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# **SPECIFIC AIRWORTHINESS SPECIFICATION**

No. EASA.SAS.IM.R.119

**for**  
Brantly B-2

For Models: B-2, B-2A, B-2B

This Specific Airworthiness Specification (SAS) is issued in accordance with Regulation (EC) 216/2008 Article 20(1)(b) and Regulation (EU) 748/2012 Part 21, paragraph 21.A.173 (b)2., for the purposes of the issue of a Restricted Certificate of Airworthiness.

This SAS replaces the EASA 'grandfathered' validation of FAA TC 2H2 of the Brantly B-2.



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**SECTION 1: Aircraft Design Definition (FAA TCDS [H2H](#))**

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

2H2  
Revision 23  
BRANTLY  
(YHO 3BR) B-2  
B-2A  
B-2B  
August 14, 2002

TYPE CERTIFICATE DATA SHEET NO. 2H2

This data sheet which is part of type certificate No. 2H2 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder  
Brantly International, Inc.  
Wilbarger County Airport  
12399 Airport Drive  
Vernon, Texas 76384

**I - Model B-2 (Military YHO 3BR), 2 PCLH (Normal Category), Approved April 27, 1959**

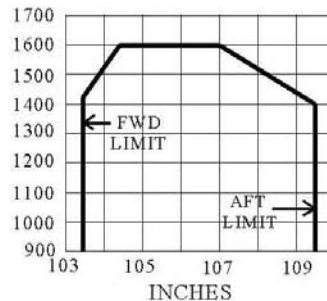
Engine	Lycoming VO-360-A1A, VO-360-A1B or VO-360-B1A	
Fuel	91/96 minimum grade aviation gasoline	
Engine limits	For all operations, 2900 r.p.m. (180 h.p.) sea level	
Carburetor and carburetor setting	Marvel Schebler MA4-5 (Setting No. 10-3634 or 10-4329) or Marvel Schebler MA4-5AA (Setting No. 10-4495)	
Rotor limits and operational engine speeds	<u>Power Off (Rotor Tach)</u>	<u>Power On (Engine Tach)</u>
	Maximum 500 r.p.m.	Maximum 2900 r.p.m.
	Minimum 400 r.p.m.	Minimum 2700 r.p.m.
	(Applicable to helicopters with B2-248-40, B2-248-46 and B2-248-53 main rotor blades installed)	
Airspeed limits	Maximum 472 r.p.m.	Maximum 2900 r.p.m.
	Minimum 400 r.p.m.	Minimum 2700 r.p.m.
	(Applicable to helicopters with B2-248-100, B2-248-101, B2-248-202, and B2-248-404 main rotor blades installed)	
	Never exceed speed 100 m.p.h. (87 knots) CAS from S.L. to 2,000 ft. Above 2,000 ft. decrease $V_{ne}$ 3 m.p.h. per 1,000 ft.	

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C.G. range

(+104.4) to (+107.0) at 1600 lb.  
(+103.4) at 1445 lb.  
(+109.5) at 1415 lb.



Empty wt. C.G. range

None

Maximum weight

1600 lb.

No. of seats

2 (+85)

Maximum baggage

50 lb. (+140)

Fuel capacity

31 gal. (+114) (includes 0.5 gal. unusable fuel)

Oil capacity

7.3 qt. (+108) (includes 2.6 qt. unusable oil)  
See NOTE 1 for undrainable oil.

Rotor blades and control movements

For rigging information refer to Maintenance Manual.

Serial Nos. eligible

4 thru 300. (S/N 33 and up manufactured under Production Certificate No. 204).

## **II - Model B-2A, 2 PCLM (Normal Category), Approved December 21, 1962**

Engine

Lycoming VO-360-A1B or VO-360-B1A

Fuel

91/96 minimum grade aviation gasoline

Engine limits

For all operations, 2900 r.p.m. (180 h.p.) sea level

Carburetor and carburetor setting

Marvel Schebler MA4-5 (Setting No. 10-3634) or  
Marvel Schebler MA4-5AA (Setting No. 10-4495)

Rotor limits and operational engine speeds

Power Off (Rotor Tach)  
Maximum 472 r.p.m.  
Minimum 400 r.p.m.

Power On (Engine Tach)  
Maximum 2900 r.p.m.  
Minimum 2700 r.p.m.

