



TYPE CERTIFICATE DATA SHEET

No. EASA.IM.R.001

for
S-92A

Type Certificate Holder
Sikorsky Aircraft Corporation

6900 Main Street
Stratford, CT 06615-9129
USA

For Model: S-92A



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SECTION 1: S-92A

I. General

- | | |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Type/ Model/ Variant | |
| 1.1 Type | S-92A |
| 1.2 Model | S-92A |
| 1.3 Variant | n/a |
| 2. Airworthiness Category | Large Rotorcraft, Category A and/or B |
| 3. Manufacturers | Sikorsky Aircraft Corporation
6900 Main Street
Stratford, CT 06615-9129, USA
and
Keystone Helicopter Corporation
110E Stewart Huston Dr.
Coatesville, PA 19320, USA |
| 4. Type Certification Application Date | to FAA: 1990
to JAA: 12 June 1995 |
| 5. State of Design Authority | Federal Aviation Administration (USA) |
| 6. Type Certificate Date | by FAA: 17 December 2002
by EASA: 8 June 2004 |
| 7. Type Certificate n° | by FAA: R00024BO |
| 8. Type Certificate Data Sheet n° | by FAA: R00024BO |

II. Certification Basis

- | | |
|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Reference Date for determining the applicable requirements | 11 April 2000 |
| 2. Airworthiness Requirements | JAR 29 Change 1 |
| 3. Special Conditions | - HIRF
- Use of a Dual-Engine 30-Minute Power Rating
- Search and Rescue modes of the AFCS
- Flight in Limited Icing (see Note 14.) |
| 4. Exemptions | none |
| 5. Deviations | none |
| 6. Equivalent Safety Findings | - JAR 29.1305(a)(24) APU limit indicators
- JAR 29.173, 29.175 Static longitudinal stability
- JAR 29.177 Static directional stability
- JAR 29.1181(a)(4), 29.1191(b) APU designated fire zone
- JAR 29.631 Birdstrike.
See Note 13. |
| 7. Requirements elected to comply | CS 29.1465 Amdt. 5 (when configured with HUMS on-board software version 92600-01810-109, or later, and SGBA software version 1.91.31.13, or later) |
| 8. Environmental Protection Requirements | |
| 8.1 Noise Requirements | See TCDSN EASA.IM.R.001, complies with ICAO Annex 16 Volume 1, 3 rd Edition at Amdt. 7, dated 21 March 2002. |
| 8.2 Emission Requirements | Aircraft complies with ICAO Annex 16, Volume 2, second edition (Fuel Venting) |
| 9. Operational Suitability Data (OSD) | See SECTION 2 below |



III. Technical Characteristics and Operational Limitations

1. Type Design Definition Sikorsky Drawings
92000-00001-041 & 92076-00001-011
2. Description Main rotor: Four (4) blades
Tail rotor: Four (4) blades
Fuselage: Aluminium fuselage construction with composite components
Landing gear: Retractable landing gear, triangle scheme
Powerplant: Two (2) free power turbine engines
FADEC controlled, flight essential APU
3. Equipment Basic equipment must be installed and operational prior to registration of the helicopter.
Refer to Equipment list in approved RFM
4. Dimensions
 - 4.1 Fuselage Length: 17.10 m (56ft 2in)
Width hull: 3.89 m (12ft 9in)
Height: 4.32 m (14ft 2in)
 - 4.2 Main Rotor Diameter: 17.17 m (56ft 4in)
 - 4.3 Tail Rotor Diameter: 3.35 m (11ft 0 in)
5. Engine
 - 5.1 Model General Electric Company
2 x Model GE CT7-8 or GE CT7-8A
 - 5.2 Type Certificate FAA TCDS No: E8NE
EASA TCDS No: EASA.IM.E.010
 - 5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

CT7-8 Engine							
Dual Engine Limits							
Rating	Time	Q [%]	T 4.5 [°C]	Ng [%]	NP [%]	PWR rated @ SLS [shp]	Rated NP [%]
Max Cont	---	100	920	99.9	106	2 043	105
		86 ⁽¹⁾ for V>100 KIAS					
30 Min ⁽²⁾	30 min	100	957	101.5	106	2 336	105
TKOF	5 min	100	986	102.9	106	2 520	105
Transient	12 sec	---	987	103.2	116	---	---
	10 sec	120 ⁽³⁾	---	---	---	---	---
Single Engine Limits							
Rating	Time	Q [%]	T 4.5 [°C]	Ng [%]	NP [%]	PWR rated @ SLS [shp]	Rated NP [%]
Max Cont	---	120	920	99.9	106	2 043	105
OEI	30 Min	120	979	102.4	106	2 498	100
OEI	2 Min	120	990	102.9	106	2 520	100
OEI	30 Sec	135	1 010	103.7	106	2 600	100
Transient	5 Sec	156 ⁽³⁾	---	---	---	---	---
Max starting	Peak	---	1 000	---	---	---	---

