

GROUND SUPPORT

WORLDWIDE

February 2013



1940s



1950s



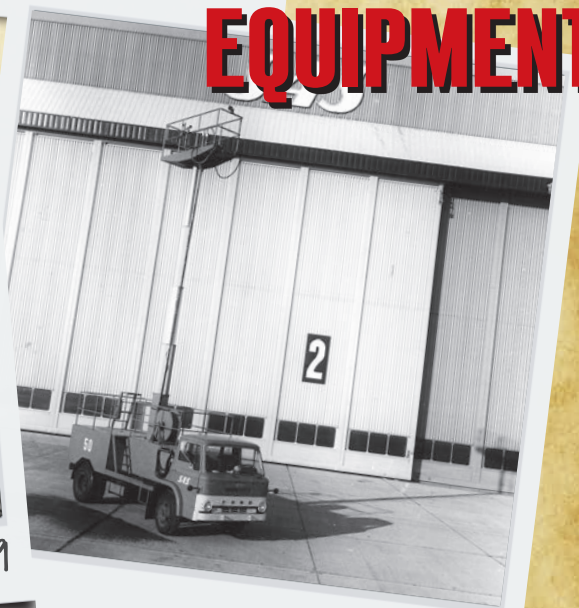
THE HISTORY OF GROUND SUPPORT EQUIPMENT

INTERNATIONAL: The ABCs of IGOM

A primer on IGOM, ISAGO, AHM and GDDB, and IATA's plans to standardize ground handling operations throughout the world. **Page 16**



1959



1960s



VIDEO
Network

AviationPros.com

Come See Us
In Vegas
3/13-3/14
.....
Booth
1025

**AVIATION
PROSLIVE**

J&Baviation®

Make the **RIGHT** connection.

Now Part of... **HOBART**
GROUND SYSTEMS



New! 400Hz Banded Cable
with Replaceable Noses



Now Available! Towbars & Maintenance/Crew Access Stand

J&B Aviation Services Is The Premier Supplier of Reliable Ancillary Airside Products!

Our Cutting Edge Gate & Ramp Accessories Include:

- 400Hz Power Distribution • Potable Water**
- Pre-Conditioned Air • Lavatory Service**
- Air Start • Baggage Chutes**
- Aircraft Parking Systems**
- Reels to Store 400Hz Cables & PCA Hoses**

*We have been recognized for our high levels of
experience and expertise, and have become...*

Your Source For Airside Solutions!

We Also Provide The Following Services

- System Design • Start-Up**
- Specification Review**
- Installation • Project Management**
- Training & Tech Support**



Call Today ~ 1-866-621-0074

For A Quote Or Visit

www.JandBAviation.com

SYNERGY
Now & For The Future
Your Total Systems Provider

HOBART
GROUND SYSTEMS

An **TW**
SUBSIDIARY

TRILECTRON
air-a-plane

TW MILITARY
GSE

HOBART
GROUND POWER

J&Baviation

Editor Steve Smith
920.563.1644 steve.smith@AviationPros.com

Publisher Phil Saran
920.568.8338 phil.saran@AviationPros.com

**Associate Publisher/
Sales Missy Zingsheim**
920.563.1665 missy@AviationPros.com

Classifieds Josh Jones
920.568.8307 josh.jones@AviationPros.com

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

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

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

Production & Circulation

Art Director Rhonda Cousin

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

Circulation Manager Debbie Dumke
Production Director Steve Swick

AviationPros LIVE

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

Published by:



Cygnus Agriculture, Technology and Transportation Group

Gloria Cosby – Executive Vice President

Gerry Whitty – VP, Marketing

Larry Greenberger – Group Publisher/
Transportation Group

Cygnus Business Media

John French – CEO

Paul Bonaiuto – CFO

Julie Nachtigal – VP, Audience Development

Eric Kammerzelt – VP, Technology

Ed Wood – VP, Human Resources

Curt Pordes – VP, Production Operations

Published and copyrighted 2013 by Cygnus Business Media, 1233 Janesville Ave., Fort Atkinson, WI 53538 USA. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording or any information storage or retrieval system, without written permission from the publisher.

Cygnus Reprint Services

To purchase article reprints, please contact Wright's Media at 877.652.5295 or email info@wrightsmedia.com.

Subscription Policy: Subscriptions are free to qualified businesses. Others may purchase subscriptions at these rates: US, 1-year \$40, 2-years \$80; Canada & Mexico, 1-year \$60, 2-years \$115; All other countries, via airmail, 1-year \$90, 2-years \$170. Single copies \$10.

Ground Support Worldwide (USP 015-386, ISSN 1934-2861 print, ISSN 2150-4016 online) is published ten times annually in February, March, April, May, June/July, August, September, October, November and December/January. Periodicals postage paid at Fort Atkinson, WI and additional mailing offices.

Change of address or subscription information: Toll Free – 877-382-9187, Local – 847-559-7598, circ.groundsupportww@omeda.com

POSTMASTER: Please send address changes to Ground Support Worldwide, Cygnus Business Media, P.O. Box 3257, Northbrook, IL 60065-9765. Printed in the U.S.A.

Canada Post PM 40063731. Return undeliverable Canadian addresses to: Ground Support Worldwide, Station A, P.O. Box 54, Windsor, ON N9A 6J5.



COVER STORY

8 The History Of Ground Support Equipment

Ground Support Worldwide turns 20 years old with this issue. With one birthday in mind, we decided to take a look at many more GSE birthdays and celebrate some of the names behind the brand names.



16



19



22

INTERNATIONAL/FEATURE

16 The ABCs Of IGOM

A primer on IGOM, ISAGO, AHM and GDDB, and IATA's plans to standardize ground handling operations throughout the world.

19 GSE SAFETY: Fasten Your Seat Belts!

Delta Air Lines installs seat belts in its ground support equipment as OSHA wants other airlines to follow suit and provide the same protection for ramp workers.

DEPARTMENTS

- 4 In The News**
- 34 Product Profile**
DXB Opens A380 Concourse
- 36 Product Hangar**
Boarding Bridges and Passenger Stairs
- 40 Classified Advertising**
- 42 Editor's Note**

COLUMNS

- 22 Ruminations from the Ramp**
Memories Of Ground Support Equipment
- 28 Ramp Safety**
Is It Time To Replace Your Towbar?
- 31 Maintenance Matters**
Five Maintenance Tips To Keep GSE Running In Winter

Major Events in 2013



AviationPros LIVE
Las Vegas, NV



Asian Business Aviation Conference & Exhibition
Shanghai, China



GSE Buyers Conference
Lisbon, Portugal

Business Buzz

Swissport May Leave SOF:

Swissport has threatened to withdraw from Bulgaria's Sofia Airport after it filed two complaints claiming unfair competition and volatile business environment at the airport.

ASIG Wins Spirit Award:

ASIG was named Ground Handling Business Partner of the Year by Spirit Airlines. ASIG provides a variety of airside services to more than 15,000 Spirit Airlines flights at 11 U.S. airports.

Signature To Build FBO At

LTN: Signature Flight Support will begin constructing a new, state-of-the-art FBO to replace its existing facility at London Luton Airport.

Menzies Closes ORD Station:

John Menzies will take a \$29 million hit on profits in restructuring work at both its periodical distribution and aviation units. It also said its aviation unit would close loss-making cargo-handling operations in Chicago, having looked at alternative options for two years.

Upswing For Cargo Amid

Cautious Demand: IATA released traffic results for November 2012 which showed an improvement in both passenger and air freight demand. Air travel was 4.6 percent higher compared to November 2011, up on the October result of 2.9 percent. Air freight volumes edged up 1.6 percent over the same period after declining 2.6 percent in October, year to year. Passenger capacity rose 3.2 percent and load factor improved one percentage point to 77.3 percent compared to the year-ago period.

IPO For Saudi Handler: Saudi Ground Services, the ground handling unit of national carrier Saudi Arabian Airlines, has hired HSBC for advice on a planned initial public offer.

OSHA Renews Alliance With

GSE Safety Panel: OSHA renewed its alliance with the Airline Ground Safety Panel to address hazards and worker injuries related to operating aviation ground support equipment. The Airline Ground Safety Panel is a joint industry and labor partnership that consists of 11 airline companies and three unions that employ and represent 350,000 workers, which accounts for about 85 percent of the industry.

New Deals

Swissport Extends Service

To Thomson: Swissport UK announced an extended partnership with Thomson Airways that includes retaining existing operations within London Gatwick, London Stansted and Newcastle airport as well as

new business at Manchester Airport.

Aviator Wins New Business With SunExpress:

Aviator was awarded a new handling contract with SunExpress for all its locations in Norway as well as Malmo Airport and Lulea Airport in Sweden.

Servisair To Deice JetBlue:

Servisair was awarded two deicing contracts for JetBlue at Boston Logan International Airport and LaGuardia Airport. Also, Virgin Atlantic has awarded Servisair contracts Aberdeen, Edinburgh and Manchester airports. Finally, Canadian airline Air Transat has selected Servisair as its partner to provide ground handling services for operations at London Gatwick Airport.

Cavotec Announces Con-

tracts At HAN, CAI: Cavotec has won three contracts to install aircraft fuel and electrical supply ground support equipment at two separate applications at Hong Kong International Airport. The company also announced orders for integrated GSE equipment at Hanoi's Noi Bai International Airport and Cairo International Airport.

B GSE To Supply AFB:

B GSE Group, LLC will supply USS Inc. 400 Hz hatch pits to the Cannon AFB in Clovis, NM. The base has ordered a second hangar for the C 130. B GSE Group has an exclusive partnership with the Churubusco, IN-based manufacturer.

MoU A First For danata:

Myanmar Airways International has signed a Memorandum of Understanding with dnata to offer joint

Advertiser's Index

Advertiser	Page
A T Juniper.....	35
Advance Metalworking Company Inc.....	39
AERO Specialties.....	29
ASIG.....	25
Charlatte.....	13
Columbus Jack.....	11
Current Power.....	39
David Clark.....	21
Eagle Tugs.....	26
Engine Distributors.....	44
EVA Intl Media.....	7
Garsite.....	20
Global Ground.....	34
Goldhofer.....	31
Gorman-Rupp Company.....	27
Ground Support Specialist... ..	39
GSE Intl.....	39
Hannay Reels.....	23
Harlan.....	28
Hobart.....	2
Hydraulics Intl Inc.....	32
Kato Engineering.....	17
Lektro.....	37
Liquid Controls.....	24
Mercury GSE.....	39
Metroplex.....	35
Mysliik.....	36
Par-Kan.....	43
Pear Corp.....	38
Pemica.....	39
PF Fishpole Hoists.....	37
Phoenix Metal Products.....	32
Planet GSE.....	14
Premier Engineering & Manufacturing.....	18
Rampmaster.....	33
Rotorcraft.....	22
Servicore.....	38
Sommerset GSE Finance.....	10
Taughannock Aviation.....	30
Tronair.....	20
U.S. Airmotive GSE.....	6
Wasp.....	5



See us
at

AVIATION PROS LIVE

Booth 1017

March 13 - 14, 2013
Las Vegas Convention Center,
Las Vegas, NV

Passenger Stairs

Walk-Behind or Towable Manual

- Rubber Bumpers on Lead Edges
- 12-Volt LED Lighting with Timer
- Moveable Platform Handrails
- Hydraulic Stair Stabilizer
- Engine Choices - Kohler® Gas or Kubota® Diesel
- Morton® Non-Slip Walk Surfaces
- "Ready-To-Use" Towbar
- Full Modesty Panels
- Auto-Locking Deck Stabilizer
- Moveable by Hand
- Powder-Coated to Customer Color

Narrow Body Aircraft Model Sill Height: Min. 85" -
Max. 152" (Canopy Optional)
Regional Aircraft Sill Height: Min. 62" -
Max. 96" (Canopy Optional)



Fueling Stair

- Min. 60" - Max. 120"

Spiral Box Type

- Designed to be Maneuvered by Hand
- Gripstrut Steps and Platforms
- High Stability Inherent in Design
- Rubber "D" Bumper on Lead Edge
- Safety Features Per OSHA Guides
- Equipped with Towbar Actuated Parking Brake
- 102" (2590.8mm) Shipping Width
- Powder Coated Per Customer Color



100% Certified Welders

WASP's Custom Built Products include:

Access Stands Refueling Stairs Belly Stands Push Carts Cabin Service Trucks
Cabin Service Carts Scissor Lifts Caster Decking Commissary Carts
Conveyor Systems Floating Dock Bumpers Human Remains Carts Mail Carts
Mail Dump Carts Maintenance Platforms Mine Carts Nitrogen Carts
Scat Trailers Ski Carts STU Trailers Test Weights Tire Changer Carts
Tire Inflating Cages Tub Carts UDI Decks Under Carriages for Bag Carts Zoo Carts

GSE Sales: Kevin Hanson

Phone: 320-634-5885; Fax: 320-634-5881

Email: khanson@waspinc.com

Parts & Service: Ruth Beam Phone: 320-634-5886;

Fax: 320-634-5266; Email: rbeam@waspinc.com

www.waspinc.com

PO Box 249, Glenwood, MN 56334 USA

EOE/AA

AviationPros.com/company/10017945



ground handling services in Myanmar's airports, the first time that the state-run carrier has ever partnered with a foreign company for such ramp services.

People

Malabar International signed an agreement with **Glen Greacock**, Aerospace GSE Ltd, to represent it for sales and service of Malabar products in Western Europe.

Jasper Engines & Transmissions announced the following changes to its leadership: **John Schroeder** was named vice president of drive-train manufacturing.



Joe Haug was named manager of the transmission division at the Crawford

County facility. **Mark Balsmeyer** was named director of the Jasper Production System.



JPS is a combination of JASPER's workforce, and the processes and systems that guide the company's re-manufacturing procedures.

BBA Aviation Flight Support promoted **Maria Sastre** to the position of president and chief operating officer for Signature Flight Support Corp. In her new role, Sastre is responsible for the daily

operations of Signature's worldwide network of FBOs and maintenance centers. Also, Signature Flight Support promoted **Geoff Heck** to the position of a senior vice president of sales and marketing.

Patrick Lester

joined B GSE Group, LLC as the east coast military sales executive and service pit sales expert responsible for sales, project management and after-market support. Previously, Lester worked at a military OEM manufacture where he supported military sales and special project sourcing initiatives for seven years.



Mary Hester was named managing director of station operations for Horizon Air, where she will be responsible for airport and customer service operations in 31 cities spanning California, Idaho, Montana, Nevada, Oregon, Washington, Canada and Mexico.

ASIG appointed **James "Jimmy" Glock** to vice president, carbon solutions. Glock is leading the company's sales initiatives for ASIG's partnership with GE Aviation's engine wash technology called ClearCore™. He is responsible for securing engine wash service contracts with commercial airlines and the U.S. military throughout the United States.



FULLY WELDED PCA HOSE No Air Leakage



- Reinforced Spiral Wire & Layflat Hose
- Insulated & Non-insulated Products
- Tested To Handle 5 P.S.I.
- UV & Abrasion Resistant Materials
- Various Diameters, Lengths & End Finishes

MANUFACTURERS OF: AC & DC GROUND POWER STARTING CABLES PER MIL SPEC. MS90328, MS90347, MS25486, MS25488 • PLUGS AND RECEPTACLES AC & DC MS25486, MS25488, MS25487, MS25019, MS90362, MS3506.

HOSES: LAVATORY DRAIN-BLUE & POTABLE WATER-PCA-AIR/HEAT-JET STARTER COUPLINGS FITTINGS AND CONNECTORS • CASTERS • WHEEL CHOCKS • DAVID CLARK LAV METERS • PARTS FOR TUG • HOBART • TRILETRON • PARKAN • FMC • CLYDE



CONVEYOR • BELTS • SAFETY VEST • DIRECTIONAL WAND • TOW BARS • CARGO NETS
STRAPS • TIEDOWN RINGS • MATERIAL HANDLING AND MORE

NEW CRUSH PROOF LAVATORY DUMP HOSE



You can Run over it,
Smash it or Drag it
and STILL USE IT!

