



JURCA TEMPETE

Roy Targonski's five-year love affair with one of
just two airworthy Jurca Tempetes in the UK.
Photos Paul Bunch







It is often said of old cars, motorbikes and aeroplanes that the current owner is merely a custodian, caring for part of our history and culture, and retaining it for future generations to enjoy. Such was my perspective when the opportunity came to take ownership of a rare piece of PFA/LAA history – Jurca Tempete G-ASUS – one of only two UK-built examples.

A brief history first. Marcel Jurca, a Frenchman, designed the single-seat, wood-and-fabric aerobatic MJ-2 Tempete in the early 1950s, his second design and the start of a formidable list of aircraft that includes the tandem two-seat Sirocco in fixed and retractable versions, a side-by-side version called the Autan, and 3/4 or full-size replicas of the Spitfire, FW-190, Curtiss P-40 and P-51 Mustang (called a Gnatsum). Members may recall that Light Aviation featured the sole UK example of the Gnatsum, imported from Corsica by Will Greenwood, in the February 2009 issue.

The Tempete had quite a strong following in France and some years ago, just as the Tiger Club adopted the Turbulent to form a display team, a group of RSA members formed a similar team around the Tempete, though sadly now long disbanded.

At 499kg, the aircraft is heavy for a single-seater but it is also very strong. The straight, one-piece, six-metre (19ft 8in) wing is built around a substantial box spar, very similar to that of the Jodel, with a D-section leading-edge and a rear spar that carries large powerful ailerons. Early models featured ply-covered, unbalanced ailerons but flutter problems led to them being made lighter and fabric covered. I have flown the subject aircraft to its 166kt (200mph) Vne with no problems.

The wing has no dihedral and features 100mm (4in) tall stall fences, and much of it is ply-covered, as is the fuselage, fin and tailplane; the rudder and elevator are fabric-covered and, like the ailerons, cable-operated. Unlike its contemporary, the Nipper, which incidentally shares the same wingspan, the cockpit is quite cavernous.

The undercarriage, the 'reversed' look of which gives the aircraft a unique look amongst homebuilts, is sprung via a coil spring, with a lighter spring incorporated to take out some of the rebound energy. Having experimented, I found that reducing tyre pressures down to 16-18psi gave a far more forgiving quality to landings. Toe-operated disc brakes are fitted, operated via Mk I Land Rover master cylinders. The tailwheel is off a Maule but the 1.5in spring is too firm, and a 1.25in would perhaps be a better bet and make the lightly loaded tail-end a little less harsh.

BUILD HISTORY

G-ASUS, serial number 67, was built by David G Jones over four years, gaining its Permit to Fly in 1967. At that time, single-seat aerobatic aircraft designs were thin on the ground but David, who had been a frontline fighter pilot in the RAF at the dawn of the jet age, was an enthusiastic aerobatic pilot. He had considered building a Topsy Nipper, but at 6ft 6in tall, the cockpit was just too cosy for him, so he decided he would pursue the Tempete. As a French design he had to sort out technical translation and material specs, as well as getting it approved with the then PFA, but he persevered and with first class craftsmanship saw the project through to completion in what for a plans-built aircraft was not an unreasonable timescale. He went on to operate the aircraft from

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Coventry for over 40 years, including racing it in the King’s Cup Air Race under its serial number, 67, hence the paint scheme.

During this time, the aircraft had three power plants. Initially, it was fitted with a Continental C90 and later a Lycoming O-290. After an inflight engine failure this was replaced with a low-houred RR O-200 from a storm-damaged C150 – though, due to weight considerations, without an electrical system or starter. In order to facilitate this latter engine change, and the fitment of a metal, fine-pitch prop, rather than add a necessary couple of kilos of lead ballast to the rear of the fuselage to maintain the correct C of G, David built and fitted the optional six-gallon rear fuel tank; as a true engineer he simply couldn’t countenance the addition of non-productive weight.

