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WEARABLE TECHNOLOGY ON THE RAMP

OCTOBER 2014

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INTERNATIONAL

Russia Plans To Invest Billions Into Its GSE Industry

In addition to money for new GSE, the government plans on mandatory certification for all its ground handling activities, which will fully comply with international standards. Page 11

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GROUND SUPPORT WORLDWIDE

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Missy Zingsheim

Planning For Our 2015 Trade Show

Show Director Sue Ralston has more than 20 years' experience in trade show management, event marketing, communication and sponsorship and advertising sales.

By Missy Zingsheim

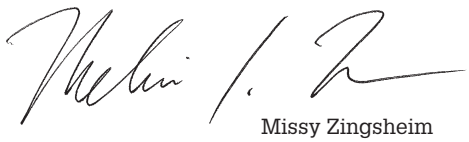
As we start the fall season I would like to introduce the newest member or our *Ground Support Worldwide* team, Sue Ralston. Sue will be taking on the role of Show Director for AviationPros LIVE, the premier GSE Expo.



Sue Ralston is a Certified Exhibition Manager (CEM) with more than 20 years' experience in trade show management, event marketing, communication and sponsorship and advertising sales. Most recently with the National Automatic Merchandising Association, Sue was director of events for two annual shows for the vending and coffee service industry. She is a graduate of the University of Colorado in Boulder and now lives with her husband and two children in a suburb of Chicago. In her spare time, Sue enjoys being a soccer mom, reading, cooking and running.

We at *Ground Support Worldwide* are excited to have Sue Ralston join our team and contribute in our continuing efforts in being the voice of the ground support community.

As always, thank you for reading *Ground Support Worldwide*.



Missy Zingsheim
Associate Publisher

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Major Events in 2014



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Orlando, FL

Business Buzz

Swissport International won a court victory on Sept. 23 in its fight to restore ownership rights in a Ukraine operation worth an estimated $25 million that it lost to its erstwhile partner Ukraine International Airlines. Ukraine's highest commercial court nullified a general shareholders' meeting held by Ukraine International Airlines that took place in April 2013. That meeting took place after Swissport had lost its 70.6 percent stake in the local joint venture with the nation's flagship airliner in an earlier court ruling. Having subsequently rebranded the cargo handler from Swissport Ukraine to Interavia, the UIA gathering of shareholders voted to increase the company's share capital by $1 million, significantly diluting whatever share Swissport could claim in the entity.

Verde GSE plans to add up to 14 employees to its workforce in the next five years, and projects sales of $13 million a year once production hits full swing. An article in The Bradenton Herald outlined how Rick Hansen, formerly of Hobart Ground Controls, and his fellow partners developed a new, more energy-efficient PCA.

Menzies Aviation will cut 324 full- and part-time jobs at Houston's George Bush Intercontinental Airport. The ground service provider said it would no longer provide services to international wide-body airline carriers at the airport as of Nov. 30.

Matheson Flight Extenders plans to hire 25 new part-time employees at its Billings Logan International Airport station and will add 25 more in the near future to cope with the holiday package shipping rush through Dec. 27.

Geneva-based **FBO PrivatPort**, affiliated to Swissport Executive Aviation, launched PrivatPort Munich, the newest base in the network – now embracing 79 stations – on Sept. 15. PrivatPort Munich, part of Swissport-Losch Munich, offers a full range of FBO services.

The **nation's airlines** posted $3.6 billion in profits in the April-through-June period, a 64% increase compared with the $2.2 billion in profits earned in the same period last year, according to



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new federal data. About a quarter of the $44.6 billion in revenues in the second quarter came from bag and other passenger fees, according to the Bureau of Transportation Statistics.

O'Hare International Airport is on pace to again be the world's busiest airport, a designation it lost a decade ago to Hartsfield-Jackson Atlanta International Airport. From January to August of this year, 585,517 flights departed or landed at O'Hare, according to the FAA. However, Atlanta's airport was not far behind, at 582,138, or 0.6 percent fewer. Atlanta edged out O'Hare by 3 percent in 2013.

United Airlines will lay off about 100 workers at Port Columbus on Oct. 1 and transfer their union jobs to Airport Terminal Services. This is part of a larger series of United layoffs at 12 airports nationally as the airline attempts to cut costs and bolster its bottom line.

Denver International Airport is making efforts to reduce its carbon footprint. The airport said Wednesday that it signed on to the Airport Carbon Accreditation program, which requires airports to track and ultimately lower their carbon emissions. Airports Council International-Europe started the accreditation program in 2009, and it now includes more than 100 airports around the world.

Emirates SkyCargo, the freight division of Emirates, has launched an internally developed and cost effective LD3 container that keeps temperature sensitive cargo cool when transported on the ground and in the air. Called the "White Container," it's the latest addition to Emirates SkyCargo's Cool Chain portfolio, and has been designed specifically as an intermediate temperature control solution which is ideal for generic healthcare products and food perishables.

New Deals

Meridian Regional Airport has been awarded the bid from SkyWest to operate all of the ground service functions for Meridian's new commercial air carrier, American Eagle, which includes ticket counter sales and baggage handling. American Eagle's first flight out of Meridian is Nov. 6.

Baltia Air Lines has signed a ground handling agreement with Swissport to handle its aircraft at

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JFK International Airport. In related news, the airline also signed a contract for fuel support services with World Fuel Services. World Fuel will plan, coordinate, source and purchase jet fuel to satisfy all of Baltia's needs. The airline is currently undergoing air carrier certification and will operate Boeing 747 aircraft across the Atlantic, from the U.S. to Europe.

Yingling Aviation bought the assets of aviation deicing company, ICT Aviation Services, to expand its offerings. Yingling will provide deicing and anti-icing services at Wichita Mid-Continent Airport. It has signed primary and secondary contracts with commercial airlines operating at that airport, and it will provide the services for other general aviation aircraft.

Worldwide Flight Services has won a 10-year contract with the option of a further five years to operate the new cargo terminal at Milan Malpensa Airport. The new building is expected to be completed in 2016 as part of the airport's aims to increase capacity to 1 million tonnes of cargo a year by 2020. The facility will incorporate seven landside doors for trucks, a ramp for smaller vehicles, secure cages for valuable cargo and dangerous goods, and cool rooms for temperature-controlled shipments.

Bahrain Airport Services Co. has selected air transport IT specialist, SITA to automate staff rostering and allocation at Bahrain International Airport in a new five-year deal. SITA's resource management system will help the ground handler achieve its objective by increasing the efficiency and productivity of its airport staff.



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WEARABLE TECHNOLOGY ON THE RAMP



"Aircraft turnaround can benefit from the strong notification capabilities of wearable technologies," says SITA Lab.