U.S. AIRMOTIVE GSE
YOUR ONE STOP SOURCE SINCE 1963

FLORIDA MAIN OFFICE
Phone (305) 885-4992
Fax (305) 885-9537
Po Box 660474
Miami Springs, FL 33266
sales@usairmotivegse.com

CALIFORNIA SALES OFFICE
Phone (310) 327-8407
Fax (310) 327-8439
paula@usairmotivegse.com

WWW.USAIRMOTIVEGSE.COM

Visit us at AviationPros LIVE booth #1606

GSE Buyers' CONFERENCE 2013



24th - 26th April
Tivoli Hotel Lisbon



REASONS WHY ONE SHOULD ATTEND THE GSE BUYER'S CONFERENCE

- Excellent opportunity for purchasing managers of ground support equipment to network with other buyers of GSE.
- Excellent Opportunity to discuss future purchasing decisions with manufacturers, distributors and finances.
- Opportunity to hear from other similar organisations on how they procure GSE and the training that is available for ramp handlers.
- Opportunity to discover cost effective ways to move forward in the field of Ground Support Equipment.
- Opportunity to meet industry leaders in your area of responsibility.
- Opportunity to liaise with some of the world's leading manufacturers of Ground Support Equipment.
- Ideal event to showcase products and services to a focused and targeted audience.
- An Amazing networking opportunity to network and make new connections in the field of Ground Support Equipment.
- An opportunity to gain a unique perspective of the emerging issues facing the Ground Support Equipment industry.
- Gain ideas on how to make the Ground Support industry greener and more environmentally friendly.
- Hear about future plans in the next decade of Ground Support Equipment.
- Hear about how Airports are dealing with harsher weather conditions and learn how this affects the GSE industry.
- All in the beautiful location of Lisbon, Portugal.

For further information visit:

<http://evaint.com/our-events/gse-buyers-conference-2013>

or telephone +44 (0)208 668 9118

or email Bhavi Atul, Event Coordinator at bhavi@evaint.com

www.evaint.com

The History of Ground

Ground Support Worldwide turns 20 years old with this issue. With one birthday in mind, we decided to take a look at many more GSE birthdays and celebrate some of the names behind the brand names.

By Steve Smith

Our magazine may be into just its first generation, but look how far the aviation industry went in only its first two. Just 50 years after the Wright Brothers' first flight, the British Overseas Airways Corp. began operating the first passenger jet service.

And consider how much the industry changed in little more than the following two generations:

In 1958, for example, more people crossed the Atlantic by ship than plane. In the United States, the 10 largest transportation companies were all railroads.

Less than one in 10 Americans had ever even been on an airplane. The notion of "how far" it was from New York to Los Angeles was measured in days. Hawaii drew just 171,000 visitors.

With that in mind, here are some milestones in GSE development:

- »» **1705** – The Goldhofer family starts a forge in Amendingen, Germany.
- »» **1811** – Friedrich Krupp starts casting steel.
- »» **1860** – What eventually will become

Orville Wright gets all the credit, but Wilbur was the world's first ramp agent. Take a closer look at what's under the right wing of the plane, and read more about its contents below.

TLD begins with a silk-weaving business in Lyon, France.

- »» **1883** – John Bean invents a continuous spray pump to battle bugs on his 10-acre almond orchard and the Bean Spray Pump Co. is born.
- »» **1891** – Brothers August and Joseph Thyssen start out with a coal mine and steelworks.

At the start of the 1900s, Earl Estes starts the Dixie Manufacturing Co. The company's original product line includes horse collars and saddles. You no doubt recognize many of these other surnames, but what about Earl Estes? We'll pick up his story in another 70-some years.

- »» **1903** – Wilbur Wright becomes the world's first ramp agent. This year marks 110 years since Orville Wright took off from the sand at Kill Devil Hills aboard the Wright Flyer into a freezing headwind of 27 miles per hour and flew about 35 yards.

Take a look at one of history's most famous photos above, and you can see much more of Wilbur than Orville as the Wright Flyer makes its maiden voyage.

A closer look, however, reveals the picture also shows a work bench and a jumble of something to the right of the bench.



While "tug" is American shorthand for a GSE towing vehicle, the French had the Americans beat in the 1950s when Tracma introduced a new type of tractor for the aviation market to replace the agricultural models then in use. To this day, French-speaking countries call a "tug" a "tracma."

Support Equipment

That turns out to be world's first "GPU" and "chocks." We found out more about the details at an EAA Web site on vintage aircraft:

"On the right end of the airplane's foot-printed outline is a small footstool or bench, with a large C-clamp lying across the center support of the bench," H.G. Frautschy writes. "Ken Hyde of the Wright Experience believes they used the clamp to gently secure the wingtip of the machine to the bench, to prevent the Flyer from rocking too much from side to side in the breezy conditions as they prepared it for flight.

"To the bench's right, there is the starting battery, with its kinky, stiff wire sticking out of the wooden box. It was used to start the engine of the Flyer, which was also equipped with a Splitdorf dynamo. A battery was needed to supply enough electricity to generate a spark within the primitive make-or-break ignition system used for the engine. There's also a shovel and a small can, which, according to "The Papers of Wilbur and Orville Wright" edited by Marvin W. McFarland, contained "nails, tacks and a hammer in it, for emergency repairs."

»» 1914 - The "aeroplane" is just starting to see military service at the start of World War I. Over the next four years, the plane graduates from reconnaissance missions to bombing runs. The Hucks Starter, an auxiliary power unit that provides the initial start-up power to piston engines, proves that machines replacing workers isn't anything new. (There's a picture of a Hucks Starter in Tony Vasko's column on page 24.)

»» 1917 - C.C. Hobart, along with his wife, Lou Ella, and their three sons, Edward, Charles and William, starts what will become Hobart Brothers. The company makes generators, metal office furniture and air compressors.

»» 1918 - Pilots buzz rural America as "barnstorming" becomes popular entertainment.

All a daredevil pilot needs is an open field to land on, in other words, the first farm he spots. After cutting a deal with the farmer, the pilot performs various stunts for the crowd.

Meanwhile, the farmer could lend an extra hand with his tractor. Which, of course, is why even to this day, we refer to an aviation towing vehicle as a "tractor."

Farm tractors prove a reliable source for aircraft towing throughout most the early days of aviation.

Meanwhile, James L. Entwistle, electrical engineer and MIT prof, starts the Entwistle Co.



TUG AND TUG TECHNOLOGIES

This is the first tug to come off Tug Technologies' line in 1973 and has serial no. 001 to prove it. Two ground handling companies used the tug for more than 35 years. TUG restored the vehicle and donated it to the Museum of Commercial Aviation 2009.

»» 1923 - Clark Trutractor Co., better known today as forklift manufacturer, Clark Material Handling Co., builds the Duat tow tractor to pull trailer loads of lumber, freight and industrial material. This workhorse, shown on page 15 could be a distant relative to today's vehicles.

»» 1926 - The American Brattice Cloth Corp. opens and sells flame-proof cloth cut to order for the mining industry. Some 60 years later, ABC Industries is known for ducting materials and other GSE products.

Godtfred Vestergaard starts his business at his home outside Copenhagen, Denmark. The company's original product is an aluminum mold for constructing mattresses. Later, the company starts making lifts for a university.

»» 1928 - Two years after founding Kato Engineering, owners Elmer Jensen and Louis Wilkinson hire Cecil Jones who develops a rotary converter that lets rural families operate AC appliances with DC storage batteries.

»» 1929 - Regent Manufacturing sets up shop.

»» 1933 - J.C. Gorman and H.E. Rupp, two engineers out of work during the Great Depression, begin making pumps in a barn outside of Mansfield, OH. Their competitors ridicule their first line of "non-clogging" pumps. The company goes on to report \$359

million in sales for 2011.

Clifford Hannay starts out with a few lathes and establishes what will become Hannay Reels. Company remains owned and managed by the 4th generation of the Hannay family.

»» 1935 - E.P. "Ed" Grime starts the Malabar Machine Co. making items from customer drawings. In just a few years, Lockheed asks Grime to build the first tripod jacks specifically for aircraft.

»» 1939-1945 - Aviation has an enormous impact on the course of World War II and the war has just as significant an impact on aviation. The United States has 3,600 military aircraft when Hitler marches into Poland in 1939. By the end of the war, U.S. military aircraft production reaches

Passenger stairs? More like passenger stair. In the early days of commercial aviation, getting on and off a low-slung plane wasn't that difficult.



PHOTO: GEORGE HAMLIN



nearly 300,000 – turning out more than 96,000 aircraft at peak production in 1944.

Of course, the whole world is arming itself. As a result of all this aircraft, we finally begin to see a real market for GSE

or, as the U.S. military refers to it to this day, the “forgotten enabler.”

We start recognizing more names of well-known manufacturers:

- The Northwestern Motor Company – the “NMC” of NMC-Wollard – introduces a tow tractor.
- During the war, Stewart & Stevenson builds hundred of tractors and self-propelled bomb ordnance loaders for the U.S. Air Force.
- Hobart Brothers produces 100,000 welders and 45,000 generators to support the war receiving the Army/Navy E Award for its efforts.
- Columbus Jack of Columbus, OH, gets its start selling most of its production to the military fighting World War II (and later the Korean War).
- Ford, as just an example of other automotive makers, bulks up its 9N tractor with cast-iron. Approximately 10,000

of these tractors dubbed Moto-Tugs see duty.

- By this time John Bean's company was known as FMC (“Food Machinery Corp.”). In 1941, FMC designed and built amphibious landing craft. While not GSE, the contract helped the company gain a foothold in the military GSE market.

The David Clark Co. provides one of the more interesting stories in the aviation industry at this point. The company's first products are griddles and bras, but by the war years it specializes in pressurized suits for the Air Force and, later, space suits for all NASA missions. (The company also made the suit Felix Baumgartner used last October to jump from 24 miles above the earth.)

»» 1945-1959 – Commercial aviation starts to take off. By this time, a host of international GSE manufacturers begin building specialized equipment:

- Hobart Brothers sets up Hobart Ground Power after American Airlines asks the company to design a generator to start larger aircraft engines.
- Air-A-Plane begins manufacturing PCA units.
- Douglas Equipment opens.
- Davis Taylor builds an electric cart for his own use in his poultry supply business. After numerous requests for the vehicle, he starts the Taylor Shop. Fred Dunn joins Davis Taylor's business in 1951, and several years later the company changes its name to Taylor-Dunn Manufacturing Co.
- Garsite, LLC starts manufacturing aircraft refuelers, hydrant dispensers, fuel delivery trucks, above-ground fuel storage tanks, aviation fueling systems and vacuum pumper trucks.
- Tracma begins making tractors designed for aircraft towing to replace commonly used farm tractors. The name of the company becomes synonymous with “tractor” in French-speaking countries in the same way “tug” will be used in the United States.
- ACE starts business making test equipment for the aviation industry, but also expands into GSE.
- An airport manager and a friend of Axel Ackerman, who started out fixing automotive electrical systems in 1924, asks Axel to make a small 28V DC rec-



Somerset GSE Finance is a global leader in providing asset management and financial services to aviation and ground handling companies. Somerset capabilities extend outside the United States throughout Canada, Europe, Asia and Australia.

Current Inventory:

- (1) 2012 B1200 120k GVW
- (1) 2012 B600 60k GVW
- (1) 2012 B400 35k GVW
- (1) 2012 Commander 15i Standard
- (1) 2012 Commander 15i Wide
- (2) 2012 TLD 120 kva GPU
- (2) 2006 Global Ultimate 2200 TEAP Deicer
- (1) 2007 Global Ultimate 2200 TEAP Deicer



Equipment Sales * Short Term Rentals * Long Term Leases * Refurbishment Services

Tel: 888.891.7316

15 Church St., Vernon, NJ 07462

www.somersetgse.com

AviationPros.com/company/10614843

Columbus JACK/Regent Overhaul and Refurbishment

Extend the life of your asset

tifier for starting small aircraft. The AXA Power unit works trouble-free for another three decades.

- Joe Cochrane creates Cochrane Airport Systems to build the first belt loaders specifically for the aviation industry - a natural since he was already making similar lettuce-packing loaders. The company eventually expands into cargo loaders and, after an ownership change, becomes known as Lantis Corp.

PHOTO: MUSEUM OF COMMERCIAL AVIATION



The National Museum of Commercial Aviation (www.nationalaviationmuseum.com) is currently renovating this airstair truck, the very same GSE that serviced the Concorde on the opposite page. The museum is also in the process of creating an exhibit on the history of GSE. Stop by Ground Support Worldwide's booth, at next month's AviationPro LIVE, March 13-14, Las Vegas to find out more.

- L.W. (Lu) Taylor and Harold Higbee start Enfab Inc. Innovative engineering leads to the creation of a proprietary fiberglass filter coalescer. The company is eventually renamed Velcon Filters.
- Albret gets its start making maintenance platforms and aircraft docking systems. Later, the company adds passenger stairs.
- Jim Kaplan starts Harlan Corp. to rent and rebuild lift trucks. Kaplan realizes that the parts most common to fail are not readily available so he redesigns the parts and develops sources for new

ColumbusJACK/Regent repair services can vary from simple seal replacement to a major overhaul. We have a technical staff that understands your problems and can offer on-the-phone and online assistance anywhere in the world. ColumbusJACK/Regent can repair, overhaul or refurbish ALL makes and models of jacks to a like-new condition* in our Ohio facility.

* Must have a re-buildable core.

ColumbusJACK/Regent

"The Strength of Experience"

2222 S. Third St., Columbus OH 43207

Ph: (614) 443-7492 Fax: (614) 444-9337



ISO 9001:2008

sales@columbusjack.com ■ www.columbusjack.com

Visit complete product catalog on our website.

AviationPros.com/company/10134078

designs. Ten years later, one of his customers in Venezuela asks Kaplan to make him a tow tractor. Harlan buys a Model E Clark lift and re-engineers it. Eventually, the company grows from building 10 tractors a month to 90.

- Stewart & Stevenson enters the GSE business with GM Detroit Diesel.
- Glen Cummins Sr. goes to work as the general manager of Berglund Motor Co.'s new division, Engine Distributors Inc., to distribute Ford Motor Co.'s industrial gasoline engines. Glen rises through the ranks and eventually becomes vice president as EDI reps more engine lines. In 1983, he buys the company. Today, his son and two grandsons own and operate EDI.

The spray pump mechanism John Bean invented to get rid of bugs in his 10-acre almond grove turned out to be just what an aircraft deicer needed in another 80 years.



PHOTO: VESTERGAARD

Undoubtedly, the 1950s close on a high note for GSE. The first passenger boarding bridges in the United States are installed at San Francisco International Airport and LaGuardia Airport in 1959.

- »» 1960 – SCHOPF introduces its first aircraft tow tractor.

Engineers at FMC Corporation start building some of the first deicer vehicles that used aerial devices to spray aircraft. John Bean's spray pump serves as the foundation. Its early deicers could deice a plane in 15 minutes. FMC also develops a cargo handling system for the new containerized generation of jet aircraft. The self-propelled Flite-Line Loader allows one person to unload a plane's full cargo of containerized baggage in just 15 minutes.

S.L. Parker opens a metal fabricating business called Parker Industries making garbage containers under the trade name "Par-Kan."

Clyde W. Olson starts Clyde Machines Inc. and begins making hydraulic motors for tampers used by utility companies.

Unitron starts supplying the defense-aerospace, aviation and industrial markets with GPUs, PCAs and other power systems.

- »» 1962 – Richard Stern and Yves Helleboid form Devtec to distribute and service GSE outside of the United States. Much later, Devtec becomes TLD Asia and TLD America.

- »» 1963 – U.S. Airmotive GSE begins providing a full line of GSE parts and supplies for the industry.

- »» 1966 – Bud Bushnell buys the manufacturing rights to a material lift operated with compressed air. Customers are impressed with the "magic in the bottle" and Genie Industries gets its name.

SAS asks the Vestergaard Co. to modify some existing aircraft deicers. As a result, Vestergaard wins an order for new

Vestergaard introduced the Elephant Alpha equipped with the now familiar telescopic boom in the 1980s. It's a big change since its first generation of deicers. The "Bean Stalk" featured a vertical, telescopic tower with a platform on top from which the operator applied fluid with a spray gun.

aircraft deicers. The "Beanstalk," as it's informally called, consists of a vertical, telescopic tower with a platform on top from which the operator applied fluid with a spray gun.

Harold G. Hall opens Hall Industries as a contract screw machine shop.

- »» 1967 – Lektro, which pioneered the electric golf cart, produces a small electric aircraft tug for a Oregon FBO using a chassis originally built for an eclectic cart for area mink ranchers.

