

Wings can only get better

David Bremner thought the Skyleader J400 had everything. Then he flew the J600



LAST month, unless your short-term memory is as bad as mine, you may remember that I reviewed the Skyleader J400, which I said included everything but the kitchen sink installed.

I lied.

While I was at North Weald, I was also allowed to have a go at the *even more* sophisticated J600.

You might assume this was the J400 airframe with more goodies installed, but you'd be quite wrong – almost everything is different.

The J600 has been around for longer, and to date 101 have been sold in Europe, so it's a well-established model and should have all the bugs taken out by now.

For a start, the cockpit is significantly wider. This has resulted in a significant

discontinuity between the new cockpit section and the original rear fuselage.

The gullwing canopy doors have been replaced with a one-piece affair with a very fancy mechanism that enables you to get in and out with the minimum of bending. As a result, the ballistic chute has been moved from in front of the cockpit to behind.

The engine cowling is a more complex shape that's lost those nice large quick inspection panels and replaced them with a small round hatch for checking the oil.

The tailplane is mounted in front of the fin instead of behind.

The wings are different too, having larger flaps that extend out and down like an airliner, giving a huge increase in wing area.

Up front is an electrically-operated

in-flight adjustable Woodcomp propeller. And if you get down on your knees, you will see that the undercarriage is *retractable*.

As far as I know, the only other two-seat microlight in the UK before this with retractable gear was the Falcon XP canard in which I had a share for a few years. See, I told you it was sophisticated.

Now pay attention, 007

So let's start from the front and look at these changes. The Woodcomp propeller is electrically operated, and requires a number of additional instruments in the cockpit.

The propeller control allows you to set the desired propeller rpm, and adjusts the propeller pitch accordingly.

The throttle adjusts the amount of

power being delivered, and you can monitor the power being delivered by the manifold pressure gauge. This is one of a number of propeller options available.

Under the cowling, you can choose from a Rotax 912S, 914 or 912iS. The test aircraft had a 100hp 912S fitted.

Next, the canopy. The front slides on a curved track, while the back is hinged to a flap that is also hinged to the back of the cockpit. The result is a movement that keeps the canopy well clear of the cockpit when you're getting in and out, but closes with the minimum of effort. There are rotary locks each side to keep it shut.

The retractable undercarriage is electrically operated, with a manual backup under the pilot's seat in case of electrical failure. The trailing link main gear retracts inwards to faired wheel wells; the steerable nosewheel retracts backwards. Suspension on both is rubber in compression.

The flaps are mounted on curved tracks at each end like an airliner. Toothed pushrods inboard and outboard are operated by gears on electrically driven cross shafts, ensuring that the flaps are always operated symmetrically. In the retracted position, there's little of them showing.

Moving to the tail, there are two trim tabs on the elevators; one is the normal one that's operated by the pilot. The other is operated by the flap control, ensuring the aircraft remains in trim as the flaps are operated.

There's a lot to get your head around here, even before you get into the cockpit.

Inside the office

So what's the cockpit environment like?

The first thing that impacts you is the very comfortable adjustable seats. There's a button between your legs you can pull to move the seat forwards or backwards.

As with the J400, there's ample baggage space behind, but the elbow room is positively palatial.

It was slightly surprising to note that there seems to be no stowage space accessible in flight, and I found the flap that locates the rear of the canopy restricted the headroom somewhat – still okay for a 1.90m chap, but those taller than me might find it a bit restrictive.

On the central console is a large three-position flap lever at the back, and moving forwards, quadrant throttle and choke lever and fuel selector valve.

Then a nice big red starter button, and above that is the undercarriage retract lever, with the indicator lights above.



Level with that is the propeller control, and above that the autopilot. Yup, you heard that correct: the autopilot, with panel radio and digital navigation screen.

This aircraft is fitted with a big EFIS screen, with backup analogue gauges and a big red handle for the ballistic chute. It also has toe brakes and trim actuation on the stick top.

The only other controls of note are

the two red winding handles under the left seat for emergency undercarriage deployment.

And they're off

Start up and taxi had no surprises, and the only additional action for takeoff was to set the propeller to maximum rpm to ensure that full power was available.

The takeoff itself was quite normal, and



Cockpit beautifully finished, like the rest of the aircraft



Flaps create a huge increase in wing area



1



2



3



4



“”
The autopilot is amazing

1
Nosewheel retracts backwards

2
Main gear retracts inwards to faired wheel wells

3
J400's gullwing doors replaced with clever sliding canopy

4
Adjustable seats look very comfy – and they are

5
As with the J400, there's ample baggage space

6
Looks quite different from its little brother: wider and with a more complex engine cowling and adjustable prop

▷ I was unable to notice any noise or change in pitch trim when the undercarriage was retracted. The shorter nose improves the view compared to the J400.

