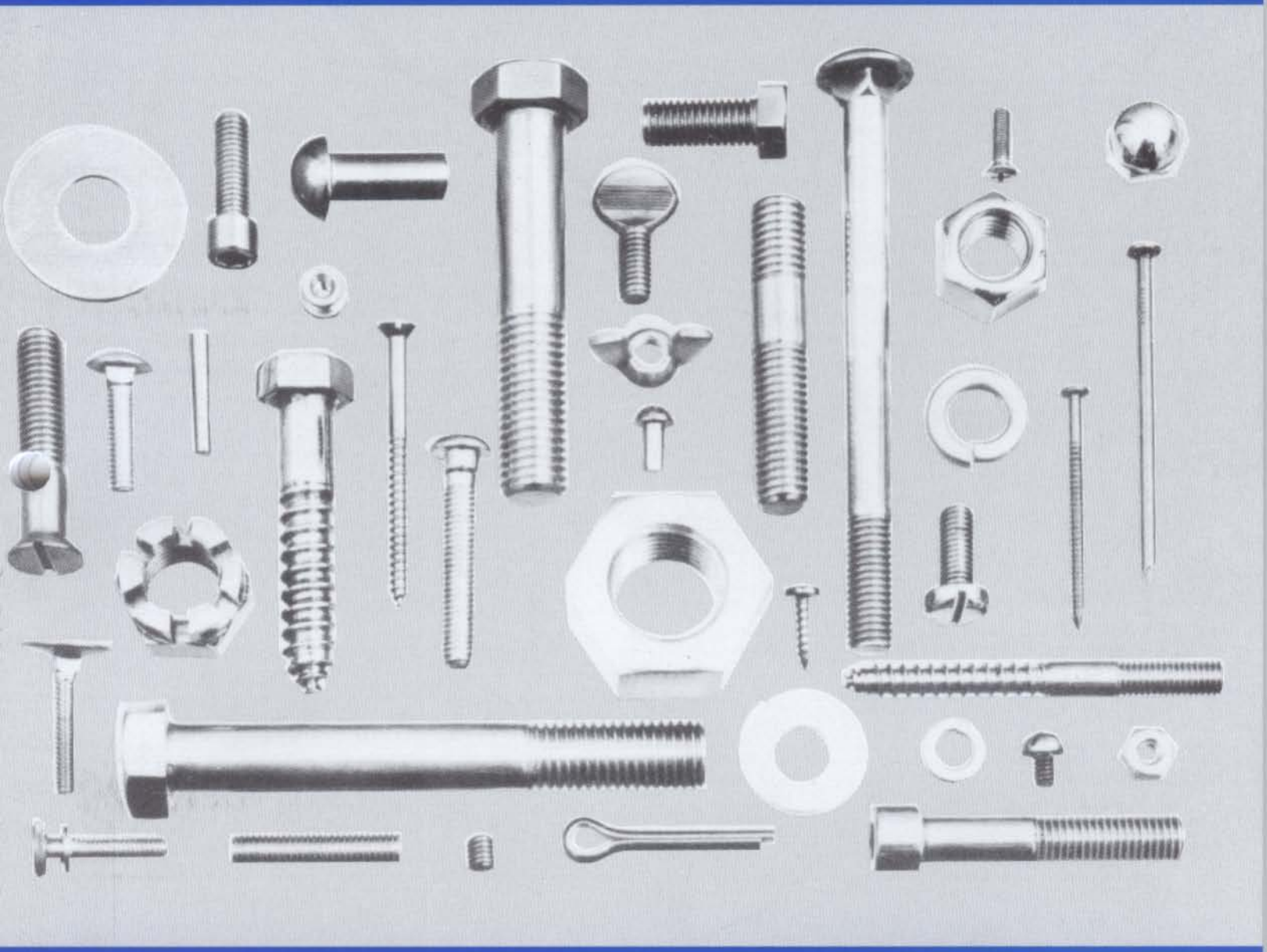
Pacific Fasteners

Corrosion Resistant Fasteners



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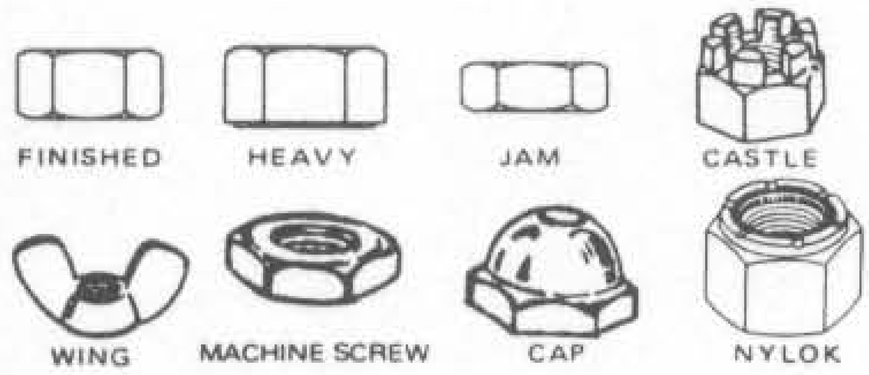
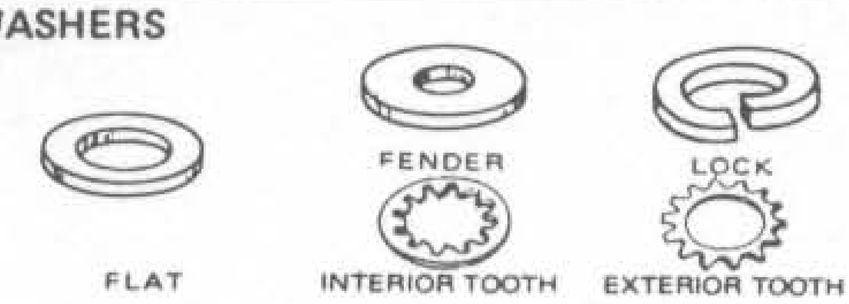
or E-mail pacfast@pacfast.com

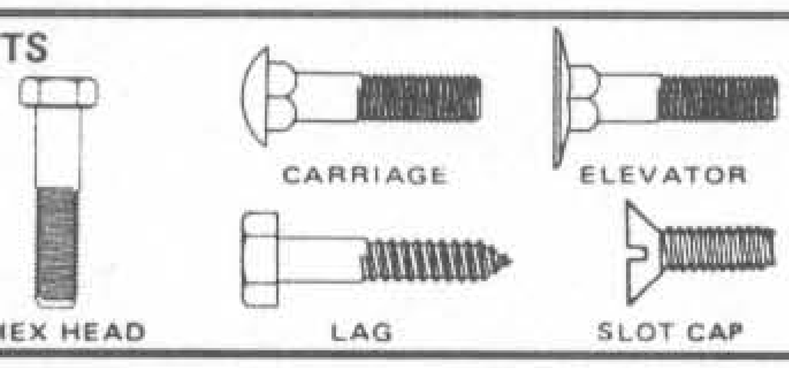
FASTENER GUIDE

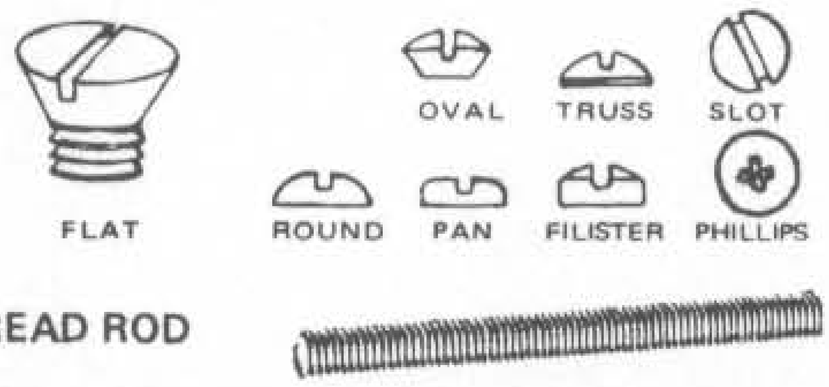
C - COMPLETE RANGE N - NOT COMPLETE A - AVAILABLE

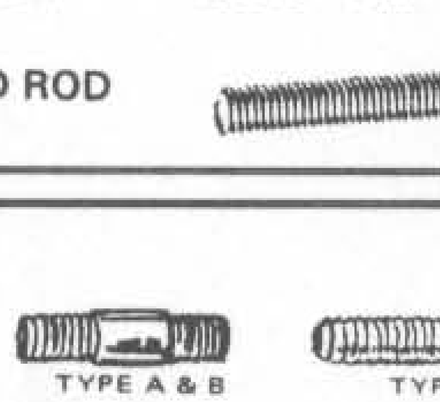
		STAINLESS STEEL														
		18-8	316	317	310	410	CB20	TITANIUM	MONEL	NYLON	BRASS	Na BRONZE	Si BRONZE	ALUMINUM	COPPER	STEEL
NUTS	FINISHED	C	C	N	N	N	N	N	A	C	C	C	C	C		A
	HEAVY	C	C	N	A	A	N	A	N		N	N	N	N		
	JAM	C	C		A	A	A	A			N	N	N	N		
	CASTLE	C														
	WING	C									C					
	MACH.SCREW	C														
	CAP	C								A	C					
	NYLOK	C							A							C
	COUPLING	N	A													
WASHERS	FLAT	C	C	C	C	C	N	N	N	C	C		C	C	N	A
	FENDER	C	A	A	A	A	A	A	A	A	A		A	A		
	LOCK	C	C	C	C	C	N	N	N				C	N		
	INT. TOOTH	C											A			
	EXT. TOOTH	C											A			
BOLTS	HEX HEAD	C	C	A	A	A	N	N	N	N	N		N	N		A
	CARRIAGE	C	A									C				
	ELEVATOR	N	A									A				
	LAG	C	A									C				
	FLAT SLOT CAP	C	N	A					A	A	N		A			A
MACHINE SCREWS	PAN	C	N				A	A	A	A	N	N	N	N		
	FLAT	C	N				A	A	A	A	N	N	N	N		
	OVAL	C	N				A	A	A	A	N	N	N	N		
	ROUND	C	N				A	A	A	A	N	N	N	N		
	TRUSS	C	N				A	A	A	A	N	N	N	N		
	FILISTER	C	N				A	A	A	A	N	N	N	N		
THREAD ROD	THREAD ROD	C	C	C	N	N	A	N	A	C	N		A	A		
STUDS	TYPE A	C	C	A	A	A	A	A	A	A	A					
	TYPE B	C	C	A	A	A	A	A	A	A	A					
	TYPE C	C	C	C	A	A	A	A	A	N	A					
SET SCREWS	SOCKET	C	C	A	A	A	A	A	A	A	A		A			
	SLOT	N	A	A	A	A	A	A	A	A	A		A			
	SQUARE	C	A	A	A	A	A	A	A	A	A		A			
SHEET METAL SCREWS SLOT PHILLIPS DRIVE	PAN HEAD	C	A					A								
	FLAT HEAD	C	A					A								
	OVAL HEAD	C	A													
	U-DRIVE	N														A
WOOD SCREWS	ROUND	C	A					A			N					
	FLAT	C	A					A			N					
	OVAL	C	A					A			N					
SQUARE SOCKET DRIVE	PAN	C														
	FLAT	C														
	OVAL	N														
	FLAT										A	C				
	ROUND										A					

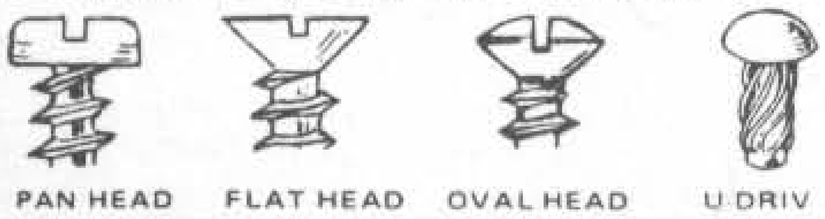


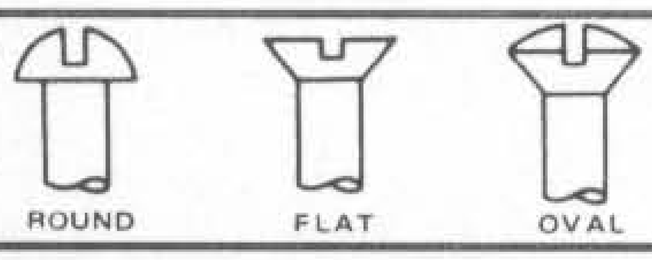


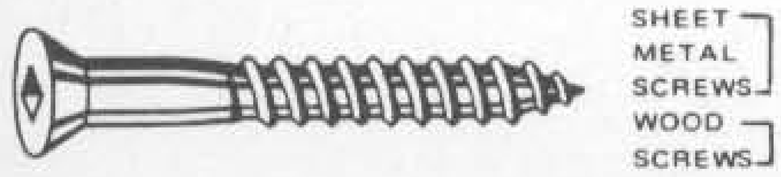












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Fasteners in
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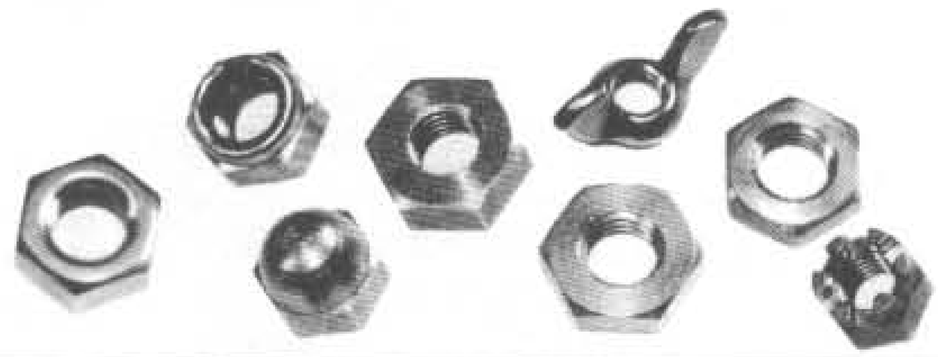
STAINLESS STEEL NUTS

Types 18-8 & 316

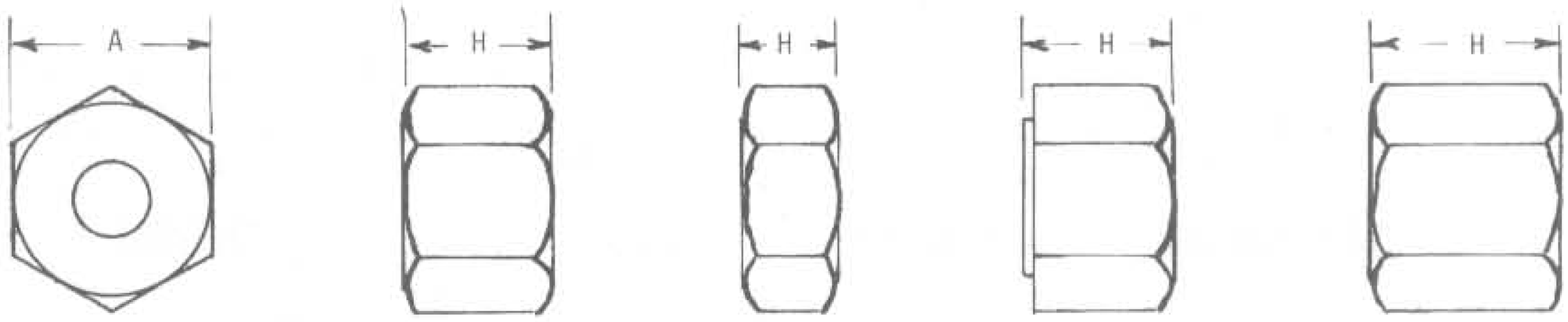
STOCKING KEY
C - UNC - Full stock
F - UNF - Full Stock



