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GROUND SUPPORT

WORLDWIDE

Ground Support Product

LEADER

Tronair's JETPorter Softcapture moves aircraft without straps, without touching the oleo strut and without the operator leaving the vehicle's cockpit. Page 6



INTERNATIONAL:

Brazil's Airports Scramble To Modernize

Most press accounts say Brazil is woefully behind schedule in airport and other infrastructure improvements as it prepares to host the World Cup next year. Page 10

APRIL 2013

AVIATION PROS LIVE

March 25-26, 2014



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Publisher Phil Saran
920.568.8338 phil.saran@AviationPros.com
Editor Steve Smith
920.563.1644 steve.smith@AviationPros.com

Associate Publisher/

Sales Missy Zingsheim
920.563.1665 missy@AviationPros.com

Classifieds Josh Jones
920.568.8307 josh.jones@AviationPros.com

International

Sales Manager Lutz Krampitz
+49 0 203 456 82 66 fax +49 0 456 85 38
krampitz@krampitzVv.de
Germany, Switzerland, Austria, Turkey, Scandinavia

International

Sales Manager Stephanie Painter
+44 1634 829386 fax +44 1634 281504
Stephanie@painter-lowe.com
United Kingdom, France, Netherlands, Spain, Ireland, Italy

List Rental Elizabeth Jackson
847.492.1350 ext. 18 ejackson@meritdirect.com

Production & Circulation

Art Director Rhonda Cousin

Media Production Rep Carmen Seeber
920.568.8373 carmen.seeber@AviationPros.com

Circulation Manager Debbie Dumke
Production Director Steve Swick

Cygnus Aviation Expo

Trade Show Director Amy LaTessa
847.454.2723 amy.latessa@cygnus.com

Published by:



Cygnus Agriculture, Technology and Transportation Group

Gloria Cosby – Executive Vice President
Gerry Whitty – VP, Marketing
Larry Greenberger – Group Publisher/
Transportation Group

Cygnus Business Media

John French – CEO
Paul Bonaiuto – CFO
Julie Nachtigal – VP, Audience Development
Eric Kammerzelt – VP, Technology
Ed Wood – VP, Human Resources
Curt Pordes – VP, Production Operations

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24-26** **GSE Buyers Conference**
Lisbon, Portugal
- 
**MAY
5-8** **IATA Ground Handling Conference**
Vancouver, Canada
- 
**JULY AUG
31 - 1** **ACI-NA Deicing Management Conference**
Arlington, VA

Business Buzz

Tronair earns Product Leader Award: Tronair took home *Ground Support Worldwide's* Product Leader of the Year presented at last month's AviationPros LIVE, Las Vegas, NV. The company won for the Soft-capture™ feature on its Jetporter line. Read more about it in this month's cover story beginning on page 6.

SWA honors Premier ... again: For the second year in a row, Premier Engineering and Manufacturing was named Equipment Provider of the Year by Southwest Airlines' GSE department. The company's entire GSE staff nominates and then selects the winner based on criteria ranging from customer and parts support to training and warranty.

Swissport buys SAS unit: Swissport International Ltd. and Scandinavian Airline Systems announced an agreement aimed at transferring full ownership

of SAS ground handling in Denmark, Sweden and Norway to Swissport. In other company news, Swissport was voted the best cargo handler in Africa for the second time in a row by readers of *The STAT Trade Times*.

Cavotec to supply A380 MRO Center: Cavotec secured a contract to supply, install and commission in-ground pop-up utility pits and preconditioned air units for four new A380 line maintenance hangars at Emirates Engineering Center stationed at DXB.

ATS begins using bio-based deicer: Airport Terminal Services began deicing aircraft with Kilfrost DFSustain deicing fluid at STL, the first airport in the United States to use the bio-based fluid. ATS currently deices approximately 30 percent of STL's commercial aircraft traffic.

Delta renovates ground control center: Delta Air Lines completed a \$3.5 million renovation of its Ground Control Center at MSP. A significant aspect of the control room renovation was the installation of ergonomically designed control room consoles to house the new computers, monitors, intercoms and radio equipment.

New Deals

Spirit to retrofit GSE: Spirit Airlines has purchased 21 Corvus Energy CorPower

lithium electric GSE retrofit kits to convert its entire fleet of baggage tractors at its Fort Lauderdale, FL, operations. Spirit estimates a fuel reduction savings of 25,000 gallons of gasoline per year, resulting in reduction of greenhouse gases by an estimated 243 tons of carbon.

WheelTug announces agreements: WheelTug plc announced slot purchase agreements with Corendon Airlines and another undisclosed Boeing 737 NG operator. With 135 new reservations the backlog of WheelTug® Aircraft Drive Systems system grows to nearly 450 delivery slots already reserved by eight airlines with many others currently under discussions.

EPIC partners with NATA: The National Air Transportation Association announced that EPIC has chosen to partner with NATA Safety 1st to provide training to its branded FBOs. EPIC and UVair FBO Network locations will receive comprehensive training in an easy to administer, self-paced and self-directed online platform through NATA Safety 1st.

Checking in on checked bags: US Airways allows passengers to track the status of checked baggage in real time at baggage-tracker.usairways.com on all its U.S. flights. Delta Air Lines was the first airliner to effectively give passen-

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gers the ability to track luggage as the airline staff has.

SWA starts running new TV commercial: Southwest Airlines kicked off a new television advertising campaign that promotes improvements that include its Rapid Rewards program, in-flight WiFi, Live TV, Evolve cabins and new 737-800 aircraft.

People In The News

Bill Biermann, who retired from Charlotte of America last December after working more than six decades in the aviation industry won Ground Support Worldwide's Lifetime Achievement Award at last month's AviationPros LIVE, Las Vegas, NV. Biermann began his career in 1951 as a field agent for Pan American World Airways. Years later, he implemented a program in 1979 for the operation of 600 electric bag tractors for Eastern Airlines. Ultimately, Biermann wrapped up

his long career at Charlotte from 1995 to his retirement. Read more about Bill in our June/July issue.



Travis Blair, managing director, ground support/administration for American Eagle Airlines, was also on hand that night to receive our Team Leader of the Year award. Blair has been an industry leader for the past 15 years maintaining ramp equipment. Read more about Travis in our May issue.



Marcela Gaboda was appointed CEO Swissport Argentina. Gaboda has 20 years of experience in management in various capacities in the aviation industry. She started her career at Intercargo, an Argentinean ground handling company and went on to operate her own FBO company providing services in Argentina.



Juan Carlos Garcia was appointed general manager for Swissport Cargo Services in Spain. He brings more than 25 years of managerial experience from various industries to the role. His last position with Swissport was passenger services airport manager at MAD.

Correction

Our February cover story on "The History Of Ground Support" did not include a photo credit for the Cradle

of Aviation Museum for the picture on the cover showing a Ford tractor preparing to tow a Beech 18.

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Tronair: Ground Support Product

Leader



The JETPorter Softcapture moves aircraft without straps, without touching the oleo strut and without the operator leaving the driver's seat.

By Steve Smith

Since acquiring the JETPorter line in 2006, Tronair realized that operators weren't thrilled about getting down on hands and knees, crawling under the aircraft, putting a strap around the landing gear and then pulling the plane into the cradle.

Martin Kurzdorfer, Tronair's vice president of sales and marketing recounted a number of such stories heard during visits to many JETPorter and TLTV tug operators.

"Man, this a real pain in the butt," was a common theme heard repeatedly.

In addition, Tronair had received many reports of "negative events," which means that the use of a strap capture method had damaged the aircraft landing gear.

As a result, Tronair's engineering department decided to take a hard look at the problem.

What the engineers devised worked out perfectly for US Airways last year when new gates opened up at Reagan National Airport for the airline's regional flights. Beforehand, the jets parked remotely and the planes relied on their own power to make the turns. Now the ground crew would be handling pushbacks and also towing planes to hangars with tight space requirements.

