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OWNER PILOT Advantage

A Magazine for Owner/Pilots from Skytech Publications



Line Up and Wait.

I believe there is an old saying "Good things are worth waiting for." Anyone that has been around the development of a new airplane knows that you will always wait longer than expected for certification – especially when it is an all-new aircraft model. But does the wait always make it better?

In the case of the Piperjet Altaire we think the answer is a resounding "Yes." The Proof of Concept that started its life as a stretched version of the PA-46 fuselage more than did its job. It proved that you could mount a single turbofan engine on the top of the fuselage - high thrust line and all - and have a great performing, yet docile at all speeds single-engine jet. Now with the power of a new ownership group, overhauled and upgraded technical and marketing staff, Piper is posed to produce a highly refined version for delivery in 2014. The new Altaire will sport a larger, fully round fuselage featuring more head and leg room, along with Garmin G3000 avionics.

So what do you do until 2014? Fly, train, and upgrade. In fact, Piper has several programs with incentives that tie current production airplanes such as the Matrix, Mirage, or Meridian to the purchase of a new Piperjet Altaire. If this airplane or anything else you see in our magazine is of interest to you, feel free to call us for more information.

Skytech, Inc., publisher of this magazine is an aircraft sales and service company with FBOs in Westminster, MD (DMW), Rock Hill, SC (UZA – Charlotte Metro Area) and Administrative Headquarters in Baltimore, MD (MTN).

Your thoughts, suggestions, comments and criticism are important to us and we will always welcome reader feedback. Please respond to:
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In today's environment a successful aircraft must excel in multiple categories for market acceptance and ultimately prominence. Performance only matters if it is accomplished efficiently. Advanced technology is wonderful but only if you are comfortable while enjoying its benefits. And of course the aircraft must represent a solid value. You can go on and on but the point is that a successful aircraft is one that is desirable on many fronts – for many people.

The PiperJet made its first public debut at NBAA in Orlando, Florida on October 17, 2006. Promising to blend performance and efficiency in a comfortable, modern design – the PiperJet seemed to sit in a class by itself. A single-engine light jet with impressive

numbers that is large enough to comfortably and efficiently perform both personal and business missions. The original Proof Of Concept (POC) aircraft validated the programs' expectations with data collected during 375 + extensive flight test hours and 350 + takeoffs and landings. It was clear that not only does the design work – but it works extremely well.

That said, the original POC was based on a stretch of the PA-46 fuselage and presented three key issues:

1. **Cabin Volume** – Although the POC cross section represents a wonderful cabin for the Mirage and Meridian class of aircraft, more space was desired for the PiperJet.
2. **Scalability** – Ultimately, Piper's goal is

see *PiperJet Altaire* on page 4

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Thank you!

The Pilot-In-Command is solely responsible for the safe and proper operation of his/her aircraft and it is the responsibility of the pilot-in-command to operate that aircraft in compliance with that aircraft's Pilot's Operating Handbook and other official manuals and directives.

MARKET PERSPECTIVE.

The bursting of the housing bubble resulted in what nearly everyone agrees is the worst recession ever. Just how bad is it? In the tables that follow we compare the recent collapse to the recession which followed the dot-com bubble and 911.

PISTON SINGLES AND TWINS

Currently, piston singles and twins appear stable. The small up trend in prices seen in early 2010 has flattened, while buyers assimilate the higher prices and more importantly, the world situation. The Vref Light Single Index managed a 1% climb in the recent quarter. Complex Singles up 1.3%. Both twin indices crept up less than a percentage point.

Change in Value in Previous and Current Recession		
	Previous	Current
1990 A36 Bonanza	-9%	-10%
1990 B55 Baron	-14%	-16%
1984 Cessna 182	-9%	-13%
1982 Cessna 421C	-18%	-15%
1984 Cessna 210	-9%	-6%
1985 Beech Duke	-26%	-17%
1990 Mooney M20M	-16%	-21%
1984 Piper Archer	-6%	-8%

*Previous Recession (Piston Market) 2001-2004

TUBROPROPS AND JETS

By checking the Market Indices at VrefOnline.com, one can see that turboprops and jets do really well in the good times, then come roaring down when the bubble bursts. All turbine segments continue to trend down. Turboprops are nearly flat, losing less than a percentage point. The Vref Light Jet Index lost 3.8% in the recent quarter. Mid-size jet prices were off an average of 4.1%, and Large Jets dropped 3.3%.