Smart watches, smart glasses and other wearable computing devices will be part of the airport of the future, according to the latest findings from SITA Lab.

"Wearable devices like Google Glass offer new opportunities to mobilize staff, keeping their hands free, while keeping them connected … ," said Jim Peters, SITA's chief technology officer at the 2013 Aviation ICT Forum. "Interaction can be via video analysis of what a staff member is looking at, like a boarding pass or bag tag, or voice recognition, or a combination of both."

While much of the SITA's immediate research centered on terminal personnel and, in particular, an interesting trial using Google Glass that the IT company partnered with Virgin Atlantic on earlier this year, it's also easy to see the potential for ramp agents.

"Aircraft turnaround can also benefit from the strong notification capabilities of wearable technologies," says the report. "It is a critical activity comprising of numerous time-sensitive and event-driven tasks. The dispatch officer can be kept fully informed and up-to-date on progress without being tied to a desk."

Stephane Cheikh, innovation manager



Smart glasses linked wirelessly to an airport management system could help ramp agents make the turn and much more.

By Steve Smith

for SITA Lab, also recently outlined how wearable tech could become part of the tarmac.

- Smart glasses linked to an airport management system via WiFi or mobile phone could provide ramp agents with their next task and all the background needed to complete the job.
- For troublesome equipment, the smart glasses could take a photo and forward on to a mechanic for a live video.
- No need to fill out paperwork since all the information could be effortlessly transmitted back to the main office.
- Using augmented reality, ramp agents could access instructions on how to perform their tasks.
- Information on parts could be scanned and checked against inventory with an order placed with just a tap or voice command.

"The advent of wearable devices – with Google glass and Apple's iWatch probably the most high profile examples – seems to be generating a lot of interest and some of the technology-watching analysts have tipped the whole sector for major growth," says Dr. Gareth Evans, a European-based contributor of *Ground Support Worldwide.*

Credit Suisse, for example, predicts that the market for wearable technology will increase tenfold to as much as $50 billion over the next three to five years.

"On the plus side, SITA seems to have found many opportunities for check-in and reservations systems, not least allowing staff to maintain human interactions while calling up information," Evans adds. "On the minus side, they also highlighted some difficulties with speed and battery life. All of this is to some extent inevitable, of course, given the early nature of the technology."

SITA STUDY

Technology observers are touting wearable computing as the next big thing that could re-define how we use and interact with information.

"What is driving the phenomenal growth is not just smarter gadgets, but their ability to connect to other devices, such as smart phones and iPads, and the wireless Internet," says the study. "It is another part of the long-predicted 'Internet of Things' in which everyday objects are connected enabling them to communicate and transfer data. As such they will also be a contributor to big data."

A less-developed wearable market until very recently has been smart headgear. Google grabbed the headlines in early 2013 with the launch of a head-mounted display device called Google Glass to a select group of users.

SITA Lab was one of a few selected developers to receive both the Google Glass and Vuzix M100 devices before their public launch, in order to evaluate them.

According to SITA, there are a number of advantages expected from wearable technologies in general and smart headsets in particular:

- **Hands-free computing:** This is of immediate benefit to anyone who performs physical tasks using both hands and needs access to information at the same time.

- **Multitasking:** It is not necessary to stop what you are doing to use the device while there can be constant interaction available between the device and user with no need to turn the device on or off.
- **Information that's 'pushed.'** Context-specific information that doesn't have to be
- **Explicitly 'pulled' by the user.** It means many of tasks that today use a tablet or smart phone could be simplified by wearable devices.

SWIFT BOARDING

As part of its testing, SITA Lab developed an application called SWIFT Boarding using the smart headgear's built-in camera as a scanner and the heads-up display. The aim was to allow agents in the boarding area to securely scan and verify both a boarding pass and passport simultaneously wearing smart glasses. Both documents are held side by side while the app matches the two to ensure they belong to the same person.

Similarly, the team at SITA Lab found that smart glasses can be used to scan bag tags to retrieve mislaid bag information from WorldTracer, the airline industry database for finding misplaced baggage, or even phone the owner of the bag.

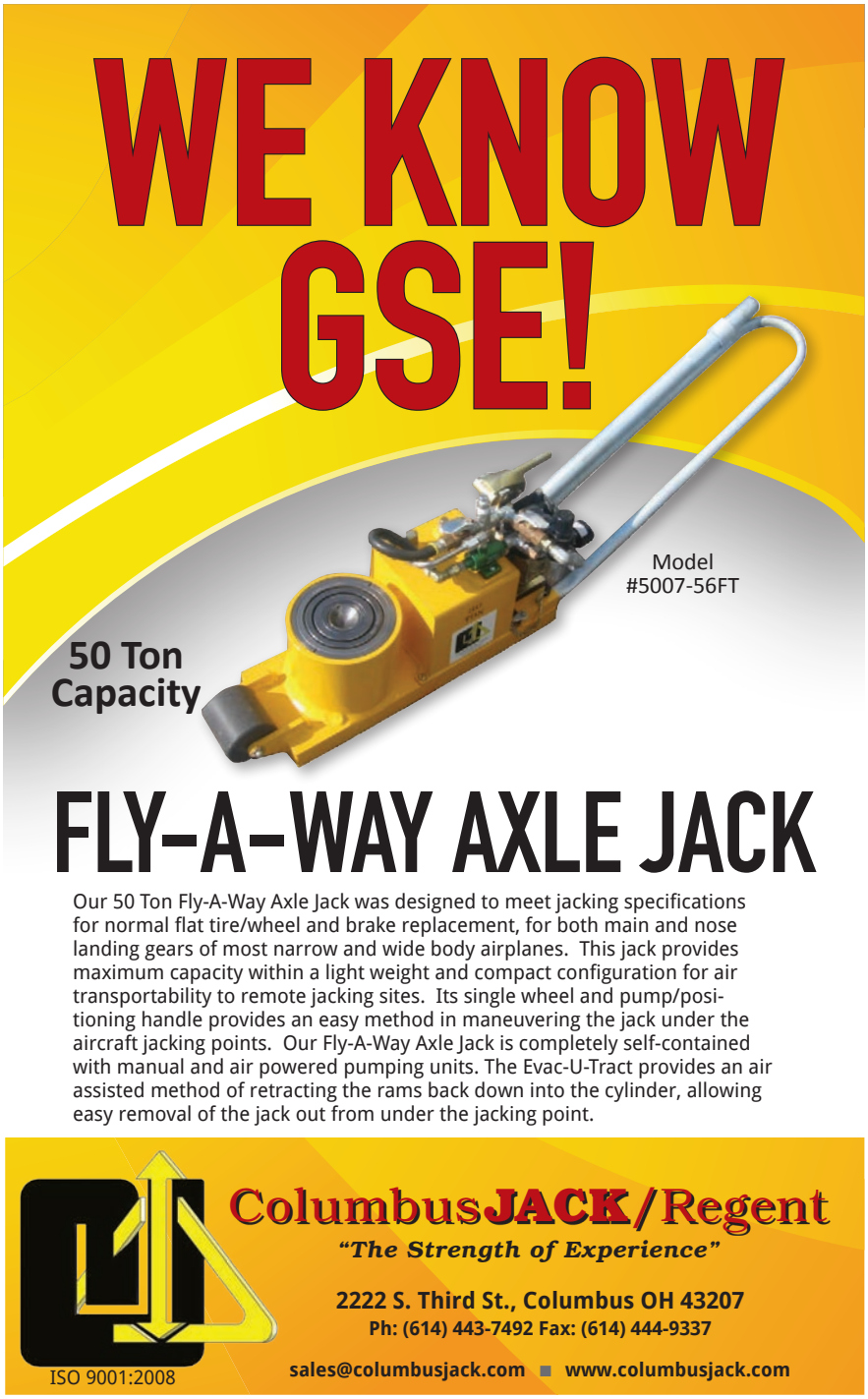
As a concept, SITA deemed the test a qualified success. Yes, travel documents and loyalty cards could be scanned by the smart glasses. But the devices are not fast enough yet to be able to meet the high speed passenger processing requirements needed at airports. Matching the documents takes longer than the industry's one-second benchmark making it inviable as an alternative to existing systems, until more powerful smart glasses are developed.