Size	Threads per Inch		Machine Screw		Finish Hex				Heavy Hex				A194 Grade 8 Heavy		Nylock				Castle		Cap		Wing	
	UNC	UNF	18-8	316	Full 18-8	316	Jam 18-8	316	Full 18-8	316	Jam 18-8	316	18-8	316	N.M. 18-8	316	N.E. 18-8	316	18-8	316	18-8	316	18-8	316
1	64	72	CF																					
2	56	64	C												C									
3	48	56	C																					
4	40	48	°C	C											C									
5	40	44	C												C									
6	32	40	°C	C											C						C		C	
8	32	36	°C	C											C						C		C	
10	24	32	CF	CF		C									CF						CF		CF	
12	24	28	C												C						C			
1/4	20	28	C		#CF	C	CF		C	C														
5/16	18	24			#CF	C	C	C	C	C														
3/8	16	24			#CF	C	CF		C	C			C	C										
7/16	14	20			CF	C	CF		C	C	C													
1/2	13	20			#CF	CF	CF	C	C	C			C	C										
9/16	12	18			C																			
5/8	11	18			#CF	CF	CF	C	C	C			C	C										
3/4	10	16			CF	CF	CF	C	C	CF			C	C										
7/8	9	14			C	CF	C	CF	C	C			C	C			C		C					
1	8	14			C	CF	C	CF	C	CF			*C	*C			C		C					
1-1/8	7	12			CF	C	C		C	C			*C	*C										
1-1/4	7	12			CF	CF	C	F	C				*C	*C			C							
1-3/8	6	12			C	C							*C	*C										
1-1/2	6	12			CF	C			CF	C			*C	*C										
1-3/4	5	12			CF	C																		
2	4.5	12			C																			

* STANDARD THREAD - 8 TPI
° SMALL PATTERN NUTS
COUPLING NUTS

STAINLESS STEEL NUTS



FULL JAM FULL HEAVY

Size	Threads Per Inch		Machine Screws		Finished Hex				Heavy Hex				A194 Grade B Heavy	
					Full		Jam		Full		Jam			
	UNC	UNF	A	H	A	H	A	H	A	H	A	H	A	H
1	64	72	.156	.050										
2	56	64	.187	.063										
3	48	56	.187	.063										
4	40	48	.250	.094										
5	40	44	.312	.109										
6	32	40	.312	.109										
8	32	36	.344	.125										
10	24	32	.375	.125										
12	24	28	.438	.156										
1/4	20	28	.438	.187	.438	.219	.438	.156	.500	.234	.500	.172		
5/16	18	24	.563	.219	.500	.266	.500	.187	.563	.297	.562	.203		
3/8	16	24	.625	.250	.563	.328	.563	.219	.688	.359	.687	.234		
7/16	14	29			.688	.375	.688	.250	.750	.422	.750	.266		
1/2	13	20			.750	.438	.750	.312	.875	.484	.875	.297	.875	.484
9/16	12	18			.875	.484	.875	.312	.938	.547	.938	.328		
5/8	11	18			.938	.547	.938	.375	1.063	.609	1.063	.359	1.063	.609
3/4	10	16			1.125	.641	1.125	.422	1.250	.734	1.250	.422	1.250	.734
7/8	9	14			1.312	.750	1.312	.484	1.438	.859	1.438	.484	1.438	.859
1	8	14			1.500	.859	1.500	.547	1.625	.984	1.625	.547	1.625	.984
1-1/8	7	12			1.688	.969	1.688	.609	1.812	1.109	1.812	.609	1.812	1.109
1-1/4	7	12			1.875	1.063	1.875	.719	2.000	1.219	2.000	.719	2.000	1.219
1-3/8	6	12			2.063	1.172	2.063	.781	2.187	1.344	2.187	.781		
1-1/2	6	12			2.250	1.281	2.250	.844	2.375	1.469	2.375	.844	2.375	1.469
1-3/4	5	12			2.625	1.500	2.625	.969	2.750	1.719	2.759	.969		
2	4.5	12			3.000	1.719	3.000	1.094	3.125	1.969	3.125	1.094		

Pacific Fasteners
Fasteners in
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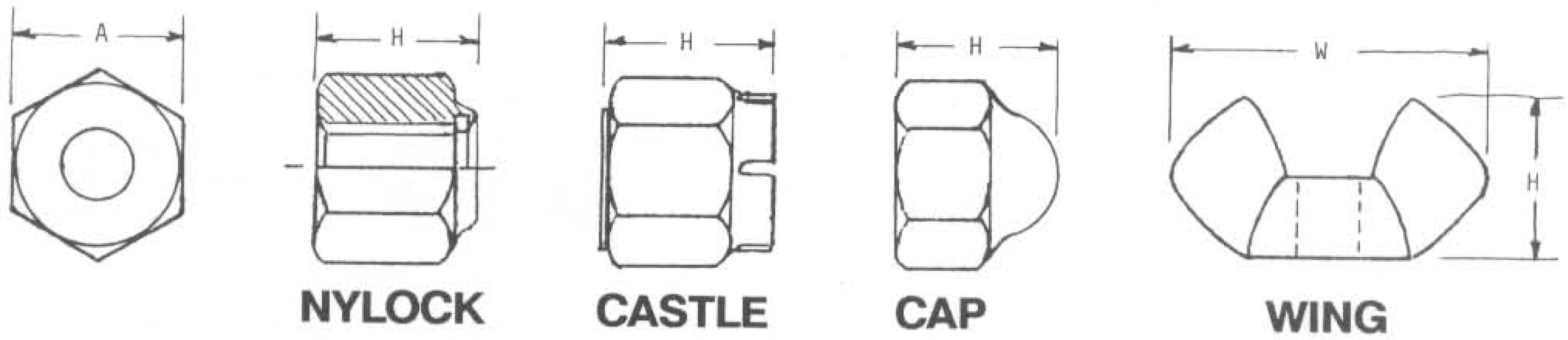
STAINLESS STEEL NUTS



Size	Threads Per Inch		Nylock Nylon Insert Lock Nuts				Castle		Cap			Wing	
	UNC	UNF	N.M. A	N.M. H	N.E. A	N.E. H	A	H	A	H	F	W	H
1	64	72											
2	56	64	.250	.141									
3	48	56											
4	40	48	.250	.141									
5	40	44	.250	.141					.250	.250	.125		
6	32	40	.312	.172					.312	.297	.141	.666	.356
8	32	36	.344	.219					.312	.312	.156	.844	.430
10	24	32	.375	.234					.375	.391	.187	.854	.453
12	24	28	.437	.312					.375	.422	.219		
1/4	20	28	.437	.312	.437	.312	.438	.281	.438	.469	.250	1.063	.531
5/16	18	24			.500	.344	.500	.328	.563	.531	.312	1.219	.625
3/8	16	24			.562	.453	.563	.406	.625	.625	.375	1.438	.750
7/16	14	20			.625	.453	.688	.453	.750	.719	.438		
1/2	13	20			.750	.594	.750	.563	.813	.813	.500	1.905	.937
9/16	12	18			.875	.641							
5/8	11	18			.937	.750	.938	.719	1.000	.984	.625	2.625	1.125
3/4	10	16			1.063	.875	1.125	.813	1.125	1.187	.750	3.000	1.375
7/8	9	14			1.250	.984	1.312	.906	1.312	1.375	.875		
1	8	14			1.437	1.047	1.500	1.000	1.500	1.562	1.000		
1-1/8	7	12			1.625	1.172							
1-1/4	7	12			1.812	1.391							
1-3/8	6	12											
1-1/2	6	12			2.187	1.609							
1-3/4	5	12											
2	4-1/2	12											

STAINLESS STEEL WASHERS
FLAT & LOCK

TYPES 18-8 & 316

Size	Flat					Fender			Finish			Special			Spring			Internal Tooth			External Tooth		
	I.D.	O.D.	Thick	18-8	316	O.D.	Thick	18-8	O.D.	Thick	18-8	O.D.	Thick	18-8	Section	18-8	316	O.D.	Thick	410	O.D.	Thick	410
2	.094	.250	.031	°											.035x.020	°		.200-.175	.012	°			
4	.125	.312	.031	°	°										.040x.025	°	°	.265-.255	.017	°	.255-.245	.017	°
6	.147	.375	.031	°	°				.438	.014	°				.047x.031	°	°	.289-.278	.019	°	.320-.305	.020	°
8	.172	.375	.031	°	°	0.500	.062	°	.531	.014	°				.055x.040	°	°	.336-.325	.021	°	.381-.365	.020	°
10	.200	.438	.037	°	°	0.7500	.062	°	.594	.018	°	.562	.065	°	.062x.047	°	°	.381-.365	.023	°	.410-.395	.022	°
12	.227	.500	.040	°					.688	.018	°				.070x.056	°		.410-.394	.023		.475-.460	.025	
1/4	.260	.688	.050	°	°	1.250	.065	°	.719	.018	°	.500	.032	°	.109x.062	°	°	.478-.460	.026		.510-.494	.025	°
5/16	.337	.875	.062	°	°	1.250	.065	°	.880	.037	°	.875	.120	°	.125x.078	°	°	.610-.594	.031	°	.610-.588	.031	°
3/8	.391	1.000	.062	°	°	1.5000	.087	°				1.000	.084	°	.141x.094	°	°	.692-.670	.036	°	.694-.670	.036	°
7/16	.500	1.125	.062	°	°							.750	.032	°	.156x.109	°	°						
1/2	.563	1.250	.078	°	°	2.000	.087	°				1.250	.094	°	.171x.125	°	°	.900-.867	.041	°	.900-.880	.041	
5/8	.688	1.500	.078	°	°	2.500	.087	°				1.500	.087	°	.203x.156	°	°	1.071-1.045	.046	°			
3/4	.813	1.875	.109	°	°							1.875	.134	°	.234x.188	°	°	1.245-1.220	.051	°			
7/8	.938	2.250	.109	°	°										.266x.219	°	°						
1	1.063	2.500	.125	°	°							2.000	.134		.297x.250	°	°						
1-1/8	1.250	2.750	.125	°	°										.328x.281	°	°						
1-1/4	1.380	3.000	.125	°	°										.359x.312	°	°						
1-3/8	1.500	3.250	.154	°								2.385	.134										
1-1/2	1.630	3.500	.165	°	°										.422x.375	°	°						
1-3/4	1.875	4.000	.187																				

Pacific Fasteners
Fasteners in
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STAINLESS STEEL BOLTS

HEXAGON HEAD Types 18-8 & 316

TYPE 18-8

LENGTH	SIZE	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1-1/8	1-1/4	1-1/2	1-3/4
	WIDTH A/F	.437	.500	.562	.625	.750	.937	1.125	1.312	1.500	1.687	1.875	2.250	2.625
	HEIGHT H	.156	.203	.234	.281	.312	.391	.469	.547	.609	.687	.781	.937	1.094
1/2		CF	CF	C		C								
5/8		CF	C	C										
3/4		CF	CF	CF	CF	C								
7/8		C	C	CF										
1		CF	CF	C	C	CF	C	C						
1-1/4		CF	CF	CF	C	CF	CF	C						
1-1/2		CF	CF	CF	C	CF	C	C	C					
1-3/4		CF	C	CF	C	C	C	C	C					
2		CF	C	CF	CF	CF	CF	C	C	C	C			
2-1/4		C	CF	CF	C	CF	C	C	C					
2-1/2		CF	CF	CF	C	C	CF	C	C	C				
2-3/4		C	C	C		C	C	C	C	C				
3		CF	CF	C	C	C	CF	C	C	C	C	C	C	
3-1/4		C		C		C	C		C					
3-1/2		CF	CF	C	CF	C	C	C	C	C		C		
3-3/4		CF		C		C	C	C						
4		C	C	C	C	C	C	C	C	C	C	C	C	
4-1/2		C	C	C		C	C	C	C	C		C		
5		C	C	C		C	C	C	C	C				
5-1/2		C	C	C		C	C	C		C				
6		C	C	C		C	C	C	C	C	C	C	C	
7				C		C	C	C	C	C			C	
8				C		C	C	C	C	C				
9				C				C						
10				C		C	C	C	C	C				
12						C		C		C				
1/2		C	C	C										
5/8		C												
3/4		C	C	C	C	C								
7/8				C										
1		C	C	CF	C	C	C	C						
1-1/4		C	C	C	C	C	C	C						
1-1/2		C	C	C	C	C	C	C		C				
1-3/4		C	C	C		C	C	C						
2		C	C	C	C	C	C	C	C	C	C	C	C	
2-1/4			C			C	C	C						
2-1/2		C	C	C	C	C	C	C	C	C	C		C	
2-3/4						C	C	C						
3		C	C	C	C	C	C	C	C	C	C	C	C	
3-1/4				C			C	C						
3-1/2		C	C	C		C	C	C	C	C	C			
3-3/4						C	C	C						
4		C	C	C		C	C	C	C	C	C	C	C	
4-1/2				C		C	C	C	C	C	C	C	C	
5				C		C	C	C	C	C	C	C		
5-1/2						C	C	C	C	C	C	C		
6				C		C	C	C	C	C	C	C	C	
7									C	C	C	C	C	
8							C	C	C	C	C			
10									C	C	C	C	C	
12								C		C				

STOCKING KEY
C - UNC - FULL STOCK
F - UNF - FULL STOCK

STAINLESS STEEL METRIC BOLTS & NUTS

Hexagon Cap Screws

Type 18-8

Diam. mm Pitch mm	M3 0.50	M4 0.70	M5 0.80	M6 1.00	M8 1.25	M10 1.50	M12 1.75	M14 2.00	M16 2.00	M18 2.50	M20 2.50
A H	5.5 2.0	7.0 2.8	8.0 3.5	10.0 4.0	13.0 5.5	17.0 7.0	19.0 8.0	22.0 9.0	24.0 10.0	27.0 12.0	30.0 13.0
5 6 7 8 10 12				C							
15 16 20 25		C C		C C	C	C C C	C C		C		
30 35 40 45				C C C	C C	C C C	C	C C	C		
50 55 60 70				C	C C	C C	C C C	C C	C		

Standard Type Hexagon Nuts
(Course Thread Only)

Size (Diam.) in mm	Pitch mm	Width Across Flats mm	Thickness mm	Stock
M2 M2.5 M3 M3.5	0.40 0.45 0.50 0.60	4.0 5.0 5.5 6.0	1.6 2.0 2.4 2.8	C C C
M4 M5 M6 M6.3	0.70 0.80 1.00 1.00	7.0 8.0 10.0 10.0	3.2 4.0 5.0 5.0	*C *C *C
M8 M10 M12 M14	1.25 1.50 1.75 2.00	13.0 17.0 19.0 22.0	6.5 8.0 10.0 11.0	*C *C *C *C
M16 M18 M20 M22	2.00 2.50 2.50 2.50	24.0 27.0 30.0 32.0	13.0 15.0 16.0 17.0	*C *C
M24 M27 M30	3.00 3.00 3.50	36.0 41.0 46.0	18.0 20.0 22.0	*C

* Nylon insert lock nuts

Pacific Fasteners
Fasteners in
STAINLESS · BRASS · COPPER · MONEL · ALUMINUM · SILICON BRONZE

STAINLESS STEEL BOLTS

Carriage Lag & Machine Screws

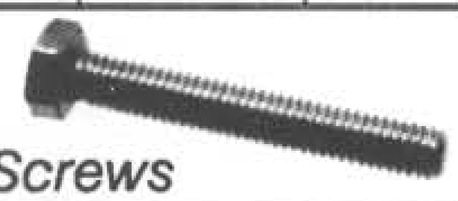
Carriage Bolts

Lag Bolts

Type 18-8

LENGTH	Size	10-24	1/4-20	5/16-18	3/8-16	7/16-14	1/2-13	5/8-11	3/4-10
	Head Diam.	.437	.562	.687	.813	.937	1.063	1.312	1.562
	Head Height	.094	.125	.156	.187	.219	.250	.312	.375
1/2			C						
3/4			C	C					
1		C	C	C	C				
1-1/4			C	C	C				
1-1/2		C	C	C	C		C		
1-3/4			C		C				
2			C	C	C		C		C
2-1/4			C						
2-1/2			C		C		C	C	
2-3/4					C				
3			C	C	C		C		
3-1/4									
3-1/2			C	C	C		C		
3-3/4				C					
4			C	C	C		C	C	
4-1/4									
4-1/2					C		C		
4-3/4									
5			C		C		C	C	
5-1/2									C
6							C		

LENGTH	Size	1/4	5/16	3/8	1/2
	Width A/F	.437	.500	.562	.750
	Height H	.156	.203	.234	.312
1/2					
3/4					
1		C			
1-1/4		C			
1-1/2		C	C	C	
1-3/4				C	
2		C	C	C	C
2-1/4					
2-1/2		C	C	C	
2-3/4					
3		C	C	C	C
3-1/4					
3-1/2		C		C	C
3-3/4					
4		C	C	C	C
4-1/4					
4-1/2					
4-3/4					
5			C		
5-1/2					
6					C



