

CUSTOM CAPABILITIES

**Sintered Metal • Injection Molding
• Forgings • Castings**

Martin SPROCKET & GEAR, INC.
www.martinsprocket.com/custom.html

Sintered Metal

Martin

Commonly associated with large quantity runs of fairly simple products, the sintered metal process also effectively addresses small quantities for many complex and multi-level parts where intricate machining or milling was required. Smooth surface finishes, self-lubrication, and tolerance repeatability are just a few of the attributes resulting from this technology. Using a wide range of alloys, Martin produces custom sintered parts for many industries and applications.

Application: Timing plate on an agricultural implement.

Problem: Production of parts required several steps. Purchase of disc blanks . . . Initial rough machining . . . Drilling holes . . . Milling slots and teeth . . . Application of rust inhibitor . . . Use of several outside sources.

All these factors led to inconsistent tolerances, difficulty in coordination of lead times, scrapped parts and production interruptions.

Solution: Martin reviewed sample parts and prints. Martin met with OEM engineering and service personnel to better understand the application. The Martin sintered component reduced the total cost of each part by an average of 54%, slashed acquisition costs and allowed for deliveries using staged release dates.



Sintered metal is an excellent choice for a wide variety of products especially those with irregular shapes that would be difficult to manufacture using conventional methods.



Presses delivering more than 880 tons of pressure form parts from bronze, iron, copper, manganese, etc.



*For more information please call 817-258-3000 and ask for **Structural Parts**.*

Injection Molding

Since the inception of our line of injection molded plastic components, Martin has emerged as a leading supplier of cost effective non-metallic products.

A combination of polymers are used to achieve desired wear, corrosion resistance, and color characteristics. Injection molded plastic is also advantageous in non-sparking and sanitary applications.

While the final form of most components is achieved directly from the press, Martin is able to perform secondary machining on molded parts if necessary.

Application: Packaging equipment.

Problem: A sticky product required cleaning with a caustic solution which led to corrosion based fatigue of a threaded collar. In addition, high maintenance costs in the field were encountered due to difficulty of replacing the seized collar.

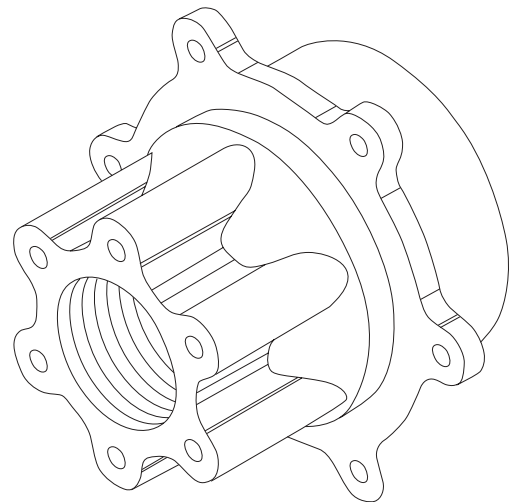
Solution: A Martin manufactured part made of glass filled nylon was produced. The Martin part withstood constant exposure to the caustic solution and prevented the seizing of threads which provided a longer part life. **Unit price was reduced by approximately 34%**, warranty claims dropped significantly and the user logo stamped on the part aided in capturing replacement part sales.



One of the many injection molding machines used to manufacture a variety of products.



Martin manufactures plastic products for both power transmission and non-power transmission applications.



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Forgings

Know how garnered through decades provides unsurpassed benefit for the industrial user of custom forgings. This includes all phases in the forging process - die design and engineering, forging, coining, heat treating, and polishing.

Hammers ranging in size from 1,000 to 5,000 pounds produce finished parts from a few ounces to 50 pounds. Various alloys, the use of multi-cavity dies, expansive capacity, and secondary machining capability enable Martin to deliver near 100% density requirements in a cost effective manner.

Application: Counter weight on unit handling equipment.

Problem: Parts were being milled in-house from purchased burned plate. Process was expensive, but low volumes had prevented consideration of alternate methods of manufacture.

Solution: Instead of utilizing their expensive CNC milling equipment on relatively low-tech part, Martin designed a simple die for a forged part, which worked well for medium quantity production runs. When compared to sourcing costs, production time, and scrap, the **forged part was less expensive** than the milled part. The real savings has resulted from the **enhanced utilization** of the CNC milling equipment for other, **more profitable work**.



One of the many hammers capable of producing forgings up to 50 lbs.



Castings

Operating its own foundry enables Martin to provide its customers with quality assurance, quick lead times, and application engineering assistance on cast and ductile iron parts.

With an upper range of 96" in diameter and 10,000 pounds, our own pattern shop, and streamlined access to secondary machining, Martin's comprehensive capabilities serve a broad spectrum of industrial uses.

Application: Conveyor.

Problem: Redesign of equipment required flywheel and synchronous drive to be used in more compact area. The two separate components had clearance problems.

Solution: Martin designed a one piece casting which allowed machining of a duplex drive to fit in tight area. Equipment is more compact, one final part rather than two saves costs, and installation time is reduced.

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