Civil Aviation Authority
United Kingdom

TYPE-CERTIFICATE DATA SHEET

UK.TC.R.00140

for

R22

Type Certificate Holder

Robinson Helicopter Company

2901 Airport Drive

Torrance, CA 90505

U.S.A

Model(s):	R22 R22 Alpha R22 Beta R22 Mariner
Issue:	1
Date of issue:	21 July 2025

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Section 0 Preamble

This Type-Certificate Data Sheet (TCDS) is the concise definition of the type-certificated product accepted and or approved by the CAA in the UK for the affected types and models.

This TCDS includes:

- Details of the type design that affect the TCDS that have been approved or accepted by the CAA in the UK from 01 January 2021.
- Details of the type design that affected the TCDS and were approved or accepted by EASA before 01 January 2021, and were incorporated into EASA TCDS Number - EASA.IM.R.120 at Issue 5 dated 29 May 2019, and are therefore accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement.

Section 1 R22

I. General

This Type-Certificate Data Sheet (TCDS) is the concise definition of the type-certificated product accepted and or approved by the CAA in the UK for the affected types and models.

1. Type / Variant / Model

a) Type: R22
b) Variant or Model: R22

2. Type Certificate Holder

Robinson Helicopter Company

2901 Airport Drive

Torrance, California 90505, USA

II. Certification Basis

1.	Reference Date for determining the applicable requirements	19 December 1976
2.	Airworthiness Requirements	14 CFR Part 27, dated 1 February 1965, including Amdts. 27-1 through 27-10. §27.1559 of Amdt. 27-21 is an option for all s/n.
3.	Special Conditions	None
4.	Exemptions	None
5.	Deviations	None
6.	Equivalent Safety Findings	FAA ELOS No. TD10352LA-R/S-1 to 14 CFR Part 27, §27.1401 (d), Anticollision Light System
7.	Requirements elected to comply	None
8.	Environmental Protection Requirements	
8.1	Noise Requirements	ICAO Annex 16, Chapter 11, see TCDSN UK.TC.R.140
9.	Operational Suitability Data (OSD)	See SECTION V below

III. Technical Characteristic and Operating Limitations

1. Type Design Definition — Robinson Helicopter Company Drawing A001

2. Description

Main rotor:	2-blade, free to teeter and cone, rigid in-plane
Tail rotor:	2-blade, free to teeter, rigid in-plane
Fuselage:	Riveted aluminium sheet and welded steel tube for primary structure, fiberglass & thermoplastic for secondary structure. Seats integral to cabin structure.
Landing gear:	Aluminium skids
Powerplant:	Single normally-aspirated reciprocating engine
Avionics:	Analogue or EFIS

3. Equipment — Basic equipment must be installed and operational prior to registration of the helicopter.
Optional equipment per RHC drawing A025.

4. Dimensions

4.1	Fuselage	Length: Width hull: Height:	6.24 m 1.02 m 2.37 m
4.2	Main Rotor	Diameter:	7.67 m
4.3	Tail Rotor	Diameter:	1.07 m

5. Engine

5.1 Model — Lycoming Engines
1 x Model O-320-A2B, or O-320-A2C, or O-320-B2C

5.2 Type Certificate

FAA TC/TCDS n°:	E-274
EASA TC/TCDS n°:	EASA.IM.E.052

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

	PWR limit [BHP]	RPM [%]
MCP	124	104

Note: See RFM for maximum manifold pressure corresponding to 124 BHP

5.3.2 Transmission Torque Limits

	Max. TQ [Nm]	Engine RPM [%]
MCP	266	101

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel

80/87 aviation gasoline (for O-320-A2B and A2C)
91/96 UL aviation gasoline (for all engines)
100 LL aviation gasoline (for all engines)
100/130 aviation gasoline (for O-320-B2C)

6.2 Oil

See R22 RFM (RTR 061), Section 8

6.3 Additives

None

7. Fluid capacities

7.1 Fuel

	Capacity [litres]	Usable [litres]
Tank	Tanks without bladders	
Main	75	73
Auxiliary	n/a	n/a
Tank	Tanks with bladders	
Main	69	64
Auxiliary	37	36

7.2 Oil

Engine: 5.7 litres (1.5 US gal)

MRGB: 1.13 litres (0.3 US gal)

8. Air Speed Limitations

V_{NE} (never exceed) Power-on and Power-off: 98 KCAS sea level to 3 000 ft DA, decreasing to 83 KCAS at 8 000 ft DA, decreasing to 56 KCAS at 14 000 ft DA. Straight line variation between points.

9. Rotor Speed Limitations

Power on:

Maximum	104%	(530 rpm)
Minimum	97%	(495 rpm)

Power off:

Maximum	110%	(561 rpm)
Minimum	90%	(459 rpm)

Note: All values are applicable to the Main Rotor.

10. Maximum Operating Altitude and Temperature

10.1 Altitude

14 000 ft (4 270 m) DA

10.2 Temperature

Maximum ambient temperature limited only by engine operating temperature limits.

