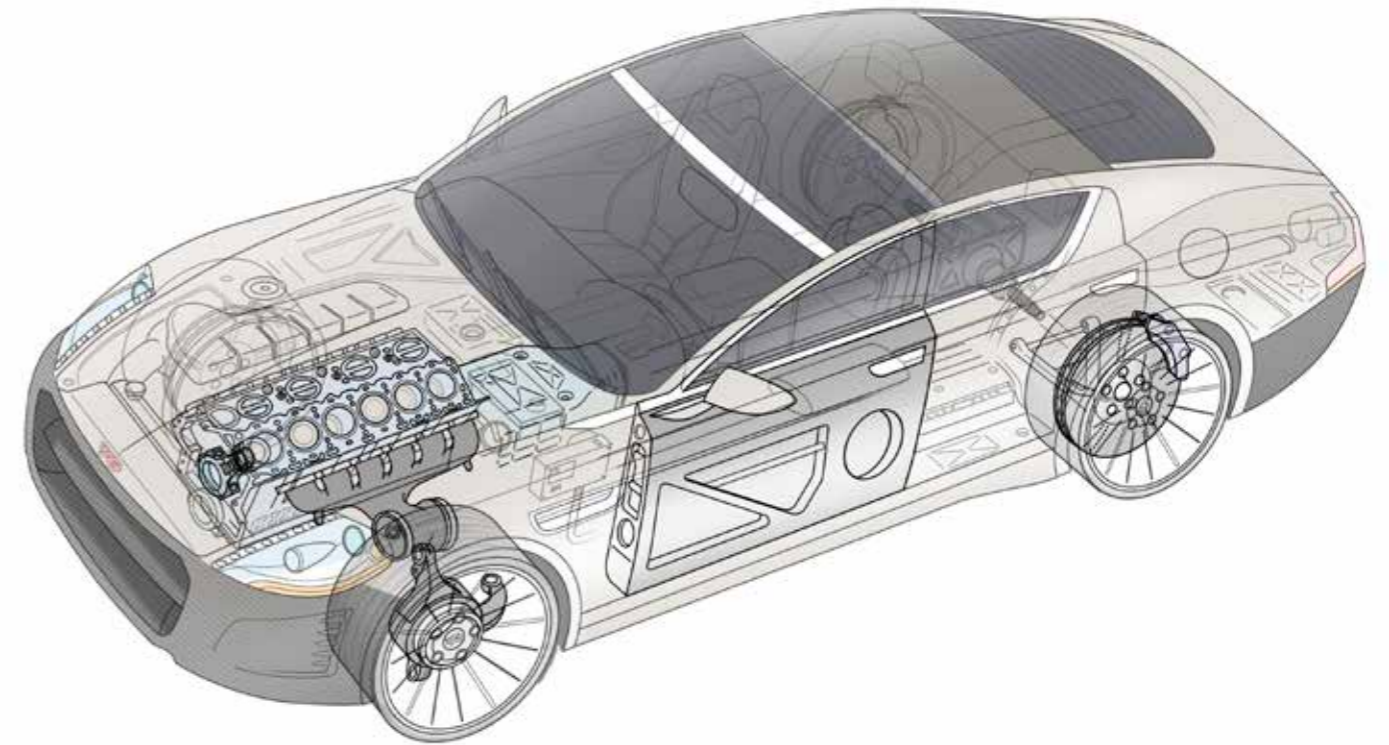


AM18



QUICK-SEARCH
YG-1 PRODUCTS!!
www.yg1.kr

AUTOMOTIVE TOOL SOLUTIONS FOR INDUSTRIES



 **YG-1 CO., LTD.**

HEAD OFFICE

211, Sewolcheon-ro, Bupyeong-gu, Incheon, South Korea

Phone : +82-32-526-0909

E-mail : yg1@yg1.kr

www.yg1.kr

Note The new address above has currently been updated to the new Korean postal standard valid since 2014.
Notice that the physical Head Office location did NOT change.



Search 'YG-1' on social media outlets

Tool specifications are subject to change without prior notice.

YG1AM181029002



YG-1 AND THE AUTOMOTIVE INDUSTRY



The automotive industry is always presenting new challenges for the tool manufacturing industry. For example, advanced materials, such as carbon fiber reinforced composites, are machined in the production of today's electric automobiles and difficult to machine, heat-resistant cast steel turbochargers are produced and assembled to smaller engines for greater power and reduced emissions. Both applications place increased demands for advanced cutting tool material, geometries, and coatings.

YG-1, as a global leader in the manufacturing and application of cutting tools, brings you these innovations worldwide in the form of superior tooling, expert support and world class delivery.