This has to be the best of times to be a professional economist – lots of data, and lots of people desperately willing to pay for a forecast. The truth is, no matter how brilliant you are, a forecast is an educated guess at best. One of our favorite economists says that he correctly predicted five of the last three recessions.

Change in Value in Previous and Current Recession		
	Previous	Current
1985 King Air C90A	-16%	-27%
1985 Ce Conquest	-25%	-18%
1985 King Air B200	-28%	-32%
1980 Cheyenne II	-19%	-24%
2000 Citation Excel	-17%	-45%
1991 Beechjet	-45%	-51%
2000 Gulfstream IVSP	-30%	-53%
2000 Hawker 800XP	-31%	-48%

*Previous Recession (Turbine Market) 2000-2003

Barring a widespread calamity, we fully expect demand to slowly improve for late model, no negative airplanes – of all sizes. However, some segments – older, out-of-production, hopelessly outdated airplanes – are bloated and may never recover. At least part of this is due to lending constraints for 20+ year-old airplanes.

For years we have espoused a bubble economy. Well now we are thinking it is more a Fear Economy. Try this: Next time you are on the interstate, look at the train tracks next to the highway. If it is like the train that runs along I-40, it is packed with containers going to or from you or me or China – it is stuff that someone is buying or selling. Then, look on the road. It seems there are more trucks than cars, which means they are also full of stuff we are selling to each other. Commerce is happening, just not fast enough to trickle up to aviation – yet. Probably the most important thing at this point is: Stay in touch with reality, whether it's politics or the airplane market. And finally, what to make the phone ring? Put a realistic asking price on your airplane. •

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TAX FACTS

FOR OWNER/PILOTS

BONUS DEPRECIATION AVAILABLE FOR 2011 DELIVERIES

President Obama has signed the Small Business Jobs Act of 2010. This legislation brings back 50% bonus depreciation for qualified business aircraft purchases. Property placed in service in taxable years beginning after January 1, 2010 and before December 31, 2010 will qualify for 50% bonus depreciation.

The general rule to qualify for bonus depreciation includes:

- Purchase and place in service a new business aircraft in 2010
- Aircraft held as demonstrator by factory or dealer will qualify as new aircraft
- Acquiring an existing position in the market place for an aircraft that will deliver in 2010 can qualify for bonus depreciation.

If the following requirements are met, a 2011 delivery can also qualify for bonus depreciation:

- Signing a binding contract to buy a new aircraft by December 31, 2010
- Making a non-refundable deposit of the lessor of:
 - 10 percent of the cost, or
 - \$100,000
- Taking delivery and placing the aircraft in service for Part 91 operation by December 31, 2011

Below is an illustration of a 2011 Piper Meridian purchase. The after-tax cash flow difference is over \$270,000 if you meet the bonus depreciation provisions for a 2011 delivery. You should review your personal

tax projections for 2011 and determine if you can benefit from bonus depreciation in 2011.

you that any tax advice contained in this communication, including any attachments, was not intended or written to be used, and

2011 Piper Meridian Purchase - \$2,100,000 <i>(Price shown for illustrative purposes only Consult your dealer for exact pricing.)</i>		
Tax Year	2011-Bonus Depr.	2011-No Bonus Depr.
Section 179 Expensing	400,000	400,000
Bonus Depreciation	850,000	- 0 -
MACRS Depreciation	170,000	340,000
Total Depreciation Deductions	1,420,000	740,000
Potential Income Tax Savings from depreciation <small>(40% combined tax rates)</small>	568,000	296,000

Aviation Tax Consultants (ATC) assists aircraft purchasers in acquiring aircraft in a tax efficient manner. Our services include the elimination or reduction of sales tax at the time of purchase, maximizing income tax savings, controlling the cost of personal use of the aircraft, avoiding passive activity loss rules and complying with Federal Aviation Regulations. Cooperation with client's current tax and legal advisors is welcome and encouraged.

Disclosure Under IRS Circular 230: To ensure compliance with requirements recently imposed by the IRS, we inform

cannot be used, for the purpose of avoiding federal tax related penalties or promoting, marketing or recommending to another party any tax related matters addressed herein. •

*Daniel Cheung, CPA,
Member*





PiperJet Altaire
continued from page 1

to develop a derivative family of airplanes with the PiperJet and thus the original design must allow for future variations.

3. **Styling** – It was realized through flight testing that a cleaner, sleeker looking airplane could be produced compared to the original POC.