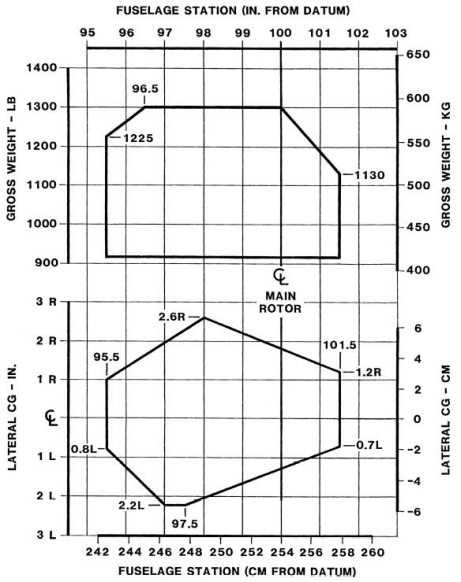
11. Operating Limitations

VFR day and night
Non-icing conditions

12. Maximum Mass

590 kg (1 300 lb)

13. Centre of Gravity Range



14. Datum

Longitudinal:

the datum plane (STA 0) is located at 2 540 mm (100 in) forward of main rotor centreline.

Lateral:
fuselage median plane

15. Levelling Means

Refer to R22 Maintenance Manual and Instructions for Continued Airworthiness (RTR 060)

16. Minimum Flight Crew

1 pilot in forward right seat.

17. Maximum Passenger Seating Capacity

1

18. Passenger Emergency Exit

2, 1 on each side of the passenger cabin

19. Maximum Baggage/Cargo Loads

Maximum mass: 23 kg (50 lb)

For any seat location, the maximum combined weight of the load on the seat (e.g. occupant) plus the weight of stowed items and any installed equipment in the underseat baggage compartment is 109 kg (240 lb).

20. Rotor Blade Control Movement

Main Rotor:

Collective pitch	11.5° ±0.5° total travel	
Cyclic pitch	forward	8.3° to 8.8°
	aft	8.5° to 9.0°
	left	9.0° to 9.5°
	right	5.5° to 6.0°

Tail Rotor:

Collective pitch	left pedal	9.6° to 10.6°
	right pedal	19.0° to 19.5°

21. Auxiliary Power Unit (APU)

None

22.	Life-limited Parts	See Robinson Maintenance Manual and Instructions for Continued Airworthiness (RTR 060). Retirement times are listed in the approved "Airworthiness Limitations" section of Chapter 3.

IV. Operating and Service Instructions

1.	Flight Manual	R22 Pilot's Operating Handbook and approved Rotorcraft Flight Manual, RTR 061, dated 16 March 1979, with revisions through 20 April 2007, or later.
2.	Maintenance Manual	R22 Maintenance Manual and Instructions for Continued Airworthiness (RTR 060 Volume I)
3.	Structural Repair Manual	None
4.	Weight and Balance Manual	None
5.	Illustrated Parts Catalogue	R22 Illustrated Parts Catalogue (RTR 060 Volume II)
6.	Service Letter and Service Bulletins	R22 Service Letters and Service Bulletins as published by Robinson Helicopter Company

7. Required Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification, or as required by the Master Minimum Equipment List. In addition, the-approved Rotorcraft Flight Manual is required (see Flight Manual)

V. Operational Suitability Data

The Operational Suitability Data elements listed below are approved by CAA as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation No 69/2014, as retained (and amended in UK domestic law) under European (Withdrawal) Act 2018 and amended by the Aviation Safety (Amendment etc.) (EU Exit) Regulations 2019.

OSD Certification Basis

1. Reference Date for determining the applicable OSD requirements

   12 August 2014

2. MMEL - Certification Basis

   Special Condition SC-CS-GEN-MMEL-H, Initial Issue

3. Flight Crew Data – Certification Basis

   CS-FCD, Initial Issue.

OSD Elements

1. MMEL

   EASA MMEL for R22, R44, and R66, Appendix 1 to RTR 666, dated 17 November 2015, or subsequent approved revisions.

2. Flight Crew Data

   RTR 167, UK CAA Operation Suitability Data, Flight Crew Data, Initial OSD Issue, or subsequent approved revisions.

VI. Notes

1. Manufacturer's eligible serial numbers:

   0002 through 0300, 0302 through 0349, and 0352 through 0356.

2. Current weight and balance report, including list of equipment included in certificated empty weight, and loading instructions, when necessary, must be provided for each helicopter at the time of original certification and at all times thereafter.

3. One of the following placards must be installed in clear view of the pilot:

   "THE MARKINGS AND PLACARDS INSTALLED ON THIS HELICOPTER CONTAIN OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS ROTORCRAFT. OTHER OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS ROTORCRAFT ARE CONTAINED IN THE ROTORCRAFT FLIGHT MANUAL."

   Or: "THIS ROTORCRAFT APPROVED FOR DAY AND NIGHT VFR OPERATIONS"For additional placards, see R22 Rotorcraft Flight Manual (RTR 061).

4. Lycoming O-320-A2C, with Retard Magneto Starting System, eligible on s/n 0002 through 0300, 0302 through 0349, and 0352 through 0356 helicopters.

5. Lycoming O-320-B2C installed on s/n 0175 and 0200 through 2570 in production. It may be installed in prior s/n helicopters if the following parts are changed:
   Robinson P/Ns B193-2 (Window Plate - Instrument Cluster), A145-3 (Engine), A600-2 (Manifold Pressure Gauge), and A654-40 & -41 (Decals).

6. Designation:
   R22 HP is used as marketing designation for the R22 with O-320-B2C engine installed.

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Section 2 R22 Alpha

I. General

This Type-Certificate Data Sheet (TCDS) is the concise definition of the type-certificated product accepted and or approved by the CAA in the UK for the affected types and models.

