DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

R00024BO Revision 28 Sikorsky Aircraft Model S-92A October 4, 2021

TYPE CERTIFICATE DATA SHEET NO. R00024BO

This data sheet, which is part of Type Certificate (TC) Number R00024BO, 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 (TC) HOLDER: Sikorsky Aircraft Corporation

6900 Main Street

Stratford, CT 06615-9129

MODEL NUMBER	S-92A (Transport Helicopter, Category A, Approved 17
	December 2002; Transport Helicopter, Category B,
	Approved May 7, 2004)

ENGINES 2 General Electric Company Model GE CT7-8 (TC E8NE) or

2 General Electric Company Model GE CT7-8A (TC E8NÉ) or 2 General Electric Company Model GE CT7-8A6 (TC E8NE)

FUELS JET A, JET B, JET A-1, JP-4, JP-5, JP-8, PRC No. 3, TS-1, RT

For all operations below –20°C (-4°F) ambient temperature, all fuel used

must contain MIL-D-27686 or equivalent anti-icing additive.

ENGINE AND TRANSMISSIONS APPROVED OILS

See Rotorcraft Flight Manual for list of approved oils.

HYDRAULIC FLUID MIL-PRF-87257 is authorized for use at all approved ambient

temperatures.

MIL-PRF-83282 may only be used at ambient temperatures above -32°C (-

25°F).

DEICING FLUID Kilfrost DF PLUS (88)

ENGINE AND TRANSMISSION LIMITS

Page	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Rev	28	3	3	24	27	27	27	27	27	25	24	26	24	27	28

Page 2 of 15 R00024BO

CT7-8 Engine

DUAL ENGINE LIMITS									
Rating	Time	Q (%)	T4.5 (°C)	Ng (%)	Np (%)	Rated SHP @ SLS	Rated Np (%)		
Max continuous		100	920	99.9	106	2043	105		
		86 (1)	when airs	speed is gi	reater than	100 KIAS			
30 Min (2)	30 min	100	957	101.5	106	2336	105		
Takeoff	5 min	100	986	102.9	106	2520	105		
Transient	12 sec		987	103.2	116				
	10 sec	120 (3)							
		SING	LE ENGIN	NE LIMITS					
Rating	Time	Q (%)	T4.5 (°C)	Ng (%)	Np (%)	Rated SHP @ SLS	Rated Np (%)		
Max continuous		120	920	99.9	106	2043	105		
OEI	30 min	120	979	102.4	106	2498	100		
OEI	2 min	120	990	102.9	106	2520	100		
OEI	30 sec	135	1010	103.7	106	2600	100		
Transient	5 sec	156(3)							
Max starting	peak		1000						

- Shaded box with bold number denotes a FADEC controlled limiter value.
- 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 air temperatures lower that –20 degrees 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.

Page 3 of 15 R00024BO

CT7-8A Engine

DUAL ENGINE LIMITS									
Rating	Time	Q (%) T4.5 Ng (%) Np (%) Rated SH					Rated		
			(°C)		,	@ SLS	Np (%)		
Max continuous		100	935	99.9	106	2043	105		
		86 (1)	when airs	speed is gi	reater than	100 KIAS			
30 Min (2)	30 min	100	988	101.5	106	2336	105		
Takeoff	5 min	100	995	102.9	106	2520	105		
Transient	12 sec		1003	103.2	116				
	10 sec	120 (3)							
		SINC	SLE ENGI	NE LIMITS	3				
Rating	Time	Q (%)	T4.5	Ng (%)	Np (%)	Rated SHP	Rated		
			(°C)			@ SLS	Np (%)		
Max continuous		120	988	102.4	106	2498	105		
OEI	2 min	120	1006	102.9	106	2520	100		
OEI	30 sec	141	1049	103.7	106	2740	100		
Transient	5 sec	156(3)							
Max starting	peak		1000						

- Shaded box with bold number denotes a FADEC controlled limiter value.
- 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 air temperatures lower that –20 degrees 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.