"Our research has shown that for any type of use in the air transport industry the technology needs to be more robust to avoid breakage and the cost will have to come down," Peters says.

The camera quality will also need to be enhanced. Currently it requires near perfect light conditions within the airport for scanning documents to be successful. Other areas to be addressed include bandwidth for widespread use, battery life and of course the cultural and social issues both for passengers and employees.

"It is no major surprise that our research into this developing technology shows that there are issues to address," Peters adds. "This is inevitable with any new technology.

In fact, many of these same issues were identified by SITA Lab in the early days of the smart phone and the expectation is that they will disappear as new devices are released over the next 12-18 months. When that happens the potential that wearable computing promises may lead to new and innovative uses by the air transport industry.



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"Poor ground handling infrastructure in the majority of Russian airports currently remains a major problem and a major constraint for rapid development of the domestic aviation industry," says Irina Frolova, head of ground handling services of Transaero, one of the country's largest airlines.

Russia Plans To Invest Billions Into Its GSE Industry

In addition to money for new GSE, the government plans on mandatory certification for all its ground handling activities, which will fully comply with international standards.

By Steve Smith

The Russian government plans to invest more than $22 billion by 2020 into developing the infrastructure of its national airports, of which about $2.6 billion will be allocated for the needs of the domestic ground handling industry.

According to an official spokesperson of the Russian Ministry of Transport, more than half of these funds are expected to be allocated from the federal budget, while the remaining 40 percent will be provided by private investors.

The allocation of funds for the development of Russian ground handling is an acute need, since the current level of ground handling services provided by local operators remains low. Also, the poor condition of the country's airport infrastructure and the current fleet of GSE throughout the country's domestic airports only adds to the need to make the investment.

"Poor ground handling infrastructure in the majority of Russian airports currently remains a major problem and a major constraint for rapid development of the domestic aviation industry," says Irina Frolova, head of ground handling services of Transaero, one of the country's largest airlines, "This is reflected by the lack of ground handling technologies and equip-

ment at Russian airports. That means that we cannot simply operate in such airports and their base regions. Due to this, airlines, whose fleets are equipped with modern aircrafts, cannot perform flights to many parts of Russia."

In addition to the improvements in airport infrastructure and GSE, the government will also tighten control in the national industry of ground handling. This will take place through the introduction of mandatory certification for ground handling activities in Russia.

According to Mikhail Bulanov, head of aircraft airworthiness maintenance of the Russian Federal Air Transport Agency, currently the Russian ground handling industry suffers from a lack of legal regulation. As a result, there is a need to design new separate aviation standards for the national ground handling industry and to introduce mandatory certification of ground handling services in the country and for all its providers. In addition, Bulanov says there are plans to establish requirements for programs for training of specialists to the industry, as well as to synchronize the requirements of foreign companies and airlines and Russian aviation authorities and local legislation. Last but not least, the domestic regulations should be harmonized with international standards for ground handling services.

COMPREHENSIVE MEASURES

The adoption of such comprehensive measures is, in part, a response to criticism of the industry, which was recently expressed by no less than Russian Prime Minister Dmitry Medvedev. According to Medvedev, imperfect legislation, as well as the monopoly of existing operators in the field of ground handling remains one of the industry's major problems.

"The level of competition in the national ground handling industry currently remains poor," Medvedev says. "According to our plans, new operators in the field of ground handling will be established. This will ensure fair access for the industry's' operators to work with airlines and domestic airports."

Medvedev has also said that in contrast to foreign airports, which usually cooperate with several refueling companies, the "situation in Russian airports is completely different."

INCREASING SAFETY

According to an official spokesperson in the Russian Ministry of Transport, the implementation of these state plans in the field of ground handling and the increase of the quality of the provided services is very important since it will increase aviation safety in Russia and potentially avoid new plane crashes, which in recent years has significantly increased.

For example, one of the reasons for the crash of ATR-72 aircraft at Roshchino airport (Tyumen) in 2012 and a similar tragedy of a Boeing 737-500 at Kazan International Airport, was the result of low-quality ground handling services, according to results of an investigation conducted by the specially established government commission.

As part of the government's plans to improve the situation, Russia will revise its current system of providing for ground

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handling services and shift from regulatory approval to a bidding process. Currently, ground service providers in Russia must prove their abilities to provide quality ground handling services and to ensure the safety of those services. This is contrary to the EU and the U.S practice, where the provision of ground handling services takes place on the basis of competition.

According to Bulanov, such a difference between the Russian and EU practices results in the system of double standards in Russia and therefore in the inability of mutual recognition of experts' certificates, ground handling procedures, as well as the results of audits and checks.

"This results in additional costs for the training of specialists, the growth of the number of audits and inspections, the increase of the volume of paperwork and the inability to use international experience by Russian companies," he explains. "Finally, the costs of the provided services are growing, while their quality is declining."

MAJOR OBSTACLE

In the meantime, a major obstacle in implementing all of these plans is the significant deterioration of relations between Russia and Western countries, which may negatively affect business of many Russian ground handling service providers. Trade wars between Russia from one side and the U.S. and the EU from another, threaten to spread to the Russian aviation industry and, in particular, ground handling services. In response to the recent decision of the EU and the U.S. to impose a ban on the supplies of dual-use products to Russia, the Russian government has already restricted imports of engineering products from Western countries and has not ruled out the possibility imposing other bans, including the imports of GSE.

