

# Rotax Training Requirements and Your LSA



Someone once told me that 85% of all Light Sport Aircraft are powered by the Rotax engine. I do not know where he got that statistic, but as I walked through the Light Sport Mall at Airventure this last July- it sure rang true. Yet, as I talk with aircraft owners, most are confused about the Rotax training courses. "Is the Rotax course mandatory?" "If I take the Rotax course can I perform maintenance on my S-LSA?" "I have an E-LSA; do I have to sign up for a Rotax course to work on my engine?"

This month we'll look at the Rotax training program and what's required to comply with the regulations and

where to go to locate a qualified technician or a training course.

Remember, as an aircraft owner, you are ultimately responsible for the maintenance of your aircraft. It is the owner's responsibility to ensure that the mechanic is appropriately rated and that the aircraft is compliant with the regulations. Even assuring that the logbook entries are completed and properly written are the owner's responsibility. Additionally, if your aircraft is out of compliance, your insurance company does not have to pay if there is an accident or incident. Equally important, there is an FAA Stanchion which outlines fees for out of compliance aircraft. When owners

or mechanics start to treat Special Light Sport aircraft as experimental, they begin, intentionally or unintentionally, creating a laundry list of regulations that the FAA can attach fines to and the insurance has a good excuse not to pay. Moreover, the civil penalties can make the FAA's penalty seem like a slap on the hand.

Consider this: if you think you might perform maintenance "under the radar," as one owner admitted was his plan, the aviation community is small. It will not take long for someone in the FAA to catch on. One pilot, who was fined, did not have an accident, was not ramp checked, he did not run out of fuel or make an emergency landing in a farmer's field. His neighbor became angry at him (something about a barking dog) and turned him in.

But what is sad to me, are the many S-LSA owners, who believe they are doing everything right, but are simply unaware or misinformed. And the Rotax certification is one of the most misunderstood requirements in the maze of LSA maintenance regulations.

So let's begin. To start with, the term "light-sport aircraft," or "LSA," applies to ANY aircraft that fits within the LSA definition as called out in 14 CFR 1.1. So any aircraft that meets this LSA definition, regardless of what actual category the aircraft is certificated in, is referred to as an "LSA". This could be a standard category aircraft, such as a Piper Cub or Aeronca

Champ. It could be an experimental amateur-built aircraft, or it could be an aircraft certificated in one of the new LSA certification categories, "Experimental Light Sport Aircraft (E-LSA) and Special Light Sport Aircraft (S-LSA.) "E-LSA" and "S-LSA" are the two categories we will focus on here.

### **The Rotax training courses**

First, the Rotax training is available on three levels: Service, Maintenance and Heavy Maintenance, all conducted under the supervision of The Rotax Flying & Safety Club. All RFSC classes are factory approved and meet all LSA requirements, regardless of which location you choose to attend. In August 2007 the first factory approved program was established. While seminars have been given for many years by a number of sources, these were considered informational programs that carried no S-LSA rating. In order to receive a rating you must attend one these new approved classes. Additionally, you will need the combination of either, an FAA A&P or LSA Repairman's (120 hour course) Certificate plus the Rotax training classes, we are about to discuss, to give you the credentials needed to be compliant with the new regulations for S-LSA aircraft. At the conclusion of the Rotax class you will be presented an official membership number that you can enter in any logbook, along with your FAA certificate number, that signifies the repair has been made in accordance with S-LSA regulations.

Let's briefly look at each of the three Rotax training courses and the description of the training provided in each class. You can find the current Rotax course schedule for courses offered in the USA at <http://www.rotaxflyingclub.com/>.

### **The Service Level Program**

The 2 day service level program is designed to train technicians on how to conduct the 100 hour/annual inspection. Students will learn how to find and identify service engine models, service bulletins and manuals. There is a great deal of hands on experience and you will learn the correct procedures for oil change, spark plug change, gearbox inspection, carburetion inspection and balance, compression testing and other critical inspection items. In addition system operations will be explained such as the dual ignition system, the gear reduction system, the dry sump oiling system and basic trouble shooting of these systems.