US Airways became Tronair's launch customer for the Softcapture® outfitted on the JETPorter JP100S. The innovative cradle allows one operator to capture and move aircraft without straps, without touching the oleo strut – or any part of

the nose landing gear – and all without leaving the driver's seat.

That's a great way to summarize why we picked the Softcapture and Tronair as year's Ground Support Product Leader.

The Cradle: Let's start by describing how the Softcapture works on the model JP100S:

- The operator drives the tractor to within 2-3 feet of the aircraft's nose landing gear. The driver then lowers the cradle by holding the "cradle down" switch, until the cradle motion stops.
- The cradle stops its downward motion when a bottom roller causes a proximity switch to trip. The act of lowering the cradle automatically puts the vehicle in "creep speed" to safely approach the aircraft.

US Airways was Tronair's first customer to try out the JETPorter Softcapture at Reagan National Airport, Washington, D.C.

PHOTO: TRONAIR



PHOTO: TRONAIR

The operator makes the initial approach and stops 2-3 feet short of the nose landing gear.



PHOTO: TRONAIR

After lowering the cradle and opening the gates for capture, the operator safely moves the vehicle at "creep speed."



PHOTO: TRONAIR

Forward motion stops when the nose landing gear tires make contact with the front cradle safety bar. The cradle can be closed and the aircraft raised for pushback or tow.

- The operator then opens the cradle by holding both the "cradle down" and the "cradle open" switch at the same time. Both switches are held until the cradle motion stops. Motion is stopped when the side cradle cylinders reach the end of their stroke.
- The operator proceeds to move the vehicle forward and align the upper rollers with the ribs of the nose landing gear's tire tread. When the tires make contact with the rear cradle bar, the forward throttle shuts off.

- The operator then presses and holds the "cradle close" switch until the cradle motion stops. When the cradle gates swing past the 45-degree position, the parking brake on the vehicle is released. This allows the vehicle to roll in relation to the aircraft and avoid placing horizontal load on the landing gear.
- Meanwhile, the cradle gates continue to close until hydraulic fluid flows over a preset relief valve, which stops the cradle motion.

- The operator then presses the "cradle up" switch until the cradle motion stops. The cradle tilts to a 15-degree angle. Between 13 degrees and 15 degrees, the cradle makes contact with the proximity switch. Also, the upper hold-down arms lock in place between 13 degrees and 15 degrees. The fully raised cradle takes the vehicle out of "creep speed."

Once the aircraft is taken to where it needs to be, the driver presses the

“cradle down” button until the cradle movement stops. The start of the downward movement, releases the upper hold-down arms.

With the cradle down, the vehicle is again restricted to creep speed.

The driver backs straight away without turning the steering wheel until the landing gear is cleared.

ADDITIONAL FEATURES

Of course, the Softcapture, no matter how innovative, just goes along for the ride so to speak. Tronair has also engineered a number of features into the electric vehicle to efficiently and safely perform pushbacks and towing all day long:

Direct Drive Train System: Two 10-hp 48V DC motors are directly connected in line with the brakes and torque hubs for maximum mechanical efficiency.

The maximum combined torque capability for break-away at the gear hub output (36:1) without programmed limits is 6,500 foot-pounds.

Solid rubber traction tires mount to the opposite side of the drive hubs. Digital logic controllers are used to control the drive train.

“Basically, the JETPorter’s direct drive system has less moving parts than other

models that use a chain drive,” Kurzdorfer says. “Less moving parts means much less maintenance costs.”

Steering System: There’s more to the direct drive system that comes into play to steer the vehicle. The motors are driven by two separate controllers.

The controllers are linked together through a “proportional steering module,” and the PSM delivers the throttle signal to each controller. The signal is based on foot throttle position and steering wheel position.

A hydraulic rotary actuator connected to the steering axle and leaf spring suspension provides a “fifth wheel-type”

steering – giving the vehicle a true zero degree turning radius, reduced tire wear, and increased traction and control on snow and ice.

“You can turn on a dime,” Kurzdorfer adds. “The vehicle’s two rear wheels are centered in a way that you can actually rotate about the cradle. That makes it much easier to operate in tight situations.”

The low profile of the vehicle also helps it fit under the bodies of most large cabin aircraft for tighter hangar stacking.

Overload System: The drawbar pull can be controlled by programming maximum amperage limits for a given output.

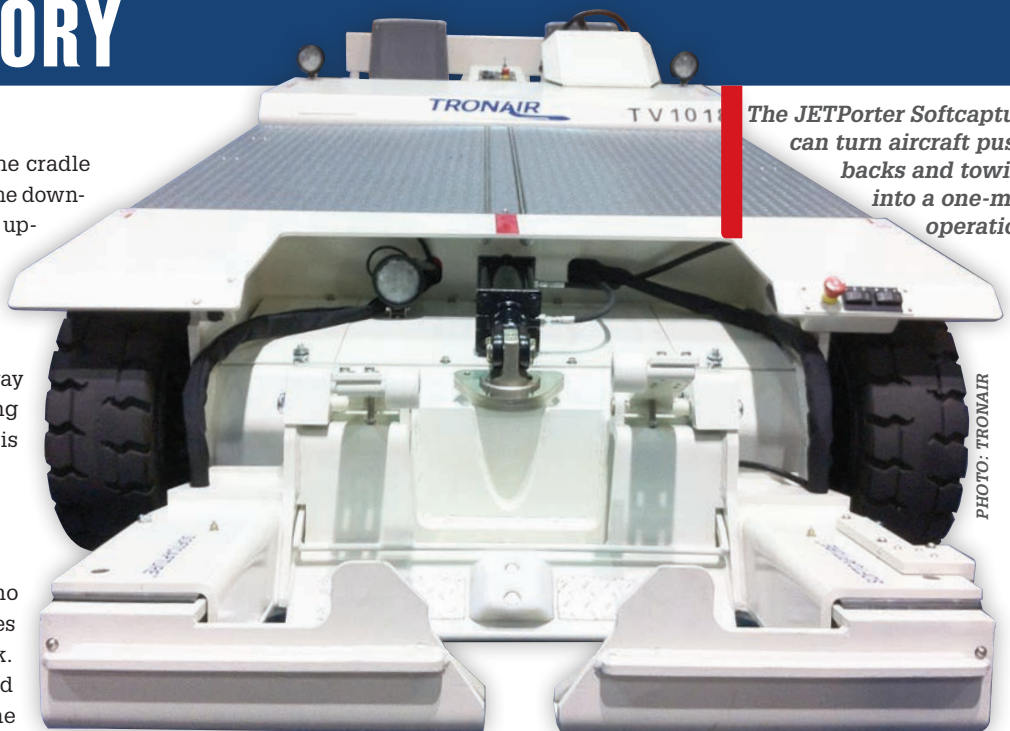


PHOTO: TRONAIR

The JETPorter Softcapture can turn aircraft pushbacks and towing into a one-man operation.

Company Timeline

1971: Tronair founded as Danair, a part of the Dana Holding Corp., a worldwide supplier of axles, drive shafts and transmissions, among many other products, to the automotive, commercial and off-highway vehicle markets. Danair’s first product was a 5-ton axle jack for the Lear jet.

1973-1980: Company expands its product line to include jacks and hydraulic power units.

1980: Tronco acquires Danair and renames it Tronair. Company moves to its current headquarters in Holland, OH.

1980-1990: Tronair continues to expand its product line as well as its manufacturing facility to 90,000 sq.

ft. from 8,000 sq. ft. Onsite processes include machining, fabrication, powder paint, two-part epoxy coatings and assembly. To serve international customers, Tronair expands internationally and begins opening offices in Thailand; China and United Kingdom.

2003: Tronair acquires Arvico.

2006: Tronair acquires JETPorter and begins re-engineering the line of electric aircraft tugs.

2012: Levine Leichtman Capital Partners, a private equity firm based in Los Angeles, partners with management to acquire Tronair.

