



TYPE-CERTIFICATE DATA SHEET

EASA.A.640

SEASTAR

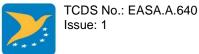
Type Certificate Holder
Dornier Seawings GmbH

Sonderflughafen Oberpfaffenhofen 82230 Wessling Germany

For models: CD 2



Seastar



| SECTION | A: CD 2 | 3 |
|---------|---|-----|
| 0_0 | | |
| A.I. | GENERAL | 3 |
| A.II. | EASA CERTIFICATION BASIS | 3 |
| A.III. | TECHNICAL CHARACTERISTICS AND OPERATIONAL LIMITATIONS | 4 |
| A.IV. | OPERATING AND SERVICE INSTRUCTIONS | |
| A.V. | Notes | 10 |
| ADMINIS | TRATIVE SECTION | 11 |
| 1. | Acronyms & Abbreviations | |
| II. | Type Certificate Holder Record | |
| 111 | Change Record | 1 1 |

SECTION A: CD 2

A.I. General

1. a) Type: Seastarb) Model: CD 2c) Variant: N/A

2. Airworthiness Category: FAR-23, Commuter Category

3. Type Certificate Holder: Dornier Seawings GmbH

Sonderflughafen Oberpfaffenhofen

82230 Wessling

Germany

4. Manufacturer: Dornier Seawings GmbH

Sonderflughafen Oberpfaffenhofen

82230 Wessling

Germany

5. Certification Application

Date:

13-March-1985

6. National Certifying

Authority:

Luftfahrtbundesamt Deutschland

7. National Authority Type

Certificate Date:

30-Oct-1990

LBA TC No. 2065

A.II. EASA Certification Basis

1. Reference Date for

determining the applicable

requirements:

30-Oct-1987

2. Airworthiness FAR 23-0 issued 01-Feb-1965, including

Requirements: Amendments 23-1 through 23-34 issued 17-Feb-

1987.

3. Special Conditions: in accordance to LBA Letters, dated 13-Mar-1989

and 23-Oct-1990, covering

1) Fatigue / Damage Tolerance

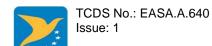
Protection of Systems from Lightning

and High Energy Radio Frequency

(RF) Fields



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Propeller Ice and Exhaust Gas Impingement Protection

4) Propeller Marking

5) Hull Compartment – Water Detectors

6) Engine Inoperative Warning

7) Emergency Flotation Equipment

8) Birdstrike

9) Reinforcement near Propellers

3. Exemptions: None

4. Deviations: Ausnahme von der Erfüllung der Forderungen FAR

23.807 (d)(1) und 23.807 (d)(1)(i) in accordance

with LBA-Letter dated 23-Oct-1990

5. Equivalent Safety Findings: None

6. Requirements elected to

None

comply:

7.

Environmental Standards: Lärmschutzforderungen für Luftfahrzeuge (LSL):

LSL Chapter VI (dated 01-Jan-1989)

LSL Chapter X (dated 01-Jan-1989)

8. (Reserved) N/A

9. (Reserved) N/A

A.III. Technical Characteristics and Operational Limitations

Type Design Definition: TN 00 CD2 011 010/C-05 – Technical Specification

MZ 00 CD2 000 009/A-00 – List of Compl. Documents

MZ 00 CD2 000 010/A-00 - List of Drawings

2. Description: Twin engine (tandem), up to 12-seated high wing

amphibian airplane, full composite construction

3. Equipment: Equipment list, AFM, Section 6

4. Dimensions: Span 17.74 m (58 ft 20 in)

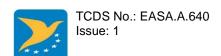
Length 12.70 m (41 ft 67 in) Height 4.83 m (15 ft 67 in) Wing Area 30.60 m² (329.38 sqft)

Engine:

5.1.1 Model: 2 Pratt and Whitney PT6A-135A



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5.1.2 Type Certificate: EASA Engine Type Certificate: EASA.IM.E.094

5.1.3 Limitations: Max take-off rotational speed (5 min.) 1900 rpm

(100%)

Max continuous rotational speed 1900 rpm

(100%)

Max T/O Power (5min)/Max. cont. Power 478 KW

(650 SHP)

Max. Cruise/Max. Climb Power 368 KW

(500 SHP)

For power-plants limits refer to AFM, Section 2

5.1.4 Firmware: N/A 5.1.5 Mapping: N/A

6. Load factors: At Minimum Operational Weight (m=2900 kg, η=0°)

Flaps in Take-Off or Landing Position

At Maximum Take-off Weight (m=4600 kg, η=0°)

