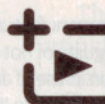


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No TC, no problem

Owners of orphaned airplanes persevere

BY IAN J. TWOMBLY

GERARD KENNEY is a typical airplane owner who owns two atypical airplanes. Since mid-2009, Kenney has owned N510AX and N558MC, a pair of Adam A500s. Kenney's A500s are like many products of broken dreams in the aircraft marketplace—the type certificate owner has orphaned the airplanes.



When Kenney first heard about the A500 project, he was excited. It was a new and futuristic airplane that fit his mission perfectly. In the beginning, things went well. Kenney got in early, bought a low serial number, and leased the airplane back to Adam Aircraft for use as a demonstrator. The company intended to deliver him a replacement airplane, "when the time was right," he said. But the time was never right, and Adam Aircraft went bankrupt after producing just a few copies—and it never got him his airplane.

Because Kenney knew some people who worked for Adam, he was able to secure two of only a few of the airplanes that were ever built—serial numbers six and 10—after its successor went bust in 2009. Serial number six is registered under an Experimental airworthiness certificate, while serial number 10 is registered and certificated in the Normal category. That means Kenney now owns two of only seven A500s on the FAA registry, only three or four of which seem to be flying, based on flight track data.

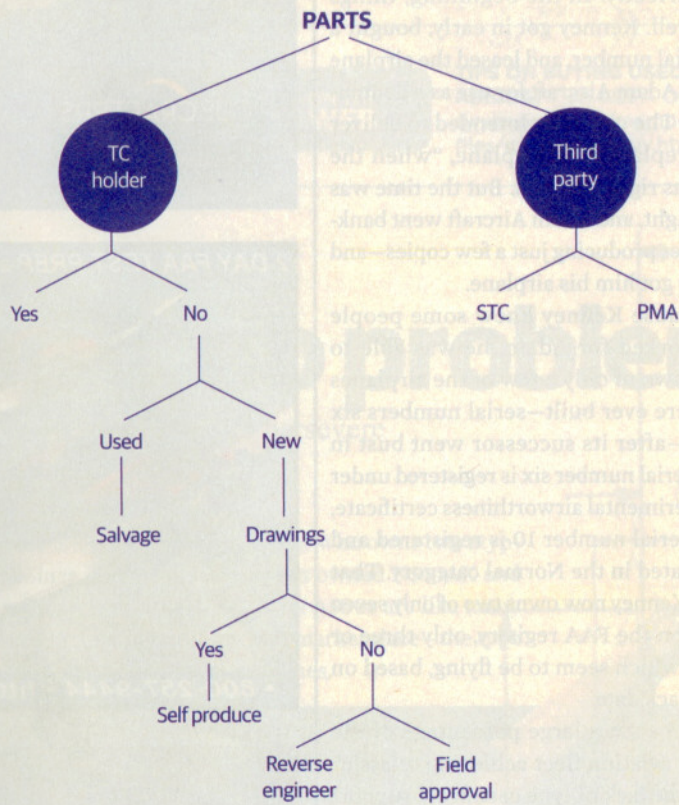
With such a large percentage of the general aviation fleet achieving "classic" status, the lack of type certificate support is a considerable industry-wide problem. A company may still own the type certificate, but largely ignore any obligation to help owners—or there may be no certificate owner at all. When hundreds or thousands of a certain type exist in the fleet, third-party suppliers capitalize on that scale, obtain

THE ADAM A500 (left) seemed to have a promising future, but fewer than a dozen were built. The Varga Kachina looks unusual (below), and that's because it is. With only 175 built and fewer still in service, it can be difficult for owners to get parts—like that unique folding canopy.



Owners of orphaned airplanes have a few options when it comes to sourcing parts.

Follow the flowchart.



parts manufacturer approval from the FAA, and make their own PMAed parts. But what happens when there are only 100 airplanes, or seven? Then it's time to get creative.

Thankfully for guys like Kenney, most aircraft manufacturers today operate like model builders, taking components that subcontractors build and mating them together. Items such as engines, accessories, propellers, tires, avionics, lights, and more are made by companies that still are around and providing service, or by a third-party supplier doing the same. Trouble starts to arise with structural components, landing gear, and other unique design elements. When something like this breaks, there are only a few options. You could do what Kenney did and buy a second airframe. An identical airframe means parts commonality, and the ability to pillage one airframe for the benefit of the other. Incredibly, Kenney has yet to do that to his Experimental airframe. As soon as he does, he knows there's no going back—and it will never fly again.

When more than seven airframes are around, the options start to open up somewhat. More airframes are available to purchase for parts, and a salvaged-parts market starts to develop. This is the case with the Kachina, a two-seat tandem airplane built by three different manufacturers between 1958 and 1982. The Kachina's type certificate is owned by Loren Perry of Augusta, Georgia. Kachina owners we interviewed said Perry is uninterested in helping owners locate parts, so they improvise.

