

DORMER  PRAMET

**AIRFRAME
& ASSEMBLY**

2021



 **DORMER**

 **PRECISION**

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INTRODUCTION

Dormer Pramet is a leading supplier of tooling to the airframe and assembly industry. Our assortment sets the highest standards expected by our customers, which includes some of the world's leading aircraft manufacturers.

Our company has more than 50 years experience supplying the aerospace industry, through our product brands Dormer and Precision Twist Drill. Following the acquisition of California based HP Wetmore Tool & Engineering in January 2019, we have significantly increased our expertise, capabilities and product offer for airframe and assembly.

We specialise in High Speed Steel (HSS), Cobalt and Carbide rotary tools. All are manufactured from our production facilities in the USA and Brazil, meeting the necessary national aerospace standards (NAS) for quality and security.

This covers our range of carbide tipped rivet shavers, threaded shank and quick-change adapter drills, core drills, double margin pilot drills, nutplate drills and special application drills and reamers.

In addition, we manufacture made to order custom tools for various application needs, while offering technical advice and a pro-active customer service.

Please contact your local Dormer Pramet sales office for further information and advice regarding our airframe and assembly assortment.



THREADED SHANK DRILLS

CONFINED SPACE DRILLING

Our assortment of threaded shank drills is available in three varieties, High Speed Steel, Cobalt and Carbide. These are for drilling general to medium duty, low tensile strength materials in confined areas. The Carbide range can be used for drilling composites. A split point geometry, manufactured to NAS specification, reduces thrust forces and improves positional accuracy when hand-drilling.



HIGH SPEED STEEL	COBALT	CARBIDE
Drilling general to medium duty, low tensile strength materials in confined areas	Drilling hard, tough, high tensile strength materials in confined areas	Special geometry for drilling composite and composite stacks
Manufactured to NAS 965 Type B construction	Manufactured to NAS 965 Type D construction	Reference NAS 965 specification
Type B Threaded Hex Shank, with HSS Adaptor	Type D Threaded Square Shank, with Cobalt Adaptor	Hex shank
NAS 965 1/4 – 28 UNF Class 2A Thread for direct fit into most common drill motors	NAS 965 1/4 – 28 UNF Class 2A Thread direct fit into most common drill motors	NAS 965 1/4 – 28 UNF Class 2A Thread direct fit into most common drill motors
Surface Treated - Steam Oxide	Surface Treated - Steam Oxide	Bright or coated to customer specification



Typical 90° angled air tool used with threaded shank drills to allow drilling where access is difficult.

AIRCRAFT EXTENSION DRILLS

DIFFICULT TO REACH DRILLING

Our aircraft extension drills are manufactured to provide long life and high levels of productivity. Available in High Speed Steel, Cobalt and Carbide, the assortment includes a heavy flute design. A 135° split point geometry, manufactured to NAS specification, reduces thrust forces and improves positional accuracy when hand-drilling.



- NAS 907 Type “B” & Type “J”.
- Offered in High Speed Steel (HSS) for general drilling applications.
- A Cobalt option is suitable for drilling tough, high tensile strength materials, such as stainless steel, titanium and inconel. Available in 6" and 12" lengths.
- Carbide 6" and 12" options available upon request.

	HSS (6")	HSS (12")	COBALT (6")	COBALT(12")
Fractional	3/64" – 1/2" (500-6)*	3/64" – 1/2" (500-12)*	1/16" – 1/4" (CO500-6)*	1/16" – 1/4" (CO500-12)*
Gauge	No 60 – No 1 (501-6)*	No 50 – No 1 (501-12)*	No 52 – No 1 (CO501-6)*	No 40 – No 2 (CO501-12)*
Letter	A - Z (502-6)*	A - Z (502-12)*	-	-

* Standard product code

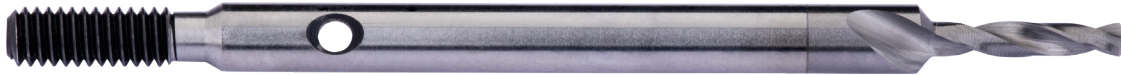
Aircraft extension drills can be used with hand-held tools to produce holes in difficult to reach areas.



