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WORLDWIDE



RESTORING MILITARY GSE TO 'FULLY MISSION CAPABLE' CONDITION

Howell Instruments had a month to set up shop, hire experienced mechanics and begin work on some 100 pieces of veteran equipment from Afghanistan and Iraq. Page 8

INTERNATIONAL

Euro Jet Builds Niche In Serving Under-served Markets In Eastern Europe And Central Asia

Ground handling service provider offers consistent service levels from its Prague service center to 200 locations in 30 countries. Page 12

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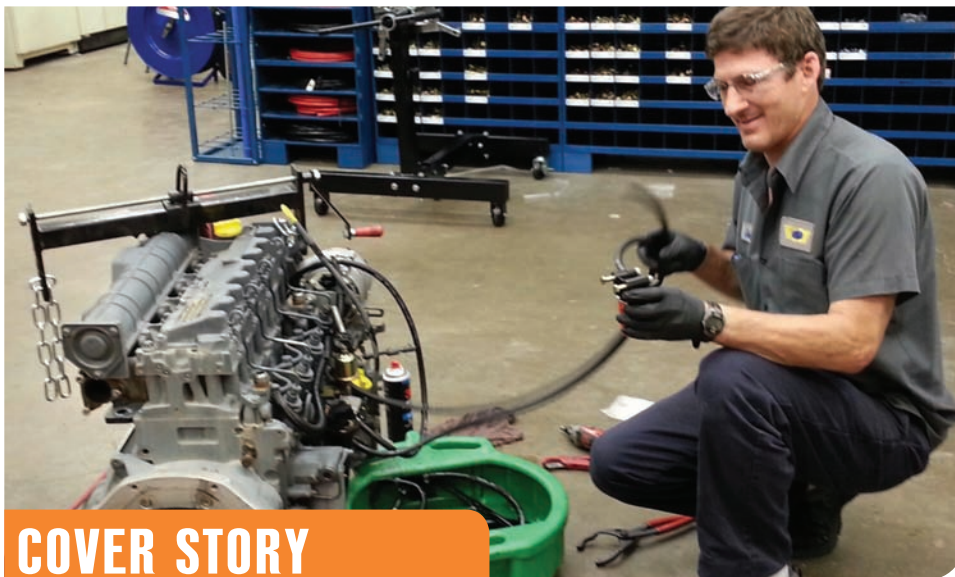
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Business Buzz

Swissport, UIA Trade Allegations:

In two sharply worded press releases, one-time business partners Swissport International Ltd. and Ukrainian International Airlines traded barbs over an on-going legal battle in the Ukraine. First, Swissport issued a release about "inefficiencies" in the judicial system that have postponed hearings seven times and the "silence" of the government that has taken no action with its Anti-Raider Commission. UIA followed saying Swissport is presenting "deliberately misleading information" and putting pressure on the court and government "in order to obtain an illegal judgment" in the dispute.

\$15 Minimum Wage For Airport Workers:

Seatac, WA, voters will get to decide whether the city should increase

its minimum wage to a nation-leading \$15 per hour, after the state appeals court reversed a judge's ruling that voided signatures needed to qualify the measure for November's ballot. The initiative gained additional endorsements from 20 local Democrats.

Delta Rejoins S&P 500:

Delta Air Lines Inc. rejoined the stocks in the Standard & Poor's 500. The S&P index is made up of 500 large U.S. companies whose shares trade on either the New York Stock Exchange or the Nasdaq Stock Market.

'DooHickeys' Save SWA Fuel:

Southwest Airlines saves roughly 54 million gallons of fuel each year, thanks to Winglets, which also have the added bonus of reducing emissions. Those so-called "little DooHickeys" are featured in the carrier's latest ads.

Alaska Air On Top:

The International Council on Clean Transportation, a non-profit environmental consulting firm, released its ranking for the most fuel efficient airlines, with Alaska Air Group topping the list.

Emirates To Add More U.S. Destinations:

Emirates plans to more than double its network of U.S. destinations in the next three to five

years to a total of 15 cities, up from the current number of seven. Emirates is set to add new service from New York's John F. Kennedy airport to Milan this month.

Cargo Airline Chooses Orlando For HQ:

Lured in part by economic incentives potentially worth more than \$1 million, National Air Cargo Inc. picked Orlando, FL for its new home after a year-long, nationwide search involving several rival cities. The airline, which provides freight transport for military and industrial customers, was formerly based in Orchard Park, NY, and Ypsilanti, MI.

British Airways Introduces 'Hand Baggage Only' Fares:

British Airways is extending its hand baggage only fares to passengers at Heathrow and London City airports. The carrier introduced the new option at Gatwick initially on five short-haul routes to Amsterdam, Dubrovnik, Jersey, Tunis and Turin. The airline then extended it to all of its routes from Gatwick. The airline now plans to introduce the fare for travel between Heathrow and nine short-haul routes – Amsterdam, Stockholm, Barcelona, Paris (Charles de Gaulle and Orly), Rome, Rotterdam, Glasgow and Edinburgh.

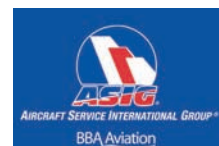
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ASIG To Build FBO At PTY:

ASIG Panama, S.A. has been contracted by the Tocumen International Airport to build and operate an FBO that will be branded and operated as a Signature Flight Support location. In other news, the Star Alliance appointed ASIG as the passenger



service handler for economy class check on behalf of its partner airlines located in Zones A and D at London Heathrow's future Terminal 2.



Menzies Grows in Scotland:

Menzies Aviation has successfully completed the takeover of Aero Handling at Aberdeen Airport. Having only established its ground handling business in Aberdeen in August 2012 (through the purchase of Airbase Flight Support), Menzies has now doubled the size of its station in just over a year. Menzies also won the Loganair contract at Edinburgh Airport for five years, which adds an additional 10 flights per day beginning this month, and renewed its contract with the airline at Glasgow Airport for another five years.

Asiana Renews with Matheson:

Asiana renewed its ground handling and warehouse contract with Matheson Flight Extenders at the Portland International Airport.

PEOPLE

Swissport International



Ltd., named **Pieter Van den Nieuwenhuizen** as CEO of Swissport Belgium N.V.



and appointed **Jean-Luc Payot** as CEO of Swissport Geneva. Prior to his

new assignment, Van den Nieuwenhuizen was leading several divisions of G4S Belgium as managing director and general manager from 2002 onwards. Payot

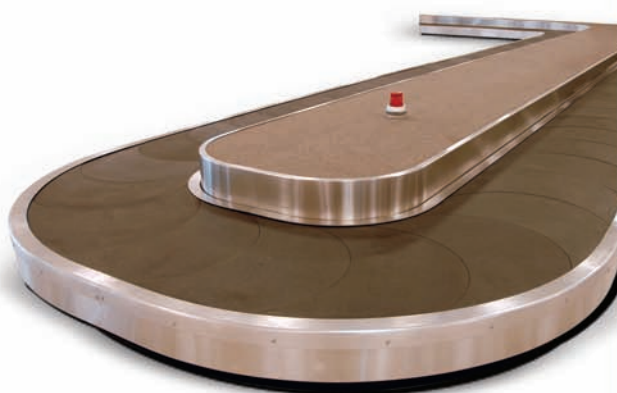
has already worked for Swissport before, from 1993 to 2001, as general manager and vice president of business development Swissport France and CEO of ex-

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ecutive aviation. Before returning to Swissport, Payot had been the managing director of Bell Switzerland since 2004.



