1-1 1362X	MALE RUN TEE 1371X	MALE BRANCH TEE 1372X	BULKHEAD CPLNG (BRASS) 1364X	UNION TEE 1364X
SLEEVE 1360X		DRAINCOCK 145	DRAINCOCK W15310	SHUT-OFF VALVE W20002

PIPE FITTINGS

ADAPTER 3200X	BUSHING 3220X	HEX NIPPLE 3325X	COUPLING 3300X	UNION 3250X
45° STREET ELBOW 3350X	STREET ELBOW 3400X	LONG NIPPLE 3327X	REDUCER COUPLING 3300X	ELBOW 3500X
STREET TEE 3750X		MALE BRANCH TEE 3900X	CROSS 3850X	TEE 3700X
CAP 3120X	SLOTTED PLUG 3150X	SQUARE HEAD PLUG 3151X	HEX HEAD PLUG 3152X	CLOSE NIPPLE 3325X

PUSH TO CONNECT

CARTRIDGE Metric 1181X	PLUG Metric 1128X	DOUBLE UNION Metric 1105X	REDUCER Metric 1109X	STEM ADAPTER Metric 1180X
UNION Metric 1182X	BULKHEAD UNION Metric 1174X	UNION "Y" Metric 1107X	MALE "Y" Metric 1108X	MALE CONN Metric 1156X
FEMALE CONN Metric 1165X	UNION ELBOW Metric 1185X	SWIV. MALE ELBOW Metric 1189X5	MALE ELBOW Metric 1189X	UNION TEE Metric 1154X
MALE RUN TEE SWIVEL Metric 1171X	MALE BRANCH TEE SWIVEL Metric 1172X	STUD MANIFOLDS Metric 1173X	BALLJCS Metric 1174X	FLOW CONTROLS Metric 1175X

THREADED SLEEVE

NUT 8100X	MALE CONN 8200X	MALE ELBOW 8400X	ADAPTER TEF 8550X	UNION 8300X
------------------	------------------------	-------------------------	--------------------------	--------------------

DRAINCOCKS

EXTERNAL SEAT W15310	INTERNAL SEAT W15310	ANGLE BIB DRAIN W20002	HOSE TO PIPE (STEEL) W20002	GASOLINE SHUT-OFF WITH SCREEN FILTER W20002
EXTERNAL SEAT W15310	INTERNAL SEAT DRAIN VALVE W15310	ANGLE BIB DRAIN W20002	HOSE TO PIPE (STEEL) W20002	AIR TANK DRAIN VALVE W20002
INTERNAL SEAT W15310	AIR VENT W15310	INTERNAL SEAT LONG W15310	PIPE TO HOSE SHUT-OFF W20002	

NEEDLE VALVES

COMPRESSION DBL W20002	INV STRAIGHTWAY W20002	MALE PIPE W20002	SAE 45 FLARE DBL W20002	POLYLINE STRAIGHTWAY W20002
COMPRESSION STRAIGHTWAY W20002	INV ANGLE W20002	FEMALE TO MALE PIPE W20002	SAE 45 FLARE STRAIGHTWAY W20002	POLYLINE ANGLE W20002
COMPRESSION ANGLE W20002		FEMALE PIPE W20002	SAE 45 FLARE ANGLE W20002	

GROUND PLUG & MULTIPLE SHUT-OFFS

TRUCK DRAIN W20002	SAE 45° FLARE DB W20002	COMPRESSION DBL W20002	MALE TO FEMALE PIPE W20002	FEMALE PIPE W20002
GROUND PLUG DRAIN W20002	SAE 45° FLARE STRAIGHTWAY W20002	COMPRESSION STRAIGHTWAY W20002	TRUCK SHUT-OFF MALE TO FEMALE PIPE W20002	3-WAY SHUT-OFF W20002
COMPRESSION FLARELESS 3-WAY SHUT-OFF W20002		4-WAY MULTI SHUT-OFF W20002	MARINE SHUT-OFF MALE TO FEMALE PIPE W20002	3-WAY MULTI SHUT-OFF W20002



Call For Prices (951) 684-3870

BRASS FITTINGS

WEATHERHEAD®



Visual Index

INVERTED FLARE

TUBE NUT 125X 	MALE CONN 100X 202X 		FEMALE CONN 252X 	UNION 362X
45° MALE ELBOW 352X 	MALE ELBOW 402X 		FEMALE ELBOW 492X 	UNION ELBOW 502X
ADAPTER TEE 552X 	MALE RUN TEE 752X 	MALE BRANCH TEE 602X 	FEMALE BRANCH TEE 652X 	UNION TEE 702X
TUBE NUT LONG 7896X 	PLUG Steel 131X 			

SAE 45° FLARE

NUT 1116X 	LONG NUT 41X 	MALE CONN 48X 	FEMALE CONN 45X 	UNION 42X
45° MALE ELBOW 54X 	MALE ELBOW 49X 		FEMALE ELBOW 50X 	UNION ELBOW 55X
ADAPTER TEE 56X 	MALE RUN TEE 51X 	MALE BRANCH TEE 45X 		UNION TEE 44X
45° ELB 45° FEM SW 10 SAE 45° FL Steel 9154X 	MALE 90° ELB 45° FEM SW 10 SAE 45° FL Steel 9151X 	CHECK VALVE SAF 43X 		

COMPRESSION-SELFALIGN FLARELESS

NUT 61X 	MALE CONN 611X 68X 681X 	BULKHEAD UNION 74X 741X 	FEMALE CONN 66X 661X 	UNION 62X 621X
	MALE ELBOW 68X 691X 		FEMALE ELBOW 70X 701X 	UNION ELBOW 65X 651X
ADAPTER TEE 76X 	MALE RUN TEE 71X 711X 	MALE BRANCH TEE 72X 721X 		UNION TEE 64X 641X
LONG NUT 1611X 	SLEEVE 60X 601X 	BALL CHECK CONN 63X 631X 	BULKHEAD NUT 0102X 	

POLYLINE FLARELESS

BRASS NUT 1261X 	MALE CONN 1268X 	BULKHEAD UNION 1274X 	FEMALE CONN 1266X 	UNION 1262X
GAP 1229X 	MALE ELBOW 1269X 		FEMALE ELBOW 1270X 	UNION ELBOW 1265X
	MALE RUN TEE 1271X 	MALE BRANCH TEE 1272X 	FEMALE BRANCH TEE 1277X 	UNION TEE 1264X
SLEEVE 1260X 1260XB 	BRASS NUT ASSEMBLY PLA SL 261XA BR SL 1261XB 	BULKHEAD NUT 1202X 	POLYLINE TO SELF ALIGN UNION 1262XG 	POLYLINE TO SELF ALIGN BULK UNION 1274XS

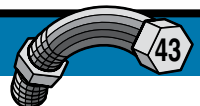
MINI-BARB

	MALE CONN 1068X 	BULKHEAD UNION 1074X 	FEMALE CONN 1066X 	UNION 1062X
	90° MALE ELBOW 1069X 		90° FEMALE ELBOW 1070X 	UNION ELBOW 1065X
ADAPTER TEE 1075X 	MALE RUN TEE 1071X 	MALE BRANCH TEE 1072X 	FEMALE BRANCH TEE 1077X 	UNION TEE 1064X
PLUG 1073X 	SOLDER CONN. 1079X 	COMPRESSION CONN. 1076X 	BULKHEAD COMPRESSION CONN. 1067X 	

AIR BRAKE FITTINGS FOR NYLON TUBING

NUT 1461X 	MALE CONN 1468X 	BULKHEAD UNION 1474X 	FEMALE CONN 1466X 	UNION 1462X
45° MALE ELBOW 1480X 	90° MALE ELBOW 1469X 	90° MALE ELBOW LONG 1480XL 	90° FEMALE ELBOW 1470X 	UNION ELBOW 1465X
ADAPTER TEE 1482X 	MALE RUN TEE 1483X 	MALE BRANCH TEE 1471X 	FEMALE BRANCH TEE 1472X 	UNION TEE 1464X
SLEEVE 1460X 	INSERT 1464X 	GAGE RING 1485X 		

Call For Prices (951) 684-3870

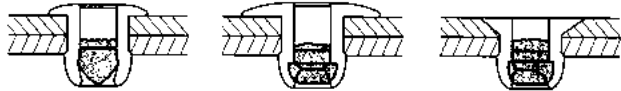


BLIND RIVETS

GRIP LENGTH



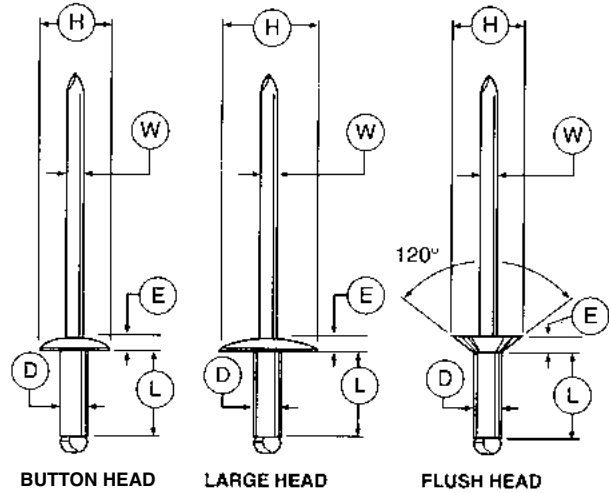
*L - Length varies with each grip length



BUTTON HEAD "B" LARGE HEAD "L" FLUSH HEAD "C"

Standard materials:

- ALUMINUM RIVET - ALUMINUM MANDREL - AA
- STEEL RIVET - STEEL MANDREL - SS
- ALUMINUM RIVET - STEEL MANDREL - BS
- STAINLESS RIVET - STAINLESS MANDREL - CC

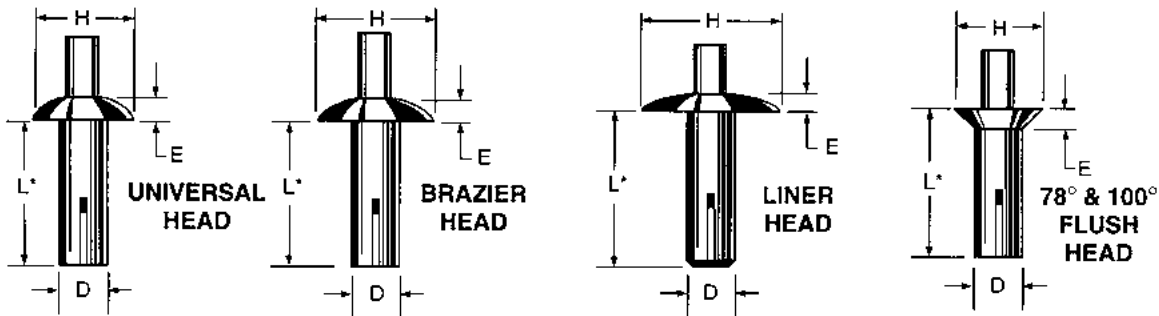


BUTTON HEAD LARGE HEAD FLUSH HEAD

NOM. RIVET DIAM.	HOLE SIZE AND DRILL NUMBER	W MAND. DIAM.	D RIVET DIAM.	PROTRUDING HEAD		LARGE HEAD		FLUSH HEAD	
				H HEAD DIAM.	E HEAD THICK.	H HEAD DIAM.	E HEAD THICK.	H HEAD DIAM.	E HEAD THICK.
3/32	.097-.100 (#40)	.057	.094	.187	.028	.281	.030	.192	.032
1/8	.129-.133 (#30)	.076	.125	.250	.037	.375	.039	.236	.037
5/32	.160-.164 (#20)	.095	.156	.312	.045	.469	.054	.263	.037
3/16	.192-.196 (#10)	.114	.187	.375	.051	.625	.079	.319	.046
1/4	.257-.261 (F)	.151	.250	.500	.071	.750	.100	.418	.058

Pneumatic and Hand-Driven Application Tools Available

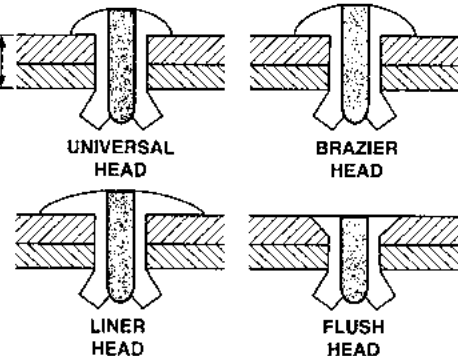
DRIVE RIVETS



NOM. RIVET DIAM.	HOLE SIZE AND DRILL NUMBER	D RIVET DIAM.	UNIVERSAL HEAD		BRAZIER HEAD		LINER HEAD		78 FLUSH HEAD		100 FLUSH HEAD	
			H HEAD DIAM.	E HEAD THICK.	H HEAD DIAM.	E HEAD THICK.	H HEAD DIAM.	E HEAD THICK.	H HEAD DIAM.	E HEAD THICK.	H HEAD DIAM.	E HEAD THICK.
1/8	.129-.133 (#30)	.125	.250	.054	-	-	-	-	.213	.062	.216	.042
3/16	.192-.196 (#10)	.187	.375	.080	.469	.094	.615	.077	.323	.094	.344	.070
1/4	.257-.261 (F)	.250	.500	.107	.625	.125	-	-	.437	.125	.467	.095
5/16	.323-.328 (P)	.312	.625	.138	-	-	-	-	.546	.156	.594	.125
3/8	.386-.392 (W)	.375	.750	.166	-	-	-	-	.656	.187	.718	.156

