

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

H1AL
Revision 1
RISLEY
(SHOLTON)
(VERTOL)
H-21B

September 12, 1974

TYPE CERTIFICATE DATA SHEET NO. H1AL

This data sheet which is a part of type certificate No. H1AL 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 Lester W. Risley
P.O. Box 2360
Anchorage, Alaska 99509

I - Model H-21B (Restricted Category) approved 21 April 1972.

Engine	Wright R-1820-103A																																																						
Fuel	100/130 min. grade aviation gasoline																																																						
Engine limits	<table border="0" style="width: 100%;"> <tr> <td></td> <td style="text-align: center;"><u>Low Ratio Supercharger</u></td> <td style="text-align: center;">HP</td> <td style="text-align: center;">RPM</td> <td style="text-align: center;">MP IN HG</td> <td style="text-align: center;">ALT. (ft)</td> </tr> <tr> <td></td> <td>Maximum Continuous</td> <td style="text-align: center;">1275</td> <td style="text-align: center;">2500</td> <td style="text-align: center;">46.5</td> <td style="text-align: center;">S.L.</td> </tr> <tr> <td></td> <td>Maximum Continuous</td> <td style="text-align: center;">1275</td> <td style="text-align: center;">2500</td> <td style="text-align: center;">46.5</td> <td style="text-align: center;">3000</td> </tr> <tr> <td></td> <td>Take-Off (30 min)</td> <td style="text-align: center;">1425</td> <td style="text-align: center;">2700</td> <td style="text-align: center;">51.5</td> <td style="text-align: center;">S.L.</td> </tr> <tr> <td></td> <td>Take-Off (30 min)</td> <td style="text-align: center;">1425</td> <td style="text-align: center;">2700</td> <td style="text-align: center;">50.5</td> <td style="text-align: center;">1300</td> </tr> <tr> <td></td> <td colspan="5"> High Ratio Supercharger</td> </tr> <tr> <td></td> <td>Maximum Continuous</td> <td style="text-align: center;">980</td> <td style="text-align: center;">2500</td> <td style="text-align: center;">43.0</td> <td style="text-align: center;">10,800</td> </tr> <tr> <td></td> <td>Take-Off (30 min)</td> <td style="text-align: center;">1100</td> <td style="text-align: center;">2600</td> <td style="text-align: center;">50.0</td> <td style="text-align: center;">9,800</td> </tr> <tr> <td></td> <td colspan="5">(Straight line manifold pressure variation between altitudes shown.)</td> </tr> </table>		<u>Low Ratio Supercharger</u>	HP	RPM	MP IN HG	ALT. (ft)		Maximum Continuous	1275	2500	46.5	S.L.		Maximum Continuous	1275	2500	46.5	3000		Take-Off (30 min)	1425	2700	51.5	S.L.		Take-Off (30 min)	1425	2700	50.5	1300		 High Ratio Supercharger						Maximum Continuous	980	2500	43.0	10,800		Take-Off (30 min)	1100	2600	50.0	9,800		(Straight line manifold pressure variation between altitudes shown.)				
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Rotor Limits	Maximum 350 RPM Minimum 233 RPM																																																						
Airspeed limits	Maximum Never exceed (Vne) 110 knots IAS (See USAF T.O. 1H-21(C)B-1 for variation with weight, altitude, and CG position.)																																																						
C.G. Range	Sta. 319.0 to Sta. 339.5 at 15,200 lb. gross weight. Sta. 319.0 to Sta. 360.5 at 13,500 lb. gross weight or less. (Straight line variation between points given.)																																																						
Empty Weight C. G. Range	None																																																						
Datum	Sta. 354 (point midway between rotors)																																																						
Leveling Means	Plumb bob from tip of main cabin door frame (rear) to plate on door sill.																																																						
Maximum weight	15,200 lb.																																																						
Minimum Crew	One (1) Pilot																																																						

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Number of Seats	Pilot & Copilot (Sta. 84.0); Crew Seats (3): 1 at 140.0, 1 at 160.0, 1 at 180.0
Fuel capacity	Main Fuel Tank 304 U.S. Gals. (1824 lb.) at Sta. 395.0 (300 gallons usable in forward flight)
Oil capacity	21.47 U.S. gallons at Sta. 540.3 (includes hopper tank capacity of 4.0 U.S. gallons.)
Other Operating Limitations	T.O. 1H-21(C)B-1 and Sholton FAA approved Flight Manual Supplement dated 20 April 1972.
Serial Nos. Eligible	All USAF serial numbers with forms DD 829, 829-1, and 829-2 (Historical Records) and AFTO Form 100A (Accessory Replacement Record) which completely describe the maintenance history of the helicopter.
Certification basis	FAR 21.25(a)(2) effective 1 February 1965. Type Certificate No. H1AL issued 21 April 1972 for the special purposes of of external loads not to be conducted for compensation or hire. Date of Application for Type Certificate: 31 August 1971.
Production basis	None. No helicopter may be produced under this approval.
Equipment:	The basic required equipment as prescribed in CAR 7 Subpart F must be installed in the helicopter for certification. In addition, the cargo sling (5000 lb.) in accordance with Section V of T.O. 1H-21-2-2 must be installed.
NOTE 1.	Current weight and balance report including list of equipment included in certificated empty weight, and loading instructions when necessary, must be in each helicopter at time of original airworthiness certification and at all times thereafter.
NOTE 2.	The placards specified in the FAA approved Rotorcraft Flight Manual Supplement must be prominently displayed on the instrument panel in full view of the pilot.
NOTE 3.	Information essential to the proper maintenance of the helicopter including retirement time of critical components is contained in the maintenance T.O. 1H-21(C)B-6. The values of retirement or service life cannot be increased without FAA engineering approval. All other USAF T.O.'s which are necessary for operation and maintenance of the H-21B helicopter are contained on page 2 of Robert G. Sholton Modification Report VH- 21-B dated 20 December 1971.
NOTE 4.	Prior to civil airworthiness certification, the following must be accomplished: (a) Modifications in accordance with Robert G. Sholton Report VH-21-B dated 20 December 1971. (b) The provisions of AD 58-20-4, AD 60-23-5, AD 64-19-6, AD 64-27-4, AD 68-6-1, and any follow-on applicable AD's. (c) The provisions of USAF T.O.'s 1H-1-505, -508; 1H-21B-508, -510, -521; -541, -560, -567, -586, -592, -614, -626, -632, -638, -643, -650, -651, and -652.

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