- »» 1968 – Robert Watkins starts General Transervice Inc., an airport refueler

maintenance company at PHL. GTI later develops the Rampmaster, a modular design that simplifies maintenance by separating the truck from the fuel tank.

- »» 1969 – Eagle Tugs introduces its bobtail cargo tractor, a model still in production.

John L. Grove forms a partnership with two friends and buys a small metal fabrication business in McConnellsburg, PA. The company sells its first JLG lift.

- »» 1970 – Remember Earl Estes and Dixie Manufacturing, which started back in the 1900s catering to the horse and buggy market? Robert Smith buys the company, now known as Estex, from the founder's widow. Smith grew up near ATL and figures the company's textile products could expand into the aviation industry. Products include baggage cart side curtains and covers. Delta Air Lines becomes its first customer and remains a major account.

The Dana Corp.'s flight department starts Danair. Its first products were tow-bars for corporate jets. Danair is sold in 1980 and becomes Tronair.

- »» 1972 – ITW Military GSE begins specializing in military GSE.

Paul MacCready, an avid aviator who set soaring records in his glider in the 1940s, starts AeroVironment Inc. The company becomes a leader in unmanned aircraft and eventually well-known for electric GSE charging stations.

MacCready also makes the history books again in 1977 when the Gossamer Condor, becomes the first aircraft powered solely by the pilot's muscles. Later, the Gossamer Albatross flies across the English Channel.

SAGE Parts opens to distribute parts and service throughout the world for the GSE industry.

Trilectron begins manufacturing GSE. Beta Fluid Systems starts producing military refueling equipment and then expands in the commercial market. Liquip International, which has 40 years of international refueling expertise, acquires Beta in 2006.

- »» 1973 – TUG Manufacturing Corp. starts making its eponymous "tugs," namely, the Model MA, which is still produced today.

- »» 1975 – David Clark Co. introduces the

ELECTRIC POWER

COMING



CWT300E
300 Gallon Capacity



CLT200E
200 Gallon Capacity - Waste
100 Gallon Capacity - Water

GOING



CHARLATTE
A M E R I C A
FAYAT GROUP

www.CharlatteAmerica.com

AviationPros.com/company/10017106



PHOTO: LEKTRO

Lektro first developed an electric vehicle to feed mink. Later, the company modified the same chassis and built its first electric GSE for an FBO in Oregon.

first headset specifically designed to provide hearing protection for pilots while providing clear, isolated reception and transmission at normal voice levels inside noisy aircraft. Ground support models follow.

»» **1976** – Nicky Ghaemmaghami establishes Hydraulics International,

which goes on to specialize in military GSE.

»» **1979** – Jim Watkins starts WASP, Inc. (Watkins Aircraft Support Products) in Alexandria, MN. In a news article published in 1981, Watkins says, “Our first year of business we had just one customer, now we have 10. We feel we can provide a lot of jobs and bring other investment money into our community.” In 1980, sales were \$280,000. One year later, sales topped \$1 million. Jim turns out to be right about those jobs - currently, six employees have each worked at WASP for 30 years. Watkins ends up building another plant in Nebraska. By 1996, sales grow to \$33 million, and Jim sells the company to his employees in 1997.

»» **1980s** – Tracma and Air France introduce the first towbarless tractor. Charlotte SA, which started 20 years before machining metal parts, creates Charlotte Menutention and becomes a

leader in electric GSE throughout Europe.

»» **1981** – Vestergaard builds a new type of deicer, the Elephant Alpha, equipped with the now familiar telescopic spray boom.

»» **1983** – Fortbrand Services starts serving the GSE industry, but also expands into selling airfield equipment.

Hugh I. Hunt opens Ground Support Products, specializing in tires, rollers and casters.

»» **1987** – FCX Systems, Inc. starts to design and manufacture solid-state frequency converters.

ERMA get its start selling GSE to Airbus.

After decades of manufacturing heavy equipment for the construction and transportation industries, Goldhofer introduces a towbarless tractor.

»» **1987** – Matt Sheehan starts AERO Specialties, a manufacturer and distributor of new and used GSE throughout the world.

»» **1989** – Jamie Kaplan joins Harlan Corp. as president. Jamie develops

We Buy & Sell Ground Support Equipment



FMC Pushback Tractor
Model #B1000



2005 TUG Electric
Belt Loaders- Like New
Model #660E



2005 Hobart Power Master
Model #90SX200



Northwestern Pushback Tractors
Model #NW1400



ACE Jet Air Start- Zero Timed
Model #2270

BUY & SELL
planetgse.com



PLANETGSE
A DIVISION OF GSE LOGISTICS, INC.

866-747-GSE5

WE BUY & SELL GROUND SUPPORT EQUIPMENT



WASP delivers its first shipment of cargo dollies in this shot from 1982.

the company's low profile tractor that remains the company's highest-volume product.

»» **1990s** – George Prill publishes the first issue of *GSE Today* in February 1992.

Jim and Jamie Kaplan hire George Revere to help improve Harlan Corp.'s business operations and market strategies. Since the late-1990s the company has expanded its product line into the electric GSE market.

After working for various refueling companies for some 20 years, Terry Bosserman starts selling refuelers from his house. A year later, Bosserman Aviation Equipment gets its own address.

TLD creates its GSE division and acquires Tracma, Albret Industrie, Erma, Devtec (in the United States and in Asia) and Lantis. By the end of the decade, TLD decides to specialize in GSE and sells its aeronautical equipment division.

Charlatte expands to the U.S. market and opens Charlatte of America.

Elite Line Services begins providing GSE and airport equipment maintenance.

Phoenix Metal Products, Inc. begins designing and manufacturing GSE.

Ground Support Specialist LLC, starts manufacturing and remanufacturing GSE.

A.T. Juniper's commercial engine wash system originated from the military wash rigs Juniper designed in the 1980s. The rigs were first trailed commercially in the early 1990s at Gatwick Airport with Virgin Atlantic using shepherd's hook type washing probes directing the washing solution into the booster from positions behind the fan.

Stephen Parker, expands Par-Kan into GSE and other equipment for the aircraft industry.

Patrick G. O'Brien starts MCM Engineering Inc. O'Brien was the chief engineer for well-known GSE companies such as Hobart Brothers, Devtec (now TLD) and McCormick-Morgan before starting MCM.

Premier Engineering & Manufacturing Inc. enters the deicing arena initially servicing a line of deicers that Premier's founder Jerry Derusha had helped build. Shortly after starting, Premier builds its own line of deicers and receives a contract for 64 units from United Airlines.

Alan J. Janis and Bruce K. Wayne open J&B Aviation Services Inc. The company initially capitalizes on its design for 400 Hz cable assembly, but expands exten-



PHOTO: CLARK EQUIPMENT

Long before there were baggage carts to tow, small tractors like this one, a 1926 Duat from Clark Tractor Co., were pulling trailer loads of lumber, freight and industrial material. This workhorse could be an ancestor of today's tractors.

sively into other GSE, including PCA, baggage chutes and air-starts.

The Northwestern Motor Co. buys Wollard Airport Equipment Co.'s broad line of GSE. In 2000, the company becomes known as NMC-Wollard.

FMC buys Jetway Systems, the original creator of apron drive passenger boarding bridges, and the world's leading manufacturer of boarding bridges, solid state 400Hz inverters and fixed PCA. FMC also bolsters its airport equipment division with the acquisition of Trump deicers.

Metroplex Conveyor & Services begins fabricating and installing safety/maintenance and production platforms, and modifying and servicing machinery for the bakery and food industry as well as luggage conveyor systems inside airports. As a result of this last relationship, Metroplex develops a PCA hose trolley system that continues to be a large part of the company's business.

Lektro introduces two new electric vehicles, one for the military and the other for commercial aviation.

Air T buys the Simon Deicer division from Terex and subsequently renames the company Global Ground Support LLC.

The first hybrid-electric tow tractor is tested at the North Island Naval Air Station in Coronado, CA. The ISE Research ThunderVolt hybrid tractor used an Entwistle Co. MB-4 tow tractor chassis, and was the first of three such tractors placed into service with the United States Air Force and United States Navy.

»» **1999** – Thyssen AG and Krupp merge to form ThyssenKrupp.

»» **2000** – Illinois Tool Works creates the ITW GSE Ground Services division, which brings together Hobart Ground Power, AXA Power, Trilec-

tron Industries and Air-a-Plane and J&B Aviation.

»» **2001** – Cygnus Business Media buys *GSE Today* and renames it *Ground Support* and later *Ground Support Worldwide*.

FMC Airport Systems re-enters the military market with the design and development of the Halvorsen loader, selected by the USAF to replace all its existing 25K cargo loaders.

»» **2006** – ColumbusJACK acquires Regent Manufacturing.

»» **2008** – John Bean Technologies Corporation (JBT Corporation) is formed, and becomes a publicly listed company on the New York Stock Exchange. FMC Airport Services becomes JBT AeroTech.

»» **2009** – Velcon founder Lu Taylor's son, Dave, and grandson, Chase, sell company and launch Petroleum Equipment Aviation Refueling.

»» **2012** – Lektro delivers its 3,700 tow-barless tractor to DTW. 🚚

The ABCs Of IGOM

A primer on IGOM, ISAGO, AHM and GDDB, and IATA's plans to standardize ground handling operations throughout the world.

By Steve Smith

Ground Support Worldwide held a webinar on the new IATA Ground Operations Manual last October that attracted hundreds of ground handling professionals from around the world to register.

What is IGOM? How does it fit into other well-known programs, such as ISAGO and AHM? Here are the basics you need to know.

What is IGOM?

The IATA Ground Operations Manual is a standardized compilation of essential ground handling procedures recognized around the world to ensure a consistent level of service from ground service providers (GSPs).

With this international harmonization come some considerable benefits:

- Fewer injuries.
- Reduction in aircraft damages.
- Increased safety.
- Reduction in costs.
- Improved turnaround times.

But since IGOM is a relatively new program, it may help to review a couple of other IATA programs.

What is ISAGO?

IATA's Safety Audit for Ground Operations is an on-site inspection of ground support provider stations around the world as well as at each ground service provider's headquarters and/or administrative offices.

Based on IOSA – the IATA Operational Safety Audit framework – ISAGO aims to implement a formal, systematic process to manage operational risk and safety, reducing accidents, incidents and injuries.

ISAGO is well along its way having officially started in 2008. Since then, it has conducted more than 460 audits and registered more than 100 GSPs operating at 120 airports.

Some of what all those audits uncovered is one key to understanding how IGOM got its start.

What did those audits uncover?

Big differences in services provided by GSPs, according to Joseph Suidan, head of ground operations IATA.

"There's no question that one airline's 737 should be treated differently than another airline's 737," he said during our webinar broadcast Oct. 10, 2012.

And if ISAGO is going to be effective, there must be one defined procedure that can be audited around the world.

"From the start," Suidan said, "ISAGO and IGOM were designed to be an integrated approach to solving the problem of inconsistent ground handling. Having defined procedures that can be audited in IGOM will make ISAGO even more credible and valuable."

Here's where one more acronym will help understand what IGOM is.

What is AHM?

The IATA Airport Handling Manual or AHM is the only industry-approved standard for safe and efficient airport operations. It is a proven source for the latest ground handling related polices and safety guidelines. It also includes the only industry-recognized contract template, the Standard Ground Handling Agreement or SGHA.

What does that mean for IGOM?

IGOM is based on the AHM with one offering strategy and other offering tactics.

The AHM contains policies, standards and safety guidelines that tell managers what to do. IGOM's procedures and instructions tell front line ramp personnel

how to do it.

"The relevant parts of AHM," Suidan said, "are also incorporated into the basic structure of ISAGO and IGOM spreading the base of these documents."

In turn, ISAGO then verifies the various policies, guidelines and procedures. Finally, IATA's Ground Damage Database or GDDB provides analysis and input to AHM and IGOM for risk assessment and standards to mitigate risk.

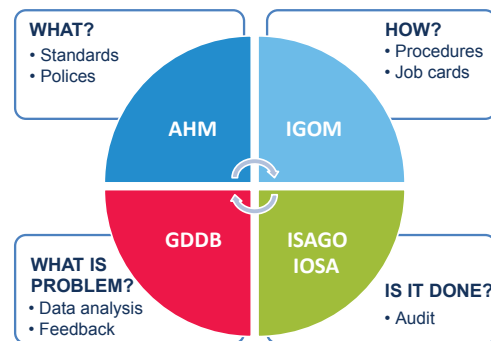
"IGOM is the key to improving airside activity," Suidan added.

Instead of searching through many documents, IGOM condenses and compiles the essentials for safe and successful ramp operations into one document.

"In this way," Suidan explained, "it

Future Initiatives

Integration of IATA Initiatives



forms the first, practical 'visible' link between all of these important documents."

How was IGOM developed?

An IGOM task force was established in 2010 and included a cross-section of the aviation industry, including airlines and aviation manufacturers and six GSPs – ASE Egypt; Fraport; Swissport; Jardine Airport Services; Menzies; and Servisair.

The task force met seven times since its inception during which the members established best practices and voted on which to accept for the first edition of IGOM.

"You wouldn't believe how many ways there are to chock an A320," said Captain Peter Laasner, senior manager, ground operations for Swiss European Air Lines, who served as the IGOM task force chairman. Some GSPs were putting chock in front of and behind all the wheels of aircraft just to be sure they were compiling with different sets of demands.

400 Hz Ground Power Solutions



Reliability

Quality

Performance

Long Life

Great Value

KATO Engineering and MCM

Partners for over twenty years to provide innovative and reliable solutions for your 400 Hz ground power support needs.

KATO Motor Generator Sets

A quality American made product you can trust to last, along with having the security of knowing we stand behind our products.

MCM 400 Hz System Supplier

MCM proudly features Kato motor generators for 400 Hz central systems in all the assembly facilities of the US's largest commercial aircraft manufacturer, major airports and military installations in the US and around the world.

*To discover more
about the solutions
you want, stop by*

**MCM Booth #1601
Aviation Pros Live**

Everything you need to make it happen - one simple partnership - one solution.



For product information:
www.mcmeng.com
www.katoengineering.com

The Emerson logo is a trademark and service mark of Emerson Electric Co. Kato Engineering ©2013 Kato Engineering



AviationPros.com/company/10453646

EMERSON. CONSIDER IT SOLVED.™

LSKTOAE13

“What we did was identify the best way to chock *all* narrow-body aircraft, including the A320,” Laasner said.

During the webinar Laasner mentioned two ways task force member KLM expects to gain from standardization:

- The airline expects to save \$274,000 annually in administrative costs related to investigating the causes of accidents and injuries.

- Since streamlined procedures means streamlined training, the airline expects to reduce training a half-day per employee, equaling about \$167 per employee per year.

For his part, Laasner said his airline expects to save \$350,000 a year on flights into the UK due to changes in standardized arrival procedures that convinced the country’s aviation regulators to allow

ground power to be connected to aircraft before the engines are switched off.

“Standardization will allow the airlines to concentrate on doing what passengers will appreciate,” he added.

Where do I get a copy of IGOM?

The group’s goal was to have six chapters of the IGOM ready for publication by the end of 2011. The first edition of IGOM was released in April 2012 and sent to all purchasers of the latest edition of the AHM as a supplement.

For more information, go to www.iata.org/publications.

So where does IGOM go from here?

