

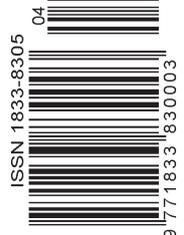
AOPA PILOT

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FEATURE ARTICLE REPRINT

ROBINSON R44 RAVEN II

#1 FOR A REASON



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R44 RAVEN II

#1 FOR A REASON

BY PAUL M SOUTHWICK
AOPA PILOT AUSTRALIA EDITOR

In 1992 Robinson introduced the 4-seat R44, and ten years later, the R44 Raven II equipped with Lycoming's more powerful IO-540 fuel-injected engine and a 28-volt electrical system.

The R44 has been the world's best-selling general aviation (GA) helicopter every year since 1999 and is the most-produced GA aircraft of the 21st century, with around 6,000 having been sold. It is sometimes described as "the 182 of the rotary world."

The R44 is a single-engine, piston helicopter with a semi-rigid two-bladed main rotor, a two-bladed tail rotor and a skid landing gear. It has an enclosed cabin with two rows of side-by-side seating for a pilot and three passengers.

The Raven II has hydraulically assisted controls and adjustable pedals, as well as a more powerful IO-540, six-cylinder, 245 hp engine and wider blades. The R44 has a MAUW of 2,500 lb

THE INVITE

The AOPA PILOT AUSTRALIA editor was invited to fly the R44 from the factory at Torrance, California, during our Reno trip, in mid-September 2018. LA based AOPA Australia member Andrew Leece was to provide a R44 bonus, but more on that later.

WALK AROUND

For many pilots and non-pilots, the R44 is the shape for a helicopter. As the industry leader, and with the same shape for the whole family, the R44 is instantly recognisable.

Not so well known is the Robinson obsession with weight and cost control. Frank Robinson, the founder, and this philosophy has been continued by his son Kurt, would tell engineers "You are free to suggest any improvements to the helicopter, as long as they do not increase weight or cost," and he meant it. That founding philosophy has stood the test of time and made Robinson the huge success it is today.



Our beautiful blue aircraft, with gold stripes, registration N944VB, had just four hours on the clock, probably flown the day before by our production and experimental test pilot guide, Scot Woolums, who has been at Robinson for eight years.

The paint work was perfect, and that usual lovely brand-new leather smell, strong. In the cockpit we had the new Garmin PFD/MFD GDU 700L Txi display, GTN635 GPS/Com, and shared T-Bar cyclic. The origin of the T-Bar is the above-mentioned focus on weight, but also a practical reason – it makes getting into and out of the helicopter so much easier than clambering over or around a stick between the legs.

Speaking of room, the R44, which is about the same size in the metal, as it looks in photos, has good room in both the front and the back.

A nice feature of the R44 is the control for radio frequency change, and flick through pre-loaded frequencies, on the right-hand pilot's grip of the T-bar. This is an important ease-of-flight feature, as helicopter pilots usually have all their extremities busy on the controls.

Signs on the cyclic inform pilots that the R44 can only be flown solo from the right seat, and that low-G pushovers are banned.

LET'S GO FLYING

We flew over the city in the turbine R66, during our visit earlier in the year. For some different scenery, we decided our flight, which was technically in spring, but more realistically like summer in LA, would be south-east to the port and then east down the coast to Laguna. This would take us over and past all the beaches, hotels and expensive cliff top homes.

The editor, who had stayed at the Ramada Inn, less

than five minutes' walk from Torrance Airport, arrived bright and early to interview Robinson's President - Kurt Robinson (see the report in this edition), which worked out well, as the usual early morning summer fog and low cloud had lifted by about 10.30am. It revealed yet another perfect day in LA. No wonder so many Americans migrate west and tolerate terrible traffic on the freeways.

The author was offered the right-hand pilot-flying, or student seat, feeling both immediately at home, and aware of what was to come, after quite a few hours at the controls of helicopters in the previous few months.

