Issue: 04



TYPE-CERTIFICATE

DATA SHEET

No. EASA.A.607

for BS 115

Type Certificate Holder BLACKSHAPE S.P.A.

Strada Statale 16 KM 841+900 70043 Monopoli (BA) ITALY

For models: BS 115 BK 160

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BS 115

SECTION A: BS 115

A.I. <u>General</u>

1. Type/ Model /Variant			
1.1 Туре	BS 115		
1.2 Model	BS 115		
1.3 Variant			
2. Airworthiness Category	Normal		
3. Manufacturer	Blackshape SPA		
	SS 16 KM 841+900 Z.I.		
	70043 Monopoli (BA) Italy		
4. EASA Type Certification Application Date	14 March 2013		
5. State of Design Authority	N/A		
6. State of Design Authority Type Certificate Date	N/A		
7. EASA Type Certification Date	03 April 2017		
A.II. EASA Certification Basis			
1. Reference Date for determining the	15 September 2014		
applicable requirements			

2. Airworthiness Requirements

- 3. Special Conditions
- 4. Exemptions
- 5. (Reserved) Deviations
- 6. Equivalent Safety Findings
- 7. Environmental Protection

none none none CS-36 Amdt. 2 dated 31 August 2009, subpart C with reference to ICAO Annex 16, Volume 1, Chapter 10, Amdt. 9 dated 30 July 2009.

CS-VLA Amdt. 1, 5 May 2009

	TCDS No.: EASA.A.607 Issue: 04	BS 115		D	ate: 12 May 2020
A.III.	Technical Characteristics a	nd Operational L	imitations		
1. Тур	e Design Definition			3S115-001" Typ est applicable	-
2. Des	cription	configuration variable pitcl	n. Equipped h constant s	with retractabl peed propeller	dem two-seater le landing gear and . Airframe made by rced epoxy (CFRP).
3. Equ	lipment	Equipment list as reported in BCV-00-38-00 "BS115 Airplane Flight Manual" Section 6		8-00 "BS115 Airplane	
4. Din	nensions				
		Span		9.000 m	29.53 ft
		Length		7.437 m	24.40 ft
		Height		2.455 m	8.05 ft
		Wing area		10.31 m2	111.00 sqft
5. Eng	ine				
	5.1. Model	Lycoming IO-320-D1B			
	5.2 Type Certificate	TCDS no. US	1E12		
	5.3 Limitations	Max Take-off Power: 160 shp)
		Max Continu	ous Power:	160 shp)
		Other limitat Flight Manua			8-00 "BS115 Airplane
6. Loa	d factors				
		Flap UP	Flap DOV	WN	
	Max positive	+5	+2.0		
	Max negative	-2.5	0		
7. Pro	peller				
	7.1 Model	Hartzell Rapt	tor series		
		Hub: 3C1-L6			
		Governor: S-	1-78		
		Blades: 76CC	3-7		
	7.2 Type Certificate	TCDS No. IM	.P.137		
	7.3 Number of blades	3			
	7.4 Diameter	1.75 m (69 ir	ו)		
	7.5 Sense of Rotation	Clockwise (p	iloťs view)		

	TCDS No.: EASA.A.607 Issue: 04	BS 115	Date: 12 May 2020		
8. Flui	ds				
	8.1 Fuel	Refer to AFM, Secti	on 2 for engine fuels		
	8.2 Oil	Refer to AFM, Section 2 for engine oil			
	8.3 Coolant	N/A			
9. Flui	d capacities				
	9.1 Fuel	2 tanks, 64 litres (1 litres (30 USG).	7 USG) each. Total usable capacity: 113.5		
	9.2 Oil				
		Total:	7.57 litres (8 quart)		
		Minimum:	3.78 litres (4 quart)		
	9.3 Coolant system capacity	N/A			
10. Aiı	r Speeds	Never Exceed Speed V _{NE} : 172 KCAS			
		Max. structural cruising speed V_{NO} : 150 KCAS			
		Operating Manoeuvring speed V _A : 123 KCAS			
		Max. speed with landing gear extended: VLE: 90 KCAS			
		Max. speed for landing gear operation V_{LO} : 90 KCAS			
		Max. speed with fla	aps fully deployed V_{FE} : 90 KCAS		
11. Maximum Operating Altitude		11500 ft – Density Altitude			
12. Ap	proved Operations Capability	Day VFR			
		Flights in known icing conditions is prohibited			
13. Ma	aximum Masses				
		Max. Take-off:	750 kg (1653 lbs)		
		Max. Landing	750 kg (1653 lbs)		
14. Ce	ntre of Gravity Range	23% MAC 31%	MAC at 750 Kg		
		16.5% MAC 31%	6 MAC at 712 Kg		
		Mean Aerodynamic	c Chord: 1360.26 mm		
15. Datum		800 mm aft of composite bulkhead.			
		165 mm up from ai	rplane fuselage centreline.		

