European Aviation Safety Agency

EASA

TYPE-CERTIFICATE DATA SHEET

EASA.A.011

EA 400

SST FLUGTECHNIK GmbH

Am Flughafen 12a
D-87766, Memmingerberg
Germany

For models: EA 400
EA 400-500

Issue 06: 14 December 2015

CONTENT

SECTION A: EA 400 (SALES DESIGNATION: EXTRA 400)

A.I. General

1. Data Sheet No.:	EASA.A.011
2. a) Type:	EA 400 (Sales Designation: EXTRA 400)
b) Model:	--
c) Variant:	--
3. Airworthiness Category:	Normal
4. Type Certificate Holder:	SST FLUGTECHNIK GmbH Am Flughafen 12A D-87766, Memmingerberg Germany
5. Manufacturer:	SST FLUGTECHNIK GMBH AM FLUGHAFEN 12A D-87766, MEMMINGERBERG GERMANY
6. Certification Application Date:	16th of April 1993
7. National Certifying Authority	LBA
8. National Authority Type Certificate Date:	22nd of July 1997

A.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements:	16th of April 1993
2. Airworthiness Requirements:	FAR 23, Amendment 45 (9th of July 1993) For operation in known icing conditions additionally compliance has been shown with: FAR 23.49 Amdt. 23-50 FAR 23.1093 Amdt. 23-51 FAR 23.1323 Amdt. 23-51 JAR 23.1323 Amdt. 23-1
3. Special Conditions:	Fire Protection of Engine mount Fuselage Connection (LBA I 335-1086.SF2/94, dated 6th of April 1994) Roll Control in Supercooled Large Droplets (LBA-212.SF 1/02, dated 27th of September 2002)
4. Exemptions:	None

5. Deviations:	None
6. Equivalent Safety Findings:	See Equivalent Level of Safety Item List Doc. No. EA-05406.01
7. Requirements elected to comply:	None
8. Environmental Standards:	Lärmschutzforderung für Luftfahrzeuge (LSL), dated 1st of January 1991
9. Operational Suitability Certification Basis:	MMEL: CS-GEN-MMEL, Initial Issue Flight Crew Data: SST Flugtechnik GmbH elects to comply with CS-FCD, Initial Issue

10. (Reserved)

A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition:	Type Specification		EA-05100.01
	Equipment List		EA-05100.06
	Equipment List Electric/Avionic		EA-05100.07
	Document List		EA-05100.03
2. Description:	single engine landplane, reciprocating engine, six-seats, fibre-composite construction, high wing with T-tail configuration, retractable tricycle landing gear with nose wheel, pressurized cabin		
3. Equipment:	refer to POH Doc. No. EA-05701, Equipment-List		
4. Dimensions:	Span:	11.68m (38.3ft)	
	Length	9.57m (31.4ft)	
	Height	3.09m (10.14ft)	
	Wing area	14.3m^2 (154sq.ft)	
5. Engine:			
5.1.1 Model:	TSIOL-550-C		
5.1.2 Type Certificate:	LBA Data Sheet No. 4612		
5.1.3 Limitations:	Take-off power		261 kW / 350 BHP
	Max. take-off rotational speed		2600 RPM
	Manifold pressure		1.30 bar / 39.5''Hg
	Continuous power		242 kW / 325 BHP
	Max. continuous rotational speed		2500 RPM
	Manifold pressure		1.24 bar / 37.5''Hg
6. Load factors:	Wing Flaps retracted		+4 to -1.6 g
	Wing flaps extended (15° or 30 °)		+2 to 0 g
7. Propeller:			
7.1 Model:	MT-Propeller MTV-14-D/195-30a		
7.2 Type Certificate:	LBA Data Sheet No. 32.130/78		
7.3 Number of blades:	4		
7.4 Diameter:	1950 mm +/-0mm		
7.5 Sense of Rotation:	Right-hand tractor (viewed in direction of flight)		
8. Fluids:			
8.1 Fuel:	100/100LL minimum grade aviation gasoline		
8.2 Oil:	Engine: SAE 20W-50; SAE 30 and SAE 50		
8.3 Coolant:	External reservoir: 60/40 mixture of ethylene glycol / distilled water (ethylene glycol: ETX 6024 or TCM P/N 653125 or equivalent)		

