

The Beaver's New Clothes

A fresh coat of paint has recently been applied by Airspray at Ardmore to the Beaver Preservation Trust's DHC-2 Beaver. KiwiFlyer spoke to Paul McSweeney at Airspray about this project and their other capabilities.

THE BEAVER repaint had been on the cards for a couple of years when Paul McSweeney of Airspray Ardmore was recently asked to update an earlier quote to complete the work. This was duly done along with the standard advice to allow for a good amount of engineering work within the budget – no matter how optimistic the owner is, repainting old aircraft invariably uncovers a variety of hidden maintenance issues. The Trust accepted Paul's quotation and Airspray were commissioned to bring a fairly tired looking aircraft back to the appearance of a new one.

Because of the age and history of the aircraft, a repaint process involves far more than simply stripping and painting. The owners wanted to maintain the existing scheme and as that was a one-off, the first step was to capture a detailed record of all the aircraft markings. This includes locations, dimensions, fonts, colours, etc. Many photographs and measurements were taken.

Ensuring authenticity

At the same time, questions need to be asked as to whether the current scheme is actually completely accurate for the aircraft as there is every chance that touch ups have been undertaken over time that have perhaps been close but not the same as the original. Even though there may be some emotional attachment to the present appearance, most owners want their historic aircraft to be authentic to its history and a repaint is the time to ensure this is the case. It is here that Airspray's relationship with next door neighbour Pioneer Aero Restorations becomes particularly useful.

Paul acquired an old photo of the Trans Antarctic Beaver (believed to be taken at Ardmore in the 1950's) and noticed that some of the livery fonts in the photo didn't match those on the aircraft he was about to strip the paint from. A call to Nathan Boshier from the Air Force Museum at

Wigram resulted in Paul being supplied with details of the (modified RAF) fonts that the RNZAF was using at the time.

Further to the fonts issue was the aircraft colour. According to the logbook, the aircraft was last painted in Scarlet Chrome, a colour that Paul thought was a Harvard colour and therefore probably

any temptation to use computer cut vinyl graphics, even though good hand painted signwriting skills such as Neil's are becoming scarce.

The preparation process

Having uncovered the correct livery and received the owners approval to reinstate it, the next phase involves removing all control surfaces and fairings from the aircraft. In fact, anything that can be removed without preventing mobility of the remaining airframe, is removed for separate preparation and painting. In the case of the Beaver this included the wings.

Paint stripping at Airspray involves masking areas to protect and then applying stripping solution. Airspray use a non hazardous product that is alcohol based and washes off in water. It is designed to break the chemical bonds in paint rather than 'burn' it off as some products will. Further, once the alcohol has evaporated, the compound is inert. After applying the stripper, parts are "gladwrapped" to keep the compound working for longer. The gladwrap is then later removed (carrying much of the stripped with it) and the parts are water blasted ready for further manual preparation work.

It is here that extra engineering requirements usually become evident. For the Beaver project, most of the flight controls needed re-skinning or other major work. This was not altogether unexpected but still an unpleasant discovery given that one always hopes that such additional costs will be minimal.

A lot of corrosion was found on the left hand aft side of the fuselage and in Paul's words "the skin on that side had taken a bit of a beating too". This is probably due to a short period of topdressing in the aircraft's history. On the positive side, the wings were found to be in very good condition, perhaps because the high wing configuration has been less prone to damage.

A new coat of paint

Once all manual preparation work is completed, painting can begin. Airspray use deBeer paints (unless requested otherwise)



The original scheme and aircraft, believed to be at Ardmore in the 1950's.



Repainting this DHC-2 Beaver to match the livery of the aircraft used for Sir Edmund Hillary's Trans Antarctic Expedition involved much research into the use of correct fonts and colours. All markings were hand painted.

incorrect. Nathan again came to the rescue with a history lesson on the Air Force's use of "International Orange" which was a Dulux colour. Nathan reasoned that when the switch was made from Dulux acrylic lacquers to two pack paints (and from British standards to Federal standards) somebody probably decided that the closest match to International Orange was Scarlet Chrome. As it happened, Nathan still had a few tins of the original International Orange in the store and offered to paint a sample swatch and send it up to Paul.

Another touch of authenticity came in the form of Neil Richardson of Reflect Icon Signs, who hand painted the roundels and fonts. See the separate article within this feature on Neil's business. When so much effort is undertaken to rebuild historic aircraft to original condition, it is a shame to subvert this goal with



There was plenty of wear and tear on the existing paint scheme



Locations and dimensions of all markings were recorded with photographs and drawings.



The process of detailing began with preparation for stripe painting on the fuselage.



All letters and roundels were marked out and then hand painted for authenticity.



Airspray can also paint or touch-up microlights, helicopters, and in this case a 737 rudder.

as not only is this a high quality product suitable for most aircraft, but Paul says "the rep's are experienced painters themselves who can get in the booth and work with us if necessary".

The process used involves starting with an etch primer (including corrosion inhibitor), followed by two coats of two-pack 2K topcoat.

Airspray stock a complete colour mixing system for deBeer paints and can call up any current automotive colour formula if required. Many aircraft colours have been chosen on the basis of "I saw a red Ferrari / silver Porsche / blue Mercedes / etc and that's the colour I want." Paul can mix any quantity down to as little as 200ml which helps keep grooming and touch-up work costs low.

Reassembly and Corrosion Prevention

Reassembly is largely the reverse of disassembly. Occasionally there can be small delays on outwork or even further maintenance discoveries. Such was the case on the Beaver, with decisions made to overhaul the hydraulic pump for flaps actuation and the brake master cylinders.

Airspray use ACF50 for corrosion prevention and offer this as a free service for all aircraft that they strip and repaint. Paul notes that corrosion prevention treatment is something that all aircraft owners should consider as part of their normal maintenance programme as it is quite likely to provide a 10 for 1 dollar saving over the longer term. The process generally involves less than half a day for light aircraft. ACF50 is preferred due to its ability to attack existing corrosion rather than just inhibit it.

The final task post test flight and any resulting adjustments, is to complete a touch up and polish of the aircraft ready for handover to the owners. Paul describes the Beaver project as a very successful one. "We're happy, the owners are happy, and there is plenty of good feedback from others who have seen the aircraft."

More than Warbirds

Airspray can paint all types of aircraft. In fact most of their day to day work involves partial and full repaints of light aircraft and helicopters. That said, their spraybooth has also accommodated a Beech 18, and on one recent occasion the rudder from a Boeing 737. Touch up work is also easily undertaken on anything from microlights to corporate jets.

With their close relationship with Pioneer Aero Restorations and also with

upholstery and composites companies, engineering work can easily be arranged as required during a repaint process. This means that owners can leave such work up to the team at Airspray if they wish and won't have to be on call themselves to come and sort out problems as they are discovered. From that point of view, Airspray aim to operate as a one stop shop for aircraft refinishing.

For more information

Contact Paul McSweeney at Airspray Ardmore on 09 296 8913 or 021 074 4876, email paul@pioneerero.co.nz

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Neil Richardson
phone/fax 09 2960221 • mobile 021 905 102
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