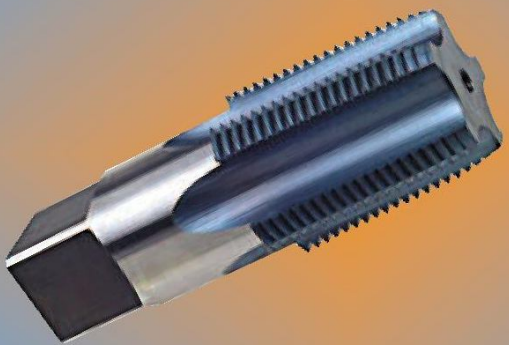




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46162 - 46199	38	120GCI	Cast Iron Design NPT Taper Pipe Taps Ground Regular
46201 - 46245	38	120DSB	NPTF Taper Pipe Taps Ground Regular Bottom Chamfer
46202 - 46260	34	120DS	NPTF Taper Pipe Taps Ground Regular
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HAND TAPS MACHINE SCREW SIZES

LIST 106A

Taper Plug Bottom

TAP SIZE	SERIES DESIG.	NO. OF FLUTES	H LIMIT	106A			SET EDP NUMBER
				TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER	
0 - 80	NF	2	H-1	10011	10012	10013	10010
0 - 80	NF	2	H-2	10021	10022	10023	10020
1 - 64	NC	2	H-1	10111	10112	10113	10110
1 - 64	NC	2	H-2	10121	10122	10123	10120
1 - 72	NF	2	H-1	10211	10212	10213	10210
1 - 72	NF	2	H-2	10221	10222	10223	10220
2 - 56	NC	2	H-1	10311	10312	10313	10310
2 - 56	NC	2	H-2	10321	10322	10323	10320
2 - 56	NC	3	H-1	10411	10412	10413	10410
2 - 56	NC	3	H-2	10421	10422	10423	10420
2 - 64	NF	2	H-1	10511	10512	10513	10510
2 - 64	NF	2	H-2	10521	10522	10523	10520
2 - 64	NF	3	H-1	10611	10612	10613	10610
2 - 64	NF	3	H-2	10621	10622	10623	10620
3 - 48	NC	2	H-1	10711	10712	10713	10710
3 - 48	NC	2	H-2	10721	10722	10723	10720
3 - 48	NC	3	H-1	10811	10812	10813	10810
3 - 48	NC	3	H-2	10821	10822	10823	10820
3 - 56	NF	2	H-1	10911	10912	10913	10910
3 - 56	NF	2	H-2	10921	10922	10923	10920
3 - 56	NF	3	H-1	11011	11012	11013	11010
3 - 56	NF	3	H-2	11021	11022	11023	11020
4 - 40	NC	2	H-1	11311	11312	11313	11310
4 - 40	NC	2	H-2	11321	11322	11323	11320
4 - 40	NC	3	H-1	11411	11412	11413	11410
4 - 40	NC	3	H-2	11421	11422	11423	11420
4 - 48	NF	2	H-1	11511	11512	11513	11510
4 - 48	NF	2	H-2	11521	11522	11523	11520
4 - 48	NF	3	H-1	11611	11612	11613	11610
4 - 48	NF	3	H-2	11621	11622	11623	11620
4 - 36	NS	2	H-1	11111	11112	11113	11110
4 - 36	NS	2	H-2	11121	11122	11123	11120
4 - 36	NS	3	H-1	11211	11212	11213	11210
4 - 36	NS	3	H-2	11221	11222	11223	11220
5 - 40	NC	2	H-1	11711	11712	11713	11710
5 - 40	NC	2	H-2	11721	11722	11723	11720

See page 87 for Tap Recommendations for Classes 2B & 3B.
See page 89 for Tap Dimensions.



HAND TAPS MACHINE SCREW SIZES (CONTINUED)

LIST 106A
Taper Plug Bottom



TAP SIZE	SERIES DESIG.	NO. OF FLUTES	H LIMIT	106A		
				TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER
5-40	NC	3	H-1	11811	11812	11813
5-40	NC	3	H-2	11821	11822	11823
5-44	NF	2	H-1	11911	11912	11913
5-44	NF	2	H-2	11921	11922	11923
5-44	NF	3	H-1	12011	12012	12013
5-44	NF	3	H-2	12021	12022	12023
6-32	NC	2	H-1	12111	12112	12113
6-32	NC	2	H-2	12121	12122	12123
6-32	NC	2	H-3	12131	12132	12133
6-32	NC	3	H-1	12211	12212	12213
6-32	NC	3	H-2	12221	12222	12223
6-32	NC	3	H-3	12231	12232	12233
6-40	NF	2	H-1	12311	12312	12313
6-40	NF	2	H-2	12321	12322	12323
6-40	NF	3	H-1	12411	12412	12413
6-40	NF	3	H-2	12421	12422	12423
8-32	NC	2	H-1	12511	12512	12513
8-32	NC	2	H-2	12521	12522	12523
8-32	NC	2	H-3	12531	12532	12533
8-32	NC	3	H-1	12611	12612	12613
8-32	NC	3	H-2	12621	12622	12623
8-32	NC	3	H-3	12631	12632	12633
8-32	NC	4	H-1	12711	12712	12713
8-32	NC	4	H-2	12721	12722	12723
8-32	NC	4	H-3	12731	12732	12733
8-36	NF	2	H-1	12811	12812	12813
8-36	NF	2	H-2	12821	12822	12823
8-36	NF	3	H-1	12911	12912	12913
8-36	NF	3	H-2	12921	12922	12923
8-36	NF	4	H-1	13011	13012	13013
8-36	NF	4	H-2	13021	13022	13023
10-24	NC	2	H-1	13111	13112	13113
10-24	NC	2	H-2	13121	13122	13123
10-24	NC	2	H-3	13131	13132	13133
10-24	NC	3	H-1	13211	13212	13213
10-24	NC	3	H-2	13221	13222	13223



HAND TAPS MACHINE SCREW SIZES (CONTINUED)

LIST 106A
Taper Plug Bottom



TAP SIZE	SERIES DESIG.	NO. OF FLUTES	H LIMIT	106A		
				TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER
10-24	NC	3	H-3	13231	13232	13233
10-24	NC	4	H-1	13311	13312	13313
10-24	NC	4	H-2	13321	13322	13323
10-24	NC	4	H-3	13331	13332	13333
10-32	NF	2	H-1	13411	13412	13413
10-32	NF	2	H-2	13421	13422	13423
10-32	NF	2	H-3	13431	13432	13433
10-32	NF	3	H-1	13511	13512	13513
10-32	NF	3	H-2	13521	13522	13523
10-32	NF	3	H-3	13531	13532	13533
10-32	NF	4	H-1	13611	13612	13613
10-32	NF	4	H-2	13621	13622	13623
10-32	NF	4	H-3	13631	13632	13633
12-24	NC	4	H-1	13711	13712	13713
12-24	NC	4	H-3	13731	13732	13733
12-28	NF	4	H-1	13811	13812	13813
12-28	NF	4	H-3	13831	13832	13833
14-20	NS	4	H-3	13931	13932	13933
14-24	NS	4	H-3	14031	14032	14033

Penta Relief – Special thread geometry that allows for freer cutting. Available in Standard Taps in List Numbers 106A in size #10 with 2 & 3 Flutes and larger sizes, 103, 102C, 402VPR, 402VMRP, 403V, 403VM, 407VPR and 407VMRP.



HAND TAPS FRACTIONAL SIZES

LIST 103

Taper Plug Bottom



TAP SIZE	SERIES DESIG.	NO. OF FLUTES	H LIMIT	103		
				TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER
1/4 - 20	NC	2	H-1	24021	24012	24013
1/4 - 20	NC	2	H-2	24021	24022	24023
1/4 - 20	NC	2	H-3	24031	24032	24033
1/4 - 20	NC	2	H-5	24052	24052	24053
1/4 - 20	NC	3	H-1	24111	24112	24113
1/4 - 20	NC	3	H-2	24121	24122	24123
1/4 - 20	NC	3	H-3	24131	24132	24133
1/4 - 20	NC	3	H-5	24151	24152	24153
1/4 - 20	NC	4	L-1	24291	24292	24293
1/4 - 20	NC	4	H-1	24211	24212	24213
1/4 - 20	NC	4	H-2	24221	24222	24223
1/4 - 20	NC	4	H-3	24231	24232	24233
1/4 - 20	NC	4	H-5	24251	24252	24253
1/4 - 28	NF	2	H-1	24311	24312	24313
1/4 - 28	NF	2	H-2	24321	24322	24323
1/4 - 28	NF	2	H-3	24331	24332	24333
1/4 - 28	NF	2	H-4	24341	24342	24343
1/4 - 28	NF	3	H-1	24411	24412	24413
1/4 - 28	NF	3	H-2	24421	24422	24423
1/4 - 28	NF	3	H-3	24431	24432	24433
1/4 - 28	NF	3	H-4	24441	24442	24443
1/4 - 28	NF	4	H-1	24511	24512	24513
1/4 - 28	NF	4	H-2	24521	24522	24523
1/4 - 28	NF	4	H-3	24531	24532	24533
1/4 - 28	NF	4	H-4	24541	24542	24543
5/16 - 18	NC	2	H-1	24621	24612	24613
5/16 - 18	NC	2	H-2	24621	24622	24623
5/16 - 18	NC	2	H-3	24631	24632	24633
5/16 - 18	NC	2	H-5	24652	24652	24653
5/16 - 18	NC	3	H-1	24712	24712	24723
5/16 - 18	NC	3	H-2	24731	24732	24733
5/16 - 18	NC	3	H-5	24891	24892	24893
5/16 - 18	NC	4	H-1	24811	24812	24813
5/16 - 18	NC	4	H-2	24821	24822	24823

See page 87 for Tap Recommendations for Classes 2B & 3B. See page 89 for Tap Dimensions.

HAND TAPS FRACTIONAL SIZES (CONTINUED)

LIST 103

Taper Plug Bottom



TAP SIZE	SERIES DESIG.	NO. OF FLUTES	H LIMIT	103		
				TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER
5/16 - 18	NC	4	H-3	24831	24832	24833
5/16 - 18	NC	4	H-5	24851	24852	24853
5/16 - 24	NF	2	H-1	24912	24912	24913
5/16 - 24	NF	2	H-2	24922	24922	24923
5/16 - 24	NF	2	H-3	24931	24932	24933
5/16 - 24	NF	2	H-4	24942	24942	24943
5/16 - 24	NF	3	H-1	25012	25012	25013
5/16 - 24	NF	3	H-2	25022	25022	25023
5/16 - 24	NF	3	H-3	25031	25032	25033
5/16 - 24	NF	3	H-4	25041	25042	25043
5/16 - 24	NF	4	H-1	25111	25112	25113
5/16 - 24	NF	4	H-2	25121	25122	25123
5/16 - 24	NF	4	H-3	25131	25132	25133
5/16 - 24	NF	4	H-4	25141	25142	25143
3/8 - 16	NC	3	H-1	25211	25212	25213
3/8 - 16	NC	3	H-2	25221	25222	25223
3/8 - 16	NC	3	H-3	25231	25232	25233
3/8 - 16	NC	3	H-5	25251	25252	25253
3/8 - 16	NC	4	L-1	25391	25392	25393
3/8 - 16	NC	4	H-1	25311	25312	25313
3/8 - 16	NC	4	H-2	25321	25322	25323
3/8 - 16	NC	4	H-3	25331	25332	25333
3/8 - 16	NC	4	H-5	25351	25352	25353
3/8 - 24	NF	3	H-1	25421	25422	25423
3/8 - 24	NF	3	H-2	25431	25432	25433
3/8 - 24	NF	3	H-4	25442	25442	25443
3/8 - 24	NF	4	H-1	25511	25512	25513
3/8 - 24	NF	4	H-2	25521	25522	25523
3/8 - 24	NF	4	H-3	25531	25532	25533
3/8 - 24	NF	4	H-4	25541	25542	25543
7/16 - 14	NC	3	H-1	25612	25612	25613
7/16 - 14	NC	3	H-2	25622	25622	25623
7/16 - 14	NC	3	H-3	25631	25632	25633
7/16 - 14	NC	3	H-5	25651	25652	25653
7/16 - 14	NC	4	L-1	25791	25792	25793

Penta Relief – Special thread geometry that allows for free cutting. Available in Standard Taps in List Numbers 106A in size #10 with 2 & 3 Flutes and larger sizes, 103, 102C, 402VMPR, 402VMPR, 403V, 403VMP, 407VMPR and 407VMPR.



HAND TAPS FRACTIONAL SIZES (CONTINUED)

LIST 103
Taper Plug Bottom



TAP SIZE	SERIES DESIG.	NO. OF FLUTES	H LIMIT	103		
				TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER
7/16 - 14	NC	4	H-1	25711	25712	25713
7/16 - 14	NC	4	H-2	25721	25722	25723
7/16 - 14	NC	4	H-3	25731	25732	25733
7/16 - 14	NC	4	H-5	25751	25752	25753
7/16 - 20	NF	3	H-1		25812	
7/16 - 20	NF	3	H-2		25822	
7/16 - 20	NF	3	H-3	25831	25832	25833
7/16 - 20	NF	3	H-5		25852	25853
7/16 - 20	NF	4	H-1	25911	25912	25913
7/16 - 20	NF	4	H-2	25921	25922	25923
7/16 - 20	NF	4	H-3	25931	25932	25933
7/16 - 20	NF	4	H-5	25951	25952	25953
1/2 - 13	NC	3	H-1	26011	26012	26013
1/2 - 13	NC	3	H-2	26021	26022	26023
1/2 - 13	NC	3	H-3	26031	26032	26033
1/2 - 13	NC	3	H-5	26051	26052	26053
1/2 - 13	NC	4	L-1	26111	26112	26113
1/2 - 13	NC	4	H-1	26191	26192	26193
1/2 - 13	NC	4	H-2	26121	26122	26123
1/2 - 13	NC	4	H-3	26131	26132	26133
1/2 - 13	NC	4	H-5	26151	26152	26153
1/2 - 20	NF	3	H-1		26212	
1/2 - 20	NF	3	H-2	26221	26222	26223
1/2 - 20	NF	3	H-3	26231	26232	26233
1/2 - 20	NF	3	H-5	26251	26252	26253
1/2 - 20	NF	4	H-1	26311	26312	26313
1/2 - 20	NF	4	H-2	26321	26322	26323
1/2 - 20	NF	4	H-3	26331	26332	26333
1/2 - 20	NF	4	H-5	26351	26352	26353

See page 87 for Tap Recommendations for Classes 2B & 3B.
See page 89 for Tap Dimensions.

HAND TAPS FRACTIONAL SIZES (CONTINUED)

LIST 103
Taper Plug Bottom



TAP SIZE	SERIES DESIG.	NO. OF FLUTES	H LIMIT	103		
				TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER
9/16 - 12	NC	4	H-1	26411	26412	26413
9/16 - 12	NC	4	H-2	26421	26422	26423
9/16 - 12	NC	4	H-3	26431	26432	26433
9/16 - 12	NC	4	H-5	26451	26452	26453
9/16 - 18	NF	4	H-1	26511	26512	26513
9/16 - 18	NF	4	H-2	26521	26522	26523
9/16 - 18	NF	4	H-3	26531	26532	26533
9/16 - 18	NF	4	H-5	26551	26552	26553
5/8 - 11	NC	4	H-1	26611	26612	26613
5/8 - 11	NC	4	H-2	26621	26622	26623
5/8 - 11	NC	4	H-3	26631	26632	26633
5/8 - 11	NC	4	H-5	26651	26652	26653
5/8 - 18	NF	4	H-1	26711	26712	26713
5/8 - 18	NF	4	H-2	26721	26722	26723
5/8 - 18	NF	4	H-3	26731	26732	26733
5/8 - 18	NF	4	H-5	26751	26752	26753
1 1/16 - 11	NS	4	H-3	26831	26832	26833
1 1/16 - 16	NS	4	H-3	26931	26932	26933
3/4 - 10	NC	4	H-1	27011	27012	27013
3/4 - 10	NC	4	H-2	27021	27022	27023
3/4 - 10	NC	4	H-3	27031	27032	27033
3/4 - 10	NC	4	H-5	27051	27052	27053
3/4 - 16	NF	4	H-1	27111	27112	27113
3/4 - 16	NF	4	H-2	27121	27122	27123
3/4 - 16	NF	4	H-3	27131	27132	27133
3/4 - 16	NF	4	H-5	27151	27152	27153
7/8 - 9	NC	4	H-1	27211	27212	27213
7/8 - 9	NC	4	H-2	27221	27222	27223
7/8 - 9	NC	4	H-4	27241	27242	27243
7/8 - 9	NC	4	H-6	27261	27262	27263
7/8 - 14	NF	4	H-1	27311	27312	27313
7/8 - 14	NF	4	H-2	27321	27322	27323
7/8 - 14	NF	4	H-4	27341	27342	27343
7/8 - 14	NF	4	H-6	27361	27362	27363
1 - 8	NC	4	H-1	27411	27412	27413
1 - 8	NC	4	H-2	27421	27422	27423
1 - 8	NC	4	H-4	27441	27442	27443
1 - 8	NC	4	H-6	27461	27462	27463
1 - 12	NF	4	H-1	27511	27512	27513
1 - 12	NF	4	H-2	27521	27522	27523



HAND TAPS FRACTIONAL SIZES (CONTINUED)



LIST 103

Taper Plug Bottom

TAP SIZE	SERIES DESIG.	NO. OF FLUTES	H LIMIT	103		
				TAPER EDP NUMBER	PLUG NUMBER	BOTTOM EDP NUMBER
1 - 12	NF	4	H-4	27541	27542	27543
1 - 12	NF	4	H-6	27561	27562	27563
1 - 14	NS	4	H-1	27611	27612	27613
1 - 14	NS	4	H-2	27621	27622	27623
1 - 14	NS	4	H-4	27641	27642	27643
1 - 14	NS	4	H-6	27661	27662	27663
1 1/8 - 7	NC	4	H-4	27741	27742	27743
1 1/8 - 7	NC	4	H-8	27781	27782	27783
1 1/8 - 12	NF	4	H-4	27841	27842	27843
1 1/8 - 12	NF	4	H-6	27861	27862	27863
1 1/4 - 7	NC	4	H-4	27941	27942	27943
1 1/4 - 7	NC	4	H-8	27981	27982	27983
1 1/4 - 12	NF	6	H-4	28041	28042	28043
1 1/4 - 12	NF	6	H-6	28061	28062	28063
1 3/8 - 6	NC	4	H-4	28141	28142	28143
1 3/8 - 6	NC	4	H-8	28181	28182	28183
1 3/8 - 12	NF	6	H-4	28241	28242	28243
1 3/8 - 12	NF	6	H-6	28261	28262	28263
1 1/2 - 6	NC	4	H-4	28341	28342	28343
1 1/2 - 6	NC	4	H-8	28381	28382	28383
1 1/2 - 12	NF	6	H-4	28441	28442	28443
1 1/2 - 12	NF	6	H-6	28461	28462	28463

Penta Relief - Special thread geometry that allows for freer cutting. Available in Standard Taps in List Numbers 106A in size #10 with 2 & 3 Flutes and larger sizes, 103, 102C, 402VPR, 402VMPR, 403V, 403VM, 407VPR and 407VMPR.

HAND TAPS LARGE DIAMETER



LIST 103

Taper Plug Bottom

TAP SIZE	SERIES DESIG.	NO. OF FLUTES	BLANK STYLE	H LIMIT	103		
					TAPER EDP NUMBER	PLUG NUMBER	BOTTOM EDP NUMBER
1 1/16 - 12	NS	4	302	H-4	90011	90012	90013
1 1/8 - 8	8N	4	302	H-4	90041	90042	90043
1 3/16 - 12	NS	6	302	H-4	90081	90082	90083
1 1/4 - 8	8N	4	302	H-4	90141	90142	90143
1 5/16 - 12	NS	6	302	H-4	90241	90242	90243
1 3/8 - 8	8N	4	302	H-4	90341	90342	90343
1 1/2 - 8	8N	4	302	H-4	90441	90442	90443
1 5/8 - 5 1/2	NS	6	302	G331	90571	90572	90573
1 5/8 - 8	8N	6	302	G331	90521	90522	90523
1 5/8 - 12	12N	6	303	G331	90561	90562	90563
1 3/4 - 5	NC	6	302	G331	90621	90622	90623
1 3/4 - 8	8N	6	302	G331	90761	90762	90763
1 3/4 - 12	12N	6	303	G331	90961	90962	90963
1 7/8 - 5	NS	6	302	G331	91071	91072	91073
1 7/8 - 8	8N	6	302	G331	91161	91162	91163
1 7/8 - 12	12N	6	303	G331	91261	91262	91263
2 - 4 1/2	NC	6	302	G331	90821	90822	90823
2 - 8	8N	6	302	G331	91361	91362	91363
2 - 12	12N	6	303	G331	91461	91462	91463

NOTE: Larger sizes and optional pitches, consult factory for price and delivery.



HAND TAPS MACHINE SCREW AND FRACTIONAL SIZES SEMI BOTTOMING



2 - 2 1/2 Thread Chamfer

LIST 125

NOTE: Please specify if points on thread end are to be removed.

TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	EDP NUMBER	
			H-3	H-4
6 - 32	NC	3	12235	
8 - 32	NC	4	12735	
10 - 24	NC	4	13335	
10 - 32	NF	4	13635	
12 - 24	NC	4	13735	
12 - 28	NF	4	13835	
1/4 - 20	NC	4	24235	
1/4 - 28	NF	4	24535	
5/16 - 18	NC	4	24835	
5/16 - 24	NF	4	25135	
3/8 - 16	NC	4	25335	
3/8 - 24	NF	4	25535	
7/16 - 14	NC	4	25735	
7/16 - 20	NF	4	25935	
1/2 - 13	NC	4	26135	
1/2 - 20	NF	4	26335	
9/16 - 12	NC	4	26435	
9/16 - 18	NF	4	26535	
5/8 - 11	NC	4	26635	
5/8 - 18	NF	4	26735	
3/4 - 10	NC	4	27035	
3/4 - 16	NF	4	27135	
7/8 - 9	NC	4	27245	
7/8 - 14	NF	4	27345	
1 - 8	NC	4	27445	
1 - 12	NF	4	27545	
1 - 14	NS	4	27645	

See page 87 for Tap Recommendations for Classes 2B & 3B.
See page 89 for Tap Dimensions.



SPIRAL POINT TAPS MACHINE SCREW SIZES



Spiral Point Plug
Spiral Point Bottom

LIST 106C

TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	STYLE	EDP NUMBER		
				H-1	H-2	H-3
0 - 80	NF	2	SPT PLUG	14112	14122	
0 - 80	NF	2	SPT BOTT	14113	14123	
1 - 64	NC	2	SPT PLUG	14212	14222	
1 - 64	NC	2	SPT BOTT	14213	14223	
1 - 72	NF	2	SPT PLUG	14312	14322	
1 - 72	NF	2	SPT BOTT	14313	14323	
2 - 56	NC	2	SPT PLUG	14412	14422	
2 - 56	NC	2	SPT BOTT	14413	14423	
2 - 64	NF	2	SPT PLUG	14512	14522	
2 - 64	NF	2	SPT BOTT	14513	14523	
3 - 48	NC	2	SPT PLUG	14612	14622	
3 - 48	NC	2	SPT BOTT	14613	14623	
3 - 56	NF	2	SPT PLUG	14712	14722	
3 - 56	NF	2	SPT BOTT	14713	14723	
4 - 40	NC	2	SPT PLUG	14912	14922	
4 - 40	NC	2	SPT BOTT	14913	14923	
4 - 48	NF	2	SPT PLUG	15012	15022	
4 - 48	NF	2	SPT BOTT	15013	15023	
4 - 36	NS	2	SPT PLUG	14812	14822	
4 - 36	NS	2	SPT BOTT	14813	14823	
5 - 40	NC	2	SPT PLUG	15112	15122	
5 - 40	NC	2	SPT BOTT	15113	15123	
5 - 44	NF	2	SPT PLUG	15212	15222	
5 - 44	NF	2	SPT BOTT	15213	15223	
6 - 32	NC	2	SPT PLUG	15312	15322	15332
6 - 32	NC	2	SPT BOTT	15313	15323	15333
6 - 40	NF	2	SPT PLUG	15412	15422	
6 - 40	NF	2	SPT BOTT	15413	15423	
8 - 32	NC	2	SPT PLUG	15512	15522	15532
8 - 32	NC	2	SPT BOTT	15513	15523	15533
8 - 36	NF	2	SPT PLUG	15612	15622	15632
8 - 36	NF	2	SPT BOTT	15613	15623	15633
10 - 24	NC	2	SPT PLUG	15712	15722	15732
10 - 24	NC	2	SPT BOTT	15713	15723	15733
10 - 32	NF	2	SPT PLUG	15812	15822	15832
10 - 32	NF	2	SPT BOTT	15813	15823	15833
12 - 24	NC	2	SPT PLUG	15912	15922	15932
12 - 24	NC	2	SPT BOTT	15913	15923	15933
12 - 28	NF	2	SPT PLUG	16012	16022	16032
12 - 28	NF	2	SPT BOTT	16013	16023	16033
14 - 20	NS	2	SPT PLUG			16132
14 - 24	NS	2	SPT PLUG			16232



SPIRAL POINT TAPS FRACTIONAL SIZES

Spiral Point Plug
Spiral Point Bottom



TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	STYLE	EDP NUMBER					
				L-1	H-1	H-2	H-3	H-4	H-5
1/4 - 20	NC	2	SPRT PLUG	32592	32512	32522	32532		32552
1/4 - 20	NC	2	SPRT BOT				32533		
1/4 - 20	NC	3	SPRT PLUG		32612	32622	32632		32652
1/4 - 20	NC	3	SPRT BOT				32633		
1/4 - 28	NF	2	SPRT PLUG		32712	32722	32732		32742
1/4 - 28	NF	2	SPRT BOT				32733		
1/4 - 28	NF	3	SPRT PLUG		32812	32822	32832		32842
1/4 - 28	NF	3	SPRT BOT				32833		
5/16 - 18	NC	2	SPRT PLUG	32992	32912	32922	32932		32952
5/16 - 18	NC	2	SPRT BOT				32933		
5/16 - 18	NC	3	SPRT PLUG		33012	33022	33032		33052
5/16 - 18	NC	3	SPRT BOT				33033		
5/16 - 24	NF	2	SPRT PLUG		33112	33122	33132		33142
5/16 - 24	NF	2	SPRT BOT				33133		
5/16 - 24	NF	3	SPRT PLUG		33212	33222	33232		33242
5/16 - 24	NF	3	SPRT BOT				33233		
3/8 - 16	NC	3	SPRT PLUG	33392	33312	33322	33332		33352
3/8 - 16	NC	3	SPRT BOT				33333		
3/8 - 24	NF	3	SPRT PLUG		33412	33422	33432		33442
3/8 - 24	NF	3	SPRT BOT				33433		
7/16 - 14	NC	3	SPRT PLUG	33592	33512	33522	33532		33552
7/16 - 14	NC	3	SPRT BOT				33533		
7/16 - 20	NF	3	SPRT PLUG		33612	33622	33632		33652
7/16 - 20	NF	3	SPRT BOT				33633		
1/2 - 13	NC	3	SPRT PLUG	33792	33712	33722	33732		33752
1/2 - 13	NC	3	SPRT BOT				33733		
1/2 - 20	NF	3	SPRT PLUG		33812	33822	33832		33852
1/2 - 20	NF	3	SPRT BOT				33833		
9/16 - 12	NC	3	SPRT PLUG		33912	33922	33932		33952
9/16 - 12	NC	3	SPRT BOT				33933		
9/16 - 18	NF	3	SPRT PLUG		34012	34022	34032		34052
9/16 - 18	NF	3	SPRT BOT				34033		
5/8 - 11	NC	3	SPRT PLUG		34112	34122	34132		34152
5/8 - 11	NC	3	SPRT BOT				34133		
5/8 - 18	NF	3	SPRT PLUG		34212	34222	34232		34252
5/8 - 18	NF	3	SPRT BOT				34233		
11/16 - 11	NS	3	SPRT PLUG				34333		
11/16 - 11	NS	3	SPRT BOT				34333		
11/16 - 16	NS	3	SPRT PLUG				34432		
11/16 - 16	NS	3	SPRT BOT				34433		
3/4 - 10	NC	3	SPRT PLUG		34512	34522	34532		34552
3/4 - 10	NC	3	SPRT BOT				34533		
3/4 - 16	NF	3	SPRT PLUG		34612	34622	34632		34652
3/4 - 16	NF	3	SPRT BOT				34633		
7/8 - 9	NC	4	SPRT PLUG				34832		34852
7/8 - 9	NC	4	SPRT BOT				34833		
7/8 - 14	NF	4	SPRT PLUG				34932		34942
7/8 - 14	NF	4	SPRT BOT				34933		
1 - 8	NC	3	SPRT PLUG				35032		35042
1 - 8	NC	4	SPRT PLUG				35042		35042
1 - 12	NF	4	SPRT PLUG				35142		35142
1 - 14	NS	4	SPRT PLUG				35242		35242

