

Sabre Rapid



During August African Pilot was offered the opportunity to evaluate and photograph at Rand Airport, the new wide body Sabre Rapid manufactured in the Czech Republic. After initial air-to-air photography of the plane, I occupied the right seat for a test flight with flying instructor Rudi Knoetze, who is rated on the first new variant to have been imported into South Africa.

Text & Photography By Athol Franz



History of the Sabre Rapid and Antonin Píštěk

The history of KP-2U Rapid aircraft goes back to the early 1990s where professional engineer, Professor Antonin Píštěk had resigned from his position as chief designer of the L 410 and L 610 aircraft types at LET Company. At that time previously state owned industries were opening up and designers like Antonin had opportunities to channel their considerable expertise towards the design of LSA type aircraft for worldwide general aviation use. When the opportunity to build an ultra-light version of the aircraft presented itself, Píštěk as a member of the professional team of KAPPA 77 Company seized the moment with enthusiasm. Most of the workers for the project were recruited from the former Aero Holding Company – Jihlavan. Therefore it was no wonder that the development of the aircraft was rapid and a prototype was ready to fly just one year after the design work began. The design criteria for the Sabre were so well established that few changes were made to the final product. Furthermore, the aircraft was to be equipped with a retractable landing gear as well as the ability to operate on unpaved or grass runways, which led to the use of fowler flaps. The aerodynamic qualities enabled exceptional cruise performance, whilst the fowler flaps allowed slow speed flying characteristics, which was unheard of in this category of aircraft at that time. From a technological point of view, the airplane is manufactured from aircraft grade aluminium, joined with the use of blind rivets. Integral 32 litre fuel tanks were built into both wings with the option of an additional fifteen litres on each side for extended range.

Following the initial test flight, it was quite obvious that the design parameters had been met. Shortly afterwards the aircraft was displayed at the Jihlava Aerosalon exhibition in 1996 and soon thereafter placed into serial production. Being one of the first light sport aircraft with a comfortable cruise in excess of 200 km/h it drew the attention of the general aviation public. This aircraft started a whole new movement for Light Sport Aircraft types with speed ranges in excess of 200 km/h. When the company decided to specifically to build a variant for the USA Light Sport Aircraft market, Professor Píštěk was approached again to head up the design process.

With the improved technical supervision under the guidance of Professor Píštěk, Jihlavan Airplanes, then produced the models KP-5 ASA and the Rapid 500 series. The present construction of the cockpit was noticeably simplified and enlarged from the original 103 cm to 120 cm wide for improved pilot and passenger comfort.

The bubble canopy is now produced as a single piece without any crossbars obstructing the pilot's view. Furthermore, the company increased the type's maximum take-off weight to 580kg.

Owner Howard Bett

Aircraft owner, Howard Bett was born in Kenya and lived in East Africa until the age of twelve. Howard and his family emigrated to the Seychelles, where he attended school until the age of fourteen. Whilst living in Seychelles, Howard witnessed the building of the Seychelles International Airport and the influx of many new aircraft to the Island. This added to his interest in flying, but he never realized the 'freedom of flight' until much later. Howard finished his school education in Cardigan, Wales before returning to the Seychelles for his first 'real' employment opportunity. In his late teens, he was offered an opportunity to crew on a 55 foot yacht through the Amaraniti Islands, Madagascar and Mozambique and ending up in Durban after three months.

Many years later, at the age of thirty-three, Howard obtained his 'weight shift' Microlight Pilot's Licence. Due to a windfall whilst working on the Wild Coast Sun development, he purchased a Windlass Trike. This aircraft was promptly packed into a container whilst he was deployed for a year long project in Mauritius. "That was an experience! – without the much needed hanger talk and buddy pilots to fly with, the first hundred hours or so were very solo" says Howard. "I experienced a great deal of flying around the Island. Although, a couple of near misses gave me a shake-up that a fresh young pilots often need. On my return to South Africa at the end of the contract, I joined the Cato ridge Flying Club".

Howard chalked up some 200hrs on Microlights at Cato Ridge and then was transferred to Gauteng. Whilst being involved on a Game Lodge development in the Waterberg, he had the opportunity to achieve his Private Pilot's Licence (fixed wing) and sometime later a PPL (H).

Howard's flying experience includes around 200hrs on Microlights, 150hrs on Fixed Wing PPL and some 600hrs on Robinson Helicopters. "Whilst I love flying the R44, it gets expensive when you want to fly everyday. Therefore, after much research and some valuable influence from my flying friend Matthew Stubbs, I decided to purchase the Sabre Rapid with STOL, retractable and variable pitch propeller options. Mathew also talked me into purchasing a set of BOSE headsets whilst at the same time in order to pacify my wife, I had to purchase a horse for her."