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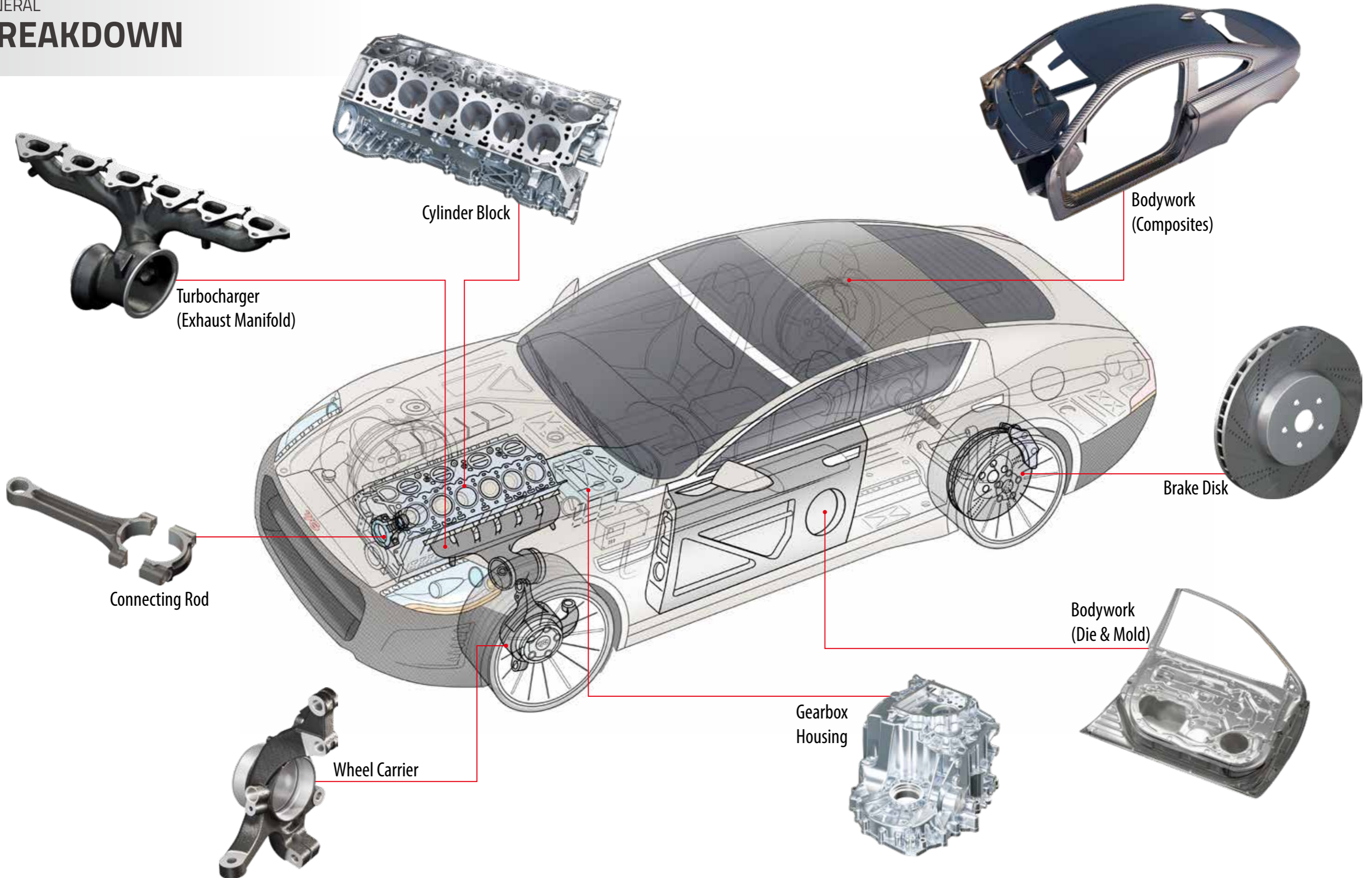
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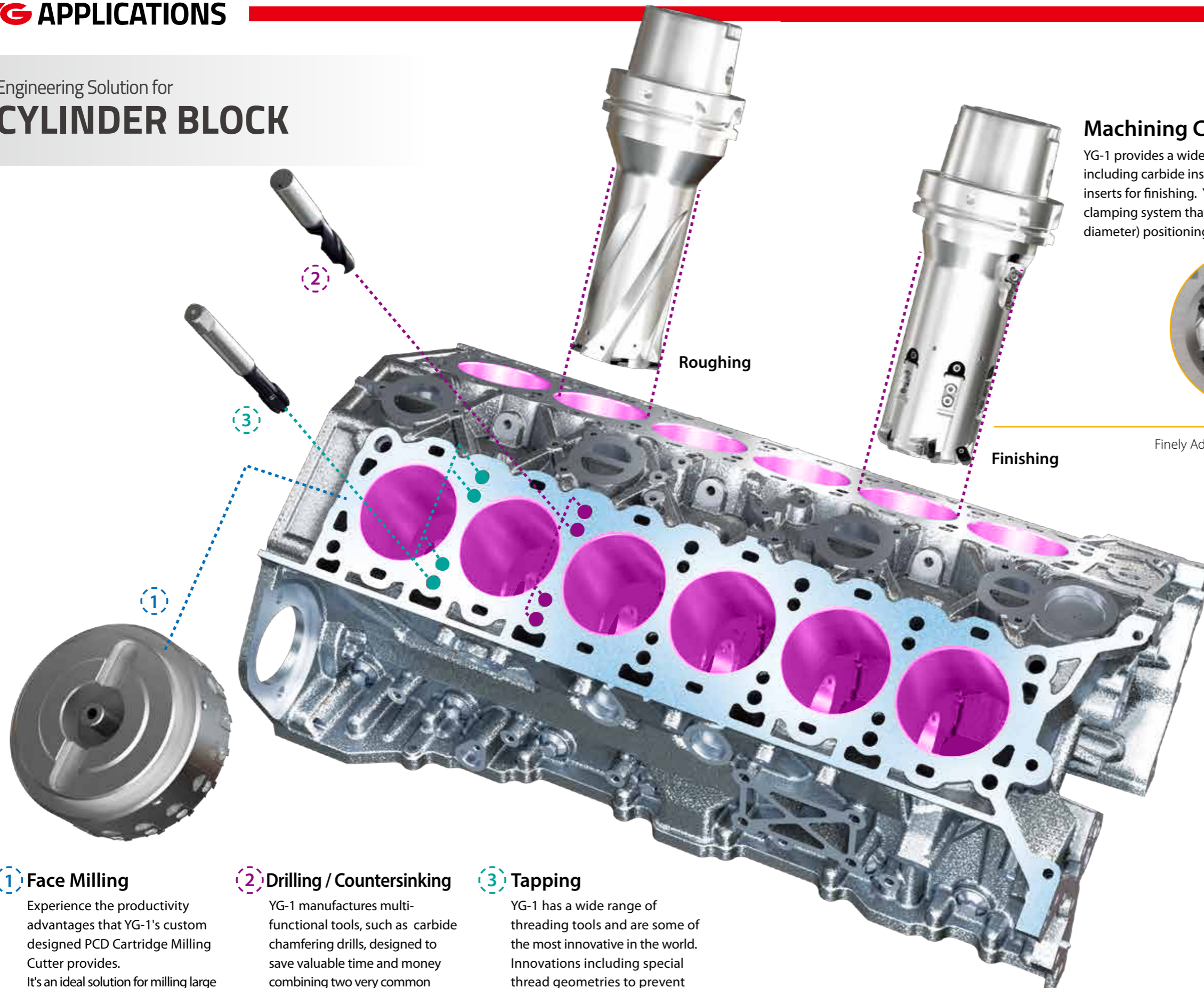
YG-1 has been operating in Germany for the past 15 years with a distribution center in Frankfurt Eschborn and a production facility in Remscheid - all to service the European market. Today, YG-1 is increasing its presence in Europe by opening the new German R&D Center in addition to R&D Centers currently located in Korea, the USA, and India. The German R&D Center will play a significant role in using the latest technologies to innovate and manufacture cutting tools for the aerospace, energy, and automotive industries.



GENERAL
BREAKDOWN

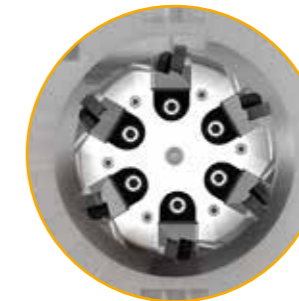


Engineering Solution for
CYLINDER BLOCK



Machining Cylinder Bores

YG-1 provides a wide range of Indexable Tools for precise boring of cylinder bores - including carbide inserts for roughing and CBN (for higher cutting speed) or carbide inserts for finishing. YG-1 finishing tools feature an advanced cartridge adjustment clamping system that allows for axial adjustment along with lateral (boring diameter) positioning of the CBN insert to meet exact tolerance requirements.



Finely Adjustable Boring Diameter

Adjustable Cartridge Type B



Please refer to page 25 for explanation about the special cartridge system

1 Face Milling

Experience the productivity advantages that YG-1's custom designed PCD Cartridge Milling Cutter provides. It's an ideal solution for milling large surfaces to precise requirements - such as the cylinder block to cylinder head interface.

2 Drilling / Countersinking

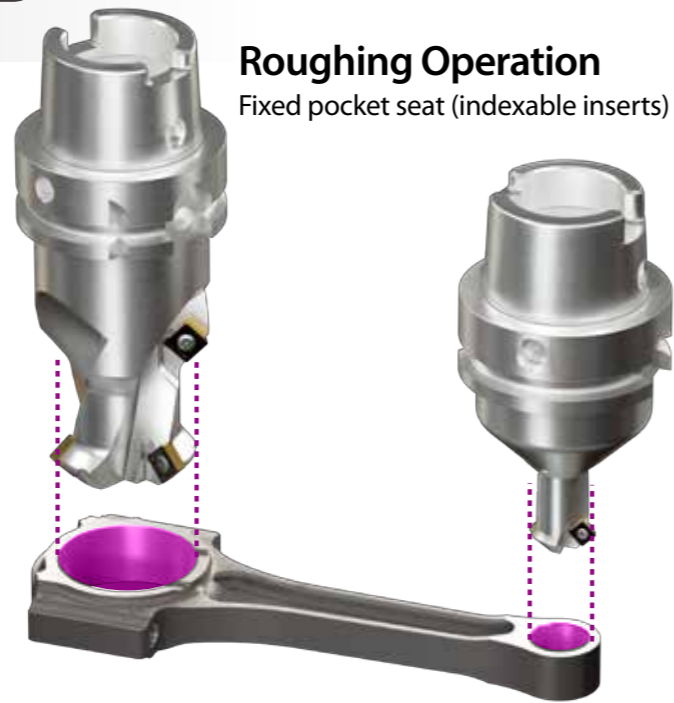
YG-1 manufactures multi-functional tools, such as carbide chamfering drills, designed to save valuable time and money combining two very common operations into one advanced tool.