Today, Tronair continues to design, manufacture and distribute more than

1,000 different products. In addition Tronair manufactures many special items required by the aircraft OEMs for building aircraft. It operates sales/service offices in Canada; Germany; France; Singapore and Japan in addition to those centers previously mentioned. Its engineering team consists of 11 engineers and designers with mechanical, electrical and electronic technical degrees. (In fact, Martin Kurzdorfer, vice president of sales and marketing, also holds the designation of professional engineer.) Additional staff includes A&P mechanics, certified fluid engineers, journeyman machinists and certified welders.

The input signal is provided by a three position selector switch, used as an aircraft type selector. The present limits are set for drawbar pulls of 5,230 pounds and 6,140 pounds. A lower value can be programmed to allow for 3,900 pounds.

Regenerative Brakes: The electric vehicle is charged in part thanks to the ve-

hicle's main regenerative braking system.

But the vehicle also has a foot pedal-actuated brake as a secondary braking system. And the emergency/parking brake system is automatically set anytime the operator leaves the platform or when the vehicle loses electrical/hydraulic power.

One-Man Operation: With the Softcapture, aircraft pushback and towing


can be improved to a one-man operation.

Without the strap, Tronair figures that alone saves a couple of minutes for each pushback. One hundred pushbacks a day adds up to 200 minutes saved times 365 days. "It adds up to massive amounts of hours and dollars saved when you consider what that time costs to the airlines," Kurzdorfer adds. 🚀

Capturing Basics

The Softcapture allows pushbacks and towing of aircraft without straps and without touching the oleo strut or any part of the nose landing gear. When the cradle is down, the tires sit between 45-degree plates at the front and rear of the cradle. When the cradle is raised, it is tilted back at a 15-degree angle. The aircraft tires are 2-3 inches off the ground. The capacity of the cradle is 10,000 pounds, vertical lift (tilt). Draw bar capacity is 7,000 pounds. Capture range is from 17.5-inch O.D. tires to 24-inch O.D. tires:

- Connect the aircraft nose landing gear from the driver's cockpit or at the fender next to the NLG.
- All contact is made on the aircraft tires.
- Throttle speed limit safety switch reduces the JETPorter's speed when approaching the aircraft.
- Forward motion safety switch disengages the throttle when the forward motion safety bar contacts the NLG, and prevents the operator from pushing on the tire.
- The gate lock and cradle locator safety switch locates the cradle and stops the "cradle down" movement when the cradle is lowered. (The gate lock prevents "cradle open" movement when the cradle is up.)
- The parking brake release safety switch allows the JETPorter to "roll" during capture so the aircraft doesn't have to move.
- Designed to fit most common dual nose-wheel regional aircraft.
- Controlled acceleration and deceleration via joystick-operation throttle.



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Brazil's Airports Scramble To Modernize

Most press accounts say Brazil is woefully behind schedule in airport and other infrastructure improvements as it prepares to host the World Cup next year.

By Steve Smith

Most Brazilians think the world believes their national language is Spanish (it's Portuguese) and their capital is Buenos Aires (that's the capital of Argentina).

But an expected 600,000 visitors are expected to descend upon the country to attend the World Cup next year and even more travelers will be flying to Rio de Janeiro in 2016 for the Summer Olympics.

And the linguistic- and geographically-challenged outsiders may learn a third fact about Brazil: The airports are in ter-

rible shape.

Whether it's red tape holding down public funds or private dollars chickening out of any deals, Brazil needs to get 12 stadiums in 12 cities up and running for the first soccer game on June 12, 2014. Considering the country occupies 3.2 million square miles and that at least two of the stadiums are

The Brazilian government has earmarked some \$3 billion to fund airport improvements as the country gears up to host the World Cup next year and the Summer Olympics in 2016.

thousands of miles apart, getting the nation's airports in shape is just as important to successfully running this major sporting event.

While the government has earmarked some \$3 billion to fund airport improvements, getting these facilities in shape remains a tall order since most are still mired in government ownership.

That situation is beginning to change as sky-high prices for airports raise the prospects for more sell-offs by the government.

PRIVATIZATION

Take the privatization of Sao Paulo-Guarulhos International Airport as an example. It's Brazil's busiest airport catering to more than 32 million passengers in 2012 – double the number of passengers from 2006.

The winning bid to take over managing the airport was \$9.4 billion almost \$2 billion more than second-highest bid. Despite



BEFORE

Aeroservicios has been refurbishing old GSE into like-new GSE since 1996. However, it's locked out of the Brazilian GSE market due to import and other business restrictions.



AFTER

the sky-high bid, the deal for GRU remains a public-private partnership with Infraero, Brazil's state-owned operator of 66 airports, retaining a 49 percent stake (although no management responsibilities).

GRU is the airport most travelers will be likely flying into for World Cup soccer. A quick look on the Internet suggests this is one nightmare airport for passengers and planes alike. Air carriers typically are forced into a holding pattern because there's no where to land.

However, the new management is building a new terminal and increasing slots for aircraft, and intends to spend \$3 billion in improvement over the next three years.

Spurred on by this private financing, private ground handlers are certainly gearing up to meet the growing demands of GRU and other airports in Brazil.

While we were unable to dig up current data on the size of the country's airport airside services market, we did find an old report from international consultant Frost & Sullivan that expected the market to reach \$385 million by 2012.

Swissport International, for one, signed a three-year contract extension earlier this year with Brazilian airline GOL, for aircraft services and ramp han-

dling at six airports in Brazil.

The contract covers ramp services at Eduardo Gomes International airport in Manaus, Rio de Janeiro-Galeao airport, Sao Paulo's Guarulhos International and Congonhas International airports, Brasilia's Presidente Juscelino Kubitschek airport, and Salgado Filho airport in Porto Alegre.

"We are very pleased to extend our partnership with GOL for a further three years, and we look forward to working together to develop our services, applying best practice from across the global Swissport group to drive efficiency gains and performance improvements, said Francisco Gonzales, CEO for Swissport International in Brazil in prepared remarks.



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"Swissport is committed to continuing to build our services in Brazil as its aviation market expands, sharing the benefits of Swissport's international experience."

Swissport appears to be largest ground handler in Brazil, entering the market in 1997 and breaking a stranglehold on the country's ground handling market held by

Brazil's Servicos Auxiliares de Transporte Aereo (SATA), which was established in the 1950s.

AEROSERVICIOS

As we researched this story, we had the good luck to run into Gabriel Serrano and Guillermo Gonzalez, both of Aeroservicios

Ground Support Equipment, Miami, FL, at last month's AviationPros LIVE in Las Vegas, NV, and who both knew a thing or two about the GSE market throughout Latin America.

"The South American GSE market is really made up of two markets," Serrano says. "One market is for Brazil and the other market is for all others. It really is two different worlds."

Established in 1996, Aeroservicios has quietly grown to be one of the biggest suppliers of refurbished GSE worldwide. More than 70 technicians and mechanics work out of its more than 110,000 square foot Miami warehouse. The facility includes a sandblasting booth, paint booth, assembly line, engine and transmission shop, spare parts and stock area.

The company has more than 1,300 pieces of GSE in stock from towbars to cargo loaders. As part of the business, its GSE-Rentals division also offers rental programs for all GSE needs.

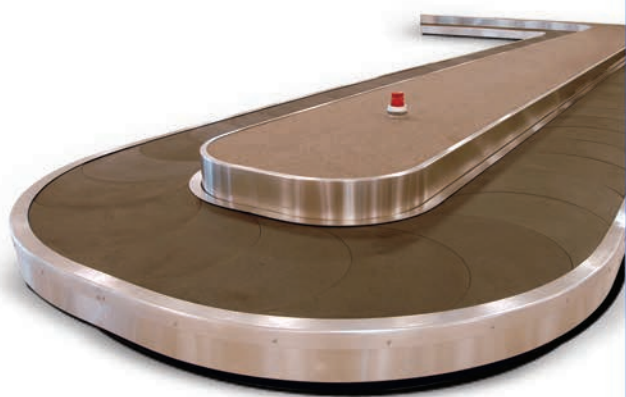
"We work with some ground handlers in Brazil, and all of them are worried on how to handle such a big volume in flights

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No Jet Bridges For LAN

While our focus is on Brazil as it prepares for the World Cup and the Summer Olympics, one of our favorite aviation bloggers, The Cranky Flier, related an interesting ground handling business dealing in Argentina that's hard not to pass along.

