DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

A15EA Revision 12 Seastar Corp. (BOHICA) (F. D. Beckett) (Teal) (Schweizer) (Thurston) TSC-1A TSC-1A1 TSC-1A2 May 30, 2006

TYPE CERTIFICATE DATA SHEET NO. A15EA

This data sheet which is a part of type certificate No. A15EA, 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 Seastar Corp

P. O. Box 2214 Homer, AK 99603

Seastar Corp assumed ownership of this TCDS from Bohica, Inc. May 30, 2006. Type Certificate Holder Record:

I - Model TSC-1A, 2PCAmM (Normal Category), Approved 28 August 1969.

Lycoming O-320-A3B (Carburetor setting 10-3678-32) Engine

Fuel 80/87 minimum grade aviation gasoline Engine limits For all operations, 2700 r.p.m. (150 hp.)

Hartzell Model HC-C2YL-1B/7663-4 2 bladed metal Propeller and propeller limits

Pitch setting at 30 in. station: Low 12° High 27.5°
Diameter: Maximum 72" minimum 70"; no further reduction permitted

Governor: Hartzell F-2-6A

*V_{ne} (Never exceed speed) *V_{ne} (Maximum structural Airspeed limits (CAS) 135 mph (117 knots)

*Vno (Maximum structural cruising speed)
*Va (Design management) 106 mph (92 knots) 106 mph (92 knots) (Design maneuvering speed) Vlo (Maximum speed for landing gear operation) 100 mph (87 knots) 135 mph (117 knots) Vle (Maximum speed for landing gear extended) 110 mph (96 knots)

Side windows open

*See NOTE 2.

Center of Gravity +102.3 to +109.7 at 1900 lb. or less

(C.G.) range (Moment change due to landing gear retraction, plus 860 in.-lb.)

(Landing gear extended)

Empty weight C.G. range +109.2 to +112.7

When the empty weight C.G. falls within the range given, complete computations of critical fore and aft C.G. positions are unnecessary. Range is not valid for

non-standard arrangements.

Datum Bow of airplane, Hull Sta. 0; located 91.5 in. forward of wing leading edge at side

of hull.

Entrance sill, left or right side. Leveling means

Maximum weight 1900 lb. 2 at (+71) Number of seats

Maximum baggage 230 lb. at (+96)

Fuel capacity 24.5 gal. at (+118) 24 gal. usable (single hull tank system)

46.0 gal. at (+103) 40.6 gal. usable (standard 2 tank system) 70.5 gal. at (+103) wing tanks (+118) hull tank, 64.6 gal. usable

(3 tank system)

(see NOTE 1 for data on system fuel and oil)

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Oil capacity	2 gal. at (+126) 6 gt. usable

Control surface movements	Rudder	Left $28^{\circ} + \text{or } -2^{\circ}$	Right $28^{\circ} + \text{or } -2^{\circ}$
(measured from surface	Elevator	Up $15^{\circ} + 2^{\circ} - 0^{\circ}$	Down $20^{\circ} + 2^{\circ} - 0^{\circ}$
chord line)	Elevator tab	$Up 7.5^{\circ} + 2.5^{\circ} - 0^{\circ}$	Down $21^{\circ} + 2^{\circ} - 0^{\circ}$
	Aileron	$Up 30^{\circ} + 3^{\circ} - 0^{\circ}$	Down $20^{\circ} + 3^{\circ} - 0^{\circ}$
	Rudder Tab	Left 30° + or -2°	Right 30° + or -2°

Manufacturer's Serial

Numbers

2, 3, 4, 5, 7, 9, 11, 12, 13

II - Model TSC-1A1, 2PCAmM (Normal Category), Approved 23 September 1971

Engine Lycoming O-320-A3B (Carburetor setting 10-3678-32)

Fuel 80/87 minimum grade aviation gasoline
Engine limits For all operations, 2700 r.p.m. (150 hp.)