NUTPLATE DRILLS / COUNTERSINKS

DRILLING HOLES FOR NUTPLATES

Our assortment of countersink drills is specifically for use in Nutplate drill motors. Used for drilling 100° countersunk holes for standard nutplates, the range is available in High Speed Steel, Cobalt and Solid Carbide.



- The standard HPD nutplate countersink drill, made of M7 High Speed Steel, is used for drilling aluminium and mild steel.
- The M42 Cobalt drill is for machining hard steel and titanium.
- A Carbide version is available for drilling composites.
- Available in a variety of sizes to suit most common nutplates.
- Threaded shank compatible with industry standard nutplate drill motors.

Length	Body & C'Sink Dia.	Drill Dia.	„L“ Dim
-25	.1875	.0980	.295
-25	.1875	.0980	.295
-35	.1875	.0980	.420
-35	.1875	.0980	.420
-50	.1875	.0980	.560
-50	.1875	.0980	.560
-25	.25	.0980	.295
-25	.25	.0980	.295
-35	.25	.0980	.420
-35	.25	.0980	.420
-50	.25	.0980	.560
-50	.25	.0980	.560
-25	.25	.1285	.295
-35	.25	.1285	.420
-50	.25	.1285	.560



TAPERED DRILL REAMERS

CARBIDE TOOLS FOR COMPOSITE MATERIALS

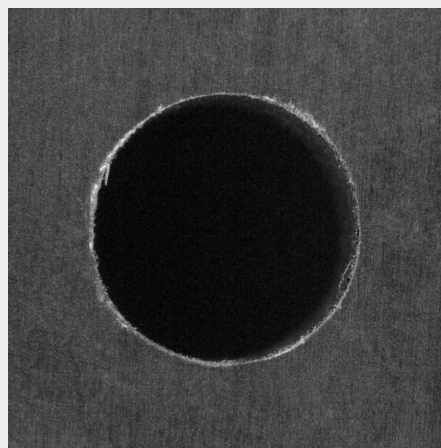
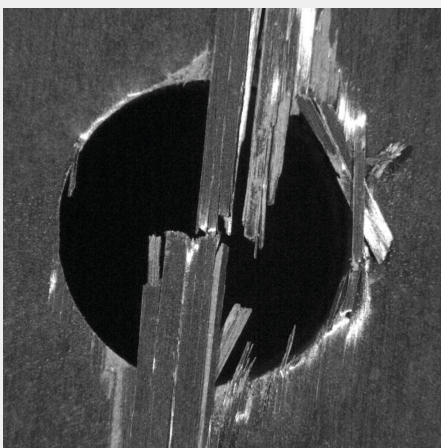
Also known as a “One Shot” drill, this assortment of tapered reamers can be used for hand-drilling (through bushes) or with controlled speed/feed drill motors. Originally developed for fiberglass, these drills are also excellent for CFRP (Carbon Fibre Reinforced Polymer) and graphite composites. Various shank and length options are available.



DAGGER DRILLS

CARBIDE TOOLS FOR COMPOSITE MATERIALS

Used with hand-held and controlled feed/speed drill motors, our range of dagger drills are designed to reduce delamination and splintering. The assortment supports machining in graphite and aluminium materials, provided they do not exceed 1/4" thickness. Made from premium grade carbide substrate, these drills are available in most common diameters and length on either plain or threaded shanks.



Designed to reduce splintering and delamination when drilling holes in composite materials.

PILOTED REAMERS

DRILLING CLOSE TOLERANCE HOLES

Our range of piloted reamers are precision ground for concentricity between the pilot and main diameter. Used for sizing close tolerance holes, the assortment is available in High Speed Steel, Cobalt and Carbide. Also, various shank configurations are available on request (1/4" – 28 threaded shank).