3 Tapping

YG-1 has a wide range of threading tools and are some of the most innovative in the world. Innovations including special thread geometries to prevent over feeding and multipurpose taps designed to thread a range of materials, including cast aluminum and cast iron, are engineered for use in engine manufacturing.

* This workpiece machined using custom tools, that are tailor-made to the needs of a specific customer. Please contact YG-1 dealer for more information

Engineering Solution for
CONNECTING ROD



Roughing Operation
Fixed pocket seat (indexable inserts)



Finishing Operation
Fine adjustable

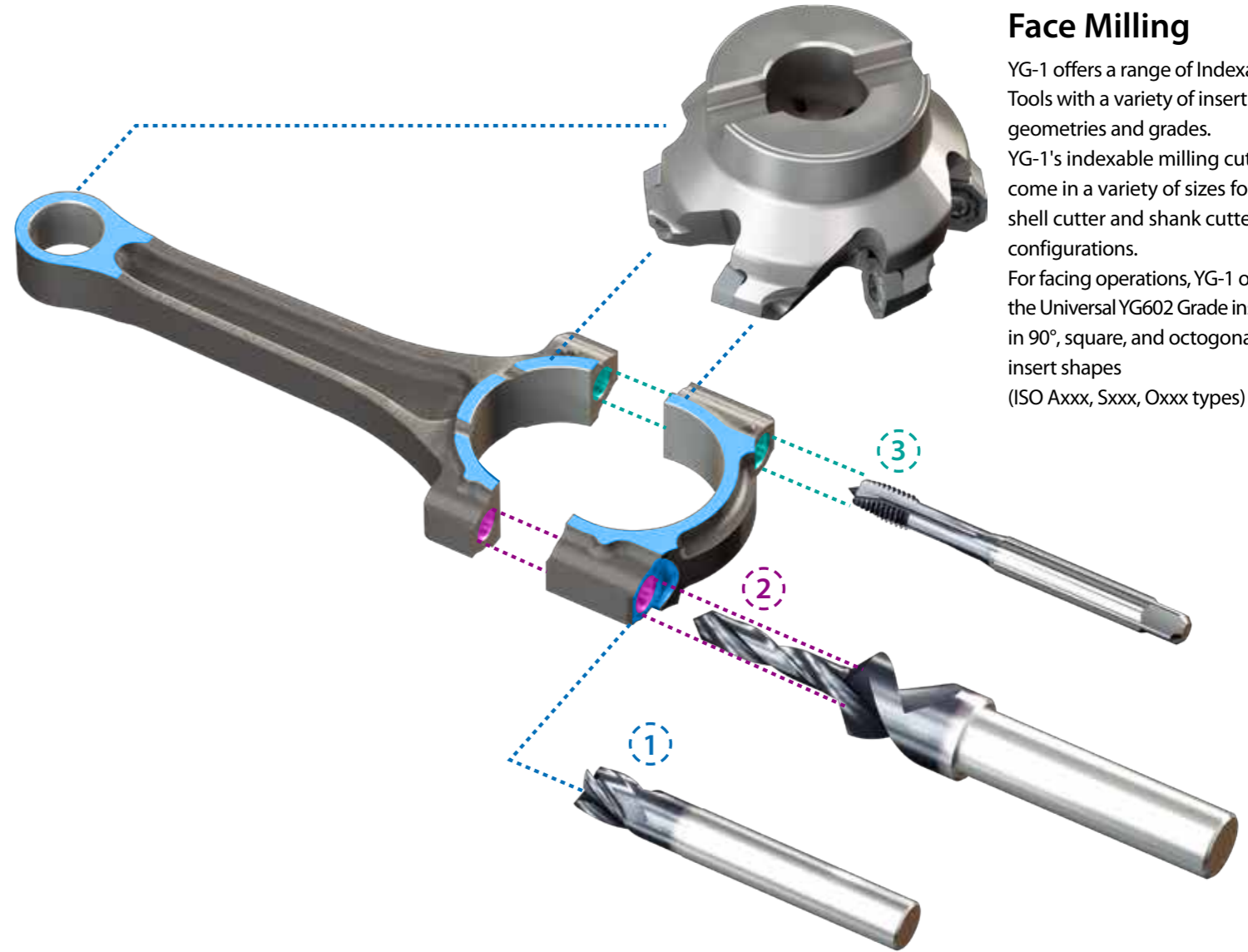
Adjustable Cartridge Type A



Please refer to page 24 for explanation about the special cartridge system

Roughing/Finishing
Boring Tools

YG-1 provides a wide range of Indexable Tools for precise boring of connecting rod openings - including carbide inserts for roughing and CBN inserts for finishing.
YG-1 finishing tools feature an advanced cartridge adjustment clamping system that allows for axial and lateral adjustment for precise size control.



Face Milling

YG-1 offers a range of Indexable Tools with a variety of insert geometries and grades. YG-1's indexable milling cutters come in a variety of sizes for shell cutter and shank cutter configurations. For facing operations, YG-1 offers the Universal YG602 Grade inserts in 90°, square, and octagonal insert shapes (ISO Axxx, Sxxx, Oxxx types)

① Solid Milling

YG-1s' End mills are recognized worldwide as the best. 4G Mill and V7 Plus End mills offer a variety of flutes and geometries that address the demands of a wide range of applications.

② Drilling / Countersinking

YG-1 manufactures multi-functional tools, such as carbide chamfering drills, designed to save valuable time and money combining two very common operations into one advanced tool.

