

Precision **Cast and Forge**

Castings

Forgings

Machined Components

Precision **Cast and Forge**

High Quality.

Experienced.

Reliable.

Trustworthy.



Your trusted partner in the design,
manufacture, and supply of
engineered metal components



Global Sourcing

The PCF story

Precision Cast and Forge (PCF) is a Division of H.G. Carroll & Associates, Ltd. A sales and engineering company founded in 1998 by career foundryman, Howard G. Carroll. Howard's brother, John M. Carroll later joined as an equal partner and helped build the business. This business is an evolution of the G&C Foundry Company - Sandusky, OH, founded in 1916 by John J. Carroll the Great Great Grandfather of Current President, Andrew G. Carroll. Brothers Howard, John M., and Charles T. Carroll ran the G&C Foundry at the time the family sold it in 1996.

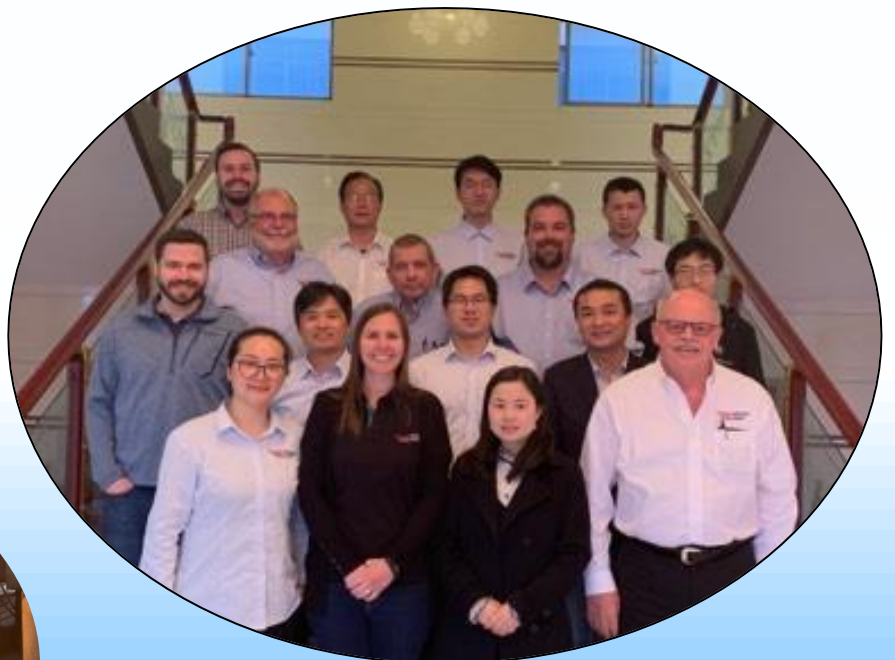
Since 2002, the company has held ownership in manufacturing operations overseas as well as in the United States. Our team has over 100 combined years of foundry operations and management experience.

We are your source for domestic and offshore high-quality and affordably priced finished castings, forgings, and machined components.

In addition to owning our own operations, we are the exclusive North American sales team for multiple world-class manufacturing facilities around the world.

Services Include:

- Contract Manufacturing
- **Design for manufacturability - Solidification modeling**
- Advanced quality planning
- **Rapid prototyping**
- Program management
- **Supply chain and logistics, including warehousing and distribution**



Industries Served

Automotive



Hydraulics



Commercial Heavy
Truck



Agricultural



Industrial



Construction



Pumps



Motorcycle, ATVs



We provide the Big 3

Quality – We work with the finest suppliers throughout the World to provide our customers with superior quality. We routinely audit each supplier and share best practices among them.

Cost – We provide superior value to our customers with affordable pricing and flawless service. We save you money with superior engineering support and project management.

Delivery – We are very proud to offer warehousing, safety stocking, Kanban delivery options, and reliable sourcing.



