

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

H14NM

Helicopter Transport
Services

CH-54B

August 30, 2019
Revision 13

TYPE CERTIFICATE DATA SHEET NO. H14NM

This data sheet, which is part of Type Certificate No. H14NM, prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the Airworthiness Requirements of the Federal Aviation Regulations.

Holder of Type Certificate: Helicopter Transport Services, LLC
14497 Keil Road NE
Aurora, OR 97002

Type Certificate Holder Record: TC issued to Blue Bird Helicopter on September 15, 1993
TC transferred to Helicopter Transport Services February 21, 2001
Address Change on January 9, 2014

1. Model CH-54B (Military Surplus, Restricted Category) approved September 15, 1993- (see Note 6).

Engines: 2 Pratt & Whitney JFTD12A-5A (T73-P-700), with Hamilton Standard Fuel Control JFC56-6

Fuel: Aviation Kerosene JP-4 or JP-5
(Conforming to Pratt & Whitney Specification No. 522).

Engine Limits: Sea Level Static, Standard Day Conditions

	<u>Shaft HP</u>	<u>Power Turbine R.P.M.</u>	<u>Gas Gen. R.P.M.</u>	<u>Power Turbine Inlet Temp. (T₅)</u>
Takeoff (5 min.)	4800	9,450 (105% N2)	16,700 (104% N1)	720°C
One engine inoperative (30 min.)	4800	9,450 (105% N2)	16,700 (104% N1)	720°C
Maximum continuous	4420	9,450 (105% N2)	16,700 (104% N1)	675°C
Allowable maximum overspeed	--	10,260 (114% N2)	16,700 (104% N1)	675°C
Acceleration limit (2 min.)	--	--	--	720°C
Starting limit (2 min.)	--	--	--	525°C

Takeoff and maximum continuous horsepower ratings are normally obtained at a power turbine speed of 9,000 ~~r.p.m.~~ **RPM**. (100% N2).

Total power for two-engine operation is limited to 7880 s. hp. (82% torque) for takeoff and 6530 s. hp. (68% torque) maximum continuous.

Page No.	1	2	3	4	5	6	7
Rev. No.	13	9	13	9	11	10	9

Rotor Limits:

Power Off	Power On
Maximum 204 RPM r.p.m. (110% N_r)*	Maximum 193 RPM r.p.m. (104% N_r)**
Minimum 176 RPM r.p.m. (95% N_r)*	Minimum 185 RPM r.p.m. (100% N_r)**

*During autorotation, do not operate below 95% or above 110% N_r . Minimum N_r , down to 86%, is permitted momentarily during single-engine landing maneuvers.

**When operating with power on, do not operate continuously below or above 100% N_r even though the normal operating range is 100% to 104% N_r . During takeoff and landing, a rotor rpm range of 100% to 104% N_r is permissible to reduce rotor induced airframe vibrations. This increased speed range is not to be used in any of the remaining flight regimes.

Airspeed Limits:

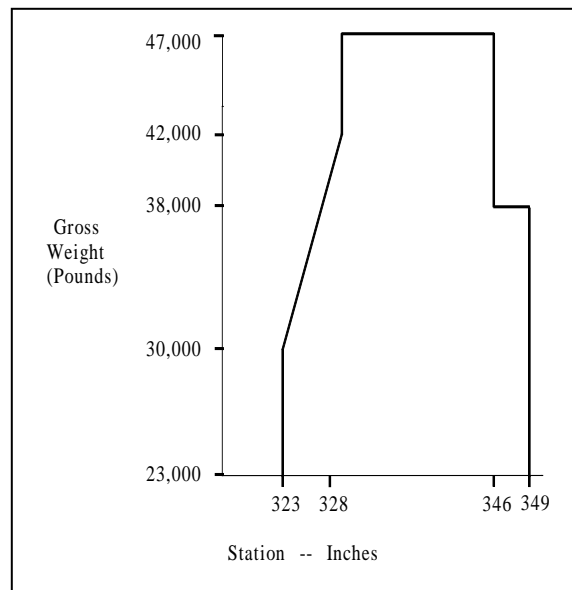
V_{ne} (never exceed) 120 ~~m.p.h.~~ MPH (104 knots) at 47,000 lbs. gross weight. For airspeed limits at lower gross weights and variation of V_{ne} with altitude refer to Rotorcraft Flight Manual.