Mike Ford has joined SkyMark Refuelers as vice president of engineering. Ford brings 25 years of aviation engineering experience

to SkyMark. Ford has long been a leader in the aviation industry. He is credited with pioneering solar technology on hydrant carts back in 2002. Today, this reliable, efficient and earth-friendly technology is commonplace at hundreds of airports in several countries. Over the years, Ford has been responsible for designing refueling equipment across the country from the Port Authority in New York and New Jersey to American Airlines in Chicago. Internationally, he has designed equipment for the Turkish military and into-plane operators in Indonesia.

Vanderlande Industries named



Govert Hamers as president and CEO effective Jan. 1. He will succeed Peter Gerretse. Hamers transfers from interna-

tional shipbuilder IHC Merwede, where, since 2005, he has been the CEO responsible for a strong, profitable growth in sales from 450 million euros to almost 1 billion euros. Hamers has already been on Vanderlande's supervisory board for the last two years.

Tom Tagart joined Evergreen Aviation Ground Logistics Enterprises Inc. as vice president of operations. Tagart spent the previous 10 years working for Matheson Flight Extenders joining as a station manger and leaving as a general manager.

JetBlue Airways appointed **John Allen**

to the position of vice president, chief safety officer. Allen will be responsible for maintaining JetBlue's focus and practice of safe operations both in the air and on the ground. Allen retired from the FAA last August after 22 years with the agency



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in a variety of roles of increasing responsibility, culminating as director of flight safety standards. Allen also retired from the Air Force Reserves in 2009 as a brigadier general after 31 years of active-duty and reserve service.

Sunrise Airways, a new start-up airline based in Port-au-Prince, Haiti, appointed **Rodolfo Cueto Guerra** to the position of director of ground operations. Cueto will have direct responsibility for ground handling services encompassing all Sunrise Airways flights, while also serving on the carrier's executive leadership team charged with establishing hub operations in Port-au-Prince to better connect the Western Caribbean. Cueto brings 15 years of aviation experience, the bulk of which he amassed serving in various, progressively senior positions with AeroCaribbean.



Cygnus Business Media named **Karen Berg** as associate publisher

of *Aircraft Maintenance Technology* and *Airport Business* magazines, sister publications to *Ground Support Worldwide* along with corresponding responsibility for AviationPros.com. Berg was most recently the vice president of business development with Thompson Aero-space. Berg joined KLM in

Amsterdam, the Netherlands, in 1999, holding leadership positions as the director of operations for Cygnific BV, KLM's wholly owned customer

care subsidiary, as well as in KLM's IT and air freight divisions. Berg was also the director of maintenance and modifications for the KLM fleet and

more recently, the vice president of sales North America for Air France Industries and KLM Engineering & Maintenance.



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RESTORING MILITARY GSE TO 'FUL

Howell Instruments had a month to set up shop, hire experienced mechanics and begin work on some 100 pieces of veteran equipment from Afghanistan and Iraq.

By Steve Smith

Since 1951, Howell Instruments, Ft. Worth, TX, has built a reputation largely in the OEM market developing products that have helped improve the safety and performance of aircraft.

Howell's military GSE reset team: Joshua Toth, Mechanic/Tech; John Teller, mechanic/tech; Eric Green, project manager; Dylan Martin, mechanic/tech; Jeremy Kostyak, parts clerk (front); Jeff Blackwell, GSE supervisor; Steven Villaman, mechanic/tech; John Shipman, vice president, operations and GSE program manager (front); and Shep Brown, Howell Instruments chief executive officer.



LY MISSION CAPABLE' CONDITION

The company's current chief well remembers some words of advice that the company founder gave him after he joined Howell in 1998.

"He told me that I always needed to remember that Howell is an engineering firm with a manufacturing capability," says Arthur "Shep" Brown, the company's chief executive officer. "Our expertise has always been in engineering and designing and manufacturing whatever the customer needs."

Over the years, the company has built cockpit instrumentation, jet engine trimmers, test sets and engine monitoring systems, and branched into

MRO work for the aerospace industry from its 117,000 sq. ft. headquarters.

Considering the military background of the company's founder, it's not surprising that much of the work for the past 60 years has been focused on the needs of the military market. (For more, see our sidebar, "History Of Howell"). In addition, take a look at the bios for the company's current roster of leaders at the Howell Web site, and it's plain to see the strong military backgrounds each brings with them.

Brown, for example, was a veteran of aircraft maintenance and intercontinental missile operations with the U.S. Air Force.

While the company had done some refurbishment work on military GSE

before, it recently took that business up a considerable degree with a contract awarded earlier this year to "reset" or refurbish some 100 pieces of GSE returning from service in Afghanistan and Iraq.

Originally, the company was tasked only to "facilitate" and outsource much of the reset work. But after quarterbacking some repair quotes and long lead times, company officials realized the work could be better done by bringing the reset operation in-house.

THE OBJECTIVE

In short order, the company was charged with the following:

- Evaluate and fully inspect 94 pieces of GSE.
- Estimate costs for parts and labor.
- Restore each item to "fully mission capable" condition.
 - Test all work.

And when we say "short order," we mean get up and running in 30 days.

The Results

- Experienced technicians with more than 60 years of combined experience in GSE repairs.
- 6,800 sq. ft. of dedicated shop space, including parts crib and three acres of open hard stand.
- Complete assessment and overhaul of GSE, including wires, switches, plates, panels and electrical system components.
- Ninety-eight percent of repairs done on site.
- Parts procurement specialist.
- On-site engineering and fabrication of obsolete or out-of-production parts.
- Quick turnaround times.



COVER STORY

With military operations in Iraq officially over and winding down in Afghanistan, plenty of soldiers are returning home and so is all the assorted GSE.

Whether it's a consequence of the Great

Recession or sequestration, there has been a change in how the country's Defense Department spends its funds.

"I think that some of the dollars available to buy new equipment just aren't

there anymore," Brown explains. "Therefore, everyone has to try and reuse the existing equipment."

The company had more than its military pedigree to back it up. As Brown has noted, the company possesses the full capabilities to make whatever is needed to reset GSE.

"Sometimes we'll get involved in a component that we can't replace and the simple fact is we have several engineers here and we have a machine shop with full CNC capability," Brown adds. "If we can't get the original part, we can reconstruct it and redesign it ourselves. There are not a lot of GSE repairs stations that have regular manufacturing capabilities like we do."

From its headquarters, Howell is essentially a one-stop shop for MRO-modification, maintenance, inspection and repair of aircraft and GSE.

In addition, Brown also had a ready ally in colleague John W. Shipman, Howell's vice president of operations.

A veteran of the U.S. Navy, Shipman

History Of Howell

John S. Howell III, a decorated pilot in WWII, discovered a niche market in the dawning of the jet age. He designed and patented the JETCAL® Analyzer to resolve the difficulty of testing the temperature indicating systems of the newly installed jet engines on the B-36 bomber.