Page 4 of 15 R00024BO

CT7-8A6 Engine

DUAL ENGINE LIMITS								
Rating	Time	Q(%)	T4.5(°C)	Ng(%)	Np(%)	Rated SHP @ SLS	Rated Np(%)	
Max continuous		100	946	100.6	106	2329	105	
		86 (1) whe	n airspeed is	greater tha	n 100 KIAS	**		
30 Min (2)	30 min	100	996	102.9	106	2637	105	
Takeoff	5 min	100	1008	102.9	106	2695	105	
Transient	12 sec		1009	103.2	116			
	10 sec	120 (3)						
			SINGLE E	NGINE LIN	IITS			
Rating	Time	Q(%)	T4.5(°C)	Ng(%)	Np(%)	Rated SHP @ SLS	Rated Np(%)	
Max continuous		120	996	102.9	106	2637	105	
OEI	2 min	120	1013	102.9	106	2684	100	
OEI	30 sec	141	1097	103.7	106	2845	100	
Transient	5 sec	156(3)						
Max starting	peak		1000					

- Shaded box with bold font denotes a FADEC controlled limiter value.
- Q (%) values are gearbox limits.
- 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 8,500 ft at outside air temperatures lower than −30°C, it is possible to reach the corrected Ng speed limit of the engines. When this occurs, the engine will not produce more power. The only indication that the pilot will see when reaching this limit is that any further increase in collective will commensurately droop Nr.
- Engine will be shut down by ground idle protection if TGT is above 980°c, power control lever (PCL) is at idle, weight on wheels, and engine start cycle is completed.

Notes:

- Greater than 100 KIAS & below a density altitude of 6,000 ft Hd, the torque limit is reduced to 86% Q. greater than 100 KIAS & above 6,000 ft Hd, the torque limit is further reduced by 2% Q per 1,000 ft Hd. This is not a gearbox limit. Its purpose is to limit flight control loads at high speed to preserve dynamic component replacement times. This limit is not FADEC controlled.
- 2. Associated with torque ramp up due to abnormal rotor droop at FADEC controlled dual engine or OEI limit.
- 3. Rating applies to hovering flight only.
- 4. PCL must be at idle for limiter to function.

Page 5 of 15 R00024BO

ROTOR SPEED LIMITS

POWER OFF
Maximum 110% N _r
Minimum 95% N _r
POWER ON
Maximum 110% N _r
Minimum 95% Nr

DRIVE SYSTEM LIMITS

Dual Engine								
Torque (%)	No Inspect Req'd	Serviceability Check	Remove/Replace MGB					
0% to 100%	Continuous							
101% to 120%	< 10 sec	≥ 10 sec						
121% to 140%		< 10 sec	≥ 10 sec					
greater than 140%			Any occurrence					

Single Engine								
Torque (%)	No Inspect Req'd	Serviceability Check	Remove/Replace MGB					
0% to 120%	Continuous							
121% to 140%	< 30 sec	≥ 30 sec						
141% to 156%		< 5 sec	≥ 5 sec					
greater than 156%			Any occurrence					

AIRSPEED LIMITS

Vne (never exceed) Power On 165 KIAS. See Rotorcraft Flight Manual for variations of

Vne with gross weight and density altitude.

VIe/VIo (gear extended/gear operating) 165 KIAS/165 KIAS.

Vne with floats "armed" 80 KIAS.

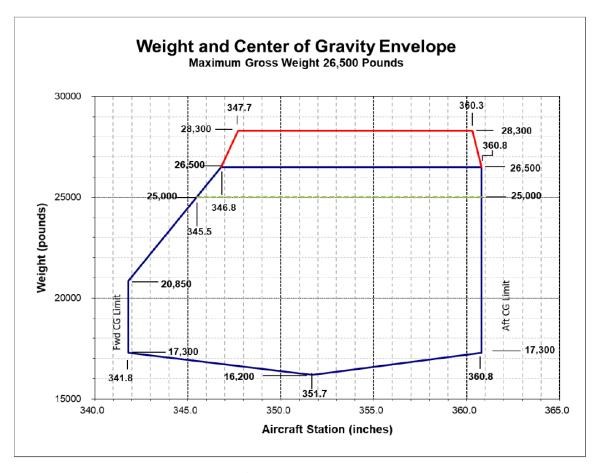
Vne Power Off 120 KIAS.