Airspeed limits

Never exceed speed 100 m.p.h. (87 knots) CAS from S.L. to 2,000 ft.  
Above 2,000 ft. decrease  $V_{ne}$  3 m.p.h. per 1,000 ft.

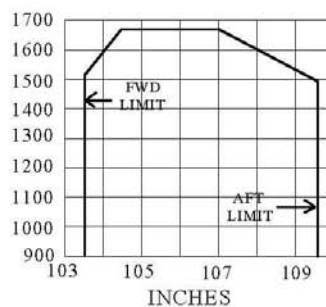
C.G. range

(+104.4) to (+107.0) at 1600 lb.  
(+103.4) at 1445 lb.  
(+109.5) at 1415 lb.  
See diagram Section I

Empty wt. C.G. range	None
Maximum weight	1600 lb.
No. of seats	2 (+85)
Maximum baggage	50 lb. (+140)
Fuel capacity	31 gal. (+114) (including 0.5 gal. unusable fuel)
Oil capacity	7.3 qt. (+108) (including 2.6 qt. unusable oil) See NOTE 1 for undrainable oil.
Rotor blade and control movements	For rigging information refer to Maintenance Manual.
Serial Nos. Eligible	301 thru 318 (Model B-2, S/N 4 thru 300 eligible when modified per Brantly Helicopter Drawing List Revision X, Supplement C). Manufactured under Production Certificate No. 204.

**III - Model B-2B, 2 PCLM (Normal Category), Approved July 1, 1963**

Engine	Lycoming IVO-360-A1A						
Fuel	91/96 minimum grade aviation gasoline						
Engine limits	For all operations, 2900 r.p.m. (180 h.p.) sea level						
Injector and injector setting	Bendix fuel injector RSA-5AD1 with servo regulator parts listing 2524171-1						
Rotor limits and operational engine limits	<table> <tr> <th><u>Power Off (Rotor Tach)</u></th><th><u>Power On (Engine Tach)</u></th></tr> <tr> <td>Maximum 472 r.p.m.</td><td>Maximum 2900 r.p.m.</td></tr> <tr> <td>Minimum 400 r.p.m.</td><td>Minimum 2700 r.p.m.</td></tr> </table>	<u>Power Off (Rotor Tach)</u>	<u>Power On (Engine Tach)</u>	Maximum 472 r.p.m.	Maximum 2900 r.p.m.	Minimum 400 r.p.m.	Minimum 2700 r.p.m.
<u>Power Off (Rotor Tach)</u>	<u>Power On (Engine Tach)</u>						
Maximum 472 r.p.m.	Maximum 2900 r.p.m.						
Minimum 400 r.p.m.	Minimum 2700 r.p.m.						
Airspeed limits	Never exceed speed 100 m.p.h. (87 knots) CAS from S.L. to 2,000 ft. Above 2,000 ft. decrease $V_{ne}$ 3 m.p.h. per 1,000 ft.						
C.G. range	(+104.3) to (+107.0) at 1670 lb. (+103.4) at 1535 lb. (+109.5) at 1500 lb.						



Empty wt. C.G. range	None
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Maximum weight	1670 lb. (See NOTE 5)
No. of seats	2 (+85)
Maximum baggage	50 lb. (+140)
Fuel capacity	31 gal. (+114) (includes 0.5 gal. unusable fuel)
Oil capacity	7.3 qt. (+108) (includes 2.6 qt. unusable oil) See NOTE 1 for undrainable oil.
Rotor blades and control movements	For rigging information refer to Maintenance Manual or Brantly flight controls rigging specification number BV-P-025.
Serial Nos. eligible	Serial numbers 319 thru 478. (Model B-2A, S/N 4 thru 318 eligible when modified per Brantly Helicopter Drawing List Revision X, Supplement C). Manufactured under Production Certificate No. 204.  Serial numbers 479 thru 483 manufactured under Learjet's production certificate.  Serial numbers 2001, 2004, and 2006 manufactured by Brantly Helicopter Industries U.S.A. Co., Ltd.  Serial numbers 2002, 2003, 2005, 2007, and subsequent manufactured by Brantly International, Inc.