Due to a series of economic and political crises in Russia, the country's GSE production has never fully developed. Currently, the majority of local GSE manufacturers specialize in producing either outdated, equipment designed during the Soviet era or small-scale copies of imported equipment. There are also some market niches where the share of imports reaches 100 percent.

As a result, the Russian ground handling industry remains heavily dependent on foreign GSE. The rise of import duties and the imposition of a complete ban on its supplies may have catastrophic effects on the business of many national ground service providers. Despite recent statements of some Russian top officials and, in particular, Dmitry Rogozin, Russia's first deputy prime-minister that Russian producers of GSE will be able to easily replace importers on the domestic market, the majority of Russian airlines have serious fears that the imposition of mutual sanctions may result in a significant decline of the quality of ground handling services.



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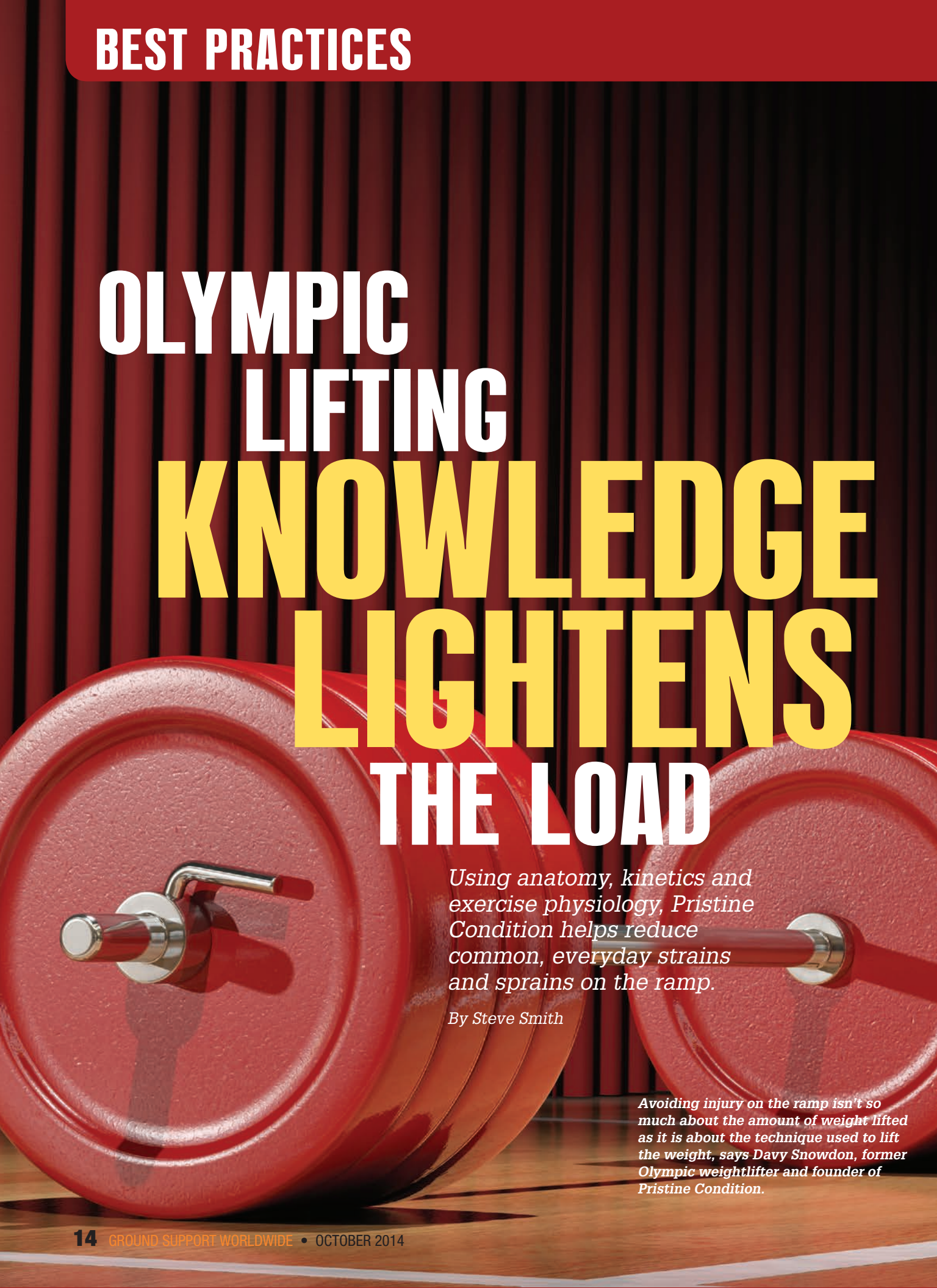
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OLYMPIC LIFTING KNOWLEDGE LIGHTENS THE LOAD

Using anatomy, kinetics and exercise physiology, Pristine Condition helps reduce common, everyday strains and sprains on the ramp.

By Steve Smith



Avoiding injury on the ramp isn't so much about the amount of weight lifted as it is about the technique used to lift the weight, says Davy Snowdon, former Olympic weightlifter and founder of Pristine Condition.

Before Davy Snowdon began teaching others how to lift properly on the ramp, he was learning firsthand how to safely lift even heavier objects up and over his head.

Snowdon, founder of Pristine Condition, Oxfordshire, UK, spent years as an Olympic weightlifter before going on to serve as a strength and conditioning coach to all 32 teams that represented Great Britain at the Summer Games in Barcelona in 1992 and Atlanta in 1996. Additionally, he was appointed national coach to Great Britain's women's weightlifting team in 1992, taking them to the title of "Champions of Europe."

Snowdon recognized that the anatomical skills and expertise he gained for his sport and coaching others to master Olympic lifts were a perfect match to teach workers how to improve manual handling techniques. His knowledge of anatomy, kinetics and exercise physiology has enabled him to apply these basic principle to essential areas of safety and wellbeing for ramp workers as well as across many other different work settings.

"Using Olympic weightlifting techniques for manual handling, our clients have seen significant benefits," Snowdon says. "Some companies we've worked with have achieved unprecedented results – in some cases, a 100 percent reduction in the number of recorded manual handling incidents, accidents and claims."

ASIG

We first learned about Snowdon and his company several years ago in a cover story on a safety program put into place by the ground service provider, ASIG ("ASIG's ZIPP," *Ground Support Worldwide*, February 2012).