TIN COATED SPIRAL POINT PLUG TAPS

LIST 106C TIN COATED
LIST 102C TIN COATED

Machine Screw Sizes
Fractional Sizes



TAP SIZE	SERIES DESIGNATION	NO. OF FLUTES	EDP NUMBER	
			H-2	H-3
MACHINE SCREW SIZES				
0 - 80	NF	2	99674	
2 - 56	NC	2	99675	
3 - 48	NC	2	99676	
3 - 56	NF	2	99677	
4 - 40	NC	2	99513	
4 - 48	NF	2	99514	
5 - 40	NC	2	99515	
5 - 44	NF	2	99516	
6 - 32	NC	2	99517	99518
6 - 40	NF	2	99519	
8 - 32	NC	2	99520	
8 - 36	NF	2	99522	
10 - 24	NC	2	99523	99524
10 - 32	NF	2	99525	99526
12 - 24	NC	2	99527	
12 - 28	NF	2	99528	
FRACTIONAL SIZES				
1/4 - 20	NC	2	99529	99530
1/4 - 20	NC	3	99531	99532
1/4 - 28	NF	2	99533	99534
1/4 - 28	NF	3	99535	99536
5/16 - 18	NC	2	99537	99538
5/16 - 18	NC	3	99539	99540
5/16 - 24	NF	2	99541	99542
3/8 - 16	NC	3	99544	99545
3/8 - 24	NF	3	99546	99547
7/16 - 14	NC	3	99548	99549
7/16 - 20	NF	3	99549	99550
1/2 - 13	NC	3	99551	99552
1/2 - 20	NF	3	99552	99553
9/16 - 18	NF	3	99554	99555
5/8 - 11	NC	3	99554	99555
5/8 - 18	NF	3	99554	99555
3/4 - 10	NC	3	99556	99557
3/4 - 16	NF	3	99557	



SLOW SPIRAL FLUTED 30° MACHINE SCREW TAPS



LIST 1015
Plug Bottom

TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	STYLE	EDP NUMBER		
				H-1	H-2	H-3
3 - 48	NC	2	PLUG	18512	18522	
3 - 48	NC	2	BOTT	18513	18523	
3 - 56	NF	2	PLUG	18612	18622	
3 - 56	NF	2	BOTT	18613	18623	
4 - 40	NC	2	PLUG	18712	18722	
4 - 40	NC	2	BOTT	18713	18723	
4 - 48	NF	2	PLUG	18812	18822	
4 - 48	NF	2	BOTT	18813	18823	
5 - 40	NC	2	PLUG	18912	18922	
5 - 40	NC	2	BOTT	18913	18923	
5 - 44	NF	2	PLUG	19012	19022	
5 - 44	NF	2	BOTT	19013	19023	
6 - 32	NC	2	PLUG	19112		19132
6 - 32	NC	2	BOTT	19113		19133
6 - 40	NF	2	PLUG	19212	19222	
6 - 40	NF	2	BOTT	19213	19223	
8 - 32	NC	2	PLUG	19312		19332
8 - 32	NC	2	BOTT	19313		19333
8 - 36	NF	2	PLUG	19412	19422	
8 - 36	NF	2	BOTT	19413	19423	
10 - 24	NC	2	PLUG	19512		19532
10 - 24	NC	2	BOTT	19513		19533
10 - 32	NF	2	PLUG	19612		19632
10 - 32	NF	2	BOTT	19613		19633
12 - 24	NC	2	PLUG	19712		19732
12 - 24	NC	2	BOTT	19713		19733
12 - 28	NF	2	PLUG	19812		19832
12 - 28	NF	2	BOTT	19813		19833

Penta Reiter – Special thread geometry that allows for freer cutting. Available in Standard Taps in List Numbers 106A in size #10 with 2 & 3 Flutes and larger sizes, 103, 102C, 402VPR, 402VMPPR, 403V, 403VM, 407VP and 407VMPPR.

SLOW SPIRAL FLUTED 30° FRACTIONAL TAPS



LIST 1065
Plug Bottom

TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	STYLE	EDP NUMBER		
				H-1	H-3	H-5
1/4 - 20	NC	2	PLUG	29012	29032	29052
1/4 - 20	NC	2	BOTT	29013	29033	29053
1/4 - 20	NC	3	PLUG	29112	29132	29152
1/4 - 20	NC	3	BOTT	29113	29133	29153
1/4 - 28	NF	2	PLUG	29212	29232	
1/4 - 28	NF	2	BOTT	29213	29233	
1/4 - 28	NF	3	PLUG	29312	29332	
1/4 - 28	NF	3	BOTT	29313	29333	
5/16 - 18	NC	2	PLUG	29412	29432	29452
5/16 - 18	NC	2	BOTT	29413	29433	29453
5/16 - 18	NC	3	PLUG	29512	29532	29552
5/16 - 18	NC	3	BOTT	29513	29533	29553
5/16 - 24	NF	2	PLUG	29612	29632	
5/16 - 24	NF	2	BOTT	29613	29633	
5/16 - 24	NF	3	PLUG	29712	29732	
5/16 - 24	NF	3	BOTT	29713	29733	
3/8 - 16	NC	3	PLUG	29812	29832	29852
3/8 - 16	NC	3	BOTT	29813	29833	29853
3/8 - 24	NF	3	PLUG	29912	29932	
3/8 - 24	NF	3	BOTT	29913	29933	
7/16 - 14	NC	3	PLUG	30012	30032	30052
7/16 - 14	NC	3	BOTT	30013	30033	30053
7/16 - 20	NF	3	PLUG	30112	30132	30152
7/16 - 20	NF	3	BOTT	30113	30133	30153
1/2 - 13	NC	3	PLUG	30212	30232	30252
1/2 - 13	NC	3	BOTT	30213	30233	30253
1/2 - 20	NF	3	PLUG	30312	30332	30352
1/2 - 20	NF	3	BOTT	30313	30333	30353
9/16 - 12	NC	3	PLUG		30362	
9/16 - 12	NC	3	BOTT		30363	
9/16 - 18	NF	3	PLUG		30367	
9/16 - 18	NF	3	BOTT		30368	
5/8 - 11	NC	3	PLUG		30372	
5/8 - 11	NC	3	BOTT		30373	
5/8 - 18	NF	3	PLUG		30382	
5/8 - 18	NF	3	BOTT		30383	
3/4 - 10	NC	4	PLUG		30392	
3/4 - 10	NC	4	BOTT		30393	
3/4 - 16	NF	4	PLUG		30397	
3/4 - 16	NF	4	BOTT		30398	



HEAVY DUTY SPIRAL FLUTED 45° MACHINE SCREW TAPS



LIST 101HD
Plug Bottom

TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	STYLE	EDP NUMBER		
				H-1	H-2	H-3
3 - 48	NC	2	PLUG	64001	64002	
3 - 48	NC	2	BOTT	64003	64004	
3 - 56	NF	2	PLUG	64011	64012	
3 - 56	NF	2	BOTT	64013	64014	
4 - 40	NC	2	PLUG	64021	64022	
4 - 40	NC	2	BOTT	64023	64024	
4 - 48	NF	2	PLUG	64031	64032	
4 - 48	NF	2	BOTT	64033	64034	
5 - 40	NC	2	PLUG	64041	64042	
5 - 40	NC	2	BOTT	64043	64044	
5 - 44	NF	2	PLUG	64051	64052	
5 - 44	NF	2	BOTT	64053	64054	
6 - 32	NC	2	PLUG	64061		64062
6 - 32	NC	2	BOTT	64063		64064
6 - 40	NF	2	PLUG	64071	64072	
6 - 40	NF	2	BOTT	64073	64074	
8 - 32	NC	2	PLUG	64081		64082
8 - 32	NC	2	BOTT	64083		64084
8 - 36	NF	2	PLUG	64091	64092	
8 - 36	NF	2	BOTT	64093	64094	
10 - 24	NC	3	PLUG	64101		64102
10 - 24	NC	3	BOTT	64103		64104
10 - 32	NF	3	PLUG	64111		64112
10 - 32	NF	3	BOTT	64113		64114
12 - 24	NC	3	PLUG	64121		64122
12 - 24	NC	3	BOTT	64123		64124
12 - 28	NF	3	PLUG	64131		64132
12 - 28	NF	3	BOTT	64133		64134

See page 87 for Tap Recommendations for Classes 2B & 3B.
See page 89 for Tap Dimensions.

HEAVY DUTY SPIRAL FLUTED 45° FRACTIONAL TAPS



LIST 106HD
Plug Bottom

TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	STYLE	EDP NUMBER				
				H-1	H-3	H-4	H-5	
1/4 - 20	NC	3	PLUG	64141	64142			64143
1/4 - 20	NC	3	BOTT	64144	64145			64146
1/4 - 28	NF	3	PLUG	64151	64152			
1/4 - 28	NF	3	BOTT	64153	64154			
5/16 - 18	NC	3	PLUG	64161	64162			64163
5/16 - 18	NC	3	BOTT	64164	64165			64166
5/16 - 24	NF	3	PLUG	64171	64172			
5/16 - 24	NF	3	BOTT	64173	64174			
3/8 - 16	NC	3	PLUG	64181	64182			64183
3/8 - 16	NC	3	BOTT	64184	64185			64186
3/8 - 24	NF	3	PLUG	64191	64192			
3/8 - 24	NF	3	BOTT	64193	64194			
7/16 - 14	NC	3	PLUG	64201	64202			64203
7/16 - 14	NC	3	BOTT	64204	64205			64206
7/16 - 20	NF	3	PLUG	64211	64212			64213
7/16 - 20	NF	3	BOTT	64214	64215			64216
1/2 - 13	NC	3	PLUG	64221	64222			64223
1/2 - 13	NC	3	BOTT	64224	64225			64226
1/2 - 20	NF	3	PLUG	64231	64232			64233
1/2 - 20	NF	3	BOTT	64234	64235			64236
9/16 - 12	NC	3	PLUG		64241			64242
9/16 - 12	NC	3	BOTT		64243			64244
9/16 - 18	NF	3	PLUG	64251	64252			
9/16 - 18	NF	3	BOTT	64253	64254			
5/8 - 11	NC	4	PLUG		64261			64262
5/8 - 11	NC	4	BOTT		64263			64264
5/8 - 18	NF	4	PLUG	64271	64272			
5/8 - 18	NF	4	BOTT	64273	64274			
3/4 - 10	NC	4	PLUG		64281			64282
3/4 - 10	NC	4	BOTT		64283			64284
3/4 - 16	NF	4	PLUG	64291	64292			
3/4 - 16	NF	4	BOTT	64293	64294			
7/8 - 9	NC	4	PLUG		64295			
7/8 - 9	NC	4	BOTT		64297			
1 - 8	NC	4	PLUG		64298			
1 - 8	NC	4	BOTT		64299			



FAST SPIRAL FLUTED 52° MACHINE SCREW TAPS



Plug Bottom

LIST 101F

TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	STYLE	EDP NUMBER		
				H-1	H-2	H-3
3 - 48	NC	2	PLUG	19912	19922	
3 - 48	NC	2	BOTT	19913	19923	
3 - 56	NF	2	PLUG	20012	20022	
3 - 56	NF	2	BOTT	20013	20023	
4 - 40	NC	2	PLUG	20112	20122	
4 - 40	NC	2	BOTT	20113	20123	
4 - 48	NF	2	PLUG	20212	20222	
4 - 48	NF	2	BOTT	20213	20223	
5 - 40	NC	2	PLUG	20312	20322	
5 - 40	NC	2	BOTT	20313	20323	
5 - 44	NF	2	PLUG	20413	20422	
5 - 44	NF	2	BOTT	20413	20423	
6 - 32	NC	3	PLUG	20512		20532
6 - 32	NC	3	BOTT	20513		20533
6 - 40	NF	3	PLUG	20612	20622	
6 - 40	NF	3	BOTT	20613	20623	
8 - 32	NC	3	PLUG	20712		20732
8 - 32	NC	3	BOTT	20713		20733
8 - 36	NF	3	PLUG	20812	20822	
8 - 36	NF	3	BOTT	20813	20823	
10 - 24	NC	3	PLUG	20912		20932
10 - 24	NC	3	BOTT	20913		20933
10 - 32	NF	3	PLUG	21012		21032
10 - 32	NC	3	BOTT	21013		21033
12 - 24	NC	3	PLUG	21112		21132
12 - 24	NC	3	BOTT	21113		21133
12 - 28	NF	3	PLUG	21212		21232
12 - 28	NF	3	BOTT	21213		21233

See page 87 for Tap Recommendations for Classes ZB & 3B.
See page 89 for Tap Dimensions.

FAST SPIRAL FLUTED 52° FRACTIONAL TAPS



Plug Bottom

LIST 106F

TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	STYLE	EDP NUMBER		
				H-1	H-3	H-5
1/4 - 20	NC	3	PLUG	28501	28507	28511
1/4 - 20	NC	3	BOTT	28502	28508	28512
1/4 - 28	NF	3	PLUG	28517	28521	
1/4 - 28	NF	3	BOTT	28518	28522	
5/16 - 18	NC	3	PLUG	28531	28537	28539
5/16 - 18	NC	3	BOTT	28532	28538	
5/16 - 24	NF	3	PLUG	28547	28551	28541
5/16 - 24	NF	3	BOTT	28548	28552	
3/8 - 16	NC	3	PLUG	28561	28577	28581
3/8 - 16	NC	3	BOTT	28562	28578	
3/8 - 24	NF	3	PLUG	28587	28591	28582
3/8 - 24	NF	3	BOTT	28588	28592	
7/16 - 14	NC	4	PLUG	28601	28607	28611
7/16 - 14	NC	4	BOTT	28602	28608	28612
7/16 - 20	NF	4	PLUG	28617	28621	28627
7/16 - 20	NF	4	BOTT	28618	28622	28628
1/2 - 13	NC	4	PLUG	28631	28637	28641
1/2 - 13	NC	4	BOTT	28632	28638	28642
1/2 - 20	NF	4	PLUG	28647	28651	28657
1/2 - 20	NF	4	BOTT	28648	28652	28658
9/16 - 12	NC	4	PLUG		28667	28671
9/16 - 12	NC	4	BOTT		28668	28672
9/16 - 18	NF	4	PLUG	28677	28681	
9/16 - 18	NF	4	BOTT	28678	28682	
5/8 - 11	NC	4	PLUG		28697	28701
5/8 - 11	NC	4	BOTT		28698	28702
5/8 - 18	NF	4	PLUG	28707	28711	
5/8 - 18	NF	4	BOTT	28708	28712	
3/4 - 10	NC	4	PLUG		28727	28731
3/4 - 10	NC	4	BOTT		28728	28732
3/4 - 16	NF	4	PLUG	28737	28741	
3/4 - 16	NF	4	BOTT	28738	28742	



OVERSIZE HAND TAPS MACHINE SCREW SIZES



LIST 115A
Plug
Bottom

TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	STYLE	EDP NUMBER		
				H-6	H-7	H-11
4 - 40	NC	3	PLUG	21362	21372	21382
4 - 40	NC	3	BOTT	21363	21373	21383
4 - 48	NF	3	PLUG	21462	21472	
4 - 48	NF	3	BOTT	21463	21473	
5 - 40	NC	3	PLUG	21562	21572	21582
5 - 40	NC	3	BOTT	21563	21573	21583
5 - 44	NF	3	PLUG	21662	21672	
5 - 44	NF	3	BOTT	21663	21673	
6 - 32	NC	3	PLUG	21762	21772	21782
6 - 32	NC	3	BOTT	21763	21773	21783
6 - 40	NF	3	PLUG	21862	21872	
6 - 40	NF	3	BOTT	21863	21873	
8 - 32	NC	3	PLUG	21962	21972	21982
8 - 32	NC	3	BOTT	21963	21973	21983
8 - 36	NF	3	PLUG	22062	22072	
8 - 36	NF	3	BOTT	22063	22073	
10 - 24	NC	3	PLUG	22162	22172	22182
10 - 24	NC	3	BOTT	22163	22173	22183
10 - 32	NF	3	PLUG	22262	22272	22282
10 - 32	NF	3	BOTT	22263	22273	22283

See page 89 for Tap Dimensions.



OVERSIZE SPIRAL POINT TAPS MACHINE SCREW SIZES



LIST 115
Spiral Point Plug
Spiral Point Bottom

TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	STYLE	EDP NUMBER		
				H-6	H-7	H-11
4 - 40	NC	2	SPT PLUG	22362	22372	22382
4 - 40	NC	2	SPT BOTT	22364	22374	
4 - 48	NF	2	SPT PLUG	22462	22472	
4 - 48	NF	2	SPT BOTT	22464	22474	
5 - 40	NC	2	SPT PLUG	22562	22572	22582
5 - 40	NC	2	SPT BOTT	22564	22574	
5 - 44	NF	2	SPT PLUG	22662	22672	
5 - 44	NF	2	SPT BOTT	22664	22674	
6 - 32	NC	2	SPT PLUG	22762	22772	22782
6 - 32	NC	2	SPT BOTT	22764	22774	
6 - 40	NF	2	SPT PLUG	22862	22872	
6 - 40	NF	2	SPT BOTT	22864	22874	
8 - 32	NC	2	SPT PLUG	22962	22972	22982
8 - 32	NC	2	SPT BOTT	22964	22974	
8 - 36	NF	2	SPT PLUG	23062	23072	
8 - 36	NF	2	SPT BOTT	23064	23074	
10 - 24	NC	2	SPT PLUG	23162	23174	23182
10 - 24	NC	2	SPT BOTT	23164	23174	
10 - 32	NF	2	SPT PLUG	23262	23272	23282
10 - 32	NF	2	SPT BOTT	23264	23274	

See page 89 for Tap Dimensions.



+ .005 OVERSIZE HAND AND SPIRAL POINT FRACTIONAL TAPS

LIST 110
 Plug
 Bottom
 Spiral Point Plug



TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	H LIMIT +.005	110		
				PLUG EDP NUMBER	BOTTOM EDP NUMBER	SPT PLUG EDP NUMBER
1/4 - 20	NC	4	H-11	40573	40575	40474
1/4 - 20	NC	2	H-11			
1/4 - 28	NF	4	H-11	40773	40775	40674
1/4 - 28	NF	2	H-11			
5/16 - 18	NC	4	H-11	40973	40975	40874
5/16 - 18	NC	3	H-11			
5/16 - 24	NF	4	H-11	41173	41175	41074
5/16 - 24	NF	3	H-11			
3/8 - 16	NC	4	H-11	41373	41375	41274
3/8 - 16	NC	3	H-11			
3/8 - 24	NF	4	H-11	41573	41575	41474
3/8 - 24	NF	3	H-11			
7/16 - 14	NC	4	H-11	41773	41775	41674
7/16 - 14	NC	3	H-11			
7/16 - 20	NF	4	H-11	41973	41975	41874
7/16 - 20	NF	3	H-11			
1/2 - 13	NC	4	H-11	42173	42175	42074
1/2 - 13	NC	3	H-11			
1/2 - 20	NF	4	H-11	42373	42375	42274
1/2 - 20	NF	3	H-11			
5/8 - 11	NC	4	H-11	42401	42402	42403
5/8 - 11	NC	3	H-11			
5/8 - 18	NF	4	H-11	42411	42412	42413
5/8 - 18	NF	3	H-11			
3/4 - 10	NC	4	H-11	42421	42422	42423
3/4 - 10	NC	3	H-11			
3/4 - 16	NF	4	H-11	42431	42432	42433
3/4 - 16	NF	3	H-11			
7/8 - 9	NC	4	H-11	42441	42442	
7/8 - 14	NF	4	H-11	42451	42452	
1 - 8	NC	4	H-11	42461	42462	

FLUTELESS SPIRAL POINT MACHINE SCREW TAPS

LIST 105C

Spiral Point Plug



TAP SIZE	SERIES DESIGN.	STYLE	EDP NUMBER		
			H-1	H-2	H-3
3 - 48	NC	SPPT PLUG	36712	36722	
3 - 56	NF	SPPT PLUG		36822	
4 - 40	NC	SPPT PLUG	37012	37022	
4 - 48	NF	SPPT PLUG		37122	
4 - 36	NS	SPPT PLUG		36922	
5 - 40	NC	SPPT PLUG		37222	
5 - 44	NF	SPPT PLUG		37322	
6 - 32	NC	SPPT PLUG		37422	37432
6 - 40	NF	SPPT PLUG		37522	
8 - 32	NC	SPPT PLUG		37622	37632
10 - 24	NC	SPPT PLUG		37822	37832
10 - 32	NF	SPPT PLUG	37912	37922	37932
12 - 24	NC	SPPT PLUG			38032
12 - 28	NF	SPPT PLUG			38132
14 - 20	NS	SPPT PLUG			38232

FLUTELESS SPIRAL POINT FRACTIONAL TAPS

LIST 104C

Spiral Point Plug



TAP SIZE	SERIES DESIGN.	STYLE	EDP NUMBER	
			H-3	H-5
1/4 - 20	NC	SPPT PLUG	35432	35452
1/4 - 28	NF	SPPT PLUG	35532	
5/16 - 18	NC	SPPT PLUG	35632	35652
5/16 - 24	NF	SPPT PLUG	35732	
3/8 - 16	NC	SPPT PLUG	35832	35852
3/8 - 24	NF	SPPT PLUG	35932	
7/16 - 14	NC	SPPT PLUG	36032	36052
7/16 - 20	NF	SPPT PLUG	36132	
1/2 - 13	NC	SPPT PLUG	36232	
1/2 - 20	NF	SPPT PLUG	36332	



INTERRUPTED THREAD FRACTIONAL TAPS

LIST 108

Taper
Plug
Bottom



TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	H LIMIT	108		
				TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER
1/4 - 20	NC	3	H-3	39231	39232	39233
1/4 - 28	NF	3	H-3	39331	39332	39333
5/16 - 18	NC	3	H-3	39431	39432	39433
5/16 - 24	NF	3	H-3	39531	39532	39533
3/8 - 16	NC	3	H-3	39631	39632	39633
3/8 - 24	NF	3	H-3	39731	39732	39733
1/2 - 13	NC	3	H-3		39742	39743
1/2 - 20	NF	3	H-3		39762	39763
5/8 - 11	NC	3	H-3		39772	39773

INTERRUPTED THREAD SPIRAL POINT FRACTIONAL TAPS

LIST 109


Spiral Point Plug




TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	H LIMIT	109
				SPPT PLUG EDP NUMBER
1/4 - 20	NC	3	H-3	39832
1/4 - 28	NF	3	H-3	39932
5/16 - 18	NC	3	H-3	40032
5/16 - 24	NF	3	H-3	40132
3/8 - 16	NC	3	H-3	40232
3/8 - 24	NF	3	H-3	40332
1/2 - 13	NC	3	H-3	40342
1/2 - 20	NF	3	H-3	40352
5/8 - 11	NC	3	H-3	40362
3/4 - 10	NC	3	H-3	40372

See page 89 for Tap Dimensions.

