



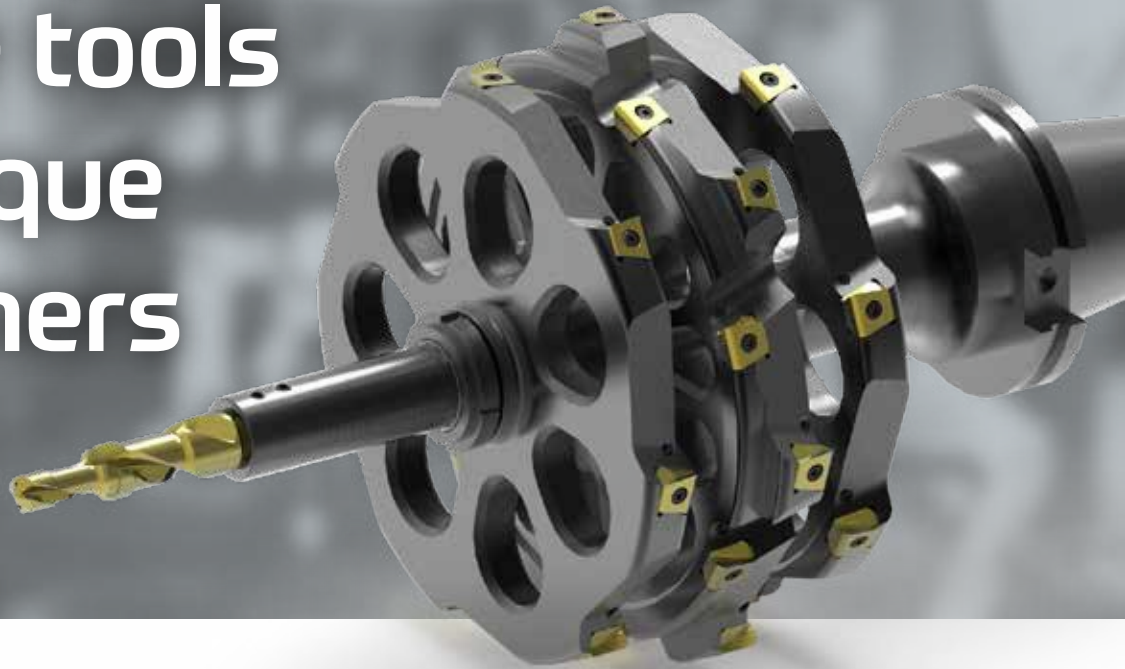
TOOLING & MACHINERY

# ARCH™ Cutting Tools

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Unique tools  
for unique  
customers



Engineered Tooling Solutions

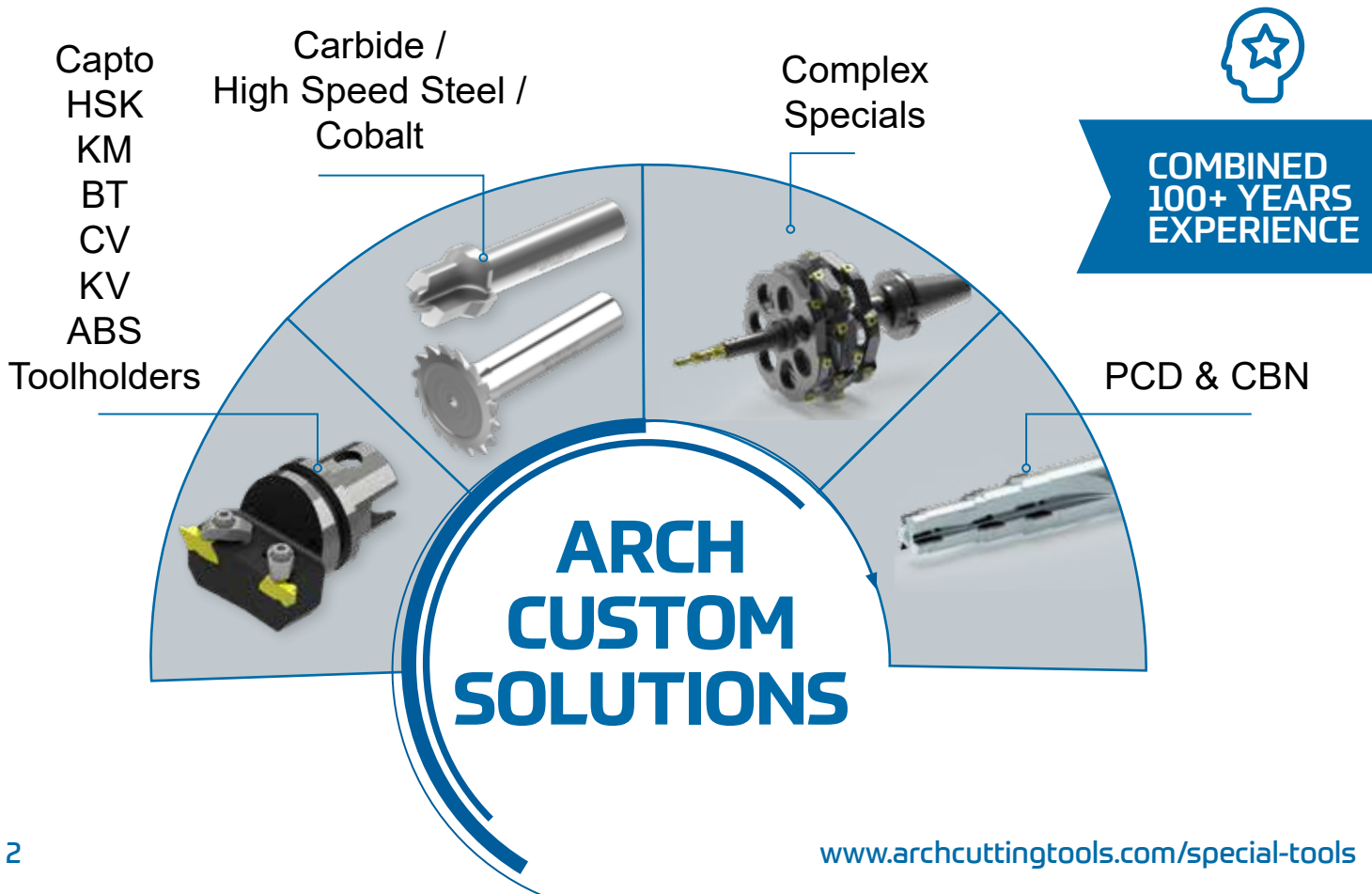
CUTTING TOOL INNOVATION  
BEGINS AND ENDS WITH  
**COLLABORATION  
AT THE SPINDLE.**

## A New Synergy

The ARCH Specials program brings a new synergy to the development of custom tooling solutions. With our range of application expertise and depth of cutting tool knowledge, we bring our customers an overarching perspective, full life cycle collaboration, and supply chain management that provide performance improvements to your organization.

## Who Are We?

ARCH Cutting Tools has 100+ years of combined experience in designing custom tooling to support leading manufacturers. ARCH offers best practices, engineering intelligence, and infrastructure to allow us to focus on creating custom-engineered solutions centered on our customer's needs.





## Proven Competitive Advantages

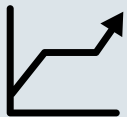
Providing the special tools that our customers need to do their unparalleled work is just the beginning of the ARCH Specials story. Our engineers help identify your opportunities to increase value, improve quality and performance, and enhance manufacturing operations.



### Increased tool life

Simply by improving the coolant delivery system, ARCH engineers significantly increased tool life.

**\$10,000**  
cost savings  
annually

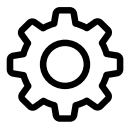


### Improved surface finish in cone taper

ARCH engineers modified the geometry and edge prep on a cone drill which tripled tool life and significantly improved surface finish to reduce scrap rates.

**\$50,000**  
cost savings  
annually

**30%**  
reduction in scrap



### Customized micro step drill

ARCH's solution saved time and money for a customer by modifying a micro step drill.

**\$22,000**  
cost savings  
annually



### Performance and cost evaluation of inserts

ARCH reviewed customer's high-volume inserts for cost improvements.

