TYPE-CERTIFICATE

DATA SHEET

NO. EASA.A.252

for
AVO 68 – v “Samburo”

Type Certificate Holder
M&D Flugzeugbau GmbH & Co.KG

Streeker Straße 5b
D-26446 Friedeburg
Germany

For models: AVO 68 - v “Samburo”
AVO 68 - s “Samburo”
AVO 68 - R “Samburo”
AVO 68 - R 100 “Samburo”
AVO 68 - R 115 “Samburos

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Section A: AVO 68 - v "Samburo"

A.I General

1.	Type/ Model/ Variant	
	1.1 Type:	AVO 68 - v
	1.2 Variant:	AVO 68 - v
	1.3 Salesname	"Samburo"
2.	Airworthiness Category	Powered Sailplane, Utility, self-launching
3.	Manufacturer	Alpla-Werke Flugzeugbau A. Lehner OHG Allmendstraße A-6971 Hard Austria Firma Nitsche Flugzeugbau GmbH Streichenweg 21 D-83246 Unterwössen Germany
4.	BAZ Austria Type Certification Date:	30 June 1977

A.II EASA Certification Basis

1.	Reference Date for determining the applicable requirements	Defined by BAZ Austria letter with certification standards
2.	Airworthiness Requirements	Airworthiness Requirements for Sailplanes and Powered Sailplanes (LFSM), issue 23. October 1975
3.	Special Conditions	None
4.	Exemptions	None
5.	(Reserved) Deviations	None
6.	Equivalent Safety Findings	None
7.	Environmental Protection	ICAO Annex 16

A.III Technical Characteristics and Operational Limitations

1.	Type Design Definition	Overall drawing list AVO 68, Issue 1977
2.	Description	Single-engined, two-seater, cantilever, low wing design, mixed wood/steeltube construction, seats in side by side arrangement, central main wheel, support wheels at the wings, spoilers, variable pitch propeller.
3.	Equipment	Min. Equipment: 1 Air speed indicator (up to 250 km/h) 1 Altimeter 1 Compass 1 RPM indicator 1 Elapsed time indicator 1 Fuel quantity indicator 1 Oil pressure indicator 1 Oil temperature indicator 1 Amperemeter 2 4-Point harnesses (symmetrical)
4.	Dimensions	Span 16,68 m Wing area 20,70 m² Length 7,94 m
5.	Engine 1	
	5.1 Model	SPORTAVIA-Limbach SL 1700 EI
	5.2 Type Certificate	EASA.E.082
	5.3 Maximum Continuous Power at	40,8 kW 2800 min^{-1}
	5.4 Maximum RPM	3600 min^{-1}
	5.5 Approved Propeller	Propeller 1: HO-V 62 – R/L 150 A
6.	Engine 2	
	6.1 Model	Limbach L 2000 EO 1
	6.2 Type Certificate	EASA.E.083
	6.3 Maximum Continuous Power at	47,5 kW 2700 min^{-1}
	6.4 Maximum RPM	3400 min^{-1}
	6.5 Approved Propeller	Propeller 1: HO-V 62 – R/L 160 BT

		Propeller 2: HO-V 62 – R/L 160 T	
7. Propeller 1			
7.1	Model	HO-V 62 – R/L 150 A	
7.2	Type Certificate	LBA-Datasheet No: 32.130/13	
7.3	Diameter	1500 mm (+/- 5 mm)	
8. Propeller 2			
8.1	Model	HO-V 62 – R/L 160 BT	
8.2	Type Certificate	LBA-Datasheet No: 32.130/13	
8.3	Diameter	1600 mm (+/- 5 mm)	
9. Propeller 3			
9.1	Model	HO-V 62 – R/L 160 T	
9.2	Type Certificate	LBA-Datasheet No: 32.130/13	
9.3	Diameter	1600 mm (+/- 5 mm)	
10. Fluids:			
10.1	Fuel:		
	Tank in the fuselage	42,0 l	
	Non-usable fuel	2,0 l	
11. Air Speeds			
11.1	Manoeuvring speed	V_A	156 km/h
11.2	Never exceed speed	V_{NE}	215 km/h
11.3	Maximum permitted speeds		
	- in rough air	V_{RA}	156 km/h
	- with spoilers extended		215 km/h
12. Approved Operations Capability		VFR Day Cloud flying not permitted Aerobatic manoeuvres not permitted	
13. Launch methods		Self-launch	
14. Maximum Masses			
14.1	Maximum Take-off Mass	685 kg	
14.2	Max. Mass of non-lifting parts	463 kg	
15. Centre of Gravity Range			
15.1	Forward Limit:	2493 mm aft of datum point	
15.2	Rearward Limit:	2590 mm aft of datum point	
16. Datum		2,00 m in front of wing leading edge at rib 1 (wing root rib)	
17. Levelling Means		Incidence block 1:7 horizontal on canopy slide bar (please refer to Operating Manual)	
18. Control Surface Deflections		Refer to Operating Manual	
19. Minimum Flight Crew		1	
20. Maximum Passenger Seating Capacity		1	

