DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

H9EA
Revision 2
Boeing Defense & Space Group

Model 234

July 18, 2000

TYPE CERTIFICATE DATA SHEET NO. H9EA

This data sheet which is a part of type certificate No. H9EA 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 — Boeing Defense & Space Group
Helicopter Division
P.O. Box 16858
Philadelphia, Pennsylvania 19142-0858

Model 234 (Transport Helicopter - Category A), Approved June 19, 1981
(See Note 5 for Model 234 Utility Helicopter)

Engine — Two AVCO Lycoming AL5512 (Type Certificate Data Sheet No. E4NE-2)

Fuel — MIL-T-5624K, Grade JP-4 or JP-5* and ASTM-1655
JET A*, A1*, or B
*For operations below 23°C (-10°F), anti-ice additive required.
See Note 4

Engine Operating Limits - (Normal Operation)

	Torque ft. - lbs (%)	Gas Gen r.p.m. (%)	Output Shaft r.p.m. (%)	Exhaust Gas Temp ^{O}C (^{O}F)
Takeoff (5 min)	1500 (94.5)	19500 (104.2)	14410 (100)	870 (1598)
OEI (30 min)	1650 (103.9)	19770 (105.5)	14410 (100)	910 (1670)
Max Continuous	1200 (75.6)	18280 (97.6)	14410 (100)	745 (1375)
Start/Transient	1950 (123.0)	19770 (105.5)	16400 (113.8)	910 (1670)

Rotor Limits

Power Off	Power On
Maximum 237 r.p.m. (Tach. reading 107%)	Maximum 235 r.p.m. (Tach. reading 100%)
Mimimum 205 r.p.m. (Tach reading 91%)	Minimum 220 r.p.m. (Tach reading 98%)

Airspeed limits — Vne (never exceed) POWER ON: 150 Knots (CAS), 150 Knots (IAS).
See Flight Manual for variations of Vne with rotor r.p.m., gross weight, pressure altitude and temperature
Vne POWER OFF: 119 Knots (CAS), 120 Knots (IAS)
Sideward Flight: 50 knots IAS to 6000 Ft. Density Altitude 30 kts IAS above
Rearward Flight: 40 knots IAS to 6000 Ft. Density Altitude 30 kts IAS above

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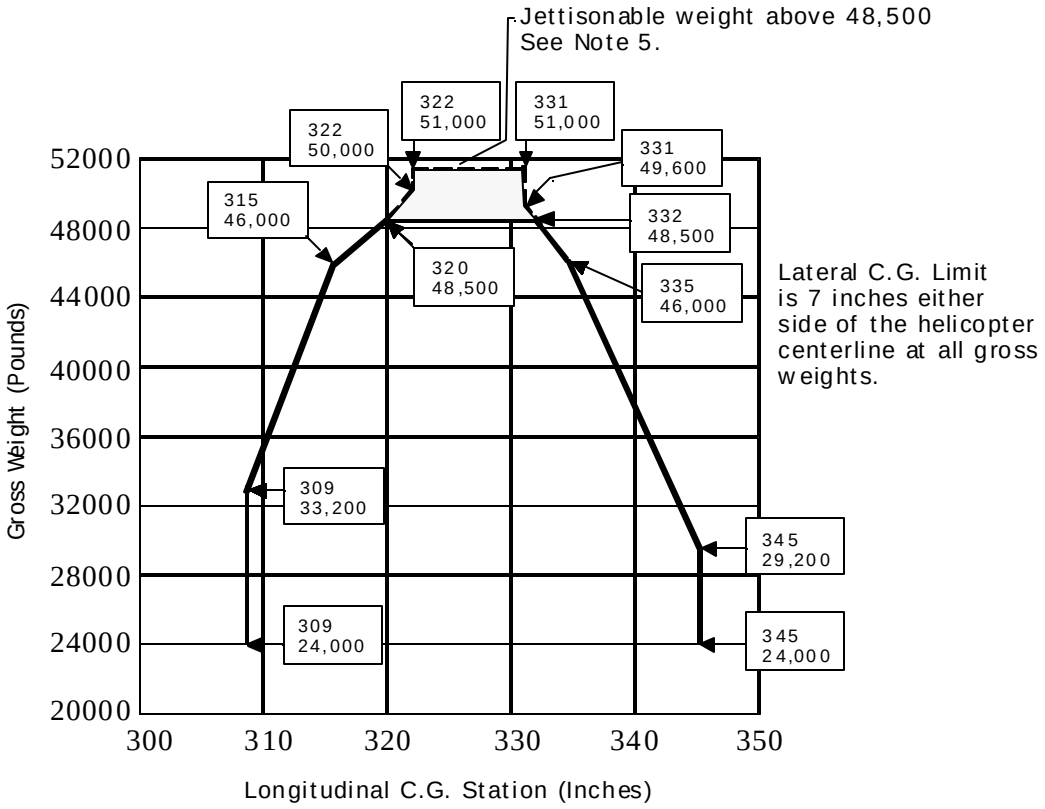
C.G. range		Longitudinal Limits	G.W.	Lateral Limits
		Fwd - 309 in.	24000 lb. to 33500 lb.	7 inches either
		315 in.	46000 lb.	side of helicopter
		320 in.	48500 lb.	centerline at all
	Aft -	332 in.	48500 lb.	gross weights.
		335 in.	46000 lb.	
		345 in.	29000 to 24000 lb.	