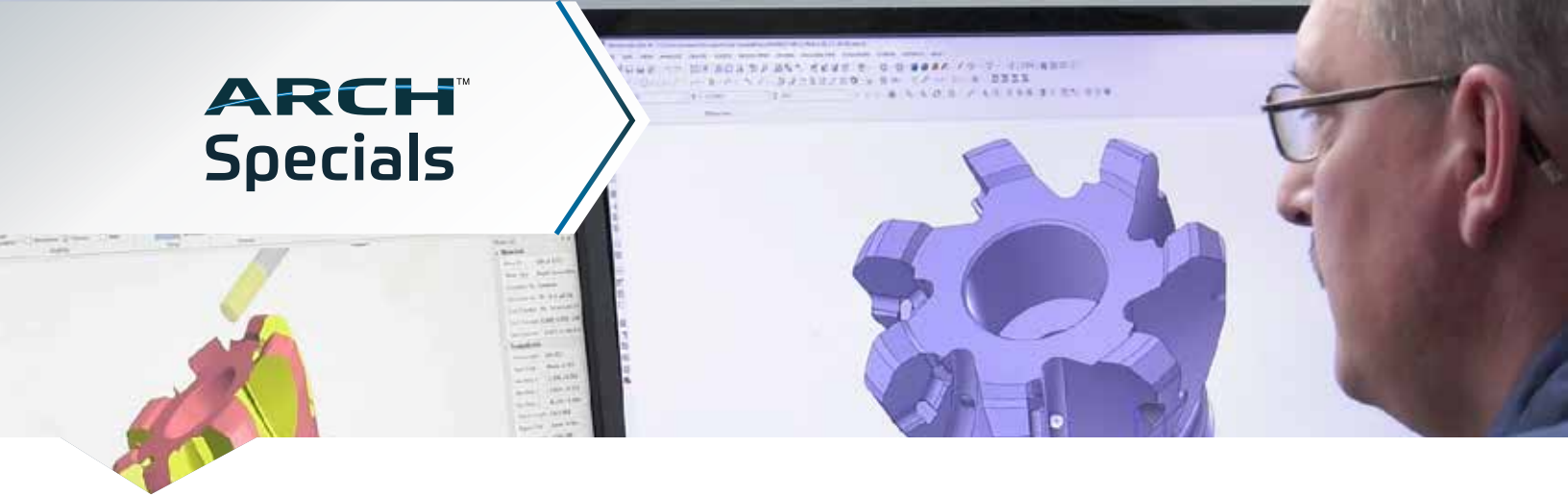
**\$36,000**  
cost savings  
annually



### Tool sharpening and finishing

ARCH sharpened customer's drills and end mills with improved radius and hone finish.

**4x**  
longer tool life



## Productivity at the Spindle

Our customers do extraordinary things, but everybody needs a competitive edge. This requires a precision tooling partner that can deliver customs and specials that meet exacting standards. From napkin sketches to real working tools, we collaborate with our customers on design for manufacturability.

### We provide:

- Cost-reducing efficiencies
- Process improvements
- Advanced coatings and laser etching
- Comprehensive supply chain management
- Unmatched customer service

### Our engineers talk to your engineers – fewer steps for better tools

When a customer consults with us, they get design-for-manufacturability guidance. We can help reduce the number of steps required to produce a component and the number of cutting tools needed to do it. Each time you take out a step in the manufacturing process, you remove the introduction of an inconsistency, divergence, or variation, no matter how small. Because, at high speeds, even the smallest variance is amplified.

## Operational Consultation

Milling, drilling, boring, turning, and holding tools can all be optimized with our proven full product life cycle process. From the initial on-site consultation to engineering and design assist, from full supply chain management to complete customer service, ARCH Specials brings comprehensive and knowledge-driven results.

What makes our capabilities unique is the consulting we bring to operational excellence. Our customers invariably enjoy enhanced efficiencies when our process is applied to their unique needs. They are enabled to develop specialized cutting tool solutions that not only improve their final product, but also how they operate as an organization.



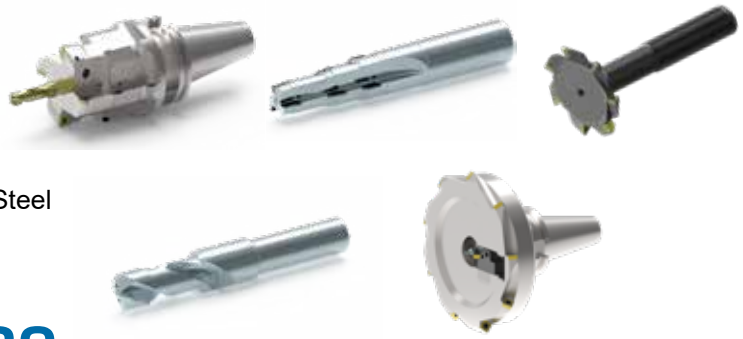


## Precise specifications Extraordinary applications

The performance advantages of custom tools machined with greater precision — such as optimized cylindrical concentricity — produce increased throughput and enhanced machine usage. Simply put, achieving unique contours and cavities with tighter tolerances and reduced scrap saves time and money. Single tool solutions eliminate the need for multiple tools and passes resulting in improved cycle time and CPU.



- Solid tools
- Indexable tools
- Tool holders
- Micro tools
- Multi-feature tools
- Carbide tools
- PCD Tools
- Form tools
- Gang tools
- HSS -High Speed Steel



## PCD Diamond Tooling



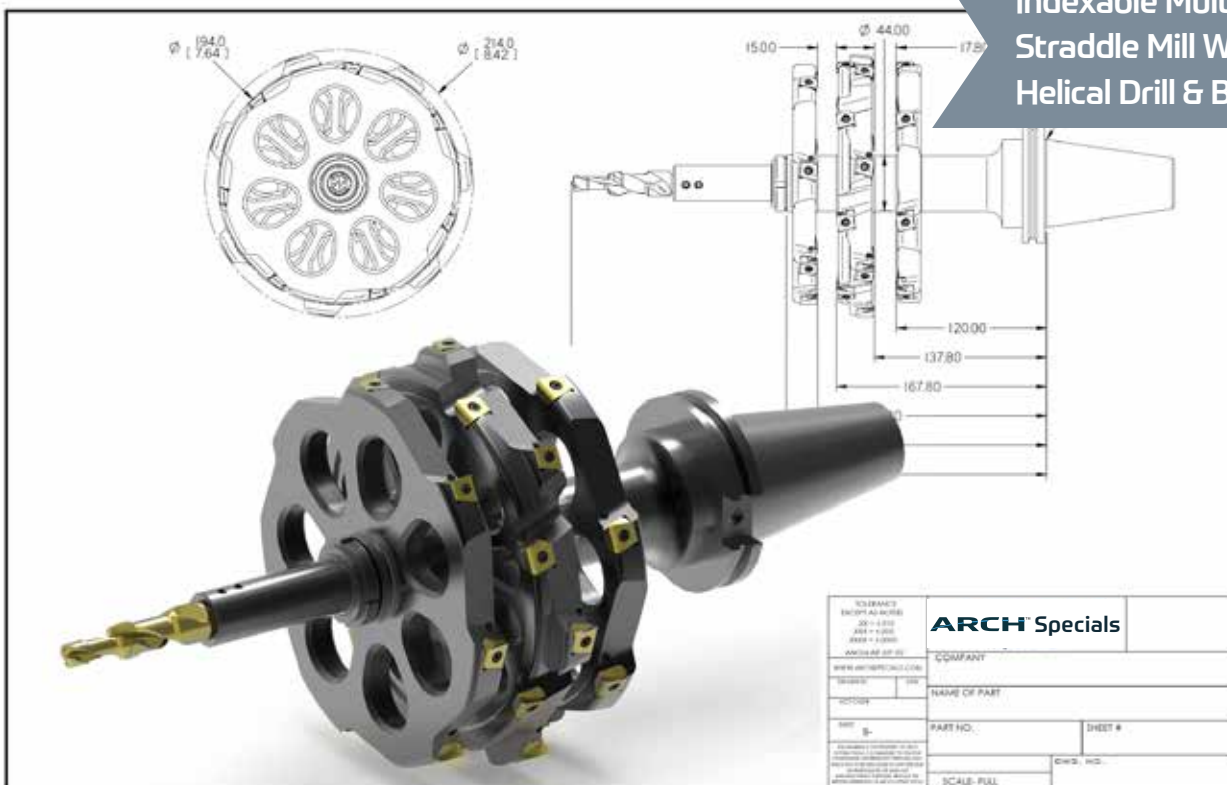
- Reconditioning, sharpening, re-tipping ANY manufacturers' PCD tools in 1-2 weeks
- Combining roughing and finishing tools
- Maximize tool life - up to 25 times longer when compared to carbide tooling
- Faster speeds and higher feed rates, results in increased through-put
- Improved surface finishes
- Tighter tolerances achievable

## PCD Replaceable Drill & Spotface Tool



- Min 6MM Drill
- Min 18MM Spotface
- Resharpenable
- Replacable
- Available in Carbide

