Drills

Jobber

	THUNDERBIT®	THUNDERBIT® COBALT	THUNDERBIT® COBALT	MRO®					
	Heavy-Duty 135° Split Point, HSS	Heavy-Duty 135° Split Point, HSS	Heavy-Duty 135° Split Point, Cobalt, HSS	Heavy-Duty 135° Split Point, HSS	Heavy-Duty 135° Split Point, HSS	General Purpose, 118° Point, HSS	General Purpose, 118° Point, HSS	Heavy-Duty, 135° Split Point, Cobalt	Left Hand, General Purpose, 118° Pt. HSS
Page #	9-11	13	12	14-15	17-18	19-20	21-23	24-25	26
Style	**T1HD, BP1HD*,T2HD, T3HD, MM1HD**	**T1HDG**	**T1HDC**	**T101D, T102D, T103D**	**T1D, T2D, T3D**	**T1B, BP1B*, T2B, T3B**	**T1, BP1*, T2, T3, MM1**	**T1C, BP1C*, T2C, T3C**	**T1L**

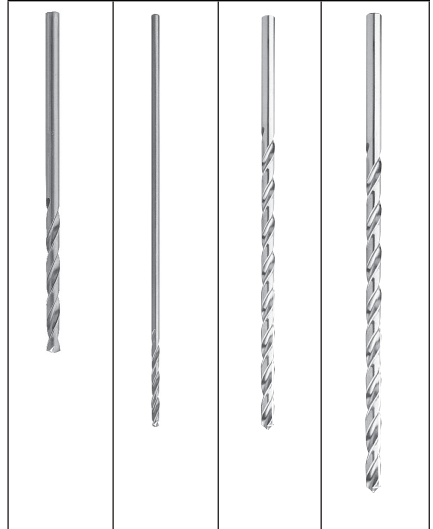
Mechanic's Length

	THUNDERBIT®
	Heavy-Duty 3-Flat Shank 135° Split Point, HSS
Page #	16
Style	**T1M, BP1M*, T8M**

Screw Machine

	THUNDERBIT®		
	Heavy-Duty 135° Split Point, HSS	Heavy-Duty 135° Split Point, HSS	Heavy-Duty 135° Split Point, Cobalt
Page #	28	27	28
Style	**T4HD**	**T4, T5**	**T4C**

Extra Length Drills

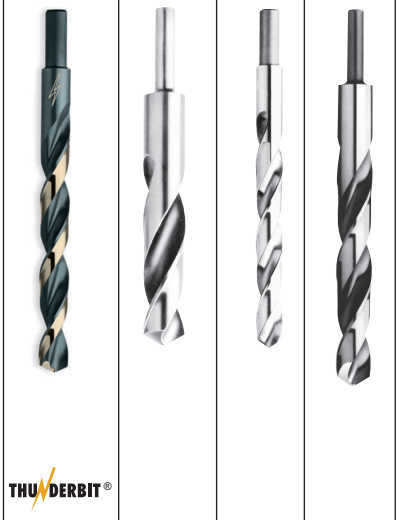


	6" Aircraft Extension 135° Split Point HSS	12" Aircraft Extension 135° Split Point HSS	12" General Purpose 118°, HSS	18" General Purpose 118°, HSS
Page #	29	30	30	30
Style	**T6HH, BP6HH, T6WW**	**T12HH, BP12HH, T12WW**	**T1290**	**T1813**

Silver & Deming

	THUNDERBIT®			
	1/2" Shank, 118° Split Point HSS	3-Flat, 1/2" Shank 118° HSS	1/2" Shank, 118° HSS	1/2" Shank 118° Split Point Cobalt
Page #	31	31	32	33
Style	**T9FHD**	**T9F**	**T9**	**T9C**

Reduced Shank Drills



	THUNDERBIT®			
	Heavy-Duty, 3/8" Shank 135° Split Point HSS	General Purpose, 1/4" Shank 118° HSS	General Purpose, 3/8" Shank 118° HSS	General Purpose, 1/4" Shank 118° Split Point, HSS
Page #	33	34	34	34
Style	**T8HD, BP8HD***	**BP7***	**T8, BP8***	**BP10***

Drill Packaging *Options* (Tubes, Indexes, Clip-On Indexes, pages 50-51)

