

## S2/2003 - Ryan M1/M2 NYP, ES-XCL

<b>AAIB Bulletin No:</b>	<b>Ref: EW/C2003/05/05</b>	<b>Category: 2.3</b>
<b>Aircraft Type and Registration:</b>	Ryan M1/M2 NYP, ES-XCL	
<b>Serial Number:</b>		
<b>No &amp; Type of Engines:</b>	1 Continental W670-6A piston engine	
<b>Year of Manufacture:</b>	1997	
<b>Date &amp; Time (UTC):</b>	31 May 2003 at 1650 hrs	
<b>Location:</b>	Baginton, Coventry	
<b>Type of Flight:</b>	Private (Flying Display)	
<b>Persons on Board:</b>	Crew -1	Passengers - 0
<b>Injuries:</b>	Crew -1 Fatal	Passengers - N/A
<b>Nature of Damage:</b>	Aircraft destroyed	
<b>Commander's Licence:</b>	Airline Transport Pilots Licence (Swedish)	
<b>Commander's Age:</b>	59 years	
<b>Commander's Flying Experience:</b>	21,200 hours (of which 190 were on type)	
	Last 90 days - 81 hours	
	Last 28 days - 18 hours	
<b>Information Source:</b>	AAIB Field Investigation	

The aircraft was a replica of the Ryan Spirit of St Louis, in which Charles Lindbergh made the first solo transatlantic crossing in 1927. ES-XCL was built in 1997 from drawings used in the construction of the flying replica displayed at the San Diego Aerospace Museum.

Shortly after take off from Runway 23 at Coventry Airport, whilst climbing and manoeuvring gently to begin its display sequence, the aircraft's right wing suffered a major structural failure and the aircraft fell steeply into an industrial compound bordering the airfield. The pilot survived the impact, but died shortly afterwards from his injuries.

Examination of the aircraft wreckage quickly determined that the outboard end of a tubular steel wishbone strut, which locates and supports both the upper end of the right landing gear shock-strut and the lower end of the forward right wing strut, had failed in flight as a result of fatigue cracking. This failure had permitted the landing gear and its shock strut, together with the lower end of the forward lift strut, to articulate upward and outward. The resulting movement not only rendered the lift strut ineffective but also induced a severe levering-type contact between the side of the shock strut and the right wheel rim, fracturing the axle and allowing the wheel to separate and fall free.

The sudden dislocation of the wing strut resulted in an immediate overload failure of the forward

(wooden) spar at its attachment to the fuselage, and consequential failure of the remaining inboard wing structure as the forward part of the wing twisted upward and rearward.

Detailed investigation into the underlying cause of the fatigue failure is ongoing, and a full report into this accident will be published as an AAIB Bulletin in due course.