Hexagon Head Machine Screws

LENGTH	UNC UNF	2-56 2-64	4-40 4-48	6-32 6-40	8-32 8-36	10-24 10-32	1/4-20 1/4-28
	Width A/F	.125	.187	.250	.250	.312	.375
	Height H	.050	.060	.080	.110	.120	.190
1/8							
3/16							
1/4				CF			
5/16							
3/8						CF	CF
7/16							
1/2				C	C	CF	C
5/8				C	C	CF	C
3/4						CF	CF
7/8					C		C

HEIGHT	UNC UNF	2-56 2-64	4-40 4-48	6-32 6-40	8-32 9-36	10-24 10-32	1/4-20 1/4-28
	Width A/F	.125	.187	.250	.250	.312	.375
	Height H	.050	.060	.080	.110	.120	.190
1					C	CF	CF
1-1/8							
1-1/4						C	CF
1-1/2						C	CF
1-3/4							C
2						C	CF
2-1/4							C
2-1/2							C
2-3/4							C
3							CF

STAINLESS STEEL MACHINE SCREWS

STOCKING KEY

Pan Head	P
Flat Head	F
Oval Head	O
Truss Head	T

Type 18-8

Slot Drive

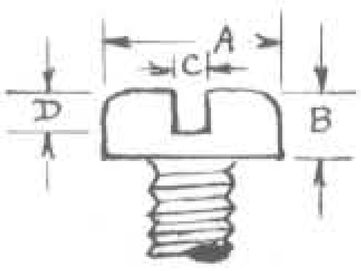
LENGTH / Size	2	4	5	6	8	10	10	12	1/4	1/4	5/16	3/8	3/8	1/2	1/2	5/8	3/4	7/8	1
Thds.	56	40	40	32	32	24	32	24	20	28	18	16	24	13	20	11	10	9	8
1/4	P	PF		PF	P	PF	PF												
5/16	P	P		P		F			PF										
3/8	P	PFT	F	PFOT	FT	PFT	PFT		FT	F									
7/16			F			F				F									
1/2	PF	PF	F	PFOT	PFOT	PFOT	PFOT	P	PFOT		PF	FO		F	O				
5/8				P	PFOT	PF	FT		PFO		P	O		F					
3/4				PFOT	PFOT	PFOT	PFOT	PF	PFOT	F	F	PF		F	F				
7/8				P	F	P	F		F			F		F					
1	P	PF		FOT	PFOT	PFOT	PFOT	PF	PFOT	F	PFOT	PFOT		F		F	F		
1-1/8					T														
												FO							
1-1/4				PFO	PFOT	PFO	PFOT	F	PFOT		F	PFO	F	F		F	F		
1-1/2	P	PF		PFO	PFO	PFO	PFOT	PFO	PFO		PFO	PFT	F	F		F	F		
1-3/4					PF	F	PF		PFOT			PF		F					
2		P		PF	PFO	PFO	PFOT	F	PFOT		PF	PF		F		F	F		
2-1/4				P		O			PF							F			
2-1/2					PF	F	PO	F	PFOT		PF	P		FO		F	F		F
2-3/4									T							F			
3					P	PF	P		PFO		PF	F		F		F	F	F	F
3-1/2											FO	F		F			F		
4						F			FO		F	F		F			F		
4-1/2																			
5						F			F			F							
5-1/2												F							
6									F		F	F							
6-1/2											F	F					F		

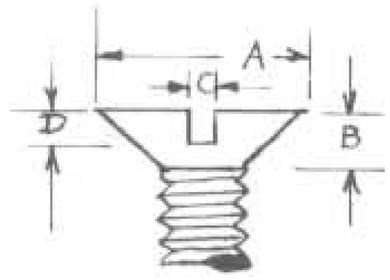
Phillips Drive

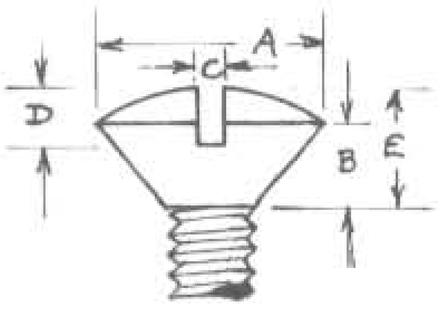
LENGTH / Size	2	4	5	6	8	10	10	12	1/4	1/4	5/16	3/8	3/8	1/2	1/2	5/8	3/4	7/8	1
Thds.	56	40	40	32	32	24	32	24	20	28	18	16	24	13	20	11	10	9	8
1/4	P	PF		PF	P		P												
5/16				P	P				P										
3/8		PF		PF	PF	F	F												
1/2		PF		PF	PFO	T	PT		P										
5/8		PF		P	PF		PT		P										
3/4	P	PF		P	PF		P		PT		P								
1	P	P		P					P		P								
1-1/4		P							PT										
1-1/2					F				P										
1-3/4									PT										
2					F	F	F		PF		F								
2-1/2						O	P		F										
3									P										
4																			
6																			

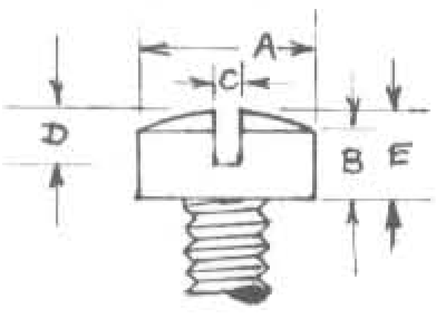
Pacific Fasteners
Fasteners in
STAINLESS · BRASS · COPPER · MONEL · ALUMINUM · SILICON BRONZE

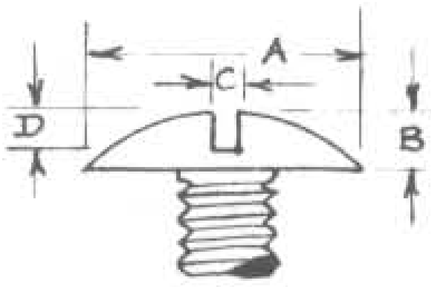
HEAD DIMENSIONS OF SCREWS AND BOLTS

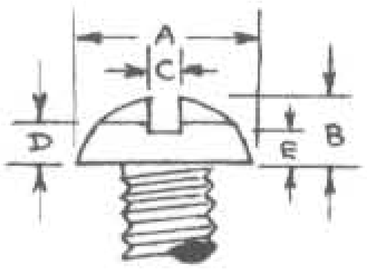


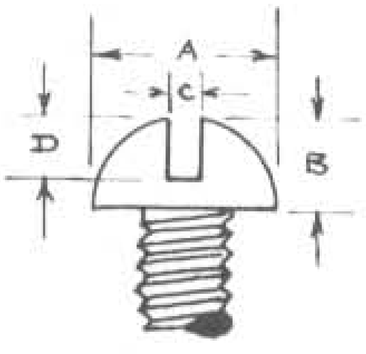












Nominal Size		0	1	2	3	4	5	6	8	10	12	1/4	5/16	3/8
Max. Diameter		.0600	.0730	.860	.0990	.1120	.1250	.1380	.1640	.1900	.2160	.2500	.3125	.3750
Threads	UNC	---	64	56	48	40	40	32	32	24	24	20	18	16
	UNF	80	72	64	56	48	44	40	36	32	28	28	24	24
PAN	A	—	---	.167	.193	.219	.245	.270	.322	.373	.425	.492	.615	.740
	A	—	---	.155	.180	.205	.231	.256	.306	.357	.407	.473	.594	.716
	B	---	---	.053	.060	.068	.075	.082	.096	.110	.125	.144	.178	.212
	B	---	---	.045	.051	.058	.065	.072	.085	.099	.112	.130	.162	.195
	B	---	---	.031	.035	.039	.043	.048	.054	.060	.067	.075	.084	.094
	C	---	---	.023	.027	.031	.035	.039	.045	.050	.056	.064	.072	.081
	D	---	---	.033	.037	.041	.045	.050	.058	.067	.077	.087	.109	.130
	D	---	---	.023	.027	.030	.032	.038	.043	.050	.060	.070	.092	.113
FLAT	A	.119	.146	.172	.199	.225	.252	.279	.332	.385	.438	.507	.635	.762
	A	.105	.130	.156	.181	.207	.232	.257	.308	.359	.410	.477	.600	.722
	B	.035	.043	.051	.059	.067	.075	.083	.100	.116	.132	.153	.191	.230
	B	.026	.033	.040	.048	.055	.062	.069	.084	.098	.112	.131	.165	.200
	C	.023	.026	.031	.035	.039	.043	.048	.054	.060	.067	.075	.084	.094
	C	.016	.019	.023	.027	.031	.035	.039	.045	.050	.056	.064	.072	.081
	D	.015	.019	.023	.027	.030	.034	.038	.045	.053	.060	.070	.088	.106
	D	.010	.012	.015	.017	.020	.022	.024	.029	.034	.039	.046	.058	.070
OVAL	A	.119	.146	.172	.199	.225	.252	.279	.332	.385	.438	.507	.635	.762
	A	.105	.130	.156	.181	.207	.232	.257	.308	.359	.410	.477	.600	.722
	B	.035	.043	.051	.059	.067	.075	.083	.100	.116	.132	.153	.191	.230
	B	.026	.033	.040	.048	.055	.062	.069	.084	.098	.112	.131	.165	.200
	C	.023	.026	.031	.035	.039	.043	.048	.054	.060	.067	.075	.084	.094
	C	.016	.019	.023	.027	.031	.035	.039	.045	.050	.056	.064	.072	.081
	D	.030	.038	.045	.052	.059	.067	.074	.088	.103	.117	.136	.171	.206
	D	.025	.031	.037	.043	.049	.055	.060	.072	.084	.096	.112	.141	.170
	E	.056	.063	.080	.092	.104	.116	.128	.152	.176	.200	.232	.290	.347
	E	.041	.052	.063	.073	.084	.095	.105	.126	.148	.169	.197	.249	.300
FILLISTER	A	.096	.118	.140	.161	.183	.205	.226	.270	.313	.357	.414	.518	.622
	A	.083	.104	.124	.145	.166	.187	.208	.250	.292	.334	.389	.490	.590
	B	.045	.053	.062	.070	.079	.088	.096	.113	.130	.148	.170	.211	.253
	B	.037	.045	.053	.061	.069	.078	.086	.102	.118	.134	.155	.194	.233
	C	.023	.026	.031	.035	.039	.043	.048	.054	.060	.067	.075	.084	.094
	C	.016	.019	.023	.027	.031	.035	.039	.045	.050	.056	.064	.072	.081
	D	.025	.031	.037	.043	.048	.054	.060	.071	.083	.094	.109	.137	.164
	D	.015	.020	.025	.030	.035	.040	.045	.054	.064	.074	.087	.110	.133
	E	.059	.071	.083	.095	.107	.120	.132	.156	.180	.205	.237	.295	.355
	E	.043	.055	.066	.077	.088	.100	.111	.133	.156	.178	.207	.262	.315
TRUSS	A	—	—	.194	.226	.257	.289	.321	.384	.448	.511	.573	.698	.823
	A	—	—	.180	.211	.241	.272	.303	.364	.425	.487	.546	.666	.787
	B	—	—	.053	.061	.069	.078	.086	.102	.118	.134	.150	.183	.215
	B	—	—	.044	.051	.059	.066	.074	.088	.103	.118	.133	.162	.191
	C	—	—	.031	.035	.039	.043	.048	.054	.060	.067	.075	.084	.094
	C	—	—	.023	.027	.031	.035	.039	.045	.050	.056	.064	.072	.081
	D	—	—	.031	.036	.040	.045	.050	.058	.068	.077	.087	.106	.124
	D	—	—	.022	.026	.030	.034	.037	.045	.053	.061	.070	.085	.100
STRAIGHT SIDE BINDING	A	—	—	.181	.208	.235	.263	.290	.344	.399	.454	.513	.641	.769
	A	—	—	.171	.197	.223	.249	.275	.326	.378	.430	.488	.609	.731
	B	—	—	.046	.054	.063	.071	.080	.097	.114	.130	.153	.193	.234
	B	—	—	.141	.048	.056	.064	.071	.087	.102	.117	.138	.174	.211
	C	—	—	.031	.035	.039	.043	.048	.054	.060	.067	.075	.084	.094
	C	—	—	.023	.027	.031	.035	.039	.045	.050	.056	.064	.072	.081
	D	—	—	.030	.036	.042	.048	.053	.065	.077	.089	.105	.134	.163
	D	—	—	.024	.029	.034	.039	.044	.054	.064	.074	.088	.112	.136
	E	—	—	.018	.022	.025	.029	.032	.039	.045	.052	.061	.077	.094
	E	—	—	.013	.016	.018	.021	.024	.029	.034	.039	.046	.059	.071
ROUND	A	.113	.138	.162	.187	.211	.236	.260	.309	.359	.408	.472	.590	.708
	A	.099	.122	.146	.169	.193	.217	.240	.287	.334	.382	.443	.557	.670
	B	.053	.061	.069	.078	.086	.095	.103	.120	.137	.153	.175	.216	.256
	B	.043	.051	.059	.067	.075	.083	.091	.107	.123	.139	.160	.198	.237
	C	.023	.026	.031	.035	.039	.043	.048	.054	.060	.067	.075	.084	.094
	C	.016	.019	.023	.027	.031	.035	.039	.045	.050	.056	.064	.072	.081
	D	.039	.044	.048	.053	.058	.063	.068	.077	.087	.096	.109	.132	.155
	D	.029	.033	.037	.040	.044	.047	.051	.058	.065	.072	.082	.099	.117

Flat and Oval Heads have included angle of 80-82°

Length Tollerance:
Up to 1" minus 1/32
1" to 2" (incl.) minus 1/16
Over 2" minus 3/32

STAINLESS STEEL CAP SCREWS

HEXAGON SOCKET

Type 18-8

Socket Head Cap Screws

Size		1	2	3	4	5	6	8	10	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
Thds.	UNC	64	56	48	40	40	32	32	24	20	18	16	14	13	11	10	9	8
	UNF	72	64	56	48	44	40	36	32	28	24	24	20	20	18	16	14	14
Head Diam.		.118	.140	.161	.183	.205	.226	.270	.312	.375	.469	.562	.656	.750	.937	1.125	1.312	1.500
Head Height		.073	.086	.099	.112	.125	.138	.164	.190	.250	.312	.375	.437	.500	.625	.750	.875	1.000
Hex Drive		1/16	5/64	5/64	3/32	3/32	7/64	9/64	5/32	3/16	1/4	5/16	3/8	3/8	1/2	5/8	3/4	3/4
LENGTH	1/4		C	C	C		C	C	CF	C								
	5/16									C								
	3/8		C		C		C	C	CF	C	C							
	1/2		C		C		C	C	CF	CF	C	C		C				
	5/8				C		C	C	CF	CF	C	C		C				
	3/4				C		C	C	CF	CF	CF	CF	C	C				
	7/8									C	C			C				
	1				C		C	C	CF	CF	CF	CF	C	C	C	C		
	1-1/4						C	C	CF	CF	CF	CF	C	CF	C	C		
	1-1/2				C			C	CF	CF	C	CF	C	CF	C	C	C	
	1-3/4								CF	C	C	CF		C		C		
	2								CF	C	CF	C	C	C	C	C	CF	C
	2-1/4											C		C				
	2-1/2									C	C	C		CF	C		C	
	2-3/4										C			C				
	3									C	C	C		C	C	C	C	C
	3-1/2										C	C						C
	4													C	C	C	C	C

Flat Head Socket Cap Screws

Size		4	5	6	8	10	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
Head Diam.		.225	.281	.307	.359	.411	.531	.656	.781	.844	.937	1.188	1.438	1.688	1.938
Head Height		.083	.090	.097	.112	.127	.161	.198	.234	.234	.251	.324	.396	.468	.540
Hex Drive		1/16	5/64	5/64	3/32	1/8	5/32	3/16	7/32	1/4	5/16	3/8	3/8	1/2	9/16
LENGTH	1/4	C													
	5/16														
	3/8	C	F	C	C	CF									
	7/16														
	1/2	C		C	C	CF	C	C							
	5/8	C		C	C	CF	C								
	3/4			C	C	CF	C	C	C						
	7/8														
	1			C	C	CF	C	C	C		C	C			
	1-1/4					CF	C	C			C	C			
	1-1/2						C	F	C		C	C			
	1-3/4						C	C							
	2						C	C	C		C	C			
	2-1/4											C			
	2-1/2										C	C	C		
	2-3/4										C	C			
	3														
	3-1/2											C			
	4											C			

