

THE RAISBECK DIFFERENCE



LEARJET ZR LITE (EXTENDED FLAPS)

The Raisbeck Difference:

Founder learned the Siren Song of speed early. by Dave Higdon



A YOUNG JAMES RAISBECK (TOP), WOULD DEVELOP HIS ENTHUSIASM FOR ALL THINGS MECHANICAL AND BECOME THE FOUNDER OF RAISBECK ENGINEERING (BELOW).



Talk to the folks at Raisbeck Engineering; talk to their customers, too. Regardless of who answers the questions a common image will emerge: that of an aircraft modification carefully engineered, tested and proven to be 'performance enhancing', even when they often also masquerade as solutions to space, storage or other shortcomings in the factory aircraft design.

"The difference is that the upgrades work," one happy King Air owner confided recently. So happy is he with the Raisbeck nacelle wing lockers and a couple of other modifications that he's considering a package that the engineering company offers in partnership with a powerplant specialist. "The difference in the airplane is worth the costs – that's the Raisbeck difference," the King Air owner explained. "The difference is, you get improved utility and performance, and you're happy you spent the cash."

Whether the EPIC PLATINUM or EPIC GOLD Performance Systems, crown or nacelle wing lockers, high-floatation gear doors, ram-air recovery systems or one of the company's other King Air enhancements, the ZR LITE Technology improvements for the 35-, 36- or 31-series Learjets, or efficiency-enhancing fuselage lockers, to date, more than 6,000 Raisbeck performance systems have found their way onto aircraft over the years.

Indeed, with more enhancements in the works to expand the aircraft models eligible for a Raisbeck-engineered improvement, Raisbeck continues to engineer its way into the hearts of operators around the world.

According to company COO Sam Jantzen, "The Raisbeck Difference is that our products are all performance upgrades – they make the airplane more efficient than before." At its deepest roots, the Raisbeck Difference harkens back to a pre-disposition of the company founder that stretches back to his pre-teen childhood: going fast.

FEELING THE NEED FOR SPEED EARLY...

According to family legend, little Jim Raisbeck first caught his mechanical bug as a toddler and it stuck. By age 11 James built and drove his own racing carts, and in his teens he raced midget cars and longed to design and build – landing at Purdue University in 1954.

His college career may go down as his first failure or mistake – he flunked out after two semesters - but with life teaching him other serious lessons about his pursuit of happiness (like a growing family) the now adult James Raisbeck resolved a problem with a solution: enlisting in the U.S. Air Force. After his service as a mechanic and flight engineer James Raisbeck returned to Purdue – succeeding this time with degrees in aeronautical engineering, mathematics and science. Time spent at Boeing, and then at Robertson Aircraft expanded his knowledge, skills and expertise – until Robertson

THE RAISBECK DIFFERENCE



DUAL AFT BODY STRAKES IMPROVE THE STABILITY AND CONTROL, AND REDUCE DRAG IN ALL FLIGHT MODES ON ALL KING AIR MODELS.

was sold. Before that point he had become president and chief engineer, working seven-day weeks. A short stint at American Jet Industries with the legendary Allan Paulson followed, before Raisbeck decided that working so hard should at least be a personal mission.

So with \$500 and his name on the door, Raisbeck Engineering was born. Initially, the company thrived, but when a lopsided deal dragged down the company and ended its run, Raisbeck needed to re-group - and, in 1981, he reformed his company with five employees - down from the heady days of the prior incarnation, when 750 folks were on the payroll.

Today, 28 years on, and James Raisbeck remains the top man and brain trust, and his company offers its plethora of performance and convenience modifications for the Beech King Air line, Learjets and other aircraft - some so popular and so helpful that the OEMs incorporated them into production aircraft in partnership with the company.

And these projects come from a staff smaller than the typical employment of a medium-size FBO underlining a level of efficiency that matches the company's core philosophy of improving aircraft with its "performance enhancements."

TAKING THE LONG ROAD TO 'FAST'

James Raisbeck knows his business and knows how he wants his business to operate - he also knows that working with the customer in mind underpins success.