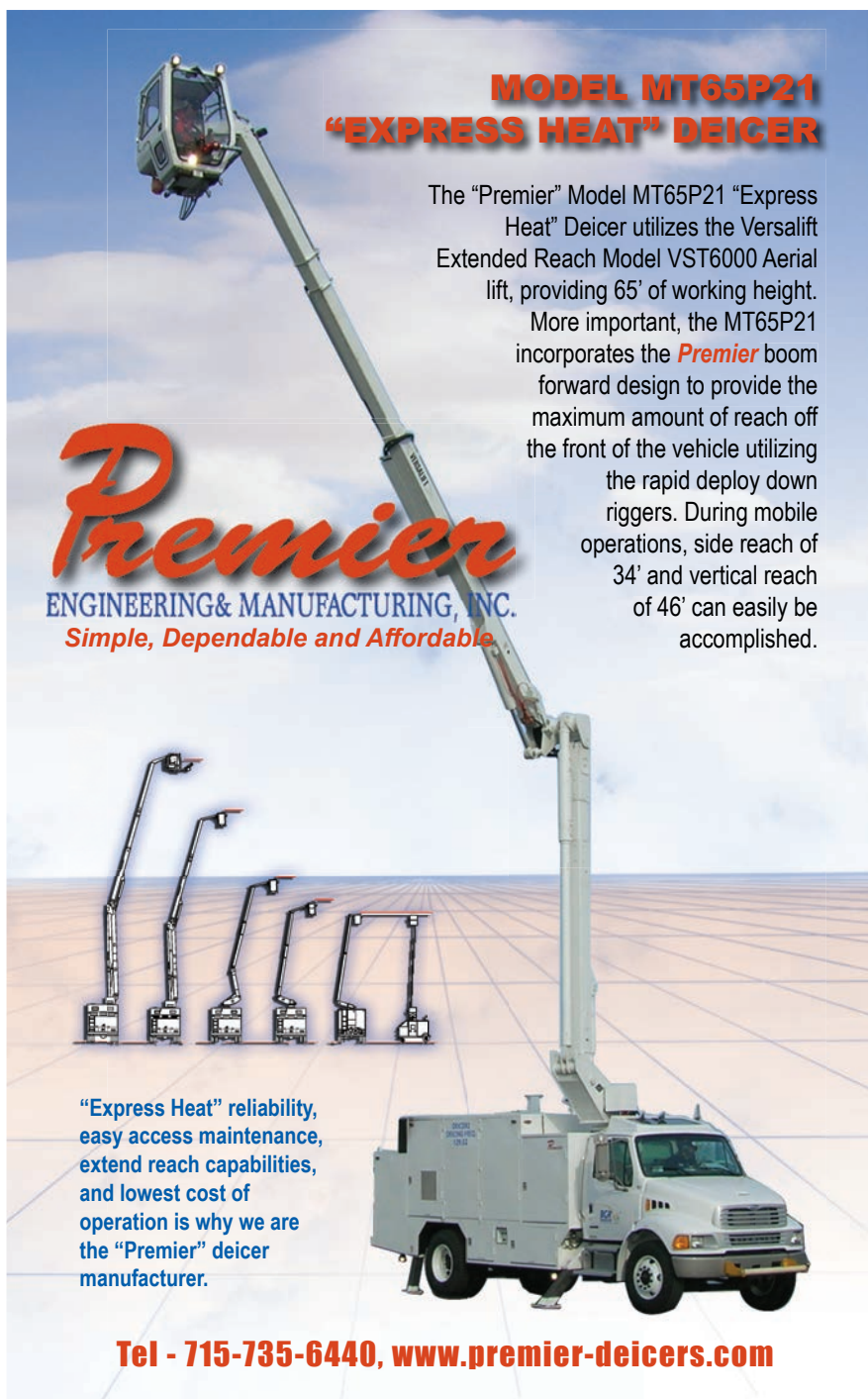
The task force will continue to meet twice a year to consider proposed changes to the contents of IGOM. Changes to the second edition are already expected due to gap analysis between IGOM and AHM.

IATA plans to partner with worldwide regulators, including the FAA, to start getting IGOM adopted. The European Civil Aviation Conference has already given its endorsement to IGOM and ISAGO.

Over the next two years, IATA plans to address any overlaps and/or differences between IGOM and AHM. By 2015, IGOM should be ready for implementation.

IATA has already begun promoting IGOM to airlines and wants feedback to further update the manual.

Training programs are expected this year and next. And by 2016, the hope is that IGOM will be embedded within ISAGO as the industry standard. ✈



**MODEL MT65P21
“EXPRESS HEAT” DEICER**

The “Premier” Model MT65P21 “Express Heat” Deicer utilizes the Versalift Extended Reach Model VST6000 Aerial lift, providing 65’ of working height. More important, the MT65P21 incorporates the *Premier* boom forward design to provide the maximum amount of reach off the front of the vehicle utilizing the rapid deploy down riggers. During mobile operations, side reach of 34’ and vertical reach of 46’ can easily be accomplished.

Premier
ENGINEERING & MANUFACTURING, INC.
Simple, Dependable and Affordable

“Express Heat” reliability, easy access maintenance, extend reach capabilities, and lowest cost of operation is why we are the “Premier” deicer manufacturer.

Tel - 715-735-6440, www.premier-deicers.com

AviationPros.com/company/10017675

Visit us at AviationPros LIVE booth #1001

Listen To Archived IGOM Webinar

To find out more about IGOM, anyone can listen to a free archived presentation of the IGOM Webinar, Ground Support Worldwide and IATA presented on Oct. 10, 2012. Go to www.aviationpros.com and click on “Media Center” to locate the copy of the hour-long presentation, which also featured remarks by Massimo Cicetti, Alitalia; Michael Thuersam, Swissport; and Max Corsi, Air Transat.

Fasten Your Seat Belts!

Delta Air Lines installs seat belts in its ground support equipment as OSHA wants other airlines to follow suit and provide the same protection for ramp workers.

By Steve Smith

Delta Air Lines is nearly a year into a two-year agreement with the Occupational Safety and Health Administration that has already seen the airline install seat belts on some 6,000 pieces of GSE at 90 airports and train about 16,000 ramp workers to wear them.

"We currently have 100 percent of our tugs, tractors, belt loaders and bobtail trucks covered by the agreement retrofitted with seat belts," says airline spokesman Michael Thomas. Although the OSHA deal applies only to domestic airports, Delta also is installing seat belts in GSE used at international airports.

"Maintaining the safety and security of our employees is a priority for Delta regardless of their work location," Thomas adds. About a third of the overseas equipment currently has seat belts and Delta plans to have the installations completed on all GSE by March.

In the year ahead, the airline will hire independent auditors to verify that seat belt training programs continue and that employees are belted in.

Thomas agreed that this did represent a significant cultural change for ramp workers.

"I imagine many of our below-wing workers had operated without seat belts for a number of years," he says. "Since using seat belts is a bit of a cultural



change, that's another reason we thought it was prudent to extend the policy across the company — both domestically and internationally — and reiterate the importance of safety-conscious practices while on the job."

Thomas added many Delta ramp team leaders "took it upon themselves" to promote seat belt use. Per the agreement, the airline conducted its own random spot checks

over the past few months. What's more, about 350 employees submitted proposals for a new promotional slogan to promote the new rules. "Circle Yourself In Safety" can be found on posters and stickers at Delta stations around the country.

Job Hazard Analysis

A job hazard analysis focuses on job tasks as a way to identify and prevent hazards before they occur. A booklet available from OSHA offers step-by-step guidelines to conduct the analysis.

Mary A. Brandenberger, who works in the communications department of OSHA, provided us with a link to this resource and several others, including a collection of safety and health topics for the aviation industry.

Since it's that much easier to click links on line, take a look at this story once the February issue is posted at www.aviationpros.com for a few helpful links.

TRONAIR

www.tronair.com
(419) 866-6301 | 1-800-426-6301

The leader for all your Ground Support Equipment!

With more than 1,500 marque products, Tronair is the global leader for your ground support equipment needs.

Tronair designs, manufactures and distributes OEM approved products for general aviation; business; regional; commercial; rotocraft and military customers worldwide.

Products include: towbars and towbarless tugs; tripod and axle jacks; ground power units (GPUs); hydraulic power units (HPUs); ram air turbine (RAT) test equipment; tail and engine stands; work platforms; fluid service units (dispensers); lavatory and potable water service units; nitrogen (N2) and oxygen (O2) service carts; landing gear servicing units; utility cranes and so much more!



Simply the best in quality and value!

CE Products, Online Quoting & Ordering

Sales: USA: sales@tronair.com | Europe: saleseurope@tronair.com

China: tronairchina@tronair.com | Asia/Australia: tronairasia@tronair.com

Authorized Service Centers: USA, United Kingdom, France, Germany Japan & Singapore

AviationPros.com/company/10017892



PARTS SERVICE RELIABILITY

WORKING TO EXCEED YOUR EXPECTATIONS

- // Maintenance Programs
- // Fleet Management
- // Compliance Inspections
- // Equipment Repairs & Modifications
- // All Makes and Models Serviced



1-888-GARSITE (427-7483) // www.garsite.com

GARSITE

AviationPros.com/company/10017318

Visit us at AviationPros LIVE booth #601

"We saw improvements in seat belt use month to month in our first year," Thomas says.

DELTA DEAL

Delta agreed to the deal with OSHA following the August 2010 death of a baggage tractor driver who was not wearing a seat belt and was ejected from his vehicle.

After the agreement made the news, the *Atlanta Journal-Constitution*, the home town paper for the airline, had more details about a memo Delta sent to employees regarding the agreement.

The memo said many of the airline's vehicles do not have seat belts. While that might not be a surprise to the GSE industry, the memo went on to say that Delta averaged 14 such ejections a year, with half of these accidents resulting in "serious employee injury."

Although the formal deal may have only applied to one airline, OSHA put all U.S. airlines on notice that they should follow Delta's lead.

"The Occupational Safety and Health Administration has become aware of fatalities involving airline baggage handling vehicles," wrote OSHA's top official Dr. David Michaels, assistant secretary of labor, in a "Dear Airline" letter sent out after the Delta deal was finalized.

In the letter, Michaels reiterated two regulations that already require the use of seat belts in GSE and directed the airlines to "reduce or eliminate" injuries and fatalities suffered by baggage workers.

"In order to accomplish this goal," Michaels concluded, "we call on you to ensure that your company evaluates its seat belt program and, if necessary, takes the actions mentioned above as soon as possible."

OTHER AIRLINES?

There was certainly a lot of buzz about this issue during a GSE convention held last September in Las Vegas. Most airline GSE managers we spoke to at the show did say that seat belts were in the works for their vehicles.

"The safety of airline employees remains our top priority," says Katie Connell, managing director, airline industry public relations and communications for Airlines for America. "Our member airlines and other ground service providers

are pro-actively implementing plans to install seat belts on their ground support equipment, as well as enacting policies to enforce seat belt usage among employees with Delta's agreement serving as a model."

However, if there was a point of contention among the GSE managers we heard from it was this: When would it be safer to not wear a seat belt while operating GSE?

For this answer, we looked a little deeper into the Delta agreement, which does offer guidance on the issue.

Delta has already installed seat belts on 6,000 pieces of GSE.

Patrick Kapust, deputy director of OSHA's Directorate of Enforcement Programs, pointed out that the Delta agreement clearly states when a worker should be wearing a seat belt on "covered routes" – any route designated by airport authorities or airlines for traveling to and from aircraft gates, aircraft parking areas or maintenance hangars.

On the other hand, once at a gate or inside a bag room or hangar – in other words, while positioning GSE near an aircraft or baggage machinery – ground workers do not have to wear seat belts.

Kapust added that performing a job hazard analysis might be in order to address the situation better when it comes to not wearing a seat belt and supplied us with some web sites to visit for more information.

"If a worker could get wedged under a piece of equipment," Kapust says, "that is what needs to be addressed since that is the root cause of the hazard. A worker wearing a seat belt is not the hazard."

He also told us about one facet of the Delta agreement that may not have been widely reported in the beginning. The Delta agreement only applies to states in which OSHA has jurisdiction. About half of the states in the country essentially enforce their own versions of OSHA. "State plan" states must enforce the federal agency's regulations as their

minimums, but can also choose to enact tougher state regulations.

Kapust had just come back from a meeting of the OSHA State Plan Association, in which Delta reps presented the GSE seat belt issue. For its part, Delta wants consistent enforcement throughout the country, Kapust adds, since the airline may move GSE around the country and find itself with seat belts where they

aren't required or no seat belts where they are.

A consistent seat belt policy can only mean good things to Kapust.

"Baggage workers should know that they are going home at the end of the day," he adds. "The accidents that we've investigated concerning baggage handlers are preventable with the use of seat belts." 🙏



WIRELESS

ENHANCE GROUND SUPPORT COMMUNICATION WITH DAVID CLARK WIRELESS SYSTEMS

David Clark Company Series 9900 Wireless Headset Communication Systems provide clear communication, greater mobility and safety for crew members performing a variety of ramp operations. Rugged components, including wireless gateways, controllers and headsets, allow crew members to communicate, without being tethered to equipment, up to 300 feet from the controller.

For more information call **800-298-6235** or visit **www.davidclark.com**



Made In USA



WWW.DAVIDCLARK.COM

© 2013 David Clark Company Incorporated
© Green headset domes are a David Clark registered trademark.

AviationPros.com/company/10017163

Visit us at AviationPros LIVE booth #1230

Memories Of Ground Support Equipment

Ground support equipment has been a part of flight since the Wright Brothers began flying.

By Tony Vasko

Ground equipment has been around since the very first flights. The Wright Brothers only had 12 horsepower to power the early Wright Flyer with so they depended on a catapult system and a track to launch their early flights.

It was powered by a falling weight. I have never seen anything on how they got that weight up the tower. But there it was. They used it for many years before engines grew powerful enough to allow unboosted takeoff.

They had no need for fuel or oil trucks since the amounts of fuel and oil were small by today's standards. Ground power? Well yes, they did use a battery to tickle the ignition to get things going. Pneumatics and air conditioning? Not needed. Access stands? Maybe a ladder or two.

It pretty much stayed that way for some years after. But by World War I there were fuel trucks and an invaluable aid to starting aircraft – the Hucks Starter. It was a truck fitted with an overhead shaft that engaged a dog in the propeller hub.

Aircraft towbars of a crude sort also came about in World War I, but there were no dedicated designs for tow tractors. A truck was good enough and most of the time the airplanes were pushed around by hand.

By the end of the war there were some pretty respectable-sized bomber aircraft. Access stands became a necessity. The big biplane airliners grew out of them. These featured fabric covering which meant you were not going to go walking on the wings.

The engines were also many feet above the ground that stinky stands of sufficient height made of welded tubing came into being. The pleasure of working off a platform stand as compared to an A-frame ladder is indescribable. You have a place to put your tools and equipment and you



PHOTO: TONY VASKO

Tony Vasko, a CAP Cadet at age 15, holds a 10-pound CO2 extinguisher to be used, if needed, on the C-47 in the picture. "If I look worried," he says, "I was."

are not in danger of falling off.

Like everything else, World War II changed everything that came before and after. Ground equipment and commercial aviation, for that matter, really started to come into its own afterward. (You can read more about that in our cover story starting on page 8.)

A lot of early commercial flights were done with seaplane airliners commonly



**OUT WITH THE OLD
IN WITH THE BLUE**

At StartPac we'll buy your old unit from you when you buy any lithium ground power unit or lithium portable starting unit from the StartPac Lithium range*... Simple as that!

WWW.STARTPAC.COM TOLL FREE 888.901.9987
*Call for full terms and conditions.

AviationPros.com/company/1013510

known as flying boats. This aircraft required a whole different set of "ground" support equipment. There was a need for boats, of course, to tow aircraft, in fact, just to get out to them when they were on a mooring.

A fuel boat was needed, too, although often they just carried drums and a hurdy-gurdy or a wobble pump for the ground people to pump the fuel up. I knew a Pan Am mechanic who mourned a lot of lost tools now rusting at the bottom of Flushing Bay off the La Guardia's seaplane terminal. They tied strings to them when possible so as not to lose them if dropped.

One other piece of ground equipment that was unique was a big wheeled cradle. At La Guardia Airport, it ran on rails built into the ramp leading from the big hangar to the seaplane ramp and down into the water of Flushing Bay.

The cradle would go down until it was submerged and then the big flying boat was gingerly pulled into it. The cradle and all were pulled from the water and the whole shebang pulled into the hangar for servicing. The rails and ramp were still there in the 1950s.

Back on the ramp there was the problem of handling baggage and passengers. Carts were used for the bags and freight and strong arms and backs humped them into the aircraft. Some aircraft like the Ford Trimotors had baggage bins in the wings, a bottom surface lowering down to reveal a bin for loading. No loader lifters, no belt loaders, just stands and strong arms.

In most cases, loading passengers was easy. You opened a door to the ramp, pointed out the plane visible through the wind and rain, passed out umbrellas and let them go for it. The airplanes were low to the ramp so only a small step stand was needed to get them up. Even the classic DC-3 only required four or five steps.

GPUs TAKE SHAPE

By the 1930s, there grew a need for ground power. 12V DC was initially used. Later 24V DC became the standard. Aircraft engines could be started off the ship's battery, but that left you with a depleted battery at the beginning of the flight. The easiest answer were battery carts, literally big batteries on a wheeled cart to be taken out, the lead plugged into the aircraft and the power

supplied for the engine start.

