Safety Regulation Group
Safety Investigation and Data Department

Follow-up Action on Occurrence Report

ACCIDENT TO SPITFIRE PR XI, G-PRXI, NEAR ROUEN, VALLE DE SEINE AIRPORT ON 4 JUNE 2001

(AIRCRAFT CRASHED AFTER ENGINE FAILURE)

CAA FACTOR NUMBER	:	F14/2003
FACTOR PUBLICATION DATE	:	11 July 2003
OPERATOR	:	Private
CAA OCCURRENCE NUMBER	:	2001/03716
AAIB REPORT	:	Bulletin 5/2003

SYNOPSIS

(From AAIB Report)

NOTE: *This is an account of an accident that occurred in France and which was subject to an investigation by the Bureau d'Enquetes et d'Analyses pour la Securite de l'Aviation Civile (BEA) and the French judiciary. The AAIB were asked to conduct and oversee a strip inspection of the Rolls-Royce Packard Merlin engine on their behalf.*

Rouen, Vallee de Seine Airport has a main, paved, Runway 04/22 and a shorter, grass Runway 05/23. During the pre-display briefing, pilots were advised to make use of the latter in case of emergency.

G-PRXI was joining one of four 'vics' of aircraft forming-up to the south-east of the airfield at crowd rear. The aircraft was observed to join-up, as briefed, on the extreme right of one of the 'vics'. The pilot maintained the correct position for a few minutes before he was seen to slowly drop back about 50 yards and also to move out a distance of about four wingspans from the ideal position. There were no visible signs of any problems with the engine or airframe. Eventually he went out of sight to the 'vic' leader and was heard to call on the radio "GOT A PROBLEM, RETURNING TO THE AIRFIELD". Then he transmitted "GOING FOR THE GRASS". At some point, the Tower controller suggested that Runway 05 was available, but there was a quartering tailwind for that runway and it appeared that the pilot, having sufficient height available, opted for the reciprocal Runway 23.

The leader, and others, saw the aircraft descending towards the grass strip on a base leg and it appeared that it was fairly well set up for a landing. The pilot was then heard to call "THERE'S PEOPLE ON THE RUNWAY" in what was described as a 'calm, if surprised voice'. The formation leader confirmed this visually, noting that the numbers he saw being likened to "that seen during a cricket match, with most of the people at the north-eastern end".

A witness video, broadcast in an edited form on UK television, showed the aircraft apparently extending the base leg to make an approach to Runway 22 with the landing gear down and the flaps extended. The propeller was rotating at some indeterminate speed as the aircraft headed towards the camera. As it approached abeam the camera in almost level flight, a puff of dense black smoke was seen to issue from the exhaust stubs and the propeller seemed to slow rapidly after an initial burst of power is heard (note: a detailed analysis of video and audio information was conducted by the BEA and a summary is contained in their report). Almost immediately, the right

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wing dropped and the aircraft rolled inverted before diving into the ground almost vertically. An immediate fireball followed and much of the airframe was subsequently consumed by fire.

A post-mortem report carried out when the pilot's body was returned to the UK showed that he had died instantly on impact from severe multiple injuries.

FOLLOW UP ACTION

The one Safety Recommendation, made by the AAIB following their investigation, is reproduced below, together with the CAA's response.

Recommendation 2003-15

It is recommended that the Civil Aviation Authority should issue a letter to all operators of Rolls-Royce Merlin powered aircraft, equipped with Rotax magnetos, recommending that the insulator, P/No N72791, be replaced at magneto overhaul. In addition, the letter should draw the attention of operators to the following recommendations made by Rolls-Royce plc:

1. Magneto overhaul on low utilisation engines should be accomplished at about half the generally accepted 500 hour engine overhaul life.

2. A magneto inspection should be performed on all Merlin engines within 50 hours/one year, and thereafter at yearly intervals, which should include visual checks of:
    a) Points setting, condition and function
    b) Insulator condition
    c) Correct lubrication
    d) Anti-tracking paint condition
    e) Other apparent faults and signs of deterioration

3. A one-off check should be performed to ensure that copper inserts are used in the high-tension leads rather than aluminium or any other metal.

CAA Response

The CAA accepts this Recommendation.

The CAA issued a letter (Reference LTO No. 2440, dated 29 May 2003) to all operators of Rolls-Royce Merlin powered aircraft, equipped with Rotax magnetos, recommending the replacement of the insulators P/No N72791 at magneto overhaul. The letter promulgated the further recommendations made by Rolls-Royce and in addition extended the recommended actions to Packard Merlin engines equipped with Rotax magnetos. The letter advised operators to incorporate these maintenance actions into their aircraft maintenance programmes.

CAA Status - Closed