Historic RAF wartime engine set for national memorial display after restoration

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A historic Rolls-Royce Merlin engine from an RAF Mosquito

aeroplane is to feature in a new national memorial in honour of the RAF’s Photo Reconnaissance Unit…

A historic engine from an RAF reconnaissance aeroplane heralded for its role in helping to defeat the Nazis in the Second World War is undergoing restoration ahead of featuring in a new national memorial.

The Rolls-Royce Merlin engine from an RAF Mosquito which crashed into a Welsh mountainside in 1944, killing both crew members, is destined to be a centrepiece of a memorial in London in honour of the RAF’s Photo Reconnaissance Unit.

More than 80 years since it last flew, the engine is being cleaned and treated at a base in Bicester, Oxfordshire, after being recovered by members of the local community, and with thanks in part to the assistance of INEOS Automotive.

When those leading the restoration project needed a specialist solution to clean the engine, they turned to a Scottish-based company who are experts in their field.

Eco Group, which operates all over the UK from its base in Annan, specialises in Contract Manufacturing, Organic Brand Manufacturing, and Services to Manufacturing across a diverse range of industries.

Eco first started out 15 years ago as a Dry Ice cleaning business and while it has diversified into the multi-disciplined company it is today, it has also continued to develop and hone its dry ice expertise, retaining its status as one of the UK’s leading experts.

So, when Spitfire AA810 Restoration Ltd, which is heading the campaign with the Mosquito engine, needed a specialist company to help with the project, they knew they could trust Eco Dry Ice to achieve outstanding results.

Steven McCreadie, Dry Ice Team Leader at Eco Group, and colleague Gordon Keen, travelled to the Classic Collective in Bicester, where they carried out the engine clean in the

base’s workshop using their specialist dry ice equipment.

Steven McCreadie, Eco Dry Ice.

Steven, pictured above, said: “Obviously when you are dealing with a piece of equipment

which is so historic and significant you want the result to turn out exactly as the restorers hoped for. Thankfully all went smoothly, and they were delighted with the outcome."

Tony Hoskins, Director of Spitfire AA810 Restoration Ltd, explained the history of the plane and its restoration.

Built of lightweight wood, powered by two Rolls-Royce Merlin engines, the de Havilland Mosquito was a versatile warplane which excelled as a spyplane.

This particular plane – Havilland Mosquito PR.IX LR412 – was constructed at Hatfield in early 1943 utilising parts produced by over 225 smaller dispersed sub-contractors, and flew for the first time on the June 11, 1943 at the hands of factory test pilot John de Havilland.

Tony said: "This wooden wonder was so called as its construction was largely of plywood and balsa, non-critical materials to the war effort and able to be mass constructed in carpenter and furniture shops around the UK."

Assigned to 540 Photographic Reconnaissance Squadron at RAF Benson, from logbook evidence LR412 flew a minimum of 51 flights which totalled 19 operational sorties, 14 of which were successful in completing the sortie objectives.

Being a pure reconnaissance aircraft, LR412 flew these unarmed operations all over occupied Europe including France, Germany, Italy, Norway, and Poland.

Attacked by enemy fighters on five occasions, and returning to the UK twice with one engine shut down, in November 1943 the aircraft was photographed over the German heavy water plant in Norway, made famous in the 1965 film *The Heroes of Telemark*.

The aircraft crashed on Aran Fawddwy Mountain, Dolgellau, Merionethshire, Wales on Wednesday February 9, 1944 during daylight hours whilst undertaking a test flight from RAF Benson.

There were no eyewitnesses to the crash. Search flights were carried out from RAF Benson on February 10, 1944 in an attempt to locate LR412, however these flights were not successful.

The wreckage was located by local farmer Mr Griffiths of Esgairgawr Farm, Rhydymain during a routine check of his farmland in the afternoon of February 14, 1944 and he alerted the Merioneth Constabulary in nearby Dolgellau.