Ideally, the cart was then returned to a ground charger for charging. That, of course, was a weak point. People forgot to put them on charge just like they forget to gas ground equipment. Just when you needed power the most, you'd have a dead battery.

So GPUs became standard ground equipment. The older aircraft, DC-4, DC-6

and 7 and the Connies, were quite tolerant of the quality of the external power. Some had over-voltage cutouts so you couldn't fry the electronics by a power cart gone wild. Others did not. A DC-4 one day was happily lapping up 35 volts with only a pair of boiling batteries to be noted.

Ground power carts came in various flavors. In the hangars, they were usu-

Choose the reels proven in airports around the world.

In the hangar or on the field, for fueling, repair or maintenance, Hannay Reels provide the efficiency and rugged dependability you demand.

- Top choice of more OEMs
- Heavy-duty design and construction
- Sensing and grounding applications
- Hydrant or mobile refueling
- Complete custom capabilities



Made in U.S.A.



Find your reel solution:
hannay.com or 877-467-3357



Hannay Reels®
The reel leader.

AviationPros.com/company/10017395

Visit us at AviationPros LIVE booth #1619

RUMINATIONS FROM THE RAMP



PHOTO: WIKIPEDIA

A Hucks Starter, named after Bentfield Hucks, a major in the Royal Flying Corps in WWI, on display at the Shuttleworth Collection, Bedfordshire, England.

ally motor generators. The larger ones were powered by 440V commercial power. Sometimes things went wrong inside them, probably due in this case to some of them being used outside in

the wind and rain with a canvas cover to protect them.

One day, a GPU was happily eating 440V AC and pumping out 28V DC into an L-1049 Connie. One of our mechanics picked up a ground wire and clipped it to the ground stake in the ramp and stretched it over to the aircraft. Crouching slightly he bent over to attach it to a ground lug on the nose gear. He reached out to steady himself and touched the aircraft while holding the ground wire and executed a perfect half a back flip from a crouch.

This seemed extraordinary to us as he just lay there. He was unconscious, but breathing. I took the ground wire and tossed a loop of it onto the nose gear. It instantly smoked from all the oil on it and then burst into flames and finally the wire glowed red and burned through.

There was an internal short inside the power cart due to moisture and one leg of the 3 phase 440 was laid on the aircraft. The aircraft didn't notice as it was on

the ground side.

The gasoline-powered units were either tow-around or self-propelled. Some were dual use and could be used for light towing. I was in Cleveland one day teaching a course. Naturally, it was snowing and they decided to pull one of our Convair 440s into the huge hangar. I was called to evaluate the damage caused by the aircraft nose striking a column deep in the hangar.

The generator/tow unit was slowly pulling the aircraft in when the worn throttle linkage flipped over-center and the engine surged to the "GENERATE" setting. The driver tried to pull it out of gear, but the gearshift was stuck. While fighting it, he allowed the unit to veer left and the aircraft struck the post. It tore a pretty big hole. You could see the rudder pedals inside.

Meanwhile, the British favored 112V DC for the muscle power and 28V DC for the control. The power unit thereby had two cables.

LIQUID

LC FlightConnect

CONTROLS

Real-time transaction data Real breakthroughs in efficiency

- **SHORTEN FUELING TIMES**

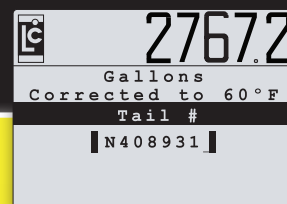
FlightConnect automatically captures fueling data at the point of delivery

- **REDUCE PROCESSING TIME AND DATA ENTRY ERRORS**

FlightConnect transmits transaction data wirelessly to an office computer in real-time

- **AVOID INVENTORY RECONCILIATION SETBACKS**

FlightConnect tracks and records every transaction by flight number and tail number



FLIGHTCONNECT FUELING SCREEN



Add Liquid Controls' new XL LED Remote Display for long distance viewing of refuelling totals



Streamline your aviation refuelling with FlightConnect, contact us at lcm-info@idexcorp.com or (847) 295-1050



AviationPros.com/company/10017539

Visit us at AviationPros LIVE booth #814

One dark and stormy night, I was the only one on the ground while a taxi crew started a Bristol Britannia. This meant I had to pull the crew stand, give them signals to start the engines, pull the ground power unit away, pull chocks and then marshal the aircraft out of the parking spot.

After engine start, I pulled the ground power cable and stowed it on the tow-around generator. Note I said cable, not cables. I towed the generator away with the 112V cable still plugged in. It damaged the receptacle on the aircraft. Lesson learned.

With the advent of AC as the prime on aircraft came a need for ground power that required not only voltage control but also frequency control. We found early jets, such as the B707, DC-8 and Electra, were finicky about those two, but didn't care much about the electrical cleanliness of the juice. We could not engage some of the earlier GPUs on later aircraft since there was too much electrical hash that could only be seen on an oscilloscope. The solid state units on board were intolerant of this.

And then there was the muscle for engine starting. No longer electrical (although we are swinging back to that), you needed pneumatic air, and lots of it to spin up the engines. There were many units around. Some were simply aircraft APUs, gas turbines, truck or cart mounted. They worked well, but were voracious consumers of kerosene. Noisy, too, but all pneumatic blow carts are noisy.

For a while there were some units using a Roots Blower powered by a big Ford industrial gasoline engine. These had to crank up to a very high rpm and so were extremely noisy.

Worse yet was the tendency of uncaring rampies to use one to start an aircraft and then shut it down without giving the poor engine a chance to cool down. The exhaust manifolds on those engines were quite visible through a grill and glowed a bright red when pumping air.

You could almost hear the valves distorting inside when shut down at that red hot heat.

DEICING BEGINS

Of course in this season one cannot forget deicing/anti-icing. Deicing was basically all we did back in the 1940s and 1950s.

You got the snow off and it was up to the crew to get the plane out and off before the snow built up on the wings. I have written of a terrible fright I got (but only half of what the flight crew got) in deicing a DC-6B.

We deiced the airplane with a 50-50 mix of glycol and water with me manning the hose. The airplane was clean but the snow was pouring down. Off it

went and we could hear it, but not see it take off. We were preparing to go back to the hangar to refill the truck when the airline rep came running over.

"He's coming back on an emergency," he said.

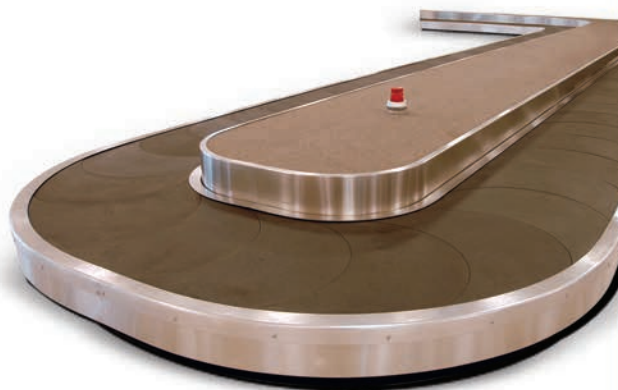
We heard him land and eventually the aircraft appeared through the snow. He parked and the cockpit window slid open and the captain yelled down, "You almost

EXCEPTIONAL[®]

SERVICE FROM THE GROUND UP.

Professionals that get the job done right.

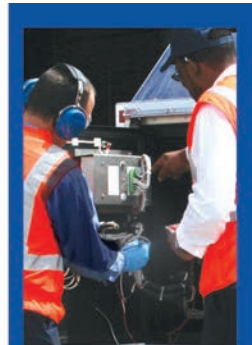
From conducting routine maintenance to responding immediately to a mechanical emergency, when time and reliability are critical, you can count on ASIG to deliver. Our Technical Service department is made up of a team of highly skilled and trained specialists. Because programs and procedures are only as effective as the people providing the actual services, ASIG emphasizes hiring the most qualified electricians, mechanics, HVAC and technical specialists. Proprietary asset management software and national bulk purchasing programs for parts and supplies allow us to provide timely, efficient and reliable service while maximizing our customers' budgets. Our programs cover routine and preventive maintenance for fleet vehicles, GSE equipment, baggage handling systems, jet bridges and other airport facility equipment such as escalators, moving sidewalks, terminal doors and more.



For professionals that get the job done right,
call or visit us online today.

407.648.7373 • www.asig.com

Fuel | Ground | Technical




ASIG
AIRCRAFT SERVICE INTERNATIONAL GROUP[®]
BBA Aviation

© 2012 ASIG

GSE Maintenance | Jet Bridges
Deicing | Baggage Systems
Fleet Maintenance | Airport Equipment

AviationPros.com/company/10017012

Visit us at AviationPros LIVE booth #504

RUMINATIONS FROM THE RAMP

killed us you #\$\$@&% .”

Weeks later, he admitted it wasn't us. He turned on the wing deicer heaters on takeoff. The snow melted, the water ran back to the very cold war cap at the back of the leading edge and built up into a ridge stretching the full span of the wing. A perfect spoiler.

My stomach still contracts when I think of that moment of the captain yelling down at us.

I have always been sensitive about deicing since that day and welcomed the changes that came in equipment and in regulations. Hold times and such were non-existent in my early days.

As usual it took a crash to put an end to the casual way we treated freezing precipitation. Gone are the first rigs I used, a hundred-gallon tank of glycol with an immersion heater, a putt-putt engine and a garden sprayer hose and wand. I deiced Connies and DC-6s that way by walking on the wing with a broom and then spraying it.

The advent of trucks with elevating booms, heated fluid and a mix selector made a world of difference, but it still isn't easy. The fixed deicing stations and the like make it a lot safer for personnel. Driving a truck in a raging snowstorm with the fog and steam from the deicing is always nerve-wracking and has led to a lot of damages. Still, freezing rain, the worst of all weather phenomenon, will bring an airport to its knees as will major snowstorms.

steam cleaned, the aroma is there.

Having been a freight dog for the last 15 years of my career, I am not up on the latest developments.

But I certainly do remember having to carry the honey bucket off the airplane and pour it into the biffy truck. Many freighter conversions still use a port-potty design. A lot of things go down aircraft toilets, bottles being a favorite. Then, too, I have seen a biffy wagon that would not dump because the valve was clogged.

Happy 20th Birthday, Ground Support Worldwide.

On the other hand, there is nothing to bring joy to an auto shop (I still call the ground equipment shop that) like a lavatory truck.

Even after being dumped, flushed and

After pumping it out, a nasty job at that, about 50 expanding plugs used on the aircraft toilet drain were found. That, and a selection of plastic soda bottles.

Still, the saddest sight I have seen was

A NEW SPECIES OF EAGLE.



Introducing the new Eagle XL series. The XL from Eagle Tugs comes standard with Four-wheel Drive and Four-wheel Steering to move all single-aisle aircraft (up to B757) in all weather conditions and is backed by an industry-leading 3-year/3,000 hour warranty. Visit Eagletugs.com for more information or call us at 888-812-TUGS.

a lav truck driver who called for maintenance as a DC-8 wouldn't dump. He said it was plugged and used a broomstick up the open dump hole to show me. He pushed it up hard and punctured the crust of ice that had formed in there and received the full contents of the tank over him. I was fortunately clear. There he stood, excreta all over him and, it being winter, the hood on his parka behind him full to the brim.

Water trucks are a different story – or at least I hope so. Again, what a change from my beginnings. Back then it wasn't a truck, it was a cart. It was filled using a garden hose attached to a water tap. If it started looking a bitty tatty, it was flushed out using a mix of Clorox bleach and water. But that didn't happen with any regularity.

The fill fitting on the hose always seemed to be missing, of course. It was fitted with a wobble pump. It took a lot of effort to fill some types of aircraft where the water tank was in the ceiling of the cabin. By the time of the jets and their much bigger water tanks, trucks with motorized pumps came into use. They still freeze if left outside just like the old water carts.

Finally, fire extinguishers are an oft neglected part of ground support equipment history. In the days of piston-powered aircraft, however, mechanics were very familiar with fire extinguishers. Engine starting, particularly in cold weather, sometimes resulted in rather spectacular fires in the stacks, cowling and often the ground. Raw fuel would accumulate in the stacks and dribble from the blower drain.

A burp from the engine would throw a little fire and there you were. You had to make a judgment call as to if the engine would start and blow out the fire or if it was a little too vigorous for safety. In that case, the CO₂ extinguishers of the day came into play.

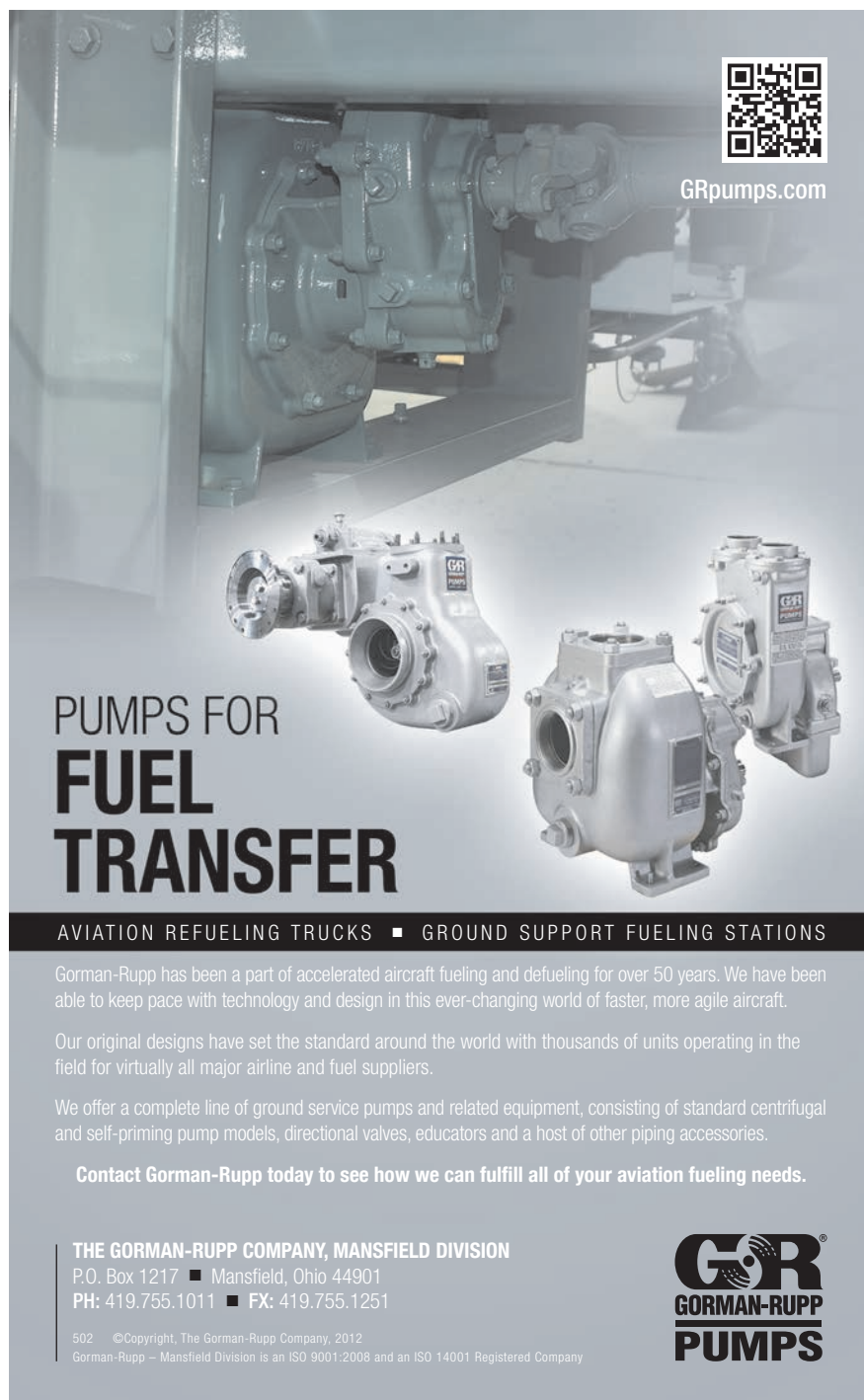
The good thing was they did no damage and left no residue.


