ACCIDENT		
Aircraft Type and Registration:	Titan T-51 Mustang, G-MUZY	
No & Type of Engines:	1 Rotax 912 ULS piston engine	
Year of Manufacture:	2009 (Serial no: LAA 355-14831)	
Date & Time (UTC):	30 October 2012 at 1318 hrs	
Location:	Wellesbourne Mountford Airfield, Warwickshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Damage to propeller and panels on underside of fuselage	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	52 years	
Commander's Flying Experience:	1,420 hours (of which 4 were on type) Last 90 days - 15 hours Last 28 days - 10 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further inquiries by the AAIB	

**G-MUZY** 

# **Synopsis**

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Whilst in the circuit to land, the pilot found the throttle had jammed in the fully open position. When approaching on finals, his efforts to free the jam resulted in the throttle becoming stuck at idle. The landing gear would not extend and the pilot landed wheels-up on the grass. It was found that an exhaust pipe weld had fractured, releasing hot gases into the engine bay and causing damage to several components.

## History of the flight

The aircraft was returning from a local flight and was downwind to land on Runway 18. The pilot attempted to throttle back but found that the throttle had jammed on full power. He informed ATC of his predicament and of his intention to extend the downwind leg and fly a long final leg before cutting the engine completely to land from a glide approach. At about two miles finals, he lowered flap and landing gear to try and slow the aircraft.

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The pilot continued to attempt to free the throttle lever but he found that it suddenly snapped back into the idle setting and would now not move forwards. He was uncertain whether he could make the airfield and raised the flaps and landing gear to reduce drag, whilst he considered other forced landing options. As he drew nearer to Wellesbourne he realised that he could land there and selected the landing gear down. ATC radioed to tell him that the landing gear was visibly not down; he recycled it but still to no avail and, since he did

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not have sufficient power to go around, he committed to a wheels-up landing on the grass to the side of the runway. This was successful and the pilot exited the aircraft normally.

# Investigation

The Titan T-51 is a <sup>3</sup>/<sub>4</sub> scale replica of the North American P51D fighter. It has two seats, is kit-built with an all-metal construction and is available with a number of engine options. The Light Aircraft Association (LAA) advise that G-MUZY was one of two aircraft of this type with current UK Permits to Fly (the other aircraft has a different engine) and they are aware of a further three under construction.

Upon examination, it was found that an exhaust pipe welded to the expansion box under the engine cowling had failed at the weld (Figure 1) and the hot gases thereby released had damaged several components in the area, including the throttle cable, and had partially melted the battery. It was clear that the throttle problems were caused by heat deterioration of the throttle cable and the landing gear system, which is electro-hydraulic, had been unable to function due to the battery damage. It should have been possible to actuate the standby free-fall landing gear extension, but this was not attempted by the pilot.



#### Figure 1

View of the engine compartment of a Titan T51 (not G-MUZY). Note presence of a crack (circled) in the exhaust similar to that thought to be responsible for the failure on G-MUZY

The LAA has advised that they intend to conduct a review of the design of the exhaust system, since it is thought that the failure probably occurred following a period of crack development. which went undetected. For the same reason they will also look at the ease of access to the area for frequent inspections for defects such as this. The LAA give the general advice to pilots about to fly an aircraft with which they are unfamiliar, that they receive a full briefing, and understand all the aircraft systems, before they take to the air.