

Project 24 aims to grow recreational aviation while maintaining safety. Some incredible innovation comes out from experimental aircraft builders.



# PROJECT 24

Recreational aviation has grown faster than the regulations needed to keep it safe. 'Project 24' sets out to fix that by bringing all the various bits of legislation together in a user friendly way.

**T**HE Recreational Aviation Administration of South Africa (RAASA) was formed to set standards for the recreational aviation industry and to make it function responsibly.

The growth of 'Experimental' aircraft was originally controlled by the LS1 document. Drawn up in 1976, it worked well for a number of years, but as aviation developed so the document became outdated – particularly when things went bad and ended in litigation.

Neil de Lange, CEO of RAASA, says that when the LS1 document was drawn up, people used to take responsibility for their actions. According to de Lange, however, we have now become such a

litigious society that insurers are becoming increasingly restrictive with the cover they provide. When people are not prepared to take responsibility for their actions, or by trying to show that they were misled by the insurer or broker, the regulations are brought into scrutiny. Increasingly the regulations were found to be inadequate. Consequently regulatory guidance was sought elsewhere, typically from the ICAO based Type Certified regulations. Unfortunately those regulations are all too often inappropriate to Non-Type Certified Aircraft (NTCA).

RAASA has been receiving more and more complaints and questions from people asking why they used to be able to do something but are now no longer allowed to do that. The term 'tea time rules' was coined to describe regulations

seemingly made up on a whim. De Lange says that initially a degree of discretion was often applied, but as the threat of litigation increased, so regulators became reluctant to exercise their discretion, fearing legal consequences. And so NTCA regulations became increasingly strict and more rigidly enforced, and regulators adopted more and more narrow interpretations of their provisions.

Type Certified Aircraft have Part 21 at the centre of their regulatory framework. This was derived from ICAO Annex 8 – a set of rules and guidelines standardising certified aircraft worldwide. Non-Type Certified Aircraft are, by definition, everything other than Type Certified. They may only be used for limited purposes and are intended to be governed by a less restrictive set of regulatory requirements. Increasingly, however, due to a perceived need to update NTCA regulations, the CAA sought to apply type certified derived standards to NTCAs.

Following a regulatory review in 1997, the LS1 document became Part 24 – Airworthiness Standards for NTCA, but its associated Parts still had one leg in Type-Certified regulations. Thus: Part 44 (Maintenance Rules NTCA) is derived from Part 43 (maintenance rules for certified aircraft). Part 94 (Flight Operations NTCA) is derived from Part 91 (flight operations applicable to certified aircraft). Part 66, which deals with certified Maintenance Engineers (AMEs) influenced subpart 66.4, which deals with Approved Persons, who are approved to carry out maintenance on NTCAs, and so on.

Thus, NTCA regulations are largely still bound by regulations developed in terms of ICAO standards for certified operations. In some cases this has worked, but it has also resulted in inherent contradictions. De Lange says, “The NTCA legislation got butchered. Now it is impossible to read in context. Some of the changes to the document couldn’t be reconciled with the Civil Aviation Review Committee (CARCom) process. We decided we weren’t going to find someone to blame, instead we were going to get on with fixing the problem.”

Initially the approach was to hear proposals and try to fix small aspects of the regulations, but when it came to addressing these proposals, RAASA and the CAA

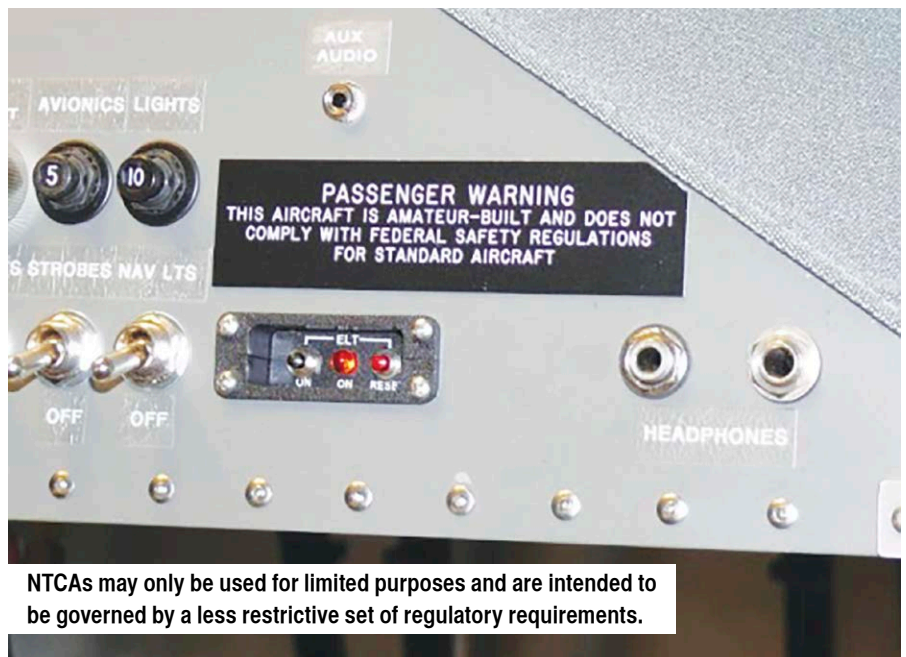
realised that there was a bigger problem and these individual aspects could not be fixed in isolation.