Vne Hoist Extended 120 KIAS.

Vne Upper Sliding Door Open 120 KIAS.

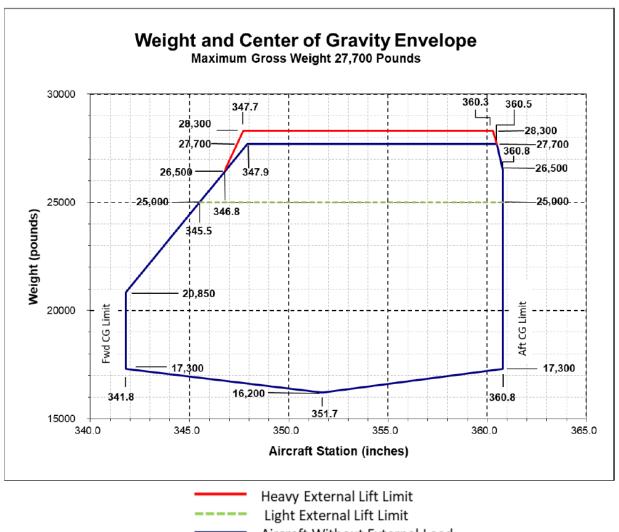
Vne External Cargo 120 KIAS. Heavy External Lift

CENTER OF GRAVITY (CG) LIMITS



Heavy External Lift Limit
Light External Lift Limit
Aircraft Without External Load

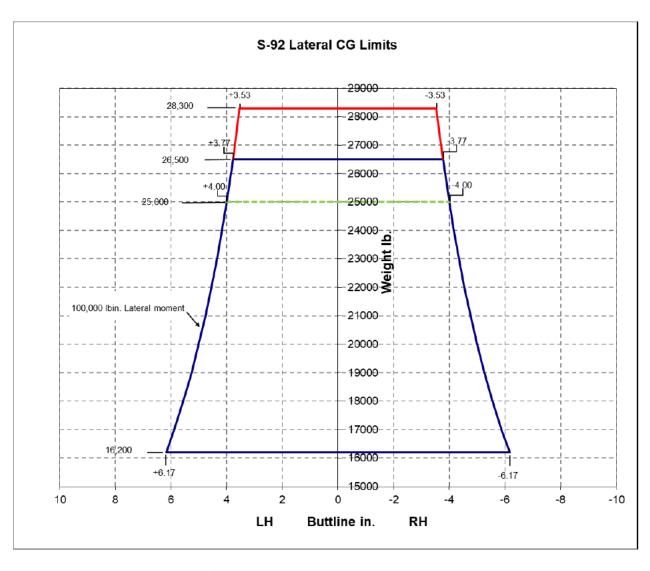
CENTER OF GRAVITY (CG) LIMITS (CONTINUED)



Aircraft Without External Load

LATERAL CG LIMITS:

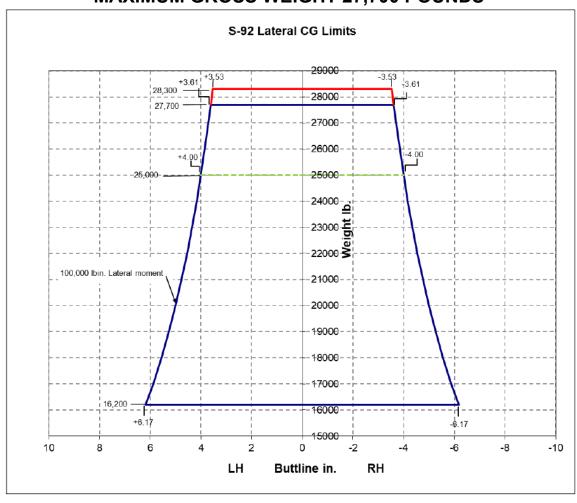
MAXIMUM GROSS WEIGHT 26,500 POUNDS



Heavy External Lift Limit
Light External Lift Limit
Aircraft Without External Load

LATERAL CG LIMITS (CONTINUED):

MAXIMUM GROSS WEIGHT 27,700 POUNDS



Heavy External Lift Limit
Light External Lift Limit
Aircraft Without External Load

EMPTY WEIGHT C.G. RANGE None

DATUM 341.2 inches forward of the main rotor centroid

LEVELING MEANS Leveling plate at STA 238.3, BL 40 RH, and plumbline from

top of RH forward doorframe.