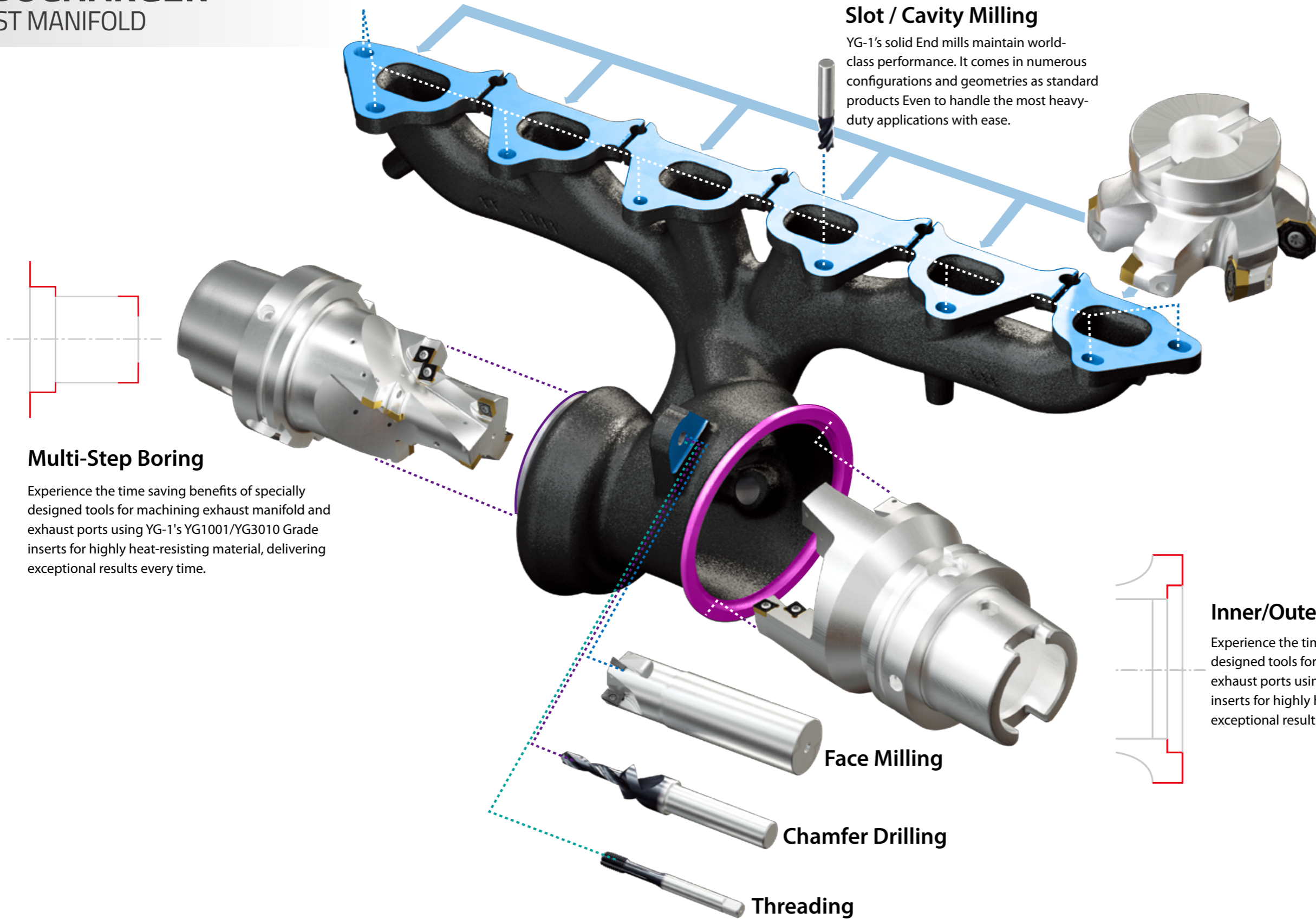
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Engineering Solution for
TURBOCHARGER
EXHAUST MANIFOLD

■ Milling ■ Drilling ■ Threading



Slot / Cavity Milling

YG-1's solid End mills maintain world-class performance. It comes in numerous configurations and geometries as standard products Even to handle the most heavy-duty applications with ease.

Face Milling

YG-1 offers a range of indexable cutters for facing large areas. YG602 Grade inserts allow for optimal cutting speeds while maintaining accuracy and excellent surface finish.

Multi-Step Boring

Experience the time saving benefits of specially designed tools for machining exhaust manifold and exhaust ports using YG-1's YG1001/YG3010 Grade inserts for highly heat-resisting material, delivering exceptional results every time.

Inner/Outer Flange Machining

Experience the time saving benefits of specially designed tools for machining exhaust manifold and exhaust ports using YG-1's YG1001/YG3010 Grade inserts for highly heat-resisting material, delivering exceptional results every time.

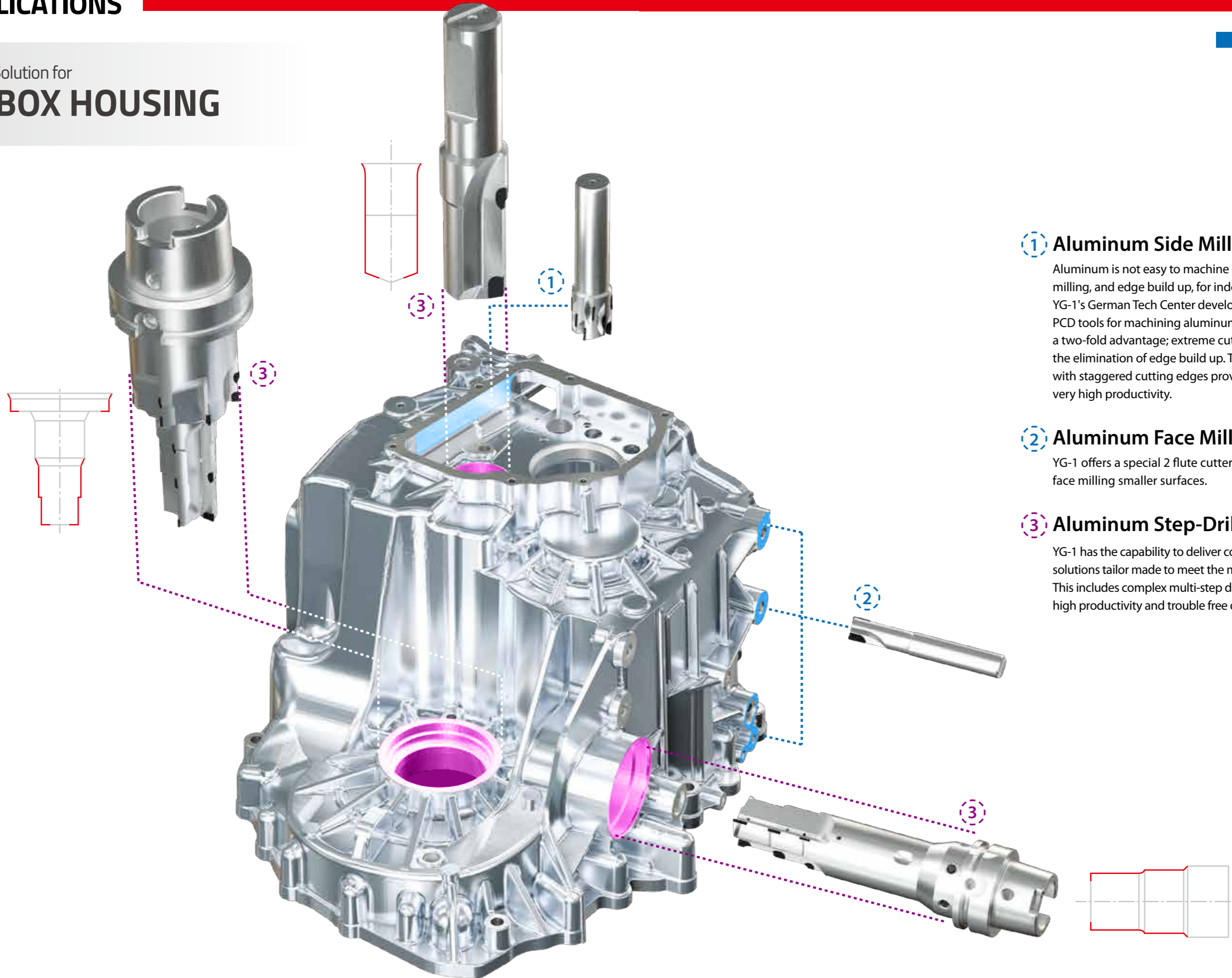
Face Milling

Chamfer Drilling

Threading

*This workpiece machined using custom tools, that are tailor-made to the needs of a specific customer. Please contact YG-1 dealer for more information

Engineering Solution for
GEARBOX HOUSING



① Aluminum Side Milling

Aluminum is not easy to machine due to long chips, for solid milling, and edge build up, for indexable milling. YG-1's German Tech Center developed a range of custom PCD tools for machining aluminum. These PCD tools provide a two-fold advantage; extreme cutting speed and the elimination of edge build up. These side milling cutters with staggered cutting edges provide a smooth finish and very high productivity.

② Aluminum Face Milling

YG-1 offers a special 2 flute cutter with PCD inlays for fast face milling smaller surfaces.

③ Aluminum Step-Drilling

YG-1 has the capability to deliver complete machining solutions tailor made to meet the most challenging demands. This includes complex multi-step drills with PCD inlays for high productivity and trouble free operation.