As would be expected with a brand new, fuel injected, six-cylinder engine, it started easily and quickly. It did not take long for it to reach the required indications, and we were ready for lift off.

One of the indicators on the Garmin PFD that became immediately noticeable, and was to be most useful in flight, was the fixed-wing-dial-like rate of climb and descent "left side half clock." Robinson engineering had to work hard to get Garmin to introduce this for Robinson helicopters, and avoid a "tape-like" display. Robinson is rightly proud of it. In many ways the climb and descent indicator is typical of Robinson overall and how they work tirelessly and relentlessly, knowing what they want to do, and what is best for their customers, based on being pilots themselves, and close to their customers, via their long serving and loyal dealer network.

Runway 11 right was in use at KTOA, and we headed out over the golf course and "the pit" reporting point towards the busy port. After take-off, Scot handed over to the editor, who apart from switching for photos and the final landing, flew the rest of the one-hour flight.



ROBINSON R44 RAVEN II



There were lots of things to see as we passed over the docks with all the ships loading, unloading, coming and going. There were also cruise ships, thousands of marine pleasure craft, and bridges to cast eyes over.

We were soon over and following the breakwater, looking for, talking to, and avoiding many other aircraft, mostly “company” helicopters, under test from Robinson. There were a few other opposite direction aircraft, including a fast travelling twin, and so the aural and visual alert system on the Garmin screen was particularly useful. Once a pilot has used this feature it is hard to fly without it in busy airspace.

We stayed low, at 500 - 700 feet most of the way. This is the great beauty and fun of helicopters. It does take a bit of getting used to and an adjustment in thinking for fixed wing pilots. Helicopter pilots feel like they are eagles and enjoy similar views.

We marvelled at the long, white, Pacific Ocean facing beaches, the lifeguard towers (staffed by university students in the holidays) every few hundred metres, the million-dollar homes, and the homes again – especially the large blocks with huge grass frontages and palm trees. Many homes were right on the water, as were the hotels – luckily for the owners, built on solid rock, not sand. The beaches were sometimes public, with easy access by road, but in other cases tiny, intimate, and only reachable from the homes or a boat. There were also many magnificent homes up on the hills overlooking the Pacific.

The most impressive homes were anchored firmly into the rocks, but then jugged out to sea, on massive steel or concrete beams, high up over the sea. This meant that the waves break below or under them. Imagine that sound when sleeping.

There was such a beautiful blue ocean underneath us. It stretched all the way to Australia, with just a light swell.

The editor cruised the R44 with 20 inches of manifold pressure, which is conveniently at the top centre of the indicator, and at the start of the yellow line. This delivered a steady and economical 100 knots plus (or 180 kph), into a headwind and crosswind. By staying low, we avoided multiple areas of controlled airspace. That is another great feature of helicopters – the ability to fly around low level, unrestricted.

Despite that crosswind, the R44 was stable, quiet, and a pure joy to fly. Looking outside (rather than staring at instruments) is best for helicopter flying, and best for the views from a R44. The small pieces of wool attached to the centre of the windscreen are enough for guidance to keep the helicopter in balanced flight. The editor was still a long way off the 10,000-hour test pilots who can feel the helicopter even slightly out of balance by the gentle G-forces on their bodies.



Flying along in the glass cockpit R44, and not having to consciously think about it at all (ignoring here the requirement to be competent in all abnormal and emergency procedures), it is easy to see why the R44 has been the world's most popular and bestselling helicopter for so long. It is also available with the convenience of an excellent autopilot – which can fly instrument approaches, and air conditioning, which improve it even more. Range is good, speed is good, as is reliability, service and resale value.

It is a similar formula to that which has made Toyota cars so popular. It began with Frank Robinson and continues with Kurt Robinson. There is an awful lot of thought, care, hard team work, innovation and attention that goes into a Robinson helicopter. The company has a stable, loyal, committed and long serving workforce – all of which seems to flow through to the quality aircraft. A perceptive visitor walking through the factory can see those qualities shining through on the faces, and the positive demeanour, of all who work there.

