



LOCK HARDWARE - SPRING CAGE ASSEMBLY

APD STORY TEN

The Spring Cage Assembly is part of a heavy-duty, Grade 1 commercial door lock hardware system that is rated one of the best in the industry. The primary component of the original Spring Cage Assembly was an expensive zinc die casting. Quality issues stemmed from the original Spring Cage Assembly components that resulted in field complaints and a deteriorating reputation for this product in the marketplace.

Using the long list of quality concerns as a template, our APD group designed and developed an innovative product solution to address all shortcomings of the original system. With our new product, several additional features were incorporated with fewer components. A stronger, more durable lock set was the end result. There was a 7 fold improvement in cycle test performance and our customer was able to turn this one-time liability into one of the best performing product launches in company history. With improved quality, durability, UL Fire Code adherence, and savings in excess of \$1,500,000, the product was a success, and Trans-Matic received supplier of the year award for the best "New Product Development" in 2003.

NEW PRODUCT DEVELOPMENT

More information on Lock Hardware Stampings | **Spring Cage Assembly**

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 Bolt Lock Bar |
- | Lock Hardware – Knob Catch | Lock Hardware– Spring Return Mechanism | Lock Hardware – CAM |