

# Made by hand



by Paul Sadler

## The art of hand made aircraft models

**Walking into an airline CEO's office, the foyer of an aircraft manufacturer or a local travel agent people associated with aviation will usually notice then show an immediate interest in the highly detailed aircraft models on display before spending several seconds giving them the once over at close quarters inspecting the craftsmanship and detail.**

Made from plastic, resin, fiberglass and die-cast metal it is the hand made wooden models that truly reflects a craftsman's skill, patience and time in creating an original piece of detailed aviation memorabilia that is worth a closer inspection.

The Philippines are one of the world's largest producers of hand made wooden aviation models. The country's origins as a hand made model making nation began during the Second World War from around the perimeter fence of the Clark Air Base on one of the three main islands in the Philippines – Luzon.

A Filipino man is said to have hand carved the shape of an American fighter from a section of dried mahogany wood. Having meticulously painted the carving in the colour scheme of the

aircraft that were constantly flying in and out of the airbase on a daily basis he presented the model as a gift to the commander of the squadron the aircraft belonged to.

Impressed by the carving the commander commissioned the man to build for each of his squadron's pilots a model of their own aircraft to help keep the morale high amongst his ranks.

Soon other squadrons had learned about the models and they too commissioned hand carved models.

The abundant and sustainable source of Philippine mahogany, a non-endangered hardwood ideal for its stability and ease of carving together with the highly artistic capabilities of the Filipino workforce, created an often appreciated and an important element of the international aviation industry.

"Model aircraft help to reinforce our branding and generate awareness of the types of aircraft we fly" said Amanda Bolger, Virgin Blue's Manager, Public and Media Relations. "We recently used models of the Embraer E-Jet and Boeing 777 to unveil what our future aircraft will look like in Virgin Blue and V Australia colours and they are always very well received as gifts".

Any conceivable aircraft type can be custom made to represent its real life

counterpart or derivatives of. Types that may still be on the drawing board or close to making its first flight are able to be created in life like detail.

Producing an accurate looking model involves the creative hands of five artisans consisting of a carver, putty man, spray painter, primary artist and a detailer.

The carver starts the process using a set of three-view plans or blueprint style drawings of an aircraft. The aircraft's fuselage side and top shapes are drawn on to a block of kiln dried Philippine mahogany (commonly known as Lauan or Meranti) and cut out using an electric band saw. An electric band saw is only used to cut out the primary carving – the rest of the model is done by hand (apart from a little assistance from an electric sander).

Very rarely are fuselages and components symmetrical so the carver uses hand tools to plane, file and cut them into shape.

Interestingly the symmetrical shape of airships and blimps are 'turned' using a lathe.

All of the model's components are then joined together by compression without gluing. Some subcomponents of a model are made from other material types. The skid landing gear of a helicopter is made of metal while its rotor blades are made from Bamboo.

Once the carving has had its rough



(left) The raw shape of a BK 117 helicopter becomes familiar after the primary carving and component assembly is complete. (right) The primary artist applies logos and pinstripes to the painted mahogany. (Adrian Rathmell)

edges sanded the model in its raw state is handed over to be puttied.

Several coats of liquid putty are applied with a brush to the wood creating a very smooth and flawless finish. A varnish is also applied in order to give the model a solid, durable and protective finish prior to painting.

Once the putty is dried a primer coat of base paint is sprayed all over in the primary colour of the aircraft's scheme.

The primary artist will then apply the detailed colour scheme and logos of the aircraft using air brush equipment, a very fine paint brush and a small hyperemic needle for intricate details.

The primary artist brings to life the mono coloured shape of an aircraft hand painting pinstripes, patterns and logos while cross referencing with detailed colour pictures supplied or obtained of the aircraft being modelled.

Acrylic paint is used on the models resulting in a high quality and lasting finish. Logos and lettering are hand painted in preference to using decals as decal film has a tendency to discolour in time.

After painting the aircraft body and wings the artist finely paints the detail of the aircraft's flight control surfaces, doors, windows, cargo hatches and engine cowlings.

Finally the model has its detailing added including metal fan blades in the intake of a jet engine, the Nitesun search light and rescue hoist on a rescue helicopter or brass door handles to a GA aircraft.

Now resembling a piece of art the models are encased securely into layers of foam and inserted into a cardboard box with a display stand and shipped to its customer.

The whole building process takes on average about three weeks from start to finish depending on the complexity of

the model.

There are about half a dozen mainstream model manufacturers in the Philippines supplying hand made wooden models to all over the world.

"The US market is fairly saturated so we found our main growth market to be in Europe where we also found a higher requirement for detail" explains Adrian Rathmell, managing director of ModelBuffs.com.

Producing models in the thousands per year by artisans who have been in this industry all their lives ModelBuffs have a reputation of producing high quality works of aviation art.

"Most artisans move from company to company but we have managed to keep many of our workers for several years. All

The intricate detail of the crest on a model representing Qantas's 707-320, VH-EBA, is painted by hand using a fine brush and a hyperdermic needle. (Paul Sadler)



work is carried out in our own factory and we have close communications with our customers so they know what is happening trough the various stages of production."

ModelBuffs recently manufactured 16 models for the Cathay Pacific Museum project which are now on display at the airline's museum at 'Cathay Pacific City' on the southeast corner of Hong Kong International Airport. Although a prestigious highlight, Rathmell said it is the personal touch that makes producing the models most rewarding.

"The most satisfaction gained in what we do is creating models for current or retired pilots. At the moment we have a British customer whose deceased father was a flight engineer all his life with BOAC and then with British Airways and the son is now having one model made of every plane his father worked on. Producing models for him that will represent his father's career in aviation makes it all worth while."

Rathmell said he can attribute the high degree of detail in the models in his experience workforce. "Our attention to very fine detail and our ability to rapidly turn around orders sets us apart from our competitors."

The future of hand made models sees manufacturers' offer aircraft with clear canopies and detailed cockpits. Even wiring up the models with LED lights representing anti-collision strobe and navigational lights.

"We really want to stay for the meantime as close as possible with 'mother nature' and to solid wood producing hand made models that will last for generations and will be passed on down family lines" said Rathmell.

For as long as aircraft manufacturers roll their creations off production lines be assured a model aircraft will be as well. □