Notes:

- Boxes with bold borders and numbers denote EEC controlled limiter values.
- Q (%) values are gearbox limits.



- (1) 86% Q is not a gearbox limit. Its purpose is to limit flight control loads at high speed thereby preserving dynamic component replacement times.
- (2) Rating applies to hovering flight only.
- (3) Associated with “torque ramp up” due to abnormal rotor droop at FADEC controlled dual or OEI limit
- 100%Q corresponds to a combined power input from both engines to the MGB of 4 170 shp at a rotor speed of 105% (258 rpm). Power turbine speed (Np) of 105% corresponds to 21 945 rpm.
- Maximum continuous dual engine torque may exceed 100% on one engine to a maximum of 110% provided that the torque on the other engine is proportionally less than 100% and the sum of the individual torque values does not exceed 200%.
- Np overspeed trip is at 120%.
- Ng overspeed trip is at 108.5%.
- When flying at altitudes greater than 8 000 feet at outside temperatures lower than -20°C, it is possible to reach the corrected Ng speed limit of the engine. When this occurs, the engine will not produce more power. The only indication that the pilot will see when reaching this limit is that further increase in collective will commensurately droop Nr.

CT7-8A Engine							
Dual Engine Limits							
Rating	Time	Q [%]	T 4.5 [°C]	Ng [%]	NP [%]	PWR rated @ SLS [shp]	Rated NP [%]
Max Cont	---	100	935	99.9	106	2 043	105
		86 ⁽¹⁾ for V>100 KIAS					
30 Min ⁽²⁾	30 min	100	988	101.5	106	2 336	105
TKOF	5 min	100	995	102.9	106	2 520	105
Transient	12 sec	---	1003	103.2	116	---	---
	10 sec	120 ⁽³⁾	---	---	---	---	---
Single Engine Limits							
Rating	Time	Q [%]	T 4.5 [°C]	Ng [%]	NP [%]	PWR rated @ SLS [shp]	Rated NP [%]
Max Cont	---	120	988	102.4	106	2 498	105
OEI	2 Min	120	1 006	102.9	106	2 520	100
OEI	30 Sec	141	1 049	103.7	106	2 740	100
Transient	5 Sec	156 ⁽³⁾	---	---	---	---	---
Max starting	Peak	---	1 000	---	---	---	---

Notes:

- Boxes with bold borders and numbers denote EEC controlled limiter values.
- Q (%) values are gearbox limits.
 - (1) 86% Q is not a gearbox limit. Its purpose is to limit flight control loads at high speed thereby preserving dynamic component replacement times.
 - (2) Rating applies to hovering flight only.
 - (3) Associated with “torque ramp up” due to abnormal rotor droop at FADEC controlled dual or OEI limit
- 100%Q corresponds to a combined power input from both engines to the MGB of 4 170 shp at a rotor speed of 105% (258 rpm). Power turbine speed (Np) of 105% corresponds to 21 945 rpm.

5.3.2 Other Engine and Transmission Torque Limits

Refer to approved RFM

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel

Jet A, Jet A-1, JP-5, JP-8

6.2 Oil

Engines:

Refer to General Electric Installation Manual SEI-866.

