



# Turbine

Turbomeca Information and News. A customer newsletter from  Turbomeca UK  Spring 2009

INSIDE THIS NEWSLETTER  
2nd Arriel 1 test cell online  
Self-inspection goes live

## Purple Plan slashes 50% off repair times

**A team of Turbomeca UK engineers has delivered huge improvements in turnaround times for engines passing through the Fareham company's workshops.**

In October 2007, a management team led by COO Xavier Narbonne decided they could significantly reduce engine turnaround times (TAT) in the Maintenance Repair & Overhaul (MRO) workshops. A steering team comprising Xavier, Tony Cross, Jean-François Lempereur, Alan McCahon, Peter Escott, Brian Penniall, Julien de Blignières, Alan Dean and Katie Turner prepared guidelines for improving the workshop layout. They detailed the routes each engine or module took, during each MRO process, from 'goods in' to 'goods out'. As part of the design they shaded the future product lines in purple, thus suggesting the name for the plan.



The Purple Plan team (L-R) Brian Penniall (top), Peter Escott, Xavier Narbonne, Julien de Blignières, Katie Turner, Tony Cross, Jean-François Lempereur.

By applying efficiency principles including lean processing and Six Sigma, the team worked with shop-floor technicians to help them find ways of removing waste – including excessive spares inventory and duplication of effort – from every stage of an engine's progress. Over a six-month period the work-flow was transformed and such 'variation' practically eliminated. Throughout this process, the technical staff continued to work on engines for 120-plus worldwide Turbomeca customers, including military, public service and commercial helicopter operators in the UK.

By the time the work was completed, in August 2008, TAT had been reduced from over 150 days to 60 days; resulting in substantial cost savings. The number of customer complaints and work-in progress – engines going through the industrial process at any one time – was also halved.

CEO Christian Hamel pointed out that the Purple Plan improvements were achieved, "while we were dealing with significant growth in demand for our services, as well as the transfer of UK and Ireland customer relations and contract management functions from head office in France."

And the team's success has wider implications. VP assembly & repair operations Philippe Larrauri, from Turbomeca's Head Office in France, said that "by introducing the plan, the UK facility sets a benchmark for all other Turbomeca plants, as they roll out a new corporate-wide production system."

## New approvals "will reduce downtime"

**Turbomeca UK has been approved as a service centre for the Arriel 2 and Arrius 2. With Arrius 1 clearance expected at presstime, the British company will offer fast turnarounds for module changes and light repairs for all these popular turboshaft engines.**

Fareham engineers can already carry out Level 3 maintenance on the FADEC-driven Arriel 2, fitted to single and twin-engine helicopters including the Eurocopter AS350B3 and the Sikorsky S76C++. Over 90 of the units are currently in service in the UK and Ireland. The Arrius is fitted to EC135 and AS355N airframes; types in wide police service in the UK.

Customer support director Robin Taylor-Hunt confirms that the first Arriel 2 has already been through the new centre. He says that, in addition to minor repairs and module exchanges, "the new approvals enable us rapidly to change major sub-components such as the axial compressor.

"The major benefit to our customers is that we can more quickly service and return their engines, thus keeping both aircraft downtime and costs as low as possible."



An AS350B3, powered by the Arriel 2, has landed on the summit of Mount Everest.  
© Eurocopter/photo P. Penna.

# Turbomeca marks 70 years

Nearly a hundred Turbomeca customers and suppliers joined local dignitaries at its Fareham facility last autumn, to celebrate the company's 70th anniversary. Representatives of key customers from the UK military, commercial, oil & gas and public service sectors were given a tour of the premises, followed by lunch in a marquee.

Highlights of the tour included visits to test facilities of the Arriel and Astazou helicopter gas turbines, and the air starter units and APUs used on fixed-wing jets such as the RAF Typhoon. The guests inspected manufacturing units for turbine rotors and oil pump components, and assembly bays for air starter, oil pump and hydraulic units. An RAF Puma, an Army Air Corps Gazelle and a privately-owned EC155 also landed in the grounds.



100 guests attended the Turbomeca UK Open Day at Fareham in September.

CEO Christian Hamel linked the company's anniversary to recent substantial expansion at Fareham:

“We have grown a lot since opening this facility in 2000. We now employ close to 200 people who, together, serve 120 operators and nearly 700 engines.”

## “Outstanding” results from work-flow meeting

**A December conference at Fareham has yielded many recommendations for improving work-flow and minimising waste on the MRO shop floor. Workshops on Lean Manufacturing and “Kaizen” continuous improvement techniques, attended by executives from Turbomeca facilities around the world, resulted in dozens of suggestions – many of which could be implemented on the spot – for making processes more efficient.**

The teams were made up from visiting chief operating officers, machine operators and team leaders from Turbomeca UK and managers – some with no contact with the MRO process – from head office in France. Focusing on six specific work-areas, from Arriel disassembly to Astazou delivery, they identified where 1,400 hours of direct savings could be made, together with as much as five days recoverable from Arriel TAT. Turbomeca UK COO Xavier Narbonne said the workshops delivered,

“outstanding results in a very short time-frame, made possible by everyone's total commitment.”



# 500th EFA airstarter shipped

**A major milestone was passed in November when Turbomeca UK delivered its 500th airstarter for the Eurofighter programme**

The British company, formerly Microturbo Ltd., was originally contracted in 1988 to build over 1,200 airstarters for Eurofighter and deliveries to six air forces – including Britain's RAF – will continue through to 2017. Partnership manager Mark Wilkinson has praised his CMA Partnership & Production teams – "without whom this programme would not have proved so successful."

