MP ENGINEERING
EVERYTHING IS
POSSIBLE

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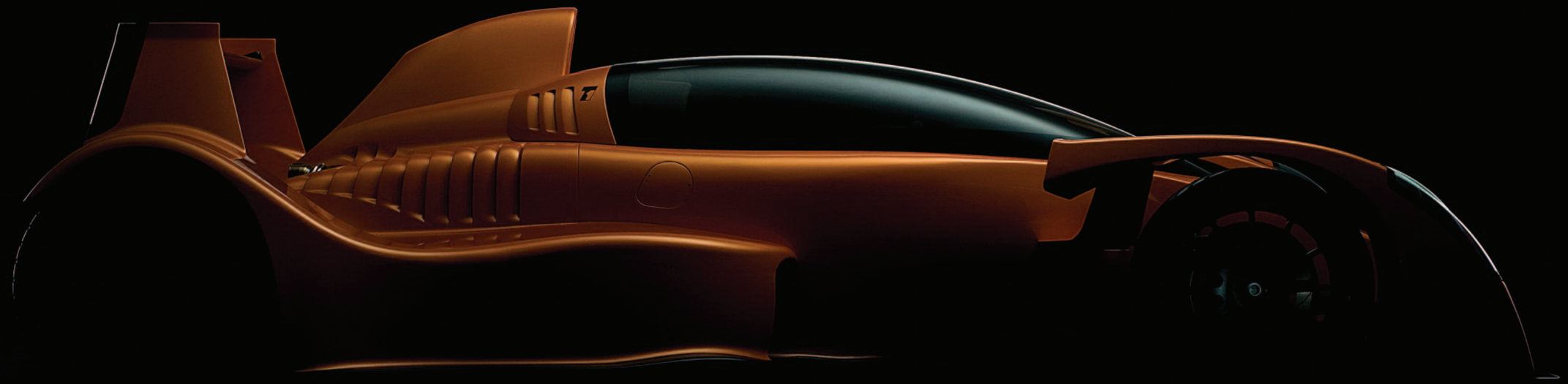
MP ENGINEERING
EVERYTHING IS POSSIBLE

Access to precision engineering is now the norm. That means if you are to compete in today's marketplace, whether that's motorsport, aerospace or defence, you need a partner that can take you further; a partner that combines the expertise and innovation that enable it to machine highly specialised parts, no matter how difficult, with an unparalleled reaction time.

Every day we break new ground in our efforts to help our clients succeed.

Highly skilled and utterly committed to your goals, we push harder, think further and innovate better to ensure that, whatever challenge you bring to us, we make it possible.

CAPARO T1
TO US, IMPOSSIBLE IS A DARE



PROJECT. BRAKE CALIPERS
CHALLENGE. NEW MACHINING TOOLS

When the engineering team that helped build the iconic McClaren F1 asked us to machine a monoblock brake calliper for their new project, the Caparo T1, we knew that we were entering uncharted territory.

This high performance car needed an incredibly strong and light braking system, and the calliper's monoblock design was a crucial element that would help the team realise its ambitions. However, no tool existed that would enable us to machine the piston housing. Undeterred, we drew on our tool-making heritage and designed a number of special right-angled heads.

In the end, the callipers were produced to specification on one of our state-of-the-art 5-Axis CNC milling machines using the bespoke tools. From brief to delivery this high-precision project took 45 days, and exceeded our clients' expectations on every front.

Right-angled tooling head designed and manufactured by MP Engineering to overcome machining issues caused by monoblock calliper design.

FORMULA ONE
TOGETHER WE ACHIEVE THE UNACHIEVABLE

PROJECT. FORMULA ONE
CHALLENGE. HELPING OUR CLIENTS WIN

MP Engineering stories don't always revolve around individual products and breakthroughs - often they are about trust, teamwork and about longevity. We started working with Formula 1 teams over 10 years ago. Now we make thousands of components for some of the highest performance vehicles in the world. We work closely with two F1 teams and have helped them rise to become leading outfits at the very pinnacle of motorsport and engineering excellence.