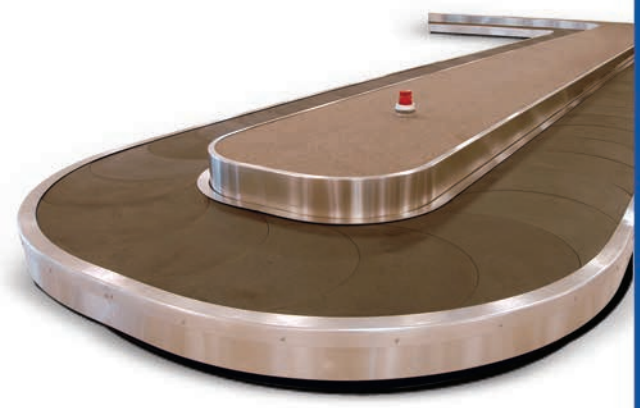
At that time, D. Bradley Keith, ASIG's director of health, safety, environmental and training, highlighted an interesting fact: three-quarters of ramp accidents at ASIG sites are so-called "soft tissue" injuries. These are the assorted sprains and strains to muscles due to strenuous activity. While certainly painful, these injuries are far from the life-threatening events that make the news after an accident on the ramp. However, they remain one of the most frequent types of work-related industries across any industry that requires workers to routines lift manually.

"Using Olympic weightlifting technique for manual handling, our clients have seen significant benefits."

Technically, what Keith was describing are musculoskeletal disorders – injuries or pain in the body's joints, ligaments, muscles, nerves, tendons and

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structures that support the limbs, neck and back The most common results of MSDs are the inflammatory conditions that cause pain and impair normal activities.

To stop such common injuries, ASIG was just in the early stages of trying out Snowdon's program at its Atlanta and Heathrow sites.

Pristine assesses the tasks ground crews perform daily and produces customized videos along with job site training and online material that employees can watch and learn from rather than just read a stack of books and sit in a classroom.

"Reducing handling injuries is quite simply about changing people's habits," Snowdon explains, "exchanging a bad one for a good one." His company predicates much of its success to three drivers:

- Individual buy-in to the change.
- Monitoring that change.
- Management support to maintain the change.

"The harsh reality is that initiatives fail when any of those three is deficient," he adds. Also, when it comes to manual handling training, conventional wisdom also overlooks one simple fact.

"The body doesn't tell you every time you get it wrong," Snowdon explains, "only when you've got it wrong too often – but that's when it's too late.

Snowdon says to consider that statement in the context of the extreme manual handling tasks of Olympic weightlifting. Here's where you'll see athletes lifting a maximum amount of weight off the ground in a single lift.

TECHNIQUE, NOT WEIGHT

"Injury is a huge fear for any athlete and weightlifters are no exception," Snowdon says. "Yet even when a competitor fails a lift, they don't get injured. Why? Olympic weightlifting has evolved, with athletes striving for anatomical technical perfection, minimizing the pressure they place on their body. As a result, even though they're moving weights far beyond so-called 'safe' guidelines, weightlifters are rarely injured trying."

That's proof to Snowdon that avoiding injury is primarily not about weight, but about technique.

Teaching that technique is where Pristine Condition's "bespoke" videos make the difference. Readers can see some excerpts of the videos, typically all filmed at the customer's job site, at the company's website, www.pristine-condition.com.

"Conventional manual handling training is too generic," Snowdon explains, "using unrealistic scenarios of lifting empty cardboard boxes from perfectly flat floors onto precisely positioned, waist-high tables. Your employees' workplace isn't like that, so don't be surprised when they don't buy into that message."



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"Crucially though, training needs to be delivered in an engaging way, so it's remembered positively."

To get employee buy-in, Snowdon says consultants need to deliver practical training, using lifting principles that everybody will buy into because they genuinely believe it reduces their chances of being injured. Those principles need to be easy to follow and applicable to any handling scenario.

"Crucially though, training needs to be delivered in an engaging way, so it's remembered positively," he adds. "For example, is 'Death by PowerPoint' really promoting engagement?

After the employees on the front line buy into the Pristine approach, the company also follows up throughout the organization's management to keep the positive changes moving forward.

"With poor handling technique, supervisors are less confident about what actually is right, even if they instinctively know something is wrong," Snowdon says. "Simplicity is the watchword. Lifting principles are either right or wrong with no grey areas."

Combinine the training with regular safety audits and Snowdon believes any company can greatly improve safety and productivity.

"The top asset in any organization should be the staff who work there," Snowdon says. "Health and wellbeing is of the highest importance. What could any company do without staff? It goes without saying, the more you improve the health and wellbeing of the staff, the more you improve the health and wellbeing of the company."

One Case Of Pristine's Success

While Pristine works with a wide assortment of business where the common denominator is manual lifting, one of its success was for a "leading UK airline," that reduced its lost time due to accidental and injuries for at least one part of its workforce by 68 percent during a 12-month training program.

Pristine put together a program for baggage and cargo handlers, cabin crew, engineers, and flight operatives.

The company assessed the manual handling tasks that the airline workers were required to perform daily, and trained some 11,000 employees. During that time, the airline reported 25 manual handling injuries between October 2008 and September 2009 – hence, the 68.75 percent reduction.

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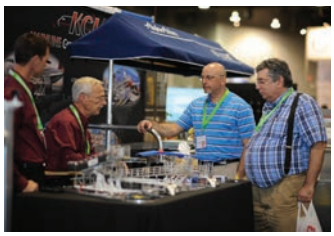
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How To Eliminate The Hazards Of Airport Construction Projects

The increased risks that airport construction brings to active airport operations needs to be properly managed to prevent ground damage to aircraft and injury to personnel.

By Kevin Crowley

When was the last time you traveled through an airport and have *not* seen some type of construction in progress? Whether it's inside the terminal facility, runways, taxi ways, or the ramp and tarmac areas, congestion and the increased risks that airport construction brings into active airport operations needs to be properly managed to prevent aircraft ground damages.

Airport real estate is often at a premium as airports try to maximize ramp and tarmac space to accommodate increasingly larger aircraft and their footprints on the ground. For example, aircraft with "winglet" features, fresh out of the factory or retrofitted, adds additional length and height to the wings increasing the profile (wing growth) of the aircraft.

Eliminating aircraft ground damages caused by aircraft being struck by other



When faced with something that is "out of the norm," such as airport construction, bad decision-making often leads to a mistake that can lead to aircraft damage or an employee injury.

aircraft and the wingtip clearances between moving and parked aircraft needs to be actively monitored in tight operating areas at any airport.

When marshaling aircraft into gate spaces, pushing aircraft onto taxiways and repositioning aircraft from hangars and remote parking locations, constant and accurate communication will be one of the most effective means of reducing risk and eliminating hazards that are associated with this important ramp function.