After lauding the business sense of recent airline mergers in Latin America, such as LAN and TAM and Avianca and TACA, blogger Brett Synder laments the government funds that continue to prop up Argentina's state-owned Aerolineas Argentinas, which has the dubious distinction of being an airline that was state-run, then privatized, only to be renationalized in 2008.

In translating an article published in La Nacion, Argentina's daily newspaper, Synder outlines five ways that government support hurts LAN Airlines, based in Chile, in particular and competition in general.

We point your interest to just one that means LAN cannot have passenger bridges at any airports in Argentina.

"Back in 2010, a law was apparently passed

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in such a short time," Serrano adds regarding the run-up to the World Cup and Olympics. "This is the big question."

About a third of Aeroservicios' business is sold in the United States, with rest of its sales spread throughout Mexico, the Caribbean, and Central and South America. However, less than 2 percent of that business is in Brazil.

Serrano points to import restrictions and high duty fees as the culprit for low sales, but then adds the real deal killer — used GSE is not permitted as a permanent import.

"There are some special conditions for foreign airlines," Serrano explains, "that allow them to import new and used equipment for their own use."

Serrano mentioned one Brazilian GSE manufacturer we were unable to find out much about. He didn't share a high opinion of it. "The prices are very high and the technology is very old," he said. "But this is the only option many in the country may have."

Despite tariffs, Serrano said Hobart, Tug Technologies and TLD had good presence in the Brazilian GSE market. ✈️

that said Aerolineas Argentinas got priority for using all jet bridges in the country," he writes. "Originally, nobody else could use them, but then that changed so that airlines could use them for up to two flights a day. But LAN did work around that and had a contract to use jet bridges."

But those boarding bridges are now all off limits for LAN passengers. The planes are also parked remotely so there's the added inconvenience of shuttling back and forth on buses.

But why? "Guess who does all the ground handling in Argentina?" Synder goes on. "It's a group called Intercargo. And guess who owns Intercargo? That's right, the government does."

As the story turns out, LAN's agreement with Intercargo, which ran until 2014, didn't matter much to Intercargo as it proceeded to raise its rates by 55 percent.

"When LAN balked, Intercargo just stopped letting them use the gates," The Cranky Flier concludes.



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Optimized Situational Awareness Improves Ramp Work

New technologies provide a more comprehensive and intelligent view of the AOA and help organize ramp work.

By Brad McAllister



In the midst of a runway expansion expected to be completed in September of 2014, Fort Lauderdale-Hollywood International Airport (FLL) has embarked on an initiative to increase the capacity of its airfield.

Dan Bartholomew, manager of airport planning at FLL, says that due to the new 8,000-foot runway, and a plethora of associated geometry that goes along with it, now was the “perfect scenario” for implementing an airport information management system and electronic airport layout plan (eALP).

A former corporate pilot and aviation consultant, Bartholomew has been with FLL for four years. He relates that the airport’s biggest concern with regard to the airfield operations area (AOA) is probably universal:

- Situational awareness on the airfield.
- Incursion management.

“The other concern is since the geometry of the airfield over the next two

Dan Bartholomew, manager of airport planning at FLL, says a new 8,000-foot runway and other related work, presented the “perfect scenario” for implementing an airport information management system and electronic airport layout plan (eALP). PHOTO: Fort Lauderdale-Hollywood International Airport.

years is going to be changing in significant ways," Bartholomew adds, "we need the ability to have continuously updated airfield geometry maps so that individuals riding around on the airfield know where they are at any time."

In addition, the information management system and eALP should prove to be a big benefit helping ramp agents keep up the increased capacity of the workload.

"We are implementing something right now that is equivalent to a virtual ramp control that will be able to track what flights are inbound, what gates they are going to and when there's an existing aircraft at the gate currently," Bartholomew explains. "That also allows us to do last minute changes ... for example, we get a lot of diversions due to thunderstorms; this technology allows us to instantly determine what aircraft can fit in what gates."

"We don't typically get aircraft types such as the 747 here; we can accommodate them, however our gates are designed for smaller aircraft such as a 737 or 757. If a 747 comes in, we need to know which gates can accommodate that aircraft, and usually we won't know that until it's on final approach."

"So the airport information management system will allow us to make better informed decisions in real-time."

FIRST STEPS

When embarking on an eALP initiative, first and foremost, it's good to have a plan in place, and to know what data to collect and how to collect it.

"For us, the plan has been imperative ... it has helped us focus on how we are going to proceed in a very methodical fashion," Bartholomew explains. "It's important to be aware of all of the types of systems and technology assets are available. We don't want to collect data in a format that isn't usable in the various systems we already have in place."

"It is a large endeavor; it requires hiring an aerial photography firm, surveyors, putting the data in a format that meets the FAA advisory circulars, performing all of the quality control checks, and then pushing that data to FAA to get an approved eALP."

For help, Bartholomew called in Woolpert, a design, geospatial and in-

frastructure management firm based in Dayton, OH.

Mark Ricketson, enterprise information management (EIM) project director for Woolpert, has been an aviation consultant for more than 15 years helping airports with technology business processes and implementation plans.

Lately, Ricketson has been working

with what FAA has been asking airports to comply with: new geographic information system (GIS) standards. Ricketson spent a year as acting GIS manager for the Hartsfield-Jackson Atlanta International Airport, and has been with Woolpert for four years.

"I think eventually every airport will have an eALP; that is certainly the FAA's

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RAMP SAFETY



ASDE-X is a runway-safety tool that enables air traffic controllers to detect potential runway conflicts by providing coverage of movement on runways and taxiways. PHOTO: Fort Lauderdale-Hollywood International Airport.

goal," Ricketson adds. "The FAA intends to have Part 139 airports completed in say the next five to 10 years. In the long run, the FAA's plan is to focus on the large hub airports, then medium, then small, and on down the line."

PREVENTING INCURSIONS

"Right now we are looking at ways to connect some locators on our operations maintenance vehicles and grabbing feed from the ASDE-X feed [ground-based situational awareness radar]," Bartholomew says.

ASDE-X is a runway-safety tool that enables air traffic controllers to detect potential runway conflicts by providing coverage of movement on runways and taxiways. By collecting data from a variety of sources, ASDE-X is able to track vehicles and aircraft on airport surfaces and obtain identification information from aircraft transponders.

"So basically having a transponder in each vehicle that connects to the ASDE-X feed for the tower so it knows where everyone is at on the airfield at any particular time," Bartholomew explains. "Also, individual ops people will know where other ops people are at any given time."

Comments Ricketson: "There have been some cases where we have almost had some accidents because we lack situational awareness, and the FAA is testing some technologies utilizing the ASDE-X feed so that all vehicles on the airfield have the ability to understand where they are in relation to other vehicles and people moving on the airfield."

The weaknesses can be seen around the gates, according to Ricketson: "Because the airplanes aren't necessarily transponding in and around the gates you know something is there, you just don't know the type of aircraft it is."

"As far as the data goes, as the eALP data comes more prevalent across the airport industry, it will be used for many things that airports have not even thought of yet."

"The data is very accurate; it's survey-grade data — it is certainly going to be useful for any of the NextGen GPS navigation-based technologies."

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ment life cycle of being able to do inspections in the field and conduct real-time communication of where there may be a maintenance or safety issue, and being able to feed that information to some-

structions. Because we had to collect it anyway, we decided to collect it so that it meets the advisory circulars' standards. So we built an eALP out of information that we had to gather anyway."

