Australian Government

Civil Aviation Safety Authority

Type Certificate

Number: VA503

Pursuant to regulation 21.013A of the Civil Aviation Safety Regulations 1998, this Type Certificate is issued to GA8 Airvan Pty Ltd in respect of the GA8 and GA8-TC 320 aircraft.

This certificate is valid until it is suspended or cancelled by the Civil Aviation Safety Authority. The basis of certification is as described in type certificate data sheet number VA503.

Date of Application: 28 April 1993

Date of Issuance: 10 October 2000
Model GA8-TC 320 approved 9 February 2009

CIVIL AVIATION SAFETY AUTHORITY AUSTRALIA

Dinh Nguyen
Delegate of the Authority

Safe Skies for All

No	VA503
Revision	28
Aircraft	GippsAero GA8 GA8-TC 320
Date	1 September 2023

TYPE CERTIFICATE DATA SHEET

This data sheet, which is part of Type Certificate No. VA503, lists the conditions and operational limitations under which the subject aircraft meets the airworthiness requirements of the Civil Aviation Safety Authority.

Certificate Holder

GA8 Airvan Pty Ltd
ACN 119 523 830
C/- GippsAero Pty Ltd
Latrobe Regional Airport, Airfield Road
Traralgon, Victoria, Australia 3844

I Model GA8

Approved in Normal Category 10 October 2000
Approved in Restricted Category 9 April 2019

Engine

Textron Lycoming IO-540-K1A5
FAA TC No.: 1E4

Engine Limits

Take Off: 2500 rpm and full throttle (275 hp), or
2700 rpm and full throttle (300 hp) – max 2 minutes
(See Note 5)

Maximum Continuous: 2500 rpm and full throttle (275 hp)

Propeller

Hartzell HC-C2YR-1BF/F8475R two blade, constant speed
FAA TC No. P-920

Diameter: not over 2134 mm
not under 1981 mm

Minimum Blade Angle: 12 ± 0.2 degrees

or

Hartzell HC-C3YR-1RF/F8068 three blade, constant speed
(See Note 8)
FAA TC No.: P25EA
Diameter: not over 2083 mm
not under 1981 mm
Minimum Blade Angle: 12.8 ± 0.2 degrees

Serial Numbers Eligible

GA8-00-004 and subsequent. See Note 9.

AUSTRALIAN GOVERNMENT 1/09/2023 CIVIL AVIATION SAFETY AUTHORITY
Delegate of the Authority

II Model GA8-TC 320

Approved in Normal Category 9 February 2009
Approved in Restricted Category 9 April 2019

Engine	Textron Lycoming TIO-540-AH1A	
	FAA TC No.:	E14EA
Engine Limits	Normal Take Off	2500 rpm and 38 in Hg MAP (300 HP)
	Alternate Take Off	2500 rpm and 40 in Hg MAP below 5000' Pressure Altitude (See Note 7).
	Maximum Continuous	2500 rpm at 38 in Hg (300 hp)
Propeller	Hartzell HC-C3YR-1RF/F8068 three blade, constant speed	
	FAA TC No.:	P25EA
	Diameter	not over 2083 mm
		not under 1981 mm
	Minimum Blade Angle	14.5±0.2 degrees
Serial Numbers Eligible	GA8-TC 320-09-120, GA8-TC 320-08-130 and subsequent.	

Data Pertinent to All Models

Fuel	100LL or 100/130 aviation gasoline	
Airspeed Limits	For aircraft incorporating Part A of SB-GA8-2011-65 or SB-GA8-2011-66:	
	Never exceed V_{NE}	190 KIAS
	Max structural cruise V_{NO}	147 KIAS
	Manoeuvring V_A	121 KIAS
	Max flaps extended V_{FE}	100 KIAS
	For all other aircraft:	
	Never exceed V_{NE}	185 KIAS
	Max structural cruise V_{NO}	143 KIAS
	Manoeuvring V_A	121 KIAS
	Max flaps extended V_{FE}	97 KIAS
Centre of Gravity Limits	For aircraft incorporating Part A of SB-GA8-2011-65 or SB-GA8-2011-66:	
	Forward Limit	+1219 mm aft of datum at 1089 kg or less
		+1448 mm aft of datum at 1905 kg
	Variation is linear between 1089 kg and 1905 kg.	
	Aft Limit	+1626 mm aft of datum at all weights
	For all other aircraft:	
	Forward Limit	+1219 mm aft of datum at 1089 kg or less
		+1422 mm aft of datum at 1814 kg
	Variation is linear between 1089 kg and 1814 kg.	
	Aft Limit	+1626 mm aft of datum at all weights
Datum	Fuselage firewall frame jacking points at fuselage station 0 (Stated arms are +ve aft; and -ve forward)	

