

History of WOOD FREEMAN AUTOMATIC PILOTS

In 1926, Wood Freeman was salmon trolling along the Pacific Northwest Coast when a boom broke loose, struck him, broke his jaw in three places and knocked out his teeth. Unable to remain standing, he lay on the galley table for three days and steered the vessel home with his feet while watching the ship's compass in a mirror balanced on his chest.

During his recovery, Wood -- an experienced mining engineer and college chemistry professor -- began designing a reliable automatic steering system. Popular but unreliable techniques of the day included steady sails, sea anchors and fishing lead on a trailing line connected to the tiller. Wood continued commercial fishing while working to perfect his steering system. He experimented with magnetic compasses and various ways to detect course error (including fluid conductivity, photoelectric sensors and mechanical pick-off) before determining the best available detection method: fine wires with physical contact on the compass card itself. In 1934, he installed and operated his first production unit, the Metal Marine Pilot Model 1, on the commercial fishing vessel Jean.

Shortly thereafter, the U.S. patent office granted Wood Freeman the first small-vessel automatic pilot patent.

In the years that followed, Wood continued to produce and improve the "Iron Mike" (its nickname in the industry). He drew on his extensive fishing experience to make product improvements that he could retrofit onto in-service units. He also ensured replacement parts were available for older units as well as the newer Models 10 and 11. His products earned a reputation for exceptional reliability and serviceability in the notoriously demanding commercial fishing environment.

Wood's son Bob, a U.S. Navy captain with several patents and an engineering degree, returned home in 1947 to work with his father while studying medicine at the University of Washington (UW). Besides his naval shipboard time, Bob's previous sea experience included many summers of commercial fishing (both with his father and later as a skipper in his own right) and a turn as chief engineer of the UW's marine research vessel. Dr. Bob, as his friends and employees call him, soon developed the Model 15 (late 1940s), the non-hunting Model 420 (early 1950s) and the hydraulic Model 423 (middle 1950s). Wood's daughter Eleanor managed the precision work of compass assembly. To accommodate the growing demand for Wood Freeman® automatic pilots, Wood and his children incorporated in 1956 as Metal Marine Pilot, Inc. and soon moved to the location on Mildred Street. When Wood Freeman passed on in 1966, Dr.



Bob retired from his medical practice to devote full time to the family business as its president.

In the 1950s and 1960s, Dr. Bob adapted new electronics technology to incorporate exciting new functionality, reliability and serviceability into the next-generation autopilot. The revolutionary Wood Freeman® Model 500 (1969) did not determine merely whether a vessel was on- or off-course; it calculated how far off course and at what rate the vessel was moving towards or away from the course. Its solid-state design and reliable Hall-effect detection of rudder position and compass course deviation gave it the ability to hold a course better than any magnetic sensor autopilot previously available (including flux gate systems). The unit earned more than 12 U.S. and foreign patents.

Dr. Bob's son Michael joined the company full-time in 1970, bringing his technological intuition and an understanding of the seagoing life and environment obtained from several summers of commercial fishing off the Washington coast. Dr. Bob's youngest child, Janet, joined the company as a design engineer after graduating in 1978 from the Massachusetts Institute of Technology.

With the advent of Loran C navigation computers, Dr. Bob began to explore microprocessors as a means to integrate Loran cross-track error signals with the steering capabilities of his Model 500. He formulated an interface between the two systems that would enable the vessel to hold closely to a chosen geographic track even in the presence of drift factors such as wind and tide. Dr. Bob was granted a patent for using electronic geographic information to control the course of an automatic pilot, and Janet shepherded the GEOFIX-L® into production. Dr. Bob and Michael subsequently led the industry team that developed the NMEA 0180 and 0183 standards for sharing marine navigation data. In 1983, NMEA awarded its prestigious Reginal A. Fessenden Award to the three generations of the Freeman family.

Michael became general manager of the company in 1997 and advanced to chief operations officer after Dr. Bob retired in June 1998. Janet returned to the company in June 1998 -- with 17 years' systems engineering experience in aerospace business development and two graduate aeronautics degrees from Caltech -- to become vice president and chief engineer. Working as a team with the sales, service and production personnel, Michael and Janet reduced overhead, increased production, revitalized process/product improvement efforts and re-established the research and development department.

In December of 1999 the guardians for Dr. Bob & his sister Eleanor, who were the major stockholders of Metal Marine Pilot, Inc., voted to close the company effective February 29, 2000 to assist with estate planning issues.

Michael formed a new company MMP, Inc. purchased the assets, re-hired the work force and opened for business on March 1st, 2000. The new company covered the limited warranty for the closed company.

In December of 2001 the business relocated to its present location in Tacoma, as the Mildred Street location had to be sold after Dr. Bob died in November of 2001 to settle his estate.

Michael worked on the development of the new NMEA2000 protocol which led to the development and design of the Wood Freeman General Adaptor Unit and the Geofix 5 Series interface.

MMP, Inc has carried the commitment of the family business to a new high in December of 2001 with the introduction of the model 211/215 Electronic Control Unit, the model 440 ECU and the K Series power supply and switcher. These units are wire for wire solid state replacement components that retrofit to all earlier units since 1934 and add the ability to update to modern electronic pick off compasses and interface to the NMEA standards.

Now in its third generation of marine electronics manufacturing, Metal Marine Pilot & Wood Freeman has remains committed to providing reliable, easily maintained products using technological innovation, exceptional service and comprehensive customer support for every product the company has made since 1934.