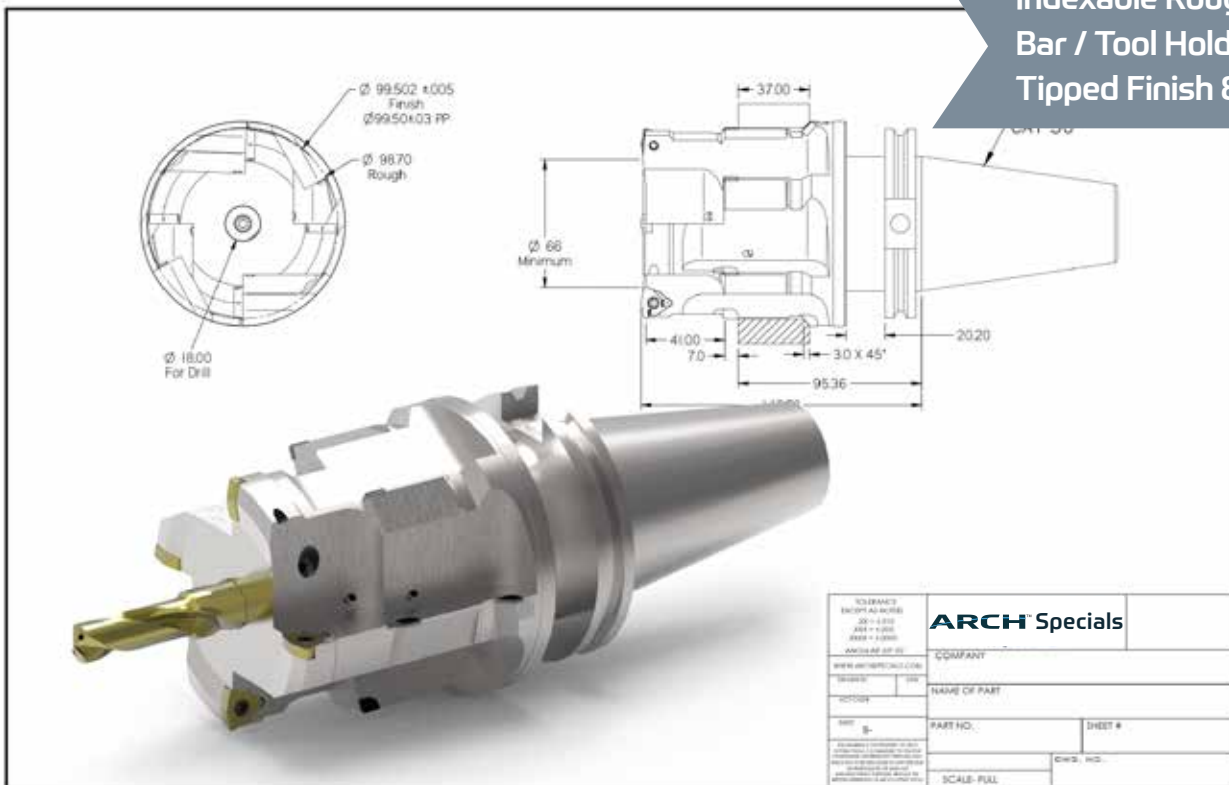
## Indexable Multi Feature Straddle Mill With Solid Carbide Helical Drill & Back Chamfer



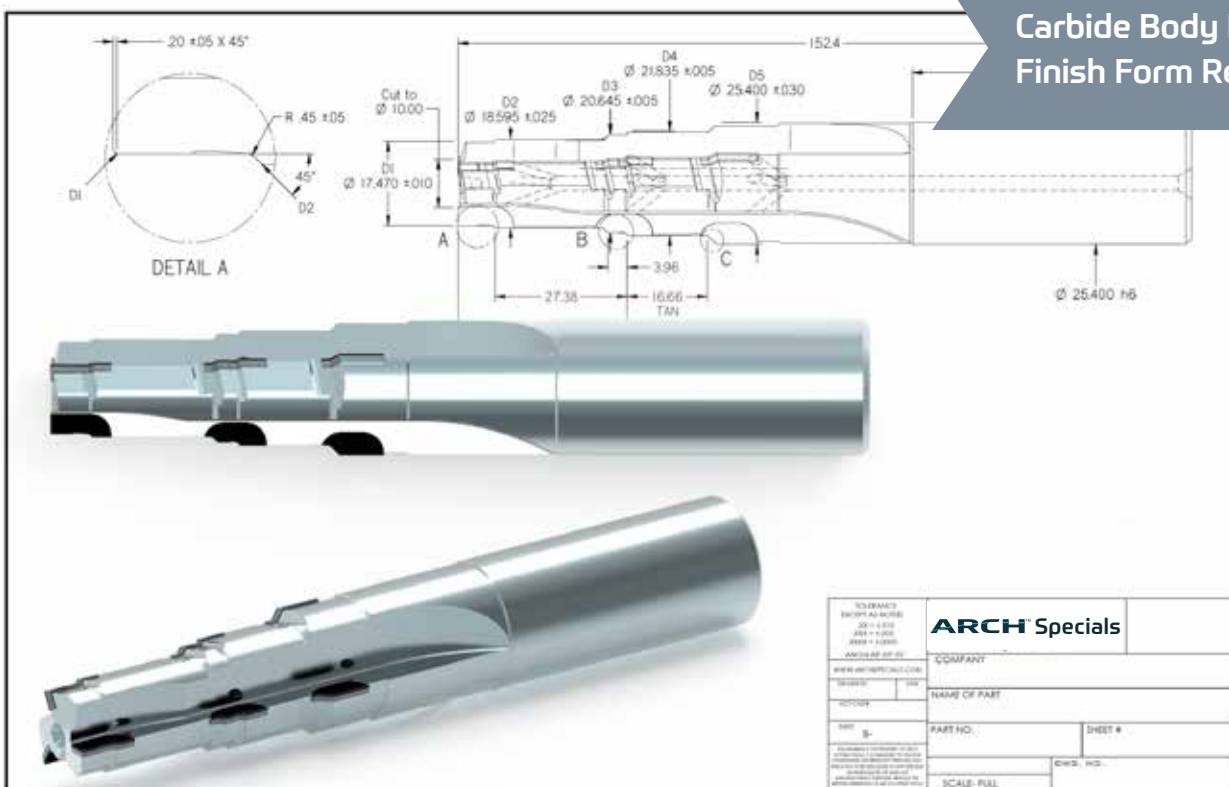
- Drills two hole sizes
- Back chamfers two hole sizes

# Custom Tooling Case Studies

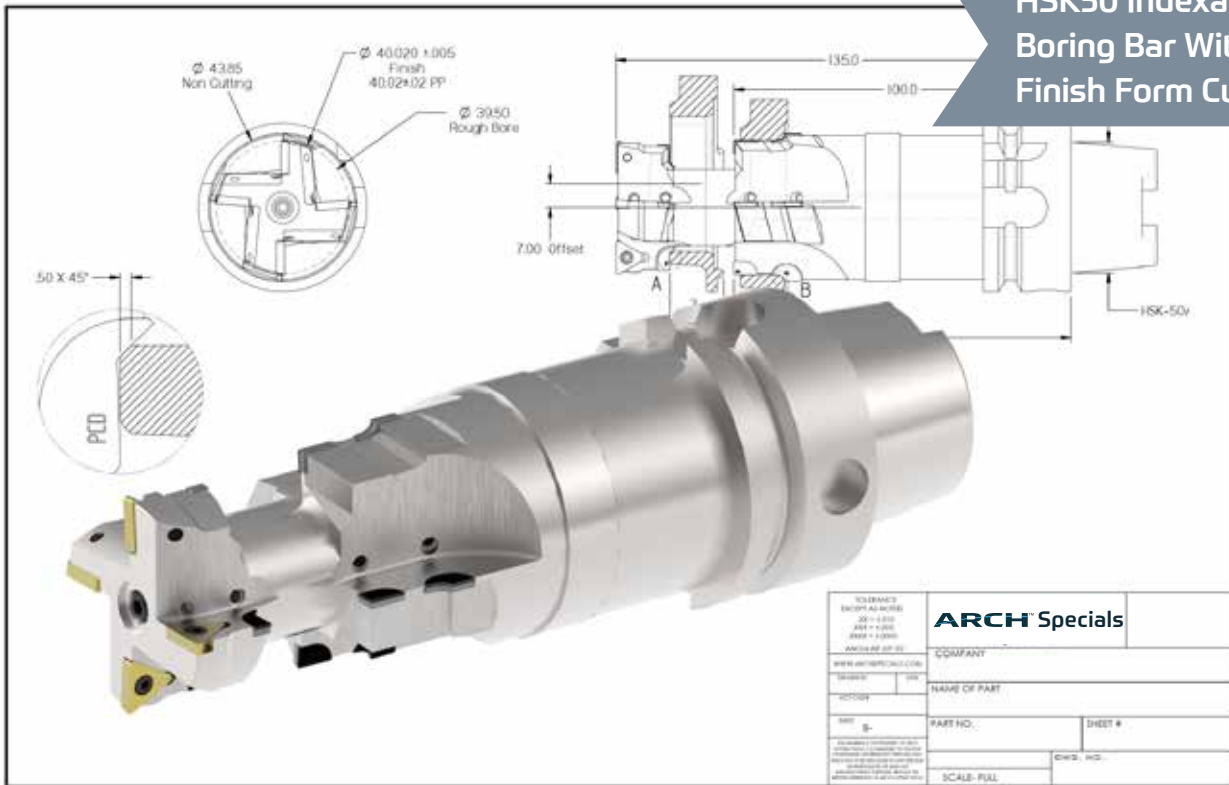
Indexable Rough Boring Bar / Tool Holder & PCD Tipped Finish & Chamfer