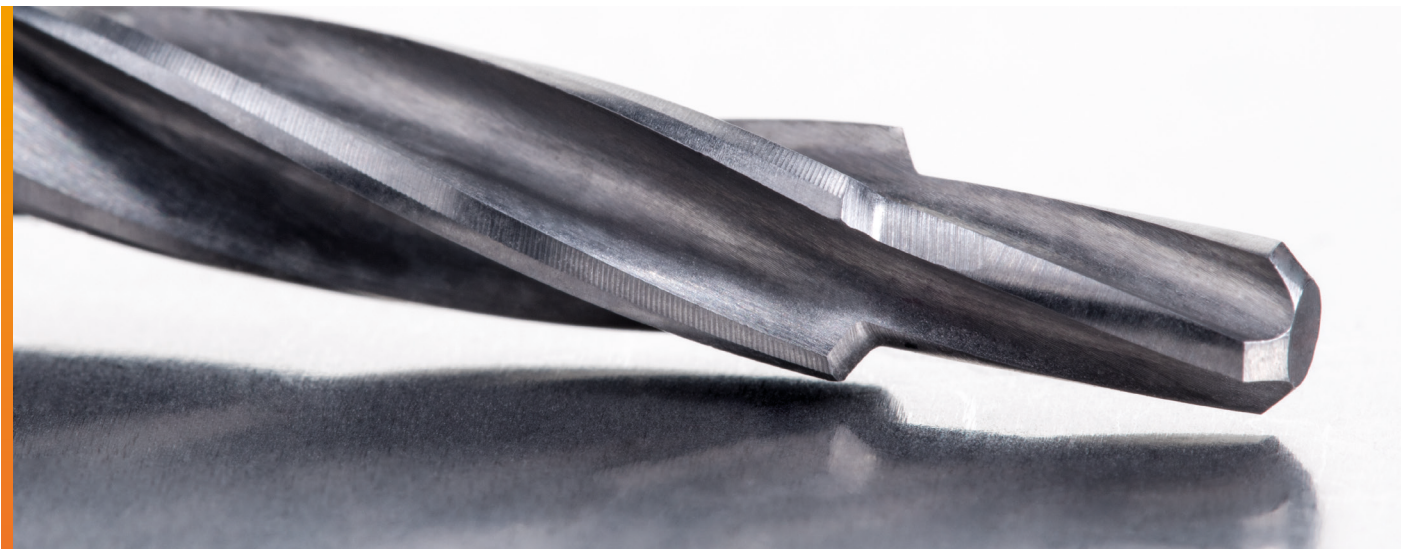
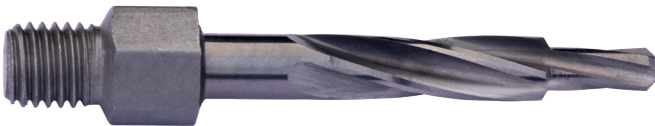


CORE DRILLS

REWORKING PRE-DRILLED HOLES

This assortment of core drills is designed primarily for enlarging previously drilled holes and for reworking of round holes. Our range is available with a precision ground pilot to maintain concentricity and accuracy.

Core drills are available in High Speed Steel, Cobalt and Carbide. Also, various shank configurations are available on request (plain, quick change or 1/4" – 28 threaded shank).

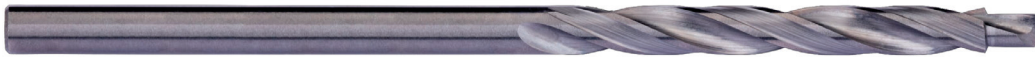


DOUBLE MARGIN PILOT DRILLS

DRILLING CLOSE TOLERANCE HOLES

This range of NAS 937 double margin pilot drills is suitable for machining close tolerance holes. Each design has been precision ground with a pilot to maintain concentricity and accuracy. Available in High Speed Steel, Cobalt and Carbide, the drills are available in various shank configurations on request (plain, quick change or 1/4" – 28 threaded shank).