Other Limits:

The helicopters approved under this type certificate are done so under the concept of limited exposure associated with escape from inadvertent ice encounters, and are prohibited against flight into known icing. The helicopters must be re-evaluated if certification to the General Ice Protection Airworthiness Regulations is required.

C.G. Range:

(+323.0) to (+349.0) at 23,000 lbs.
 (+323.0) to (+349.0) at 30,000 lbs.
 (+326.4) to (+349.0) at 38,000 lbs.
 (+326.4) to (+346.0) at 38,000 lbs.
 (+328.0) to (+346.0) at 42,000 lbs.
 (+328.0) to (+346.0) at 47,000 lbs.
 Straight-line variation between points given.



Empty Weight C.G. Range:	None
Datum:	336 inches forward of main rotor centroid.
Leveling Means:	Plumb line from top level plate inside cockpit aft door.
Maximum Weight:	47,000 lbs.
Minimum Crew:	Pilot and Co-Pilot
No. Seats:	See Note 14. 2 at (+94.0), -1 at (+108.5), -1 at (+127.0), 1 at (+130.0).
Maximum Baggage:	500 lbs. at (+124.0) - two baggage compartments with a maximum allowable load of 250 lbs. each compartment, and 500 lbs. at (+147); maximum allowable floor loading of 300 psf, all three compartments.
Fuel Capacity:	1351 gal.; 454 gal. at (+280.8), 454 gal. at (+397.3), 443 gal. at (+461.3).
Oil Capacity:	3.2 gal. at (+234.0); 2 tanks 1.6 gallon each
Rotor Blade and Control Movements:	For rigging information, refer to Maintenance Manual. (See Note 3.)
Other Operating Limitations:	See NOTE 6.
Approved Serial No.'s:	The following model CH54B helicopters have been approved under this TC: S/N's: 69-18467, 69-18470, 69-18484, 69-18463, 69-18468, 69-18469 and 69-18466 only.
Certification Basis:	FAR 21.25(a)(2) and (b) effective February 1, 1965, including amendments 21-1 through 21-42 and ASW-110 Memorandum dated September 8, 1993. Type Certificate No. H14NM issued November 1, 1993, for the special purpose of:

(1) Forest and Wildlife Conservation operations under FAR 21.25(b)(2)

Note: In accordance with FAR36.1(a)(4), compliance with the noise requirements was not shown. Therefore, aircraft certificated under this type certificate are only eligible for dispensing fire fighting materials excepted by FAR 36.1(a)(4) and defined under FAR 137.3.

(2) External Cargo Operations under FAR 21.25(b)(7)

Note: In accordance with FAR36.1(a)(4), compliance with the noise requirements was not shown. Therefore, aircraft certificated under this type certificate are only eligible for external load operations excepted by FAR 36.1(a)(4) and defined under FAR 137.3.

Any alteration to the helicopter for Special Purposes not identified above require further FAA approval and in addition, may require noise and / or flight testing.

General Note: Any subsequent modifications to the helicopter type certificated under this type certificate are to have the certification basis for that modification established under 14 CFR 21.101 published June 7, 2000, which became effective June 10, 2003. Otherwise, non-significant modifications are to meet the requirements of 14 CFR 29

airworthiness standards, transport category, effective February 1, 1965, including Amendments 29-1 thru 29-2, and 14 CFR 29 1529, Instructions for Continued Airworthiness, Amendment 20 effective September 11, 1980.

Date of Application:

November 30, 1992. Amended September 12, 2003.

Production Basis:

None. No helicopters may be produced under this approval. Prior to adding serial numbers to this Type Certificate, each candidate helicopter must undergo a conformity inspection. The conformity inspection will be conducted in accordance with a Type Inspection Authorization, Part 1, or request for conformity that will include as a minimum, the inspection contained in the FAA Rotorcraft Directorate Restricted Category Conformity document dated September 25, 2001.

Equipment:

The basic required equipment as prescribed in the applicable airworthiness regulations must be installed in or on each helicopter for certification. In addition, the following special purpose equipment and documents must be available in or on each helicopter for type certification and airworthiness certification:

- a) The "Operators Manual" and the "Checklists". (See Note 6)
- b) For the Special Purpose of External Loads under FAR 21.25(b)(7); provisions for the carriage of external loads are available in the form of structural hard points on the fuselage and main landing gear; single point hoist. Information concerning the operating limitations with this equipment is contained in the Operations Manual. The installation of a Department of the Army cargo pod will require further FAA approval.
- c) For the Special Purpose of Forest and Wildlife Conservation under FAR 21.25(b)(2), Installation of the Simplex Model 314 Fire Attack Tank per Supplemental Type Certificate SR00931SE is required.

