



Committee Secretary
Rural & Regional Affairs & Transport
Department of the Senate
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AUSTRALIA

25 November 2020

To Whom It May Concern

**Senate Inquiry Rural & Regional Affairs & Transport - General Aviation
Civil Aviation Safety Authority (CASA) Conduct
BRM Aero - Aircraft Manufacturer**

I refer to the sitting of the Senate Inquiry on the 20th November 2020 and respectfully ask that this document be presented to Senator Susan McDonald as the Chair and other committee members for consideration and inclusion into this inquiry.

This submission is in direct response to evidence delivered by Mr Ben Morgan of AOPA and in particular a statement made by Mr Shane Carmody, CEO and Director of Aviation Safety (DAS), Civil Aviation Safety Authority (CASA).

Regards to the terms of reference for the inquiry. My evidence and experiences here points in particular to the following:

1. The legislative and regulatory framework underpinning CASA's aviation safety management functions, and the application of the Civil Aviation Act 1988 and the Civil Aviation Safety Regulations 1998 to Australia's aviation sector, is not fit for purpose in that many businesses and individuals struggle with regulatory interpretation and the financial burden of compliance.
2. The safety and economic impacts, and relative risks, of CASA's aviation safety framework currently has significant short and long-term social and economic impacts as the CASA decisions on small businesses, agricultural operations and individuals across regional, rural and remote Australia are often either protracted, flawed and costly.
3. The processes and functions of the CASA and the efficacy of its engagement with the aviation sector, including via public consultation is essentially paying 'lip service' and has no substantive benefit to the aviation community.
4. Much of delivering the regulations and the culture within some areas of the CASA are counterproductive to growth in the general aviation sector, particularly at the grass roots level. This culture leaving businesses and individuals suffering significant financial loss, retribution if they speak up. In a time when industry would welcome a regulator that appeared to work more with industry rather than against it.

I know many CASA employees who are my go to people, they are helpful, professional and care about your concerns, we need more of them. I would welcome that as would industry, then together we could move aviation forward in this country.

Mr Ben Morgan gave evidence of a foreign aircraft manufacturer and the treatment of that manufacturer. As the Australian technical representatives for BRM Aero the manufacturer of the Bristell Light Sport Aircraft, we submit this in response and as further evidence of the adverse impact of CASA and decisions made by CASA that appear to me, not based necessarily on sound evidence or fact.

Mr Shane Carmody stated;

'The third matter relating to the aircraft registration it concerns me that, that point is made with that company misrepresented the aircraft when they introduced it into Australia. It's a self declaration & we caught them.'

I would also say that the Legal Representative for that company is actually on the AOPA Board. Something that yet that does not get mentioned. So we get the issue raised but disingenuously not completely.

It would appear to me that Mr Carmody is not across this matter as it is not to do with aircraft registration, it is to do with aircraft certification and compliance with an international standard. It is not a self declaration it is self certification of compliance against an international standard. The CASA in my opinion did not 'catch' BRM Aero as the aircraft have been flying in Australia for eight years without incident until an unfortunate accident resulting in one fatality which was deemed by the Victorian State Coroner to not be a result of a faulty aircraft. The Legal Representative for BRM Aero has nothing at all to do with them being on the AOPA Board in my view. This Legal Representative acts for many aviation businesses and individuals in the aviation industry and has done for many years as his area of expertise is aviation related matters. The issue has been raised and most definitely completely. We have been involved for one year of a two-year dispute. BRM Aero the manufacturer has attempted to address all the queries made of CASA in the document attached '**BRM Aero Response to CASA PowerPoint Presentation Document dated 3 April 2020**' BRM Aero does not dispute a number of administrative issues related to understanding the CASA Form 681 compliance document, that issue has been rectified, will not occur again into the future, *and yet it appears to me that the CASA continue their relentless attack on this manufacturer. **Note: The administrative issues resolved was not safety related and did not render the aircraft 'unsafe'.***

This document comprehensively and honestly answered the questions and accusations made by the CASA. It would appear to us that the CASA have been selective and discriminatory in their conduct. We believe from information we have gathered that this appears to be the direct result of collusion between organisations, power plays and an unwillingness to back down from a position where they have been proven to be unreasonable and should require further investigation. It would appear individuals involved sought to attack this manufacturer and reached a point where they could not step back in our opinion without losing face.

To essentially appear to accuse a reputable overseas manufacturer of fraud, when this manufacturer is highly regarded internationally is alarming. No other aviation authority agrees with the position the CASA have taken with this manufacturer. This we can confirm with two written confirmations from the United States Federal Aviation Administration (FAA) and the New Zealand Civil Aviation Authority (CAA).

Not only has this damaged the business of the Australian importer, it has commercially damaged a foreign manufacturer. This manufacturer being described by the European Aviation Safety Authority (EASA) as being of a very high standard. *This matter also has involved and continues to involve the Czech Republic Consular Office and Czech Republic Ambassador.*

It would appear that the CASA made an arbitrary decision to impose a safety notice and operating limitations on the Bristell aircraft type without providing any substantiated evidence of non-compliance. The decision of the CASA has had a significant negative impact on the manufacturer and the local Australian Importer, whom we speak on behalf of.

This aircraft in 8-9 years of operation in Australia has had only one accident involving a fatality out of nearly 60 aircraft flying in Australia. An excellent safety record by any standard in our opinion.

The CASA have engaged in what appears to us to be constant stonewalling and a significant amount of evidence has been gathered supporting our claim that the decision of CASA was and is wrong.

It would appear that the CASA engage in conduct that in our view is verging on corrupt and at the very least unkind and unprofessional. This is an organisation that appears to make its own rules 'on the run'. To take a set on a manufacturer and engage in behaviour that appears in our opinion to be fuelled by power plays and egos we find disturbing.

I urgently ask the Senate Committee to consider viewing the evidence I have as it is damning in our view and represents many of the significant impacts that are being felt by many pilots, operators and in particular small and important grass roots aviation industry businesses.