*L-Length varies with each grip length

GRIP LENGTH

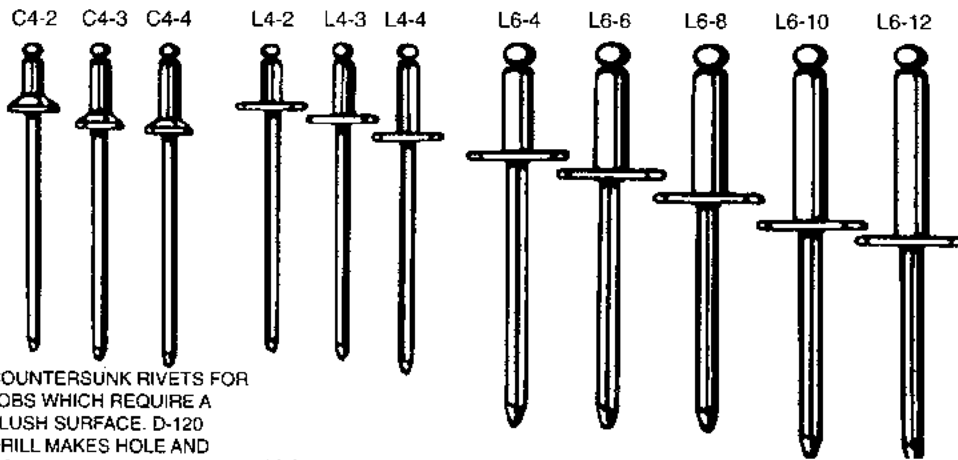
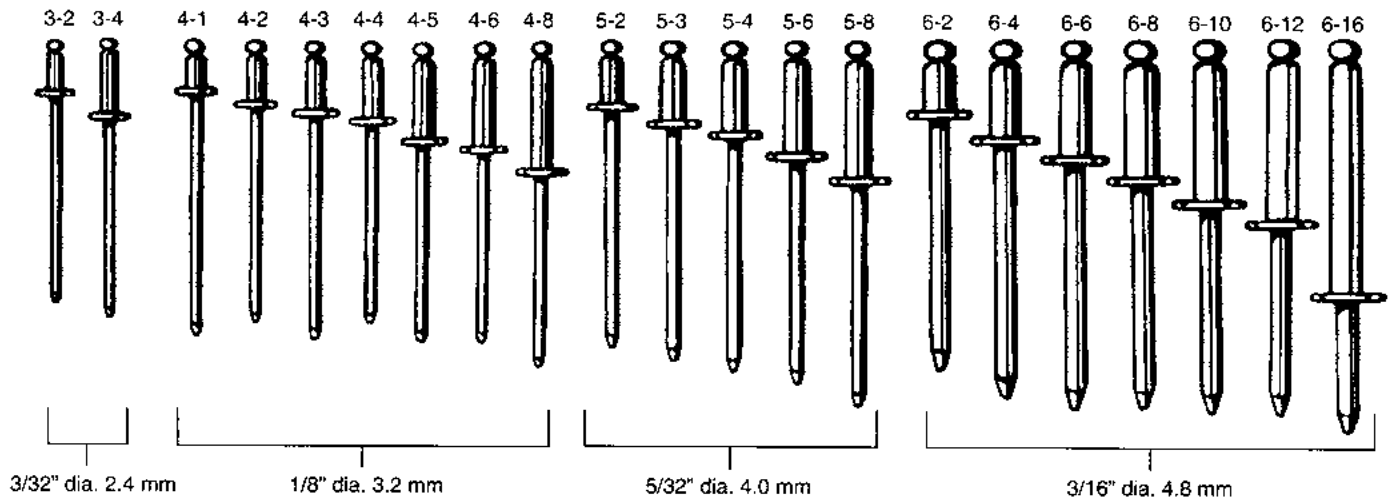


Standard materials: ALUMINUM RIVET-STAINLESS STEEL PIN



Call For Prices (951) 684-3870

ACTUAL SIZE RIVET CHART



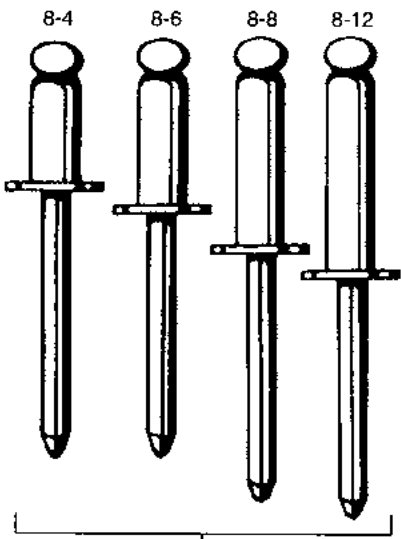
COUNTERSUNK RIVETS FOR JOBS WHICH REQUIRE A FLUSH SURFACE. D-120 DRILL MAKES HOLE AND COUNTERSINKS IN ONE OPERATION.

LARGE FLANGE RIVETS FOR FASTENING SOFT OR BRITTLE TOP PANELS WHERE GREATER LOAD BEARING SURFACE IS NEEDED.

RIVET PART NUMBERING EXPLAINED

First Dimension in 32nds of an inch
 Second Dimension in 1/16th of an inch
 Example
 AAP 4-6
 Aluminum Rivet-Aluminum Mandrel
 Protruding Head- 4/32" = 1/8" diameter
 6/16" = 3/8" grip range

1/8" dia. 3.2 mm 1/8" dia. 3.2 mm 3/16" dia. 4.8 mm



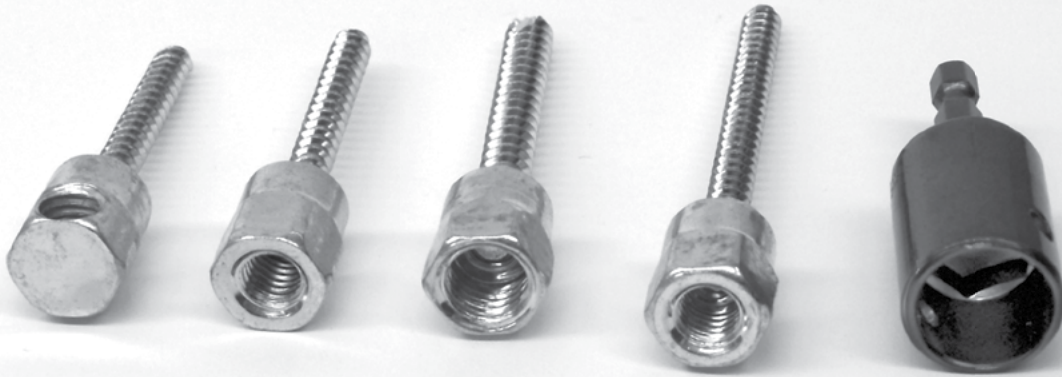
1/4" dia. 6.4 mm

RIVET INSTALLATION TOOLS



VERTIGO

Threaded Rod Hanging System

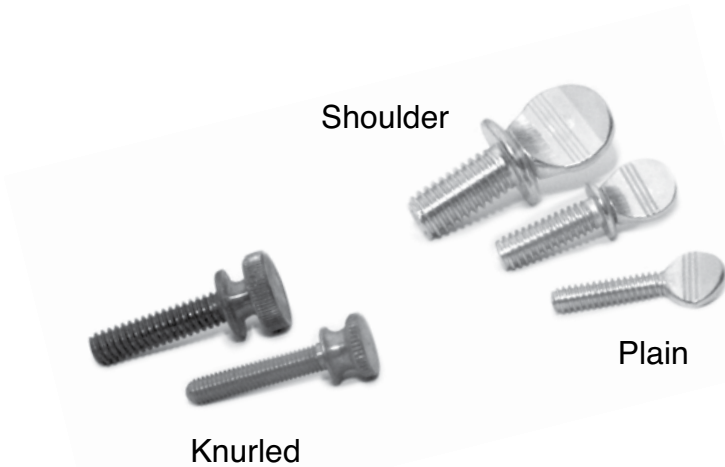


Steel threaded rods in 1/4", 3/8" and 1/2" diameters can be vertically suspended using the Vertigo Rod Hanging System.

This system can be installed in a variety of base materials including steel bar joists and beams, wood frame columns and beams, as well as concrete beams and columns.

Vertigo is also offered in a side mount configuration for lateral installation of 1/4" or 3/8" diameter steel threaded rods.

THUMB SCREWS



HANGER BOLTS

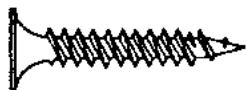


U DRIVE SCREWS



SELF-DRILLING FASTENERS

DECKING



WE HONOR



WOOD-TO-METAL

WAFER HEAD PHILLIPS
SELF-DRILLING



FLOORING

WOOD-TO-METAL
TYPE-F - TORX DRIVE



SHEET METAL

PAN HEAD PHILLIPS

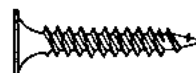


FRAMING SCREWS



DRYWALL SCREWS

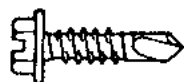
PHILLIPS BUGLE HEAD - IN STOCK
OR SQUARE DRIVE - SPECIAL ORDER



COARSE AND FINE THREAD
PLAIN OR GOLD ZINC

HEX WASHER HEAD

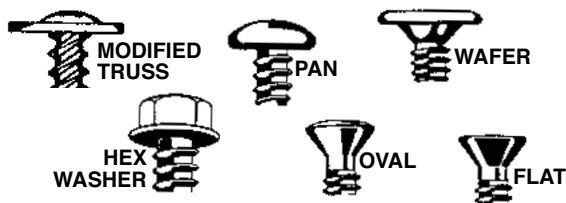
SELF-DRILLING



ALSO STOCKED WITH SEALING WASHERS

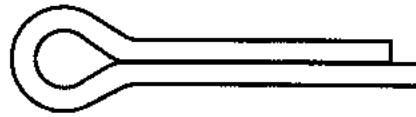
FASTENER HEAD STYLES

A variety of fastener head configurations are available to meet the wide range of surface requirements found in exterior and interior metal building applications.



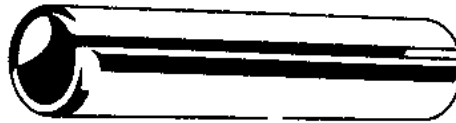
COTTER PINS - STEEL

EXTENDED PRONG

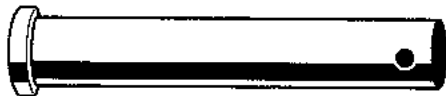


Also Available in Stainless Steel

TENSION PIN (ROLL PIN) - STEEL



CLEVIS PIN



ADJUSTABLE CLEVIS PIN



MAINTENANCE ASSORTMENTS

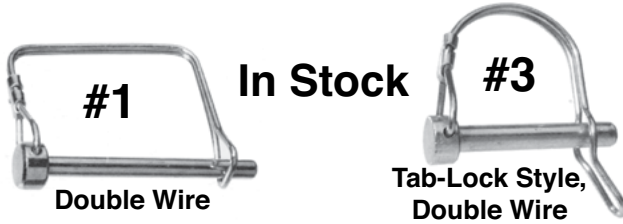
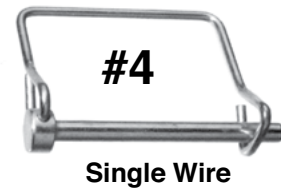
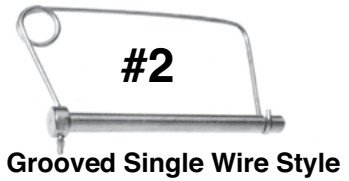


LOCK PINS

LOCK PINS (DOUBLE WIRE)			
SIZE	#1	BAIL STYLE	
1/4 x 1-3/4		Round	
1/4 x 2-1/2		Square	
5/16 x 1-3/4		Round	
5/16 x 2-3/4		Square	
3/8 x 1-3/8		Round	
3/8 x 2-1/4		Square	
3/8 x 2-1/2		Square	
GROOVED SINGLE WIRE STYLE (SNAP LOCK)			
5/16 x 3-1/2		#2	-
3/8 x 3	-		
TAB-LOCK STYLE (DOUBLE WIRE)			
1/4 x 1-3/4	#3	Round	
5/16 x 1-3/4		Round	
3/8 x 1-3/4		Round	

LOCK PINS (SINGLE WIRE)		
SIZE	#4	BAIL STYLE
1/4 x 1-3/4		Round
1/4 x 2-1/2		Square
5/16 x 1-3/4		Round
5/16 x 2-1/2		Square
3/8 x 1-3/4		Round
3/8 x 2-1/2		Square
TAB-LOCK STYLE (SINGLE WIRE)		
1/4 x 1-3/4	#5	Round
1/4 x 2-1/2		Square
5/16 x 1-3/4		Round
5/16 x 2-1/2		Square
3/8 x 1-3/4		Round
3/8 x 2-1/2		Square

Special Order Only



In Stock



DETENT PINS



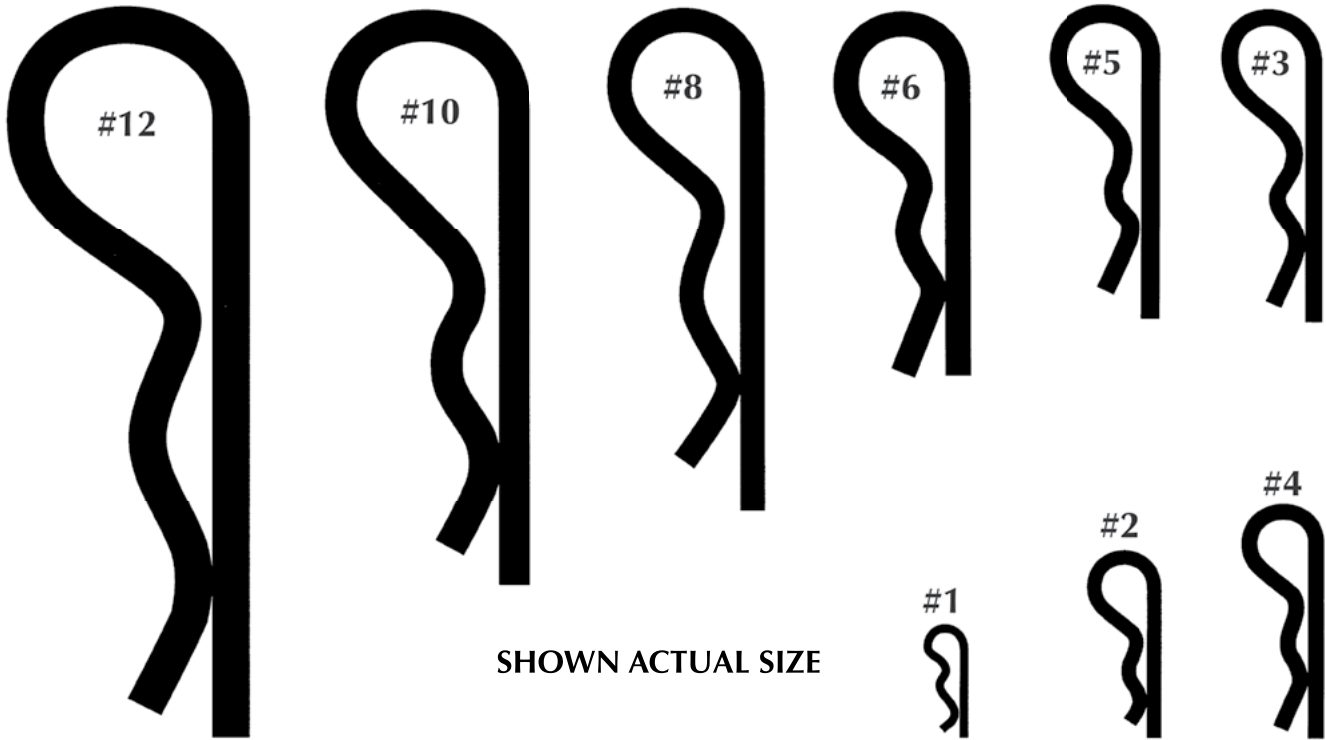
HITCH PINS



HOOD CLIPS



HITCH PIN (HAIR PIN) CLIPS



RETAINING NUTS AND WASHERS



WEDGE ANCHORS

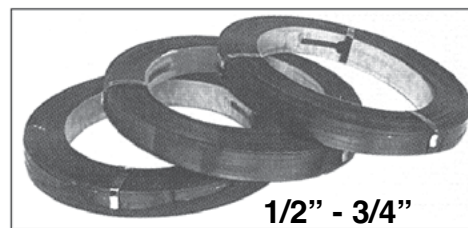


Diameter:
1/4" — 1-1/4"

Zinc Plated

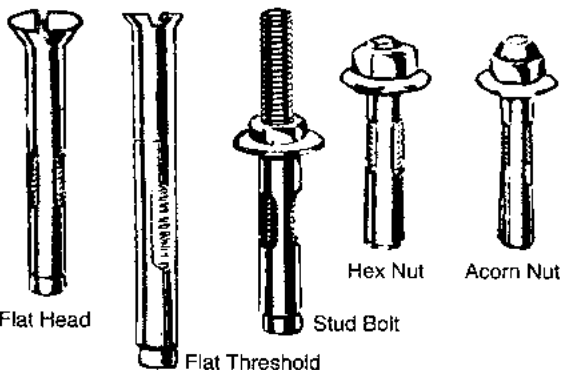
Also Available in
Stainless Steel or Galvanized.

