

## Screw Machine Length Drills

List No. SM02H10 -- M2 Black & Bronze Finish



List No. SM35G10 -- HSS M35 Cobalt Golden Finish



List No. SM02B10 -- HSS M2 Black Oxide Finish



List No. SM42G10 -- HSS M42 Cobalt Golden Finish



### Features

- \* Precision ground to insure concentricity of tip & body
- \* Smooth flutes & special surface treated for effective chip flow
- \* Penetrates faster with less pressure
- \* Premium quality high speed steel, special heat treatment to remain sharper edges, & reduce wear
- \* Self-feeding point, unique flute design and industrial heavy duty web can drill faster, cool, longer!
- \* Cobalt drills have extremely heat resistant
- \* Special bronze-oxide, Tin-Coated, Black Oxide, and bright surface treatment
- \* 3-Equal Flat on shank is for positive holding in 3-Jaw Chucks
- \* All dimensional & element tolerances conform to one of ASME/ANSI B94.11M, NAS 907 - National Aerospace Standard, USCTI - United States Cutting Tool Institute (formerly MCTI)



### Design Features

\* Shank Specification

Drill Size	Shk Dia	Shk Length
Up to 1" inclusive	Same as drill	
Over 1" to 1-1/16"	1"	2"
Over 1-1/16" to 1-1/4"	1"	2-1/4"
Over 1-1/4" to 1-1/2"	1-1/4"	2-1/2"
Over 1-1/2"	1-1/2"	2-1/2"

- \* For sizes under 3/32", a chamfer or male point may be used on end of shank
- \* Chamfer sizes 3/32" and larger at the end of shank
- \* Fully ground drills are also available up to 1" as requests

### Application

- \* Screw Machine drills are popular in the automotive & construction industries. The short flute & overall length provide maximum rigidity. They are often used in screw machine set-up where spindle clearance is limited.
- \* 118° allows easier penetration, & 135° Split Point is used with heavier feeds in harder materials
- \* 135° Split Point is popular in hand held drilling to reduce breakage & eliminate skidding or walking
- \* Cobalt drills display higher red hardness & are especially effective in drilling hard/abrasive materials

### Drills available

Sizes: 3/64" to 2-1/2" with fully ground, HSS M2  
 Standard Drills are Right Hand. Left hand & Parabolic flutes are available as custom request  
 Drill Sets & Custom Package are available

**Material:** M2, M35, M42 cobalt HSS

### How to Order ....

When order drills, please specify material, diameter, cut direction, surface finish, shank style, chisel point angle.

### Fractional Sizes

Size	Dec. Equiv	Flute Length	Overall Length	SMFXXX
3/64"	0.0469	1/2"	1-3/8"	R/L003
1/16"	0.0625	5/8"	1-5/8"	R/L004
5/64"	0.0781	11/16"	1-11/16"	R/L005
3/32"	0.0938	3/4"	1-3/4"	R/L006
7/64"	0.1094	13/16"	1-13/16"	R/L007
1/8"	0.1250	7/8"	1-7/8"	R/L008

Size	Dec. Equiv	Flute Length	Overall Length	SMFXXX
53/64"	0.8281	3-1/2"	5-3/8"	R/L053
27/32"	0.8438	3-1/2"	5-3/8"	R/L054
55/64"	0.8594	3-1/2"	5-1/2"	R/L055
7/8"	0.8750	3-1/2"	5-1/2"	R/L056
57/64"	0.8906	3-5/8"	5-5/8"	R/L057
29/32"	0.9062	3-5/8"	5-5/8"	R/L058

