

MC COMPETENCE PRODUCTION TOOLING



SPECIAL TOOLS FOR HIGH PERFORMANCE







INDEX

A good choice for performance & quality	4
ooling system	5
echnology	6
he knack of developing and optimising high performance tools	7
Our mission	8
Co-operation	9
he spur to optimise	10
ools for automotive parts	11
he MC tools for alluminium working	12
MC Tools for Steel working	13
Close to customers	14
iales program	15



A GOOD CHOICE FOR PERFORMANCE & QUALITY

MC company occupies a premier position as a supplier of high-performance special cutting tools. Special tool technology represents the best choice to solve machining problems requiring high precision. The modern industry requires more and more accurate pieces caracterized by a fine surface finishes and a close tolerance. The modern industrial machines productivity relies on the quality of cutting tools eployed.

MC's mission is to develop special tools capable of optimum performances in any conditions. Our sales program offers a wide range of special tools, from solid carbide multistep tools to brazed carbide tools and indexable insert tooling system. We supply generating slide tools and

special tools with ISO elements such as cartridges and carbide inserts.

MC also produces special form inserts with complex geometry. In order to serve the customer with the highest technology, MC offers a complete range of tools with modern cutting materials such as polycristalline sintered CBN and sintered diamond PCD.

MC is in the position to supply reamers, precision boring tools and gun boring tools with replaceable blade and guide pads.

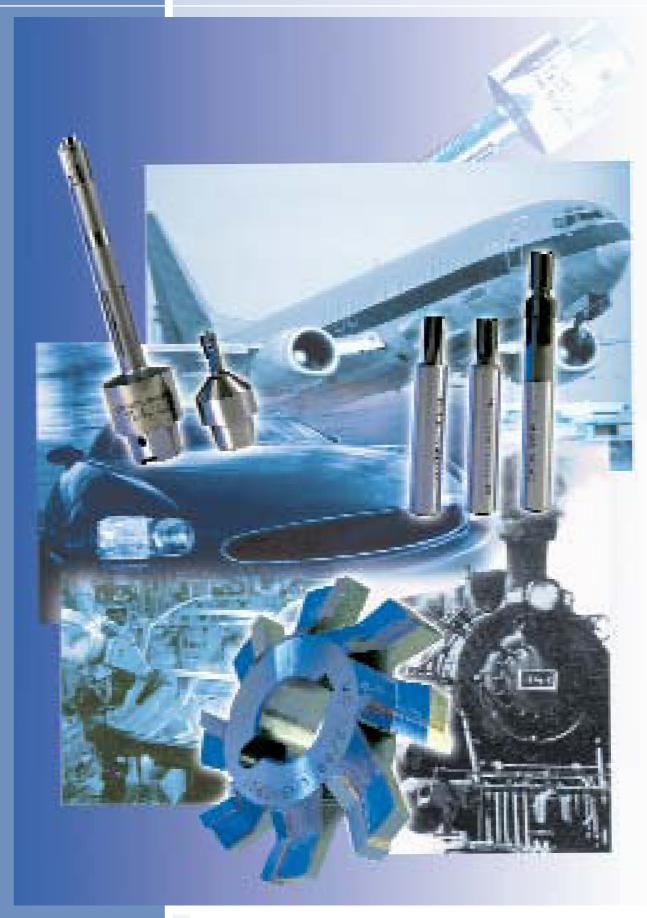
MC is a very well-equipped supplier of high performance cutting tools for the best solution to production problems. We would like to point out

our ability to cover every production aspect: from product design to production tooling supply. This ability is based on a straight and practiced knowledge of customer's requirements.



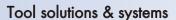


TOOLING SYSTEM Our special tools can satisfy all your requirements





TECHNOLOGY



The demand of high precision together with a low cost production represent a problem that can be easily solved producing special designed tools. High accurate production at a low cost can only be achieved by using special precision tools. In order to keep a leading position in the market, it's more and more important to combine machinery performances with tool performaces, this is the only way to carry out high machining data, low roughness value, precision and reliability.

MC is dedicated to develop special tools warranting the best value business in many different area such as Aerospace Industry, Automotive Industry and Heavy Equipement Industry.