STEEL STRAPPING



1/2" - 3/4"

SLEEVE ANCHORS



Flat Head

Flat Threshold

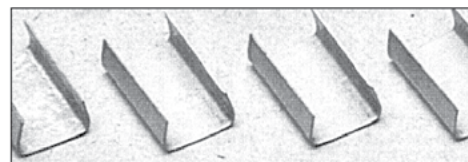
Stud Bolt

Hex Nut

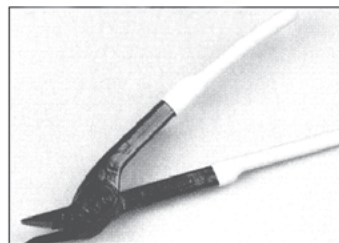
Acorn Nut

DIAMETERS AVAILABLE
1/4" thru 3/4"

OPEN METAL SEALS

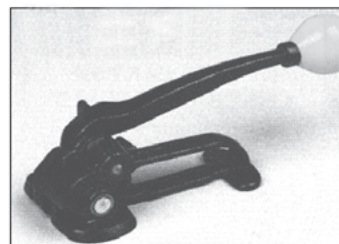


CUTTER



**Special
Order**

TENSIONER



**Special
Order**

ANCHOR BOLTS (FOUNDATION)

**Special
Order**

F1554 Material Available

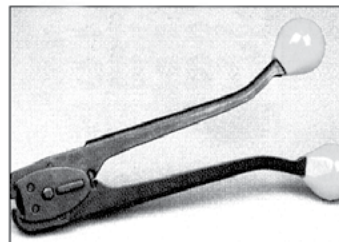
Standard Diameters and Lengths

DIAMETER	LENGTH
1/2"	6" - 8" - 10" - 12"
5/8"	6" - 8" - 10" - 12" - 14" - 18"
3/4"	6" - 8" - 10" - 12" - 14" - 16" - 18"
7/8"	10" - 12" - 16" - 18"
1"	12" - 16" - 18"

OTHER DIAMETERS and
LENGTHS AVAILABLE
UPON REQUEST



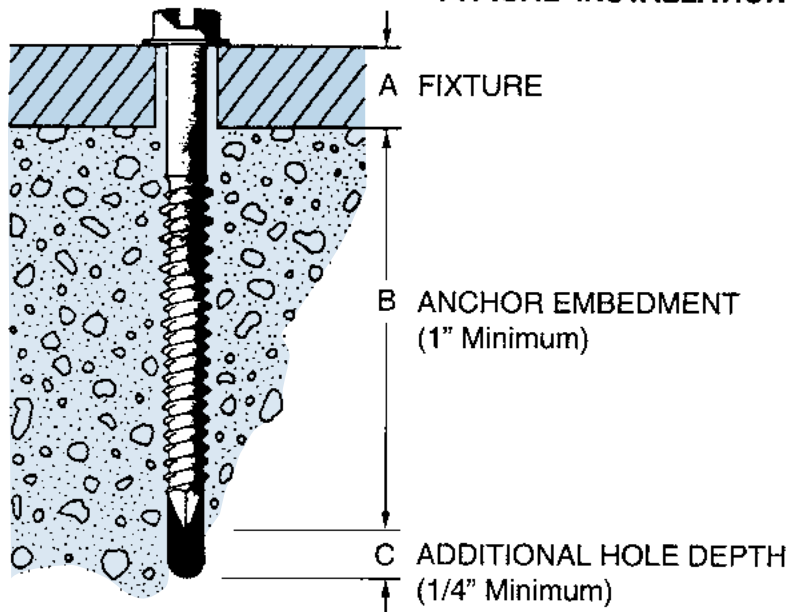
SEALER



**Special
Order**

CONCRETE SCREW ANCHOR

TYPICAL INSTALLATION



A + B = Anchor Length
B + C = Length of Drilled Hole in Masonry



SLOTTED HEX WASHER HEAD



PHILLIPS FLAT HEAD

3/16 & 1/4

DIAMETERS

SOLD IN BOX QUANTITIES ONLY

ZINC NAIL-IN

Steel Nail/Zinc Body

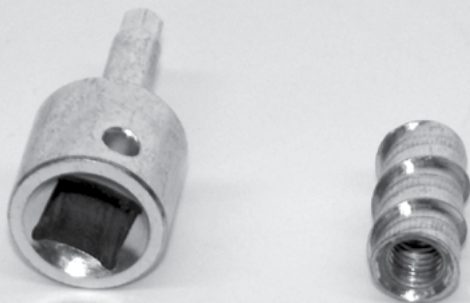


HOLLOW WALL ANCHOR

(Molly Bolt)



SNAKE

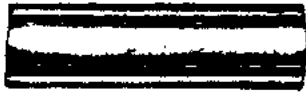


The Snake anchor is an internally threaded, self-tapping screw anchor designed for reliable performance in cracked and uncracked concrete. Suitable base materials include normal weight concrete, structural sand, light-weight concrete and concrete over metal deck.

The Snake screw anchor is easily installed into a pre-drilled hole using a Snake setting tool, which is provided in every box.



PLASTIC PLUGS



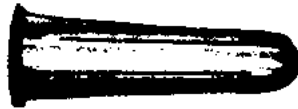
SCREW SIZES
#6 thru #14

NYLON ANCHORS



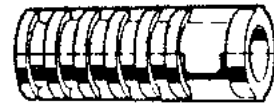
Head Styles: TRUSS- FLAT- ROUND
Diameters **Lengths**
3/16" and 1/4" 3/4" thru 4"

PLASTIC ANCHORS



SCREW SIZES
#6 thru #16

LAG EXPANSION SHIELD



Available in: SHORT and LONG
1/4" thru 3/4"
DIAMETERS

MACHINE SCREW ANCHOR



LEAD ANCHORS
THREAD SIZES
6-32 thru 3/4-10

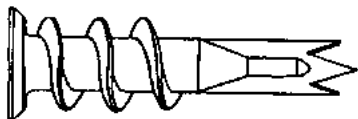
STEEL ANCHOR

DROP-IN



THREAD SIZES
1/4" thru 3/4"

EZ ANCHOR



Available in Plastic or Steel
Self-Drilling – One Piece Anchors
For mounting to gypsum wallboard

TOGGLE BOLTS

ROUND HEAD OR MUSHROOM HEAD



DIAMETERS AVAILABLE
1/8" thru 1/2"
Lengths to 6"

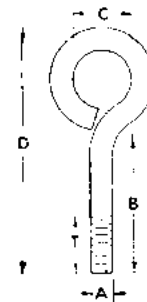


CHICAGO TURNED EYE BOLTS

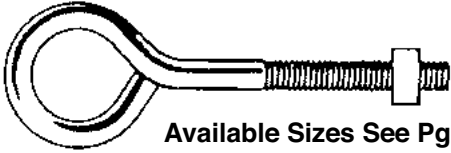
Turned Eyebolts are manufactured from low carbon cold drawn steel wire and are supplied with NC rolled machine threads with one hex nut unassembled. Electro galvanized finish is standard; other rust preventive finishes or selfcolored available on a special basis. Standard pack: A-1 through D-1 — 50 per box; E-1 through J-5 — 10 per box. When it is not feasible to utilize a standard eye bolt, we can manufacture to your specifications. For maximum loads, see page 10.

CLOSED EYES

STOCK NUMBER	DIMENSIONS — INCHES					ESTIMATED WEIGHT PER 100 IN LBS.
	A	B	C	D	T	
A-1	1/8 (6-32)	3/4	1/4	1 1/4	5/8	1
B-1	5/32 (8-32)	1 1/8	1/4	1 11/16	1	1 1/2
C-1	3/16 (10-24)	1	3/8	1 11/16	7/8	2
C-2	3/16	1 3/8	5/16	2	1 1/4	2
C-3	3/16	2	3/8	2 11/16	1	2 1/2
C-4	3/16	3	3/8	3 11/16	1 1/2	3
D-1	7/32 (12-24)	1 1/2	3/8	2 1/4	1 3/8	3
E-1	1/4-20	1	1/2	2	7/8	4 1/2
E-2	1/4-20	1 1/2	1/2	2 1/2	1 1/4	5
E-2A	1/4-20	1 1/8	7/16	2 3/4	1 5/8	5
E-3	1/4-20	2	1/2	3	1 1/4	5
E-4	1/4-20	2 1/2	1/2	3 1/2	1 1/4	6
E-5	1/4-20	3	1/2	4	1 1/2	6
E-6	1/4-20	3 1/2	1/2	4 1/2	2	7
E-7	1/4-20	4	1/2	5	2 1/2	7 1/2
E-8	1/4-20	5	1/2	6	3	8 3/4
E-9	1/4-20	6	1/2	7	4	10
F-1	5/16-18	1	5/8	2 1/8	7/8	7 1/2
F-2	5/16-18	2	5/8	3 1/8	1 1/4	9 1/2
F-2A	5/16-18	2 1/4	7/16	3 5/8	2	9 1/2
F-3	5/16-18	2 1/2	5/8	3 3/8	1 1/4	10
F-4	5/16-18	3	5/8	4 1/8	1 1/2	11
F-5	5/16-18	3 1/2	5/8	4 5/8	2	12
F-6	5/16-18	4	5/8	5 1/8	2 1/2	13
F-7	5/16-18	5	5/8	6 1/8	3	15
F-8	5/16-18	6	5/8	7 1/8	4	17
F-9	5/16-18	6 1/2	7/8	7 3/4	4	19
G-1	3/8-16	1	3/4	2 1/2	7/8	13
G-2	3/8-16	2	3/4	3 1/2	1 1/4	15
G-2A	3/8-16	2 1/2	21/32	3 3/4	2 1/4	15 1/2
G-3	3/8-16	2 1/2	3/4	4	1 1/2	16
G-4	3/8-16	3	3/4	4 1/2	1 1/2	18
G-5	3/8-16	3 1/2	3/4	5	2	19
G-6	3/8-16	4	3/4	5 1/2	2 1/2	20
G-7	3/8-16	5	3/4	6 1/2	3	21
G-8	3/8-16	6	3/4	7 1/2	4	25
G-9	3/8-16	8	3/4	9 1/2	4	32
G-10	3/8-16	10	3/4	11 1/2	4	37
G-11	3/8-16	12	3/4	13 1/2	4	41
H-1	7/16-14	6	7/8	7 3/4	4	38
H-2	7/16-14	8	7/8	9 3/4	4	45
J-1	1/2-13	2	1	4	1 1/2	34
J-2	1/2-13	4	1	6	2 1/2	43
J-3	1/2-13	6	1	8	4	51
J-4	1/2-13	8	1	10	4	58
J-5	1/2-13	10	1	12	4	68



TURNED EYE BOLTS



Available Sizes See Pg. 54

ZINC PLATED

TURNBUCKLES

MIDGET

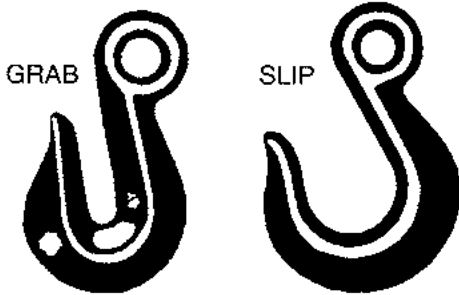
HOOK and EYE



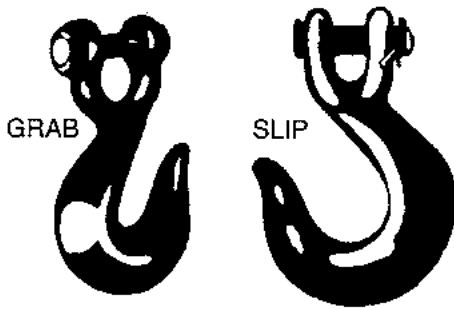
EYE and EYE



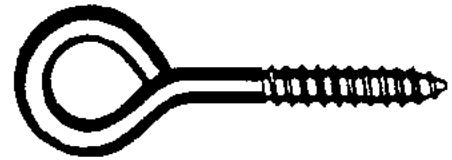
SAFETY HOOKS



CLEVIS CHAIN HOOKS

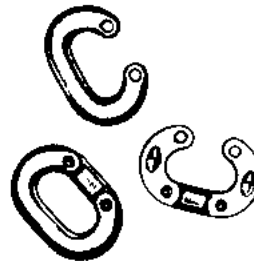


LAG SCREW EYES



ZINC PLATED

CONNECTING LINKS



DROP FORGED

QUICK LINKS



Size	Overall Length	Gap Opening	Wgt. Per 100	Average Tensile Lbs.
1/8	1-3/8	3/16	1.8	660
3/16	1-7/8	1/4	4.5	2200
1/4	2-1/4	9/32	8	3300
5/16	2-15/16	3/8	17	7700
3/8	3-1/8	7/16	23	8800
1/2	4-1/8	19/32	51	14300

CHAIN REPAIR LINKS



COLD SHUTS



S-HOOKS





CHICAGO U-BOLTS

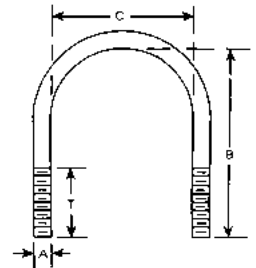
Round Bend U-Bolts for Steel or Wrought Iron pipe sizes 1/4"-18" inclusive, as listed this and following pages, are produced from low carbon steel and supplied with NC rolled threads and two (2) hex nuts. In addition, unassembled U-Bolt plate is available if required.

Electro-galvanized finish is standard. Other types of rust preventative coatings or self-colored (black) available on a special basis.

Standard package quantity for pipe sizes thru 4" is ten (10) pieces; 5" and larger are shipped in bulk.

Round, Square or "V" type U-Bolts to 1" diameter manufactured to specifications in both ferrous and non-ferrous metals.