Propeller and Hartzell Model HC-C2YL-1B/7663-4 2 bladed metal propeller limits Pitch setting at 30 in. station: Low 12° High 27.5°

Diameter: Maximum 72" minimum 70"; no further reduction permitted

Governor: Hartzell F-2-6A

Airspeed limits (CAS) *Vne (Never exceed speed) 123 mph (107 knots)

*Vno (Maximum structural cruising speed)

*Va (Design maneuvering speed)

Vlo (Maximum speed for landing gear operation)

Vle (Maximum speed for landing gear extended)

Side windows open

97 mph (84 knots)

97 mph (84 knots)

100 mph (87 knots)

123 mph (107 knots)

110 mph (96 knots)

*See NOTE 2.

Center of Gravity +103.5 to +107.8 at 2200 lb. (C.G.) range +103.1 to +108.4 at 2100 lb.

(Landing gear extended) +102.3 to +109.7 at 1900 lb. or less

Straight line variation between points given

(Moment change due to landing gear retraction, plus 860 in.-lb.)

Empty weight C.G. range +110.2 to +112.7

When the empty weight C.G. falls within the range given, complete computations of critical fore and aft C.G. positions are unnecessary. Range is not valid for

non-standard arrangements.

Datum Bow of airplane, Hull Sta. 0; located 91.5 in. forward of wing

leading edge at side of hull.

Leveling means Entrance sill, left or right side.

Maximum weight 2200 lb. for land operations 2100 lb. for water operations

Number of seats 2 at (+71)

Maximum baggage 230 lb. at (+96)

Fuel capacity 46 gal. at (+103.0) 40.6 gal. usable (standard 2 tank system)

70.5 gal. at (+103) wing tanks (+118) hull tank, 64.6 gal. usable

(3 tank system)

(see NOTE 1 for data on system fuel and oil)

Oil capacity 2 gal. at (+126) 6 qt. usable

 28° + or -2° 28° + or -2° Control surface movements Rudder Right $15^{\circ} + 2^{\circ} - 0^{\circ}$ (measured from surface Elevator Up Down $20^{\circ} + 2^{\circ} - 0^{\circ}$ $7.5^{\circ} + 2.5^{\circ} - 0^{\circ}$ Down $21^{\circ} + 2^{\circ} - 0^{\circ}$ chord line) Elevator tab Up $30^{\circ} + 3^{\circ}$ -0° $20^{\circ} + 3^{\circ} - 0^{\circ}$ Aileron Úр Down Rudder tab Left $30^{\circ} + \text{or } -2^{\circ}$ Right $30^{\circ} + \text{or } -2^{\circ}$

Manufacturer's Serial

Numbers

1, 6, 8, 10, 14 through 21, 23

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III - Model TSC-1A2, 2PCAmM (Normal Category), Approved June 28, 1973

Engine Lycoming O-320-A3B (Carburetor setting 10-3678-32)

Fuel 80/87 minimum grade aviation gasoline
Engine limits For all operations, 2700 r.p.m. (150 hp.)

Propeller and Hartzell Model HC-C2YL-1B/7663-4 2 bladed metal propeller limits Pitch setting at 30 in. station: Low 12° High 27.5°

Pitch setting at 30 in. station: Low 12° High 27.5° Diameter: Maximum 72" minimum 70"; no further reduction permitted

Governor: Hartzell F-2-6A

Airspeed limits (CAS)
*Vne (Never exceed speed) 123 mph (107 knots)

*Vno (Maximum structural cruising speed)

*Va (Design maneuvering speed)

Vlo (Maximum speed for landing gear operation)

Vle (Maximum speed for landing gear extended)

Side windows open

Vfe (Maximum speed for flaps extended)

Vfe (Maximum speed for flaps extended)

97 mph (84 knots)

100 mph (87 knots)

123 mph (107 knots)

110 mph (96 knots)

99 mph (78 knots)

*See NOTE 2.

Center of Gravity +102.8 to +107.4 for all weights to 2200 pound max. gross weight (C.G.) range (Moment change due to landing gear retraction, plus 860 in.-lb.)

Empty weight C.G. range +110.2 to +112.7

When the empty weight C.G. falls within the range given, complete computations of critical

fore and aft C.G. positions are unnecessary. Range is not valid for non-standard

arrangements.

Datum Bow of airplane, Hull Sta. 0; located 91.5 in. forward of wing

leading edge at side of hull.

Leveling means Entrance sill, left or right side.

