TYPE CERTIFICATE DATA SHEET

No. EASA.IM.R.105

for

214B

Type Certificate Holder

McDermott 214 Holdings, LLC

7400 Oak Hills Court
North Richland, Texas 76182-3284
USA

For Models: 214B, 214B-1

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SECTION 1: 214B, 214B-1

I. General

1.	Type/ Model	
	1.1 Type	214B
	1.2 Models	214B, 214B-1 (see III.2)
2.	Airworthiness Category	Large Rotorcraft, Category B
3.	Manufacturer	McDermott 214 Holdings, LLC. 7400 Oak Hills Court North Richland, Texas 76182-3284, USA
4.	Type Certification Application Date to	FAA: 26 October 1972 LBA: not recorded CAA SE: not recorded DGAC FR: not recorded ENAC IT: 27 October 1994
5.	State of Design Authority	FAA
6.	Type Certificate Date by	FAA: 27 January 1976 (214B), 3 February 1976 (214B-1) LBA: 25 June 1976 CAA SE: 30 January 1981 DGAC FR: 27 January 1989 ENAC IT: 22 March 1995
7.	Type Certificate n° by	FAA: H6SW LBA: 3047 CAA SE: 1/81 DGAC FR: IM 180 ENAC IT: A 323
8.	Type Certificate Data Sheet n°	FAA: H6SW LBA: 3047 CAA SE: 30 January 1981 DGAC FR: IM 180 ENAC IT: SO/A 323
9.	EASA Type Certification Date	28 September 2003, in accordance with CR (EU) 1702/2003, Article 2, 3., (a), (i), 2nd bullet, 2nd indented bullet.

II. Certification Basis

1.	Reference Date for determining the applicable requirements	26 October 1972
2.	Airworthiness Requirements	FAR Part 29, dated 1 February 1965 (Transport Category B), Amdts. 29-1 through 29-9 and Amdt. 29-11
3.	Special Conditions	No. 29-65-SW-5
4.	Exemptions	none
5.	Deviations	none
6.	Equivalent Safety Findings	none
7.	Environmental Protection Requirements	
	7.1 Noise Requirements	See TCDSN EASA.IM.R.105
	7.2 Emission Requirements	n/a

8. Operational Suitability Data (OSD) — Not required for rotorcraft that are no longer in production. CR (EU) 748/2012, as amended by CR (EU) 69/2014 does not require OSD elements for this model (see Article 7a, 1.).

III. Technical Characteristics and Operational Limitations

1. Type Design Definition — BHTI Drawing 214-900-002. See also Note 11.

2. Description

Main rotor:	two blades, teetering type
Tail rotor:	two blades, teetering type
Fuselage:	conventional metal structure
Landing gear:	skid type
Powerplant:	one free turbine engines

Note: Except for a difference in maximum weight, the models 214B and 214B-1 are identical to each other.

3. Equipment — Refer to approved RFM for equipment list

4. Dimensions

4.1 Fuselage	Length:	13.44 m	(44 ft 1 in)
	Width skids:	2.64 m	(8 ft 8 in)
	Height (TR shaft):	3.10 m	(10 ft 3 in)
4.2 Main Rotor	Diameter:	15.24 m	(50 ft)
4.3 Tail Rotor	Diameter:	2.95 m	(9 ft 8 in)

5. Engine

5.1 Model — Honeywell International Inc. (former: Lycoming)
1 x Model T5508D

5.2 Type Certificate

FAA TC/TCDS n°:	E4NE
EASA TC/TCDS n°:	none

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

	Output shaft TQ [% (shp)]	Output shaft speed [% (rpm)]	Exhaust gas temperature [°C (°F)]	Gas generator speed [% (rpm)]
TOP (5 min)	100 (2 050)	100 (14 695)	721[1)] (1 330[1)])	100.6 (18 832)
MCP	90 (1 850)		692[1)](1 278[1)])	97.9 (18 327)
[1)] At 54.4 °C (130 °F) ambient temperature				