STRAIGHT SHANK DRILL



QUICK CHANGE SHANK DRILL



THREADED SHANK DRILL



STEP DRILL REAMERS

DRILLING CLOSE TOLERANCE HOLES

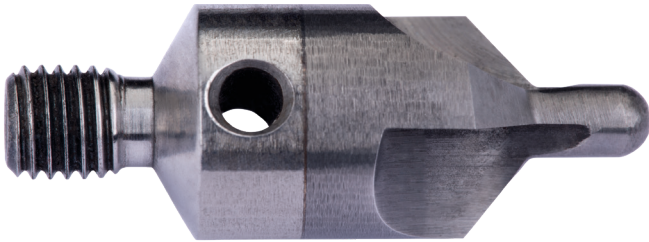
Our step drill reamers are for drilling and reaming in one operation. Featuring a precision ground pilot to maintain concentricity and accuracy, the step drill reamers are available in High Speed Steel, Cobalt and Carbide. Various shank configurations are available on request (quick change or 1/4" – 28 threaded shank).



PILOTED COUNTERSINKS

COUNTERSINK PRE-DRILLED HOLES

This assortment of piloted countersinks can be used on pre-drilled holes in aluminium, graphite and fiberglass. The tools come with standard threaded shanks that fit conventional micro-stop countersink cages.



- Manufactured with common pilot diameters.
- 1/4" – 28 threaded shank fits most micro-stop cages.
- Made from premium grade carbide.
- Available in two or three flutes.
- The carbide base extends tool life.



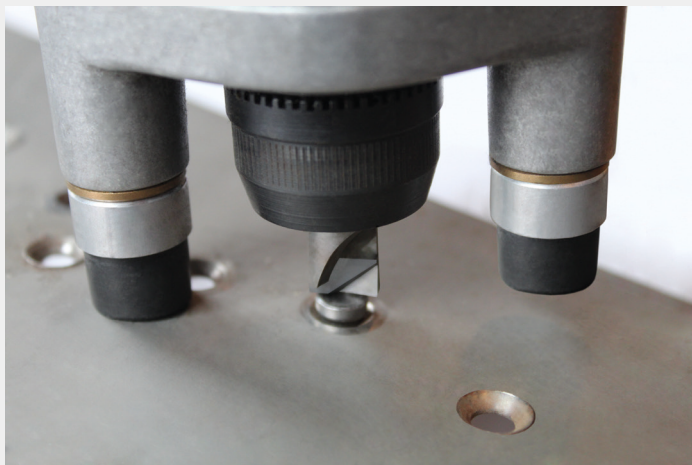
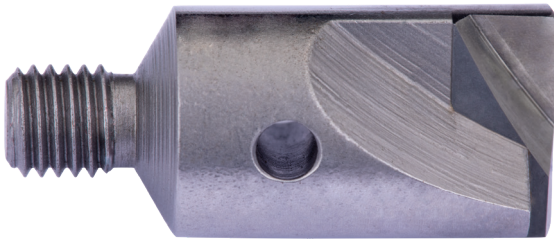
Micro-stop cages used with piloted countersinks helps to ensure a perpendicular approach and enables accurate chamfer depth and diameter.



RIVET SHAVERS

TRIMMING EXCESS MATERIAL

Our rivet shavers are designed to machine excess material from the flush-head rivets. The tools have been precision ground with a carbide tip to improve surface finish and tool life. Available in standard two-flute or 14-flute designs.