U-BOLT DIMENSIONS — INCHES				FOR PIPE SIZE	U-BOLTS & NUTS		U-BOLTS, PLATES & NUTS	
A	C	B	T		STOCK NO.	EST. WT. PER 100	STOCK NO.	EST. WT. PER 100
1/4-20	3/16	1 1/4	3/4	1/4"	01	4.7 lbs.	1	7.1 lbs.
1/4-20	3/4	1 1/4	5/8	3/8"	02	4.7 lbs.	2	7.1 lbs.
1/4-20	3/4	2 1/4	1 1/2	3/8"	03	6.7 lbs.	3	9.1 lbs.
1/4-20	1	1 3/4	1	1/2"	04	5.7 lbs.	4	8.5 lbs.
1/4-20	1 1/8	2	1	3/4"	05	6.3 lbs.	5	9.5 lbs.
1/4-20	1 1/4	2 1/4	1 1/4	3/4"	06	7 lbs.	6	10.1 lbs.
1/4-20	1 1/2	2 3/4	1 3/8	1"	07	8.1 lbs.	7	11.5 lbs.
1/4-20	1 3/4	3	1 3/8	1 1/4"	08	8.7 lbs.	8	13 lbs.
1/4-20	2	3 1/4	1 3/8	1 1/2"	09	9.7 lbs.	9	14 lbs.
5/16-18	1	2 3/16	1 3/8	1/2"	010	11.7 lbs.	10	15.2 lbs.
5/16-18	1 1/8	2 3/16	1	3/4"	0101	12 lbs.	101	15 lbs.
5/16-18	1 3/8	2 3/16	1	1"	011	12.2 lbs.	11	15.6 lbs.
5/16-18	1 1/2	2 3/16	1	1"	012	12.3 lbs.	12	16.2 lbs.
5/16-18	1 3/4	2 11/16	1 1/8	1 1/4"	013	14 lbs.	13	18.5 lbs.
5/16-18	2	2 11/16	1	1 1/2"	014	14.3 lbs.	14	19.2 lbs.
5/16-18	2 1/2	3 3/16	1	2"	015	16.5 lbs.	15	22.5 lbs.
5/16-18	3	3 11/16	1	2 1/2"	016	20.3 lbs.	16	25.1 lbs.
3/8-16	1	2 1/4	1 1/4	1/2"	017	17.7 lbs.	17	23.5 lbs.
3/8-16	1 1/4	2 1/4	1 1/4	3/4"	018	18.3 lbs.	18	24.5 lbs.
3/8-16	1 1/2	2 1/2	1 1/4	1"	019	19.2 lbs.	19	26.6 lbs.
3/8-16	1 3/4	2 3/4	1 1/8	1 1/4"	020	22 lbs.	20	29.7 lbs.
3/8-16	2	2 5/8	1 1/4	1 1/2"	021	21.7 lbs.	21	29.8 lbs.
3/8-16	2 1/2	3 1/8	1 1/4	2"	022	25.5 lbs.	22	34.5 lbs.
3/8-16	3	3 5/8	1 1/4	2 1/2"	023	27 lbs.	23	40.7 lbs.
3/8-16	3 1/2	4 1/8	1 1/4	3"	024	31.2 lbs.	24	43.7 lbs.
1/2-13	3	4 1/2	1 5/8	2 1/2"	025	62 lbs.	25	74.1 lbs.
1/2-13	3 1/2	5	1 1/2	3"	026	66.5 lbs.	26	80.3 lbs.
1/2-13	4	5 1/2	1 1/2	3 1/2"	027	72.2 lbs.	27	87.6 lbs.
1/2-13	4 1/2	6	1 1/2	4"	028	76.5 lbs.	28	95 lbs.
1/2-13	5 5/8	7 1/4	2	5"	029	90.6 lbs.	—	—
1/2-13	6 3/4	8 3/8	2	6"	030	103.7 lbs.	—	—
1/2-13	8 3/4	10 3/8	2	8"	031	125 lbs.	—	—



Also Available Long Tangent

DIMENSIONS OF WELDED AND SEAMLESS STEEL PIPE (ASA B 36.10-1950)

NOMINAL PIPE SIZE	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
OUTSIDE DIA.	.540"	.675"	.840"	1.05"	1.315"	1.66"	1.90"	2.375"



DROP FORGED TURNBUCKLES

GALVANIZED

HOOK and EYE



JAW and EYE



HOOK and HOOK



JAW and JAW



EYE and EYE



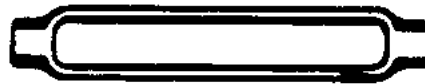
OR

**SELF-COLORED
(PLAIN)**

WITH STUB ENDS

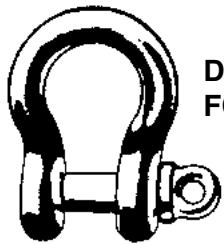


BODIES ONLY



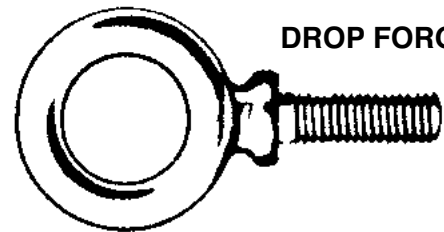
ANCHOR SHACKLES

PLAIN and GALVANIZED



DROP
FORGED

MACHINERY EYE BOLTS



DROP FORGED

WIRE ROPE CLIPS

MALLEABLE or DROP FORGED



WIRE ROPE THIMBLES



**SELF-COLORED
DROP-FORGED
YOKE ENDS**



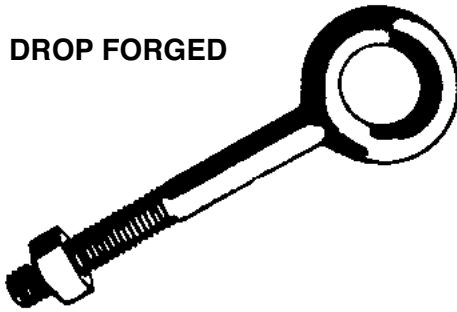
EYE NUTS

DROP FORGED



EYE BOLTS

DROP FORGED



ROD END EYE BOLTS

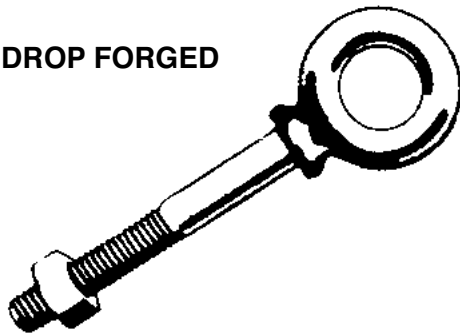


SPECIAL SIZES

Made To Order Only

SHOULDER EYE BOLTS

DROP FORGED



FORGED PAD EYES



S HOOKS

ACTUAL SIZE REFERENCE



39002



39004



39005



39006



39008



39009



39011



39012



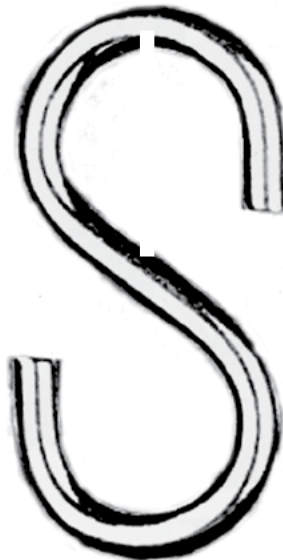
39013



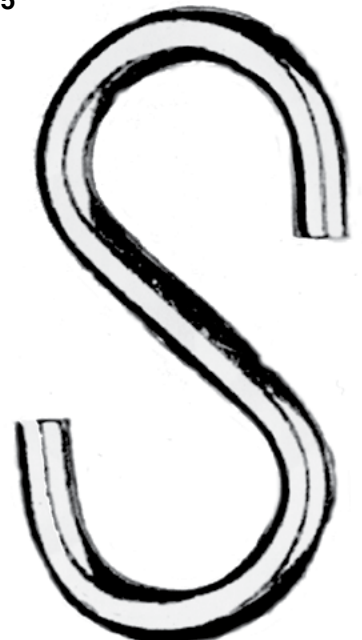
39015



39017



39020

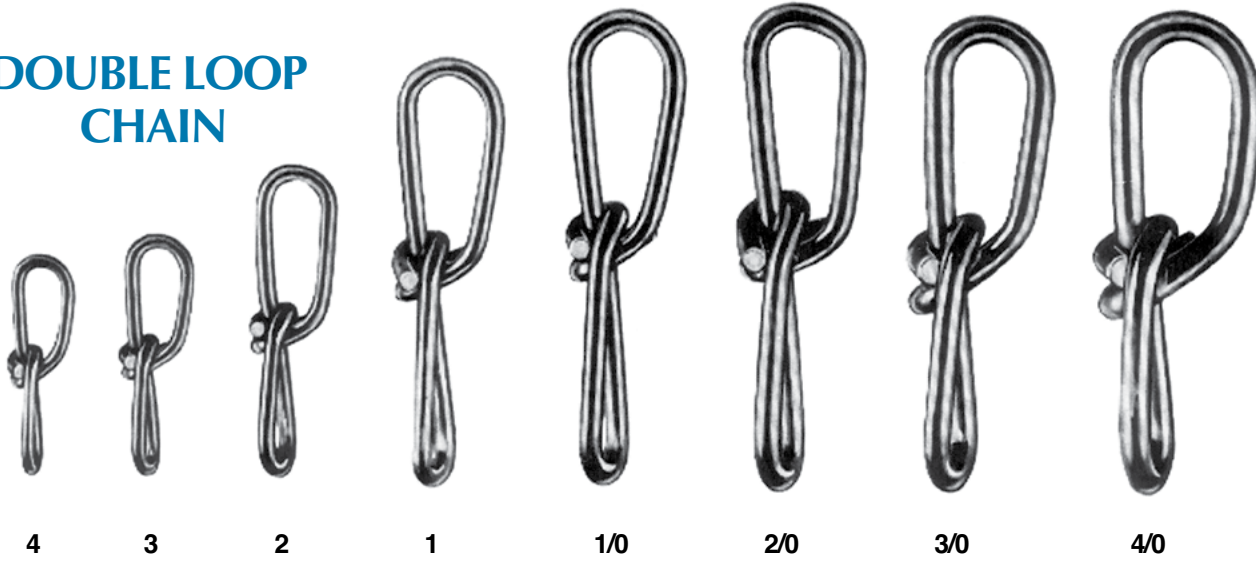


39022

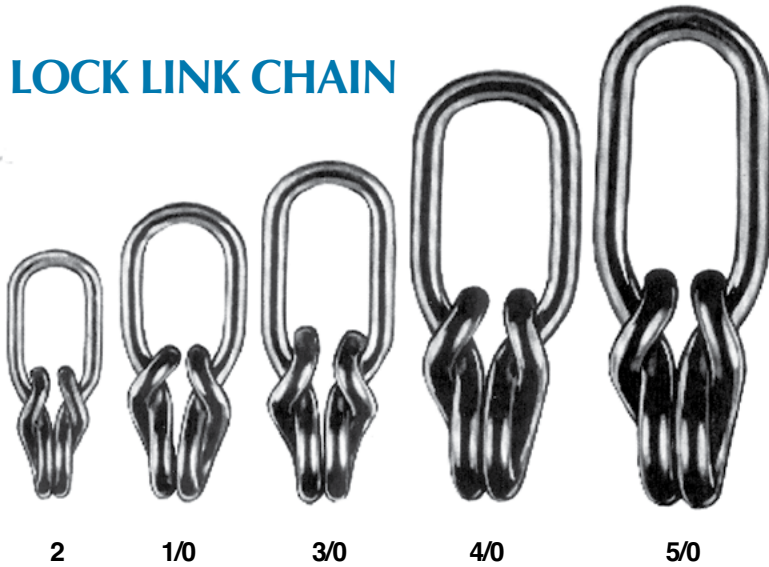


ACTUAL SIZE REFERENCE

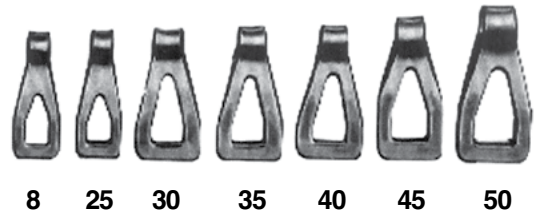
DOUBLE LOOP CHAIN



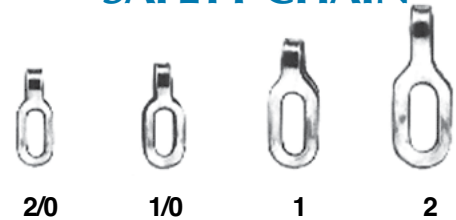
LOCK LINK CHAIN



SASH CHAIN



SAFETY CHAIN



JACK CHAIN



DECORATOR CHAIN

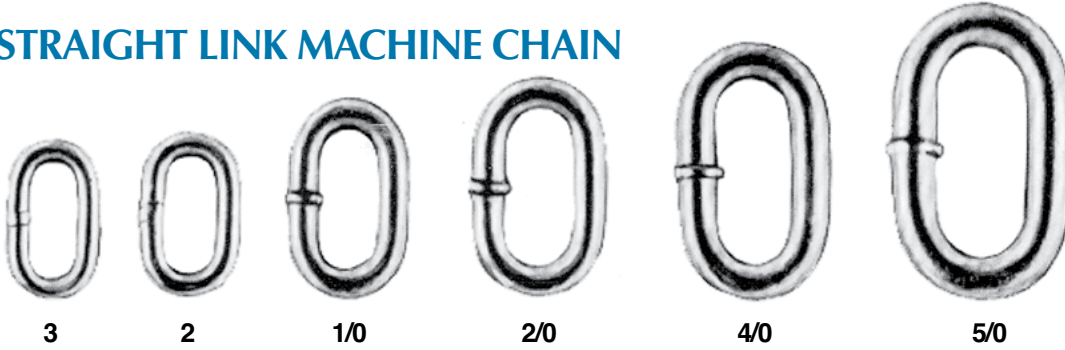


WARNING: Working load limit must not be exceeded. Not to be used for lifting or hoisting applications.