Under test pilot Radim Štěrba's guidance, I was able to play with the propeller settings. Having spent 50 years using rpm as a proxy for power output, that takes a little getting used to, but there are benefits to keeping the rpm constant.

And having set the rpm on the propeller, there's an immediate correspondence between the throttle setting and manifold pressure, so it wouldn't take long to get the hang of it.

Clearly if you set the rpm to 4000rpm and open the throttle, the power output will be a lot less than if you'd set 5600rpm, and if you shut the throttle the rpm will drop to around 2000rpm no matter what you set the propeller to.

But the manual will tell you what settings to use for optimum fuel economy, and that has to be a good thing.

Cruise control

And then there was the autopilot. It's a Garmin unit that will maintain height, airspeed and course. It connects to the EFIS so that it will follow the track from there, or even follow the route you've set up.

Radim showed how it would make gentle turns to stay on track, and how you could tell it what rate of ascent or descent to use when you need to change height.

It's even got a button that will return you to level flight from an unexpected attitude. Amazing!

World's smartest flaps

As you'd expect, handling and performance are similar to the J400, and to most other 100hp 600kg modern microlights.

The stall strips on the leading edge have been replaced by an unmistakable warning horn which is

necessary to avoid the significant wing drop if you persist in holding the stick back beyond that point.

The other significant change we needed to witness was those enormous flaps and the coupled trim tab.

The effect is very noticeable. As you operate the flaps, the stick adjust itself and the speed remains more or less constant, despite the fact that you've now got huge barn doors stuck out at the back of the wing. And as you retract them, the effect is reversed just as seamlessly.

It's an excellent trick, and congratulations to Skyl leader for coming up with the idea – or at least copying it from other designs.

I wouldn't do that, guv'nor

We headed back to the circuit, and Radim demonstrated an important safety feature. There's a small radio altimeter built into the aircraft, and if you start to lower the flaps at heights below 500ft, another warning horn sounds to remind you to lower the undercarriage.

Very few pilots of this size of aircraft have ever used retractable gear, so I can see this horn coming in very useful. I know I'd certainly appreciate it.

With the gear down, he made a steep approach to the runway and popped it on the deck very smoothly. The toe brakes and steering are very effective, and we rolled back to Hangar 13.

Is it worth it?

The J600 first flew in 2010, and has a proven track record, with over 100 sold to date.

The basic aircraft will set you back a fraction under £120,000, with optional extras on top. The Czech-registered factory demonstrator comes fully loaded with all the goodies, and would come in at a good deal more.

The basic empty weight is quoted as 320kg without



5



6

the ballistic chute or retractable undercarriage. By the time you've loaded up with the goodies quoted here, the empty weight will be significantly more.

All of my flying has been made on the simplest of flying machines, and I found the experience of dealing with so much technology a little intimidating, but for those used to all the bells and whistles on light aircraft, the J600 would come as a refreshing and welcome change.

As with the J400, the build standard and finish are excellent, and the airframe is cleaner, giving a cruise speed of 110kt compared to only 94kt for the J400. As a result, it claims a longer range and endurance, but a rather longer takeoff and landing roll, despite those enormous flaps.

So if you are planning to undertake a great many long-distance flights, the added sophistication would certainly be worth consideration, together with some or all of the optional extras. I suspect that there is a smaller market for this than the J400, however.

And finally...

Is it too late to give these models names rather than numbers?



The sliding canopy affords great visibility

technical data

Skyleader J600

MANUFACTURER

Zall Jihlavan Airplanes (Skyleader Aircraft), Hruškové Dvory 139, 586 01 Jihlava, Czechia. Tel +420 734 750 206; market@skyleader.aero; skyleader.aero/en/.

IMPORTER

Inditu Air Services (trading as Skyleader UK). Operational base: Hangar 13, North Weald Airfield, Merlin Way, Epping CM16 6HR. Tel 07809 619564, skyleaderuk@gmail.com. Proprietor: Ashok Aliseril. Phone: +44 780 961 9564

SUMMARY

Side-by-side two-seat low-wing monoplane with conventional three-axis control. Wings have swept leading and trailing edges. Conventional tail. Pitch control by elevator on tail; yaw control by fin-mounted rudder; roll control by ailerons. Fixed undercarriage (electrically retractable optional) has three wheels in nosewheel formation; rubber suspension on all wheels. Nosewheel steering connected to aerodynamic controls. Hydraulic disc brakes on mainwheels. Totally monocoque airframe built entirely from structural aluminium and steel, all corrosion-proofed prior to assembly. Ballistic recovery chute mounted rear of engine as standard equipment. Engine mounted at wing height, driving tractor propeller.