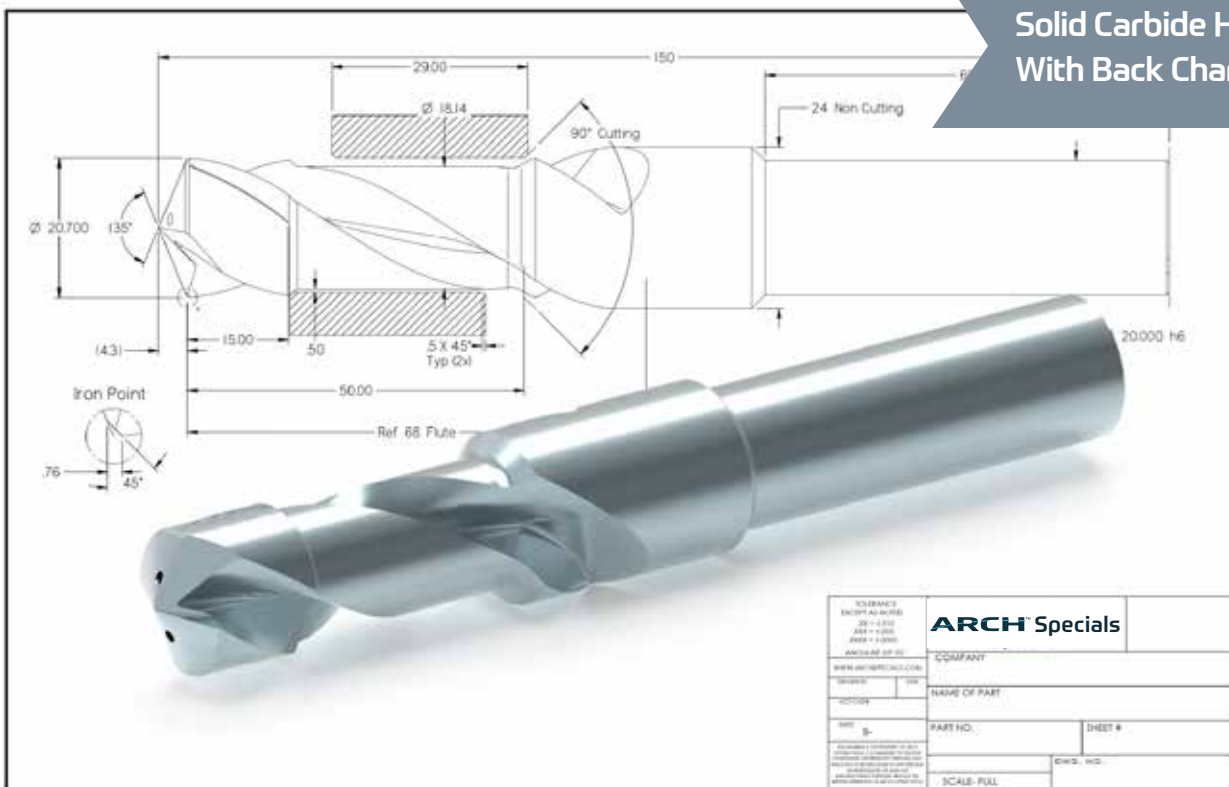
Carbide Body PCD Tipped Finish Form Reamer



HSK50 Indexable Rough Boring Bar With PCD Tipped Finish Form Cutting



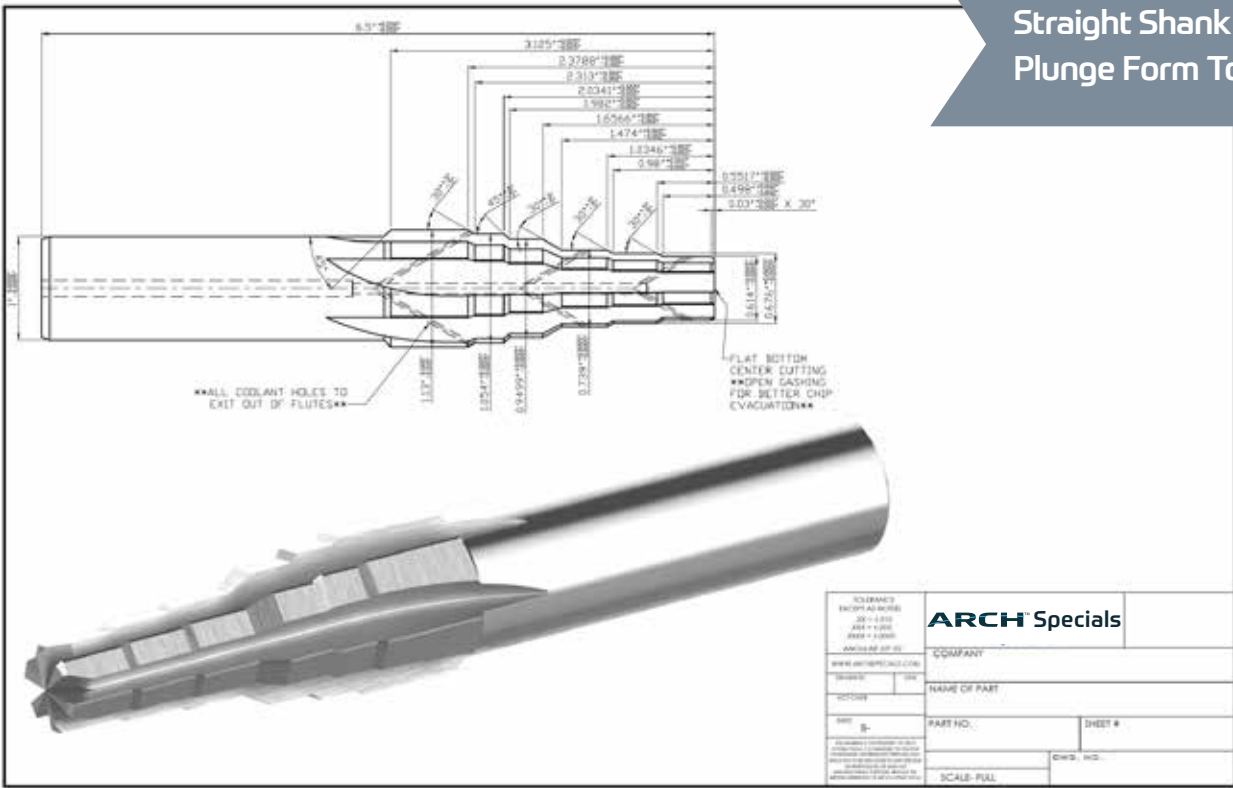
Solid Carbide Helical Drill With Back Chamfer