21. Baggage/ Cargo Compartments	Refer to Operating Manual
22. Lifetime limitations	Refer to Operating Manual

A.IV Operating and Service Instructions

1.	Flight Manual	(Flight- and Operating Manual AVO 68 - v „Samburo", issue 15. April 1977, revision 18. January 1978, BAZ-approved / LBA-approved*) (Flight- and Operating Manual AVO 68 - v „Samburo", issue 15. April 1983 (please refer to paragraph V.3) *) (Flight- and Operating Manual AVO 68 - v „Samburo", issue 15. April 1983, revision 17. May 1988 (please refer to para V.4) *)
2.	Maintenance Manual	(Maintenance Manual AVO 68 - v „Samburo", issue 15. November 1983*)
3.	Structural Repair Manual	N/A
4.	Operating Manual and Maintenance Manual for Engine	(Operating Manual – Aircraft engine for Motorgliders Sportavia-Limbach SL 1700 E, Limbach SL 1700 EA and further models, LBA-approved) *) (Operating Manual – Aircraft engine for Motorgliders Limbach L 2000 and further models, issue 2/81, LBA-approved (please refer to para. V.3) *)
5.	Operating Manual and Maintenance Manual for Propeller	(Operating and Maintenance for the model HO – V 62 und HO – V 62-R, LBA-approved*)
6.	Operating Manual for the Launching Hooks	N/A

*) Operating and Service Manuals in brackets are existing only in German language. Manuals in other languages, approved by other European NAA's, are accepted.

A.V Notes

1. Manufacturing is confined to industrial production
2. Optional installation of the engine Limbach L 2000 EO 1, in combination with the Propeller HO-V 62 R/L 160 T, according to the data given in the Technical Note No. 808/L 2000, issue 1. July 1983 by company Limbach, LBA-approved, is allowed.
   The Technical Note No. 808/L 2000 can be sourced from company Limbach Flugmotoren GmbH&Co. KG, Kotthausener Str. 5, D-53639 Königswinter.
3. Optional installation of the Propeller HO-V 62 R/L 160 BT, in combination with the engine Limbach L 2000 EO 1, according to the data given in the Technical Note No. 170, issue 17. May 1988 by company Hoffmann Propeller, LBA-approved, is allowed.
   The Technical Note No. 170 can be sourced from company Hoffmann GmbH&Co. KG, Postfach 265, D-83002 Rosenheim.
4. Conversion of the Motorglider AVO 68 – v „Samburo" to the model AVO 68 – R „Samburo" according to the data given in the Technical Note No. 808-09 by company Gerhard Nitsche GmbH, LBA-approved, is allowed.

Section B: AVO 68 - s “Samburo”

B.I General

1.	Type/ Model/ Variant	
	1.1 Type:	AVO 68 - v
	1.2 Variant:	AVO 68 - s
	1.3 Salesname	“Samburo”
2.	Airworthiness Category	Powered Sailplane, Utility, self-launching
3.	Manufacturer	Alpla-Werke Flugzeugbau A. Lehner OHG Allmendstraße A-6971 Hard Austria Firma Nitsche Flugzeugbau GmbH Streichenweg 21 D-83246 Unterwössen Germany
4.	BAZ Austria Type Certification Date:	30 June 1977
5.	LBA Type Certification Date:	14 April 1978

B.II EASA Certification Basis

1.	Reference Date for determining the applicable requirements	Defined by BAZ Austria letter with certification standards
2.	Airworthiness Requirements	Airworthiness Requirements for Sailplanes and Powered Sailplanes (LFSM), issue 23. October 1975
3.	Special Conditions	None
4.	Exemptions	None
5.	(Reserved) Deviations	None
6.	Equivalent Safety Findings	None
7.	Environmental Protection	ICAO Annex 16

B.III Technical Characteristics and Operational Limitations

1. Type Design Definition — Overall drawing list AVO 68, Issue 1977

2. Description — Single-engined, two-seater, cantilever, low wing design, mixed wood/steeltube construction, seats in side by side arrangement, central main wheel, support wheels at the wings, spoilers, variable pitch propeller.