MAXIMUM WEIGHT 26,500 pounds

27,700 pounds with Gross Weight Expansion Option (see

Note 16)

28,300 pounds with external load. Heavy External Lift

MAXIMUM EXTERNAL LOAD 8000 pounds. Heavy External Lift

Page 10 of 15 R00024BO

ALTITUDE LIMITS Takeoff and landing

11,000 feet density altitude

Enroute

15,000 feet density altitude

10,000 feet pressure altitude in icing conditions

See Note 11

-40°C to ISA+35°C (see Note 9) AMBIENT TEMPERATURE LIMITS

MINIMUM FLIGHT CREW 2 pilots (See Note 8)

3 (2 pilots, 1 cabin crew) Combination Passenger and

Cargo

2 Crew NUMBER OF SEATS

1 Observer

19 Passenger maximum (See Notes 6, 8 and

Combination Passenger and Cargo Interior

Option

3 Crew

9 Passenger maximum

1000 pounds MAXIMUM BAGGAGE

Combination Passenger and Cargo Interior Option

0 pounds

MAXIMUM CARGO Combination Passenger and Cargo Interior Option

(See Note 15)

92276-54000-011 kit installed

1650 lb at 200 lb./sq. ft., Sta 281 to 462 1100 lb at 200 lb./sq. ft., Sta 340 to 462 550 lb at 200 lb./sq. ft., Sta 397 to 462

92276-54000-012 kit installed

5000 lb at 200 lb./sq. ft., Sta 281 to 462 3100 lb at 200 lb./sq. ft., Sta 340 to 462 1200 lb at 200 lb./sq. ft., Sta 397 to 462

FUEL CAPACITY 764 gals (pressure refuel)

> 713 gals. (gravity refuel) 4.8 gals. unusable at Station 362.5 (See Notes 1 and 7)

OIL CAPACITY See General Electric Installation Manual SEI-866

ROTOR BLADE CONTROL MOVEMENTS For rigging information refer to Maintenance Manual Page 11 of 15 R00024BO

MANUFACTURER'S 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.

*920127 and 920129 originally designated as eligible for production by Keystone Helicopter Corporation under Type Certificate Only and redesignated upon addition of S-92A to Production Certificate Number 121 NE.

CERTIFICATION BASIS

Type Certificate No. R00024BO 14 CFR Part 29 Amendments 29-1 to 29-47, inclusive 14 CFR Part 36 Amendment 24

Equivalent Safety Findings:

Number TC0309BO-R/F-1 14 CFR Part 29.173 Static longitudinal stability 14 CFR Part 29.175 Demonstration of static longitudinal stability.

Number TC0309BO-R/F-4
14 CFR Part 29.177 Static directional stability.

Number TC0309BO-R/P-1 14 CFR Part 29.1305(a)(24) Power Plant Instruments.

Number TC0309BO-R/P-5 14 CFR Part 29.1 181(a)(4) Designated Fire Zones; Regions Included.

Special Conditions:

No. 29-011-SC for Dual-Engine 30 Minute Power
No. 29-008-SC for High Intensity Radiated Frequency

Noise Control Act of 1972

Compliance with the following optional requirements has been established: Ditching provisions FAR 29.563 including 29.801 and 29.807(d) and excluding 29.1411, 29.1415, and 29.1561 when emergency flotation system is installed. For extended over-water operations, compliance with the operating rules and FAR 29.1411, 29.1415, and 29.1561 must be shown.

