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### **Operational Limitations on Jabiru Powered Aircraft CASA 292/12**

7 months of Limitations of Jabiru powered aircraft has had a devastating effect on the Jabiru Aircraft company and its associates throughout the world. The viability of Jabiru Aircraft Pty Ltd has been severely threatened and may not be recoverable if the current limitations are continued. The damage inflicted by the CASA publicity of the Limitations and the "Acknowledgement and Acceptance of Risk -Potential Engine Malfunction during Flight Time" waiver will be near impossible to be reversed. Publicity of any incident since, involving a Jabiru aircraft has referenced the CASA imposed Limitations and reinforced the CASA message. The harm that is being done is immeasurable and we call for it to be brought to an end now. Statistics and data attached to this letter support this call.

Over the past 7 months Jabiru has given CASA an insight into the depth of engineering knowledge and research and development that goes on behind the scenes on a day to day basis at Jabiru. Jabiru has also provided all the engineering documents that were used for the last certifications of modifications through the CASA authorised person Alan Kerr; engine reports for ASTM compliance; reports for engines achieving 1000 hours and numerous tear down reports of engines from reported incidents.

Jabiru has complied with the standards of certification approved by CASA and continues to monitor airworthiness issues for Jabiru aircraft and engines and issue the appropriate service notifications. Already this year there has been a significant decrease in Jabiru engine incidents. It would appear the incident rate is now equal to or less than the Rotax incidents by which we were judged last year and were given as the justification of the operational limitations.

Jabiru recognises that education on operational and maintenance issues is very important and has directed significantly more resources to workshops each month focusing on maintenance and operation. Assistance by CASA and RAA would be appreciated in this area as well as in recovering more evidence from incidences to allow complete investigation.

Jabiru calls for all restrictions to Jabiru powered aircraft be lifted for aircraft that have complied with all the Jabiru service bulletins and letters, operate the aircraft in accordance

with the manuals, have performed the maintenance in accordance with the manuals and use trained technicians and where the aircraft do not have unapproved modifications.

Only for those owners and operators of Jabiru powered aircraft that do not wish to comply with the Jabiru requirements, do we support the limitations remaining in place until compliance occurs with all Jabiru service bulletins, letters, manuals and conditions of operation. We object to the present form of 'waiver' in any event as we regard it as blatantly misleading of the public.

For Jabiru powered aircraft in the Experimental categories of RAA and SAAA, those organisations are able to assess the risk of owner modifications and apply limitations if required. Jabiru may be able to assist if technical information is required.

Jabiru Aircraft acknowledges CASA's primary safety related obligations however the overwhelming body of evidence shows Jabiru Aircraft to be one of the safest aircraft in this category of aircraft on the Australian register based on statistics. Student pilots, passengers and persons on the ground are at no greater risk of injury from a Jabiru Aircraft than any other aircraft. It could be argued from the statistics that in fact there is less chance of risk to these persons in a Jabiru Aircraft.

Regards



Susan Woods

Business Manager

Jabiru Aircraft Pty Ltd



Rodney Stiff

Managing Director

Jabiru Aircraft Pty Ltd

## Accident & Incident Summaries Year 2013

(published on RAA website [www.raa.asn.au](http://www.raa.asn.au) 19 Jun 2015)

Fatality Jabiru Aircraft	0
Fatality Other Manufacturers	13 ( 2 dual, 9 single)
Jabiru Engine Occurrences	7
Other Manufacturer Engine Occurrences	11 (Rotax 10 )

## Accident & Incident Summaries Year 2014

(published on RAA website [www.raa.asn.au](http://www.raa.asn.au)) 19 Jun 2015

Fatality Jabiru Aircraft	0
Fatality Other Manufacturers	8 (2 dual, 4 single)
Jabiru Engine Occurrences	25
Other Manufacturer Engine Occurrences	19 (Rotax 16)