“While the earlier PiperJet design, with its M-class cabin cross section, provided a comfortable environment, we wanted to give our jet customers an even roomier light jet that incorporates a scalable design paving the way for a future family of competitive business jets,” said Piper CEO Geoffrey Berger.

ENTER THE PIPERJET ALTAIRE

Behind the scenes Piper has gathered an impressive list of industry savvy engineers to revolutionize and bring to market the PiperJet. At this year's NBAA in Atlanta, Georgia the evolved PiperJet was unveiled with substantial improvements over the POC – so much so that it merited a new name: The PiperJet Altaire. Let's explore what makes this airplane so unique and why it's firmly planted for a successful future.

IT'S ALL ABOUT SPACE

One look at the new design of the PiperJet Altaire and it is obvious the fuselage is significantly larger than the POC. The PiperJet Altaire's fuselage is round and mounted on top of the wing. Mounting the fuselage on top of the wing means there is no spar intrusion through the cabin as well as allowing a streamlined belly fairing for aerodynamic and aesthetic purposes. The ability to capitalize on the maximum space for cabin occupants has led to the development of a drop down aisle floor. In the end, PiperJet Altaire customers will benefit from a cabin that is 9 inches taller and 4 inches wider than the original POC. That's no small change! Along with increased space, the PiperJet Altaire is the recipient of a new interior styled for passenger comfort. Highlights of the new cabin include:

- No spar intrusion
- Dynamic passenger and crew seats for increased safety and comfort
- LED lighting for improved reliability and reduced maintenance costs
- Dual-Zoned environmental control
- 4 inches of additional elbow room
- Cabin height 9 inches taller
- 12.5" drop down center aisle width

Got bags? The PiperJet Altaire is equipped with a 20 cu ft nose baggage compartment (large enough to fit golf clubs) and another 20 cu ft aft cabin bag-

gage compartment within the pressure vessel. If that isn't enough the airplane is customizable with either an additional baggage area across from the cabin door...or an entertainment center...or a 7th seat...or a fully enclosable lavatory! This flexibility makes the Piper Altaire the only jet in its class to offer choices to customize the cabin based on the mission. Truly a revolutionary idea and one that should be very enticing to a lot of operators.

Ingress and egress to the PiperJet Altaire is aided by a 3 foot wide cabin door. Not only will this be welcomed by passengers, but think of the cargo carrying options that could be possible simply because “it easily fit through the door”!

PERFORMANCE AND EFFICIENCY

As is the case with most aircraft, it all starts with the powerplant. In the PiperJet Altaire's case that powerplant is the Williams International FJ44-3AP Turbofan with de-rated 2,500 lbs of static thrust at sea level, Full Authority Digital Engine Control (FADEC), and a TBO of 4,000 hrs. The FJ44-3AP is derived from the type certified FJ44-3A engine and has an improved thrust to weight ratio along with durability improvements derived from the large FJ44-3A fleet.

A major piece of information discovered during flight testing was the positive stability of the aircraft during power changes. One of Piper's test pilots has referred to these pitch changes as “easily manageable without trimming”. That is impressive for any airplane. However, to further reduce any pitch changes on the PiperJet Altaire, Williams International developed Exhaust Angle Control Technology (EXACT). EXACT

see **PiperJet Altaire** on page 5



is a passive thrust vectoring nozzle which counteracts the thrust / pitch coupling at sea-level static takeoff conditions and straightens the thrust vector at cruise conditions – all with no moving parts – it is simply a nozzle. In addition, a slimmer, longer nacelle is coupled to a shorter and farther aft vertical tail on the PiperJet Altaire. The end result is an airplane that has minimal pitch changes with power movements and looks very sleek.

What does all this mean for performance? Simple: lighter weight, uncomplicated and powerful systems = increased performance capabilities and reliability. For the PiperJet Altaire the numbers are impressive.

Max Cruise Speed	360 KTAS
Max Range	1,300 NM
Range w. 800 lb Payload	1,200 NM
Max Altitude	35,000 ft
Fuel Capacity	405 Gallons

Coupled with these impressive performance numbers is the hard-to-beat efficiency of a single-engine turbine. Single-engine turbines are not a new concept. The Piper Meridian, TBM series, Cessna Caravan and Pilatus PC12 are all very successful airplanes and a major part of that success is the simplicity of operation, efficiency and safety record that a reliable single turbine engine provides. The PiperJet Altaire takes single-engine turbine performance to a new level and does so with the efficiency of operation that will be hard to ignore.