A few have bought salvaged airframes—or pieces of airframes—for parts, says Max Bishop, an authority in the Kachina community. Bishop is the kind of guy owners of orphaned airplanes dream of. He worked in almost every capacity in the Varga factory producing Kachinas. Because of that he has the knowledge of how the airplane is supposed to be serviced and maintained, but more important, he holds the holy grail of orphaned airplanes—the drawings.

Original aircraft drawings can make the difference between an orphaned airplane's life and death. Without them it's up to the owner or mechanic to find salvaged parts, reverse engineer those parts that are not available, or seek FAA field approval for a new part. But with the drawings, anything is possible. With the drawings, the owner can create his own parts.

FAR 21.9 enables owners to produce parts for their own aircraft. Subsequent FAA letters of interpretation have said this doesn't mean the owner actually has to sit in a shop and forge the steel.

To be authorized for installation, two basic criteria must be met: The part has to be made to original specifications, including materials and any special processes (hence the importance of the drawings), and the part must be for the owner's airplane only—not for sale. A contracted shop can make the piece, so long as the owner initiates the request and has it installed on his airplane. Ironically, while the owner can have the part produced, the mechanic still has to install it and sign it off.

That regulation has allowed aircraft like the Kachina to continue flying. The owners' club is the information resource, in terms of drawings and expertise, which each individual owner can then use to contract with a local shop.

Kenney isn't so lucky with his A500, because drawings are not available. There aren't enough airplanes around for an owners' group, and Triton Aerospace, the current type certificate holder, has no interest in helping current owners. Kenney said he has specifically asked for drawings, but the company owner has refused.

Where Kenney has found help is the FAA. A few years ago he found some cracks in the exhaust manifold. After Triton refused to help, Kenney reported it to the FAA, which then persuaded the company to aid in the repair. He also says the flight standards district office has been "really forthcoming and friendly."

Sometimes the FAA helps in other ways, such as getting the word out on maintenance issues. A recent airworthiness

directive on spars within the vertical tail of the Kachina was more or less written by Lee Beery, the founder of the Kachina owners' group. As a mechanic, Beery knew there were issues with the spar, and he worked with other owners to help them repair their airplanes when the AD was issued. He's even hosted seminars at his house and flown to other owners to help them fix their airplanes.

Even if parts can be found, owners of orphaned aircraft still need to locate a mechanic who will help service and maintain the airplane. Kenney was able to find a reliable mechanic for his Adam A500 as

Imagine trying to explain what an A500 is every time you check in on a frequency.

well. His relationship with the guys from the company helped to facilitate training the mechanic.

Beery says the Kachina is a "mechanic's airplane." He compliments the designer for using many common parts, including quite a few from Piper and Cessna. That makes it easy to work on, and helps with the parts issue. There are issues, however. For example, Bishop says there are no salvage canopies available, and the parts are very difficult to make. Owners have been known to scrap airplanes simply because they couldn't get a replacement canopy. The same goes for certain landing gear and center spar area parts. Those duplicate salvaged airframes? Beery says owners will hold on to them just in case there's a problem on landing and something down there breaks. Even if the owner does have the part made, expense is an issue. Bishop knows of one owner who had a landing gear bushing made for \$100, when it used to cost the factory \$2.

Insurance is also a consideration. Without a large fleet available for assessing risk, and with the lack of parts meaning a higher likelihood of scrapping rather than repairing, insurance costs can get out of hand. Kenney said he self-insures on the hull, and carries liability insurance only. Even though he has been

flying for 25 years and has many hours in the A500, he says the liability premium alone is equivalent to liability and hull coverage on a comparable airplane.

Given all the headaches, it seems insane that someone would seek out an orphaned airplane. And certainly the values go down when the manufacturer no longer supports an airframe. But everyone interviewed for this story said they wouldn't have it any other way. Kenney said the airplane has lived up to its performance expectation, and that "I've



SOURCING PARTS is made easier thanks to commonality among the GA fleet. Most manufacturers use popular component makers for avionics, engines, propellers, and other components

enjoyed it enough to justify the frustrations." Besides, each flight is like a little airshow for him. The A500 has a unique shape, so it's a ramp magnet. And imagine trying to explain what an A500 is every time you check in on a frequency. "Every flight is more or less a demo of the airplane," he says.

Bishop and Beery are equally upbeat. Both said they love their Kachinas and have no intention of selling. Bishop owns a rare tailwheel version that he's rebuilt a number of times after co-owners made some unfortunate landings. If he can get through that with an orphaned airplane, there's hope for all of us.

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