The bad thing was you had to get in close. And there was also a prop to consider, easy to forget when there is fire in front of you. Never forget the prop! One thing for sure, by going from Avgas to Avjet fuel we greatly reduced the fire hazard. With so few fires we have also lost the skills we used to have in fighting them.

I could go on about tugs, lift trucks, loader lifters, belt loaders, passenger loading stairs, Whiting Loadairs, passenger loading bridges, catering vans, maintenance docks in hangars, and, of course, aircraft jacks. They have served me as subjects for many ruminations.

Happy 20th Birthday, *Ground Support Worldwide*. I hope you will keep me writing for a few more years.

Dedicated to Vinnie Minuto, the first GSE mechanic I met. We both worked at Lockheed in the mid-1950s. We were on graveyard shift and Vinnie was alone in the automotive shop. Aside from responding to our equipment breakdowns, he brewed hot, strong, coffee in the back of his shop that could wake the dead and thaw frozen mechanics. 🙏




GRpumps.com

PUMPS FOR FUEL TRANSFER

AVIATION REFUELING TRUCKS ■ GROUND SUPPORT FUELING STATIONS

Gorman-Rupp has been a part of accelerated aircraft fueling and defueling for over 50 years. We have been able to keep pace with technology and design in this ever-changing world of faster, more agile aircraft.


Our original designs have set the standard around the world with thousands of units operating in the field for virtually all major airline and fuel suppliers.

We offer a complete line of ground service pumps and related equipment, consisting of standard centrifugal and self-priming pump models, directional valves, educators and a host of other piping accessories.

Contact Gorman-Rupp today to see how we can fulfill all of your aviation fueling needs.

THE GORMAN-RUPP COMPANY, MANSFIELD DIVISION
 P.O. Box 1217 ■ Mansfield, Ohio 44901
 PH: 419.755.1011 ■ FX: 419.755.1251

502 ©Copyright, The Gorman-Rupp Company, 2012
 Gorman-Rupp – Mansfield Division is an ISO 9001:2008 and an ISO 14001 Registered Company



AviationPros.com/company/10208885

Is It Time To Replace Your Towbar?

Towbars truly are the 'neglected step-child' of the GSE world. But maintenance on the only piece of equipment securing the jet to the tug is just as important as the tug itself.

By Derek Rose, AERO Specialties

The importance of high-quality towbar products is often paid little attention to by aircraft towing personnel. The same can be said for the operations managers and purchasing agents since no other piece of equipment seems to be so price-sensitive to purchasers.

Buyers often search for the cheapest option on the market or any used alternatives. The importance of a piece of

equipment that secures a \$40 million jet seems to escape the minds of many in our industry. That is, until it's too late.

The aforementioned lack of appreciation for a quality towbar will also often find its way into the maintenance department. I have been on hundreds of ramps across the world, and seen thousands of towbars that are well past their prime and should have been retired long ago.

Towbars truly are the "neglected step-child" of the GSE world. But maintenance on the only piece of equipment securing the jet to the tug is just as

HARLAN GSE

Rugged...Durable...Dependable



80 VOLT
ELECTRIC CHARGER HLE



80 VOLT ELECTRIC
LITHIUM-ION POWER
PHANTOM HTC BEL



80 VOLT
ELECTRIC/DIESEL
FREEDOM HYBRID HLH



80 VOLT
ELECTRIC EXPRESS HBLE



HARLAN
DELTA 2
AIRCRAFT HEATER



GUINAULT
90-180kVA
GROUND POWER UNIT

TRACTORS

- 3,000lbs to 25,000lbs DBP, available in Gasoline, LPG, Diesel, Electric and Hybrid
- All Electric 80V AC Beltloader
- Lead-Acid and Lithium Ion Battery Packages available
- Harlan is working with other GSE manufacturers to produce state of the art Aircraft Heaters, GPU's, Air Start Units, and Air Conditioners

SWEDISH DESIGNED, HARLAN MANUFACTURED

- Delta 2 Aircraft Diesel Cabin Heater for narrow and wide-body aircraft

GUINAULT

- GPU Diesel and solid state for 4kVA to 180kVA
- Air Start Units 180ppm to 400ppm models available
- Parts and service by Harlan



27 Stanley Road • Kansas City, Kansas 66115 • USA

800-255-4262 • Fax 913-321-5802

www.harlan-corp.com

bsi. ISO 9001:2008
FM 559038





The average towbar will only cost an operation a fraction of a dollar a day to operate. A small number when you consider the importance of a towbar and how frequently they are used throughout the day.

PHOTO: AEROSPECIALTIES

important as the tug itself.

A proper preventative maintenance schedule should never be neglected on towbars or heads.

As with all aircraft handling equipment, towbars and heads are subject to wear and damage over time.

I am frequently asked, "When is it time to replace my towbar"? Some applications, such as private hangars have lower frequency of aircraft movement and, therefore, less towbar use. Other applications, such as busy FBOs or airline terminal gates have more frequent towbar use.

Operators should always perform and document their scheduled PM inspections and repairs. Using common sense while reviewing equipment wear, past repairs and records as well as the frequency of use at your operation will help for your organization to develop an internal Standard Operating Procedure (SOP) that

Single-source GSE



If you need it, we have it! AERO has all the right equipment for your ramp and hangar. Make it easy on yourself — call the pros that know!

VISIT AERO Heli-Expo, Booth N3706, March 5-7, Las Vegas, USA
VISIT AERO Aviation Pros Live, March 13-14, Booth 1204, Las Vegas, USA

**AERO
SPECIALTIES**



+1 208-378-9888 | www.aerospecialties.com

AviationPros.com/company/10016920

RAMP SAFETY

addresses equipment condition, safety factors and financial questions.

PM PROCEDURES

During the operational life of your towbar, the following basic PM procedures should be performed on a daily basis:

- Check all welds on towbar for cracks and ensure towbar shows no signs of damage and is straight (dings, dents, heavy scratches, "bowing" etc.).
- Check that running gear (wheels, axles, casters) and handles are secure and undamaged.
- Check lunette assembly for free play (1/4" is normal) and the rotation of the lunette ring (30 degrees is normal).
- Check shear pins for stress. Replace if cracked, broken, or bent. Replace spare shear pins if missing and verify remaining spare shear pins can be found on head and/or towbar.
- Verify that the head end of the towbar is clean and undamaged.

- Ensure lanyards securely attach ball lock pins to the towbar (and that the ball lock pins insert and lock correctly). In addition to the above daily PM,

- Check shear pins or shear bolts for wear and replace as required (if equipped).
- Check casters and lubricate.



PHOTO: AEROSPECIALTIES

The importance of a piece of equipment that secures a \$40 million jet seems to escape the minds of many in our industry. That is, until it's too late.

every month or quarter the following basic procedures should be performed:

- Check lunette ring condition for wear, deformation or bending.
- Check lunette rotation limit, 30 degree should be the maximum.

- Check main wheels and lubricate.
- Check towbar handles and securing hardware.
- Check lunette bolts and torque per manufacturers recommendation.
- Check and tighten all other fasteners.
- Clean and touch up towbar or head paint as required to maintain the towbar's appearance and prevent rust or corrosion.

Additional PM recommendations can be found in the IATA Airport Handling Manual (AHM 990).

Operators should always perform and document their scheduled PM inspections and repairs.

Complete information on preventative maintenance programs are detailed in the operations manual.

If you feel your towbar may need replacing, then you should replace it. The average towbar will only cost an operation a fraction of a dollar a day to operate. A small number when you consider the importance of a towbar and how frequently they are used throughout the day. 🚫



PermaFuel

Integrated Inventory Control



From ramp to back office,
FUEL MANAGEMENT MADE SEAMLESS

Ops Managers Must Check This Out!

- Effortless fuel allocation & monitoring of inventories within joint-use systems
- Storage tank, refueler and inventory volumes on hand
- Instant gain/loss monitoring
- Allow airlines/customer access to exclusive into-plane data and electronic ticket printing
- Forecast fuel needs and time your deliveries
- End of month reconciliation, adjustments and reporting



TAUGHANNOCK AVIATION
WWW.FLYTAC.COM
1-800-875-1551



GSE SALES — OXYGEN BOOSTER — NITROGEN BOOSTER — HYD MINI MULE

AviationPros.com/company/10135025

PHOTO: MATHESON FLIGHT EXTENDERS INC.



FIVE

Maintenance Tips to Keep GSE Running in Winter

Simple steps can keep your ground support equipment ready for cold weather operations

The Anchorage market creates some unique challenges during the winter that may not be found in your neighborhood. But, even so, many of the issues are common and warrant mention.

By Brett Barrett, Matheson Flight Extenders

It is no secret that the cold weather of winter can have significant impact on our ground support equipment, and for that matter, cars and trucks. The colder it gets the greater the impact to engines, suspensions, tires, glass, locks and a host of other associated parts.

Goldhofer



AIRPORT TRANSPORT TECHNOLOGY AT THE HIGHEST LEVELS

WE BRING YOU SAFELY TO TAKE-OFF.

The heavy traffic load at modern airports demands a high degree of economic efficiency and safety and leaves no room for failure or compromise. For this reason, Goldhofer equipment is used to move aircraft of all sizes at airports around the world. Our towbarless aircraft tractors offer you solutions and services of the highest level, ensuring smooth, safe and economical manoeuvres of your aircraft on the ground.

Invest in your future. Goldhofer – The Original.



WWW.GOLDHOFER.COM

WE HAVE STAIRS

FROM RJ TO A340 CHASSIS MOUNTED AND TOWABLE



**PNX-CMPPS96/150
NARROW BODY STAIR**



**ALSO:
LAVATORY AND WATER SERVICE
CARTS & TRUCKS
MAINTENANCE LIFTS
BELT LOADERS**



3000 INDUSTRIAL AVENUE 3
FT. PIERCE, FL 34946
PHONE: (772) 595-6386 / FAX: (772) 595-6389
EMAIL: phoenixgse@earthlink.net
WEBSITE: www.phoenixgse.com

AviationPros.com/company/10017661

This makes a preventative maintenance program very important leading up to winter weather.

In preparation for this article I recently spoke to Pat Cunningham, station manager for Matheson Flight Extenders, Inc. in Anchorage. With a cargo operation that runs 24 hours a day throughout the year, if anyone knows the impact of cold weather on equipment, it would be Pat and his crew.

The Anchorage market creates some unique challenges during the winter that may not be found in your neighborhood. But, even so, many of the issues are common wherever temperatures drop and warrant mention.

1. Change to winter weight oil: Engines are susceptible to cold weather because they need lubricants and they need coolant. Depending on how harsh your winters are there may be a need for a different grade of oil in winter versus summer.

Most vehicles today use common 10-40 weight oil that is great if you live in a mild climate. But extreme cold weather may demand a lower viscosity product like a 5-30W to help circulate the lubricant within the engine.

So an oil change leading into the winter months is always a good idea. Check your owner's manual for what works best for your vehicle.

2. Clean battery posts and connectors: Battery cranking power is another area that degrades in cold weather.

Batteries produce electrons by virtue of electrolyte fluids surrounding the lead and lead dioxide plates within the cell. In cold weather, a battery doesn't produce as many electrons and cannot produce as much cranking power.

As a result, it is important to monitor a battery throughout winter and keep the battery posts and connectors clean as well as make sure the leads to your starter and alternator are well-attached and clean. These simple things will help keep your cranking power at its maximum.

3. Tighten tire chains: Often overlooked is the impact of tire chains used during winter months. Tire chains installed on a vehicle will cause



Hydraulics International, Inc.

OXYGEN & NITROGEN SYSTEMS

Portable BOOSTER SYSTEMS designed for general aviation

Primary use for filling or topping off...

- Onboard Oxygen Bottle
- Underwater Breathing Apparatus (UBA)
- High Altitude High Opening (HAHO)
- Tires
- Accumulators
- Struts
- Escape Chute
- Life Rafts

Even if your cascade system pressure drops below 200-PSI

ELECTRIC DRIVEN SERIES 2G

Weight: 145-LBS
Dimensions: 32"L x 11.5"H x 20"D
Noise Level: 60-dBa
Double acting or 2-stage design uses no belts or pulleys



PNEUMATIC DRIVEN SERIES HIHPG3

Weight: 40-LBS
Dimensions: 20"L x 12.5"H x 11.5"D
Noise Level: 78-dBa



www.hiigroup.com

9201 Independence Ave., Chatsworth, CA 91311 USA

(Toll-Free) 888-780-7867

(Phone) 818-407-3400 (Fax) 818-407-3428

AviationPros.com/company/10017435

a lot of additional vibration unless you are driving on deep snow pack. In most cases, however, the snow is quickly beaten down and as it freezes forms a hard ice surface.

The chains rolling on that hard ice surface will cause the added vibration. Vibrations can cause a host of issues from loosening nuts and bolts to damaging wheel wells or even the vehicle body if a link breaks.

If you must use tire chains make sure they are tight and recheck them after their initial use. As they wear, they warm up and they can expand so keep a close watch on the bungees that keep them taught.

4. Grease all moving parts: With other equipment, such as K-Loaders, belt loaders and baggage tugs, Pat reminds us all that the best way to get through the winter unscathed is to be sure your preventative maintenance program includes greasing and tightening all moving parts.

That is essential to protect against the breakdown of chain drives, seals, u-joints and wheel bearings. These steps together with a close monitoring of fluid levels are critical to the long-term care and reliability of your equipment.

5. Keep tires properly inflated: Tires are another area that should have your attention during the winter months. Whether you realize it or not, tires have a temperature operating range where performance will degrade at extremes of temperature.

Tires get harder as the thermometer drops and the cold sets in. They lose some of their suppleness and gripping power.

Under normal conditions with an automobile the tires will build up heat during normal operation that compensates for the cold. On a baggage tug, however, where speed remains low on a ramp, tires will take longer to warm up. Be more careful while cornering, especially with other GSE in tow so the tug will not slide laterally on the driving surface.

For every 10-degree drop in temperature, the pressure in your tires can also drop about 1-2 psi per tire. So a tire properly inflated in the summertime will

generally be under inflated in the winter if not checked frequently. Be sure to check those tires on a regular basis not only for proper inflation but for tread depth, too.

Now if you're lucky enough to work in Alaska or perhaps another glacial region

For every 10-degree drop in temperature, tire pressure drops 1-2 psi.

of the world a rather unique foe in the winter time is "glacial dust." Pat warns that this dust (a very fine particulate) can be very abrasive. Because of its fine grain it is easily transported through the air and as a result it can penetrate even the best protected systems. Keeping a close watch on your air filters, oil filters and any other filtering system is, therefore, very important. Regular changes of these filters will aid in a longer service life of the equipment.

Cold weather operations are common in many areas across this globe. Operations personnel and mechanics battle this foe every year and win because they are prepared through thoughtful preventative maintenance programs that support their organizations.

With just a few simple steps your preventative maintenance program can be effective in getting your equipment ready for cold weather operations so take a moment to review your program, and you'll have a smooth winter operation. ✈️

Editor's Note: Brett Barrett passed away on Jan. 16 of cancer. He was station manager for the Salt Lake City, UT, station for Matheson Flight Extenders. According to his obit, he is survived by his wife and four children. Not surprisingly for someone charged with keeping GSE in tip-top shape, Barrett traveled to car shows to show off his Dodge Challenger with 932 horsepower.

The Data is In.

Rampmaster's Engine Management System (EMS)
Delivers Unparalleled Savings for Every
Gallon of Jet Fuel Pumped

An Independent Study by WWU's Center for Alternative Fuels,
Engines and Emissions has confirmed that

EMS DRIVES UP TO **78%** DIESEL FUEL SAVINGS



See how EMS is innovating refueling at www.rampmasters.com/EMS.

RAMPMASTER

CHAMPION OF EXCELLENCE

DXB Opens A380 Concourse

New concourse features 20 gates built just for the superjumbo jet.

By Steve Smith

The world's largest customer of the A380 helped inaugurate the world's first terminal solely designed for the superjumbo jet at the beginning of this year at the Dubai International Airport.

Emirates Airline's flight EK003 took off from the new concourse to London on Jan. 2. The airline currently operates more than 30 A380s and has another 59 on order.

Concourse A cost \$3 billion to build and is just part of the airport's ambitious plans to establish one of the world's leading aviation hubs. The airport's nearly \$8 billion Strategic Plan 2020 is designed to

provide much needed room as its passenger traffic approaches full capacity. The airport's annual passenger capacity will increase from 60 million to 75 million when Concourse A becomes fully operational.