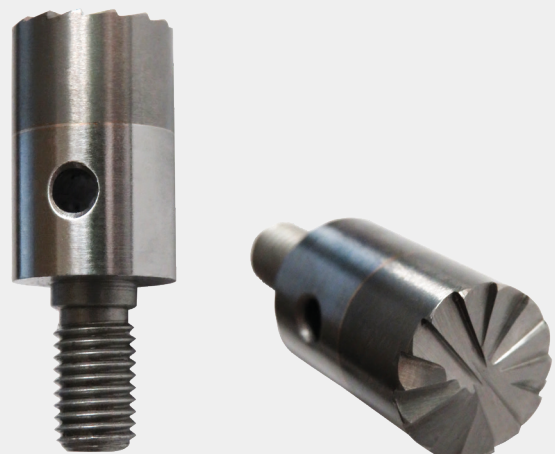


STANDARD TWO-FLUTE

- Solid carbide blade.
- A 1/4" – 28 threaded shank to fit most rivet shaver air motors.
- Body diameter available from 1/4" to 1" in most common increments.

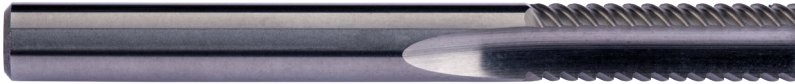
14-FLUTE DESIGN

- Centre cutting design to aid self-centring and eliminate cutter chatter, increasing operator control.
- Solid carbide head.
- 1/4" – 28 threaded shank to fit most rivet shaver air motors.
- Body diameter available in 3/8" and 1/2" sizes.



Our range of carbide routers are used to machine the edges of composite panels made from various materials, including Carbon Fibre Reinforced Polymer (CFRP), fiberglass and Kevlar. Designed to limit the amount of delamination and splintering of the upper and lower surfaces of the panel, the tools are manufactured from premium grade carbide.

HERRING-BONE



Suitable for applications in a variety of composite materials, including Carbon Fibre Reinforced Polymer (CFRP). Its special design prevents delamination on the surface.

COMPRESSION ROUTER



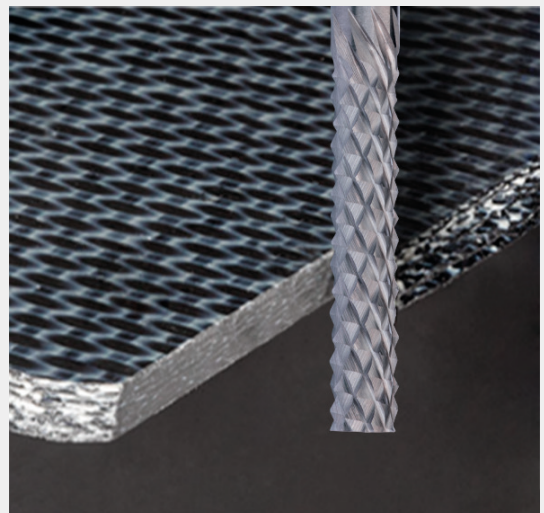
Recommended for honeycomb panels and Kevlar. Designed with opposing flutes (right hand / left hand). This compresses the material and produces a clean cut on the top and bottom, with no delamination.

DIAMOND-CUT



Established as the standard option for routing fiberglass materials, this tool can also be used for Carbon Fibre Reinforced Polymer (CFRP) materials.

Composite panels often require trimming to their final dimensions and require special geometries to provide a clean, delamination free edge.



Our range of standard drills are available in various lengths and designs that conform to NAS specifications. Manufactured from either High Speed Steel or Cobalt, they are a good first choice product for general drilling applications across most materials used in the aircraft industry.

HSS STUB LENGTH DRILLS



- NAS 907 Type C (135° Split Point)
- R40C – Fractional Sizes
- R41C – Wire Gauge Sizes
- R42C – Letter Sizes
- 4ASM – Metric Sizes
- Heavy duty web for increased strength.

HSS JOBBER LENGTH DRILLS



- NAS 907 Type A (118° Split Point)
- NAS 907 Type B (135° Split Point)
- R10A, R10B – Fractional Sizes
- R18A, R18B – Wire Gauge Sizes
- R15A, R15B – Letter Sizes
- Split point for accurate centering and reduced thrust forces.
- Steam tempered blue finish.