APU: Refer to approved RFM



- 6.3 Additives Engines and APU:
For all operations below -20°C (-4°F) ambient temperature, all fuel used must contain MIL-DTL85470(B) or equivalent anti-icing additive in concentrations of not less than 0.1% or more than 1.5% by volume.
7. Fluid capacities
- 7.1 Fuel Fuel tank capacity: 2 896 litres (765 US gal)
Usable fuel: 2 877 litres (760 US gal)
- 7.2 Oil Engines:
Refer to General Electric Installation Manual SEI-866
APU:
Refer to approved S-92A Maintenance Manual
8. Air Speed Limitations V_{NE} Power-on: 165 KIAS.
See RFM for variation of V_{NE} with gross weight and density altitude.
- $V_{LE/LO}$: 165KIAS/165 KIAS
 V_{NE} with floats 'armed': 80 KIAS
 V_{NE} Power-off: 120 KIAS
 V_{NE} Hoist extended 120 KIAS
 V_{NE} Upper sliding door open 120 KIAS
 V_{NE} External cargo 120 KIAS
9. Rotor Speed Limitations Power-on/off:
Maximum 110%
Minimum 95%
10. Maximum Operating Altitude and Temperature
- 10.1 Altitude TKOF/LDG DA: 3 505 m (11 500 ft)
En route DA: 4 570 m (15 000 ft)
Flight in Icing
Conditions DA: 3 050 m (10 000 ft) (see Note 12.)
- 10.2 Temperature -40°C to ISA+35°C (see Note 6.)
11. Operating Limitations Category A and B
VFR Day and Night
IFR
Flight into known Icing Conditions
12. Maximum Mass TKOF/LDG: 12 020 kg (26 500 lb)
With external load: 12 836 kg (28 300 lb)
Maximum external load: 3 628 kg (8 000 lb)
13. Centre of Gravity Range Refer to approved RFM
14. Datum Longitudinal:
the datum plane (STA 0) is located 8 670 mm (341.2 in) forward of main rotor centroid.
Lateral:
fuselage median plane.
15. Levelling Means Levelling plate at STA 238.3, BL 40 RH and plumb line from top of RH forward doorframe
16. Minimum Flight Crew two (2), pilot and co-pilot
17. Maximum Passenger Seating Capacity 19, plus 1 observer in cockpit (see Notes 3., 4., 10.)
18. Passenger Emergency Exit 4 (fuselage sides) Type III
19. Maximum Baggage/ Cargo Loads 454 kg (1 000 lb)



- | | |
|----------------------------------|-----------------------------------------------------------------------|
| 20. Rotor Blade Control Movement | For rigging information refer to Maintenance Manual |
| 21. Auxiliary Power Unit (APU) | Honeywell 36-150[S92] |
| 22. Life-limited Parts | See Chapter 4 of the Maintenance Manual
(see Notes 7. and 8.) |
| 23. Wheels and Tyres | Tyres: 19.5 x 6.75-8 (TSO: C-62D)
Wheels: 92250-00801 (TSO: C-26C) |

IV. Operating and Service Instructions

1. Flight Manual
Rotorcraft Flight Manual as shown in FAA approved Sikorsky document SA S92A-FMCD-0000. This document specifies the applicable Flight Manual number for each aircraft. The applicable Flight Manual number is determined by the aircraft configuration and/or modifications. SA S92AFMCD-000 will be revised as required to add new aircraft or update the RFM required for Sikorsky modified aircraft.
Operations using the Search and Rescue (SAR) modes of the AFCS must be in accordance with EASA approved Sikorsky FMS E-01.
Changes to FMS E-01 must be EASA approved.
2. Maintenance Manual
SA S92A-AMM-000
SA S92A-AMM-AWL-000
3. Structural Repair Manual
SA S92A-SRM-000
4. Weight and Balance Manual
Refer to approved RFM
5. Illustrated Parts Catalogue
Within SA S92A-AMM-000
6. Service Letters and Service Bulletins
As published by Sikorsky and EASA-approved
7. Required Equipment

In order to meet ICAO Annex 16 Volume II, Part II, Chapter 2 requirement to prevent intentional discharge to the atmosphere of fuel from the fuel nozzle manifolds following shutdown, the rotorcraft is to be modified in accordance with Sikorsky drawing 92080-30001-011 (port side) and 92080-30001-012 (starboard side).

For flight in known icing conditions the aircraft must be fitted with the Rotor Ice Protection System (RIPS) as defined in Sikorsky Drawing Number 92076-55001, and must be operated in accordance with the EASA approved RFM.

Refer to approved RFM for other required equipment.