EXTENSION TAPS 6" O/A MACHINE SCREW SIZES

LIST 107		Plug Bottom Spiral Point Plug			 Large Shank with approx. 3/4" Gap		
TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	H LIMIT	107			
				PLUG EDP NUMBER	BOTTOM EDP NUMBER	SPPT PLUG EDP NUMBER	
6 - 32	NC	3	H-3	38632	38633		
6 - 32	NC	2	H-3			38532	
8 - 32	NC	3	H-3	38832	38833		
8 - 32	NC	2	H-3			38732	
10 - 24	NC	3	H-3	39024	39025		
10 - 24	NC	2	H-3			38924	
10 - 32	NF	3	H-3	39032	39033		
10 - 32	NF	2	H-3			38932	

NUT TAPS FRACTIONAL SIZES

LIST 111A		Taper Plug						
TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	H LIMIT	OVERALL LENGTH	111A			
					TAPER EDP NUMBER	PLUG EDP NUMBER		
1/4 - 20	NC	4	H-3	5"	42531	42532		
1/4 - 28	NF	4	H-3	5"	42631	42632		
5/16 - 18	NC	4	H-3	5 1/2"	42731	42732		
5/16 - 24	NF	4	H-3	5 1/2"	42831	42832		
3/8 - 16	NC	4	H-3	6"	42931	42932		
3/8 - 24	NF	4	H-3	6"	43031	43032		
7/16 - 14	NC	4	H-3	6 1/2"	43131	43132		
7/16 - 20	NF	4	H-3	6 1/2"	43231	43232		
1/2 - 13	NC	4	H-3	7"	43331	43332		
1/2 - 20	NF	4	H-3	7"	43431	43432		
5/8 - 11	NC	4	H-3	8"	43531	43532		
5/8 - 18	NF	4	H-3	8"	43631	43632		
3/4 - 10	NC	4	H-3	9"	43731	43732		
3/4 - 16	NF	4	H-3	9"	43831	43832		
7/8 - 9	NC	4	H-4	10"	43941	43942		
7/8 - 14	NF	4	H-4	10"	44041	44042		
1 - 8	NC	4	H-4	11"	44141	44142		
1 - 14	NS	4	H-4	11"	44241	44242		



PULLEY TAPS FRACTIONAL SIZES

**LIST 112P
PULLEY**

Plug



TAP SIZE	SERIES DESIGN.	OVERALL LENGTH	NO. OF FLUTES	H LIMIT	SHANK DIAMETER	112P
						PLUG EDP NUMBER
1/4 - 20	NC	4"	4	H-3	.255	45022
1/4 - 20	NC	6"	4	H-3	.255	45032
1/4 - 20	NC	8"	4	H-3	.255	45042
1/4 - 28	NF	6"	4	H-3	.255	44432
5/16 - 18	NC	4"	4	H-3	.318	45122
5/16 - 18	NC	6"	4	H-3	.318	45132
5/16 - 18	NC	8"	4	H-3	.318	45142
5/16 - 24	NF	6"	4	H-3	.318	44532
3/8 - 16	NC	4"	4	H-3	.381	45618
3/8 - 16	NC	6"	4	H-3	.381	45232
3/8 - 16	NC	8"	4	H-3	.381	45242
3/8 - 16	NC	10"	4	H-3	.381	45252
3/8 - 16	NC	12"	4	H-3	.381	45262
3/8 - 24	NF	6"	4	H-3	.381	44632
7/16 - 14	NC	6"	4	H-3	.444	45332
7/16 - 14	NC	8"	4	H-3	.444	45342
7/16 - 14	NC	10"	4	H-3	.444	45352
7/16 - 14	NC	12"	4	H-3	.444	45362
7/16 - 20	NF	6"	4	H-3	.444	44732
1/2 - 13	NC	6"	4	H-3	.507	45432
1/2 - 13	NC	8"	4	H-3	.507	45442
1/2 - 13	NC	10"	4	H-3	.507	45452
1/2 - 13	NC	12"	4	H-3	.507	45472
1/2 - 20	NF	6"	4	H-3	.507	44832
5/8 - 11	NC	6"	4	H-3	.633	45532
5/8 - 11	NC	8"	4	H-3	.633	45542
5/8 - 11	NC	10"	4	H-3	.633	45552
5/8 - 11	NC	12"	4	H-3	.633	45562
5/8 - 11	NC	14"	4	H-3	.633	45572
3/4 - 10	NC	6"	4	H-3	.759	45622
3/4 - 10	NC	8"	4	H-3	.759	45632
3/4 - 10	NC	10"	4	H-3	.759	45652
3/4 - 10	NC	12"	4	H-3	.759	45662
3/4 - 10	NC	14"	4	H-3	.759	45672
7/8 - 9	NC	6"	4	H-4	.885	45810
7/8 - 9	NC	8"	4	H-4	.885	45812
7/8 - 9	NC	10"	4	H-4	.885	45814
1 - 8	NC	8"	4	H-4	1.011	45842
1 - 8	NC	10"	4	H-4	1.011	45852
1 - 8	NC	12"	4	H-4	1.011	45862

PULLEY TAPS SPIRAL POINT MACHINE SCREW AND FRACTIONAL SIZES

**LIST 112SP
PULLEY**

Spiral Point Plug



TAP SIZE	SERIES DESIGN.	OVERALL LENGTH	NO. OF FLUTES	H LIMIT	112SP
					SPPT PLUG EDP NUMBER
4 - 40	NC	4"	2	H-2	38322
4 - 48	NF	4"	2	H-2	38323
5 - 40	NC	4"	2	H-2	38308
6 - 32	NC	4"	2	H-3	38325
6 - 32	NC	6"	2	H-3	38532
8 - 32	NC	4"	2	H-3	38329
8 - 32	NC	6"	2	H-3	38732
10 - 24	NC	4"	2	H-3	38346
10 - 24	NC	6"	2	H-3	38924
10 - 32	NF	4"	2	H-3	38394
10 - 32	NF	6"	2	H-3	38932
1/4 - 20	NC	4"	2	H-3	45704
1/4 - 20	NC	6"	2	H-3	45701
1/4 - 20	NC	8"	2	H-3	45708
1/4 - 28	NF	6"	2	H-3	45724
5/16 - 18	NC	4"	2	H-3	45714
5/16 - 18	NC	6"	2	H-3	45706
5/16 - 18	NC	8"	2	H-3	45710
5/16 - 24	NF	6"	2	H-3	45731
3/8 - 16	NC	4"	3	H-3	45718
3/8 - 16	NC	6"	3	H-3	45711
3/8 - 16	NC	8"	3	H-3	45728
3/8 - 24	NF	6"	3	H-3	45734
7/16 - 14	NC	6"	3	H-3	45713
7/16 - 20	NF	6"	3	H-3	45715
1/2 - 13	NC	6"	3	H-3	45716
1/2 - 13	NC	8"	3	H-3	45782
1/2 - 20	NF	6"	3	H-3	45717
5/8 - 11	NC	6"	3	H-3	45721
5/8 - 11	NC	8"	3	H-3	45929
3/4 - 10	NC	6"	3	H-3	45774
3/4 - 10	NC	8"	3	H-3	45776



SMALL SHANK EXTENSION TAPS

LIST 113P
EXTENSION

Plug



TAP SIZE	SERIES DESIGN.	OVERALL LENGTH	NO. OF FLUTES	H LIMIT	SHANK DIAMETER	113P
						PLUG EDP NUMBER
6 - 32	NC	6"	3	H-3	.097	38332
8 - 32	NC	6"	3	H-3	.123	38331
10 - 24	NC	6"	3	H-3	.136	38342
10 - 32	NF	6"	3	H-3	.136	39014
1/4 - 20	NC	4"	4	H-3	.185	45612
1/4 - 20	NC	6"	4	H-3	.185	45681
1/4 - 28	NF	6"	4	H-3	.185	45719
5/16 - 18	NC	4"	4	H-3	.240	45614
5/16 - 18	NC	6"	4	H-3	.240	45683
5/16 - 24	NF	6"	4	H-3	.240	45631
3/8 - 16	NC	4"	4	H-3	.275	45779
3/8 - 16	NC	6"	4	H-3	.275	45685
3/8 - 16	NC	8"	4	H-3	.275	45686
3/8 - 24	NF	6"	4	H-3	.275	45641
1/2 - 13	NC	4"	4	H-3	.367	45748
1/2 - 13	NC	6"	4	H-3	.367	45687
1/2 - 13	NC	8"	4	H-3	.367	45668
1/2 - 20	NF	6"	4	H-3	.367	45661
5/8 - 11	NC	6"	4	H-3	.480	45689
5/8 - 11	NC	8"	4	H-3	.480	45952
5/8 - 18	NF	6"	4	H-3	.480	44956
3/4 - 10	NC	6"	4	H-3	.590	45831
3/4 - 10	NC	8"	4	H-3	.590	45832
3/4 - 10	NC	10"	4	H-3	.590	45834
3/4 - 16	NF	6"	4	H-3	.590	45789
7/8 - 9	NC	6"	4	H-4	.697	45741
7/8 - 9	NC	8"	4	H-4	.697	45761
7/8 - 9	NC	10"	4	H-4	.697	45771
7/8 - 9	NC	12"	4	H-4	.697	45772
1 - 8	NC	6"	4	H-4	.800	45839
1 - 8	NC	8"	4	H-4	.800	45841
1 - 8	NC	10"	4	H-4	.800	45851
1 - 8	NC	12"	4	H-4	.800	45859

SMALL SHANK SPIRAL POINT EXTENSION TAPS

**LIST 113SP
EXTENSION**

Spiral Point Plug



TAP SIZE	SERIES DESIGN.	OVERALL LENGTH	NO. OF FLUTES	H LIMIT	SHANK DIAMETER	113SP
						SPPT PLUG EDP NUMBER
4 - 40	NC	4"	2	H-2	.080	38302
4 - 48	NF	4"	2	H-2	.080	38304
5 - 40	NC	4"	2	H-2	.093	38312
6 - 32	NC	4"	2	H-3	.097	38324
6 - 32	NC	6"	2	H-3	.097	38326
8 - 32	NC	4"	2	H-3	.123	38328
8 - 32	NC	6"	2	H-3	.123	38330
10 - 24	NC	4"	2	H-3	.136	38341
10 - 24	NC	6"	2	H-3	.136	38343
10 - 32	NF	4"	2	H-3	.136	38992
10 - 32	NF	6"	2	H-3	.136	39012
1/4 - 20	NC	4"	2	H-3	.185	45619
1/4 - 20	NC	6"	2	H-3	.185	45732
1/4 - 28	NF	6"	2	H-3	.185	45722
5/16 - 18	NC	4"	2	H-3	.240	45753
5/16 - 18	NC	6"	2	H-3	.240	45737
5/16 - 24	NF	6"	2	H-3	.240	45723
3/8 - 16	NC	4"	3	H-3	.275	45778
3/8 - 16	NC	6"	3	H-3	.275	45742
3/8 - 16	NC	8"	3	H-3	.275	45738
3/8 - 24	NF	6"	3	H-3	.275	45743
7/16 - 14	NC	6"	3	H-3	.323	45792
7/16 - 20	NF	6"	3	H-3	.323	45745
1/2 - 13	NC	4"	3	H-3	.367	45744
1/2 - 13	NC	6"	3	H-3	.367	45747
1/2 - 13	NC	8"	3	H-3	.367	45665
1/2 - 20	NF	6"	3	H-3	.367	45749
5/8 - 11	NC	6"	3	H-3	.480	45752
5/8 - 11	NC	8"	3	H-3	.480	45932
5/8 - 18	NF	6"	3	H-3	.480	45922
3/4 - 10	NC	6"	3	H-3	.590	45756
3/4 - 10	NC	8"	3	H-3	.590	45835
3/4 - 10	NC	10"	3	H-3	.590	45783
3/4 - 16	NF	6"	3	H-3	.590	45784



TAPER PIPE TAPS REGULAR & ECONOMY GROUND THREADS

**LIST 120G
LIST 120DS
LIST 120C**

**NPT Ground Thread Regular
NPTF Ground Thread Regular
NPT Economy Ground Thread Regular**



TAP SIZE	NO. OF FLUTES	120G	120DS	LIST PRICE		120C
		NPT REGULAR EDP NUMBER	NPTF REGULAR EDP NUMBER	1-11	12+	NPT ECONOMY EDP NUMBER
1/16 - 27	4	46102	46202	\$21.46	\$19.50	-
1/8 - 27	4	46104	46204	21.46	19.50	46004
1/8 - 27	5	46106	46206	21.46	19.50	46006
1/8 - 27 sm sh*	4	46107	46207	21.46	19.50	46007
1/8 - 27 sm sh*	5	46108	46208	21.46	19.50	46008
1/4 - 18	4	46110	46210	24.08	21.89	46010
1/4 - 18	5	46112	46212	24.08	21.89	46012
3/8 - 18	4	46116	46216	30.77	27.97	46016
3/8 - 18	5	46118	46218	30.77	27.97	46018
				LIST PRICE 1-2 3+		
1/2 - 14	4	46122	46222	51.22	46.56	46022
1/2 - 14	5	46124	46224	51.22	46.56	46024
3/4 - 14	5	46128	46228	74.27	67.52	46028
				LIST PRICE 1 OR MORE		
1 - 11 1/2	5	46132	46232	95.91		46032
1 1/4 - 11 1/2	5	46136	46236	136.53		46036
1 1/2 - 11 1/2	7	46138	46240	184.46		46040
2 - 11 1/2	7	46144	46244	250.08		46044
2 1/2 - 8	7	46148	46248	408.27		46048
3 - 8	8	46152	46252	592.74		46052
3 1/2 - 8	8	46158	46258	797.09		46058
4 - 8	8	46160	46260	1020.53		46060

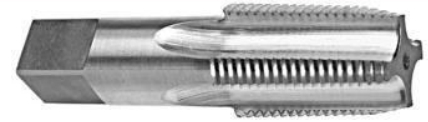
*Small Shank .3125

See page 92 for Pipe Tap Dimensions.

NOTE: ECONOMY GROUND THREAD PIPE TAPS are economical Production Taps made here to the same general thread specifications as Ground Thread Taps. Economy Thread Pipe Taps are supplied with Oxide Surface Treatment only.

TAPER PIPE TAPS HIGH HOOK REGULAR THREAD

TAP SIZE	NO. OF FLUTES	120GH	120DSH
		NPT REGULAR EDP NUMBER	NPTF REGULAR EDP NUMBER
1/16 - 27	4	46442	46443
1/8 - 27	4	46446	46447
1/8 - 27	5	46450	46451
1/8 - 27 sm sh*	4	46454	46455
1/8 - 27 sm sh*	5	46456	46457
1/4 - 18	4	46460	46461
1/4 - 18	5	46462	46463
3/8 - 18	4	46466	46467
3/8 - 18	5	46468	46469
1/2 - 14	4	46472	46473
1/2 - 14	5	46474	46475
3/4 - 14	5	46478	46479
1 - 11 1/2	5	46482	46483
1 1/4 - 11 1/2	5	46486	46487
1 1/2 - 11 1/2	7	46490	46491
2 - 11 1/2	7	46494	46495



BRITISH INTERNAL STRAIGHT PIPE TAPS FOR MECHANICAL JOINTS

TAP SIZE	NO. OF FLUTES	HOLE SIZE	122P	
			BSPP PLUG EDP NUMBER	BSPP BOTTOM EDP NUMBER
1/8 - 28 (G 1/8)	4	.3372 - .3488	47050	47051
1/4 - 19 (G 1/4)	4	.4505 - .4680	47052	47053
3/8 - 19 (G 3/8)	4	.5885 - .6060	47054	47055
1/2 - 14 (G 1/2)	4	.7335 - .7548	47056	47057
3/4 - 14 (G 3/4)	5	.9495 - .9707	47058	47059
1 - 11 (G 1)	5	1.1926 - 1.2178	47060	47061
1 1/4 - 11 (G 1 1/4)	5	1.5335 - 1.5887	47062	47063
1 1/2 - 11 (G 1 1/2)	7	1.7655 - 1.7907	47064	47065
2 - 11 (G 2)	7	2.2306 - 2.2558	47066	47067

Reference BS2779
Ground Thread Regular Plug
Ground Thread Regular Bottom
 (British Parallel Pipe 55° Whitworth - Full Form)



*Small Shank .3125



TAPER PIPE TAPS HIGH HOOK INTERRUPTED THREAD

**LIST 114GH
LIST 114DSH**

**NPT Ground Thread Interrupted
NPTF Ground Thread Interrupted**



TAP SIZE	NO. OF FLUTES	114GH	114DSH
		NPT INTERRUPTED EDP NUMBER	NPTF INTERRUPTED EDP NUMBER
1/8 - 27	5	46452	46453
1/8 - 27 sm sh*	5	46458	46459
1/4 - 18	5	46464	46465
3/8 - 18	5	46470	46471
1/2 - 14	5	46476	46477
3/4 - 14	5	46480	46481
1 - 11 1/2	5	46484	46485
1 1/4 - 11 1/2	5	46488	46489
1 1/2 - 11 1/2	7	46492	46493
2 - 11 1/2	7	46496	46497

BRITISH INTERNAL TAPER PIPE TAPS FOR PRESSURE TIGHT JOINTS REGULAR GROUND THREAD

**LIST 123
BSPT (R_c)**

Reference: BS21 ISO 7/1

2 1/2 - 3 Threads Chamfer

(British Taper Pipe 55° Whitworth - Full Form)



TAP SIZE	NO. OF FLUTES	BSPT (R _c) STANDARD PROJECTIONS	DRILL DIAMETER		123
			WITHOUT REAMER	WITH REAMER	BSPT EDP NUMBER
1/8 - 28 (R _c 1/8)	4	.206 ± .035	8.40MM	8.00MM	47070
1/4 - 19 (R _c 1/4)	4	.304 ± .050	11.20MM	10.80MM	47074
3/8 - 19 (R _c 3/8)	4	.306 ± .050	14.75MM	14.25MM	47078
1/2 - 14 (R _c 1/2)	4	.416 ± .070	18.25MM	17.75MM	47080
3/4 - 14 (R _c 3/4)	5	.413 ± .070	23.75MM	23.00MM	47082
1 - 11 (R _c 1)	5	.525 ± .080	30.00MM	29.00MM	47084
1 1/4 - 11 (R _c 1 1/4)	5	.524 ± .080	38.50MM	37.50MM	47086
1 1/2 - 11 (R _c 1 1/2)	7	.524 ± .090	44.50MM	43.50MM	47088

*Small Shank .3125

TAPER PIPE TAPS GROUND & ECONOMY GROUND INTERRUPTED THREADS

LIST 114G
LIST 114DS
LIST 114C

NPT Ground Thread Interrupted
NPTF Ground Thread Interrupted
NPT Economy Ground Thread Interrupted



TAP SIZE	NO. OF FLUTES	114G	114DS	LIST PRICE		114C
		NPT INTERRUPTED EDP NUMBER	NPTF INTERRUPTED EDP NUMBER	1-11	12+	NPT ECONOMY EDP NUMBER
1/16 - 27	5	46602	46702	\$32.13	\$29.21	-
1/8 - 27	5	46604	46704	26.79	24.35	46504
1/8 - 27 sm sh*	5	46606	46706	26.79	24.35	46506
1/4 - 18	5	46612	46712	29.53	26.84	46512
3/8 - 18	5	46618	46718	37.46	34.06	46518
				LIST PRICE 1-2		
1/2 - 14	5	46624	46724	61.10	55.55	46524
3/4 - 14	5	46628	46728	88.97	80.87	46528
				LIST PRICE 1 OR MORE		
1 - 11 1/2	5	46632	46732	128.49		46532
1 1/4 - 11 1/2	5	46636	46736	182.43		46536
1 1/2 - 11 1/2	7	46640	46740	246.14		46540
2 - 11 1/2	7	46644	46744	333.55		46544

TAPER PIPE TAPS PTF SAE SHORT PROJECTION REGULAR & INTERRUPTED THREADS

LIST 121DS
LIST 115DS

PTF SAE Ground Thread Regular
PTF SAE Ground Thread Interrupted



TAP SIZE	NO. OF FLUTES	121DS	LIST PRICE		NO. OF FLUTES	115DS
		PTF SAE REGULAR EDP NUMBER	1-11	12+		PTF SAE INTERRUPTED EDP NUMBER
1/16 - 27	4	47001	\$21.46	\$19.50	-	-
1/8 - 27	4	47003	21.46	19.50	5	47107
1/8 - 27 sm sh*	4	47007	21.46	19.50	5	47111
1/4 - 18	4	47009	24.08	21.89	5	47113
3/8 - 18	4	47015	30.77	27.97	5	47119
1/2 - 14	4	47021	51.22	46.56	5	47125
3/4 - 14	5	47027	74.27	67.52	5	47129
			LIST PRICE 1 OR MORE			
1 - 11 1/2	5	47031	106.58		5	47133
1 1/4 - 11 1/2	5	47035	151.69		5	47137
1 1/2 - 11 1/2	7	47039	204.95		7	47141
2 - 11 1/2	7	47043	277.87		7	47145

*Small Shank .3125

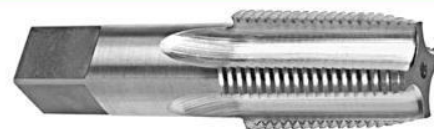


TAPER PIPE TAPS CAST IRON DESIGN REGULAR THREAD

LIST 120GCI
LIST 120DSCI
LIST 121DSCI

NPT Ground Thread Regular
NPTF Ground Thread Regular
PTF SAE Ground Thread Regular

Stocked with Nitride Surface Treatment

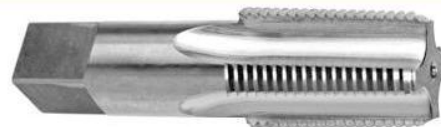


TAP SIZE	NO. OF FLUTES	120GCI	120DSCI	121DSCI
		NPT REGULAR EDP NUMBER	NPTF REGULAR EDP NUMBER	PTF SAE REGULAR EDP NUMBER
1/16 - 27	4	46162	46262	47068
1/8 - 27	4	46164	46264	47069
1/4 - 18	4	46170	46270	47071
3/8 - 18	4	46176	46276	47075
1/2 - 14	4	46182	46282	47081
3/4 - 14	5	46188	46288	47087
1 - 11 1/2	5	46192	46292	47091
1 1/4 - 11 1/2	5	46196	46296	47095
1 1/2 - 11 1/2	7	46198	46298	47098
2 - 11 1/2	7	46199	46299	47099

TAPER PIPE TAPS BOTTOM CHAMFER REGULAR THREAD

LIST 120GB
LIST 120DSB

NPT Ground Thread Regular Bottom
NPTF Ground Thread Regular Bottom



TAP SIZE	NO. OF FLUTES	120GB	120DSB
		NPT REGULAR EDP NUMBER	NPTF REGULAR EDP NUMBER
1/16 - 27	4	46101	46201
1/8 - 27	4	46105	46205
1/4 - 18	4	46111	46211
3/8 - 18	4	46117	46217
1/2 - 14	4	46123	46223
3/4 - 14	5	46130	46230
1 - 11 1/2	5	46133	46233
1 1/4 - 11 1/2	5	46137	46237
1 1/2 - 11 1/2	7	46139	46239
2 - 11 1/2	7	46145	46245

TAPER PIPE TAPS CAST IRON DESIGN INTERRUPTED THREAD

**LIST 114GCI
LIST 114DSCI
LIST 115DSCI**

**NPT Ground Thread Interrupted
NPTF Ground Thread Interrupted
PTF SAE Ground Thread Interrupted**

Stocked with Nitride Surface Treatment



TAP SIZE	NO. OF FLUTES	114GCI	114DSCI	115DSCI
		NPT INTERRUPTED EDP NUMBER	NPTF INTERRUPTED EDP NUMBER	PTF SAE INTERRUPTED EDP NUMBER
1/8 - 27	5	46654	46754	47157
1/4 - 18	5	46662	46762	47163
3/8 - 18	5	46668	46768	47169
1/2 - 14	5	46674	46774	47175
3/4 - 14	5	46678	46778	47179
1 - 11 1/2	5	46682	46782	47183
1 1/4 - 11 1/2	5	46686	46786	47187
1 1/2 - 11 1/2	7	46690	46790	47191
2 - 11 1/2	7	46694	46794	47195

TAPER PIPE TAPS SMALL SHANK (.480) INTERRUPTED THREAD

**LIST 118GI
LIST 118DSI**

**NPT Ground Thread Interrupted
NPTF Ground Thread Interrupted**



TAP SIZE	NO. OF FLUTES	OVERALL LENGTH	THREAD LENGTH	118GI	118DSI
				NPT INTERRUPTED EDP NUMBER	NPTF INTERRUPTED EDP NUMBER
1/4 - 18	5	3-1/16	1-1/16	46421	46426
3/8 - 18	5	3-1/16	1-1/16	46423	46428
1/2 - 14	5	3-3/8	1-3/8	46425	46430

See page 92 for Pipe Tap Dimensions.



TAPER PIPE TAPS SPIRAL FLUTED 15° SPIRAL REGULAR THREAD

LIST 120GS
LIST 120DSS

NPT Ground Thread Regular
NPTF Ground Thread Regular



TAP SIZE	NO. OF FLUTES	120GS	120DSS
		NPT REGULAR EDP NUMBER	NPTF REGULAR EDP NUMBER
1/8 - 27	4	46801	46802
1/4 - 18	4	46803	46804
3/8 - 18	4	46805	46806
1/2 - 14	4	46807	46808
3/4 - 14	5	46809	46810
1 - 11 1/2	5	46811	46812

TAPER & STRAIGHT PIPE TAPS SMALL SHANK (.480) REGULAR THREAD

LIST 118G
LIST 118DS
LIST 118BG
LIST 118BF

NPT Ground Thread Regular
NPTF Ground Thread Regular
NPS Ground Thread Regular
NPSF Ground Thread Regular



TAP SIZE	NO. OF FLUTES	OVERALL LENGTH	THREAD LENGTH	118G	118DS	118BG	118BF
				NPT REGULAR EDP NO.	NPTF REGULAR EDP NO.	NPS REGULAR EDP NO.	NPSF REGULAR EDP NO.
1/4 - 18	5	3-1/16	1-1/16	46401	46406	46411	46416
3/8 - 18	5	3-1/16	1-1/16	46403	46408	46413	46418
1/2 - 14	5	3-3/8	1-3/8	46405	46410	46415	46420

NOTE: When ordering Pipe Taps please specify the material being tapped such as Cast Iron, Bronze, Stainless Steel & etc. so that the proper tap design and surface treatment can be furnished.

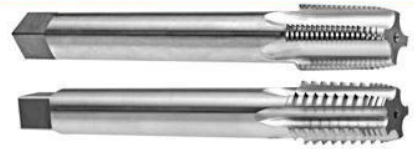
SPECIAL PROJECTION TAPER PIPE TAPS – STRAIGHT FLUTE 1/16" to 3/4" Taper Pipe Taps with standard projection tolerances are priced at the standard catalog price when 12 or more are ordered. Quantities less than 12 will receive special pricing. 1" through 2" Taper Pipe Taps with standard projection tolerances are priced at the standard catalog price when 6 or more are ordered. Quantities less than 6 will receive special pricing.

"CONTRU" RELIEF TAPER PIPE TAPS: Taper Pipe Taps with "Contru" relief are designed to eliminate the stop marks and to tap true round holes in Cast Iron, Mild Steel, Brass, Bronze and Aluminum. "Contru" relieved Taper Pipe Taps are furnished at the standard catalog price in plug chamfer only.