**Data Pertinent to All Models**

Datum	100 inches forward of forward firewall
Leveling means	Front seat support - lateral Tail rotor drive shaft - longitudinal
Certification basis	Part 6 of the Civil Air Regulations effective December 20, 1956, as amended by 6-2. Type Certificate No. 2H2 issued April 27, 1959. Application for Type Certificate dated February 28, 1957.
Production basis	Serial numbers 2002, 2003, 2007, and subsequent, Production Certificate No. PC10SW is applicable.  Serial numbers 2001, 2004, 2005, and 2006 none. Prior to the original certification of each helicopter an FAA representative performed a detailed inspection for workmanship, materials, and conformity with approved technical data, and a check of flight characteristics.  Serial numbers 479 through 483 manufactured under Learjet's production certificate.  Serial numbers 319 through 478 manufactured under Production Certificate No. 204.
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification basis) must be installed in the aircraft for certification. In addition, the following items of equipment are required:  B-2, FAA Approved Helicopter Flight Manual dated April 27, 1959, or February 15, 1962. B-2A, FAA Approved Helicopter Flight Manual dated December 21, 1962. B-2B, FAA Approved Helicopter Flight Manual dated June 24, 1963.



NOTE 1. Current weight and balance report together with list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each helicopter at the time of original certification.

The certificated empty weight and corresponding center of gravity locations must include undrainable oil of 2.5 lb. at (+108) and unusable fuel at 3 lb. at (+103).

NOTE 2. The following placard must be installed in full view of the pilots:

"This helicopter must be operated in compliance with the operating limitations specified in the FAA Approved Helicopter Flight Manual."

"Heater must be turned off during hovering."

NOTE 3. Information essential to the proper maintenance of the helicopter is contained in the Maintenance Manual provided with each helicopter which specifies that service life limited parts shall be retired according to the following schedules:

	MODEL B-2	
	PART NO.	HOURS
<u>Main Rotor System</u>		
Outboard main rotor blades (except spar assy. 248-45)	248-40	500
Outboard main rotor blades (except spar assy. 248-45)	248-46	500
Outboard main rotor blade	248-53	2500
Outboard main rotor blade	248-100	2500
Outboard main rotor blade	248-101, 248-202, & 248-404	2500
Lag hinge block	4-1	2500
Lag hinge block	4-12	2500
Hub and Pylon assy. (when used with outboard blades 248-40)	333	2500
Control tube assy. main rotor (when used with outboard blades P/N 248-40)	305-2	1310
Control tube assy. main rotor (when used with outboard blades P/N 248-46, 248-53, 248-100, 248-101, 248-202 & 248-404)	305-2	2500
Inboard yoke	280-4	2500
Hub and inboard blade assy.	305-1	2500
Pylon outboard bearing shaft	280-5 & 280-6	500
Pylon outboard bearing shaft	280-7	1200
<u>Drive System</u>		
Transmission assy.	324	3250
Free wheeling clutch assy.	10-11	2500
Free wheeling clutch cage	10-2	300
Overrunning clutch (Formsprag)	CL-40237, -1	2500
Drive shaft extension assy.	108-33	3250
Intermediate gear box assy	278-100	3250
Tail rotor gear box assy	278-200	3250

Model B-2A and B-2B

Main Rotor System

Outboard main rotor blades (Model B-2A & B-2B)	248-101	2500
See Note 5 for weight limitations	248-202	2500
	248-404	2500
Lag Hinge Block	4-12	2500
Main Rotor Hub	332-1	2500
Hub Straps	332-3	2500
Bolts	332-6	2500
Clevis	332-2	2500
Pylon Flanges	160-3	2500
Pylon Tubes	160-5	2500
Pylon Outboard Bearing Shaft	280-7	1200
Bearing Shaft Nut	5-5	2500
Inboard Blades	202-15	2500
Inboard Yoke	280-4	2500
Universal Joint Assembly	342-7	2500
Hub & Inboard Blade Assembly	305-1	2500
Pylon Outboard Bearing Shaft	280-6	500

Drive System

Transmission Assembly	324	3250
Overrunning Clutch (Formsprag)	CL-40237-2, -3	2500
Drive Shaft Extension Assembly	108-33	3250
Intermediate Gear Box Assembly	278-100	3250
Tail Rotor Gear Box Assembly	278-200	3250
Morflex Coupling (Fwd.)		3250
Morflex Coupling (Aft)		3250
Free Wheeling Clutch Assembly	10-11	2500
Free Wheeling Clutch Cage	10-2	300

NOTE 4.

Models B-2 and B-2A

Transmission upper cases with mount lugs 1/4 in. thick are ineligible unless reinforced by bracket P/N 151-19 installed in accordance with Brantly Service Bulletin No. 14. These cases may be identified by P/N Stamp 104-2, Revision B, and by part serial numbers 1 thru 122.

