HOW DEMAND DRIVES SUPPLIERS

5 automotive trends affecting stampers' equipment needs

By Dennis Boerger

reater part accuracy and zero defects are two growing realities for stampers of automotive parts. Advances in materials, continued growth of niche markets, and higher demand for onboard electronics have caused a series of new trends. These trends impact stampers and require press builders to provide equipment that can help manufacturers keep pace.

Five major trends defining automotive metal forming and stamping are:

1. A growing use of thinner, higher-strength materials.

More applications for tailor welded blanks.

An increasing use of assemblies and systems instead of individual parts.

4. Higher demand for electronic and electrical systems.

5. A broader product offering required to serve niche markets.

To understand how these trends affect stampers, it's important to examine the equipment requirements needed to support the automotive industry's needs.

Materials

An increased use of thinner, higherstrength materials represents a decreased use of traditional mild steels. As a result, stampers have turned to bigger presses with larger tonnage capacity to stamp these highstrength materials.

Press beds also have increased in size to accommodate multiple operations often needed to complete part production. Multiple-station presses that can run longer dies must be equipped with wide-spaced connections to help the press resist the effects of tipping under off-center loads. This capability allows stampers to produce larger, more complex parts without affecting press stability.

Transfer press systems can be a suitable choice for multiple blanking operations and effective material usage. Transfer presses that can change the slide motion profile as well as the



Nonstop blank-changing systems and quick die change options in transfer presses can keep the presses in constant operation. Photo courtesy of F&P Canada.

Stampers are looking for systems that can give them more capabilities

transfer pitch, the transfer bar clamp motion, and the lift motion can help stampers increase production speeds and deliver greater efficiency, two keys to more efficient material use.

Tailor Welded Blanks

Tailor welded blanks help automotive manufacturers increase material thickness only where additional strength is needed; for example, the point where a hinge attaches to a car door requires more strength than the rest of the part.

Tailor welded blanks help eliminate the need to add weight to the entire part. Less overall weight means less part costs without sacrificing strength.

Manufacturing Assemblies

Stampers not only are required to weld multiple blanks together where needed, but also to provide complete assemblies as well as parts. Transfer presses can help stampers produce complete assemblies because of their larger bed size and ability to accept wide materials.

Transfer presses with high off-center load-bearing capacity can provide greater flexibility in the design and layout of dies for production of assemblies.

Electronic and Electrical Systems

The introduction of components such as onboard Global Positioning Systems requires automotive manufacturers to produce more electronics and electrical systems. High-speed presses help manufacturers meet demands for more electronic options, onboard diagnostics, and motorized features in new automobiles. Some high-speed press models can operate up to 2,500 strokes per minute; these are suitable for production of small, intricate, and precise, miniature, electronic parts.

In addition to high operating speeds, production of electronic and electrical parts requires a press to deliver a high degree of accuracy. Stampers should be able to stop and start the press without producing defective parts. Press builders that offer a family of high-speed presses can provide manufacturers with flexible options tailored to their specific needs.

Niche Markets

Flexibility is key for stampers that supply niche markets. To meet the ongoing growth demands of niche markets, stampers need to provide a broader range of parts in small quantities.

Quick changeover is critical to the successful production of diverse parts in low volumes, but quick changeover must address more than the ability to turn over dies. Every aspect of the production system must be considered. In addition to fast die changeover, stampers must be able to change materials, as well as part and scrap handling systems, quickly. Transfer presses with complete transfer systems are suitable for this type of production.

Another key element to successful production is sensing and correcting double-blank misfeeds and reloading without stopping the press.

More Than Just a Press

Many stampers that supply the automotive industry are looking for more than just a press; they need a press builder that can provide a total turnkey system. In addition to the equipment, press builders are being tasked to analyze a company's production requirements and provide a system that can deliver optimum output.

Stampers also are looking for systems that can give them more capabilities. The introduction of servo technology is a vital step toward giving manufacturers the flexibility they need while helping them maximize their capital equipment investment.

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