Main image: the RAF has ordered nearly 150 Eurofighters. (Crown copyright).



Validation for the Arriel 1 on a second test bay has just been granted at the Fareham site; at a stroke doubling its capacity for calibrating the popular engine. The Arriel 1 represents Turbomeca UK's largest product line and is an important part of the company's strategy for increasing production capability.

## Self-inspection goes live

**As Turbine goes to press, the results of a twelve-month programme to qualify CMA machine operators to self-inspect the components they produce are being introduced. From now on, as parts pass through each manufacturing process, production software will collect data on key characteristics. The 25 operators make regular checks that they conform to the limits and, if necessary, take steps to correct any irregularities.**

CMA production manager Malcolm Smithers says that the new system both removes a large number of measurement and inspection stages, and empowers the operators to achieve consistently high standards.

**"Self-inspection helps us to achieve standard times on all our processes and is already improving profitability."**

CMA - Complex Mechanical Assemblies - is the department of Turbomeca UK's workshop facility dedicated to parts manufacture, assembly and test. These components - oil pumps and turbine wheels for example - are used in both Turbomeca and Microturbo products.

Case Study:

## "Excellent" service extended to Irish operator

**Irish Helicopters has introduced a new EC135T2+ to fly in support of a long-standing contract with the commissioner of Ireland's lighthouses. The County Dublin-based company, which also operates AS350Bs and Bo-105s, based its bid to Irish Lights on the improved performance and payload of the Arrius 2B2-powered Eurocopter.**

The operator flies around 2,000 hours per year on a full range of helicopter charter missions. The Irish Lights contract was first won in 1969 and initially undertaken by an Alouette III, then the Bolkow Bo-105. A new seven-year contract period started in December using the EC135, which is fitted out as a single-pilot IFR machine with floats and cargo hook – the first in the UK and Ireland.

Irish Helicopters is owned by long-term Turbomeca customer PDG Helicopters, which has its main base at Inverness. Group director Shaun Strain says the company was keen to extend its eleven-year relationship with Turbomeca UK into the Republic of Ireland, even to maintaining links with the same Field Rep and Customer Support Manager.



Irish Helicopters' new EC135T2.

**"The EC135 joins most of our fleet on an SBH® (service by the hour) contract and we receive an excellent service from Turbomeca UK. It was definitely a good move for the company to open a British base: now we have direct access."**

As well as the lighthouse contract, Irish Helicopters plans to concentrate on the island's utility market, especially the air ambulance sector for which there is a growing demand. Currently, only Irish Air Corps rotorcraft are equipped for such missions but a charity has recently been set up to raise funds for a dedicated civil service.

# Braving the elements

Turbomeca UK accountant Nancy Lewis completed the sixteen kilometre (ten mile) Great South Run last autumn, in the process raising over £200 for a bowel cancer charity. Held annually in the nearby city of Portsmouth, her efforts – and those of 18,500 other runners – were affected by heavy rain and strong winds.



Nancy crosses the line.



CMA production manager Malcolm Smithers (L) presents Stuart James with a tankard to go with his certificate. Photo Mark Fuller.

# Leaders aim for professional qualifications

Team leaders from across the Turbomeca UK business are working towards formal qualifications in leadership and management. The nine-month programme, which has been developed in partnership with Eastleigh College, is being undertaken by all fourteen leaders and will lead to Institute of Leadership & Management Level 2 Awards and Certificates in Team Leading.

Monthly on-site tutorial days cover topics such as health & safety, providing quality to customers and developing the work team. Leaders submit work-based assignments and, to ensure their development is fully supported, attend mentoring sessions with their managers.

Training manager Natasha Nobes-Cooper believes, "it was very important for us to identify a learning solution that offered an effective blend of theory and support, so that our people could easily transfer that learning to their specific jobs. The well-deserved qualifications demonstrate, I believe, our commitment to employee development."



Team leaders with Malcolm Lyon of Eastleigh College. Photo Mark Fuller.

# Success for young engineers

**Apprentices have completed three-year advanced training courses at Turbomeca UK.**

Ian Andrews (21, from Bitterne), Joel Hume (21, from Emsworth) and Stuart James (19, from Gosport) each achieved an NVQ Level 3 in Mechanical Manufacturing Engineering and a Level 3 BTEC National Certificate in Mechanical Engineering. After his BTEC course, Stuart was awarded a "Double Grade Distinction" – the highest grade. Stuart is now working full-time for the CMA group and plans to study for an HNC in Mechanical Engineering, while Joel and Ian have permanent positions with the MRO Helicopter Engines Team.

Says Stuart, "a friend who works here suggested I contact Turbomeca and I'm really glad I did. The company has looked after me every step of the way."

Three new apprentices will be recruited during 2009.



**Turbomeca UK Ltd**

Concorde Way, Segensworth North, Fareham, Hants PO15 5RL  
Tel: +44 (0)1489 564848 Fax: +44 (0)1489 563902 [turbomeca.co.uk](http://turbomeca.co.uk)

We hope you enjoy reading Turbine and welcome your comments. If it is not of interest, or if you think someone else in your organisation should be seeing it, please let us know via [turbomeca.co.uk](http://turbomeca.co.uk)



By Appointment to  
Her Majesty the Queen  
Helicopter Engines Manufacturer  
Turbomeca UK Limited  
Fareham

[ahink.com](http://ahink.com)