TAPER PIPE TAPS 4" & 6" OVERALL LENGTH REGULAR & INTERRUPTED THREADS

LIST 126G
LIST 126DS
LIST 126GI
LIST 126DSI

NPT Ground Thread Regular
NPTF Ground Thread Regular
NPT Ground Thread Interrupted
NPTF Ground Thread Interrupted

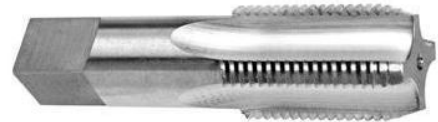


TAP SIZE	NO. OF FLUTES	OVERALL LENGTH	126G	126DS	126GI	126DSI
			NPT REGULAR EDP NUMBER	NPTF REGULAR EDP NUMBER	NPT INTERRUPTED EDP NUMBER	NPTF INTERRUPTED EDP NUMBER
1/16 - 27	4	4"	46312	46313	-	-
1/16 - 27	4	6"	46314	46315	-	-
1/8 - 27	4	4"	46316	46317	-	-
1/8 - 27	4	6"	46318	46319	-	-
1/8 - 27	5	6"	-	-	46361	46363
1/4 - 18	4	4"	46322	46323	-	-
1/4 - 18	4	6"	46324	46325	-	-
1/4 - 18	5	6"	-	-	46366	46368
3/8 - 18	4	6"	46338	46339	-	-
3/8 - 18	5	6"	-	-	46371	46373
1/2 - 14	4	6"	46342	46343	-	-
1/2 - 14	5	6"	-	-	46376	46378
3/4 - 14	5	6"	46354	46355	-	-
3/4 - 14	5	6"	-	-	46381	46383

STRAIGHT PIPE TAPS REGULAR & ECONOMY GROUND THREADS

LIST 120BG
LIST 120BF
LIST 120B

NPS Ground Thread Regular
NPSF Ground Thread Regular
NPS Economy Ground Thread Regular



TAP SIZE	NO. OF FLUTES	120BG	120BF	120B
		NPS REGULAR EDP NUMBER	NPSF REGULAR EDP NUMBER	NPS ECONOMY EDP NUMBER
1/8 - 27	4	46941	46961	46901
1/8 - 27 sm sh*	4	46942	46962	46902
1/4 - 18	4	46943	46963	46903
3/8 - 18	4	46945	46965	46905
1/2 - 14	4	46947	46967	46907
3/4 - 14	5	46949	46969	46909
1 - 11 1/2	5	46951	46971	46911
1 1/4 - 11 1/2	5	46953	46972	-
1 1/2 - 11 1/2	7	46955	46974	-
2 - 11 1/2	7	46957	46976	-

*Small Shank .3125



H.S.S. COMBINED TAPS AND DRILLS

LIST 19

Ground Thread - Class 2B & 6H Fit



TAP SIZE	SERIES DESIG.	THREAD LIMIT	NO. OF FLUTES	OVERALL LENGTH	THREAD LENGTH	DRILL LENGTH	DRILL DIA.	SHANK DIA.	SQUARE SIZE	EDP NUMBER
MACHINE SCREW SIZES										
4 - 40	NC	H-2	2	1-7/8	3/8	1/4	.0910	.141	.110X3/16	16140
4 - 48	NF	H-2	2	1-7/8	3/8	1/4	.0945	.141	.110X3/16	16141
5 - 40	NC	H-2	2	1-15/16	13/32	9/32	.1040	.141	.110X3/16	16142
5 - 44	NF	H-2	2	1-15/16	13/32	9/32	.1060	.141	.110X3/16	16143
6 - 32	NC	H-3	2	2	7/16	5/16	.1110	.141	.110X3/16	16144
6 - 40	NF	H-2	2	2	7/16	5/16	.1170	.141	.110X3/16	16145
8 - 32	NC	H-3	2	2-1/8	1/2	3/8	.1375	.168	.131X1/4	16146
8 - 36	NF	H-2	2	2-1/8	1/2	3/8	.1405	.168	.131X1/4	16147
10 - 24	NC	H-3	2	2-3/8	5/8	13/32	.1545	.194	.152X1/4	16148
10 - 32	NF	H-3	2	2-3/8	5/8	13/32	.1635	.194	.152X1/4	16149
12 - 24	NC	H-3	2	2-3/8	21/32	15/32	.1805	.220	.165X9/32	16150
12 - 28	NF	H-3	2	2-3/8	21/32	15/32	.1860	.220	.165X9/32	16151
FRACTIONAL SIZES										
1/4 - 20	NC	H-5	2	2-1/2	25/32	17/32	.2080	.255	.191X5/16	16152
1/4 - 28	NF	H-4	2	2-1/2	25/32	17/32	.2200	.255	.191X5/16	16153
5/16 - 18	NC	H-5	2	2-27/32	15/16	11/16	.2660	.318	.238X3/8	16154
5/16 - 24	NF	H-4	2	2-27/32	15/16	11/16	.2770	.318	.238X3/8	16155
3/8 - 16	NC	H-5	2	3-3/8	1-1/16	13/16	.3225	.381	.286X7/16	16156
3/8 - 24	NF	H-4	2	3-3/8	1-1/16	13/16	.3395	.381	.286X7/16	16157
7/16 - 14	NC	H-5	2	3-3/4	1-1/4	1	.3770	.323	.242X13/32	16158
7/16 - 20	NF	H-5	2	3-3/4	1-1/4	1	.3955	.323	.242X13/32	16159
1/2 - 13	NC	H-5	2	4-1/16	1-3/8	1-1/8	.4350	.367	.275X7/16	16160
1/2 - 20	NF	H-5	2	4-1/16	1-3/8	1-1/8	.4580	.367	.275X7/16	16161
METRIC SIZES										
M3X0.5	-	D-3	2	1-15/16	13/32	9/32	.1015	.141	.110X3/16	16162
M3.5X0.6	-	D-4	2	2	7/16	5/16	.1178	.141	.110X3/16	16164
M4X0.7	-	D-4	2	2-1/8	1/2	3/8	.1340	.168	.131X1/4	16166
M5X0.8	-	D-4	2	2-3/8	5/8	13/32	.1700	.194	.152X1/4	16168
M6X1.0	-	D-5	2	2-1/2	25/32	17/32	.2030	.255	.191X5/16	16170
M8X1.0	-	D-5	2	2-27/32	15/16	11/16	.2820	.318	.238X3/8	16172
M8X1.25	-	D-5	2	2-27/32	15/16	11/16	.2730	.318	.238X3/8	16173
M10X1.25	-	D-5	2	3-3/8	1-1/16	13/16	.3521	.381	.286X7/16	16176
M10X1.5	-	D-6	2	3-3/8	1-1/16	13/16	.3440	.381	.286X7/16	16177
M12X1.25	-	D-5	2	4-1/16	1-3/8	1-1/8	.4310	.367	.275X7/16	16180
M12X1.75	-	D-6	2	4-1/16	1-3/8	1-1/8	.4140	.367	.275X7/16	16181

The Combined Taps and Drills are manufactured to produce a 65% Height of Thread.

The Drill Point is 118° and the Spiral Flutes have approximately 22° Helix Angle.

Recommended for applications having through holes up to twice the depth of the Tap's Nominal Diameter.

STI STRAIGHT FLUTE TAPS

LIST 130

Plug
Bottom



TAP SIZE	NO. OF FLUTES	PLUG STI EDP NUMBER				BOTTOM STI EDP NUMBER			
		H-1	H-2	H-3	H-4	H-1	H-2	H-3	H-4
2 - 56	3	52014	52022			52013	52023		
4 - 40	3	54012	54022			54013	54023		
5 - 40	3	54112	54122			54113	54123		
6 - 32	3		54222	54232			54223	54233	
6 - 40	3	54312	54322			54313	54323		
8 - 32	3		54422	54432			54423	54433	
10 - 24	3		54522	54532			54523	54533	
10 - 32	3		54622	54632			54623	54633	
12 - 24	3		54722	54732			54723	54733	
1/4 - 20	3		54822	54832			54823	54833	
1/4 - 28	3		54922	54932			54923	54933	
5/16 - 18	4			55032	55042			55033	55043
5/16 - 24	4		55122	55132			55123	55133	
3/8 - 16	4			55232	55242			55233	55243
3/8 - 24	4		55322	55332			55323	55333	
7/16 - 14	4			55432	55442			55433	55443
7/16 - 20	4			55532	55542			55533	55543
1/2 - 13	4			55632	55642			55633	55643
1/2 - 20	4			55732	55742			55733	55743
5/8 - 11	4			55752				55753	
5/8 - 18	4			55762				55763	
3/4 - 10	4			55772				55773	
3/4 - 16	4			55782				55783	
7/8 - 9	4				55792				55793
7/8 - 14	4				55802				55803
1 - 8	4				55812				55813
1 - 14	4				55822				55823



STI SPIRAL POINT TAPS

LIST 131

Spiral Point Plug



TAP SIZE	NO. OF FLUTES	SPPT PLUG STI EDP NUMBER			
		H-1	H-2	H-3	H-4
2 - 56	2	53014	53022		
4 - 40	2	56012	56022		
5 - 40	2	56112	56122		
6 - 32	2		56222	56232	
6 - 40	2	56312	56322		
8 - 32	2		56422	56432	
10 - 24	2		56522	56532	
10 - 32	2		56622	56632	
12 - 24	2		56722	56732	
1/4 - 20	2		56822	56832	
1/4 - 28	2		56922	56932	
5/16 - 18	3			57032	57042
5/16 - 24	3		57122	57132	
3/8 - 16	3			57232	57242
3/8 - 24	3		57322	57332	
7/16 - 14	3			57432	57442
7/16 - 20	3			57532	57542
1/2 - 13	3			57632	57642
1/2 - 20	3			57732	57742

STI FAST SPIRAL FLUTED TAPS

LIST 136

Plug
Bottom



TAP SIZE	NO. OF FLUTES	PLUG STI EDP NUMBER				BOTTOM STI EDP NUMBER			
		H-1	H-2	H-3	H-4	H-1	H-2	H-3	H-4
2 - 56	2	70012	70022			70013	70023		
4 - 40	3	70112	70122			70113	70123		
5 - 40	3	70212	70222			70213	70223		
6 - 32	3		70322	70332			70323	70333	
6 - 40	3	70412	70422			70413	70423		
8 - 32	3		70522	70532			70523	70533	
10 - 24	3		70622	70632			70623	70633	
10 - 32	3		70722	70732			70723	70733	
1/4 - 20	3		70822	70832			70823	70833	
1/4 - 28	3		70922	70932			70923	70933	
5/16 - 18	3			71032	71042			71033	71043
5/16 - 24	3		71122	71132			71123	71133	
3/8 - 16	4			71232	71242			71233	71243
3/8 - 24	4		71322	71332			71323	71333	
7/16 - 14	4			71432	71442			71433	71443
7/16 - 20	4			71532	71542			71533	71543
1/2 - 13	4			71632	71642			71633	71643
1/2 - 20	4			71732	71742			71733	71743



METRIC STI STRAIGHT FLUTE TAPS

LIST 130M

Plug
Bottom



TAP SIZE	NO. OF FLUTES	PLUG STI EDP NUMBER				BOTTOM STI EDP NUMBER			
		CLASS 4H 5H FIT		CLASS 5H FIT		CLASS 4H 5H FIT		CLASS 5H FIT	
M2.2X0.45	3	72012	D1	72012	D1	72013	D1	72013	D1
M2.5X0.45	3	72112	D1	72112	D1	72113	D1	72113	D1
M3X0.5	3	72212	D1	72212	D1	72213	D1	72213	D1
M3.5X0.6	3	72312	D1	72322	D2	72313	D1	72323	D2
M4X0.7	3	72412	D1	72422	D2	72413	D1	72423	D2
M5X0.8	3	72512	D1	72522	D2	72513	D1	72523	D2
M6X1.0	3	72622	D2	72632	D3	72623	D2	72633	D3
M8X1.0	4	72722	D2	72732	D3	72723	D2	72733	D3
M8X1.25	4	72822	D2	72832	D3	72823	D2	72833	D3
M10X1.0	4	72922	D2	72932	D3	72923	D2	72933	D3
M10X1.25	4	73022	D2	73032	D3	73023	D2	73033	D3
M10X1.5	4	73132	D3	73142	D4	73133	D3	73143	D4
M12X1.25	4	73232	D3	73242	D4	73233	D3	73243	D4
M12X1.5	4	73332	D3	73352	D5	73333	D3	73353	D5
M12X1.75	4	73432	D3	73452	D5	73433	D3	73453	D5
M14X2.0	4	73542	D4	73552	D5	73543	D4	73553	D5
M14X1.5	4	73632	D3	73652	D5	73633	D3	73653	D5
M16X2.0	4	73742	D4	73752	D5	73743	D4	73753	D5
M16X1.5	4	73832	D3	73852	D5	73833	D3	73853	D5
M18X2.5	4	73942	D4	73962	D6	73943	D4	73963	D6
M18X1.5	4	74032	D3	74052	D5	74033	D3	74053	D5
M20X2.5	4	74142	D4	74162	D6	74143	D4	74163	D6

METRIC STI SPIRAL POINT TAPS

LIST 131M

Spiral Point Plug



TAP SIZE	NO. OF FLUTES	SPPT PLUG STI EDP NUMBER			
		CLASS 4H 5H FIT		CLASS 5H FIT	
M2.2X0.45	2	72017	D1	72017	D1
M2.5X0.45	2	72117	D1	72117	D1
M3X0.5	2	72217	D1	72217	D1
M3.5X0.6	2	72317	D1	72327	D2
M4X0.7	2	72417	D1	72427	D2
M5X0.8	2	72517	D1	72527	D2
M6X1.0	2	72627	D2	72637	D3
M8X1.0	3	72727	D2	72737	D3
M8X1.25	3	72827	D2	72837	D3
M10X1.0	3	72927	D2	72937	D3
M10X1.25	3	73027	D2	73037	D3
M10X1.5	3	73137	D3	73147	D4
M12X1.25	3	73237	D3	73247	D4
M12X1.5	3	73337	D3	73357	D5
M12X1.75	3	73437	D3	73457	D5

METRIC STI FAST SPIRAL FLUTED TAPS

LIST 136M

Plug Bottom



TAP SIZE	NO. OF FLUTES	PLUG STI EDP NUMBER				BOTTOM STI EDP NUMBER			
		CLASS 4H 5H FIT		CLASS 5H FIT		CLASS 4H 5H FIT		CLASS 5H FIT	
M2.2X0.45	2	72018	D1	72018	D1	72019	D1	72019	D1
M2.5X0.45	2	72118	D1	72118	D1	72119	D1	72119	D1
M3X0.5	3	72218	D1	72218	D1	72219	D1	72219	D1
M3.5X0.6	3	72318	D1	72328	D2	72319	D1	72329	D2
M4X0.7	3	72418	D1	72428	D2	72419	D1	72429	D2
M5X0.8	3	72518	D1	72528	D2	72519	D1	72529	D2
M6X1.0	3	72628	D2	72638	D3	72629	D2	72639	D3
M8X1.0	3	72728	D2	72738	D3	72729	D2	72739	D3
M8X1.25	3	72828	D2	72838	D3	72829	D2	72839	D3
M10X1.0	4	72928	D2	72938	D3	72929	D2	72939	D3
M10X1.25	4	73028	D2	73038	D3	73029	D2	73039	D3
M10X1.5	4	73138	D3	73148	D4	73139	D3	73149	D4
M12X1.25	4	73238	D3	73248	D4	73239	D3	73249	D4
M12X1.5	4	73338	D3	73358	D5	73339	D3	73359	D5
M12X1.75	4	73438	D3	73458	D5	73439	D3	73459	D5



SCREW THREAD INSERT (STI) TAP DRILL CHART

NOMINAL THREAD SIZE (COARSE SERIES)	SUGGESTED DRILL SIZE (INCH)		NOMINAL THREAD SIZE	SUGGESTED DRILL SIZE (INCH)	
	ALUMINUM	STEEL, MAGNESIUM PLASTIC		ALUMINUM	STEEL, MAGNESIUM PLASTIC
M2.2X0.45	#42 (.0935)	#42 (.0935)	2 (.086)-56	3/32 (.0938)	#41 (.0960)
M2.5X0.45	#37 (.1040)	#37 (.1040)	3 (.099)-48	#36 (.1065)	7/64 (.1094)
M3X0.5	1/8 (.1250)	1/8 (.1250)	4 (.112)-40	#31 (.1200)	#31 (.1200)
M3.5X0.6	#27 (.1440)	#26 (.1470)	5 (.125)-40	3.4mm (.1339)	#29 (.1360)
M4X0.7	#19 (.1660)	#19 (.1660)	6 (.138)-32	#26 (.1470)	#25 (.1495)
M5X0.8	#5 (.2055)	#4 (.2090)	8 (.164)-32	#17 (.1730)	#16 (.1770)
M6X1	D (.2460)	1/4 (.2500)	10 (.190)-24	13/64 (.2031)	#5 (.2055)
M7X1	L (.2900)	L (.2900)	12 (.216)-24	#1 (.2280)	#1 (.2280)
M8X1.25	21/64 (.3281)	Q (.3320)	1/4 (.2500)-20	H (.2660)	H (.2660)
M10X1.5	Z (.4130)	Z (.4130)	5/16 (.3125)-18	Q (.3320)	Q (.3320)
M12X1.75	31/64 (.4844)	1/2 (.5000)	3/8 (.3750)-16	X (.3970)	X (.3970)
M14X2	37/64 (.5781)	37/64 (.5781)	7/16 (.4375)-14	29/64 (.4531)	29/64 (.4531)
M16X2	21/32 (.6562)	21/32 (.6562)	1/2 (.5000)-13	33/64 (.5156)	17/32 (.5312)
M18X2.5	47/64 (.7344)	47/64 (.7344)	9/16 (.5625)-12	37/64 (.5781)	19/32 (.5938)
M20X2.5	13/16 (.8125)	13/16 (.8125)	5/8 (.6250)-11	21/32 (.6562)	21/32 (.6562)
M22X2.5	57/64 (.8906)	57/64 (.8906)	3/4 (.7500)-10	25/32 (.7812)	25/32 (.7812)
M24X3	63/64 (.9844)	63/64 (.9844)	7/8 (.8750)-9	29/32 (.9062)	29/32 (.9062)
M27X3	1-3/32 (1.0938)	1-3/32 (1.0938)	1 (1.0000)-8	1-1/32 (1.0312)	1-1/32 (1.0312)
M30X3.5	1-7/32 (1.1288)	1-7/32 (1.1288)	1-1/8 (1.1250)-7	1-11/64 (1.1719)	1-11/64 (1.1719)
M33X3.5	1-11/32 (1.3438)	1-11/32 (1.3438)	1-1/4 (1.2500)-7	1-19/64 (1.2969)	1-19/64 (1.2969)
M36X4	1-29/64 (1.4531)	1-15/32 (1.4688)	1-3/8 (1.3750)-6	1-27/64 (1.4219)	1-27/64 (1.4219)
M39X4	1-37/64 (1.5781)	1-37/64 (1.5781)	1-1/2 (1.5000)-6	1-35/64 (1.5469)	1-35/64 (1.5469)
(FINE SERIES)					
M8X1	21/64 (.3281)	21/64 (.3281)	3 (.099)-56	#37 (.1040)	#36 (.1065)
M10X1	Y (.4040)	13/32 (.4062)	4 (.112)-48	3mm (.1181)	#31 (.1200)
M10X1.25	Y (.4040)	13/32 (.4062)	6 (.138)-40	#26 (.1470)	#25 (.1495)
M12X1.25	31/64 (.4844)	31/64 (.4844)	8 (.164)-36	#17 (.1730)	#16 (.1770)
M12X1.5	31/64 (.4844)	1/2 (.5000)	10 (.190)-32	#7 (.2010)	13/64 (.2031)
M14X1.5	9/16 (.5625)	37/64 (.5781)	1/4 (.2500)-28	G (.2610)	6.7mm (.2638)
M16X1.5	41/64 (.6406)	21/32 (.6562)	5/16 (.3125)-24	21/64 (.3281)	21/64 (.3281)
M18X1.5	23/32 (.7188)	47/64 (.7344)	3/8 (.3750)-24	25/64 (.3906)	25/64 (.3906)
M20X1.5	51/64 (.7969)	13/16 (.8125)	7/16 (.4375)-20	29/64 (.4531)	29/64 (.4531)
M22X1.5	7/8 (.8750)	57/64 (.8906)	1/2 (.5000)-20	33/64 (.5156)	33/64 (.5156)
M18X2	47/64 (.7344)	47/64 (.7344)	9/16 (.5625)-18	37/64 (.5781)	37/64 (.5781)
M20X2	13/16 (.8125)	13/16 (.8125)	5/8 (.6250)-18	41/64 (.6406)	41/64 (.6406)
M22X2	57/64 (.8906)	57/64 (.8906)	3/4 (.7500)-16	49/64 (.7656)	49/64 (.7656)
M24X2	31/32 (.9688)	31/32 (.9688)	7/8 (.8750)-14	57/64 (.8906)	57/64 (.8906)
M27X2	1-5/64 (1.0781)	1-3/32 (1.0938)	1 (1.0000)-14	1-1/64 (1.0156)	1-1/32 (1.0312)
M30X2	1-13/64 (1.2031)	1-13/64 (1.2031)	1 (1.0000)-12	1-1/64 (1.0156)	1-1/32 (1.0312)
M33X2	1-5/16 (1.3125)	1-21/64 (1.3281)	1-1/8 (1.1250)-12	1-9/64 (1.1406)	1-5/32 (1.1562)
M36X2	1-7/16 (1.4375)	1-7/16 (1.4375)	1-1/4 (1.2500)-12	1-17/64 (1.2656)	1-9/32 (1.2812)
M39X2	1-35/64 (1.5469)	1-9/16 (1.5625)	1-3/8 (1.3750)-12	1-25/64 (1.3906)	1-13/32 (1.4062)
M36X3	1-29/64 (1.4531)	1-29/64 (1.4531)	1-1/2 (1.5000)-12	1-33/64 (1.5156)	1-17/32 (1.5312)
M39X3	1-9/16 (1.5625)	1-9/16 (1.5625)			

THREAD FORMER SELECTION CHART

TAP SIZE	SERIES DESIGN.	CLASS 2				CLASS 3				CLASS 2B				CLASS 3B			
		H LIMIT	HOLE SIZE			H LIMIT	HOLE SIZE			H LIMIT	HOLE SIZE			H LIMIT	HOLE SIZE		
			75%	65%	55%		75%	65%	55%		75%	65%	55%		75%	65%	55%
0 - 80	NF	H-3	.0539	.0545	.0551	H-2	.0537	.0543	.0549	H-3	.0542	.0548	.0554	H-3	.0539	.0545	.0551
1 - 64	NC	H-3	.0653	.0660	.0668	H-2	.0651	.0658	.0666	H-4	.0657	.0664	.0672	H-3	.0653	.0660	.0668
1 - 72	NF	H-3	.0662	.0668	.0675	H-2	.0659	.0665	.0672	H-4	.0665	.0671	.0678	H-3	.0662	.0668	.0675
2 - 56	NC	H-3	.0772	.0779	.0788	H-3	.0769	.0776	.0785	H-4	.0776	.0783	.0792	H-3	.0772	.0779	.0788
2 - 64	NF	H-3	.0783	.0790	.0798	H-2	.0781	.0788	.0796	H-4	.0787	.0794	.0802	H-3	.0784	.0791	.0799
3 - 48	NC	H-3	.0886	.0895	.0905	H-3	.0883	.0892	.0902	H-4	.0890	.0899	.0909	H-3	.0886	.0895	.0905
3 - 56	NF	H-3	.0901	.0909	.0918	H-3	.0898	.0906	.0915	H-4	.0905	.0913	.0922	H-3	.0901	.0909	.0918
4 - 40	NC	H-3	.0995	.1005	.1018	H-3	.0991	.1001	.1014	H-4	.0999	.1009	.1022	H-3	.0995	.1005	.1018
4 - 48	NF	H-3	.1016	.1025	.1035	H-3	.1013	.1022	.1032	H-4	.1020	.1029	.1039	H-3	.1016	.1025	.1035
5 - 40	NC	H-3	.1124	.1135	.1147	H-3	.1120	.1131	.1143	H-4	.1128	.1139	.1151	H-4	.1124	.1135	.1147
5 - 44	NF	H-3	.1136	.1144	.1156	H-3	.1133	.1141	.1153	H-4	.1141	.1149	.1161	H-3	.1137	.1145	.1157
6 - 32	NC	H-4	.1221	.1234	.1250	H-3	.1217	.1230	.1246	H-5	.1226	.1239	.1255	H-4	.1221	.1234	.1250
6 - 40	NF	H-3	.1254	.1264	.1277	H-3	.1250	.1260	.1273	H-4	.1259	.1269	.1282	H-4	.1254	.1264	.1277
8 - 32	NC	H-4	.1480	.1493	.1509	H-3	.1476	.1489	.1505	H-5	.1486	.1499	.1515	H-4	.1481	.1494	.1510
8 - 36	NF	H-4	.1498	.1510	.1524	H-3	.1495	.1507	.1521	H-5	.1504	.1516	.1530	H-4	.1499	.1511	.1525
10 - 24	NC	H-4	.1686	.1704	.1724	H-3	.1682	.1700	.1720	H-5	.1691	.1709	.1729	H-4	.1686	.1704	.1724
10 - 32	NF	H-4	.1739	.1753	.1769	H-3	.1735	.1749	.1765	H-5	.1745	.1759	.1775	H-4	.1740	.1754	.1770
12 - 24	NC	H-4	.1945	.1963	.1984	H-3	.1941	.1959	.1980	H-5	.1951	.1969	.1990	H-4	.1945	.1963	.1984
12 - 28	NF	H-4	.1977	.1992	.2010	H-3	.1973	.1988	.2006	H-5	.1983	.1998	.2016	H-4	.1977	.1992	.2010
1/4 - 20	NC	H-5	.2242	.2263	.2288	H-4	.2237	.2258	.2283	H-6	.2248	.2269	.2294	H-5	.2242	.2263	.2288
1/4 - 28	NF	H-4	.2316	.2331	.2350	H-3	.2312	.2327	.2346	H-5	.2322	.2337	.2356	H-4	.2317	.2332	.2351
5/16 - 18	NC	H-5	.2837	.2861	.2888	H-4	.2832	.2856	.2883	H-6	.2843	.2867	.2894	H-5	.2836	.2860	.2887
5/16 - 24	NF	H-4	.2908	.2926	.2947	H-3	.2904	.2922	.2943	H-6	.2916	.2934	.2955	H-5	.2910	.2928	.2949
3/8 - 16	NC	H-6	.3425	.3452	.3483	H-4	.3419	.3446	.3477	H-7	.3431	.3458	.3489	H-5	.3424	.3451	.3482
3/8 - 24	NF	H-4	.3532	.3550	.3572	H-3	.3528	.3546	.3568	H-6	.3540	.3558	.3580	H-5	.3534	.3552	.3574
7/16 - 14	NC	H-6	.4000	.4033	.4069	H-5	.3994	.4027	.4063	H-7	.4006	.4039	.4075	H-6	.3999	.4032	.4068
7/16 - 20	NF	H-5	.4113	.4135	.4160	H-4	.4108	.4130	.4155	H-6	.4122	.4144	.4169	H-5	.4115	.4137	.4162
1/2 - 13	NC	H-6	.4598	.4631	.4670	H-5	.4590	.4623	.4662	H-8	.4604	.4637	.4676	H-6	.4596	.4629	.4668
1/2 - 20	NF	H-5	.4737	.4759	.4785	H-4	.4732	.4754	.4780	H-7	.4747	.4769	.4795	H-5	.4740	.4762	.4788
9/16 - 12	NC	H-7	.5187	.5224	.5267	H-5	.5179	.5216	.5259	H-8	.5193	.5230	.5273	H-6	.5184	.5221	.5264
9/16 - 18	NF	H-5	.5333	.5358	.5386	H-4	.5328	.5353	.5381	H-7	.5342	.5367	.5395	H-5	.5335	.5360	.5388
5/8 - 11	NC	H-7	.5773	.5812	.5859	H-5	.5765	.5804	.5851	H-8	.5780	.5819	.5866	H-6	.5771	.5810	.5857
5/8 - 18	NF	H-5	.5958	.5982	.6011	H-4	.5953	.5977	.6006	H-7	.5968	.5992	.6021	H-6	.5960	.5984	.6013
3/4 - 10	NC	H-7	.6973	.7017	.7068	H-6	.6963	.7007	.7058	H-9	.6979	.7023	.7074	H-7	.6969	.7013	.7064
3/4 - 16	NF	H-6	.7171	.7198	.7231	H-4	.7165	.7192	.7225	H-8	.7181	.7208	.7241	H-6	.7173	.7200	.7233
14mm	1.25mm	H-5	.5253	.5275	.5301	H-4	.5248	.5270	.5296	H6	.5262	.5284	.5310	H-5	.5255	.5277	.5303



THREAD FORMING TAPS MACHINE SCREW SIZES

LIST 16B

**Plug
Bottom**

Stocked with Nitride Surface Treatment



TAP SIZE	SERIES DESIGN.	STYLE	EDP NUMBER								
			H-2	H-3	H-4	H-5	H-6	H-7	H-8	H-9	H-10
0 - 80	NF	PLUG	58022	58032	58042	58052	58062	58072			
0 - 80	NF	BOTT	58023	58033	58043	58053	58063	58073			
1 - 64	NC	PLUG	58122	58132	58142	58152	58162	58172			
1 - 64	NC	BOTT	58123	58133	58143	58153	58163	58173			
1 - 72	NF	PLUG	58222	58232	58242	58252	58262	58272			
1 - 72	NF	BOTT	58223	58233	58243	58253	58263	58273			
2 - 56	NC	PLUG	58322	58332	58342	58352	58362	58372			
2 - 56	NC	BOTT	58323	58333	58343	58353	58363	58373			
2 - 64	NF	PLUG	58422	58432	58442	58452	58462	58472			
2 - 64	NF	BOTT	58423	58433	58443	58453	58463	58473			
3 - 48	NC	PLUG	58522	58532	58542	58552	58562	58572			
3 - 48	NC	BOTT	58523	58533	58543	58553	58563	58573			
3 - 56	NF	PLUG	58622	58632	58642	58652	58662	58672			
3 - 56	NF	BOTT	58623	58633	58643	58653	58663	58673			
4 - 40	NC	PLUG	58722	58732	58742	58752	58762	58772			
4 - 40	NC	BOTT	58723	58733	58743	58753	58763	58773			
4 - 48	NF	PLUG	58822	58832	58842	58852	58862	58872			
4 - 48	NF	BOTT	58823	58833	58843	58853	58863	58873			
5 - 40	NC	PLUG	58922	58932	58942	58952	58962	58972			
5 - 40	NC	BOTT	58923	58933	58943	58953	58963	58973			
5 - 44	NF	PLUG	59022	59032	59042	59052	59062	59072			
5 - 44	NF	BOTT	59023	59033	59043	59053	59063	59073			
6 - 32	NC	PLUG	59122	59132	59142	59152	59162	59172	59182	59192	59194
6 - 32	NC	BOTT	59123	59133	59143	59153	59163	59173	59183	59193	59195
6 - 40	NF	PLUG	59222	59232	59242	59252	59262	59272	59282	59292	59294
6 - 40	NF	BOTT	59223	59233	59243	59253	59263	59273	59283	59293	59295
8 - 32	NC	PLUG	59322	59332	59342	59352	59362	59372	59382	59392	59394
8 - 32	NC	BOTT	59323	59333	59343	59353	59363	59373	59383	59393	59395
8 - 36	NF	PLUG	59422	59432	59442	59452	59462	59472	59482	59492	59494
8 - 36	NF	BOTT	59423	59433	59443	59453	59463	59473	59483	59493	59495
10 - 24	NC	PLUG	59522	59532	59542	59552	59562	59572	59582	59592	59594
10 - 24	NC	BOTT	59523	59533	59543	59553	59563	59573	59583	59593	59595
10 - 32	NF	PLUG	59622	59632	59642	59652	59662	59672	59682	59692	59694
10 - 32	NF	BOTT	59623	59633	59643	59653	59663	59673	59683	59693	59695
12 - 24	NC	PLUG	59722	59732	59742	59752	59762	59772	59782	59792	59794
12 - 24	NC	BOTT	59723	59733	59743	59753	59763	59773	59783	59793	59795
12 - 28	NF	PLUG	59822	59832	59842	59852	59862	59872	59882	59892	59894
12 - 28	NF	BOTT	59823	59833	59843	59853	59863	59873	59883	59893	59895

NOTE: No. 's 0-1-2-3-4-5 standard with no lube groove. No. 6 machine screw size taps and larger are furnished standard with a single vent groove. Vent grooves on No. 2 through No. 5 size taps and/or any additional vent grooves on larger taps, will be furnished for an added charge of 5% per groove up to a maximum charge of 15%.