EXTERNAL DIMENSIONS & AREAS

Length overall when rigged 7.1m. Height overall 2.46m. Wingspan 9.9m. Tapered chord; mean aerodynamic chord 1.27m. Dihedral 6°. Wing area 11.85m². Flap area 0.7m². Rudder area 1.73m². Elevator area 2.28m². Ailerons area* 0.55m². Aspect ratio 7.78/1. Wheel track 1.96m. Wheelbase 1.28m. Mainwheel tyre size 6in. Nosewheel tyre size 4in.

POWERPLANT

Rotax 912ULS engine. Max power 100hp at 5800rpm. Woodcomp three-blade ground-adjustable propeller, dia 1.75m. Gear reduction, ratio 2.43/1. Fuel capacity (wing+wing) 60+60 = 120 litre.

WEIGHTS & LOADINGS

Empty weight 350kg. Max takeoff weight 600kg (with ballistic parachute). Payload 250kg. Max wing loading 50.63 kg/m². Max power loading 6kg/hp. Maximum load factors +4g, -2g

*Data provided by manufacturer/importer
Data in text is tester's experience*

PRICE INCLUDING VAT

£119,760 + shipping/ferrying charges, ready to fly with single-tone paint, fixed undercarriage and VFR avionics. Test aircraft had two-tone paint and retractable undercarriage.

PERFORMANCE*

Max level speed 115kt. Never exceed speed 139kt. Economical cruising speed 105kt. Power-off stall speed with flap 33kt. Power-off stall speed without flap 41kt. Max climb rate at sea level 800 ft/min at 60kt. Best glide ratio with power off 12/1 at 60kt. Takeoff distance to clear 15m obstacle 250m on grass. Landing distance to clear 15m obstacle 250m on grass. Service ceiling 12500ft. Range at average cruising speed 600nm.

* Under ISA conditions at sea level and 600kg MTOW

COUNCIL AIRWAVES

Return to the fold

After a 30-year break from flying, it was a lovely little Sluka which tempted BMAA Treasurer **Derek Lamb** back in



Sluka build complete

DID the picture of the Sluka on the cover of April *MF* catch your eye?

Dating from the 1990s, this little SSDR still looks futuristic to me. And I don't think it's just the nostalgia of it being the first aircraft I owned and the first one I built, or rather rebuilt, after it had been stripped down to bare metal for refurbishment.

Following a 30-odd-year break from flying, during which I'd become convinced I'd never be able to afford to fly again, I discovered microlighting, joined the BMAA and started working on my NPPL(M).

With my engineering background, I thought that an aircraft build would be fun, and it was: learning a bit about aircraft construction as I progressed with something I'd never done before.

Support came in the form of an enthusiastic and experienced band of club members helping and monitoring my progress, so when it came to its first flight, I was sure it would all hold together. I'd used the BMAA weight and balance spreadsheet and had no doubts it was within its design limitations.

At that time, I didn't yet have a licence, so couldn't do the first flight.

Then I thought of the instructor

from another club who had showed such interest when he was looking at another aircraft in the hangar. Would he be prepared to do it?

"Sure, Saturday afternoon at 2?" was the answer.

I was thrilled. Saturday came, and he and a friend duly arrived. Then two aircraft flew in with another four pilots. I thought it was great there was such interest in my little project.

They fanned out with military precision and were all over the little Sluka, pushing, pulling and peering. Every inspection panel was opened and inspected. Eventually it was thumbs up from all, and it was time to go.

It all went well, and I felt proud when I saw the Sluka climb into the circuit that hosts a variety of GA aircraft, warbirds, and ex-military jets.

In retrospect, his caution in getting the others to check it thoroughly before he flew it was a very sensible approach, and nothing in the years I owned it gave any concern. It flew beautifully, and its handling was an absolute delight.

Time for two

Finally it was time to move to a two-

seater, and I took on a part-built kit.

Suddenly I was in the BMAA build system. The inspector at the aircraft's previous base in Somerset let me have his detailed progress reports before I moved to a new local inspector at my build airfield.

They both adopted the same methodical processes, with a proper build manual. It left me amazed, and taken aback at the casual, albeit careful, way I'd done my first build.

I was struck by the difference between the unregulated SSDR and the assurance of the permit to fly process, from the check upon check of the inspector, the BMAA release for test flight, the test pilot's validation before taking to the air, and finally the permit to fly.

The fun of the build was still there, but it was the confidence in the process that was the crucial difference.

It was then that I appreciated the strength that is the BMAA inspector team and the way it forms the bedrock of the BMAA permit to fly fleet.

