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Newman Technologies S.C. use ServoPro® technology to trim lean manufacturing practices

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NEWMAN MAKES LEAN OPERATIONS EVEN LEANER WITH SERVOPRO®

GAP TRANSFER LINE

By: Nobuo Tanifuji, President, Newman Technologies S.C.

Unlike a conventional transfer line, ServoPro technology has made it possible for Newman to replace its progressive die operations with a gap transfer system

Newman Technologies S.C. defines lean manufacturing as operating with the least amount of man power at the lowest cost. For Newman, that means getting the most out of its equipment. By investing in an AIDA gap press transfer line equipped with ServoPro®, Newman replaced its costlier progressive die operations and trimmed its already lean manufacturing practices even further.

"Newman is dedicated to serving its customers by continually looking for ways to more efficiently produce high quality, cost effective parts," stated Nobuo Tanifuji, President of Newman. A first tier supplier, the Aiken, South Carolina based manufacturer produces a variety of exhaust system, muffler, door sash, luggage rack and swing arm parts used in the ATV and automotive industries. In addition to a range of stampings, Newman provides the capability to weld to assemblies and distributes directly to its customers. Newman is one of two divisions under its parent company Sankei Giken Kogyo Co., Ltd., headquartered in Japan.

"We had the opportunity to stamp a cover for a new model," said Richard Engasser, Production Manager for Newman. "We wanted a system that could not only produce the part but support our just-in-time initiatives by helping us to further reduce inventory, lead times and the cost and maintenance associated with progressive dies. With a number of AIDA presses already installed at Newman, S.C. and on the shop floor at its U.S. Headquarters in Mansfield, Ohio, the manufacturer had first hand experience with the press builder's reliability.

What Newman didn't expect was a specification for a type of production line Engasser said he had never seen before. "After working closely with us and management from our sister division, AIDA installed a gap frame transfer line equipped with its proprietary ServoPro technology," he said. The line - five AIDA NC1 single point 200-ton gap presses - was connected by the press builder's A-8 Inter-Press Transfer Robot to provide automation.

The ServoPro gap transfer line is used to produce cover and bracket applications.

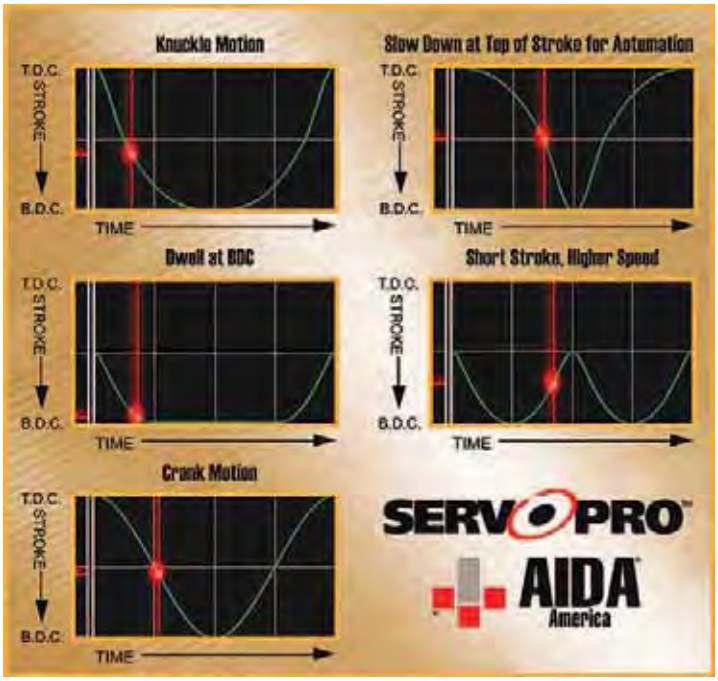
"We began producing the new part for our customers in June 2004," said Engasser. In addition to the new part model, the ServoPro gap transfer line produces a total of seven part numbers for cover and bracket applications. A mixture of individual components and part families, batches are low volume requiring quick changeovers. The ServoPro gap transfer line currently produces approximately 8,000 parts a day using carbon steels and stainless steel ranging from .3 to 1 millimeter in thickness.