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Levelling Means	Longitudinal Marks (blind rivets) on the port fuselage wall Lateral Level across cockpit seat rails			
Maximum Weights	For aircraft incorporating Part A of SB-GA8-2011-65 or SB-GA8-2011-66:			
	Take-off	1905 kg		
	Landing	1814 kg		
	For aircraft incorporating Part A and B of SB-GA8-2011-65 or SB-GA8-2011-66:			
	Take-off	1905 kg		
	Landing	1860 kg		
	For all other aircraft:			
	Take-off	1814 kg		
	Landing	1814 kg		
No. of Seats	For Normal Category aircraft:			
	Eight	Row 1 (Pilot row)	at + 965 mm	
		Row 2	+1772 mm	
		Row 3	+2523 mm	
		Row 4	+3247 mm	
	For Restricted Category aircraft:			
	Two	Row 1 (pilot row)	at + 965 mm	
Maximum Baggage Aft Luggage	Baggage Shelf	113kg	at +3763 mm	
	Bin	22kg	at +4623 mm	
Fuel Capacity	Main wing tanks	two (one tank in each wing)		
	Total each tank	170 litres	at +1715 mm	
	Useable each tank	166 litres	at +1715 mm	
	Unusable each tank	4 litres	at +1829 mm	
	Sump tank	9 litres	at +705 mm	
	Sump tank capacity is designated unusable fuel.			
Oil Capacity	Total	11.4 litres	at -540 mm	
	Unusable	2.6 litres	at -540 mm	
Control Surface Deflections	Horizontal Stabiliser leading edge		Up	2.0° ± 0.5°
			Down	5.0° ± 0.5°
	- measured between the mid-section line of the stabiliser and the horizontal reference			
	Elevator trailing edge		Up	15.0° ± 0.5°
			Down	19.0° ± 0.5°
	- measured between the mid-section line of the elevator and the mid-section line of the horizontal stabiliser, with the stabiliser in the full leading edge down position			
	Aileron trailing edge		Up	17.0° ± 0.5°
			Down	16.0° ± 0.5°
	- measured between the under-surface of the aileron and the rear under-surface of the wing main plane			

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Rudder trailing edge	L & R	21.0° ± 0.5°
Wing flaps	Retracted	0°± 1°
	Take-off	14.0° ± 1°
	Landing	38.0° ± 1°

All measurements refer to hinge line rotation.

Type Design Data

For Model GA8 aircraft, serial numbers GA8-00-004 through GA8-03-025:

(i) Engineering Release GA8-970001 Issue 5;
(ii) Master Drawing GA8-010001 Issue 2, GA8 General Assembly;
(iii) Pilot's Operating Handbook and Approved Flight Manual, document C01-01-01, dated 10 September 2001; or for aircraft incorporating SB-A8-2005-10, document C01-01-06, dated 8 August 2005 (see Note 5), and
(iv) Service Manual document C01-00-01, Chapter 4 Airworthiness Limitations, dated 26 November 2001.

For Model GA8 aircraft, serial numbers GA8-03-026 and subsequent:

(i) Engineering Release GA8-970002 Issue 1;
(ii) Master Drawing GA8-010001 Issue 3, GA8 General Assembly;
(iii) Pilot's Operating Handbook and Approved Flight Manual, document C01-01-03, dated 14 March 2003 or, for aircraft incorporating SB-GA8-2005-10, document C01-01-07, dated 8 August 2005, (see Note 5), and
(iv) Service Manual document C01-00-03, Chapter 4 Airworthiness Limitations, dated 14 March 2003.

For Model GA8-TC 320 aircraft:

(i) Engineering Release GA8-970004 Issue 1, GA8-TC 320 Master Data Package;
(ii) Pilot's Operating Handbook and Approved Flight Manual, document C01-01-08, dated 23 January 2009 and
(iii) Service Manual document C01-00-05, Chapter 4 Airworthiness Limitations, dated 19 December 2008.