TECHNOLOGY AT YOUR FINGERTIPS

The PiperJet Altaire is equipped with a state-of-the-art flight deck: the Garmin G3000. The Garmin G3000 is the first touch-screen controlled glass panel designed for light turbine aircraft. It features three displays, two touch screen controllers and a GFC 700 automatic flight control system. Some distinct advantages of touch-screen technology include replacement of many mechanical knobs, buttons and switches and focusing the control to a centralized location. An intuitive layout of options makes controlling navigation, communication, radar, synthetic vision, terrain avoidance, aircraft systems and more - all user-friendly and simple with just the touch of a finger. In short, the Garmin G3000 gives the pilot more control, less workload and greater safety.

A FANTASTIC VALUE

Slated for customer deliveries in 2014 the PiperJet Altaire is primed for success in both the personal and business aviation arena. The larger fuselage equates to significantly more cabin volume and a drop-down center aisle will make movement throughout the refined interior effortless. The remarkable performance figures are matched with operating costs of a single-engine making it one of the most fiscally conservative jets on the market. And the flexibility offered through interior configuration options provides one aircraft that can support a wide variety of missions – all coupled with advanced technology such as the Garmin G3000 touch-screen flight deck.

Impressive programs are currently in place to assist buyers looking to advance to their own PiperJet Altaire. For new single-engine turboprop Meridian buyers, Piper offers \$100,000 off the \$2.5 million dollar base purchase price of the PiperJet Altaire. Buyers of new pressurized single-engine piston Mirages get \$50,000 off the purchase price of a new Altaire, while buyers of unpressurized single-engine piston Matrixes can defer \$25,000 of the initial deposit of \$75,000 on a new PiperJet Altaire. Piper will escrow the initial deposit. For more information contact your local Piper dealer. Now is a great time to join the Piper family! •

Piper Aircraft, Inc. has a rich legacy spanning over 72 + years of bringing to market almost 150,000 aircraft through more than 160 models certified. Approximately 90,000 of those aircraft are still flying and being serviced and supported on every continent by Piper's network of authorized services centers, dealers and field personnel. Piper's ownership – Imprimis - is committed to invest significant capital in Piper's current operations to strengthen its position in its traditional markets and support the development of key new products such as the PiperJet Altaire. "Piper's capabilities, its excellent dealer family and extensive customer base, coupled with Imprimis's capability to provide financial support, our dedication to growing the companies we invest in and our contacts within Asia provide fertile ground for Piper to expand its business in the Asian market and throughout the world," said Imprimis Managing Partner Stephen W. Berger. A key step in moving forward was the appointment of Randy Groom as Executive Vice President. Randy is an experienced senior executive and prominent aviation professional with more than 36 years of leadership roles in General Aviation. "One of the main reasons I was attracted to Piper is because I love their products and really believe they are the right aircraft for these times," said Groom. For more information about Piper please visit www.piper.com.



ADS-B: THE FUTURE... ONLY SLIGHTLY CLOUDY

It seems like every trade publication, website and show has some mention of ADS-B these days. One thing is a clear constant between the mediums – there are a lot of questions and confusion surrounding its purpose, implementation schedule and value. Let's see if we can shed a little light on the subject.

WHAT IS IT AND HOW DOES IT WORK?

To improve the safety, efficiency and capacity of our Nation's Airspace System (NAS), the Federal Aviation Administration is transforming the current ground-based air traffic control system to a satellite-based system called ADS-B (Automatic Dependent Surveillance-Broadcast). As the cornerstone of the Next Generation Air Transportation System (NextGen), ADS-B supports these improvements and enables the NAS to accommodate growth expected from future demand. ADS-B is almost like a transponder – but with extra capabilities and benefits. The most basic purpose of the system is to keep aircraft separated.

In our current Air Traffic Control setup, radar sites throughout the country interrogate transponders of aircraft and compute the return through basic principles of geometric arithmetic to determine parameters such as distance and altitude. The information is updated with every sweep of the radar but takes time; approximately 4-5 seconds. This process hones the aircraft's location to within

approximately 1 to 2 miles. One distinct limitation of the current radar system is its line of sight requirement. If you can't draw a straight line between your aircraft and the radar site then you are out of view and luck.