Something as simple as an aircraft pre-movement "huddle" with the ground repositioning teams and ground operations teams can be effective if conducted properly; this promotes organization and continuity within the team as each team member will understand their role and responsibility during aircraft movement. Hazards and obstacles can be identified prior to aircraft movement with strategies already in place to eliminate and reduce risks and avoid hazards during the aircraft movement process.

"What if" planning eliminates making a mistake that you didn't necessarily intend to commit. However, when faced with something that is "out of the norm," such as airport construction, our normal decision-making process is challenged and bad decision-making often leads to a mistake that can lead to aircraft damage or an employee injury.

NOT JUST THE GATE

Handling aircraft is much more than loading and unloading, servicing and cleaning at the gate.

Moving aircraft in less than ideal situations, such as during airport construction, requires organization and management. An effective aircraft movement team will have identified responsibilities throughout the team reducing ambiguity between members.

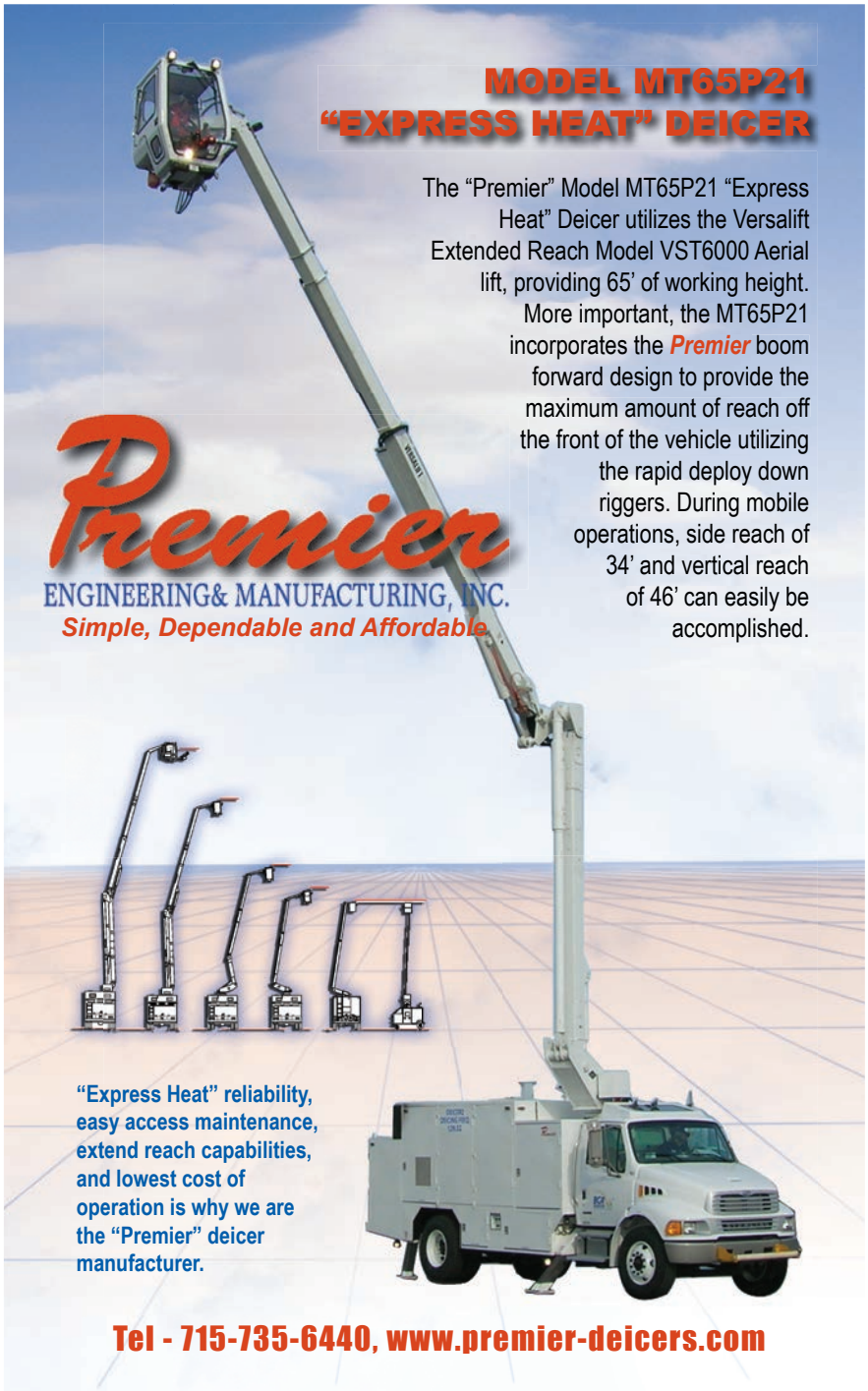
This will foster alignment of all responsibilities throughout the team with each team member aware of a preventative strategy and aircraft movement team members will be aware of and have more clarity of specific responsibilities during the movement process.

Something as simple as accurate and effective communication, and holding team members accountable for their responsibilities in the aircraft movement process is one approach to "change management." A plan such as this can easily be implemented and assessed for effectiveness.

BEFOREHAND

Prior to any airport construction project, adequately evaluating risk at the gates, on taxiways and in aircraft maintenance hangars (all aircraft movement areas), can be accomplished by conducting risk assessments for these areas.

It is an important task that air carriers need to accomplish to reduce the probability of an event occurring where the wing of an aircraft comes in contact with stationary objects such as a boarding bridge or other aircraft wing tips from



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adjacent gates and hardstand areas.

When conducting a gate risk assessment, step back and and ask yourself: "*What* can go wrong? *What* can happen?"

Use your experience, expertise and knowledge of local airport configurations and regulations to ask these questions when there are differences in airport layouts due to construction or re-configuration. Communication and risk assessments are two important components of "change management."

When conducting an assessment on your operation, especially gate, taxiway and tarmac areas that may undergo a construction project, there are several hazards that should be addressed prior to the start of any project that will alter normal, everyday operations.

The following hazard questions can be considered a checklist, but in reality should be considered more of a memory jogger of what we should be asking ourselves:

- Am I identifying and documenting all hazards that exist?
- Who is at risk and how may harm occur?
- What am I already doing? (List any existing control measures, procedures, or safeguards that already exist)
- Have risks been reduced "as far as reasonably possible"? (If not, state what additional measures should be considered.)

RISK RATING

Assigning a risk rating based on probability and severity can be accomplished by using a simple risk matrix that will determine a risk rating based on these two variables. It is also important to assign a responsible person within the organization to communicate the identified hazards and risks.

The use of wireless headsets is an example of technology that will greatly reduce aircraft collisions while under the control of ground crews.