We are experiencing the effects of, and witnessing which appears to be conduct that in my 25 years in this industry in my opinion is disturbing. Having worked in government departments myself and being a pilot and aviation consultant, what I see is a regulator in crisis. Hence, we have an industry in crisis.

It would appear to me that this regulator is not supporting our industry, not communicating professionally and respectfully with industry. It can hide behind the obligatory customer survey, self-adulation but the real aviation world is much different.

- It would appear in our case that the CASA are attempting to destroy an international relationship and harming a reputable foreign manufacturer.
- They are challenging a Light Sport Aircraft international standard ASTM 2245 to an extent that will result in our country being deprived of the joys of recreational aircraft which underpin our industry.
- They are creating an environment where other countries will not export to Australia, a view expressed sadly by the Czech Republic Consular Office.
- It would appear to me that the CASA based the imposition of the Safety Notice and Operating limitations on the Bristell aircraft based on what we believe was an questionable flight test that resulted in an inaccurate unprofessional flight test report. Then went and used the resultant report as a basis for requesting compliance data from

BRM Aero, the manufacturer even though BRM Aero had already proved compliance in the manufacturers view.

- That CASA can simply say, as they did, they are 'not satisfied'. Nothing we give to CASA appears to satisfy them and we feel that nothing would.
- And now because we are supporting and making representation as consultants for the manufacturer, we are now the subject of what appears and feels to be retribution.

I trust that this inquiry will reveal what we believe is dysfunction of this organisation called the CASA and I implore you to view my evidence which I am happy to provide to the Senate. The aviation industry in Australia is in the fight of its life. For me to watch for a year people hurting at the hands of the CASA is so hard and distressing.

With the above considerations in mind, I will detail exactly where and why we are of the opinion that CASA was not reasonable in the decision they made related to the Bristell aircraft manufactured by BRM Aero in the Czech Republic to impose the safety notice and operating limitations.

It would appear to us that the CASA when making their decision did so ignoring and/or overlooking as well as placing insufficient weight on the information and evidence we sent to CASA re the Bristell aircraft.

The regulations clearly outline that it is the manufacturer's responsibility to monitor unsafe conditions with respect to self certification not CASA, if they were to exist for their aircraft. The manufacturer legally certifies compliance for each aircraft against the ASTM Standard and on the basis Australia accepts the standard then CASA are obliged to accept the self certification made by the manufacturer, in this case BRM Aero. To do otherwise is administratively flawed.

Australia as a signatory to ICAO has accepted the ASTM 2245 self certification standard for Light Sport Aircraft and on that basis cannot and should not challenge the self certification process, which in this case we believe the CASA has done capriciously. It is not CASA's standard and therefore they have no jurisdiction over the standard or right to question the standard. It is an accepted international standard.

In the face of documents that confirmed the Bristell Light Sport Aircraft is compliant with the ASTM standard it's evident that the action taken by CASA to issue this Safety Notice and subsequent Operating Limitations was both arbitrary and capricious. It would appear to us that the CASA acted unreasonably and had no proper or supportable basis for its decision. And to date CASA has not provided any evidence that the aircraft is not compliant.

The standard ASTM 2245 for Light Sport Aircraft since its inception has been accepted by many national airworthiness authorities (NAAs) worldwide, including Australia. CASA should not act as an exception to the administering of the ASTM Standard to do so mean they are administratively acting outside their jurisdiction, further reason their decision is wrong.

The ASTM Standard was conceived in the United States and has continued to evolve over time. This standard is not the property of CASA and CASA have no jurisdiction directly over the standard as Australia as a National Airworthiness Authority and as a contracting state and signatory to ICAO have to accept the standard. On that basis Australia hence CASA accept the

ASTM Standard for the manufacturer of Light Sport Aircraft. This therefore means they accept and have accepted the Bristell Light Sport Aircraft.

It would appear to us that the CASA are singling out one aircraft against the standard.

- **Criticism of BRM Aero and Their Ability**

CASA's criticism that BRM Aero is '*willing but not capable*' has been conclusively disproved since BRM Aero have recently received approval from the European Aviation Safety Authority (EASA) to the CS-23 full certification of the new B23 Bristell aircraft being clear evidence of BRM Aero's aviation excellence in design and manufacture. This demonstrated by them achieving certification of the B23 Bristell which requires meeting standards that are much higher and more onerous than the ASTM self certification standard.

EASA has now issued a full Type Certificate for the B23 Bristell that confirms ***beyond any doubt*** that not only is BRM Aero willing, ***but it is also capable.***

- **Communication Between BRM Aero and CASA**

Despite CASAs claim they have been communicating with BRM Aero it is our opinion that this is not entirely correct.

Prior to Edge Aviation being asked to support BRM Aero through this issue with CASA there had been a reasonable amount of communication between BRM Aero and CASA. However due to time differences which made turn around times slow, hence communication protracted as well as the language and cultural barriers saw this issue being driven by CASA in what appeared to be never ending circles. BRM Aero did not seem to be able to resolve this claim of CASA no matter how much information/evidence they sent to CASA. Nothing appeared to us to satisfy CASA. CASA continued a to and fro not providing any clear reason to BRM Aero for their claim. This commenced in 2018. **It was not until into the beginning of 2020 in particular an April 2020 teleconference that the CASA produced a PowerPoint presentation, (response enclosed) outlining in detail their claim.**

Since September 2019 Edge Aviation has been endeavouring to understand what the real issues actually were, at the time convinced that this should be resolved without too much effort as we were satisfied the Bristell aircraft did meet all the requirements of the self certification standard ASTM 2245 for Light Sport Aircraft. We spent considerable time researching correspondence and technical data to understand what it was that CASA seemed to have an issue with.

We are told there was a meeting held in Canberra August 2019 which CASA forbid the Australian importer to have legal representation present and in fact CASA stated the meeting would not proceed if the Australian importer insisted on legal representation. The Australian importer was keen to have someone independent at this meeting due to an increasing feeling they had that the CASA claims against the Bristell aircraft were unsubstantiated and in fact appeared to be of a vindictive nature. CASA failed to produce minutes of that meeting. A recording was made of that meeting.