"Howell was from right here in the Ft. Worth area," Arthur "Shep" Brown, the company's CEO says. Howell flew combat missions during the war as part of the Army Air Corp. One flight was shot down somewhere over Hungary and he and the rest of the crew were presumed dead.

"Howell's family was notified by one of those scary telegrams that said we lost your son," Brown adds. "Another followed that said they'd start to send his personal effects back,

and then a third came that said we found him, he's OK."

After returning home and studying engineering, Howell began employment and eventually developed what would become the company's signature product – even buying the rights to his invention after his bosses told him it wasn't quite what they were thinking about. Howell founded B&H Instruments, in 1951, and the JETCAL became the cornerstone of the company's product line. Word of its efficiency and accuracy spread, demand increased, and by 1960 it was in use across the globe.

The company later became Howell Instruments, Inc., and through the decades continued recruiting quality, committed experts in the field to solve problems and expand the product line.



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Howell Instruments is about a third of the way through a contract to 'reset' almost 100 pieces of military GSE. The work has gone so well, however, that the original contract has already been extended.

joined Howell in 2002 as a programmer analyst and moved quickly through the ranks based on leadership, strategic planning and program management skills.

"John has the talent to take on an unknown situation and put some organization around it," Brown says.

GAP ANALYSIS

Once tasked with the job, Shipman set out to complete a gap analysis. In management parlance, gap analysis describes the difference between current capacity – "what is" and potential performance – "what needs to be."

"We probably had 90 percent of the solution based on the gap analysis," Shipman says, "and we went out and found the other 10 percent."



Company officials quickly determined they would need to hire experienced GSE mechanics to get the work done.



While the company had plenty of advantages starting out, Shipman quickly determined that it was lacking the manpower with the technical expertise to go to work on diesel engines, generators and all the other mechanical and electronic components to reset the GSE.

Shipman spent quite a bit of time going through resumes, interviewing candidates and looking for the right mix of capable people that would continue Howell's level of customer support and quality of work.

He estimates he sifted through 60 resumes to hire six mechanics.

"We just don't hire a warm body because they can turn a wrench," Brown adds. "We have a good deal of employee longevity and company history. Even though we appear to be much larger than we are, it's still pretty much a small company."

As the hiring process progressed, however, the company also needed to plan on

"Our expertise has always been in engineering and designing and manufacturing whatever the customer needs."

where to physically locate the new hires inside the kind of space they would need to do their jobs. After review, the company converted 6,800 sq. ft. of existing factory space at its Ft. Worth facility into a dedicated shop space filled with specialized tools and equipment to do the work.

MOVING DAY

As all this progressed, it was moving day and time for the real work to begin.

As readers can readily tell from the photos that accompany this cover story, most of the equipment looks essentially the same as any other type of GSE stationed at a commercial airport ramp. Here's a new acronym to explain why: COTS or "commercial off the shelf."

The military is buying more and more commercially available products with much less specialized product designed to military specs that led to infamous \$500 toilet seats in the past.

The Army, for example, primarily uses helicopters for much of its air power. But Brown and Shipman told us what most people don't realize: The Army uses quite a diverse assortment of fixed-wing aircraft, too.

"Most of this aircraft are King Airs and Beechcraft, for example," Brown adds. "These commercial aircraft have obviously



Howell's mechanics/technicians have a total of 60 years of experience in GSE repair work.

always been serviced by commercial GSE. "And much of the Army's fixed-wing operation have to be fairly flexible in order to

go to many places in the world. As a result, the Army tries to build a mission profile around easily available commercial GSE."

Howell's marketing plans are to continue to promote this resetting expertise to other military branches of the for what stands to be a large market for fixing up used military GSE. Currently just a third of the way through the original contract, the Howell's work has already been expanded and extended. ✈️

Euro Jet Builds Niche In Serving Under-served Markets In Eastern Europe And Central Asia

Ground handling service provider offers consistent service levels from its Prague service center to 200 locations in 30 countries.

By Steve Smith

Over the course of the past five years, Euro Jet Intercontinental has built a network of some 200 staff to arrange for ground support and flight planning in the growing, but under-served markets of Eastern Europe and Central Asia.

From its operations center in Prague, the company has built a reputation for consistent service on the ramp at airports where inconsistent service remains a common trait within the business aviation industry.

"We have a presence at over 200 locations in 30 countries," says Gareth Danker, director of global sales and marketing. "We provide to our 600-plus yearly customers services that include ground handling set-up and supervision, fuel, permits, flight planning, crew hotel and transportation, in addition to credit facilities." Last year, the company also began an expansion into Western Europe as part of a global growth plan. To find out more, we emailed questions to Danker:

Q: Tell us about how Euro Jet Intercontinental got its start.

A: The company got its start when it was identified that throughout our region there is a lack of real VIP ground handling services that is more common with FBO networks throughout the United States and Western Europe. Within Eastern Europe and Central Asia most airports provide their own state-owned handling and the

FBO experience is nonexistent. Euro Jet identified this lack of service and put in place its own staff that could coordinate the handling, catering, transportation, hotel reservations, and makes sure that everything runs perfectly from A to Z.



Euro Jet Intercontinental plans to handle 6,000 flights this year and has been expanding its reach to set-up flights throughout Africa, South America, and South East Asia.

This gives the customers a virtual FBO experience.

Q: How did you get involved with the company?

A: I spent eight years working for a major charter broker. One of my responsibilities was to run a program that oversaw a diplomatic aircraft that flew all over the world. I

had to oversee all handling set-ups, which included using Euro Jet. I noticed very early on that every time Euro Jet was involved in a handling set-up, there were little to no issues. Anytime you see a company that seems to be doing its job and doing it well, your interest gets peaked into how you can get to, perhaps, one day join them.

Q: What does Euro Jet do to provide a consistent experience for its customers?

A: We train all our staff. They come to Prague and participate in our corporate training program. But it does not end there. We bring them back to Prague and then we visit them on-the-ground in their locations and look at the facilities, the transport, the hotels, the caterers, and, of course, meet the other airport staff that is just as critical to our operation.

We have a small team of us that manage this process and constantly return to go back and inspect all our stations and make sure that everything is going well.

Every station has an inspection at least once a year. Furthermore, after every trip the pilot has to fill out a form stating how the service was at the Euro Jet station.

We then compile this data to ensure that no station is falling behind. If that is the case then we would work to fix it by increased training or finding new staff.

I personally oversee any customer

service complaint, though when we do receive them, it usually involves something unrelated to Euro Jet. But we do research everything and get back to our customers with an explanation.

Q: What do you think sets Euro Jet apart for its competitors?

A: I would first say that Euro Jet is the only company of its kind to have a network of handlers in 30 countries throughout 200 cities. Plus, no company dedicated to VIP trip support has that kind of coverage in so many different countries.

But what separates us is the fact that we are very hands-on with our customers. You mention Euro Jet to our customers and they will all know the top management in the company and have strong relationships with different staffers that they can then call up on their cell phones at a moment's notice if they have an issue.

While we are a big company, we operate like a small family and really know what everyone is doing and, ultimately, this leads to a lack of bureaucracy and ability to get things done fast. This is, of course, essential in this kind of industry.

Q: From a marketing standpoint, what economic forces are trending in your markets that help grow your business?