3. Equipment — Min. Equipment:
1 Air speed indicator (up to 250 km/h)
1 Altimeter
1 Compass
1 RPM indicator
1 Elapsed time indicator
1 Fuel quantity indicator
1 Oil pressure indicator
1 Oil temperature indicator
1 Amperemeter
2 4-Point harnesses (symmetrical)

4. Dimensions

Span	16,68 m
Wing area	20,70 m²
Length	7,94 m

5. Engine 1

5.1	Model	SPORTAVIA-Limbach SL 1700 EI
5.2	Type Certificate	EASA.E.082
5.3	Maximum Continuous Power at	45,8 kW 3200 min^{-1}
5.4	Maximum RPM	3600 min^{-1}
5.5	Approved Propeller	HO 11*-150 B 75 L (with additional flange FP 20-156)

6. Engine 2

6.1	Model	Limbach L 2000 EO 1
6.2	Type Certificate	EASA.E.083
6.3	Maximum Continuous Power at	53,0 kW 3000 min^{-1}
6.4	Maximum RPM	3400 min^{-1}

6.5	Approved Propeller	HO-11 A – 150 B 90 L (please refer to para. V.3)	
7. Propeller 1			
7.1	Model	HO 11*-150 B 75 L	
7.2	Type Certificate	LBA-Datasheet No: 32.110/1	
7.3	Diameter	1500 mm (+/- 5 mm)	
8. Propeller 2			
8.1	Model	HO-11 A – 150 B 90 L	
8.2	Type Certificate	LBA-Datasheet No: 32.110/1	
8.3	Diameter	1500 mm (+/- 5 mm)	
9. Fluids:			
9.1	Fuel:		
	Tank in the fuselage	42,0 l	
	Non-usable fuel	2,0 l	
10. Air Speeds			
10.1	Manoeuvring speed	V_A	156 km/h
10.2	Never exceed speed	V_{NE}	215 km/h
10.3	Maximum permitted speeds		
	- in rough air	V_{RA}	156 km/h
	- with spoilers extended		215 km/h
11. Approved Operations Capability		VFR Day Cloud flying not permitted Aerobatic manoeuvres not permitted	
12. Launch methods		Self-launch	
13. Maximum Masses			
13.1	Maximum Take-off Mass	685 kg	
13.2	Max. Mass of non-lifting parts	463 kg	
14. Centre of Gravity Range			
14.1	Forward Limit:	2493 mm aft of datum point	
14.2	Rearward Limit:	2590 mm aft of datum point	
15. Datum		2,00 m in front of wing leading edge at rib 1 (wing root rib)	
16. Levelling Means		Incidence block 1:7 horizontal on canopy slide bar (please refer to Operating Manual)	
17. Control Surface Deflections		Refer to Operating Manual	
18. Minimum Flight Crew		1	
19. Maximum Passenger Seating Capacity		1	
20. Baggage/ Cargo Compartments		Refer to Operating Manual	
21. Lifetime limitations		Refer to Operating Manual	

B.IV Operating and Service Instructions

1.	Flight Manual	(Flight- and Operating Manual AVO 68 - s „Samburo", issue 15. April 1977, revision 18. January 1978, BAZ-approved / LBA-approved*) (Flight- and Operating Manual AVO 68 - s „Samburo", issue 15. April 1983 (please refer to paragraph V.3) *)
2.	Maintenance Manual	(Maintenance Manual AVO 68 - v „Samburo", issue 15. November 1983*)
3.	Structural Repair Manual	N/A
4.	Operating Manual and Maintenance Manual for Engine	(Operating Manual – Aircraft engine for Motorgliders Sportavia-Limbach SL 1700 E, Limbach SL 1700 EA and further models, LBA-approved) *) (Operating Manual – Aircraft engine for Motorgliders Limbach L 2000 and further models, issue 2/81, LBA-approved (please refer to para. V.3) *)
5.	Operating Manual and Maintenance Manual for Propeller	(Operating and Maintenance Manual of Fa. Propellerwerk Hoffmann for Composite-Propeller) *)
6.	Operating Manual for the Launching Hooks	N/A

*) Operating and Service Manuals in brackets are existing only in German language. Manuals in other languages, approved by other European NAA's, are accepted.