Pacific Fasteners
Fasteners in
STAINLESS · BRASS · COPPER · MONEL · ALUMINUM · SILICON BRONZE

STAINLESS STEEL SET SCREWS

HEXAGON SOCKET & SQUARE HEAD AND PIPE PLUGS

STOCKING KEY
UNC - C
UNF - F

Type 18-8

Hexagon Socket Setscrews

Size		0	1	2	3	4	5	6	8	10	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8
Threads UNC		--	64	56	48	40	40	32	32	24	20	18	16	14	13	11	10	9
UNF		80	72	64	56	48	44	40	36	32	28	24	24	20	20	18	16	14
Size of Hex Hole		.028	.035	.035	.050	.050	.062	.062	.078	.094	.125	.156	.187	.219	.250	.312	.375	.500
Depth of Hex Hole		.022	.028	.028	.040	.040	.050	.050	.062	.075	.100	.125	.150	.175	.200	.250	.300	.400
Overall Length	3/32																	
	1/8					C		C	C									
	5/32																	
	3/16			C		C		C	C	CF	CF							
	1/4					C	C	C	C	CF	CF	CF	CF					
	5/16							C	C	CF	CF	CF	C					
	3/8					C		C	C	CF	CF	CF	CF		CF			
	7/16									CF	CF							
	1/2				C			C	C	CF	CF	CF	CF		C	C		
	5/8				C			C	C	CF	CF	C	C		C	CF		
	3/4				C			C	C	CF	CF	C	C	C	CF	C	C	
	7/8								C		C	C	C		F			
	1								C	CF	CF	CF	CF	C	CF	C	C	C
	1-1/4										C	C	C		C	C		
	1-1/2										C	C	C		C	C	C	C
	1-3/4										C							
	2										C		CF		C		C	C

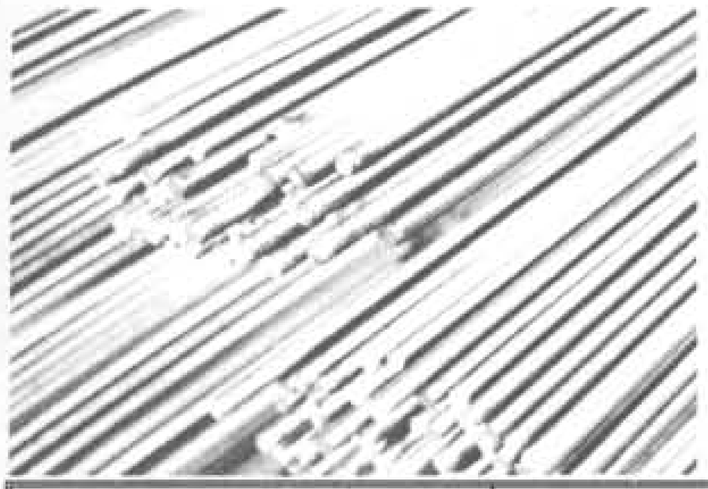
NOTE:
Not all listed diameters, lengths and threads are standard stock items. Larger diameters, longer or intermediate lengths, any unlisted size in any type point can be made to specifications. Inquiries invited.

Square Head Set Screws

Size		1/4	5/16	3/8	7/16	1/2	5/8	3/4
Thread UNC		20	18	16	14	13	11	10
Head Height		.187	.234	.281	.328	.375	.469	.562
Width A/F		.250	.312	.375	.437	.500	.625	.750
Overall Length	3/8	C						
	1/2		C	C				
	5/8	C	C	C				
	3/4	C	C	C		C		
	7/8	C						
	1	C		C		C		
	1-1/4		C	C		C		
	1-1/2			C		C	C	
	1-3/4							
	2		C	C		C	C	C
	2-1/2					C	C	
	3					C	C	

150# Standard Socket Pipe Plugs Hexagon Drive

Plug Threads Size per Inch	Type 18-8	Type 316
1/6-27		
1/8-27	C	C
1/4-18	C	C
3/8-18	C	C
1/2-14	C	C
3/4-14		C
1-11-1/2		C
1-1/4 - 11-1/2		C
1-1/2 - 11-1/2		C



THREADED ROD

STOCKING KEY
C - UNC - FULL STOCK
F - UNF - FULL STOCK

Threaded Rod - Type 18-8 Stainless Steel

Diameter Coarse	Diameter Fine	2 Ft. Lengths	3 Ft. Lengths	6 Ft. Lengths	Diameter Coarse	Diameter Fine	2 Ft. Lengths	3 Ft. Lengths	6 Ft. Lengths
2-56	2-64	C			3/8-16	3/8-24		F	CF
3-48	3-56				7/16-14	7/16-20			
4-40	4-48	C			1/2-13	1/2-20		F	CF
5-40	5-44				9/16-12	9/16-18		F	C
6-32	6-40	C	C		5/8-11	5/8-18		F	C
8-32	8-36	C	C		3/4-10	3/4-16		F	CF
10-24	10-32	CF	CF		7/8-9	7/8-14		F	C
12-24	12-28			C	1-8	1-12			CF
1/4-20	1/4-28		F	CF	1-1/8-7	1-1/8-12			C
5/16-18	5/16-24		F	CF					

Threaded Rod - Type 316 Stainless Steel

Diameter Coarse	Diameter Fine	2 Ft. Lengths	3 Ft. Lengths	6 Ft. Lengths	Diameter Coarse	Diameter Fine	2 Ft. Lengths	3 Ft. Lengths	6 Ft. Lengths
2-56	2-64				3/8-16	3/8-24			CF
3-48	3-56				7/16-14	7/16-20			CF
4-40	4-48				1/2-13	1/2-20			CF
5-40	5-44				9/16-12	9/16-18			C
6-32	6-40				5/8-11	5/8-18			CF
8-32	8-36				3/4-10	3/4-16			CF
10-24	10-32				7/8-9	7/8-14			C
12-24	12-28				1-8	1-12			C
1/4-20	1/4-28		CF	C	1-1/8-7	1-1/8-12			C
5/16-18	5/16-24		CF	C					C

Threaded Rod - Brass

Diameter Coarse	Diameter Fine	2 Ft. Lengths	3 Ft. Lengths	6 Ft. Lengths	Diameter Coarse	Diameter Fine	2 Ft. Lengths	3 Ft. Lengths	6 Ft. Lengths
2-56	2-64				3/8-16	3/8-24		CF	
3-48	3-56				7/16-14	7/16-20			
4-40	4-48				1/2-13	1/2-20		CF	
5-40	5-44				9/16-12	9/16-18			
6-32	6-40		C		5/8-11	5/8-18		C	
8-32	8-36		C		3/4-10	3/4-16		C	
10-24	10-32		CF		7/8-9	7/8-14			
12-24	12-28		C		1-8	1-12		C	
1/4-20	1/4-28		CF		1-1/8-7	1-1/8-12			
5/16-18	5/16-24		CF						

Threaded Rod - Nylon

Diameter Coarse	Diameter Fine	2 Ft. Lengths	3 Ft. Lengths	6 Ft. Lengths	Diameter Coarse	Diameter Fine	2 Ft. Lengths	3 Ft. Lengths	6 Ft. Lengths
2-56	2-64				3/8-16	3/8-24		C	
3-48	3-56				7/16-14	7/16-20			
4-40	4-48		C		1/2-13	1/2-20		C	
5-40	5-44				9/16-12	9/16-18			
6-32	6-40		C		5/8-11	5/8-18		C	
8-32	8-36		C		3/4-10	3/4-16		C	
10-24	10-32		CF		7/8-9	7/8-14			
12-24	12-28				1-8	1-12			
1/4-20	1/4-28		C		1-1/8-7	1-1/8-12			
5/16-18	5/16-24		C						

Pacific Fasteners
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STAINLESS STEEL STUDS

STOCKING KEY
Type A - A
Type B - B
Type C - C

Types 18-8 & 316

Coarse Thread (U.N.C.)

Diameter Thread	1/4 20	5/16 18	3/8 16	7/16 14	1/2 13	9/16 12	5/8 11	3/4 10	7/8 9	1 8	1-3/8 8	1-1/2 6	1-5/8 8	1-7/8 8	2 4-1/2
1-1/4															
1-1/2					A										
1-3/4															
2					C		A	C	B						
2-1/4							A	C							
2-1/2					C		C								
2-3/4							C	C							
3					C		AC	C	C	C					
3-1/2					C		C	C	C	C					
4					C			BC	C	C					
4-1/2			A		C		C	C	AC	AC					
5							AC		C	AC					
6							C	BC	C	C					
6-1/2								C							
7								B				B			
7-1/2															
8															
9															
10											C				
11											C		C	C	
12													C		

ANY LENGTH **ANY SIZE** **ANY CLASS**

WHEN ORDERING STUDS PLEASE SPECIFY:

(A) Type of stud desired --
(Tap end, double end, continuous thread.)

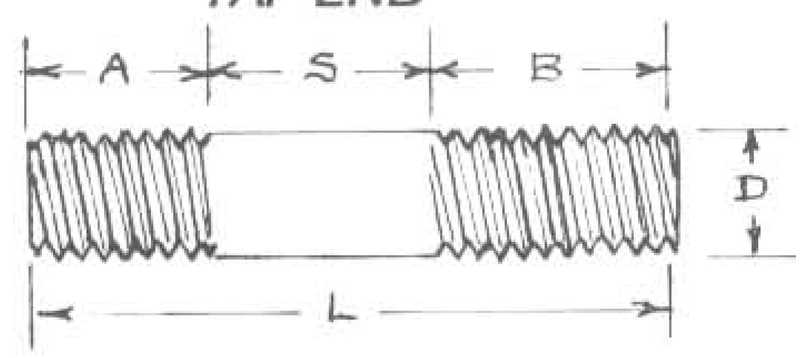
(B) Type of material --
(Alloy steel, stainless steel, carbon steel, brass, etc.)

(C) Each of the dimensions shown --
(on tap end studs:
"A" dimension is usually 1-1/2 times "D" dimension,
"B" dimension is usually 2 times "D" plus 1/4").
(on double end studs:
each "B" dimension is ususally 2 times "D" dimension.)
(on both tap end and double end studs over 6" long:
all "B" dimensions are usually 2 times "D" plus 1/2").

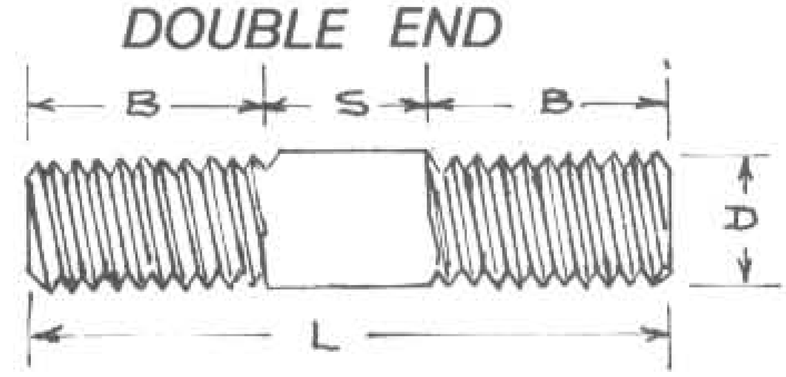
(D) Type and class of thread --
(tap end studs are normally class 5 in "A" dimension and
class 2A in "B" dimension.)
(double end studs in "B" dimension and continuous
thread studs are normally class 2A.)

(E) Type of stud end desired --
(plain, chamfered, etc.)

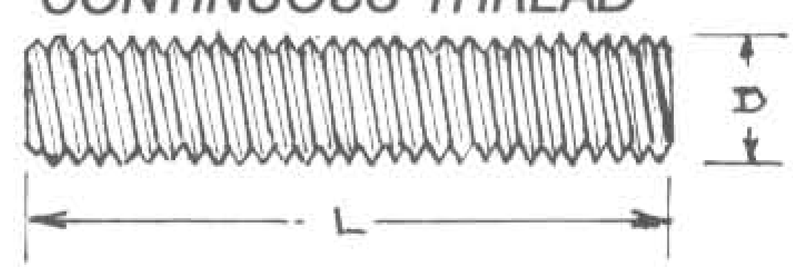
TAP END



DOUBLE END



CONTINUOUS THREAD



STAINLESS STEEL TAPPING SCREWS

TYPE A

STOCKING KEY

Pan Head	**P**
Flat Head	**F**
Oval Head	**O**
Truss Head	**T**
Round Head	**R**

Type 18-8

SLOTTED DRIVE

Diamenter		No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.12	No.14	No.16
L	1/4"			P		R				P			
	3/8"			P		PFO		T		PTR			
E	1/2"			PO		PFOT		PFOTR		PFOT	PT		
	5/8"					O		F		P	P		
N													
	3/4"			PFO		PFO	P	PFO		PFOTR	PT	FO	
G	7/8"												
	1"			FO		PFOT		PFO		PFOT	POT	PFR	
T	1-1/4"					PO		PFO		PFO	PFO	F	
H	1-1/2"					P		PFO		PFOT	PFO	PFO	
	1-3/4"							PO		P		P	
S	2"							PO		PFOT	P	PFO	
	2-1/2"									FO			

PHILLIPS DRIVE

Diamenter		No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.12	No.14	No.16
L	1/4"												
	3/8"					PO		P					
E	1/2"					PFO		POT		PFOT		P	
	5/8"					PT		P		T			
N													
	3/4"					PFO		PFO		PFO	PO	PO	
G	7/8"												
	1"					PFO		PFO		PFO	PFO	PFO	
T	1-1/4"					O		PFO		PFO	P	PFO	
H	1-1/2"					O		PFO		PFO	PFO	PFO	
	1-3/4"												
S	2"							O		PFOT	P		
	2-1/2"									O			

SQUARE SOCKET DRIVE

Diamenter		No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.12	No.14	No.16
L	1/4"												
	3/8"					PF							
E	1/2"					PFO		PF		PF			
	5/8"							PF					
N													
	3/4"					PFO		PFOT		PFOT	PF	PF	
G	7/8"												
	1"					PFO		PFOT		PFOT	PF	PF	
T	1-1/4"					PF		PFOT		PFO	PF	PF	
H	1-1/2"					PF		PFO		PFO	PF	PF	
	1-3/4"										PF	PF	
S	2"							PFO		PFO	PF	PF	
	2-1/2"							F		F	PF	PF	
	3"							F		F	PF	PF	

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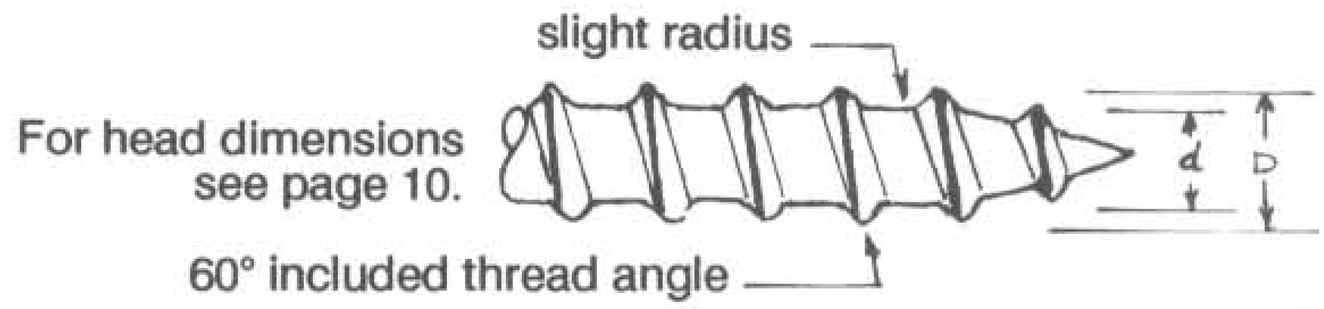
TAPPING SCREW SPECIFICATIONS

SHEET METAL SCREWS, TYPE A

Tapping Screw head dimensions are the same as Machine Screws, except for "Type A" No. 14 diameter - which take the same head dimensions as Wood Screws for Flat, Round, Oval, Pan and Truss heads.



