

## DIESELS BIG AND SMALL

By our rough count, there are something like 2500 general aviation aerodiesels flying in the world, most of them Thielert 1.7 or 2.0 models, followed by Austro AE300s and a smattering of SMA's SR305, plus a few experimental installations. An unknown number of Thielert engines are flying in General Atomics' MQ-1 drone.

Virtually all of these are four-cylinder diesels, either purpose

designed for aircraft (SMA) or adapted from automotive designs by Thielert and Austro. Despite nearly a decade of experience, the higher horsepower segment of the potential market—greater than 300 HP—is only now coming into view. At Aero in Friedrichshafen, Germany, in April, we saw three engines of note.

SMA was showing a mock-up of a proposed six-cylinder version of its Jet A engine to be called the SR460 intended for single- and twin-engine applications. According to SMA's Thierry Argaud, the new engine will be in the 330- to 400-HP range with a displacement of 460 cubic inches or 7.5 liters. Its dry weight will be about 455 pounds (206 kg) and like the smaller SR305, it will be air and

oil cooled. Argaud said the engine hasn't run yet, but SMA expects to put it into the test cell later in 2013.

At Austro, Peter Lietz reports that the company has its own large displacement engine project, an eight-cylinder design that's been running in the test cell for a number of months. The engine is being developed in a joint project with Euro-Copter under the European Union's Clean Sky project. It's intended to be a replacement engine for turbines used in helicopters. Austro has another project with Austria's Steyr Motors to develop a six-cylinder truck engine for aircraft use. But when we toured the Austro plant a year ago, we heard concerns that the engine may prove too heavy to be practical.

Another automotive conversion was unveiled at Aero. It's called the FlyEco engine and is adapted from the three-cylinder diesel used in the European version of the Mercedes Benz SmartCar. It's an 80-HP powerplant with common rail injection and an ECU. It uses a purpose-made clutch system to isolate torque pulses from the prop drive and a toothed belt drive for speed reduction. FlyEco gives the weight as 81 kg (178 pounds) with fuel consumption of about 7 liters (1.8 gallons) per hour. The engine is flying in an FK9 LSA and for the time being, says FlyEco's Arnim Wegener, it will be limited to light sport and experimental applications.