B.V Notes

1. Manufacturing is confined to industrial production
2. Optional installation of the engine Limbach L 2000 EO 1, in combination with the Propeller HO-V 62 R/L 160 T, according to the data given in the Technical Note No. 808/L 2000, issue 1. July 1983 by company Limbach, LBA-approved, is allowed.
   The Technical Note No. 808/L 2000 can be sourced from company Limbach Flugmotoren GmbH&Co. KG, Kotthausener Str. 5, D-53639 Königswinter.
3. Optional installation of the Propeller HO-V 62 R/L 160 BT, in combination with the engine Limbach L 2000 EO 1, according to the data given in the Technical Note No. 170, issue 17. May 1988 by company Hoffmann Propeller, LBA-approved, is allowed.
   The Technical Note No. 170 can be sourced from company Hoffmann GmbH&Co. KG, Postfach 265, D-83002 Rosenheim.
4. Conversion of the Motorglider AVO 68 – v „Samburo" to the model AVO 68 – R „Samburo" according to the data given in the Technical Note No. 808-09 by company Gerhard Nitsche GmbH, LBA-approved, is allowed.

Section C: AVO 68 - R "Samburo"

C.I General

1.	Type/ Model/ Variant	
	1.1 Type:	AVO 68 - v
	1.2 Variant:	AVO 68 - R
	1.3 Salesname	"Samburo"
2.	Airworthiness Category	Powered Sailplane, Utility, self-launching
3.	Manufacturer	Alpla-Werke Flugzeugbau A. Lehner OHG Allmendstraße A-6971 Hard Austria Firma Nitsche Flugzeugbau GmbH Streichenweg 21 D-83246 Unterwössen Germany
4.	LBA Type Certification Date:	07 June 1996

C.II EASA Certification Basis

1.	Reference Date for determining the applicable requirements	Defined by LBA Confirmation letter with certification standards, dated 9. August 1994.
2.	Airworthiness Requirements	Airworthiness Requirements for Sailplanes and Powered Sailplanes (LFSM), issue 23. October 1975
3.	Requirements elected to comply	Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR-22), issue 27. June 1989 (Change 4) as applicable to change of engine installation. Guideline concerning proof of compliance for the electrical system of powered sailplanes, I 334-MS 92, issue 15. September 1992. Additional Requirements for towing of sailplanes by powered sailplanes, according to NfL II-5/98, issue 15. January 1998 (please refer to V.3)
4.	Special Conditions	None
5.	Exemptions	None
6.	(Reserved) Deviations	None
7.	Equivalent Safety Findings	None

8. Environmental Protection ICAO Annex 16

C.III Technical Characteristics and Operational Limitations

1.	Type Design Definition	Drawing list for the motorglider AVO 68-R "Samburo", Issue March 1996	
2.	Description	Single-engined, two-seater, cantilever, low wing design, mixed wood/steeltube construction, seats in side by side arrangement, central main wheel, support wheels at the wings, spoilers, variable pitch propeller	
3.	Equipment	Min. Equipment: 1 Air speed indicator (up to 250 km/h) 1 Altimeter 1 Compass 1 RPM indicator 1 Elapsed time indicator 1 Fuel quantity indicator 1 Oil pressure indicator 1 Oil temperature indicator 1 Cylinder head temperature indicator 1 Amperemeter 2 4-Point harnesses (symmetrical)	
4.	Dimensions	Span	16,68 m
		Wing area	20,70 m²
		Length	7,60 m
5.	Engine 1		
	5.1 Model	ROTAX 912 A 3	
	5.2 Type Certificate	EASA.E.121	
	5.3 Maximum Continuous Power at	55,0 kW 5100 min^{-1}	
	5.4 Maximum RPM	5800 min^{-1}	
	5.5 Approved Propeller	HO-V 352 F-S1/S 170 FQ	
6.	Engine 2		
	6.1 Model	ROTAX 912 S 3	
	6.2 Type Certificate	EASA.E.121	
	6.3 Maximum Continuous Power at	69,0 kW 5500 min^{-1}	
	6.4 Maximum RPM	5800 min^{-1}	
	6.5 Approved Propeller	HO-V 352 F-S1/S 170 FQ	

