

**FOR
COMPOSITE
MATERIALS**

**EXPANDED OPTIONS
IN SOLID CARBIDE TOOLING
FOR FIBER-BASED MATERIAL**



091C
supplement to
Catalog 09

GARR TOOL®

ROUTERS

Solid micrograin carbide tested for milling of carbon fiber and glass-filled composites

There are many challenges to machining composite materials. Keeping the material from delaminating is key. Our tools have higher rake angles and combinations of left hand and/or right hand spirals to help eliminate 'fraying' of the laminate.

Please specify what type of end cut your job requires (i.e. - no end cut, burr type, end mill type, or drill point)

Having a quality dust collection system helps prolong tool life and quality of parts

'Clamping' of part to table can cause stress fractures in material

Please specify what coating, if any, your job requires:

- Polycrystalline Diamond (increases tool life up to 20x of an uncoated carbide mill)
- Amorphous Diamond / DLC (increases tool life up to 10x of an uncoated carbide mill)
- Alcrona Coated (increases tool life up to 5x of an uncoated carbide mill)
- TiCN Coated (increases tool life up to 3x of an uncoated carbide mill)

These are non-stock specials - uncoated tools built to order in two weeks



SERIES 700 - FIBERGLASS ROUTER

For cutting glass-filled epoxies

End cut examples



Burr
Type

Drill
Point

SERIES 701 - KEVLAR ROUTER

Gives a clean edge when trimming
Aramid Fibers (Kevlar)

End cut examples



Burr
Type

Drill
Point

SERIES 702 - CARBON FIBER ROUTER

For trim milling of single-layer panels

SERIES 703 - CARBON FIBER ROUTER

For rough cutting of stacked panels
with or without honeycomb cores

Solid micrograin carbide tested for drilling of carbon fiber and glass-filled composites

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SERIES 740 - DAGGER

For enlarging existing holes in skin panels, but can drill from solid

For near reamer finishes in carbon and glass fiber materials

Coatings of choice for this series are polycrystalline diamond and amorphous diamond



SERIES 780 - 8-FACET POINT (*NON-COOLANT FED*)

Double angle drill point geometry reduces cutting forces to eliminate exit burrs

Works well in carbon fiber especially when the honeycomb core is either titanium or aluminum

Works in glass-filled epoxy, harder plastics, softer steels, CFRP (Carbon Fiber Reinforced Plastic), and aluminum

Can be coated with a variety of coatings depending on your application



SERIES 780K - 8-FACET POINT (*COOLANT FED*)

Double angle drill point geometry reduces cutting forces to eliminate exit burrs

Works in glass-filled epoxy, harder plastics, softer steels, CFRP, and aluminum when running through-the-spindle coolant

Coolant fed tooling is not for use in carbon fiber as it may delaminate the material

Coatings of choice for this drill are either Helica or Alumastar

SERIES 790 - MODIFIED BRAD POINT

Designed for drilling CFRP

Excellent entry and exit hole quality

Designed to prevent delamination

Good for drilling panels and paper honeycomb core

Coatings of choice for this drill are polycrystalline diamond, amorphous diamond, or helica for extra tool life

GARR TOOL®

7800 N Alger Road
P.O. Box 489
Alma, Michigan 48801
800-248-9003
989-463-6171
Fax 989-463-3609
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www.garrtool.com

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