*This workpiece machined using custom tools, that are tailor-made to the needs of a specific customer. Please contact YG-1 dealer for more information

Engineering Solution for
STEERING KNUCKLE

Drilling

YG-1 is known world wide as a premier round tool manufacturer and offers multiple series of carbide drills for use in a variety of materials including cast iron.



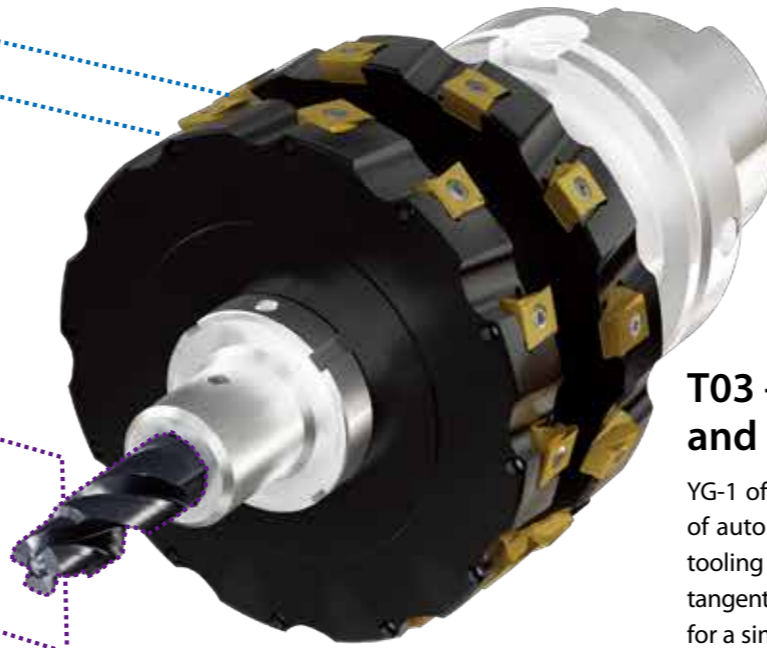
Chamfer Drilling

YG-1 manufactures multi-functional tools, such as carbide chamfering drills, designed to save valuable time and money combining two very common operations into one advanced tool.



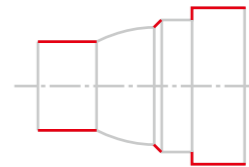
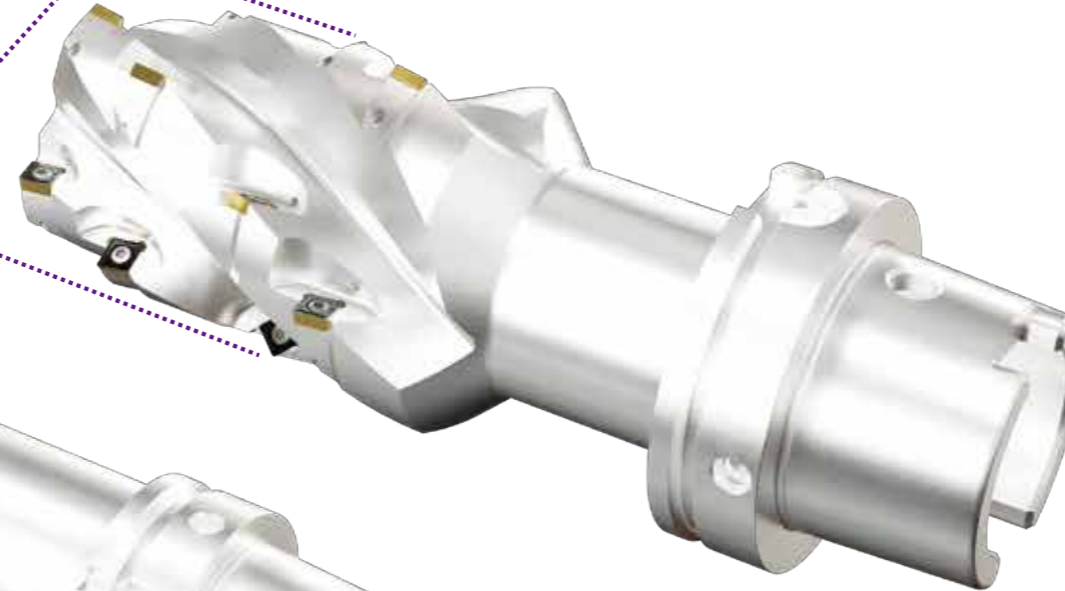
T03 - Tandem Face Milling and Chamfer Drilling

YG-1 offers customized tools to meet the challenges of automotive manufacturing. This includes custom tooling such as ganged indexable milling cutters with tangential carbide inserts coupled with a chamfer drill for a single solution to reduce cycle time.



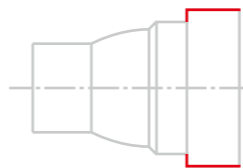
T01 - One-Shot Inner Boring/Profiling

Experience the time saving benefits of YG-1's specially designed tools for machining steering knuckles. Use YG1001/YG3010 Grade inserts for cast iron to deliver exceptional results every time.