Grey and Ductile Iron Castings

High Pressure Die Castings

Permanent Mold and Sand Castings

Gears, Shafts, Pulleys

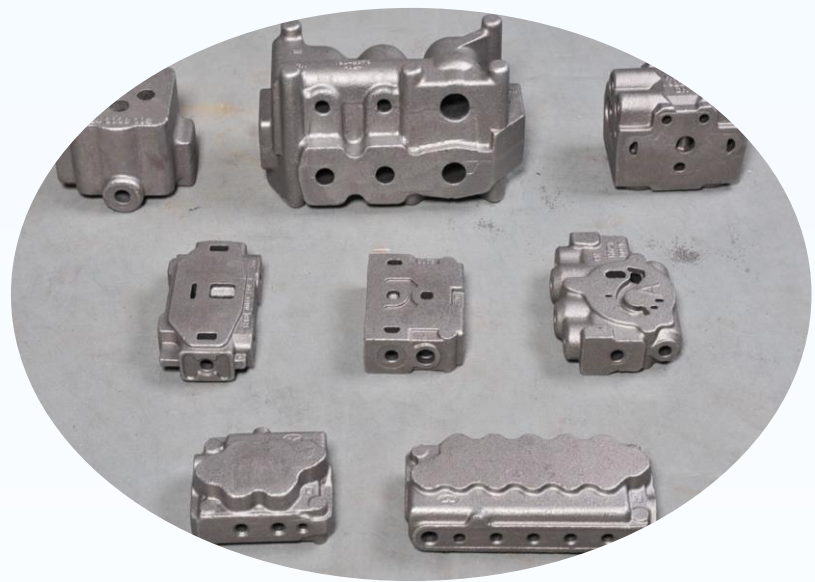
Axles, Links, Studs

Small Engine Components

Gray and Ductile Iron Castings

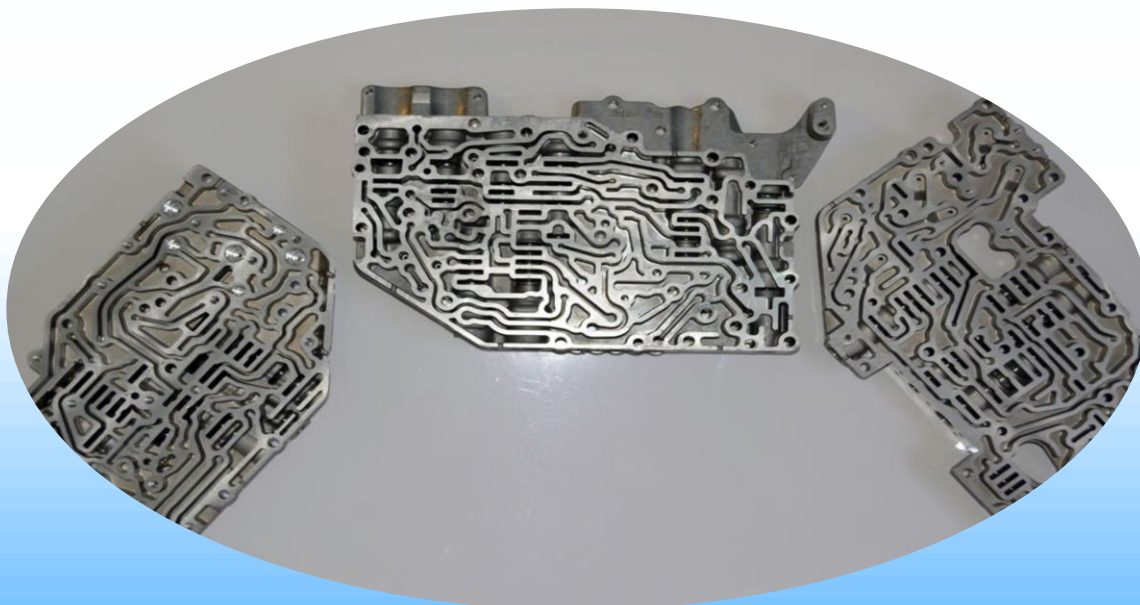
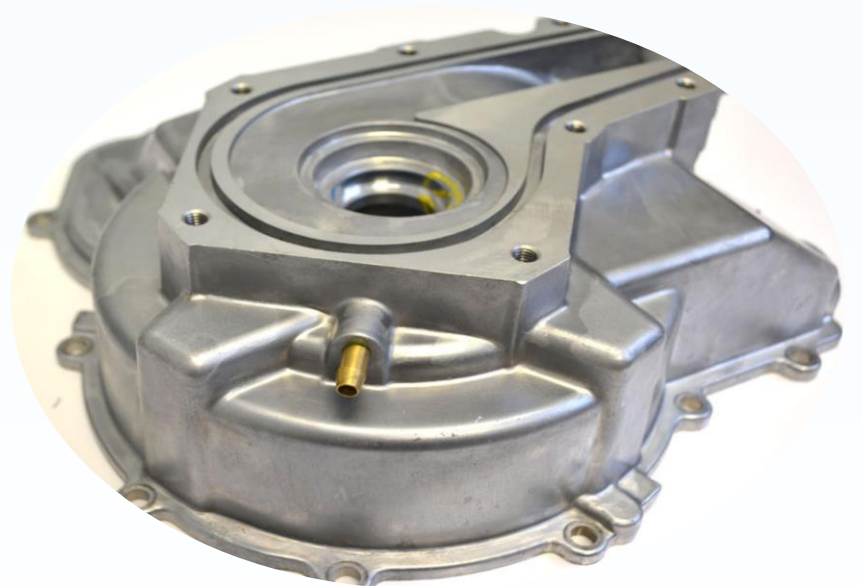


- Production Capabilities: Green Sand, Air Set, Shell Mold, Resin Sand, Coating
- Material: Gray Iron Class 30, 35, 40, 45; Ductile 65-45-12, 60-40-18, 80-55-06, 100-70-03; Austempered Ductile and Compacted Graphite



High Pressure Die Castings

- Aluminum Die Casting
- Production Capabilities: Aluminum Die Cast with technologies of Vacuum, Local Squeezing, Jet Cooling, and Low-Speed Injection, CNC Machining, Pressure Test, Shot Blast, Assembly, Impregnation, Passivation, Powder Coat, Anodizing, Spray Painting, E-Coat
 - Material: A380, A383, A360, A363, A390, ADC14, ADC12, ADC10, B390, EN AC 46000
- Magnesium Die Castings
 - Production Capabilities: Die Casting Tooling, Magnesium Die Cast, Machining, Pressure Test, Shot Blast, Assembly, Impregnation, Passivation, Powder Coat
 - Material: AE44-2, AM50, AM60, AZ91D



