

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

R00005SE
Revision 2

Northwest Rotorcraft, LLC
UH-1H

November 8, 2006

TYPE CERTIFICATE DATA SHEET NO. R00005SE

This data sheet, which is part of Type Certificate No. R00005SE prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the 14 Code of Federal Aviation Regulations (14 CFR).

Type Certificate Holder: Northwest Rotorcraft, LLC
1000 85th Ave. S.E.
Olympia, WA 98501

Type Certificate Holder Record: Initial release to Precision Helicopters LLC May 3, 2004
Northwest Rotorcraft, LLC was sold and all aspects of the Type Certificate were moved to Olympia, WA

I – Model UH-1H, (Restricted Category Rotorcraft) Approved May 3, 2004

Engine 1 – Lycoming T53-L-13B

Fuel ASTM-D1655 (Jet A, Jet A-1, Jet B) (See Note 11 For Alternative Fuels)

Engine Limits

	Torque Pressure (PSI)	Output Horsepower (HP)	Output (RPM)	Exhaust Gas Temp (C°)	Gas Gen Speed N1(%)
Takeoff (30 min.)	50.0	1100	6600	610-625	101.5
Max Cont.	50.0	1100	6600	400-610	101.5

See notes 12, 13 and 14. Refer to TM55-1520-210-10 for additional limitation data.

Rotor Limits

Power Off

Power On

Maximum R.P.M.	339	324
Minimum R.P.M.	294	294

Airspeed Limits

Roof-mounted pitot static:

V_{NE} (never exceed speed) 124 knots up to 7500 lbs. Gross Weight, sea level to 2000 feet. Never exceed 113 knots up to 9500 lbs. Gross weight, sea level to 2000 feet. Refer to TM55-1520-210-10, Chapter 5, Section V, for specific operating airspeed limitations. See Note 2 for specific operation airspeed limitation placards.

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Nose-mounted pitot static:

Never exceed 112 knots up to 7500 lbs. Gross Weight, sea level to 2000 feet.
 Never exceed 103 knots up to 9500 lbs. Gross Weight, sea level to 2000 feet.
 Refer to TM55-1520-210-10, Chapter 5, Section V, for specific operating
 airspeed limitations. See Note 2 for specific operation airspeed limitation
 placards.

C.G. RANGE**Longitudinal C.G. Limits**

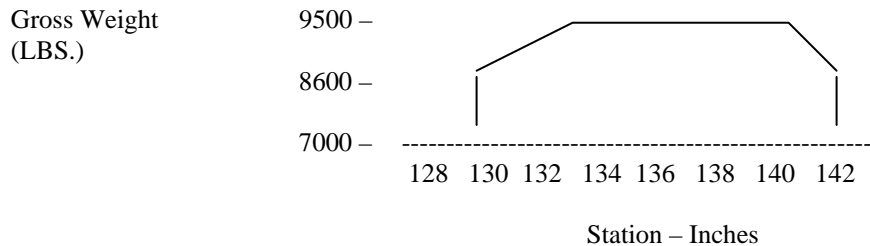
(+130.0) TO (+144.0) AT 7000 LBS.

(+130.0) TO (+144.0) AT 8600 LBS.

(+130.0) TO (+134.0) AT 9500 LBS.

(+134.0) TO (+143.0) AT 9500 LBS.

Straight line variation between points given.



Lateral C.G. Limits plus or minus 7.5 in.

Datum

Station 0, datum is 7.6 inches aft of the most forward point of the fuselage nose section.

Leveling Means

Plumb line from top of left main door frame to index plate on cabin floor. See Note 1.

Maximum Weight

9500 lbs.

Minimum Crew

1 (Pilot) at (+46.7)

No. Of Seats

See Note 18. { 1 at (+46.7) and 2 at (+85.0) }

Maximum Baggage

100 lbs. per sq. ft. of cargo area. (See U.S. Army TM55-1520-210-10.)

Fuel Capacity

208.5 U.S. gallons (+151.6) Crashworthy system.

220.0 U.S. gallons (+151.6) Non-crashworthy system.

Oil Capacity

3.25 gallons (+173.0)

Rotor Blade and Control Movements

For rigging information, refer to U.S. Army TM55-1520-210-23 (Maintenance Manual).

Serial Numbers Approved

U.S. Military Surplus UH-1H Helicopters as identified in Northwest Rotorcraft, LLC Report No. PH-103 dated October 18, 2006, or later FAA approved revisions. A current copy is on file at the Seattle Aircraft Certification Office.

Certification Basis

Part 21 § 21.25(a)(2), effective February 1, 1965, including Amendments 21-1 through 21-42.

Type Certificate No. R00005SE for the special purpose of:

Certification Basis (Cont.)

Agricultural operations under § 21.25(b)(1).