The concourse operated with just four of its gates on opening day, but airport management will gradually open all 20 gates.

"We believe that this approach of gradual transition will enable us and all our partners to ensure smooth operations and help us to deliver on our customer service commitment," said Dubai Airports chief executive Paul Griffiths in a statement.



Operating from a terminal built specifically to handle the A380 will speed up boarding times. Boarding bridges made by ThyssenKrupp factor in the plans to help passengers quickly get on and off the superjumbo jet.

Michael Ridder from ThyssenKrupp's corporate communications department informed us that 58 of the company's apron-drive, crystal bridge models were delivered for use at the new concourse.

FROM 189 TO 853

A time line in a 2010-2011 report by ThyssenKrupp shows the growing importance of moving people on and off a plane. Boeing's 707, the dominant commercial jet during the 1960s, held up to 189 passengers. That figure jumped considerably when Boeing introduced the 747, which could hold 452 passengers. But the A380-800, which Airbus introduced in 2007, can hold up to 853 passengers.

The report recounts some engineering that went into the first A380 boarding bridges. Foremost, of course, is the sheer height of the aircraft.

"The upper door of the A380 is at a height of 8 meters, 3 meters higher than on other planes," says Marta Munoz Rodriguez, mechanical engineer. As a result, the bridge's support and lift columns were strengthened.

"The wind at that height is much stronger," she says, "so we added sta-

We Lead the Industry in Innovation

Orion Deicer
880 gallons
47 Foot working height
10 minute heat time

New!

2200 XR 57 Foot
working height
NO stabilizers

New!

New!

GRV Glycol Recovery Vehicle
750, 1300, 2100 gallon
options

Learn about the latest from Global Ground Support, and how these new products save you time and money.

Training Simulator - Deicing

Grades Students on Performance

ISO 9001:2008-
certified quality
management system



540 East 56 HWY
Olathe, KS 66061-4640 USA
(913) 780-0300 www.globalgroundsupport.com

AviationPros.com/company/10017340

Visit us at AviationPros LIVE booth #1409



The concourse operated with just four of its gates on opening day, but airport management will gradually open all 20 gates.

Photo credit: Dubai International Airport

bilizers extending out to the right and left to make the bridge more stable.”

To enable some 850 passengers to

board and disembark quickly, the ThyssenKrupp bridge docks at all three doors of the aircraft, two for the lower deck and one for the upper deck. This means the tunnels are only about a yard apart so engineers developed an anti-collision

Later the same week of the opening, the CAPA Centre for Aviation issued a report saying Emirates could become the world’s second-biggest carrier in terms of capacity if the past year’s growth rates are maintained.

Emirates operates more than 30 A380s and has another 59 on order.

system. The company’s first A380 bridges were installed in 2003 at Zurich and Heathrow airports.

NEW CONCOURSE

Dubai’s new concourse, which spreads across 11 floors with a total area of 5.7 million square feet, will also be available to A380 flights to Europe operated by Australia’s Qantas, as per global partnership announced recently and awaiting the approval of the Australian Competition and Consumer Commission, Emirates said.

CAPA figures show that Emirates had capacity of 4.993 billion available seat kilometers (ASKs) in 2012 compared to 6.15 billion ASKs for United Airlines thanks, in part, to its merger with Continental and 5.64 billion ASKs for Delta Air Lines. Emirates, which started in 1985 with just two leased planes, registered a growth of more than 18 percent in ASKs last year. The current tallies put Emirates well ahead of such European legacy carriers as British Airways with 3.049 billion ASKs and Air France with 2.825 billion ASKs. ✈️

The secure PCA solution!

Our hose trolleys are modular and 100% stainless steel. Trolley secures rigid or lay-flat ducting to allow fast, easy, variable-reach deployment while simplifying storage and dramatically extending hose life.

METROPLEX
CONVEYOR & SERVICES

www.txmcs.com • sales@txmcs.com
972-584-0551

AviationPros.com/company/10308116 Visit us at AviationPros LIVE booth #713

www.juniper-liverpool.com

Juniper’s 2x50 gallon compressor wash rig (JMP/LUFT/D/4972/C500)

Shown above is one of our 2x50 gallon rigs being commissioned for Transaero Engineering Ireland in January of this year.

Juniper’s higher capacity rig is specifically engineered to wash the larger engines in today’s wide bodied aircraft. For a full list of wash probes for this rig, please see the company website.

JUNIPER

Tel: +44(0)151 733 1553
Email: gse@juniper-liverpool.com

AviationPros.com/company/10017987



Towable Passenger Stair

Clyde Machines Inc.

The Model 15F2820 Towable Passenger Stair has a platform range of 88 feet by 161 feet. Upper platform size is a large 76 feet by 50 feet to allow the aircraft door to fully open when stair is in position. Other features: LED lighting with timer, onboard battery charger, battery level indicator. Optional solar-charging kit.

AviationPros.com/company/10441075

Truck-Mounted Passenger Stair

Phoenix Metal Products

Phoenix Metal Products, Inc. has added a new passenger stair to complete its full line of stairs. Available now is the model PNXPAS228 Truck-Mounted Passenger Stair with a door sill height from 96 inches down to 228 inches up. The chassis is a Ford F450 SD with six stabilizers.

AviationPros.com/company/10219299



SCHOPF Passenger Stairs PS560

SCHOPF Maschinenbau GmbH

SCHOPF PS 560 A/B is based on a specially developed airport vehicle chassis to service aircraft with door sill heights between 1.9 and 5.8 meters, powered by a diesel engine with hydrostatic drive. Also available as VVIP/VIP version. Options include all-weather-canopy, sun roof, auto-leveling system, etc. SCHOPF stairs are in service at civil airports worldwide and with military forces in various countries.

AviationPros.com/company/10025049



THE FOD* BOSS

A must for contractors to keep construction areas clean.

Excellent for ongoing runway/ramp maintenance.



 MYSLIK, INC

303.697.9692 | Myslikinc.com

AviationPros.com/company/10287496

Visit us at AviationPros LIVE booth #1135

Accessibility Airstairs

Accessair Systems Inc.

Accessair's equivalent-accessibility airstairs with integrated wheelchair platforms facilitate the dignified boarding and disembarking of travelers with reduced mobility. Remote and stationary controls on each truck-mounted, non-motorized or fixed-height model, make it possible to start/stop the platform at any elevation thereby assuring that units are both passenger and operator friendly.



AviationPros.com/company/10830091



Towable Passenger Stairs Wasp Inc.

WASP's Towable Passenger Stairs include models for regional aircraft (62-96 inch sill height), narrow-body aircraft (86-134 inch sill height), wide-body aircraft (132-160 inch sill height). Features Morton® non-slip surfaces; 12V timed lighting; ready-to-use towbar, movable by hand; movable platform handrails; auto-locking deck stabilizer; hydraulic stair stabilizer; and optional canopy.

AviationPros.com/company/10026635



GS260 Passenger Lift Ground Support Specialist LLC

The GS260 is an electrically powered disabled passenger lift that will service aircraft up to the A-380. This proven and simple design allows for single-person operation. These highly reliable units have an excellent track record and require minimal maintenance.

AviationPros.com/company/10222703

A380 Passenger Boarding Bridge ThyssenKrupp Airport Systems

ThyssenKrupp Airport Systems Inc. manufactures state-of-the-art A380 Passenger Boarding Bridges. The ThyssenKrupp solution applies two, or more, bridges at the lower and upper decks to service doors L1/L2 and U1. The A380 bridge is available in steel or glass.

AviationPros.com/company/10025952



"Simply the best hoists for every aircraft."

- Boeing
- Airbus
- Fokker
- DeHavilland
- Bombardier
- Embraer
- US Air Force

PF FISHPOLE HOISTS®
SALES • SERVICE

1505 S. 93rd St, Unit BL, Seattle, WA 98106 USA
206.767.3887 • Fax 206.767.4006 • pffishpolehoists.com

AviationPros.com/company/10017652 Visit us at AviationPros LIVE booth #1424

Not just a... tug
It's a... **LEKTRO** Since 1945
www.lektro.com • sales@lektro.com

LEKTRO
The ultimate aircraft tug...

800-535-8767
503-861-2288
1190 S.E. Flightline Drive
Warrenton, Oregon 97146 USA

AviationPros.com/company/10017532 Visit us at AviationPros LIVE booth #801

PRODUCT HANGAR



Electric-Powered Stair NMC-Wollard Inc.

Popular CMPS - 170 Stair, with a reach up to 170.5 inches (B-767) is available with electric power. Quiet, efficient propulsion system offers a proactive option (diesel- and gas-powered units also available). Highly maneuverable unit is easy to position - operator can see doorsill during approach to the airplane. Model 170 is designed to ARP 836 and shares design elements and parts commonality with several other NMC-WOLLARD products.

AviationPros.com/company/10857446



Passenger Bridge Baggage Lift

J&B Aviation Services - Hobart Ground Systems

J&B Aviation Services, Inc. provides a means of transporting excess carry-ons, wheelchairs, strollers and oversized bags between the terminal and the ramp. The lift may be placed to the right or left of the bridge, or on the face of the building. The cart may be placed inside the terminal entrance to the bridge or inside the rotunda of the bridge.

AviationPros.com/company/10024658



JETWAY® TeleRadial Regional Bridge JBT AeroTech, Jetway Systems

The JETWAY® TeleRadial Regional Bridge from JBT AeroTech, Jetway Systems®, is part of a complete line of regional aircraft solutions that include fully integrated preconditioned air, ground power, and provides improved safety and convenience for passengers, service staff and the aircraft itself. The longest expected life and lowest life-cycle cost of any bridge available, and the flexibility to handle all aircraft from Dash 8 through B757.

AviationPros.com/company/10024665



ContiTech AEROPAL® Hoses Custom Built by PEAR

- API hose from ¾" to 4" diameter
- Custom lengths, couplings and fittings
- Tested and certified to meet API 1529 standards
- More than a century of knowledge in aviation hoses and filtration
- Regular and low temperature hose

Connect with Sales Manager Dennis Thompson at 720-878-6188 for a quote.

Continental +
CONTITECH

PEAR 
Fueled by you.

(U.S.) 406-317-1625 (Canada) 519-623-9696
pearcorp.com

AviationPros.com/company/10843520 Visit us at AviationPros LIVE booth #1626


Any PART for your
EQUIPMENT



SERVICES for
GROUND SUPPORT

GPU • ASU • ACU • LOADERS • BAGGAGE TRACTORS
BELT LOADERS • ENGINES • TRANSMISSIONS • RAMP ACCESSORIES

CUALQUIER ASESORÍA TAMBIÉN EN ESPAÑOL

 (305) 888 01 89
(305) 851 81 44

www.SGSequipment.com

AviationPros.com/company/10017767

RESOURCE GUIDES

Mercury GSE

Ground Support Equipment

www.mercurygse.com

for current stock of air starts, bag tugs, beltloaders, bobtails, crew and passenger stairs, gpu's, loaders — main and lower deck, tow tractors and other items.

SALES LEASE RENTAL APPRAISAL

WE BUY SURPLUS GSE

PH: (562) 653-0654 FAX: (562) 653-0665
E-MAIL: dtaylor@mercurygse.com
12519 Cerise Ave., Hawthorne, CA 90250

AviationPros.com/company/10017592

STOP, DROP and LOAD®



Load faster and more efficiently with a **Wing Jack Elevating Platform Trailer**. The large deck lets you deliver multiple jacks at a time...no more pulling individual jacks on the flight line. And one man can easily load and deliver the jacks...saving time and money. Get a Wing Jack trailer working for you!

- 4,000 lb Payload Capacity
- Approximate 3° Load Angle
- Single Axle with Pintle Hitch
- For Wing Jack Transport Only

WING JACK
Elevating Platform Trailers

Call 800-369-5365 for more details
about our Extraordinary Trailers!

Manufactured by: The Advance Metalworking Company, Inc. • www.advancemetalworking.com

AviationPros.com/company/10018516

Ground Support Specialist

View our complete line of De-Icers at

www.gssonline.com



2205 Cole Rd
Horn Lake, MS
662-342-1412



Driving the Future of De-Icing

AviationPros.com/company/10017370



COBUS 3000 BUSES AVAILABLE

- Up to 112 passengers
- Kneeling Bus
- Engine/drive train developed specially for airport use (Mercedes Benz Engine)
- Aluminum body
- A/C for driver's and passengers' compartment, driven by separate power pack
- Reverse camera system
- Manual wheel chair ramp
- One spare front wheel
- One spare rear wheel
- Initial spare parts package
- Available 9 units 2009 model with less than 50 miles each - no lead time

For more information:

Please call +1(305)668.0771 or e-mail help@pemica.com
<http://www.pemica.com>



AviationPros.com/company/10877559

GSE International

ERJ + CRJ GSE SPECIALISTS



**WE BUY,
SELL, &
REFURBISH**

★ **US MADE** ★

**GROUND
EQUIPMENT**

954-632-2851
www.gseintl.com

AviationPros.com/company/10018176

CURRENT POWER

Current Power LLC is a world leader in the design and manufacturing of 28VDC Ground Power Units on the market.

- 2 year warranty
- Input voltage from 208 to 575 VAC 3 Phase 50-60HZ
- Continuous Power rating: 650 amps at 28.5 VDC
- Starting current rating: 0 to 2000 amps
- Smart Current Limit: Visual set and lock desired current limit
- True overload ratings maintain aircraft voltage during starting
- Quiet operation 50 db @ continuous current rating, 58dB at peak current
- Optional Input of 400Hz, 120/208 volts



CURRENT POWER LLC


1449 Jupiter Park Drive, STE 19, Jupiter, FL 33410

PH: 203-994-8408

www.CurrentPowerLLC.com • sales@currentpower.biz

AviationPros.com/company/10017155

CLASSIFIED



FORTBRAND
SERVICES INC

516 576-3200
fax 516 576-3221
info@fortbrand.com

www.fortbrand.com

SALES RENTALS LEASING FINANCE CONSULTING

<p>AIRCRAFT TOW TRACTORS</p> <p>TLD TMX-150, closed cab (35,000 lbs GVW) Equitech B-250 (32,000 lbs GVW) NMC-Wollard, closed cab 6,000 lbs DBP cargo tractor, dual rear wheels Eagle TT-8 (8,000 lbs DBP) United SML120 (12,000 lbs DBP) Tiger TC-80, propane</p> <p>AIR STARTS</p> <p>TLD 270 PPM TLD 150 PPM Davco 100 PPM ACE 500 air bottle</p>	<p>BAGGAGE TRACTORS</p> <p>Tug MA50, gas Tug M1A, gas Harlan HTC 50, gas</p> <p>DEICERS</p> <p>Premier MT43D15, forced air Global 2,200 gallon, open bucket Global 2,100 gallon, closed bucket FMC Tempest, open bucket</p> <p>HEATERS</p> <p>Trilectron 5050D</p> <p>MAINTENANCE STANDS</p> <p>B-4 stand - 37"-87" B-5 stand - 88"-135"</p>	<p>GPU</p> <p>TLD 90KVA, 120Kva & 140Kva Trilectron 90 Kva Hobart Jet Ex5D 28V Hobart 60 Kva/28V dual output</p> <p>CONVEYORS</p> <p>NMC-Wollard TC-888, diesel TLD NBL, diesel Charlotte CBL 150D, diesel Charlotte CBL 100E, electric WASP A01771D, walk behind</p> <p>SOLID STATE CONVERTERS</p> <p>Hobart 90Kva/28V dual output</p> <p>LAVATORY TRUCK</p> <p>NMC-Wollard TLS 770 Phoenix Metal TL 600 w/lift</p>	<p>PASSENGER STAIRS</p> <p>Phoenix Metal PAS200 wide body Stinar SPS-2513 narrow body Clyde 15F2820 narrow body, towable</p> <p>REFUELERS</p> <p>Par-Kan 600 gallon trailer (gas + diesel)</p> <p>AIR CONDITIONERS</p> <p>TLD 802 115 ton w/heat TLD 302 30 ton w/heat Trilectron DAC200 - 20 ton w/heat Davco AC20D</p> <p>TOWBARS</p> <p>ERJ 145 Tronair RJ</p>
---	--	--	---

FOR SALE OR LEASE

Ground Support Specialist

FOR SALE, RENT OR LEASE

LOADERS:

- 1 FMC MDL 40 MAIN DECK LOADER
- 1 LANTIS 818-218 WIDE LOADER (PERKINS 4.236)

AIRCRAFT TOW TRACTORS:

- 1 TUG MC-15 (PERKINS DIESEL)
- 1 NMC Wollard 140 Ford Engine (2008)

DEICERS: *(New & Used "GS Series" 700 /1400 gal. Deicer's "In Stock")*

- 1 TRUMP D2-40 DEICER (FORD F800 CHASSIS TYPE I & IV) with 844 hours
- 7 FMC 2100 DEICERS (TYPE I & IV)
- 1 GS700 DEICER (TYPE I & IV) New in Stock
- 2 GS1400SG DEICER (Enclosed Basket with Air New in Stock
- 1 GS 700 DEICER (TYPE I & IV) (Used)....."Call for Pricing"
- 6 GS 1400 DEICER (TYPE I & IV) (Used)....."Call for Pricing"

We BUY and SELL New and Previously enjoyed Ground Support Equipment.



