

way, and the deep canopy sides, the view of the outside world is panoramic, and gives a great sense of safety and freedom from anxiety about bumping into other aircraft or ground obstacles. With such good visibility it is a pleasure to try 30° bank turns, then increase them to 45°. At steeper angles of bank, a firm back pressure is required to maintain level flight. The flying controls all feel taut enough, the effectiveness of the aileron and elevator being enhanced by servo tabs. This is actually a pretty responsive aircraft.

You lower the nose to level off and the speed starts to come up. Then you see that you are climbing slightly and lower the nose some more, and then some more. Then you really are 'on the step' and getting the best out of the aircraft.

Sitting right on the wing leading edge, as you do in the Royale is a great advantage for navigation because you can see so much more



of the countryside.

The stall characteristics are akin to the PA-28 Warrior, providing an audio stall warning 5-8 knots above the stall, accompanied by light to moderate airframe buffet, with a mild nose-down break at the stall with no wing drop. Indicated stall speeds are higher than book, the ASI showing 62kt clean, dropping (but not by much) to 60kt with full flap. This is not unusual with an aircraft that's been flying for thirty or forty years. Firstly the ASI might not be reading with the ideal degree of accuracy. Secondly, (though this is less likely) the aircraft's stall speed might have increased through weight build-up, alterations to streamlining or minor changes to the rigging. The book full flap stall for a Royale is 50kt.

If an accelerated stall is deliberately induced in a turn, the aircraft automatically rolls wings level, which is how it should be. (The Cherokee, for instance, tends to roll away from the turn, dropping its nose.) Returning to Conington we need to drop down through some broken cloud, where the Royale could demonstrate its instrument prowess in real

## VARIANTS

### The Safari and Tiara came later

Pierre Robin began constructing wood and fabric tailwheel aircraft in 1957. He later switched to nosewheel configuration and produced the classic range of wooden Robins. In the late sixties, he decided that wood-and-fabric was going out of fashion and it was time to switch to metal construction. With designer Chris Heintz (the 'H' in HR) his company produced the HR100 Royale. It was based on the wooden DR253 Regent - though with thirty more horsepower. Powered initially by a

Lycoming 360 180hp engine, the HR100 airframe was steadily up-engined.

All HR100 models have constant speed propellers.

The subject aircraft is an HR100/200B, which is fitted with a 200hp Lycoming IO-360. The Safari was a 210hp version of the Royale.

The Tiara embellished the HR100 airframe with two daring innovations: a retractable undercarriage and the Continental Tiara 6-285 engine, which drove an enormous three-blade CS propeller from the

camshaft with a hydraulic damping device. This upped the payload by 112lb and the cruise speed by 26kt.

The HR100/250, which came out in the late seventies was a Tiara without the Tiara engine - it had the rather less expensive IO-540-C4B5 six-cylinder Lycoming. Another variant had a 235hp Continental 6-320.

In total, 178 Royale HR100s were built between 1969 and 1976, 113 of which were Royales or Safaris.

Wingspan of the Royale: 29ft 7in; length: 23ft 9in.

IMC. This goes entirely as predicted - rock steady - and soon we pop out of the bottom (well above MSA...) with the field in sight.

Unfortunately it is the wrong field (handheld GPSs can be a bit ambiguous) and we use good old fashioned map reading to find Conington.

### THOSE PESKY LIGHTS

The Royale flies steadily round the circuit at the target speeds of 90kt downwind and 80kt on base and down final approach. Threshold speed is 70kt and I find flap selection less fiddly for having had the earlier practice, but it still takes a few stabs to get the pesky lights to come on. There is no noticeable pitch change with flap selection.

I find the elevator trim useful during circuits - a nicely geared knurled wheel between the seats.

The aircraft is steadiness itself during the approach, once trimmed out, and with that superb view of the runway ahead you would have everything on your side landing at dusk with the setting sun in your eyes, or under dark clouds in heavy rain. The elevator is nicely loaded for rounding out and the aircraft skims along just above the runway as steadily as it flew down the approach.

My brief is to touch down ten feet in front of the photographer and it's a great testimony to the Royale's controllability that we manage to achieve this. I don't cheat, either, touching down on the mains without forcing the aircraft on prematurely, then gently lowering the nosewheel - an

easy trick with the well-gearred elevator control. The suspension soaks up the slight landing shock, so that the (imaginary on this flight) passengers would barely know that we'd made the transition from flight to ground.

To prove it wasn't just a fluke, we touch and go into the visual circuit and achieve another identical performance. Nailing the speed with



elevator and maintaining the glidepath with power is easily achieved due to the effectiveness of the former and the responsiveness of the latter, which can be continued all the way to the touchdown. Spot landing competitions should be a cinch in the Royale.

On my final landing, I reduce my speed by five knots because I want to see how short I can land. The Royale takes this in its stride, but

I can tell that the aircraft is heavy enough not to come in any slower; you would risk dropping on,

although I suspect the undercarriage would cope. With firm braking we still use up rather more runway than a PA-28 - altogether around 400 metres. ■

“ Passengers would barely know that we had touched down ”

## HOW MUCH?

### Swings and roundabouts

There are sixteen Royale HR100 examples currently on the G-register, plus several dozen in mainland Europe.

Prices are influenced by several considerations: the aircraft is a great tourer and built to a high standard, but on the other hand, used aircraft is a highly conservative market and metal Robins are unusual... and there might be concerns about spares and servicing. Plus, Royales aren't great when it comes to farm strips.

Here is a rough guide to prices:

**Under £15,000:** insurance write-off, rebuild project, or airframe minus engine

**£15,000-£20,000:** complete aircraft out of C or A and needing attention

**£20,000-£25,000:** aircraft in C of A, but with engine on condition and/or airframe in need of a paint job.

Poor panel fit

**£25,000-£30,000:** engine approaching overhaul time, airframe and cockpit rather tatty, mostly original panel

**£30,000-£35,000:** engine overhauled within the last few hundred hours, airframe and cockpit in reasonable condition, panel partly updated and equipped for IFR

**£35,000-£40,000:** low hour engine, recent repaint, tidy cockpit, panel fully functional and mostly updated

**Over £40,000:** everything recently returned to good-as-new with a modernised panel

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