HSS-E JOBBER LENGTH DRILLS



- NAS 907 Type D (135° Split Point)
- R88CO – Fractional Sizes
- R89CO – Wire Gauge Sizes
- Steam tempered bronze finish.
- Heavy duty web for increased strength.
- Split point for accurate centering and reduced thrust forces.
- Short flute for increased rigidity.

HSS-E JOBBER LENGTH DRILLS



- NAS 907 Type J (135° Split Point)
- R10CO – Fractional Sizes
- R18CO – Wire Gauge Sizes
- R15CO – Letter Sizes
- 2ACO – Metric Sizes
- Split point for accurate centering and reduced thrust forces.
- Heavy duty web for increased strength.

Our assortment of standard drills, which do not conform to NAS specifications.

HSS STUB LENGTH DRILLS



- A123
 - Panel / Sheet Metal Drill.
 - Available in Metric and Fractional Sizes.
 - Without body clearance for true round holes.
 - Steam tempered blue finish.
 - Thin web for accurate centering.
-

HSS-E JOBBER LENGTH DRILLS



- A777
- Heavy Duty 135° Split Point.
- Available in Metric and Fractional Sizes.
- Split point for accurate centering and reduced thrust forces.
- Steam tempered bronze finish.
- Heavy duty web for increased strength.

NATIONAL AEROSPACE SPECIFICATION SUMMARY

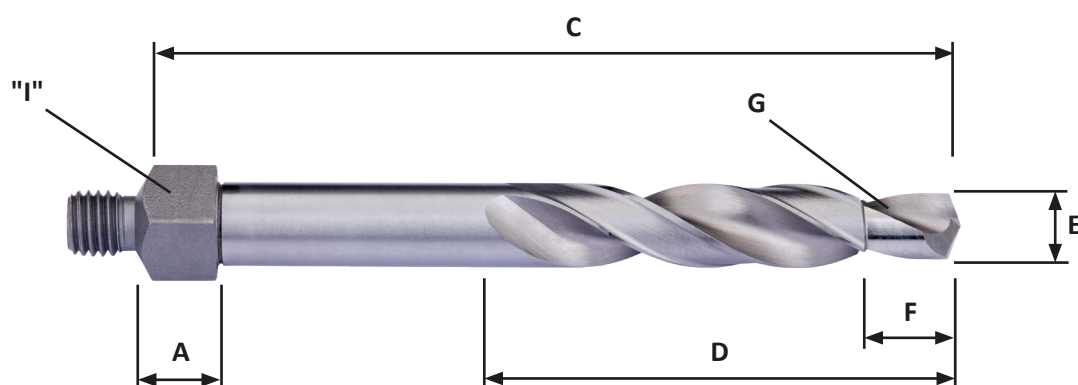
NAS 907 Type A	
Size Range	Ø1/16" – Ø1/2"
Material	HSS (M2 or M7)
Shank Options	Straight, straight with tri-flats, quick change, reduced shank, reduced shank with tri-flats, Tang
Surface Treatment	Bright finish standard or oxide. Optional finishes may be specified by the customer.
Web Construction	Thickness increases uniformly at a .017" ± .003" per inch taper
Back Taper	.0002" to .0005" per inch for all diameters
Point Type	P-5 (118°) split point, general purpose
Lengths	Jobber Length - standard, 6" and 12" Aircraft Extension Lengths - optional
NAS 907 Type B	
Size Range	Ø1/16" – Ø1/2"
Material	HSS (M2 or M7)
Shank Options	Straight, straight with tri-flats, quick change, reduced shank, reduced shank with tri-flats, Tang
Surface Treatment	Bright finish standard or oxide. Optional finishes may be specified by the customer.
Web Construction	Thickness increases uniformly at a .024" ± .003" per inch taper
Point Type	P-3 (135°) split point, general purpose
Lengths	Jobber Length – standard, 6" and 12" Aircraft Extension Lengths – optional
NAS 907 Type C	
Size Range	Ø1/16" – Ø1/2"
Material	HSS (M2 or M7)
Shank Options	Straight, straight with tri-flats, quick change, reduced shank, reduced shank with tri-flats, Tang
Surface Treatment	Bright finish standard or oxide. Optional finishes may be specified by the customer.
Web Construction	Thickness increases uniformly at a .024" ± .003" per inch taper
Point Type	P-3 (135°) split point, general purpose
Lengths	Stub Length standard
NAS 907 Type D	
Size Range	Ø1/16" – Ø1/2"
Material	HSSCo (M33 or M42)
Shank Options	Straight, straight with tri-flats, quick change, reduced shank, reduced shank with tri-flats, Tang
Surface Treatment	Bronze oxide finish standard, optional finishes may be specified by the customer
Web Construction	Thickness increases uniformly at a .027" ± .003" per inch taper
Point Type	P-9 (135°) split point, heavy duty
Lengths	Jobber Length – standard, 6" and 12" Aircraft Extension Lengths – optional
NAS 907 Type J	
Size Range	Ø1/16" – Ø1/2"
Material	HSSCo (M33 or M42)
Shank Options	Straight, straight with tri-flats, quick change, reduced shank, reduced shank with tri-flats, Tang
Surface Treatment	Bronze oxide finish standard, optional finishes may be specified by the customer
Web Construction	Thickness increases uniformly at a .006" ± .002" per inch taper
Point Type	P-3 (135°) split point, general purpose
Lengths	Jobber Length – standard, 6" and 12" Aircraft Extension Lengths – optional
NAS 965 Type B	
Size Range	Ø1/16" – ØF
Material	HSS (M2 or M7)
Shank Options	1/4–28 UNF Threaded Hexagonal (5/16" Wrenching Flats)
Surface Treatment	Oxide finish standard, optional finishes may be specified by the customer.
Web Construction	Thickness increases uniformly at a .024" ± .003" per inch taper
Point Type	P-3 (135°) split point, general purpose
Lengths	Stub, short and long (2–1/8" O/L) series available