9. Fluid capacities:

9.1 Fuel:	Standard fuel tank:	Total:	468 litre
		Usable:	404 litre
9.2 Oil:	Engine:	Total:	12.2 litre / 13 US Quarts
		Maximum:	11.4 litre / 12 US Quarts
		Minimum:	7.6 litre / 8 US Quarts
9.3 Coolant system capacity:	12 Litre / 3.2 US Gallons		

10. Air Speeds:

Design Manoeuvring Speed V_A:	
MTOW (1999kg)	156 KIAS
@1450kg	133 KIAS
Flap Extended Speed V_{FE}:	
Flaps 15°	120 KIAS
Flaps 30°	109 KIAS
Maximum Landing Gear Operation Speed V_{LO}:	
	140 KIAS
Maximum Landing Gear Extended Speed V_{LE}:	
	140 KIAS
Maximum Structural Cruising Speed V_{NO}:	
	188 KIAS
Never Exceed Speed V_{NE}:	219 KIAS

11. Maximum Operating Altitude: 7620m (25,000ft)

12. Allweather Operations Capability: IFR, FIKI

13. Maximum Weights:

Take-off	1999 kg
Zero Wing fuel	1959 kg
Landing	1999 kg

14. Centre of Gravity Range:

Forward limit	12% MAC up to 1600kg
	21% MAC at 1999kg
	(varies linearly between mass limits)
Rear limit	38% MAC

(MAC is 1322mm; 0%MAC is at 3200mm aft reference datum)

15. Datum: 3.115m in front of the front edge of main wheel bay

16. Control surface deflections:

Aileron:	27° upward, 19° downward
Pitch:	33° upward, 18° downward
Yaw:	25° left, 25° right

	Pitch trim tab:	20° upward, 30° downward
17. Levelling Means:	Spirit level on the upper edge of lower cabin door	
18. Minimum Flight Crew:	1	
19. Maximum Passenger Seating Capacity:	5	
20. Baggage/Cargo Compartments:	90 kg	
21. Wheels and Tyres:	Nose Wheel Tyre Size	5.0-5 6ply
	Main Wheel Tyre Size	15x6.0-6 6 ply
22. (Reserved):		

A.IV. Operating and Service Instructions

1. Flight Manual:
   Pilot's Operating Handbook & Airplane Flight Manual Doc. No. EA-05701

2. Technical Manual:
   Maintenance Manual Doc. No. EA-05702

3. Repair Manual:
   Maintenance Manual Ch. 51 Doc. No. EA-05702

4. Manual for Operation:
   Pilot's Operating Handbook & Airplane Flight Manual Doc. No. EA-05701

5. Spare Parts Catalogue:
   none

6. Table of Dimensions, Limits and Clearances:
   Maintenance Manual Doc. No. EA-05702

7. Instruments and aggregates:
   List of Applicable Publications Doc. No. EA-05710

A.V. Notes:

1 This certification applies to serial numbers 3 and on

2 Approved Noise Levels in accordance to LSL (1st gen. 1991): 79.7 dB(A)

3 Colour specification for composite structure: see Maintenance Manual Chapter 04

4 Airplane serial numbers 003 through 027 eligible for flight into icing when modified with Extra Service Bulletin SB-400-01-92 or later LBA approved revision. Airplane serial 028 and above have shown compliance to applicable icing requirements and are approved for operation in known icing conditions.

A.VI. Operational Suitability Data (OSD):

1	Minimum Equipment List (MEL)	SST report EQ-A500A-0210-10, latest approved revision
2	Flight Crew Data (FCD)	SST report DI-A500A-0210-01, latest approved revision

SECTION B: EA 400-500 (SALES DESIGNATION: EXTRA 500)

B.I. General

1. Data Sheet No.:	EASA.A.011
2. a) Type: b) Model: c) Variant:	EA 400 EA 400-500 (Sales Designation: EXTRA 500) --
3. Airworthiness Category:	Normal
4. Type Certificate Holder:	SST FLUGTECHNIK GmbH Am Flughafen 12A D-87766, Memmingerberg Germany
5. Manufacturer:	SST FLUGTECHNIK GmbH Am Flughafen 12A D-87766, Memmingerberg Germany
6. Certification Application Date:	05th of July 2001
7. (Reserved)	
8. (Reserved)	

