



PRODUCT SOLUTION: DOWNTIME = LOSS PRODUCTION

› Preparing for Downtime

Gear-driven 30-ton stamping presses were operating 24/7 in a paper products manufacturing plant. The continuous hammering action wore down and narrowed the gear teeth on the 24" bull gears, creating slack in the system, throwing off the timing of the stroke, and gradually reducing product output. When the speed variation of the motor reached ± 35 rpm, the plant engineer knew that the gears were so thoroughly worn it was time to replace them, typically every 3-4 months.

› Costly Replacement

Each stamping press has an electric motor with a set of gears on either side, an \$18,000 replacement cost. It took 48 hours to shut down the machine, replace the gears, and put the stamping press back into operation. That's two days of lost productivity per machine.



Bull gears on a stamping press needed replacing every three months due to wear

› Product Solution

The plant engineer turned to Gates for a compact, strong solution that fit within the current box. The solution was a synchronous belt drive. At a 1/3 of the cost of the replacement gears, an anticipated installation time of half a day and no ongoing maintenance required, Gates Poly Chain® GT® Carbon® belt drive system was the answer.



A synchronous belt drive fit into the same limited space, needs no lubrication, and has a two year lifespan

› Measurable Success

After the conversion the belt drive operated more smoothly and efficiently than the gear drive it replaced. Backlash was eliminated. There was no split-second delay in the hammer stroke with the belt drive. The speed variation in the motor was only ± 0.5 rpm. This greater efficiency translated into a gain of three strokes and 15 products per minute. By the end of one week the belt-driven stamping press was producing an extra pallet of products compared with the gear-driven machine. With Poly Chain GT Carbon belt drive the amount of time and money the plant was spending on component costs, downtime and maintenance was reduced and the plant was able to realize a savings of over 1 million dollars.