A: The Eastern European and Central Asian market are certainly rapidly developing markets. Eastern Europe is one of the top manufacturing hubs for Europe, especially in parts of Romania, Hungary, the Czech Republic and Slovakia. Croatia, Montenegro, and Slovenia continue to be very attractive vacation destinations. We have especially seen this in Tivat, Montenegro. Furthermore Central Europe remains a very strategic location for different military movements and is perfect for fuel stops in between Central Asia and the Middle East. Central Asia remains a key location for natural reasons, including oil and natural gas. Furthermore there are many cities like Baku in Azerbaijan and Almaty and Astana in Kazakhstan that offer excellent refueling capabilities for flights headed toward India and China respectively.

Q: How is business going so far in 2013?


A: Fortunately, 2013 has seen record growth for the company. While the avi-

ation sector had a slow start in traffic in 2013, we feel it has really picked up the past few months and we can verify all the other articles that are popping up saying that there is a record growth in private aviation.

We are planning on exceeding 6,000 flights this year and have been expanding our reach to set-up flights throughout

Africa, South America, and South East Asia rather than just in Eastern Europe and Central Asia.

We feel that many companies that have to pick between many different set-up companies, realize that Euro Jet is the only one with the kind of presence that we have throughout our core region. ✈️



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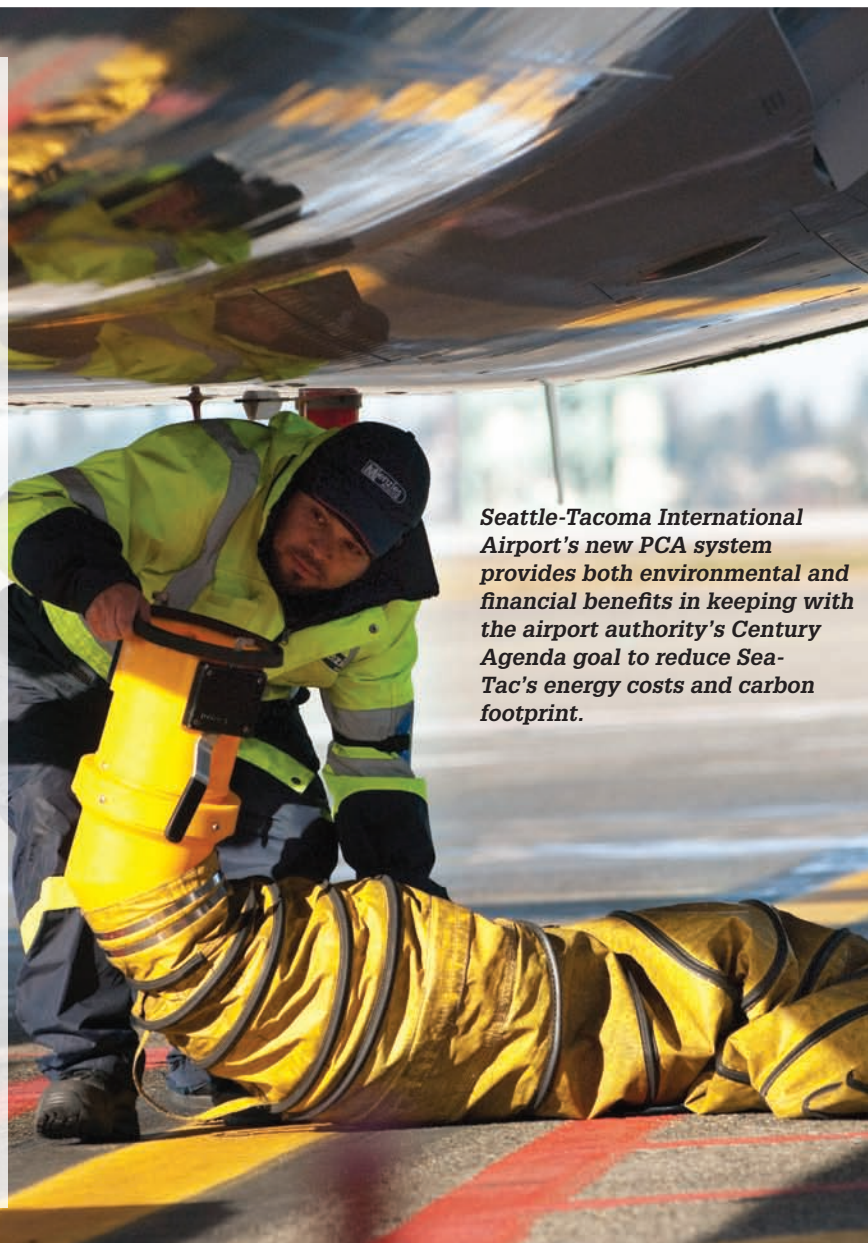
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Just How Does Sea-Tac's PCA System Work?

Ground Support Worldwide *LinkedIn* members share their know-how on the new system that provides air for parked aircraft.

By Steve Smith



Port of Seattle

Seattle-Tacoma International Airport's new PCA system provides both environmental and financial benefits in keeping with the airport authority's Century Agenda goal to reduce Sea-Tac's energy costs and carbon footprint.



The Port of Seattle

Last month, we reported that the Seattle-Tacoma International Airport had turned on a different sort of air conditioner (and heater, for that matter) to aircraft parked at its 73 gates.

The airport built a centralized plant to deliver preconditioned air through 15 miles of piping to each of the airport's gates.

The airport used one of the largest VALE grants of its kind to help pay for the \$43 million improvement, which includes a centralized plant to deliver preconditioned air through 15 miles of piping to each of the airport's 73 gates.

The \$43 million improvement was paid, in part, by one of the largest VALE grants of its kind. The new PCA system provides both environmental and financial benefits in keeping with the airport authority's Century Agenda goal to reduce the airport's energy costs and carbon footprint.

With no APUs or diesel GPUs operating, the airport expects the PCA system to cut fuel use by 5 million gallons, saving airlines more than \$15 million a year, and reduce carbon emissions by 40,000 metric tons.

Piping installed within the existing terminal connects all of the gates to a system of chillers and heaters to provide the PCA.

The central plant, located below the terminal's food court, houses four 750-ton chillers that fill 16 ice storage tanks with ethylene-glycol solution cooled by electricity furnished by the airport. Four secondary pumps circulate the chilled liquid through pipes to the gates for cooling.

Alternately, the airport's steam plant heats water that is piped to gates for heating.

A heat exchanger at the gate directs the conditioned air through a telescoping duct on the jet bridges, to a ventilation hose and directly into the aircraft's cabin.

What's more, Sea-Tac gets about 90 percent of its power from hydro-electric dams and 10 percent from renewable energy and nuclear sources, meaning the power used to generate PCA is that much greener.

MORE INFO NEEDED

All good and well, but after sharing the news with our 930-some members of our *Ground Support Worldwide* LinkedIn

group, the GSE professionals wanted to know more.

Gabriel Serrano, Aeroservicios USA Inc., started the discussion when he asked how the airport controlled the flow and temperature on different sized aircraft.

We sent his question to Perry Cooper, the airport's media and public affairs manager.