B.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements:	05th of July 2001
2. Airworthiness Requirements:	FAR 23, Amendment 45, issued 09th of July 1993; JAR 23, Amendment 1, issued 1st of February 2001 affected by the change to EA 400-500 according CRI A-01; In addition for the major flight deck upgrade involving electronic avionic equipment eligible for single pilot IFR day/night compliance has been shown with for the following paragraphs: JAR 23.1311 Electronic display instrument systems JAR 23.1431 Electronic equipment
8. Special Conditions:	CRI C-01 Fire Protection of Engine mount-Fuselage -Connection
4. Exemptions:	None
5. Deviations:	None
6. Equivalent Safety Findings:	CRI D-01 Emergency Exits 23.807(b)(2)

	CRI G-01 Airspeed Limitations 23.1505(c)
7. Requirements elected to comply:	None
8. Environmental Standards:	CRI A-03 ICAO, Annex 16, Volume 1, Chapter 10
9. Operational Suitability Certification Basis:	MMEL: CS-GEN-MMEL, Initial Issue Flight Crew Data: SST Flugtechnik GmbH elects to comply with CS-FCD, Initial Issue

10. (Reserved)

B.III. Technical Characteristics and Operational Limitations

1. Type Design Definition:	Type Specification		EA-0B100.01
	Equipment List		EA-0B100.06
	Document List		EA-0B100.03
2. Description:	single engine turboprop, six-seats, fibre-composite construction, high wing with T-tail configuration, retractable tricycle landing gear with nose wheel, pressurized cabin		
3. Equipment:	refer to POH EA 400-500 Doc. No. EA-0B701		
4. Dimensions:	Span:	11.60m (38.1ft)	
	Length	10.13m (33.23ft)	
	Height	3.37m (11.06ft)	
	Wing area	14.3m^2 (154sq.ft)	
5. Engine:			
5.1.1 Model:	Rolls-Royce 250-B17F/2		
5.1.2 Type Certificate:	FAA E10CE		
5.1.3 Limitations:	Max. take-off propeller rotational speed		2030 RPM
	Max. continuous propeller rotational speed		2030 RPM
	Min. continuous propeller rotational speed		1900 RPM
6. Load factors:	Wing Flaps retracted		+3.8 to -1.5 g
	Wing flaps extended (15° or 30 °)		+2 to 0 g
7. Propeller:			
7.1 Model:	MT-Propeller MTV-5-1-D-C-F-R(A)/CFR210-56		
7.2 Type Certificate:	LBA TCDS 32.130/103/PR		
7.3 Number of blades:	5		
7.4 Diameter:	2100 +/- 5mm		
7.5 Sense of Rotation:	Right-hand tractor (viewed in direction of flight)		
8. Fluids:			
8.1 Fuel:	JET A or JET A-1 (ASTM D1655-03 or later)		
8.2 Oil:	Engine & gearbox: MIL-PRF-7808L or later; or MIL-PRF-23699F or later		
8.3 Coolant:	--		
9. Fluid capacities:			
9.1 Fuel: (see B.V. Note 4)	Standard fuel tank:	Total:	680 litre
		Usable:	652 litre
9.2 Oil:	Engine external oil tank:		
		Maximum:	5.18 litre

		Minimum: 4.08 litre
9.3 Coolant system capacity:	--	
10. Air Speeds:	Design Manoeuvring Speed V_A:	
	MTOW (2130kg)	156 KIAS
	@1545kg	131 KIAS
	Flap Extended Speed V_{FE}:	
	Flaps 15°	120 KIAS
	Flaps 30°	109 KIAS
	Maximum Landing Gear Operation Speed V_{LO}:	140 KIAS
	Maximum Landing Gear Extended Speed V_{LE}:	140 KIAS
	Maximum Structural Cruising Speed V_{NO}:	188 KIAS
	Never Exceed Speed V_{NE}:	207 KIAS
11. Maximum Operating Altitude:	7620m (25,000ft)	
12. Allweather Operations Capability:	IFR	
13. Maximum Weights: (see B.V. Note 4)	Take-off	2130 kg
	Zero Wing fuel	1945 kg
	Landing	2000 kg
14. Centre of Gravity Range: (see B.V. Note 4)	Forward limit	18% MAC up to 1600kg 25% MAC at 2130kg (varies linearly between mass limits)
	Rear limit	34.5% MAC
	(MAC is 1322mm; 0%MAC is at 3200mm aft reference datum)	
15. Datum:	3.115m in front of the front edge of main wheel bay	
16. Control surface deflections:	Aileron:	27° upward, 19° downward
	Pitch:	33° upward, 18° downward
	Yaw:	25° left, 25° right
	Pitch trim tab:	20° upward, 30° downward
17. Levelling Means:	Spirit level on the upper edge of lower cabin door	
18. Minimum Flight Crew:	1	