ADS-B relies on the satellite-based global positioning systems to determine an aircraft's precise location in space. The system then converts the position into a digital code, which is combined with other information such as the type of aircraft, its speed, its flight number, and whether it's turning, climbing or descending. The digital code with all this information is updated several times a second and broadcast from the aircraft on a discrete frequency, called a datalink. Other aircraft and ground stations within about 150 miles receive the datalink broadcasts and display the information in a user-friendly format for controllers and surrounding aircraft (when properly equipped) to see. Both the controllers and aircraft are viewing the same accurate, real-time information.

ADS-B IN VS ADS-B OUT

There are two main components of the ADS-B system as it pertains to aircraft. ADS-B Out is the ability to transmit a properly formatted ADS-B message from the aircraft to the satellites, ground stations and other aircraft. To comply with ADS-B Out standards your transponder and other avionics equipment (GPS) must meet the

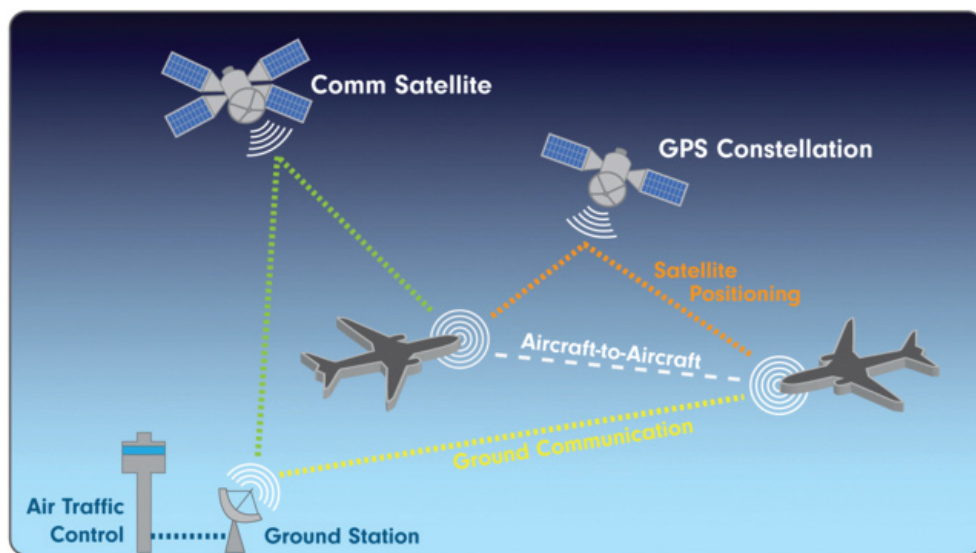
specifications set out in Advisory Circular 20-165. ADS-B In refers to the aircraft's ability to accept and then display that information received from their surrounding environment. This functionality requires the aircraft to be equipped with a display of some sort that is compatible with the incoming information. The advantages to pilots who have such equipment are not only a "real-time" account of traffic conflicts in the area as the controllers are seeing them, but also the FAA is providing flight information such as graphical weather depiction and textual flight advisories. Both the traffic and weather services would be offered free of charge to those aircraft that are properly equipped. Sound good right?

NOW FOR THE CLOUDY...

Let's dive into where some of the confusion lies. On May 27th 2010 the FAA issued a final rule mandating ADS-B Out equipage by January 1, 2020. Essentially, any aircraft operating in airspace where a Mode C transponder is required today will also be required to carry an ADS-B Out transmitter. Aircraft are still required to carry transponders after this date as well. In another more recent report issued by the FAA it was declared that nationwide ADS-B coverage will be complete in 2013. However, there are many questions still left unanswered and in an October 12, 2010 Memorandum from the U.S. Department of Transportation to the FAA they were clearly spelled out:

"FAA is making progress in implementing ADS-B at limited locations and working with airspace users to refine the use of the new technology. However, FAA's plans to deploy ADS-B throughout the National Airspace System (NAS) and realize expected benefits face significant risks and challenges.

The greatest risks to successfully implementing ADS-B are airspace users' reluctance to purchase and install new avionics for their aircraft and FAA's ability to define requirements for the more advanced capabilities....Moreover, while FAA is planning to mandate equipage for "ADS-B Out" by 2020, it plans to initially



provide ADS-B surveillance information that essentially replicates existing domestic radar coverage – resulting in few new benefits to airspace users. Most new capabilities and benefits, such as enhancing airspace capacity, rely on “ADS-B In” and the display of information in the cockpit. However, requirements and costs for ADS-B In may not be mature for at least 2 years. FAA has also yet to fully define requirements for modifying its existing automation systems that will display ADS-B information to controllers. Problems with integrating ADS-B on displays at the initial operating sites indicate this will be a significant challenge to nationwide deployment. Until FAA effectively addresses these uncertainties associated with equipment and requirements for ADS-B’s advanced capabilities, progress with ADS-B will be limited, and the potential for cost increases, delays and performance shortfalls will continue.”