Would I consider a Sluka or another SSDR again? I'm not sure, but I wouldn't take to the air without the aircraft having had a thorough going over by a qualified inspector. □

Microlight insurance guide

Aircraft type	Pilot / Aircraft build	Aircraft flight and ground	Aircraft ground only	Third party	Student	Passenger	Student pilot life	Licensed pilot life	Unlicensed pilot life
Fixed-wing regulated	Licensed / Approved mfr	CSP, T, H, V	CSP, T, H, V	BHPA, CSP, H, V	CSP, SC, T, H, V	BHPA, CSP, SC, T, H, V	SPI, SC, H ²	SPI, SC, H ²	n/a
	Licensed / Amateur-built	CSP, T, V	CSP, T, V	BHPA, CSP, H, V	CSP, SC, T, H, V	BHPA, CSP, SC, T, H, V	SPI, SC, H ²	SPI, SC, H ²	n/a
	Student under instruction	CSP, T, V	CSP, T, V	CSP, V	CSP, SC, T, V	n/a	SPI, SC	n/a	n/a
Flexwing regulated	Licensed / Approved mfr	CSP, V	CSP, V	BHPA, CSP, H, V	CSP, SC, T, V	BHPA, CSP, SC, T, V	SPI, SC	SPI, SC	n/a
	Licensed / Amateur-built	CSP, V	CSP, V	BHPA, CSP, H, V	CSP, SC, T, V	BHPA, CSP, SC, T, V	SPI, SC	SPI, SC	n/a
	Student under instruction	CSP, V	CSP, V	CSP, V	CSP, SC, T, V	n/a	SPI, SC	n/a	n/a
Powered parachute regulated	Licensed / Approved mfr	-	-	BHPA	-	BHPA, T	SPI, SC	SPI, SC	n/a
	Licensed / Amateur-built	-	-	BHPA	-	BHPA, T	SPI, SC	SPI, SC	n/a
	Student under instruction	-	-	-	-	n/a	SPI, SC	n/a	n/a
Fixed-wing deregulated	Licensed pilot	SC, H ¹ , V ³	SC, H ¹ , V ³	BHPA, SC, H ¹ , V ³	SC, H ¹ , V ³	n/a	SPI, SC, H ^{1/2}	SPI, SC, H ^{1/2}	n/a
	Student under instruction	SC, H ¹ , V ³	SC, H ¹ , V ³	SC, H ¹ , V ³	SC, H ¹ , V ³	n/a	SPI, SC, H ^{1/2}	n/a	n/a
	Licensed pilot	SC, H ¹ , V ³	SC, H ¹ , V ³	BHPA, SC, H ¹ , V ³	SC, H ¹ , V ³	n/a	SPI, SC, H ^{1/2}	SPI, SC, H ^{1/2}	n/a
Flexwing deregulated	Licensed pilot	SC, H ¹ , V ³	SC, H ¹ , V ³	BHPA, SC, H ¹ , V ³	SC, H ¹ , V ³	n/a	SPI, SC, H ^{1/2}	SPI, SC, H ^{1/2}	n/a
	Student under instruction	SC, H ¹ , V ³	SC, H ¹ , V ³	SC, H ¹ , V ³	SC, H ¹ , V ³	n/a	SPI, SC, H ^{1/2}	n/a	n/a
	Licensed pilot	H ¹	H ¹	BHPA, H ¹	H ¹	n/a	SPI, SC, H ^{1/2}	SPI, SC, H ^{1/2}	n/a
Powered parachute deregulated	Student under instruction	H ¹	H ¹	H ¹	H ¹	n/a	SPI, SC, H ^{1/2}	n/a	n/a
	Unlicensed pilot	-	-	BHPA	n/a	BHPA	n/a	n/a	SPI, SC, AIB

KEY
 BHPA British Hang Gliding & Paragliding Association: 0116 289 4316, bhpa.co.uk
 CSP Crispin Speers & Partners (CSP): 020 7977 5699, cspinsurance.com
 H Hayward Aviation: 020 7902 7809, haywards.net
 SC Sydney Charles: 01420 88664, sydneycharles.co.uk
 SPI Stein Pilot Insurance: 01793 491888, flyingcover.co.uk
 T Traffords: 01525 717185, traffords-insurance.co.uk
 V Visicover: visicover.com

NOTES
 1 Limited to aircraft produced by an approved manufacturer
 2 Personal accident only
 3 Selected models only
 n/a not applicable

PLEASE REMEMBER
 • This is a general guide only. Insurance companies will assess each risk individually before deciding whether to offer cover.
 • Not all insurance policies are the same. Read the small print carefully!