NOTE 5.

Weight limitations, maximum approved gross weight for B-2B;  
with 248-202 or -404 main rotor blades - 1670 lb.  
with 248-101 main rotor blades - 1600 lb.

...END...






## SECTION 2: AIRWORTHINESS DIRECTIVES AND MANDATORY SERVICE BULLETINS

Number	Issued by	Issue date	Subject	Effective date
<a href="#">2021-26-09</a>		15 Dec 2021	Tail Rotor Head – Tail Rotor Hub	19 Jan 2022
<a href="#">2014-20-16</a>		21 Oct 2014	Main Rotor Blades - Inspection/Replacement	12 Nov 2014
2006-0170 (see page 10/11)		19 Jun 2006	Tail Rotor Blades P/N B2-111-11 - Life Limit Implementation	3 Jul 2006
<a href="#">2006-12-07</a>		6 Jun 2006	ECi cylinder assemblies	11 Jul 2006
<a href="#">2006-08-07</a>		17 Apr 2006	Tail Rotor Drive - Upper Tail Rotor Vertical Gearbox, Shaft and Housing, and Intermediate Gearbox Bushing - Inspection / Replacement	2 May 2006
<a href="#">81-17-01</a>		not recorded	Starting Vibrator Assemblies	13 Aug 1981
<a href="#">72-21-02</a>		not recorded	Pylon Bearing Shaft	8 Dec 1972
<a href="#">71-17-05</a>		not recorded	Main Rotor Mast	26 Nov 1971
<a href="#">68-04-04 R2</a>		not recorded	Tail Rotor Blade	14 Feb 1983
<a href="#">68-05-02</a>		not recorded	Tail Rotor Drive Shaft	30 Mar 1968
<a href="#">67-09-02</a>		21 Mar 1967	Main Rotor Mast	20 Apr 1967
<a href="#">65-28-01</a>		14 Dec 1965	Tail Rotor Blades	14 Dec 1965
<a href="#">62-05-02</a>		28 Feb 1962	Fuel Pump Seals	28 Feb 1962
<a href="#">62-06-01</a>		23 Mar 1962	Seat Back Adjustment	23 Mar 1962
<a href="#">61-04-01</a>		10 Feb 1961	Clutch Bolts	22 Feb 1961
<a href="#">61-11-01</a>		23 May 1961	Landing Gear Drag Brace	31 May 1961
<a href="#">61-11-02</a>		30 May 1961	Oil System Modification	4 Aug 1961
<a href="#">61-16-03</a>		4 Aug 1961	Seat Modification	4 Aug 1961
<a href="#">61-16-04</a>		4 Aug 1961	Transmission Mount Lug	14 Aug 1961
<a href="#">61-18-02</a>		24 Aug 1961	Tail Rotor Modification	29 Aug 1961
<a href="#">61-23-01</a>		3 Nov 1961	Rotor Blade Bond Separation	4 Nov 1961
<a href="#">60-06-03</a>		10 Mar 1960	Tail Rotor Guard	---
<a href="#">60-07-02</a>		23 Mar 1960	Tail Rotor Drive Shaft (AD revised 17 Apr 1965)	---
<a href="#">60-10-02</a>		12 May 1960	Main Rotor Blade (AD revised 10 Mar 1961)	---
<a href="#">60-26-03</a>		20 Dec 1960	Drive Shaft Coupling	20 Dec 1960

**Note:**

For related documents see:

Airworthiness Directives (ADs) [https://www.faa.gov/regulations\\_policies/airworthiness\\_directives/](https://www.faa.gov/regulations_policies/airworthiness_directives/)

