

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

H10NM
Revision 7
BLR Aerospace, LLC
209/AH-1G
209/TAH-1P
March 1, 2019

TYPE CERTIFICATE DATA SHEET NO. H10NM

This data sheet which is part of Type Certificate No. H10NM 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 Holder BLR Aerospace, LLC
11002 29th Street West
Everett, WA 98204

Type Certificate Holder Record Rotorcraft Development Corporation transferred TC H10NM to BLR Aerospace, LLC
on December 3, 2014.
Garlick Helicopter, Inc. transferred TC H10NM to Garlick Helicopter Corporation on
June 29, 2007.

I – Model 209/AH-1G 2 PL (Utility Helicopter Restricted Category) approved September 10, 1990

Engine	Lycoming T-53-L13B series		
Fuel	Mil-T-5624, Grade JP-4; alternate fuel Mil-T-5624, Grade JP-5; See TM 55-1520-221-10 for substitute and emergency fuels		
Engine Limits	Torque Pressure <u>(PSI)</u> 50.0 (1100 HP Max.) See Chapter 7 Max. Torque Charts	Output <u>RPM</u> 6600 – Max. 6400-6600 continuous	Exhaust Gas <u>Temperature (°C)</u> 675 - 5 seconds 625 continuous
Rotor Limits	<u>Power Off</u> Maximum 339 RPM Minimum 294 RPM Continuous operations 294-324 RPM	<u>Power On</u> Maximum 324 RPM Minimum 294 RPM	
Airspeed Limits	Never Exceed 190 knots up to and including 9500 lbs. G.W. sea level to 4000 feet. (See airspeed operating limits chart for mission configuration limits.)		
C.G. Range	Longitudinal C.G. Limits: (+192.0) to (+200.0) to 9500 lbs. and above (+191.0) to (+201.0) to 8300 lbs. (+190.0) to (+201.0) to 7000 lbs. or less For further calculations, see Chapter 6.		
Maximum Weight	9500 lbs.		
Minimum Crew	1 (pilot)		

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I – Model 209/AH-1G 2 PL (cont'd)

Maximum Passengers	1 (one)
Maximum Baggage	Ammo bay may be used for baggage or equipment. Refer to loading data, Chapter 6.
Fuel Capacity Useable	260 U.S. gals if Crashworthy Fuel System is installed. 270 U.S. gals if Crashworthy Fuel System is not installed.
Oil Capacity	2.9 gals.
Control Movements	For rigging information, refer to Technical Manual: TM 55-1520-221-34.
Serial No. Eligible	67-15737.
Datum Leveling Means	See Weight and Balance Pertinent to All Models.
Certification Basis	FAR 21.25(a) (2) effective February 1, 1965. Type Certificate No. H10NM issued for the purpose of: (1) External Load Operations. Carrying of External Loads as defined in FAR 133.1(b), effective December 20, 1976. (2) Agricultural aircraft operations as defined in FAR 137.3, effective January 1, 1966, and for dispensing of Fire Fighting Materials.

Equipment The basic required equipment as prescribed in the applicable airworthiness regulations (see certificate basis) must be installed in each helicopter for certification. In addition, the following are required:

U.S. Army TM 55-1520-221-10 Operations Manual AH-1G/TH-1G.

All external equipment and its attachments installed on this aircraft, other than outlined in TM 55-1520-221-10 must be FAA approved Equipment listed in Garlick Helicopters, Inc., Drawing List GH-DL-1; FAA approved September 10, 1990, or later approved revision.

II. - Model TAH-1P (Restricted Category) approved August 18, 2017

Engine	Lycoming T53-L-703		
Fuel	MIL-T-5624, Grade JP-4; alternate fuel MIL-T-5624, Grade JP-5. See TM 1-1520-236-10 for substitute and emergency fuels.		
Engine Limits	Torque Pressure (%)	Output Shaft Speed (%RPM)	Turbine Gas Temperature (°C)
Continuous Operation	0% - 88%	97% - 100%	400° - 820°
Transient	88% - 100% (30 min)	101.5% - 104.5% (10 sec)	820° - 880° (30 min) 880° - 950° (5 sec)
Rotor Limits	<u>Power Off</u> Maximum 105% Minimum 91%	<u>Power On</u> Maximum 100% Minimum 91%	
	Continuous Operation 91% - 100%		