Additional Type Design Data for IFR approved aircraft:

(i) Engineering Release GA8-970003, Issue 1
(ii) Pilot's Operating Handbook and Approved Flight Manual as above (See Notes 3 and 5)

Additional Type Design Data for Restricted Category approved aircraft:

(i) Service Bulletin SB-GA8-2018-186, Issue 4
(ii) Flight Manual Supplements, document C01-04-168, dated 27 February 2019 and document C01-04-169, dated 25 February 2019

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Certification Basis	1. Part 21 of the Civil Aviation Safety Regulations 1998, and 2. For aircraft serial numbers GA8-00-004 to GA8-03-025, Federal Aviation Regulation, Part 23 at Amendment 48 except paragraph 23.629 which is at Amendment 45. 3. For aircraft serial numbers GA8-03-026 and subsequent, Federal Aviation Regulations, Part 23 at Amendment 54. 4. For restricted category aircraft, as per the Normal Category Certification Basis except the follow requirements are deemed inappropriate: §23.21, §23.65, and for the tow hook modification only - §23.423, §23.425, §23.441, and §23.443 See Note 5 for noise certification. See Note 10 for Certification Basis of optional Garmin G500 equipment. See Note 16 for Restricted Category See Note 19 for Special Condition AEB2022-14452-01 applicable to dual Electronic Ignition System installations.
Production Basis	Production Certificate No. 053049, dated 15 August 2003, or Production Certificate No. 793691, dated 08 December 2011.
Equipment	1. The CASA approved aircraft flight manual details required equipment for kinds of operations. 2. Other equipment may be required, to meet applicable operational regulations.
Placards	The placards detailed in the applicable CASA approved aircraft Pilot's Operating Handbook and Approved Flight Manual are required to be fitted.

Notes

1. Weight and Balance.
A current weight and balance report including a list of equipment included in the certificated empty weight, an approved load data sheet and an approved loading system must be provided for each aircraft at the time of issue of a Certificate of Airworthiness.

2. Aircraft serial numbers GA8-00-004 to GA8-03-025 may have their certification standard upgraded to FAR 23 Amdt 54 by incorporating Service Bulletin SB-GA8-2003-04. Aircraft so upgraded are required to have Pilot's Operating Handbook and Approved Flight Manual, document C01-01-03, dated 14 March 2003 or, for aircraft incorporating SB-GA8-2005-10, document C01-01-07, dated 8 August 2005, (see Note 5).

3. Aircraft which are not manufactured with IFR capability may be modified to be IFR capable by complying with Service Bulletin SB-GA8-2003-08.

4. Cargo Pod Installation options GA8-255004-11, GA8-255004-15, GA8-255004-17 or GA8-255004-19 is approved when incorporated in accordance with Service Bulletin SB-GA8-2004-14.

5. Noise certification has been carried out by Airservices Australia. The certification basis for noise is as follows:

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(i) Aircraft with engine take-off limits of 2500 rpm meet ICAO Annex 16 Volume 1 Chapter 10, Third Edition, Amendment 6. These aircraft require aircraft flight manual C01-01-01 or C01-01-03 (see Type Design Data above), and
(ii) Aircraft with engine take-off limits of 2700 rpm meet Federal Aviation Regulations Part 36, Appendix G, Amendment 24. These aircraft require aircraft flight manual C01-01-06 or C01-01-07 (see Type Design Data above).
Service Bulletins SB-GA8-2005-10 and SB-GA8-2005-16 provide approved data to convert from one noise certification configuration to the other.

6. Unless otherwise stated references to approved documentation includes reference to later approved revisions.

7. The TIO-540-AH1A has an alternate take-off rating of 40.0 inHg at 2500 rpm limited to 5000 feet pressure altitude.

8. The optional Hartzell HC-C3YR-1RF/F8068 three blade propeller for the GA8 model is approved when installed by GippsAero in accordance with Engineering Release GA8-9661149 (Option 149), or when incorporated on a specific aircraft serial number in accordance with GippsAero Service Bulletin GA8-SB-2009-62.

9. When GA8-00-004 and subsequent GA8 aircraft have been modified with the turbocharged engine option, the engine, engine limits, and propeller shall be as given for the GA8-TC 320 model.

10. For serial numbers GA8-14-206 and subsequent, and GA8-TC 320-15-207 and subsequent: Garmin G500 Avionics Suite is optional equipment for the GA8 and GA8-TC 320 models, and is approved when installed by GippsAero in accordance with:
i) Engineering Release GA8-9634228 Issue 1. *Garmin G500 Core System installation* (Option 228), or,
ii) Engineering Release GA8-9634223 Issue 1. *Installation of Garmin G500 system with interface to Honeywell KFC 225 Automatic Flight Control System, installed in accordance with FAA STC SA01418WI-D* (Option 223).
The Garmin G500 Avionics Suite is compliant with FAR §23.1308 at Amendment 57.

11. Specific aircraft of model GA8-TC 320 may be converted to a model GA8 through the incorporation of GippsAero Service Bulletin SB-GA8-2014-110 Issue 2.

12. The Model GA8 and Model GA8-TC 320 are collectively referred to in manufacturer's marketing literature as the "Airvan 8". This name is strictly a marketing designation and is not part of the official model designation.

