

BÖLLHOFF

SUCCESS
STORY

Your partner for 360° joining technology



Good cooperation is the basis for success. Our customers' and ours.

Joining solutions for modern lightweight construction.



Böllhoff and Morgan: “A fascinating mixture between c



Morgan – British iconic cars

For more than 110 years, the Morgan Motor Company has been providing a fascinating mixture between traditional craftsmanship and adequate modern technology. Since 1909, the company, based in Malvern (UK) and founded by Henry F. S. Morgan, has been manufacturing sports cars which today enjoy cult status.

Each of the 800 cars that are produced every year is hand-crafted and fulfils the highest standards for innovative and modern technology.

In combination with unparalleled passion, every Morgan is constructed to become a truly unique car.

The model range comprises three main series:

- Threewheeler: a mixture between a racing car and a motorcycle with two front wheels and one rear wheel.
- Classic: a car on a traditional steel frame with an independent front-wheel suspension and a spring or five-link rear suspension.
- Aluminium platform: bonded CX-Generation platform

They all stand for individuality while at the same time retaining the true DNA of what a Morgan sports car is all about.



The Morgan Plus Six



The aluminium platform of the Morgan Plus Six

The Morgan Plus Six

Morgan is the only company worldwide to use an ash wood frame in its vehicles. They employ a manufacturing technique originating as far back as coach building. Further core materials are aluminium and leather. In 2000, the Aero 8 was introduced as the first model to be based on an aluminium frame. In 2019, the Plus Six followed – which was yet another quantum leap.

Compared with the previous aluminium platform, the new aluminium platform of the CX-Generation meant a 100% increase in torsional stiffness. With no additional weight and combined with the last-generation BMW 3-litre turbocharged engine, the Plus Six is the most dynamic model of the Morgan series so far.

Initial situation

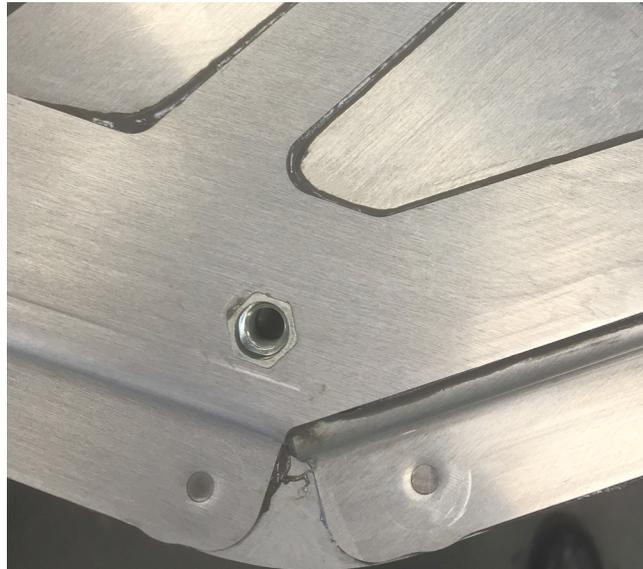
With the production of this aluminium platform, Morgan was facing new challenges.

First, the individual aluminium parts were fixed by means of a special adhesive. Afterwards, they were joined. That procedure required a joining method without pre-punching which allowed to create high-strength joints during the hardening of the adhesive. With the RIVSET® self-pierce rivets, Böllhoff offers the perfect solution.

craftsmanship and technology”



The hand-held tool for self-pierce riveting, the RIVSET® Portable.
Flexible, mobile and reliable.



RIVSET® self-pierce rivets installed in the aluminium body of the Morgan Plus Six

The solution: RIVSET® self-pierce riveting technology – high-strength and no loss of performance

RIVSET® self-pierce riveting is a joining method to create mechanical high-strength joints from similar and dissimilar materials. Joints can consist of more than two layers, such as in this case with adhesive as the intermediate layer.

In one step, the semi-tubular rivet punches through the top material layers and in the bottom material layer forms an undercut and also forms the characteristic button. The bottom material layer is not punched through so that a gas- and liquid-tight spot joint is created. Since the vehicles are hand-crafted, the RIVSET® Portable is the perfect addition for a successful joining process.

From the beginning, Böllhoff had been involved as the joining technology expert. Due to the high requirements for the body, RIVKLE® blind rivet nuts as well as RIVQUICK® blind rivets were used in addition to RIVSET® self-pierce rivets. In every Morgan Plus Six, a total of 1,610 Böllhoff fasteners is used, among them 440 RIVSET® self-pierce rivets.

Do you wish to know more? Please do not hesitate to contact us.

Customer benefits

- Flexible in use
- Cost-saving
- High quasi-static and dynamic strength

Product characteristics

- Joining of dissimilar materials
- No pre-punching
- Particularly suited for hybrid joining


Böllhoff Group

Innovative partner for joining technology with assembly and logistics solutions.

Find your local partner at www.boellhoff.com or contact us at fat@boellhoff.com.

Passion for successful joining.

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