A teleconference then took place between Edge Aviation, representing BRM Aero and the Australian importer and representatives of the CASA in February 2020. It was at this time BRM Aero officially appointed Edge Aviation as their technical and company representative in Australia and New Zealand to try and liaise with CASA and resolve any issues. This was to assist with a resolution due to our understanding of the regulations, the process and the CASA itself, not to mention our technical background and as an approved aircraft design organisation.

This meeting went for just over two hours and the meeting recorded. During this meeting we challenged the CASA among other things, over the failure to respond to correspondence, in particular a letter that BRM Aero wrote to CASA in October 2019. This letter contained important information that the CASA had requested. It appeared to us that the CASA were extremely evasive about this letter. It was established that CASA had in fact not responded to this letter, and in fact have still not responded to date. During this meeting CASA suggested a meeting at our premises that coming Friday. CASA cancelled and the meeting did not proceed.

It took till April 2020 to engage in a further teleconference with the CASA. This meeting went for just over three hours. The CASA indicated they had limited time and an allocation of three hours was made for the meeting. The CASA at the beginning of this meeting said they did not 'give permission for the meeting to be recorded'. BRM Aero sat silent. The meeting was recorded as we did not seek permission of the CASA in the first instance and neither are we obliged to under Victorian Law. It was recorded because of the concern for the information given by the CASA in dealing with this issue possibly not being accurate in our opinion.

Minutes of that meeting were promised by the CASA during the teleconference within days of the meeting. In the absence of minutes from CASA, despite repeated formal requests minutes were produced by Edge Aviation 6 weeks after the meeting had taken place using handwritten notes and the recording as an accurate record of that meeting. Those minutes were rejected by CASA. CASA produced minutes seven weeks after the meeting and we rejected those minutes as biased, inaccurate and incomplete. Both sets of meeting minutes remain rejected to date.

Note: The minutes produced by us were accurate as we had hand written notes and the complete recording of the meeting. It would appear to us that CASA had not been accurate in producing their minutes and their account of the meeting.

An action item during the April teleconference 2020 was for CASA to set a date for a further teleconference. The action item for us to respond to their PowerPoint was done and provided to CASA by their nominated date. We were unable to get the CASA to commit to a further teleconference. And in fact CASA refused a further teleconference. We have this in writing from CASA Legal.

We are advised that our legal firm has attempted to organise a meeting between the Edge Aviation Chief Design Engineer and someone from CASA of equal qualifications and experience. This has been attempted on at least six occasions, three of which have been in writing and the others verbally during off the record discussion between our Legal Representative, Senior Counsel of CASA Legal.

In any event it is our contention that the failure of CASA to agree to meet or communicate denies BRM Aero natural justice so this is indisputably unfair in our opinion. It would appear to

us that the CASA are engaging in a willful blindness in not properly reading reports and not giving any reasonable nor professional due consideration to the evidence provided to them. This evidence has been provided on numerous occasions.

The purpose of a further teleconference was to attempt to narrow the issues and try and determine the basis for the claims being made by CASA against BRM Aero and the Bristell aircraft.

It is of interest that since Edge Aviation and the Australian lawyer assisting BRM Aero, CASA have not been willing to communicate, at all. Prior to this CASA were more than willing to communicate with BRM Aero never being able to satisfy any requests made of CASA.

CASA is the regulator responsible for the safety of civil aviation in Australia, however, it is also bound to act in accordance with international treaties of which Australia is a signatory, and it cannot act in defiance of manufacturing approvals and safety standards issued and recognised by fellow ICAO states without very good reason. CASA has not provided any good reason in our opinion to issue a safety notice and to impose operational limitations of Bristell Light Sport Aircraft. To the contrary, BRM Aero, the manufacturer of the Bristell is approved as an aircraft manufacturer by the responsible Czech Republic regulator, the Light Aircraft Association of the Czech Republic. Additionally, particularly in relation to the B23 Bristell, EASA has commended BRM Aero on the high standard of aircraft they produce.

If CASA acted reasonably, rather than in the unreasonable manner they appear to be acting, CASA would have properly read the information provided to it by the manufacturer which confirmed that the Bristell Light Sport Aircraft is and always was compliant with the ASTM certification standard and it would not have issued a safety notice or imposed any operational limitations on the aircraft. The CASA have not continued in communication with BRM Aero since early 2020 and refuse to. This in our opinion makes it difficult to reach a resolution. Rather work with the manufacturer would have been a better approach.

In line with the administrative actions of CASA with respect to BRM Aero the following is the case:

The decision by CASA to place the safety notice and operating limitations on the Bristell aircraft would appear to us to be wrong as the aircraft has already been tested and certified as compliant. Therefore it is not reasonable for CASA to take it upon themselves to arbitrarily make this decision and placing the burden of proof on the manufacturer who has already tested the aircraft and certified compliance against the ASTM standard.

If CASA had doubts about spin compliance, the onus of proof should fall on them to prove a noncompliance. **The manufacturer has already certified that the aircraft complies.** Specifically, in relation to compliance against the spinning requirement of ASTM 2245 para 4.5.9 for which CASA simply say they are 'not satisfied' a full report has been submitted that includes a declaration of compliance by the test pilot _____, a world class Sukhoi test pilot.

There have been multiple other accidents of not just Light Sport Aircraft but also fully certified aircraft resulting in fatalities that CASA have not treated the same as the Bristell aircraft.

The Brumby Light Sport Aircraft - Manufactured in Australia and certified to ASTM 2245. Our recent research revealed that at least two Brumby accidents have occurred resulting in four fatalities. One of these accidents appeared to be a loss of control accident. To date CASA has not taken any action against the Brumby aircraft type. This accident at Lancefield Victoria occurred with high hour very experienced instructor and student. The Brumby certainly has had no Safety Notice and no Operating Limitations imposed on it. And neither should it necessarily as accidents happen and the majority of cases it is proven to be piloting error.