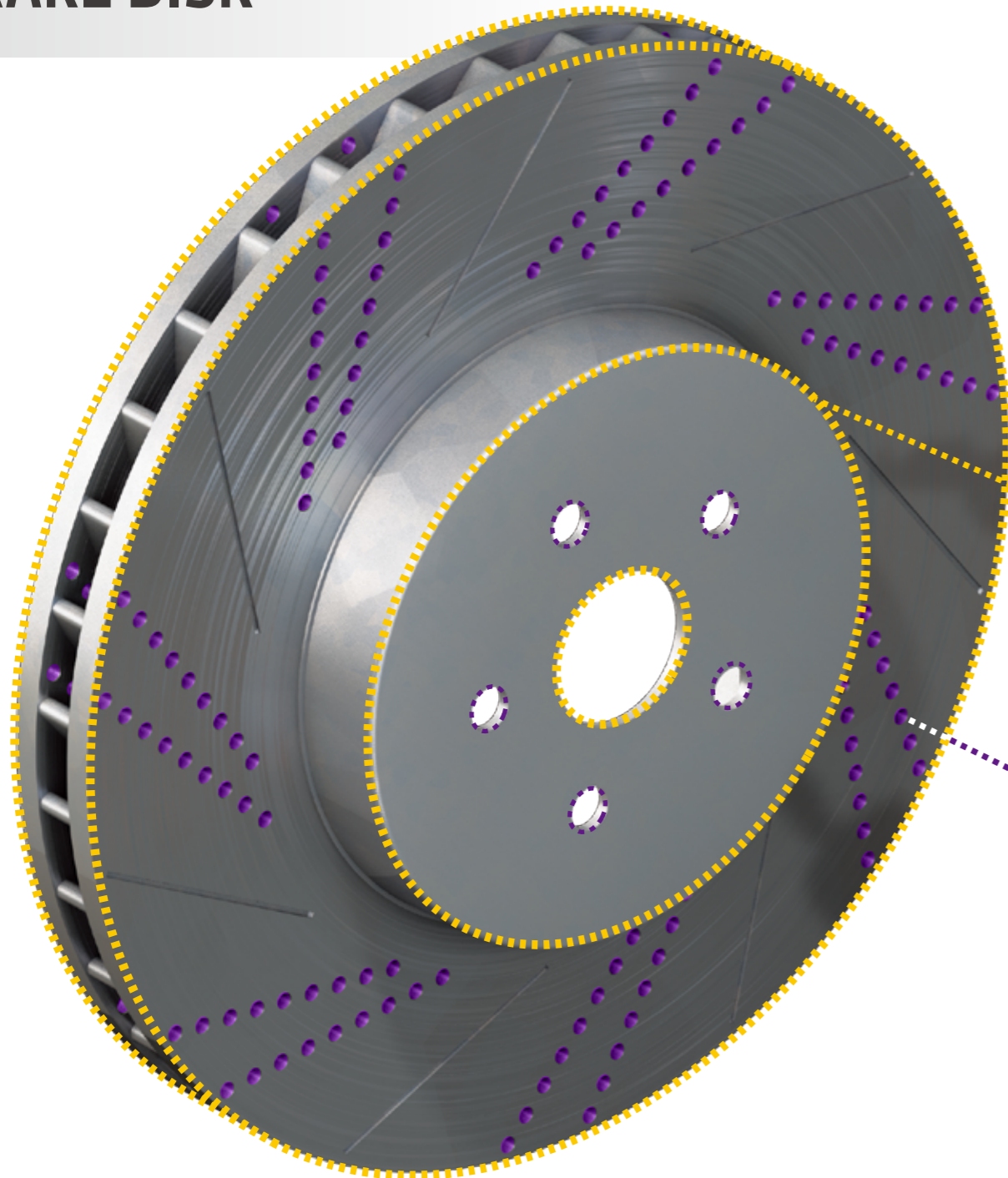
T02 - Bore Finishing

For finishing the inner bore of a wheel carrier to a precise surface finish that meets the rigorous standards of the automotive industry, YG-1 engineers developed a bore finishing tool with PCD inlays customized to meet the end user's specifications.



*This workpiece machined using custom tools, that are tailor-made to the needs of a specific customer. Please contact YG-1 dealer for more information

Engineering Solution for
BRAKE DISK

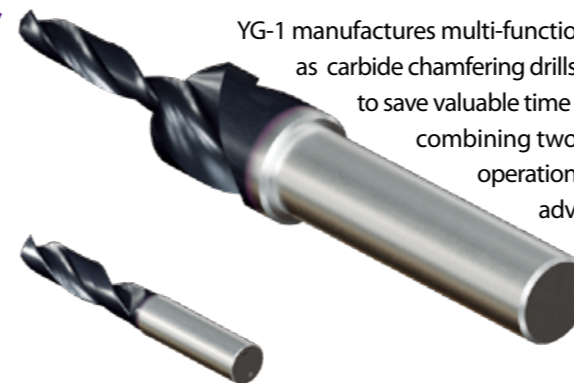


Turning

YG-1 offers a large variety of indexable turning tools and carbide inserts with multiple grades including YG3020 Grade specifically engineered for steel applications. Visit YG-1 online and download the Indexable Cutting Tools catalog, or contact one of many local sales representative to learn more about other options YG-1 can provide.

Chamfer Drilling

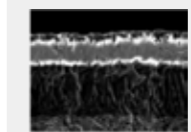
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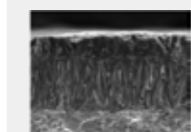
Drilling

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YGTURN



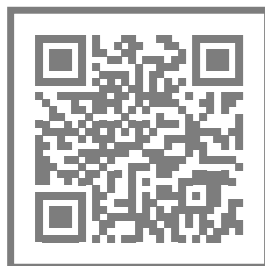
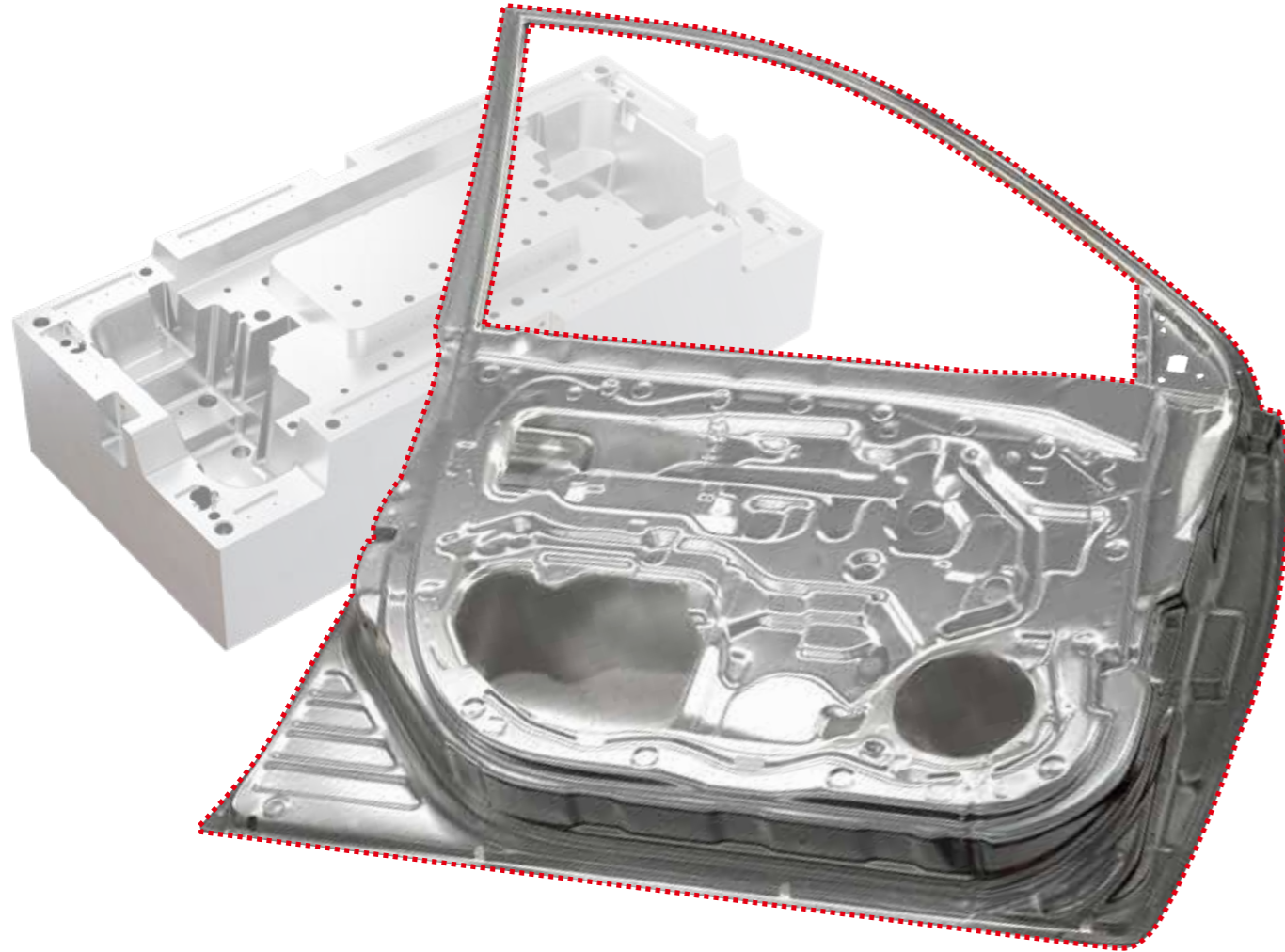
YG1001
First choice for nodular and ductile cast iron
New Al2O3 coating technology and excellent surface smoothness increase wear and chipping resistance.



YG3010 P05 - P20 K15 - K35
First choice for finishing steels, and ductile cast iron
New Al2O3 coating technology and excellent surface smoothness increase wear and chipping resistance.