Running through a list of "Don'ts" that reflect the value he places on honest business practices and customer value, he explains:

"You don't make claims you can't sup-

port; you don't offer a product to the customer until you've proven that it works; you don't let the marketing department dictate when you release a product; you don't use customer money to develop a product; and you don't forget who makes you successful - the customers."

Raisbeck speaks from the perspective of working in a business when marketing could trump actual performance in a product's success; when independent measurements often found upgrades falling short of advertised claims. But even absent such times, Raisbeck's approach centers on establishing credibility for a company, a product, a product line, the people behind it all - and doing so by employing the same practices regardless of the project or the pressures to make it profitable.

The approach can scarcely be better explained than by Raisbeck himself: "We recognize a problem, we design, engineer, flight test, certify and create manufactured kits to solve the problem we recognize."

Further, Raisbeck explained how the company uses vendors who it regards as specialists in the parts they make; these suppliers manufacture the kit components and those parts come to Raisbeck near Boeing Field/King County in Seattle; the company staff takes it from there. "We inspect, perform quality assurance inspection - which is more than an FAA inspection - we pack and ship to the more than 100 dealers we have around the world."

The attention to detail and enhancing performance extends to how the company assembles the components for any given kit. "We ship kits to dealers with parts packed into form-fitting Styrofoam cut-outs laid out in a logical way, with detailed directions, and put into boxes in the correct order," Raisbeck added.



ENHANCED PERFORMANCE LEADING EDGES INCREASE CRUISE SPEEDS AND REDUCE WING STRUCTURAL FATIGUE (AVAILABLE FOR ALL KING AIR MODELS).

"The installer knows the parts are there and he knows where they go. And we inspect for kit completeness in ways that make us likeable to aircraft mechanics – say, so they don't get two left-handed wing lockers or find the package short a part. They open up the box and parts are packed in the order they're needed, and a kit will say it's a left wing locker or a right - or whatever it is," he continued.

Raisbeck's approach – to its product development, manufacturing, quality assurance and installer-friendliness – seems to pay dividends in the products' trouble-free reputation. The durability of Raisbeck Engineering-created components is a benefit from the founder's approach to longevity and weight.

Where saving weight often rules in aircraft and system design, Raisbeck approaches his products with the belief that the few ounces or pounds that could be saved aren't worth the potential of a component failing – or needing replacement. "We'll design it – the kit and components – for infinite life and take the small weight penalty," Raisbeck stressed.

"We started the King Air line and had our first delivery in June 1982 – 27 years ago," Raisbeck explained. "Tens of thousands of systems on thousands of King Airs with millions and millions of operating hours on our systems – and they aren't your average OEM systems – and not one has drawn an FAA Airworthiness Directive, a service bulletin or contributed to the cause of an accident."

As a result, customers keep coming back and new ones keep showing up. "It goes back to this kit business. You design parts so they are inspectable, so they are packable," Raisbeck explained. "And we think things through for the installation process – we put ourselves in the place of the mechanic who installs the parts."



RAISBECK'S SIGNATURE BATWING FOR THE LEARJET 35 – WHICH REDUCES DRAG AND IMPACT OF WINGTIP VORTICES.

HOW THE RAISBECK DIFFERENCE WORKS

"There is no way that you can spend to have your airplane fly higher, climb quicker, cruise faster, and do it less expensively than with Raisbeck performance enhancements," stated company COO Sam Jantzen. "There is no one out there that provides the performance that we do with the value we provide."

Jantzen explained that these goals are the keys to the company's success – success built on products that deliver as promised. "We design every one of our systems," Jantzen stressed. "We are an engineering company. Our background is to engineer performance improvements."

Jantzen noted that no product or idea is immune to this approach; that every enhancement considered must prove to deliver before the company will put it on the market. "We do it as a whole package, not just as an add-on that adds a couple hundred pounds," Jantzen continued. "Even our aft-fuselage Learjet 31 lockers reduce the drag on that Learjet."

He explained that Raisbeck employs only 25 permanent employees, most of them engineers with cross-discipline specialties to their credit. With more than 100 dealer locations spread across the world, however, Raisbeck enhancements are available pretty much anywhere.