Note: In accordance with § 36.1(a)(4), compliance with the noise requirements was not shown. Therefore, aircraft certified under this type certificate are only eligible for agricultural operations excepted by § 36.1(a)(4) and defined under § 137.3.

2) Forest and Wildlife Conservation under § 21.25(b)(2)

Note: In accordance with § 36.1(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 § 36.1(a)(4) and defined under § 137.3.

3) External Load Operations under § 21.25(b)(7)

Note: In accordance with part § 36.1(a)(4), compliance with the noise requirements was not shown. Therefore, aircraft certificated under this type certificate are only eligible for external loads operations excepted by § 36.1(a)(4) and defined under § 133.1(b).

Any alteration to the aircraft 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 helicopters type certified 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, Amendment 1, effective August 12, 1965 and 14 CFR 29.1529, Instructions for Continued Airworthiness, Amendment 20, effective September 11, 1980.

Date of Application: October 17, 2002

Production Basis

None. No Helicopter may be produced under this approval. Each helicopter must pass a conformity inspection in accordance with this TCDS, plus any additional special instructions attached to the Request for Conformity, FAA 8120-10. In addition a check, by the type certificate holder, of the flight characteristics in accordance with all applicable portions of Section II of the U.S. Army Technical Manual TM55-1520-242-MTF Maintenance Test Flight Manual, Army Model UH-1, Change 4, dated June 28, 1996, as appropriate for each aircraft, or other FAA approved manual must be accomplished.

Equipment

The basic required equipment necessary for the particular special purpose operation must be installed for certification. Each helicopter is required to incorporate modifications as specified in Northwest Rotorcraft, LLC's Engineering Configuration Report, Report No. PH-101, N.C., dated October 18, 2006, or later FAA approved revisions. The Department of the Army Technical Manual No. TM55-1520-210-10, "Operator's Manual, Army Model UH-1H/V Helicopters" dated 31 December 2002, with Changes 1-10 must be available in each helicopter for Certification.

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 provided for each helicopter at the time of original airworthiness certification. Refer to Chapter 6 of Operator's Manual, TM55-1520-210-10 and Maintenance

Manual TM55-1520-210-23, Paragraph 1-36 for leveling means and weight and balance determination.

NOTE 2.

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

PLACARD No. 1:

CALIBRATED AIRSPEED-KNOTS
With Roof Mounted Pitot Static

<u>LIMITS</u>	<u>AIRCRAFT WT/KIAS</u>		
	<u>GROSS WEIGHT</u>		
<u>Density Alt. (Ft.)</u>	<u>To 7500lbs.</u>	<u>8500 lbs.</u>	
<u>9500 lbs.</u>			
SL to 2000	124	118	113
3000	121	115	110
6000	112	106	101
9000	103	97	92
12000	94	88	92
15000	82	76	83
18000	70	-	-

UNDER 7500 LBS. GW USE 6000 TO 6600 RPM RANGE
OVER 7500 LBS. GW USE 6400 TO 6600 RPM RANGE
POWER OFF 294 TO 339 ROTOR RPM
REDUCE SPEED WHEN VIBRATION IS EXCESSIVE

CALIBRATED AIRSPEED-KNOTS
With Nose Mounted Pitot Static

<u>LIMITS</u>	<u>AIRCRAFT WT/KIAS</u>		
	<u>GROSS WEIGHT</u>		
<u>DENSITY ALT. (FT.)</u>	<u>TO 7500 LBS.</u>	<u>8500 LBS</u>	<u>.9500 LBS.</u>
SL TO 2000	112	107	103
3000	109	104	100
6000	100	95	91
9000	91	86	82
12000	82	77	73
15000	70	65	-
18000	58	-	-

UNDER 7500 LBS. GW USE 6000 TO 6600 RPM RANGE
OVER 7500 LBS. GW USE 6400 TO 6600 RPM RANGE
POWER OFF 294 TO 339 ROTOR RPM
DECREASE AIRSPEED IF VIBRATION IS EXCESSIVE

PLACARD NO. 2:

“THIS ROTORCRAFT MUST BE OPERATED IN ACCORDANCE WITH
THE RESTRICTED CATEGORY OPERATING LIMITATIONS OF 14 CFR
part 91 § 91.313.”

PLACARD No. 3:

THIS HELICOPTER MUST BE OPERATED IN COMPLIANCE WITH THE OPERATING LIMITATIONS SPECIFIED IN THE APPROVED HELICOPTER OPERATORS MANUAL. REFER TO TM55-1520-210-10, CHAPTER 5, FOR OPERATING LIMITS AND RESTRICTIONS.”

PLACARD No. 4:

“VFR OPERATIONS ONLY.”

NOTE 3.