16. Control surface deflections

Aileron (Left / Right)	Up: 28° ±2° Down: 23° ±2°
Elevator	Up: 29° ±1° Down: 8° ±1°
Rudder	Left: 25° ±2° Right: 25° ±2°
Elevator trim	UP: 25° ±1° Down: 15° ±1°
Flap	Take-off: 15° ±1° Landing: 30° ±1°

17. Levelling Means	Baggage compartment surface
18. Minimum Flight Crew	1 pilot seated in the front seat
19. Maximum Passenger Seating Capacity	1
20. Baggage/ Cargo Compartments	33 kg capacity, 2.5 m aft of datum
21. Wheels and Tyres	Nose Landing Gear: 5.00-5" Main Landing Gear: 4.00-5"
	For approved tyres and ratings, see AMM
22 Serial Numbers Eligible	s/n BCV.001 and subsequent



A.IV. Operating and Service Instructions

1. Flight Manual	BCV-00-38-00 "BS115 Aircraft Flight Manual", Issue 1 - latest approved revision
2. Maintenance Manual	BCV-00-39-00 "Aircraft Maintenance Manual", Issue 0 - latest approved revision
3. Structural Repair Manual	N/A
4. Weight and Balance Manual	included in the AFM
5. Illustrated Parts Catalogue	BCV-00-30-01 "Illustrated Parts Catalogue"

A.V. Notes

N/A



BS 115

SECTION B: BK 160

B.I. General

1. Type/ Model / Variant	
1.1 Type	BS 115
1.2 Model	BK 160 (refer to B.V. Note 1)
1.3 Variant	
2. Airworthiness Category	Normal
3. Manufacturer	Blackshape SPA
	SS 16 KM 841+900 Z.I.
	70043 Monopoli (BA) Italy
4. EASA Type Certification Application Date	14 March 2013
5. State of Design Authority	N/A
6. State of Design Authority Type Certificate Date	N/A
7. EASA Type Certification Date	03 April 2017
B.II. EASA Certification Basis	
1. Reference Date for determining the	15 September 2014
applicable requirements	
2. Airworthiness Requirements	CS-VLA Amdt. 1, 5 May 2009
3. Special Conditions	SC-CVLA-div01-02 "CS-VLA Aeroplanes with MTOM of more than 750 Kg"
	SC-OVLA.div03-02 – Night VFR Operation with VLA
4. Exemptions	none
5. (Reserved) Deviations	none
6. Equivalent Safety Findings	ESF to SC-OVLA.div-03-02 SC 1143 and SC 1147
	ESF to CS VLA.161 (b)(2)(ii)Amdt 1
7. Environmental Protection	CS-36 Amdt. 2 dated 31 August 2009, subpart C with reference to ICAO Annex 16, Volume 1, Chapter 10, Amdt. 9 dated 30 July 2009.

	TCDS No.: EASA.A.607 Issue: 04	BS 115			Date: 12 May 2020
B.III.	Technical Characteristics an	d Operational L	<u>imitations</u>		
1. Тур	e Design Definition			-BS115-004" T atest applicabl	ype Design Data e issue.
2. Des	scription	Single-engine low wing monoplane, tandem two-seater configuration. Equipped with retractable landing gear and variable pitch constant speed propeller. Airframe made by composite material carbon fibre reinforced epoxy (CFRP).			
3. Equ	lipment	Equipment list as reported in BCV-00-38-00 BS115 Airplane Flight Manual Section 6			
4. Din	nensions				
		Span		9.000 m	29.53 ft
		Length		7.437 m	24.40 ft
		Height		2.455 m	8.05 ft
		Wing area		10.31 m2	111.00 sqft
5. Eng	ine				
	5.1. Model	Lycoming IO	-320-D1B		
	5.2 Type Certificate	TCDS no. US	1E12		
	5.3 Limitations	Max Take-of		160 s	•
		Max Continu			•
		Other limita Flight Manu			-38-00 "BS115 Airplane
6. Loa	d factors				
	May positivo	Flap UP +4.4	Flap DC +2.0	JWN	
	Max positive Max negative	-2.0	+2.0 0		
	Max negative	2.0	Ū		
7. Pro	peller				
	7.1 Model	Hartzell Rap			
		Hub: 3C1-L6			
		Governor: S			
	7.2 Type Certificate	Blades: 76C0 TCDS No. IM			
	7.3 Number of blades	3	1.F.157		
	7.4 Diameter	3 1.75 m (69 in)			
	7.5 Sense of Rotation	Clockwise (p	-		
8. Flui		(p		,	
	8.1 Fuel	Refer to AFN	Л, Section 2	2 for engine fu	els
	8.2 Oil	Refer to AFN	Л, Section 2	2 for engine oil	I
	8.3 Coolant	N/A			