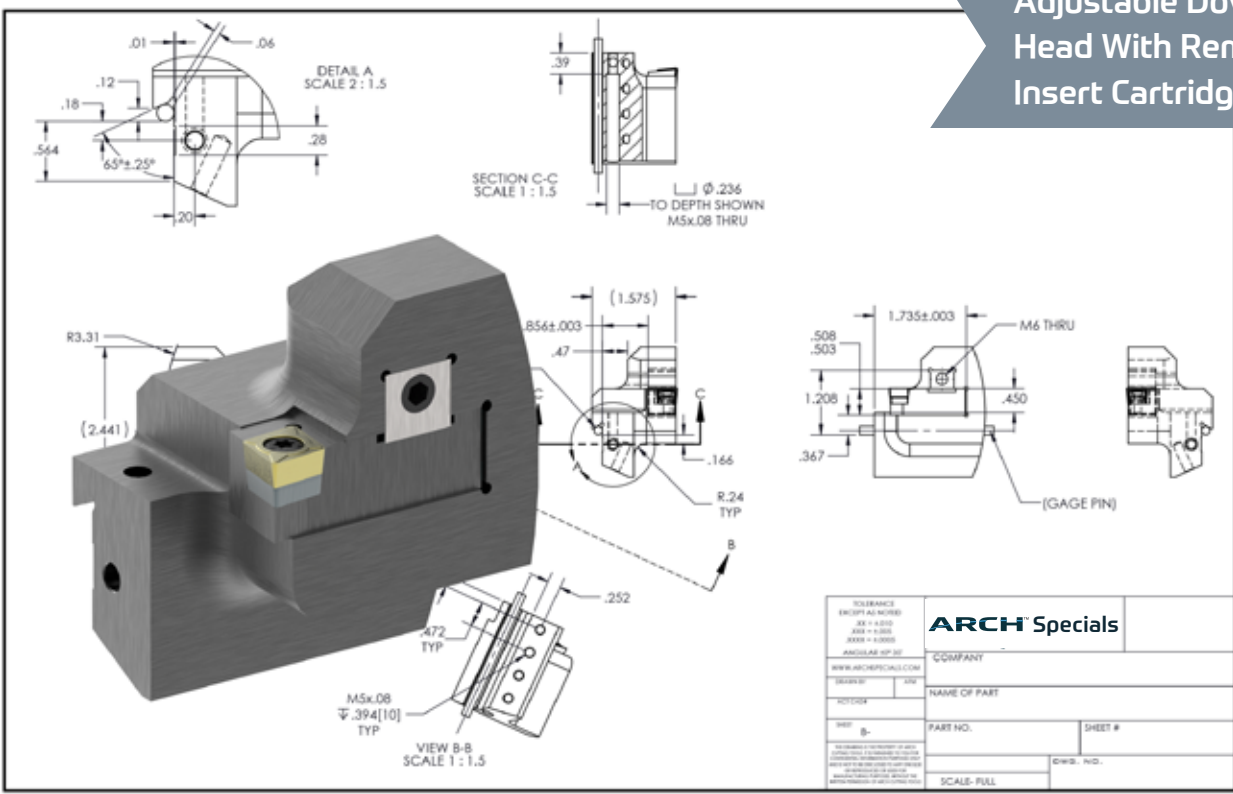


# Custom Tooling Case Studies

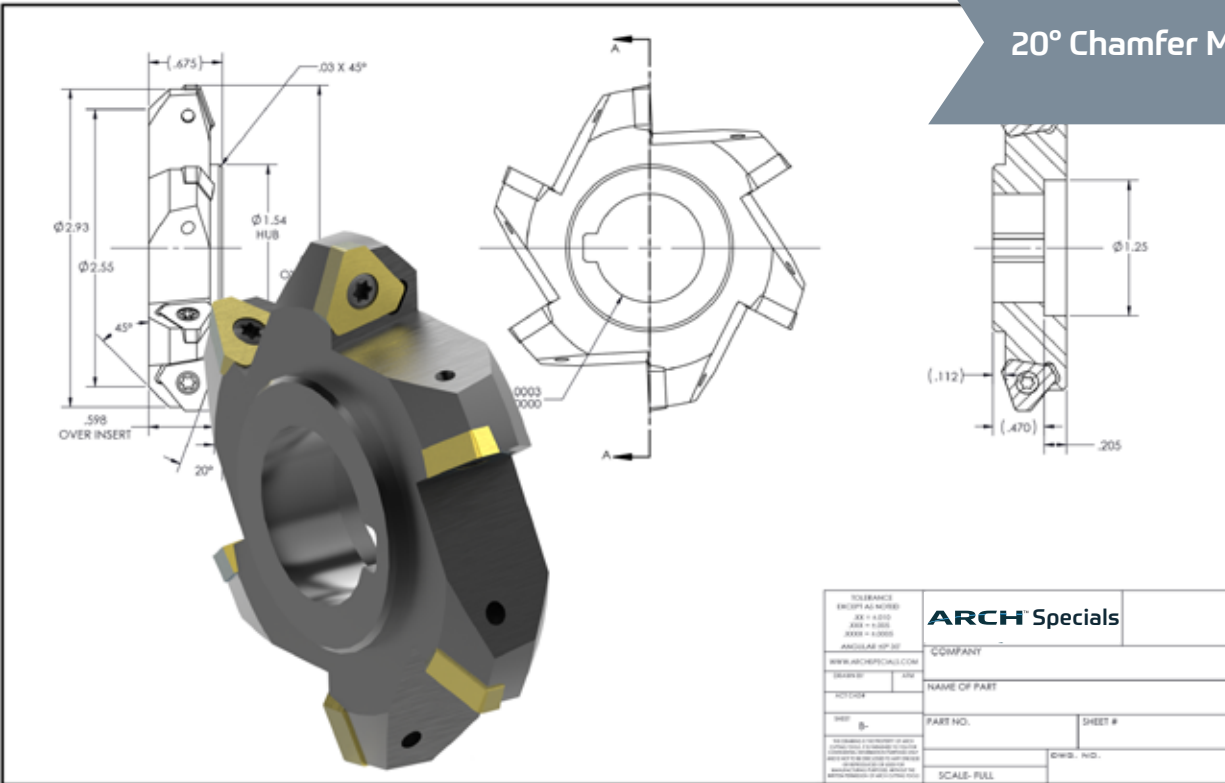
## Straight Shank Plunge Form Tool



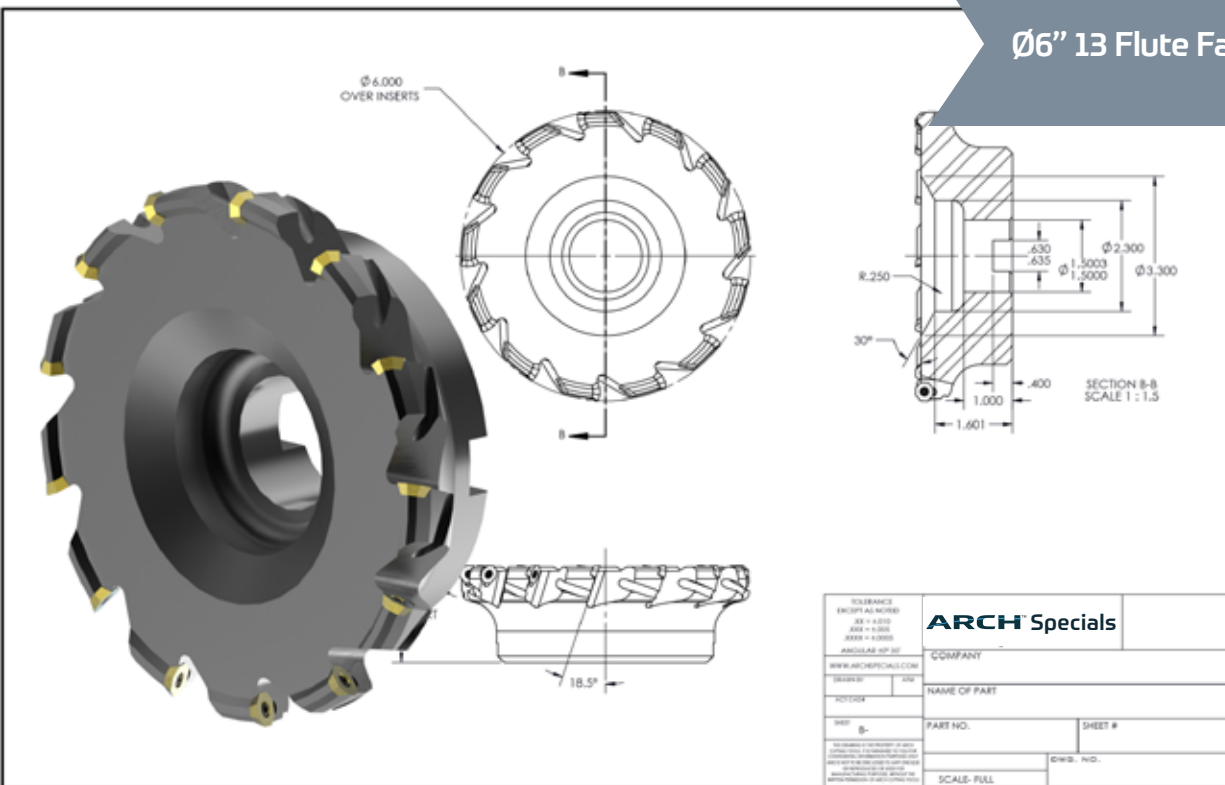
## Adjustable Dovetail Head With Removable Insert Cartridge