DA40 Diamond fully Certified Light Sport Aircraft - Manufactured overseas certified to the European requirements. This was a loss of control accident that resulted in a double fatality. No ongoing action has been taken against the DA40 Diamond. However the ATSB found that CASA had published incorrect guidance material for spin recovery and it appears to us that in fact CASA may have contributed to some accidents because of the implementation by many flying schools of this material. To attack the Bristell would certainly be a deflection from any other issue. This can be found in the relevant ATSB Accident report. **Please see included document - 'CASA Guidance Material - Flight Instructor Manual'**

Other aircraft such as the two above examples have not been subjected to questioning of their certification. This is why we have not understood the action of CASA on the Bristell Aircraft. It appears to us all reasonable arguments made by the manufacturer are ignored by CASA.

It should be noted that **no other international authority has supported the view of CASA about the Bristell aircraft**. This was despite the fact that the CASA contacted directly some of these authorities and attempted to garner support from them. Ourselves (Edge Aviation), BRM Aero and our Legal Representative found this practice unusual and appeared to us to be a desperate attempt to seek support internationally which to date CASA has not been able to achieve.

Why is CASA attacking BRM Aero, the Bristell and Australian importer and distributor?

We have always asked ourselves, why? This action of the CASA against the Bristell does not make sense, not just to us but to many owners and operators who have never experienced any issues with the Bristell aircraft.

There are several things that are concerning or at least difficult to see a way over or through.

The Facts

- Given all the evidence we have provided to CASA they appear to us to reject everything, without substantiated reason.
- I found in one of the recordings where the CASA criticizes the international ASTM standard essentially saying they are not happy with it. It is what it is and it is an accepted standard worldwide.
- It would appear from the voice recordings that they are not willing to listen to anything. They avoid answering many and most questions put to them, and just dictate what they think they want, however we are not sure what that actually is.

- The CASA claimed no knowledge initially of the spin testing at Latrobe Valley Airport conducted in December 2017 and mentioned how they are not interested in that testing. However, the CASA subsequently became interested in it enough to send it to BRM Aero via the Australian importer as the basis for asking for the compliance data from BRM Aero. We have a copy of the CASA email and attached flight test report.
- To the best of our knowledge the CASA are not treating any other Light Sport Aircraft the same as the Bristell aircraft despite many other aircraft types being involved in accidents, some more than the Bristell.
- RA-Aus legal firm confirmed that RA-Aus asked for the flight testing to be conducted at Latrobe Valley Airport. It has been indicated to us by the BRM Aero legal representative that it can be illegal to ask someone to engage in an activity that is against the law. RA-Aus asked the pilot to fly an aircraft outside the published limitations of the aircraft which would appear to us to be a breach of the regulations?
- It is unclear, however under some arrangement with CASA, RA-Aus carries out accident investigations, sends the reports to CASA but CASA will not release the accident reports even to the manufacturer of the aircraft involved, without obtaining permission from RA-Aus, this permission which is denied.

It appears to us that the CASA are being difficult and are willfully ignoring all evidence put before them that the Bristell Aircraft is compliant. Despite us requesting such, CASA have failed to produce any evidence of non compliance against the spin requirements.

We have a significant amount of evidence of other people confirming conflicts of interest and biases against the Bristell aircraft. Nothing appears to support the justification for the extreme disproportionate actions of the CASA. We are more than willing to work with the CASA to resolve any issues or misconceptions.

Our desired outcome would be for the CASA to conduct themselves professionally and communicate in an appropriate manner and treat BRM Aero as they do any other manufacturer and be fair, reasonable and honest. Our regulator should be supporting industry and if there are issues work through them, but not in the way they presently do.

In anticipation, I appreciate the opportunity to present this to the Senate Inquiry into Rural & Regional Affairs & Transport.

Yours Faithfully

Lorraine A MacGillivray
Director/Aviation Consultant
CASA Authorised Person
BRM Aero Representative

Enclosed:

- 1. CASA Guidance Material - Flight Instructor Manual**
- 2. BRM Aero Response to CASA PowerPoint Presentation Document dated 3 April 2020**
- 3. Letter of Authority BRM Aero - L MacGillivray**

ENCLOSURE 1

'CASA Guidance Material - Flight Instructor Manual'

This document is significant as it raises some serious questions. Further into the document it points out what would appear to be a significant issue of the CASA.

On the 16 October 2020, Recreational Aviation Australia issued a '**CFI and Instructor E-News**'. The second item in this E-News document addressed the Generic Student Progress (GSP) record that up until this time had been used by RAAus flight instructors. The E-News stated:

"We have made a correction to the GSP or RAAus student training records, to remove a reference to Incipient Spins during consolidation flights. Obviously, RAAus aircraft are not permitted to perform any manoeuvre other than a stall resulting in a wing drop, so this reference to incipient spin is not correct."

Clearly this correction to their GSP indicates that RAAus had, up to that point, been allowing or at the least implied RAAus instructors to carry out incipient spin training in aircraft that are **not permitted** to carry out intentional spins, incipient or otherwise.

DA40 Diamond Aircraft Accident (Report AO-2017-096)

Back in September 2017 a Diamond DA 40 aircraft was being flown on a training exercise to prepare a student for an upcoming RPL flight test. During this training exercise the aircraft entered a fully developed spin during manoeuvres consistent with advanced stall recovery training which likely included intentional incipient spins. The spin continued until the aircraft collided with terrain. The instructor, an ATPL holder with 3,233 hours flight time, and student, were fatally injured and the aircraft was destroyed. This accident was investigated by the ATSB (report AO-2017-096).

The DA40 Diamond aircraft, *whilst not approved for spins*, is nevertheless **fully certified** to JAR-23, the European equivalent to the more common certification standard FAR 23. The ATSB report did not place any blame for the accident on the aircraft or on its compliance/noncompliance to the design standard. Instead the report blames the actions of the pilots for the inability to recover from a spin. The report goes on to say:

"CASA has advised the ATSB that they have taken the following safety action:

Guidance material review

CASA is reviewing the Spins and Spirals section of the Flight Instructor Manual for correction as required."