Nom. Size	Threads per Inch				D		d	
	Regular Lengths	Short Lengths			Major Diameter		Minor Diameter	
		Flat & Oval Head	All Others (No c's'k)	Threads per Inch	Max.	Min.	Max.	Min.
4	24	1/4	3/16	24	0.114	0.110	0.083	0.078
5	20	1/4	3/16	20	0.130	0.126	0.095	0.090
6	18	5/16	1/4	20	0.141	0.136	0.102	0.096
7	16	3/8	5/16	19	0.158	0.152	0.114	0.108
8	15	7/16	3/8	18	0.168	0.162	0.123	0.116
10	12	1/2	3/8	16	0.194	0.188	0.133	0.126
12	11	9/16	7/16	14	0.221	0.215	0.162	0.155
14	10	5/8	1/2	14	0.254	0.248	0.185	0.178
20	9	13/16	11/16	12	0.333	0.327	0.234	0.226
24	9	1	3/4	12	0.390	0.383	0.291	0.282

HOLE SIZE RECOMMENDATIONS, TYPE A

Diam. of Screw	Thickness of Metal		Pierced Hole	Drilled or Clean Punched Hole	
	U.S.S. Guage #	Equivalent	Hole Diam.	Hole Diam.	Drill Size
4 .112	28	.0156	.086	.086	44
	26	.0188	.086	.086	44
	24	.0250	.093	.093	42
	22	.0313	.098	.093	42
	20	.0375	.100	.098	40
6 .138	28	.0156	.111	.0995	39
	26	.0188	.111	.0995	39
	24	.0250	.111	.0995	39
	22	.0313	.111	.1015	38
	20	.0375	.111	.1065	36
7 .155	28	.0156	.121	.1040	37
	26	.0188	.121	.1040	37
	24	.0250	.121	.1100	35
	22	.0313	.121	.1130	33
	20	.0375	.121	.1160	32
	18	.0500	----	.1200	31

Diam. of Screw	Thickness of Metal		Pierced Hole	Drilled or Clean Punched Hole	
	U.S.S. Gauge #	Equivalent	Hole Diam.	Hole Diam.	Drill Size
8 .165	26	.0188	.137	.1130	33
	24	.250	.137	.1130	33
	22	.0313	.137	.1160	32
	20	.0375	.137	.1200	31
	18	.0500	----	.1280	30
10 .191	26	.0188	.158	.1285	30
	24	.0250	.158	.1285	30
	22	.0313	.158	.1285	30
	20	.0375	.158	.1360	29
	18	.0500	.158	.1495	25
12 .218	24	.0250	----	.1470	26
	22	.0313	.185	.1495	25
	20	.0375	.185	.1520	24
	18	.0500	.185	.1570	22
14 .251	24	.0250	----	.1800	15
	22	.0313	.212	.1890	12
	20	.0375	.212	.1910	11
	18	.0500	.212	.1960	9

STAINLESS STEEL RIVETS, NAILS, COTTER PINS AND "U" BOLTS

STOCKING KEY

Flat Head	F
Round Head	R
Pan Head	P
Pop	O

COTTER PINS, EXTENDED PRING

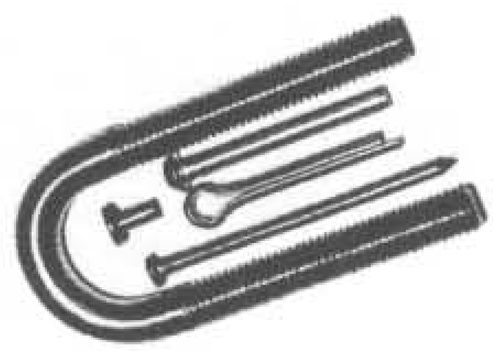
Diameter		1/32"	3/64"	1/16"	5/64"	3/32"	1/8"	5/32"	3/16"	1/4"	5/16"	3/8"
LENGTHS	1/4"		•									
	5/16"											
	3/8"			•								
	1/2"			•		•	•					
	5/8"								•			
	3/4"	•	•	•		•	•		•			
	1"			•		•	•	•	•			
	1-1/4"					•	•	•	•	•	•	
	1-1/2"			•		•	•	•	•	•		
	1-3/4"									•		
	2"			•		•	•	•	•	•		•
	2-1/4"					•	•	•		•		
	2-1/2"					•	•		•	•		
	3"						•		•	•	•	•
	3-1/2"											
	4"									•		•
	5"											

U-BOLTS

Rod Diameter	1/4"	1/2"	3/8"
Nominal Pipe Size			
1/4	•		
3/8			
1/2	•		•
3/4	•		•
1	•		•
1-1/4			•
1-1/2			•
2			•
3		•	
4		•	
5			
6			

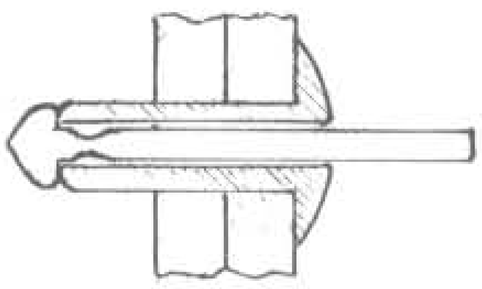
RIVETS

Diameter		1/16"	3/32"	1/8"	5/32"	3/16"	1/4"	5/16"	3/8"	1/2"
LENGTHS	1/8"			O		O				
	3/16"									
	1/4"			O		OF				
	5/16"			O						
	3/8"			F		OF				
	7/16"									
	1/2"			RO		PFR	F			
	9/16"									
	5/8"			F						
	11/16"									
	3/4"			R		R	R			
	13/16"									
	7/8"									
	1"					R				
	1-1/8"									
	1-1/4"					RF			R	
	1-3/8"									
	1-1/2"					R	R			F
	1-3/4"					R	R			
	2					R			F	
	2-1/2"									
	3"									
	3-1/2"									



NAILS

Penny Size	Gauge No.	Dec. Equiv.	Length	No. per Lb.	Stock
2d	15	.072	1	840	•
3d	14	.083	1-1/4	555	•
4d	12	.095	1-1/2	300	•
5d	12	.095	1-3/4	265	•
6d	11	.120	2	175	•
7d	11	.120	2-1/4	155	
8d	10	.134	2-1/2	100	•
10d	9	.148	3	65	•
12d	9	.148	3-1/4	60	
16d	8	.165	3-1/2	46	•
20d	6	.203	4	30	•
30d	5	.220	4-1/2	22	•
40d	4	.238	5	18	•
60d	2	.259	6	11	•



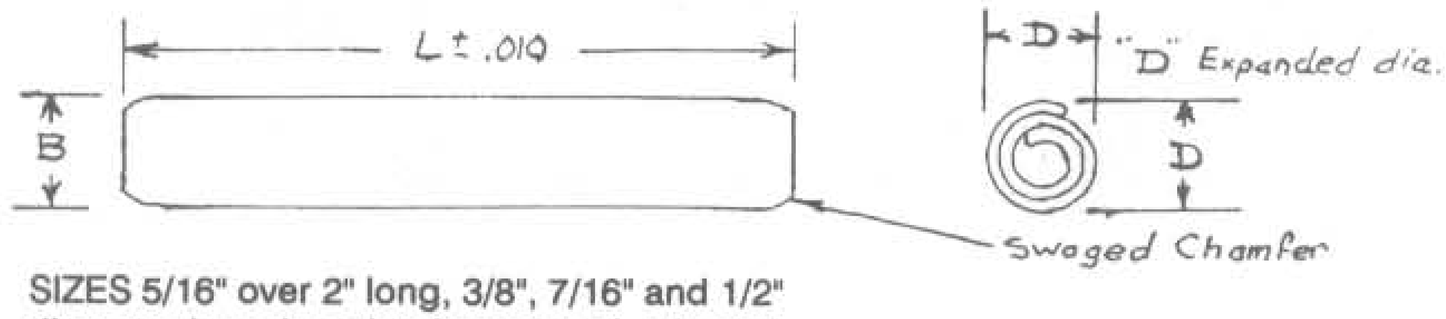
BLIND RIVETS Domed Head

305 stainless steel rivets SSD42-SSBS, SSD43-SSBS and SSD44-SSBS available with 305 stainless steel mandrels.
Shear - 550 lbs. Tensile - 700 lbs.

		Diameter	Grip
SS/SS	43D	1/8"	1/8" to (a) 3/16"
SS/SS	44D	1/8"	3/16" to (a) 1/4"
SS/SS	46D	1/8"	5/16" to (a) 3/8"
SS/SS	66D	3/16"	1/4" to (a) 3/8"
SS/SS	68D	3/16"	3/8" to (a) 1/2"

Pacific Fasteners
Fasteners in
STAINLESS · BRASS · COPPER · MONEL · ALUMINUM · SILICON BRONZE

SPIROL PIN INSPECTION DATA



SIZES 5/16" over 2" long, 3/8", 7/16" and 1/2" diameter have length tolerances of +/- .015", 5/8" and 3/4" diameter +/- .020"

DIMENSION "B" and "D"
Preferred Method - Ring Gauge
Alternate Method - Micrometer *

DIMENSION "L"
Preferred Method - Snap Gauge
Alternate Method - Micrometer

*Note:
When using micrometer, Diameter should be measured on lip and/or 90° away.

Nom. Diam.	Recommended Drilled Hole Tolerance		Dimen. "B"	STANDARD DUTY				HEAVY DUTY				LIGHT DUTY			
				"D"		Min. Double Shear In Lbs.		"D"		Min. Double Shear In Lbs.		"D"		Min Double Shear in Lbs.	
	Plus	Minus	Max.	Min.	Max.	302	Carbon Steel	Min.	Max.	302	Carbon Steel	Min.	Max.	302	Carbon Steel
1/32	.001	.000	.029	.033	.035	60	75 !								
.039	.001	.000	.037	.041	.044	100	120 !								
3/64	.001	.001	.045	.049	.052	140	170 !								
.052	.001	.001	.050	.054	.057	190	230 !								
1/16	.003	.001	.059	.067	.072	250	300	.066	.070	350	450	.067	.073	135	
5/64	.003	.001	.075	.083	.088	400	475	.082	.086	550	700	.083	.089	225	
3/32	.003	.001	.091	.099	.105	550	700	.098	.103	800	1000	.099	.106	300	375
7/64	.003	.001	.106	.114	.102	750	950	.113	.118	1125	1400	.114	.121	425	525
1/8	.004	.001	.121	.131	.138	1000	1250	.130	.136	1700	2100	.131	.139	550	675
5/32	.004	.001	.152	.163	.171	1550	1925	.161	.168	2400	3000	.163	.172	875	1100
3/16	.005	.002	.182	.196	.205	2250	2800	.194	.202	3500	4400	.196	.207	1200	1500
7/32	.005	.002	.214	.228	.238	3000	3800	.226	.235	4600	5700	.228	.240	1700	2100
1/4	.006	.003	.243	.260	.271	4000	5000	.258	.268	6200	7700	.260	.273	2200	2700
5/16	.007	.004	.304	.324	.337	6200	7700	.322	.334	9200	11500	.324	.339	3500	4400
3/8	.008	.005	.366	.388	.403	9000	11200	.386	.400	14000	17600	.388	.405	5000	
7/16	.009	.006	.427	.452	.469	13000	15200	.450	.466	18000	22500	.452	.471	6700	
1/2	.010	.007	.488	.516	.535	16000	20000	.514	.532	24000	30000	.516	.537	8800	
5/8	.010	.007	.613	.642	.661	25000	31000*	.640	.658	37000	46000*				
3/4	.010	.007	.738	.768	.787	36000	45000*	.766	.784	53000	66000*				

! 420 only. * Alloy steel in place of carbon steel

MATERIAL -

Nickel Stainless Steel (Alloy 302) Non-magnetic.

PIN DUTY -

(M) Standard Duty; (H) Heavy Duty; (L) Light Duty.

HARDNESS

Carbon steel (1070 to 1095) - Rockwell "C" 46-53 or equivalent.
Corrosion resistant steel (420) - Rockwell "C" 46-55 or equivalent.
Nickel stainless steel (302) - Work hardened.
Alloy steel (6150) - Rockwell "C" 43-51 or equivalent.

STOCKING KEY	Diameter	1/32"	3/64"	1/16"	5/64"	3/32"	1/8"	5/32"	3/16"	1/4"	5/16"	3/8"
LENGTHS	1/4"											
	5/16"											
	3/8"											
	1/2"					●	●			●		
	5/8"					●	●					
	3/4"			●		●	●		●	●		
	1"						●	●	●	●		
	1-1/4"						●		●	●		
	1-1/2"						●		●	●		
	1-3/4"									●		
	2"									●		
	2-1/4"									●		
	2-1/2"									●		

STAINLESS STEEL WOOD SCREWS

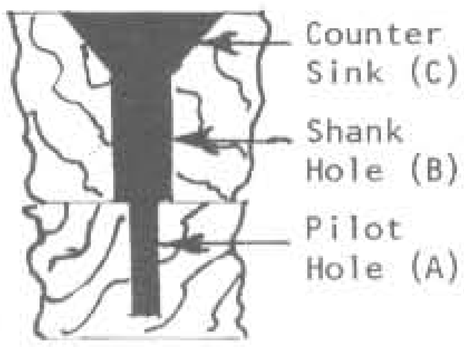
STOCKING KEY

Round Head	**R**
Flat Head	**F**
Oval Head	**O**
Pan Head	**P**
	Full

Type 18-8

WOOD SCREWS, SLOTTED

LENGTHS / Diameter	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.12	No.14	No.16	No.18
1/4"					R								
3/8"			FR	F	ROF		OF		R				
1/2"			FO	F	FO		RF						
5/8"			F	F	FR		OF		RF		R		
3/4"													
7/8"			F	F	FO		RFO		FRO	F	R		
1"					F		RFO		FO	F	F		
1-1/4"					F		RFO		FR	FR	RF	F	
1-1/2"							F		R	F	RF		
1-3/4"													
2"							FR		FR	FR	RF	RF	F
2-1/4"													
2-1/2"							F		FR	FOR	RF	F	F
2-3/4"													
3"										FR	F	F	FR



PILOT HOLE

Pilot holes for wood screws are recommended, especially for hard woods. They greatly lessen the possibility of damage to screws and to the wood. The hole in the first piece of wood should be bored large enough to accommodate freely the screw shank.

In the second piece of wood the hole should be slightly smaller than the screw shank, as shown in the chart below. The hole depth should be about one half the length of the screw in the second piece of wood. The length of screw chosen for the job will properly be at least an 1/8" shorter than the combined thickness of the wood.

Screw Size	PILOT HOLE (A) Hard Woods: **Twist Bit** (Nearest size in fractions of an inch)	PILOT HOLE (A) Hard Woods: **Drill Gauge No.** To be used for maximum holding power	PILOT HOLE (A) Soft Woods: **Twist Bit** (Nearest size in fractions of an inch)	PILOT HOLE (A) Soft Woods: **Drill Gauge No.** To be used for maximum holding power	SHANK CLEARANCE HOLES (B): **Twist Bit** (Nearest size in fractions of an inch)	SHANK CLEARANCE HOLES (B): **Drill Gauge # or Letter** To be used for maximum holding power	COUNTER SINK (C): **Number of Auger Bit** To counterbore for sinking head (by 16th)
2	---	54	1/32	65	3/32	42	3
3	1/16	53	3/64	58	7/64	37	4
4	1/16	51	3/64	55	7/64	32	4
5	5/64	47	1/16	53	1/8	30	4
6	---	44	1/16	52	9/64	27	5
7	---	39	1/16	51	5/32	22	5
8	7/64	35	5/64	48	11/64	18	6
9	7/64	33	5/64	45	3/16	14	6
10	1/8	31	3/32	43	3/16	10	6
11	---	29	3/32	40	13/64	4	7
12	---	25	7/64	38	7/32	2	7
14	3/16	14	7/64	32	1/4	D	8
16	---	10	9/64	29	17/64	I	9
18	13/64	6	9/64	26	19/64	N	10
20	7/32	3	11/64	19	21/64	P	11
24	1/4	D	3/16	15	3/8	V	12
	Sizes for holes recommended for average application. Slightly larger or smaller holes may be required.						

Table courtesy ITT Harper.