<b>EASA</b>	<b>AIRWORTHINESS DIRECTIVE</b>	
	<b>AD No: 2006 - 0170</b>  <b>Date: 19 June 2006</b>	
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.		
<b>Type Approval Holder's Name:</b>		<b>Type/Model designation(s):</b>
Brantly International, Inc.		Brantly (Hynes) Series Helicopters
TCDS Number: FAA 2H2 Rev. 23		
Foreign AD: None		
Supersedure: UKCAA Additional Airworthiness Directives 0467 PRE 78		
<b>ATA 05</b>	<b>Time Limits - Replacement</b>	
Manufacturer(s):	Brantly International Inc.	
Applicability:	All Brantly series helicopters fitted with tail rotor blades Part No. B2-111-11.	
Reason:	A National Aviation Authority, prior to the formation of EASA, has determined that a Mandatory Replacement Life for the tail rotor blade Part No. B2-111-11 is necessary to maintain an acceptable level of safety. EASA concurs with this position.	
Effective Date:	03 July 2006.	
Compliance:	Compliance with this Directive requires that the tail rotor blades, Part No. B2-111-11, are subject to a Mandatory Replacement Life of 1,500 hours.  This Directive does not apply to tail rotor blades Part No. B2-111-11A.	
Ref. Publications:	None	
Remarks:	1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-100 for consultation on 19 April 2006 with a comment period until 15 May 2006. The Comment Response Document can be found at <a href="http://ad.easa.eu.int/">http://ad.easa.eu.int/</a> . 3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA.	

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	<p>E-mail: <a href="mailto:ADs@easa.eu.int">ADs@easa.eu.int</a></p> <p>4. For questions concerning the technical contents of this AD requirements, contact Brantly International Inc. Wilbarger County Airport, 12399 Airport Drive, Vernon, Texas 76384</p>
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### SECTION 3: OCCURRENCE REPORTING

The Specific Airworthiness Specification (SAS) may be used as a basis for the issue of a Restricted Certificate of Airworthiness in accordance with 21.A.173 (b)2., under the following conditions:

- a) The holder of a Restricted Certificate of Airworthiness based on this SAS shall report to the Agency any identified condition of the aircraft, which endangers flight safety.
- b) Reports shall be made as soon as practicable, but in any case, within 72 hours by using the reporting tool at <http://www.aviationreporting.eu/>  
(Note: please select 'EASA' when being asked to select the State).

### SECTION 4: OTHER LIMITATIONS

Applicable to Serial Numbers (S/N) manufactured before 19 July 2019.

### SECTION 5: TRANSITION PERIOD

This Specific Airworthiness Specification (SAS) is issued in accordance with Regulation (EC) 216/2008 Article 20(1)(b) and Regulation (EU) 748/2012 Part 21, paragraph 21.A.173 (b)2., for the purpose of the issue of a Restricted Certificate of Airworthiness.

The 'grandfathered' validation, granted to FAA Type Certificate 2H2 on 28 September 2003 in accordance with CR (EU) 1702/2003, Article 2, 3., (a), (i), 2<sup>nd</sup> bullet, 2<sup>nd</sup> indented bullet, was revoked and is replaced by this SAS.

Explanatory Note:

The so-called 'grandfathering' is regulated by the referenced Article. It means that because the Brantly B-2 was issued a certificate before 28 September 2003 by the EASA Member States DE, ES, CH, (UK until 31 Dec 2020) it is deemed to have a Type Certificate (TC) issued in accordance with this Regulation because its TC Basis is the one defined in the TCDS 2H2 of the State of Design (here: US), and because the DE, ES, CH, UK had concluded a bilateral airworthiness agreement or similar arrangement with the US (here: FAA) under which the Brantly B-2 had been certificated on the basis of the US (FAA) airworthiness code.

The individual aircraft must be transferred from its Certificate of Airworthiness linked to the TCDS to a Restricted Certificate of Airworthiness linked to this EASA.SAS.IM.R.119 before 19 July 2020.

### SECTION 6: ADMINISTRATIVE

#### I. Acronyms and Abbreviations

AD	Airworthiness Directive	No.	Number
C.G.	Centre of Gravity	P/N	Part Number
CAS	Calibrated Air Speed	S.L.	Sea level
CH	Switzerland (Confoederatio Helvetica)	S/N	Serial Number
CR	Commission Regulation	SAS	Specific Airworthiness Specification
DE	Germany (Deutschland)	TC	Type Certificate
ES	Spain (España)	TCDS	Type Certificate Data Sheet
EU	European Union	UK	United Kingdom (Britain)
FAA	Federal Aviation Administration	US	United States of America
FWD	forward	V <sub>ne</sub>	Never exceed speed
h.p.	Horse Power	wt.	Weight

#### II. Change Record

Issue	Date	Changes
Issue 1	19 July 2019	SAS initial issue; EASA 'grandfathered' Type Certification revoked; see: EASA Certification Information 2019-27, dated 19 July 2019.
Issue 2	22 Mar 2022	AD list in Section 2 amended by FAA AD 2021-26-09; Minor amendments to references.

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