Aluminum Permanent Mold and Sand Castings

- Production Capabilities: Aluminum Permanent Mold Cast, T6 Heat Treatment, Machining, Pressure Test, Shot Blast, Assembly, Impregnation, Passivation, Powder Coat, Anodizing, Painting
- Material: A356, A357, ZL107, ZL117, ZL111



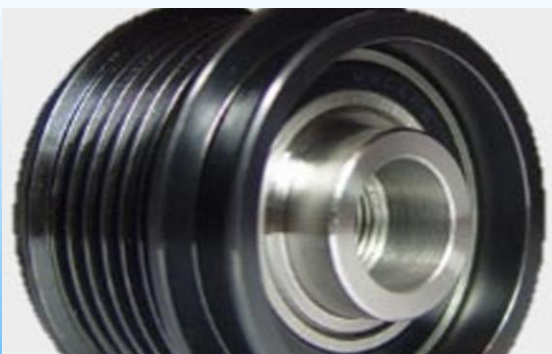
Investment Castings

- Ferrous & Non-ferrous
- Production Capabilities: Silica Sol Loss Wax Technology, Combined Water Glass and Silica Sol Technology, Machining, Shot Blast, Sand Blast, Passivation, Painting, Heat Treatment
- Material: Carbon, Stainless Steel, Low or High Alloy Steel, Perception Hardening CRES and Heat Resistant Steel



Gears, Shafts, Pulleys

- Production Capabilities: Machining (turning, milling, drilling, gear hobbing, shaping, and grinding), Sub-Micron Grade Capability, Heat Treatment
- Material: Q235, Q275, 1035, 4140, 4150, 1050, 40Cr, 40MnB, 30CrMnSi, 35CrMo, 40CrNiMo, 20Cr, 20CrMnTi, 9Mn2v, GCr15, 50CrMoA



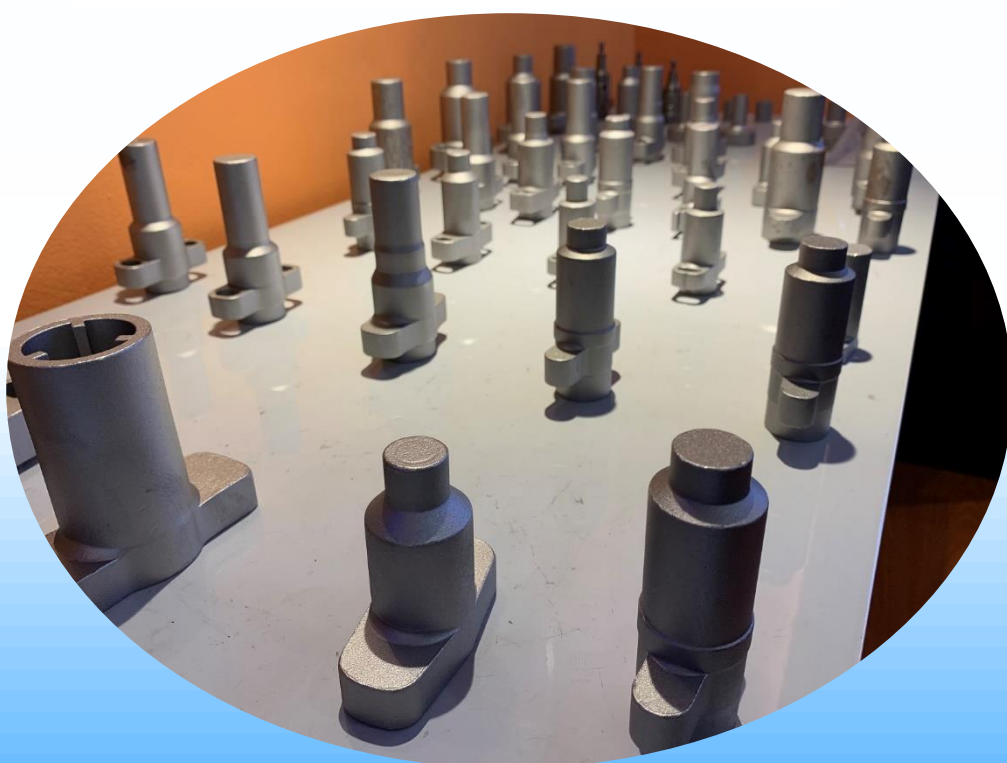
Forgings

- Steel and Aluminum – all grades
- Hot and Cold Forming

Axles



Links



Studs

Small Engine Components

- Crankshafts, Camshafts, Rods, Pistons, Magnetos
- Bearings, Clutches, Cylinder Liners



Precision **Cast and Forge**

Sandusky, OH 44870, U.S.A.

Find us on the web at www.precisioncastandforge.com