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The UIVER Flyer

News from the Uiver Memorial DC-2 Restoration Project.

As it looked in 1934, the fuselage of the memorial DC-2 shines again.

A shining example of our progress

The fuselage of the Uiver memorial DC-2 is once again gleaming as its outer skin is riveted into place, transporting the aircraft back to 1934 and the day it left the Douglas factory. Scores of panels and thousands of rivets have been replaced as the restoration moves forward and the rebuilding of

the cockpit shell has begun.

The roof of the cockpit has taken two months, such is the difficulty of the task when so many components are so badly corroded they cannot be used as templates and the volunteers have resorted to pieces of cardboard to shape the replacements.

The shining fuselage has given the hangar a lift, the result of thousands of hours of replacing, repairing, rebuilding and polishing. The restoration was always going to be a long, arduous journey but the volunteers have achieved steady progress, which would not have been possible without support from sponsors and donations.

The Give a Rivet fundraiser has been a major boost to the project, the rivets in the fuselage are testament its importance in ensuring the work continues. With up to 15 volunteers involved in the restoration each Wednesday and Saturday, attention is turning to other part of the aircraft, in particular the wing centre section which houses the engines and, more importantly at this stage of the project, the landing gear, so the aircraft can stand on its wheels. Give A Rivet is a simple way to support the project, each rivet is worth $2 and every dollar will find its way into the DC-2 that will become the centrepiece of the Uiver museum. You can use the QR code below or the Give A Rivet button on our website.

Tom Henderson has started dismantling one of the engines.

Taking a look inside the engines

Work has started on the engines of the memorial DC-2. New volunteer Tom Henderson has brought to the Uiver restoration hangar a lifetime of working on radial engines and has begun dismantling one to see what can be salvaged. The hangar has three engines, none of which are operating, but two will be restored to a display condition so they can be returned to the aircraft with the two propellers which have already been restored. Tom Henderson, who spent 45 years of his working life rebuilding engines, brings a wealth of knowledge to the project. A qualified engine rebuilder, he worked on the diesel version of the radial engine that was used in army tanks.

A radial engine similar to the two that powered the Uiver.

He said the engines that had been in the memorial DC-2 were early models of the breed and were likely to be identical to the engines that powered the Uiver in the 1934 air race that brought the plane to Albury. Hundreds of thousands of the engines were built in various models between 1930 and 1963. As well as Wright, they were built under licence by Pratt & Whitney, Hispano and in Russia and Studebaker produced 66,000 in three years. There were about 40 versions with horsepower ranging from 550 horsepower to 1500 horsepower, all from the same 1820 cubic inch displacement.

For the technically minded, the engine Tom is working on is a Wright Cyclone, nine-cylinder radial that developed 875 horsepower on take-off and

760 horsepower at 5,800 feet and 2100 rpm. It will be stripped down to its components to see how they have survived after almost 90 years.

A valve from the DC-2 engine, five metals welded together.

Considering the technology of the era, the precision in the building of the engines is remarkable. As one example, Tom highlighted the valves at the top of each cylinder head – each valve actually comprises five different metals to handle the pressure, the impact and the heat and each metal is welded together to form a smooth stem. Inside the stem is sodium which turns to liquid and carries heat to the top of the stem where it transfers to cooling vanes at the head of each cylinder.

Help us spread the word

We want the whole community to know about our project and you can help by forwarding this newsletter to others in your address book, either through email or social media. You could encourage them to also forward on the newsletter so we can expand our circulation, and invite them to subscribe and join our emailing list. A small effort could have a big impact.