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### Fractional Sizes

Size	Dec. Equiv	Flute Length	Overall Length	SMFXXX	Size	Dec. Equiv	Flute Length	Overall Length	SMFXXX
9/64"	0.1406	15/16"	1-15/16"	R/L009	59/64"	0.9219	3-3/4"	5-3/4"	R/L059
5/32"	0.1562	1"	2-1/16"	R/L010	15/16"	0.9375	3-3/4"	5-3/4"	R/L060
11/64"	0.1719	1-1/16"	2-1/8"	R/L011	61/64"	0.9531	3-7/8"	5-7/8"	R/L061
3/16"	0.1875	1-1/8"	2-3/16"	R/L012	31/32"	0.9688	3-7/8"	5-7/8"	R/L062
13/64"	0.2031	1-3/16"	2-1/4"	R/L013	63/64"	0.9844	4"	6"	R/L063
7/32"	0.2188	1-1/4"	2-3/8"	R/L014	1"	1.0000	4"	6"	R/L100
15/64"	0.2344	1-5/16"	2-7/16"	R/L015	1-1/32"	1.0312	4"	6-1/4"	R/L102
1/4"	0.2500	1-3/8"	2-1/2"	R/L016	1-1/16"	1.0625	4"	6-1/4"	R/L104
17/64"	0.2656	1-7/16"	2-5/8"	R/L017	1-3/32"	1.0938	4"	6-3/8"	R/L106
9/32"	0.2812	1-1/2"	2-11/16"	R/L018	1-1/8"	1.1250	4"	6-3/8"	R/L108
19/64"	0.2969	1-9/16"	2-3/4"	R/L019	1-5/32"	1.1562	4-1/4"	6-5/8"	R/L110
5/16"	0.3125	1-5/8"	2-13/16"	R/L020	1-3/16"	1.1875	4-1/4"	6-5/8"	R/L112
21/64"	0.3281	1-11/16"	2-15/16"	R/L021	1-7/32"	1.2188	4-3/8"	6-3/4"	R/L114
11/32"	0.3438	1-11/16"	3"	R/L022	1-1/4"	1.2500	4-3/8"	6-3/4"	R/L116
23/64"	0.3594	1-3/4"	3-1/16"	R/L023	1-9/32"	1.2812	4-3/8"	7"	R/L118
3/8"	0.3750	1-13/16"	3-1/8"	R/L024	1-5/16"	1.3125	4-3/8"	7"	R/L120
25/64"	0.3906	1-7/8"	3-1/4"	R/L025	1-11/32"	1.3438	4-1/2"	7-1/8"	R/L122
13/32"	0.4062	1-15/16"	3-5/16"	R/L026	1-3/8"	1.3750	4-1/2"	7-1/8"	R/L124
27/64"	0.4219	2"	3-3/8"	R/L027	1-13/32"	1.4062	4-3/4"	7-3/8"	R/L126
7/16"	0.4375	2-1/16"	3-7/16"	R/L028	1-7/16"	1.4375	4-3/4"	7-3/8"	R/L128
29/64"	0.4531	2-1/8"	3-9/16"	R/L029	1-15/32"	1.4688	4-7/8"	7-1/2"	R/L130
15/32"	0.4688	2-1/8"	3-5/8"	R/L030	1-1/2"	1.5000	4-7/8"	7-1/2"	R/L132
31/64"	0.4844	2-3/16"	3-11/16"	R/L031	1-17/32"	1.5312	4-7/8"	7-3/4"	R/L134
1/2"	0.5000	2-1/4"	3-3/4"	R/L032	1-9/16"	1.5625	4-7/8"	7-3/4"	R/L136
33/64"	0.5156	2-3/8"	3-7/8"	R/L033	1-19/32"	1.5938	4-7/8"	7-3/4"	R/L138
17/32"	0.5312	2-3/8"	3-7/8"	R/L034	1-5/8"	1.6250	4-7/8"	7-3/4"	R/L140
35/64"	0.5469	2-1/2"	4"	R/L035	1-21/32"	1.6562	5-1/8"	8"	R/L142
9/16"	0.5625	2-1/2"	4"	R/L036	1-11/16"	1.6875	5-1/8"	8"	R/L144
37/64"	0.5781	2-5/8"	4-1/8"	R/L037	1-23/32"	1.7188	5-1/8"	8"	R/L146
19/32"	0.5938	2-5/8"	4-1/8"	R/L038	1-3/4"	1.7500	5-1/8"	8"	R/L148
39/64"	0.6094	2-3/4"	4-1/4"	R/L039	1-25/32"	1.7812	5-3/8"	8-1/4"	R/L150
5/8"	0.6250	2-3/4"	4-1/4"	R/L040	1-13/16"	1.8125	5-3/8"	8-1/4"	R/L152
41/64"	0.6406	2-7/8"	4-1/2"	R/L041	1-27/32"	1.8438	5-3/8"	8-1/4"	R/L154
21/32"	0.6562	2-7/8"	4-1/2"	R/L042	1-7/8"	1.8750	5-3/8"	8-1/4"	R/L156
43/64"	0.6719	2-7/8"	4-5/8"	R/L043	1-29/32"	1.9062	5-5/8"	8-1/2"	R/L158
11/16"	0.6875	2-7/8"	4-5/8"	R/L044	1-15/16"	1.9375	5-5/8"	8-1/2"	R/L160
45/64"	0.7031	3"	4-3/4"	R/L045	2"	2.0000	5-5/8"	8-1/2"	R/L200
23/32"	0.7188	3"	4-3/4"	R/L046	2-1/16"	2.0625	5-5/8"	8-1/2"	R/L204
47/64"	0.7344	3-1/8"	5"	R/L047	2-1/8"	2.1250	5-5/8"	8-1/2"	R/L208
3/4"	0.7500	3-1/8"	5"	R/L048	2-3/16"	2.1875	5-5/8"	8-1/2"	R/L212
49/64"	0.7656	3-1/4"	5-1/8"	R/L049	2-1/4"	2.2500	5-5/8"	8-1/2"	R/L216
25/32"	0.7812	3-1/4"	5-1/8"	R/L050	2-3/8"	2.3750	5-5/8"	8-1/2"	R/L224
51/64"	0.7969	3-3/8"	5-1/4"	R/L051	2-1/2"	2.5000	5-5/8"	8-1/2"	R/L232
13/16"	0.8125	3-3/8"	5-1/4"	R/L052					