V. Notes

1. Manufacturer's eligible serial numbers:
Sikorsky Aircraft Corporation under Production Certificate Number 105:
920006 through 920114,
920116 through 920126,
920128, 920130, 920133, 920137, 920143, and subsequent are eligible.
Keystone Helicopter Corporation for production under Type Certificate only.
920115 is eligible
Keystone Helicopter Corporation under Production Certificate Number 121NE:
920127*, 920129*, 920131, 920132, 920134 through 920136, 920138 through 920142 are eligible.
Note: * originally designated as eligible for production by Keystone Helicopter Corporation under Type Certificate only and re-designated upon addition of S-92A to Production Certificate Number 121NE.
2. *reserved*
3. Seating arrangements for 19 passengers maximum defined by Sikorsky Drawing 92510-02130, have



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been approved by EASA. These arrangements are shown in the loading information section of the EASA approved RFM. Additional optional seating arrangements or related passenger provisions may be approved in accordance with the Type Certificate Basis.

4. Passenger seats located along the aisle way shall not have the armrests installed on the aisle-way side of the seats. Armrests shall be removed from the aisle-way side of any seat to be installed along the aisle-way.
5. The model S-92A rotorcraft employs electronic engine controls that are recognised to be more susceptible to Electromagnetic Interference (EMI) than manual (non-electronic) controls used on other rotorcraft. EMI may be the result of radiated or conducted interference. For this reason, modifications that add or change systems that have the potential for EMI must be either qualified to an EASA acceptable standard or tested at the time of installation for interference to the engine controls. This type of testing must employ the particular engine control’s diagnostic techniques and external diagnostic techniques. This testing must be accomplished in accordance with an EASA approved alternate test plan.
6. Cold Weather Pre-heat kit, Part Number 92700-00110-001, must be used for cold soak starts when the OAT is -25°C or below. See RFM for Cold Weather Procedures.
7. Information essential to the proper maintenance of the rotorcraft is contained in the Sikorsky S-92A Maintenance Manual. Publication SA S92A-AMM-000, and the Airworthiness Limitations and Inspection Requirements Manual SA S92A-AMM-AWL-000 provided with each helicopter. The values of retirement (service) life contained in Chapter 4 of the Airworthiness Limitations and Inspection Requirements Manual or inspection intervals cannot be changed without EASA approval.
8. The term “Unlimited Life” is defined as 30 000 flight hours for the model S-92A rotorcraft. Operation of individual aircraft beyond the 30 000 flight hours is contingent upon a Life Extension Program approved by EASA.
9. The approved JAA JAR 36 (through NPA-3) and ICAO Annex 16, Volume 1, Chapter 8 (Amendment 7) certificated noise levels for the Sikorsky S-92A are as follows:

Flight Condition	JAR Part 36 Noise Limits	S-92A Certification Levels	Margins to the JAR Limits	90% Confidence Intervals
Take-off	100.74	94.55	6.19	0.17
Approach	101.74	97.49	4.25	0.29
Overflight	99.74	97.19	2.55	0.13

The associated reference operating conditions for each of the conditions are summarized as follows:

	V _y /V _H	Main Rotor [rpm]	Tail Rotor [rpm]
Take-off	80 KIAS	257.9	1 254.8
Approach	80 KIAS		
Overflight	150.5 KTAS		

Note: IAS = indicated airspeed, TAS = true airspeed, V_{NE} = 167.8 KTAS

10. The S-92A has been certified for Category A with a maximum passenger seating configuration of 19 passenger seats and Category B with a maximum passenger seating configuration of 9 or less passenger seats.
11. Current weight and balance report, including list of equipment included in certified empty weight, and loading instructions, when necessary, must be provided for each rotorcraft at the time of original certification. The certificated empty weight and corresponding C.G. locations must include undrainable oil and unusable fuel.
See RFM loading section for variations of fuel weight and moment arm with variations of fuel and fuel quantity.
12. For flight in icing conditions, aircraft must be equipped with Rotorcraft Ice Protection System (RIPS) and RFM as shown in FAA Approved Sikorsky document SA S92A-FMCD-000, Revision 5 and subsequent. For flight into icing conditions, RIPS must be turned ‘ON’. RIPS equipped aircraft are not



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approved for flight in icing conditions above 10 000 ft PA, or for flight in freezing rain, freezing drizzle or Supercooled Large Drop (SLD) icing conditions.

13. When the Anticollision light system is installed in accordance with Sikorsky Drawing 33792-52871:
Basis of certification is the same as for the S-92A, plus:

EASA Equivalent Level of Safety for JAR 29.1401(d) Anticollision Light System.