SPECIALS CAPABILITIES

Dormer Pramet has the capability to manufacture tools within this brochure to specific customer requirements. If you need a custom-made tool, please scan or photocopy the below enquiry form and complete it with as much information as you can. This will enable us to provide you with an accurate quotation. Alternatively, please speak with your local sales office or distributor for further information and guidance.

Type of Tool:	Drill	<input type="checkbox"/>	Step Drill	<input type="checkbox"/>	Core Drill	<input type="checkbox"/>	Step Core Drill	<input type="checkbox"/>
	Step reamer	<input type="checkbox"/>	Extension Drill	<input type="checkbox"/>	Drill Reamer	<input type="checkbox"/>	Rivet Shaver	<input type="checkbox"/>
	Other: _____							
Tool Material:	H.S.S	<input type="checkbox"/>	Cobalt	<input type="checkbox"/>	Carbide	<input type="checkbox"/>	Other: _____	
Dimension:	Diameter:	_____	Overall (C):	_____	Flute length (D):	_____		
Pilot Dimension:	Diameter (E):	_____			length (F):	_____		
	Point Type:	_____			Step Angle (G):	_____		
Margin:	Single	<input type="checkbox"/>	Double	<input type="checkbox"/>	None/Uncleard	<input type="checkbox"/>		
Threads:	1/4-28	<input type="checkbox"/>	10-32	<input type="checkbox"/>	5/16-24	<input type="checkbox"/>	Other (specify): _____	
Adapter "A" Dimension	1/4	<input type="checkbox"/>	1/8	<input type="checkbox"/>	1/16	<input type="checkbox"/>	Other: _____	
"I" dimension across wrench flats _____								
Number of flutes: _____								
Coating: _____								
Other features or comments: _____								

Qty needed:	_____				Date Required	_____		
Print Attached:	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Print #	_____		
					Part #	_____		



SIMPLY RELIABLE

As a professional you can judge the quality of work by just looking at the chip. Our chip is a clean and uncomplicated shape that in itself tells a story. It is a clear and consistent signal and that's why we use it as a symbol for being **Simply Reliable**.

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