



TURBOSHAF

**TURBOMECA
TURMO III C₄ / IV C**

**TURBOMECA
ARTOUSTE III B/B₁/D**

We are certified by EASA and FAA to conduct heavy maintenance on the Turmo engines equipping Eurocopter SA 330 Puma helicopters. Over the past two decades we have developed in-depth knowledge of these types of engines through maintaining hundreds of units for military and civil operators.

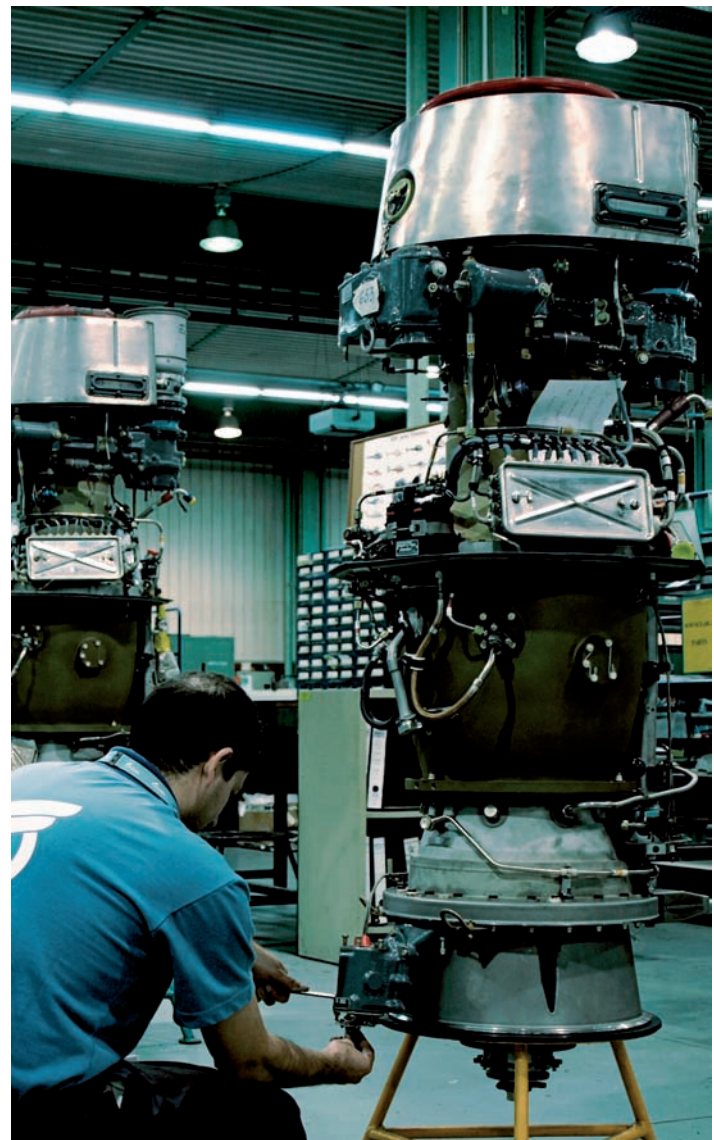
This experience has made us highly competent in supplying solutions for all types of engine performance problems.

The Turmo engine's small size and high performance require maintenance to the highest quality and technical standards.

OGMA stands out in this area, particularly due to the high level of preparation and competence of our technical team, and is pleased to offer the best ratio between removal time and engine performance margins. We work according to the most recent manufacturer's procedures and manuals and our test bench for turboshaft engines is correlated with Turbomeca's master bench. Indeed, it is with pride that we count Turbomeca among our satisfied clients.

As the small Artouste engine approaches the end of its projected lifetime, it is comforting for the many remaining operators of the Alouette helicopter to know they can count on maintenance, repair and overhaul services of the highest quality from a major European center. OGMA's repair line still has the qualities and capabilities that have made the company a top-of-the-line Authorized Repair Center for Turbomeca and EASA.

Over the past two decades, we have accumulated broad-based knowledge on these first generation engines and we have overhauled hundreds of units for operators from around the world. Our accumulated experience allows us to present qualified solutions for those problems that emerge when engines reach "a certain age". Turbomeca, aware of the peculiar problems of these older engines, has collaborated with us, exchanging technical information and solutions, in order to keep this type of engine operating in complete safety.



FACILITIES

Ogma occupies a total area of 400,000 sq.m of which 140,000 sq.m are covered, comprising 11 maintenance hangars (2 of them sized 130x70x18 m), modern manufacturing facilities, a large, well equipped engine overhaul division (with 6 engine test cells) and extensive back shops. Its 3,000 m (10.600 ft) runway and control tower are equipped for around the clock operations by prior permission and facilities may also be accessed from a river pier.