Pacific Fasteners
Fasteners in STAINLESS · BRASS · COPPER · MONEL · ALUMINUM · SILICON BRONZE

SILICON BRONZE WOOD SCREWS

SQUARE SOCKET DRIVE

WOOD SCREWS, FLAT HEAD

Size		No.4	No.6	No.8	No.10	No.12	No.14
LENGTH	1/4						
	3/8						
	1/2						
	5/8						
	3/4		●	●	●		
	7/8						
	1		●	●	●		
	1-1/4		●	●	●	●	
	1-1/2			●	●	●	
	1-3/4				●	●	
	2			●	●	●	●
	2-1/4						
	2-1/2				●	●	●
	2-3/4						
	3					●	●
	3-1/2						
	4						
	6						

Weight per 100								
Size	No.6	No.8	No.10	No.12	No.14	No.16	No.18	No.20
LENGTH 3/8	.14							
1/2	.19	.27	.41					
5/8	.22	.32	.48					
3/4	.27	.38	.54	.74				
7/8	.31	.44	.62					
1	.34	.50	.70	.93	1.20			
1-1/4	.42	.61	.85	1.13	1.44			
1-1/2	.51	.73	1.01	1.34	1.70	2.02	2.59	
1-3/4		.85	1.16	1.54	1.96	2.45	2.97	
2		.96	1.33	1.74	2.22	2.76	3.36	4.08
2-1/2			1.64	2.14	2.74	3.41	4.14	5.03
3				2.56	3.26	4.05	4.92	5.97
3-1/2						4.68	5.68	6.92
4						5.44	6.46	7.85

BRASS & BRONZE

Properties and Characteristics

BRASS

A corrosion-resistant material composed approximately of 2/3 copper and 1/3 zinc which is easily worked and is not magnetic, has good strength and toughness, and is relatively inexpensive. It is generally used when a rust proof fastener is needed.

USE:

Communications and electrical equipment, hardware, outdoor products, etc.

TYPE:

Yellow. Also known as Commercial Brass and used in production of bolts, screws, rivets, nuts and washers.

COMPOSITION: Cu 65%. Zn 35%.

TENSILE (PSI): 55,000 min.

NAVAL BRONZE

Similar to Brass with tin added for salt water corrosion resistance.

USE:

Marine applications becasue of its high resistance to corrosion. Good for use where exposure to elements is a factor. Bolts, studs and nuts are usually made from this grade.

COMPOSITION: Cu 60%. Zn 39.25%. Sn .75%.

TENSILE (PSI): 55,000 min.

SILICONE BRONZE

Also known as Everdur, Duronze, Herculoy, etc. has high resistance to extreme temperature, atmospheric conditions, water, gas, and sewage.

USE:

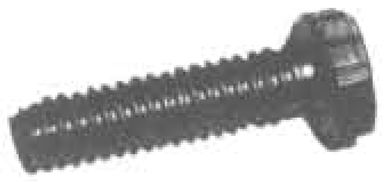
Bolts, nuts, screws used in pole line hardware, sewage disposal, marine applications, plumbing and liquid handling equipment, food machinery, switchgear equipment, hydraulic pressure lines, heat exchanger tubing.

COMPOSITION: Cu 96.0% min. Si 2.0%

TENSILE (PSI): 70,000 min.

SILICON BRONZE

Bolts



Hex Head Machine	Items available immediately from stock				Items in this range also available			
	Smallest		Largest		Smallest		Largest	
	Dia.	Length	Dia.	Length	Dia.	Length	Dia.	Length
	1/4"	1"	5/8"	3-1/2"	1/4"	3/8"	1-1/2"	*

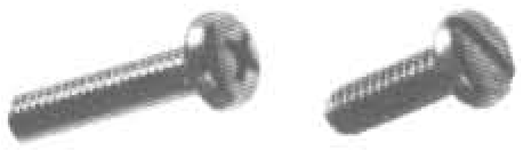
*Can be manufactured to any reasonable length

Cap Screws

Socket Cap Screw	Items available immediately from stock				Items in this range also available			
	Smallest		Largest		Smallest		Largest	
	Dia.	Length	Dia.	Length	Dia.	Length	Dia.	Length
	1/4"	5/8"	1/2"	2"	#10	1/2"	3/4"	*

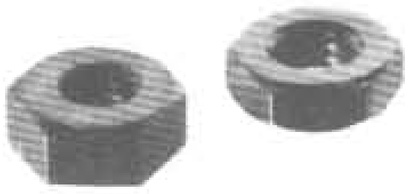
*Can be manufactured to any reasonable length.

Machine Screws



Slotted Flat, Rd, Fill	Items available immediately from stock				Items in this range also available			
	Smallest		Largest		Smallest		Largest	
	Dia.	Length	Dia.	Length	Dia.	Length	Dia.	Length
	#10	1/2"	1/2"	3"	#10	1/2"		

Nuts

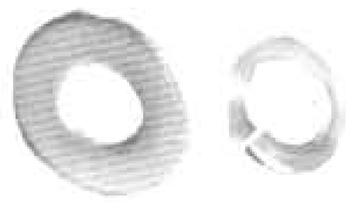


	Items available immediately from stock		Items in this range also available	
	Smallest	Largest	Smallest	Largest
Hex Machine Screw	#1	1/4"	#4	3/8"
Hex (Finished)	1/4"	1-1/2"	1/4"	2"
Hex (finished) Jam	7/16"	1"	1/4"	1-1/2"
Heavy Hex	7/16"	1"	1/4"	2"

Pacific Fasteners
Fasteners in
STAINLESS · BRASS · COPPER · MONEL · ALUMINUM · SILICON BRONZE

SILICON BRONZE

Washers

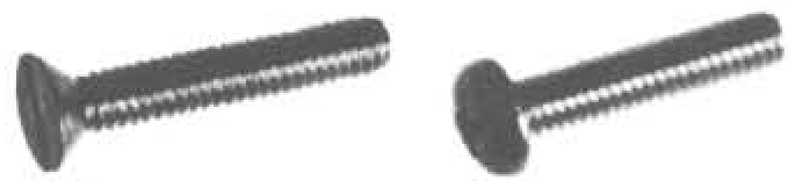


	Items available immediately from stock		Items in this range also available	
	Smallest	Largest	Smallest	Largest
Flat	1/4"	3/8"	#2	*
Split (Lock) Regular	1/4"	3/4"	1/4"	3/4"

* Flat washers can be supplied to any reasonable dimension.

BRASS

Machine Screws



	Items available immediately from stock				Items in this range also available			
	Smallest		Largest		Smallest		Largest	
	Dia.	Length	Dia.	Length	Dia.	Length	Dia.	Length
Slotted Flat, Rd, Oval Bind, Pan, Fill.	#6	1-1/2"	5/16"	1-3/4"	#4	1/2"	1/2"	4"
Phillips Flat, Rd, Oval, Bind, Pan, Fill.					#4	1/2"	3/8"	4"

Threaded Rod

	Items available immediately from stock		Items in this range also available	
	Smallest	Largest	Smallest	Largest
Threaded Rod	#6	3/4"	#6	1"

BRASS

Wood Screw

	Items available immediately from stock				Items in this range also available			
	Smallest		Largest		Smallest		Largest	
	Dia.	Length	Dia.	Length	Dia.	Length	Dia.	Length
Slotted Phillips	#4	1/2"	#16	3"	#2 #4	1/4" 1/8"	#16 3/8"	4"

Washers

	Items available immediately from stock		Items in this range also available	
	Smallest	Largest	Smallest	Largest
Flat	#10	1-1/4"	#4	*

* Flat washers can be supplied to any reasonable dimension. See Silicon Bronze - to provide necessary temper.

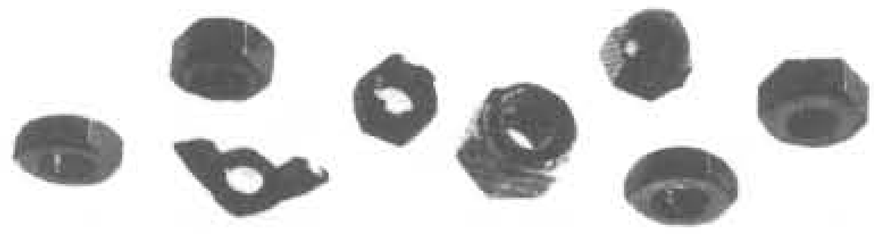
Set Screws

	Items available immediately from stock				Items in this range also available			
	Smallest		Largest		Smallest		Largest	
	Dia.	Length	Dia.	Length	Dia.	Length	Dia.	Length
Square Head	3/8"	1"	3/4"	3"	1/4"	1/2"	3/4"	3"

Pacific Fasteners
Fasteners in
STAINLESS · BRASS · COPPER · MONEL · ALUMINUM · SILICON BRONZE

BRASS - NAVAL BRONZE

Nuts



BRASS	Items available immediately from stock		Items in this range also available	
	Smallest	Largest	Smallest	Largest
Hex Machine Screw	#4	1/4"	#4	3/8"
Hex (Finished)	1/4"	1-1/4"	1/4"	2"
Hex (Finished) Jam	1/4"	3/8"	1/4"	2"
Heavy Hex	1/4"	1-1/2"	1/4"	2"
Heavy Hex Jam	1/4"	1"	1/4"	2"
Cap	1/4"	3/8"	#4	1"
Wing	#6	3/4"	#6	3/4"

Cap Screws

BRASS	Items available immediately from stock				Items in this range also available			
	Smallest		Largest		Smallest		Largest	
	Dia.	Length	Dia.	Length	Dia.	Length	Dia.	Length
Hex	1/4"	3/8"	3/4"	7"	#10	3/8"	1-1/4"	*

* Cap Screws can be manufactured to any reasonable length.

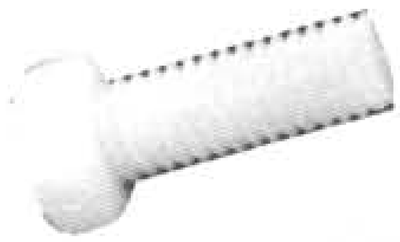
Bolts

NAVAL BRONZE	Items available immediately from stock				Items in this range also available			
	Smallest		Largest		Smallest		Largest	
	Dia.	Length	Dia.	Length	Dia.	Length	Dia.	Length
Lag	1/4"	1"	1/2"	4-1/2"	1/4"	1"	1"	*
Carriage	1/4"	2-1/4"	1/2"	7"	1/4"	1"	1-1/4"	*
Hanger	1/2"	4"	3/4"	8"	3/8"	3"	1"	*

* Cap Screws and Bolts can be manufactured to any reasonable length.

NYLON

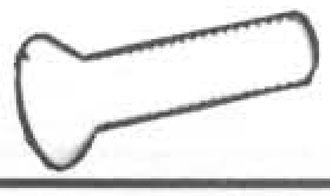
Bolts



	Items available immediately from stock				Items in this range also available			
	Smallest		Largest		Smallest		Largest	
	Dia.	Length	Dia.	Length	Dia.	Length	Dia.	Length
Hex Head Machine Bolt	1/4"	1"	1/2"	2-1/2"	1/4"	1/2"	1"	*

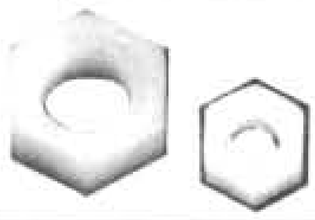
* Bolts can be manufactured to any reasonable length.

Machine Screws



	Items available immediately from stock				Items in this range also available			
	Smallest		Largest		Smallest		Largest	
	Dia.	Length	Dia.	Length	Dia.	Length	Dia.	Length
Slotted Flat, Rd, Bind, Fill	#4	1/4"	3/8"	2-1/2"	#2	1/8"	3/8"	4"

Nuts



	Items available immediately from stock		Items in this range also available	
	Smallest	Largest	Smallest	Largest
Hex Machine Screw Hex (Finished)	#2 1/4"	#10 1/2"	#2 1/4"	3/8" 1/2"

Threaded Rod

	Items available immediately from stock		Items in this range also available	
	Smallest	Largest	Smallest	Largest
Threaded Rod	#8	5/8"	#6	1"

Washers

	Items available immediately from stock		Items in this range also available	
	Smallest	Largest	Smallest	Largest
Flat	#4	3/4"	#2	*

* Flat washers can be supplied to any reasonable dimensions.

Pacific Fasteners
Fasteners in
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ALUMINUM

Bolts

	Items available immediately from stock				Items in this range also available			
	Smallest		Largest		Smallest		Largest	
	Dia.	Length	Dia.	Length	Dia.	Length	Dia.	Length
Economy Bolt	1/4"	3"	3/4"	6"	1/4"	1"	1"	6"
Carriage Bolt	1/4"	1"	1/2"	4"	1/4"	1/2"	1/2"	*

* Bolts can be manufactured to any reasonable length.

Machine Screws

	Items available immediately from stock				Items in this range also available			
	Smallest		Largest		Smallest		Largest	
	Dia.	Length	Dia.	Length	Dia.	Length	Dia.	Length
Slotted Flat, Rd, Truss.	#6	1/2"	3/8"	3"	#2	1/8"	3/8"	4"

Nuts

	Items available immediately from stock		Items in this range also available	
	Smallest	Largest	Smallest	Largest
Machine Screw Hex (Finished)	#4 1/4"	3/8" 1"	#2 1/4"	3/8" 1"

Rivets

	Items available immediately from stock				Items in this range also available			
	Smallest		Largest		Smallest		Largest	
	Dia.	Length	Dia.	Length	Dia.	Length	Dia.	Length
Rivet	1/8"	3/8"	3/8"	1-1/2"	1/32"	1/8"	1"	6"
Tinners Style	3 lbs.				8 oz.		16 lbs.	

Washers

	Items available immediately from stock		Items in this range also available	
	Smallest	Largest	Smallest	Largest
Flat Split (Lock)	#6 1/4"	3/4" 5/8"	#6 1/4"	* 5/8"

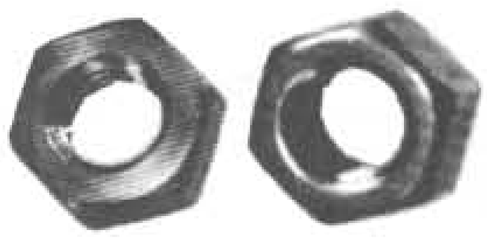
* Flat washers can be supplied to any reasonable dimension.

MONEL

Cap Screws

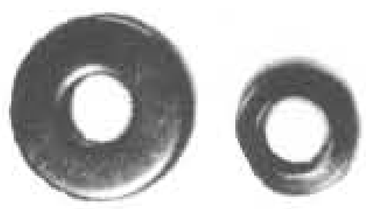
	Items available immediately from stock				Items in this range also available			
	Smallest		Largest		Smallest		Largest	
	Dia.	Length	Dia.	Length	Dia.	Length	Dia.	Length
Hex Head	1/4"	3/4"	1"	8"	1/4"	3/4"	1"	8"

* Cap Screws can be manufactured to any reasonable length.



Nuts

	Items available immediately from stock		Items in this range also available	
	Smallest	Largest	Smallest	Largest
Hex Machine Screw Hex (Finished)	1/4" 1/4"	1" 1"	1/4" 1/4"	1"



Washers

	Items available immediately from stock		Items in this range also available	
	Smallest	Largest	Smallest	Largest
Flat **Split (Lock) K-Monel**	1/4" 1/4"	1-1/2" 3/4"	1/4" 1/4"	* 3/4"

*Flat washers can be supplied to any reasonable dimension.

MONEL

Is approximately 2/3 Nickel and 1/3 Copper and has exceptional qualities of strength, versatility, and resistance to heat and corrosion and is widely used for fasteners. It is relatively economical and has good adaptability to cold threading and roll threading processes.

USE: Chemical, mechanical and electrical equipment. Used in building and in marine construction where high strength is required.

COMPOSITION: Ni 67%. Cu 30% Fe 2.5% max. TENSILE (PSI): 82,000 min.