Brazil, with a large King Air population, has been particularly fertile territory – a big reason the company decided to return to LABACE2009 for Raisbeck's second appearance at the South America business aviation gathering. "LABACE is growing in importance because Brazil does have a substantial



AN AFT FUSELAGE LOCKER ALLOWS FOR 300LBS OF STORAGE OUTSIDE OF THE CABIN AND MOVES THE CENTER OF GRAVITY FARTHER AFT ALONG THE AIRCRAFT, RESULTING IN LESS NOSE-UP TRIM AND REDUCING DRAG. THIS MOD IS AVAILABLE FOR BOTH THE LEARJET 35 AND 31 MODELS.

THE RAISBECK DIFFERENCE



QUIET TURBOFAN PROPELLERS (THE HEART OF THE EPIC PLATINUM PERFORMANCE SYSTEM) REDUCE CABIN NOISE AND PROVIDE GREATER THRUST AND IMPROVED PERFORMANCE IN ALL PHASES OF FLIGHT ON THE KING AIR. AVAILABLE FOR ALL MODELS (WITH CERTIFICATION DUE TO BE COMPLETE IN Q1 2010 FOR THE C90GTI AND B200GT).

population of King Airs – probably about equal with Europe,” Jantzen explained. “It’s significant in that they have a significant population of 90-series King Airs. Brazil has been a very good market for us.”

But Raisbeck continues to evaluate its presence at the growing number of business aviation oriented events like LABACE, EBACE, even NBAA. “You know, this was only our third year for EBACE - I went two years earlier for a look around, but this year was our third time with a booth?”

The value of the larger shows to Raisbeck’s marketing efforts is bringing a shift in the company’s focus, Jantzen noted. “I’m not sure that for us, NBAA is the priority it used to be – it’s a very, very good show for us, but, you know, EBACE is going to be larger than NBAA in a few years time as far as we’re concerned.”

Backing off a little from the company’s presence at the big shows allows the company to focus more efficiently on marketing directly to potential customers. “We’re finding it more and more important to get together with customer fly-ins at our dealers,” Jantzen explained.

These so-called Upgrade Conventions held at Raisbeck dealers have become an important marketing tool, according to Jantzen, as it allows the company to mix existing customers and their enhanced aircraft with prospects, and the prospects get a customer-centric report on the products installed.

HARD TIMES? IT’S NOT SHOWING...

Last year Raisbeck closed out with its fifth straight year of customer growth – growth that put the total Raisbeck systems installed in 2008 at more than 550.

“We enhanced the productivity of 246 airplanes last year,” Jantzen reported.

“We’re seeing action improve around the world. People are holding on to their airplanes, even if they’re for sale. But now that they’ve decided to hold, they’re moving on with the wings they own.”

The following represents the number of performance enhancement systems Raisbeck has sold over the past five years, and the number of aircraft which received them:

- 2004 - 295 systems on 131 aircraft
- 2005 - 368 systems on 149 aircraft
- 2006 - 411 systems on 197 aircraft
- 2007 - 477 systems on 221 aircraft
- 2008 - 554 systems on 246 aircraft.

The shift by operators from merely keep-

ing the airplane airworthy, safe and legal, to making improvements is not an unusual one during uncertain times, Jantzen observes.

“If you talked to an FBO last spring, owners and operators were just doing inspections - just enough to get by and stay legal in the air. But that’s gradually changed over the past three or four months; business is on an up-tick.”

It’s the aviation equivalent of loving the one you’re with when you can’t go forward with the one you’d love to have. “And now,” Jantzen added, “business is better internationally than domestically. Our business internationally has grown in the past few years. Not only has our share expanded, it’s expanded in dollar value as well.”

The King Airs have been the ‘king’ of Raisbeck’s recent-year business, and they’re holding up now. “The Learjet market is also holding on,” Jantzen added.

“We’ve had our strakes and lockers on the production line at Hawker Beechcraft - on the King Air 350 for about seven years,” Jantzen explained, “Recently, we upgraded our nacelle locker design to our more spacious crown locker design, which will soon be standard on all 350s.”

Interestingly, Raisbeck’s dealers often compete with each other, and with OEM shops like Hawker Beechcraft Services. “We have a relationship with them in that we do business with them, and our dealers are also in competition with them,” Jantzen noted. “While Hawker Beechcraft Services is a major account for us, they still only account for less than 14% of our total dealer sales.”