The Builder’s Data Plate required by part 45, § 45.13 must be installed in accordance with Northwest Rotorcraft, LLC’s Drawing No. PH-001, revision 4, dated October 18, 2006, or later FAA approved revisions.

NOTE 4.

The helicopter(s) must be serviced, maintained, inspected, repaired, and overhauled in accordance with the documents specified in Northwest Rotorcraft, LLC’s Instructions For Continued Airworthiness Report No. PH-106, dated October 18, 2006, or later FAA accepted revision, or inspected in accordance with other FAA accepted inspection program. The TC Holder’s Instructions For Continued Airworthiness Report is part of the TC holder’s Instructions For Continued Airworthiness.

NOTE 5.

Prior to obtaining an original Airworthiness Certificate:

- A. Each helicopter must pass a conformity inspection in accordance with this TCDS, plus any additional special instructions attached to the Request for Conformity, FAA 8120-10. In addition a check, by the type certificate holder, of the flight characteristics in accordance with all applicable portions of Section II of the U.S. Army Technical Manual TM55-1520-242-MTF Maintenance Test Flight Manual, Army Model UH-1, Change 4, dated June 28, 1996, as appropriate for each aircraft, or other FAA approved manual must be accomplished.
- B. Each helicopter must satisfactorily pass an inspection for conformity, possible hidden damage, and for workmanship and materials used in making any repairs and or alterations.
- C. The maintenance, overhaul and modification records of each helicopter must be reviewed for military changes that may affect the airworthiness of the helicopter. Modifications and changes of equipment that affect the safety or performance of the helicopter must be approved by the Federal Aviation Administration.
- D. After the required inspections, the aircraft must be found to be in a good state of preservation, repair, and in a condition for safe operation.

NOTE 6.

This aircraft is prohibited from carrying internal cargo for compensation or hire. Carriage of cargo is limited to such cargo that is incidental to the aircraft owners/operator’s business that is other than air transportation.

NOTE 7.

This helicopter must be operated in accordance with a Flight Manual comprised of the Department of the Army Technical Manual No. TM55-1520-210-10, “Operator’s Manual, Army Model UH-1H/V Helicopters” dated 31 December 2002, with Changes 1-10.

- NOTE 8. Restricted category aircraft may not be operated in a foreign country without express written approval of that country.
- NOTE 9. This aircraft has not been shown to meet the requirements of the applicable comprehensive and detailed Airworthiness Code as provided by Annex 8 to the Convention on International Civil Aviation.
- NOTE 10. Engine changes are allowed provided the replacement engine is of the same make and model as identified in this TCDS. The replacement engine must have proper military records and have the applicable FAA Airworthiness inspections accomplished.
- NOTE 11. Alternative and emergency fuels are listed in TM55-1520-210-10, Operators Manual Army Model UH-1H/V Helicopters, Chapter 2, Section XVI. Some limitations apply for the use of certain alternate and emergency fuels. These limitations are listed in this section.
- NOTE 12: Torque pressure output by the engine torque sensing system varies with individual engines. The calibration of this value is required on each engine and the value corresponding to take-off power is stamped on the engine data plate.
- NOTE 13: Gas producer speeds as shown under "Engine Limits" are maximum permissible speeds. The gas producer speed for rated power varies with individual engines and must be determined during engine calibration and stamped on the engine data plate. The rated gas producer speed shown on the temperature limit placard installed on the instrument panel must correspond to the engine data plate gas producer speed. Gas producer speed limits also vary with OAT in accordance with the schedule as shown on the Temperature Limits (GO-NO-GO TAKE-OFF) placard on the instrument panel or Health Indicator Test (HIT) results, as applicable.
- NOTE 14: Maximum permissible exhaust gas temperature varies with ambient temperature as described in the Operator's Manual. Check engine EGT by use of Health Indicator Test (HIT) prior to take-off (see U.S. Army TM55-1520-210-10 and HIT EGT Log for the aircraft).
- NOTE 15. The Airworthiness Directives (AD's) for the helicopter and engine must be complied with prior to original certification. The AD's are contained in Northwest Rotorcraft, LLC Report No. PH-102, revision 3, dated October 18, 2006, or later FAA approved revisions
- NOTE 16. Any alteration to the type design of this aircraft may require Instructions For Continued Airworthiness. These instructions must be submitted to and accepted by the FTW-AEG, Aircraft Evaluation Group Office prior to approval for return to service.
- NOTE 17. The Military Safety Of Flight (SOFs) Messages must be complied with on the helicopter, engine(s), and/or appliances prior to certification under this Type Certificate. SOFs are listed in Northwest Rotorcraft, LCC, Report PH-101, revision 3, dated October 18, 2006, or later FAA approved revision.
- NOTE 18. No person may be carried in this helicopter during flight unless that person is essential to the purpose of the flight.

END