

Local flight school adds engine heavy maintenance training

LOCK HAVEN — Although the Rotax 912 series of aircraft engines is the gold standard of sport aviation, qualified mechanics are few and far between. Prof. H. Paul Shuch, founder of AvSport, the sport pilot flight school on the Piper Memorial Airport, is trying to change that.

Two years ago, Shuch became the area's first factory-authorized Rotax engine mechanic, completing three weeks of specialized training in California. The lightweight, high-power Austrian engine dominates the sport flying community, with over 40,000 units now flying worldwide.

It is a radically different design from the locally-produced Lycoming engine, on which most mechanics train, as well



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H. Paul Shuch, right, chief flight instructor and director of maintenance at AvSport of Lock Haven on the Piper Memorial Airport, participates in a Rotax engine heavy maintenance course.

as the popular Continental engines that power much of the antique aircraft fleet, including the legendary Piper Cub. This week, Shuch received additional Rotax heavy maintenance training in Florida, extending his skills beyond the area of routine service and maintenance.

"When I owned a Lycoming-powered aircraft," said Shuch, "I traveled to Williamsport to take the Lycoming factory maintenance course. Now that my flight school is using a Rotax-powered primary trainer, it just makes sense to receive similar, specialized training on that particular powerplant. It seems the best way to ensure the safety of my students, as well as maximizing the availability of our air-

craft."

The Rotax 912 differs from legacy aircraft engines in four significant ways, Shuch points out. It uses triple-cooling (air-cooled cylinders, liquid-cooled heads, and an oil-cooling radiator) to maintain a more constant operating temperature. It is of a dry-sump design, replacing the heavy oil pan with an external stainless steel oil tank to reduce engine weight. It uses a small gearbox between the crankshaft and the propeller, allowing the engine to turn at high RPM, optimizing torque, while the propeller simultaneously turns at low RPM, maximizing thrust. And its fuel is delivered either through dual self-compensating carburetors, or via a new electronic fuel

injection system, both of which maximize fuel economy.

These design features allow the engine to develop 100 horsepower from a 140-pound package, providing the best power-to-weight ratio in the aviation industry. A similar, turbocharged engine, the Rotax 914, powers the military's innovative Predator-A drone.

"It's no surprise," said Shuch, "that these engines now power 85 percent of the world's Light Sport aircraft fleet. As an engineer, it's hard not to love them!"

Light Sport is a special class of modern aircraft, developed specifically for use by sport pilots. The sport pilot license, in which AvSport specializes, is the newest portal of entry into the world of aviation, allowing prospective pilots to become licensed in half the time, and at half the cost, of the traditional Private Pilot license.

Piper Memorial Airport is the ancestral home to the legendary Piper Cub, arguably the world's first sport plane.