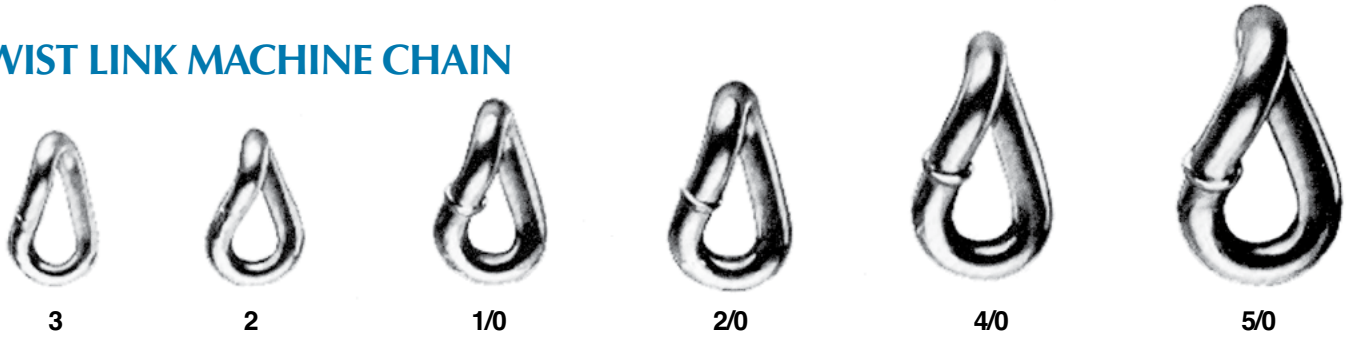


ACTUAL SIZE REFERENCE

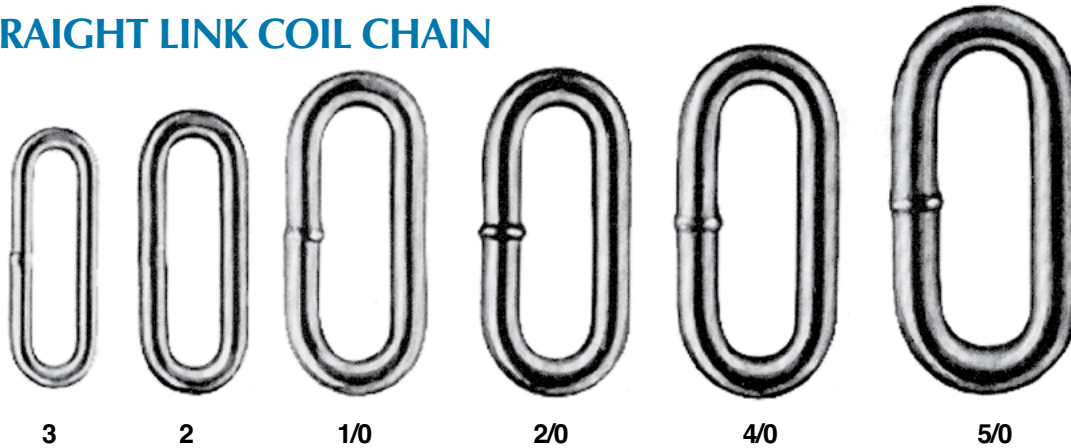
STRAIGHT LINK MACHINE CHAIN



TWIST LINK MACHINE CHAIN



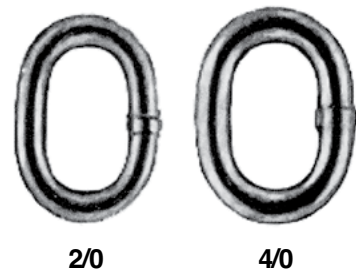
STRAIGHT LINK COIL CHAIN



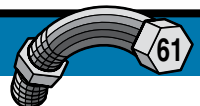
TWIST LINK COIL CHAIN



PASSING LINK CHAIN

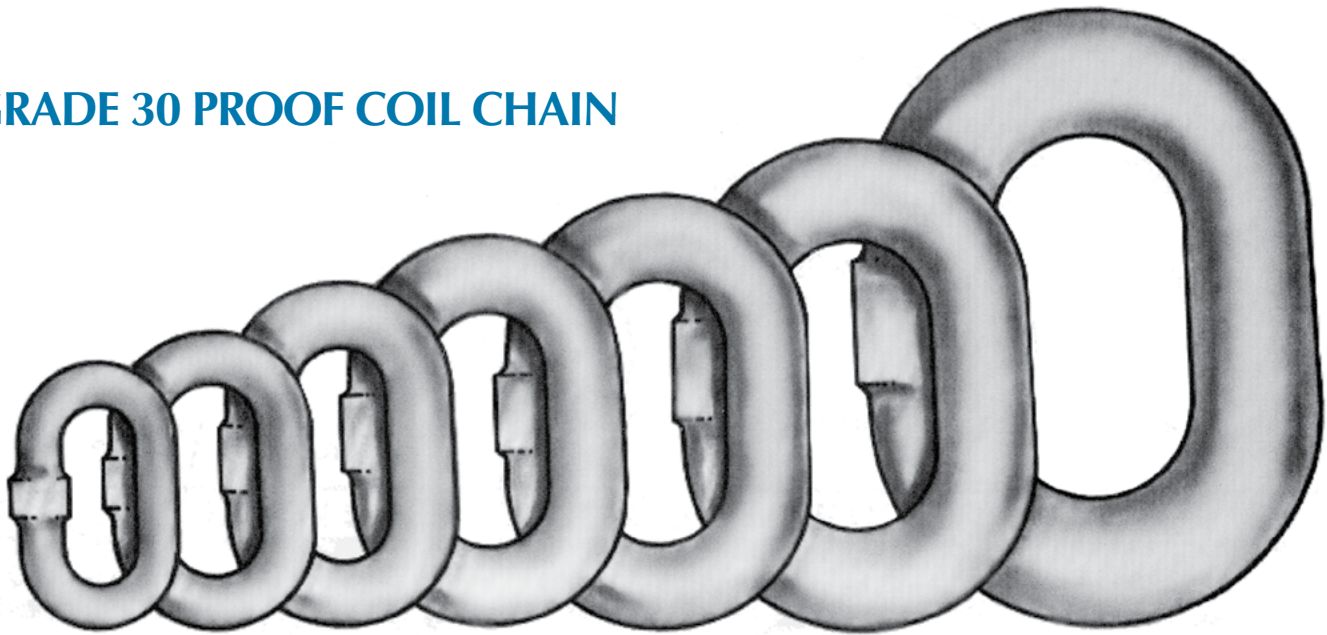


WARNING: Working load limit must not be exceeded. Not to be used for lifting or hoisting applications.



ACTUAL SIZE REFERENCE

GRADE 30 PROOF COIL CHAIN



3/16"

1/4"

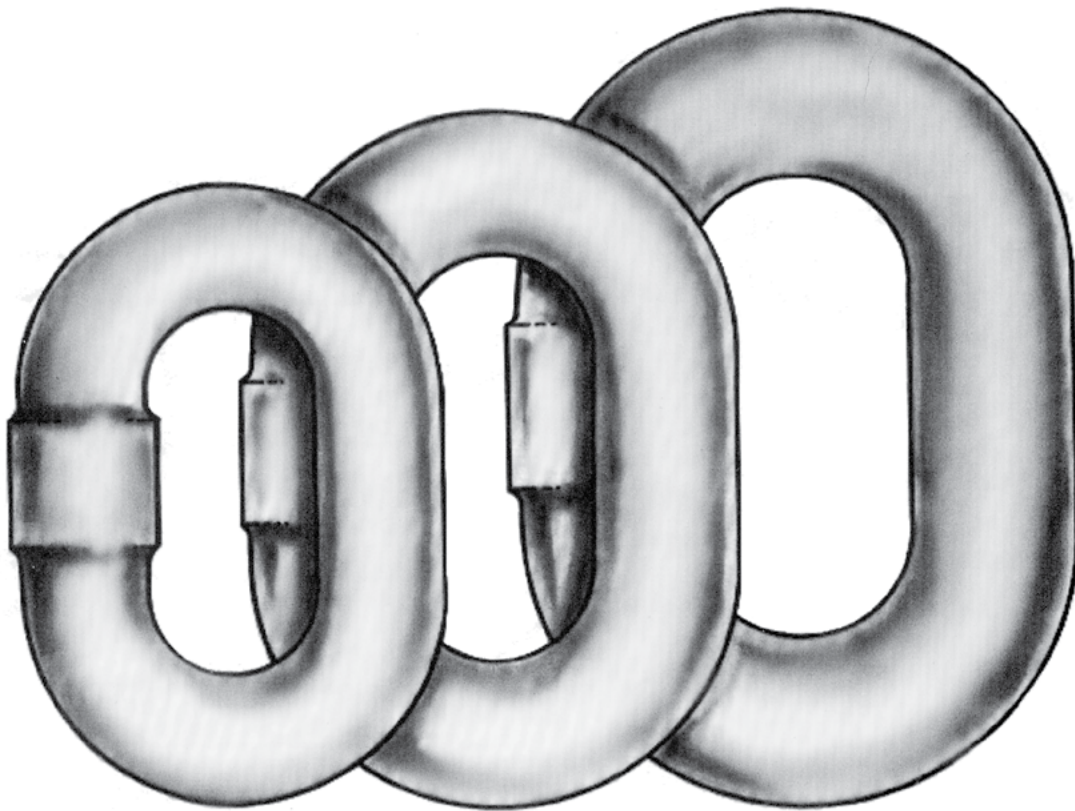
5/16"

3/8"

7/16"

1/2"

5/8"



3/4"

7/8"

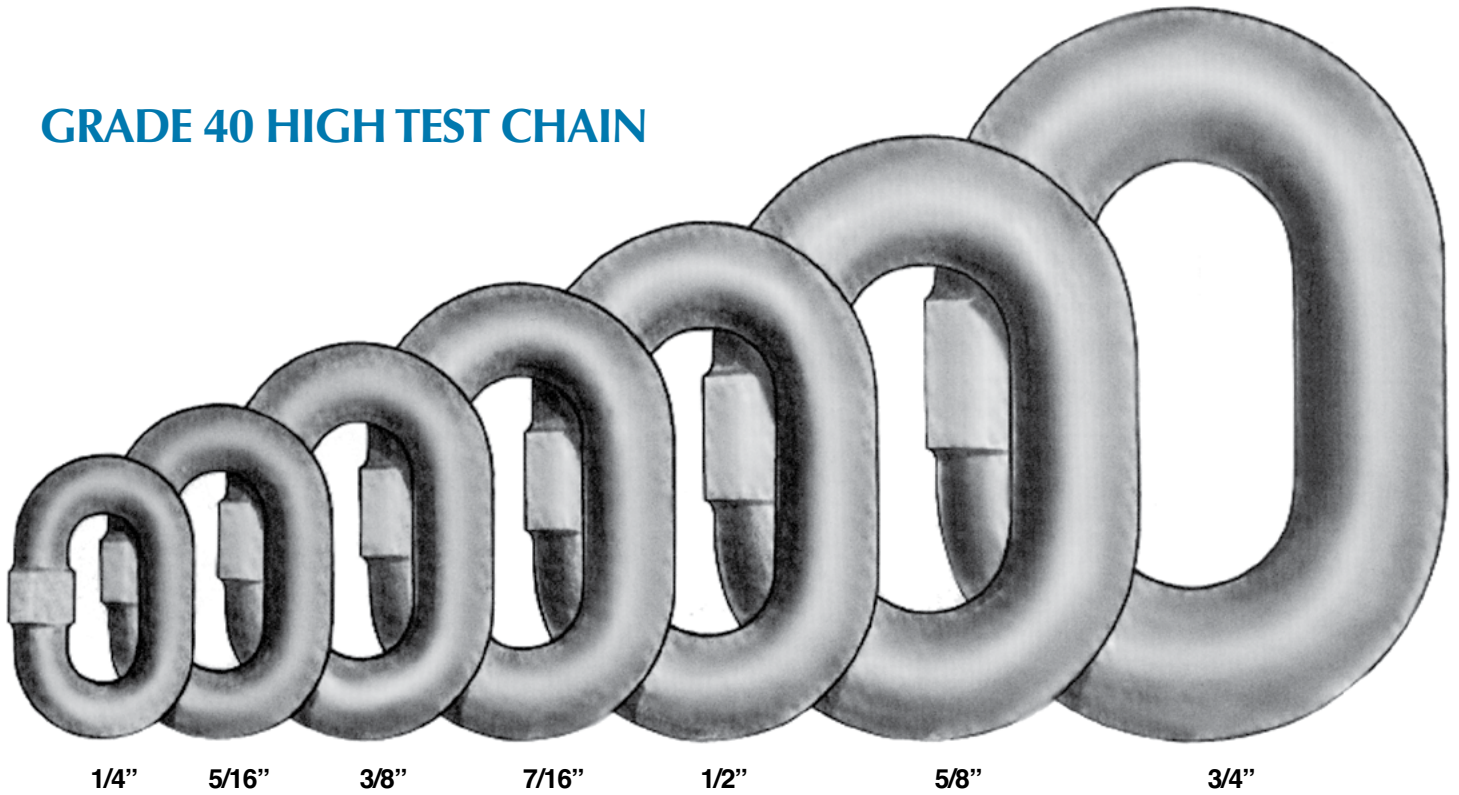
1"

WARNING: Working load limit must not be exceeded. Not to be used for lifting or hoisting applications.

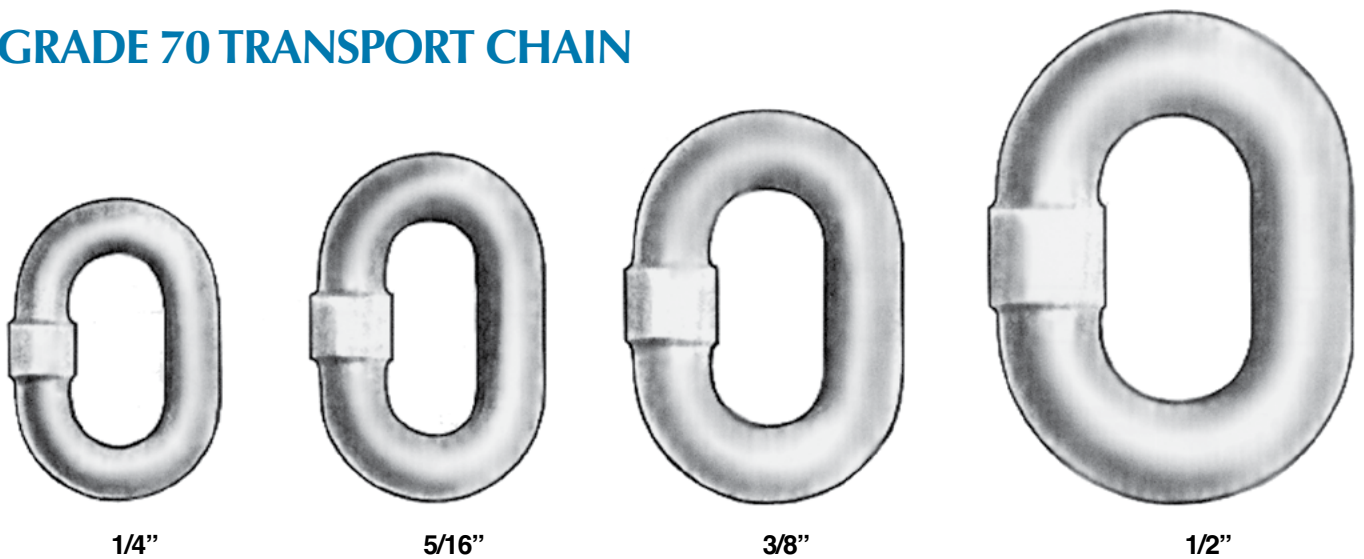


ACTUAL SIZE REFERENCE

GRADE 40 HIGH TEST CHAIN



GRADE 70 TRANSPORT CHAIN



WARNING: Working load limit must not be exceeded. Not to be used for lifting or hoisting applications.

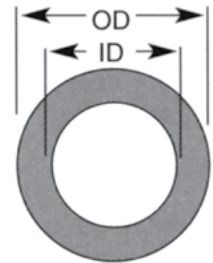
MACHINERY BUSHINGS

Standard machinery bushings (or narrow rim washers) are a quality stamping without burrs or sharp edges. Close tolerance dies minimize deformation to produce a classic part for your application.

Made from mild steel in a plain bright finish these washers are clean and free of oil and grease.

Gauge	18	14	10
Tolerance	.042-.054	.068-.082	.126-.142

Unless otherwise noted, all dimensions are for reference only.