NOTE: 48 pitch and finer offered with standard two thread chamfer only. Bottoming style with points removed, plug style with points left on.

THREAD FORMING TAPS FRACTIONAL SIZES

LIST 16B

Plug Bottom

Stocked with Nitride Surface Treatment



TAP SIZE	SERIES DES.	STYLE	EDP NUMBER									
			H-2	H-3	H-4	H-5	H-6	H-7	H-8	H-9	H-10	
1/4 - 20	NC	PLUG	59922	59932	59942	59952	59962	59972	59982	59992	59994	
1/4 - 20	NC	BOTT	59923	59933	59943	59953	59963	59973	59983	59993	59995	
1/4 - 28	NF	PLUG	60022	60032	60042	60052	60062	60072	60082	60092	60094	
1/4 - 28	NF	BOTT	60023	60033	60043	60053	60063	60073	60083	60093	60095	
5/16 - 18	NC	PLUG	60122	60132	60142	60152	60162	60172	60182	60192	60194	
5/16 - 18	NC	BOTT	60123	60133	60143	60153	60163	60173	60183	60193	60195	
5/16 - 24	NF	PLUG	60222	60232	60242	60252	60262	60272	60282	60292	60294	
5/16 - 24	NF	BOTT	60223	60233	60243	60253	60263	60273	60283	60293	60295	
			H-4	H-5	H-6	H-7	H-8	H-9	H-10	H-11	H-12	
3/8 - 16	NC	PLUG	60442	60452	60462	60472	60482	60492	60494	60496	60498	
3/8 - 16	NC	BOTT	60443	60453	60463	60473	60483	60493	60495	60497	60499	
3/8 - 24	NF	PLUG	60642	60652	60662	60672	60682	60692	60694	60696	60698	
3/8 - 24	NF	BOTT	60643	60653	60663	60673	60683	60693	60695	60697	60699	
7/16 - 14	NC	PLUG	60842	60852	60862	60872	60882	60892	60894	60896	60898	
7/16 - 14	NC	BOTT	60843	60853	60863	60873	60883	60893	60895	60897	60899	
7/16 - 20	NF	PLUG	61042	61052	61062	61072	61082	61092	61094	61096	61098	
7/16 - 20	NF	BOTT	61043	61053	61063	61073	61083	61093	61095	61097	61099	
1/2 - 13	NC	PLUG	61242	61252	61262	61272	61282	61292	61294	61296	61298	
1/2 - 13	NC	BOTT	61243	61253	61263	61273	61283	61293	61295	61297	61299	
1/2 - 20	NF	PLUG	61442	61452	61462	61472	61482	61492	61494	61496	61498	
1/2 - 20	NF	BOTT	61443	61453	61463	61473	61483	61493	61495	61497	61499	
9/16 - 12	NC	PLUG	61642	61652	61662	61672	61682	61692	61694	61696	61698	
9/16 - 12	NC	BOTT	61643	61653	61663	61673	61683	61693	61695	61697	61699	
9/16 - 18	NF	PLUG	61842	61852	61862	61872	61882	61892	61894	61896	61898	
9/16 - 18	NF	BOTT	61843	61853	61863	61873	61883	61893	61895	61897	61899	
5/8 - 11	NC	PLUG	62042	62052	62062	62072	62082	62092	62094	62096	62098	
5/8 - 11	NC	BOTT	62043	62053	62063	62073	62083	62093	62095	62097	62099	
5/8 - 18	NF	PLUG	62242	62252	62262	62272	62282	62292	62294	62296	62298	
5/8 - 18	NF	BOTT	62243	62253	62263	62273	62283	62293	62295	62297	62299	
3/4 - 10	NC	PLUG			62412	62422	62432	62442	62452		62472	
3/4 - 10	NC	BOTT			62413	62423	62433	62443	62453		62473	
3/4 - 16	NF	PLUG			62512	62522	62532	62542	62552		62572	
3/4 - 16	NF	BOTT			62513	62523	62533	62543	62553		62573	

NOTE: No.'s 0-1-2-3-4-5 standard with no lube groove. No. 6 machine screw size taps and larger are furnished standard with a single vent groove. Vent grooves on No. 2 through No. 5 size taps and/or any additional vent grooves on larger taps, will be furnished for an added charge of 5% per groove up to a maximum charge of 15%.

NOTE: 48 pitch and finer offered with standard two thread chamfer only. Bottoming style with points removed, plug style with points left on.



METRIC THREAD FORMING TAPS

LIST 16M

Plug
Bottom

Stocked with Nitride Surface Treatment



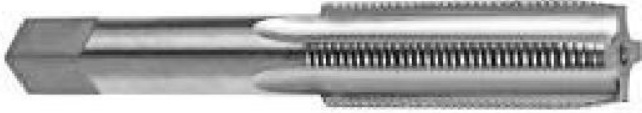
TAP SIZE	PITCH DIAMETER LIMIT		16M	
	CLASS 6H FIT	CLASS 4H FIT	PLUG EDP NUMBER	BOTTOM EDP NUMBER
M2X0.4	D5		62611	62612
M2X0.4		D3	62613	62614
M2.5X0.45	D6		62617	62618
M2.5X0.45		D3	62619	62620
M3X0.5	D6		62621	62622
M3X0.5		D3	62623	62624
M3.5X0.6	D7		62627	62628
M3.5X0.6		D4	62629	62630
M4X0.7	D7		62631	62632
M4X0.7		D4	62633	62634
M5X0.8	D8		62637	62638
M5X0.8		D4	62639	62640
M6X1.0	D9		62641	62642
M6X1.0		D5	62643	62644
M8X1.25	D10		62647	62648
M8X1.25		D5	62649	62650
M10X1.5	D11		62651	62652
M10X1.5		D6	62653	62654

METRIC THREAD FORMERS TOLERANCES & HOLE SIZES

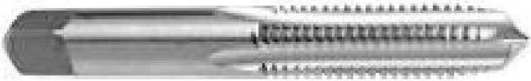
TAP SIZE	PITCH DIAMETER LIMIT	PROBABLE DRILL SIZE	TAP SIZE	PITCH DIAMETER LIMIT	PROBABLE DRILL SIZE
	CLASS 6H FIT			CLASS 4H FIT	
M2X0.4	D5	1.85mm	M2X0.4	D3	1.80mm
M2.5X0.45	D6	2.35mm	M2.5X0.45	D3	2.30mm
M3X0.5	D6	2.80mm	M3X0.5	D3	2.75mm
M3.5X0.6	D7	3.25mm	M3.5X0.6	D4	3.20mm
M4X0.7	D7	3.70mm	M4X0.7	D4	#27
M5X0.8	D8	4.70mm	M5X0.8	D4	4.60mm
M6X1.0	D9	5.50mm	M6X1.0	D5	5.50mm
M8X1.25	D10	7.40mm	M8X1.25	D5	7.30mm
M10X1.5	D11	9.25mm	M10X1.5	D6	9.20mm

To convert millimeters to inches, multiply by .03937

METRIC SPARK PLUG TAPS

LIST 121		Taper Plug Bottom					
TAP SIZE	NO. OF FLUTES	H LIMIT	121				
			TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER	SET EDP NUMBER	
M14X1.25	4	H-3	35031	35032	35033	35030	
M18X1.5	4	H-3	35131	35132	35133	35130	

METRIC HAND TAPS

LIST 100M CLASS 6H FIT		Taper Plug Bottom					
TAP SIZE	PITCH DIAMETER LIMIT	NO. OF FLUTES	100M				
			TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER	SET EDP NUMBER	
M1.6X0.35	D3	2	62702	62700	62701	62703	
M1.8X0.35	D2	2	62706	62704	62705	62707	
M2X0.4	D3	3	62710	62708	62709	62717	
M2.2X0.45	D2	3	62711	62712	62713	62724	
M2.5X0.45	D3	3	62716	62714	62715	62728	
M3X0.5	D3	3	62720	62718	62719	62732	
M3.5X0.6	D4	3	62721	62722	62723	62736	
M4X0.7	D4	4	62725	62726	62727	62740	
M4.5X0.75	D4	4	62729	62730	62731	62744	
M5X0.8	D4	4	62733	62734	62735	62748	
M6X1.0	D5	4	62737	62738	62739	62752	
M6.3X1.0	D5	4	62741	62742	62743	62756	
M7X1.0	D5	4	62745	62746	62747	62760	
M8X1.25	D5	4	62749	62750	62751	62764	
M10X1.5	D6	4	62753	62754	62755	62768	
M12X1.75	D6	4	62757	62758	62759	62769	
M14X2.0	D7	4	62761	62762	62763	62794	
M16X2.0	D7	4	62765	62766	62767	62795	
M18X2.5	D7	4	62772	62770	62771	62796	
M20X2.5	D7	4	62773	62774	62775	62797	
M22X2.5	D6	4	62776	62777	62778	62798	
M24X3.0	D8	4	62779	62780	62781	62799	
M27X3.0	D9	4	62782	62783	62784	62801	
M30X3.5	D9	4	62785	62786	62787	62802	
M33X3.5	D9	4	62788	62789	62790	62803	
M36X4.0	D9	4	62791	62792	62793	62805	



METRIC POPULAR SPECIAL HAND TAPS

LIST 100MOS

Taper
Plug
Bottom



STYLE 1 - M1.5 THROUGH M5				STYLE 2 - M6 THROUGH M10			STYLE 3 - M12 THROUGH M39		
TAP SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	TAP BLANK SIZE	100MOS					
				TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER			
M1.5X0.35	D1	2	#0	81001	81002	81003			
M1.5X0.35	D2	2	#0	81007	81008	81009			
M1.6X0.35	D1	2	#0	81011	81012	81013			
M1.6X0.35	D2	2	#0	81017	81018	81019			
M1.8X0.35	D1	2	#1	81027	81028	81029			
M2X0.45	D1	3	#2	81051	81052	81053			
M2X0.45	D2	3	#2	81057	81058	81059			
M2X0.4	D1	3	#2	81037	81038	81039			
M2X0.4	D2	3	#2	81041	81042	81043			
M2.2X0.45	D1	3	#2	81061	81062	81063			
M2.3X0.4	D1	2	#3	81071	81072	81073			
M2.3X0.4	D2	2	#3	81077	81078	81079			
M2.5X0.45	D1	3	#3	81081	81082	81083			
M2.5X0.45	D2	3	#3	81087	81088	81089			
M2.6X0.45	D1	3	#3	81097	81098	81099			
M2.6X0.45	D2	3	#3	81101	81102	81103			
M3X0.6	D1	3	#5	81121	81122	81123			
M3X0.6	D2	3	#5	81127	81128	81129			
M3X0.5	D1	3	#5	81107	81108	81109			
M3X0.5	D2	3	#5	81111	81112	81113			
M3.5X0.6	D1	3	#6	81131	81132	81133			
M3.5X0.6	D2	3	#6	81137	81138	81139			
M4X0.75	D2	4	#8	81161	81162	81163			
M4X0.75	D3	4	#8	81167	81168	81169			
M4X0.7	D2	4	#8	81147	81148	81149			
M4X0.7	D3	4	#8	81151	81152	81153			
M4.5X0.75	D2	4	#10	81171	81172	81173			
M4.5X0.75	D3	4	#10	81177	81178	81179			
M5X1.0	D2	4	#10	81211	81212	81213			
M5X1.0	D3	4	#10	81217	81218	81219			
M5X0.9	D2	4	#10	81201	81202	81203			
M5X0.9	D3	4	#10	81207	81208	81209			
M5X0.8	D2	4	#10	81187	81188	81189			
M5X0.8	D3	4	#10	81191	81192	81193			
M5.5X0.9	D2	4	#12	81221	81222	81223			
M5.5X0.9	D3	4	#12	81227	81228	81229			

See page 89 for Tap Dimensions.

METRIC POPULAR SPECIAL HAND TAPS (CONTINUED)

LIST 100MOS

Taper
Plug
Bottom



STYLE 1 - M1.5 THROUGH M5

STYLE 2 - M6 THROUGH M10

STYLE 3 - M12 THROUGH M39

TAP SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	TAP BLANK SIZE	100MOS		
				TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER
M6X1.0	D3	4	1/4"	81241	81242	81243
M6X0.75	D2	4	1/4"	81231	81232	81233
M6X0.75	D3	4	1/4"	81237	81238	81239
M7X1.0	D3	4	5/16"	81261	81262	81263
M7X0.75	D2	4	5/16"	81251	81252	81253
M7X0.75	D4	4	5/16"	81257	81258	81259
M8X1.25	D3	4	5/16"	81281	81282	81283
M8X1.0	D3	4	5/16"	81271	81272	81273
M8X1.0	D5	4	5/16"	81277	81278	81279
M9X1.25	D3	4	3/8"	81301	81302	81303
M9X1.25	D5	4	3/8"	81307	81308	81309
M9X1.0	D3	4	3/8"	81291	81292	81293
M9X1.0	D5	4	3/8"	81297	81298	81299
M10X1.5	D3	4	3/8"	81331	81332	81333
M10X1.5	D5	4	3/8"	81337	81338	81339
M10X1.25	D3	4	3/8"	81321	81322	81323
M10X1.25	D5	4	3/8"	81327	81328	81329
M10X1.0	D3	4	3/8"	81311	81312	81313
M10X1.0	D5	4	3/8"	81317	81318	81319
M11X1.5	D3	4	7/16"	81344	81345	81346
M11X1.5	D5	4	7/16"	81347	81348	81349
M12X1.75	D3	4	1/2"	81371	81372	81373
M12X1.75	D5	4	1/2"	81377	81378	81379
M12X1.5	D3	4	1/2"	81361	81362	81363
M12X1.5	D5	4	1/2"	81367	81368	81369
M12X1.25	D3	4	1/2"	81351	81352	81353
M12X1.25	D5	4	1/2"	81357	81358	81359
M14X2.0	D3	4	9/16"	81407	81408	81409
M14X2.0	D5	4	9/16"	81411	81412	81413
M14X1.5	D3	4	9/16"	81397	81398	81399
M14X1.5	D5	4	9/16"	81401	81402	81403
M14X1.25	D5	4	9/16"	81391	81392	81393
M15X1.5	D3	4	5/8"	81421	81422	81423
M15X1.5	D5	4	5/8"	81427	81428	81429

See page 89 for Tap Dimensions.



METRIC POPULAR SPECIAL HAND TAPS (CONTINUED)

LIST 100MOS

Taper
Plug
Bottom

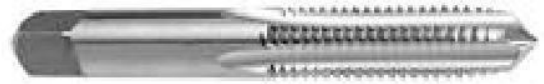


STYLE 1 - M1.5 THROUGH M5				STYLE 2 - M6 THROUGH M10			STYLE 3 - M12 THROUGH M39		
TAP SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	TAP BLANK SIZE	100MOS					
				TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER			
M16X2.0	D4	4	5/8"	81441	81442	81443			
M16X2.0	D6	4	5/8"	81447	81448	81449			
M16X1.5	D3	4	5/8"	81431	81432	81433			
M16X1.5	D5	4	5/8"	81437	81438	81439			
M17X1.5	D3	4	11/16"	81547	81548	81549			
M17X1.5	D5	4	11/16"	81551	81552	81553			
M18X2.5	D4	4	11/16"	81577	81578	81579			
M18X2.5	D6	4	11/16"	81581	81582	81583			
M18X2.0	D4	4	11/16"	81567	81568	81569			
M18X2.0	D6	4	11/16"	81571	81572	81573			
M18X1.5	D5	4	11/16"	81561	81562	81563			
M19X2.5	D4	4	3/4"	81591	81592	81593			
M19X2.5	D6	4	3/4"	81597	81598	81599			
M20X2.5	D4	4	13/16"	81621	81622	81623			
M20X2.5	D6	4	13/16"	81627	81628	81629			
M20X2.0	D4	4	13/16"	81611	81612	81613			
M20X2.0	D6	4	13/16"	81617	81618	81619			
M20X1.5	D3	4	13/16"	81601	81602	81603			
M20X1.5	D5	4	13/16"	81607	81608	81609			
M22X2.5	D4	4	7/8"	81657	81658	81659			
M22X2.0	D4	4	7/8"	81647	81648	81649			
M22X2.0	D6	4	7/8"	81651	81652	81653			
M22X1.5	D3	4	7/8"	81637	81638	81639			
M22X1.5	D5	4	7/8"	81641	81642	81643			
M24X3.0	D4	4	15/16"	81687	81688	81689			
M24X2.0	D4	4	15/16"	81677	81678	81679			
M24X2.0	D8	4	15/16"	81681	81682	81683			
M24X1.5	D3	4	15/16"	81667	81668	81669			
M24X1.5	D5	4	15/16"	81671	81672	81673			
M25X2.0	D4	4	1"	81707	81708	81709			
M25X2.0	D8	4	1"	81711	81712	81713			
M25X1.5	D3	4	1"	81697	81698	81699			
M25X1.5	D5	4	1"	81701	81702	81703			
M26X3.0	D5	4	1-1/16"	81717	81718	81719			
M26X3.0	D9	4	1-1/16"	81721	81722	81723			
M27X3.0	D5	4	1-1/16"	81737	81738	81739			

METRIC POPULAR SPECIAL HAND TAPS (CONTINUED)

LIST 100MOS

Taper
Plug
Bottom



STYLE 1 - M1.5 THROUGH M5				STYLE 2 - M6 THROUGH M10			STYLE 3 - M12 THROUGH M39		
TAP SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	TAP BLANK SIZE	100MOS					
				TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER			
M27X2.0	D5	4	1-1/16"	81727	81728	81729			
M27X2.0	D7	4	1-1/16"	81731	81732	81733			
M28X3.0	D5	4	1-1/8"	81757	81758	81759			
M28X3.0	D9	4	1-1/8"	81761	81762	81763			
M28X2.0	D5	4	1-1/8"	81747	81748	81749			
M28X2.0	D7	4	1-1/8"	81751	81752	81753			
M30X3.5	D5	4	1-3/16"	81787	81788	81789			
M30X3.0	D5	4	1-3/16"	81777	81778	81779			
M30X3.0	D9	4	1-3/16"	81781	81782	81783			
M30X2.0	D5	4	1-3/16"	81767	81768	81769			
M30X2.0	D7	4	1-3/16"	81771	81772	81773			
M32X3.5	D5	4	1-1/4"	81807	81808	81809			
M32X3.5	D9	4	1-1/4"	81811	81812	81813			
M32X2.0	D5	6	1-1/4"	81797	81798	81799			
M32X2.0	D7	6	1-1/4"	81801	81802	81803			
M33X3.5	D5	4	1-5/16"	81837	81838	81839			
M33X3.0	D5	4	1-5/16"	81827	81828	81829			
M33X3.0	D9	4	1-5/16"	81831	81832	81833			
M33X2.0	D5	4	1-5/16"	81817	81818	81819			
M33X2.0	D9	4	1-5/16"	81821	81822	81823			
M34X3.5	D5	4	1-3/8"	81847	81848	81849			
M34X3.5	D9	4	1-3/8"	81851	81852	81853			
M36X4.0	D5	4	1-7/16"	81877	81878	81879			
M36X3.0	D5	4	1-7/16"	81867	81868	81869			
M36X3.0	D9	4	1-7/16"	81871	81872	81873			
M36X2.0	D5	4	1-7/16"	81857	81858	81859			
M36X2.0	D7	4	1-7/16"	81861	81862	81863			
M38X4.0	D5	4	1-1/2"	81887	81888	81889			
M38X4.0	D9	4	1-1/2"	81891	81892	81893			
M39X4.0	D6	6	1-5/8"	81917	81918	81919			
M39X4.0	D10	6	1-5/8"	81921	81922	81923			
M39X3.0	D6	6	1-5/8"	81901	81902	81903			
M39X3.0	D8	6	1-5/8"	81907	81908	81909			
M39X3.0	D9	6	1-5/8"	81911	81912	81913			
M39X2.0	D6	6	1-5/8"	81897	81898	81899			

See page 89 for Tap Dimensions.



METRIC POPULAR SPECIAL SPIRAL POINT TAPS

LIST 102MOS

Spiral Point Plug

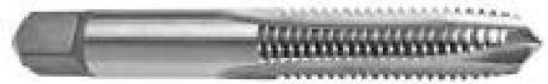


STYLE 1 - M1.5 THROUGH M5		STYLE 2 - M6 THROUGH M10		STYLE 3 - M12 THROUGH M16	
TAP SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	TAP BLANK SIZE	102MOS	
				SPPT PLUG EDP NUMBER	
M2X0.45	D1	2	#2	82052	
M2X0.45	D2	2	#2	82058	
M2X0.4	D1	2	#2	82038	
M2X0.4	D2	2	#2	82042	
M2.2X0.45	D1	2	#2	82062	
M2.3X0.4	D1	2	#3	82072	
M2.3X0.4	D2	2	#3	82078	
M2.5X0.45	D1	2	#3	82082	
M2.5X0.45	D2	2	#3	82088	
M2.6X0.45	D1	2	#3	82098	
M2.6X0.45	D2	2	#3	82102	
M3X0.6	D1	2	#5	82122	
M3X0.6	D2	2	#5	82128	
M3X0.5	D1	2	#5	82108	
M3X0.5	D2	2	#5	82112	
M3.5X0.6	D1	2	#6	82132	
M3.5X0.6	D2	2	#6	82138	
M4X0.75	D2	2	#8	82162	
M4X0.75	D3	2	#8	82168	
M4X0.7	D2	2	#8	82148	
M4X0.7	D3	2	#8	82152	
M4.5X0.75	D2	2	#10	82172	
M4.5X0.75	D3	2	#10	82178	
M5X1.0	D2	2	#10	82212	
M5X1.0	D3	2	#10	82218	
M5X0.9	D2	2	#10	82202	
M5X0.9	D3	2	#10	82208	
M5X0.8	D2	2	#10	82192	
M5X0.8	D3	2	#10	82194	
M5.5X0.9	D2	2	#12	82222	
M5.5X0.9	D3	2	#12	82228	
M6X1.0	D3	2	1/4"	82242	
M6X0.75	D2	2	1/4"	82232	
M6X0.75	D3	2	1/4"	82238	
M7X1.0	D3	2	5/16"	82262	
M7X0.75	D2	2	5/16"	82252	

METRIC POPULAR SPECIAL SPIRAL POINT TAPS (CONTINUED)

LIST 102MOS

Spiral Point Plug



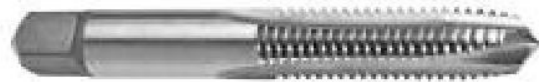
STYLE 1 - M1.5 THROUGH M5					STYLE 2 - M6 THROUGH M10					STYLE 3 - M12 THROUGH M16				
TAP SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	TAP BLANK SIZE	102MOS										
				SPPT PLUG	EDP NUMBER									
M7X0.75	D4	2	5/16"	82258										
M8X1.25	D3	2	5/16"	82282										
M8X1.0	D3	2	5/16"	82272										
M8X1.0	D5	2	5/16"	82278										
M9X1.25	D3	3	3/8"	82302										
M9X1.25	D5	3	3/8"	82308										
M9X1.0	D3	3	3/8"	82292										
M9X1.0	D5	3	3/8"	82298										
M10X1.5	D3	3	3/8"	82332										
M10X1.5	D5	3	3/8"	82338										
M10X1.25	D3	3	3/8"	82322										
M10X1.25	D5	3	3/8"	82328										
M10X1.0	D3	3	3/8"	82312										
M10X1.0	D5	3	3/8"	82318										
M11X1.5	D3	3	7/16"	82348										
M11X1.5	D5	3	7/16"	82352										
M12X1.75	D3	3	1/2"	82378										
M12X1.75	D5	3	1/2"	82382										
M12X1.5	D3	3	1/2"	82368										
M12X1.5	D5	3	1/2"	82372										
M12X1.25	D3	3	1/2"	82358										
M12X1.25	D5	3	1/2"	82362										
M14X2.0	D3	3	9/16"	82412										
M14X2.0	D5	3	9/16"	82419										
M14X1.5	D3	3	9/16"	82402										
M14X1.5	D5	3	9/16"	82408										
M14X1.25	D5	3	9/16"	82398										
M15X1.5	D3	3	5/8"	82428										
M15X1.5	D5	3	5/8"	82432										
M16X2.0	D4	3	5/8"	82448										
M16X2.0	D6	3	5/8"	82452										
M16X1.5	D3	3	5/8"	82438										
M16X1.5	D5	3	5/8"	82442										

See page 89 for Tap Dimensions.