Flaps in Take-Off or Landing Position

 η =20° η =30° η =40° Downward: +1.97 +1.95 +1.93 Upward: +0.03 +0.05 +0.08

Max Inertia Load Factor n=+4.96 (Water Landing)

7. Propeller:

7.1.1 Model: Front Propeller, Mc Cauley 4HFR34C760/95DA

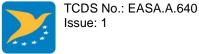
7.1.2 Type Certificate: EASA Prop. Type Certificate: EASA.IM.P.192

7.1.3 Number of blades: 4

7.1.4 Diameter: 2400 mm



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Issue: 1

Sense of Rotation: 7.1.5 CW (view in flight direction) 7.1.6 Low pitch setting 15.5° ± 0.2° Settings: Feather position: 85°42′ ± 0.2°

Reverse Pitch: -9° ± 0.2°

7.2.1 Model: Aft Propeller, Mc Cauley 4HFR34C761/L95DZ 7.2.2 Type Certificate: EASA Prop. Type Certificate: EASA.IM.P.192

7.2.3 Number of blades: 4

7.2.4 Diameter: 2350 mm

7.2.5 Sense of Rotation: ACW (view in flight direction)

7.2.6 Settings: Low pitch setting $16.0^{\circ} \pm 0.2^{\circ}$

 $83^{\circ}48' \pm 0.2^{\circ}$ Feather position: $-9^{\circ} \pm 0.2^{\circ}$ Reverse Pitch:

8. Fluids:

8.1 Fuel: See POH, Section 2 Page 2-6

8.2 Oil: Engine: see Pratt & Whitney Service Bulletin SB 1001

> Gearbox: see Engine Oil (common circuit)

8.3 Coolant: N/A

Ice Protection 8.4 See POH, Section 2 Page 2-6

Fluids:

9. Fluid capacities:

9.1 Fuel:

| Location | Liters | US Gal | kg | lbs |
|----------------------|--------|--------|------|------|
| Total Fuel L/H Tank | 870 | 230 | 696 | 1535 |
| Total Fuel R/H Tank | 900 | 238 | 720 | 1589 |
| Usable Fuel L/H Tank | 851 | 225 | 681 | 1501 |
| Usable Fuel L/H Tank | 882 | 233 | 706 | 1555 |
| Total Fuel | 1770 | 468 | 1416 | 3124 |
| Total Usable Fuel | 1733 | 458 | 1387 | 3056 |

9.2 Oil: each engine Maximum: 13.25 liters

> Minimum: 11.36 liters (Cold Oil)

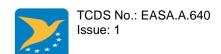
> > 10.41 liters (Hot Oil)

9.3 Coolant system Integrated Part of the Engine Oil System

> capacity: (Oil Cooler Capacity incl. Hoses aprox. 5 Liters)



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10. Air Speeds: Max. Manoeuvring Speed vo

> up to 4600 kg **140 KEAS**

Maximum Landing Gear Operation Speed vLO

150 KEAS

Maximum Landing Gear Extended Speed VLE

150 KEAS

Flap Extended Speed VFE

Flap Setting η=20° **140 KEAS**

> η=30° **130 KEAS**

> n=40° **120 KEAS**

Stalling Speeds (4600 kg) v_{S0}/v_{S1}

Flap Setting η=0° 78 KEAS

> n=40° 65 KEAS

180 KEAS Design Cruising Speed v_C **179 KEAS** Max. Speed in Level Flight v_H **225 KEAS** Max. Diving Speed v_D Design Speed for Max. Gust Intensity v_B **138 KEAS**

Max. Operating Speed v_{MO} **179 KEAS**

11. Maximum Operating Altitude:

4500 m (15000 ft)

12. All Weather Operations Capability:

Day/Night-VFR,

Flights into known or forecast icing conditions are

prohibited.

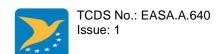
Flight in bad weather and in the vicinity of

Thunderstorm are prohibited.

13. Maximum Weights: Maximum Ramp 4650 kg (10251 lbs)

> Maximum Take-off 4600 kg (10141 lbs) Minimum Design 2900 kg (6393 lbs) Maximum Landing (Land) 4500 kg (9920 lbs) Maximum Landing (Water) 4600 kg (10141 lbs)





14. Centre of Gravity Range: Forward limit:

Up to 4600 kg 5152 mm aft of Datum Line

(18% MAC)

Rear limit:

Up to 4600 kg 5407 mm aft of Datum Line

(32% MAC)

Mean Aerodynamic Chord (MAC):

The leading edge of the MAC is 4823 mm aft of the

reference datum.

