



CRP Motorsport Case study

Mitsubishi and CRP: a winning partnership

Mitsubishi, 2006 Dakar Rally champion

A not really unexpected result thanks to the great effort that has involved technical partners and team members, both looking at developing in the best way the potentialities of an extraordinary Mitsubishi Pajero/Montero Evolution.

Case Study of a winning synergy

The **cooperation between Mitsubishi-Ralliart and CRP Technology** has began in a purpose **to optimize some key components** for '06 Dakar Rally: **uprights and suspension levers**.

Thanks to the 30 years' experience of CRP in Formula 1 and in WRC (World Rally Championship), the specialized technicians inside the company have dedicated themselves at the engineering of Mitsubishi uprights made by investment casting or lost wax casting.

Previously, their uprights was made from standard process, fabricated and machined.

"Process and production of mechanical parts through investment casting made from "17-4PH H1025" steel did allowed us first to proceed for weight saving, second to obtain a structural behaviour with higher efficiency, as well as much better final quality" indicates Franco Cevolini, CRP Technology's Chairman.

The perfect synergy between the technical offices of Mitsubishi CRP has permit to re-design the component, obtaining an excellent mechanical answer and respecting the requirements of the foundry.

As soon as the 3D model is produced through the preliminary casting, the mechanical-structural quality is valuated, once more checked through different sessions of structural calculation: test are made with advanced workstations in order to check reaction at various load cases, simulating real stress from track.

After validation from Mitsubishi engineers, CRP has begun the productive cycle involving its internal Rapid Prototyping department.

After full inspection, these sintered lost models have been used for the casting process.

As part of the quality process from the inspection dept, CNC (Continuous Numerical Control) service has completed various test on the parts, including NDT (Non Destructive Test) inspection.

"The opportunity of being able to decide between different manufacturing process inside the same company is fundamental to guarantee the best result. The flexibility of an highly selected and motivated organic assures, moreover, reliability and respect of the total timing" indicates Franco Cevolini. *"This is one of the reasons why Mitsubishi has decided to renew the winning synergy with CRP Technology"*

The extreme conditions of an event like the Dakar Rally make to emerge the talent of who works to you, leaving no margin of error, and rewarding the best collaborations. As for the '07 event, further optimization will be consider on these mechanical components, following same process, and similar goal, i.e. further weight saving and stiffness increase.