### Wire Gauge Sizes

Size	Dec. Equiv	Flute Length	Overall Length	SMNXXX	Size	Dec. Equiv	Flute Length	Overall Length	SMNXXX
1	0.2280	1-5/16"	2-7/16"	R01	31	0.1200	7/8"	1-7/8"	R31
2	0.2210	1-5/16"	2-7/16"	R02	32	0.1160	7/8"	1-7/8"	R32

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Size	Dec. Equiv	Flute Length	Overall Length	SMNXXX
3	0.2130	1-1/4"	2-3/8"	R03
4	0.2090	1-1/4"	2-3/8"	R04
5	0.2055	1-1/4"	2-3/8"	R05
6	0.2040	1-1/4"	2-3/8"	R06
7	0.2010	1-3/16"	2-1/4"	R07
8	0.1990	1-3/16"	2-1/4"	R08
9	0.1960	1-3/16"	2-1/4"	R09
10	0.1935	1-3/16"	2-1/4"	R10
11	0.1910	1-3/16"	2-1/4"	R11
12	0.1890	1-3/16"	2-1/4"	R12
13	0.1850	1-1/8"	2-3/16"	R13
14	0.1820	1-1/8"	2-3/16"	R14
15	0.1800	1-1/8"	2-3/16"	R15
16	0.1770	1-1/8"	2-3/16"	R16
17	0.1730	1-1/8"	2-3/16"	R17
18	0.1695	1-1/16"	2-1/8"	R18
19	0.1660	1-1/16"	2-1/8"	R19
20	0.1610	1-1/16"	2-1/8"	R20
21	0.1590	1-1/16"	2-1/8"	R21
22	0.1570	1-1/16"	2-1/8"	R22
23	0.1540	1"	2-1/16"	R23
24	0.1520	1"	2-1/16"	R24
25	0.1495	1"	2-1/16"	R25
26	0.1470	1"	2-1/16"	R26
27	0.1440	1"	2-1/16"	R27
28	0.1405	15/16"	1-15/16"	R28
29	0.1360	15/16"	1-15/16"	R29
30	0.1285	15/16"	1-15/16"	R30