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Fasteners in

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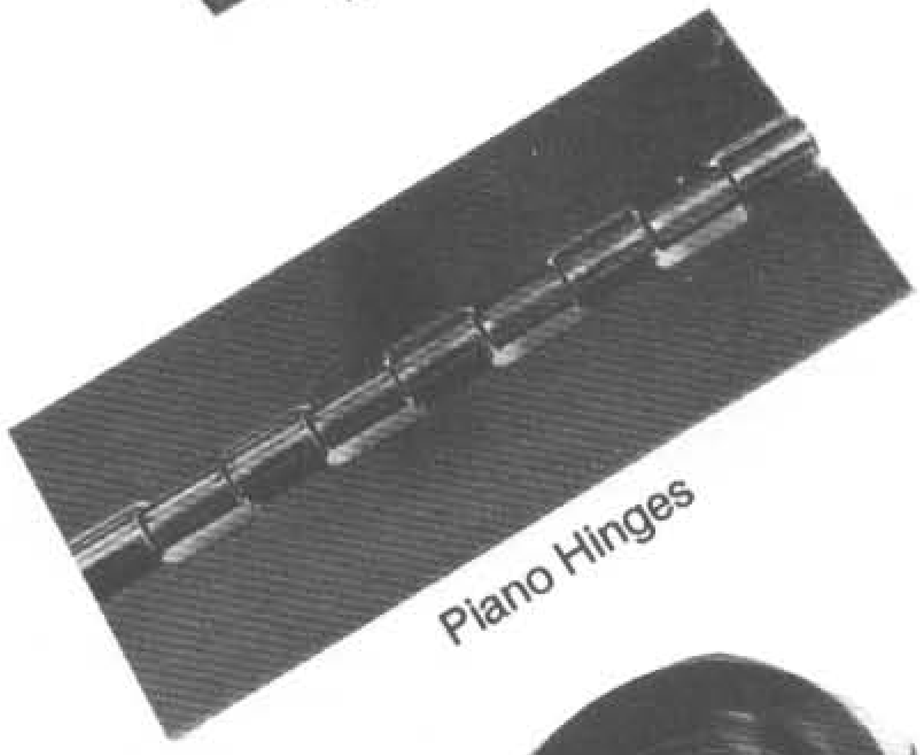
Bolts and Clamps

Butt Hinges

Knurl Screws

Thumb Screws


Piano Hinges

Elevator Bolts

Large Nuts

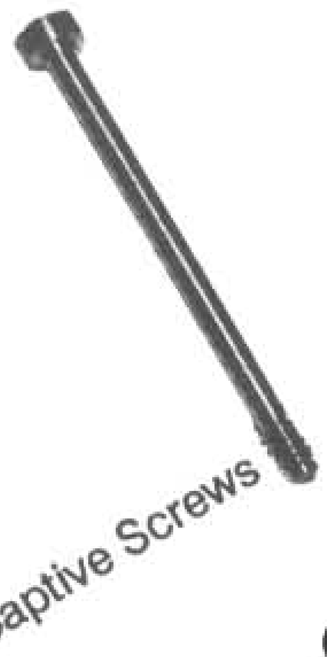
Drive Pins

Nails

Machined Specials

Special Studs

Pins and Keys


Captive Screws

STAINLESS STEEL

Properties and Characteristics

Stainless Steels are versatile alloys of steel containing from 12% to 30% Chromium, and 0% to 20% Nickel and the addition of various other elements to either improve resistance to corrosion or to control other mechanical properties. Stainless Steels have excellent resistance to mechanical wear and abuse. Steels have excellent resistance to mechanical wear and abuse. The resistance to corrosion is due to an impervious layer of chromium oxide which forms a film on the surface of the steel and armors this surface against corrosive attack.

The various types of Stainless Steels used in the manufacture of fasteners are listed below:

Type 302

A general purpose 18-8 chromium nickel Stainless Steel offering high strength at reasonably elevated temperatures.

COMPOSITION: Cr 17% - 19%. Ni 8% - 10%. C .08% - .15%
TENSILE (PSI): 80,000 min.

Type 303

A free machining 18-8 chromium nickel Stainless Steel similar to Type 302.

COMPOSITION: Cr 17% - 19%. Ni 8% - 10%. C .15% max.
S .15% min.
TENSILE (PSI): 85,000

Type 304

An 18-8 chromium nickel steel generally used for cold headed products.

COMPOSITION: Cr. 18% - 20%. Ni 8% - 12%. C .08% max.
TENSILE (PSI): 85,000 min.

Type 305

An 18-8 grade of Stainless Steel with higher nickel content than Type 304, and particularly suitable for cold forming high strength nuts.

COMPOSITION: Cr 17% - 19%. Ni 8% - 13%. C .12% max.
TENSILE (PSI): 85,000

Type 309

A higher nickel and chromium content makes this alloy useful in higher temperature application. The alloy is difficult to machine, but can be cold headed.

COMPOSITION: Cr 22% - 24%. Ni 12% - 15%. C .20% max.
TENSILE (PSI): 95,000

Type 310

A higher chromium and nickel content gives this 18-8 steel the highest heat resisting qualities of the series.

COMPOSITION: Cr 24% - 26%. Ni 19% - 22%. C .25% max.
TENSILE (PSI): 95,000

Type 316

The addition of molybdenum gives this alloy superior strength at higher temperatures. It has good corrosion resistance to sea water and some chemical atmospheres.

COMPOSITION: Cr 16% - 18%. Ni 10% - 14%. Mo 2% - 3%.
C .08% max.
TENSILE (PSI): 84,000

Type 317

A higher molybdenum content than Type 316 gives this alloy better resistance to corrosive atmospheres, and it possesses higher tensile and creep strength properties at elevated temperatures.

COMPOSITION: Cr 18% - 20%. Ni 11% - 15%. Mo 3% - 4%.
C .08% max.
TENSILE (PSI): 90,000

Type 321

This alloy is similar to the 302, 304 group but the additional of Titanium aids in resisting inter-granular corrosion in a high temperature operating or fabricating range.

COMPOSITION: Cr 17% - 19%. Ni 9% - 12%. Ti 5 x C min.
C .08% max.
TENSILE (PSI): 85,000

Type 347

The addition of Columbium to the 302, 304 group gives similar results as Type 321.

COMPOSITION: Cr 17% - 19%. Ni 9% - 13%. Cb 10 x c min.
C .10% max.
TENSILE (PSI): 85,000

Type 410

A chromium alloy which can be hardened by heat treatment. It can be headed or machined.

COMPOSITION: Cr 11.5% - 13.5%. Mn 1%. Si 1%. C .15% max.
S .03% max. P .04% max.
TENSILE (PSI): 70,000

Type 416

A re-sulphurized alloy similar to Type 410, with superior machinability.

COMPOSITION: Cr 12% - 14%. Mn 1.25%. Si 1%. C.15% max.
S .15% min. P .06% max.
TENSILE (PSI): 75,000

Type 430

Similar to Type 410 but contains additional chromium and is not hardenable.

COMPOSITION: Cr 14% - 18%. Mn 1%. Si 1%. P .04% max.
TENSILE (PSI): 75,000

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NYLON
Properties and Characteristics

Excellent corrosion resistance to most solvents except mineral acids. Nylon is an excellent insulator, is light in weight, is resistant to wear, is non-magnetic and will not spark.

COMPOSITION: A Polymide plastic.
TENSILE (PSI): 9,000 min.

CARPENTER 20
Properties and Characteristics

A special alloy with excellent resistance to sulphuric acid.

COMPOSITION: Cr 19% - 21%. Ni 24% - 30%. C.08% max.
TENSILE (PSI): 85,000

TITANIUM
Properties and Characteristics

Strictly speaking, not a high temperature alloy but is important in the aircraft field. Titanium has very high strength-weight ratio, resistance to moderately high temperature. Can be cold and hot worked.

COMPOSITION: Commercially Pure 99.0 %Ti.
TENSILE (PSI): 63,000 av.

NICKEL
Properties and Characteristics

Commercially pure, 99.4%, nickel possesses good structural strength and has superior resistance to most corrosive environments.

COMPOSITION: Ni 99.4%.
TENSILE (PSI): 68,000 min.

INCONEL *
Properties and Characteristics

An alloy possessing superior strength and resistance to oxidation at high temperatures.

COMPOSITION: Ni 77%. Cr 15%. Fe 7%.
TENSILE (PSI): 80,000 min.

* Reg. T.M. Inco Ltd.

ALUMINUM
Properties and Characteristics

Aluminum is a light metal which has good electrical conductivity, is non-magnetic and will not spark. It is readily cold headed and is easily machinable. It possesses good strength-to-weight ratio. The most common alloys used for fasteners are listed below:

2024-T4

This alloy provides a good combination of strength, corrosion resistance and economy. Rivets of this alloy are very strong but are difficult to drive.

COMPOSITION: Cu 3.8% - 4.9%. Mn .30% - .90%
Mg 1.2% - 1.8%. Zn .25%. Cr .1%. Fe .5%.
Si .5%. Al remainder.
TENSILE (PSI): 68,000

6061-T6

Used for applications requiring maximum corrosion resistance. Rivets of this alloy can be cold driven as received.

COMPOSITION: Cu .15% - .40%. Mg .8% - 1.2%. Mn .15%.
Zn .25%. Cr .04% - .35%. Ti .15%. Fe .7%.
Si .4% - .8%. Al remainder.
TENSILE (PSI): 45,000

7075-T73

Has good resistance to stress corrosion. Stronger than 2024-T4.

COMPOSITION: Cu 1.2% - 2.0%. Mg 2.1% - 2.9%. Mn .30%
Zn 5.1% - 6.1%. Cr .18% - .35%. Ti .20%
Fe .5% Si .4%. Al remainder.
TENSILE (PSI): 75,000

HOW TO ORDER
Terminology Used

When ordering threaded fasteners it is necessary to give the diameter, type of thread (coarse of fine) and the length of the bolt or screw.

1/4-20x2-1/4	1/4 = nominal size	UNC-2A	UNC:thread series
	20 = threads per inch		2 = Class of thread fit.
	2-1/4 = length of bolt or screw from bearing surface to end		A = External thread (bolt)
		UNC-2B	B = Internal thread (nut)
		LH	LH = Left hand thread identification

MILLIMETER/DECIMAL/FRACTIONAL CONVERSION CHART

Mili-meter	Decimal	Fraction (inches)	Mili-meter	Decimal	Fraction (inches	Mili-meter	Decimal	Fraction (inches	Mili-meter	Decimal	Fraction (inches	Mili-meter	Decimal	Fraction (inches
0.1	.0039		5.159	.2031	13/64	10.2	.4016		15.3	.6024		20.3	.7992	
0.2	.0079		5.2	.2047		10.3	.4055		15.4	.6063		20.4	.8031	
0.3	.0118		5.3	.2087		10.319	.4063	13/32	15.478	.6094	39/64	20.5	.8071	
0.397	.0156	1/64	5.4	.2126		10.4	.4094		15.5	.6102		20.6	.8110	
0.4	.0157		5.5	.2165		10.5	.4134		15.6	.6142		20.638	.8125	13/16
0.5	.0197		5.556	.2188	7/32	10.6	.4173		15.7	.6181		20.7	.8150	
0.6	.0236		5.6	.2205		10.7	.4213		15.8	.6220		20.8	.8189	
0.7	.0276		5.7	.2244		10.716	.4219	27/64	15.875	.6250	5/8	20.9	.8228	
0.794	.0313	1/32	5.8	.2283		10.8	.4252		15.9	.6260		21.0	.8268	
0.8	.0315		5.9	.2323		10.9	.4291		16.0	.6299		21.034	.8281	53/64
0.9	.0354		5.953	.2344	15/64	11.0	.4331		16.1	.6339		21.1	.8307	
1.0	.0394		6.0	.2362		11.1	.4370		16.2	.6378		21.2	.8346	
1.1	.0433		6.1	.2402		11.113	.4375	7/16	16.272	.6406	41/64	21.3	.8386	
1.191	.0469	3/64	6.2	.2441		11.2	.4409		16.3	.6417		21.4	.8425	
1.2	.0472		6.3	.2480		11.3	.4449		16.4	.6457		21.431	.8438	27/32
1.3	.0512		6.350	.2500	1/4	11.4	.4488		16.5	.6496		21.5	.8465	
1.4	.0551		6.4	.2520		11.5	.4528		16.6	.6535		21.6	.8504	
1.5	.0591		6.5	.2559		11.509	.4531	29/64	16.669	.6563	21/32	21.7	.8543	
1.588	.0625	1/16	6.6	.2598		11.6	.4567		16.7	.6575		21.8	.8583	
1.6	.0630		6.7	.2638		11.7	.4606		16.8	.6614		21.828	.8594	55/64
1.7	.0669		6.747	.2656	17/64	11.8	.4646		16.9	.6654		21.9	.8622	
1.8	.0709		6.8	.2677		11.9	.4685		17.0	.6693		22.0	.8661	
1.9	.0748		6.9	.2717		11.906	.4688	15/32	17.066	.6719	43/64	22.1	.8701	
1.984	.0781	5/64	7.0	.2756		12.0	.4724		17.1	.6732		22.2	.8740	
2.0	.0787		7.1	.2795		12.1	.4764		17.2	.6772		22.225	.8750	7/8
2.1	.0827		7.144	.2813	9/32	12.2	.4803		17.3	.6811		22.3	.8780	
2.2	.0866		7.2	.2835		12.3	.4843		17.4	6850		22.4	.8819	
2.3	.0906		7.3	.2874		12.303	.4844	31/64	17.463	.6875	11/16	22.5	.8858	
2.381	.0938	3/32	7.4	.2913		12.4	.4882		17.5	.6890		22.6	.8898	
2.4	.0945		7.5	.2953		12.5	.4921		17.6	.6929		22.622	.8906	57/64
2.5	.0984		7.541	.2969	19/64	12.6	.4961		17.7	.6968		22.7	.8937	
2.6	.1024		7.6	.2992		12.7	.5000	1/2	17.8	.7008		22.8	.8976	
2.7	.1063		7.7	.3031		12.8	.5039		17.859	.7031	45/64	22.9	.9016	
2.778	.1094	7/64	7.8	.3071		12.9	.5079		17.9	.7047		23.0	.9055	
2.8	.1102		7.9	.3110		13.0	.5118		18.0	.7087		23.019	.9063	29/32
2.9	.1142		7.938	.3125	5/16	13.097	.5156	33/64	18.1	.7126		23.1	.9094	
3.0	.1181		8.0	.3150		13.1	.5157		18.2	.7165		23.2	.9134	
3.1	.1220		8.1	.3189		13.2	.5197		18.256	.7188	23/32	23.3	.9173	
3.175	.1250	1/8	8.2	.3228		13.3	.5236		18.3	.7205		23.4	.9213	
3.2	.1260		8.3	.3268		13.4	.5276		18.4	.7244		23.416	.9219	59/64
3.3	.1299		8.334	.3281	21/64	13.494	.5313	17/32	18.5	.7283		23.5	.9252	
3.4	.1339		8.4	.3307		13.5	.5315		18.6	.7323		23.6	.9291	
3.5	.1378		8.5	.3346		13.6	.5354		18.653	.7344	47/64	23.7	.9331	
3.572	.1406	9/64	8.6	.3386		13.7	.5394		18.7	.7362		23.8	.9370	
3.6	.1417		8.7	.3425		13.8	.5433		18.8	.7402		23.813	.9375	15/16
3.7	.1457		8.731	.3438	11/32	13.891	.5469	35/64	18.9	.7441		23.9	.9409	
3.8	.1496		8.8	.3465		13.9	.5472		19.0	.7480		24.0	.9449	
3.9	.1535		8.9	.3504		14.0	.5512		19.050	.7500	3/4	24.1	.9488	
3.969	.1563	5/32	9.0	.3543		14.1	.5551		19.1	.7520		24.2	.9528	
4.0	.1575		9.1	.3583		14.2	.5591		19.2	.7559		24.209	.9531	61/64
4.1	.1614		9.128	.3594	23/64	14.288	.5625	9/16	19.3	.7598		24.3	.9567	
4.2	.1654		9.2	.3622		14.3	.5630		19.4	.7638		24.4	.9606	
4.3	.1693		9.3	.3661		14.4	.5669		19.447	.7656	49/64	24.5	.9646	
4.366	.1719	11/64	9.4	.3701		14.5	.5709		19.5	.7677		24.6	.9685	
4.4	.1732		9.5	.3740		14.6	.5748		19.6	.7717		24.606	.9688	31/32
4.5	.1772		9.525	.3750	3/8	14.684	.5781	37/64	19.7	.7756		24.7	.9724	
4.6	.1811		9.6	.3780		14.7	.5787		19.8	.7795		24.8	.9764	
4.7	.1850		9.7	.3819		14.8	.5827		19.844	.7813	25/32	24.9	.9803	
4.763	.1875	3/16	9.8	.3858		14.9	.5866		19.9	.7835		25.0	.9843	
4.8	.1890		9.9	.3898		15.0	.5906		20.0	.7874		25.003	.9844	63/64
4.9	.1929		9.922	.3906	25/64	15.081	.5938	19/32	20.1	.7913		25.1	.9882	
5.0	.1969		10.0	.3937		15.1	.5945		20.2	.7953		25.2	.9921	
5.1	.2008		10.1	.3976		15.2	.5984		20.241	.7969	51/64	25.3	.9961	
												25.400	1.0000	1

NOTE:
All millimeter and decimal equivalents have been rounded off to the next higher digit when the following digit is 5 or more.

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TORQUE GUIDE

The table is offered as the suggested maximum torquing values for threaded products made from Harper Corrosion-Resistant metals. The table is only a guide. Actual tests at harper were conducted on dry, or near dry, products. Mating parts were wiped clean of chips and foreign matter. A lubricated bolt requires less torque to attain the same clamping force as a non-lubricated bolt.

