

SERIOUS INCIDENT

Aircraft Type and Registration:	Let 410, HA-YFC	
No & Type of Engines:	2 Walter M601D turboprop engines	
Year of Manufacture:	1985	
Date & Time (UTC):	20 June 2008 at 0830 hrs	
Location:	Peterborough/Sibson Airfield, Cambridgeshire	
Type of Flight:	Aerial Work	
Persons on Board:	Crew - 1	Passengers - 5
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Right propeller, nacelle and co-pilot's door	
Commander's Licence:	Commercial Pilot's Licence	
Commander's Age:	49 years	
Commander's Flying Experience:	6,670 hours (of which 1,270 were on type) Last 90 days - 69 hours Last 28 days - 26 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

Immediately after takeoff, with five parachutists on board, the co-pilot's door/emergency exit opened and departed the aircraft, striking the right propeller, engine nacelle and fuselage. The aircraft made an immediate return to the airfield and carried out an uneventful landing.

History of the flight

Prior to the flight, the co-pilot's door/emergency exit, which normally remains closed, had been opened to facilitate a routine maintenance task. Due to the late arrival of the pilot, the engineer volunteered to carry out the pre-flight walk around inspection of the aircraft. The pilot reported that, as he approached the aircraft, the door appeared closed and there was no indication that it

was unlocked prior to takeoff. The aircraft was carrying out a parachutist dropping detail and, as is usual, the rear fuselage door was locked open for the flight. Shortly after takeoff, the co-pilot's door opened and was pulled from its hinges, striking the right propeller, engine nacelle and fuselage. The aircraft made an immediate return to the airfield and carried out an uneventful downwind landing.

Investigation*Door locking mechanism description*

The co-pilot's door/emergency exit is hinged on its rear edge and is fitted with a spring loaded locking mechanism which extends locking lugs into receptacles in the fuselage when the door is fully closed. The hinge

is also fitted with a spring, but this has insufficient strength to close the door fully. A secondary internal latch is also fitted which is designed to prevent the door from opening in the event of a failure of the primary lock. However, the door must be closed with the primary latches engaged for this secondary latch to function.

Door examination

Examination of the door and its mounting structure revealed no evidence of a failure of the door latching mechanisms. The pre-flight cockpit checklist includes an item to verify that the co-pilot's door/exit is locked and this is normally done by a visual check of position of the door locking handles. However, these handles are not conspicuous, being painted the same colour as the surrounding structure.

The aircraft is fitted with a single warning light in the cockpit, which illuminates when either the rear fuselage door and/or co-pilot's door is unlocked. When being used for parachute operations, as on this occasion, the aircraft is frequently operated with the rear door open, with the result that the pilot expects to see the door warning light illuminated before taking off. There is no additional warning to advise the pilot of an unlocked co-pilot's door when the rear door is open.

Safety Action

In order to prevent any similar future incidents, the operator has introduced procedures to ensure that positive steps are in place to verify that it has been closed and locked on completion of maintenance. The internal door locking handle is also to be repainted to increase its visibility within the cockpit.

In May 2008, the European Aviation Safety Agency (EASA) published Airworthiness Directive AD 2008-0103 following an analysis of incidents involving the LET 410 series of aircraft. The reason for this was that early variants of the LET 410 series had certification bases that precluded them from being certificated in EU member states. On accession of the country of manufacture to the EU, responsibility for certification issues was transferred to EASA on the basis that essential safety improvements would be introduced to enable continuing operation in EU member states.

Part B of the AD includes modification of the locking mechanism and the installation of a discrete door warning light for the co-pilot's door/emergency exit to indicate an unlocked condition.