

Piper PA-46-350P Malibu Mirage, G-BYLM

AAIB Bulletin No: 7/2004	Ref: EW/C2004/01/06	Category: 1.3
Aircraft Type and Registration:	Piper PA-46-350P Malibu Mirage, G-BYLM	
No & Type of Engines:	1 Lycoming TIO-540-AE2A piston engine	
Year of Manufacture:	1999	
Date & Time (UTC):	30 January 2004 at 0756 hrs	
Location:	Alderney, Channel Islands	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Damage to nose landing gear and propeller	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	41 years	
Commander's Flying Experience:	3,900 hours (of which 700 were on type)	
	Last 90 days - 88 hours	
	Last 28 days - 43 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and AAIB telephone enquiries	

The pilot reported that he obtained the appropriate weather reports from the Met Office website prior to his flight from Bournemouth to Alderney. On arrival at Alderney he flew a normal 90 kt visual approach to Runway 26 with the landing gear indicating down and locked. The pilot estimated there to be a strong surface wind of 200°/20-30 kt, so he used the 'wing down' technique to cater for the cross-wind. The aircraft touched down at the normal point on the main wheels followed by the nose wheel. After touchdown the aircraft started to veer to the right necessitating the use of left rudder and brake to correct for this. The nose of the aircraft then lowered allowing the propeller to come into contact with the tarmac, and the aircraft came to rest approximately 200 metres into the runway. The pilot transmitted a short 'MAYDAY', turned off the fuel and shut down the aircraft. He was then able to vacate the aircraft normally via the main door. The fire services, that were already on 'weather standby', arrived on the scene about 20 seconds later.

The aerodrome weather report for 0750 hrs gave the surface wind as 200°/21 kt gusting to 33 kt and a strong wind warning for Force 6 southerly winds was issued at 0725 hrs. The aircraft has a demonstrated crosswind limit of 17 kt.

Examination of the aircraft showed that nose landing gear actuator attachment feet, which are part of the engine mount, had fractured allowing the nose landing gear to collapse. The feet consist of short steel tubes welded to the mount. One of the feet showed evidence of cracking, and the surface of the crack was corroded, suggesting that it was old damage. The remaining fracture surfaces were clean and bright.

Piper Service Bulletin 1103B, issued on 25 November 2003, included an additional check on an existing requirement to examine these parts for cracks every 100 hours, or annually, whichever occurs first. The inspection specified is a 'liquid penetrant inspection' requiring the removal of all paint and protective treatments in the immediate area. The repetitive inspection requirement is removed however, if an available alternative standard of engine mount with redesigned actuator attachment feet is installed. The Service Bulletin states that this cracking '*... typically occurs when the nose landing gear is subjected to excessive loads, possibly through hard landings, rough field operations, excessive speed turns and/or improper towing of the aircraft*'.

The Piper Service Bulletin was designated 'Mandatory' by Piper, but this was not supported by an FAA or UK CAA Airworthiness Directive. Accordingly, the operators were not under any legal obligation to carry out the requirements of the Service Bulletin. In the case of G-BLYM, no record was found, in the aircraft logbooks or elsewhere, of this Service Bulletin having been complied with. Also, the relevant pages of the Maintenance Manual did not draw attention to the possible relevance of the Service Bulletin, which is listed elsewhere. It seems possible that an inspection of this area within the last 100 hours could have detected the damage as it progressed, and thereby prevented this accident.

Safety Recommendation 2004-54

It is recommended that the European Aviation Safety Agency (EASA), through their Lead Authority/ JAA Team of Austro Control GmbH (ACG), and the FAA make the inspection requirements of the latest revision to Piper Service Bulletin 1103 mandatory by Airworthiness Directive action.