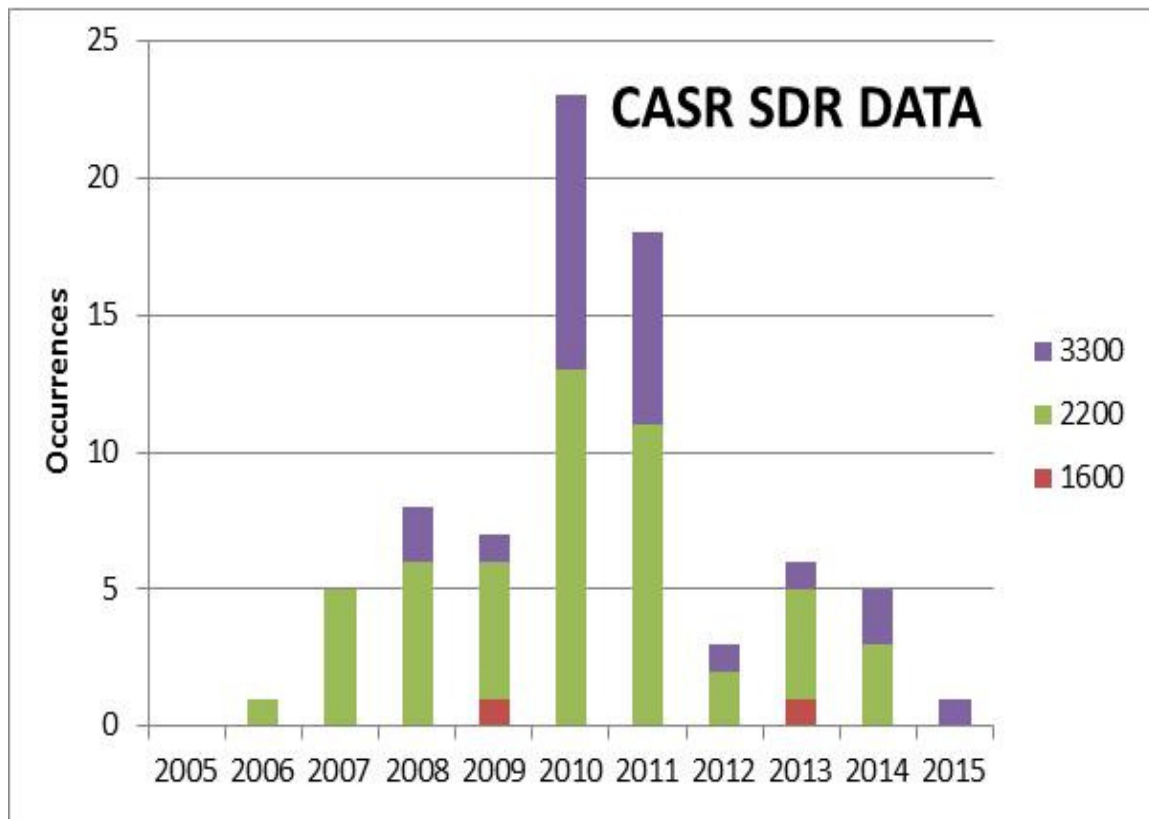
## Accident & Incident Summaries January 2015

(published on RAA website [www.raa.asn.au](http://www.raa.asn.au)) 19 Jun 2015

Fatality Jabiru Aircraft	0
Fatality Other Manufacturers	3 (1 dual, 1 single)
Jabiru Engine Occurrences	3
Other Manufacturer Engine Occurrences	6 (Rotax 5)

- Note Gympie fatality in Jabiru Aircraft in April 2015 from collision with terrain not shown on RAA website.

\*\* Note Stradbroke Island fatality in Light Wing in May 2015 not shown on RAA website



### RAA Data plus CARS SDR Data.

Jabiru Engine Occurrences 2013	13
Jabiru Engine Occurrences 2014	30
*Jabiru Engine Occurrences January 2015 - June 2015	4

- Note 2 possible Jabiru engine issues not shown on the RAA website for this period

## Jabiru aircraft exceed structural requirements giving occupants a greater degree of safety.

### Ultimate Factors for Structural Design (Reserve x Limit Load)

Cessna 172	5.7
Jabiru J230	10.26
Jabiru J160	9.7
Jabiru J170	8.8
ASTM requirement	5.7

Following is a table comparing numbers of fatalities for aircraft manufactures. Figures for current registration of RAA aircraft are held by RAA and may be available to complete the table giving a comparison across the RAA fleet. It is acknowledged that most Light Sport aircraft fatalities are attributed to pilot error or human factors however a strong structural design can save lives.

## Comparison of Aircraft Manufacturer vs Number of Fatalities over 12 years

Total ATSB Website Database which starts at 2003 (as at 19 June 2015)

Manufacturer/ Model	Fatalities	Fatal incidents	Currently registered aircraft	Fatalities per 100 currently registered aircraft
Jabiru Aircraft ( 70 VH-reg)	3	3	1,070	0.3
Cessna 172	19	11	1092	1.7
VANS RV	11	7	504	2.2
<b>RAA aircraft not incl Jabiru</b>	<b>77</b>	<b>70</b>	<b>2280</b>	<b>3.4</b>
Airbourne trikes	16	12		
Paragliders (various)	6	6		

Aeropro Eurofox	1	1
Aerosport Aeropup	1	1
Alpi Pioneer	1	2
Austflight U.L.A./Maxair Drifter/503	4	4
Avid Flyer	1	1
Bushby Mustang	1	1
Czech Sports Cruiser	2	2
EDRA Super Petrel	2	2
Europa	1	1
Evektor Sportstar	1	1
Facet Sapphire	1	1
Glasair II	2	2
Howard Hughes Engineering	3	3
ICP Savannah	2	2
John Taylor JT1	1	1
Micro Aviation NZ Bantam	1	1
Murphy Maverick	1	1
Pilatius	1	1
Pipistrel Spider	2	1
RAND	1	1
RIHN	1	1
Skyfox	4	3
Spectrum Fisher Mk1	1	1
Storch	2	2
Storm	1	1
Super Diamond	1	1
Tecnam	3	2
TL Ultralight Sting	3	2
X-Air Hanuman	1	1
Zenith	2	2
Unknown	6	6

## **Limitations of the data (disclaimer from ATSB website)**

The data quality and consistency is largely dependent on the details reported to the ATSB. The information in the majority of non-investigated occurrence reports is not subject to verification.