### 20° Chamfer Mill

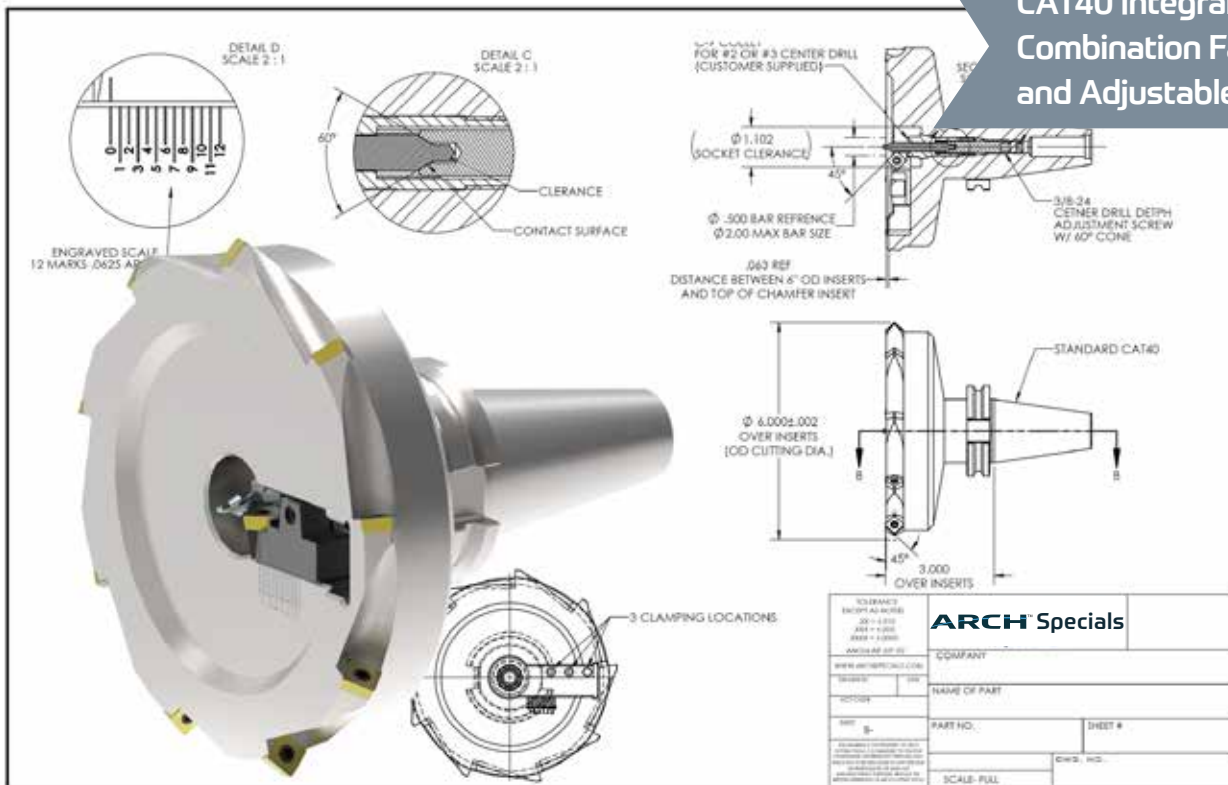


### Ø6" 13 Flute Facemill

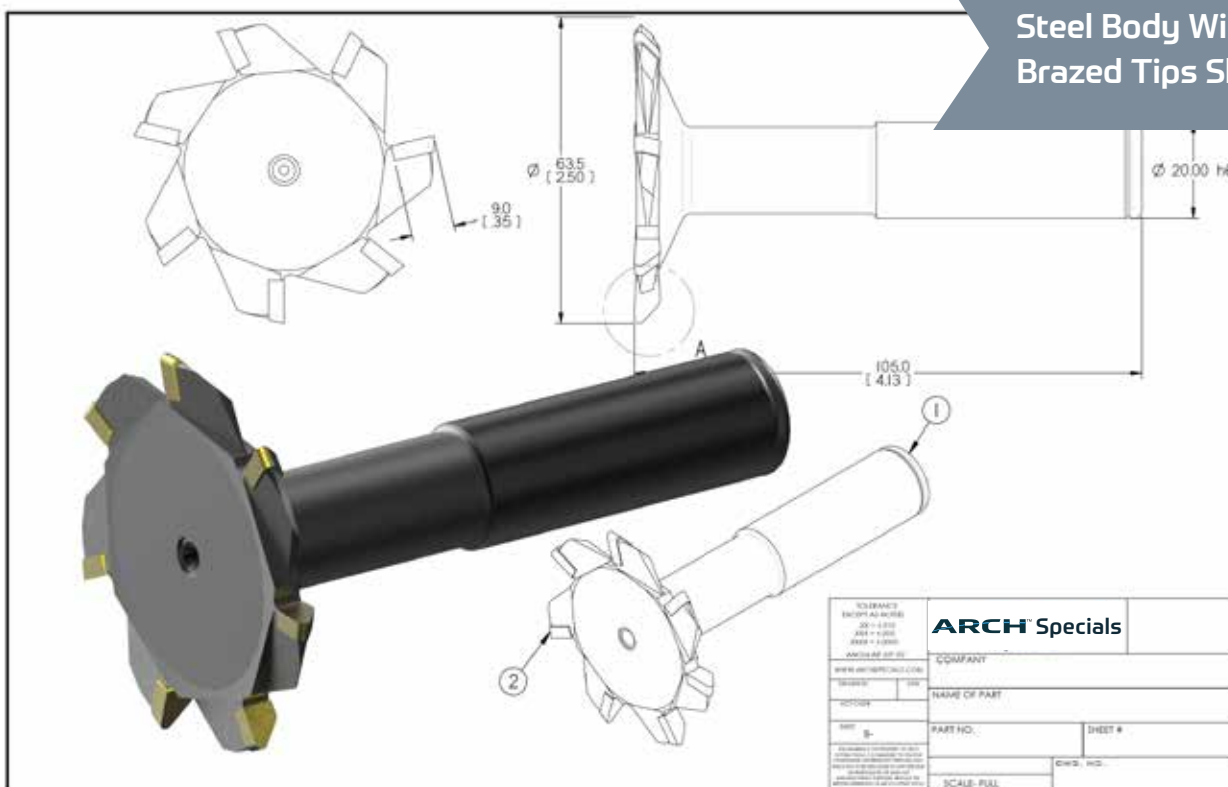


# Custom Tooling Case Studies

## CAT40 Integral shank 45° Combination Facemill, Centerdrill and Adjustable Chamfer Tool

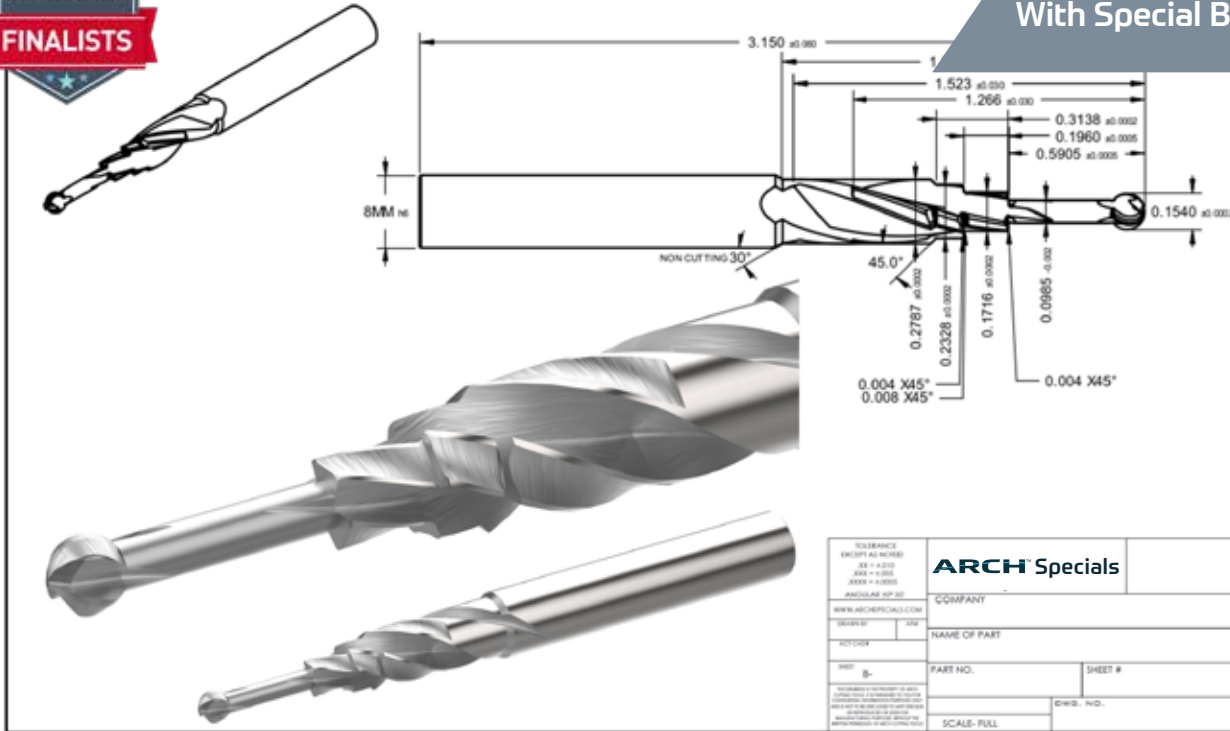