7. Propeller

7.1	Model	HO-V 352 F-S1/S 170 FQ	
7.2	Type Certificate	LBA-Datasheet No: 32.130/88	
7.3	Diameter	1700 mm (+/- 5 mm)	

8. Fluids:

8.1	Fuel:		
	Tank in the fuselage	42,0 l	
	Non-usable fuel	2,0 l	
	Tank in the (right) wing (optional) add.:	20,0 l	
	Non-usable fuel (right) wing:	0,5 l	

9. Air Speeds

9.1	Manoeuvring speed	V_A	156 km/h
9.2	Never exceed speed	V_{NE}	215 km/h
9.3	Maximum permitted speeds		
	- in rough air	V_{RA}	156 km/h
	- with spoilers extended		215 km/h

10.	Approved Operations Capability	VFR Day Cloud flying not permitted Aerobatic manoeuvres not permitted
11.	Launch methods	Self-launch
12.	Maximum Masses	
	12.1 Maximum Take-off Mass	685 kg
	12.2 Max. Mass of non-lifting parts	463 kg
13.	Centre of Gravity Range	
	13.1 Forward Limit:	2493 mm aft of datum point
	13.2 Rearward Limit:	2590 mm aft of datum point
14.	Datum	2,00 m in front of wing leading edge at rib 1 (wing root rib)
15.	Levelling Means	Incidence block 1:7 horizontal on canopy slide bar (please refer to Operating Manual)
16.	Control Surface Deflections	Refer to Operating Manual
17.	Minimum Flight Crew	1
18.	Maximum Passenger Seating Capacity	1
19.	Baggage/ Cargo Compartments	Refer to Operating Manual
20.	Lifetime limitations	Refer to Operating Manual

C.IV Operating and Service Instructions

1.	Flight Manual	(Flight Manual for Motorglider AVO 68 - R „Samburo", issue February 1996, LBA-approved) *) (Flight Manual for Motorglider AVO 68 - R „Samburo", issue March 2007, LBA-approved (please refer to para. V.4)) *)
2.	Maintenance Manual	(Maintenance Manual AVO 68 - R „Samburo", issue March 1996) *) (Maintenance Manual AVO 68 - R „Samburo", issue March 2007 (please refer to para. V.4)) *)
3.	Structural Repair Manual	N/A
4.	Operating Manual and Maintenance Manual for Engine	Operating Manual for ROTAX 912 A, latest issue Operating Manual for ROTAX 912 S3, latest issue (please refer to para. V.4)
5.	Operating Manual and Maintenance Manual for Propeller	Operating and Maintenance Manual No. E 540 A of company Propellerwerk Hoffmann for variable pitch propeller HO-V 352 F, latest issue
6.	Operating Manual for the Launching Hooks	N/A

*) Operating and Service Manuals in brackets are existing only in German language. Manuals in other languages, approved by other European NAA's, are accepted.

C.V Notes

1. Manufacturing is confined to industrial production
2. ALPLA-Werke Flugzeugbau valid as manufacturer only for serial-nos. of the types AVO 68 – s „Samburo“ resp. AVO 68 – v „Samburo“, being converted to the type AVO 68 – R „Samburo
3. Aerotowing of sailplanes is allowed according to the data given in the Technical Note No. 808-13 of company Nitsche Flugzeugbau GmbH, LBA-approved.
4. Optional installation of the engine ROTAX 912 S 3 according to the data given in the Technical Note No. 808-19 of company M&D Flugzeugbau GmbH&Co KG., is allowed.

Section D: **AVO 68 - R 100 "Samburo"**

D.I General

1.	Type/ Model/ Variant	
	1.1 Type:	AVO 68 - v
	1.2 Variant:	AVO 68 - R 100
	1.3 Salesname	"Samburo"
2.	Airworthiness Category	Powered Sailplane, Utility, self-launching
3.	Manufacturer	Firma Nitsche Flugzeugbau GmbH Streichenweg 21 D-83246 Unterwössen Germany Aircraft Philipp GmbH Streichenweg 21 D-83246 Unterwössen Germany M&D Flugzeugbau GmbH & Co. KG Streeker Str. 5 b D-26446 Friedeburg Germany
4.	LBA Type Certification Date:	27 October 2000

D.II EASA Certification Basis

1.	Reference Date for determining the applicable requirements	Defined by LBA project report M 313-808/00 with certification standards, dated 27. October 2000.
2.	Airworthiness Requirements	Airworthiness Requirements for Sailplanes and Powered Sailplanes (LFSM), issue 23. October 1975
3.	Requirements elected to comply	Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR-22), issue 9. July 1998 (Change 5, issue 28. October 1995 of the english original) as applicable to changes compared to the basic type. Guideline concerning proof of compliance for the electrical system of powered sailplanes, I 334-MS 92, issue 15. September 1992. Additional Requirements for towing of sailplanes by powered sailplanes, according to NfL II-5/98, issue 15. January 1998
4.	Special Conditions	None

