



PERMANOVA
Lasersystem ab



INCREASED VISION AND BODY RIGIDITY GIVES IMPROVED SAFETY

"The Volvo V60 is based on elegant simplicity and clean, soft lines that reflect Volvo's unique design tradition."

Volvo Cars manufactures cars in several countries around the world. The V60 model is one of a series of models launched in recent years. The work to improve performance and safety is ongoing.

What were the demands of the customer, what problems do they have and what challenges do they face?

The body of the car continuously undergoes design revisions to improve the visual impression, increase the durability and safety of the body, reduce the weight and increase the driver comfort. New welding and joining methods are continuously being tested to replace, for example, spot welding and allow smart solutions.

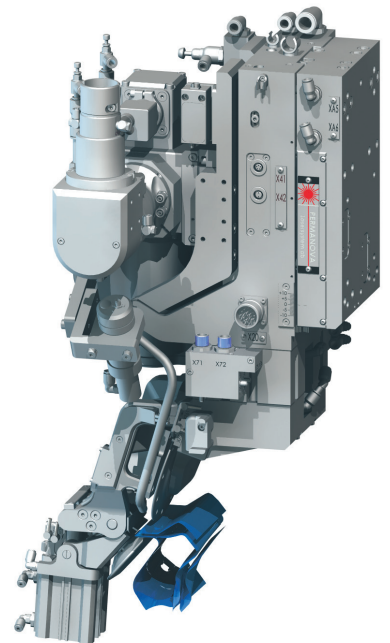
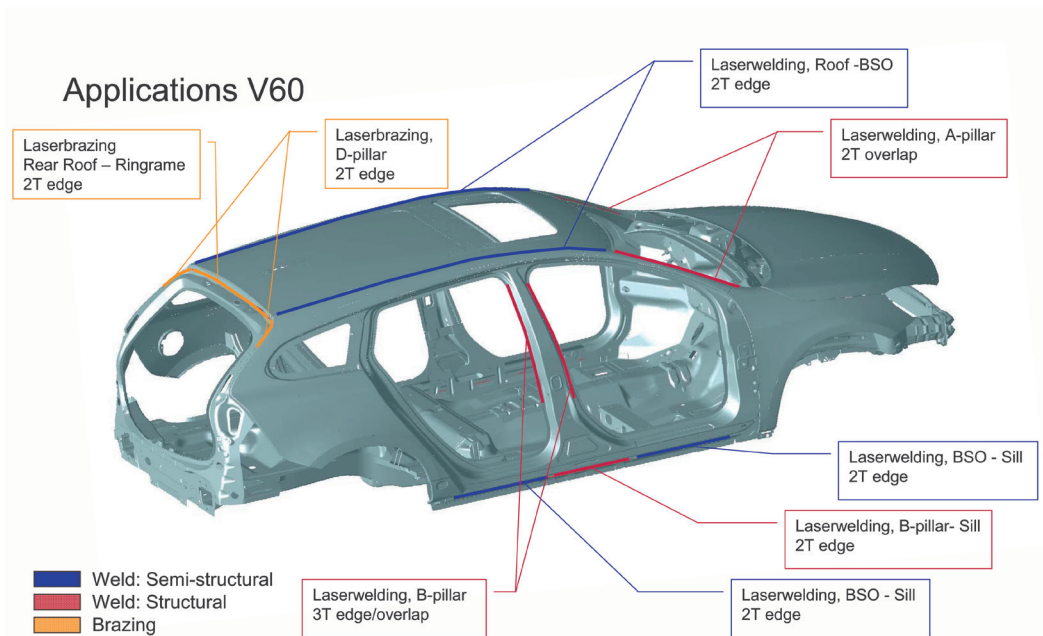
What solution did Permanova suggest?

A focused laser beam has high power density and only requires access from one side. The advantages are a narrow, deep and strong weld at high speed, and that new joint types become possible. The result is that more welding metres are achieved during the station cycle time, and new design solutions become possible, with better vision for the driver and increased collision safety. In addition, the laser beam can be used with lower power density for soldering to obtain the best visual impression for the joints.

By adapting the basic tolerances for laser welding this method can be used advantageously.

Lots of improvements for Volvo

- Welding of roof to side has been introduced for good design and increased body rigidity.
- Welding the A-pillars gives increased active (better vision for the driver) and passive safety (strength).
- Welding of B-pillars increases passive safety against side-on collisions.
- Welding the side to the floor sill gives reduced weight through new design and reduced flange width.
- The length of laser welds per body has increased by a factor of 3 compared to previously, within the same approximate station cycle time.
- A single design of laser welding tool with double roll from Permanova fulfils all the welding applications world-wide for Volvo Cars.



A single design of laser welding tool with double roll from Permanova fulfils all the welding applications world-wide for Volvo Cars.

No process or production is too great or too small for laser.

Permanova has supplied turn-key laser robot systems for the sheet metal industry for over 25 years. Each system is optimally designed to make the customer's production more efficient and profitable. Our goal is to always find long-term solutions that enable you to develop your business according to new demands. To assist us with this, we have more laser experts than most of our colleagues in the industry. As a customer you get access to accumulated experience and deep knowledge of the technology.

With Permanova as a complete supplier within laser solutions you have everything in one place. From the drawing board to installation and service. It does not get easier than that.

Are you curious to find out how our laser solutions can raise your production to new heights? Contact Permanova! We will happily share our knowledge and experience.

