

AGA-PGT, Inc. – A World Class Molder and Mold Maker of Plastic Gears

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A Bit Of History

In 1944, Helmar Anderson, Edward Bertsche, and Clarence Anderson formed the ABA Tool & Die Company in Manchester, CT, as a metal component machine shop dedicated to the supply of precision parts to the aircraft industry, primarily Pratt & Whitney of nearby East Hartford, CT. The company performed well and in the early 1950's, it evolved into a manufacturer of injection molds for the new and burgeoning plastics industry. Circa 1956, Donald Anderson, Helmar's son, assumed the presidency of the company and brought in his brother Bill, as accountant and buyer, and his brother Earl, as shop floor manager and maintenance director.

As the plastics industry grew and changed, ABA Tool & Die moved along with it. In 1961, ABA Tool & Die began to manufacture injection molds specifically for the production of plastic gears. Remarkably, many of those gears are still hard at work today. Thus began the ascent of what was once a tool and die machine shop into one of the world's pioneers and world class manufacturers of plastic gears and plastic gear injection molds.

In what was the first publication devoted exclusively to the design of plastic gears (there were many publications regarding metal gears), William McKinley and Samuel Pierson collaborated to publish "The ABA Plastics Gearing Design Manual" in 1967.

There are many stories of injection mold makers being asked by their customers to "qualify" their molds by running them on in-house injection molding machines, and ABA was no exception. As you might imagine, production injection molding was not far behind, and in 1969, ABA Tool & Die started the Plastics Gearing Technology (PGT) division. It was 23 years later that the ABA mold making division officially merged with the PGT molding division to form ABA-PGT, Inc., an

employee stock ownership (ESOP) company dedicated to the manufacture of plastic gears and plastic gear injection molds.

The New Millennium

The newly merged entities enjoyed the fruits of a plastics industry growing by leaps and bounds, as plastics cut into many of the previously sacred domains of cut metal gears. Boasting lower costs, reduced weight, and less noise, plastics were becoming a gear designers panacea for correcting problems posed by metal.

But ABA-PGT wasn't about to stand still and simply grow as the industry grew. It was, and remains, a technology-driven enterprise. The company pioneered another first: the "lights out" manufacturing of plastic gears in 1996 at a satellite plant in Vernon, CT.

The success of the company presented space challenges, as their facility at 1395 Tolland Turnpike—a rather typical old New England mill—became cramped. With help from the state of Connecticut, ABA-PGT built a state-of-the-art molding and mold making facility in a new industrial park in Manchester, CT: a 68,000 square foot building that now holds 40 injection molding machines and a 30-man tool room.





“Lights Out” facility in Vernon, Connecticut

Not An Injection Molder of Gears, But A Gear Molder

What’s the difference between an injection molder that occasionally molds gears and a gear molder that exclusively molds gears? This: Plastic gear quality is determined by measurements of concentricity, roundness, involute profile, tooth spacing errors, axial hourglass or taper, helix angle (for helical gears), and size, arc tooth thickness, and outside and root diameters. A plastic gear molder has invested in special measurement equipment/software and has trained personnel to provide assurance that each lot of parts is consistent.

It’s The Tool That Makes The Part

ABA-PGT designs the gear molds that it makes and then manufactures that mold to the highest standards of quality. Alloy steel components hardened to Rockwell “C” 50-62 result in durability that enables the company to offer a one million cycle service commitment—the best in the industry. In-house manufactured master-gear quality electrodes properly compensate for mold

shrinkage and spark gap, thus producing a molding-quality finish and avoiding the distortion of post-processing. Add 60 years of expertise across a full staff of tool designers and toolmakers, and you have a winning combination.

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