The report goes on to offer recommendations to the FAA for successful implementation and return on investment. In short, there is very little disagreement that in the test areas where ADS-B has been fully implemented –



such as the Gulf of Mexico and the Alaska Capstone experiment – that it has worked wonderfully. Aircraft that never had access to radar coverage and separation services were all of the sudden being provided their usefulness. ADS-B can work, but there are some substantial hurdles to cross before a nationwide success story can be written.

We would be wise to keep a keen eye on developments in this field before making any immediate changes to our aircraft, but also realizing its potential and jumping on-board when the wrinkles are ironed out. For now, there is no harm in sticking with your current traffic and weather avoidance systems and seeing how the chips fall. •



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CORROSION AND SULPHIDATION: DETERMINED ENEMIES OF YOUR PT-6

The reliability of a turbine engine is undeniable. Specifically, the PT-6 series of engines from Pratt & Whitney Canada has garnered worldwide acceptance as a bullet-proof design and as such can be seen under the cowl of hundreds of different aircraft models throughout the years. Initially developed in 1957 when P&WC set out to produce a gas turbine engine for medium and light aircraft, the PT-6 has spawned many different variants and is in operation in every corner of the globe. However, as tough and reliable as the PT-6 is, there is a constant battle brewing within the structure of every turbine engine that demands our utmost attention: Corrosion and Sulphidation.

WHAT IS THE DIFFERENCE BETWEEN CORROSION AND SULPHIDATION?

First let's clear up the fact that sulphidation is not the same as corrosion – although they have similar results. Corrosion is the deterioration of a material in a reaction with the environment. All metals will corrode over time; however the rate and severity of corrosion varies with the particular metal and the specific environment that the metal is exposed to. Corrosion reactions are electrochemical in nature. For Corrosion to occur, all of the following must be present:

1. Two separate areas of the metal surface acting as electrodes
2. A path for the electrons to flow
3. The metal itself to complete the electrical circuit

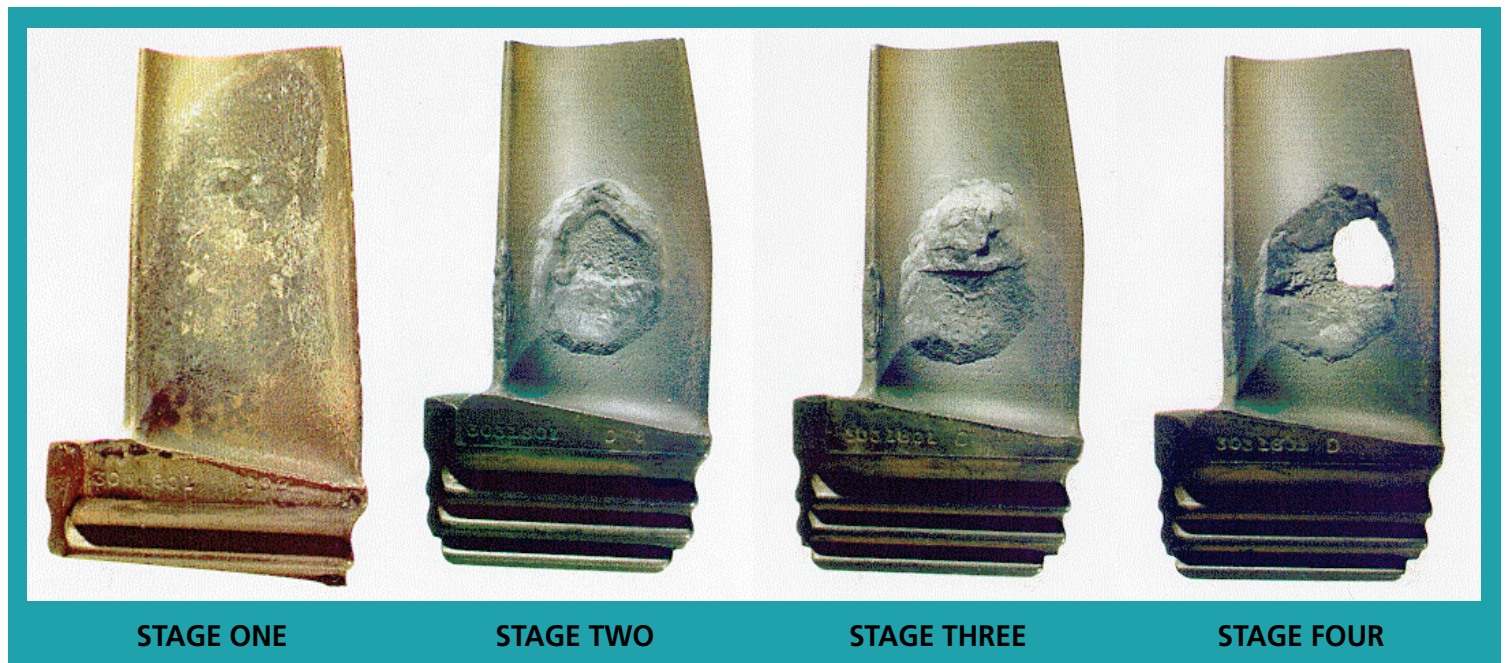
This series of events creates the chemical reaction that is corrosion and leads to the consumption of metal. Electrolytes are typically those from the environment. One of the reasons that metals exposed to a "salt-laden environment" corrode more quickly is that it creates an excellent electrolyte. It contains chlorides, sulphides and other elements and compounds that chemically react with the metal. These materials hold moisture on the surface where they can promote corrosion and pitting unless the metal is properly protected.