All values shown on chart except for Nylon represent a safe working torque; in the case of Nylon only, the figures represent breaking torque.

Suggested Max. Torquing Values - guide based upon Harper Tests on dry products wiped clean. Values thru 1" diameter are stated in inch pounds; over 1 inch diameter, in foot pounds.

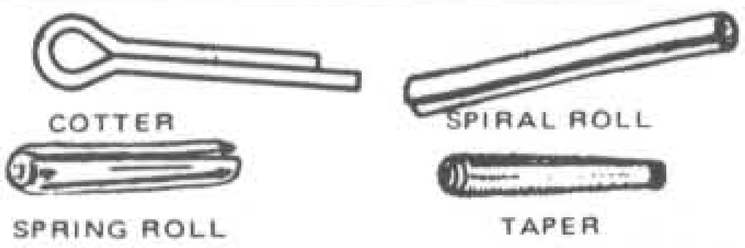
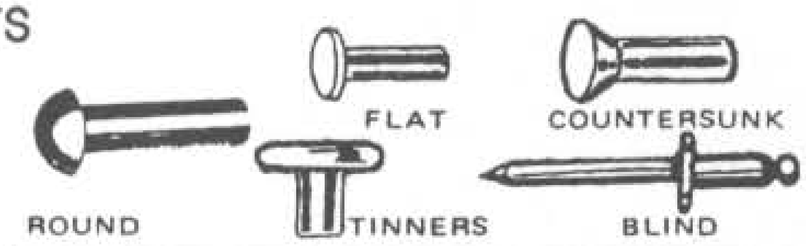
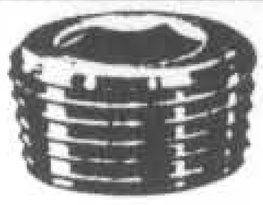
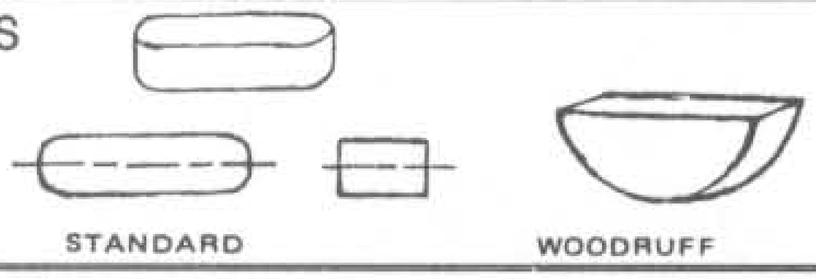
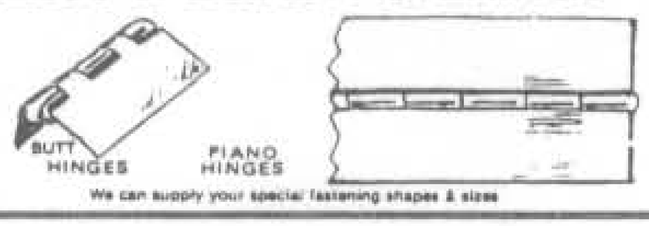
Bolt Size	18-8 St. St.	Brass	Silicon Bronze	Aluminum 2024-T4	316 St. St.	Monel	Nylon *
	Values are stated in Inch Pounds						
2-56 2-64	2.5 3.0	2.0 2.5	2.3 2.8	1.4 1.7	2.6 3.2	2.5 3.1	.44
3-48 3-56	3.9 4.4	3.2 3.6	3.6 4.1	2.1 2.4	4.0 4.6	4.0 4.5	
4-40 4-48	5.2 6.6	4.3 5.4	4.8 6.1	2.9 3.6	5.5 6.9	5.3 6.7	1.19
5-40 5-44	7.7 9.4	6.3 7.7	7.1 8.7	4.2 5.1	8.1 9.8	7.8 9.6	
6-32 6-40	9.6 12.1	7.9 9.9	8.9 11.2	5.3 6.6	10.1 12.7	9.8 12.3	2.14
8-32 8-36	19.8 22.0	16.2 18.0	18.4 20.4	10.8 12.0	20.7 23.0	20.2 22.4	4.3
10-24 10-32	22.8 31.7	18.6 25.9	21.2 29.3	13.8 19.2	23.8 33.1	25.9 34.9	6.61 8.2
1/4"-20 1/4"-28	75.2 94.0	61.5 77.0	68.8 87.0	45.6 57.0	78.8 99.0	85.3 106.0	16.0 20.8
5/16-18 5/16-24	132 142	107 116	123 131	80 86	138 147	149 160	34.9
3/8"-16 3/8"-24	236 259	192 212	219 240	143 157	247 271	266 294	
7/16"-14 7/16"-20	376 400	317 327	349 371	228 242	393 418	427 451	
1/2-13 1/2"-20	517 541	422 443	480 502	313 328	542 565	584 613	
9/16"-12 9/16"-18	682 752	558 615	632 697	413 456	713 787	774 855	
5/8"-11 5/8"-18	1110 1244	907 1016	1030 1154	715 798	1160 1301	1330 1482	
3/4"-10 3/4"-16	1530 1490	1249 1220	1416 1382	980 958	1582 1558	1832 1790	
7/8"-9 7/8"-14	2328 2318	1905 1895	2140 2130	1495 1490	2430 2420	2775 2755	
1"-8 1"-14	3440 3110	2815 2545	3185 2885	2205 1995	3595 3250	4130 3730	
	Values are stated in Foot Pounds						
1-1/8"-7 1-1/8"-12	413 390	337 318	383 361	265 251	432 408	499 470	
1-1/4"-7 1-1/4"-12	523 480	428 394	485 447	336 308	546 504	627 575	
1-1/2"-6 1-1/2"-12	888 703	727 575	822 651	570 450	930 732	1064 840	

*Nylon figures only are breaking torque, rather than safe working torque.

The 3.8" diameter and under metal products were roll-threaded and, where size range permitted, were made on Bolt Maker equipment.

FASTENER GUIDE

C - COMPLETE RANGE N - NOT COMPLETE A - AVAILABLE

		STAINLESS STEEL														
		18-8	316	317	310	410	CB20	TITANIUM	MONEL	NYLON	BRASS	Na BRONZE	Si BRONZE	ALUMINUM	COPPER	STEEL
PINS 	COTTER	C	A						A		A					
	SPIRAL ROLL	C														
	SPRING ROLL	C														
	TAPER	C														
RIVETS 	ROUND	N	N						A					N	N	
	FLAT	N	N											N	N	
	COUNTERSUNK	N	N						A					N	N	
	TINNERS	N	N											N	N	N
	BLIND	N							N					A		
NAILS	COMMON	C	C					A	A							
U BOLTS & EYE BOLTS	U BOLT	C	C	A	A	A	A	A			A					
	EYEBOLT	N														
PLUGS 	SOCKET PIPE	C	C					N			A					
KEYS 	STANDARD	N														
	WOODRUFF	N														
SOCKET ALLEN CAP	FLAT	C	N	A	A	A	A	A	A		A		A			
	BUTTON	N	N	A	A	A	A	A	A		A		A			
	SOCKET	C	N	A	A	A	A	A	A		A		A			
STAINLESS SPECIAL FASTENINGS 	BUTT	C														
	PIANO	C														

We are in touch daily with our manufacturers and suppliers. Our buyers are able to offer outstanding service on all non-standard items, including those made from SUPER ALLOYS. We regularly supply our customers, many times from our own inventories, fasteners made from Alloy Steel, Heat Resisting Stainless Steels, Titanium, Alloy 20, Nickel and Inconel*. Our buyers are trained to the ideals of SERVICE.

*Reg. T.M.

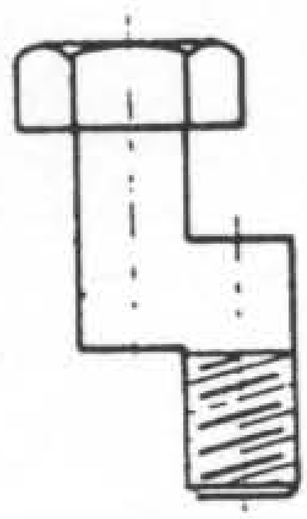
Pacific Fasteners

Fasteners in STAINLESS · BRASS · COPPER · MONEL · ALUMINUM · SILICON BRONZE

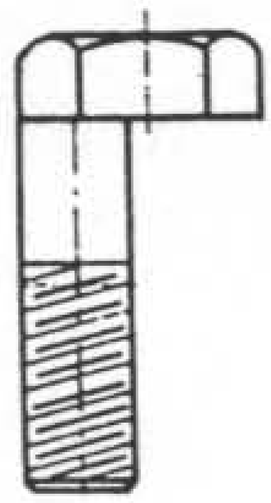
Pacific Fasteners

Fasteners in
STAINLESS · BRASS · COPPER · MONEL · ALUMINUM · SILICON BRONZE

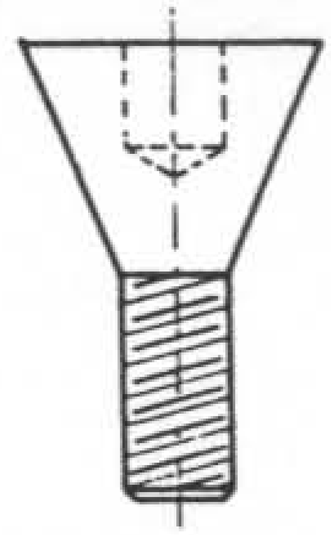
A STOCK OF THESE SPECIAL BOLTS IS A MUST!



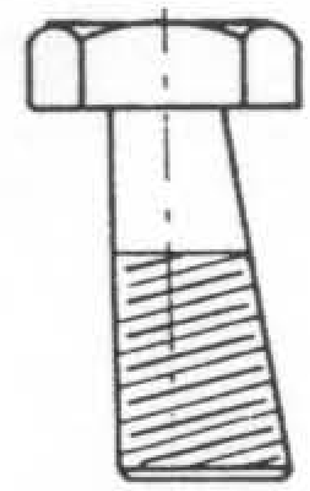
For mismatched bolt holes



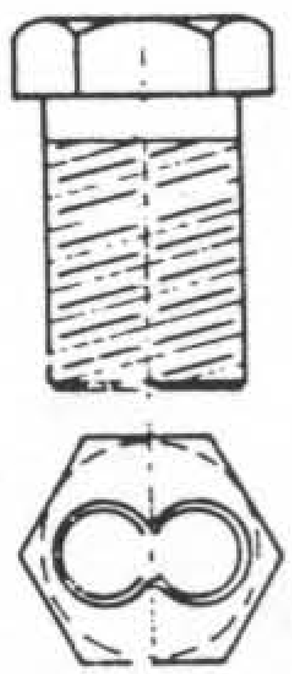
For holes too near the edge



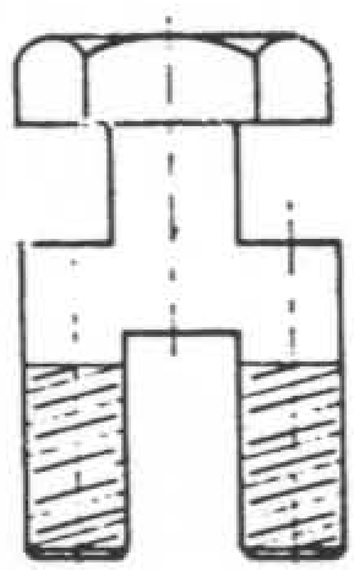
For holes counter sunk too deep



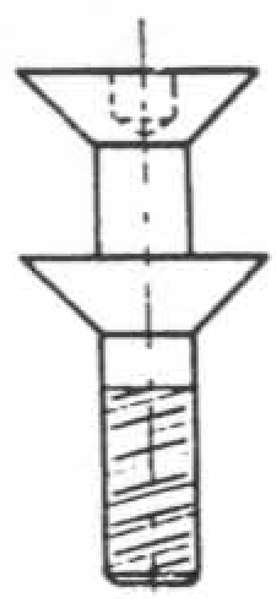
For holes drilled crooked and then straightened up (nut is hard starting)



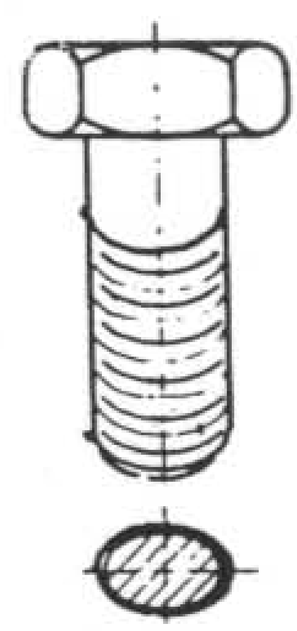
Binocular bolt for double drilled holes



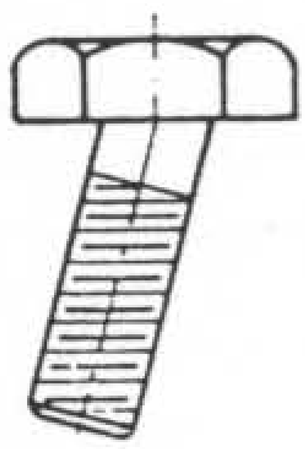
For redrilled holes that still don't match



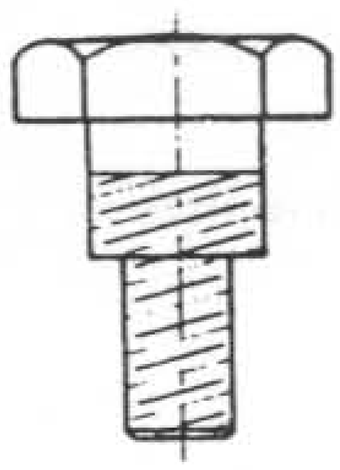
For double counter sunk holes



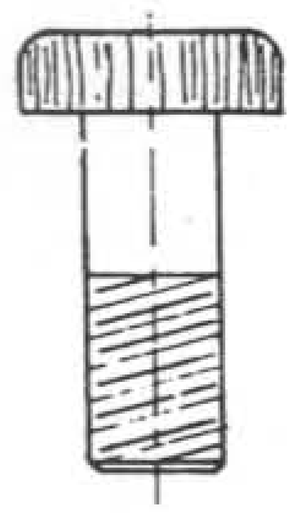
For out-of-round holes



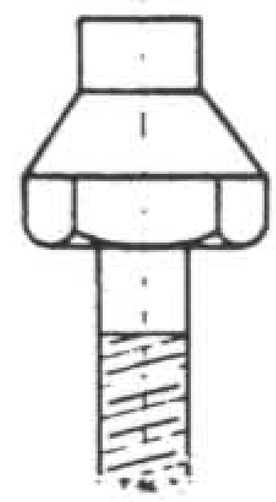
For holes not square



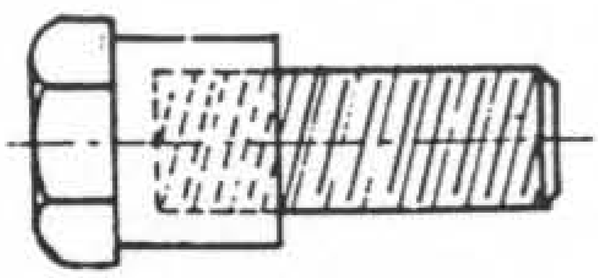
Assembler's special for oversize & stepped holes



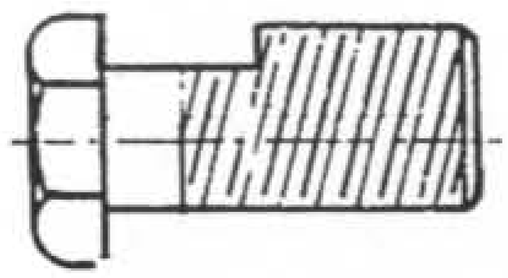
Serrated head for all vise grip torquing



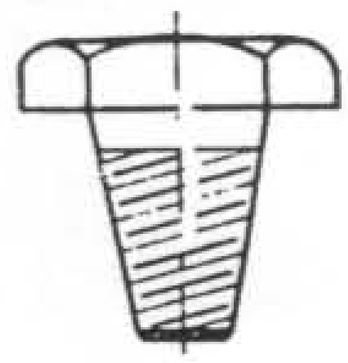
For holes with countersink on the wrong side



Telescoping bolt where length is not known



For use where pilot hole does not clean up



For all tapered holes (special nut required)