METRIC SPIRAL POINT PLUG STYLE TAPS

LIST 102M
CLASS 6H FIT

Spiral Point Plug



TAP SIZE	PITCH DIAMETER LIMIT	NO. OF FLUTES	102M
			SPPT PLUG EDP NUMBER
M1.6X0.35	D3	2	62800
M1.8X0.35	D2	2	62804
M2X0.4	D3	2	62808
M2.2X0.45	D2	2	62812
M2.5X0.45	D3	2	62814
M3X0.5	D3	2	62818
M3.5X0.6	D4	2	62822
M4X0.7	D4	2	62826
M4.5X0.75	D4	2	62830
M5X0.8	D4	2	62834
M6X1.0	D5	2	62838
M6.3X1.0	D5	2	62842
M7X1.0	D5	2	62846
M8X1.25	D5	2	62850
M10X1.5	D6	3	62854
M12X1.75	D6	3	62858
M14X2.0	D7	3	62862
M16X2.0	D7	3	62866
M18X2.5	D7	3	62870
M20X2.5	D7	3	62874

METRIC 52° FAST SPIRAL FLUTED HAND TAPS

LIST 100F
CLASS 6H FIT

Plug
Bottom

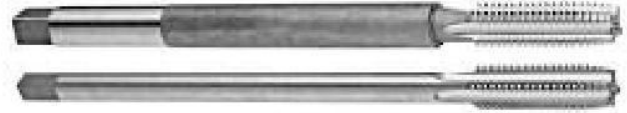


TAP SIZE	PITCH DIAMETER LIMIT	NO. OF FLUTES	100F	
			PLUG EDP NUMBER	BOTTOM EDP NUMBER
M3X0.5	D3	2	62900	62901
M3.5X0.6	D4	3	62910	62911
M4X0.7	D4	3	62920	62921
M5X0.8	D4	3	62930	62931
M6X1.0	D5	3	62940	62941
M8X1.25	D5	3	62950	62951
M10X1.5	D6	3	62960	62961
M12X1.75	D6	4	62970	62971

METRIC 6" O/A PULLEY AND SMALL SHANK EXTENSION TAPS

LIST 112M
CLASS 6H FIT

Plug



TAP SIZE	PITCH DIAMETER LIMIT	NO. OF FLUTES	SHANK DIAMETER	112M
				PLUG EDP NUMBER
M4X0.7	D4	4	.168	45800
M4X0.7	D4	4	.123	45804
M5X0.8	D4	4	.194	45808
M5X0.8	D4	4	.136	45813
M6X1.0	D5	4	.255	45816
M6X1.0	D5	4	.185	45821
M8X1.25	D5	4	.318	45825
M8X1.25	D5	4	.240	45829
M10X1.5	D6	4	.381	45833
M10X1.5	D6	4	.275	45837
M12X1.75	D6	4	.507	45843
M12X1.75	D6	4	.367	45845
M14X2.0	D7	4	.570	45849
M14X2.0	D7	4	.429	45853
M16X2.0	D7	4	.633	45857
M16X2.0	D7	4	.480	45861

METRIC 6" O/A SPPT PULLEY AND SMALL SHANK EXTENSION TAPS

LIST 113M
CLASS 6H FIT

Spiral Point Plug



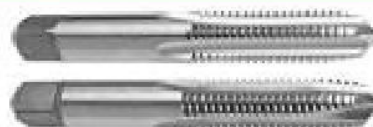
TAP SIZE	PITCH DIAMETER LIMIT	NO. OF FLUTES	SHANK DIAMETER	113M
				SPPT PLUG EDP NUMBER
M4X0.7	D4	2	.168	45900
M4X0.7	D4	2	.123	45904
M5X0.8	D4	2	.194	45908
M5X0.8	D4	2	.136	45912
M6X1.0	D5	2	.255	45916
M6X1.0	D5	2	.185	45921
M8X1.25	D5	2	.318	45925
M8X1.25	D5	2	.240	45928
M10X1.5	D6	3	.381	45933
M10X1.5	D6	3	.275	45937
M12X1.75	D6	3	.507	45941
M12X1.75	D6	3	.367	45945
M14X2.0	D7	3	.570	45949
M14X2.0	D7	3	.429	45953
M16X2.0	D7	3	.633	45957
M16X2.0	D7	3	.480	45961



METRIC +.005 OVERSIZE HAND AND SPIRAL POINT TAPS

LIST 110M

**Plug
Bottom
Spiral Point Plug**



TAP SIZE	NO. OF FLUTES	H LIMIT (+ .005)	110M		
			PLUG EDP NUMBER	BOTTOM EDP NUMBER	SPPT PLUG EDP NUMBER
M3X0.5	3	H-11	65002	65003	
M3X0.5	2	H-11			65102
M3.5X0.6	3	H-11	65012	65013	
M3.5X0.6	2	H-11			65112
M4X0.7	4	H-11	65022	65023	
M4X0.7	2	H-11			65122
M5X0.8	4	H-11	65032	65033	
M5X0.8	2	H-11			65132
M6X1.0	4	H-11	65042	65043	
M6X1.0	2	H-11			65142
M8X1.25	4	H-11	65052	65053	
M8X1.25	2	H-11			65152
M10X1.5	4	H-11	65062	65063	
M10X1.5	3	H-11			65162
M12X1.75	4	H-11	65072	65073	
M12X1.75	3	H-11			65172

METRIC PREMIUM STEEL STRAIGHT FLUTE TAPS WITH PENTA RELIEF

**LIST 403VM
CNC DESIGN
CLASS 6H FIT**

**Plug
Bottom PENTA**



TAP SIZE	PITCH DIAMETER LIMIT	NO. OF FLUTES	403VM	
			PLUG EDP NUMBER	BOTTOM EDP NUMBER
M3X0.5	D3	3	86002	86003
M3.5X0.6	D4	3	86012	86013
M4X0.7	D4	3	86022	86023
M5X0.8	D4	3	86032	86033
M6X1.0	D5	3	86042	86043
M8X1.25	D5	3	86052	86053
M10X1.5	D6	3	86062	86063
M12X1.75	D6	3	86072	86073
M14X2.0	D7	3	86082	86083
M16X2.0	D7	3	86092	86093

METRIC PREMIUM STEEL SPIRAL POINT TAPS

LIST 402VM
CNC DESIGN
CLASS 6H FIT

Spiral Point Plug



STYLE 1 - M3 THROUGH M5		STYLE 2 - M6 THROUGH M10		STYLE 3 - M12 THROUGH M16	
TAP SIZE	PITCH DIAMETER LIMIT	NO. OF FLUTES	402VM		
			SPPT PLUG EDP NUMBER		
M3X0.5	D3	2	86202		
M3.5X0.6	D4	3	86212		
M4X0.7	D4	3	86222		
M5X0.8	D4	3	86232		
M6X1.0	D5	3	86242		
M8X1.25	D5	3	86252		
M10X1.5	D6	3	86262		
M12X1.75	D6	3	86272		
M14X2.0	D7	3	86282		
M16X2.0	D7	3	86292		

METRIC PREMIUM STEEL HEAVY DUTY SPIRAL FLUTED TAPS

LIST 406VM
CNC DESIGN
CLASS 6H FIT

Plug Bottom



STYLE 1 - M3 THROUGH M5		STYLE 2 - M6 THROUGH M10		STYLE 3 - M12 THROUGH M16	
TAP SIZE	PITCH DIAMETER LIMIT	NO. OF FLUTES	406VM		
			PLUG EDP NUMBER	BOTTOM EDP NUMBER	
M3X0.5	D3	2	86402	86403	
M3.5X0.6	D4	3	86412	86413	
M4X0.7	D4	3	86422	86423	
M5X0.8	D4	3	86432	86433	
M6X1.0	D5	3	86442	86443	
M8X1.25	D5	3	86452	86453	
M10X1.5	D6	3	86462	86463	
M12X1.75	D6	3	86472	86473	
M14X2.0	D7	3	86482	86483	
M16X2.0	D7	3	86492	86493	

Penta Relief – Special thread geometry that allows for freer cutting. Available in Standard Taps in List Numbers 106A in size #10 with 2 & 3 Flutes and larger sizes, 103, 102C, 402VPR, 402VMPP, 403V, 403VM, 407VPR and 407VMPP.

See page 90 for Tap Dimensions.



**HIGH
VANADIUM
PENTA
BLUE**

METRIC PREMIUM STEEL SPIRAL POINT TAPS WITH PENTA RELIEF

LIST 402VMPPR
CNC DESIGN
CLASS 6H FIT

Spiral Point Plug



PENTA

STYLE 1 - M3 THROUGH M5		STYLE 2 - M6 THROUGH M10		STYLE 3 - M12 THROUGH M16	
TAP SIZE	PITCH DIAMETER LIMIT	NO. OF FLUTES	BRIGHT		PENTA BLUE
			SPPT PLUG EDP NUMBER		SPPT PLUG EDP NUMBER
M3X0.5	D3	2	86203		86205
M3.5X0.6	D4	3	86213		86215
M4X0.7	D4	3	86223		86225
M5X0.8	D4	3	86233		86235
M6X1.0	D5	3	86243		86245
M8X1.25	D5	3	86253		86255
M10X1.5	D6	3	86263		86265
M12X1.75	D6	3	86273		86275
M14X2.0	D7	3	86283		86285
M16X2.0	D7	3	86293		86295

**HIGH
VANADIUM
PENTA
BLUE**

METRIC PREMIUM STEEL SLOW SPIRAL FLUTED TAPS WITH PENTA RELIEF

LIST 407VMPPR
CNC DESIGN
CLASS 6H FIT

Modified Bottom 3 to 3-1/2 Thread Chamfer
Bottom 1 to 2 Thread Chamfer



PENTA

STYLE 1 - M3 THROUGH M5		STYLE 2 - M6 THROUGH M10			STYLE 3 - M12 THROUGH M16	
TAP SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	BRIGHT		PENTA BLUE	
			MOD. BOTT EDP NUMBER	BOTTOM EDP NUMBER	MOD. BOTT EDP NUMBER	BOTTOM EDP NUMBER
M3X0.5	D3	2	86602	86603	86604	86605
M3.5X0.6	D4	3	86612	86613	86614	86615
M4X0.7	D4	3	86622	86623	86624	86625
M5X0.8	D4	3	86632	86633	86634	86635
M6X1.0	D5	3	86642	86643	86644	86645
M8X1.25	D5	3	86652	86653	86654	86655
M10X1.5	D6	3	86662	86663	86664	86665
M12X1.75	D6	3	86672	86673	86674	86675
M14X2.0	D7	3	86682	86683	86684	86685
M16X2.0	D7	3	86692	86693	86694	86695

Modified Bottom Taps have points on the thread end for sizes up to and including M10 & 3/8". Please specify when ordering if the points are to be removed.

See page 90 for Tap Dimensions.

PREMIUM STEEL STRAIGHT FLUTE TAPS WITH PENTA RELIEF

LIST 403V
CNC DESIGN

**Plug
Bottom**

PENTA



STYLE 1 - #4 THROUGH #10

STYLE 2 - 1/4 THROUGH 3/8

STYLE 3 - 7/16 THROUGH 3/4

TAP SIZE	SERIES DESIGN.	H LIMIT	NO. OF FLUTES	403V	
				PLUG EDP NUMBER	BOTTOM EDP NUMBER
4 - 40	NC	H-2	3	84402	84403
5 - 40	NC	H-2	3	84405	84406
6 - 32	NC	H-3	3	84412	84413
8 - 32	NC	H-3	3	84422	84423
10 - 24	NC	H-3	3	84432	84433
10 - 32	NF	H-3	3	84442	84443
1/4 - 20	NC	H-3	3	84452	84453
1/4 - 20	NC	H-5	3	84462	84463
1/4 - 28	NF	H-3	3	84472	84473
5/16 - 18	NC	H-3	3	84482	84483
5/16 - 18	NC	H-5	3	84492	84493
5/16 - 24	NF	H-3	3	84502	84503
3/8 - 16	NC	H-3	3	84512	84513
3/8 - 16	NC	H-5	3	84522	84523
3/8 - 24	NF	H-3	3	84532	84533
7/16 - 14	NC	H-3	3	84542	84543
7/16 - 14	NC	H-5	3	84552	84553
7/16 - 20	NF	H-3	3	84562	84563
1/2 - 13	NC	H-3	3	84572	84573
1/2 - 13	NC	H-5	3	84582	84583
1/2 - 20	NF	H-3	3	84592	84593
9/16 - 12	NC	H-3	3	84602	84603
9/16 - 12	NC	H-5	3	84612	84613
9/16 - 18	NF	H-3	3	84622	84623
5/8 - 11	NC	H-3	3	84632	84633
5/8 - 11	NC	H-5	3	84642	84643
5/8 - 18	NF	H-3	3	84652	84653
3/4 - 10	NC	H-3	3	84662	84663
3/4 - 10	NC	H-5	3	84672	84673
3/4 - 16	NF	H-3	3	84682	84683

Penta Relief – Special thread geometry that allows for freer cutting. Available in Standard Taps in List Numbers 106A in size #10 with 2 & 3 Flutes and larger sizes, 103, 102C, 402VPR, 402VMPR, 403V, 403VM, 407VPR and 407VMPR.

Penta Blue – Combination of special PENTA Relief and Blue Diamond Surface Treatment.



PREMIUM STEEL SPIRAL POINT TAPS

LIST 402V
CNC DESIGN

Spiral Point Plug



STYLE 1 - #4 THROUGH #10

STYLE 2 - 1/4 THROUGH 3/8

STYLE 3 - 7/16 THROUGH 3/4

TAP SIZE	SERIES DESIGN.	H LIMIT	NO. OF FLUTES	402V
				SPPT PLUG EDP NUMBER
4 - 40	NC	H-2	2	84800
5 - 40	NC	H-2	2	84799
6 - 32	NC	H-3	3	84801
8 - 32	NC	H-3	3	84803
10 - 24	NC	H-3	3	84805
10 - 32	NF	H-3	3	84807
1/4 - 20	NC	H-3	3	84809
1/4 - 20	NC	H-5	3	84812
1/4 - 28	NF	H-3	3	84814
5/16 - 18	NC	H-3	3	84816
5/16 - 18	NC	H-5	3	84818
5/16 - 24	NF	H-3	3	84821
3/8 - 16	NC	H-3	3	84823
3/8 - 16	NC	H-5	3	84825
3/8 - 24	NF	H-3	3	84827
7/16 - 14	NC	H-3	3	84829
7/16 - 14	NC	H-5	3	84832
7/16 - 20	NF	H-3	3	84834
1/2 - 13	NC	H-3	3	84836
1/2 - 13	NC	H-5	3	84838
1/2 - 20	NF	H-3	3	84841
9/16 - 12	NC	H-3	3	84843
9/16 - 12	NC	H-5	3	84845
9/16 - 18	NF	H-3	3	84847
5/8 - 11	NC	H-3	3	84849
5/8 - 11	NC	H-5	3	84852
5/8 - 18	NF	H-3	3	84854
3/4 - 10	NC	H-3	3	84856
3/4 - 10	NC	H-5	3	84858
3/4 - 16	NF	H-3	3	84861

See page 90 for Tap Dimensions.

PREMIUM STEEL HEAVY DUTY SPIRAL FLUTED TAPS

LIST 406V
CNC DESIGN

Plug
Bottom



STYLE 1 - #4 THROUGH #10

STYLE 2 - 1/4 THROUGH 3/8

STYLE 3 - 7/16 THROUGH 3/4

TAP SIZE	SERIES DESIGN.	H LIMIT	NO. OF FLUTES	406V	
				PLUG EDP NUMBER	BOTTOM EDP NUMBER
4 - 40	NC	H-2	2	84992	84993
5 - 40	NC	H-2	2	84998	84999
6 - 32	NC	H-3	3	85001	85002
8 - 32	NC	H-3	3	85003	85004
10 - 24	NC	H-3	3	85005	85006
10 - 32	NF	H-3	3	85007	85008
1/4 - 20	NC	H-3	3	85009	85011
1/4 - 20	NC	H-5	3	85012	85013
1/4 - 28	NF	H-3	3	85014	85015
5/16 - 18	NC	H-3	3	85016	85017
5/16 - 18	NC	H-5	3	85018	85019
5/16 - 24	NF	H-3	3	85021	85022
3/8 - 16	NC	H-3	3	85023	85024
3/8 - 16	NC	H-5	3	85025	85026
3/8 - 24	NF	H-3	3	85027	85028
7/16 - 14	NC	H-3	3	85029	85031
7/16 - 14	NC	H-5	3	85032	85033
7/16 - 20	NF	H-3	3	85034	85035
1/2 - 13	NC	H-3	3	85036	85037
1/2 - 13	NC	H-5	3	85038	85039
1/2 - 20	NF	H-3	3	85041	85042
9/16 - 12	NC	H-3	3	85043	85044
9/16 - 12	NC	H-5	3	85045	85046
9/16 - 18	NF	H-3	3	85047	85048
5/8 - 11	NC	H-3	3	85049	85051
5/8 - 11	NC	H-5	3	85052	85053
5/8 - 18	NF	H-3	3	85054	85055
3/4 - 10	NC	H-3	3	85056	85057
3/4 - 10	NC	H-5	3	85058	85059
3/4 - 16	NF	H-3	3	85061	85062

See page 90 for Tap Dimensions.



HIGH
VANADIUM
PENTA
BLUE

PREMIUM STEEL SPIRAL POINT TAPS WITH PENTA RELIEF

LIST 402VPR
CNC DESIGN

Spiral Point Plug



PENTA

STYLE 1 - #4 THROUGH #10			STYLE 2 - 1/4 THROUGH 3/8		STYLE 3 - 7/16 THROUGH 3/4	
TAP SIZE	SERIES DESIGN.	H LIMIT	NO. OF FLUTES	BRIGHT	PENTA BLUE	PENTA BLUE
				SPPT PLUG EDP NUMBER		
4 - 40	NC	H-2	2	86902	86903	
5 - 40	NC	H-2	2	86906	86907	
6 - 32	NC	H-3	3	86910	86911	
8 - 32	NC	H-3	3	86914	86915	
10 - 24	NC	H-3	3	86918	86919	
10 - 32	NF	H-3	3	86920	86921	
1/4 - 20	NC	H-3	3	86922	86923	
1/4 - 20	NC	H-5	3	86924	86925	
1/4 - 28	NF	H-3	3	86926	86927	
5/16 - 18	NC	H-3	3	86928	86929	
5/16 - 18	NC	H-5	3	86930	86931	
5/16 - 24	NF	H-3	3	86932	86933	
3/8 - 16	NC	H-3	3	86934	86935	
3/8 - 16	NC	H-5	3	86936	86937	
3/8 - 24	NF	H-3	3	86938	86939	
7/16 - 14	NC	H-3	3	86940	86941	
7/16 - 14	NC	H-5	3	86942	86943	
7/16 - 20	NF	H-3	3	86944	86945	
1/2 - 13	NC	H-3	3	86946	86947	
1/2 - 13	NC	H-5	3	86948	86949	
1/2 - 20	NF	H-3	3	86950	86951	
9/16 - 12	NC	H-3	3	86952	86953	
9/16 - 12	NC	H-5	3	86954	86955	
9/16 - 18	NF	H-3	3	86956	86957	
5/8 - 11	NC	H-3	3	86958	86959	
5/8 - 11	NC	H-5	3	86960	86961	
5/8 - 18	NF	H-3	3	86962	86963	
3/4 - 10	NC	H-3	3	86964	86965	
3/4 - 10	NC	H-5	3	86966	86967	
3/4 - 16	NF	H-3	3	86968	86969	

See page 90 for Tap Dimensions.

Penta Relief – Special thread geometry that allows for freer cutting. Available in Standard Taps in List Numbers 106A in size #10 with 2 & 3 Flutes and larger sizes, 103, 102C, 402VPR, 402VMR, 403V, 403VM, 407VPR and 407VMR.

Penta Blue – Combination of special PENTA Relief and Blue Diamond Surface Treatment.

**HIGH
VANADIUM
PENTA
BLUE**

PREMIUM STEEL SLOW SPIRAL FLUTED TAPS WITH PENTA RELIEF

**LIST 407VPR
CNC DESIGN**

**Modified Bottom 3 to 3-1/2 Thread Chamfer
Bottom 1 to 2 Thread Chamfer**



PENTA

STYLE 1 - #4 THROUGH #10				STYLE 2 - 1/4 THROUGH 3/8		STYLE 3 - 7/16 THROUGH 3/4	
TAP SIZE	SERIES DESIGN.	H LIMIT	NO. OF FLUTES	BRIGHT		PENTA BLUE	
				MOD. BOTT EDP NUMBER	BOTTOM EDP NUMBER	MOD. BOTT EDP NUMBER	BOTTOM EDP NUMBER
4 - 40	NC	H-2	2	86702	86703	86704	86705
5 - 40	NC	H-2	2	86706	86707	86708	86709
6 - 32	NC	H-3	3	86710	86711	86712	86713
8 - 32	NC	H-3	3	86714	86715	86716	86717
10 - 24	NC	H-3	3	86718	86719	86720	86721
10 - 32	NF	H-3	3	86722	86723	86724	86725
1/4 - 20	NC	H-3	3	86734	86735	86736	86737
1/4 - 20	NC	H-5	3	86738	86739	86740	86741
1/4 - 28	NF	H-3	3	86742	86743	86744	86745
5/16 - 18	NC	H-3	3	86746	86747	86748	86749
5/16 - 18	NC	H-5	3	86750	86751	86752	86753
5/16 - 24	NF	H-3	3	86754	86755	86756	86757
3/8 - 16	NC	H-3	3	86758	86759	86760	86761
3/8 - 16	NC	H-5	3	86762	86763	86764	86765
3/8 - 24	NF	H-3	3	86766	86767	86768	86769
7/16 - 14	NC	H-3	3	86770	86771	86772	86773
7/16 - 14	NC	H-5	3	86774	86775	86776	86777
7/16 - 20	NF	H-3	3	86778	86779	86780	86781
1/2 - 13	NC	H-3	3	86782	86783	86784	86785
1/2 - 13	NC	H-5	3	86786	86787	86788	86789
1/2 - 20	NF	H-3	3	86790	86791	86792	86793
9/16 - 12	NC	H-3	3	86794	86795	86796	86797
9/16 - 12	NC	H-5	3	86798	86799	86802	86803
9/16 - 18	NF	H-3	3	86804	86805	86806	86807
5/8 - 11	NC	H-3	3	86808	86809	86810	86811
5/8 - 11	NC	H-5	3	86812	86813	86814	86815
5/8 - 18	NF	H-3	3	86816	86817	86818	86819
3/4 - 10	NC	H-3	3	86820	86821	86822	86823
3/4 - 10	NC	H-5	3	86824	86825	86826	86827
3/4 - 16	NF	H-3	3	86828	86829	86830	86831

Modified Bottom Taps have points on the thread end for sizes up to and including M10 & 3/8". Please specify when ordering if the points are to be removed.

Penta Relief – Special thread geometry that allows for freer cutting. Available in Standard Taps in List Numbers 106A in size #10 with 2 & 3 Flutes and larger sizes, 103, 102C, 402VPR, 402VMR, 403V, 403VM, 407VPR and 407VMR.

Penta Blue – Combination of special PENTA Relief and Blue Diamond Surface Treatment.

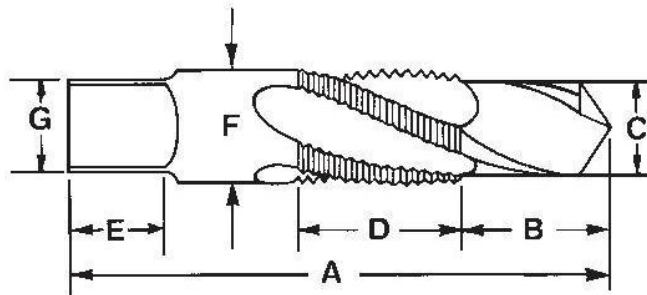
H.S.S. COMBINED PIPE TAPS AND DRILLS

LIST 18

NPT
NPTF



TAP SIZE	18	
	NPT EDP NUMBER	NPTF EDP NUMBER
1/16 - 27	63010	63012
1/8 - 27	63020	63022
1/4 - 18	63030	63032
3/8 - 18	63040	63042
1/2 - 14	63050	63052
3/4 - 14	63060	63062
1 - 11 1/2	63070	63072



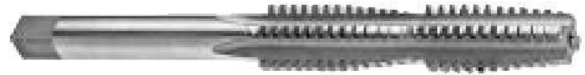
COMBINED TAPER PIPE TAPS AND DRILLS GENERAL DIMENSIONS

TAP SIZE	NO. OF FLUTES	A O/A LENGTH	B DRILL LENGTH	C		D THREAD LENGTH	E SQUARE LENGTH	F SHANK DIAMETER	G SQUARE SIZE
				DRILL SIZE	DRILL DIAMETER				
1/16 - 27	4	2 13/16	11/16	D	.2460	11/16	3/8	.312	.234
1/8 - 27	4	2 7/8	3/4	R	.3390	3/4	3/8	.437	.328
1/4 - 18	4	3 5/16	7/8	7/16	.4375	1 1/16	7/16	.562	.421
3/8 - 18	4	3 1/2	15/16	37/64	.5781	1 1/16	1/2	.700	.531
1/2 - 14	4	4 3/8	1 1/4	45/64	.7031	1 3/8	5/8	.687	.515
3/4 - 14	5	4 9/16	1 5/16	59/64	.9219	1 3/8	11/16	.906	.679
1 - 11 1/2	5	5 3/8	1 5/8	1 5/32	1.1563	1 3/4	13/16	1.125	.843

DUO-ACME TANDEM STYLE TAPS

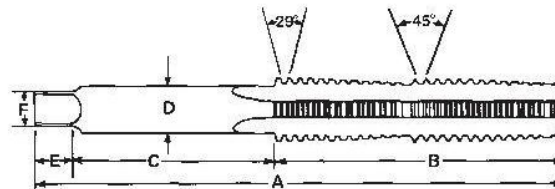
LIST 29
RIGHT HAND

NA2G Ground Thread



Reiff & Nestor "DUO-ACME" Tandem Style Taps adequately fill the need for Standard "off-the-shelf" Acme Taps. They perform Off-hand, as well as Production Tapping where applicable. The "DUO-ACME" tap is a combination Roughing and Finishing Tap. The Roughing section has a free cutting 45° Thread Form with controlled chip loading. The Finishing section then cuts a "split chip" as it sizes the 29° Thread Form. The listed "Maximum" should not be exceeded unless approved by our application engineers.

