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BELAC NEWS

A Chromalloy Joint Venture Company

From the President of BELAC LLC

The U.S. Air Force has identified a new way to better manage spending while ensuring fleet readiness. It's now relying on BELAC for High Pressure Turbine engine blades.

In today's cautionary budget environment, the Air Force selected BELAC blades for the same cost savings and exceptional performance the airlines have enjoyed for years.

BELAC *out-prices* the competition — the OEMs — by 40 percent or more.

Our reliable, proven HPT blades also *outperform* the competition — the OEMs — as demonstrated in years of performance and maintenance data logged by the airlines. BELAC equipment provides better corrosion resistance and superior repair yields, which translates to even more maintenance cost savings.

Since 2002 — when we began delivering HPT blades to the airlines — sales have grown worldwide as commercial operators see the results. Now as we deliver our first shipments to the Air Force, military maintenance depots, too, will benefit.

BELAC encourages you to visit us this spring at MRO Americas / Military in Miami Beach, Fla., and in July at the Paris Air Show. And we invite you to tour our design and manufacturing center in Oldsmar, Fla. at any time.

Let us show you what BELAC can do for you.

Chong Yi
President

BELAC wins second U.S. Air Force contract

BELAC has been awarded its second U.S. Air Force contract for CFM56-3 Parts Manufacturer Approval (PMA) first stage High Pressure Turbine (HPT) blades. The one-year contract is valued at $3.2 million.

In 2010 BELAC announced the first-ever Air Force contract to a PMA producer of HPT blades. Together the two BELAC contracts total $5.8 million. Like the earlier contract, the current award covers manufactured HPT blades for the Air Force fleet of F108 engines.

"This second contract award is significant for BELAC. We are pleased to deliver the additional aircraft engine equipment to the Air Force," said **Chong Yi,** President. "Our PMA blades provide exceptional reliability and performance and have been demonstrated over millions of commercial aircraft flight hours. The Air Force has elected to utilize the same proven equipment and save 40 percent or more off the cost of new OEM equipment. That amounts to millions of dollars saved."

The F108 is the military variant of the CFM56-3 commercial engine and utilizes the same HPT blade. The BELAC equipment will replace worn and scrapped turbine engine blades during maintenance of the F108 engines, which power the KC-135 tanker aircraft.

U.S. Air Force requisitions BELAC CFM56-3/F108 High Pressure Turbine blades

BELAC has shipped the first sets of its Parts Manufacturer Approval (PMA) High Pressure Turbine blades for the F108 aircraft engines under an existing contract with the U.S. Air Force. (See related article: "BELAC wins second U.S. Air Force contract.")

"BELAC has delivered the first sets of our outstanding HPT blades to the Air Force under one of two agreements in place for the parts," said **Chong Yi,** President. "The equipment will replace worn and scrapped blades during maintenance on the F108 aircraft engines that power the KC-135 tanker aircraft."

BELAC received FAA/PMA approval for the CFM56 series blades on May 22, 2002 and has sold over 250 sets. BELAC CFM56 blades have accumulated over 1.6 million hours without incident.

BELAC received Source Approval Request (SAR) approval for the F108 HPTB on February 12, 2004.

BELAC is the first PMA manufacturer to receive approval for HPT blades. The contracts for the sale of the parts to the Air Force provide a significant cost savings. "Not only is there a cost reduction from the purchase price over OEM equipment, but the performance data for BELAC blades' maintainability has demonstrated superiority and additional savings," said Yi.

BELAC has delivered nearly 50,000 HPT blades to airlines around the world. The company's blades are FAA certified to meet or exceed the performance, reliability and durability specifications of the OEM parts for gas turbine engines.

‘First Article’ approval granted by U.S. Air Force

BELAC has received ‘first article’ approval from the U.S. Air Force on its delivery of F108 High Pressure Turbine (HPT) blades. First article testing and inspection is the independent military review of the blade’s metallographic, manufacturing and dimensional attributes.

“BELAC has successfully met this critical contract milestone,” said **Dennis Piotrowski,** FRAeS, BELAC Vice President, Quality. “BELAC is now delivering HPT blades under one of two contracts with the Air Force. We are manufacturing and delivering the equipment and meeting all schedules required by the Air Force.”

The F108 powers the Air Force KC-135 tanker. BELAC began producing HPT blades for the F108 commercial variant, the CFM56 aircraft engine, in 2004. To date the company has delivered 250 sets of the blades to commercial air carriers around the globe.

Upcoming Events:

MRO Americas/Military
Miami Beach, FL
April 12-14, 2011
Silver sponsor

Paris Air Show
Le Bourget, France
June 20-26, 2011
Exhibitor

BELAC LLC
A Chromalloy Joint Venture Company

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From the BELAC Technical Team

Editor’s note: The BELAC Sales and Technical staffs respond regularly to questions on a variety of topics from products, pricing and availability to technical questions about repairs, exchanges and operation of BELAC parts. A question appears in each edition of *BELAC News,* with a response provided by a BELAC expert.

If you have a question for the BELAC staff, please visit the BELAC website at www.belac.com/contact/ to submit it. You will receive an individual response by providing your contact information. General questions and answers may appear in upcoming editions of *BELAC News.*

Question: Are there exceptions to parts that require Federal Aviation Administration (FAA) Parts Manufacturer Approval (PMA)?

BELAC: This question arises when a company is considering ways to improve cost savings and maintain safety. The following applies to aircraft manufactured in the U.S.

Shortly after World War II, the U.S. Congress recognized that there were insufficient parts to maintain the rapidly growing civil aviation fleet. To address this problem, Congress codified rules to control replacement parts on commercial aircraft. At the same time, Congress recognized that one source of parts would not cover all the circumstances an aircraft owner or operator would be confronted with. Under Federal Aviation Administration (FAA) rules, the exceptions are that PMA does not apply to: 1) Aircraft parts produced under Type Certificate or Part Certificate; 2) Parts produced by an owner or operator for maintaining or altering their own product; 3) Parts produced under an FAA Technical Standard Order (TSOA); and 4) Standard parts such as bolts or nuts conforming to established industry or U.S. specification.

Equipment falling outside the four exceptions requires the manufacturer to obtain authorization to sell for installation on type-certificated aircraft. There are several ways to obtain design approval. Importantly, all BELAC equipment is produced under the FAA reviewed and approved design and manufacturing quality system.

FAA approves BELAC Quality Assurance Manual

BELAC has received Federal Aviation Administration (FAA) approval for its revised Quality Assurance Manual for Part 21 and 45 changes.

”This is an important milestone for BELAC,” said **Dennis Piotrowski,** FRAeS, BELAC Vice President, Quality. “BELAC is the first company to have this revised manual approved by the FAA. It is essentially a comprehensive rewrite to implement changes to FAR Part 21 and 45, as well as changes to ISO 9001:2008 and AS 9100:2009.”

Piotrowski said the BELAC Quality team, working together for several months, met the multi-phase process requirements set forth by FAA for the revision. The FAA cited BELAC in a letter of recognition outlining the accomplishment.

Over the past 15 years the FAA has implemented various changes to the Title 14 Code of Federal Regulations for Part 21 manufacturers of aerospace equipment. That included certifications. The changes are required of all production certificate holders. FAA revised the quality systems to ensure consistency among the parts certificate holders, Parts Manufacturer Approval (PMA) holders and Technical Standard Order (TSO) authorizations.

As a result the rule now contains no references to Approved Production Inspection Systems or Fabrication Inspection Systems (FIS), the sections that covered PMA. “The rules were revised to standardize production approval requirements and incorporate the industry best practices, ISO and AS,” Piotrowski said.