CASA subsequently issued Advisory Circular AC 61-16 'Spin avoidance and stall recovery training' in April 2020. The AC states its purpose as:

"This AC highlights the risks associated with advanced stalling training when conducted in aircraft that are not certified for intentional spinning. It clarifies the difference between wing drop at the stall and the incipient phase of a spin and provides background for the interpretation of aircraft flight manual manoeuvre limitations with respect to spinning. It also provides guidance on acceptable methods of training and testing stalls with a wing drop and spin avoidance."

Furthermore the 1997 VFR Day Syllabus and the 2014 CASR Part 61 MOS call for 'incipient spin recovery' to be trained and tested for the issue of recreational, private and commercial pilot licences. Both RAAus and CASA were well aware that aircraft that were not approved for

spinning were being used for 'incipient spin recovery' training yet appeared to do nothing to stop the practice. *So were RAAus and CASA at least partly to blame for spin accident fatalities?*

It would appear to us, it could be argued to be the case. The ATSB report into the DA 40 accident states, and I quote from page 10 of that report:

"Incorrect guidance

While the ATSB assessed that the instructor's incipient spin recovery knowledge was consistent with established guidelines and did not contribute to the accident, the investigation identified incorrect incipient spin recovery guidance provided by CASA.

The CASA publication Flight Instructor Manual, provides the following guidance for incipient spin recovery:

RECOVERY FROM THE INCIPIENT STAGE

As soon as the aeroplane has stalled and commenced to yaw take the appropriate recovery action. Increase power, apply sufficient rudder to prevent further yaw and ease the control column forward sufficiently to un-stall the aeroplane. Point out that if power is to materially assist recovery action it must be applied before the nose of the aeroplane has pitched too far below the horizon otherwise its use will only increase the loss of height.

Increasing engine power prior to an application of sufficient rudder to prevent further yaw and applying sufficient nose-down elevator un-stall the wings as described is inconsistent with established guidelines and manufacturer guidance."

The ATSB report goes on to say:

"The United States Federal Aviation Administration Publication Airplane Flying Handbook, Chapter 4: Maintaining Aircraft Control: Upset Prevention and Recovery Training provides the following guidance, consistent with established guidelines, regarding spin recovery:

To accomplish spin recovery, always follow the manufacturer's recommended procedures. In the absence of the manufacturer's recommended spin recovery procedures and techniques, use the spin recovery procedures in the spin recovery template. If the flaps and/or retractable landing gear are extended prior to the spin, they should be retracted as soon as practicable after spin entry.

Spin recovery template:

- 1. Reduce the Power (Throttle) to Idle*
- 2. Position the Ailerons to Neutral*
- 3. Apply Full Opposite Rudder against the Rotation*
- 4. Apply Positive, Brisk, and Straight Forward Elevator (Forward of Neutral)*
- 5. Neutralize the Rudder After Spin Rotation Stops*
- 6. Apply Back Elevator Pressure to Return to Level Flight.*

The handbook also provides further guidance regarding power use during spin recovery:

*Reduce the Power (Throttle) to Idle. **Power aggravates spin characteristics.** It can result in a flatter spin attitude and usually increases the rate of rotation."*

CASA advised the ATSB that this matter would be referred to 'Safety Education' for review and correction as required. Presumably, this led to the subsequent issue of the CASA AC 61-16 in April 2020 as mentioned above. Now RAAus has issued their safety advice concerning spin training. This seems to reinforce the fact that both RAAus and CASA have been negligent in their approach to 'incipient spin recovery' training in the past.

The questions that should be raised are:

Given Mr Carmody DAS stated in a conference at the RAAA on the Gold Coast late 2019 as stated in Australian Flying published the 1 November 2019:

Civil Aviation Safety Authority CEO Shane Carmody has linked an attitude towards the regulator with serious accidents and incidents.

Mr Carmody went on to say *"Some of my own research is starting to indicate to me that it is often those who work hardest at pushing back against the regulator, are often the same ones who end up having serious accidents or incidents in flight". He said.*

"...It seems to me that they can't see past their own narrow self interest to realise the overall importance of safety and safety regulation. When you look at some recent tragic accidents, as I do, I think my concerns are well founded."

If the CASA were focussed in our opinion on safety and not just the constant persecution of industry participants, then Mr Carmody might be able to see the cultural issue within the CASA in that it is the CASA who can't see past their own narrow self interest to realise the overall importance of safety and safety regulation.

Questions to be asked:

- Why was the Director of Aviation Safety not aware of this incorrect guidance material, given this happened under his management?
- Did the guidance material contained in the CASA Flight Instructor Manual in any way contribute to any of the stall/spin accidents?
- Why did it take so long for CASA and RA-Aus to correct the errors? Recovery technique for spinning was established back in 1917 as stated in the CASA Part 61-16 document of June 2020.
- Should an enquiry into a number of these accidents be initiated to determine in fact if CASA and RA-Aus contributed to these accidents in any way as a result of incorrect guidance material?
- Did any RA-Aus Flight Schools believe from the GSP Record that insipient spin training was permitted in aircraft not approved for spinning due to the CASA Flight Instructor Manual?
- Given stall/spin accidents have occurred in numerous aircraft types both fully certified and self-certified, are CASA and RA-Aus attacking aircraft in particular, the Bristell as a means to deflect an issue away from themselves and incorrect training documents?
- Does this mean that the CASA are indirectly responsible for fatalities or serious injury associated with unexplained stall/spin accidents?
- Is the Bristell being used as a deflection away from the real issues?
- Is this same guidance material responsible for two unexplained fatalities in the Lancefield, Victoria Brumby aircraft accident in 2016? No accident report available from any source of which we are aware.
- Is this same guidance material responsible for two unexplained fatalities in the Queensland DA40 Diamond aircraft accident in 2018?
- How many other accidents could be attributed to this incorrect guidance material?
- Why is there so much conflicting information being given related to the provision of accident report?