MACHINERY BUSHINGS - PLAIN FINISH

LOAD BINDERS

Lever Type



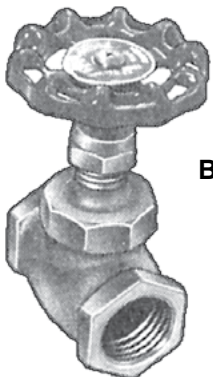
Ratchet Type



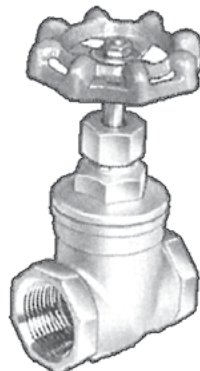
TOW CHAINS



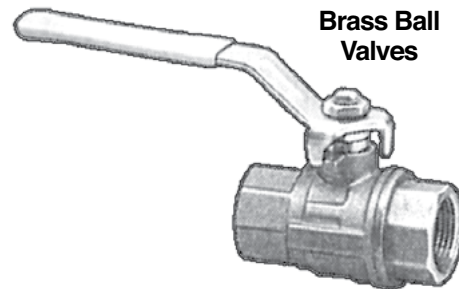
VALVES



Bronze Globe Valves



Gate Valves



Brass Ball Valves

Additional Items Available



Call For Prices (951) 684-3870

STANDARD THREADED FITTINGS



90° ELBOWS



90° ST. ELBOWS



45° ELBOWS



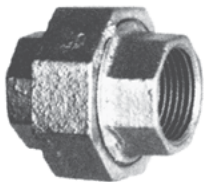
COUPLINGS



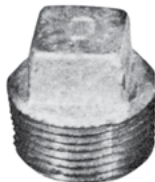
TEES



REDUCERS



UNIONS



PLUGS



CAPS



HEX BUSHINGS

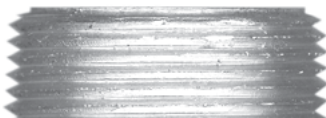


LOCK NUTS

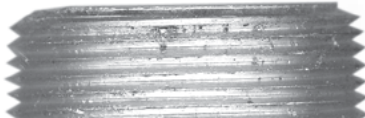
NIPPLES AND FITTINGS AVAILABLE IN 1/8" THRU 6" DIAMETER

PIPE THREAD SIZES (Actual Size) NIPPLES

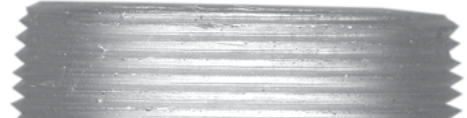
1 1/4 in.



1 1/2 in.



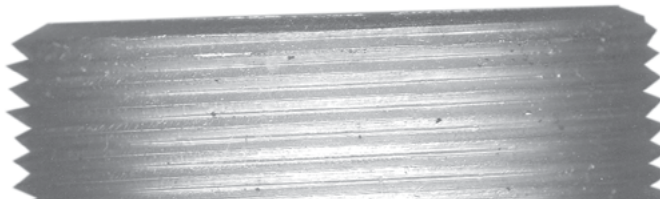
2 in.



3/8 in.



3 in.



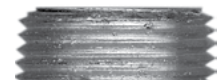
1 in.



1/4 in.



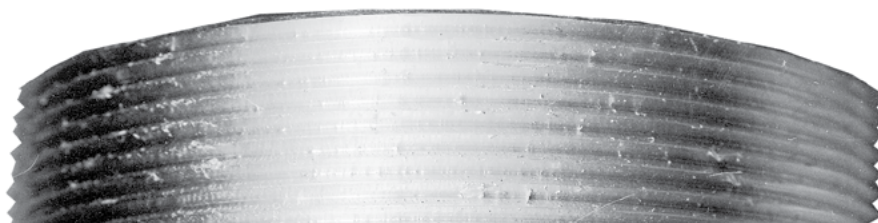
3/4 in.



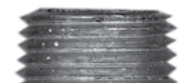
1/8 in.



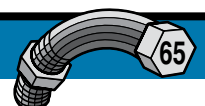
4 in.



1/2 in.



SCH 40 AVAILABLE IN PLAIN OR GALVANIZED
SCH 80 AVAILABLE IN PLAIN ONLY

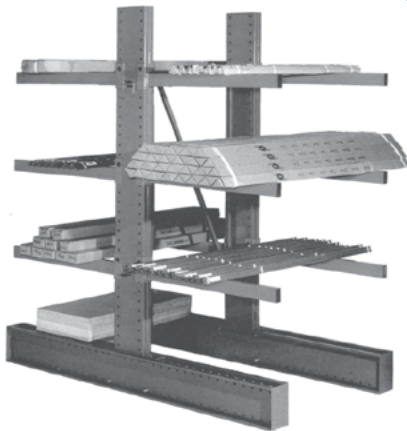


ASSORTED SHELVING

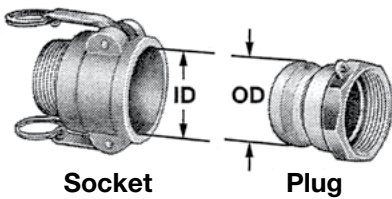


- Boltless
- Cantilever
- Pallet Rack

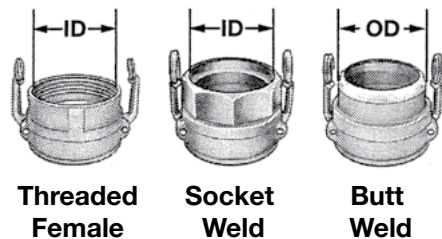
SPECIAL ORDER ONLY



CAM and GROOVE HOSE COUPLINGS



Type A Coupler



Threaded Female

Socket Weld

Butt Weld



Type B Coupler



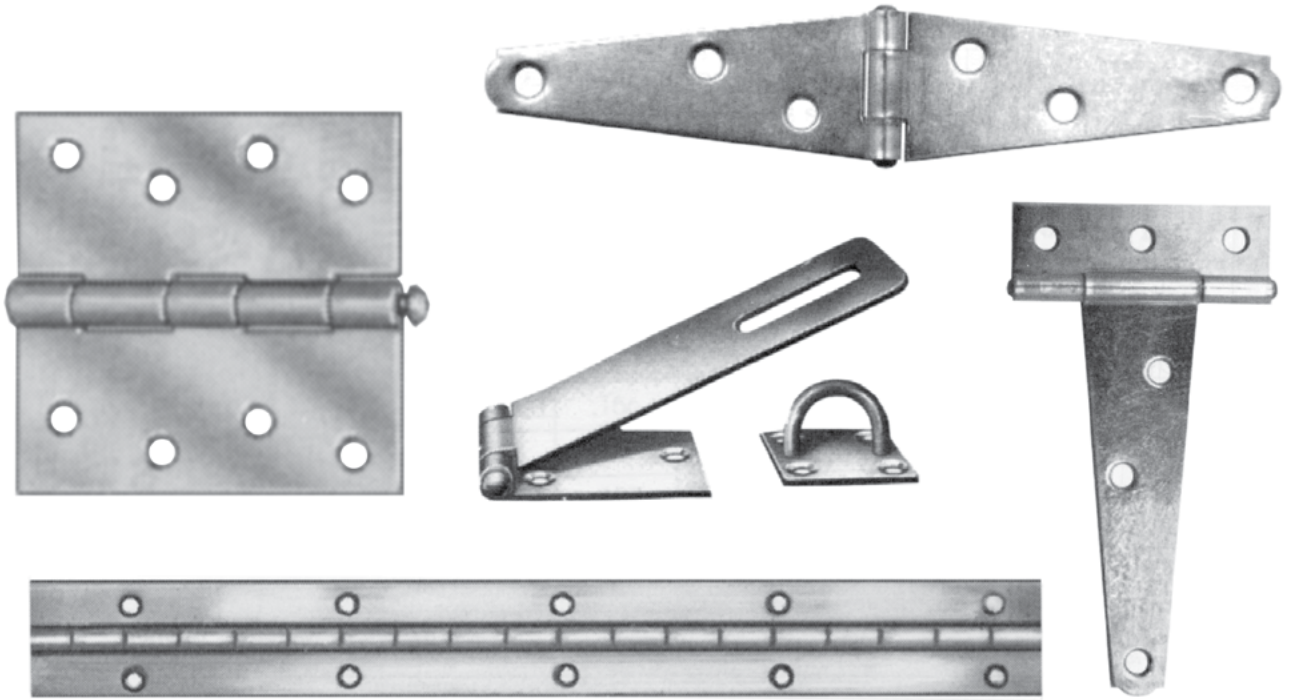
SPECIAL ORDER

Additional Items Available

Call For Prices (951) 684-3870

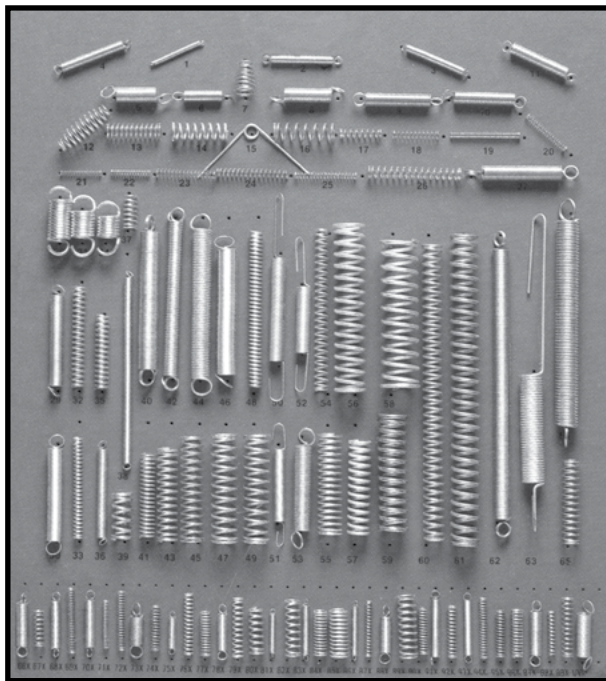


HINGES

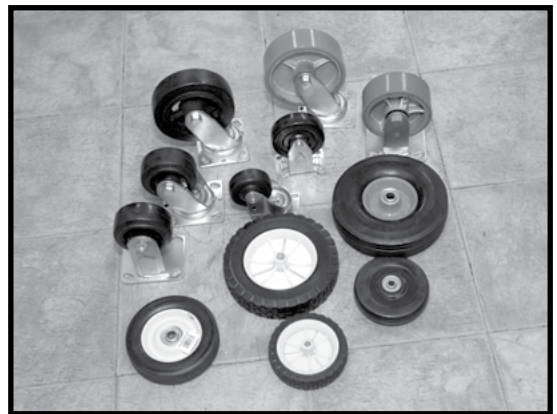


Additional Items Available - Special Order

SPRINGS



CASTERS & WHEELS



COME ALONG
CABLE WINCH



Call For Prices (951) 684-3870



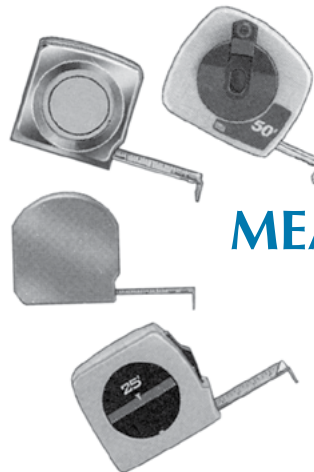
ABRASIVE PRODUCTS



ABRASIVES

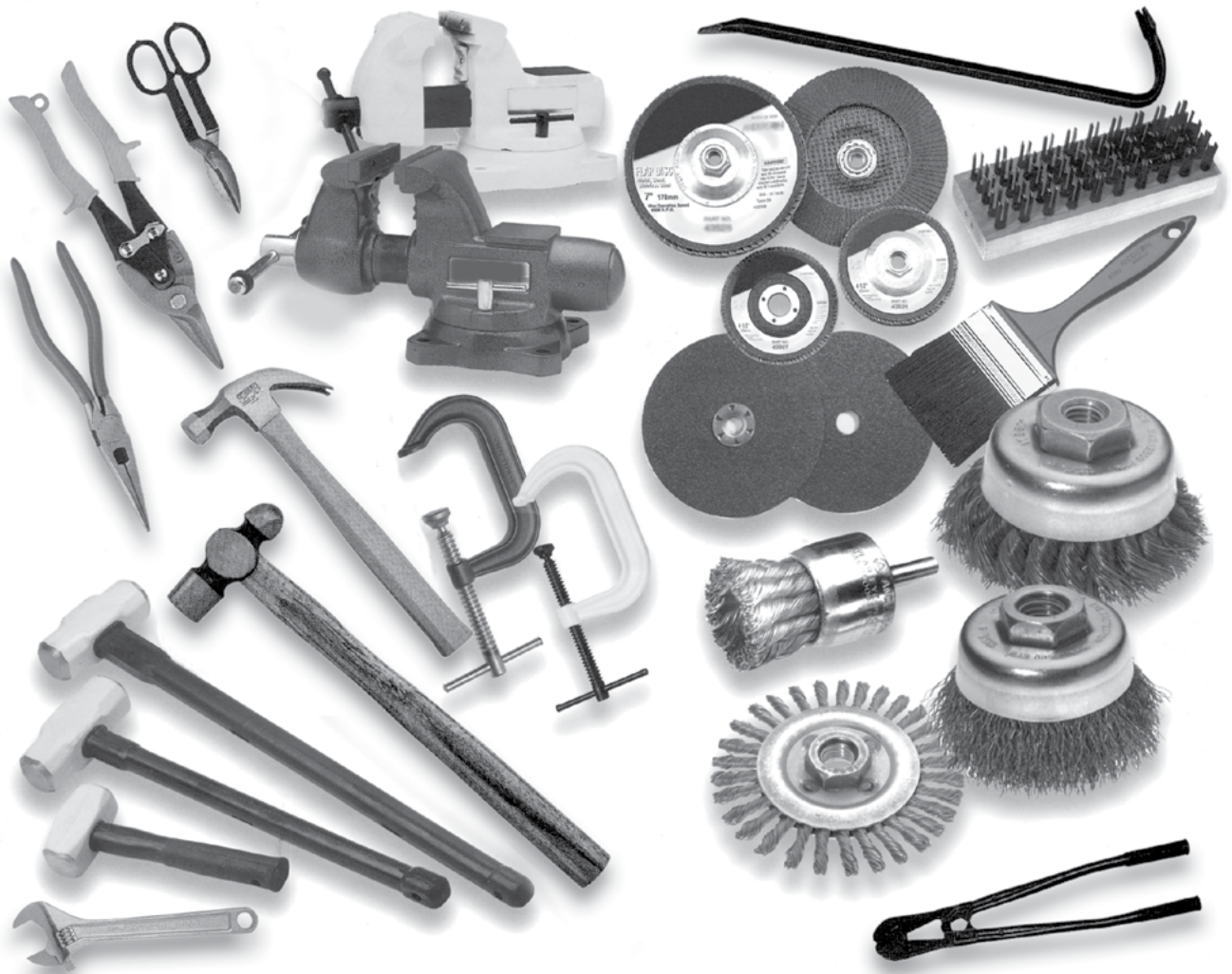
Grinding Wheels • Cut-Off Wheels • PSA Discs
Flap Wheels • Sanding Belts
Wire Wheels • Cup Wheels • Shop Rolls

**If You Don't See It
In Our Catalog,
CALL US!**



MEASURING TAPES

SHOP EQUIPMENT



WIRE BRUSHES



Additional Items Available

Call For Prices (951) 684-3870



BROOMS, SHOVELS, STRAPS AND MORE



BOLT CUTTERS



Additional Items Available

Call For Prices (951) 684-3870



AEROSOL CHEMICALS

⚠ WARNING! These products may expose you to chemicals which are known to the State of California to cause cancer and reproductive harm. For more information, go to www.P65warnings.ca.gov.



