



The AMA History Project Presents: History of LANDING PRODUCTS INC.



Submitted by RH (07/2019); Reformatted by JS (09/2019)

The following history of Landing Products Inc., makers of APC Propellers, was submitted to the AMA History Project by Robert Holik.

Landing Products Inc., makers of APC Propellers



MADE in the USA

Landing Products started making propellers in 1989 in an old barn near Sacramento, CA. Fred Burgdorf, the founder, acquired a primitive Numerically Controlled (NC) Eagle milling machine and a first-generation Apple MacIntosh personal computer. He connected the two with a data cable and began to experiment with a computer-aided generation of molds used in injection molding machines. His goal was to create propellers with improved performance for model airplanes, something that was severely lacking at the time.

The initial test mold results were rather grotesque. However, the possibilities that personal computers offered for NC milling were immediately obvious. The bridge to precise molds was simply a matter of exploiting the rapidly expanding capabilities of personal computers.

At this point it was off to the races! The label APC (Advanced Precision Composites) was adopted as a brand name for the Landing Products propellers. A tough composite material was chosen early on. The same material is still used today, along with other materials.

In the early 1990s, CAD (Computer Assisted Design) software was just beginning to become available, but it was nowhere near capable of producing the complex shapes necessary for propellers. As a result, Landing Products developed its own proprietary software. The software would allow for complex propeller blade shape design, performance predictions, and NC code generation all in one.

Fred's brother, Otto Burgdorf, was instrumental in the development of this software; it is the backbone of the APC Propeller business. Early efforts were marked with periodic destruction of milling tools and work pieces. Computer algorithm and coding errors were not readily detectable with the rather primitive plot capabilities initially developed to visualize NC tool motions. The software has been continuously improved over the years. It is still in use today and very robust.

Since the software is specifically tailored for propellers, it allows Landing Products to quickly and efficiently design propellers and to produce the necessary tooling for production.

Over the years, Landing Products has benefited from strong modeler participation in evaluating propeller designs. In particular, leading flyers in the pattern community were very helpful in empirically assessing performance of emerging propeller designs. It was learned early on that performance and low noise correlated strongly and the latter benefited from the stiffer material selection.

Subsequently, the Academy of Model Aeronautics (AMA) granted Landing Products a Technical Award for development of quiet and efficient model airplane propellers.

Simultaneously, various NASA contracts were awarded for unusual shapes that served to help broaden the emerging software options. Landing Products continues to develop propellers for NASA, Boeing, Lockheed, and other companies in the UAV (Unmanned Aerial Vehicle) community.

In 1996, Landing Products expanded into a larger facility in Woodland, CA. APC Propellers became a respected worldwide brand name, selling over one million propellers per year.

Eventually, the (600-plus) APC propeller offerings included propellers for a variety of model aircraft disciplines, UAVs and Drones, and water applications.

In 2010, the owner of Landing Products, Fred Burgdorf, passed away. Fortunately, he was able to secure an orderly ownership and management transition. Today, Landing Products is owned and operated by Ms. Annie Torres and Mr. Robert Holik. Ms. Torres has been with the business since 1996 and brings strong management skills to the inventory and distribution aspects of the business. Mr. Holik joined the business in 2009 and like Fred Burgdorf, provides strong technical skills for the business. Landing Products continues to provide the highest quality propellers and excellent service with the highest ethical standards.

Both Fred and Robert have long histories as accomplished pylon racers. Both competed in Giant Scale pylon racing, two-pole warbird racing, and AMA three-pole racing. This close connection to extreme performance components of the business continued the close personal relationships developed previously with the pattern community. Many World Records have been set using APC propellers, both by professionals and amateur pilots.

Landing Products has been a strong participant in the model propeller industry for over 30 years and intends to remain a strong component in the years to come.



2005: Fred Burgdorf (Phoenix, AZ)



c. 2019: Team APC



2018: National Q40 record-holder pilot Robert Holik with friend and caller, Travis Flynn



Fred Burgdorf with friend and caller, Robbert van den Bosh

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AMA History Project
National Model Aviation Museum
5151 E. Memorial Dr.
Muncie IN 47302
(765) 287-1256, ext. 511
historyproject@modelaircraft.org