5.	Exemptions	None
6.	(Reserved) Deviations	None
7.	Equivalent Safety Findings	None
8.	Environmental Protection	ICAO Annex 16

D.III Technical Characteristics and Operational Limitations

1. Type Design Definition: Drawing list for the motorglider AVO 68-R 100 "Samburo", Issue August 2000

2. Description: Single-engined, two-seater, cantilever, low wing design, mixed wood/steeltube construction, seats in side-by-side arrangement, two-wheel main gear, taildragger, spoilers, variable pitch propeller

3. Equipment: Min. Equipment:
   - 1 Air speed indicator (up to 250 km/h)
   - 1 Altimeter
   - 1 Compass
   - 1 RPM indicator
   - 1 Elapsed time indicator
   - 1 Double fuel quantity indicato
   - 1 Oil pressure indicator
   - 1 Oil temperature indicator
   - 1 Cylinder head temperature indicator
   - 1 Amperemeter
   - 2 4-Point harnesses (symmetrical)

4. Dimensions

Span	16,68 m
Wing area	20,70 m²
Length	8,05 m

5. Engine

5.1	Model	ROTAX 912 S 3
5.2	Type Certificate	EASA.E.121
5.3	Maximum Continuous Power at	69,0 kW 5500 min^{-1}
5.4	Maximum RPM	5800 min^{-1}
5.5	Approved Propeller	HO-V 352 F-S2/CS 170 FQ + 10

6. Propeller

6.1	Model	HO-V 352 F-S2/CS 170 FQ + 10
6.2	Type Certificate	LBA-Datasheet No: 32.130/88
6.3	Diameter	1800 mm (+/- 5 mm)

7. Fluids:

7.1 Fuel:

Tank in the fuselage	6,5 l
Non-usable fuel	0,9 l
Tank: Tanks in the wings (left/right each):	36,5 l
Non-usable fuel wings (left/right each):	0,7 l

8. Air Speeds

8.1	Manoeuvring speed	V_A	156 km/h
8.2	Never exceed speed	V_{NE}	215 km/h
8.3	Maximum permitted speeds		
	- in rough air	V_{RA}	156 km/h
	- with spoilers extended		215 km/h

9. Approved Operations Capability: VFR Day
Cloud flying not permitted
Aerobatic manoeuvres not permitted

10. Launch methods: Self-launch

11. Maximum Masses

11.1	Maximum Take-off Mass (S/N 001 – 008)	750 kg
11.2	Maximum Take-off Mass (from and including S/N 009)	825 kg
11.3	Max. Mass of non-lifting parts	530 kg

12. Centre of Gravity Range

12.1	Forward Limit:	2493 mm aft of datum point
12.2	Rearward Limit:	2590 mm aft of datum point

13. Datum: 2,00 m in front of wing leading edge at rib 1 (wing root rib)

14. Levelling Means: Incidence block 1:7 horizontal on canopy slide bar (please refer to Operating Manual)

15. Control Surface Deflections: Refer to Operating Manual

16. Minimum Flight Crew: 1

17. Maximum Passenger Seating Capacity: 1

18. Baggage/ Cargo Compartments: Refer to Operating Manual

19. Lifetime limitations: Refer to Operating Manual

D.IV Operating and Service Instructions

1.	Flight Manual	(Flight Manual for Motorglider AVO 68 - R 100 „Samburo", issue August 2000,), LBA-approved) *) only for S/N001-008 (Supplement 1 to Flight Manual AVO 68 – R 100 "Samburo": aerotowing, issue August 2000)*) only for S/N 001 - 008 (Flight Manual for Motorglider AVO 68 - R 100 „Samburo", issue January 2011, LBA-approved, beginning with S/N 009.) *) (Supplement 1 to Flight Manual AVO 68 – R 100 "Samburo": aerotowing, issue January 2011, beginning with S/No. 009) *)
2.	Maintenance Manual	(Maintenance Manual AVO 68 - R 100 „Samburo", issue August 2000) *) only for S/N 001-008 (Maintenance Manual AVO 68 - R 100 „Samburo", issue February 2011, beginning with S/N 009) *) (Supplement 1 to Maintenance Manual AVO 68 – R 100 "Samburo": aerotowing, issue February 2011, beginning with S/No. 009) *)
3.	Structural Repair Manual	N/A
4.	Operating Manual and Maintenance Manual for Engine	Operating Manual for ROTAX 912 S3, latest issue
	Manual for Propeller	Operating Manual and Maintenance Operating and Maintenance Manual No. 540 of company Propellerwerk Hoffmann for variable pitch propeller HO-V 352 () –S1, latest issue
5.	Operating Manual for the Launching Hooks	N/A

