Restoration of the Short Scion

The remains of the Short Scion you see before you were acquired by MAPS and collected from Redhill in June 2013. At that point, only the fuselage frame, most of the port wing, part of the starboard wing and aileron, and some landplane undercarriage parts remained – all in very poor condition, with extensive corrosion and damage.

The first step was cleaning and corrosion treatment, followed by a full survey to plan a museum-standard restoration. Many parts were missing and had to be made from scratch. Some earlier repairs to the fuselage were of poor quality. Although original drawings were lost – likely destroyed after Shorts moved from Rochester to Belfast post-war – MAPS managed to gather just enough reference material to begin what would become its most ambitious project.

Thanks to a major grant from The Rochester Bridge Trust and over a decade of volunteer effort, the Scion you see today has been transformed.

Most of the fuselage frame survived, though lower tubes were damaged – some previously replaced in the 1990s. The upper section, including the wing box and mounts, was in better shape. Repairs included new bracing wires to realign the frame, new upper and lower fairings, a wooden cabin floor, refurbished door with a new lock, and wooden cabin sides with Perspex windows. Inside, the cabin was fully fitted out with seats, upholstery, and lighting.

Only the cockpit subframe, pilot's stick, rudder pedals, and trim wheel were original. These were restored, and a new cockpit shell, roof hatch, instrument panel, and pilot's seat were made. The nosecone is new, replicating the original composite construction.

The port wing was mostly intact but heavily damaged. Internal fittings were missing and replaced. New alloy spar members were machined, while salvaged parts like wing mounts and bracing tubes were re-used. Once the wing box was rebuilt, new edges and panels were fabricated. The engine bearer was re-used, with a new firewall and cowl created. A replica propeller was added, but no engine is installed, as it's hidden inside the cowl. The aileron will be added later.

The starboard wing was mostly missing and had to be fabricated entirely by the MAPS team, using some reconditioned mounts and bracing tubes. It mirrors the port wing.

The tailplane, elevators, rudder, and fin were newly made from aluminium alloy. All control linkages are functional and the rear fuselage and tail surfaces are covered with a doped synthetic fabric. Both wings have their top surface covered with the underside remaining uncovered to display the structure. The original doped Irish linen that was previously used is no longer viable, due to modern health and safety rules.

The Scion has been restored as a floatplane. The floats attach to the same mounts as the land undercarriage. One float, built in 1935 at Shorts' Strood factory, is original and on loan from the Ulster Folk and Transport Museum. The other is a replica, made from alloy with laser-cut formers based on a 3D model. The original welded stainless-steel struts were replaced with standard steel tubes.

Alongside MAPS's volunteers, Ray Lane contributed metalwork, and Les Bird assisted with doping and painting. But the vast majority of the work was done by the MAPS Chaps, who developed the specialist skills needed to complete this remarkable restoration.