



LOCK HARDWARE – SPRING RETURN MECHANISM

APD STORY SIX

The Spring Return Mechanism was originally a four part assembly. It utilized zinc die-cast, powdered metal, a clock spring, and metal stamped components. The inclusion of two types of metal in the assembly caused the zinc to deteriorate more quickly than the other metals.

We replaced the zinc with a steel component, and created a unique assembly method to house all components. We also eliminated one part of the former assembly. Product cycle performance was drastically improved without zinc deterioration.

QUALITY IMPROVEMENT

More information on Lock Hardware Stampings | [Spring Return Mechanism](#)

Trans-Matic is a highly developed metal stampings company that uses deep draw stamping methods to create world-class metal stampings. At Trans-Matic we utilize our capabilities to produce deep draw metal stampings to serve the automotive industry in braking, oxygen sensor, fuel delivery, air bag, bayonet socket, and sensor markets. Our non-automotive deep draw metal stampings capabilities serve the lock hardware, compressor, appliance, fire prevention, pharmaceutical, HVAC, and plumbing markets.

Value Engineering is ingrained into Trans-Matic's ongoing quest to help our customers reduce cost, improve quality, and increase performance. In the late 90's, we realized that many of the components we produce were being used in long-standing product lines with only incremental change. It was at that point where we began to focus on our customers' end product to ensure that the designs were streamlined for cost efficiency, with improved performance. In 1999, we instituted a separate VA-VE department to focus specifically on our customers' products. Since that time, we have become very product development savvy by engaging our technical team to dissect the functional elements of those products. The result, and continuing objective, is the creation of solutions that optimize the design intent of the product and the development of new products.

Reverse Engineering

Trans-Matic APD activities have focused on the redesign of costly screw machine parts into lower cost deep drawn stampings. Trans-Matic VA/VE activities have redesigned multiple piece assemblies into complex, one-piece deep drawn stampings. Our reverse engineering efforts have reduced or eliminated components within an assembly many times creating a more reliable metal structure.

Trans-Matic produces automotive deep drawn metal stampings:

- Using cold rolled steels (1006 to 1050), pre-coated steels, stainless steels (300 & 400 series), Inconel, brass, bronze, copper, and aluminum (1100, 3003, & 5052).
- With overall length up to seven inches.
- With thickness ranging from .005" (0.127mm) to .150" (3.81mm).
- With in-press capability to produce stampings with both coarse and fine threading, wall ironing, multiple side piercing, knurling, embossing, rectangular shapes, coining and marking, extruding and many other required features.
- To serve automotive markets including braking, oxygen sensor, fuel delivery, air bag, bayonet socket, and sensor markets.
- To serve non-automotive markets such as lock hardware, compressor, appliance, fire prevention, pharmaceutical, HVAC, and plumbing.
- In compliance with quality standards ISO/TS 16949
- In compliance with environmental standards TS 14001

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Additional PDF Examples and Information on Lock Hardware Stampings:

- | Lock Hardware– Drive-In Casing | Lock Hardware – Threaded Hub | Lock Hardware – Dead Bold Lock Bar |
- | Lock Hardware – Knob Catch | Lock Hardware – Spring Cage Assembly | Lock Hardware – CAM |

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