Page 12 of 15 R00024BO

Anticollision light system installed in accordance with Sikorsky Drawing 33792-52871

Basis of certification is the same as the S-92A plus the following

Equivalent Safety Findings:

Number AT1610BO-R-S-1

14 CFR Part 29.1401(d) Anticollision light system

Passenger Configuration with Side Facing Executive Seats:

Basis of certification is the same as the S-92A plus the following

Equivalent Safety Findings:

Number AT01655BO-R-C-2, Number AT00407MC-R-C-1, and Number AT00407MC-R-C-2

14 CFR Part 29.809(a) Emergency exit arrangement

14 CFR Part 29.813(c)(2) Emergency exit access

Special Conditions:

None

Combination Passenger and Cargo Configuration:

Basis of certification is the same as the S-92A plus the following

Equivalent Safety Findings:

Number TD1454BO-R-S-1

14 CFR 29.855(a)(1), (d) Cargo and baggage compartments

Number TD1454BO-R-C-1

14 CFR 29.809(a) Emergency exit arrangement

14 CFR 29.813(c)(2) Emergency exit access

Special Conditions:

None

<u>Search and Rescue (SAR) Automatic Flight Control System (AFCS)</u> <u>Installation:</u>

Basis of certification is the same as the S-92A plus the following

Equivalent Safety Findings:

None

Special Conditions:

No. 29-023-SC for Installation of a Search and Rescue (SAR) Automatic Flight Control System (AFCS)

If CVR/FDR defined by 33792-54647 is installed, then compliance has also been shown to Amendment 29-52 of 14 CFR 29.1457 and 29.1459.

Page 13 of 15 R00024BO

PRODUCTION BASIS

Sikorsky Aircraft Corporation Production Certificate Number 105

Keystone Helicopter Corporation, Production Certificate Number 121 NE, under licensing agreement with Sikorsky Aircraft Corporation.

In the event of an application for a standard airworthiness certificate or, if an applicant intends to produce a new aircraft under 14 CFR § 21.183(d), and the applicant is manufacturing, building, or assembling to another person's type certificate, the applicant must provide written evidence of permission from the type certificate holder. Conduct of such activity without written evidence of permission may be a violation of 49 U.S.C. § 44704(a)(3).

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 item(s) of equipment is (are) required:

Rotorcraft Flight Manual as shown in FAA Approved Sikorsky document SA S92A-FMCD-000. This document specifies the applicable flight manual number for each aircraft. The applicable flight manual number is determined by the aircraft configuration. SA S92A-FMCD-000 will be revised as required to add additional rotorcraft flight manual numbers, new revisions, and new aircraft as appropriate.

- NOTES -

NOTE 1

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 un-drainable oil and unusable fuel.

See Rotorcraft Flight Manual loading section for variations of fuel weight and momentarm with variations of fuel and fuel quantity.

NOTE 2

The rotorcraft must be operated in accordance with the appropriate FAA-approved

Rotorcraft Flight Manual as required under "EQUIPMENT". All placards required in the FAA-approved Rotorcraft Flight Manual must be installed in the rotorcraft. The following placard must be displayed in front of and in clear view of the pilots:

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

All placards listed in the approved flight manual must be installed in the specified locations.

NOTE 3

Information essential to the proper maintenance of the rotorcraft is contained in the Sikorsky S-92A Maintenance Manual, SA S92A-AMM-000 and in the Airworthiness Limitations and Inspection Requirements Manual, SA S92A-AWL-000. The Airworthiness Limitations and Inspection Requirements for gross weights above 26,500 pounds are

Page 14 of 15 R00024BO

contained in document number SIC920010 (see Note 16). The values of retirement (service) life are contained in Chapter 4 of the Airworthiness Limitations and Inspection Requirements Manual in documents SA S92A-AWL-000 and SIC920010 (if applicable). The values of retirement (service) life cannot be changed without FAA Engineering approval. Manuals SA S92A-AMM-000 and SA S92A-AWL-000 are provided with each helicopter. Manual SIC920010 is provided with helicopters with the 27,700 lb. Gross Weight Expansion option.

NOTE 4 The term "Unlimited Life" is defined as 30,000 flight hours for the Model S-92A rotorcraft.