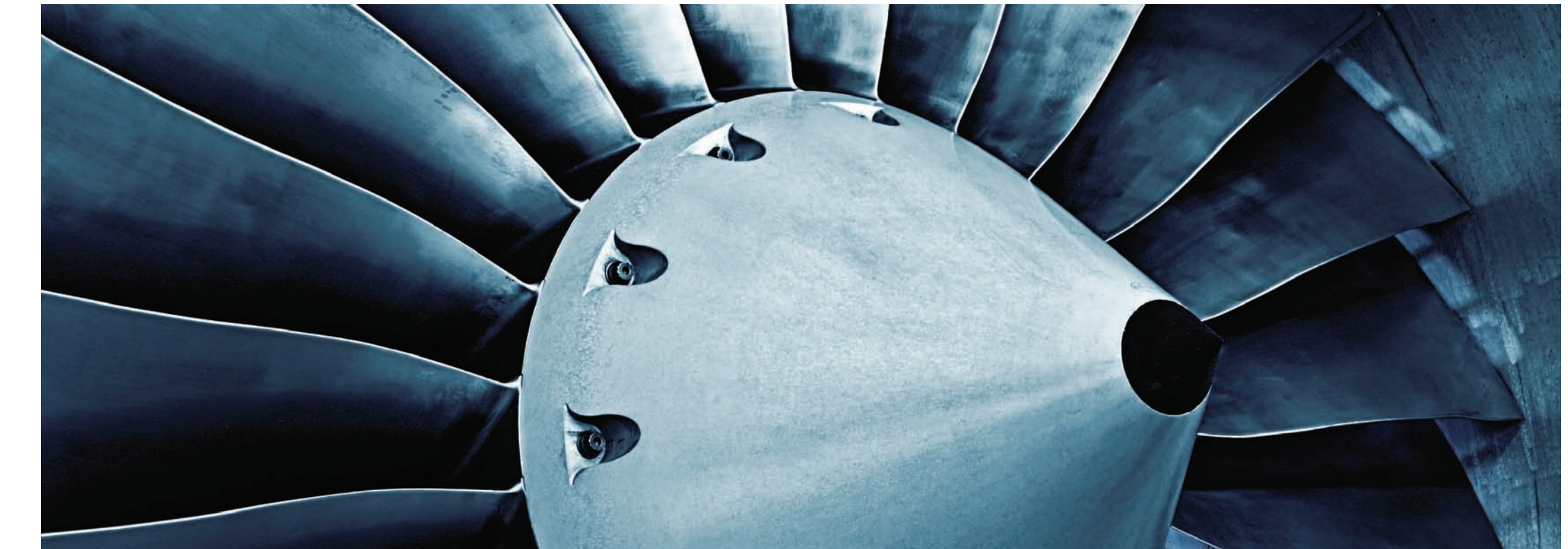
LOCATION

OGMA - Indústria Aeronáutica de Portugal, S.A. is located at Alverca on the west bank of the river Tagus, about 15 Km north of the main International Airport of Lisbon, close to A1 and A9 highways and adjacent to Alverca railway station.

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OGMA
Aviation Services

ENGINES
Turning every action into success

ENGINES

OGMA is an Authorized Maintenance Center for Rolls-Royce and a Service Centre for Turbomeca engines and Honeywell TPE331 series engines.

Our highly qualified and experienced technicians, supported by our engineering team, provide MRO services for a range of engines for fixed and rotary wing aircraft.



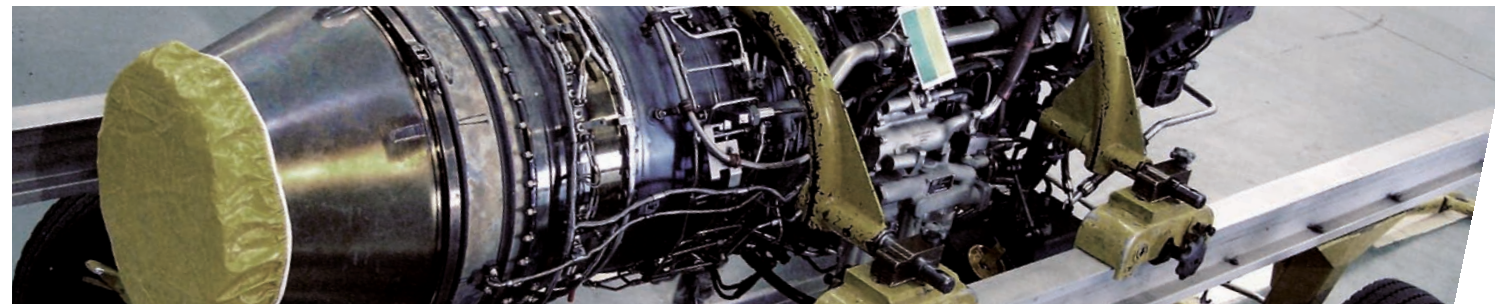
ROLLS-ROYCE T-56/501D

As one of the leading independent service centers for T-56 engines, we can offer original manufacturer (OEM) components or those from other certified sources, according to our clients' preferences and needs. Whichever the choice, all work is carried out according to the manufacturer's and operator's procedures, using current manuals and other technical publications and benefiting from our comprehensive warranty.