*) Operating and Service Manuals in brackets are existing only in German language. Manuals in other languages, approved by other European NAA's, are accepted.

D.V Notes

1. Manufacturing is confined to industrial production
2. Aerotowing of sailplanes is allowed according to Supplement 1 to Flight Manual AVO 68 – R 100 “Samburo”, issue August 2000 for S/N 001-008.
3. Aerotowing of sailplanes is allowed according to Supplement 1 to Flight Manual AVO 68 – R 100 “Samburo”, issue January 2011. (beginning with S/No. 009)
4. The use of the FVA24C rope feeder device is allowed according to TN 808-24

Section E: AVO 68 - R 115 "Samburo"

E.I General

1.	Type/ Model/ Variant	
	1.1 Type:	AVO 68 - v
	1.2 Variant:	AVO 68 - R 115
	1.3 Salesname	"Samburo"
2.	Airworthiness Category	Powered Sailplane, Utility, self-launching
3.	Manufacturer	Firma Nitsche Flugzeugbau GmbH Streichenweg 21 D-83246 Unterwössen Germany Aircraft Philipp GmbH Streichenweg 21 D-83246 Unterwössen Germany M&D Flugzeugbau GmbH & Co. KG Streeker Str. 5 b D-26446 Friedeburg Germany
4.	LBA Type Certification Date:	28 March 2001

E.II EASA Certification Basis

1.	Reference Date for determining the applicable requirements	Defined by LBA project report M 313-808/01 with certification standards, dated 28. March 2001.
2.	Airworthiness Requirements	Airworthiness Requirements for Sailplanes and Powered Sailplanes (LFSM), issue 23. October 1975
3.	Requirements elected to comply	Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR-22), issue 9. July 1998 (Change 5, issue 28. October 1995 of the english original) as applicable to changes compared to the basic type. Guideline concerning proof of compliance for the electrical system of powered sailplanes, I 334-MS 92, issue 15. September 1992. Additional Requirements for towing of sailplanes by powered sailplanes, according to NfL II-5/98, issue 15. January 1998
4.	Special Conditions	None

5.	Exemptions	None
6.	(Reserved) Deviations	None
7.	Equivalent Safety Findings	None
8.	Environmental Protection	ICAO Annex 16

E.III Technical Characteristics and Operational Limitations

1. Type Design Definition: Drawing list for the motorglider AVO 68-R 115 "Samburo", Issue August 2000

2. Description: Single-engined, two-seater, cantilever, low wing design, mixed wood/steeltube construction, seats in side-by-side arrangement, two-wheel main gear, taildragger, spoilers, variable pitch propeller

3. Equipment: Min. Equipment:
   - 1 Air speed indicator (up to 250 km/h)
   - 1 Altimeter
   - 1 Compass
   - 1 RPM indicator
   - 1 Manifold Pressure
   - 1 Elapsed time indicator
   - 1 Double fuel quantity indicator
   - 1 Oil pressure indicator
   - 1 Oil temperature indicator
   - 1 Cylinder head temperature indicator
   - 1 Amperemeter
   - 2 4-Point harnesses (symmetrical)

4. Dimensions

Span	16,68 m
Wing area	20,70 m²
Length	8,05 m

5. Engine

5.1	Model	ROTAX 914 F 3
5.2	Type Certificate	EASA.E.122
5.3	Maximum Continuous Power at	73,5 kW at 5500 min^{-1}
5.4	Maximum RPM	5800 min^{-1}
5.5	Approved Propeller	HO-V 352 F-S2/CS 170 FQ + 10

6. Propeller

6.1	Model	HO-V 352 F-S2/CS 170 FQ + 10
6.2	Type Certificate	LBA-Datasheet No: 32.130/88
6.3	Diameter	1800 mm (+/- 5 mm)

7. Fluids:

7.1	Fuel:		
	Tank in the fuselage		6,5 l
	Non-usable fuel		0,9 l

Tank: Tanks in the wings (left/right each): 36,5 l
Non-usable fuel wings (left/right each): 0,7 l