1. Type / Variant / Model

a) Type: R22
b) Variant or Model: R22 Alpha

2. Type Certificate Holder

Robinson Helicopter Company

2901 Airport Drive

Torrance, California 90505, USA

II. Certification Basis

1.	Reference Date for determining the applicable requirements	19 December 1976
2.	Airworthiness Requirements	14 CFR Part 27, dated 1 February 1965, including Amdts. 27-1 through 27-10. § 27.1559 of Amdt. 27-21 is an option for all s/n.
3.	Special Conditions	None
4.	Exemptions	None
5.	Deviations	None
6.	Equivalent Safety Findings	FAA ELOS No. TD10352LA-R/S-1 to 14 CFR Part 27, § 27.1401 (d), Anticollision Light System
7.	Requirements elected to comply	None
8.	Environmental Protection Requirements	
	8.1 Noise Requirements	ICAO Annex 16, Chapter 11, see TCDSN EASA.IM.R.120
9.	Operational Suitability Data (OSD)	See SECTION V below

III. Technical Characteristic and Operating Limitations

1. Type Design Definition — Robinson Helicopter Company Drawing A001

2. Description

Main rotor:	2-blade, free to teeter and cone, rigid in-plane
Tail rotor:	2-blade, free to teeter, rigid in-plane
Fuselage:	Riveted aluminium sheet and welded steel tube for primary structure, fiberglass & thermoplastic for secondary structure. Seats integral to cabin structure.
Landing gear:	Aluminium skids
Powerplant:	Single normally-aspirated reciprocating engine
Avionics:	Analogue or EFIS

3. Equipment — Basic equipment must be installed and operational prior to registration of the helicopter.

Optional equipment per RHC drawing A025.

4. Dimensions

4.1	Fuselage	Length: Width hull: Height:	6.24 m 1.02 m 2.37 m
4.2	Main Rotor	Diameter:	7.67 m
4.3	Tail Rotor	Diameter:	1.07 m

5. Engine

5.1	Model	Lycoming Engines 1 x Model O-320-B2C	
5.2	Type Certificate	FAA TC/TCDS n°: EASA TC/TCDS n°:	E-274 None

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

	PWR limit [BHP]	RPM [%]
MCP	124	104

Note: Note: See RFM for maximum manifold pressure corresponding to 124 BHP

5.3.2 Transmission Torque Limits

	Max. TQ [Nm]	Engine RPM [%]
MCP	328	104

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel

91/96 UL aviation gasoline (for all engines)
100 LL aviation gasoline (for all engines)
100/130 aviation gasoline (for O-320-B2C)

6.2 Oil

See R22 RFM (RTR 061), Section 8

6.3 Additives

None

7. Fluid capacities

7.1 Fuel

	Capacity [litres]	Usable [litres]
Tank	Tanks without bladders	
Main	75	73
Auxiliary	41	40
Tank	Tanks with bladders	
Main	69	64
Auxiliary	37	36

7.2 Oil

Engine: 5.7 litres (1.5 US gal)

MRGB: 1.13 litres (0.3 US gal)

8. Air Speed Limitations

V_{NE} (never exceed) Power-on and Power-off:
98 KCAS sea level to 3 000 ft DA,
decreasing to 83 KCAS at 8 000 ft DA,
decreasing to 56 KCAS at 14 000 ft DA.
Straight line variation between points.

9. Rotor Speed Limitations

Power on:

Maximum	104%	(530 rpm)
Minimum	97%	(495 rpm)

Power off:

Maximum	110%	(561 rpm)
Minimum	90%	(459 rpm)

Note: All values are applicable to the Main Rotor.

10. Maximum Operating Altitude and Temperature

10.1 Altitude

14 000 ft (4 270 m) DA

10.2 Temperature

Maximum ambient temperature limited only by engine operating temperature limits.

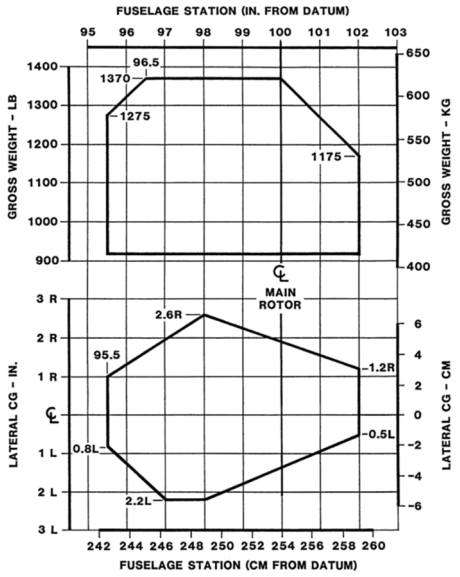
11. Operating Limitations

VFR day and night
Non-icing conditions

12. Maximum Mass

621 kg (1 370 lb)

13. Centre of Gravity Range



14. Datum

Longitudinal:
the datum plane (STA 0) is located at 2 540 mm (100 in) forward of main rotor centreline.

Lateral:
fuselage median plane

15. Levelling Means

Refer to R22 Maintenance Manual and Instructions for Continued Airworthiness (RTR 060)

16. Minimum Flight Crew

1 pilot in forward right seat.

17. Maximum Passenger Seating Capacity

1

18. Passenger Emergency Exit

2, 1 on each side of the passenger cabin

19. Maximum Baggage/Cargo Loads

Maximum mass: 23 kg (50 lb)
For any seat location, the maximum combined weight of the load on the seat (e.g. occupant) plus the weight of stowed items and any installed equipment in the underseat baggage compartment is 109 kg (240 lb).