*This workpiece machined using custom tools, that are tailor-made to the needs of a specific customer. Please contact YG-1 dealer for more information

Engineering Solution for
BODYWORK - DIE & MOLD

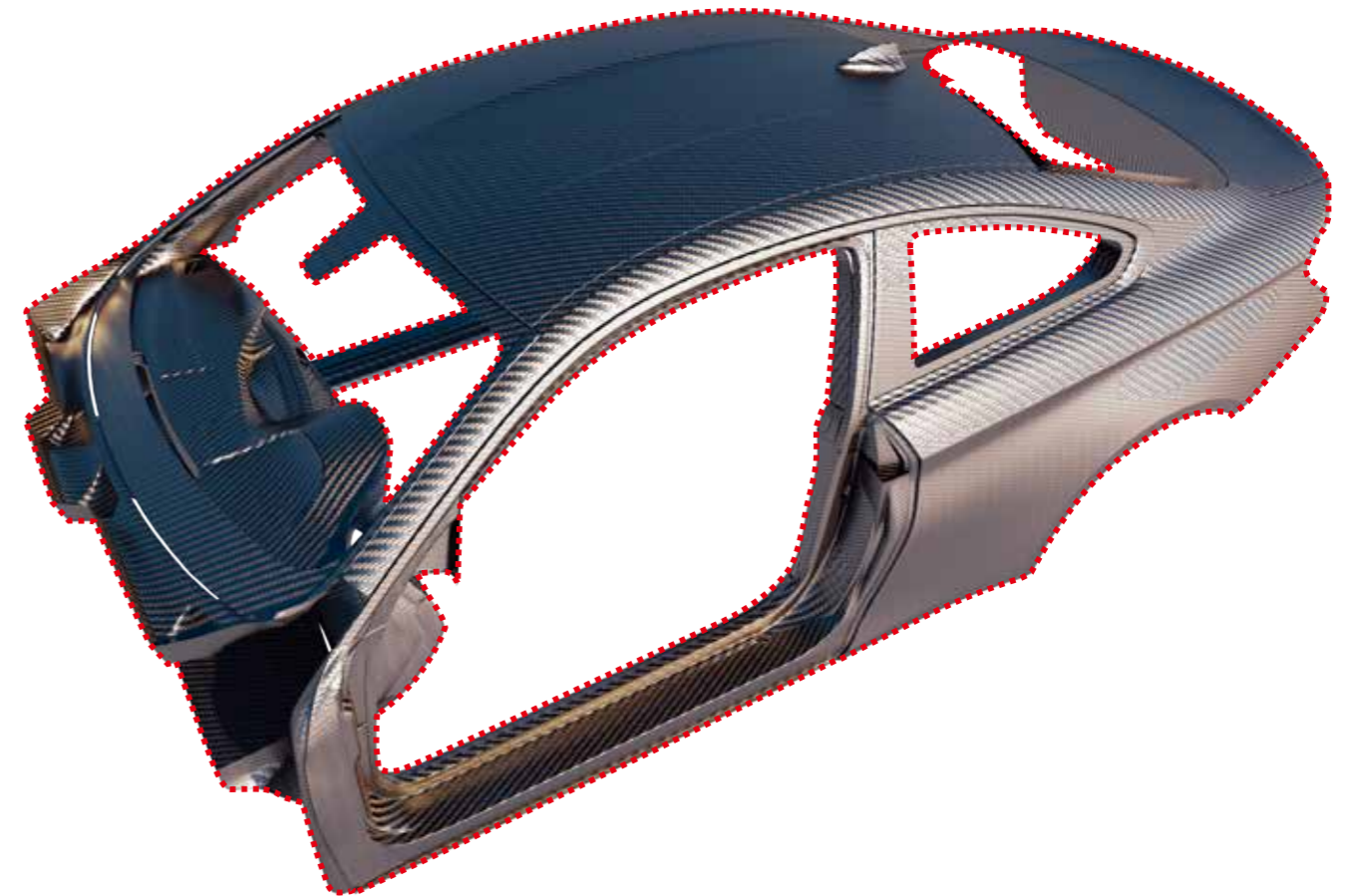


Die & Mold

Modern vehicle body parts such as doors, hoods, and fenders are manufactured with sophisticated dies and molds.

YG-1 offers comprehensive solutions for machining Die & Mold sets used for the production of automotive body parts and many other applications. Scan the provided QR code to access our Die & Mold Solutions brochure.

Engineering Solution for
BODYWORK - COMPOSITES



Composites

More and more, composite materials are becoming increasingly prevalent across the entire manufacturing sector. There is an ever growing trend in the automotive industry to make use of the advanced properties of CFRP (Carbon Fiber Reinforced Plastics), GFRP (Glass Fiber Reinforced Plastics) and other such materials once only the domain of advanced aerospace projects. Prime example of composite materials used outside of aerospace are the various body components for the automotive industry.

In keeping pace with the most cutting-edge technologies and trends, YG-1 has developed a wide range of diamond-coated and PCD cutting tools for a wide variety of composite materials. Scan the provided QR code to access our Composites Materials - Tools Solutions for Industries brochure.

K Cast Iron

INDEXABLE FACE MILLING AND ROUGHING
YG MILL [General & -TR Chipbreaker]



EXCHANGEABLE HEAD SOLID CARBIDE MILLING
i-SMART



REAMING
CARBIDE REAMERS



SOLID CARBIDE MILLING
4G MILL



EXCHANGEABLE HEAD MILLING
i-Xmill



EXCHANGEABLE HEAD DRILLING
SPADE DRILLS



THREADING
PRIME TAPS | THREAD MILLS
COMBO TAPS | SYNCHROTAPS



INDEXABLE DRILLING
YG DRILL [universal line]



SOLID CARBIDE DRILLING
DREAM DRILLS GENERAL



N Non Ferrous Metals (Aluminum)

SOLID CARBIDE ALUMINUM MILLING
ALU-POWER

SOLID CARBIDE ALUMINUM HIGH PRODUCTIVITY MILLING
ALU-POWER HPC



SOLID CARBIDE ALUMINUM DRILLING
DREAM DRILLS ALU



THREADING
THREAD MILLS
SYNCHROTAPS



REAMING
CARBIDE REAMERS



INDEXABLE FACE AND PROFILE MILLING
YG MILL [-AL Chipbreaker]



P Steel

INDEXABLE FACE MILLING AND ROUGHING
YG MILL [General & -TR Chipbreaker]



SOLID CARBIDE HEAVY-CUT MILLING
V7 PLUS



REAMING
CARBIDE REAMERS



THREADING
PRIME TAPS | THREAD MILLS
COMBO TAPS | SYNCHROTAPS



EXCHANGEABLE HEAD SOLID CARBIDE MILLING
i-SMART



SOLID CARBIDE MILLING
4G MILL



INDEXABLE DRILLING
YG DRILL [universal line]