F1 is a tremendously demanding environment and our reaction time is crucial. From quotation to delivery, we often only have days to produce some of the most complex and intricate components in the world. We achieve this through the innovative application of leading technology, like the very latest CAM software and state-of-the-art 5 axis CNC machine tools, to transform engineering concepts into a reality. Our culture is shaped around servicing clients with extraordinarily high expectations and standards. The result is an engineering company that has the mindset, technology and skills to ensure that everything is possible.

All of our operators are highly skilled engineers. Whether it's programming the CAM system or finding new, innovative ways to achieve our clients' ambitions, our people have the talent, knowledge and commitment to help you succeed.

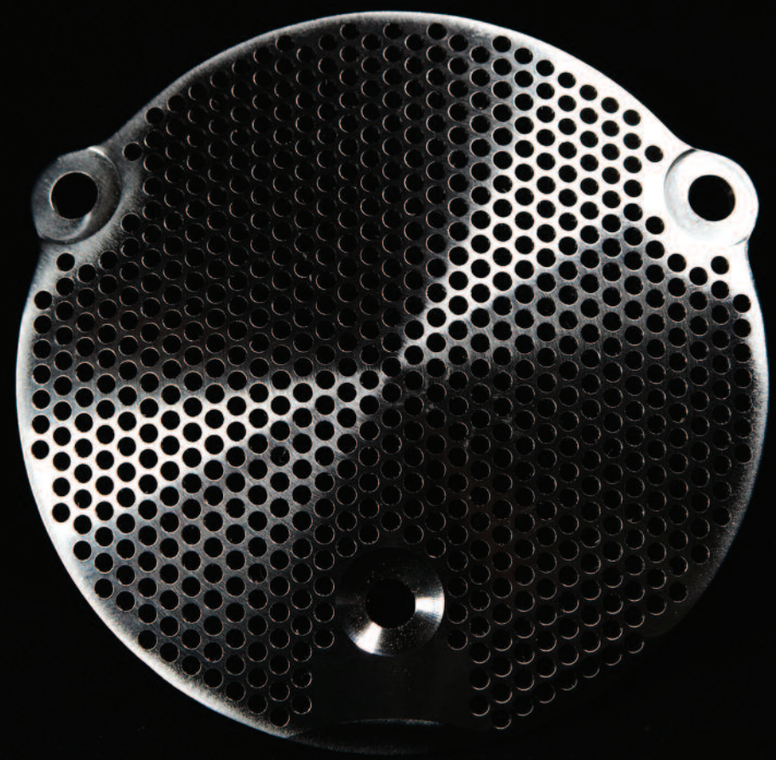
AEROSPACE
TECHNOLOGY AND SKILL REACH HIGHER

PROJECT. AEROSPACE
CHALLENGE. BALANCING PRECISION AND EFFICIENCY

It's our opinion that the best businesses allow themselves to be shaped by their clients. It seems obvious to us that by continually evolving and reinventing our services in order to stay one step ahead of our customers' requirements results in us becoming the preferred choice of progressive manufacturers and designers. Meggitt Aerospace is one of the world's largest aerospace companies. The challenges of working with such an organisation come from the need to balance two critical elements: quality and cost. Aerospace is a very demanding industry, which is why it's vital that we're at the leading edge of engineering. Our relationship with Meggitt has resulted in us developing and fine-tuning various techniques and cutting tool technologies that enable us to operate with precision even while working with high-temperature alloys; and to surpass the third party quality approvals for dimensional and structural component precision.

However, with many non-military components now being made in the Far East, the real challenge has been to balance this precision with efficiency. This has forced us to think differently on a number of fronts and we now employ many methods to reduce set-up times and fixturing costs, from multi-loading components to running our 32-pallet loading 5 axis machining centres 'lights out'.