The wireless headsets provide a better way to communicate in ramp operations because it allows communication in both directions between the pushback driver and the wing walkers (or other employees wearing them) to speak in real time, unlike a standard handheld walkie-talkie. The wing walkers can also hear the communication between the flight deck and the pushback operator allowing the entire team to be focused on the task at hand; in this case, moving aircraft throughout congested aircraft landscape due to reconfiguration from construction.

When moving aircraft, hand signals are greatly relied upon. But hand signals only work when they can be seen and are effective if they are executed in a clear, concise manner by the person who is giving them.

In most cases, we see personal "interpretation" of hand signals, or ineffective variations of standard hand signals that often lead to undesirable outcomes.

With a wireless headset product, the pushback driver can literally be right in the ears and mind of the wing walkers and aircraft marshalers by eliminating self-induced and external distractions, and reducing channelized attention and tunnel vision from ground employees that are given the task of assisting with aircraft movement and repositioning. Aircraft collisions between a fixed object and other aircraft have been avoided

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When conducting a gate risk assessment, step back and ask yourself: "What can go wrong? What can happen?"

and documented by aircraft repositioning crews wearing wireless headsets throughout the industry.

Maintaining situational awareness of aircraft wingtip and tail clearances for specific operational areas, such as airport construction zones, performing continual risk assessments until the work is completed; teamwork and technology can assist with aircraft damage prevention strategies at our ever-changing airport landscapes.

About the author:



Kevin P. Crowley, senior analyst for ground safety programs, CQA/ASQ, 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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The RIGHT TUG for the TIGHT TURN

Mototok tugs incorporate industrial wireless transmission control technology to tow fixed-wing aircraft and helicopters, which reduces operational costs and increases safety.

By Steve Smith

Kersten Eckert, aviation enthusiast and the first European owner of a Cirrus aircraft, figured there must be a better way to simply move his plane out of its hangar.

Eckert sold audio equipment for the automotive market, but he started out in the aviation industry serving as an aircraft mechanic apprentice and later qualifying as an aircraft electronics engineer.

While his business pursuits lead him elsewhere, his hobby remained flying, which seemed to him to come with a frustrating amount of time spent stuck on the ground. To get going, Eckert always had to make sure that he or someone else was on board to apply the brakes if needed. Then, a few other people were needed to keep their eyes on the wings and tail to make sure the aircraft didn't come down with a case of "hangar rash." And if his plane was parked all the way in the back, well, maybe, he needed a different hobby, altogether.

So with the help of two other colleagues, Eckert set out to find a better way to get airborne.

After about five years of development, the first Mototok tugs hit the market in 2008 and offered new technological solutions to many well-known technical problems.

Essentially, what the company developed is a battery-powered, wireless transmission controlled, heavy duty industrial tug with microprocessor technology that captures and lifts the nose gear of most any airplane or helicopter allowing the operator hands-free connection and 100 percent visibility around the aircraft. With the Mototok, ramp agents can easily maintain an all-round view of the aircraft and stop the aircraft on a dime safely with controlled speeds and braking that can never be altered.

Nose wheels are easily picked up using a "one-click function" that takes only 15 seconds and is hands-free requiring no manual labor from the operator and no need for straps or winches or tow bars. The mouth of the Mototok is also equipped with a suspension system so as not to harm the nose gear



Powerful electric motors, emission-free and perfect for inside a hangar, driven by maintenance-free batteries with high cycle capability are regulated and controlled by two microprocessors.

during start up, braking and turns.

From there, the AC permanent magnetic brushless electric motors are powered by maintenance-free led gel batteries with high cycle capability that are always regulated and controlled via the internal microprocessors. High torque ensures smooth acceleration throughout, but particularly at the start of the tow and is fully programmable with easy settings for open and closed towing environments.

There is no need to move maintenance stands or other aircraft as the Mototok's low profile can go under the fuselages and wings of almost all corporate aircraft and because the Mototok turns on the same spot on the ground as the aircraft's nose, there is no shunting of the aircraft while turning the nose in a stopped position. All this with the added advantage of the highest traction surface of any tug in the industry and long operating times requiring no special electrical requirements for charging.

There is no exit path of the tug to consider when attaching or detaching from the aircraft's nose gear providing aviation operations the added benefit to utilize every inch in the hangar. As a result, the equipment's biggest advantage is its ability to maneuver an aircraft's nose, tail or wing to just a few feet away from a either a hangar wall or the next aircraft. "Snail" mode allows the operator to safely move the plane to its parking space. Once the Mototok tows the plane to where it needs to be, the operator can simply back the tug away from the aircraft saving time and space in the process. The company says the tug can increase the parking space in a typical hangar by 40 percent.

Mototok's are equipped with high definition LED lighting in front and in the mouth of the unit for night time operations and located on the front control panel is an LCD Monitor to show the battery life and voltage. The monitor can also be easily accessed to perform diagnostic checks and reprogramming if needed.

While the tugs come in different models, one tug can handle a variety of aircraft up to its maximum load capacity since the unit automatically adjusts to various single or double nose wheels regardless of the size.

Various models are available with maximum towing capacities of 61,729 to 209,439 pounds, respectively.

"It was a completely new concept for towing corporate aircraft when it was first introduced and aviation professionals were quick to see the advantages we offered," says Paul Acri, sales manager, Mototok America. "If you look at other towing tractors, they're all fine and certainly get your aircraft out of the hangar and onto the ramp. But, we offer a high-tech solution at an economical price that not only safeguards the aircraft but benefits the aviation operations in ways only a Mototok can offer."

The company offers a full range of tugs for almost all aircraft:

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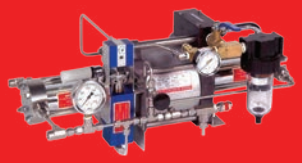


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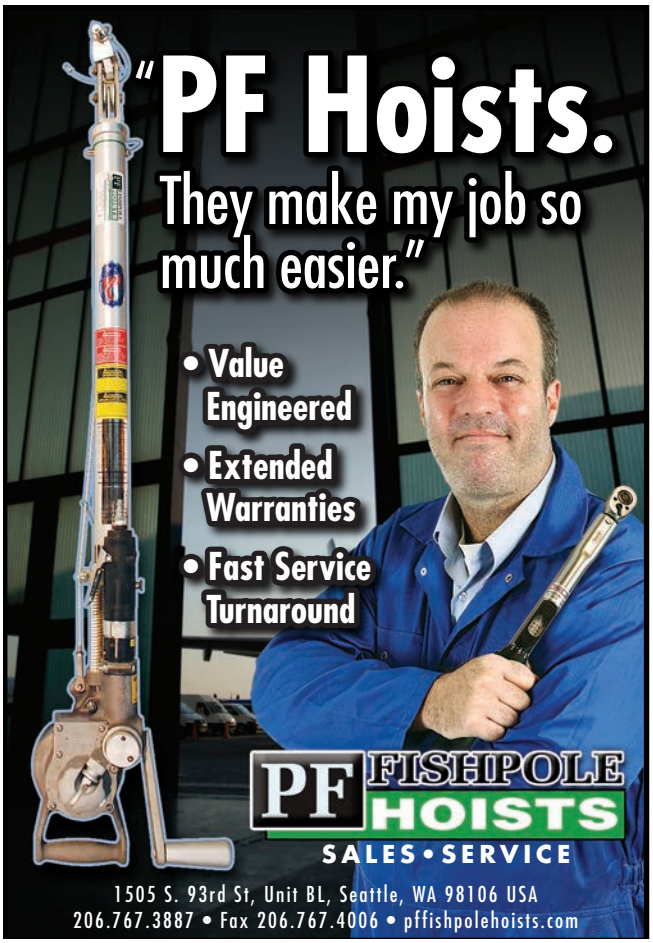