Howard took delivery of ZU-EMG in February this year and, between helicopters, quad biking, travelling, skeet shooting, boating and work, he has only recently completed his conversion to the Sabre Rapid. "After seven years of chopper flying and allowing my PPL (Fixed Wing) lapse, I had to re-

do the entire licence including all exams and a navigation test. Howard reports: "I just love the Sabre because it is a pleasure to fly.

One can approach the runway at less than 40 knots on short finals, almost like a chopper. I have stalled her (clean) at 25 knots and she will cruise at 115 knots" He continued: "I will keep up at least three to four hours per month on the R44, but this little sweetie (ZU-EMG) is going to let me afford week-ends away with my wife and enjoy many flying at under R200 per hour." Howard intends flying his Sabre into Africa for a few months. However, his first trips will be local to fly to Cato Ridge in order to enjoy a breakfast with good friends and from there to fly down the Transkei Coast.

Pilot who flew the Sabre Rapid for the air-to-air photography

Twenty-two year old Rudi Knoetze grew up in Mondeor, south of Johannesburg and started flying in 2003 after he completed his matric. He obtained his commercial licence and instructor's rating in 2005 at the then Central Flying Academy at Grand Central Airport. He continued instruction for Babcock Central Flying Academy for the next two and a half years where he provided ab-initio and advanced instruction on types from the Cessna 150 to a Piper Seneca II. He resigned from BCFA with 1 300 hours total time of which about 950 hours was instruction time. Recently he achieved his instructors rating on the Sabre Rapid and now has fifteen hours on the type. He has recently obtained a commercial flying position at Cemair, Lanseria International Airport as P2 flying the Beechcraft 1900 and will go on contract into Africa by the time this article is published.

Flying the Sabre Rapid

During the flight test from Rand Airport, I flew with Rudi Knoetze as the instructor pilot, whilst I occupied the right seat. The main reason for this was that the Sabre has internal hydraulic disc brakes operated via a hand lever on the pilot's control stick and I did not wish to test the instructor's skills due to gusty wind conditions. However, the take-off was smooth and swift with climb out indicating more than 1 000 feet per minute. Once the gear was up and the plane settled down into the cruise, a noticeable nose down flying attitude is apparent. Speed built up quickly to the advertised cruise of more than 110 knots. In addition, with outstanding 180 degree visibility, one would benefit from head protection on a long trip under the bubble canopy.

Once I had become used to the required control inputs, which typically are rather sensitive in an aircraft of this kind, I tested steep angles of bank, bunts and slow flying. The Sabre Rapid handled predictably in all three aerodynamic axes where normal rudder input is required. Slow flight characteristics are simply amazing, with a stall coming on ever so gently at an indicated speed of only 30 knots. Even then the aircraft does not drop a wing and stall recovery is swift with very little altitude loss.

Returning to the circuit it was also apparent that the excellent glide ratio of this all metal light sports plane was outstanding, and one had to plan one's descent in order not to overshoot the runway. This is a great feature of the aircraft when one considers the scales of economy and safety of the type.

Another interesting feature is the staggered seating. Landing is very easy with the Sabre's forgiving 'trailing like gear' which is aft sprung and every landing can be a 'greaser' if the approach speed is correctly managed.

The left seat is positioned slightly further forward than the right seat, allowing for more space between the occupants and gives the left seat pilot a definite 'pilot-in-command' feel. Although the

Sabre Rapid has been dubbed as a potential PPL trainer, indications are that full braking control on the right side will be required for training purposes.

The aircraft can also be supplied with adjustable rudder pedals, although adjustable seating is standard. I also believe that the aircraft should not be used for any form of aerobatic manoeuvres, except those that have been approved in the aircraft's operating manual.

The Sabre Rapid's instrument panel has plenty of room for any instrumentation that a pilot could wish to install. A moving map in the centre of the panel offers pilots the opportunity to utilise the latest technology. The throttle lever, which is located in the console between the two seats, is a little difficult to access from the right seat due to the staggered positioning of the seats. Although forward opening, the canopy latches fore and aft, making for a very secure installation. The baggage area behind the seats is capable of carrying up to 30 kilograms before weight and balance issues need to be addressed.

The 100 hp Rotax 912ULS engine provided excellent performance at near gross weight. Apart from basic flying instruments, engine instruments and avionics, the aircraft is available with a host of factory fitted optional extras.

For further information please contact the South African agents Richard Stubbs +2783 655 0355 or Dennis Southby +2783 329 9312 or e-mail: richardstubbs@mweb.co.za.