"We also do a lot of work for the WAAS (Wide Area Augmentation System) program for the FAA ... if you are looking for that kind of procedure at the airport, you have to have an aeronautical survey done. We've done at least a couple hundred WAAS airports around the country over that past five or six years. Those are less than the eALP, but they must comply with at least some of the standards that are part of FAA's advisory circulars, and could be considered a component of an eALP." ✈️

"As airports like Atlanta and others start to install wireless on the airfield, you can start to utilize the network and perform real-time mapping with mobile devices."

body who can take care of the issue is a huge need for airports, he relates.

There are many airports that do not have a wireless network on the airfield and are relying on radio and cellular communication that isn't able to feed a large bandwidth of information, Ricketson says.

"As airports like Atlanta and others start to install wireless on the airfield," he adds, "you can start to utilize the network and perform real-time mapping with mobile devices."

TIME AND COST

For airports with limited resources, mobile technology can help, says Ricketson. "There are already folks who have eyes on a lot of these assets, whether it's airfield lighting or pavement, if you can enable those folks with a mobile device, they can not only use it to help them find the light that went out last night, but also to help keep data maintained and fresh."

From start to finish, the FLL eALP took a little more than a year and a half to complete.

The cost has been negligible, according to Bartholomew.

"The FAA has provided essentially a road map on how to collect GIS data ... we decided to write that into our specifications for our new airfield, and we also added in our existing airfield to that," he adds. "All the data that is being required for the eALP is also required for the runway template action plan process that we have for the new runway. That includes airfield geometry and location of buildings as well as any airspace ob-

Woolpert is currently finishing up eALP projects in Denver and Tulsa, are two-thirds the way through San Francisco, and is a sub-consultant on the project in Orlando. "We have doing this at probably well over 25 airports right now," says Ricketson.

About the author:



Brad McAllister was the editor of Airport Business and served on the staff for four years. He is currently the director of marketing for AirIT.

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How Hawaii's No. 1 FBO Keeps Track Of Refueling Maintenance

Bradley Pacific Aviation moves more than 1 million gallons of fuel per day through its fleet of hydrant vehicles and tanker trucks.

By Steve Smith

Whether it's services for commercial and business aircraft or maintenance management for its ground service equipment, Bradley Pacific Aviation never settles for second best.

This steadfast commitment to excellence is a major reason why Bradley Pacific Aviation has become the No. 1 provider of FBO aviation services in the Hawaiian market.

The company provides fuel, ground handling and concierge services to business and military aircraft throughout Hawaii, and supports commercial airlines with refueling services at the Honolulu, Kahului, Kona, Hilo, and Lihue airports.

Bradley Pacific Aviation moves more than 1 million gallons of fuel per day through its combined fleet of hydrant service vehicles and fuel tank trucks.

The aviation service provider treats its ground service equipment with the same dutiful care and respect. It uses a CMMS (computerized maintenance management software) product called Bigfoot CMMS for preventive maintenance, work orders and parts inventory management at its five locations on the islands.

"Before we brought in the CMMS I had to call technicians to stay up to date on equipment maintenance and work orders," says Enrique Elizondo, Bradley Pacific Aviation's maintenance director. "I also was traveling constantly to check up on things at our different locations."

Now, Elizondo can view a CMMS dashboard from his office to view every station and easily see what PMs are scheduled, who is working on what, or check parts inventory status.

"It's a simple, intuitive product that doesn't require a big learning curve,"



Bradley Pacific Aviation provides fuel, ground handling and concierge services to business and military aircraft throughout Hawaii, and supports commercial airlines with refueling services at the Honolulu, Kahului, Kona, Hilo, and Lihue airports. PHOTO: Bradley Pacific Aviation.

he adds. "We're also able to ship many replacement parts from our main hub in Honolulu, which I can do from my desktop or smart phone."

MEETING ATA QC STANDARDS

Elizondo is responsible for the maintenance of more than 100 pieces of ground support equipment, including aircraft generators, baggage carts, aircraft tugs, air stairs, and pick-up trucks and vans that transport crew members.

In addition, he oversees the maintenance program for three fuel storage facilities and must comply with stringent ATA 103 quality control standards, and state and fire department regulations.

"Plus, the company is routinely audited by its airline customers, too, so the ability to monitor the status of equipment remotely is extremely helpful," he adds.

Proper maintenance of Bradley Pacific Aviation's fuel delivery equipment

includes ensuring compliance with a variety of state and federal regulations, as well as industry standards.

Elizondo is also responsible for maintaining nearly 50 hydrant and tanker trucks that pump fuel into customers' aircraft. And before any fuel that's either piped in from the oil refineries in Kapolei or barged to neighboring islands from Honolulu is pumped into aircraft, it must be filtered for foreign particles and checked for moisture to prevent water from getting into the tanker trucks.

In the past it was difficult for Elizondo to monitor and track these filter changes, since each station had its own maintenance program. He was receiving frequent emails and faxes from the stations and had to deal with too many emergency situations.

With his CMMS, he now has PMs scheduled for checking pressure controls and meter calibrations, filtering fuel, changing filters and adding fuel

additives on all fuel trucks. He can also create ad-hoc WOs when necessary.

"We now have fewer emergency repairs and lower costs for filters and all replacement parts," Elizondo said.

REDUCING REPAIR COSTS

According to Elizondo, the maintenance department has nine PMs per vehicle, which are triggered based on accumulated operating time between servicing.

This preventative approach has enabled Bradley Pacific to significantly reduce labor time for repairs. The software's ease of use and reporting capabilities have also cut the time employees spend on paperwork and filing, not to mention his travel time and expenses.

"We're able to get more work done without adding employees," he says. "Each technician can see his own WOs and close them out when the work is done. We don't need to have clerks

manually transfer this information, which saves everyone time and helps minimize data errors and inaccuracies."

Finding and obtaining parts for some of Bradley Pacific's older vehicles was challenging and costly, since almost all came from the mainland.

Now CMMS reports can pull vehicle maintenance history from WOs to show the cumulative costs of repairs. One report showed the company that purchasing a new hydrant truck even with a price tag \$160,000 was still more cost-effective than continuing frequent repairs.

Maintenance history is also mandatory for each piece of equipment and must be documented for at least two years. The CMMS automatically generates detailed records to show FAA regulators that necessary repairs have been made, and that its maintenance program meets all requirements.

Bradley Pacific Aviation also uses the CMMS to track equipment warranties



Computerized maintenance management software helps Bradley Pacific Aviation's fuel delivery equipment of nearly 50 hydrant and tanker trucks comply with a variety of state and federal regulations, as well as industry standards. PHOTO: Bradly Pacific Aviation.

and assign WOs to contractors. In the future, the company plans to use the software to more accurately estimate projected equipment costs. ✖

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A Preventive Maintenance Checklist For K-Loaders

Scheduled service should be more than just a quick oil and filter change. A loader has many moving parts that must be maintained to work correctly.

By Kenneth DeVolpi, Matheson Flight Extenders

This month I would like to discuss an important topic – K-loader preventive maintenance. K-loaders are one of the most important (and expensive) pieces of equipment that many of our companies use.

It is imperative that they operate correctly when needed. One way to help ensure this is to complete thorough PMIs on a properly scheduled basis. Many airlines and ground handling companies conduct scheduled PMIs with their own self-tailored PMI checklists. This helps to ensure that all important items are checked every time that the loader comes in for service.

If your company does not employ such

a checklist, you should start a checklist every time the equipment operates. A good source of information is the equipment manual itself; it can help you tailor a program that best suits your company's needs based on amount and type of usage, climate, etc.

I want to touch on some key components that we've found to warrant close attention during a scheduled service and inspection.

Scheduled service should be more than just a quick oil and filter change. A loader has many moving parts that must be maintained to work correctly.

Lubrication is vital to keep many parts running smoothly without premature wear. Grease may be messy, but it is definitely your friend. Important grease points include all pivot points for bridge and elevator scissors, steering pivot points and hydraulic cylinder-mounting points. Other places to grease include mounted bearings for roller shafts on both the elevator and bridge.