Our capability to overhaul the T-56 / 501D engine and nacelle (QEC) while the aircraft is in the hangar for heavy maintenance makes us a unique "Integrated Service Station", with many advantages for our clients.

SERVICES

- ▶ Removal and Reinstallation of engines into the Quick Engine Change (QEC) unit
- ▶ QEC Maintenance and Repair
- ▶ Complete Disassembly and Assembly of the engine
- ▶ Compliance with Technical Instructions
- ▶ Balancing Rotary Components
- ▶ Engine Test in modern test cells
- ▶ Repair and Overhaul of propellers
- ▶ Heat Treatment and Stress Relieving
- ▶ Engineering Support
- ▶ Cleaning, Non-Destructive Testing and Dimensional Control (including by Co-ordinate Measuring Machines) in controlled environment installations
- ▶ Repair of Parts by welding, machining, electrolytic treatment, thermal spray processes, grit blasting, painting and other appropriate processes.
- ▶ Repair, Overhaul and Testing of fuel, hydraulic and pneumatic systems in purpose-built installations.



ROLLS-ROYCE AE 2100 Series

In 1993, OGMA was certified as an Authorized Maintenance Center (AMC) for the Rolls-Royce AE2100 series of advanced turboprop engines.

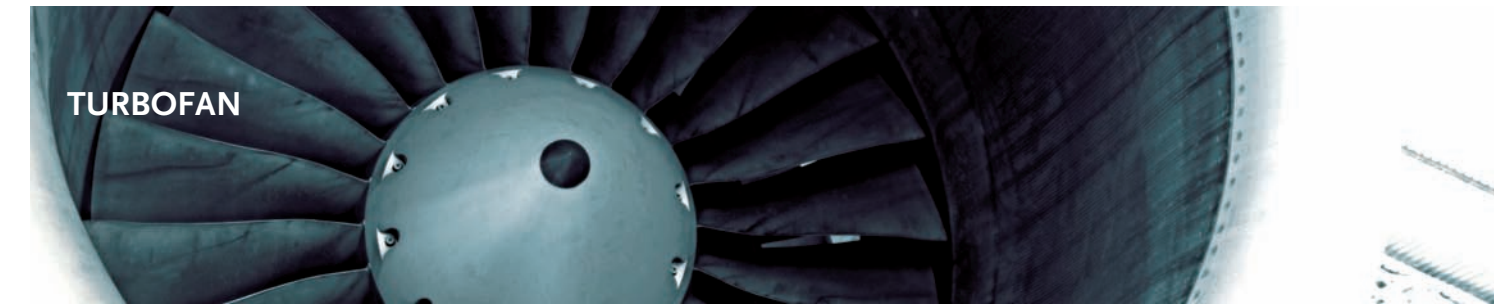
Starting with the AE2100 A in the SAAB 2000 regional turbo-prop, OGMA became the only independent European AMC of the five MROs worldwide dedicated to the support of these engines. With the range now including the AE2100D3 in the C-130J Advanced Hercules and the AE2100D2 for Alenia's C-27 Spartan aircraft, as well as some specialist applications, OGMA has become a front-runner, serving the manufacturers, Rolls-Royce and Lockheed Martin, as well as major airline and air force customers world-wide.

Our Engineering department prepares work scopes that comply with the requirements of Rolls-Royce Maintenance Plans and the preferences of the operators.

We have developed the capability to carry out most of the Rolls-Royce approved engine component repairs, thus minimizing overall repair costs. We are proud of our ability to solve any technical problem, to find the most economical solutions and to provide all assistance for our clients so that they may obtain maximum performance and life from their engines.

SERVICES

- ▶ Non-Destructive Testing
- ▶ Component Repairs (welding, machining, heat treatment, surface treatment, grit blasting)
- ▶ Restoration by electrolytic and thermal spray processes
- ▶ Overhaul and Testing of Engine Accessories
- ▶ Balancing of rotating components
- ▶ Engine Testing



ROLLS-ROYCE AE 3007 Series

We are an Authorized Maintenance Center (AMC) for the Rolls-Royce AE 3007 range of advanced turbofan engines, the only independent European center, and one of only six AMCs in the world authorized to overhaul these engines.

Ever since the Embraer ERJ135 / 145 regional jets began operations, OGMA has repaired a large number of AE 3007A engines for civil and military operators throughout Europe, North America and Asia. Rolls-Royce itself is one of our largest customers, through its TotalCare and CorporateCare programs.

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