NOTES

NOTE 1.

A current weight and balance report including a list of equipment included in the certificated empty weight, and loading instructions when necessary, must be in each helicopter at the time of original airworthiness certification and at all times thereafter. The certified empty weight and corresponding C.G. locations must include undrainable oil of 5 lbs. (+234.0) and unusable fuel of 26 lbs.; 10 lbs. at (+290.0), 9 lbs. at (+370.0), 7 lbs. at (+461.0). Refer to Chapter 6 of TM 55-1520-217-10-2, "Operator's Manual, Army Model CH-54B Helicopters," with changes 1 through 5, revised September 25, 1986, for weight and balance information.

NOTE 2.

The following placards must be prominently displayed in the cockpit in full view of the pilots:

"THIS ROTORCRAFT MUST BE OPERATED IN ACCORDANCE WITH THE RESTRICTED CATEGORY OPERATING LIMITATIONS OF FAR 91.313."

"NO PERSON MAY BE CARRIED IN THIS HELICOPTER UNLESS HE IS A FLIGHT CREWMEMBER, FLIGHT CREWMEMBER TRAINEE, OR HE PERFORMS AN ESSENTIAL FUNCTION IN CONNECTION WITH THE MISSION OR IS NECESSARY FOR THE WORK ACTIVITY DIRECTLY ASSOCIATED WITH THE OPERATION."

The following placards must be prominently displayed next to the external load attaching point:

Page No.	1	2	3	4	5	6	7
Rev. No.	13	9	13	9	11	10	9

“MAXIMUM EXTERNAL LOAD 25,000 POUNDS”

NOTE 3. These helicopters must be serviced, maintained, inspected and overhauled in accordance with the documents specified in Helicopter Transport Services, LLC, "Instructions for Continued Airworthiness Report No. 1," document No. HTS-ICAREP-001, Revision 2, dated January 24, 2013, or later FAA accepted revision, or inspected in accordance with another FAA accepted inspection program. A FAA approved/accepted copy must accompany each helicopter on delivery.

NOTE 4. In addition to the standard helicopter requirements, the following additional data and/or helicopter configuration requirements must be met for each individual HTSI model CH-54B helicopter upon application for an original Special Airworthiness Certificate:

- a) A completed Application for Airworthiness Certificate, FAA Form 8130-6 that correctly identifies the type certificate holder's helicopter and its intended special purpose(s).
- b) Written confirmation from the certifying office that the affected serial number has been added to this Type Certificate.
- c) The application for airworthiness certification and the helicopter's registration certificate must match the information on the HTSI Data Plate.
- d) The documents specified in Section III of the FAA accepted HTSI Instructions for Continued Airworthiness Report HTS-ICAREP-001, revision 2, dated January 24, 2013, or later FAA approved/accepted revision are with the helicopter.
- e) The conditions and limitations specified in this Type Certificate Data Sheet are met.
- f) The military equipment is removed and the civilian equipment is installed as listed in HTSI document No. HTS-DMILREP-001, "De-militarization Report No. 1", Revision IR, FAA approved July 15, 2003, or later FAA approved revision. A copy of this report must remain with the helicopter's maintenance records and be delivered with the helicopter.

NOTE 5. The Maximum Allowable Operating Time (MAOT) schedule for Service Life Limited Part overhaul and retirement intervals are specified in Chapter 1, Section VI of Technical Manual No. TM 55-1520-217-23-2-1, "Aviation Unit and Intermediate Maintenance Manual CH-54B Helicopter," with Changes 1 through 16, dated September 21, 1987. In addition to the above listed MAOT schedule, the following MAOT apply:

Lower Hub Plate 65103-11009-103	15,575 hrs.
Hub Plate Upper 65103-11310-041	21,675 hrs.
Vertical Hinge Pin 65103-11022-105, -106	37,425 hrs.
Bracket Damper 65103-11032-042	20,875 hrs.