Some manufacturers use sealed, maintenance-free bearings and some do not. It is important to look carefully for grease fittings and grease every one you see. Also, some loader models use



Grease may be messy, but it is definitely your friend. Important grease points include all pivot points for bridge and elevator scissors, steering pivot points and hydraulic cylinder-mounting points. Other places to grease include mounted bearings for roller shafts on both the elevator and bridge. PHOTO: Matheson Flight Extenders



One way that makes preventive maintenance easier is to start with a clean piece of equipment. This, of course, will make it easier to locate any discrepancies. PHOTO: Matheson Flight Extenders

roller chains to operate heli-roll shafts, cargo rollers, etc. These chains should be inspected for wear and tightness. They should be lubricated with a good quality chain lube as well.

An area that often gets neglected is the hydraulic system. Different makes and models use different styles of hydraulic filters. For example, for the return circuit, some use a metal screen-type filter mounted within the hydraulic reservoir, while others use a simple spin on type. It is important to clean or replace these per manufacturer specs.

High pressure filters require attention as well. These are typically of a cylindrical metal screen design mounted within a thick, steel cartridge.

If your loader has recently experienced a failure such as a bad hydraulic drive motor, then all filters should be replaced immediately. Drive motors are notorious for sending nasty little metal fragments throughout the system. These fragments collect in many places and tend to cause hydraulic valves to hang open at the most inopportune time. The lines and hoses should be flushed as well – just to be sure.

Hydraulic hoses should be closely inspected too. If any exterior cracks or blisters are evident, the hose should be replaced.

If you do not have a good hydraulic shop nearby, there are other alternatives. There are some mobile companies that make and replace hydraulic hoses onsite. The prices are competitive, and they do the removal and replacement.

If you are in a remote area, you may have to order hoses from the manufacturer. This may take longer, but if you catch a deteriorating hose early you could already have it in stock.

While checking hoses, it is a good time to do a quick check of hydraulic cylinders. They should be checked for leaking gland seals and worn pivot points. It is also important to check wiring and connections going to all solenoid valves. This is

just another place to catch a small issue before it becomes a service failure during an operation.

Another area that requires inspection is lift chains. Some manufacturers use lift chains running over the lift cylinders to raise the elevator. These should be checked for tightness and stretching. They require lubrication as well. If one of these were to suddenly fail, the results could be catastrophic. It should go without saying that these should be closely inspected.

There are many other items that warrant inspection on loaders, such as tire wear, loose electrical relays and components, etc. It is important to spend as much time as possible and be thorough.

One way to make preventive maintenance easier is to start with a clean piece of equipment. This, of course, will make it easier to locate any discrepancies.

K-loaders tend to get pretty dirty. There is usually a striking difference after one has been thoroughly cleaned. A clean loader looks more professional to your customers and tends to make employees take a little more pride in what they are operating. Take the time to clear any trash in the tracks and ropes as this will cause problems.

Preventive maintenance remains an important subject that requires constant vigilance to help our companies and industry prosper. ✈️



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AviationPros LIVE 2013 Highlights

Products and people, plus live webcasting enlivened this year's show.

By Steve Smith

We held our AviationPros LIVE event last month in Las Vegas, NV. Here are a few highlights:

NEW PRODUCTS

- Harlan Global Manufacturing, unveiled its latest model on the last day of the show. The Trans-Con Model HTSB is available with U.S./ Euro emission-compliant engines. The compact tractor offers a shorter wheelbase and low profile design with excellent all-around visibility. Designed for heavy-duty cargo and

baggage operations, this unit can also be used for pushbacks of small aircraft (with the front hitch option package). Available options include complete cab assembly, heat/ defrost, mirrors, beacons, variety of hitches and suspension style to name a few.

- Corvus Energy displayed one of 21 baggage tractors Spirit Airlines will retrofit with Corvus' CorPower lith-



Harlan personnel gather around the company's new tractor.



A Spirit Airlines baggage tractor retrofitted with a Corvus Energy retrofit kit was displayed at the company's booth.



Clyde Machines Inc. displayed its new Maintenance Stand that features non-slip, self-cleaning steps and platform floor with a 500-pound capacity.



Liquip International released its new Power TORQUE™ aviation fueling technology designed to significantly reduce both ongoing operational and maintenance costs associated with aviation refueling trucks.



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ium electric GSE retrofit kits. Spirit estimates a fuel reduction savings of 25,000 gallons of gasoline per year, resulting in reduction of greenhouse gases by an estimated 243 tons of carbon.

- Man Lift Engineering displayed Proxy Shield, technology that can be installed on most any scissor lift that stops the lift and alerts the operator when distance between the lift and an object becomes too close.
- Clyde Machines Inc. displayed its new Maintenance Stand that features non-slip, self-cleaning steps and platform floor with a 500-pound capacity. Heavy-duty casters and 16-inch solid tires make it easy to move. Upper-platform railings can be lifted out and stored below. Mid-platform railings can be easily swung down and out of the way. Platform heights are 57, 75 and 86 inches.
- Liquip International released its new Power TORQUE™ aviation fueling technology designed to significantly reduce both ongoing operational and maintenance costs associated with aviation refueling trucks.
- Page Industries, one of those new “old” names, displayed a range of ground power and PCA products. Although the business was started in 1976, much of its equipment was sold as private label. That strategy changed just last year. Along with new product, we saw some old faces, namely Brian Piety, executive vice president, and Dale Miller, vice president.

NEW LEADERS

Ground Support Worldwide honored its winners of three Ground Support Leaders of the Year awards during a Keynote Reception, March 13:

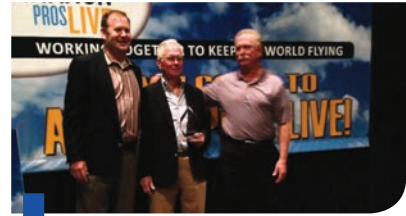
- **Product Leader:** Tronair for its Softcapture™ feature on its Jet-porter line. The Softcapture tows aircraft without straps and without touching the oleo strut or any part of the nose landing gear, and driver never leaves the cockpit. Throttle speed limit safety switch reduces speed when approaching the air-



Travis Blair (center) receives our Ground Support Team Leader Award for his work with American Eagle Airlines.

craft. Forward motion safety switch disengages the throttle when the forward motion safety bar contacts the nose tire.

- **Team Leader:** Travis Blair, managing director, ground support/administration for American Eagle Airlines. Otherwise known as “The GSE Cowboy,” Blair has been an industry leader for the past 15 years maintaining ramp equipment.



Bill Biermann (center) receives our Lifetime Achievement Award.

- **Lifetime Achievement:** Bill Biermann retired last December after more than six decades of working in the aviation industry. Biermann took his first job in 1951 as a field agent for Pan American World Airways. Years later, he implemented a program in 1979 for the operation of 600 electric bag tractors for Eastern Airlines. Ultimately, Biermann wrapped up his long career at Charlotte of America joining the company in 1995.

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SHOW RECAP

Read more about the Softcapture Jetporter on page 6. We'll also publish cover stories on Blair in our May issue, and on Biermann in our June/July issue.

20TH BIRTHDAY

We threw a party for ourselves to mark 20 years publishing the leading voice of the ground support community. We had our February cover story on "The History Of Ground Support Equipment," blown up to form a 7-foot tall display.



Ground Support Worldwide celebrates its 20th birthday during a party held on the exhibition floor.

We also arranged for Chuck Maire, a retired Northwest Airlines captain and chairman of the National Museum of Commercial Aviation to discuss his museum, which in the process of developing its own history of GSE. The last we heard the museum might be receiving an old jetbridge from show exhibitor Ameribridge. We do know that our big display was shipped off to the museum after the show.

LIVE STREAMING

For the first time, we provided live webcasting of the AMT Society Maintenance Skills Competition throughout the show. Plus, contest sponsor Snap-On Industrial also caught the interest of the local FOX news channel to come out and do a live report on the last day of competition. Finally, we tweeted highlights of the competition and received many responses posted to AviationPros.com, including:

- "What a fantastic representation of our profession!! I wish that EVERY person who has EVER flown an airplane and not given a second thought to what goes into maintaining it could see this competition."
- "Gentlemen, I just wanted to take this opportunity to thank you all for representing WestJet in the 2013 AMT Skills Competition. I truly hope you all enjoy this experience, have fun and create new friendships / contacts with your fellow participants."