TAP SIZE	NO. OF FLUTES	29
		NA2G EDP NUMBER
1/2 - 10	4	63110
5/8 - 8	4	63120
3/4 - 6	4	63130
7/8 - 6	4	63140
1 - 5	4	63150
1 1/8 - 5	4	63160
1 1/4 - 5	4	63170
1 3/8 - 4	4	63180
1 1/2 - 4	4	63190



DUO-ACME TANDEM STYLE TAPS GENERAL DIMENSIONS

TAP SIZE	A OVERALL LENGTH	B THREAD LENGTH	C SHANK LENGTH	D SHANK DIAMETER	E SQUARE LENGTH	F SQUARE ACROSS FLATS	MAX. DEPTH OF STEEL OR BRONZE NUT	MAX. DEPTH OF BRASS OR CAST IRON NUT
1/2 - 10	5	2 5/8	1 15/16	.381	7/16	.286	1	1 1/2
5/8 - 8	6 5/8	3 1/2	2 9/16	.480	9/16	.360	1 1/4	1 7/8
3/4 - 6	8	4 1/2	2 7/8	.573	5/8	.430	1 1/2	2 1/4
7/8 - 6	9	4 1/2	3 13/16	.684	11/16	.513	1 3/4	2 5/8
1 - 5	10 1/2	6	3 3/4	.760	3/4	.570	2	3
1 1/8 - 5	11	6	4 1/8	.896	7/8	.672	2 1/4	3 3/8
1 1/4 - 5	12	6	5	1.021	1	.766	2 1/2	3 3/4
1 3/8 - 4	12 5/8	6 1/2	5 1/16	1.108	1 1/16	.831	2 3/4	4 1/8
1 1/2 - 4	13	6 1/2	5 7/16	1.108	1 1/16	.831	3	4 1/2



LEFT HAND TAPS MACHINE SCREW & FRACTIONAL SIZES

LIST 117
LEFT HAND

**Taper
Plug
Bottom**



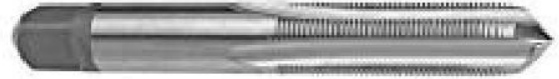
TAP SIZE	SERIES DESIGN.	NO. OF FLUTES	H LIMIT	117		
				LEFT HAND TAPER EDP NUMBER	LEFT HAND PLUG EDP NUMBER	LEFT HAND BOTTOM EDP NUMBER
6 - 32	NC	3	H-3	80001	80002	80003
6 - 40	NF	3	H-2	80007	80008	80009
8 - 32	NC	4	H-3	80011	80012	80013
8 - 36	NF	4	H-2	80017	80018	80019
10 - 24	NC	4	H-3	80021	80022	80023
10 - 32	NF	4	H-3	80027	80028	80029
1/4 - 20	NC	4	H-3	80031	80032	80033
1/4 - 28	NF	4	H-3	80037	80038	80039
5/16 - 18	NC	4	H-3	80041	80042	80043
5/16 - 24	NF	4	H-3	80047	80048	80049
3/8 - 16	NC	4	H-3	80051	80052	80053
3/8 - 24	NF	4	H-3	80057	80058	80059
7/16 - 14	NC	4	H-3	80061	80062	80063
7/16 - 20	NF	4	H-3	80067	80068	80069
1/2 - 13	NC	4	H-3	80071	80072	80073
1/2 - 20	NF	4	H-3	80077	80078	80079
9/16 - 12	NC	4	H-3	80081	80082	80083
9/16 - 18	NF	4	H-3	80087	80088	80089
5/8 - 11	NC	4	H-3	80091	80092	80093
5/8 - 18	NF	4	H-3	80097	80098	80099
11/16 - 11	NS	4	H-3	80101	80102	80103
11/16 - 16	NS	4	H-3	80107	80108	80109
3/4 - 10	NC	4	H-3	80111	80112	80113
3/4 - 16	NF	4	H-3	80117	80118	80119
7/8 - 9	NC	4	H-4	80121	80122	80123
7/8 - 14	NF	4	H-4	80127	80128	80129
1 - 8	NC	4	H-4	80131	80132	80133
1 - 12	NF	4	H-4	80137	80138	80139
1 - 14	NS	4	H-4	80141	80142	80143
1 1/8 - 7	NC	4	H-4	80147	80148	80149
1 1/8 - 12	NF	4	H-4	80151	80152	80153
1 1/4 - 7	NC	4	H-4	80157	80158	80159
1 1/4 - 12	NF	6	H-4	80161	80162	80163
1 3/8 - 6	NC	4	H-4	80167	80168	80169
1 3/8 - 12	NF	6	H-4	80171	80172	80173
1 1/2 - 6	NC	4	H-4	80177	80178	80179
1 1/2 - 12	NF	6	H-4	80181	80182	80183

See page 89 for Tap Dimensions.

NATIONAL EXTRA FINE PITCH (NEF) HAND TAPS

LIST 116

Taper
Plug
Bottom



TAP SIZE	H LIMIT	NO. OF FLUTES	116		
			TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER
12 - 32	H-3	4	83001	83002	83003
1/4 - 32	H-3	4	83007	83008	83009
1/4 - 32	H-5	4	84007	84008	84009
5/16 - 32	H-3	4	83011	83012	83013
5/16 - 32	H-5	4	84011	84012	84013
3/8 - 32	H-3	4	83017	83018	83019
3/8 - 32	H-5	4	84017	84018	84019
7/16 - 28	H-3	4	83021	83022	83023
7/16 - 28	H-5	4	84021	84022	84023
1/2 - 28	H-3	4	83027	83028	83029
1/2 - 28	H-5	4	84027	84028	84029
9/16 - 24	H-3	4	83031	83032	83033
9/16 - 24	H-5	4	84031	84032	84033
5/8 - 24	H-3	6	83037	83038	83039
5/8 - 24	H-5	6	84037	84038	84039
11/16 - 24	H-3	6	83041	83042	83043
11/16 - 24	H-5	6	84041	84042	84043
3/4 - 20	H-3	6	83047	83048	83049
3/4 - 20	H-5	6	84047	84048	84049
13/16 - 20	H-3	6	83051	83052	83053
13/16 - 20	H-5	6	84051	84052	84053
7/8 - 20	H-3	6	83057	83058	83059
7/8 - 20	H-5	6	84057	84058	84059
15/16 - 20	H-3	6	83061	83062	83063
15/16 - 20	H-5	6	84061	84062	84063
1 - 20	H-3	6	83067	83068	83069
1 - 20	H-5	6	84067	84068	84069
1 1/16 - 18	H-4	6	83071	83072	83073
1 1/16 - 18	H-3	6	84071	84072	84073
1 1/16 - 18	H-6	6	84271	84272	84273
1 1/8 - 18	H-4	6	83077	83078	83079
1 1/8 - 18	H-3	6	84077	84078	84079
1 1/8 - 18	H-6	6	84277	84278	84279
1 3/16 - 18	H-4	6	83081	83082	83083
1 3/16 - 18	H-3	6	84081	84082	84083
1 3/16 - 18	H-6	6	84281	84282	84283
1 1/4 - 18	H-4	6	83087	83088	83089
1 1/4 - 18	H-3	6	84087	84088	84089
1 1/4 - 18	H-6	6	84287	84288	84289
1 5/16 - 18	H-4	6	83091	83092	83093
1 5/16 - 18	H-3	6	84091	84092	84093



NATIONAL EXTRA FINE PITCH (NEF) HAND TAPS (CONTINUED)

LIST 116

Taper
Plug
Bottom



TAP SIZE	H LIMIT	NO. OF FLUTES	116		
			TAPER EDP NUMBER	PLUG EDP NUMBER	BOTTOM EDP NUMBER
1 5/16 - 18	H-6	6	84291	84292	84293
1 3/8 - 18	H-4	6	83097	83098	83099
1 3/8 - 18	H-3	6	84097	84098	84099
1 3/8 - 18	H-6	6	84297	84298	84299
1 7/16 - 18	H-4	6	83101	83102	83103
1 7/16 - 18	H-3	6	84101	84102	84103
1 7/16 - 18	H-6	6	84301	84302	84303
1 1/2 - 18	H-4	6	83107	83108	83109
1 1/2 - 18	H-3	6	84107	84108	84109
1 1/2 - 18	H-6	6	84307	84308	84309

H.S.S. SEMI-SPECIAL RIGHT HAND TAPS TAPER, PLUG & BOTTOM

TAP SIZE	NO. OF FLUTES	AVAILABLE THREADS PER INCH + H LIMITS									
		24	H-3	27	H-3	36	H-2	40	H-2	48	H-2
1/4	4	24	H-3	27	H-3	36	H-2	40	H-2	48	H-2
5/16	4	20	H-3	27	H-3	40	H-2				
3/8	4	18	H-3	20	H-3	27	H-3	40	H-2		
7/16	4	16	H-3	24	H-3	27	H-3	32	H-3	40	H-2
1/2	4	12	H-3	16	H-3	24	H-3				
1/2	6	32	H-3	40	H-2						
9/16	4	16	H-3	20	H-3						
9/16	6	27	H-3	32	H-3						
5/8	4	12	H-3	16	H-3	20	H-3				
5/8	6	27	H-3	32	H-3						
11/16	6	18	H-3	20	H-3	32	H-3				
3/4	4	12	H-4	18	H-3						
3/4	6	24	H-3	27	H-3	32	H-3				
13/16	4	16	H-3	18	H-3						
13/16	6	24	H-3								
7/8	4	12	H-4	16	H-3						
7/8	6	18	H-3								
15/16	6	12	H-4	16	H-3	18	H-3				
1"	6	16	H-3	18	H-3	24	H-3	27	H-3	32	H-3

See page 89 for Tap Dimensions.

BATTERED BOLT OR PIPE THREADS RESTORED QUICKLY WITH NU-TRIX WITHOUT CHANGING FIT

A few easy passes with the appropriate land of NU-TRIX over the damaged face of a bolt or pipe thread will restore the thread without reducing the diameter. As only the displaced metal is removed, the original fit is preserved. Any bolt or pipe of the corresponding thread number, regardless of diameter, may be repaired instantly with NU-TRIX.

For restoring bolt threads, eight assorted sizes of National Fine and National Coarse threads on each of two NU-TRIX Bolt Thread Restorers provide sixteen thread sizes in all. For external pipe threads, a set of three NU-TRIX Pipe Thread Restorers provide five pipe thread sizes; a companion set restores the same number of internal pipe thread sizes.

A set of nine NU-TRIX Thread Restorers is a valuable part of every machinist's or pipefitter's kit. Their small price is quickly repaid in time saved in repairing battered threads.

A #9 Metric NU-TRIX is now offered which provides eight common metric pitches.

APPLICATION	NU-TRIX NO.	THREAD SIZES ON EACH	EDP NUMBER
FOR BOLTS	No. 1	11, 12, 13, 14, 16, 18, 20 and 24	63400
	No. 2	9, 10, 12, 16, 20, 27, 28 and 32	63410
	No. 1 & No. 2 Set	63400 & 63410	63405
FOR PIPE (EXTERNAL)	No. 3	8 and 10	63420
	No. 4	8 and 11 1/2	63430
	No. 5	10 and 14	63440
FOR PIPE (INTERNAL)	No. 6	8 and 10	63450
	No. 7	8 and 11 1/2	63460
	No. 8	10 and 14	63470
METRIC NU-TRIX FOR BOLTS	No. 9	Metric Pitches 0.8, 1.0, 1.25, 1.50, 1.75, 2.0, 2.5, and 3.0	63480

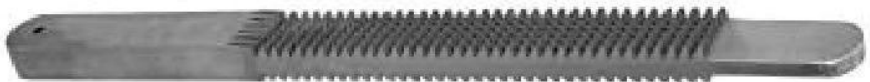
NU-TRIX

#1
#2
#9



NU-TRIX

#3
#4
#5



NU-TRIX

#6
#7
#8



NOTE: Metric Nu-Trix No. 9 - When the current stock is depleted the 0.75 Pitch will be replaced with 0.8 Pitch.

SURFACE TREATMENTS

A full array of surface treatments and coatings are available to enhance the taps performance depending on application and material being tapped. Listed below are the standard treatments we offer. Please consult factory for price and delivery on the new coatings Reiff & Nestor Company now has to offer for tapping all the exotic materials.

NITRIDE** Recommended where abrasive or wearing conditions exist. It may be used for ferrous, nonferrous, or nonmetallic materials.

NO. "5" Is very effective where an anti-galling characteristic is required, combined with high wear resistance. Recommended for use in ferrous materials.

NO. "0" This treatment imparts a lubricant retaining surface that has high anti-galling characteristics. It is recommended for use in ferrous materials.

CHROME A special Bright Hard Chrome plating process developed to increase tap life and impart an anti-galling surface to taps. It is recommended for use in all materials.

CONIT* Developed for use where extremely abrasive or wear-inducing, materials are encountered, both ferrous and nonferrous.

BLUE DIAMOND Is a specially treated electro chemical surface designed to eliminate surface welding when tapping soft stringy materials.

TITANIUM NITRIDE (PVD) Is also available upon request.

MULTICOAT C3 Multilayer Coating recommended for machining softer materials such as titanium, aluminum, and copper alloys, Good anti-galling properties,

MULTICOAT C4 Multilayer Coating having high hardness and anti-wear properties. Recommended for tapping tool steel, mold steel, and other heat treated materials.

* The Conit treatment has been broken down into progressive degrees of surface concentration called Conit-1, Conit-2, Conit-3 and Conit-6 — the larger number indicating the greater wear resistance.

** The Nitride treatment has been broken down into progressive degrees, as found applicable to various materials and tapping conditions. These treatments are: 1-N, 2-N, 3-N and 6-N. For ferrous, nonferrous and nonmetallic materials which cause dulling of the tools because of their abrasive characteristic. The numbers are individual specifications applied by our engineers for particular applications.



TABLE 301B – THREAD SERIES DESIGNATIONS

STANDARD TAP MARKING	PRODUCT THREAD DESIGNATION	THREAD SERIES	REFERENCES AMERICAN NATIONAL STANDARDS (ANSI/ASME)
ACME-C	ACME-C	Acme threads, centralizing	B1.5
ACME-G	ACME-G	Acme thread, general purpose (See also "STUB ACME")	B1.5
AMO	AMO	American Standard microscope objective threads	B1.11
NPT	ANPT	Aeronautical National Form taper pipe threads	(MIL-P-7105B)
BUTT	BUTT	Buttress Threads, pull type	B1.9
PUSH-BUTT	PUSH-BUTT	Buttress Threads, push type	B1.9
F-PTF	F-PTF	Dryseal fine taper pipe thread series	B1.20.3 (Appendix C)
M	M	Metric Screw Threads - M Profile with basic ISO 68 profile	B1.13M, B1.18M
MJ	MJ	Metric Screw Threads - MJ Profile with rounded root of radius 0.15011P to 0.18042P	B1.21M
MJS	MJS	Metric Screw Threads - MJ Profile, special series Class 5 interference fit Internal Threads	B1.12
NC	NC5IF	- Entire ferrous material range	
NC	NC5INF	- Entire nonferrous material range	
NGO (RH or LH)	NGO	National gas outlet threads	ANSI/CGA V-1 (B57.1)
NGS	NGS	National gas straight threads	ANSI/CGA V-1 (B57.1)
NGT	NGT	National gas taper threads	ANSI/CGA V-1 (B57.1)
NH	NH	American Standard hose coupling threads of full form	B2.4
NPS	NPSC	American Standard straight pipe threads in pipe couplings	B1.20.1
NPSF	NPSF	Dryseal American Standard fuel internal straight pipe threads	B1.20.3
NPSH	NPSH	American Standard straight hose coupling threads for joining to American Standard taper pipe threads	B2.4
NPSI	NPSI	Dryseal American Standard intermediate internal straight pipe threads	B1.20.3
NPSL	NPSL	American Standard straight pipe threads for loose-fitting mechanical joints with locknuts	B1.20.1
NPS	NPSM	American Standard straight pipe threads for free-fitting mechanical joints for fixtures	B1.20.2
NPT	NPT	American Standard taper pipe threads for general use	B1.20.1
NPTF	NPTF	Dryseal American Standard taper pipe threads	B1.20.3
NPTR	NPTR	American Standard taper pipe threads for railing joints	B1.20.1
PTF SHORT	PTF-SAE SHORT	Dryseal SAE short taper pipe threads	B1.20.3
PTF SPL SHORT	PTF-SPL SHORT	Dryseal special short taper pipe threads	B1.20.3 (Appendix C)
PTF SPL	PTF-SPL EXTRA		
X-SHORT	SHORT	Dryseal special extra short taper threads (See also "SPL-PTF")	B1.20.3 (Appendix C)
M	S	ISO Miniature screw threads 0.25 to 1.4mm inc.	
SGT	SGT	Special gas taper threads	ANSI/CGA V-1 (B57.1)
SPL-PTF	SPL-PTF	Dryseal special taper pipe threads	B1.20.3 (Appendix C)
STUB ACME	STUB ACME	Stub Acme threads	B1.8
STUB ACME M1	STUB ACME M1	Stub Acme Modified Form 1	B1.8
STUB ACME M2	STUB ACME M2	Stub Acme Modified Form 2	B1.8
N	UN	Unified inch screw thread, constant-pitch series	B1.1
NC	UNC	Unified inch screw thread, coarse-pitch series	B1.1
NF	UNF	Unified inch screw thread, fine-pitch series	B1.1
NEF	UNEF	Unified inch screw thread, extra-fine pitch series	B1.1
N	UNJ	Unified inch screw thread, constant-pitch series, with rounded root of radius 0.15011P to 0.18042P. (Ext. thd. only)	B1.15 (Draft) MIL-S-8879A
NC	UNJC	Unified inch screw thread, coarse-pitch series, with rounded root of radius 0.15011P to 0.18042P. (Ext. thd. only)	B1.15 (Draft) MIL-S-8879A

TABLE 301B – THREAD SERIES DESIGNATIONS (CONTINUED)

STANDARD TAP MARKING	PRODUCT THREAD DESIGNATION	THREAD SERIES	REFERENCES AMERICAN NATIONAL STDS. (ANSI/ASME)
NF	UNJF	Unified Inch Screw Thread, fine pitch series, with rounded root of radius 0.15011P to 0.18042P. (Ext. thd. only.)	B1.15 (Draft), MIL-S-8879 A
NEF	UNJEF	Unified Inch Screw Thread, extra-fine pitch series, with rounded root of radius 0.15011P to 0.18042P. (Ext. thd. only.)	B1.15 (Draft), MIL-S-8879A
N	UNR	Unified Inch Screw Thread, constant pitch series, with rounded root of radius not less than 0.108P. (Ext. thd. only.)	B1.1
NC	UNRC	Unified Inch Screw Thread, coarse thread series, with rounded root of radius not less than 0.108P. (Ext. thd. only.)	B1.1
NF	UNRF	Unified Inch Screw Thread, fine pitch series, with rounded root of radius not less than 0.108P. (Ext. thd. only.)	B1.1
NEF	UNREF	Unified Inch Screw Thread, extra-fine pitch series, with rounded root of radius not less than 0.108P. (Ext. thd. only.)	B1.1
UNM	UNM	Unified miniature thread series	B1.10
NS	UNS	Unified Inch Screw Thread, special diameter pitch, or length of engagement.	B1.1

TABLE 301B – THREAD SERIES DESIGNATIONS – BRITISH SCREW THREADS

STD. TAP & DIE MARK.	PROD. THD. DESIGNATION	THREAD SERIES	REFERENCE BRITISH STANDARD
BA	BA	British Association	BS93
BSC	BSC	British cycle	BS811
BSF	BSF	British WHITWORTH Fine	BS84
BSW	BSW	British WHITWORTH Coarse	BS84
OBSOLETE	BSPP	British Straight Pipe	OBSOLETE
OBSOLETE	BSPT	British Taper Pipe	OBSOLETE
WHIT	WHIT	British WHITWORTH Special	BS84
STD. TAP MARKING*	BRITISH PIPE THREADS		
G 1/4	G	British Internal Straight Pipe for Mechanical Joints	BS2779
Rc 1/4	Rc	British Internal Taper Pipe for Pressure Tight Joints	BS21
Rp 1/4	Rp	British Internal Straight Pipe for Pressure Tight Joints	BS21

METRIC THREAD LIMITS

TABLE 337 – STANDARD METRIC TAPS – GROUND THREAD

NOMINAL SIZE	PITCH	MAJOR DIAMETER INCHES			STANDARD PITCH DIAMETER LIMITS INCHES														
		BASIC	MIN.	MAX.	BASIC PITCH DIAMETER	D-3 LIMITS		D-4 LIMITS		D-5 LIMITS		D-6 LIMITS		D-7 LIMITS		D-8 LIMITS		D-9 LIMITS	
						MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
1.6	0.35	.062992	.0641	.0651	.054042	.0550	.0556												
2	0.4	.078740	.0801	.0811	.068511	.0695	.0701												
2.5	0.45	.098425	.0999	.1009	.086918	.0879	.0885												
3	0.5	.118110	.1198	.1208	.105324	.1063	.1069												
3.5	0.6	.137795	.1397	.1407	.122452			.1237	.1245										
4	0.7	.157480	.1597	.1613	.139580			.1408	.1416										
5	0.8	.196850	.1994	.2010	.176393			.1776	.1784										
6	1	.236220	.2395	.2411	.210648					.2122	.2132								
8	1.25	.314960	.3189	.3214	.282995					.2843	.2855								
10	1.5	.393700	.3985	.4010	.355343							.3572	.3584						
12	1.75	.472440	.4780	.4805	.427690							.4295	.4307						
14	2	.551180	.5575	.5600	.500037									.5020	.5036				
16	2	.629920	.6363	.6388	.578777									.5807	.5823				
20	2.5	.787400	.7954	.7979	.723471									.7254	.7270				
24	3	.944880	.9544	.9583	.868165											.8706	.8722		
30	3.5	1.181100	1.1922	1.1961	1.091599													1.0942	1.0962
36	4	1.417320	1.4300	1.4339	1.315034													1.3176	1.3196

*Examples to show location of size designation



TAPPING SPEED GUIDE

MATERIALS		SPEED FEET PER MINUTE	MATERIALS		SPEED FEET PER MINUTE
Aluminum Alloys		90-100	(Steel, Cont.) Carbon Steel, Plain	Annealed	40-80
Brass		60-100		Tempered	15-40
Bronze		40-60	Cast, Carbon	Annealed	40-50
Copper		40-60		Tempered	30
High Temperature Alloys	Cobalt Base	5-10	Cast, Corrosion Resistant,	Annealed	20-30
	Iron Base	10-15	Heat Resistant,	as Cast	20-25
	Nickel Base	5-10	Low Alloy	Annealed	30-45
Iron	Ductile	Annealed		Tempered	15-25
		as Cast	Precipitation Hardening,	Treated	10-15
		Tempered	Stainless	Annealed	15-45
	Gray,	Annealed		Tempered	15-25
		As Cast	Free Machining,	Annealed	45-75
	Malleable	60	Tool Steels, High Speed	Annealed	15-25
		Heat Treated	Water Hardening	Annealed	50
Magnesium Alloys		Annealed	Ultra High Strength Steels	Annealed	35
Manganese		20		Normalized	20
Molybdenum Alloys	Stress Relieved	50		Tempered	3-7
Monel	Annealed	20	Maraging Steels	Annealed	20-15
Nickel Alloys	Annealed	25		Maraged	5-10
Plastics,	Reinforced	25	Tantalum Alloys, Stress Relieved		3
	Thermoplastics	50	Titanium Alloys, Commercial Pure,	Annealed	40-60
	Thermosetting Plastics	50	Alpha & Alpha Beta Alloys,	Annealed	10-25
Steels,	Alloys, Annealed or Cold Drawn	40-60	Tungsten Alloys, Pressed & Sintered		50
	Quenched & Tempered	15-35	Zinc Alloys	Die Cast	150
	Armor Plate	10			

CONVERSION TABLE, SURFACE FEET PER MINUTE TO REVOLUTIONS PER MINUTE

SPEED FEET PER MINUTE	20	25	30	40	50	60	70	80	90	100	110	120	130	140	150
TAP SIZE	REVOLUTIONS PER MINUTE														
0	1273	1592	1910	2546	3183	3820	4456	5093	5730	6366	7003	7639	8276	8913	9549
1	1047	1308	1570	2093	2617	3140	3663	4186	4710	5233	5756	6279	6808	7326	7849
2	888	1110	1333	1777	2221	2665	3109	3554	3999	4442	4886	5330	5774	6218	6662
3	772	964	1157	1543	1929	2315	2701	3086	3472	3858	4244	4629	5015	5401	5787
4	682	853	1023	1364	1705	2046	2387	2728	3069	3411	3751	4092	4434	4775	5116
5	611	764	917	1222	1528	1833	2139	2445	2750	3056	3361	3667	3973	4278	4584
6	553	691	829	1106	1382	1658	1934	2211	2487	2764	3040	3316	3592	3869	4145
8	466	583	699	932	1165	1398	1631	1864	2097	2330	2563	2796	3029	3262	3495
10	401	502	603	804	1005	1205	1406	1607	1808	2009	2210	2411	2612	2813	3014
12	354	442	531	707	884	1061	1238	1415	1592	1769	1945	2122	2300	2476	2653
1/4	306	382	458	611	764	917	1070	1222	1375	1528	1681	1833	1986	2139	2292
5/16	245	306	367	489	611	733	856	978	1100	1222	1345	1467	1589	1711	1833
3/8	204	255	306	407	509	611	713	815	917	1019	1120	1222	1324	1426	1528
7/16	175	219	262	349	437	524	611	698	786	873	960	1048	1135	1222	1310
1/2	153	191	229	306	382	458	535	611	688	764	840	917	993	1070	1146
9/16	137	172	206	275	344	412	481	550	619	687	756	825	893	963	1031
5/8	122	153	183	244	306	367	428	489	550	611	672	733	794	856	917
3/4	102	128	153	203	255	306	357	407	458	509	560	611	662	713	764
7/8	87	109	131	175	218	262	306	350	392	437	480	524	568	611	655
1	76	96	115	153	191	230	268	306	344	382	420	458	497	535	573