Sulphidation is a hot-corrosion phenomenon. Every turbine engine uses fuel containing sulfur in sufficient amounts for sulphidation to occur. When that sulfur is burned at high temperatures it emits sodium sulfate gas. Sulphidation is accelerated by the presence of sodium catalysts in the environment such as seawater, atmospheric pollutants and volcanic discharges. If the aircraft operates near any of those areas containing the catalysts such as oceans,

industrial complexes, cities or volcanic regions, the engine's intake system will be a path for those additional catalysts to reach the battle already raging within the combustion chamber of the engine. The hot section of the engine becomes ground zero where sulphidation occurs and once the attack successfully penetrates a Compressor Turbine (CT) blade's protective oxide coating and reaches the base metal there is no way

*see **Corrosion** on page 9*



STAGE ONE

STAGE TWO

STAGE THREE

STAGE FOUR

to reverse the process. Should the sulphidation be allowed to progress too far, the CT blades will have to be replaced – at the expense of the owner.

THE DIFFERENT STAGES OF SULPHIDATION

There are four progressive stages of CT blade sulphidation per Pratt & Whitney:

Stage 1 – Mild Sulphidation (coating deterioration)

Slight roughness of surface due to some growth and breakdown of the oxide scale layer. Depletion of chromium has not started. Mechanical integrity is not affected. Acceptable for continued operation of the blade after addressing the sulphidation and loss of oxide blade coating.

Stage 2 – Oxide Failure

Roughness of surface is more evident as breakdown of the oxide scale layer continues. Depletion of chromium from underlying alloy has started. Serviceable subject to repetitive inspections per the Engine Maintenance Manual (EMM). Restoring the component to its original condition is unlikely.

Stage 3 – Sever Sulphidation

Oxidation of the base material has penetrated to significant depth. Build-up of blister scale noticeable. Mechanical integrity affected. Removal of the blades as recommended in the Engine Maintenance Manual (EMM).

Stage 4 – Perforation

Deep penetration of attack with large blisters of scale. Loss of structural material will lead to eventual component failure.

WHAT CAN WE DO?

P&WC recommends that Compressor and Compressor Turbine washes be performed in accordance with your Engine Maintenance Manual (EMM). In short, there are two types of washes to help reduce environmental contaminates. The most common wash recommendation is the desalination compressor and compressor turbine wash. This is a simple process that utilizes “clean” water to remove salt deposits on engines that are operating in “salt laden” environments. The second type of wash is a more periodic wash that utilizes both water and chemical steps

to remove more stubborn chemicals adhering to internal engine components. This is more commonly referred to as a “performance recovery” wash. In addition to these methods of internal engine washing, there is also a recommended fresh water or solvent external wash that can be effective in removing salt or other corrosive chemicals from the outside casing of the engine.