13. Alternative Dress Covers on Crew and Passenger Seats is optional for the GA8 and GA8-TC 320 models and is approved when installed by GippsAero in accordance with CAANZ STC 8/21E/18

14. Aspen EFD1000 Primary Flight Display is optional for the GA8 and GA8-TC 320 models and is approved when installed by GippsAero in accordance with:
i) Engineering Release GA8-9634150 – *Single Screen Aspen EFD1000 PFD*

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Installation, installed in accordance with FAA STC SA10822SC (Option 150), or,
ii) Engineering Release GA8-9634206 – *Integration of 2 Axis KFC 225 Automatic Flight Control System with Aspen EFD1000, installed in accordance with FAA STC SA01418WI-D and FAA STC SA10822SC* (Option 206).

15. MT-Propeller Entwicklung GmbH is optional for the GA8 and GA8-TC 320 models and is approved when installed by GippsAero in accordance with:
i) EASA STC 10043965, or,
ii) FAA STC SA03845NY.

16. The restricted category operation of the GA8 and GA8-TC 320 models is limited to Glider towing. The aircraft must comply with GippsAero Service Bulletins SB-GA8-2018-186 Parts A, B and C, and subsequent referenced technical data. The aircraft must be operated in accordance with the basic Pilot's Operating Handbook and Airplane Flight Manual, and AFM Supplements C01-04-168 and C01-04-169. An operational speed limitation of 90 KIAS applies whilst towing gliders.

17. Micro Aerodynamics Vortex Generators are optional for the GA8 and GA8-TC 320 models and is approved when installed by GippsAero in accordance with FAA STC SA02304SE.

18. For serial numbers GA8-TC 320-20-261 and subsequent, and GA8-20-262 and subsequent: Garmin G500 TXi avionics suite is optional equipment for the GA8 and GA8-TC 320 models, and is approved when installed by GippsAero in accordance with:
i) Engineering Release ER-GA8-9634271 Option 271 - Installation of Garmin GTXi 500 10" EFIS in accordance with FAA STC SA02571SE
ii) Engineering Release ER-GA8-9677272 Option 272 - G500 TXi Engine Indicator System
iii) Engineering Release ER-GA8-9623274 Option 274 - Installation of Avionics Package 51.

    Where required, the following additional options may be installed in conjunction with the Garmin G500 TXi avionics suite:
i) Engineering Release ER-GA8-9634280 Option 280 - G500 TXi Co-pilot PFD/MFD Display
ii) Engineering Release ER-GA8-9634282 Option 282 - Installation of L-3 ESI-500

19. For Model GA8 and GA8-TC 320 aircraft, serial numbers GA8-00-004 and subsequent: Incorporation of Part B of GippsAero Service Bulletin SB-GA8-2022-206 Issue 2 enables the installation of a Lycoming Electronic Ignition System (EIS) to replace the right magneto, when the EIS is fitted in accordance with Lycoming Service Instruction 1569B. Special Condition AEB2022-14452-01 is applicable to GA8 dual EIS installations.

Revision History

Revision 21 was issued to correct editorial errors and restore the Garmin G500 Avionics Option 223 to Note 10.

Revision 22 was issued to include the increased maximum landing weight of 1860

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kg for aircraft with Part B of SB-GA8-2011-65 or SB-GA8-2011-66 incorporated.

Revision 23 was issued to include the optional installation of the following STCs during production:

i. Alternative Dress Covers on Crew and Passenger Seats when installed by GippsAero in accordance with CAANZ STC 8/21E/18 (Note 13),

ii. Aspen EFD1000 Primary Flight Display when installed by GippsAero in accordance with: Engineering Release GA8-9634150 – Single Screen Aspen EFD1000 PFD Installation, in accordance with FAA STC SA10822SC (Option 150), or, Engineering Release GA8-9634206 – Integration of 2 Axis KFC 225 Automatic Flight Control System with Aspen EFD1000, in accordance with FAA STCs A01418WI-D and FAA STC SA10822SC (Option 206). (Note 14)

iii. MT-Propeller Entwicklung GmbH when installed by GippsAero in accordance with: EASA STC 10043965, or, FAA STC SA03845NY. (Note 15)

Revision 24 was issued to add restricted category for glider towing operations.

Revision 25 was issued to correct editorial inconsistencies.

Revision 26 was issued to include the optional installation of the Micro Aerodynamix Vortex Generators in accordance with FAA STC SA02304SE.

Revision 27 was issued to include the option of a Garmin G500 TXi avionics suite.

Revision 28 was issued to include the option of the Lycoming dual Electronic Ignition System.

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