However, the real secret to maintaining impeccable quality while remaining highly efficient is to employ the people with the know-how and experience to achieve that goal. All of our engineers are highly skilled and have many years' experience behind them. Self-improvement is also a fundamental part of the MP Engineering culture. It manifests itself in the way each one of us takes every opportunity to ensure that we are at the top of our game. It is also visible in the way we invest in the latest technologies. As an organisation we are constantly renewing our skills, equipment and capabilities in order to offer clients like Meggitt more than they expect from us.



Inspection of Inconel 718 casting, post machining.

This multi-loading fixture for our 5 axis Matsuura MAM72 is just one of the many ways our engineers strive to achieve the highest quality as efficiently as possible.

ROGER CLARK
NOTHING IS INCONCEIVABLE

PROJECT. GOBSTOPPER
CHALLENGE. BRINGING OUR CLIENT'S IMAGINATION TO LIFE

Every client works and thinks differently. While some depend on formal processes like full component traceability, others, such as Roger Clark Motorsport (RCM), prefer a more off-the-cuff approach to engineering. The Gobstopper is a highly modified racecar. It is a project designed to showcase the RCM talents in a single car. And it is an incredible vehicle; faster than the Bugatti Veyron, Ferrari Enzo, and McLaren F1 over a standing quarter mile, and all from a 2.0 litre engine.

However, what makes the Gobstopper particularly interesting from an engineering point of view is that this kind of performance is achieved through an innovative process. Instead of providing us with highly detailed drawings of CAD models, Matt Clark meets with us and explains his precise requirements in meticulous detail. Thanks to our close relationship, and Matt's talent and professional approach, we are able to work as a team to unlock each engineering challenge as it comes.

Together, RCM and MP Engineering have created an engineering work of art: re-machining combustion chambers, modifying cylinder heads, machining sequential six-speed gear box components… and much more besides. Sometimes we redesign existing components to take the strain of 800 bhp, and other times we visit RCM to measure where components are needed so that we can work within that space. There is no set way of working with RCM, and that's what makes it such an exciting partnership.

Our experience with RCM demonstrates that the people at MP Engineering are skilled, flexible and creative, and that they have all the enthusiasm and dedication they need to work with such a dynamic client - and to ensure that their project is a dramatic success.

When our engineers work with clients like RCM, their creativity and flexibility ensure that our visionary clients can bring their concepts to life, accurately and efficiently.

Machining of Subaru combustion chamber to RCM specification.

TECHNICAL

CNC Milling

Bridgeport VMC1000 with 4th axis
Bridgeport VMC600 with 4th axis
Bridgeport VMC1000 XP3 with fully integrated Nikken 5 axis unit
Bridgeport VMC1500 XP3 with Fully integrated Nikken 5 axis unit
Bridgeport VMC800 XP3 with fully integrated Nikken 5 axis unit
Deckel Maho DMU 50 eVo linear 5 axis machining centre
2x Matsuura MAM72 5 axis machining centre with 32 position pallet stocker
XYZ SMX3500 with prototrak control.

CNC Turning

Gildermeister CTX310
2x Gildermeister CTX310 with C axis and driven tooling
Doosan Puma 230M with C axis driven tooling and Multifeed bar feeder
Daewoo Lynx 220LM with C axis and driven tooling
HAAS TL1
Mazak dynaturn 3L

Miscellaneous

Jones & Shipman 540 surface grinders (2 off)
Thompson surface grinder (1000mm x 300 capacity)
Colchester 2000 centre lathe with DRO
Colchester 520 Chipmaster Lathe
Bridgeport BRJ turret mill (2 off) all with DRO
Archdale horizontal mill
TOS Kurim FD32 universal mill
Cincinnati No 3 Vertical mill
Newall Jig Borer Model no 2443
Everising S-300HB fully automatic horizontal bandsaw
Startrite 20 RWH Vertical Bandsaw
Well equipped Inspection room with full CMM facilities

EDM

Wire Erosion
Hitachi H - CUT 3Q
Spark Erosion
Eurospark EZE2030znc
Agiecut 250HSS

CAD/CAM

Edgecam
Sescoi Work NC
Delcam Featuremill