MC engineers operate in order to increase production and decrease production costs through specific analysis aiming at a machining optimization. Our tools are developed, produced and optimized through the most recent and advanced technology. We use the most advanced cutting materials, such as coated carbide, cermets, PCD and CBN, with the most appropriate cutting edges accurately ground and lapped. Theese tools have been tested in many successful applications and have led to a constant increase in cutting speeds.













THE KNACK OF DEVELOPING AND OPTIMISING HIGH PERFORMANCE TOOLS













OUR MISSION

All companies must actively strive to offer an ever improving service. Right from the very start, we set ourselves the objective of creating a company able to look to the future, by co-operating actively with its customers. Our mission at MC is to ensure a level of quality and service that meets the expectations of our customers.

Training, experience, know-how and reliability are the bedrock of our work. Our specialised experts devise the optimal process for our customers' work. After delivering a part, MC provides the technical support required for final test and use of the tool.





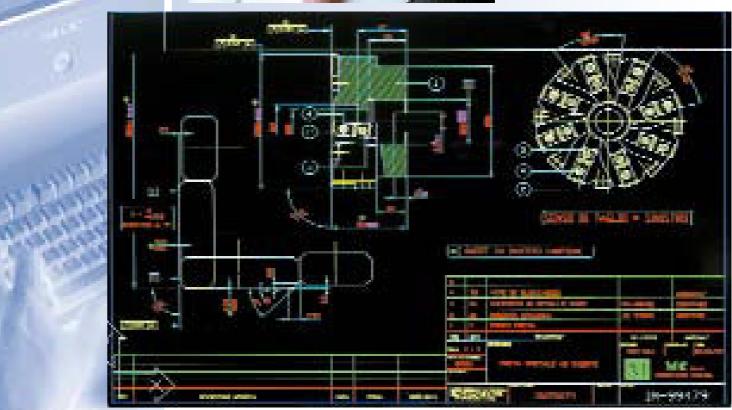


CO-OPERATION

To our way of thinking, co-operation means working with others in an open all-involving way. The search for solutions of advantage to all is the only right approach. We at MC give special value to exchanging ideas and to the co-operation necessary to transform these ideas into better products and procedures. Convinced that "two heads are better than one", we have applied this conviction to the advantage of our customers, who obtain added value from it.

Direct co-operation with our customers, enables us to jointly search for the best solutions to cut







THE SPUR TO OPTIMISE

MC exploits its resources in the best possible way.

We are spurred to optimise by seeking added value. We are fully committed to improving our processes. With this sense of responsibility, which has always marked our work, we have always invested in quality, research and new machinery, in order to make a contribution that will not only benefit our company long-term, but ,above all, our customers too.



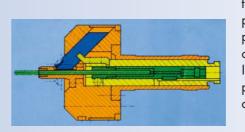




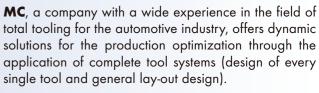


TOOLS FOR AUTOMOTIVE PARTS

In a market where the use of advanced and expensive resources for a flexible production is becoming more and more important, it's necessary to set out new strengths and new methods allowing the customer to take advantage of the new opportunities offered by the new production



techniques. It is extremely important to be able to produce in an effective way in order to optimize the production cycle. The global optimization of the process caracterizes mostly the production in the Automotive Industry and related business. Because of its wide production, the metal removal process demends constant improvements.





The cast-iron machining is extremely important in the Automotive Industry.

MC produces specific precision tools for the finishing/semifinishing operations on transfer lines and FMS systems. Our tools guarantee high-speed and long life and allow the highest accuracy during all work phases and very low working times.



Our Tools:

- BORING BARS WITH ISO ELEMENTS AND SPECIAL FORM INSERTS
- REAMERS
- MILLING CUTTERS
- GENERATING SLIDE TOOLS
- SOLID CARBIDE TOOLS WITH CBN
- PRECISION BORING TOOLS WITH INTERCHANGEABLE BLADE AND GUIDING ELEMENTS

The most significant working:

- CRANK SHAFT SEAT IN THE BASE MAIN BEARING
- VALVE SEAT IN THE CYLINDER HEAD
- MAIN BORE HOLE OF BRAKE CYLINDER
- DIFFERENTIAL HOUSING
- LIFT BODY
- CONNECTING ROD BOLT HOLE
- STEERING KNUCLE LEVER
- HYDRAULIC DISTRIBUTOR



THE MC TOOLS FOR ALLUMINIUM WORKING

In the automotive industry the use of light weight mechanical parts is now a necessity, consequentely alluminium and magnesium machining is becoming more and more important. In order to work with these materials guaranteeing an excellent quality working in a short time, is necessary to use high speed precision tools.