8. Air Speeds

8.1	Manoeuvring speed	V_A	156 km/h
8.2	Never exceed speed	V_{NE}	215 km/h
8.3	Maximum permitted speeds		
	- in rough air	V_{RA}	156 km/h
	- with spoilers extended		215 km/h

9. Approved Operations Capability: VFR Day
Cloud flying not permitted
Aerobatic manoeuvres not permitted

10. Launch methods: Self-launch

11. Maximum Masses

11.1	Maximum Take-off Mass (S/N 001 – 008)	750 kg
11.2	Maximum Take-off Mass (from and including S/N 009)	825 kg
11.3	Max. Mass of non-lifting parts	530 kg

12. Centre of Gravity Range

12.1	Forward Limit:	2493 mm aft of datum point
12.2	Rearward Limit:	2590 mm aft of datum point

13. Datum: 2,00 m in front of wing leading edge at rib 1 (wing root rib)

14. Levelling Means: Incidence block 1:7 horizontal on canopy slide bar (please refer to Operating Manual)

15. Control Surface Deflections: Refer to Operating Manual

16. Minimum Flight Crew: 1

17. Maximum Passenger Seating Capacity: 1

18. Baggage/ Cargo Compartments: Refer to Operating Manual

19. Lifetime limitations: Refer to Operating Manual

E.IV Operating and Service Instructions

1.	Flight Manual	(Flight Manual for Motorglider AVO 68 - R 115 „Samburo", issue August 2000,), LBA-approved) *) only for S/N001-008 (Supplement 1 to Flight Manual AVO 68 – R 115 "Samburo": aerotowing, issue August 2000)*) only for S/N 001 - 008 (Flight Manual for Motorglider AVO 68 - R 115 „Samburo", issue January 2011, LBA-approved, beginning with S/N 009.) *) (Supplement 1 to Flight Manual AVO 68 – R 115 "Samburo": aerotowing, issue January 2011, beginning with S/No. 009) *)
2.	Maintenance Manual	(Maintenance Manual AVO 68 - R 115 „Samburo", issue August 2000) *) only for S/N 001-008 (Maintenance Manual AVO 68 - R 115 „Samburo", issue February 2011, beginning with S/N 009) *) (Supplement 1 to Maintenance Manual AVO 68 – R 115 "Samburo": aerotowing, issue February 2011, beginning with S/No. 009) *)
3.	Structural Repair Manual	N/A
4.	Operating Manual and Maintenance Manual for Engine	Operating Manual for ROTAX 914 F3, latest issue
	Manual for Propeller	Operating Manual and Maintenance Operating and Maintenance Manual No. 540 of company Propellerwerk Hoffmann for variable pitch propeller HO-V 352 () –S1, latest issue
5.	Operating Manual for the Launching Hooks	N/A

*) Operating and Service Manuals in brackets are existing only in German language. Manuals in other languages, approved by other European NAA's, are accepted.

E.V Notes

1. Manufacturing is confined to industrial production
2. Aerotowing of sailplanes is allowed according to Supplement 1 to Flight Manual AVO 68 – R 115 “Samburo”, issue August 2000 for S/N 001-008.
3. Aerotowing of sailplanes is allowed according to Supplement 1 to Flight Manual AVO 68 – R 115 “Samburo”, issue January 2011. (beginning with S/No. 009)
4. The use of the FVA24C rope feeder device is allowed according to TN 808-24

Section F: Administrative Section

F.I Acronyms & Abbreviations

N/A

F.II Type Certificate Holder Record

Alpla-Werke Flugzeugbau
A. Lehner OHG
Allmendstraße
A-6971 Hard
Austria

Firma Nitsche Flugzeugbau GmbH
Streichenweg 21
D-83246 Unterwössen
Germany

Aircraft Philipp GmbH
Streichenweg 21
D-83246 Unterwössen
Germany

M&D Flugzeugbau GmbH&Co. KG
Streeker Str. 5 b
D-26446 Friedeburg
Germany

F.III Change Record

Issue	Date	Changes	TC Issue No. & Date
01	19. March 2007	Transfer to EASA Type Design	
02	29. June 2011	Max. mass 825 kg for AVO 68 Samburo R100 and R115	
03	21. March 2023	Transfer to latest TCDS Template; Corrections in D.III 3.	

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