Unlike a conventional transfer line, AIDA's ServoPro technology has made it possible for Newman to replace its progressive

With the ServoPro gap press transfer line, instead of one progressive die with five stations, Newman is able to use five single dies.

die operations with gap transfer. Typically with a large progressive die, material is advanced through the die with each operation being performed called a "station." "Large progressive dies are very costly and time consuming to pull apart and repair," said Engasser. "With the ServoPro gap press transfer line, instead of one progressive die with five stations, we're able to use five single dies which makes repairs very quick." Newman has also discovered a number of other key advantages.

"ServoPro gives us the ability to customize the slide motion and stroke length of each gap press to provide the best performance for each individual tooling station," Engasser said.

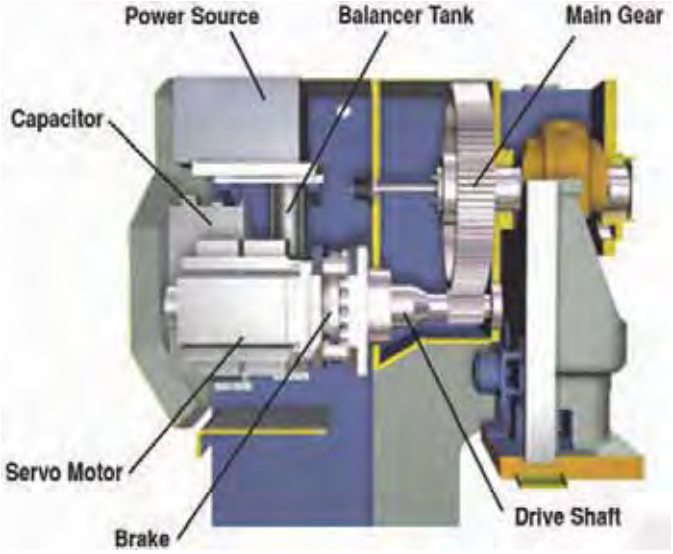


The number of ways stampers can program in and combine stroke, velocity and dwell profiles is unlimited.

"When you're performing different operations, die size is not always the same and some operations take longer than others. Because of the control ServoPro gives us we can set the stroke to match the die complexity and adjust the speed accordingly. As a result our part quality has improved and our lead time is shorter. We've also reduced our die maintenance costs by about 25 percent."

Specifically designed for a broad range of metalforming applications, AIDA's ServoPro is equipped with a fully programmable slide motion and adjustable stroke length. The number of ways stampers can program in and combine stroke, velocity and dwell profiles is unlimited. The technology's key component is its proprietary high torque, low RPM servo motor. Developed and manufactured by AIDA, the ServoPro motor eliminates the need for complex and weak "ball-screw" mechanisms and other linkage or reducer systems required by off-the-shelf high RPM, low torque servo motors.

Offering the same maximum stroke length and torque rating as a conventional mechanical press - ServoPro gives stampers the ability to use full torque from low speed for greater part accuracy and longer die life.



The key component of ServoPro's technology is its proprietary high torque, low RPM servo motor.

ServoPro offers the added feature of hand crank motion. Newman's operator can manually progress through the slide motion to ensure that die setup and synchronization of ancilliary equipment is correct prior to a production run.

ServoPro's hand crank feature allows manual progression through the slide motion ensuring die setup and synchronization of ancillary equipment is correct before production.

In addition to helping protect expensive tooling, this feature reduces the potential for production of bad parts.

For Newman, the ServoPro gap transfer line typically performs five different operations – sizing, blanking, through hole punching, forming and shaping with cushion dies. "We can use all five presses to produce a part or if a job dictates, we can use just three," Engasser said. "The flexibility this line provides over a conventional line has helped us reduce our scrap rate by almost 50 percent which means an additional savings on raw materials. Newman has also been able to eliminate the need for a scrap bin in front of each press. The ServoPro gap press line uses a conveyor which channels scrap into a single bin.

The ability to run a multi-press transfer line in continuous mode is also essential to operations like Newman's. When compared to a conventional press line that operates in automatic single stroke mode, the ServoPro continuous mode can deliver higher productivity rates. "Because of the automation, we can operate the entire line with just one person," Engasser said, "and production has increased."

ServoPro continues to change the face of traditional metalforming and represents the first fundamental change the forming industry has seen in presses during the last 30 years. With ServoPro, stampers like Newman can build the quality and production rate advantages necessary for continued growth in today's competitive environment. In addition to teaming with academic partners, AIDA continues to work closely with customers like Newman to help them integrate leading edge technology.

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