20. Rotor Blade Control Movement

Main Rotor:

Collective pitch	11.5° ±0.5° total travel	
Cyclic pitch	forward	10.5° to 11.0°
	aft	8.5° to 9.0°
	left	9.0° to 9.5°
	right	5.5° to 6.0°

Tail Rotor:

Collective pitch	left pedal	9.6° to 10.6°
	right pedal	19.0° to 19.5°

21. Auxiliary Power Unit (APU)

None

22. Life-limited Parts

See Robinson Maintenance Manual and Instructions for Continued Airworthiness (RTR 060). Retirement times are listed in the approved "Airworthiness Limitations" section of Chapter 3.

IV. Operating and Service Instructions

1.	Flight Manual	R22 Pilot's Operating Handbook and approved Rotorcraft Flight Manual, RTR 061, dated 16 March 1979, with revisions through 20 April 2007, or later.
2.	Maintenance Manual	R22 Maintenance Manual and Instructions for Continued Airworthiness (RTR 060 Volume I)
3.	Structural Repair Manual	None
4.	Weight and Balance Manual	None
5.	Illustrated Parts Catalogue	R22 Illustrated Parts Catalogue (RTR 060 Volume II)
6.	Service Letter and Service Bulletins	R22 Service Letters and Service Bulletins as published by Robinson Helicopter Company

7. Required Equipment

   The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification, or as required by the Master Minimum Equipment List. In addition, the-approved Rotorcraft Flight Manual is required (see Flight Manual).

V. Operational Suitability Data

The Operational Suitability Data elements listed below are approved by CAA as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation No 69/2014, as retained (and amended in UK domestic law) under European (Withdrawal) Act 2018 and amended by the Aviation Safety (Amendment etc.) (EU Exit) Regulations 2019.

OSD Certification Basis

1. Reference Date for determining the applicable OSD requirements

   12 August 2014

2. MMEL - Certification Basis

   Special Condition SC-CS-GEN-MMEL-H, Initial Issue

3. Flight Crew Data – Certification Basis

   CS-FCD, Initial Issue.

OSD Elements

1. MMEL

   EASA MMEL for R22, R44, and R66, Appendix 1 to RTR 666, dated 17 November 2015, or subsequent approved revisions.

2. Flight Crew Data

   RTR 167, UK CAA Operation Suitability Data, Flight Crew Data, Initial OSD Issue, or subsequent approved revisions.

VI. Notes

1. Manufacturer's eligible serial numbers:
   0301, 0350, 0351, 0357 through 0500, excluding 0364.
   (R22 ALPHA S/N 0364 was converted to an R22 MARINER by the manufacturer. The original R22 ALPHA dataplate was removed and replaced with an R22 MARINER data plate S/N 0364M.)

2. Current weight and balance report, including list of equipment included in certificated empty weight, and loading instructions, when necessary, must be provided for each helicopter at the time of original certification and at all times thereafter.

3. One of the following placards must be installed in clear view of the pilot: "THE MARKINGS AND PLACARDS INSTALLED ON THIS HELICOPTER CONTAIN OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS ROTORCRAFT. OTHER OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS ROTORCRAFT ARE CONTAINED IN THE ROTORCRAFT FLIGHT MANUAL.
   "Or: "THIS ROTORCRAFT APPROVED FOR DAY AND NIGHT VFR OPERATIONS"
   For additional placards, see R22 Rotorcraft Flight Manual (RTR 061).

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Section 3 R22 Beta

I. General

This Type-Certificate Data Sheet (TCDS) is the concise definition of the type-certificated product accepted and or approved by the CAA in the UK for the affected types and models.

1. Type / Variant / Model

a) Type: R22
b) Variant or Model: R22 Beta

2. Type Certificate Holder

Robinson Helicopter Company

2901 Airport Drive

Torrance, California 90505, USA

II. Certification Basis

1.	Reference Date for determining the applicable requirements	19 December 1976
2.	Airworthiness Requirements	14 CFR Part 27, dated 1 February 1965, including Amdts. 27-1 through 27-10. § 27.1559 of Amdt. 27-21 is an option for all s/n. For the symmetrical horizontal stabilizer installation: 14 CFR Part 27 Amendment 27-13: §27.1323. 14 CFR Part 27 Amdt. 27-26: § 27.613, § 27.629, §27.663. 14 CFR Part 27 Amendment 27-27: §27.427. 14 CFR Part 27 Amdt. 27-34: § 27.391. 14 CFR Part 27 Amdt. 27-44: § 27.49, § 27.71, § 27.75. 14 CFR Part 27 Amdt. 24-46: § 27.610. 14 CFR Part 27 Amdt. 27-21: § 27.1505. 14 CFR Part 27 Amdt. 27-14: § 27.1581. CS-27 Amdt. 8 dated 14 June 2021: CS 27.173; CS 27.175; CS 27.177; CS 27.351; CS 27.571.
3.	Special Conditions	None
4.	Exemptions	None
5.	Deviations	None
6.	Equivalent Safety Findings	FAA ELOS No. TD10352LA-R/S-1 to 14 CFR Part 27, § 27.1401 (d), Anticollision Light System
7.	Requirements elected to comply	None
8.	Environmental Protection Requirements	
	8.1 Noise Requirements	ICAO Annex 16, Chapter 11, see TCDSN EASA.IM.R.120
9.	Operational Suitability Data (OSD)	See SECTION V below

III. Technical Characteristic and Operating Limitations

1. Type Design Definition — Robinson Helicopter Company Drawing A001

2. Description

Main rotor:	2-blade, free to teeter and cone, rigid in-plane
Tail rotor:	2-blade, free to teeter, rigid in-plane
Fuselage:	Riveted aluminium sheet and welded steel tube for primary structure, fiberglass & thermoplastic for secondary structure. Seats integral to cabin structure.
Landing gear:	Aluminium skids
Powerplant:	Single normally-aspirated reciprocating engine
Avionics:	Analogue or EFIS

3. Equipment — Basic equipment must be installed and operational prior to registration of the helicopter.

Optional equipment per RHC drawing A025.