Additional Items Available

CAULKING PRODUCTS

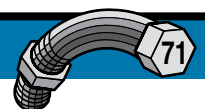


CUTTING FLUIDS

TAPE PRODUCTS

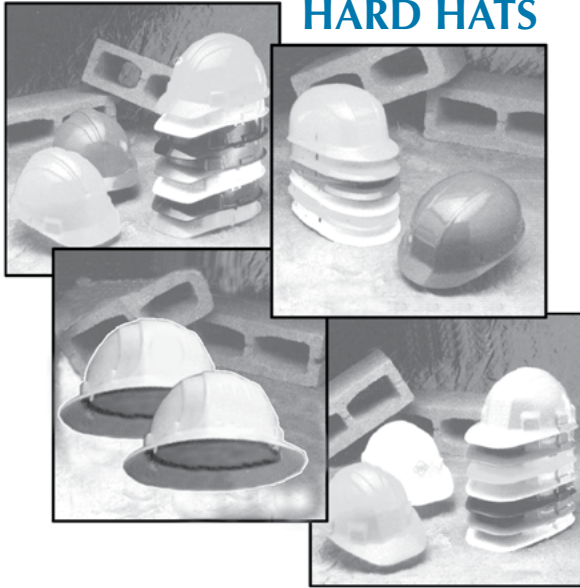


Call For Prices (951) 684-3870



SAFETY AND WEATHERWEAR

HARD HATS



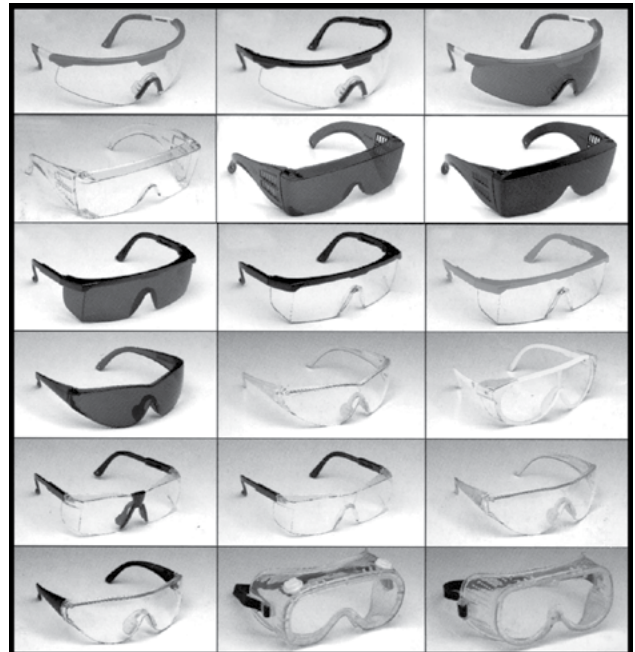
RAIN SUITS



VESTS



SAFETY GLASSES



RAIN BOOTS



Additional Items Available

Call For Prices (951) 684-3870

BATTERIES



LOCKS



Additional Items Available

GLOVES

Chemical • Jersey • Latex Exam • Leather Palm • Nitrile • Welding



WEIGHTS AND MEASURES

United States System LINEAR MEASURE

Inches	Feet	Yards	Rods	Furlongs	Miles
1.0 =	.08333 =	.02778 =	.0050505 =	.00012626 =	.00001578
12.0 =	1.0 =	.33333 =	.0606061 =	.00151515 =	.00018939
36.0 =	3.0 =	1.0 =	.1818182 =	.00454545 =	.00056818
198.0 =	16.5 =	5.5 =	1.0 =	.025 =	.003125
7920.0 =	660.0 =	220.0 =	40.0 =	1.0 =	.125
63360.0 =	5280.0 =	1760.0 =	320.0 =	8.0 =	1.0

SQUARE AND LAND MEASURE

Sq. Inches	Square Feet	Square Yards	Sq. Rods	Acres	Sq. Miles
1.0 =	.006944 =	.000772 =			
144.0 =	1.0 =	.111111 =			
1296.0 =	9.0 =	1.0 =	.03306 =	.000207 =	
39204.0 =	272.25 =	30.25 =	1.0 =	.00625 =	.0000098
	43560.0 =	4840.0 =	160.0 =	1.0 =	.0015625
		3097600.0 =	102400.0 =	640.0 =	1.0

AVOIRDUPOIS WEIGHTS

Grains	Drams	Ounces	Pounds	Tons
1.0 =	.03657 =	.002286 =	.000143 =	.0000000714
27.34375 =	1.0 =	.0625 =	.003906 =	.00000195
437.5 =	16.0 =	1.0 =	.0625 =	.00003125
7000.0 =	256.0 =	16.0 =	1.0 =	.0005
14000000.0 =	512000.0 =	32000.0 =	2000.0 =	1.0

DRY MEASURE

Pints	Quarts	Pecks	Cubic Ft.	Bushels
1.0 =	.5 =	.0625 =	.01945 =	.01563
2.0 =	1.0 =	.125 =	.03891 =	.03125
16.0 =	8.0 =	1.0 =	.31112 =	.25
51.42627 =	25.71314 =	3.21414 =	1.0 =	.80354
64.0 =	32.0 =	4.0 =	1.2445 =	1.0

LIQUID MEASURE

Gills	Pints	Quarts	U.S. Gallons	Cubic Ft.
1.0 =	.25 =	.125 =	.03125 =	.00418
4.0 =	1.0 =	.5 =	.125 =	.01671
8.0 =	2.0 =	1.0 =	.250 =	.03342
32.0 =	8.0 =	4.0 =	1.0 =	.1337
			7.48052 =	1.0

Metric System UNITS

Length—Meter		Mass—Gram		Capacity—Liter	
for pure water at 4°C. (39.2°F.)					
1 cubic decimeter or 1 liter = 1 kilogram					
1000 Milli	{ meters (mm) grams (mg) liters (ml) }	= 100 Centi	{ meters (cm) grams (cg) liters (cl) }	= 10 Deci	{ meters (dm) grams (dg) liters (dl) }
1000	{ meters grams liters }	= 100 Deka	{ meters (dkm) grams (dkg) liters (dkl) }	= 10 Hecto	{ meters (hm) grams (hg) liters (hl) }
				= 1 Kilo	{ meter (km) gram (kg) liter (kl) }
		1 Metric Ton	= 1000 Kilograms		
		100 Square Meters	= 1 Are		
		100 Area	= 1 Hectare		
		100 Hectares	= 1 Square Kilometer		

TABLE OF MINUTES REDUCED TO DECIMALS

Number of Minutes	Decimal Part of an Hour
1	= 0.0167
2	= 0.0333
3	= 0.05
4	= 0.0667
5	= 0.0833
6	= 0.10
7	= 0.1167
8	= 0.1333
9	= 0.15
10	= 0.1667
11	= 0.1833
12	= 0.20
13	= 0.2167
14	= 0.2333
15	= 0.25
16	= 0.2667
17	= 0.2833
18	= 0.30
19	= 0.3167
20	= 0.333
21	= 0.35
22	= 0.3667
23	= 0.3833
24	= 0.40
25	= 0.4167
26	= 0.4333
27	= 0.45
28	= 0.4667
29	= 0.4833
30	= 0.5
31	= 0.5167
32	= 0.5333
33	= 0.55
34	= 0.5667
35	= 0.5833
36	= 0.60
37	= 0.6167
38	= 0.6333
39	= 0.65
40	= 0.6667
41	= 0.6833
42	= 0.70
43	= 0.7167
44	= 0.7333
45	= 0.75
46	= 0.7667
47	= 0.7833
48	= 0.80
49	= 0.8167
50	= 0.8333
51	= 0.85
52	= 0.8667
53	= 0.8833
54	= 0.90
55	= 0.9167
56	= 0.9333
57	= 0.95
58	= 0.9667
59	= 0.9833
60	= 1.0

TABLE OF FEET AND INCHES REDUCED TO DECIMALS

1" = 1/12	foot = 0.083	5" = 5/12	foot = 0.417	9" = 3/4	foot = 0.75
1 1/2" = 1/8	foot = 0.125	5 1/2" = 11/24	foot = 0.458	9 1/2" = 19/24	foot = 0.792
2" = 1/6	foot = 0.1667	6" = 1/2	foot = 0.5	10" = 5/6	foot = 0.833
2 1/2" = 5/24	foot = 0.2087	6 1/2" = 13/24	foot = 0.5417	10 1/2" = 7/8	foot = 0.875
3" = 1/4	foot = 0.25	7" = 7/12	foot = 0.583	11" = 11/12	foot = 0.917
3 1/2" = 7/24	foot = 0.2917	7 1/2" = 5/8	foot = 0.625	11 1/2" = 23/24	foot = 0.958
4" = 1/3	foot = 0.333	8" = 2/3	foot = 0.667	12" = 1	foot = 1.0
4 1/2" = 3/8	foot = 0.375	8 1/2" = 17/24	foot = 0.708		



MISCELLANEOUS ITEMS

ROPES



STRAPPING



SHELF BINS



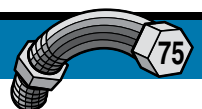
Additional
Items Available

COMPARTMENT BOXES



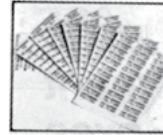
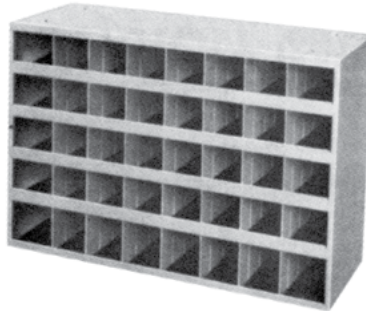
Boxes are empty
Parts not included

WE HONOR





STORAGE BINS (12" Models)



Pressure sensitive bin labels are available for use with all parts bins. USS or SAE cap screw sets consist of six pages each and are printed black on heavy coated yellow paper.

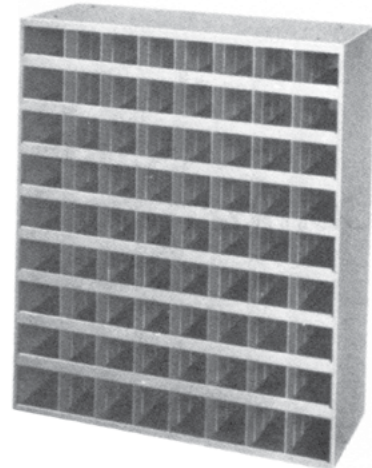
Metric sets consist of nine pages printed black on heavy coated white paper. Six-page miscellaneous sets which include carriage bolts, plow bolts, stove bolts, nuts, washers, cotter pins, and sheet metal screws are printed black on heavy coated yellow paper. Blank labels (36 per page) are available in white or yellow.

Specifications	Model 40B*	Model 56B
Width, in.	33 ³ / ₄	33 ³ / ₄
Height, in.	23 ⁷ / ₈	42
Depth, in.	12	12
No. of Bins	40	56
Bin Width, in.	4	4 ⁷ / ₈
Bin Height, in.	4 ¹ / ₂	5 ¹ / ₈
Bin Depth, in.	11 ⁷ / ₈	11 ⁷ / ₈
Material	Prime cold rolled steel—interlocked and welded construction	
Color	Gray baked enamel	
Packing Per Carton	1	1
Weight Per Carton, lb.	50	75

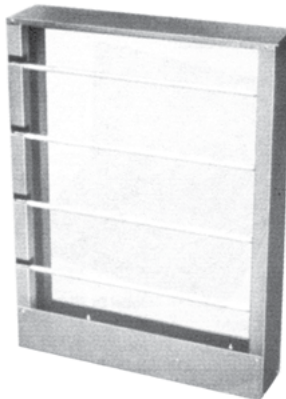
Model BBC-12 parts bin base is available for all models except the 21B and 36B. The BBC-12 is 5³/₄" high x 34" wide x 12¹/₄" deep; weight 13 lb. It is sold separately. Legs can be attached by using fasteners provided.



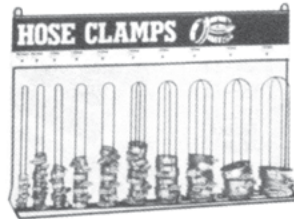
Model 72B



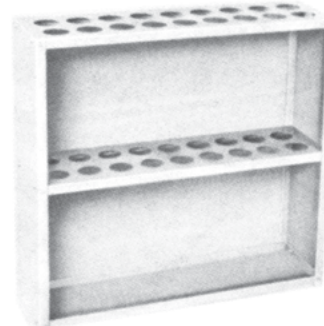
MISCELLANEOUS STORAGE UNITS



Model WSR-4*



Hose Clamp Rack*. Ten-loop rack provides easy access to adjustable hose clamps from the smallest mini-clamp up to the 2³/₄" diameter #36 clamp. May be countertop or wall mounted using two built-in hanger loops provided. Sign panel lists clamp diameters.

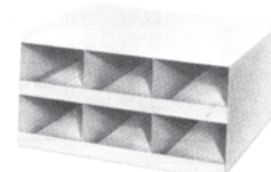


Threaded Rod Rack*. Separates and protects threaded rods. Eighteen 2¹/₈" diameter openings accommodate different sizes. Easily assembled.

Specifications	Model WSR-4*	Key Stock Rack*	Hose Clamp Rack*	Threaded Rod Rack*	Welding Rod Cabinet*
Width, in.	26 ¹ / ₂	12 ¹ / ₄	23 ¹ / ₄	24 ¹ / ₈	16 ¹ / ₈
Height, in.	37 ¹ / ₂	12	16 ¹ / ₈	24	8 ¹ / ₂
Depth, in.	6	6 ¹ / ₄	5 ¹ / ₈	6 ⁷ / ₈	18 ¹ / ₂
No. of Sections	4	10	10	18	6
Material	Prime cold rolled steel—interlocking construction				
Colors	Gray baked enamel				
Packing Per Carton	1	1	1	1	1
Weight Per Carton, lb.	25	8	5	16	17



Key Stock Rack*. Ten compartments hold key stock up to 3/4" square and approximately 12" long. Keyholes permit wall mounting.



Welding Rod Cabinet*. Holds welding rod up to 18" long in six compartments. Each compartment is 18³/₈" deep x 4" high x 5¹/₄" wide.

Assortments of any product in this Catalog can be made to customer specification by simply telling us what Bin or Tray to use, along with the product type and size, as well as how many of each.