5.3.2 Other Engine and Transmission Torque Limits

reserved

6. Fluids

6.1 Fuel — MIL-T-5624, Grade I, (JP-4), or,
MIL-T-5624 Grade II (JP-5)
see Note 8

6.2 Oil — MIL-PRF-7808, Type E or subsequent suffixes (all temperature), or, MIL-PRF-23699 Class HTS (above -40°C)

6.3 Additives — For anti-icing additive see Note 8

7.	Fluid capacities	
	7.1 Fuel[1)]	772 litres (204 US gal) at STA +153.8 Unusable fuel: 11 kg (25.2 lb) at STA +140.0
	7.2 Oil[1)]	Usable oil: 14.0 litres (3.75 US gal) at STA +195.0 included in capacity Undrainable engine oil: 4.2 kg (9.2 lb) at STA +195.0
	7.3 Coolant System Capacity	n/a
8.	Air Speed Limitations	Maximum V_{ne} 140 KIAS See placard P/N 214-075-256 (V_{ne} (IAS) varies with pressure altitude and temperature)
9.	Rotor Speed Limitations	Power on: Maximum 300 rpm (100 %*) Minimum 294 rpm (98 %*) Power off: Maximum 315 rpm (105 %*) Minimum 257 rpm (86 %*) *: Tach reading
10.	Maximum Operating Altitude and Temperature	
	10.1 Altitude (en route)	20 000 ft (6 096 m) PA
	10.2 Temperature	-31°C (-31°F) to +52°C (+125°F)
11.	Operating Limitations	VFR day/night
12.	Maximum Mass	6 260 kg (13 800 lb) for 214B 5 670 kg (12 500 lb) for 214B-1 7 257 kg (16 000 lb) for 214B and 214B-1 external cargo operations (see Note 3)
13.	Centre of Gravity Range	Longitudinal C.G. limits [mm (in)] at [kg (lb)]: 3 480 to 3 581 (+137.0 to +141.0) at 6 260 (13 800) 3 366 to 3 665 (+132.5 to +144.3) at 5 670 (12 500) 3 366 to 3 734 (+132.5 to +147.0) at (4 990 11 000) 3 366 to 3 734 (+132.5 to +147.0) at 4 649 (10 250) 3 439 to 3 734 (+135.4 to +147.0) at 3 856 (8 500) 3 480 to 3 683 (+137.0 to +145.0) at 3 402 (7 500) Straight-line variation between points given. Lateral C.G. limits: 102 mm (4.0 in) left of centre line 120 mm (4.7 in) right of centre line Empty mass C.G. range: See Chapter 8, Maintenance Manual (BHT-214B-MM-1)
14.	Datum	Longitudinal: STA 0 is located 508 mm (20 in) aft of the most forward point of the fuselage nose section.
15.	Levelling Means	Plumb line from top of left main door frame
16.	Minimum Flight Crew	one (1) pilot
17.	Maximum Passenger Seating Capacity	fifteen (15) (not limited by emergency exit requirements)
18.	Passenger Emergency Exit	2, one on each side of the cabin
19.	Maximum Baggage/ Cargo Loads[1)]	none (no baggage compartment))
20.	Rotor Blade Control Movement	For rigging information refer to Maintenance Manual (BHT-214B-MM-1)
21.	Auxiliary Power Unit (APU)	n/a

[1)] Data as per TCDS H6SW

22.	Life-limited Parts	See Airworthiness Limitations, Chapter 4, Maintenance Manual (BHT-214B-MM-1)

IV. Operating and Service Instructions

1.	Flight Manual	214B: BHT-214B-FM-1 – Rotorcraft Flight Manual, approved 27 January 1976, or later revisions 214B-1: BHT-214B1-FM-1 – Rotorcraft Flight Manual, approved 2 February 1976, or later revisions
2.	Maintenance Manual	BHT-214B-MM-1-Aircraft General BHT-214B-MM-2-Instruments/Electrical/Avionics
3.	Structural Repair Manual	BHT-ALL-SRM - Structural Repair Manual
4.	Weight and Balance Manual	Refer to approved RFM, Section 6
5.	Illustrated Parts Catalogue	BHT-214B-IPB Illustrated Parts Breakdown
6.	Miscellaneous Manuals	BHT-214B-CR&O Component Repair and Overhaul Manual
7.	Service Letters and Service Bulletins	As published by McDermott 214 Holdings LLC, Erickson 214 Holdings LLC, Bell Textron Inc. and Bell Helicopter Textron Inc.
8.	Required Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification basis) must be installed in the helicopter for certification.

V. Notes

1. Manufacturer's eligible serial numbers: s/n 28001 to 28071. See also Note 11.

2. *) 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.
The certificated empty weight and corresponding C.G. locations must include a total undrainable oil of 4 kg (9.2 lb) at STA +195.0 and unusable fuel of 11 kg (25.2 lb) at STA +140.0.

3. Model 214B/B-1 helicopters equipped with the external cargo suspension installation completed in accordance with Bell Drawing 214-706-002 meet the structural and design requirements of the certification basis when operated to 7 257 kg (16 000 lb) gross mass in accordance with the limits of FAA-approved Model 214B Helicopter Flight Manual, dated 27 January 1976, and Model 214B-1 Manual dated 2 February 1976. The retirement times referenced in Note 4 are not changed. Gross masses above 6 260 kg (13 800 lb) must not be imposed on the landing gear.