4. Dimensions

4.1	Fuselage	Length:	6.24 m
		Width hull:	1.02 m
		Height:	2.37 m
4.2	Main Rotor	Diameter:	7.67 m
4.3	Tail Rotor	Diameter:	1.07 m

5. Engine

5.1 Model — Lycoming Engines
1 x Model O-320-B2C or O-360-J2A

5.2 Type Certificate

FAA TC/TCDS n°:	E-274 for O-320-B2 E-286 for O-360-J2A
EASA TC/TCDS n°:	None

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

	PWR limit [BHP]	RPM [%]
TOP (5 min)	131	104
MCP	124	104

Note: Note: See RFM for maximum manifold pressure corresponding to 124 BHP

5.3.2 Transmission Torque Limits

	Max. TQ [Nm]	Engine RPM [%]
TOP (5 min)	347	104
MCP	328	104

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel

91/96 UL aviation gasoline
100 LL aviation gasoline
100/130 aviation gasoline

6.2 Oil

See R22 RFM (RTR 061), Section 8

6.3 Additives

None

7. Fluid capacities

7.1 Fuel

	Capacity [litres]	Usable [litres]
Tank	Tanks without bladders	
Main	75	73
Auxiliary	41	40
Tank	Tanks with bladders	
Main	69	64
Auxiliary	37	36

7.2 Oil

Engine: 5.7 litres (1.5 US gal)

MRGB: 1.13 litres (0.3 US gal)

8. Air Speed Limitations

VNE (never exceed) Power-on and Power-off:
98 KCAS sea level to 3 000 ft DA,
decreasing to 83 KCAS at 8 000 ft DA,
decreasing to 56 KCAS at 14 000 ft DA.
Straight line variation between points.

9. Rotor Speed Limitations

Power on (O-320-B2C Engine):

Maximum	104%	(530 rpm)
Minimum	97%	(495 rpm)

Power-on (O-360-J2A Engine):

Maximum	104%	(530 rpm)
Minimum	101%	(515 rpm)

Power off:

Maximum	110%	(561 rpm)
Minimum	90%	(459 rpm)

Note: All values are applicable to the Main Rotor.

10. Maximum Operating Altitude and Temperature

10.1 Altitude

14 000 ft (4 270 m) DA

10.2 Temperature

Maximum ambient temperature limited only by engine operating temperature limits.

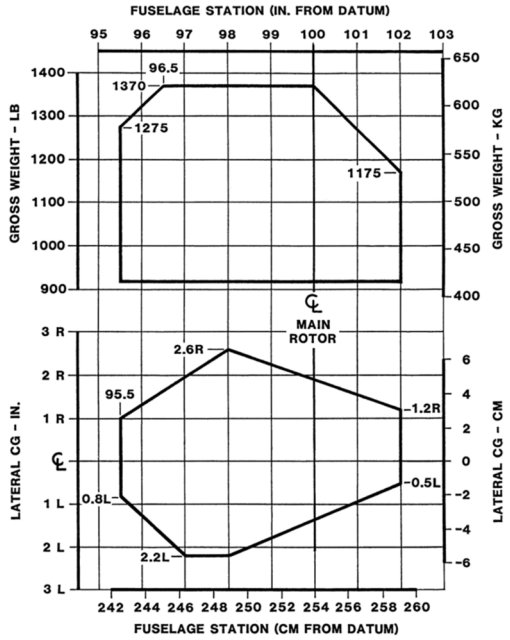
11. Operating Limitations

VFR day and night
Non-icing conditions

12. Maximum Mass

621 kg (1 370 lb)

13. Centre of Gravity Range



14. Datum

Longitudinal:
the datum plane (STA 0) is located at 2 540 mm (100 in) forward of main rotor centreline.
Lateral:
fuselage median plane.

15. Levelling Means

Refer to R22 Maintenance Manual and Instructions for Continued Airworthiness (RTR 060)

16. Minimum Flight Crew

1 pilot in forward right seat.

17. Maximum Passenger Seating Capacity

1

18. Passenger Emergency Exit

2, 1 on each side of the passenger cabin

19. Maximum Baggage/Cargo Loads

Maximum mass: 23 kg (50 lb)

For any seat location, the maximum combined weight of the load on the seat (e.g. occupant) plus the weight of stowed items and any installed equipment in the underseat baggage compartment is 109 kg (240 lb).

20. Rotor Blade Control Movement

Main Rotor:

Collective pitch	11.5° ±0.5° total travel	
Cyclic pitch	forward	10.5° to 11.0°
	aft	8.5° to 9.0°
	left	9.0° to 9.5°
	right	5.5° to 6.0°

Tail Rotor:

Collective pitch	left pedal	9.6° to 10.6°
	right pedal	19.0° to 19.5°

21. Auxiliary Power Unit (APU)

None

22. Life-limited Parts

See Robinson Maintenance Manual and Instructions for Continued Airworthiness (RTR 060).
Retirement times are listed in the approved "Airworthiness Limitations" section of Chapter 3.

