



# SAFETY ADVISORY NOTICE

01-2021 Issue 3 – 21 June 2021

Bristell Light Sport Aircraft Self-Certified by BRM Aero Ltd

This Safety Advisory Notice is **an advisory document** that provides information and makes recommendations to aviation industry participants about identified potential risks to aviation safety. The notice seeks to ensure aviation participants are reasonably informed.

## 1. Update to Safety Notice dated 28 July 2020

On 21 June 2021, CASA revoked the regulation 262APA(4) operating limitations following receipt of new compliance information from BRM Aero Ltd and fundamental corrections having been made to the Aircraft Operating Instructions (AOI).

On 9 March 2021, BRM Aero Ltd provided to CASA further information as to compliance of Bristell LSA with ASTM 4.5.9 spin requirements by two specialist organisations as to spin compliance and the scope of the LSA self-certification scheme. In addition, CASA had information that BRM Aero Ltd had recently made and distributed to aircraft owners, important corrections to the centre of gravity calculations for the affected aircraft. The corrections were required to be incorporated into the AOI.

CASA is reasonably satisfied that the corrections made to the AOI have adequately mitigated the safety related concerns held by CASA, such that all participants are meaningfully aware of these corrections and importantly, how they change the loading requirements of the aircraft. Provided operators of the aircraft only operate the aircraft in compliance with the corrected AOI data, CASA considers that the potential for inadvertent operation of the aircraft at or outside the centre of gravity limits is substantially reduced.

## 2. Further Information

On 5 August 2020 CASA were advised by the Irish Aircraft Accident Investigation Unit (AAIU) that during their investigation into a fatal accident involving a Bristell NG5, which occurred on 13 June 2019, the AAIU discovered that the moment arm specified in the aircraft operating instructions extant at the time of the accident was incorrect. This information was provided to BRM Aero Ltd on 25 June 2020.

The AAIU in consultation with, and with the cooperation of, the UK Light Aircraft Association (LAA) identified that the pilot and passenger moment arm for the aircraft was closer to 750 mm as opposed to the 600mm published in the AOI for the Bristell NG5. A safety notice was issued by the UK LAA on 20 July 2020 and updated on 24 November 2020. A copy of that safety notice can be accessed at: [Bristell WB issues.pdf \(lightaircraftassociation.co.uk\)](https://www.lightaircraftassociation.co.uk/Bristell_WB_issues.pdf)

On 7 August 2020 BRM Aero Ltd issued a Safety Directive for all NG5 variants. When issuing this Safety Directive, BRM Aero Ltd took the opportunity to also change the datum associated with the calculations, moving the datum from the leading edge of the mean aerodynamic chord to the face of the firewall. As a result of this change, not only the arm for the pilot and passenger was changed but all the relevant moment arms were changed to reflect the change in datum.



On 15 June 2021, the AAIU issued a second interim statement regarding the fatal accident of 13 June 2019 which provides information as to discrepancies in the pilot and passenger weights and balance arms as contained in the Aircraft Operating Instructions at the time of the accident. A copy of the second interim statement can be accessed at: <http://www.aaiu.ie/node/1525>

### 3. Recommendations

- a) CASA recommends that pilots and operators of the affected aircraft ensure they are familiar with the effect of the revised AOI corrections, as there may now be a significant change to the way the aircraft is permitted to be loaded and there may now be restrictions upon operating the aircraft in certain configurations.
- b) Pilots and operators should pay particular attention to the corrected arm associated with the pilot and passenger row. The correction to the AOI has adjusted the arm for the pilot and passenger significantly further rearward.
- c) Pilots and operators should pay particular attention to the aft movement of the centre of gravity with fuel burn. Dependant on the empty weight and empty CoG of each aircraft, the corrected arm and the effect of an aft moving CoG with fuel burn, may significantly change the revised permitted loading of the aircraft, when compared to previous loading of the aircraft.
- d) Pilots should check that the loading of the aircraft is within the published limits, both at the proposed take-off weight and also at a zero-fuel or minimum fuel weight.

### 4. The Light Sport Aircraft Regulatory Scheme

Manufacturers of LSA (whether registered with CASA or otherwise) are able to certify or make a self-declaration, that the aircraft meets accepted published standards, such as the ASTM standards when making application to CASA for a Special Certificate of Airworthiness (SCoA) as an LSA.

This scheme, which has been adopted by the FAA, NZ CAA and CASA, lowers manufacturer compliance costs, reduces the time to bring a design to market, and enables a timelier response to design and technology change. It is less rigorous than schemes which require a manufacturer to hold a production certificate issued by a National Aviation Authority such as CASA, EASA, or the FAA. It is important to understand that the self-certification of these aircraft is not verified by any NAA as would be the case for a manufacturer who holds a production certificate.

Based upon a review of self-certification practices by LSA manufacturers, CASA is changing the process to obtain the first-of-model (within Australia) SCoA for an LSA. In all such cases, CASA is to be notified of any SCoA applications before assessment and CASA will have the option of conducting the assessment directly. CASA may also specifically approve an Authorised Person on a case-by-case basis, based on risk and other relevant factors.

### 5. Enquiries

Enquiries regarding this safety advisory notice can be made to [sport@casa.gov.au](mailto:sport@casa.gov.au)