*Cards	Tubes	Indexes, Clip-On Indexes
		

Drill Packaging *Quantities*

*Cards	Tubes	Bulk Master Pack
1	1,2,6,12	25, 72, 144, 288

www.triumphtwistdrill.com
800-942-1501

Use this chart to help you find the best drill for your job

Simply choose your material and then the corresponding tool

Works Best in This Material	ThunderBit® Black and Bronze	ThunderBit® Cobalt HSS	TriNADO® Black & Bronze	ThunderBit® TiN	Heavy-Duty Black Oxide	Heavy-Duty Cobalt Bronze Oxide	General Purpose Bright	General Purpose Black Oxide	MRO Black & Bronze
Aluminum/Aluminum Alloys; Bronze, Soft and Medium				✓			✓		
Iron, Cast	✓	✓	✓	✓	✓	✓		✓	✓
Steel, Low and Medium Carbon	✓	✓	✓	✓	✓	✓		✓	✓
Steel, High Alloy	✓	✓	✓	✓	✓	✓			✓
Steel, Stainless and PH	✓	✓	✓	✓		✓		✓	✓
Tough, Medium and High-Tensile Strength Alloys	✓	✓	✓	✓	✓	✓			✓
Wood and Plastic				✓			✓		
									
Point:	**135° Split**	**135° Split**	**135° Split**	**135° Split**	**135° Split**	**135° Split**	**118°**	**118°**	**135° Split**
Page #	9-11	12	16	13	17-20	24-25	21-23	19-20	14-15

Drill Troubleshooting Guide

Trouble	Possible Causes	Corrections
Drill Breaks	Spring or back lash in press or work Too little lip relief Speed to low in proportion to the feed Dull drill Possible chip congestion	Test press and work for rigidity and alignment Regrind properly Increase or decrease speed Sharpen drill Peck drill
Outer Corner Breakdown	Uneven hardness in work material Too much speed Improper cutting compound	Reduce speed Reduce speed Use proper cutting compound
Drill Breaks in Brass or Wood	Chips clog up flutes	Increase speed. Use drills designed for these materials
Cutting Lips Chipped	Too much feed Too much lip relief	Reduce feed Regrind properly
Cracking or Checking in Cutting Edges	Heated and cooled too quickly Too much feed	Warm slowly before using. Do not throw cold water on hot drill while grinding or drilling Reduce feed
Hole too Large	Unequal angle or length of the cutting edges or both Loose spindle	Regrind properly Test spindle for rigidity
Only One Lip Cutting	Unequal length or angle of cutting lips, or both	Regrind drill properly
Drill Splits up Center	Too little lip relief Too much feed	Regrind with proper relief Reduce feed
Rough Hole	Dull or improperly ground drill Lack of lubricant or wrong lubricant Improper set-up Too much feed	Regrind properly Lubricate or change lubricant Check set-up Reduce feed

How to Drill Effectively

Successful Drilling Involves 3 Elements:

- Forming a chip
- Accommodating a chip
- Evacuating a chip

Drill Geometry

- Use the shortest drill possible
- Use a split point drill if possible

  Split points begin removing material on contact and drill more efficiently

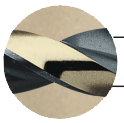
WARNING: Two-flute drills should not be used to enlarge pre-existing holes

TOOLS WITH THE POWER® TO PERFORM

THUNDERBIT® THUNDERBIT® COBALT

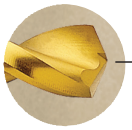
High Performance ThunderBit® Drills are Designed and Engineered to Increase Your Productivity and Tool Life

High Performance Coatings



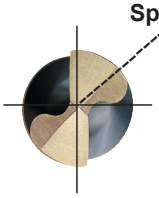
Black Oxide

Bronze Oxide



Titanium Nitride Coating (TiN)

Quick Penetration Split Point



135° Split Point

Heavy-Duty Core Construction (ThunderBit®) **(vs)** **General Purpose**

24% of Drill Diameter

(Heavy-Duty Web Construction)

57% of Drill Diameter

Unique spiral flute design improves chip ejection and coolant flow to the point. The heavy-duty core guarantees increased strength and reduced breakage.

Corresponding Drill Sets appear on each page, and also in the Drill Set Section starting on Page 48.

