

**FIRST OEM FLIGHT WITH MAULE !**

On Friday July 18, just before 6:00 p.m. EDT, the Maule aircraft powered by the SMA SR305-230 Jet A Piston Engine made its maiden flight in Moultrie (Georgia). Equipped with a newly designed Lo Presti cowl, the engine and aircraft performed well in the hot weather (90°F) conditions. Ray Maule and Frank Green, pilot and test engineer climbed to 7000 ft in little over 8 minutes from break release and obtained a preliminary cruise speed of 125 knots. This is the first OEM flight for the SMA SR305-230. The Maule M-9 which flew to Oshkosh on Friday 24<sup>th</sup>, has been on display at Oshkosh on Maule booth.

**PA28 STC HAS BEEN LAUNCHED**

SMA and Aero-Diesel Propulsion Inc. have signed an agreement to complete the installation of the SR305-230 Jet A Piston engine on the PA28 aircraft. The first STC to be undertaken in the Piper range will be on the Dakota, 1700 manufactured. The STC will take approximately 9 months to complete and ADP plans to present the FAA certified Dakota equipped with the single lever, electronically controlled, Jet fuel burning SR305-230 hp at Sun'N Fun in April next year. The STC will be extended to cover the Archer and the other PA28 family members shortly thereafter. The project is a joint effort between the two companies and the

target is not only to reduce direct operating costs, but to increase performance and improve safety. The expertise gained on the C182, the TB20 and the Maule 9 installations will help the process go faster than the first ground breaking projects. Aero-Diesel's owner, Jeff Manchec will lead the project. "Aero-Diesel Propulsion is delighted to be working on the STC of the PA 28 Series. We are convinced that the future of the GA engine market lies in the retrofitting of the current fleet with the SR305 engine. ADP will be utilizing the latest engineering tools as well as in house representatives of the FAA to accelerate the STC process. Initial engine installation will be performed at our Fort Lauderdale Executive Airport facilities."

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## C182 STC PROGRESS



With almost 400 flight hours accumulated on SMA's development aircraft between January and August this year, SMA feels confident in stating that the end of the first STC process is in sight. The 12 man STC team has spent the last six months working exclusively on the SMA C182 and TB20 STC programmes. The first STC to be issued, now that all the SMA flight testing has been completed, will be the C182 once the CEV (National Flight Test Authority) has completed the required reception flights. This involves 10 hours of selected flight profiles and is being finalized this week. These two STC's have enabled SMA to accumulate a knowledge and expertise not only on the engine operation but also on the various issues and constraints when installing the engine on different aircraft applications. This knowledge will be used to benefit other upcoming STC programmes and for the aircraft manufacturers who have joined the growing SMA client base such as Maule, Vulcanair, NAL, Cirrus and more.

- The design of the C182 kit has now been finalised with a new sleek cowling.
- All the certification files have been presented to the French authority and their acceptance is an ongoing process, due to be finalized within the next 2 weeks.
- The supplemental aircraft flight and maintenance manuals are completed and are in a process of validation.
- We have identified and selected the Kit suppliers and contracts have been put in place in order for us to deliver the first kits once the STC has been issued.

FAA validation will follow shortly after JAA certification.

## FIRST TWIN APPLICATION

In order to reduce Direct Operating Cost and improve aircraft performance, Vulcanair has decided to offer a diesel variant of the P68. The aircraft will be powered by the SMA SR305-230 Jet A Piston Engine. To accommodate this new engine, Vulcanair is making a number of changes to the aircraft including enlarging the engine cowlings and installing larger propellers. The first flight of the aircraft is scheduled for September, certification and first deliveries are planned for the first quarter of 2004.



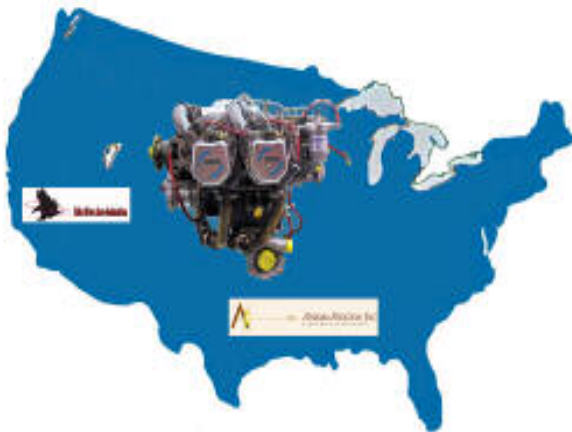
## NEW CIRRUS SR21 tdi AIRCRAFT

As the second largest manufacturer of general aviation aircraft in the world, Cirrus recognizes the importance of the European market and keenly understands the unique constraints and challenges inherent in developing a personal transportation aircraft that meets the specific needs of the market.

Cirrus has selected SMA as the power plant supplier for its new SR21tdi project now that the SMA power plant is certified. A certified SMA SR305-230 hp engine will enable a Cirrus team of design engineers to begin the development phase of the project to determine the magnitude of modifications that will be required to deliver an alternative fuel aircraft that meets Cirrus' high standards.

SMA has put in place a special department, comprised of engineers and technicians, dedicated to supporting aircraft manufacturers and STC developers in the engine and airframe integration process in order to maximise the advantages in engine performance and economy in new installations.

## US NETWORK



In parallel to the technical and industrial activity, SMA has started establishing an international sales and service centre network. Distributors have already been selected in many countries and SMA is presently negotiating with over 50 distributors worldwide. The SMA sales and customer support teams have been increased to meet with growing demand from both aircraft manufacturers and aircraft owners and operators.