I would strongly suggest that other accidents could be considered.

The CASA need to step up and answer these questions.

Note: *Despite numerous aircraft types being involved in 'spinning' accidents over the years only the Bristell appears to have been singled out to 'prove itself'. CASA has imposed operating limitations on the Bristell even though both Bristell accidents that have occurred in Australia were indisputably not the result of a faulty aircraft, only one fatality, NOT a 'spin recovery design' issue as CASA have claimed.*



BRM AERO s.r.o. - aircraft development and manufacturing

BRM AERO Response to CASA PowerPoint Document dated 3 April 2020

1 NG 4 – Basis for manufacturer declaration and lack of current records

Particular Reference: CASA Form 681 Declaration NG 4, Rego 24-7727, Serial № 001/2010

History

BRM AERO finished NG 4 Serial № 001/2010 purchased by [redacted] from Slovak Republic. When he placed the order, I [redacted] left ROKO AERO a month later because my partner in ROKO AERO stole money from the company account for his own use. [redacted] became sales director in ROKO AERO to be able to control production of his aircraft when I was no more involved in the production. He offered to ROKO AERO, that his aircraft can be displayed at AERO Friedrichshafen 2010. ROKO AERO wasn't able to assemble and test fly that aircraft in time, so [redacted] as their sales manager did negotiate with BRM AERO, that BRM AERO will paint that aircraft, will install avionics on it and engine and will test fly that aircraft to be ready for the exhibition. That happened in time and the aircraft was exhibited. That customer [redacted] subsequently sold the aircraft to Aerosport Aviation in Australia. Aerosport Aviation communicated with the Australian RAA about the possibility of importing the aircraft to Australia and got several conflicting detailed instructions from the RAA about how to do that. One of the documents to be filled in and signed by it's manufacturer was CASA Form 681. Aerosport Aviation sent me that CASA Form 681 and asked me to fill it in and sign it, so they could import the aircraft into Australia. This was my first contact with CASA Form 681, so I simply filled it in as requested, signed it, and sent to back to Aerosport Aviation in Australia as instructed by RAA.

As BRM AERO actually finished the aircraft, I signed the CASA Form 681 in good faith as the manufacturer. The LAA CR Production Certificate № 01/2008 stated that the aircraft complied with both CS-VLA and ASTM F-2245 so I had no reason to believe otherwise. ROKO AERO was that time already in bankruptcy, so there wasn't any chance to get any documents from them.

Certification/Acceptance

The ROKO AERO NG 4 LSA model has been issued with RA-Aus Type Acceptance № RA-Aus 2009/16. This document states that the ROKO AERO NG 4 LSA has been accepted on the basis of:

- LAA CR Production Certificate № 01/2008, &
- CS-VLA and ASTM F-2245.

Current Situation

As explained above around the time Serial № 001/2010 was completed ROKO AERO went bankrupt and closed down, and a new company, ROKO SPOL took over and commenced operations under new management. At that time ROKO SPOL acquired all the technical documentation including production documentation and test reports relating to the NG 4 model so consequently BRM AERO does not have any access to the ROKO AERO documentation, I don't even know if it exists anymore.

BRM AERO is therefore unable to provide any data related to spin testing of the NG 4 model.



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CASA holds significant doubt regarding the NG 5 Fixed Long Wing Testing claimed to have taken place in Aug 2011

Particular References: *CASA Form 681 Declaration, NG 5 Rego 24-7916, Serial № 003/2011*

1. An unexplained delay in providing the spin report to CASA (May 18 – Feb 19)
2. The “2011” report refers to standards that were not published until 2014 (-14)
3. Appears to be manipulation of image pixels of the aircraft registration in the report
4. Original report purports to CASA that 180/176 spins took place in Serial № 002/2011
5. Conflicting information now provided in the “January 2020 updated report”
6. This new report now states that 152/152 took place for that spin testing Serial № 002/2011

BRM AERO Responses

1. In the year 2011 BRM AERO was a start up company and didn't have any office workers at all, I was running whole business in one person. That included communication with new customers, purchase of all raw materials, hardware, avionics, engines, all other accessories, and paint. Move finished, disassembled aircraft on the airport for test flying, disassemble them after that, move them back in the old production facility in the middle of the town, arrange all paperwork for each aircraft as the protocols, manuals, expedition documents, custom and loading the aircraft on the trucks or in the containers. For that reason my time was very limited. That's why we have made the spin testing in Russia and once we knew the spin characteristics and that the aircraft match the requirements, we did leave the records from that spin testing in hand written, Russian language format. To transform all that data in the computer and translate them was not a small task and with my time schedule, I wasn't able to do it any quicker. Also I needed to consult plenty times the results with Russian test pilot, to be sure, that the written text and the formulations are correct and corresponds with his results.
2. Whilst the spin testing that was documented in the 2011 report had been completed in August 2011, the formal report was not finalised at that stage due to other work commitments. The testing proved that compliance with ASTM 2245-10 had been demonstrated hence CASA form 681 for Serial № 003/2011 was signed. Although referring 2011 testing, the formal report was not actually completed until 2014 hence in several places incorrect reference to ASTM 2245-14 was made. The cover page correctly references ASTM 2245-10c.
3. The registration OK - OUU48 is one of a series of special temporary registrations created by the Czech LAA at the request of the manufacturers of UL aircraft according to Czech LAA rules. It is the manufacturer's registration for test flying of new aircraft and ferry flights to customers around Europe before the aircraft are registered in the destination country. The photograph in the spin test report is the first photo taken of the first aircraft for the first advertising brochure and that is why it is “cleaned up ” in photoshop, not to fix/fudge anything for the report.
4. Simple mistake during the compilation of the report. Valid are the numbers in the full table, in the matrix table have been mistakes, because it wasn't so simple to count the number of spins in it, that's why there have been this mistakes corrected only in upgraded report.



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5. Clearly explained in point 4.
6. In the 2020 report everything was carefully checked and corrected where necessary, so the 2020 report is correct and valid.