### **The Line Maintenance Program**

You must complete the service course before taking the second Rotax course, the 2 day Line Maintenance Training. In this course you will learn how to change line replaceable parts. Line items that can be removed and replaced, such as the gearbox, the oil system, the cylinder heads, cylinders, pistons and the ignition modules and coils are all covered.

### **The Heavy Maintenance Program**

Successful completion of the Service and Maintenance training is required prior to enrolment in the third course, the 2 day heavy maintenance training course. For this course you must also be a Light Sport Repairman with a maintenance rating or an A & P mechanic. In this course you will learn to repair engine parts with the exception of the splitting of the crankcase. Complete disassembly of the gearbox, the cylinder heads, the ignition housing, water pump and the correct procedures and repairs are covered.

### **What you need to know about the Rotax training courses and your S-LSA**

You must have Rotax training to maintain and inspect an S-LSA - even if you are an A & P or a repairman with a maintenance rating. As an owner of an S-LSA, you must have the service level course to perform any preventive maintenance listed in your S-LSA maintenance manual, such as changing your oil.

We have talked to many S-LSA owners who have spent the time and money to take the Rotax service and line maintenance courses and mistakenly believe they can legally complete line maintenance and the yearly inspection on their Rotax engines. However, the Rotax Certificate DOES NOT stand alone. As an S-LSA owner, you can take the service level Rotax course and legally perform service and preventive items as listed in the

manufacturer's manual. However, the Line Maintenance Course and Heavy Maintenance Course, while useful information and excellent for any aircraft owner, will not allow an owner to perform maintenance on an S-LSA without the Repairman Maintenance Rating or an A & P certification. The bottom line: if you own an S-LSA, you must hold an A & P or a Light Sport Repairman Maintenance rating, to benefit from the line maintenance and heavy maintenance Rotax training courses. A person must have the LSRM or an A & P and the Rotax certificate to maintain and perform the required inspections on an S-LSA.

It is also common for S-LSA owners to attempt to sign up for the 2 day Light Sport Repairman Inspection courses thinking that this course will

satisfy the need for a "repairman certificate." Not true. The 2 day repairman course is for E-LSA only.

### **What you need to know about the Rotax training courses and your E-LSA**

It is just as common for the owner of an E-LSA to be confused and believe that he must take the Rotax courses to perform maintenance or service on his Rotax engine. However, when it comes to an Experimental Light Sport Aircraft there are no requirements to hold a Rotax certificate to perform any maintenance or service. The Rotax courses, while useful information and highly recommended, are not required to maintain a Rotax on an E-LSA aircraft. The training is not even required to complete the inspection as a Light Sport Repairman with an In-



spection Rating. However, even if your aircraft falls into the E-LSA Category or even Experimental Amateur-Built for that matter, there is likely certain types of maintenance procedures you may want training for or may prefer to have handled by a certified Rotax Maintenance Technician.

### **Repairman Maintenance Rating (for S-LSA)**

This rating allows you to perform maintenance and the yearly condition inspection on S-LSA's and E-LSA's for compensation or hire. It requires the completion of a course on the maintenance requirements of various light-sport aircraft. The LSRM must hold the Rotax certificate for all work on an S-LSA with a Rotax engine.

The Rotax two stroke and four stroke service level authorization is part of the 120 hour LSRM Rainbow Aviation Training Course. The Rotax certificate is valid for 2 years from the date of the LSRM Training and then there is a requirement to take the service level recurrent training. Each Rotax course has a 2 year recurrent requirement.

### **Repairman Inspection Rating (E-LSA only- does not apply to S-LSA)**

This rating allows you to conduct the yearly condition inspection on an E-LSA you own. It requires the successful completion of an FAA accepted, 16-hour course on the inspection of your particular class of LSA. No Rotax certificate is required.

The pitch is simple: know your stuff. As an aircraft owner you are responsible to ensure your aircraft is in compliance. If you own a S-LSA with a Rotax engine, you will need an FAA authorized mechanic, either a LSRM or an A & P with the required Rotax factory training to perform service or maintenance on your engine. And by the way, your mechanic should also be familiar with ASTM. . .but that is another can of worms.

For more information visit [www.rainbowaviation.com](http://www.rainbowaviation.com) or email [info@rainbowaviation.com](mailto:info@rainbowaviation.com).