	TCDS No.: EASA.A.607 Issue: 04	BS 115		Date: 12 May 2020
9. Fluic	d capacities 9.1 Fuel	2 tanks, 64 litre litres (30 USG).		Il usable capacity: 113.5
	9.2 Oil			
		Total:	7.57 litres (8 qu	lart)
		Minimum:	3.78 litres (4 qu	uart)
10. Air	9.3 Coolant system capacity Speeds	Max. structural Operating Man Max. speed wit Max. speed for	peed V _{NE} : 172 KCAS cruising speed V _{NO} : 1 oeuvring speed V _A : 1 h landing gear extend landing gear operation h flaps fully deployed	L22 KCAS ded: V_{LE} : 90 KCAS on V_{LO} : 90 KCAS
	aximum Operating Altitude proved Operations Capability	11500 ft – Density Altitude Day/Night VFR Flights in known icing conditions is prohibited		
13. Ma	aximum Masses	Max. Take-off:	850 kg (187	4 lbs)
		Max. Landing	850 kg (1874	lbs)
14. Cei 15. Da	ntre of Gravity Range tum	800 mm aft of	31% MAC at 850 Kg 31% MAC at 765 Kg amic Chord: 1360.26 composite bulkhead. m airplane fuselage c	

16. Control surface deflections

	Aileron (Left	/ Right)	Up: 14° ±1°
			Down: 13° ±1°
	Elevator		Up: 25° ±1°
			Down: 8° ±1°
	Rudder		Left: 25° ±2°
			Right: 25° ±2°
	Elevator trim		DWN: 30° ±2°
			UP: 4° ±1°
	Flap		Take-off: 15° ±1°
			Landing: 30° ±2°
17 Lovelling Moone			
17. Levelling Means			mpartment surface
18. Minimum Flight Crew		1 pilot seate	ed in the front seat
19. Maximum Passenger Seating Cap	acity	1	
20. Baggage/ Cargo Compartments		33 kg capac	ity, 2.5 m aft of datum
21. Wheels and Tyres			ng Gear: 5.00-5" ng Gear: 4.00-5"
		For approve	ed tyres and ratings, see A

22. Serial Numbers Eligible

AMM Ph s/n BCV.21005 and subsequent (refer to B.V. Note 2)

B.IV. Operating and Service Instructions

1. Flight Manual	BCV-00-38-00 "BS115 Aircraft Flight Manual", Issue 2 or later
	approved issue

- 2. Maintenance Manual BCV-00-39-00 "Aircraft Maintenance Manual", Issue 1 or later approved issue
- 3. Structural Repair Manual
- 4. Weight and Balance Manual included in the AFM
- 5. Illustrated Parts Catalogue BCV-00-30-03"Illustrated Parts Catalogue"

N/A



B.V. Notes

- BK 160 model consists of BS 115 model modified as per major changes MOD-BCV-17-020 "BS 115 weight increase to 850 kg" (EASA Approval 10071128), major change MOD-BCV-17-021 "Internal Muffler (EASA Approval 10071131) and MOD-BCV-17-026 "BS 115 Night-VFR" (EASA Approval 10071129).
- 2) Aircraft S/N BCV.21003 and S/N BCV.21004 were originally produced as BS 115 model with applied Major Changes see B.V. Note 1) resulting in conformity of these 2 aircraft with basic specifications of BK 160 model.



SECTION ADMINISTRATIVE

I. Acronyms & Abbreviations

Acronyms

AFM – Aircraft Flight Manual

AMM – Aircraft Maintenance Manual

CRI – Certification Review Item

CS – Certification Specification

VLA – Very Light Aircraft

EASA – European Aviation Safety Agency

ESF – Equivalent Safety Finding

ICAO – International Civil Aviation Organization

IPC – Illustrated Part Catalogue

KCAS – Knots Calibrated Air Speed

KOEL – Kind of Operations Equipment List

MAC – Mean Aerodynamic Chord

MLW – Maximum Landing Weight

MTOW – Maximum Take-Off Weight

MZFW – Maximum Zero Fuel Weight

TC – Type Certificate

TCDS – Type Certificate Data Sheet

VFR – Visual Flight Rules

N-VFR – Night - Visual Flight Rules

Ft - feet

II. Type Certificate Holder Record

TC Holder	Period
Blackshape S.p.A.	Effective
SS 16 KM 841+900 Z.I. 70043 Monopoli (BA)	
Italy	

III. Change Record

Issue	Date	Changes	TC Issue No. & Date
Issue 01	03 April 2017	Initial Issue	Initial Issue,
			03 April 2017
Issue 02	17 Dec 2018	Change to maximum operating altitude, definition of eligible	Initial Issue,
		serial numbers and elevator deflections.	03 April 2017
Issue 03	02 Oct. 2019	Added Variant <i>BK160 Gabrièl</i> incorporating major changes:	Initial Issue,
		MOD-BCV-17-020, MOD-BCV-17-021 and MOD-BCV-17-026	03 April 2017
Issue 04	12 May 2020	Variant BK 160 transformed to a new separate model BK	lssue 01,
		160 – document general restructuration	12 May 2020

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