"At the ramp level, connected to the jet bridge is a control for the hose hook-ups," Cooper wrote back. "There are three settings: Wide Body, Narrow Body and Regional. The ramp handler selects which is appropriate for the aircraft at hand. For larger aircraft there are two hoses that can be hooked up (757, 767, 747, 777, 787, A330, A340). Each gate is set up for the type of aircraft that could be at that gate. The hot and cold going into each of the air handlers at the gate are constant. The aircraft will then meter how much heating and cooling it needs."

A helpful explanation, no doubt. But

Roderick Oates, a deicing specialist from the UK, wanted more information.

"This is a very interesting concept," he posted. "You say the aircraft monitors the quantity of atmospheric conditioning given by the terminal. Surely this requires a connection between the aircraft and the terminal? Why is it that the air bridge itself does not include the aircraft in its own air-conditioning?"

Mark Frink, sales engineer for Hobart Ground Power, chimed in with what he knew.

"One small correction to Perry Cooper's information," he wrote. "According to Boeing's MFEPD, the 757 and 767 aircraft only have one PCA hose connection.

"The aircraft has no control over the PCA it receives from either a point-of-use PCA unit or a facility PCA system. Usually, a temperature probe is placed in the open doorway of the aircraft. The probe provides a feedback signal to the POU PCA unit or the building PCA unit (which would have a damper to control

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the cold air flow and a heater to warm the air up in the winter).

"The advantage of a properly installed underground system is that there is very little variability in the temperature of the air presented to the air handler at the end of the bridge. Where an above-ground air system has to contend with the variability's of the ambient tempera-

tures in the hose path.

"The disadvantage is the huge upfront cost of building the chiller plant and putting all of the tunnels in place. There is also the single-point of failure problem that if the chiller plant has a failure, all of your gates lose their PCA capability."

Oates replied: "This is a first-class

explanation of the entire process. Many thanks, Mark.

"That the airport's handling agents are required to maintain a fleet of air-conditioning equipment and, in temperate climates, a fleet of heaters is a little worrying. These would in my experience be neglected until such time as the system failed and the equipment would be dragged out of some poorly maintained area and expected to perform.

"I think we all realize the quickest way to damage a machine is to neglect it – flat batteries poor fuel, frozen fuel, flat tires. The chance of a response being measured in anything beyond days is remote.

"Of course, the solution would be to have two systems. This would bring into question the entire funding philosophy of airports."

Later, Oates added what can only be deemed the dark side of green: "The aircraft must be known to be about to dock at a certain stand.

"Why then doesn't the information of aircraft type arrive along with the departure information?

"This would again reduce the numbers on the ground. Given pier power is a permanent fixture on many major airports, the only people required would be those who load the hold, those who fill the catering requirements and those who remove the toilet material and replenish the water.

Given towbarless tugs and the entire operation could be done with a small number of people." ✈️

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Membership in our LinkedIn group has easily tripled in the past 12 months. We routinely post news from not just the magazine, but from around the world about the GSE industry.

If you're not a member, log on to www.Linkedin.com and enter "Ground Support Worldwide" in the search box. We'll provide a direct link to the group when we post this article to www.aviationpros.com.

Color-Coded Safety Signage Prevents Accidents On The Ramp

Safety signage assists ramp agents with understanding possible hazards in any operation and what actions may need to be taken to prevent an accident.

By Kevin P. Crowley, JetBlue Airways Corp.

We see safety signage in various shapes and forms out and about airport operations, but what do they actually mean?

There are many different approaches to accident prevention that airline employees deal with on a daily basis in any part of an airport environment. Training, awareness and communication are major components in preventing accidents; one major form of visual awareness is signage that we see throughout airport environments.

Safety signage assists ramp agents with understanding possible hazards in any operation and what actions may need to be taken to prevent an accident. Color coding of specific signage will help us make safe decisions on how we act based on the color that is related to that specific sign. The following are some basics of safety signage, which includes physical hazard identification and accident prevention.

RED = DANGER

OSHA recommends that danger signs or tags be designed and printed in red or predominantly red, with lettering or symbols in a contrasting color.

If an immediate hazard exists, dan-

ger signage should be conspicuously displayed.

Aside from just a sign hanging around to identify a hazard, ramp agents need to be trained that danger signs indicate immediate danger and should exercise special precaution.

Red must also be included on signage that is used to identify:

- Portable containers for flammable liquids; the name of the contents also needs to be affixed to the container and clearly visible. The contents may be stenciled or painted in yellow.
- Fire protection equipment, such as fire extinguishers and fire alarms.
- Emergency shut off switches for machinery and ground service equipment.



YELLOW = CAUTION

Caution signs are used to warn against potential hazards or to caution against unsafe practices and also serve as reminders for personal protective equipment (PPE) requirements.

These signs are all yellow or predominantly yellow with lettering or symbols in a contrasting color. Caution signs and markings warn of physical hazards (striking against, slipping, falling, caught in between) and should be predominately displayed when such hazards exist.



RAMP SAFETY



RED-ORANGE = BIOHAZARD

The red and/or orange color on this type of signage indicates that there may be infectious substances and/or infectious waste present that may pose a risk of death, injury or illness if exposed. This signage may also come with symbols along with lettering in contrasting color.

GREEN = SAFETY INSTRUCTIONS

Green is used to designate items in operations that will assist in the event of an accident. The location of first aid equipment, such as emergency eye wash

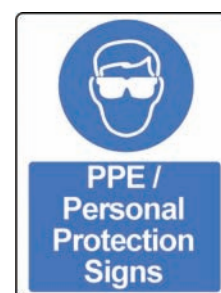


stations, emergency quick drench showers and first-aid equipment, is identified with such signage. These signs will have white or black lettering against a white background.



BLUE = NOTICE

General notice information signage may also be found around the airport environment. Although these generally do not



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have any impact on immediate workplace safety, they are used to communicate information to ramp agents regarding specific instructions or regulations.

Ramp agents should not only be familiar with the identification, procedures and proper use of signage, but with the color codes that are to be used for marking/identifying physical hazards and equipment.

Color coding is a standard way of quickly identifying hazards and provides guidance to avoid personal injury or equipment damage. In addition to color coding, the design of these signs should be uniform throughout the operation. This signage also needs to be visible at all times when corrective actions are about to take place or work is being completed and can be removed when the hazard no longer exists.

Ramp agents are required to receive training on signage recognition and also need to have an understanding about the warning information that is on accident prevention signs and tags. The training should include the following information:

- The purpose of color coding.
- The purpose of accident prevention signs and tags.
- The different types of accident prevention signs and tags that may be found in operations.
- The proper use of specific signage or tags.
- The meanings of symbols and wording that are on accident prevention signs and tags.
- The special precautions that need to be taken when this signage is displayed in operations.

Ramp agents may also encounter accident/injury prevention tags. These tags are a temporary means of warning about a hazardous condition or an out of service piece of ground service equipment. Accident prevention tags should be used to prevent accidental injury or property damage.

For example; a "Do Not Start" tag should be placed in a conspicuous location in order to effectively block the starting mechanism. An "Out of Order" tag, naturally, should be used to indicate that a piece of equipment or machinery is out of order and may cause an injury if used.

