

European Aviation Safety Agency

EASA SPECIFIC AIRWORTHINESS SPECIFICATION

Silvercraft SH-4

This Specific Airworthiness Specification is issued in accordance with Regulation (EC) 216/2008 Article 20(1)(b). There is no valid Type Certificate for this aircraft type. The former type certificate holder was

**SILVERCRAFT S.p.A.
Strada Sempione 114
21018 Sesto Calende (Varese)
Italy**

Issue 1: 2 May 2011

List of effective Pages:

Page	1	2	3	4	5	6
Issue	1	1	1	1	1	1

TABLE OF CONTENTS

Section	Page
Section 1: Aircraft Design Definition	3
SH-4	
I General	3
II Certification Basis	3
III Technical Characteristics and Operational Limitations	3
IV Notes	5
<hr/>	
Section 2: Airworthiness Directives	6
Section 3: Occurrence Reporting	6
Section 4: Other limitations	6

Change Record

Issue 1, 2 May 2011

initial issue; issuance of SAS to cover orphan aircraft

Section 1: Aircraft Design Definition

SH-4

I. General

1. Type / Variant or Model:

- | | | |
|-----|-------------------|------|
| (a) | Type: | SH-4 |
| (b) | Variant or Model: | N/A |

2. Airworthiness Category: Small Rotorcraft

3. National Certification Date:

- 4 September 1968 with engine Franklin 6A-350-D1
- 24 September 1970 with engine Franklin 6A-350-D1A
- 17 July 1972 with engine Franklin 6A-350-D1B (Registro Aeronautico Italiano SO / A-145)

4. National Application Date:

- 8 February 1965 with engine Franklin 6A-350-D1
- 1 August 1969 with engine Franklin 6A-350-D1A
- 12 August 1970 with engine Franklin 6A-350-D1B

5. EASA Type Certification Date: N/A

II. Certification Basis

1. Certification Basis: FAR Part 27 of 1 February 1965 including amendment 27-1.

2. Airworthiness Requirements: As defined above

3. Reversions and Exemptions Granted: N/A

4. Equivalent Safety Findings: N/A

5. Special Conditions: N/A

6. Environmental Standards including noise: N/A

III. Technical Characteristics and Operational Limitations

1. Description: Single reciprocating engine powered helicopter with 2-blade main rotor and skid landing gear.

2. Equipment: The basic required equipment as prescribed in the applicable Airworthiness Regulations (See Certification Basis) must be installed in the Rotorcraft for certification. In addition, the following items of equipment are required: (a) Rotorcraft Flight Manual dated September 4, 1968 for Model SH-4 (approval Registro Aeronautico Italiano N° 69.488/T), or latter approved revision

3. Engine: Franklin 6A-350-D1 or Franklin 6A-350-D1A or Franklin 6A-350-D1B

- 4. Fuel:**
- 80/87 minimum grade aviation gasoline for engine 6A-350-D1
 - 100/130 minimum grade aviation gasoline for engine 6A-350-D1A / 6A-350-D1B

5. Engine limits:

<u>6A-350-D1</u>	<u>HP</u>	<u>RPM</u>	<u>IN.HG</u>	<u>ALT. FT</u>
Max. continuous	170	2850	26.7	S.L.
Max. continuous	170	2850	25.2	4000
Take off	170	2850	26.7	S.L.
 <u>6A-350-D1A / 6A-350-D1B</u>				
Max. continuous	170	2850	25.0	S.L.
Max. continuous	170	2850	23.4	6000
Take off	170	2850	25.0	S.L.

6. Rotor limits & Engine Operating Speeds:

<u>Power Off (Rotor Tach.)</u>	<u>Power On (Engine Tach.)</u>
Max. 437 RPM	Max. 2850 RPM
Min. 389 RPM	Min. 2650 RPM

- 7. Airspeed Limits (IAS):** Vne (Never Exceed Speed) 100 m.p.h. (87 knots) at Sea Level. For reduction of Vne with altitude, see Rotorcraft Flight Manual
- 8. C.G. Range (Longitudinal):** (+82.7 to +85.8 in) (2100 to 2180 mm) at 1350 lb (612 kg).
(+80.1 to +86.6 in) (2035 to 2200 mm) from 1750 lb. to 1900 lb (794 to 862 kg).
Straight line variation between 1350 lb. and 1750 lb (612 to 794 kg).
- 9. C.G. Range (Lateral, left negative):** (-3.34 to 0 in) (-85 to 0 mm) at 1350 lb (612 kg).
(-2.16 to 0 in) (-55 to 0 mm) at 1900 lb (862 kg).
Straight line variation between 1350 lb. and 1900 lb (612 to 862 kg).
- 10. Empty Weight C.G. Range:** No limitation
- 11. Levelling Means** Plumb bob at the reference located on the left side of the fuselage, just aft of the door.
- 12. Datum:** Longitudinal: 70.1 in (1780 mm) forward of the plumb bob axis
Lateral: 23.6 in (600 mm) right of the plumb bob axis
- 13. Maximum Weight:** 1900 lb (862 kg)
- 14. Number of Seating Positions:** 3 at Station +55.1 in (1400 mm)