5114 Pt. Fosdick Dr NW, Suite E 96, Gig Harbor, WA 98335, USA

Phone: 253 853-1793 • www.CompassEGSE.com

AUTO, TRUCK, INDUSTRIAL & GROUND SUPPORT EQUIPMENT SPARE PARTS



Jeff Benigno Sr. 860-658-1377 • Fax: 860-658-2209
sales@totalaviationparts.com www.totalaviationparts.com

JACKS 3 Ton to 100 Ton
B-1, B-2, B-4, and B-5 Work Stands,
Wheel & Brake Dollies, tow Bars,
Engine Cranes, Engine Stands, etc.
Overhauled, Reconditioned like New

AIRCRAFT PARTS &
GROUND SUPPORT EQUIPMENT, INC.
Tel: 305-871-2192
Fax: 305-871-6081
pdsgse@bellsouth.net

ALL OTHER TYPES OF GSE:

- 20+ TUG T660-1 BELT LOADERS (FORD 300 & C-6 AUTOMATIC TRANSMISSIONS)
- 3 WASP BELT LOADERS (2007)
- 50+ S&S MA-50 TRACTORS (CABS AVAILABLE)
- 4 CLARK CT-50D TRACTOR
- 1 HOBART JET EX 6 (2001)
- 1 HOBART 45 KVA (2002)
- 2 HOBART 60 KVA (2001/2006)
- 1 PCA JBT 30 TON (2011)
- 1 PCA TLD 30 TON (2002)
- 1 AIR-A-PLANE 5050D 400,000 BTU AIRCRAFT HEATER (ONAN L-423 DIESEL)
- 4 GS 100 BRAKE COOLERS New in Stock
- 1 TYMCO 600 AIR SWEEPER GMC CHASSIS (CAT DIESEL)

662-342-1412

WWW.GSSONLINE.COM

Calibration Specialty Inc.

Calibration Service and
Sales Traceable to NIST

www.calibrationspecialty.com

P: (972) 438-3774
F: (972) 438-3874
Irving, Texas

Call Josh Jones
800-547-7377 x 1307
Advertise in the
**Ground Support
Worldwide**
classifieds and...

REACH THE WORLD!



Hall Industries, Inc



Providing complete GSE Technical Services to support airline ground support equipment including: belt loaders, pushback tractors, baggage tractors and carts as well as baggage handling systems, passenger boarding bridges, potable water units, ground power units and lavatory service vehicles.

www.hallindustries.com • 724-752-2000

SMOKING SHELTERS

- MANY DESIGNS AVAILABLE
- PRE-FABRICATED SECTIONS



★ COMPLIES WITH THE LAW WITHOUT A TOTAL SMOKING BAN

handi-hut inc. 1-800-603-6635
www.handi-hut.com

Use us for your GSE needs



- Electronic Repair
- Equipment and Training
- Replacement Parts

(305) 888 01 89
(305) 851 81 44
Cualquier asesoria tambien en español

GPU • ASU • ACU • LOADERS • ENGINES
BAGGAGE TRACTORS • BELT LOADERS
TRANSMISSIONS • RAMP ACCESSORIES
www.SGSequipment.com

Investigate what advertising can do for you.



Contact Josh Jones for information:
1-800-547-7377 ext. 1307
Josh.Jones@AviationPROS.com

Prime GSE

New, Used & Refurbished Ground Support Equipment

HUGE EQUIPMENT INVENTORY

Tugs	Air Start Units
Belt Loaders	Passenger Stairs
A/C and DC GPU's	Baggage Carts
Water and Lavatory	Tow Tractors

NEW GSE ARRIVING DAILY!
CALL FOR DETAILS

631-319-1800
WWW.PRIMEGSE.COM

ADVERTISE HERE

Contact Josh Jones for advertising information:
Phone: 800-547-7377 ext. 1307
E-mail: Josh.Jones@AviationPROS.com
Fax: 920-563-1699

Complete Rebuilds of Your

TUGS & BELT LOADERS

#1 in midwest CALL FOR QUOTE Since 2005
920-822-3025 • qmsduluth@hotmail.com
www.QMSGSE.com
Honest • Professional • Quality Work

DAVIN Inc.

FOR SALE OR LEASE

AIR CONDITIONERS
1991 ACE, Model 802-620, F600 mounted 110-ton unit.

AIR START UNIT
2007 Tronair, SA280G2 Stored Air Start. 260lb mass usable air.
1992 S&S, Model TMAC-250, 250 PPM, powered by DDEC III engine.

BAGGAGE/CARGO TOW TRACTORS
2010 TUG, MA-40-27LP Ford LPG w/cab.
(2) 2001 TUG, MA-30-1 Ford 300 gas, w/cab.
(2) 2003 TUG, MT-8-1 Ford gas 8K DBP, w/cab.
(3) 2003 Harlan HTAG-80 Ford gas 8K DBP, w/cab.
1998 Harlan, HTAG-50 Ford 300 gas engine.
1997 Toyota, Model 2-02TD25 diesel engine.

BELTLOADERS
1987 NMC-Wollard, Model TC-886-D Perkins diesel engine.
1987 TUG, Model 660-1, Ford 300 6-cylinder gas engine.
1996 WASP A0177D walk-behind, Kolher gas engine.

CONTAINER LOADER
1988 LANTIS, Model 818-218-161-125, High & Wide 161" elevator.

DEICERS
(2) 2002 Premier, Model MT43D15 deicers, enclosed basket & air system.
1996 FMC/Landoll, Model TM1800, Ford F800 diesel chassis.
2000 Superior, Model TD530, 600 gallon towable, 30' telescopic lift

GROUND POWER UNITS
2005 Hobart, Model 120CU24P5, 120 KVA
2008 TLD, Model GPU4090-T-CUP, 90 KVA

HEATERS
1997 Air-A-Plane Model 5050D, Deutz diesel engine.
1994 Air-A-Plane, Model 5050GF, Ford 300 gas engine

PASSENGER STAIRS
2001 Stinar, Model SPS-3518 GMC diesel 96" to 228"
1998 Stinar, Model SPS-7026 Ford F-Series diesel 184" to 312"

PUSHBACK TRACTORS
1998 NMC-Wollard, Model 140, Perkins diesel, 10K DBP. (2 avail)
1982 S&S, Model MB-2, Detroit diesel, 53K GVV
2000 S&S TUG, Model GT-50DZH, Deutz diesel, 60K GVV
2010 JBT, Model B1200 Cummins Diesel, w/cab 100K GVV

SALES, LEASING, FINANCING

631/499-6363
Fax: 631/499-4222
www.davin-inc.com



Steve Smith

The People Behind GSE Brand Names

A look at the equipment and people that make the GSE industry.

By Steve Smith

Readers will find a history of ground support equipment starting on page 8 that coincides with our own part in that history – this issue marks 20 years in business publishing the leading voice of the ground support community.

Of course, there are “GSP,” too – “ground support people” behind the tractors and the loaders and the refuelers and the baggage carts and the deicers.

You’ve no doubt heard of Hobart Brothers, the company. But what about Edward, Charles and William Hobart, the brothers? JLG Industries is currently part of an \$8 billion corporation. But back in 1969 it was just John L. Grove and a couple of his buddies who bought a metal fabrication shop. Did you know that in 1951 a guy named Fred joined a company started by a guy named Davis to sell electric vehicles to ranchers and nurseries throughout Southern California? You definitely know both their last names.

A GSP doesn’t necessarily have to be a GSE manufacturer either. For example, we recently called Bob Kuzma, Abbott Installs, New York, who was a structural iron worker for Pacific Iron & Steel in 1959 when he installed the first passenger boarding bridge at LaGuardia Airport.

“People just used to walk out onto the tarmac in all kinds of weather to board a plane,” Kuzma says. But as soon as one airline put in a boarding bridge, it was only a matter of time before they all did.

“All you needed was for one president of an airline to walk outside in the rain only to see that his competitor had a boarding bridge for its customers,” he adds.

We called Bob since we had heard that he put in the very first passenger bridge in the United States, and there’s no doubt he installed the first one at LGA. But the very first? Clear across the country, meanwhile, we found out that the San Francisco Airport claims the country’s first passenger bridge also installed in 1959.

“Yeah, they may have been putting them in there, too,” Kuzma adds. But whatever the exact date, it didn’t really matter to Kuzma since he went into the business himself installing the bridges and air cargo systems along the East Coast during the 1960s.

“I had no competition,” he laughs. “No one knew about this equipment at the time.” Still, to be on the safe side, he named his company “Abbott” because “A” comes before “K” in the Yellow Pages.

As it turns out, there’s at least one GSP who isn’t even from the GSE industry. We found out the back story to a man on the peripheral of a product even though it bears his own last name.

To find out more about the U.S. Air Force Colonel and how he earned the nickname “Onkel Wackelflugel,” go on line to read the full story.

Plus, in print and on line, we’ll continue throughout 2013 to remember the equipment and people who created and continue to make the GSE industry.

A handwritten signature in black ink, appearing to read 'Steve Smith'.

EDITORIAL ADVISORY BOARD

ASIG – Yvonne Coleman

AeroVironment/PosiCharge – Ryan Gibson

AGERanger.com – Darryl Clark

Aviance – Alain Chappler

Charlotte of America – Rob Lamb

Delta Air Lines – Joe Fuqua

Elite Line Services, Inc. – Dewey Kulzer

Fortbrand Services – Fred DiBenedetto

J&B Aviation Services – David Janis

JBT AeroTech – Jim Cherrett, Virginia Salas

Sage Parts – Michael Bloomfield

Triton Technologies LLC – Debra Guinand

United Airlines – Jody Cope



Luggage



Potable Water



Refuse



Lav Service



Fueling



Lav Service

A Great Ground Support Team Gets them Flying

Your industry demands quality, versatility, and most of all, dependable products that make you a leader in today's competitive world.

Par-Kan knows that your customer's experience begins on the ground and what happens there assures them timely departures and arrivals.

Celebrating our 23rd year in business, Par-Kan has developed its Ground Support Systems division into one of the best and most recognized complete ground support equipment lines in the industry.

The Par-Kan line consists of 20 towable carts in the following categories for all your specific needs.

- **Baggage** • **Potable Water**
- **Lav Service** • **Fueling** • **Refuse**
- **Cargo Trailers** • **Pallet Carts**

Par-Kan Company constantly strives to satisfy your requirements by providing the professional service, quality, value and performance that you can depend upon and trust.

Call today for our complete support line



Ground Support Systems

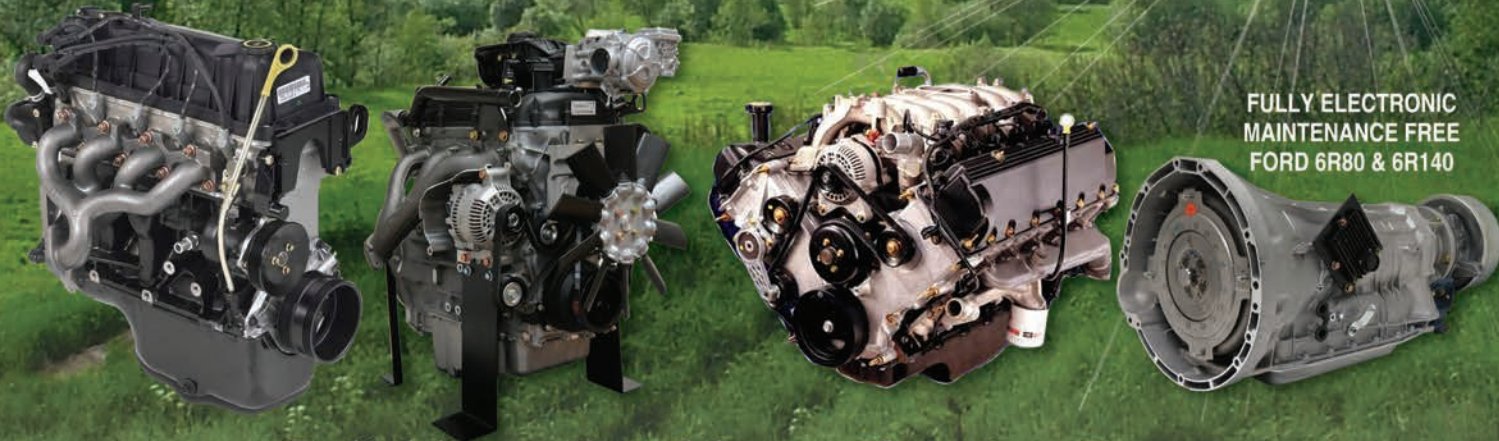
Go Green With Ford Advanced Technology Engines.

A Green Alternative to Diesel from

**ENGINE
DISTRIBUTORS
INC.**



YOUR Tier IV Solution



FULLY ELECTRONIC
MAINTENANCE FREE
FORD 6R80 & 6R140

Reliable — Durable — Clean — Green.

Featuring a complete line of EPA and CARB Certified 1.6, 2.5, and 6.8 L LSI Engines ranging from 20 to 200 hp. Available in Gasoline, LPG, CNG, Natural Gas and Dual Fuel. Our engines are the solution to high priced Tier 4 Diesels. Secured Volumes, Longer Life Cycles, Dry Fuel and Flex Fuel Valve Trains – You Can Find It At EDI. Performance you can count on!

Contact One Of Our Distributors Today!

Our line of LSI industrialized Ford engines are serviced through a Global Dealer Network.

Anderson Industrial Engines Co.
Omaha, NE 402-558-8700

Southwest Products Corp.
Phoenix, AZ 877-779-3581

Diesel Power Equipment
Chicago, IL 877-876-3732
Farmington, MO 800-876-3732

Engine Distributors Inc.
Archdale, NC 800-220-7080
Blackwood, NJ 800-220-2700
Ft Lauderdale, FL 800-257-6605
Holliston, MA 800-220-2700
Jacksonville, FL 800-342-3575

Engines, Inc.
Jonesboro, AR 800-562-8049

Powertech Engines Inc.
Fresno, CA (800) 750-1776
Fullerton, CA (800) 784-1776

Perkins Pacific
Ridgefield, WA 877-877-3311

McDonald Equipment Co.
Willoughby, OH 800-589-9025
Portland, MI 800-445-5273

**M. G. Bryan
Equipment Co.**
Grand Prairie, TX
972-623-4300

**D A C Industrial
Engines Inc.**
Dartmouth, NS, Canada
902-468-3765

Marindustriel
Montréal, QC, Canada
514-342-2748

Oakville, ON, Canada
800-866-3831

Simson Maxwell
Edmonton, AB, Canada
800-374-6766

Calgary, AB, Canada
800-374-6766
Port Coquitlam, BC, Canada
800-374-6766

Nanaimo, BC, Canada
800-374-6766
Prince George, BC, Canada
800-374-6766

All Marine Spares
Mona Vale, N.S.W., Australia
61-2-99972788

Compagnia Tecnica Motori S.p.A.
Milano, Italy
+39 0245058238
Fornaut Ehm Sa
Le Pre St Gervais, France
01133148450394

Power Torque Engineering Ltd
Binley, Coventry, UK
011-44-247-663-5757

Sauer Motive Systems
Sauer and Sohn KG
Dieburg, Germany
011-49-607-120-6330

Engine Distributors Inc. • 400 University Court • Blackwood, NJ 0812-3214
Phone: (856) 228-7298 or (800) 220-2700 • www.edi-dist.com