Accident prevention signage and tags should not be considered as the solution to any hazardous condition; however, they are necessary to communicate these hazards to prevent injury to employees and customers and damage to equipment or facilities. Ultimately, any hazard in the operation should be eliminated. Accident prevention signage and tags are required, if a hazard exists in an operation and these signage and tags must be used until the hazard can be eliminated. ✈️

**For more
information, please
reference:**

**29 CFR 1910.144
29 CFR 1910.145**

About the author:



Kevin P. Crowley, an analyst for ground safety programs, JetBlue Airways Corp., started on the ramp in Buffalo, NY, in 1993. He's been with JetBlue for 12 years and began as an instructor at JetBlue University and taught aircraft servicing for the A320 and E190. He has additional experience in HAZMAT and dangerous goods; winter ops and deicing; and is a certified OSHA instructor.

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Preventative Maintenance For Towbars

The often overlooked towbar needs scheduled maintenance just like any other piece of ground support equipment.

By Kenneth DeVolpi and Jason Chapman, Matheson Flight Extenders

Let's take a look at how to maintain a piece of equipment that is often overlooked – the aircraft towbar.

Typically, towbars are only used for a few minutes at a time. Just as typically, a problem is discovered when a hurried ramp agent quickly retrieves a towbar to take to a waiting aircraft – exactly when it is usually too late to do anything about it. Sounds like a delay that could have been prevented.

Towbars, like all GSE equipment, should have scheduled preventative maintenance. It is also a great idea to conduct a daily inspection. This can be quickly accomplished while your technician does other daily inspections or fluid level checks.

When a towbar is due for a scheduled inspection, there are many items to be checked. Since there are many types and manufacturers of aircraft towbars, the

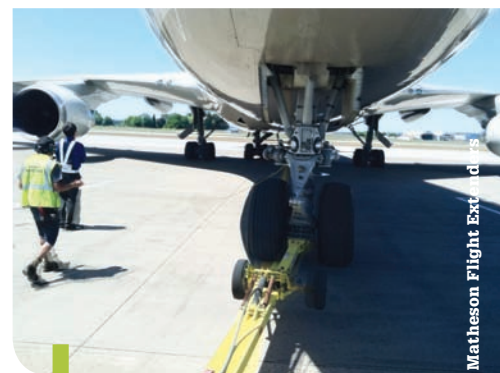
unit's maintenance manual can really help to ensure all areas are covered.

For example, an older style DC-8 towbar has a lot less moving parts than a newer MD11 or 747 towbar and, thus, doesn't require near the time or effort for inspection.

Here are some key items to be checked and/or lubricated during inspection:

SHEAR PINS – These items share the bulk of the load while the aircraft is being pushed or towed. They are designed to break at a certain PSI limit to lessen the possibility of aircraft damage. They should be removed and checked for straightness, indentations, cracks and overall condition. If a shear pin is suspect in any way, it should be replaced.

We heard of a recent incident where



Towbars, like all GSE equipment, should have scheduled preventative maintenance. It is also a great idea to conduct a daily inspection. This can be quickly accomplished while your technician does other daily inspections or fluid level checks.

both shear pins on a 747 towbar snapped simultaneously during an aircraft push. The pushback operator was not quite quick enough on the brake, and the towbar head pivoted into both nose gear tires, cutting the side walls. Of course, the aircraft was towed back to the gate and the tires were replaced. Not a cheap undertaking when you consider a late aircraft and the price of tires and labor.

HEAD MECHANISM – Whether your towbar uses a clamp-style or pin capture-style, there are many moving parts to inspect. All linkages and moving parts should be checked for wear and lubricated. The actuator handle should be checked to make sure it positively locks into position. And finally, if the head is of a pivot design, the pivot bolt should be removed to check its condition.

TOWBAR BODY – The body or tube of the towbar should be closely checked for cracks and overall straightness. If a crack is discovered, the best idea is to take the unit to a certified welder for repairs. Spending a little more now can save a lot later. If the towbar is bowed



Towbars tend to get plenty of scratches, scrapes and nicks. A light sanding is usually all that's required to take the surface down to bare metal. After a little bit of primer and paint, any company decals and unit numbers can be replaced as needed.

from end to end, it should be taken out of service immediately until the body can be replaced.

LIFT MECHANISM – Most wide-body towbars use a lift mechanism to raise the head of the heavy towbar to meet the nose gear. This also lifts the towbar wheels above the ground after the unit is connected to the aircraft. The manual pump should be checked for leaks and proper fluid level. The hoses to the lift cylinder should be checked for cracks, leaks and a deteriorating outer sleeve. The lift cylinder should be checked for leaks around the gland seal as well.

WHEELS, TIRES, HUBS AND CARRIAGE – The towbar wheels should have their lugnuts checked for tightness. The wheels should also be checked for dents, straightness and cracks near the lug holes. The wheel hubs should be disassembled every two years. At this time, the bearings should be cleaned, inspected and repacked with fresh grease. The wheel seals should be replaced during assembly as well. The rotating carriage and axle shaft should be checked for cracks, tight hardware and overall straightness.

TOW RING OR LUNETTE – This is the part of the towbar that connects directly to the pushback tractor. If it is a solid, welded-on design, it should be closely inspected for cracks and deformation. If it is a swivel-type lunette, it should be disassembled. The threaded shaft should be checked for straightness, deformation and cracks. The shaft's threaded area should be checked for stripped, missing or pulled threads. The shaft's nut should be of a locking design and the threads should be thoroughly checked as well. The assembly should be put together with a light film of lubricant and should swivel freely.

Once the entire towbar has been inspected, it is a good time to perform corrosion control.

Towbars tend to get plenty of scratches, scrapes and nicks. A light sanding is usually all that's required to take the surface down to bare metal. After a little bit of primer and paint, any company decals and unit numbers can be replaced as needed. Your towbar will now be 100 percent serviceable and look better while performing its duty. 🛠️



Matheson Flight Extenders

The towbar wheels should have their lugnuts checked for tightness. The wheels should also be checked for dents, straightness and cracks near the lug holes. The wheel hubs should be disassembled every two years.

About the authors:

Kenneth DeVolpi, manager of sales and marketing and special projects, has worked for Matheson for more than three years and has been in the aviation industry for more than 20 years, including 15 years with Northwest Airlines. Jason Chapman works in the company's GSE maintenance department and gained GSE mechanical experience with the U.S. Air Force and has worked in the commercial GSE industry for 12 years.

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Wingspan Systems Inc.

NBAA estimates that ground damage in business aviation runs \$100 million annually, including incidents during towing and ramp movement, GSE accidents and hangar damage.

The Safety Zone

Technology, not the least of which includes a smart ramp cone, offers one solution to the expensive problem of ground damage.

By Steve Smith

The economic tally to aircraft from ground damage is astronomical no matter which trade group accident statistics you care to add up:

- According to IATA, each year aircraft suffers ground damage with worldwide losses of some \$4 billion.
- The Flight Safety Foundation estimates losses from aircraft ground accidents to be \$7 billion each year.
- NBAA estimates that ground damage in business aviation runs \$100 million annually, including incidents during towing and ramp movement, GSE accidents and hangar damage.

At last year's NBAA conference and trade show, Wingspan Systems Inc., Mission, KS, introduced its RampTrack Ground Accident Avoidance System (GRAAS), which helps prevent ramp and hangar accidents by tracking aircraft on the ground and issuing a warning in the event of an imminent impact with another aircraft, vehicle or person.