## **Risk to persons on the ground from a Jabiru powered LSA aircraft**

A Light Sport Aircraft Jabiru powered aircraft has a maximum weight of 600 kg including 2 occupants and fuel.

An average motor vehicle including occupants and fuel weighs 1,800 kg. (Note: 3 times as heavy.)

Therefore, the destructive force of the impact from a Jabiru powered LSA is **one third** of the destructive force of an average motor vehicle travelling at the same speed. A Light Sports Aircraft can land **without power** at a speed of 45 kts (80 km/hr)

This is an inherent safety feature of the Jabiru powered LSA aircraft.

Jabiru Aircraft also have very good handling characteristics in a glide and are not uncontrollable.

The ATSB statistics for 2008 & 2009 show an average of 200 pedestrian fatalities per year.

A person being struck by a Jabiru powered aircraft causing injury is an extremely remote risk and does **not warrant imposing limitations on the aircraft to protect persons on the ground.**

[https://www.infrastructure.gov.au/roads/safety/publications/2009/pdf/rsr\\_04.pdf](https://www.infrastructure.gov.au/roads/safety/publications/2009/pdf/rsr_04.pdf)

## **DOCUMENT RETRIEVAL INFORMATION**

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ROAD DEATHS AUSTRALIA : 2008 STATISTICAL SUMMARY

**Prepared and published by Reference No.**

Road Safety May 2009/INFRA-08485

Infrastructure and Surface Transport Policy

Department of Infrastructure, Transport, Regional

Development and Local Government

Table 1 Deaths by State/Territory and road user group – 2007, 2008 and five year trend

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
<b>Drivers</b>									
2008	214	140	141	46	106	20	24	3	694
2007	215	173	171	60	113	21	23	8	784
% change 2007-2008	-0.5	-19.1	-17.5	-23.3	-6.2	-4.8	4.3	-62.5	-11.5
Ave change 2003-2008 <sup>a</sup>	-1.9	-2.2	1.3	-10.0	5.9	-2.3	5.5	-0.9	-0.9
<b>Passengers</b>									
2008	67	52	78	23	44	11	24	4	303
2007	77	67	64	36	61	11	19	2	337
% change 2007-2008	-13.0	-22.4	21.9	-36.1	-27.9	0.0	26.3	100.0	-10.1
Ave change 2003-2008 <sup>a</sup>	-13.2	-8.0	0.5	-7.2	1.9	4.3	8.6	-	-5.2
<b>Pedestrians</b>									
2008	52	59	30	12	19	1	17	3	193
2007	68	41	42	15	20	4	13	1	204
% change 2007-2008	-23.5	43.9	-28.6	-20.0	-5.0	-75.0	30.8	200.0	-5.4
Ave change 2003-2008 <sup>a</sup>	-10.6	4.2	-4.8	-1.4	-0.4	-13.5	16.8	-2.7	-3.2
<b>Motorcyclists<sup>b</sup></b>									
2008	55	43	72	17	36	8	10	4	245
2007	61	45	73	8	37	7	3	3	237
% change 2007-2008	-9.8	-4.4	-1.4	112.5	-2.7	14.3	233.3	33.3	3.4
Ave change 2003-2008 <sup>a</sup>	-0.5	3.1	11.6	-3.9	12.7	-5.4	-	22.7	5.7
<b>Cyclists</b>									
2008	8	9	6	1	3	0	0	0	27
2007	14	6	10	5	4	2	0	0	41
Ave change 2003-2008 <sup>a</sup>	-4.5	10.6	0.4	-16.3	18.2	-	-	-	0.0
<b>All road users<sup>c</sup></b>									
2008	397	303	327	99	209	40	75	14	1,464
2007	435	332	360	124	235	45	58	14	1,603
% change 2007-2008	-8.7	-8.7	-9.2	-20.2	-11.1	-11.1	29.3	0.0	-8.7
Ave change 2003-2008 <sup>a</sup>	-5.6	-1.6	2.1	-7.9	5.3	-2.3	9.2	5.4	-1.4

a Average annual percentage change based on the exponential trend for the last five 12-month periods.

b Includes pillion passengers.

c Includes deaths of unstated road user group.