Check out #AMTS2013MSC for more congrats.

A list of winners this year is as follows:

COMMERCIAL AVIATION CATEGORY

- 1st Place: **FedEx Team LAX**
- 2nd Place: **FedEx Team INDY**
- 3rd Place: **UPS**

MRO/OEM CATEGORY

- 1st Place: **Team Boeing**
- 2nd Place: **TIMCO**
- 3rd Place: **Lode Technology**

SCHOOL CATEGORY

- 1st Place: **Team Redstone College**
- 2nd Place: **Spartan College of Aerospace & Technology, and Salt Lake Community College**
- 3rd Place: **Aviation Institute of Maintenance Team Dallas**

(NOTE: The 2013 AMTS MSC is the first year of the six years of competition that there was a tie for 2nd Place.)

MILITARY CATEGORY

- 1st Place: **United States Coast Guard**

GENERAL AVIATION CATEGORY

- 1st Place: **Constant Aviation**
- The William F. "Bill" O'Brien Award for Excellence in Aircraft Maintenance was given to the **FedEx Team LAX**. The AMT Society also presented the Charles E. Taylor Professional AMT Award, given to the single most professional-looking, professional-acting and highest team-spirited competitor to **U.S. Coast Guardsman AET 2 Michael Bosch** from Air Station Clearwater, FL.

MAKE A DATE

We'll be holding next year's Aviation-Pros LIVE, March 25-26 at the Sands Expo & Convention Center, Las Vegas, NV. 📍



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Hannay Celebrates

8



Years With Reel Pride

Company builds on 80 years of family stewardship, product innovation and customer satisfaction.

By Steve Smith

Clifford B. Hannay was running a gas station/luncheonette in rural Albany County, NY, in the tough-luck days of 1933, when he had a chance encounter with a local fuel-oil delivery man.

The man was tired of delivering kerosene to his customers in five-gallon cans. What he needed was a pump and a hose installed on his truck. But that mechanical work still didn't amount to the real dilemma.

No, what the delivery man really needed was a quick way to reel the hose back up after each delivery.

The poor guy had tried and failed to make a hose reel. In fact, he still had the bag full of parts he'd used. So Hannay, who was also an electrician by trade and enjoyed just this sort of challenge, took the bag of parts, and then went off to a junkyard.

There, the inventive Hannay found some other parts from the real axle of a Model T and built the first hose reel of the millions the company has produced over the past 80 years.

SAME PLACE

Drive up New York State Route 143 today, and you can still stop by Hannay's original shop he made out of the gas station, now turned into a museum in his honor.

Across the two-lane highway, however, is where you'll find 145 employees of Hannay Reels Inc., turning out some 90,000 reels a year all made right here near the village of Westerlo, NY, population 300, a farming town now

just as much as then.

"It probably was unusual to start a manufacturing business in the Depression," says Eric A. Hannay, president and CEO of Hannay Reels, "but I'm sure that my great-grandfather along with many others had an entrepreneurial bent and did what had to be done to earn a living."



The company's first reels were produced in the building on the left seen in the upper left-hand corner of this photograph. Over the years, Hannay Reels Inc. has grown to 22 buildings on a 200,000 sq. ft. campus.

PRODUCT PROFILE



Clifford Hannay preferred the hands-on work of his business and left the desk work for others.

Eric and his sister, Elaine Hannay Gruener, COO, represent the fourth generation to steer the family business.

The "family" business also extends to its employees. The company is by far the largest employer in the county. And in such a small town environment, Eric says the average length of employment is currently 20 years with a lot of sons working alongside fathers or brothers and brothers or husbands and wives.

"We have a lot of know-how that is hard to replace," Eric says, "so if we know an employee with a great work ethic has a younger brother or sister, why wouldn't we interview them?"

While our readers know the company by way of the aviation fueling industry, over the years the company has made hose and cable reels ranging from models small enough to store fiber optic cable all the way up to reels 10 feet in diameter used for ship-to-shore bulk oil transfer.

Its full line of product includes air

hose reels for pneumatic tools and machinery; water hose reels for wash-down, power-washing, potable water or in-plant fire protection; dual hose reels for oxygen/acetylene welding; hydraulic hose reels for powering tools and machinery; and hose reels for fuel, antifreeze and off-road lubrication. The company also supplies to the OEM

TIMELINE

1933: Clifford B. Hannay builds his first hose reel thanks to a bag of parts and a trip to the junk yard for others from the rear axle of a Model T. Clifford originally has a business partner, but the partner later sell his shares for \$250 in 1934. The company is renamed Clifford B. Hannay & Son.



The first hose reel built by Clifford Hannay in 1933

1940s: Despite the company name, Clifford actually has two sons, Dwight and George.

Dwight was one of the Clifford's first employees, while George had a career as a tire salesman and later with General Electric before joining the family business.



By the 1940s, Clifford Hannay's two sons, Dwight and George, had joined the business.

Clifford takes care of the home front, with his wife, Hazel, who helps with book-keeping. The brothers take to the road to promote and sell the company's products.

1950s: The company purchases an Aero Commander to travel to customers. By this time, the company was producing about 3,600 reels a year.

1960s: Clifford passes away in 1962. Dwight dies in 1965 while flying his helicopter. George forges ahead, and by the mid-1960s, he's joined by his son, Roger, and Dwight's son, Robert.

1970s: By this time, exporting becomes more commonplace. Another hot spot for growth is in its Custom Reel Department. Meanwhile, George's other son, David, develops the company's first business and accounting software programs and brings the company into the computer age.

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markets for fire protection; liquid petroleum/gas, as well and other refined fuels besides aviation.

The company has always been an advocate of advertising and took part in trade shows as early as the 1930s to promote its work. Exports became an important part of the company's sales by the early-1970s. In fact, when the

1980s: Hannay Reels celebrates its 50th anniversary in 1983. George steps down as president and becomes chairman of the board. Roger A. Hannay becomes president and CEO. Along with Roger, the third generation of family management includes Robert D. Hannay who serves as vice president of marketing, until retiring in 1996 (he passes away in 2005), and David G. Hannay, who continues working with the company as a consultant.

1990s: The fourth generation of family joins the company. Eric A. Hannay joins the company in 1993 as an engineer and Elaine Hannay Gruener in 1995 as a human resources manager. That same year the company officially changes its name to Hannay Reels Inc., although it had already used that name for marketing purposes for years.

George A. Hannay passes away in 1997.

2000s: The company adds another 44,000 sq.



The company's single-wrap aviation reels make it virtually impossible to tangle a hose.

ft. of space for manufacturing and shipping capabilities. Aviation continues to not only be a big market for its reels, but a big part in how the company reaches its customers. In 2007, the company purchases a Beechcraft Premier I.

In 2010, Hannay is named one of America's 12 Safest Companies by *EHS Today* magazine – and the smallest company of the bunch. On April 6, 2010, the company's 2 millionth reel comes off the assembly line destined for shipment to a distributor in Australia.

In 2012, Eric is named president and CEO and Elaine is named COO. Roger steps down as president and CEO but continues to serve the company as chairman of the board.

2 millionth reel built by Hannay came off the assembly line in 2012 for a shipment to Australia.

AVIATION FUELING

"But the aviation fueling market helped the company grow in its early years as aviation took off in the 1940s and 1950s," Eric adds. "And it remains a big part of our business today thanks to the relationships the company made decades ago."

It also may have helped to win accounts in the aviation fueling business considering that the company was an early proponent of corporate aviation when it bought an Aero Commander in the 1950s.