WASH SCHEDULE

The nature and frequency of a compressor wash is dependant on the operating environment of the aircraft. In certain parts of the United States the risk is lower than others. In general, the closer you are to the coast or any other body of water the more at risk you are of collecting harmful salt and environmental deposits. It is best to consult your shop and work out a proactive approach to a wash schedule that suites your mission. A shop trained on your engine has the tools and knowledge to help you map a course that best limits your chances of dealing with a corrosive issue. Regular boroscope inspections of the compressor inlet case and turbine blades will help to establish whether the wash schedule you have in place is sufficient to prevent corrosion and sulphidation. Operator experience may require a more aggressive schedule for peak performance and reduced maintenance

costs. Per P&WC's SIL, “It is important to remember that the compressor wash provides the best results if performed after the last flight of the day before salt deposits have had a chance to do any lasting damage. Leaving the engine to sit overnight will reduce the effectiveness of a wash performed at a later time. Since sulphidation is dependant on temperature, there is no advantage to performing the turbine wash at any particular time of the day; however, since the compressor wash will transfer salt deposits into the turbine, it is recommended to perform a compressor turbine wash immediately following the compressor wash.”

ALTERNATIVE MEASURES

In addition to the washes, there are some P&WC approved corrosion inhibiting products that can be manually applied to parts of the engine to deter future problems. These products, such as LPS Procyon, can be obtained and applied locally. The application is a continuous effort, and must be re-applied based on use and the environment.

Prevention is the key to keeping your engine operating at peak efficiency and performance; and limiting the exposure to harmful contaminants that can do costly damage. As mentioned earlier, consult your shop and make sure you are on the right path. •



Why Aircraft Management?

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Invoicing: A monthly invoice simplifies the ownership experience.

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The new Mirage G1000 and Matrix G1000

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A WORD To The WISE

by Dave Conover



RE-REGISTRATION IS HERE!

The FAA re-registration process was launched on October 1, 2010 with initial notices being mailed to the first group of owners up for renewal. This process will require all aircraft owners to re-register their aircraft over a 3-year period in accordance with the FAA schedule. The FAA believes that of the 357,000 registered aircraft; at least 100,000 will not re-register or have inaccurate records. Additionally, once re-registered, registrations will now have a 3-year expiration date.

The FAA has outlined a specific set of procedures for owners to utilize that will enable them to re-register on-line within a 3-month window, then through a mail-in process for the following 2 months. After that date, if an aircraft is not re-registered, the FAA registration on the aircraft will expire and notice of N number cancellation will be sent. If the FAA receives no response, the N number will be cancelled and unavailable for assignment or reservation for a period of 5-years.

The FAA website reviews the process in detail and is a good resource to evaluate how your aircraft is currently registered with the FAA. It is important to have a valid mailing address on file with the FAA in order to receive notices. Whether a notice is received or not, the re-registration schedule applies to all aircraft and there are no amnesty provisions. Being proactive and fully informed on this new FAA regulation will keep your aircraft from being grounded.

CERTIFICATE ISSUED (ANY YEAR)	CERTIFICATE EXPIRES	RE-REGISTRATION REQUIRED
MARCH	MARCH 31, 2011	NOVEMBER 1, 2010 – JANUARY 31, 2011
APRIL	JUNE 30, 2011	FEBRUARY 1 – APRIL 30, 2011
MAY	SEPTEMBER 30, 2011	MAY 1 – JULY 31, 2011
JUNE	DECEMBER 31, 2011	AUGUST 1 – OCTOBER 31, 2011
JULY	MARCH 31, 2012	NOVEMBER 1, 2011 – JANUARY 31, 2012
AUGUST	JUNE 30, 2012	FEBRUARY 1 – APRIL 30, 2012
SEPTEMBER	SEPTEMBER 30, 2012	MAY 1 – JULY 31, 2012
OCTOBER	DECEMBER 31, 2012	AUGUST 1 – OCTOBER 31, 2012
NOVEMBER	MARCH 31, 2013	NOVEMBER 1, 2012 – JANUARY 31, 2013
DECEMBER	JUNE 30, 2013	FEBRUARY 1 – APRIL 30, 2013
JANUARY	SEPTEMBER 30, 2013	MAY 1 – JULY 31, 2013
FEBRUARY	DECEMBER 31, 2013	AUGUST 1 – OCTOBER 31, 2013

For more information or questions contact: <http://registry.faa.gov/renewregistration>