4. No partition must be installed between the passenger and crew compartments that will obstruct the pilot’s view of the passenger large sliding doors and hinged panels. No Interior linings must be installed that obstruct the view of the crew/passenger front doors latch engagement with the fuselage.

5. VHF navigation installations are limited to Collins Radio Type VIR31H, P/N 622-2819-004 due to rotor modulation interference. Other installations require approval.

6. Engine gas producer speed shown under ‘engine limits’ is the absolute maximum permissible rotation speed. Equal or lower speeds are established for each engine during engine calibration and are stamped on the engine data plate. Maximum usable (limiting) gas producer speeds for take-off and for maximum continuous power vary with ambient temperature and are shown on the engine limitations placard on the instrument panel. This placard includes information on engine data plate speeds which must agree with the actual engine installed in the helicopter.

7. Maximum usable (limiting) exhaust gas temperature for take-off and maximum continuous engine operation varies with ambient temperature and is shown on the placard described in Note 8 above.

8. For all operations below 4.44 °C (40°F) ambient temperature, all fuel used in Model 214B

V. Notes

helicopters must contain Phillips PFA-55MB anti-icing additive in concentrations of not less than 0.035% nor more than 0.15% by volume. Blending this additive into the fuel and checking its concentration must be conducted in the manner prescribed by the Rotorcraft Flight Manual.

9. Composite (fiberglass) main rotor blades (214-018-402 or 214-015-500) must:
   - have conductive paint (a minimum resistance required) for lightning protection.
   - be in white colour on the external superior skin in order to reduce the heating absorption, with the exception of blade tip.

   If composite main rotor blades are installed, the following RFM Supplement FMS-13 or FMS-14 for Bell 214B, and FMS-15 for Bell 214B-1, have to be part of the RFM.

10. Kits with related RFM Supplement which can be installed (applicable model: see RFM Supplement)

Kit-n°	Description	RFM Supplement	Note
214-706-017	Cargo Hook Loadmeter	214B/B1-FMS-1	---
214-899-100	Second DC Generator	214B/B1-FMS-2	---
214-899-300	FD 109 flight director	214B/B1-FMS-3	---
214-899-302	VLF-1000 Ontrac II	214B/B1-FMS-4	---
205-706-047	Three place litter	214B/B1-FMS-6	---
205-706-045	Auxiliary Fuel System	214B/B1-FMS-7	---
214-899-565	VLF-1010 Ontrac III	214B/B1-FMS-8	---
214-706-101	Winterization	214B/B1-FMS-9	---
214-899-531 205-706-045	Aft Auxiliary Fuel Cell System	214B/B1-FMS-10	---
214-703-001	Increased EGT operation	214B/B1-FMS-11	---
214-706-003	Internal hoist	214B/B1-FMS-12	---
214-018-402	Fiberglass Main Rotor Blades	214B-FMS-13	214B only
214-704-068	Fiberglass Main Rotor Blades Retrofit Kit	214B-FMS-14	214B only
214-704-068	Fiberglass Main Rotor Blades	214B1-FMS-15	214B-1 only

11. FAA TCDS H6SW, Revision 9 refers on page 2 to '*Serial Nos. eligible 27001 and 28001 and up*'. However, 's/n 27001 to 27297 are assigned to model 214A, which is not listed in TCDS H6SW. To what extent the top drawing 214-900-002 (see III.1.) includes the 214A or a conversion kit to 214B configuration is currently subject to a clarification together with the FAA.

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SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

KIAS	Knots Indicated Air Speed	s/n	Serial Number
MMEL	Master Minimum Equipment List	STA	Station
MR	Main Rotor	TR	Tail Rotor
OSD	Operational Suitability Data	VFR	Visual Flight Rules
PA	Pressure Altitude	V_{NE}	Never Exceed Speed
PWR	Power	$V_{PWR\ OFF}$	Power-off Speed (Autorotation)
RFM	Rotorcraft Flight Manual	$V_{PWR\ ON}$	Power-on Speed

II. Type Certificate Holder Record

II.1 Type Certificate Holder	**Period**
Bell Helicopter Textron Inc. P.O. 482 Fort Worth, Texas 76101, USA	From 16 February 1982 until 30 July 2019
Bell Textron Inc. P.O. 482 Fort Worth, Texas 76101, USA	Until 7 September 2020
Erickson 214 Holdings, LLC. 3100 Willow Springs Road Central Point, Oregon 97502-0010, USA	Until 7 November 2023
McDermott 214 Holdings, LLC. 7400 Oak Hills Court North Richland, Texas 76182-3284, USA	From 8 November 2023

III. Change Record

Issue	**Date**	**Changes**	**TC issue**
Issue 1	29 Feb 2024	Initial issue of EASA TCDS	29 February 2024

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