Essentially, the GRAAS creates an invisible "safety zone" around aircraft to protect it from damage. Whether moving or static, the system's combination of sensors and related technology identifies threats in real time and provides an alert to make ramps and hangars safer places for planes and people.

The RampTrack system comprises a powerful data processor, a dedicated Wi-Fi network and mobile sensors, including a new Spotter™ cone unit,

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An Unusual Tug

Our story on page 14 regarding Sea-Tac Airport's new PCA system isn't the only item our Ground Support Worldwide LinkedIn members have helped us track down.

Back in March, we spotted a post on Aviation Week's Aftermarket Blog about an "unusual tug" spotted at Italy's Milano Malpensa Airport along with a picture of said tug, apparently unmanned, attached not to the nose wheel, but the landing gear of an easyJet.

It didn't take too long to clear up the mystery, which turned out to be a PowerPush manufactured by Schopf.

"We have been using them in our Australian business for almost 10 years," posted Markus Schneefuss, manager of cargo and B787 BAU support at Jetstar Airways, "and recently introduced one into the Japanese market as part of our expansion into the Japanese domestic market. The biggest challenge is always convincing both airports and regulators that they are just as safe if not safer than a conventional or TBL. The thought of remote control scares people initially until they realize what and how it works – it's the most efficient piece of equipment for an LCC."

The reason for the convincing is on account of the unorthodox operation of the vehicle. Here's basically how the PowerPush works:

- While the jet is parked at the gate, an employee manually drives the tug behind the aircraft's main landing gear. The unit attaches to the gear where it can turn the wheels of the aircraft by means of four hydrostatically-driven friction rollers.
- Once the unit is connected, the agent uses a hand-held remote control unit to remotely activate the tug and push the aircraft back from the gate. When it reaches a predetermined point, the pilot is given a signal via headset, to begin turning the aircraft.
- After the turn is completed, the employee remotely disengages the PowerPush and backs it behind the aircraft, so the aircraft can safely taxi to the runway. Then, the gate agent manually drives the tug back for the next push.



Schopf

The PowerPush, a remotely controlled pushback system, works on the main landing gear. According to Schopf, 70 percent of all pushbacks on today's airports can be performed with the PowerPush.

A Schopf product release fills in a few more details:

Once the tug is in position, two pressure/drive rollers are then swung hydraulically from their housings in the front frame arms and brought to bear on the other side of the aircraft's tires, thus, clamping the wheels firmly between all four drive rollers.

"After having established visual or interphone contact with the flight deck, and upon receiving clearance, the operator activates the machine by means of radio remote control," the release explains. "Aircraft movement is performed by the application of rotational forces to the main landing gear wheels

CONTINUED ON PAGE 24



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CONTINUED FROM PAGE 22

that constantly tracks aircraft, ground equipment and other potential accident hazards on the ground.

Referencing a defined set of movement parameters between aircraft and potential threats, the RampTrack system measures and monitors the position of aircraft on a facility and notifies facility personnel when safety margins are exceeded. It does this accurately and reliably via the sys-

The RampTrack system comprises a powerful data processor, a dedicated Wi-Fi network and mobile sensors, including this new Spotter™ cone unit, that constantly track aircraft, ground equipment and other potential accident hazards on the ground.



tem's advanced video processing technology, enhanced sensor capabilities and unique sensor fusion algorithms.

Combining input from video intelligence algorithms, an aircraft database and the company's own proprietary RampTrack Rover™ multisensory units, the ground-based RampTrack Fusion Server tracks such hazards as fences, poles, GSE, other aircraft and ground personnel.

"The Fusion Server is the 'brains of the system,'" says CEO/CMO Bill Johnston, a co-founder of the company with some 25 years of experience with avionics, aircraft and safety systems marketing, "collecting input from the sensors, such as the Spotter and the small Tracker unit that can be placed in an aircraft as well as from our high-res video cameras that are placed inside the hangar."

If there's a risk of impact, the system issues visual and aural alerts to avert an accident. In the hangar, the

system monitors toolboxes, equipment and other aircraft, providing protection from "hangar rash."

New this year is the Spotter™ cone unit, which replaces fixed sensor boxes and that can move to constantly track aircraft, GSE and any potential hazards on the ground.

In addition to protecting aircraft, the GRASS also helps FBOs and airport operations by tracking aircraft by tail number, identifying arrivals and providing customer information to speed line service, generate invoices and save on line operation operations and labor costs.

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An Unusual Tug

CONTINUED
FROM PAGE 23

by means of the four friction drive rollers. The weight of the aircraft itself is utilized for traction, and steering is controlled from the flight deck in accordance with directives from the ground."

The machine is fitted with a hydrostatic drive system that enables the aircraft and unit to carry out complicated maneuvers.

At any time during the pushback the aircraft can be brought smoothly to a halt by the machine. Emergency braking can be carried out using the aircraft's brakes without the risk of damage to the aircraft or to the unit "On completion of the pushback," the releases states, "the pressure/drive rollers are opened by remote control, allowing the aircraft to then taxi clear of the unit.

"At that point the ramp agent can drive the vehicle to the next pushback when the aircraft is at a safe distance. Alternatively, the unit can be commanded by remote control to disengage itself from the aircraft, and also to return to the operator when the aircraft has taxied to a safe distance."

Softcapture Cradle Tronair Inc.

The Tronair JP100SSC SOFTCAPTURE® electric towbarless tug is equipped with the patented SOFTCAPTURE® cradle, which allows the tug operator to safely capture aircraft from the driver's seat without the use of straps on the strut or any part of the nose landing gear. This saves time and money by allowing you to move aircraft without getting off the tug. The SOFTCAPTURE® mechanism eliminates the negative "strap capture" events so common when the strap is wrapped around the strut. The unit is designed to fit most common dual nose-wheel aircraft. The JP100SSC will revolutionize how you move aircraft!

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Diesel Tow Tractor Toyota Material Handling, U.S.A. Inc.

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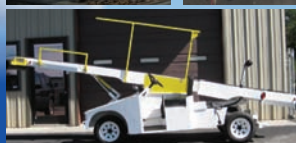
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Steve Smith

Five Things To Know About The Aviation Industry

IATA Chief: 'Let us make the second century of air transport even more remarkable than the first.'

By Steve Smith

Tony Tyler, the head of the International Air Transport Association, gave a speech last September at New York City's Wings Club. He opened with an upcoming century mark for the industry – on Jan. 1, 1914, Tony Jannus took a single passenger on the world's first scheduled commercial airline service.

With that in mind, here are five things to know about what he said regarding the aviation industry:

We're the world's transit system: This year, the world's airlines will carry more than 3 billion passengers – equivalent to around 44 percent of the Earth's population. "By value, over 35 percent of the goods traded internationally are transported by air," Tyler said. "Within the United States, aviation contributes some \$670 billion of gross value added annually, equivalent to 4.9 percent of GDP, and supports 9.3 million jobs."

We're the safest transportation system around: There's more reasons than one why the industry's first scheduled air service attracted all of one passenger. In less than a lifetime, air transport went from being a high risk activity to a routine part of daily life. For example, last year the Western-built jet hull loss rate was just 0.20 per million flights, or an average of one major accident for every 5 million flights. "At that rate, if you took a flight every day, odds are you could go 13,500 years without an accident," Tyler added.