All too soon, it was time to turn north west and head back for Torrance, taking as many photos and videos as possible for AOPA AUSTRALIA's Facebook page as we went. The editor was lightly guarding the collective and applying quite a bit of right rudder through the flight. It was good, just for the fun of it, banking the helicopter left and right, climbing and descending as we went.

Our route took us back the same way, over the harbour, the pit, and the golf course, before Scot demonstrated an autorotation to land. There is a good reason the Robinson pilots do autorotations. It keeps the helicopter noise over houses to a minimum. Robinson is a responsible and respected local employer, and they want to keep it that way.

SECOND BITE

In the afternoon, after the test flight, AOPA AUSTRALIA member and owner of aircraft marketplace site www.air.one, Andrew Leece, had kindly offered to fly the editor out to Catalina Island's "Airport in the Sky," called Avalon (KAVX), in a R44 for lunch, with two other Aussie friends.

Despite the slightly depressing thought of sitting in the back, it was an offer too good to turn down; a chance to see what it was like for rear seat R44 passengers; and an opportunity to get some great photos and videos. It was also a chance to do some reconnaissance for the Icon A5 test flight to Catalina Island the next day.

Our aircraft was a bright red R44, registration N703JJ. It was given a thorough pre-flight and some slight spark plug adjustments, having just come off its 100-hour check. We were joined by long time US resident, and Robinson safety course instructor, Aussie Mick Lane,

who owns LA Helicopter Training, a flight school at Torrance specialising in advanced instruction.

Given that we would be flying over the water, there was a detailed briefing, and we all donned life jackets.

Mick, who was pilot in command (PIC), decided that we would cruise out to Catalina at low level, all the way to the cliffs below the airport. The idea was to avoid fixed wing aircraft heading back to the mainland. We would then "pop up" to airport height and land. That is exactly what Andrew, who was doing the flying did, and it seemed to work well.

We hovered to parking and went for lunch – the buffalo burgers and souvenir T-shirt being popular. There was a small landing fee to pay at the UNICOM tower. The island was brown, like a desert, from all that California sun and lack of rain.

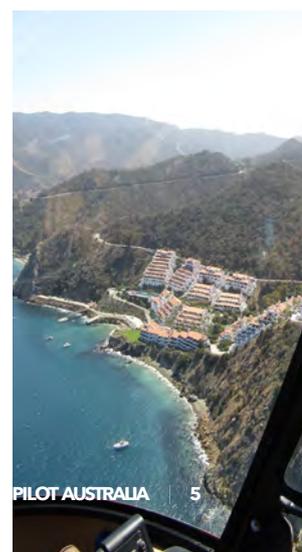
After lunch we really saw the R44 at its best, with a low-level, clockwise flight around the surprisingly large island. This enabled us to spot all the secret little bays and walking tracks and was quite spectacular. Members might like to check out the images and videos posted by the editor on AOPA AUSTRALIA's Facebook page.

Completing our circle of the island, we flew over picturesque Avalon, the main town and tourist "Mecca" where lots of boats were anchored. There was also a huge cruise ship just outside the harbour. High on the hill looking over the town and harbour was the home of former owner Wrigley, of chewing gum fame, who donated the Island to the state of California.

On the return trip to Torrance, we all got a shock when we spotted a massive shark, seemingly bigger than the R44, circling an orange mass of seaweed. Apparently sharks follow the migrating fish and whales up and down the coast, to make catching lunch easy. We decided if ever we were heading to Catalina Island in a boat and someone suggested a swim half way, we would decline the offer. In true helicopter fashion we were able to circle the shark a few times at low level to take photographs.

OVERALL IMPRESSION

The overall impression of the R44 is one of fun, functionality and fit for purpose, backed by years of experience. Layered over that now, especially with the Garmin avionics, autopilot and air conditioning, there is a degree of modern technology that will see the R44 remain the number one selling civilian helicopter for many years to come.





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