Maximum weight 2200 lb. for land and water operations

Number of seats 2 at (+71), 1 at (+96)

Maximum baggage 230 lb. at (+96)

Fuel capacity 46 gal. at (+103.0) 40.6 gal. usable (std 2 tank system)

70.5 gal. at (+103) wing tanks (+118) hull tank, 64.6 gal. usable

(3 tank system)

(see NOTE 1 for data on system fuel and oil)

Oil capacity 2 gal. at (+126) 6 qt. usable

Control surface movements Rudder Left $28^{\circ} + \text{or } -2^{\circ}$ Right $28^{\circ} + \text{or } -2^{\circ}$ (measured from surface Elevator Up $21^{\circ} + \text{or } -2^{\circ}$ Down $17^{\circ} + \text{or } -2^{\circ}$

 16° + or - 2° 30° + or -2° Down Elevator tab Up $30^{\circ} + 3^{\circ} - 0^{\circ}$ $20^{\circ} + 3^{\circ}$ - 0° Aileron Up Down 30° + or -2° Right 30° + or -2° Rudder tab Left $15^{\circ} + 2^{\circ} - 0^{\circ}$ Down

Manufacturer's Serial

Numbers

chord line)

22, 24 and subsequent, IFR operation approved per note 2 (a) (8).

Certification basis Federal Aviation Regulations Part 23, effective 1 February 1965 and

Amendments 23-1 through 23-6.

Production basis None. Prior to original certification of each aircraft, an FAA representative must perform a

detailed inspection for workmanship, materials, and conformity with the approved technical

data, and a check of the flight characteristics.

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:

Stall warning indicator installed per TAC drawing No. 1-6715

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NOTE 1. Current weight and balance report including list of equipment included in certificated empty weight, and loading instruction when necessary must be provided for each aircraft at the time of original certification. The certificated empty weight and corresponding center of gravity location must include undrainable system oil of 1 lb. at +126 and unusable fuel as follows:

3 lb. at (+118.0) (single tank system)
32 lb. at (+103.0) (standard 2 tank system)
35 lb. at (+103) wing tanks (+118) hull tank (3 tank system)

NOTE 2. The following placards must be displayed:

- (a) In front of and in full view of the pilot:
 - (1) "THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS, AND MANUALS. ALL ACROBATIC MANEUVERS, INCLUDING SPINS PROHIBITED."
 - (2) Models TSC-1A, TSC-1A1 and TSC-1A2 S/Ns 22 and 24 only "OPERATION OF THIS AIRPLANE IS LIMITED TO VFR FLYING UNDER NON-ICING CONDITIONS."
 - (3) Model TSC-1A only

"OPERATE LANDING GEAR BELOW
GEAR DOWN SPEED LIMIT
WINDOW OPEN SPEED LIMIT
CROSSWIND OPERATING LIMIT
DESIGN MANEUVERING SPEED
ALTITUDE LOSS IN POWER OFF STALL
USABLE FUEL IS AVAILABLE IN
ALL APPROVED FLIGHT CONDITIONS."

100 m.p.h.
110 m.p.h.
110 m.p.h.
15 m.p.h. land; 20 m.p.h. water
106 m.p.h.
250 ft.

- (4) Models TSC-1A1 and TSC-1A2 only

 "OPERATE LANDING GEAR BELOW
 GEAR DOWN SPEED LIMIT
 WINDOW OPEN SPEED LIMIT
 CROSSWIND OPERATING LIMIT
 DESIGN MANEUVERING SPEED
 ALTITUDE LOSS IN POWER OFF STALL
 USABLE FUEL IS AVAILABLE IN
 ALL APPROVED FLIGHT CONDITIONS."