NOTE 6. These helicopters must be operated in accordance with a Flight Manual comprised of the following:

- (1) Helicopter Transport Services, LLC, "FAA Approved Rotorcraft Flight Manual HTS CH-54B", Document Number HTS-210, Rev IR, FAA approved May 1, 2012, or later FAA approved revisions.
- (2) Helicopter Transport Services, LLC, "Helicopter Transport Service CH-54B Flight Crew Checklist", Document CH-54B Crew Member Checklist 210-CL, Rev IR, dated March 31, 2013, or later FAA approved revisions.

VFR Restricted Category operations only.

NOTE 7. Prior to civil airworthiness certification, the Department of the Army Modification Work Orders (MWO's) and Technical Bulletins (TB's) listed in reports below, must be incorporated on those aircraft.

Blue Bird Report No. 1, dated September 14, 1994, Serial Number 69-18467 and 69-18470
Blue Bird Report No. 2, dated July 1, 1994, Serial Number 69-18484

NOTE 8. Prior to civil airworthiness certification compliance with the following must be accomplished:

Federal Aviation Administration (FAA) Airworthiness Directives (AD's) No. where applicable:

75-11-11	Gear box shaft and gear assembly
76-06-01	Hydraulic pumps
77-20-01	Main transmission plates
90-26-12	Main rotor blades -(Apply the BIM inspection procedures of AD 90-26-12 to all main rotor blades, regardless of part number installed on these CH-54B rotorcraft).

Department of the Army Safety of Flight (SOF) messages No.:

CH-54-82-01	MIL-H-5606 Hyd. fluid in lieu of MIL-H-83282
CH-54-82-02	One-time visual insp. torque arm on M/L/G struts
CH-54-82-03	One-time insp. of main gearbox support fittings
CH-54-82-04	One-time insp. T/R pitch link rod ends
CH-54-83-01	Insp. of I/G/B support fitting assy.
CH-54-83-02	Insp. of T/G/B mounting lugs
CH-54-84-01	One-time & repetitive insp. M/R/B
CH-54-84-02	One-time insp. for defective MS21251 brass turnbuckle
CH-54-85-01	One-time insp. of T/R servo links
CH-54-85-02	Insp. of M/R/B
CH-54-85-03	One-time insp. for correct installation of MGB Chip Detector/ Strainer Assy.
CH-54-86-02	Insp. of upper link P/N 65104-11036
CH-54-86-03	Insp. of pressure switch
CH-54-90-01	One-time insp. of AN-320-6 nuts

NOTE 9. These helicopters are prohibited from carrying cargo for compensation or hire. Carriage of cargo is limited to such cargo that is incidental to the helicopter owner's/operator's business that is other than air transportation.

NOTE 10. A restricted category helicopter may not be operated in a foreign country without the express written approval of that country.

NOTE 11. These helicopters have not been shown to meet the requirements of the applicable comprehensive and detailed Airworthiness Code as provided by annex 8, to the Convention of International Civil Aviation Organization.

NOTE 12. Military to Civil or Military to Military engine changes are allowed, provided the replacement engine is of the same make and model as identified in this TCDS. The military or civil replacement engine must have proper military or civil records and have the applicable FAA Airworthiness Inspection accomplished and is in an airworthy condition.

NOTE 13. Helicopters that do not have documentation showing they were surplus from an Armed Force of the United States are not eligible for certification under this type certificate. Engines and appliances that do not have documentation showing they were surplus from an Armed Force of the United States are not eligible for installation on a helicopter under this type certificate. Helicopter(s), engine(s), and appliances that have records indicating time-in-service by a

foreign military or a foreign government will be presumed to be ineligible for certification or installation under this type certificate. This presumption may be overcome by the applicant substantiating, to the satisfaction of the FAA, through documentation, tests, computations, evaluations, analyses, or other means or methods that the helicopter, engine, or appliance, during its time-in-service by the foreign military or foreign government, was maintained by a extent and in a manner equal to that of an Armed Force of the United States.

NOTE 14. No person may be carried in this helicopter during flight unless that person is essential to the purpose of the flight.

NOTE 15. An FAA representative must perform a detailed inspection for workmanship, materials, and conformity with approved technical data, and will verify that a maintenance flight test has been completed for each aircraft by qualified maintenance personnel in accordance with the Department of the Army Technical Manual TM 1520-217-MFT-2 change 1, dated July 19, 1985.

NOTE 16. Any alteration to the type design of this aircraft may require Instructions for Continued Airworthiness. If so, these instructions must be submitted and accepted by the FAA Fort Worth Aircraft Evaluation Group (FTW-AEG), prior to approval for return to service.

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