Despite those accomplishments, we're broke: Aviation remains an enormously capital and labor intensive business that is extremely challenging across the business cycle and highly vulnerable to external events. Last year, the industry delivered earnings of \$7.6 billion, but that only sounds like a lot. "On revenues of \$680 billion, that equates to a net profit margin of just 1.1 percent, or around \$2.50 per passenger."

The U.S. airline industry is showing how to stay in the black: Earnings last year, excluding special items, were around \$2.1 billion for U.S. carriers with top line dollars being a veritable bargain. "In constant dollars, the average domestic round trip ticket, including bag and reservation change fees, has fallen by 10.4 percent since 2000," Tyler said. "Meantime, the average price of Gulf Coast jet fuel has risen 260 percent since 2000."

In other words, airlines are making money, with lower fares in real terms than a decade ago, in the face of much higher costs.

Don't worry about market forces, but worry about the return of regulation: The airline industry may be deregulated to set its own fares according to demand and also to serve destinations at will, he said. But regulators around the world are set to treat the airline industry in a manner wholly at odds with how other industries are treated within the workings of the free market.

"Regulators have and are continuing to pursue policies that are preventing airlines from partaking fully of the global economic revolution they themselves have done so much to facilitate," Tyler added. "The net result is not just bad for airlines, but for air travelers and the economy."

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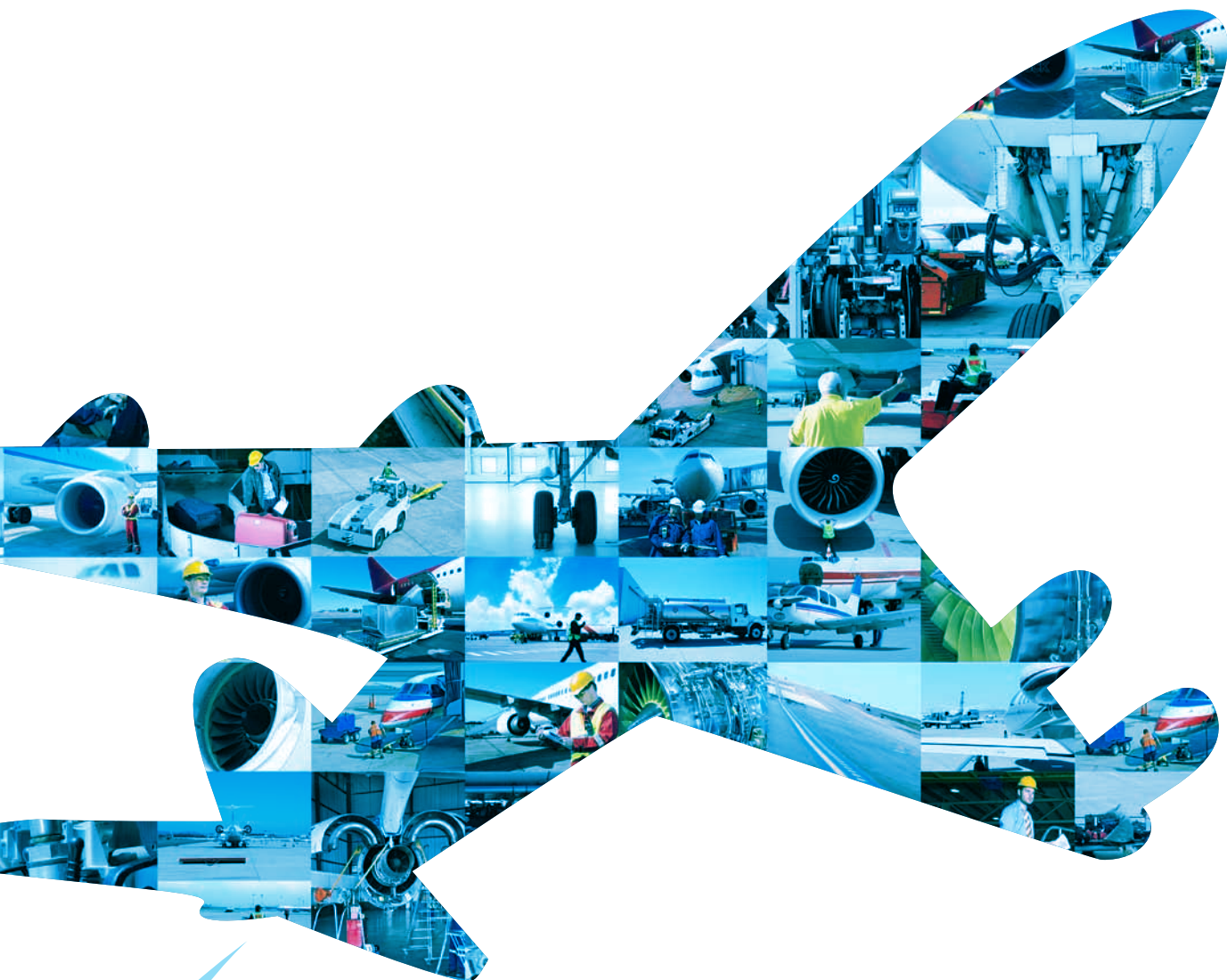
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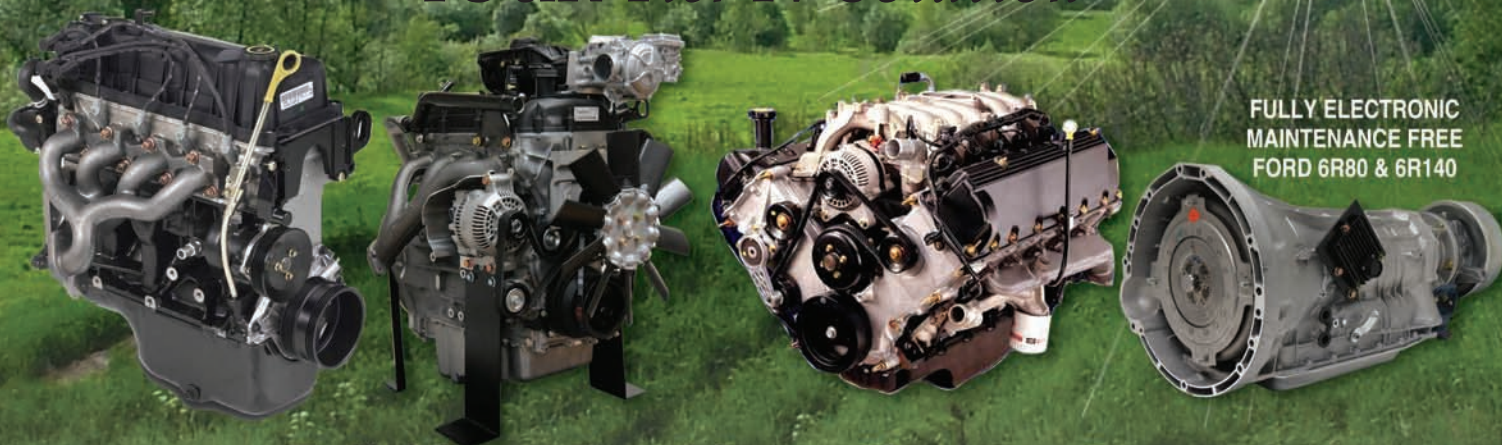
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