IV. Operating and Service Instructions

1.	Flight Manual	R22 Pilot's Operating Handbook and-approved Rotorcraft Flight Manual, RTR 061, dated 16 March 1979, with revisions through 20 April 2007, or later.
2.	Maintenance Manual	R22 Maintenance Manual and Instructions for Continued Airworthiness (RTR 060 Volume I)
3.	Structural Repair Manual	None
4.	Weight and Balance Manual	None
5.	Illustrated Parts Catalogue	R22 Illustrated Parts Catalogue (RTR 060 Volume II)
6.	Service Letter and Service Bulletins	R22 Service Letters and Service Bulletins as published by Robinson Helicopter Company

7. Required Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification, or as required by the Master Minimum Equipment List. In addition, the-approved Rotorcraft Flight Manual is required (see Flight Manual).

V. Operational Suitability Data

The Operational Suitability Data elements listed below are approved by CAA as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation No 69/2014, as retained (and amended in UK domestic law) under European (Withdrawal) Act 2018 and amended by the Aviation Safety (Amendment etc.) (EU Exit) Regulations 2019.

OSD Certification Basis

1. Reference Date for determining the applicable OSD requirements

   12 August 2014

2. MMEL - Certification Basis

   Special Condition SC-CS-GEN-MMEL-H, Initial Issue

3. Flight Crew Data – Certification Basis

   For R22 Beta with symmetrical horizontal stabilizer: CS-FCD, issue 2.
   For all other R22 Beta: CS-FCD, Initial Issue.

OSD Elements

1. MMEL

   For all models:
   EASA MMEL for R22, R44, and R66, Appendix 1 to RTR 666, dated 17 November 2015, or subsequent approved revisions.

2. Flight Crew Data

   RTR 167, UK CAA Operation Suitability Data, Flight Crew Data, Initial OSD Issue, or subsequent approved revisions.

VI. Notes

1. Manufacturer's eligible serial numbers:
   0501, and subsequent.

2. Current weight and balance report, including list of equipment included in certificated empty weight, and loading instructions, when necessary, must be provided for each helicopter at the time of original certification and at all times thereafter.

3. One of the following placards must be installed in clear view of the pilot:
   "THE MARKINGS AND PLACARDS INSTALLED ON THIS HELICOPTER CONTAINOPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS ROTORCRAFT. OTHER OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS ROTORCRAFT ARE CONTAINED IN THE ROTORCRAFT FLIGHT MANUAL."
   Or: "THIS ROTORCRAFT APPROVED FOR DAY AND NIGHT VFR OPERATIONS"
   For additional placards, see R22 Rotorcraft Flight Manual (RTR 061).

4. Lycoming O-360-J2A installed on S/N 2571 and subsequent in production. Retrofit installation of the O -360-J2A engines may only be accomplished at the Robinson Helicopter Company.

5. Designation:
   R22 Beta II is used as marketing designation for the R22 Beta with O-360-J2A engine installed.

6. Symmetric Horizontal Stabiliser approved for installation on R22 Beta equipped with O-360-J2A (commercial name R22 Beta II) only.

* * *

Section 4 R22 Mariner

I. General

This Type-Certificate Data Sheet (TCDS) is the concise definition of the type-certificated product accepted and or approved by the CAA in the UK for the affected types and models.

1. Type / Variant / Model

a) Type: R22
b) Variant or Model: R22 Mariner

2. Type Certificate Holder

Robinson Helicopter Company

2901 Airport Drive

Torrance, California 90505, USA

II. Certification Basis

1.	Reference Date for determining the applicable requirements	19 December 1976
2.	Airworthiness Requirements	14 CFR Part 27, dated 1 February 1965, including Amdts. 27-1 through 27-10. § 27.1559 of Amdt. 27-21 is an option for all s/n.
3.	Special Conditions	None
4.	Exemptions	None
5.	Deviations	None
6.	Equivalent Safety Findings	FAA ELOS No. TD10352LA-R/S-1 to 14 CFR Part 27, § 27.1401 (d), Anticollision Light System
7.	Requirements elected to comply	None
8.	Environmental Protection Requirements	
8.1	Noise Requirements	ICAO Annex 16, Chapter 11, see TCDSN EASA.IM.R.120
9.	Operational Suitability Data (OSD)	See SECTION V below

III. Technical Characteristic and Operating Limitations

1. Type Design Definition — Robinson Helicopter Company Drawing A001

2. Description

Main rotor:	2-blade, free to teeter and cone, rigid in-plane
Tail rotor:	2-blade, free to teeter, rigid in-plane
Fuselage:	Riveted aluminium sheet and welded steel tube for primary structure, fiberglass & thermoplastic for secondary structure. Seats integral to cabin structure.
Landing gear:	Aluminium skids
Powerplant:	Single normally-aspirated reciprocating engine.
Avionics:	Analogue or EFIS
Floats:	Two inflatable floats, additional corrosion protection, tailcone with nose-up horizontal stabilizer mounting angle, float stabilizer in place of the tail skid, usage with and without floats.

3. Equipment — Basic equipment must be installed and operational prior to registration of the helicopter.

Optional equipment per RHC drawing A025.