Straight Line Variation between points given.



Empty weight C.G. range	None
Datum	Station 0 (datum is 5.5 inches forward of the most forward point of the nose section)
Leveling means	Plumb bob hook at top of main cabin door interior trim (under cover plate) at Sta. 150. Plumb target under main cabin door sill at Sta. 150 and BL 48.3. Plumb line from upper hook to target.
Maximum weight	48,500 lb. (see note 5) Note: The helicopter may be operated at weights up to 51,000 lb. All weight above 48,500 lbs must be jettisonable and retirement times of Chapter 4 of the 234 Maintenance Manual complied with.
Minimum Crew	2 (1 pilot, 1 copilot)
Maximum Passengers	44 (Not limited by emergency exit requirements)
Maximum Baggage	1700 lb. (aft baggage bins, 2 @ 850 lb.)

640 lb. (main cabin overhead baggage bins, 16 @ 40 lb.)

Fuel Capacity (Usable Fuel)	2100 gal. (2 tanks - each of 1050 gal.) (+310) 7.6 gal. total unusable. See Note 1 for system fuel.
Oil capacity	3.0 gal. (+482) per engine. 2.7 gal. usable (included in cap.)
Maximum Operating (density) Altitude	15,000 ft. (enroute)
Rotor Blade and Control Movements	For rigging information see Model 234 Maintenance Manual
Serial Nos. Eligible	MJ001 and up
Certification basis	FAR Part 29 dated February 1, 1965, (Transport Category A), Amendments 29-1 through 29-11 and portions of 29-12, specifically 29.25(c), 29.563, 29.801 and 29.865; 29-14, specifically 29.135(d); and FAA letter dated June 1, 1981, regarding additional requirements. Equivalent safety findings have been made to the following certification requirements: FAR 29.351 Yawing Conditions FAR 29.865 External load attaching means FAR 29.807(e) Passenger emergency exits (Ramp Exits) FAR 29.927(c) Additional tests (Rotor drive system) FAR 29.1013(b)(3) Oil Tanks (Expansion Space) FAR 29.923(a)(2), (c) and (o) Rotor drive system and control mechanism tests National Environment Act of 1969 Noise Control Act of 1972 Compliance has been established with the ditching provisions of 29-563, 29.801 and 29.807(d) but excluding 29.1411, 29.1415 and 29.1561. For overwater operations compliance with the applicable Operating Rules and 29.1411, 29.1415 and 29.1561 must be shown.
Production basis	Production Certificate No. 109.
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (See Certification Basis) must be installed in the helicopter for certification. In addition, the following items of equipment are required with each helicopter: Boeing 234 FAA Approved Rotorcraft Flight Manual up to and including Revision 21 dated September 20, 1994, or later FAA approved revisions. Supplement No. 1, is required when Flight Director - Sperry Flight System AD 650H with MS702 HELCISII Controls is installed dated June 19, 1981, Rev. 1 dated October 2, 1981 Supplement No. 2, dated October 2, 1981, is required with Boeing 234 UTILITY - Modified Fuel System: External Fuel Tanks removed and

two 500 gallon Internal Fuel Tanks are installed. (Refer to Note 5 for additional details regarding Utility Version of Model 234).

NOTE 1. Current weight and balance report including 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 certification.

For the Model 234 the system/unusable fuel which must be included in the empty weight is the amount of fuel required to fill the system plumbing up to the undrainable level 4.2 gal. (28.1 lb.) plus unusable fuel in the tanks -7.6 gal. (50.9 lb.). The total amount of system fuel therefore is 11.8 gal. (79 lb.) (+310)

For the Model 234 (Utility Version - See Note 5). The undrainable fuel is 4.9 gal. (32.8 lb.) and the unusable fuel is 7.2 gal. (48.2 lb.) for a total system fuel of 12.1 gal. (81.0 lb.) (+272)

NOTE 2. The following placard must be displayed in front of and in clear view of the pilot. "This helicopter must be operated in compliance with the operating limitations specified in the Rotorcraft Flight Manual."

NOTE 3. Information essential to the proper maintenance of the helicopter including retirement times and required inspections is contained in the Model 234 Maintenance Manual, Chapter 4 - Airworthiness Limitations Section provided with each helicopter. The values of the retirement times and inspection intervals cannot be changed without FAA Engineering Approval.

NOTE 4. For all operations below - 23°C(-10°F) ambient temperature or, with engines operating at normal rotor r.p.m., fuel temperature gage indication is 0°C or colder all fuel used in the Boeing 234 must contain Phillips PFA-55MB or MIL-I-27686 anti-icing additive in concentrations of not less than 0.035% nor more than 0.15% by volume. See the Rotorcraft Flight Manual.

NOTE 5. The Model 234 (Utility Version) is the Model 234 configured primarily for cargo and jettisonable external load operations. The external fuel tanks are removed and smaller internal tanks installed. The internal configuration may consist of passenger and/or cargo. The Maximum Gross Weight is 51000 lb. with external jettisonable cargo. Refer to Boeing Vertol Model 234 RFM Supplement No. 2 for all limitations regarding the UTILITY configuration of the Model 234. The Model 234 UTILITY is referenced on Boeing Vertol drawing entitled "234X0001 Customer Helicopter Assembly - Complete.", as the 234X0001-4 assembly.

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