## Steel Body With Carbide Brazed Tips Slot Cutter

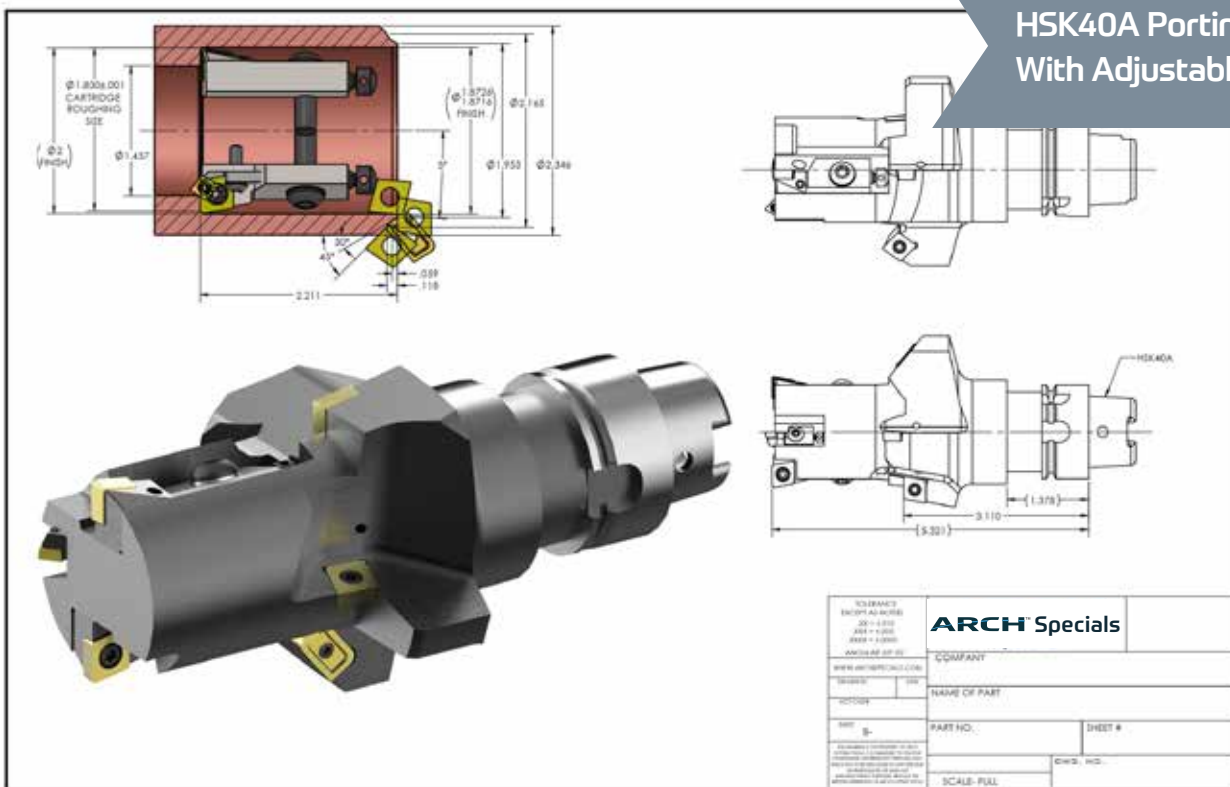




## Solid Carbide Counter Bore With Special Ball Profile

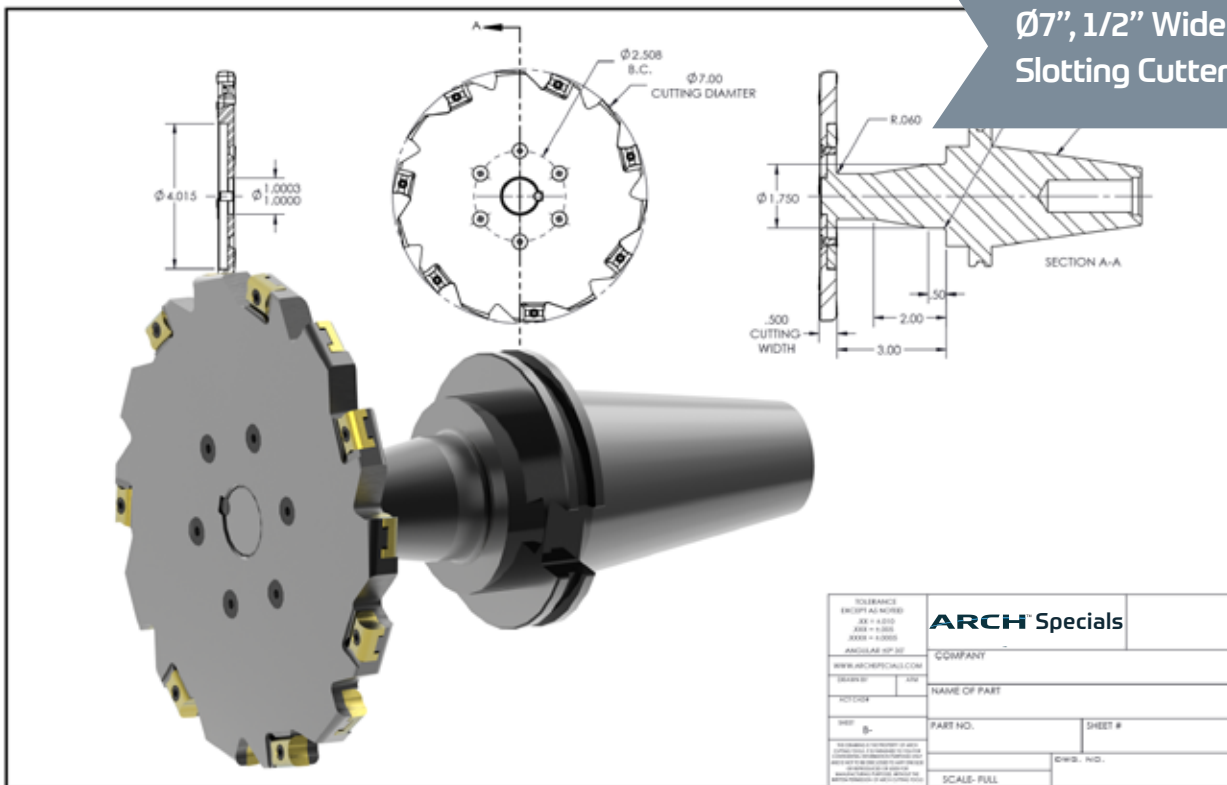


## HSK40A Porting Tool With Adjustable Cartridges

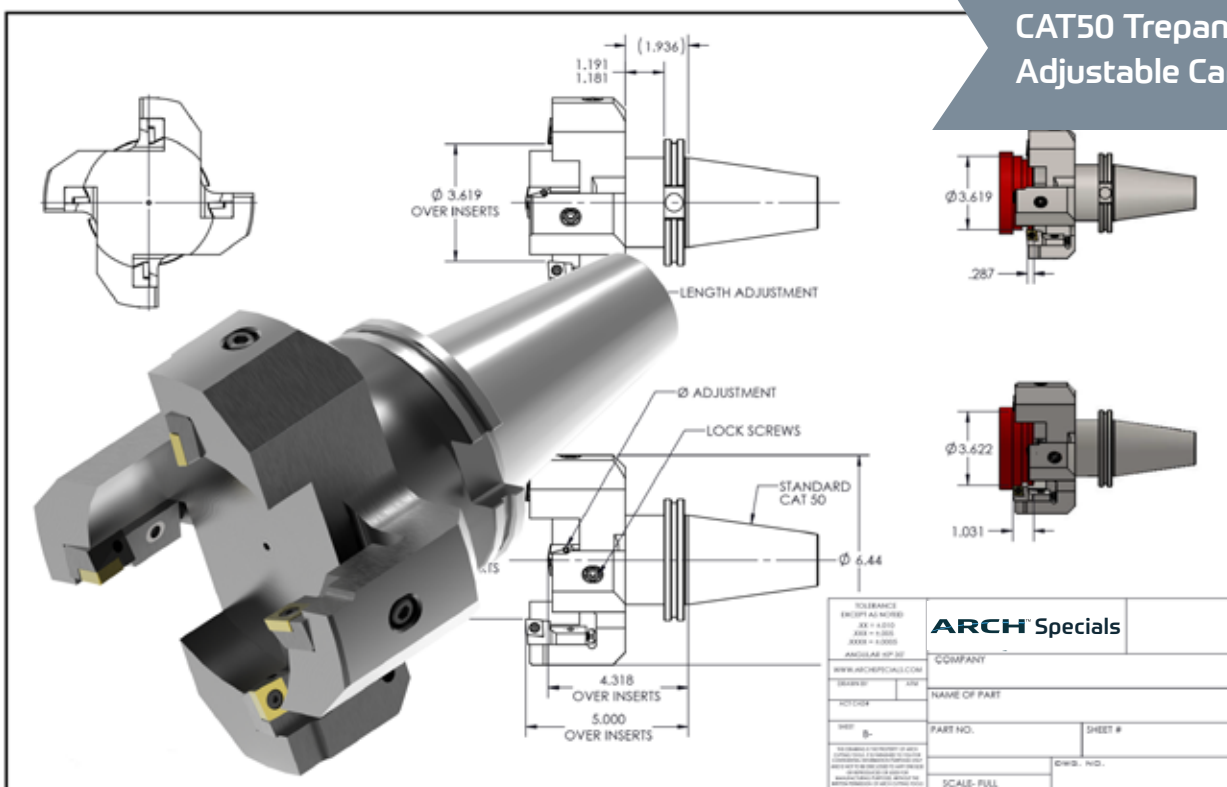


