INCIDENT

Aircraft Type and Registration:	Titan T-51 Mustang, G-TSIM	
No & Type of Engines:	1 Suzuki V6 Mini Merlin piston engine	
Year of Manufacture:	2012 (Serial no: LAA 355-14964)	
Date & Time (UTC):	14 May 2016 at 1045 hrs	
Location:	Shobdon Airfield, Herefordshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Tailwheel link failed and slight damage to rudder	
Commander's Licence:	Light Aircraft Pilot Licence	
Commander's Age:	54 years	
Commander's Flying Experience:	890 hours (of which 323 were on type) Last 90 days - 18 hours Last 28 days - 15 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB	

Synopsis

During taxi the tailwheel collapsed due to failure of a supporting link.

History of the flight

The aircraft was being taxied along a rough grass taxiway to Runway 09 when the pilot felt a small 'bump'. The pilot stopped the aircraft and exited to discover that the tailwheel had collapsed due to failure of a supporting link.

Aircraft information

The Titan T-51 Mustang is a three-quarter scale replica of the P-51 Mustang (Figure 1). It is a two-seat homebuilt aircraft of steel frame and aluminium skin construction, with a retractable main landing gear and tailwheel. The tailwheel is attached to an aluminium spring (Figure 2) which serves as a shock absorber. This spring is supported by a rod with two adjustable rose joints, called the 'link' (Figure 2).

Earlier in the year the owner discovered that the aluminium tailwheel spring had bent. He discussed this problem with the kit manufacturer and thought the kit manufacturer had advised re-installing the spring upside down. The owner installed the spring upside down and after landing on 8 April 2016 the spring failed. The owner obtained a new spring and installed it in the aircraft. He carried out an uneventful flight on 16 April 2016. The subsequent flight was the incident flight on 14 May 2016 when the link failed at a rose joint.

Figure 1

Titan T-51 Mustang (G-TSIM)

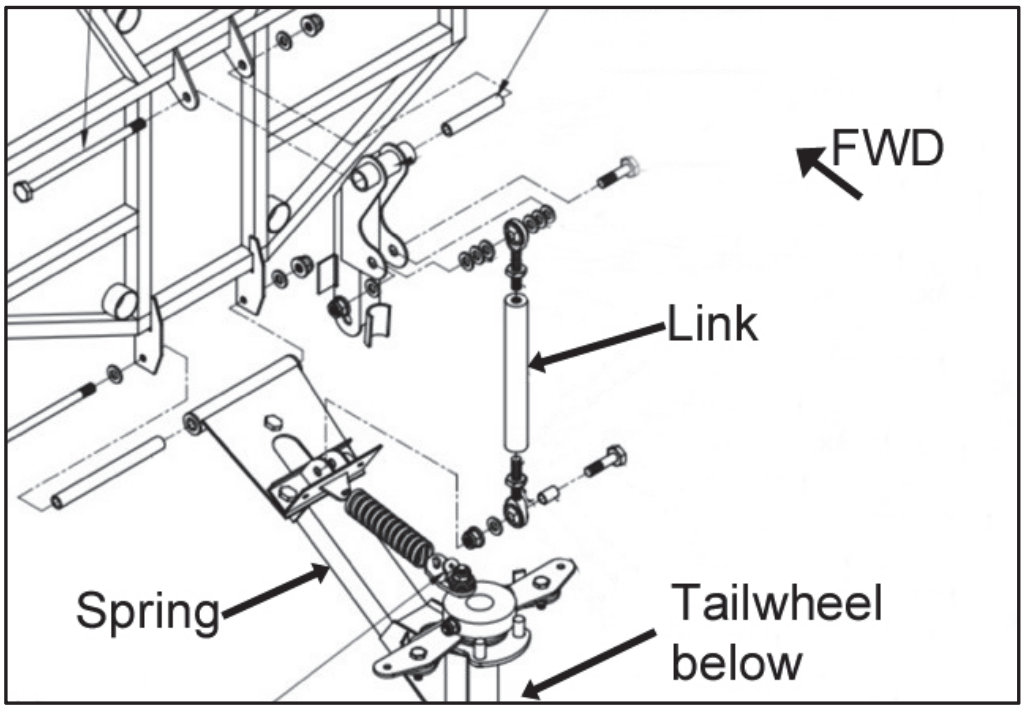

Figure 2

Tailwheel installation showing spring and link location

Comments by the owner of the aircraft

The owner stated that his belief that the kit manufacturer had advised re-installing the spring upside down was probably due to a miscommunication. Although he inspected the link when he installed the new spring he did not detect any cracks. He thinks it

subsequently failed due to fatigue. The owner, who is also the UK dealer for the aircraft, manufactured a replacement link of solid forged steel without adjustable rose joint ends. The rose joints are intended to make length adjustments to adjust the height of the tailwheel and to adjust the over-centre retraction linkage. Once this length is determined a bespoke solid link for the length required can be made. The Light Aircraft Association has approved the modified link. As part of this modification, the owner has also obtained approval from the Light Aircraft Association to install a modified spring made of steel to reduce the chance of it bending.