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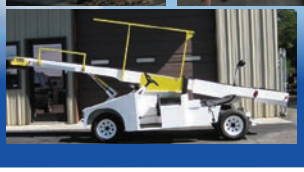
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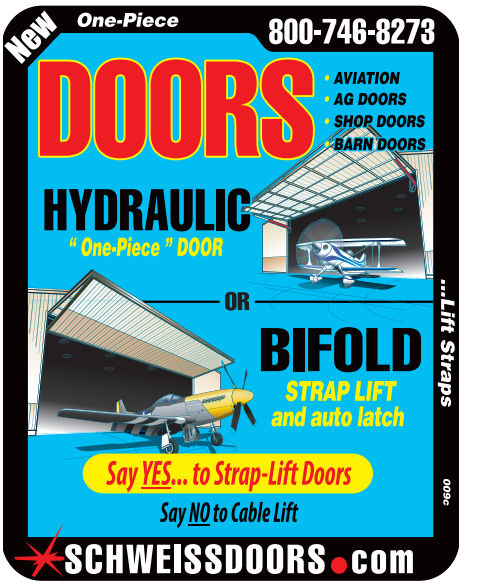
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Steve Smith

Greenwashing At The Airport

Talking the talk without walking the walk.

By Steve Smith

Last month's cover story featured profiles of companies re-invigorating the GSE market with not just the typical "new and improved" equipment, but also more "green," more "energy-efficient," and more "environmentally friendly."

No matter how you describe it, alternative energy GSE that can save money on fuel and maintenance that keeps combustion engines going without compromising on the performance we've come to rely on from fossil fuel is the slow and steady bet to place in most any race.

IN NAME ONLY

But have you ever heard of "greenwashing"? It's a play on "whitewash" and means to promote the perception of environmentally friendly policies without much follow through on the conception, itself.

Every natural resource is limited in some way, and we know we should allocate such resources responsibly. But sometimes the misallocation of another type of *un*natural resource – in this case, cold, hard cash – can be just as wasteful and shameful as leaving all the lights on.

Consider this recent news story:

- Dateline Lehigh-Northhampton Airport where the airport authority "breathed a sigh of relief" after finding a way to repay a $791,000 federal grant that was misspent on electric vehicle charging stations at the airport.

Six chargers were installed four years ago, but never used since the airport never bought the electric GSE vehicles as planned.

According to the local newspaper account, the matter began in 2009, when the FAA pledged $2.5 million and the state Department of Environmental Protection put in another $700,000 to fund most of a project to install the charging stations as well as purchase eight electric PCA units. The FAA money was to go to the equipment purchase and construction, and the state money toward buying eight electric baggage and loading vehicles.

But the GSE were determined to be an ineligible use of the funds. So four years later, the FAA said the unused charging stations were an "improper" use of the grant funds. Initially, the FAA wanted all its $2.5 million returned, but after negotiations agreed to $791,000, largely based on what should have been spent on the GSE.

"It gets us out of a difficult position," said Authority Board Chairman Marc Troutman. "It's important to note that we inherited this problem. Most of us weren't on the board when this all started. We're all just working to get things pointed in the right direction again."

There are still no definite plans, however, to use those electric chargers.

"We're not abandoning that program. We're going to have to wait until we're in a better financial position to buy the vehicles," Everett said. "Right now, we don't know when that might be."

This type of mismanagement gives green a black eye. But on the bright side, at the very least the PCAs were installed at a cost of more than $1 million and are working as planned.



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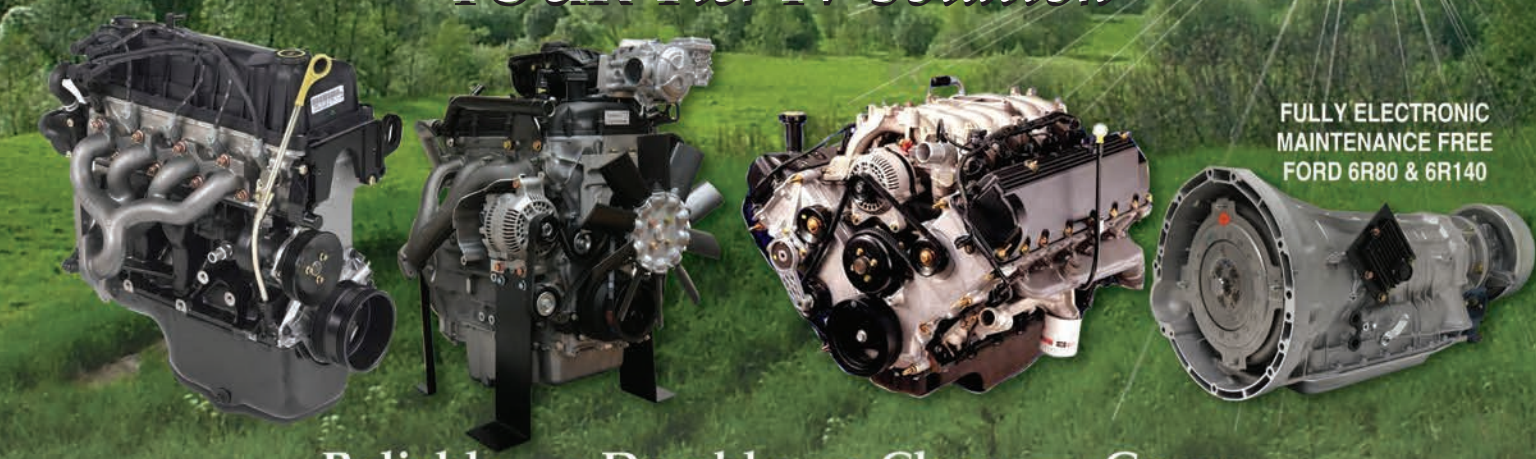
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