- 15. Fuel Capacity:** 33.5 US gal (126 l) total in 2 tanks at Station +85.2 in (2165 mm).
See Note 1 for unusable fuel.
- 16. Oil Capacity:** 2.35 US gal (9.0 l) at Station +95.1 in (2415 mm).
See Note 1 for unusable oil.
- 17. Other operating limitations:** See Rotorcraft Flight Manual
- 18. Main Rotor Blade Movements:** (Helicopter level)
The angles refer to the upper flat surface of the main rotor grip.
- | | | |
|--------------------|------------|--------|
| - Collective Pitch | +7° to -7° | (±30') |
| - Cyclic, forward | 8° 30' | (±30') |
| aft | 8° 30' | (±30') |
| left | 6° 40' | (±30') |
| right | 6° 40' | (±30') |
- 19. Tail Rotor Blade Movements:** The angles refer to blade tip.
- | | | |
|--------------|---------|--------|
| - Collective | +2° 45' | (±30') |
| | 20° 30' | (±30') |

IV. Notes

1. Current Weight and Balance Report, including list of equipment included in certificated empty weight and loading instructions, must be provided for each helicopter at the time of original Airworthiness Certification and all times thereafter. Ballast, when necessary, must be carried in accordance with the loading instructions in the Rotorcraft Flight Manual.

The certificated empty weight and corresponding Center of Gravity locations must include:

- unusable fuel 6.0 lb (2.7 kg) at + 82.0 in (2081 mm)
- unusable oil 4.8 lb. (2.2 kg) at + 95.1 in (2415 mm)

2. The following placard must be installed in front and clear view of the pilot:

"THIS HELICOPTER MUST BE OPERATED IN COMPLIANCE WITH THE OPERATING LIMITATIONS SPECIFIED IN THE APPROVED ROTORCRAFT FLIGHT MANUAL."

For additional placards, see the Rotorcraft Flight Manual.

3. The following table lists part with a life limit. The given values cannot be increased without the approval from EASA.

Part description	Part number	Life limit
Airframe	XY 5225	1000 hours
Rotating controls installation	6100-2	1000 hours
Swashplate spherical support	XY 9059	500 hours
Fan belt	ULTRAFLEX 12.5x10	100 hours
MGB pinion	XY 9030-1	200 hours
MGB crown	XY 9028-1	200 hours

4. This helicopter must be serviced and maintained in compliance with the approved Inspection and Mandatory Scheduled Replacements Manual and the approved Maintenance Manual.

Section 2: Airworthiness Directives

<u>Registro Aeronautico Italiano N°</u>	<u>Subject</u>
73-88	Lever
76-12	Clutch and free-wheel assemblies

Section 3: Occurrence Reporting

The Specific Airworthiness Specification may be used as a basis for the issue of a Restricted Certificate of Airworthiness in accordance with 21A.173 (b)(2) under the following conditions:

- a) The holder of a Restricted Certificate of Airworthiness based on this Specific Airworthiness Specification shall report to the State of Registry all information related to occurrences associated with the operation of the aircraft which affects or could affect the safety of operation¹.
- b) Such reports shall be despatched within 72 hours of the time when the occurrence was identified unless exceptional circumstances prevent this.
- c) The State of Registry shall forward the information received under (a) to the Agency when it relates to failures, malfunctions, defects or other occurrences which cause or might cause adverse effects on the continuing airworthiness of the aircraft.

SECTION 4: Other Limitations

This EASA SPECIFIC AIRWORTHINESS SPECIFICATION is only valid for the following aircraft:

Serial numbers: 001, 002, 004, 005, 006, 007, 011, 015 and 018

Aircraft registered in a member state before EASA rules apply in that state are eligible to be "grandfathered" and covered by this SAS. Contact Lionel.Tauszig (at) easa.europa.eu or ROTORCRAFT-BALLOONS-AIRSHIPS (at) easa.europa.eu for updating the list of serial numbers.

_____END_____

¹ AMC 20-8 contains guidance describing the occurrences which are to be reported. This document can be found on the EASA website under Regulations>Certification Specifications:
<http://www.easa.europa.eu/agency-measures/certification-specifications.php#AMC-20>