

NEWS FROM



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## **Vari-Form Rear Cradle Arms Contribute to Platform Stability, Upscale Drive, and Handling of the 2017 Audi Q5**

**Livonia, MI** – Using advanced tube hydroforming techniques, Vari-Form produces the cradle arms incorporated in the 2017 Audi Q5. As Audi’s flagship compact luxury crossover, the Q5 boasts handsome exterior styling, an expertly-crafted cabin, exciting power choices and ample high-tech features. The superior craftsmanship synonymous with the brand extends to all-important vehicle underpinnings, including the rear cradle arms from Vari-Form.

“As load-bearing structures, the rear cradle arms must be both strong and light-weight,” said Terry Nardone, Vari-Form director of sales and marketing. “These shaped tubes are expanded during hydroforming and include in-die hole punching, all while maintaining very tight tolerances. Our process for high-pressure hydroforming delivers the specified final surface characteristics to ensure that a flawless final assembly is achieved.”

“Vari-Form pioneered the application of tubular hydroforming to produce automotive components and systems,” continues Mr. Nardone. In recent years, we have become the worldwide supplier of choice for pressure-sequence hydroforming. Yet, when Audi engineers specified that these cradle arms be produced using high-pressure hydroforming, Vari-Form had the capability of providing that process as well.”

Manufacture of the part involves a four-step process: bending, preforming, hydroforming and laser cutting tube features. Vari-Form engineers worked closely with Autotek, a division of Magna International, supplier of the Q5 rear-axle/differential assembly to Audi, to optimize the final shape of the cradle arms and develop the processes needed for manufacture. This collaboration is an essential factor in the overall quality of the 2017 Audi Q5.

“Over the years, Vari-Form has expanded the scope of tubular hydroforming to meet the stringent requirements of vehicle manufacturing. Our developments in both high-pressure and pressure-sequence hydroforming are leading-edge, and our HIBS initiative (Hydroform-Intensive Body Structures) provides an insight into how future vehicles will be produced. We’re proud of that, and of our many years of contributions to the automotive industry.”

Production location for 2017 Audi Q5 cradle arms is the Vari-Form plant in Queretaro, Mexico.

### **About Vari-Form**

Vari-Form, one of the Crowne Group of companies, is headquartered in Livonia, Michigan, and has production facilities in Canada, Mexico, Italy, China and the USA. Vari-Form originated the concept and application of tubular hydroforming to body, chassis and other automotive

structural parts. Vari-Form is the industry leader in hydroforming, with more than 100 million parts produced to date. Looking forward, the Hydroform-Intensive Body Structures (HIBS) initiative from Vari-Form is redefining the way automotive manufacturers and tier suppliers view the vehicles of the future. HIBS is leading the way in demonstrating that critical components and systems can be hydroformed rather than assembled from stampings. The benefits are substantial, significantly increasing safety and structural integrity, while lowering tooling complexity, weight and cost. The company began volume production using its patented Pressure-Sequence Hydroforming (PSH) process in 1990. Vari-Form is a Minority Business Enterprise (MBE), certified by the National Minority Supplier Development Council. For more information, go to [www.vari-form.com](http://www.vari-form.com).

### **About Crowne Group, LLC**

Crowne, headquartered in Cleveland, Ohio, is a leading manufacturer and distributor of both OEM and aftermarket component parts for the automotive and other industrial equipment markets. Crowne Group offers a diverse portfolio of metals products, including hydroformed aluminum and steel parts and assemblies for the automotive industry, carbon and stainless steel tube and components for diverse industries, and fabricated tube products for exhaust systems. The Group currently employs approximately 4,000 people and operates eleven manufacturing facilities in North America and three offshore manufacturing and assembly facilities. For more information, visit [www.crownegroupllc.com](http://www.crownegroupllc.com).



#### *Caption*

Highlighted in dark blue, right and left rear cradle arms manufactured by Vari-Form for the 2017 Audi Q5 support the rear-axle/differential assembly, and are integral to chassis integrity and stability.

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