Operation of individual aircraft beyond 30,000 flight hours is contingent upon a Life Extension Program approved by FAA Engineering

- NOTE 5

 The model S-92A rotorcraft employs electronic engine controls that are recognized 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 either be qualified to an FAA 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 FAA Engineering approved alternate test plan.
- NOTE 6 Seating arrangements for 19 passengers maximum have been approved by the FAA. With these seating arrangements, seats located along the aisle way shall not have armrests installed on the aisle way side of any aisle seat unless the aisle way seat armrest incorporates an armrest hold down feature. Installation of the Observer Seat and/or Passenger Seat located on the forward starboard bulkhead is prohibited with the installation of the Lower Search/Rescue Door. Occupancy of the Passenger Seat located on the forward starboard bulkhead is prohibited if Observer Seat is installed. Carriage of passengers is prohibited with the installation of the Lower Search/Rescue Door. These seating arrangements are shown in the Loading Information section of the FAA-approved Rotorcraft Flight Manual. Additional optional seating arrangements or related passenger provisions may be approved in accordance with the Type Certificate Basis.
- NOTE 7 See the appropriate FAA approved Rotorcraft Flight Manual for fuel capacities of aircraft defined by SER-92020578 Revision -, or later approved revision.
- NOTE 8 See the appropriate FAA approved Rotorcraft Flight Manual for minimum required crew and passenger limitations of aircraft defined by SER-92020578 Revision -, or later approved revision.
- NOTE 9 Preheat must be used for cold soak starts when the OAT is -13°F (-25°C) or below. See Rotorcraft Flight Manual for Cold Weather Procedures.
- NOTE 10 External lift operations utilizing the cargo hook include Heavy External Lift and Light External Lift. Heavy and Light External Lift limitations are defined in the Rotorcraft Flight Manual and the Airworthiness Limitations and Inspection Requirements Manual.
- NOTE 11 For flight in icing conditions, aircraft must be equipped with Rotorcraft Ice Protection System (RIPS) and Rotorcraft Flight Manual 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 approved for flight in icing conditions above 10,000 ft pressure altitude, or for flight in freezing rain, freezing drizzle or Supercooled Large Drop (SLD) icing conditions.
- NOTE 12 Any modifications, alterations, or other changes to the exterior of the aircraft that may affect

Page 15 of 15 R00024BO

the operation or function of the RIPS system, or create an area or surface for ice collection that may be released in flight, must be approved by FAA Engineering to allow the approval of flight in icing conditions to be continued.

- NOTE 13 The S-92A rotorcraft has not been certified for Category A vertical takeoffs and landings from an elevated heliport.
- NOTE 14 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
- NOTE 15 Only serial numbers 920140 and 920142 are eligible for carriage of approved cargo in the Passenger and Cargo Configuration.
- NOTE 16 Capability to operate above 26,500 pounds and up to 27,700 pounds aircraft gross weight is predicated on the aircraft being structurally modified in accordance with the 92070-10004-011, 92070-10004-013, 92070-10004-017, 92070-10004-019, or 92070-10004-021 Gross Weight Extension (GWE) modification kits. S-92A Rotorcraft Flight Manual Supplement No. 14 Part 1 "27,700 lb. Gross Weight Expansion" or S-92A Rotorcraft Flight Manual Supplement No. 91 Part 1 "CT7-8A6 Engines, 27,700 LB Gross Weight Expansion" must be complied with when operating above 26,500 pounds. The information contained in RFM Supplement No. 14 and 91 supplements or supersedes the limitations and procedures in the basic Rotorcraft Flight Manual. When operated at gross weights above 26,500 pounds, the helicopter must comply with document number SIC920010 "Airworthiness Limitations and Inspection Requirements Gross Weight Expansion (GWE) Supplement No. 1." The information contained in document number SIC920010 supplements or supersedes the basic Airworthiness Limitations and Inspection Requirements Manual SA S92A-AWL-000.
- NOTE 17 Special mission equipment installations and associated aircraft modifications defined in SER-92020578 Revision -, or later approved revision are intended for military, public, or government use aircraft only.
- NOTE 18 All S/Ns on this TCDS meet or exceed the crash resistant fuel system certification basis requirements listed in section 44737 of Title 49 U.S.C.
- NOTE 19 The type certificate data sheet for General Electric Company CT7-8A/8A6 series engines approves engine operation with certain faults in the engine control system. Operation with these faults present, known as Time Limited Dispatch, is approved for the S-92A when the aircraft is operated in accordance with Rotorcraft Flight Manual Supplement No. 45, Part 1 revision 3, or later approved revision.

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