EXCHANGEABLE HEAD DRILLING
i-ONE DRILLS



EXCHANGEABLE HEAD DRILLING
SPADE DRILLS



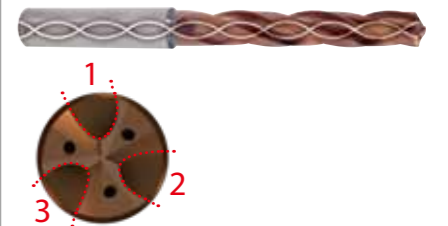
EXCHANGEABLE HEAD MILLING
i-Xmill



SOLID CARBIDE DRILLING
DREAM DRILLS GENERAL



SOLID CARBIDE DRILLING
DREAM DRILLS HIGH FEED



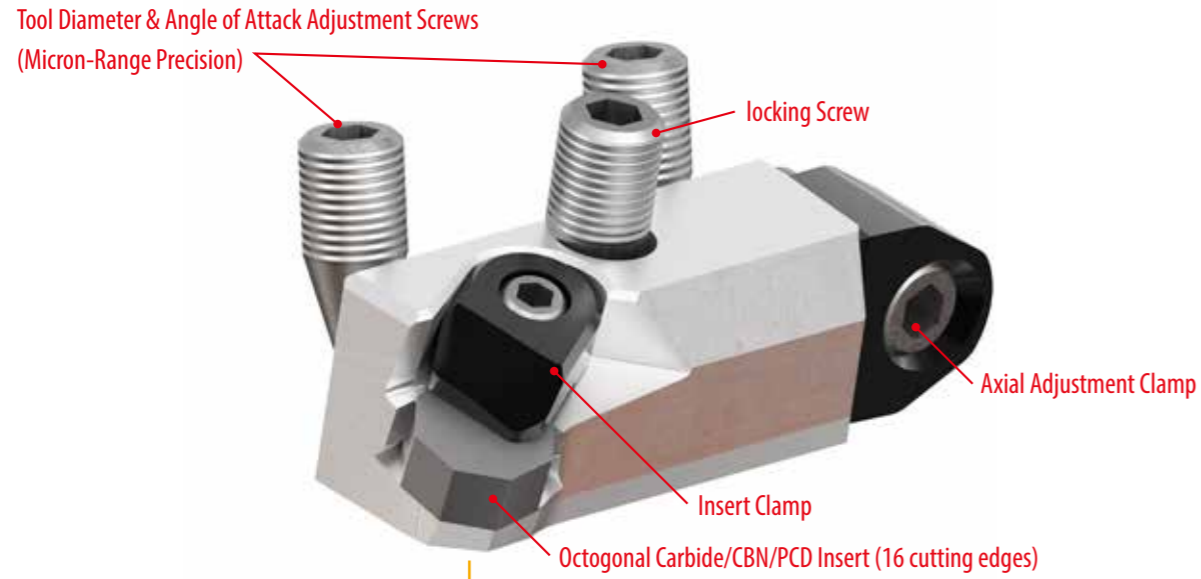
SOLID CARBIDE DRILLING
DREAM DRILLS FLAT BOTTOM



SOLID CARBIDE DEEP DRILLING
DREAM DRILLS MQL



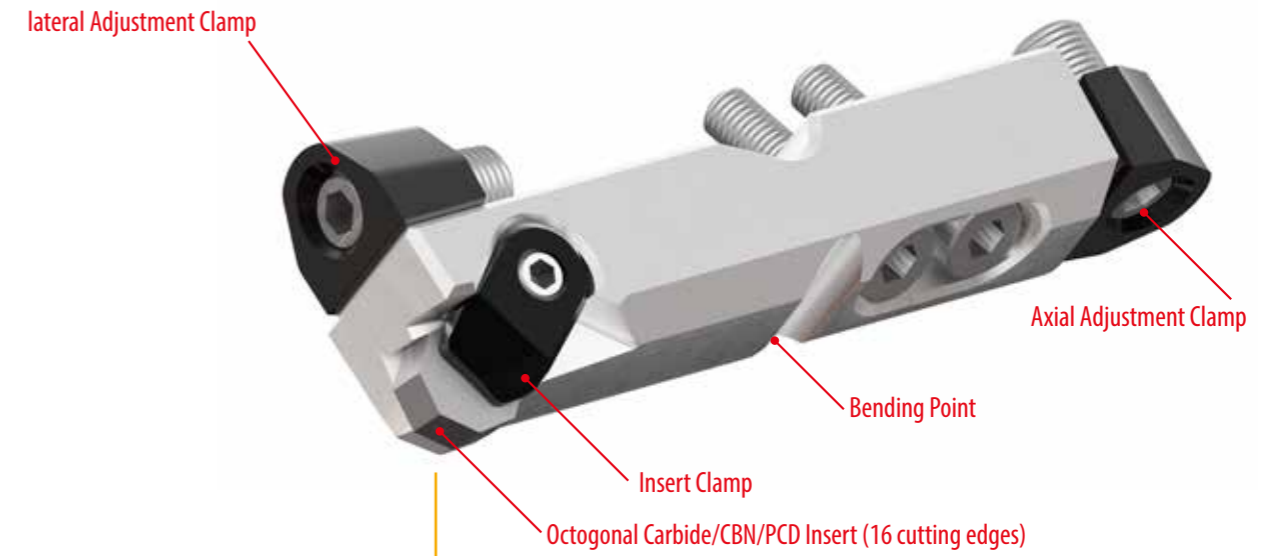
CARTRIDGES



Adjustable CBN Insert Cartridge Type A

Pivoting Type

Specially developed for YG-1 precision bore finishing tools. The cartridge carries a replaceable Carbide/CBN/PCD insert and it can be precisely adjusted axially as well as laterally by loosening the locking screw and adjusting the Tool Diameter & Angle of Attack adjustment screws and axial clamp. This system allows for fine-tuned adjustments to satisfy the most demanding requirements for tight tolerances and exact bore dimensions.



Adjustable CBN Insert Cartridge Type B

Bending Type

YG-1's new cartridge with indexable carbide, CBN, or PCD inserts mounted and secured by a robust clamping system, offers greater lateral adjustment due to the incorporated bending point. This cartridge features double locking screws to insure precision while also allowing for additional axial movement. As with previous versions, this cartridge can be axially and laterally adjusted with the corresponding clamps.

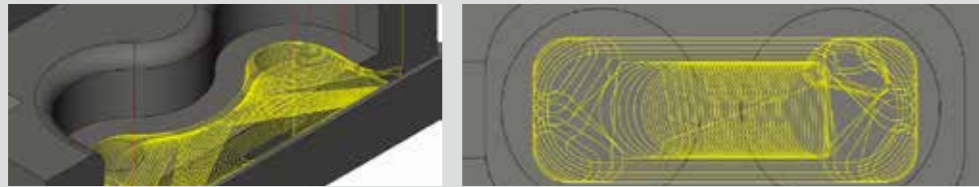
GLOBALY POSITIONED TECHNOLOGY CENTERS

YG-1 has met the challenges and developed the newest cutting materials and coatings for years. In addition, it offers the best technical support and expert support directly to the end customer with globally positioned technology centers.



DESIGN, SIMULATE, PRODUCE AND TEST IN THE INDUSTRY'S MOST ADVANCED FACILITIES

INTRODUCING THE ULTIMATE SOLUTION IN TOOL-MAKING TECHNOLOGY



DESIGN

- Advanced CAD/CAM assisted application simulation to assure precise design integrity.
- On-site R & D specialists for advanced high-production solutions.
- Expertise & problem solving for the Automotive industry as well as other industries.
- Designing our products to meet the needs of the client each time.

SIMULATE

- Computer aided simulation to assure cost-effective manufacturing.
- Machining solutions for steel, stainless steel, hard metals and non-ferrous materials.
- We can help you optimize paths for your YG-1 tools, with the help of our experts, insuring that you can get the best productivity.

PRODUCE

- 5-axis CNC grinding machines for rapid production.
- World-class sub micron carbide blanks to assure increased tool life.
- Latest generation in PVD and CVD coatings for enhanced wear resistance and edge protection.



HIGH QUALITY PRODUCTS and ON TIME DELIVERY for WORLD-WIDE CUSTOMERS

Since 1982, YG-1 has been committed to quality, innovation and the unique customer experience. Our performance and experience have granted YG-1 the global impression of one of the leading manufacturers of high quality cutting tool solutions. This global footprint expands over 75 countries, with international logistic centers, pledging to our customers to give the best service available today - and tomorrow.

EUROPE

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AFRICA

EGYPT	SOUTH AFRICA
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YG-1 CO., LTD.

* For the more information on sales network, please contact the head office as below;

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