

## New Solid Tipped Diamond Drills for Carbon Fiber

- New **Solid diamond** tip
- Best holes in carbon fiber
- Drills and reams in one operation
- No delamination or uncut fibers
- Extreme tool life
- New 135°/20° 8 faceted tip design (Best drill for widest variety of carbon fiber)
- **\$548,000** cost savings per year.



<http://robbjack.com/case-study-carbon-fiber-in-aircraft>.

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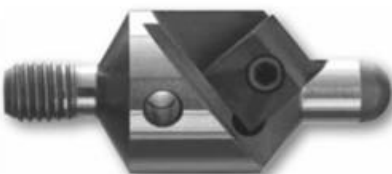
## Carbon Fiber PCD Trimming Tool

- Tool life in excess of **7,000** linear inches in carbon fiber
- Drill tip eliminates fiber blowout during plunging
- Roughs and finishes in a single pass
- 100% inspection guarantees repeatability
- Typical carbon fiber speeds of 110 ipm



## Replaceable Insert Diamond Coated Aircraft Countersink replaces PCD

- **54%** reduction in tooling costs vs PCD (same performance)
- Reduced price from \$113.00 each to \$51.50
- Used with aircraft Micro-stop tooling
- **\$326,000** cost savings per year on a single countersink size



## Composites Dovetail for Aircraft Ribs

- Combined 3 tools into 1
- Eliminated trimming operation to match CAD file
- Ability to diamond coat for Carbon Fiber Composites
- Custom tool used for airplane structure parts
- Bevels and trims in one operation
- Reduced the cycle time by 5 days
- Cost savings of **\$956,800+** per year



## Composites Perforation Tool for Aircraft Nacelles

- Sound reduction perforation tools designed for airplane engine nacelles
- Diamond coated for maximum tool life
- Makes up to **80,000** holes in fiberglass
- Produce up to **40,000** holes in carbon fiber
- **\$246,500** cost savings



## Drill Reamer

- Drill and Ream in one operation.
- Diamond coating for superior tool life in abrasive materials
- Used CNC and Manually
- Eliminates delamination and uncut fibers in Carbon Fiber (CFRP) composites.
- Can be made in down-shear versions for manual operations. This will stop the tool from pulling itself through the material when piercing through



## FM-HV New Ultra Performance Aluminum Aircraft Tool

- Removes **42 pounds** of aluminum per minute
- Eliminates all chatter with patented Mirror Edge Geometry
- Doubled customer's Capacity
- **500%** Extended tool life
- New DLC coating for roughing
- Cost savings of **\$476,000**



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## Threaded Solid Carbide Replaceable Tip

- Made with problem solving geometries to eliminate chatter, variable helix, polished flutes, coatings, and application specific geometries
- Can be used in many existing tool holders
- Can be diamond coated
- Best used in applications that would normally require long carbide tools



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## Composites Reamer Counter Sink

- Used with aircraft Micro-stop tooling
- Diamond coated for long life
- Reams and countersinks in one operation
- One-piece solid carbide design for tighter tolerances