My involvement with the Tempete started in 2005, when I was hiring helicopters from Helicentre Aviation and saw it sitting, unflown, in the back of its hangar. At the time I was restoring a Luton Minor, but I made enquiries and discovered that, then in his 80s, David had been forced to stop flying for medical reasons and was looking to sell. It had been out of Permit for a year or so and he had not found anybody interested in buying, and was reluctantly thinking of breaking the aircraft up and selling the engine, prop, etc and scrapping the rest.

I met David and his niece, Denise, and on the understanding that I was going to get the aircraft back into the air, rather than part it out, a deal was struck and I took ownership in December 2006. I will always be grateful to them both for having the faith in me to get ASUS flying again, and I was determined not to let them down.

My initial hopes had been that with a thorough inspection it would prove to be a relatively simple job to get the Tempete re-Permitted and flying, so I enlisted the help of Bevis Griffiths, who is a licenced A&E and LAA inspector who ran the maintenance company in the next-door hangar and knew the aircraft, as he had been David’s Inspector.

We carried out a detailed appraisal and ended with quite a list of things that really needed doing to bring the aircraft back to as-new condition, and it was to take 18 months of part-time effort to get it to the point where we could apply for a Permit to Test. The airframe itself was superbly built, but the engine had a few oil leaks, there were some issues with the undercarriage (which would temporarily seize on occasion), the brakes needed a good overhaul (Tomahawk discs were fitted), and a leak in the rear tank was fixed. We also added a cowl flap for checking the oil and generally tidied the attachments before re-spraying the cowling, moved the radio PTT and fitted better mag switches and a canopy lock, plus numerous other little tidy up jobs until we

were happy the aircraft was back up to a high standard. As a Boulton-Paul trained engineer with access to a machine shop, none of these tasks was particularly onerous for me, it was simply a case of finding the time to carry out the work.

We had a number of false starts, niggling problems arising during taxi testing, but thanks to the very patient people at PFA (now LAA) Engineering and Bevis, on 28 February 2008, G-ASUS took to the air for the first time in over four years. That first flight lasted three-quarters of an hour in close proximity to the airfield and went well, plus I had beginner’s luck and pulled off a greaser of a landing. For me, the event was tinged with sadness because David was unable to be there due to ill health, and my wife Paula, who had always supported my aviation endeavours, had succumbed following a courageous fight against cancer. Denise and her husband Les did eventually see the Tempete fly and it was a very emotional experience for us all.

Once the test flying was completed, I moved the aircraft closer to home, basing it at Halfpenny Green, and over the next few years flew her for almost 500 hours. Out of interest, I kept tabs on my costs and they worked out at £48 per hour, operating on avgas. Using mogas would have reduced costs to £40 per hour but I just prefer the psychological benefit of less worry about vapour lock and carb icing.

EXCELS IN AEROBATICS

As David was keen on aerobatics, the aircraft had been fitted with a fine-pitched propeller to maximise climb performance – the aircraft is off the ground within 100m and climbs at more than 1,000fpm – inevitably cruise performance suffers. I cruised her at 75kt at 2,200rpm, well short of the designer’s stated 100kt optimum figure but that’s hardly surprising. Apart from its aerobatic capability, the climb prop also allows the aircraft to operate from short strips and I was happy to take her in and out of Otherton’s 340m.

So, what is it like to fly a classic French homebuilt aerobatic single-seater? Well, I suppose the first thing you notice about the aircraft, after its rather ‘loud’ colour scheme, is the Mustang-like sliding canopy – which David built the mould for and formed himself. If my head swivelled owl-like through 360° it really would give all-round visibility, but as it is, it offers an excellent view both in the air and on the ground. As an aside, rumour has it that the only other UK Tempete, G-AYTV, which now flies as an open-cockpit aircraft, also had a blown canopy but it disappeared overboard and is now somewhere at the bottom of the Bristol Channel. Experimentation has given positive results for flying ‘US with the canopy open, there being no buffet and the canopy being perfectly safe and secure.