3 NG 5 Fixed Short Wing Satisfactory evidence of ASTM 2245 4.5.9

Particular Reference: *CASA Form 681 Declaration, NG 5 Rego 24-8183, Serial № 042/2012*

1. For Serial № 042/2012
2. With 681 declaration to CASA made 15 November 2012
3. Evidence of compliance to 4.5.9 for a short wing variant for Serial № 042/2012 on 15 Nov 2012 not provided
4. Wingspan differs from 9.13m to 8.13 m

Initially spin testing of the short wing NG 5 was not carried out as our engineering evaluation determined to our satisfaction that the long wing testing would adequately cover the short wing version. This was based on the fact that the size and efficiency of tail surfaces and rudders is identical for both the long and short wing variants.

Subsequently spin testing on the short wing RG model was carried out in September 2013. It was considered that the short wing RG model was sufficiently similar to the standard short wing model that the results of the spin testing of the RG would adequately cover the standard NG 5. This testing of the short wing RG confirmed our original engineering evaluation and is presented in the 2020 spin test report.

4 NG5 TDO Long Wing Satisfactory evidence of ASTM 2245 4.5.9

Particular Reference: *CASA Form 681 Declaration, NG 5 Rego 24-8698, TDO Long Wing, Serial № 174/2016*

1. For Serial № 174/2016
2. 681 declaration to CASA made 18 January 2016
3. Evidence of compliance to 4.5.9 for a TDO long wing variant Serial № 174/2016 on 18 Jan 2016 not provided.



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Spin testing of the TDO short wing version was carried out in the spring of 2014 the results of which are presented in the 2020 spin test report. Our engineering evaluation determined that the spin testing of the short wing TDO version, combined with original 2011 spin testing of the standard long wing NG 5 version was sufficient to cover the TDO long wing version. This was based on the fact that the size and efficiency of tail surfaces and rudders is identical for both the long and short wing variants.

5 ASTM Compliance Documentation Is Generally Dated in 2017

Particular Reference: *BRM Provided info excl. ASTM 4.5.9*

1. Supporting ASTM Compliance documentation appears to all be dated in 2017 (some variation with Oct 2016)
2. ASTM Documentation prior to that date not provided.

BRM AERO Response

Initially BRM AERO only had hand written records of the spin testing in Russian language and didn't have the capacity at that time to do the translation into English and create a presentable spin test report for CASA, that's why we initially only supplied data and reports that were immediately available in English. The fact that no report covering ASTM 2245 para 4.5.9 was supplied to CASA initially didn't mean that the required tests had not been done, they had been, it is just that the documents related to them were not provided at that time, as they were not in a presentable form that time as explained in answer to point 2.1. They have been now of course.

For a better understanding of the history of BRM AERO, our certification engineer, was only hired by BRM AERO in August 2015. His role was to take this part of the work from me, because with the increased number of aircraft produced and sold I was much busier running the company and had less time available to work on the documentation. The company grew dramatically during years 2014 – 2016, from 37 produced and sold aircraft in year 2014, 51 aircraft in 2015, 70 aircraft in 2016 and 80 aircraft in 2018. Meantime we built new hangars. You can imagine how busy I was, working daily 12 and more hours including weekends, no holidays at all. In the second half of 2016 I found and hired to run the sales department abling me to start work on new projects. Initially BRM AERO didn't have any certification team, it was only me until middle of 2015, and since August 2015 it has been and partially me. In 2018 we hired new guy to run our test department. We are small family company with 80 workers.



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6 BRM - Written commitment to CASA 23 January 2019

Particular Reference: *20/176 Spins, NG 5 Fixed Short wing, Serial № 156/2015*

1. BRM Aero stated spin testing could take place as per FAA AC 23-8C
2. BRM Aero provided CASA with the planned spin matrix
3. On that basis CASA accepted solution and delays
4. BRM concluded the testing with 20 spins not 176 advised to CASA

BRM AERO Response

The circumstances relating to this issue have been previously provided to CASA in our letter dated 5.10.2019.

Simple reason - we had expected much better summer weather conditions in Russia than turned out to be the case, and much better availability of the nominated test pilot. In reality the weather was unsuitable for test flying for an extended period of time. As a result of the weather, and availability, we were only able to get a small window of opportunity, so we were only able to complete 20 spins at that time. We have previously provided the data related to these spins to CASA with the offer to add more cases if needed, CASA has never commented our offer.

Incidentally the videos and the 2020 report that included the 2019 spin testing have now been presented to from Aircraft Design Certification GmbH (EASA.21J.411) in Germany, and he indicated to me that on the basis of such data and videos EASA would most likely accept the spin characteristics of the aircraft as showing compliance with ASTM 2245 para 4.5.9.

What is also important, is that the 2019 testing confirmed, in full, the test results from the spin testing previously carried out during the period 2011 – 2017 that is now included in the 2020 report.

7 BRM – 2017 Compliance Statement Identified Insufficient explanation provided by BRM Aero

Particular References:

1. A statement identified that stated “spin testing had not been performed”
2. BRM Aero response provides an insufficient and unusual explanation
3. Why with-held from June 2018 material

BRM AERO Response

This statement was originally created in relation to Israelan certification where BRISTELL RG was to be certified according to BCAR-S, rather than in accordance with ASTM standards. BCAR-S certification doesn't have anything to do with the self declaration system used on ASTM, that's why for such as



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BCAR-S certification detailed reports from all tests including videos and full measurements of all deflections and engine power settings are required. Because at that stage we didn't have translated data or detailed reports from our Russian test flying, we negotiated an alternative approach which was accepted by the Israeli authority as an alternative method of compliance, mandatory installation of a ballistic parachute rescue system like on Cirrus aircraft. This enabled us to get TC according to BCAR-S.

The statement „The spin testing of Bristell aeroplane has not been performed from the above explained reasons“ in our letter dated 6.3.2017 was intended to refer to the situation with the BCAR-S certification at that time. Extensive spin testing to demonstrate compliance with ASTM 2245 para 4.5.9 had been carried out in August 2011 and this was subsequently documented in the original spin test report dated 26.8.2011 as originally supplied to CASA.

