Aircraft

CATHARINA DAUM

“We’ve sent out starts on thousands of aircrafts”

Everyone buying an airplane at Van’s Aircraft will receive a box filled with parts. Long-term employee Ken Scott explains how that works.

How did kit airplanes made by Van’s Aircraft become successful all around the world?

Every pilot would simply like to fly these airplanes! Richard VanGrunsven, aka “Van”, designed his first airplane to give him performance and handling qualities that just were not available in factory-built machines. Once other pilots flew the airplane, they wanted one just like it. That single airplane, which is now in a museum, was the beginning of a whole line of aircraft designs that have spanned the world. “RVs” – taken from the designer’s initials – have been built and flown in at least sixty different countries. We know that at least 8.900 airplanes have been completed from Van’s kits, but suspect that there are many, many more that we haven’t heard about yet.

Why kit planes?

US registration rules permit individuals to build their own airplanes, but it can be a very difficult and time-consuming process if the builder has to fabricate all the parts from raw materials. Kits are a good intermediate step: the kit manufacturer makes the parts, the builder assembles the airplane. Kit airplanes have been on the American aviation scene since the late Twenties or early Thirties, Van’s is far and away the most successful company in kit airplane history.

Why did you decide to process your parts, using a TruPunch 2020 punching machine made by TRUMPF?

Traditionally, we’d made parts by hand, literally sitting around benches and cutting them out of sheet aluminum. Some of the higher volume parts were contracted out to firms that used die-cutting or nibbling. The machines made by TRUMPF did two things for us: they allowed us to manufacture our own parts much faster and to far higher standards of accuracy, but more importantly, they allowed us to produce matched-hole components. Traditionally, the customer was responsible for aligning all the parts and drilling thousands of accurately located holes for rivets and other fasteners.

By combining CAD design with the accuracy of the TruPunch 2020, we were able to pre-punch the components. Customers now receive parts with all the holes already punched in. When the holes in the various parts align, we know the structure is

accurate and straight. This advance reduced the labor involved in building a kit airplane dramatically, and brought us many customers who would never have attempted the project without the improvements the TRUMPF machines made possible.

What kind of materials do you process?

We process sheet aluminum from 0.4 to 4.8 millimeter and sheet steel, in thicknesses up to 4.8 millimeter. We also punch some thin stainless steel and some plastic components. Accuracy, repeatability, quality and cost are demands all our parts have to meet.

Van's Aircraft delivers knocked-down airframes as individual components in several conveniently sized boxes or crates. Hobby pilots all around the world put them together. (Picture: Van´s Aircraft)

What are the challenges with producing planes that have to fit into small boxes?

This isn't as difficult as you might think: airplanes have always been built from many smaller parts. Our airplanes are relatively small – the largest holds four people – so fitting the parts in reasonably sized crates is fairly simple. We market the airplane in a series of sub-kits, and each has its own crate, sometimes two, that can be shipped by rail, air or truck anywhere in the world. Because an airplane typically takes an individual two to four years to build, buying the parts in sub-kits makes sense.

How many kit planes did you manufacture since the founding of the company in 1972?

We've sent out starts on more than 22,000 aircraft. Thousands are under construction today. Over the last 8 years or so, we've averaged a new airplane, completed by a customer, making its first flight about 1.5 times per day. Every day!

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Who

Van's Aircraft, Inc. Aurora, Oregon, USA. Founded in 1972, 50 employees. www.vansaircraft.com

What

The company manufactures RV airplane kits and ships them to customers all around the world.

How

TruPunch 2020

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