

Flight Test Cirrus SR22

before dropping manifold pressure to the next stop. Beyond the last stop, retarding the power lever lowers engine rpm and manifold pressure simultaneously.

That leaves only mixture control to worry about between cruise and descent. And the combination of exhaust gas temperature and fuel-flow instruments make its easy to find the sweet spot on the rich side of peak EGT.

Slowing the SR22 takes a bit more advance planning and some familiarity with the aircraft – a result of its slippery nature. This is an aircraft that cruises easily with the fastest of its power class – and does it with fixed gear.

With fairly low limiting speeds for flap deployment – 119kt indicated airspeed for the first 16° – some pilots may need to log extra time learning to make descents correctly. But flying the SR22 slowly gives no need for caution about maintaining control, even in the briskest crosswinds. Like its lighter sibling, the SR20 has handling traits that shine regardless of which end of its envelope it is being flown in.

Altitude holding

At high-speed cruise, trim controls for all three axes allow the pilot to dial the SR22 into level flight in a variety of conditions. Once trimmed, the aircraft fights hard to hold that attitude – even without the benefit of the autopilot. With the autopilot engaged, the pilot can track a heading, VOR radial or GPS-generated course, hold altitude, control climbs and descents, and fly coupled approaches.

At the low-speed end of the envelope, the SR22 requires work to stall, whether clean (no flap) or with a full 32° of flap. I reduced power and trimming to hold altitude until the engine reached idle. With the trim full aft (nose up), the SR22 still wanted to fly until I applied further aft pressure on the side yoke.

Finally, the stall horn sounded and the SR22 began a series of oscillations that started when the nose dropped at about 53kt indicated airspeed. The aircraft settled into a mush that accelerated to about 3.8m/s before the nose started to rise again and reduced the descent rate to 2.8m/s.

During the 20s or so that I held this stall, the SR22 remained almost fully controllable. Aileron input allowed levelling of the wings and prevented any hint of wing fall-off. The rudder also helped to maintain heading control as the nose bobbed up and down, porpoise-like.

A major adaptation problem came during a series of touch-and-go manoeuvres back at Plant City. Thanks to its taller gear and the high nose-up attitude that comes at the stall, the aircraft started to flare a bit too high on one pass, and not soon

enough on the next. By my third try, however, the problem eased.

All of these approaches occurred with a brisk crosswind that varied between 30° and 40° off the nose. But on touchdown each time, rudder alone was more than ample to hold the SR22 straight on the runway centreline.

Solid contender

Cirrus brings to the light aircraft market another solid contender in the SR22, and one that is more sophisticated and capable than the SR20. For a heavy user of general aviation, the SR22's additional strengths will be hard to ignore for its price.

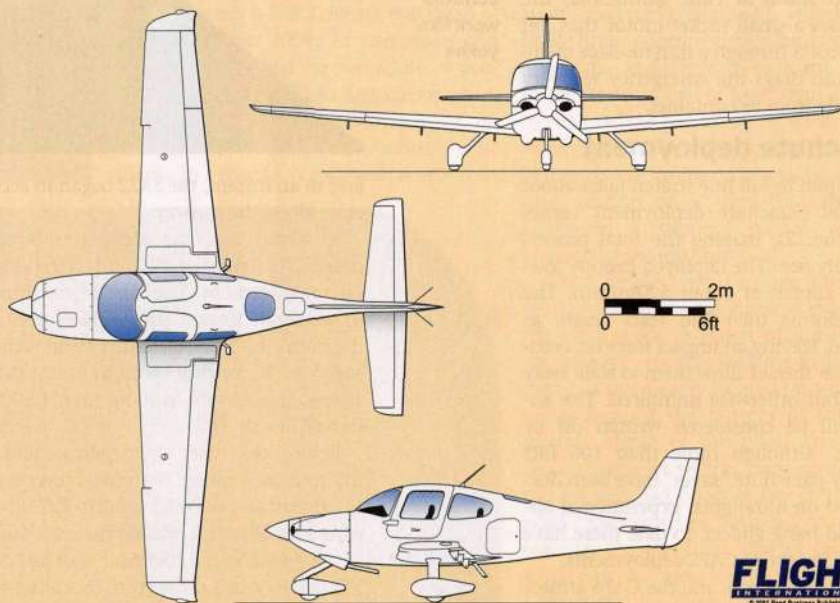
Only one other aircraft in this power class comes close, and that is Lancair's Columbia 300, another Continental-powered composite-airframe design. The Columbia may be a few knots faster, but

it lacks the emergency parachute system and costs about 12% more.

Cessna's 206 Stationair cannot touch the SR22's speed, but carries more – and costs more. The Raytheon Beech Bonanza A36 and Commander 114 cost far more – almost double, in the Bonanza's case – and give away more than 20kt in speed despite having retractable gear. This puts the SR22 at the bottom of its class, price-wise, but near the top in performance, sophistication and user-friendliness.

If Cirrus Design became a threat to established general-aviation aircraft manufacturers when the SR20 came along – offering an aircraft with more speed on less power for less money in its power class – the SR22 is a double threat: both to the high-power aircraft in its horsepower class, and to some lower-powered aircraft in its price range. ■

CIRRUS DESIGN SR22 SPECIFICATIONS



Maximum gross weight: 7,489kg (3,400lb)	Standard empty weight: 4,956kg (2,250lb)
Maximum useful load: 2,533kg (1,150lb)	Payload w/full fuel: 1,423kg (646lb)
Fuel: 318litres (84USgal)	
Engine: Teledyne Continental Motors IO-550-N (310 hp @ 2,700rpm)	
Propeller: Hartzell three-blade constant-speed, 1.98m (78in) diameter	
Wing span: 11.73m (38.5ft)	Wing area: 13.4m (144.5ft)
Length: 7.92m (26.0ft)	Height: 2.8m (9.2ft)
Cabin length: 3.30m (130in)	Cabin width: 1.25m (49.25in)
Cabin height: 1.27m (50.0in)	Luggage compartment: 82.89m ³ (32ft ³)
Luggage weight limit: 59kg (130lb)	
Take-off roll: 336m (1,100ft)	Maximum climb rate: 7.11m/s (1,400ft/min)
Landing distance (over 50ft obstacle): 701m (2,300ft)	Ground roll: 311m (1,020ft)
Maximum cruise speed: 335km/h (181kt)	Maximum range (plus IFR reserves): 1,850km (1,000nm)
Minimum stall speed: 109km/h (59kt)	Airframe limitations: +3.8g -1.9g
Design speeds: V _{ne} = 377km/h (204ktCAS*)	Full-flaps: 104ktCAS (192km/h)
Maximum manoeuvring speed: 263km/h (142ktCAS)	Parachute deployment speed: 246km/h (133kt CAS)
Service ceiling: 55,740ft (17,000 msl)	

Source: Cirrus Design

CAS=calibrated airspeed