TAP RECOMMENDATIONS FOR CLASSES 2, 3, 2B & 3B UNIFIED AND AMERICAN SCREW THREADS

NUMBERED SIZES											
SIZE	THREADS PER INCH		RECOMMENDED TAP FOR CLASS OF THREAD				PITCH DIAMETER LIMITS FOR CLASS OF THREAD				
	NC	NF	CLASS 2	CLASS 3	CLASS 2B	CLASS 3B	MIN. ALL CLASSES (BASIC)	MAX. CLASS 2	MAX. CLASS 3	MAX. CLASS 2B	MAX. CLASS 3B
0		80	GH1	GH1	GH2	GH1	.0519	.0536	.0532	.0542	.0536
1	64		GH1	GH1	GH2	GH1	.0629	.0648	.0643	.0655	.0648
1		72	GH1	GH1	GH2	GH1	.0640	.0658	.0653	.0665	.0659
2	56		GH1	GH1	GH2	GH1	.0744	.0764	.0759	.0772	.0765
2		64	GH1	GH1	GH2	GH1	.0759	.0778	.0773	.0786	.0779
3	48		GH1	GH1	GH2	GH1	.0855	.0877	.0871	.0885	.0877
3		56	GH1	GH1	GH2	GH1	.0874	.0894	.0889	.0902	.0895
4	40		GH2	GH1	GH2	GH2	.0958	.0982	.0975	.0991	.0982
4		48	GH1	GH1	GH2	GH1	.0985	.1007	.1001	.1016	.1008
5	40		GH2	GH1	GH2	GH2	.1088	.1112	.1105	.1121	.1113
5		44	GH1	GH1	GH2	GH1	.1102	.1125	.1118	.1134	.1126
6	32		GH2	GH1	GH3	GH2	.1177	.1204	.1196	.1214	.1204
6		40	GH2	GH1	GH2	GH2	.1218	.1242	.1235	.1252	.1243
8	32		GH2	GH1	GH3	GH2	.1437	.1464	.1456	.1475	.1465
8		36	GH2	GH1	GH2	GH2	.1460	.1485	.1478	.1496	.1487
10	24		GH3	GH1	GH3	GH3	.1629	.1662	.1653	.1672	.1661
10		32	GH2	GH1	GH3	GH2	.1697	.1724	.1716	.1736	.1726
12	24		GH3	GH1	GH3	GH3	.1889	.1922	.1913	.1933	.1922
12		28	GH3	GH1	GH3	GH3	.1928	.1959	.1950	.1970	.1959
FRACTIONAL SIZES											
SIZE	THREADS PER INCH		RECOMMENDED TAP FOR CLASS OF THREAD				PITCH DIAMETER LIMITS FOR CLASS OF THREAD				
	NC AND UNC	NF AND UNF	CLASS 2	CLASS 3	CLASS 2B	CLASS 3B	MIN. ALL CLASSES (BASIC)	MAX. CLASS 2	MAX. CLASS 3	MAX. CLASS 2B	MAX. CLASS 3B
1/4	20		GH3	GH2	GH5	GH3	.2175	.2211	.2201	.2223	.2211
1/4		28	GH3	GH1	GH4	GH3	.2268	.2299	.2290	.2311	.2300
5/16	18		GH3	GH2	GH5	GH3	.2764	.2805	.2794	.2817	.2803
5/16		24	GH3	GH1	GH4	GH3	.2854	.2887	.2878	.2902	.2890
3/8	16		GH3	GH2	GH5	GH3	.3344	.3389	.3376	.3401	.3387
3/8		24	GH3	GH1	GH4	GH3	.3479	.3512	.3503	.3528	.3516
7/16	14		GH5	GH3	GH5	GH3	.3911	.3960	.3947	.3972	.3957
7/16		20	GH3	GH1	GH5	GH3	.4050	.4086	.4076	.4104	.4091
1/2	13		GH5	GH3	GH5	GH3	.4500	.4552	.4537	.4565	.4548
1/2		20	GH3	GH1	GH5	GH3	.4675	.4711	.4701	.4731	.4717
9/16	12		GH5	GH3	GH5	GH3	.5084	.5140	.5124	.5152	.5135
9/16		18	GH3	GH2	GH5	GH3	.5264	.5305	.5294	.5323	.5308
5/8	11		GH5	GH3	GH5	GH3	.5660	.5719	.5702	.5732	.5714
5/8		18	GH3	GH2	GH5	GH3	.5889	.5930	.5919	.5949	.5934
3/4	10		GH5	GH3	GH5	GH5	.6850	.6914	.6895	.6927	.6907
3/4		16	GH3	GH2	GH5	GH3	.7094	.7139	.7126	.7159	.7143
7/8	9		GH6	GH4	GH6	GH4	.8028	.8098	.8077	.8110	.8089
7/8		14	GH4	GH2	GH6	GH4	.8286	.8335	.8322	.8356	.8339
1	8		GH6	GH4	GH6	GH4	.9188	.9264	.9242	.9276	.9254
1		12	GH4	GH2	GH6	GH4	.9459	.9515	.9499	.9535	.9516
1	14 NS		GH4	GH2	GH6	GH4	.9536	.9585	.9572	.9609	.9590
1 1/8	7		GH8	GH4	GH8	GH4	1.0322	1.0407	1.0381	1.0416	1.0393
1 1/8		12	GH4	GH4	GH6	GH4	1.0709	1.0765	1.0749	1.0787	1.0768
1 1/4	7		GH8	GH4	GH8	GH4	1.1572	1.1657	1.1631	1.1668	1.1644
1 1/4		12	GH4	GH4	GH6	GH4	1.1959	1.2015	1.1999	1.2039	1.2019
1 3/8	6		GH8	GH4	GH8	GH4	1.2667	1.2768	1.2738	1.2771	1.2745
1 3/8		12	GH4	GH4	GH6	GH4	1.3209	1.3265	1.3249	1.3291	1.3270
1 1/2	6		GH8	GH4	GH8	GH4	1.3917	1.4018	1.3988	1.4022	1.3996
1 1/2		12	GH4	GH4	GH6	GH4	1.4459	1.4515	1.4499	1.4542	1.4522

The above recommended taps normally produce the Class of Thread indicated in average materials when used with reasonable care. However, if the tap specified does not give a satisfactory gage fit in the work, a choice of some other limit tap will be necessary.

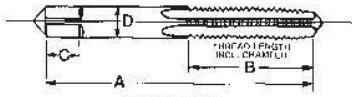


TAP DRILL SIZES AND PERCENTAGE OF THREADS

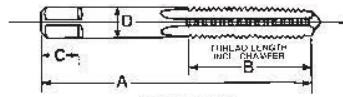
TAP		TAP DRILL	DECIM. EQUIV.	THEOR. % OF THREAD	TAP		TAP DRILL	DECIM. EQUIV.	THEOR. % OF THREAD	TAP		TAP DRILL	DECIM. EQUIV.	THEOR. % OF THREAD				
NOM. SIZE	TPI				NOM. SIZE	TPI				NOM. SIZE	TPI							
0	80	#56	.0465	83	1/4	20	13/64	.2031	72	5/8	18	9/16	.5625	87				
		3/64	.0469	81			#6	.2040	71			0.5687	.5687	78				
1	64	#54	.0550	89	1/4	28	#5	.2055	69	5/8	20	37/64	.5781	72				
		#53	.0595	67			#3	.2130	80			37/64	.5781	87				
1	72	1/16	.0625	58	1/4	32	7/32	.2188	67	5/8	24	0.5828	.5828	78				
		#51	.0670	82			7/32	.2188	77			19/32	.5938	67				
2	56	#50	.0700	69	1/4	36	#2	.2210	71	5/8	32	19/32	.5938	77				
		#49	.0730	56			#2	.2210	80			19/32	.5938	87				
2	64	#50	.0700	79	5/16	18	F	.2570	77	11/16	12	39/64	.6094	72				
		#49	.0730	64			G	.2610	71			39/64	.6094	72				
3	48	#48	.0760	85	5/16	20	F	.2570	85	11/16	16	5/8	.6250	77				
		5/64	.0781	77			G	.2610	79			11/16	20	41/64	.6406	72		
		#47	.0785	76			H	.2660	72			11/16	24	41/64	.6406	87		
		#46	.0810	67			H	.2660	86			11/16	28	21/32	.6562	67		
		#45	.0820	63			I	.2720	75			11/16	32	21/32	.6562	77		
3	56	#44	.0860	56	5/16	28	J	.2770	66	3/4	10	41/64	.6406	84				
		#44	.0860	56			K	.2810	68			21/32	.6562	87				
		#44	.0860	80			9/32	.2812	67			43/64	.6719	72				
		#43	.0890	71			K	.2810	78			3/4	16	11/16	.6875	77		
		#42	.0935	57			9/32	.2812	77			3/4	20	45/64	.7031	72		
4	40	3/32	.0938	56	5/16	32	7.25mm	.2854	75	3/4	12	23/32	.7188	67				
		#43	.0890	85			5/16	36	7.25mm			.2854	75	3/4	28	23/32	.7188	77
		#42	.0935	68			3/8	16	5/16			.3125	77	3/4	32	23/32	.7188	77
		3/32	.0938	67			O	.3160	73			13/16	12	47/64	.7344	72		
		#41	.0960	59			P	.3230	80			13/16	16	3/4	.7500	77		
4	48	#40	.0980	83	3/8	20	Q	.3320	66	13/16	20	49/64	.7656	72				
		#39	.0995	79			Q	.3320	79			13/16	28	25/32	.7812	67		
		#38	.1015	72			R	.3390	67			13/16	32	25/32	.7812	77		
		#37	.1040	65			R	.3390	78			13/16	32	25/32	.7812	77		
		#38	.1015	80			11/32	.3438	67			7/8	9	49/64	.7656	76		
5	40	#37	.1040	71	3/8	28	11/32	.3438	77	7/8	12	25/32	.7812	87				
		#36	.1065	63			S	.3480	67			51/64	.7969	72				
		#37	.1040	84			S	.3480	75			51/64	.7969	84				
		#36	.1065	78			T	.3580	86			0.8024	.8024	78				
		7/64	.1094	70			23/64	.3594	84			13/16	.8125	67				
6	32	#35	.1100	69	7/16	14	3/8	.3750	77	7/8	16	13/16	.8125	77				
		#34	.1110	67			V	.3770	75			7/8	20	53/64	.8281	72		
		#33	.1130	62			W	.3860	79			7/8	28	27/32	.8438	67		
		#34	.1110	83			25/64	.3906	72			7/8	32	27/32	.8438	77		
		#33	.1130	77			Y	.4040	72			15/16	12	27/32	.8438	87		
6	40	#32	.1160	68	7/16	28	Y	.4040	83	15/16	12	55/64	.8594	72				
		#29	.1360	69			Z	.4130	80			15/16	16	7/8	.8750	77		
		#29	.1360	78			27/64	.4219	72			15/16	20	57/64	.8906	72		
		#28	.1405	65			27/64	.4219	78			15/16	28	29/32	.9062	67		
		9/64	.1406	65			7/16	16	3/8			.3750	77	15/16	32	29/32	.9062	77
8	32	#27	.1440	85	1/2	12	V	.3770	75	7/8	20	53/64	.8281	72				
		#26	.1470	79			W	.3860	79			7/8	28	27/32	.8438	67		
		#25	.1495	75			25/64	.3906	72			7/8	32	27/32	.8438	77		
		#24	.1520	70			Y	.4040	72			15/16	12	27/32	.8438	87		
		#23	.1540	66			13/32	.4062	77			15/16	12	55/64	.8594	87		
8	36	5/32	.1562	83	1/2	16	Z	.4130	80	15/16	16	7/8	.8750	77				
		#22	.1570	81			27/64	.4219	72			15/16	20	57/64	.8906	72		
		#21	.1590	76			27/64	.4219	78			15/16	28	29/32	.9062	67		
		#20	.1610	71			7/16	14	23/64			.3594	84	13/16	.8125	67		
		11/64	.1719	82			1/2	13	27/64			.4219	78	15/16	32	29/32	.9062	77
10	24	#17	.1730	79	1/2	16	27/64	.4219	78	1	8	55/64	.8594	87				
		#16	.1770	72			7/16	16	3/8			.3750	77	7/8	.8125	77		
		#15	.1800	67			1/2	20	29/64			.4531	72	7/8	20	53/64	.8281	72
		#16	.1770	84			1/2	28	15/32			.4688	67	7/8	28	27/32	.8438	67
		#15	.1800	78			1/2	32	15/32			.4688	77	7/8	32	27/32	.8438	77
10	32	#14	.1820	73	9/16	12	15/32	.4688	87	1	12	29/32	.9062	87				
		#13	.1850	67			31/64	.4844	72			59/64	.9219	84				
		#14	.1820	84			1/2	.5000	77			0.9274	.9274	78				
		#13	.1850	76			0.5062	.5062	69			1	16	15/16	.9375	77		
		3/16	.1875	70			1/2	.5000	87			1	20	61/64	.9531	72		
12	24	#12	.1890	67	9/16	18	0.5062	.5062	78	1	28	31/32	.9688	67				
		#11	.1920	62			33/64	.5156	72			1	32	31/32	.9688	77		
		#12	.1890	84			33/64	.5156	87			1	32	31/32	.9688	77		
		#11	.1920	76			0.5203	.5203	78			1	32	31/32	.9688	77		
		#10	.1950	70			17/32	.5312	67			1 1/16	8	0.9274	.9274	83		
12	28	#9	.1960	83	9/16	24	0.5263	.5263	78	1 1/16	8	15/16	.9375	77				
		#8	.1990	79			17/32	.5312	77			1 1/16	12	31/32	.9688	87		
		#7	.2010	75			5/8	11	17/32			.5312	79	63/64	.9844	72		
		#9	.1960	83			5/8	12	35/64			.5469	72	1 1/16	16	1	1.0000	77
		#8	.1990	79			5/8	16	9/16			.5625	77	1 1/16	18	1	1.0000	87
1/4	20	#7	.2010	75	5/8	16	0.5687	.5687	69	1 1/16	20	11/64	1.0156	72				
		#7	.2010	75			0.5687	.5687	69			11/64	1.0156	72				

STANDARD TAP DIMENSIONS, GROUND THREAD

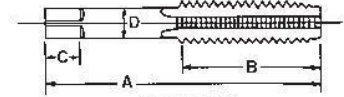
General Dimensions



STYLE 1



STYLE 2

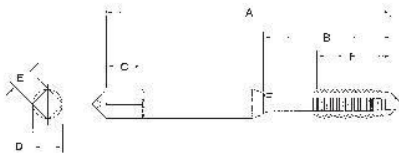


STYLE 3

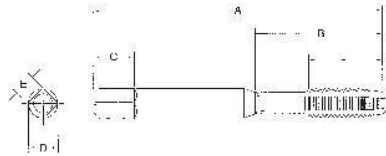
NOMINAL DIAMETER RANGE - INCHES		MACHINE SCREW SIZE NO.	NOMINAL FRACTIONAL DIAMETER INCHES	NOMINAL METRIC DIAMETER MILLIMETER	STYLE*	TAP DIMENSIONS - INCHES				
OVER	TO (INCL.)					O/A LENGTH A	THD. LGTH. B	SQ. LGTH. C	SHANK DIA. D	SIZE OF SQ. E
.052	.065	0	1/16	M1.6	1	1 5/8	5/16	3/16	.141	.110
.065	.078	1		M1.8	1	1 11/16	3/8	3/16	.141	.110
.078	.091	2		M2, M2.2	1	1 3/4	7/16	3/16	.141	.110
.091	.104	3	3/32	M2.5	1	1 13/16	1/2	3/16	.141	.110
.104	.117	4			1	1 7/8	9/16	3/16	.141	.110
.117	.130	5	1/8	M3, M3.15	1	1 15/16	5/8	3/16	.141	.110
.130	.145	6		M3.5	1	2	11/16	3/16	.141	.110
.145	.171	8	5/32	M4	1	2 1/8	3/4	1/4	.168	.131
.171	.197	10	3/16	M4.5, M5	1	2 3/8	7/8	1/4	.194	.152
.197	.223	12	7/32		1	2 3/8	15/16	9/32	.220	.165
.223	.260	14	1/4	M6, M6.3	2	2 1/2	1	5/16	.255	.191
.260	.323		5/16	M7, M8	2	2 23/32	1 1/8	3/8	.318	.238
.323	.395		3/8	M10	2	2 15/16	1 1/4	7/16	.381	.286
.395	.448		7/16		3	3 5/32	1 7/16	13/32	.323	.242
.448	.510		1/2	M12, M12.5	3	3 3/8	1 21/32	7/16	.367	.275
.510	.573		9/16	M14	3	3 19/32	1 21/32	1/2	.429	.322
.573	.635		5/8	M16	3	3 13/16	1 13/16	9/16	.480	.360
.635	.709		11/16	M18	3	4 1/32	1 13/16	5/8	.542	.406
.709	.760		3/4		3	4 1/4	2	11/16	.590	.442
.760	.823		13/16	M20	3	4 15/32	2	11/16	.652	.489
.823	.885		7/8	M22	3	4 11/16	2 7/32	3/4	.697	.523
.885	.948		15/16	M24	3	4 29/32	2 7/32	3/4	.760	.570
.948	1.010		1	M25	3	5 1/8	2 1/2	13/16	.800	.600
1.010	1.073		1 1/16	M27	3	5 1/8	2 1/2	7/8	.896	.672
1.073	1.135		1 1/8		3	5 7/16	2 9/16	7/8	.896	.672
1.135	1.198		1 3/16	M30	3	5 7/16	2 9/16	1	1.021	.766
1.198	1.260		1 1/4		3	5 3/4	2 9/16	1	1.021	.766
1.260	1.323		1 5/16	M33	3	5 3/4	2 9/16	1 1/16	1.108	.831
1.323	1.385		1 3/8		3	6 1/16	3	1 1/16	1.108	.831
1.385	1.448		1 7/16	M36	3	6 1/16	3	1 1/8	1.233	.925
1.448	1.510		1 1/2		3	6 3/8	3	1 1/8	1.233	.925
1.510	1.635		1 5/8	M39	3	6 11/16	3 3/16	1 1/8	1.305	.979
1.635	1.760		1 3/4	M42	3	7	3 3/16	1 1/4	1.430	1.072
1.760	1.885		1 7/8		3	7 5/16	3 9/16	1 1/4	1.519	1.139
1.885	2.010		2	M48	3	7 5/8	3 9/16	1 3/8	1.644	1.233
2.010	2.135		2 1/8		3	8	3 9/16	1 3/8	1.769	1.327
2.135	2.260		2 1/4	M56	3	8 1/4	3 9/16	1 7/16	1.894	1.420
2.260	2.385		2 3/8		3	8 1/2	4	1 7/16	2.019	1.514
2.385	2.510		2 1/2		3	8 3/4	4	1 1/2	2.100	1.575
2.510	2.635		2 5/8	M64	3	8 3/4	4	1 1/2	2.225	1.669
2.635	2.760		2 3/4		3	9 1/4	4	1 9/16	2.350	1.762
2.760	2.885		2 7/8	M72	3	9 1/4	4	1 9/16	2.475	1.856
2.885	3.010		3		3	9 3/4	4 9/16	1 5/8	2.543	1.907
3.010	3.135		3 1/8		3	9 3/4	4 9/16	1 5/8	2.668	2.001
3.135	3.260		3 1/4	M80	3	10	4 9/16	1 3/4	2.793	2.095

*Styles shown are for Ground Thread Taps.

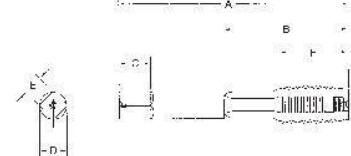
CNC DESIGN TAP DIMENSIONS, GROUND THREAD



STYLE 1



STYLE 2



STYLE 3

NOMINAL DIAMETER RANGE - INCHES		MACHINE SCREW SIZE NO.	NOMINAL FRACTIONAL DIAMETER INCHES	NOMINAL METRIC DIAMETER MILLIMETER	STYLE	TAP DIMENSIONS - INCHES				
						OVERALL LENGTH A	THREAD LENGTH F	REACH B	SHANK DIAMETER D	SQUARE SIZE C/E
OVER	TO (INCL.)									
.104	.117	4			1	1-7/8	5/16	25/32	.141	3/16X.110
.117	.130	5	1/8	M3, M3.15	1	1-15/16	5/16	25/32	.141	3/16X.110
.130	.145	6		M3.5	1	2	3/8	13/16	.141	3/16X.110
.145	.171	8	5/32	M4	1	2-1/8	3/8	7/8	.168	1/4X.131
.171	.197	10	3/16	M4.5, M5	1	2-3/8	1/2	1	.194	1/4X.152
.197	.223	12	7/32		1	2-3/8	1/2	1-1/16	.220	9/32X.165
.223	.260	14	1/4	M6, M6.3	2	2-1/2	5/8	1-1/8	.255	5/16X.191
.260	.323		5/16	M7, M8	2	2-23/32	11/16	1-1/4	.318	3/8X.238
.323	.395		3/8	M10	2	2-15/16	3/4	1-5/16	.381	7/16X.286
.395	.448		7/16		3	3-5/32	7/8	-	.323	13/32X.242
.448	.510		1/2	M12, M12.5	3	3-3/8	15/16	-	.367	7/16X.275
.510	.573		9/16	M14	3	3-19/32	1	-	.429	1/2X.322
.573	.635		5/8	M16	3	3-13/16	1-1/8	-	.480	9/16X.360
.635	.709		11/16	M18	3	4-1/32	1-3/16	-	.542	5/8X.406
.709	.760		3/4		3	4-1/4	1-1/4	-	.590	11/16X.422

METRIC TAP DRILL SIZES AND PERCENTAGES OF THREADS

TAP SIZE	TAP DRILL	DECIMAL EQUIV.	THEOR. % OF THREAD	TAP SIZE	TAP DRILL	DECIMAL EQUIV.	THEOR. % OF THREAD	TAP SIZE	TAP DRILL	DECIMAL EQUIV.	THEOR. % OF THREAD
M1.6X3.5	1.25mm	.0492	77	M8X1.25	I	.2720	67	M22X1.5	20.5mm	.8071	77
	1.3mm	.0512	66	M8X1	7mm	.2756	77		13/16	.8125	70
	#55	.0520	61		8.5mm	.3346	77	M24X3	21mm	.8268	77
M1.8X.35	1.45mm	.0571	77	M10X1.5	R	.3390	71	M24X2	27/32	.8438	66
	1.5mm	.0591	66		M10X1.25	8.75mm	.3445		77	22mm	.8661
	#53	.0595	64	M12X1.75		S	.3480	71	7/8	.8750	68
M2X.4	1.6mm	.0630	77	M12X1.25	13/32	.4062	74	M27X3	24mm	.9449	77
	#52	.0635	74		M14X2	Z	.4130		66	61/64	.9531
M2.2X.45	1.75mm	.0689	77	M14X1.5	27/64	.4219	79	M27X2	25mm	.9843	77
	#50	.0700	72		M16X2	11mm	.4331		62	63/64	.9844
M2.5X.45	2.05mm	.0807	77	M16X1.5	12mm	.4724	77	M30X3.5	26.5mm	1.0433	77
	#45	.0820	71		M18X2.5	12.5mm	.4844		65	1 1/16	1.0625
M3X.5	2.5mm	.0984	77	M18X1.5	1/2	.5000	67	M30X2	28mm	1.1024	77
	#39	.0995	73		M20X2.5	14mm	.5512		77	1 7/64	1.1094
M3.5X.6	2.9mm	.1142	77	M20X1.5	14.5mm	.5709	77	M33X3.5	29.5mm	1.1614	77
	#32	.1160	71		M22X2.5	15.5mm	.6102		77	1 11/64	1.1719
M4X.7	3.3mm	.1299	77	M22X1.5	9/16	.5625	66	M33X2	31mm	1.2205	77
	3.4mm	.1339	66		M24X3	14.5mm	.5781		68	1 15/64	1.2344
	#29	.1360	60	M24X2	15.5mm	.6102	77	M36X4	32mm	1.2598	77
M4.5X.75	3.75mm	.1476	77	M24X1.5	16.5mm	.6496	77	M36X3	1 17/64	1.2656	74
	#25	.1495	72		M26X3	5/8	.6250		65	1 19/64	1.2969
M5X.8	4.2mm	.1654	77	M26X1.5	17.5mm	.6890	77	M39X4	33mm	1.2992	77
	#18	.1695	67		M28X2	21/32	.6562		68	1 5/16	1.3125
M6X1	5mm	.1969	77	M28X1.5	17.5mm	.6890	77	M39X3	1 3/8	1.3750	78
	#8	.1990	73		M30X2.5	45/64	.7031		66	35mm	1.3780
M7X1	6mm	.2362	77	M30X1.5	18.5mm	.7283	77	M39X2	1 25/64	1.3906	71
	B	.2380	74		M32X2	47/64	.7344		69	36mm	1.4173
M8X1.25	6.75mm	.2657	77	M32X1.5	19.5mm	.7677	77	M39X1	1 27/64	1.4219	74
	6.8mm	.2677	74		M34X2	25/32	.7812		66		

PIPE TAP DRILL SIZES

TAP SIZE	*NPT		*NPTF		STRAIGHT	
	TAP DRILL	DECIMAL EQUIV.	TAP DRILL	DECIMAL EQUIV.	TAP DRILL	DECIMAL EQUIV.
1/16	D	.2460	D	.2460	1/4	.2500
1/8	Q	.3320	R	.3390	11/32	.3438
1/4	7/16	.4375	7/16	.4375	7/16	.4375
3/8	9/16	.5625	37/64	.5781	37/64	.5781
1/2	45/64	.7031	45/64	.7031	23/32	.7188
3/4	29/32	.9062	59/64	.9219	59/64	.9219
1	1 9/64	1.1406	1 5/32	1.1562	1 5/32	1.1562
1 1/4	1 31/64	1.4844	1 1/2	1.5000	1 1/2	1.5000
1 1/2	1 47/64	1.7344	1 47/64	1.7344	1 3/4	1.7500
2	2 13/64	2.2031	2 7/32	2.2188	2 7/32	2.2188
2 1/2	2 5/8	2.6250	2 41/64	2.6406	2 21/32	2.6562
3			3 17/64	3.2656		

*For tapping without reaming.

STANDARD PIPE TAP DIMENSIONS, STRAIGHT AND TAPER, GROUND THREAD



NOMINAL SIZE INCHES	DIMENSIONS IN INCHES				
	LENGTH OVERALL A	LENGTH OF THREAD B	LENGTH OF SQUARE C	DIAMETER OF SHANK D	SIZE OF SQUARE E
1/16	2 1/8	11/16	3/8	.3125	.234
1/8 Small Shank	2 1/8	3/4	3/8	.3125	.234
1/8 Large Shank	2 1/8	3/4	3/8	.4375	.328
1/4	2 7/16	1 1/16	7/16	.5625	.421
3/8	2 9/16	1 1/16	1/2	.7000	.531
1/2	3 1/8	1 3/8	5/8	.6875	.515
3/4	3 1/4	1 3/8	11/16	.9063	.679
1	3 3/4	1 3/4	13/16	1.1250	.843
1 1/4	4	1 3/4	15/16	1.3125	.984
1 1/2	4 1/4	1 3/4	1	1.5000	1.125
2	4 1/2	1 3/4	1 1/8	1.8750	1.406
2 1/2	5 1/2	2 9/16	1 1/4	2.2500	1.687
3	6	2 5/8	1 3/8	2.6250	1.968
3 1/2	6 1/2	2 11/16	1 1/2	2.8125	2.108
4	6 3/4	2 3/4	1 5/8	3.0000	2.250

TAPER PIPE TAPS THREAD LIMITS

NOMINAL SIZE INCHES	THREADS PER INCH	STANDARD PROJECTION NPT & NPTF			PTF SAE SHORT PROJECTION		
		PROJECTION THROUGH L1 RING GAGE	THICKNESS OF L1 RING GAGE	RUN OF THREAD	PROJECTION THROUGH L1 RING GAGE	THICKNESS OF L1 RING GAGE	RUN OF THREAD
1/16	27	.312	.160	.472	.2405±.019	.160	.4005
1/8	27	.312	.1615	.4735	.2405±.019	.1615	.4020
1/4	18	.459	.2278	.6868	.3610±.028	.2278	.5888
3/8	18	.454	.240	.694	.3610±.028	.240	.6010
1/2	14	.579	.320	.899	.4645±.036	.320	.7845
3/4	14	.565	.339	.904	.4645±.036	.339	.8035
1	11 1/2	.678	.400	1.078	.5652±.044	.400	.9652
1 1/4	11 1/2	.686	.420	1.106	.5652±.044	.420	.9852
1 1/2	11 1/2	.699	.420	1.119	.5652±.044	.420	.9852
2	11 1/2	.667	.436	1.103	.5652±.044	.436	1.0012
2 1/2	8	.925	.682	1.607	.8125±.062	.682	1.4945
3	8	.925	.766	1.691	.8125±.062	.766	1.5785
3 1/2	8	.938	.821	1.759			
4	8	.950	.844	1.794			

Projection & Thickness L1 Ring Gage = Run Gage Measurement in Inches

TAP NOMENCLATURE