19. Maximum Passenger Seating Capacity:	5	
20. Baggage/Cargo Compartments:	90 kg	
21. Wheels and Tyres:	Nose Wheel Tyre Size	5.0-5 6ply
	Main Wheel Tyre Size	15x6.0-6 10 ply
22. (Reserved):		

B.IV. Operating and Service Instructions

9. Flight Manual:
   Aircraft Flight Manual — Doc. No. AFM-A500A-0210-01

1. Technical Manual:
   Maintenance Manual — Doc. No. EA-0B702

2. Repair Manual:
   Maintenance Manual Ch. 51 — Doc. No. EA-05702

3. Manual for Operation:
   Aircraft Flight Manual — Doc. No. AFM-A500A-0210-01

   (see B.V. Note 4)

4. Spare Parts Catalogue:
   none

5. Table of Dimensions, Limits and Clearances:
   Maintenance Manual — Doc. No. EA-0B702

6. Instruments and aggregates:
   none

B.V. Notes:

1 This certification applies to serial numbers 1002 and on.

2 Approved Noise Levels in accordance to ICAO Annex 16, Chapter 10: 76.7dB(A)

3 Colour specification for composite structure: see Maintenance Manual Chapter 04

4 For operational reasons a reduced MTOW is available for airplanes registered in the EU. No physical changes to the airplanes other than additional limitation placards are necessary for this MTOW reduction. A Supplement to the POH/AFM is available.
With Extra Kit 33778 installed limitations are as follows:

Fuel:	Standard fuel tank:	Total: 468 litre Usable: 440 litre (Aux. fuel tanks must be empty)
Maximum Weights:	Take-off Landing	1999 kg 1999 kg
Centre of Gravity Range:	Forward limit	18% MAC up to 1600kg 23.3% MAC at 1999kg (varies linearly between mass limits)

B.VI. Operational Suitability Data (OSD):

1	Minimum Equipment List (MEL)	SST report EQ-A500A-0210-11, latest approved revision
2	Flight Crew Data (FCD)	SST report DI-A500A-0210-01, latest approved revision

ADMINISTRATIVE SECTION

I. Acronyms

II. Type Certificate Holder Record

Extra Flugzeugbau GmbH:	until 15th of September 2003
Extra Flugzeugproduktions- und Vertriebs GmbH:	from 15th of September 2003
SST FLUGTECHNIK GmbH:	from 17th of November 2014

III. Change Record

Issue	Date	Changes	TC Issue No. & Date
Issue 01	16 July 2004	Change to EASA TCDS; addition of Model EA 400-500	Original, 16th of July 2004
Issue 02	26. November 2004	Editorial changes (Info: EASA TCDS replaces LBA TC N° 1085)	
Issue 03	16. June 2011	IFR day/night certification EA 400-500	
Issue 04	24. Februrary 2012	EA 400-500: Added option of reduced MTOW 1999kg	
Issue 05	17. November 2014	Type Certificate Transfer to SST FLUGTECHNIK GmbH iaw. Part 21, Subpart B, Point 21.A.47	Revision 1, 17 of November 2014
Issue 06	Issue 06, 14 December 2015	Added sections A.VI and B.VI to refer to Operational Suitability Data (OSD) including Notes	14 Dec. 2015

IV. Notes for all EA400 variants

1. OSD

In the absence of an operational evaluation at the entry into service of the EA400 / EA400-500, a type-rating requirement was established by the JAA. With the outcome of the OSD-FCD aircraft evaluation from 07-10 Dec 2015 all the EA400 / EA400-500 are thereafter subject to a Class Rating (prior this date it was a Type Rating) , as follows: Model EA400 as class rating with the license endorsement "SEP (land)" and Model EA400-500 as class rating with the license endorsement "Extra500 SET".