HYSON
Metal Forming Solutions™

Extending the life of HOT STAMP Dies
with Robust, Bore Seal Springs

SAFETY SAVINGS TIME

Industry:
Automotive

Material Stamped:
Ultra-High Strength Steel (UHSS)

Project Goal:
Significantly reduce contamination ingestion and increase uptime.

Solution:
TANKER® S Series Gas Springs

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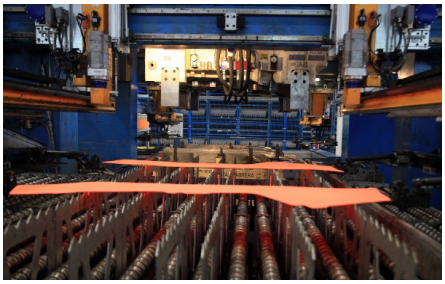
An automotive Tier 1 stamper utilizing rod-sealed gas springs was experiencing excessive downtime and quality issues in their hot stamping operations due to side load and contamination issues. While forming Ultra High-Strength Steel panels, boron scale was adhering to the piston rods, causing seal damage. The compromised seals created gas pressure to leak and the springs ultimately failed to provide enough force to properly form the panels. As a result, stamping operations was forced to shut down to replace the failed rod-sealed gas springs. Further amplifying the problem was the cost associated with scrapping the poor quality panels that were formed when the springs lost pressure.

Solution:

Looking for a more robust solution, they replaced the labored rod-sealed gas springs with **TANKER® Series** springs. The Tanker Series features BORE seals and SELF-ALIGNING piston rods, providing metal stampers a more durable solution for high performance applications. Available in tall (TNKT), short (TNKS) and high-speed (TNK 400HS) models, Tanker springs are engineered with nitrided, self aligning piston rods which resist corrosion, accept die movement and a certain degree of side load without damaging the sealing surfaces. Additionally, they significantly reduce contamination ingestion by sealing at the cylinder bore, instead of on the rod. Furthermore, TANKER Gas Springs have a patented lubrication system that coats the gas spring wall, piston rod, bore seal surface and seal, reducing heat build-up and wear on the components, further extending performance life.



Result:

With a range of options to choose from, the **TNKS-2400** model matched the designated space and force requirements of the current die and were easily **integrated into the dies** as a drop-in solution. The upgraded springs extended the customer's stamping uptime and resolved both the contamination and quality issues!

Customer Impact:

- ***Safety:*** Eliminated risk of over-pressurized springs from ingestion
- ***Cost Savings:*** No die modifications required to incorporate solution
- ***Cost Savings:*** Reduced scrap
- **Time:** Increased intervals between maintenance