You climb aboard via a wing-walk on the port side and a swing-down hatch on the cockpit side, seat adjustment being by adding or removing cushions, as was the norm back in the day. Throttle and mixture quadrants are sited on the left-hand cockpit side, with the trim wheel, operating an elevator tab via a Bowden cable, nestling a little farther back in a convenient elbow rest.

The main, upper section of the panel houses the flight instruments and mag switches, and between your legs is a supplementary panel for the engine instruments, g meter, and main (front) tank fuel-shut-off. There is separate tap for the rear tank on the right cockpit side, which allows fuel to top up the main tank once it has reached about half contents; in reality I never

had reason to use the rear tank, the 12-gallon main tank being perfectly adequate for the type of journeys I generally made in the aircraft.

Another striking feature of the aircraft is the pitot tube, or Prandtl tube to give it its correct name – a foot-long protuberance from the port wing tip. Invented by Ludwig Prandtl in the early years of powered flight, it features a coaxial static vent to sample dynamic and static pressure as accurately as possible – a little overkill, and something of a ‘people catcher’ on the Tempete, I think.

Engine start is straightforward. With a few pumps on the primer and sucking in, the engine starts first blade and if there is nobody around to give you a swing, I always considered it perfectly reasonable to start the aircraft on your own, having chocked it, tied the stick back and taken extra care with the throttle setting.

Taxying is easy due to the differential brakes and steerable tailwheel, with the view ahead particularly good for a taildragger, though being a bit of a shorty, I did have to sit up a bit.

Power checks complete and having lined up and rolled forward to straighten the tailwheel, ASUS accelerates like a scalded cat and breaks ground at 50kt. I climb at 70kt and can be at circuit height within the airfield boundary.

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Due to the fine-pitch propeller, cruise is on the slow side – but as an affordable aerobatic mount, the Tempete excels. Though I am no Brian Lecomber, I have had the pleasure of watching Cpt Jez Cooke aerobat the aircraft on several occasions and it is a joy to behold. He commented that it was a great little aeroplane for basic aeros, somewhat akin to a Tiger Moth.

The aircraft stalls at a relatively high 50kt without warning, and drops like a brick. Low and slow needs the utmost respect in this machine.

I fly the approach at 70kt, reducing to 60 over the threshold with a three-point landing being the norm – prop clearance is a bit tight for wheelers. It is a bit of a floater though, and there is more than a little residual thrust from that fine-pitch prop, even at tickover. No flaps are fitted or required as she sideslips very nicely, and the good thing about the landing is that if you do bounce and decide to go around, there is ample performance to drag you out of even the shortest strip.

I thoroughly enjoyed bringing this classic homebuilt back from the brink of being broken up, so that it remains part of our homebuilt heritage, and it has been a pleasure to fly her for the last four years.

But... in June 2012, I sold her on as I had completed the rebuild of a MiniMax and wanted to pursue the somewhat more relaxed world of microlight flying. She has gone to a good home though, and I know will be well looked after – and aerobatted by a far more capable pilot than I. She is fine testament to David Jones’ craftsmanship, coming from an era when if you wanted a homebuilt aeroplane you bought a set of plans and a pile of timber and crafted each and every component. It was a privilege to be the custodian of this small piece of LAA history for a short spell of its fascinating life. ■

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DETAILS

Top: the aircraft flies perfectly well, canopy open or closed
Middle: basic cockpit, as befits a simple single-seater
Bottom: throttle, mixture and trim in armrest. Red button at top is a PTT

SPECIFICATIONS

PERFORMANCE
Maximum speed: 193kph (120mph)
Cruise: 165kph (102mph)
Service ceiling: 3,500m (11,500ft)
Climb (s/l): 2.8m/s (555fpm)

DIMENSIONS
Length: 5.85m (19ft 2in)
Wingspan: 6.00m (19ft 8in)
Height: 2.40m (7ft 10in)
Wing area: 7.98sq.m (85.9sq.ft)
Empty weight: 290kg (639lb)
Gross weight: 430kg (950lb)

Seats: 1

Engine: Continental 65hp-100hp.

Contact: www.marcel-jurca.com