• **Reduced Shank Drill** • **Brocas de mango cilindrico** • **Foret queue degagee**

Point:	118° Point, 1/2" Round Shank
Material:	Premium High Speed Steel
Coating/Finish:	Black Oxide Flutes
Other:	Silver & Deming

T9
Packaging: Tube

Size	Decimal Equivalent	Flute Length	Overall Length	Stock#	Pkg Qty
33/64	.5156	3	6	091733	1
17/32	.5312	3	6	091734	1
35/64	.5469	3	6	091735	1
9/16	.5625	3	6	091736	1
37/64	.5781	3	6	091737	1
19/32	.5938	3	6	091738	1
39/64	.6094	3	6	091739	1
5/8	.6250	3	6	091740	1
41/64	.6406	3	6	091741	1
21/32	.6562	3	6	091742	1
43/64	.6719	3	6	091743	1
11/16	.6875	3	6	091744	1
45/64	.7031	3	6	091745	1
23/32	.7188	3	6	091746	1
47/64	.7344	3	6	091747	1
3/4	.7500	3	6	091748	1
49/64	.7656	3	6	091749	1
25/32	.7812	3	6	091750	1
51/64	.7969	3	6	091751	1
13/16	.8125	3	6	091752	1
53/64	.8281	3	6	091753	1
27/32	.8438	3	6	091754	1
55/64	.8594	3	6	091755	1
7/8	.8750	3	6	091756	1
57/64	.8906	3	6	091757	1
29/32	.9062	3	6	091758	1
59/64	.9219	3	6	091759	1
15/16	.9375	3	6	091760	1
61/64	.9531	3	6	091761	1
31/32	.9688	3	6	091762	1
63/64	.9844	3	6	091763	1
1"	1.0000	3	6	091764	1
1-1/64	1.0156	3	6	091765	1
1-1/32	1.0312	3	6	091766	1
1-3/64	1.0469	3	6	091767	1
1-1/16	1.0625	3	6	091768	1
1-3/32	1.0938	3	6	091770	1
1-1/8	1.1250	3	6	091772	1
1-5/32	1.1562	3	6	091774	1
1-3/16	1.1875	3	6	091776	1
1-7/32	1.2188	3	6	091778	1
1-1/4	1.2500	3	6	091780	1
1-9/32	1.2812	3	6	091782	1
1-5/16	1.3125	3	6	091784	1
1-3/8	1.3750	3	6	091788	1
1-7/16	1.4375	3	6	091792	1
1-1/2	1.5000	3	6	091796	1

T9
Packaging: Bulk Master Pack

Size	Decimal Equivalent	Flute Length	Overall Length	Stock#	Pkg Qty
33/64	.5156	3	6	091733.20	25
17/32	.5312	3	6	091734.20	25
35/64	.5469	3	6	091735.20	25
9/16	.5625	3	6	091736.20	25
37/64	.5781	3	6	091737.20	25
19/32	.5938	3	6	091738.20	25
39/64	.6094	3	6	091739.20	25
5/8	.6250	3	6	091740.20	25
41/64	.6406	3	6	091741.20	25
21/32	.6562	3	6	091742.20	25
43/64	.6719	3	6	091743.20	25
11/16	.6875	3	6	091744.20	25
45/64	.7031	3	6	091745.20	25
23/32	.7188	3	6	091746.20	25
47/64	.7344	3	6	091747.20	25
3/4	.7500	3	6	091748.20	25
49/64	.7656	3	6	091749.20	25
25/32	.7812	3	6	091750.20	25
51/64	.7969	3	6	091751.20	25
13/16	.8125	3	6	091752.20	25
27/32	.8438	3	6	091754.20	25
7/8	.8750	3	6	091756.20	25
29/32	.9062	3	6	091758.20	25
15/16	.9375	3	6	091760.20	25
31/32	.9688	3	6	091762.20	25
1"	1.0000	3	6	091764.20	25
1-1/32	1.0312	3	6	091766.20	25
1-1/16	1.0625	3	6	091768.20	25
1-1/8	1.1250	3	6	091772.20	25

Corresponding Sets

Style	Description	# of Pieces	Size Range	Stock#
T98	Molded Case	8 Piece,	9/16"-1" by 16ths	090598
T933	Metal Stand	33 Piece,	1/2"-1" by 64ths	090599