Size	Dec. Equiv	Flute Length	Overall Length	SMNXXX
33	0.1130	7/8"	1-7/8"	R33
34	0.1110	7/8"	1-7/8"	R34
35	0.1100	7/8"	1-7/8"	R35
36	0.1065	13/16"	1-13/16"	R36
37	0.1040	13/16"	1-13/16"	R37
38	0.1015	13/16"	1-13/16"	R38
39	0.0995	13/16"	1-13/16"	R39
40	0.0980	13/16"	1-13/16"	R40
41	0.0960	13/16"	1-13/16"	R41
42	0.0935	3/4"	1-3/4"	R42
43	0.0890	3/4"	1-3/4"	R43
44	0.0860	3/4"	1-3/4"	R44
45	0.0820	3/4"	1-3/4"	R45
46	0.0810	3/4"	1-3/4"	R46
47	0.0785	11/16"	1-11/16"	R47
48	0.0760	11/16"	1-11/16"	R48
49	0.0730	11/16"	1-11/16"	R49
50	0.0700	11/16"	1-11/16"	R50
51	0.0670	11/16"	1-11/16"	R51
52	0.0635	11/16"	1-11/16"	R52
53	0.0595	5/8"	1-5/8"	R53
54	0.0550	5/8"	1-5/8"	R54
55	0.0520	5/8"	1-5/8"	R55
56	0.0465	1/2"	1-3/8"	R56
57	0.0430	1/2"	1-3/8"	R57
58	0.0420	1/2"	1-3/8"	R58
59	0.0410	1/2"	1-3/8"	R59
60	0.0400	1/2"	1-3/8"	R60

### Letter Sizes

Size	Dec. Equiv	Flute Length	Overall Length	SMLXXX
A	0.2340	1-5/16"	2-7/16"	R0A
B	0.2380	1-3/8"	2-1/2"	R0B
C	0.2420	1-3/8"	2-1/2"	R0C
D	0.2460	1-3/8"	2-1/2"	R0D
E	0.2500	1-3/8"	2-1/2"	R0E
F	0.2570	1-7/16"	2-5/8"	R0F
G	0.2610	1-7/16"	2-5/8"	R0G
H	0.2660	1-1/2"	2-11/16"	R0H
I	0.2720	1-1/2"	2-11/16"	R0I
J	0.2770	1-1/2"	2-11/16"	R0J
K	0.2810	1-1/2"	2-11/16"	R0K
L	0.2900	1-9/16"	2-3/4"	R0L
M	0.2950	1-9/16"	2-3/4"	R0M

Size	Dec. Equiv	Flute Length	Overall Length	SMLXXX
N	0.3020	1-5/8"	2-13/16"	R0N
O	0.3160	1-11/16"	2-15/16"	R0O
P	0.3230	1-11/16"	2-15/16"	R0P
Q	0.3320	1-11/16"	3"	R0Q
R	0.3390	1-11/16"	3"	R0R
S	0.3480	1-3/4"	3-1/16"	R0S
T	0.3580	1-3/4"	3-1/16"	R0T
U	0.3680	1-13/16"	3-1/8"	R0U
V	0.3770	1-7/8"	3-1/4"	R0V
W	0.3860	1-7/8"	3-1/4"	R0W
X	0.3970	1-15/16"	3-5/16"	R0X
Y	0.4040	1-15/16"	3-5/16"	R0Y
Z	0.4130	2"	3-3/8"	R0Z