## ENTER PROJECT 24

So RAASA launched Project 24: an initiative to update the Civil Aviation Regulations with a unique set of guidelines and rules specifically for NTCA. For the most part, it is a simplification of the regulations to make them more applicable, clear, and accessible. Pierre Laubscher, Manager of Operations at RAASA, says that where there are additions to the

regulations, it’s not to make them more bureaucratic or onerous, but to raise the standards in a practical manner, and there are occasions where this needs to be done.

Project 24, with Part 24 at its core – hence the name – addresses the regulations of everything NTCA with the focus on ‘grass-roots’ single and two seat aircraft. RAASA can now get their teeth into dealing with comments, suggestions and resolving frustrations that have built up over the past few years. Tiered workgroups are meeting monthly to discuss the regulations and to deal with suggestions





De Lange says whether NTCAs can be used in commercial operations comes down to 'fit, form and function'. The Sling 2 has proved itself as a PPL trainer.



made by the public. From these workgroups, focus groups have been developed to process the suggestions into proposed regulations before they are passed on to the CARCom sub-committee. The CARCom sub-committee then reports to CARCom to oversee the changes.

To encourage public participation and thus buy-in, proposed amendments to the regulations are posted on the RAASA website. Anyone can comment on the revisions via email or track changes on the document.

De Lange says RAASA has invited the CAA to every focus group meeting, but the CAA has not always attended these meetings. But the CAA exercises safety oversight in South Africa as a whole – more specifically for commercial aviation, airports, general air safety, airspaces and so on – and has delegated the responsibility of recreational aviation to RAASA, which has the experience and expertise to manage it properly.

According to de Lange, the CAA, for the most part, is behind Project 24. CAA management agrees that the regulations need to be updated, however, in the mid-level, some officials are not as supportive. De Lange says, "It is in everybody's best interests to rewrite the regulations, and it could bring money into the country." South Africans are privileged to have some of the best conditions for recreational and general aviation flying in the world. For example, people come from all over the world to participate in glider camps in the Karoo. De

Lange can't understand why some officials at the CAA are against the Project.

Europe and in particular Asia are far less conducive to recreational aviation. As an example of the extreme restriction of aviation in other parts of the world, de Lange says that in Japan an NTCA pilot has to book a week in advance for a 30 minute flight, restricted to a 5 nm radius. If the weather is bad in that 30 minute slot, it's tough luck. And what can you do in 5 nm? That's not much bigger than a standard circuit.

#### **COMMERCIAL USE OF NTCAs**

Project 24 is not focussing on the commercial use of NTCAs. This is the CAA's domain. RAASA will, however, help out where it can.

De Lange reckons that using NTCAs in commercial operations comes down to what he calls 'fit, form and function'. But whether something is fit for a specific purpose can't be legislated, according to de Lange. Instead, he says a specialist should determine whether an aircraft is fit for the function it is going to be providing.

According to de Lange, using NTCAs for ab initio PPL training is a great match, because the aircraft is able to fulfil all the functions and has the necessary characteristic to teach someone the basics of flying. A gyroplane being used for powerline surveillance is another good example.

De Lange says you cannot prohibit the use of an NTCA for commercial operations, simply because it is an NTCA, but you

can increase the level of regulation. This would mean stipulating the operation facility requirements, maintenance requirements and who carries it out, and scheduling inspections to guarantee compliance with the regulations applicable to the level of approval granted. This would effectively mean that you would have to comply with all the things a TCA would have to comply with, except that the aircraft itself does not have to go through the certification process – although, they may require a higher standard of airworthiness.

