

# Robinson R22 Beta II Model Guide

The Robinson R22 Beta II is a two-seat, single-engine piston helicopter in the library from 1996, with no end year listed. Its handbook is FAA approved in the Normal category under FAR 27 and FAR 21, under Type Certificate H10WE. Registry performance maxima and spec figures were not supplied. The numbers below come only from the handbook-derived checklists and the incident and airworthiness documents provided. Treat them as a starting point for a pre-purchase check, and confirm everything against the current handbook for the specific aircraft.

## KEY TAKEAWAYS

- The Robinson R22 Beta II seats two. Weight and balance and hover performance (in ground effect and out of ground effect) are the limiting factors, so check both before every flight.
- One ATSB report found a Beta overloaded to the point it could not fly out of ground effect. Do not assume you can lift away from a roof or confined spot with a full load.
- One ATSB report on a Beta II in-flight break-up traced the cause to a missing cyclic bellcrank fastener after a 2,200-hour overhaul. Overhaul records and maintenance quality matter a great deal.
- A New Zealand CAA Airworthiness Directive schedule dated 31 October 2024 covers the R22 series. It includes main rotor blade inspection and retirement items. Ask for proof of compliance with all of them.
- One AAIB report on a Beta in-flight break-up attributes it to mast bumping, which the handbook says abrupt control inputs can cause. Pilot proficiency and smooth handling are part of the ownership risk.

## WHAT TO KNOW ABOUT THE AIRCRAFT

The Robinson R22 Beta II is a two-seat piston helicopter. The handbook is FAA approved in the Normal category based on FAR 27 and FAR 21 and must be carried in the helicopter at all times. The log of pages shows the handbook was revised on 22 Feb 2024, so check that the aircraft's copy matches the current revision. The Robinson maintenance manual (October 2018 edition) lists Lycoming O-320-series and O-360-series operator's manuals in its Instructions for Continued Airworthiness. It has chapters on life-limited components, rotor systems, rigging, track and balance, and weight and balance.

## START-UP AND RUN-UP CHECKS WORTH KNOWING

A Heli Academy normal checklist for the R22 Beta II gives these figures. Idle is 55% with oil pressure above 25 psi. Warm-up is 70-75% rotor RPM. At the magneto check, the maximum RPM drop is 7% in 2 sec. Engine RPM is then increased to 102-104%, and the low RPM horn and light are checked at 97%. The checklist notes that only checks and procedures in the POH are approved. Expect a seller or instructor to run these checks. Be wary of an aircraft that fails them.

## WEIGHT, BALANCE AND LOADING

The Robinson R22 Beta II weight and balance worksheet covers pilot, left front passenger, baggage on both sides, main and aux fuel, and longitudinal and lateral CG calculations. It also records IGE and OGE hover ceilings. A note says that if a backrest cushion is used, the compressed cushion thickness is subtracted. Doors, removable cyclic, collective and pedals are included in basic empty weight unless removed. The ATSB Adavale report found that the helicopter, an R22 Beta, was overloaded after the passenger boarded. It could not fly out of ground effect, and rotor RPM decayed with the low RPM horn sounding. Plan loads with margin.

## MAINTENANCE HISTORY AND AIRWORTHINESS

The NZ CAA Airworthiness Directive schedule dated 31 October 2024 applies to the R22, R22 Alpha, R22 Beta and R22 Mariner under Type Certificate H10WE. Its 24 pages include items such as main rotor blade inspection and retirement, tail rotor drive shaft replacement, and forward flexplate replacement. Ask for a complete AD compliance record. The ATSB report on Beta II VH-HGU found a cyclic bellcrank fastener missing after a major

## V-SPEEDS

|                               |    |
|-------------------------------|----|
| Recommended Glide Speed Kts   | 65 |
| Min Rate Of Descent Speed Kts | 53 |
| Max Glide Speed Kts           | 75 |

## SAFETY NOTES

- Do not take off before the CLUTCH light goes out. If the light comes on in flight and does not go out within 10 seconds, pull the CLUTCH circuit breaker and land as soon as practical, or land immediately if there are other drive system failure indications.
- The low fuel caution light indicates about one gallon of usable fuel with all-aluminum tanks, or 1.5 gallons with bladder-style tanks. The checklist warns against using it as a working fuel gauge.
- The LOW RPM warning means rotor speed is below 97%. Lower the collective immediately, roll the throttle on, and in forward flight apply aft cyclic.
- The AAIB report on a Beta in-flight break-up states that mast bumping can be caused by abrupt control inputs. Avoid abrupt cyclic or pedal inputs.

overhaul, and the maintenance work-pack had not been used to track all tasks. A March 2019 ATSB safety advisory told maintainers to check the correct part number before re-using a self-locking nut. Look closely at who did the overhaul and how it was documented.

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AI-aggregated guide for the Robinson R22 Beta II · sources: PILOT'S OPERATING HANDBOOK AND FAA APPROVED ROTORCRAFT FLIGHT MANUAL (#19395) · NORMAL CHECKLIST R22 Beta II (#19401) · ATSB Transport Safety Report: Aviation Occurrence Investigation (Short) AO-2025-016 (#19391) · AAIB Bulletin No: 12/2003 (#19392) · Airworthiness Directive Schedule (#19396) · Emergency Checklist R22 BII - Heli Academy V1.0 2025-09 (#19400) · ATSB Transport Safety Report - Aviation Occurrence Investigation AO-2017-078 (#19402) · Weight & Balance for the Robinson R22 Beta II (#19407) · R22 MAINTENANCE MANUAL AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (#19414) · generated 2026-10-14 · Reference only, not for flight. Check the original documents before relying on this guide.