

Flight Report Bristell 915S

Phil Rees, PGA Chief Tow Pilot

Last Saturday I had a short flight in Martin's demonstrator NGO at his narrow farm strip near Gordondonton. Its about 680 long I think. Light wind, grass fairly long and soft ground with some decent pug holes from his cattle.

Pre-flight fairly standard for any Rotax. However this does necessitate removing the top engine cowling every time.

We had a close look at seat adjustment. We propped the seat back forward with a single cushion, but I still needed the rudder peddles fully back. Tall pilots with long legs will be easily accommodated. All controls fell neatly to hand. Canopy locking is changed from the model I flew in Oz, there's now a large red lever on the sidewall by each pilot's elbow. The canopy is lowered, the weight being taken by two gas struts, and the lever over centre locked into position. Positive and easily checked.

Engine start and by turning on the reserve battery to power the left hand screen, and a checklist summoned from the menu page. This engine had full Electronic Control Unit operation for ignition (two Lanes), fuel injection and hydraulic pitch control. It started first push of the starter. Normal check of the temperatures and pressures, then a check of each ECU lane in turn. This constitutes the only magneto check required. We then followed the check list for the after start items.

Due to the muddy and soft nature of the strip I let Martin taxi to the threshold. Brakes and directional control seemed good.

Run up check was only to exercise the propellor pitch mechanism. Increase throttle to I think 4800 rpm and then cycle the propellor lever several times. Easy.

On opening the throttle for take off, the acceleration was very brisk. Positive right rudder required to hold the direction straight. Initial aft stick to hold the weight off the nosewheel, release some aft pressure as the elevators became effective, then just let the aeroplane fly off the ground naturally. Raise the nose some more to keep the speed from building to quickly, then once well clear lower the nose for slightly 85 kts ish, and reduce the rpm to 5500, (max continuous?). Throttle can be left at full (46 inches??). It all happens very quickly.

Left turn towards Morrinsville Waitoa, then once clear of the 2500' ceiling climb to 4000'. Ridiculous attitude to bring the speed back to 75 kts. My grin feels like its about 3 miles wide. Cruise power set (not a hope of remembering the numbers, too much fun,) then quick handling (rock solid), slow to stall, impeccable, then a descending turn at full idle and head home. Phenomenal rate of descent, and easy to control the speed. As power is reduced, the propellor pitch goes fully fine in an attempt to maintain the selected rpm. As the throttle is reduced further, the propellor now acts as a huge speedbrake. Wonderful. On level off, as power is increased then the rpm governor becomes active again.

With my seat back more forward, visibility into the turn in now excellent. Also being further forward the view over the leading edge of the wing is significantly improved. The answer is to set the seat back as far forward as possible while maintaining pilot comfort.

Circuit entry was straight forward. Flap extension speed is 75 kts. Operation is electric. Each stage produces a progressive nose down pitch, easily trimmed out. Approach speed for normal operations,

60 to 65 kts. I flew the first approach to short finals then applied full power for a go around. Some right rudder needed to contain the yaw. Initially I held the out of trim stick pressure to simulate trim failure. As each stage of flap was retracted, the forward pressure required to maintain the correct pitch attitude become quite a force. Otherwise nothing dramatic. Retrimming the subsequent climb out and circuit totally uneventful.

The second approach was flown at 60 kts to a full stop. Approach control was easy, short float and hold off, using about half of the strip.

Martin taxied back and did the shut down.

This short flight confirmed my initial impressions. Well built, felt solid, comfortable and delightful to fly.

With the wide speed range of gliders we tow at Matamata, I feel that the ability to match the engine power to the prop at all stages of flight, particularly during initial acceleration during the take off roll, is a significant feature that gives the best all round performance and also enhances safety. The unexpected benefit of giving high drag in the descent is a bonus, and will prevent inadvertent gearbox damage through over revving. The advantage of the fuel injected option combined with the electronic control unit is maintaining optimal fuel burn throughout the towing operation and combined with the supercharger give good rates of climb even on high, 5000, tows. Engine handling by the pilot is very straight forward.

If I had the money I'd buy one for myself.