

BorgWarner (Haldex), Sweden

The goal

With the takeover of Swedish drive specialist, Haldex, in 2011, BorgWarner became Europe's market leader in adjustable traction control systems. The fourth generation of the BorgWarner all-wheel-drive clutch is also installed in the 4-Motion models of Volkswagen, Porsche, Audi, Land Rover and Ford. To reduce material consumption, component weight and manufacturing costs, production of the centerpiece of the clutch, the plate carrier, was redesigned from scratch in collaboration with Feintool System Parts in Obertshausen. Instead of a solid forged part, the goal was to use a cold-formed and laser-welded sheet steel part.

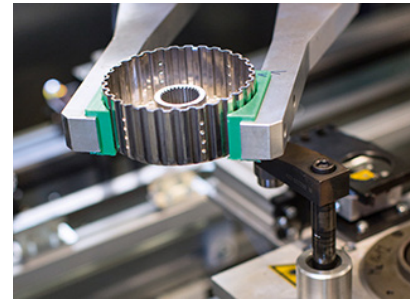
The Feintool solution

The dimensional accuracy and precision requirements for the plate carrier are extremely high and represent a great challenge for production on a multiple-stage press. Nevertheless, the forming experts at Feintool System Parts in Obertshausen were able to work with BorgWarner to develop the necessary forming tool, as well

“We work very closely on development with all suppliers, but the partnership with Feintool was particularly productive.”

Ingvar Nilsson,
Senior Advanced Launch Manager at BorgWarner

as a production process that satisfies these requirements in full. And that's not all: the cold-formed plate carrier uses significantly less material than the previous forged part. This has reduced production costs and also halved the component weight. All while delivering high process stability and capacity of more than one million plate carriers a year.



Customer benefits at a glance

- ▶ Development partnership with Feintool
- ▶ Lower production costs
- ▶ Component weight halved
- ▶ Capacity for one million plate carriers or more a year