Raisbeck also works in partnership with other concerns, such as Blackhawk Modifications and Standard Aero on pack-



A WING VORTILON (FOUR TOTAL (TWO PER WING)) PLACED BY RAISBECK ON THE LEADING EDGE OF THE WING TO IMPROVE LOW SPEED PERFORMANCE, AND IMPROVE AIRFLOW EFFECTIVENESS.

ages that include an upgrade Pratt & Whitney Canada powerplant with various Raisbeck systems and other modifications to round out the upgraded King Air.

“Something like 60 percent of the eligible King Airs flying around the world have one of our systems on them,” Jantzen related. “If someone buys a King Air and wants to go with the Blackhawk or Standard Aero engine upgrade the chances are it has one of our enhancements already installed, and we want to be compatible with them.”

As for the Learjet enhancements, Jantzen said that about 600 Learjet 35s and 200-plus 31-series Learjets are currently in service; that’s 800-plus. “Our Aft Fuselage Lockers went on the Lear 31 production line at S/N 126; that’s 115 Lear Lockers right there. Add to that the Lockers on the Lear 35/36, and the over 100 ZR LITE Drag Reduction systems on all 30-series airplanes, and you have significant market acceptance across the board.”

During LABACE, Raisbeck, Blackhawk and BLR, another partner, worked together to establish a Conversion Village where all the companies could visit with customers they share or hope to share. “We’ll all be under the same tent,” Jantzen said. “So while we all may compete, we work together, as well. We sell performance systems and that’s what people want.”

MORE SPEED/SPACE FOR A VENERABLE JET

The process is already underway for a new enhancement for a new model – this time the Lear 60. “We are always working on something new,” Jantzen noted. “You know, it sometimes takes two or three years to accomplish our goal. We have been working



RAISBECK'S CROWN WING LOCKERS, AVAILABLE FOR ALL KING AIR C90S (INCLUDING C90GT, C90GTI), ALL 200S (INCLUDING B200GT) AND 300/350 (STANDARD ON THE 350 PRODUCTION LINE), OFFER CONVENIENT BAGGAGE/EQUIPMENT SPACE OUTSIDE OF THE CABIN.

on an aft-fuselage locker for the Lear 60 because so many operators feel that they don’t have the baggage volume they should for an airplane of that size.”

As with the same modification for the smaller Learjets, the aft-fuselage locker is designed to free space for passengers by adding a luggage-storage compartment outside the cabin. Jantzen expected that the first incarnation of the new locker would be flying before the end of August with a goal to win an STC by summer 2010.

“We’ve had meetings with Learjet in Wichita,” Jantzen revealed. “We have their attention. That doesn’t mean we’ll be on their production line, and it doesn’t mean we won’t. But it has happened before.” Flying tests on the modified Learjet 60 will

be an experimental test pilot intimately familiar with the aircraft, thanks to his work proving the airplane when it originally won its wings – former Learjet chief test pilot Pete Reynolds.

THE RAISBECK DIFFERENCE

Apart from those enhancements already discussed above, overhead bins designed and STC’d by Raisbeck are available for the Airbus A320 family, while the company offers enhancements for Boeing 727s and de Havilland DHC-6 Twin Otters.

And the company is on a constant search for other areas in which its mix of engineering savvy and speed-sensitive thinking can benefit from the line started decades ago by a youthful James Raisbeck – still the man in charge and a beacon for what works.

By working lean and hungry, tapping upwards of 50 different FAA Designated Engineering Representatives as contractors, and a small number of experienced experimental test pilots, the company is able to control its processes and make the changes needed to get it right – before pushing it out in public.

Jantzen noted that as a whole, with the company owning its products from start to finish, there’s never a question of compromising to make an artificial deadline or an unreasonable bottom line. “We sell performance, reliability, and a proven decades-old track record. That’s the Raisbeck Difference.”

With a growing customer base and a growing product line, it seems that Raisbeck will continue to make a difference for operators for decades to come.

➤ More information from www.raisbeck.com



EXTENDED FLAPS REDUCE HIGH SPEED DRAG AND IMPROVE LIFT DISTRIBUTION (ON BOTH THE LEAR 35 AND LEAR 31).