#### **BUILD NUMBERS**

NTCA build numbers have been the source of much consternation. They were initially implemented as a reference number for a build and its associated documents which were required to be completed and signed during the build process. Once the build was complete, you would go to the CAA with your build number and supporting documents to apply for a registration and an Authority To Fly.

The use of a build number has now been confused. It is now used as an approval to start building an aircraft, because there is no other system in place. This has caused a problem when it comes to production built NTCAs, or private builders who build a number of aircraft, often for other people. A build number was never meant to function as an approval to build an aircraft. Project 24 is looking at developing an approval which can be granted to these 'factories' and private builders to build multiple aircraft. The Wits Faculty of Aeronautical Engineering and The Airplane Factory are heavily involved in the workgroup process. RAASA's job is to get these experts to work together and facilitate the development of the regulations.

#### **DEGREES OF APPROVAL**

One of the major focusses for Project 24 is degrees of approval. NTCA cover a broad spectrum of aircraft types. On the one end you have aircraft which are botched together in a garden shed from the builder's sketches, with no recognised kit or design. Then towards the middle of the spectrum, you have amateur built aircraft built from an approved kit, such as an RV, and at the other end you have production built aircraft, built in

a factory, but which have not gone through the extremely lengthy and costly process of full Type Certification. The Airplane Factory's Slings are a good example of these production built NTCAs.

Project 24 is leaning towards formalising different levels of approval. The amateur designed and built aircraft are probably going to be restricted to areas that aren't built-up, and the owner will only be able to operate it for his own personal use. Then there is the amateur builder, building an approved design, for example an RV-8 or a kit-build Sling. The build is audited by a RAASA Approved Person to ensure the build follows the approved process and standards. Finally there are the manufacturing facilities, mass producing aeroplanes.

De Lange says that due to the approval process – the audits and quality control checks – the amateur built aircraft of an approved design and the factory built aircraft of the same design should come out at the same standard. Whether the aircraft was built as a once-off by an amateur or, as part of a production run by a factory, provided the build process was approved and inspected, then the aircraft could potentially have the same level of approval as a production built example. These aircraft will have a wider scope of operation.

At present there is no formal distinction between the level of approval and build process and quality. De Lange says there was too much discretion and interpretation allowed in the regulations for the client and the authority and this caused countless issues. Others hold the view that the regulator is merely seeking to be obstructive and that the regulations are clear enough, but simply not to the regulator's liking. Either way, more certainty appears to be required, and the different levels of approval are under ongoing discussion.

The same considerations apply to aircraft parts and instruments. Where the CAA require Type Certified parts and certified methods of checking and calibrating instruments, RAASA will allow NTCA owners and manufacturers to present new products for approval, provided they are shown to be reliable. In this way

RAASA is encouraging innovation, while still setting a basic safety standard. Last year's pitot-static debacle is a case in point. All Slings were grounded because pitot-static tests were not carried out according to the CAA's standards, drawn from the TCA regulations, notwithstanding that their systems could be shown to be accurate by other means.

The CAA insists on a specific method of calibrating the system, while RAASA thinks you should be able to calibrate a system in a number of ways, provided you can prove that your calibration process is accurate and reliable.

#### WHEN?

The initial proposal for Project 24 came out in February 2015, and in September 2015 the first meetings began. Pierre Laubscher hopes to have the Regulations (CARS) out by July and the Technical Standards (CATS) finished by November 2016. He says that it is "helluva ambitious, and a phenomenal amount of work, but doable." De Lange is more conservative. He says, "If we can avoid making the document a dual language publication, then we could have it finalised by early next year [2017]. If the Minister wants us to translate the document before publication, that's going to take some time – and money."

Either way, it is ambitious, but De Lange says they have a clear goal and strategy which makes it possible. Furthermore, if the project loses momentum, the public will lose interest and without public input the project will fall flat – the project relies on volunteers. It is, therefore, in RAASA's interest to keep things moving forward swiftly.

RAASA have kept records of all the meetings, taken minutes and kept track of everyone

**BELOW - Neil de Lange, CEO at RAASA, hopes to have Project 24 published by early 2017.**

who has been invited. That way, when they deliver the final product to CARCom and the public, they will have all the background, the motivation and rationale to show how they arrived at the final product, that there was ample opportunity for people to voice their concerns, and that they have exhausted all avenues throughout the process. De Lange even hopes to have the proposed regulations gazetted before they go to CARCom.

De Lange says, "I'm not saying there won't be any flaws, but if we wait until the document is 100% correct, it will never be completed. There will be ongoing refinements once the document is published, but we need to get it done." 