14. Operations in Limited Icing per SAC Flight Manual Supplement No. E-03
Basis of Certification is the same as for the S-92A, plus:

EASA Special Condition for Helicopter Limited Icing Approval

* * *



SECTION 2: OPERATIONAL SUITABILITY DATA (OSD)

The OSD elements listed below are approved by the European Aviation Safety Agency as per Commission Regulation (EU) 748/2012, as amended by Commission Regulation (EU) No 69/2014.

I. OSD Certification Basis

- I.1 Reference Date for determining the applicable OSD requirements
Date of Application: 2 February 2015.
- I.2 MMEL - Certification Basis
JAR-MMEL Amdt. 1
- I.3 Flight Crew Data - Certification Basis
 - JAA/FAA/TCCA Common Procedures Document for Conducting Operational Evaluation Boards, dated 10 June 2004.
 - Explanatory Notes OEB/OSD transition Flight Crew Data, dated 27 March 2015.
- I.4 SIM Data - Certification Basis
reserved
- I.5 Maintenance Certifying Staff Data - Certification Basis
reserved
- I.6 Cabin Crew Data - Certification Basis
reserved

II. OSD Elements

- II.1 MMEL
Sikorsky Aircraft Corporation S-92A MMEL, dated 24 November 2015
- II.2 Flight Crew Data
Sikorsky S92A Operational Suitability Data (OSD) – Flight Crew, dated 20 November 2015
- II.3 SIM Data
reserved
- II.4 Maintenance Certifying Staff Data
reserved
- I.6 Cabin Crew Data
reserved



SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

AEO	All Engines Operative	OAT	Outside Air Temperature
AFCS	Automatic Flight Control System	OEB	Operational Evaluation Board
Amdt.	Amendment	OEI	One Engine Inoperative
AMM	Aircraft Maintenance Manual	OSD	Operational Suitability Data
APU	Auxiliary Power Unit	PA	Pressure altitude
B.L.	Butt Line	PWR	Power
C.G.	Centre of Gravity	RFM	Rotorcraft Flight Manual
CR	(European) Commission Regulation	RFMS	Rotorcraft Flight Manual supplement
CRI	Certification Review Item	RIPS	Rotorcraft Ice Protection System
DA	Density altitude	RPM	Rounds Per Minute
EMI	Electro Magnetic Interference	SAC	Sikorsky Aircraft Corporation
EU	European Union	SC	Special Condition
FAA	Federal Aviation Administration	SGBA	Sikorsky Ground Based Application
FADEC	Full Authority Digital Engine Control	shp	Shaft Horse Power
FMS	Flight Management System	SLD	Supercooled Large Droplets
HIRF	High Intensity Radiated Field	SLS	Sea Level Standard
HUMS	Health and Usage Monitoring System	STA	Station
IAS	Indicated Air Speed	TAS	True Air Speed
ICAO	International Civil Aviation Organization	TCCA	Transport Canada Civil Aviation
IFR	Instrument Flight Rules	TKOF	Take-off
ISA	International Standard Atmosphere	TSO	Technical Standard Order
JAA	Joint Aviation Authorities	VFR	Visual Flight Rules
JAR	Joint Aviation Requirements	V _H	Maximum speed in level flight at maximum continuous power
LDG	Landing	V _{Ie/Io}	Landing gear extending/operating
MGB	Main Gear Box	V _{NE}	Never Exceed Speed
MMEL	Master Minimum Equipment List	V _y	Best rate of climb speed
NPA	Notice of Proposed Amendment		



II. Type Certificate Holder Record

Type Certificate Holder	Period
Sikorsky Aircraft Corporation 6900 Main Street Stratford, CT 06615-9129, USA	Since initial TC

III. Change Record

Issue	Date	Changes	TC issue
Issue 1	8 Jun 2004	Initial Issue	Initial Issue, 8 June 2004
Issue 2	31 Jan 2005	---	---
Issue 3	12 Apr 2006	---	---
Issue 4	2 Sep 2010	Keystone Helicopter added as Manufacturer	---
Issue 5	27 Apr 2011	Note 1. revised to identify aircraft manufactured at Keystone.	---
Issue 6	24 May 2013	Change in format; addition of Special Condition for Limited Icing and ELOS for Anticollision light.	---
Issue 7	18 Dec 2015	Change in format; OSD added.	---
Issue 8	20 Dec 2018	II.3., V.13.: references to CRI removed; II.7.: CS 29.1465 Amdt. 5 added	---

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