

Robinson R44 Raven I Model Guide

The Robinson R44 Raven I is a four-seat, single-engine piston helicopter, listed in the library from 2002. The R44 registry family (R44, R44 II) reaches up to 350 nm range, 113 kt cruise and a 14,000 ft ceiling. A flight-school briefing sheet for the Raven I gives a 2,400 lb maximum gross weight.

KEY TAKEAWAYS

- Four seats, 2,400 lb max gross, 300 lb per seat including baggage, 50 lb in the baggage compartment: work out weight and balance before every trip.
- Never-exceed speed is 130 KIAS at or below 2,200 lb and 3,000 ft DA, and 100 KIAS with any doors removed. Max operating altitude is 14,000 ft DA.
- A dealer listing says the Raven II has a more powerful engine and carries more payload, flies higher and goes faster than the Raven I.
- Budget for parts: 2025 list prices show a carburetor at \$2,760 and 6-cylinder camshaft kits at \$6,220 and \$11,400.

LIMITS TO KNOW

School briefing sheet for the Raven I: max gross 2,400 lb, min gross 1,550 lb, min solo pilot 150 lb. Rotor RPM is 101-102% power on and 90-108% power off, with the low-RPM warning at 97%. Max operating altitude is 14,000 ft DA. Never-exceed speed is 130 KIAS up to 3,000 ft DA at 2,200 lb or less, 120 KIAS above 2,200 lb, and 100 KIAS with doors removed.

RECORDS AND AIRWORTHINESS CHECKS

Confirm compliance with CASA AD/R44/15: sprag clutches with S/N 0003 through 0505 must be replaced (applies to early R44 serials 0001-0541 and a few others). SB-107B calls for removing the factory fire extinguisher ahead of the left pedals within 100 flight hours or by 31 October 2021, with the weight and balance record revised. If an Alaska Rack external load rack is fitted, it is inspected at every 100-hour and annual inspection.

FUEL PLANNING AND RUNNING COSTS

AAIB cites 16 USG per hour as an appropriate planning figure, and notes the R44 POH gives no fuel consumption figures. The school sheet lists about 60 L/h. Ask for time since new and engine overhaul records. The 2025 R44 parts list shows a magneto at \$2,440 and a carburetor at \$2,760.

SPECIFICATIONS

Seats	4
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PERFORMANCE

Max Operating Altitude Ft	14000
Family Max Range Nm	350
Family Max Cruise Speed Kt	113
Family Max Service Ceiling Ft	14000

V-SPEEDS

Vne Up To 3000ft Da At Or Below 2200 Lbs Kts	130
Vne Above 2200 Lbs Kts	120
Vne Doors Removed Kts	100

WEIGHT & BALANCE

Max Gross Weight Lbs	2400
Min Gross Weight Lbs	1550
Max Weight Per Seat Lbs	300
Max Baggage Weight Lbs	50
Min Solo Pilot Weight Lbs	150

SAFETY NOTES

- ATSB: pedal vibration preceded a tail rotor gearbox fracture and in-flight break-up of a Raven I; land as soon as possible and do not fly until the cause is found.
- ATSB: a near-max-weight takeoff at high density altitude ended in rotor RPM decay and a hard landing. Keep the governor on and apply full throttle at once on a low-RPM warning.
- Land to refuel before the main tank gauge reads under 1/4 full. The low-fuel light means about 3 USG left, at most 10 minutes. Test drum fuel for contamination.