4. Dimensions

4.1	Fuselage	Length: Width hull: Height:	6.24 m 1.02 m 2.37 m
4.2	Main Rotor	Diameter:	7.67 m
4.3	Tail Rotor	Diameter:	1.07 m

5. Engine

5.1	Model	Lycoming Engines 1 x Model O-320-B2C, or O-360-J2A (see Note 4)	
5.2	Type Certificate	FAA TC/TCDS n°: EASA TC/TCDS n°:	E-274 for O-320-B2C E-286 for O-360-J2A None

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

	PWR limit [BHP]	RPM [%]
TOP (5 min)	131	104
MCP	124	104

Note: Note: See RFM for maximum manifold pressure corresponding to 124 BHP

5.3.2 Transmission Torque Limits

	Max. TQ [Nm]	Engine RPM [%]
TOP (5 min)	347	104
MCP	328	104

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel — 91/96 UL aviation gasoline
100 LL aviation gasoline
100/130 aviation gasoline

6.2 Oil — See R22 RFM (RTR 061), Section 8

6.3 Additives — None

7. Fluid capacities

7.1 Fuel

	Capacity [litres]	Usable [litres]
Tank	Tanks without bladders	
Main	75	73
Auxiliary	41	40
Tank	Tanks with bladders	
Main	69	64
Auxiliary	37	36

7.2 Oil — Engine: 5.7 litres (1.5 US gal)
MRGB: 1.13 litres (0.3 US gal)

8. Air Speed Limitations

With Floats Installed:
VNE (never exceed) Power-on:
91 KCAS sea level to 3 000 ft DA,
decreasing to 77 KCAS at 7 500 ft DA,
decreasing to 50 KCAS at 14 000 ft DA.
Straight line variation between points.

VNE (never exceed) Power-off:
77 KCAS sea level to 7 500 ft DA,
decreasing to 50 KCAS at 14 000 ft DA.

Without Floats Installed:
VNE (never exceed) Power-on and Power-off:
98 KCAS sea level to 3 000 ft DA, decreasing to 83 KCAS at 8 000 ft DA, decreasing to 56 KCAS at 14 000 ft DA. Straight line variation between points.

9. Rotor Speed Limitations

Power-on (O-320-B2C Engine):		
Maximum	104%	(530 rpm)
Minimum	97%	(495 rpm)
Power-on (O-360-J2A Engine):		
Maximum	104%	(530 rpm)
Minimum	101%	(515 rpm)
Power off:		
Maximum	110%	(561 rpm)
Minimum	90%	(459 rpm)

Note: All values are applicable to the Main Rotor.

10. Maximum Operating Altitude and Temperature

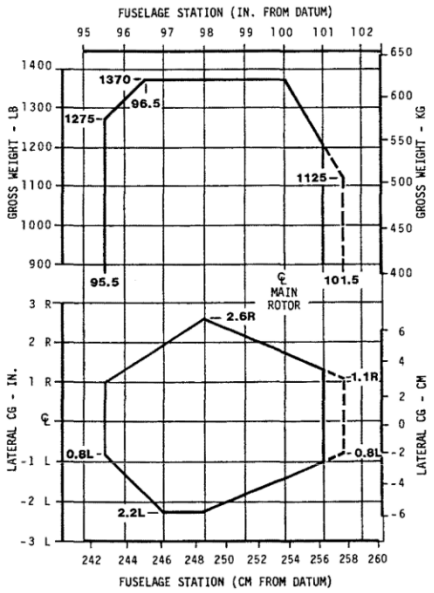
10.1 Altitude — 14 000 ft (4 270 m) DA

10.2 Temperature — Maximum ambient temperature limited only by engine operating temperature limits.

11. Operating Limitations — With Floats Installed: VFR day only
Without Floats Installed: VFR day and night
Non-icing conditions

12. Maximum Mass — 621 kg (1 370 lb)

13. Centre of Gravity Range — With floats ———
Without floats – – – – – –



14. Datum — Longitudinal:
the datum plane (STA 0) is located at 2 540 mm (100 in) forward of main rotor centreline.

Lateral:
fuselage median plane.

15. Levelling Means — Refer to R22 Maintenance Manual and Instructions for Continued Airworthiness (RTR 060)

16. Minimum Flight Crew — 1 pilot (right seat)

17. Maximum Passenger Seating Capacity: 1

18. Passenger Emergency Exit: 2, 1 on each side of the passenger cabin

19. Maximum Baggage/Cargo Loads: Maximum mass: 23 kg (50 lb)

For any seat location, the maximum combined weight of the load on the seat (e.g. occupant) plus the weight of stowed items and any installed equipment in the underseat baggage compartment is 109 kg (240 lb).

20. Rotor Blade Control Movement:

Main Rotor:

Collective pitch	11.5° ±0.5° total travel	
Cyclic pitch	forward	10.5° to 11.0°
	aft	8.5° to 9.0°
	left	9.0° to 9.5°
	right	5.5° to 6.0°

Tail Rotor:

Collective pitch	left pedal	9.6° to 10.6°
	right pedal	19.0° to 19.5°

21. Auxiliary Power Unit (APU): None

22. Life-limited Parts: See Robinson Maintenance Manual and Instructions for Continued Airworthiness (RTR 060).
Retirement times are listed in the approved "Airworthiness Limitations" section of Chapter 3.

IV. Operating and Service Instructions

1. Flight Manual: R22 Pilot's Operating Handbook and -approved Rotorcraft Flight Manual, RTR 061, dated 16 March 1979, with revisions through 20 April 2007, or later.
and

Flight Manual Supplement 4 dated September 9, 1985, with revisions through October 13, 2000 or later.