When I re-read my letter dated 6.3.2017 today, without any time rush, I see that the formulation isn't good and what is most important, it isn't exactly true, because full spin testing required by ASTM 2245 para 4.5.9 had been done back in 2011, so I wouldn't sign such a statement today. , my certification engineer, wrote the letter and gave it to me to sign. My mistake at that time was that I did not enough concentrated to read that letter carefully several time to understand, what does it really says. I didn't concentrate on this letter enough, when gave it to me for the signature, I later realised, that he was speaking about Czech UL 2 and German LTF-UL rules, that's why I did understand, that he compares ASTM and UL 2 and German UL rules. Under the German LTF-UL and the Czech UL 2 rules the aircraft was not required to be spin tested and that's why I mistakenly signed this letter in 2017.



BRM – Minimum Useful Load Non-Compliant ASTM Declarations

Particular References:

1. May 2019
2. 3 x BRM Aero aircraft were identified as non-compliant with an ASTM standard 2245 para 4.2
3. Show cause notices were issued by CASA.

BRM AERO Response

It is acknowledged that all three of these aircraft were slightly over the maximum empty weight when delivered to Australia – our error.

The three aircraft involved were:

1. Serial № 353/2018 – Empty weight was 402.8 kg
This aircraft has now been retro-fitted with a lighter battery and lighter (textile instead of leather) seat cushions. These modifications have reduced the empty weight to 395.3 kg which is below the maximum empty weight limit of 396 kg for a Rotax 915 iS powered



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aircraft. This aircraft is now fully compliant with ASTM 2245 para 4.2 and the weight and balance records have been updated to reflect this.

2. Serial № 375/2019 – Empty weight 411.0 kg
This aircraft is currently subject to a legal process unrelated to CASA and it's immediate fate is unknown.
3. Serial № 370/2019 – Empty weight 418.0 kg
This aircraft was returned to the Czech Republic. It was never registered in Australia and it never received an Australian certificate of airworthiness. It never flew in Australia.

Explanation

The average empty weight of the Bristell S-LSA aircraft when fitted with the Rotax 915 iS engine is around 385 kg, well under the maximum empty weight limit of 396 kg. However in the case of the three aircraft highlighted by CASA, the individual customers chose an excessive amount of optional equipment, including a MT constant speed propeller. All three customers were warned that the aircraft would end up being heavy, but they didn't care as they all thought that as long as they stayed within the MTOW of 600 kg there would be no problem.

We have now corrected the optional equipment installation weights in our purchase order form so customers can more clearly see the expected empty weight when they choose their options. The customer must choose options more carefully in order to stay within the empty weight limit, and we now emphasise that and will not accept an order that would make the aircraft non-compliant.

Now that the maximum empty weight issue has been highlighted to us BRM AERO can assure CASA that no more overweight aircraft will be produced.

Incidentally, to my knowledge, no LSA aircraft in the world that has a Rotax 915 iS engine installed would be lighter than a BRISTELL. Also it is important to highlight, that these three aircraft were the first production installations of Rotax 915 iS on BRISTELL aircraft.

ASTM Compliance & ASTM 4.5.9

Question 1

- S/N 001/2010

As explained in the answer to ①, I signed the CASA Form 681 in good faith as the manufacturer at the time. This was based on the fact that the LAA CR Production Certificate № 01/2008 stated that the aircraft complied with both CS-VLA and ASTM F-2245 so I had no reason to believe otherwise. BRM AERO no longer has any access to the ROKO AERO documentation so we are unable to provide documentary evidence relating to the spin testing of the ROKO AERO NG 4 model.



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- S/N 003/2011

The 2011 spin test report covered spin testing that was carried out in August 2011 and was carried out on long wing NG 5 version S/N 002/2011. The aircraft was found compliant with ASTM 2245 para 4.5.9 at that time. Form 681 for S/N 003/2011 was signed in September 2011 therefore the aircraft had been demonstrated to be compliant with ASTM 2245 para 4.5.9 at that time.

- S/N 042/2012

Initially spin testing of the short wing NG 5 was not carried out as our engineering evaluation determined to our satisfaction that the long wing testing would adequately cover the short wing version. Subsequently spin testing on the short wing RG model was carried out in September 2013. It was considered that the short wing RG model was sufficiently similar to the standard short wing model that the results of the spin testing of the RG would adequately cover the standard NG 5. This testing of the short wing RG confirmed our original engineering evaluation and is presented in the 2020 spin test report.

- S/N 174/2016

Spin testing of the TDO short wing version was carried out in the spring of 2014 the results of which are presented in the 2020 spin test report. Our engineering evaluation determined that the spin testing of the short wing TDO version, combined with original 2011 spin testing of the standard long wing NG 5 version was sufficient to cover the TDO long wing version.

Question 2

- S/N 001/2010

As previously explained no documentary evidence relating to this aircraft can be provided by BRM AERO. Nevertheless the LAA CR Production Certificate № 01/2008 stated that the aircraft complied with both CS-VLA and ASTM F-2245. Furthermore the NG 4 is aerodynamically virtually identical to the NG 5 so spin testing carried out on the corresponding NG 5 model could, by similarity, be considered to be applicable to the NG 4.

- Serial Numbers: 003/2011, 042/2012 & 174/2016

All of these aircraft are deemed to be compliant with ASTM 2245 para 4.5.9 by way of the BRM AERO spin test report dated 22.02.2020 and the explanations provided in this response.





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To Whom It May Concern

Kunovice 17.4.2020

LETTER OF AUTHORITY

BRM AERO, Ltd. , the manufacturer of the BRISTELL Light Sport Aircraft hereby authorizes Mrs. Lorraine MacGillivray of Edge Aviation to act on behalf of BRM AERO at meetings or for discussions regarding the Civil Aviation Safety Authority (CASA) and Recreational Aviation Australia (RAAus) in matters regarding the Bristell Light Sport Aircraft.