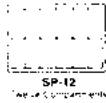
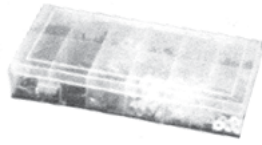
CALL US



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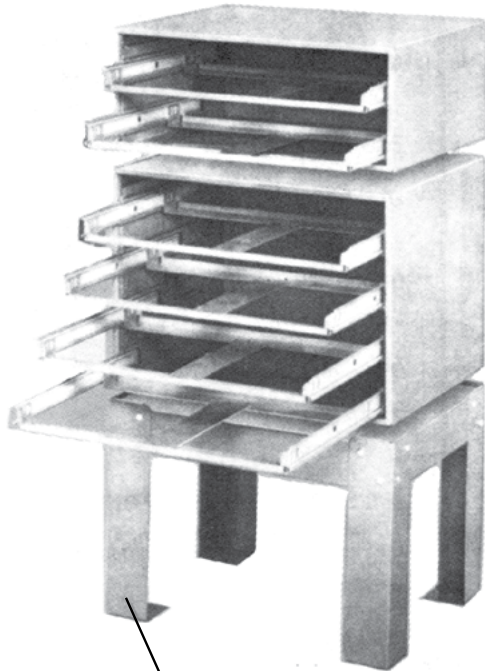


Plastic Compartment Boxes (Small)



Specifications	Model SP-12*
Width, in.	11
Height, in.	1 1/2
Depth, in.	6 3/4
No. of Compartments	12
Cpt. Width (i.d.)	1 3/4
Cpt. Height (i.d.)	1 3/8
Cpt. Depth (i.d.)	3 3/8
Packing Per Carton	10 or 50
Ship Weight (lbs.)	7 or 31
Material	Polypropylene
Color	Transparent or Yellow
Rack Capacity	N/A

Racks For Scoop Compartment Boxes (Large)



Model BLR* rack base (20 3/8" W x 15 1/8" H x 16" D; weight 13 lb.) is available for use with 2LR and 4LR.

Specifications	Model 2LR*	Model 4LR*
Width, in.	20	20
Height, in.	8 3/8	15
Depth, in.	15 3/4	15 3/4
Material	Prime cold rolled steel - interlocked and welded construction	
Color	Gray baked enamel	
No. of Drawers	2	4
Packing Per Carton	1	1
Weight Per Carton, lb.	20	37

Scoop Compartment Boxes (Large)



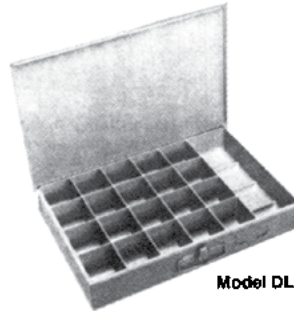
Model ADL Catch* Adjustable Drawer with catch and nine straight dividers.

Model 2LR*



Model DL24 Catch*

Model 4LR*



Model DL21 Catch*



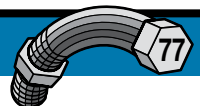
Model DL20 Catch*

Specifications	Model DL24 Catch*	Model DL21 Catch*	Model DL20 Catch*	Model ADL Catch*
Width, in.	18	18	18	18
Height, in.	3	3	3	3
Depth, in.	12	12	12	12
Material	Prime cold rolled steel - interlocked and welded construction			
Color	Gray baked enamel			
No. of Compartments	24	21	20	Variable
Packing Per Carton	4	4	4	4
Wt. Per Carton, lb.	32	32	32	32

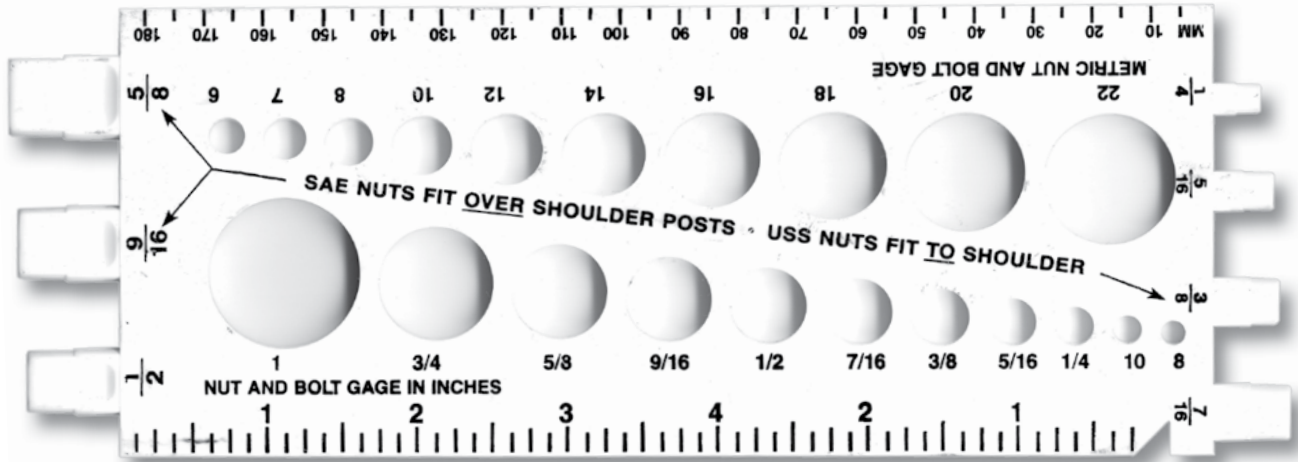
Assortments of any product in this Catalog can be made to customer specification by simply telling us what Bin or Tray to use, along with the product type and size, as well as how many of each.

CALL US

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GAUGES AND CHECKERS

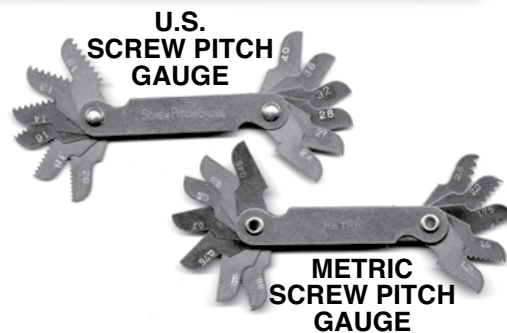
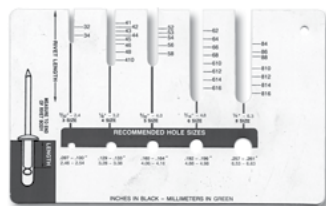


I.S.O. METRIC SCREW CHEK'R NO. 1

MM DIAMETER			INCH DIA.	MM PITCH	
FIRST CHOICE	SECOND CHOICE	THIRD CHOICE		COARSE	FINE
2	46		.079	.4	.25
	2.2		.087	.45	.25
DRILLS	43			.50	.48
2.5	39		.098	.45	.35
	31		.118	.5	.35
DRILLS	28			.39	.37
3	35		.138	.6	.35
DRILLS	21	U.S. PAT. 2728145	.157	.7	.5
4	21			.30	.28
	16	OTHER PAT. PEND.	.177	.75	.5
DRILLS	8		.197	.8	.5
5				.18	.16
	5.5		.217	.5	.10
DRILLS	7/32			.10	
6			.236	1.	.75
	B			.8	.4
	7		.276	1.	.75
	J			.75	.4

I.S.O. METRIC SCREW CHEK'R NO. 2

mm Diameter			Tap Drill C / F	mm Pitch			
First Choice	Second Choice	Third Choice		Coarse	Fine	Fine	Fine
			6.9				
			7.1				
8			7.4	1.25	1.0	0.75	
			7.9				
			8.2				
		9	8.4	1.25	1.0	0.75	
			8.6				
			8.8				
10			9.1				
			9.4	1.5	1.25	1.0	0.75
			9.6				
U.S. PAT. 2728145	OTHER PAT. PEND.		10.1				
		11	10.3	1.5	1.0	0.75	
			10.5				
			10.8				
			11.1				
12			11.1	1.75	1.5	1.25	1.0
			12.3				
			13.1				
			13.1	2.0	1.5	1.25	

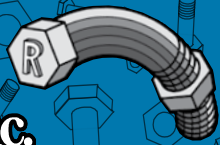


Additional Items Available

Call For Prices (951) 684-3870

Rainbow Bolt & Supply, Inc.

FASTENERS & INDUSTRIAL
SUPPLIES SINCE 1985



CREDIT APPLICATION

4030 Garner Road, Riverside, CA, 92501
P (951)-684-3870 | F (951)-781-0501
jamib@rainbowboltsupply.com
rainbowboltsupply.com

PLEASE FILL IN ALL APPLICABLE SPACES

Company Type	Individual <input type="checkbox"/>	Corporation <input type="checkbox"/>	Partnership <input type="checkbox"/>
--------------	-------------------------------------	--------------------------------------	--------------------------------------

Legal Individual, Firm, or Trade Name:

SECTION FOR CORPORATIONS ONLY

President: Vice President: Treasurer:

CONTACT INFORMATION

Business Address: City: Zip:

Billing Address: City: Zip:

Shipping Address: City: Zip:

Phone: () Fax: () Other: ()

A/P Contact: E-mail:

CREDIT REFERENCES

1st Legal Individual, Firm, or Trade Name:

Address: City: Zip:

Phone: () Fax: () E-mail:

2nd Legal Individual, Firm, or Trade Name:

Address: City: Zip:

Phone: () Fax: () E-mail:

3rd Legal Individual, Firm, or Trade Name:

Address: City: Zip:

Phone: () Fax: () E-mail:

4th Legal Individual, Firm, or Trade Name:

Address: City: Zip:

Phone: () Fax: () E-mail:

Real Estate Ownership (Fill all fields that apply) | Yes No Rent Lease

Value (In USD): \$ Mortgage: Term:

For the purpose of obtaining credit from Rainbow Bolt & Supply, Inc. in any form whatsoever, the undersigned submits to the foregoing statement, which is true and correct.

Rainbow Bolt & Supply, Inc.

FASTENERS & INDUSTRIAL
SUPPLIES SINCE 1985

CREDIT APPLICATION

4030 Garner Road, Riverside, CA, 92501

P (951)-684-3870 | F (951)-781-0501

jamib@rainbowboltsupply.com

rainbowboltsupply.com

Bank Reference		Bank:	Account #:
Address:		City:	Zip:
Phone: ()	Fax: ()	Other: ()	
Contact Name:		E-mail:	
Purchase Information		Maximum credit needs per month (in USD): \$	
Do you require PO numbers? (Fill all fields that apply)		Yes <input type="checkbox"/>	No <input type="checkbox"/> Written <input type="checkbox"/> Verbal <input type="checkbox"/>
Purchases will be... Resale <input type="checkbox"/> #:		Taxable <input type="checkbox"/> Fed. ID #:	
<u>In the fields below, please list all persons you authorize to purchase from Rainbow Bolt & Supply, Inc. on your behalf.</u>			
Contact Name:		Contact Name:	
Contact Name:		Contact Name:	
Contact Name:		Contact Name:	
Contact Name:		Contact Name:	

TERMS OF CREDIT SALES

- All invoices are due for payment 30 days from date of invoice. A discount of 1% may be taken if invoice is paid within 10 days from date of invoice.
- Minimum billing of (in USD) \$20.00 for Will Call.
- Minimum billing of (in USD) \$20.00 for orders requiring delivery to your location(s) by our vehicle(s).
- Customer accounts that are over 45 days past due may be placed on C.O.D. temporarily until the past due balance is paid in full.
- Signature by you or your authorized representative on this credit application is presumed to establish acceptance of the terms and to unconditionally guarantee full payment of any and all amounts owing to Rainbow Bolt & Supply, Inc. without exception, and to comply with the terms of sale for open account.

Applicant hereby acknowledges that they have read and accepted the Terms and Conditions of Sale as set forth on this application. Applicant has now authorized Rainbow Bolt & Supply, Inc. to investigate any and all sources listed on this application.

Authorized Signature:

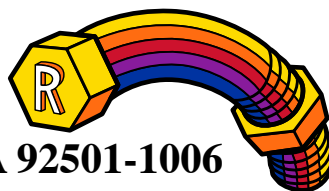
Title:

Date:

Please Note: We require a minimum of 10 working days to process an application. Any shipments required prior to completion of processing and potential approval of this application can be cash-shipped in advance; this neither confirms nor guarantees approval of this application. This document is a credit application; it must be signed by an authorized officer of the business indicated in this document.



Rainbow Bolt & Supply, Inc.



(951) 684-3870

4030 Garner Road • Riverside, CA 92501-1006

Fax (951) 781-0501

E-mail - Support@rainbowboltsupply.com • www.rainbowboltsupply.com

ABRASIVES

Cut Off Wheels
Flap Discs
Flap Wheels
Grinding Wheels
Resin Fiber Discs
Shop Roll
Surface Prep Discs

AEROSOL PRODUCTS

Cleaners
Cutting Oils
Penetrants
Protective Agents
Spray Paints
Starting Fluid

BLADES

Jigsaw
Hacksaw
Razer
Reciprocating
Utility

BOLTS

12 point
A 325
A 490
Anchor
Carriage
Eye
Flange
Lag
Fully Threaded (TAP)
Plow
Shoulder
Colde

CAP SCREWS

Grade 2
Grade 5
Grade 8
F911
L-9
Metric
Socket Head
Stainless Steel

CHAIN

G-30 Proof Coil
G-70 Transport
G-80
G-100
Straight Link

DRILLS

Cobalt
Extension (Aircraft)
Fractional
High Speed
Large Sizes
Letter Sizes
Nitro
Numbered
Reduced Shank
SDS Masonry
Screw Machine

ELECTRICAL

Battery Terminal
Fuses
Non-Insulated Terminals
Nylon Insulated Terminals
Primary Wire

FITTINGS

Air
Brass
Hydraulic
Steel
Water

GREASE FITTINGS

HACKSAWS & BLADES

HAND CLEANERS

HAND TOOLS

HOOKS

Clevis
Eye
G-70
G-80
Grab
Safety
Slip

HOSE CLAMPS

HOSE

Air
Fuel

Hydraulic

Nylon Air Brake
Water

LIGHTING

Instrumentation Bulbs
Miniature Bulbs
Rough Service Bulbs

LUBRICANTS

NUTS

Brass
Finished Hex
Grade 8
Jam
Kep
Left Hand
Machine Screw
Metric
Nylock
Silicone Bronze
Stainless Steel
Stover - C
Square
Wing

NUTSERTS

O-RINGS

PINS

Clevis
Cotter
Detent
Dowel
Hitch

PIPE FITTINGS

POWER BITS

RIVETS

RIVET GUNS

ROLL PINS

ROPE (TRUCK)

SCREWS

All Head Styles
Machine
Metric
Phillips Head
Set
Sheet Metal
Stainless Steel
Tek's (Self Drill)
Wood

SILICONE SEALANT

SOCKET PRODUCTS

Button Head
Flat Socket C/S
Metric
Set Screws
Shoulder Bolts
Socket Head C/S

STORAGE BINS

Cabinets
Drawers
Racks

TAPE

Duct
Electrical
Thread Sealing

TAPS & DIES

Bottoming
STD & Metric
Pipe
Plug
Sets
Taper

THREADED ROD

ACME
B-7
Hi Strength
Left Hand
Low Carbon
Metric

TIE WRAPS-NYLON

HAND TOOLS

WASHERS

AN
Copper
Fender
Flat
Grade 8
Lock
Stainless Steel

WIRE LOOM (SPLIT)

WIRE ROPE CLIPS

VALVES

Ball
Gate
Globe

Additional Items Available - Ask Your Sales Representative



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**E-mail - Support@rainbowboltsupply.com
www.rainbowboltsupply.com**

- **Bolts**
- **Nuts**
- **Washers**
- **Screws**
- **Storage Bins**
- **Slide Racks**
- **Metric Fasteners**
- **Clamps**
- **Pipe Fittings**
- **Pins**
- **Tamper Proof Screws**
- **Wedge Anchors**
- **Nylon Fasteners**
- **Special Order Fasteners**