# Custom Tooling Case Studies

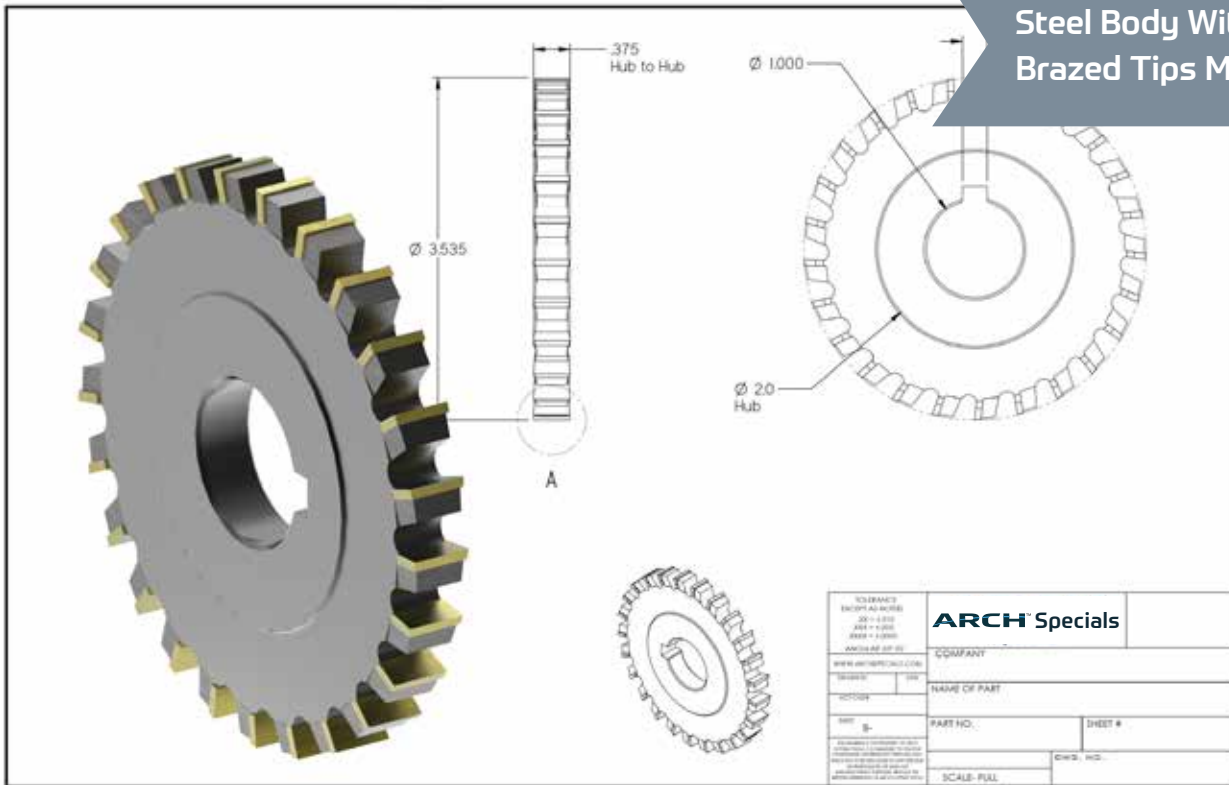
Ø7", 1/2" Wide CAT50 Slotting Cutter



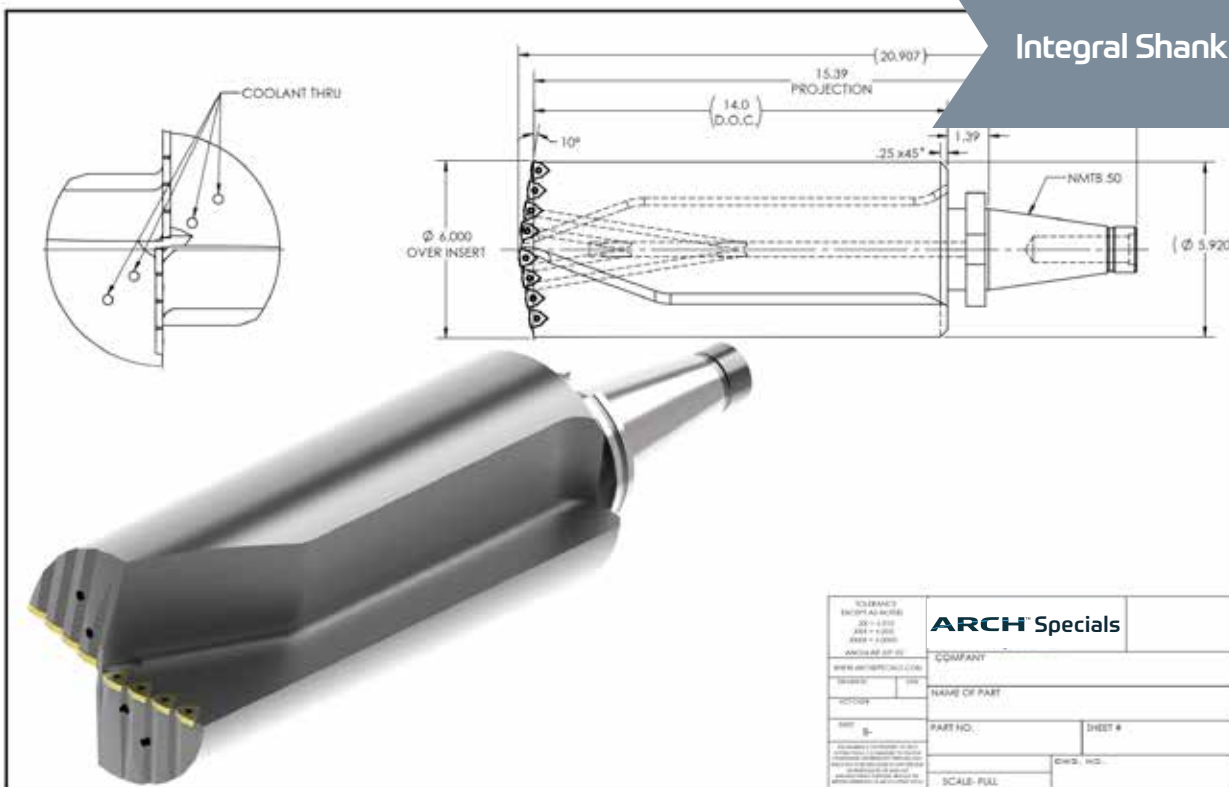
CAT50 Trepan Tool With Adjustable Cartridges



Steel Body With Carbide  
Braze Tips Milling Cutter



Integral Shank Indexable Drill



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