Council archives recorded that two policemen attended the scene and "located the aircraft together with the remains of two bodies. The plane was a total wreck strewn over a wide area. A letter was found in a tunic pocket of one of the bodies."

The dead men were identified as Marek Slonski-Ostoja and navigator Paul Riches.

Both crewmen are buried together in St Mary's Churchyard, Chessington.

The RAF Recovery Team subsequently returned to the wreck site, recovered any relevant material of interest and burnt the rest of the aircraft remains in a small, sheltered ravine to the south of the site.

The Spitfire AA810 project is campaigning to see those that flew these highly clandestine spy operations commemorated for the first time on a National Photographic Reconnaissance Monument situated in Whitehall close to where the vital intelligence gleaned from the aerial photographs was used to most effect.

With some 80% of the intelligence used for the tactical planning of the Allied strategic campaign coming from Photographic Reconnaissance, the team behind the monument wanted an impactful centrepiece for that monument and felt that incorporating the remaining wreckage of LR412 into this prominent monument was a fitting way of not only recognising the loss of the last crew of LR412, but also all those crews lost flying these vital intelligence missions.

Through considerable local research it became apparent that the vast majority of the remains of the aircraft, including both engines, had been recovered in the late 1970s through into the 1980s with much being held locally in private hands.

From late 2023 through 2024, the team negotiated the acquisition of these remains which included one of the engines, and with the support of the Ministry of Defence the recovery of the remaining wreckage on the mountain was carried out in September 2024. One engine remains near the crash site as a permanent local memorial to the crew.

With the need to preserve and conserve the engine for inclusion in the monument, the Spitfire AA810 project reached out to the Eco Group for help.

Eco Dry Ice's technology and capabilities meant their solution was ideal to clean the plane's engine.

Tony said: "We're so absolutely delighted at the results of the dry-ice blasting carried out by Steven and his team. The condition it brought the engine back to after sitting exposed to the elements for nearly 40 years, and then stored for another 40 years was beyond belief. To have removed so much of the biological accumulation whilst leaving the core material fresh as the day it was made was incredibly impressive. This was just what we needed to start the engine on its journey of conservation."

Eco uses the same technology in cleaning historic aircraft, classic cars and other transport as it does cleaning and maintaining factories and plants for major industries including those in the food and drink, pharmaceutical, printing and packaging sectors, as well as fire restoration.

Dry Ice cleans all types of surfaces and machinery. It is:

- environmentally friendly;
- increases productivity, reduces downtime and costs;
- prolongs lifespan of assets

- non-abrasive, no damage
- moisture-free cleaning
- faster and more efficient cleaning
- no secondary waste / residue
- safe around electrical components

The dry ice process can reduce overall carbon emissions by capturing carbon dioxide which would otherwise be released into the atmosphere, making it a sustainable, eco-friendly solution. The carbon dioxide used to make dry ice is often captured as a by-product of industrial processes (such as from fermentation, chemical production, or natural gas processing).

Eco Dry Ice is part of multi award-winning Eco Group, a fully qualified and SQA accredited company offering the highest level of dry ice cleaning service.

For more information on the National Photographic Reconnaissance Monument Campaign please visit: https://www.spitfireaa810.co.uk/national-memorial

Above: Steven McCreadie

operating Eco Dry Ice cleaning on the engine.

More about Eco Group; they tell us:

From deploying world-first decarbonisation technology to providing practical everyday solutions, Eco Group supports UK manufacturing with a range of innovative technologies, products and services.

A privately-owned and managed business, which is decisive and dynamic, Eco is based in a 3,000-square-metre self-built HQ at Annan, Dumfries and Galloway.

Led by founder and MD Eddie Black, Eco's services include dry ice cleaning; VASO Build Solutions supporting the construction industry with panels made from recycled glass, an EcoGoZero range of carbon mitigation strategies, Resilience cyber security, Integrity IT; and bespoke training.

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