The MAC length is 1825 mm

Vertical Limit:

at 4600 kg HE2212 at 2900 kg HE2752

Varying linearly with mass in

00 50 . 001

between

15. Datum: 95 mm forward of front face of nose section

America en en el enercio

16. Control surface

deflections:

Rudder

Rudder Trim Tab

| Aileron | trailing eage up | $23.5^{\circ} \pm 30$ |
|----------|--------------------|-----------------------|
| | trailing edge down | $9.5^{\circ} \pm 30'$ |
| Elevator | trailing edge up | 30° ± 30′ |
| | trailing edge down | 20° ± 30′ |

Horizontal Stabilizer Trim leading edge nose up $4.1^{\circ} \pm 12^{\circ}$ leading edge nose down $4.2^{\circ} \pm 12^{\circ}$

trailing edge right

trailing adds right

trailing edge right $30^{\circ} \pm 30^{\circ}$ trailing edge left $10^{\circ} \pm 20^{\circ}$

trailing edge right $10^{\circ} \pm 20^{\circ}$

Flaps Cruise flap setting 0° ± 30′

Take-off land operation flap setting $20^{\circ} \pm 30^{\circ}$ Take-off water operation flap setting $30^{\circ} \pm 30^{\circ}$

Landing (land/water operation) flap setting $40^{\circ} \pm 30^{'}$

17. Levelling Means: Reference of water level at water line HE1750.

Four marked inserts of fuselage (two LH, two RH) at

station QE2000 and station QE7800.

18. Minimum Flight Crew: 1 (Pilot)

19. Maximum Passenger 12

Seating Capacity:

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TCDS No.: EASA.A.640 Issue: 1

20. Baggage/Cargo Location max. allowable Load Compartments: Rear Baggage Compartment 180 kg (396.5 lb)

For detail see POH Section 2.9

21. Wheels and Tyres: Nose Wheel Tyre Size 17.5 x 6.25-6 10 ply tube

Main Wheel Tyre Size 17.5 x 6.25-6 10 ply tube

A.IV. Operating and Service Instructions

1. Flight Manual: Pilot Operating Handbook

Document No. FM 00 CD2 012 000

2. Technical Manual: Airplane Maintenance Manual (AMM)

Document No. MM 00 CD2 025 000 (incl. Airworthiness Limitations), Service

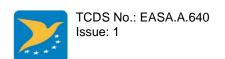
Information and Service Bulletins

3. Spare Parts Catalogue (IPC): Document No. PC 00 CD2 011 150

4. Instruments and aggregates: Pilot Operating Handbook Section 6A

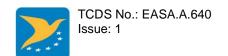
Document No. FM 00 CD2 012 000

5. Master Minimum Equipment List: SL 00 CD2 048 023



A.V. Notes

- 1. All surface exposed to sun radiation has to be varnished with white paint in accordance with the colour code RAL 9010.
- Aircraft Manufacturer Serial Numbers (MSN) that are eligible to be produced in conformity with EASA Type Design Definition: NONE (due to open post TC items to be closed prior first CofA)



ADMINISTRATIVE SECTION

I. Acronyms & Abbreviations

AFM Airplane Flight Manual

Amdt. Amendment

AMM Airplane Maintenance Manual

CG Centre of Gravity

DWN down

EASA European Aviation Safety Agency

IAS Indicated Airspeed

ICAO International Civil Aviation Organization

kg kilograms

km/h kilometres per hour

MAC Mean Aerodynamic Chord

N.A. Not applicableSC Special Condition

TCDSN Type Certificate Datasheet Noise

VFR Visual Flight Rules

II. Type Certificate Holder Record

| Name | Adress | From | То |
|---|--|-------------|-------------|
| Dornier Composite Aircraft GmbH & Co. KG | Sonderflughafen Oberpfaffenhofen 82230 Weßling Germany | 30-Oct-1990 | 18-Apr-2017 |
| Dornier Seawings GmbH | Sonderflughafen Oberpfaffenhofen 82230 Weßling Germany | 18-Apr-2017 | |

III. Change Record

| Issue | Date | Changes | TC Issue No & Date |
|-------|-------------|---------------|-----------------------|
| 1 | 18-Apr-2017 | Initial Issue | 18-Apr-2017 |
| | | | |
| | | | |



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