 100 m.p.h.
 123 m.p.h.
 110 m.p.h.
 110 m.p.h.
 115 m.p.h. land; 20 m.p.h. water
 97 m.p.h.
 250 ft.
- (5) Model TSC-1A only
 "WEIGHT AND BALANCE LIMITS
 MAXIMUM DESIGN GROSS WEIGHT 1900 LB.
 CENTER OF GRAVITY RANGE 102.3 TO 109.7 INCHES
 18.0% TO 30.4% MAC
 REFER TO AIRPLANE WEIGHT & BALANCE REPORT
 FOR PROPER LOADING INFORMATION."
- (6) Model TSC-1A1 only
 "WEIGHT AND BALANCE LIMITS MAXIMUM DESIGN
 GROSS WEIGHT 2200 LB., 2100 lb. water
 CENTER OF GRAVITY RANGE
 103.5 to 107.8 at 2200 lb.
 +103.1 to +108.4 at 2100 lb.
 +102.3 to +109.7 at 1900 lb. or less
 STRAIGHT LINE VARIATION BETWEEN POINTS GIVEN
 REFER TO AIRPLANE WEIGHT AND BALANCE REPORT
 FOR PROPER LOADING INFORMATION."
- (7) Model TSC-1A2 only
 "TEAL II WEIGHT AND BALANCE LIMITS
 MAXIMUM DESIGN GROSS WEIGHT: 2200 LB.
 CENTER OF GRAVITY RANGE: 102.8 to 107.4 in. at 2200 lb. or less
 REFER TO AIRPLANE WEIGHT AND BALANCE REPORT
 FOR PROPER LOADING INFORMATION."
- (8) Model TSC-1A2, S/N's 25 and up
 "THIS AIRPLANE APPROVED FOR DAY OR NIGHT VFR OR IFR FLIGHT IN NON-ICING
 CONDITIONS WHEN PROPERLY EQUIPPED IN ACCORDANCE WITH FAR 91."

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(b) On top surface of landing gear retraction mechanism housing:

"RAISE PIVOT TO LOWER GEAR IN WATER. LOWER PIVOT PRIOR TO WATER TAKE OFF."

(c) On top surface of landing gear retraction mechanism housing:

"NOTE: IF GEAR IS INADVERTENTLY LOWERED IN FLIGHT WITH PIVOT UP, BLEED AIR CYLINDERS TO RETRACT GEAR."

(d) On or adjacent to air cylinder:

"CAUTION"

"PRESSURIZED AIR CYLINDER. RELEASE PRESSURE BEFORE REMOVING.
AFTER INSTALLATION INFLATE TO 300 PSI WITH NITROGEN OR AIR WITH GEAR DOWN."

(e) On or adjacent to baggage compartment:

"BAGGAGE LIMIT, 60 LB. WITH PILOT AND PASSENGER, 230 LB. WITH PILOT ONLY."

(f) Adjacent to fuel filler cap:

"23.0 GALLON CAPACITY 80/87 OCTANE (WING TANKS) 24.5 GALLON CAPACITY 80/87 OCTANE (HULL TANK)."

(g) Adjacent to fuel control valve:

"FUEL VALVE 20.3 GAL. USABLE (STANDARD 2 TANK SYSTEM) FUEL VALVE 24 GAL. USABLE (SINGLE TANK AND 3 TANK SYSTEM)."

(h) Such that horizontal bar on placard is 10.38 in. above side window sill.

"MAXIMUM WINDOW OPENING IN FLIGHT."

(i) Adjacent to light switches on instrument panel:

"WARNING: TO AVOID OPTICAL ILLUSION AND SEVERE VERTIGO, TURN ANTI-COLLISION LIGHTS OFF UPON ENTERING CLOUDS, FOG OR HAZE."

(j) Adjacent to cabin heater controls (Janitrol model B-1500, P/N 99C42):.

"WARNING: WAIT 2 MINUTES AFTER TURNING HEATER OFF BEFORE TURNING OFF HEATER MASTER SWITCH."

(k) Beneath the left and right fuel quantity gages on the instrument panel:

"THE 2.7 GALLONS OF UNUSABLE FUEL IN EACH WING TANK WHEN QUANTITY INDICATOR READS ZERO CANNOT BE SAFELY USED IN FLIGHT."

(1) On the selector valve plate for the three tank system (Model TSC-1A2 only):

"CAUTION: USE HULL FUEL FIRST"

In addition to the placards specified above, the prescribed operating limitations indicated by an asterisk (*) under Section I, II and III of this data sheet must also be displayed by permanent markings.

NOTE 3. None

NOTE 4. Model TSC-1A Type Certificate issued 28 August 1969 for a maximum gross weight of 1850 lb. Maximum gross weight of 1900 lb. approved 9 December 1969.

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