2. Maintenance Manual: R22 Maintenance Manual and Instructions for Continued Airworthiness (RTR 060 Volume I)

3. Structural Repair Manual: None

4. Weight and Balance Manual: None

5. Illustrated Parts Catalogue: R22 Illustrated Parts Catalogue (RTR 060 Volume II)

6. Service Letter and Service Bulletins: R22 Service Letters and Service Bulletins as published by Robinson Helicopter Company

7. Required Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification, or as required by the Master Minimum Equipment List. In addition, the-approved Rotorcraft Flight Manual is required (see Flight Manual).

V. Operational Suitability Data

The Operational Suitability Data elements listed below are approved by CAA as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation No 69/2014, as retained (and amended in UK domestic law) under European (Withdrawal) Act 2018 and amended by the Aviation Safety (Amendment etc.) (EU Exit) Regulations 2019.

OSD Certification Basis

4. Reference Date for determining the applicable OSD requirements

   12 August 2014

5. MMEL - Certification Basis

   Special Condition SC-CS-GEN-MMEL-H, Initial Issue

6. Flight Crew Data – Certification Basis

   CS-FCD, Initial Issue.

OSD Elements

3. MMEL

   EASA MMEL for R22, R44, and R66, Appendix 1 to RTR 666, dated 17 November 2015, or subsequent approved revisions.

4. Flight Crew Data

   RTR 167, UK CAA Operation Suitability Data, Flight Crew Data, Initial OSD Issue, or subsequent approved revisions.

VI. Notes

1. Manufacturer's eligible serial numbers:
   0364, 0501, and subsequent (Suffix "M" added to all MARINERs).
   (R22 ALPHA S/N 0364 was converted to an R22 MARINER by the manufacturer. The original R22 ALPHA dataplate was removed and replaced with an R22 MARINER data plate S/N 0364M.)

2. Current weight and balance report, including list of equipment included in certificated empty weight, and loading instructions, when necessary, must be provided for each helicopter at the time of original certification and at all times thereafter.

3. One of the following placards must be installed in clear view of the pilot:
   "THE MARKINGS AND PLACARDS INSTALLED ON THIS HELICOPTER CONTAIN OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS ROTORCRAFT. OTHER OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS ROTORCRAFT ARE CONTAINED IN THE ROTORCRAFT FLIGHT MANUAL."
   Or: "THIS ROTORCRAFT APPROVED FOR DAY AND NIGHT VFR OPERATIONS"
   For additional placards, see R22 Rotorcraft Flight Manual (RTR 061).

4. Lycoming O-360-J2A installed on S/N 2571 and subsequent in production. Retrofit installation of the O-360-J2A engines may only be accomplished at the Robinson Helicopter Company.

5. Designation:
   R22 Mariner II is used as marketing designation for the R22 Mariner with O-360-J2A engine installed.

* * *

Section 5 Administration

I. Acronyms and Abbreviations

Acronym / Abbreviation	Definition	Acronym / Abbreviation	Definition
AFT	Aft	n/a	Not applicable
C.G.	Centre of Gravity	OSD	Operational Suitability Data
CRI	Certification Review Item	PA	Pressure Altitude
CS	Certification Specification	PWR	Power
DA	Density Altitude	RHC	Robinson Helicopter Company
DP	Datum Point	RFM	Rotorcraft Flight Manual
EFIS	Electronic Flight Information System	RTR	Robinson Technical Report
ESF	Equivalent Safety Finding	s/n	Serial Number
FAA	Federal Aviation Administration	SC	Special Condition
FCD	Flight Crew Data	STA	Station
FWD	Forward	TC	Type Certificate
ISA	International Standard Atmosphere	TCDS	Type Certificate Data Sheet
KIAS	Knots Indicated Air Speed	TCH	Type Certificate Holder
max	Maximum	TOP	Take-Off Power
MC	Maximum Continuous	TRGB	Tail Rotor Gearbox
MCP	Maximum Continuous Power	TQ	Torque
MGT	Measured Gas Temperature	UK CAA	United Kingdom Civil Aviation Authority
MMEL	Master Minimum Equipment List	VFR	Visual Flight Rules
MRGB	Main Rotor Gearbox	V_{NE}	Never Exceed Speed
MSL	Mean Sea Level		

II. Type Certificate Holder Record

TCH Record	Period
Robinson Helicopter Company 2901 Airport Drive Torrance, California 90505, USA	Since 10 December 1992

III. Amendment Record

TCDS Issue No.	TCDS Issue Date	Changes	TC Issue and Date
1	21 Jul 2025	The content of the initial issue of this UK CAA TCDS was taken from EASA TCDS No. EASA.IM.R.120 Issue 5 dated 29 May 2019, which was the current EASA version at 31 December 2020 and therefore the version of the TCDS for the Robinson R22 accepted by the UK under Article 15 of Annex 30 of the UK-EU Trade and Cooperation Agreement, except as listed below: Changes related to [Project number - UK.MAJ.00474]: Section 0: New Section explaining the content of this TCDS derived from the previous EASA TCDS Sections 3.II.2: certification basis updated for symmetrical horizontal stabilizer. Sections 1.V; 2.V; 3.V; 4.V Flight Crew Data: to introduce RTR 167 UK FCD at initial issue. Section 3.VI – Note 6 added All sections: Editorial updates	Issue 1 21 Jul 2025

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