MC has realized precision tools with particular geometries for a better chip control and with cutting edges accurately ground and lapped. In order to work at a very high cutting speed, our tools have the HSK system. New cutting materials, such as PCD, have led to a constant increase in cutting speed for the finishing operations.

Our tools:

- PRECISION BORING TOOLS WITH REPLACEABLE BLADE AND GUIDING PADS
- SOLID CARBIDE REAMERS WITH PCD
- GENERATING SLIDE TOOLS
- MILLING CUTTERS WITH PCD CARTRIDGES
- GUN REAMERS FOR VALVE GUIDE

The most significant working:

- CYLINDER HEAD VALVE GUIDE AND SEAT
- CAMSHAFT SEAT IN THE CYLINDER HEAD
- VALVE SEAT AND VALVE GUIDE SEAT IN THE CYLINDER HEAD
- BEARING HOUSING IN THE BELL HOUSING AND GEARBOX
- STEERING HOUSING
- OIL PUMP HOUSING











In order to increase the mechanical resistance, some mechanical parts in the automotive industry are realized in steels tied up in high resistence.

MC solved out many problems of steel machining in finishing and semi-finishing operations. We employe the most suitable cutting materials for precision machining bores such as CERMET and coated carbide.

Our Tools:

- BORING BARS WITH ISO ELEMENTS AND SPECIAL FORM INSERTS
- PRECISION BORING TOOLS WITH REPLACEABLE BLADE AND GUIDING PADS
- CERMET REAMERS
- SOLID CARBIDE TOOLS WITH CBN

The most significant working:

- CRANKSHAFT
- CONNECTING ROD BORE HOLE EYE
- STEERING KNUCKLE TAPER BORE HOLE
- GEAR PRECISION HOLE









CLOSE TO CUSTOMERS

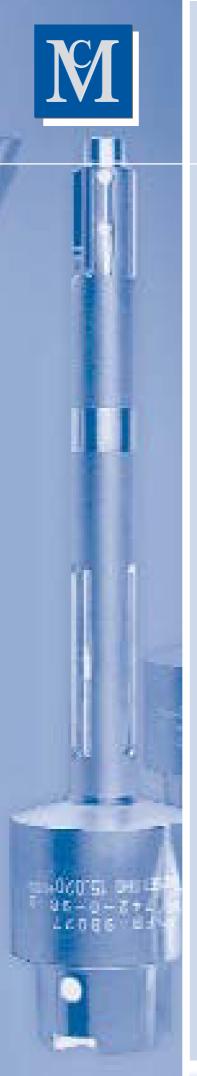
Quality and low costs are the top priorities for customers.

MC can ensure that, by combining the flexibility of its production lines and control systems, with the quality absolutely guaranteed by the materials we use. We will continue to focus on the quality of our products and of our increasingly efficient production lines, in addition to developing innovative technologies and new applications which will enable us to be competitive in the future too. Our technical staff are always at our customers' disposal: you can ask for their services via the Web, by fax or by phone. A team of qualified experts will satisfy all requests for information about our tools and provide on-going technical support.









SALES PROGRAM

- Precision boring tools and reamers with interchangeable blade and guiding elements
- Precision boring bars with micro adjustment radial blade
- Carbide blades
- Carbide blades with pcd and cbn
- Recision boring bars and generating slide tools
- Cartridges and iso tools
- Special milling cutters
- Milling cutters with pcd and cbn cartridges
- Carbide inserts with special forms
- Iso and special carbide inserts and special with pcd and cbn
- High performance reamers
- High speed tools with pcd and cbn
- Cermet reamers
- Gun reamers for valve guide
- Brazed reamers, brazed boring tools, brazed milling cutters
- Holders and adapters
- Machine tools equipements



14

HEAD OFFICE



www.mcsas.com



PRODUCTION PREMISES



PRODUCTION TOOLING

MC s.a.s.

Via Viadagola, 15 I - 40057 Granarolo dell'Emilia (BO) Tel. +39 0516056626 - Fax +39 051760228 e-mail:info@mcsas.com