II. - Model TAH-1P (Restricted Category) (cont'd)

Airspeed Limits	Never Exceed 190 knots up to and including 10000 lbs. G.W. sea level to 4000 feet. (See airspeed operating limits chart for mission configuration limits.)
C.G. Range	Longitudinal C.G. Limits: (+192.4) to (+199.6) at 10,000 lbs. (+191.0) to (+201.0) at 8,300 lbs. (+190.0) to (+201.0) at 7,000 lbs. or less Straight line variation between points given above. Lateral C.G. Limits: ± 2.0 inches from centerline
Maximum Weight	10000 lbs.
Minimum Crew	1 (pilot)
Maximum Passengers	1 (one)
Fuel Capacity	262 U.S. gal. , usable
Oil Capacity	2.9 gal.
Rotor Blade and Control Movements	For rigging information refer to Technical Manual (TM) 55-1520-236-23.
Serial Numbers Eligible	76-22605
Datum	200 inches forward of main rotor centroid
Leveling Means	Leveling lugs from left side of storage bay compartment (laterally and Fore/Aft)
Certification Basis:	FAR 21.25(a) (2) effective February 1, 1965. Type Certificate No. H10NM issued for the purpose of: (1) External Load Operations. Carrying of External Loads as defined in FAR 133.1(b), effective December 20, 1976. Note: In accordance with FAR 36.1(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 133.1(b). Any alterations to the aircraft for Special Purposes not identified above require further FAA approval and in addition may require flight testing. Prior to original airworthiness certification of each rotorcraft, FAA personnel must perform a conformity inspection to the requirements of this type certificate data sheet and an airworthiness inspection to determine condition for safe operation and determine the applicant has conducted a satisfactory flight test.
Production Basis	None. No helicopters may be produced under this approval.

II. - Model TAH-1P (Restricted Category) (cont'd)

Equipment	<p>The basic required equipment as prescribed in the following documents must be in each helicopter for certification:</p> <p>(1) US Army Rotorcraft Flight Manual TM 1-1520-236-10, dated 26 Jan 2001 or later FAA approved revision.</p> <p>(2) Equipment as listed in BLR Aerospace LLC Report BLR-AH1-005, Rev IR dated 06/09/2017 or later FAA approved revision.</p> <p>(3) Equipment as listed in BLR Aerospace LLC Report BLR-AH1-006, Rev B dated 12/16/2018 or later FAA approved revision.</p>
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NOTES

- NOTE 1. Current weight and balance report including list of equipment included in certificated empty weight and loading instructions must be in each helicopter at time of original airworthiness certification and at all times thereafter. Refer Operations Manual (TM 55-1520-221-10 or TM 1-1520-236-10) or Appendix D of Maintenance Manual (TM 55-1520-221-23 or TM 55-1520-236-23) for CG determination and use of ballast if required.
- NOTE 2. EXTERNAL LOAD OPERATION
- In accordance with Federal Aviation Administration approved BLR Aerospace, LLC Model AH-1 Rotorcraft Flight Manual Supplement.
- NOTE 3. (a) FAA Airworthiness Directives for all Lycoming engines T53-L-13 (T53-L-13) or T53-L-703 series must be reviewed for applicability and complied with accordingly.
- (b) This type certificate may not be used by any other person or entity without written permission from the type certificate holder.
- NOTE 4. These model helicopters must be serviced, repaired and maintained in compliance with TM 55-1520-221-10, TM 1-1520-234-10, or TM 1-1520-236-10 and TM 55-1520-221-23, TM 55-1520-234-23, or TM 55-1520-236-23, or BLR Instructions for Continued Airworthiness BLR-AH1-950. Component overhaul intervals and replacement time shall be in accordance with the TBO/Replacement Schedule found in TM 55-1520-221-23, TM 55-1520-234-23, TM 55-1520-236-23, or BLR-AH1-950 unless superseded by appropriate Airworthiness Directive.
- NOTE 5. Special Inspection Requirements:
- Refer to Garlick Helicopters, Inc., Drawing No. GH-005 for instructions on 50-hour visual inspection of the Lift Beam Assy. P/N 209-030-141.
- NOTE 6. Torque pressure output by the engine torque sensing system varies with individual engines. A 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 7. Gas producer speeds as shown under "Engine Limits" are maximum permissible speeds. The gas producer speed for rated power outputs 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 data plate.
- NOTE 8. Maximum permissible exhaust gas temperature varies with ambient temperature as described in the Operators Manual. Check engine EGT by use of Health Indicator Test (HIT) prior to take-off (see TM 55-1520-221-10, TM 1-1520-234-10 or TM 1-1520-236-10 and HIT Log for the aircraft).
- NOTE 9. All FAA Airworthiness Directives affecting this Type Certificate must be complied with; applicable Airworthiness Directives are listed in BLR-AH1-007.

- NOTE 10. In the furtherance of safety and continued airworthiness, Military M.W.O.'s (Military Service Bulletins) and model type improvements will be reviewed for applicability by the Type Certificate holder and may be incorporated by the FAA Form 337.
- NOTE 11. Any Alteration to the type design of this aircraft may require Instructions for Continued Airworthiness (ICA's). Changes to the Type Design by means of a Supplemental Type Certificate (STC) requiring ICA's or changes to existing ICA's must be submitted and reviewed by the Fort Worth Aircraft Evaluation Group (FTW-AEG). Type Design Changes by means of a Field Approval that require ICA's must have those ICA's reviewed by the Flight Standards District Office (FSDO) managing the Field Approval or the FTW-AEG.

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