"That's been a very important part of keeping in touch with our customers," Eric says. "Many of our top customers are located in tiny, hard-to-reach towns as well. Travel that could take days going through the Albany airport can be done in just one day." Currently, the



George Hannay, Don Jordan, Dwight Hannay and Art Johnson beside the company's Aero Commander in the 1950s.

company owns a Beechcraft Premier I purchased in 2007.

While Eric admits there's only so many ways to make a reel for an industry in which a "new" product could mean one that came out 20 years ago, the company continues to refine the reels it offers to companies throughout the world.

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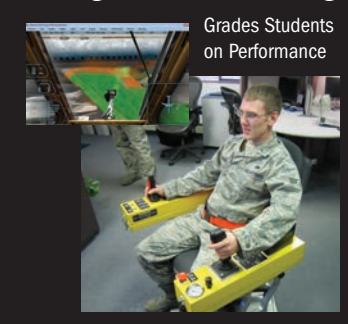
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PRODUCT PROFILE



By the 1950s, Hannay was producing about 3,600 reels annually.

For our industry, the company has always offered an all-aluminum or 304-grade stainless steel fluid path core for its reels, and now offers the same non-ferrous options for the overall exterior construction of the reels as well. A combination bearing and swivel joint assembly eliminates a pipe thread connection, making the reel easier to service and less prone to developing a leak.

Perhaps the most noted advancements are grounding reels



An advertisement used heavily in the 1970s highlighted the full range of the company's product line.

that prevent dangerous static electrical build-up in fueling operations.

A non-sparking ratchet, for example, reduces risk of combustion. If the cable is rewound quickly, this feature prevents sparks that can emanate from the rotating metal. Each reel features a declutching arbor that controls cable payout and rewind, ensuring maximum cable control and less time handling the cable. This mechanism automatically locks to hold the cable in place or loosens for rewind or longer payout.

One of the most obvious safety precautions ground support personnel must take can be made even easier through static grounding reels. Using a cable reel increases safety during operations by providing a quick, convenient connection to prevent the buildup of static electricity in volatile areas.

Also, the company has incorporated deadman emergency shutoff systems that prevent major fuel spills and leaks.

Finally, the single-wrap reels, lightweight despite their size, virtually eliminate a tangled hose.

"Speed means everything," Eric says. "Consider how quickly Southwest Airlines wants to turn its planes. The last thing the airline wants is to spend time untangling a hose."

The company continues to invest in its 200,000 sq. ft. campus that's grown to 22 buildings over the years.

Just five years ago, on the heels of its Diamond Anniversary, the company expanded its headquarters by 44,000 sq. ft. to accommodate expanded fabrication, assembly and shipping departments. The shipping department has more tripled in size to 25,000 sq. ft., greatly improving efficiency and lead times.

Eric mentioned, for example, the company is selling more reels with the hose already installed at the factory. In order to do this before the recent expansion, the reels had to make a long journey between different buildings by forklift all of which greatly increased the chances of damage.

Now, Eric says, the reels can come right out the ovens and travel directly overhead to the hose installation work area, shaving up to 48 hours off delivery time of a reel requiring a hose. ✈️

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PRODUCT HANGAR

Fall Restraint System ThyssenKrupp Airport Systems

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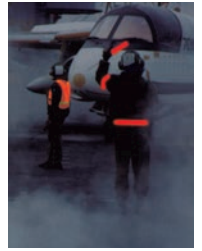
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FOR SALE OR LEASE



Steve Smith

Just Where Was That First Boarding Bridge Installed?

How a brainstorm at 2 a.m. ushered in a new level of passenger convenience.

By Steve Smith

We heard from Joe Fuqua of Delta Air Lines and who also sits on our Editorial Advisory Board about last month's cover story on "The History Of Ground Support Equipment."

Joe filled us in more on who was behind creating the first boarding bridge, and points to a different airport than the two - San Francisco and LaGuardia - which are typically credited for the first such installations in 1959.

Until we hear otherwise, we think we can at least all agree on the year since Joe sent us a scanned-in copy of the October 1959 issue of *Airlift* published by American Aviation Publishing.

On page 47, in an article headlined, "2 a.m. Brainstorm: Delta's Jetway," one Glenn Hughie writes about how Delta developed the original "Jetway" and installed it in the nick of time at 5 a.m., July 22, 1959 at the Atlanta Airport.

Hughie describes "running 90 mph up a blind alley" as he was tasked with developing a boarding bridge in time to meet the arrival of the airline's first DC-8.

"For me, insomnia was setting in," he writes. "Then about 2 o'clock one morning as I sat in my living room wrestling with the problem, the answer suddenly came. I realized we'd been using the wrong approach. Our philosophy had been slanted toward something complicated."

Some handy shirt cardboard, scissors and glue were all he needed to get started at that early hour - well, that and his spouse.

"I roused my wife to help," he writes. "By daylight, we had a working cardboard model."

Off he goes to Pacific Iron and Steel Corp.'s

Los Angeles office. After listening to Hughie's idea, Pacific agreed to build the bridge.

"Within a short time, their engineers produced working drawings for the 'Jetway' needed," Hughie writes. "We placed a firm \$265,000 order for 17 - conditioned on delivery of two prototypes needed in time to meet the first jet."

Everything went per schedule and both prototypes were loaded on a train headed for Atlanta. En route, however, the train suffered a wreck. The bridges arrived, damaged, a week before the DC-8 was due. Replacement parts were airlifted from LA, and Delta and Pacific personnel worked around the clock to meet the schedule.

"The morning of July 22 was like countdown at a missile base," Hughie writes. "The DC-8 had taken off from Miami and the bridge still wasn't working."

Luckily, a Pacific executive named Carvel Moore was on hand at the airport. Hughie describes how Moore "kept probing for the trouble" and how each little bit helped. Finally, "Moore, with a can of dry lube in his hand, struck pay dirt."

Delta Flight 801 taxied up to the ramp and "Moore pushed a button and the Jetway went out to meet her."

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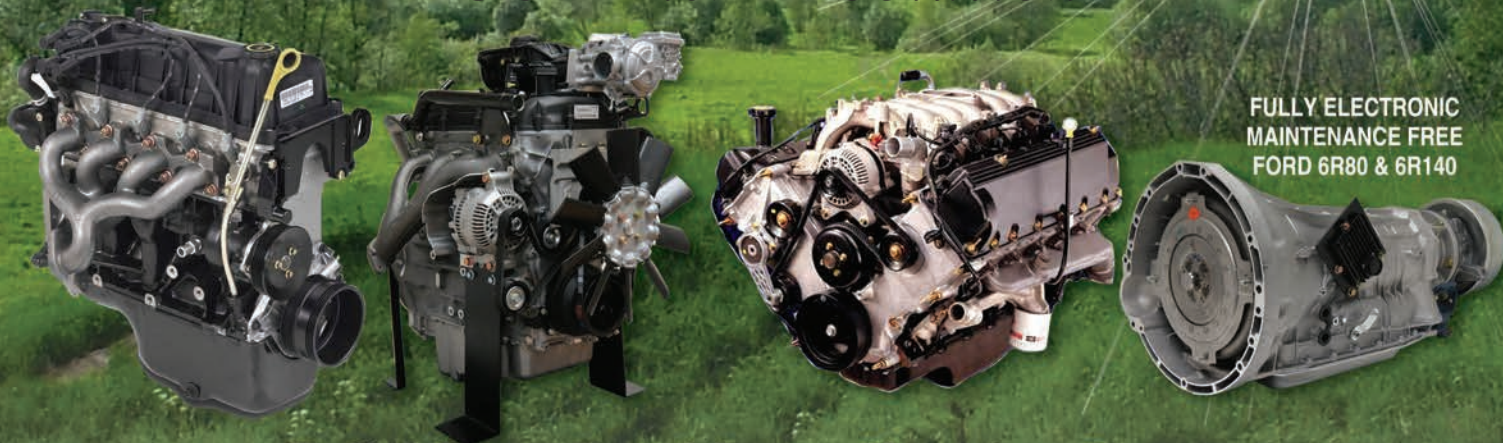
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