Dedicated to providing quality craftsmanship and excellent service at an affordable price, **Tule River Aero-Industries**, located in California, became SMA's first USA distributor in June 2003. The company is now the West Coast distributors for the SMA's Turbo Diesel Engine conversion for the Cessna 182 Skyline.

**Aurora Aviation Inc.**, famous FBO and Flight Training school located in Texas joined the international SMA distributor and service center network in July 2003.

SMA's distributors network in the US is growing rapidly and should count about 5 distributors by the end of the year.

## WHAT A WEEK !

From July 29<sup>th</sup> to August 4<sup>th</sup>, SMA was exhibiting in Oshkosh AirVenture. This week has been very productive and busy !

More than 120 potential customers completed contact forms. Most of them were very impressed by the completely new aircraft M-9 which had flown to Oshkosh and which was on display on the Maule booth.

About 25 journalists attended the SMA press conference on July 30<sup>th</sup> and the SMA team has welcomed more than 70 people to its traditional party. New contacts have been established with a number of OEMs and talks are on going. We will keep you posted!

For this show, SMA was supported by a team from Embry-Riddle Aeronautical University whose main objective was to realize a commercial survey by asking visitors to answer a US targeted questionnaire. The results of the 250 answers collected should be available shortly.



## 2004 CAMPAIGN - YOUR HELP

SMA's commercial department is working on the 2004 marketing campaign. To support its distributors network, SMA wants to study the opportunity to participate in some of national airshows and to advertise in local media. All details on shows and aeronautical media in your country can be sent to Sandrine Vacher :

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## THE FUTURE OF GENERAL AVIATION

by Rob MIDGLEY

Global Technical Manager GA



Shell Aviation

Shell has been actively involved with the new technology aviation compression ignition engines, and SMA in particular, for more than 6 years.

This was a conscious decision on Shell Aviation's part, driven by a realisation that the market demand for new technology engines is strong and that the Diesel cycle engines, burning Jet fuel, have a number of significant benefits associated with them. These are not just the higher cycle efficiency, the potential for longer overhaul life, eradication of ignition systems etc. but also that these engines use a fuel whose future is not in doubt. Few can question that the move from Lead in Avgas is only a matter of time and by burning Jet fuel rather than Avgas 100LL, the compression ignition engines are immune to any potential changes in the composition or suitability of Avgas when a move is made to an unleaded fuel.

Shell selected SMA as a partner as it opted to design an engine dedicated to the demands of light aircraft use, and displayed robust, innovative technical solutions to the not insignificant problems of burning Jet A and Jet A-1. In the process, SMA has managed to produce an engine which exceeds the performance of contemporary engines in many ways, and is actually more refined to fly behind.

This move to using Jet A and Jet A-1 as a fuel source is significant. The combustion characteristics of this fuel are actually worse than diesel fuel, and so it makes the engine more difficult to design. But there are real benefits to be reaped. Using standard diesel fuel has several problems associated with it in aviation application, and these are not just associated with airfield availability and product handling and quality control, which is lacking in the road fuel supply chain. The significant problem is the freeze point of diesel fuels. Jet A and Jet A-1 both have freeze points below  $-40^{\circ}\text{F}$ , whereas road diesels freeze at much higher temperatures. Some commercially available road diesel fuels can start to form wax crystals at temperatures even above freezing. So by using Jet fuel, the operator can be assured that the fuel will not freeze in the tank, regardless of altitude or season.

The close association with SMA has enabled Shell Aviation to help with not just fuel related issues, but also to develop a lubricant suitable for operation in piston engines burning Jet fuel – a combination which has no precedent. Shell Aviation intends to market this product later this year as an AeroShell grade, and it plans initially to use the already comprehensive SMA distributor network to allow a ready supply of oil to this emerging market. Of course some may see this as a new oil, but in fact it is already a proven product, having enjoyed several years of successful use during the development and flight testing carried out by SMA.

Shell Aviation is proud to have fostered a genuinely successful two way partnership with SMA throughout their innovative program we feel sure that the future of General Aviation will be significantly changed by availability of this new class of engine.



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# SMA OBTAINS THE C182 STC !



Following the positive feedback of the experts and Test Pilots from the National Flight Test Center, the French authority, DGAC, delivered on Thursday September 18<sup>th</sup> the Supplementary Type Certificates for the SMA SR305-230 powered F182 and C182. The Supplemental Type Certificate N° **F81SF001** covers the installation of the engine on Reims Aviation F182 Q aircraft. The certificate **FIM15SF001** is applicable to 182 Q, 182 R, T182, 182S, 182T and T182T Cessna models. Applications for the validation of the STCs internationally have already been dispatched and acceptance will follow the normal procedures.

The STCs are the result of extensive work and patience and mark an important milestone for SMA, and most important of all, for our customers!

SMA is pleased to share this event with you and to thank you for your patience and unconditional support which has been a positive factor in helping SMA make a great leap forward. Now that the STCs have been obtained the action plan already established will be implemented immediately.

## 1) Work on the « F-WKAF » C182

- A new upgrade package will be installed and development test equipment removed.

- Upgrade of the aircraft for entry into service.

## 2) STC Extension

- Extension of the STC to the C182P and other models.

- Validation of the STCs in non JAA countries.

## 3) Delivery of the first Upgrade Kits to Distributors in Europe first and subsequently internationally.

## 4) Flight Demonstrations

A promotional tour across Europe is scheduled within the next months. Details on this program will be made available shortly.

## 5) Completion of the TB20 STC by the end of December 2003.



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