

Florida

SMACNA Inc.

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TECH/SPEC

NEWS

**EMBRAER MELBOURNE PRODUCTION FACILITY,
MELBOURNE, FL**



Sheet Metal Contractor: McDonald Air & Sheet Metal, Inc., Orlando, FL

**EMBRAER MELBOURNE PRODUCTION FACILITY,
MELBOURNE, FL**



supply air

Architect: BRPH, Melbourne, FL
Sheet Metal Contractor:
McDonald Air & Sheet Metal, Inc.,
Orlando, FL

The Brazilian aircraft maker, Embraer, the world's fourth largest aircraft-maker is completing a 200-employee production facility in Melbourne, Florida. The plant will assemble two models of the Phenom, the company's hot-selling new executive jet.

The 150,000 square foot plant in Melbourne includes a paint shop, and will do final Phenom assembly on eight Phenoms a month.



air house paint booth walls

**EMBRAER MELBOURNE PRODUCTION FACILITY,
MELBOURNE, FL**



walls and panels for paint booth

Embraer plans to build a separate sales showroom on this site, where customers can see the planes, choose paint schemes and interior furnishings and take final delivery.

DURR Systems Inc. of North America designed and manufactured the massive downdraft paint booth and support systems and contracted McDonald to do the installation for their customer, Embraer Melbourne Production Facility.



standing up walls of paint booth

EMBRAER MELBOURNE PRODUCTION FACILITY, MELBOURNE, FL



supply plenum being assembled on the ground

The aircraft paint facility is housed in a new structure that was recently completed specifically for these booths. Each booth required 100,000 cfm of conditioned make-up air, supply units and 100,000 cfm exhaust fans to control the air flow across the painting area. The booth itself has 4" prefabricated insulated panels for the walls, ceilings and plenums.

The project was a challenge for McDonald because they were required to erect two, very large (80' x 25' x 36' high) paint booths inside an existing hanger building.

The make-up air units, that were in 6 sections each, measured 27'w x 35'l x 10' h, and had to be installed

first above the booths on a mezzanine platform.

The supply air plenum and ceiling were hung from the building support structure. Then the booth walls were erected using small cranes to lift the panels.

In addition, the company only had four months to complete the job.

To meet time constraints required, a foreman and 14 sheet metal workers working two shifts were used on the project.



inside view of supply air plenum

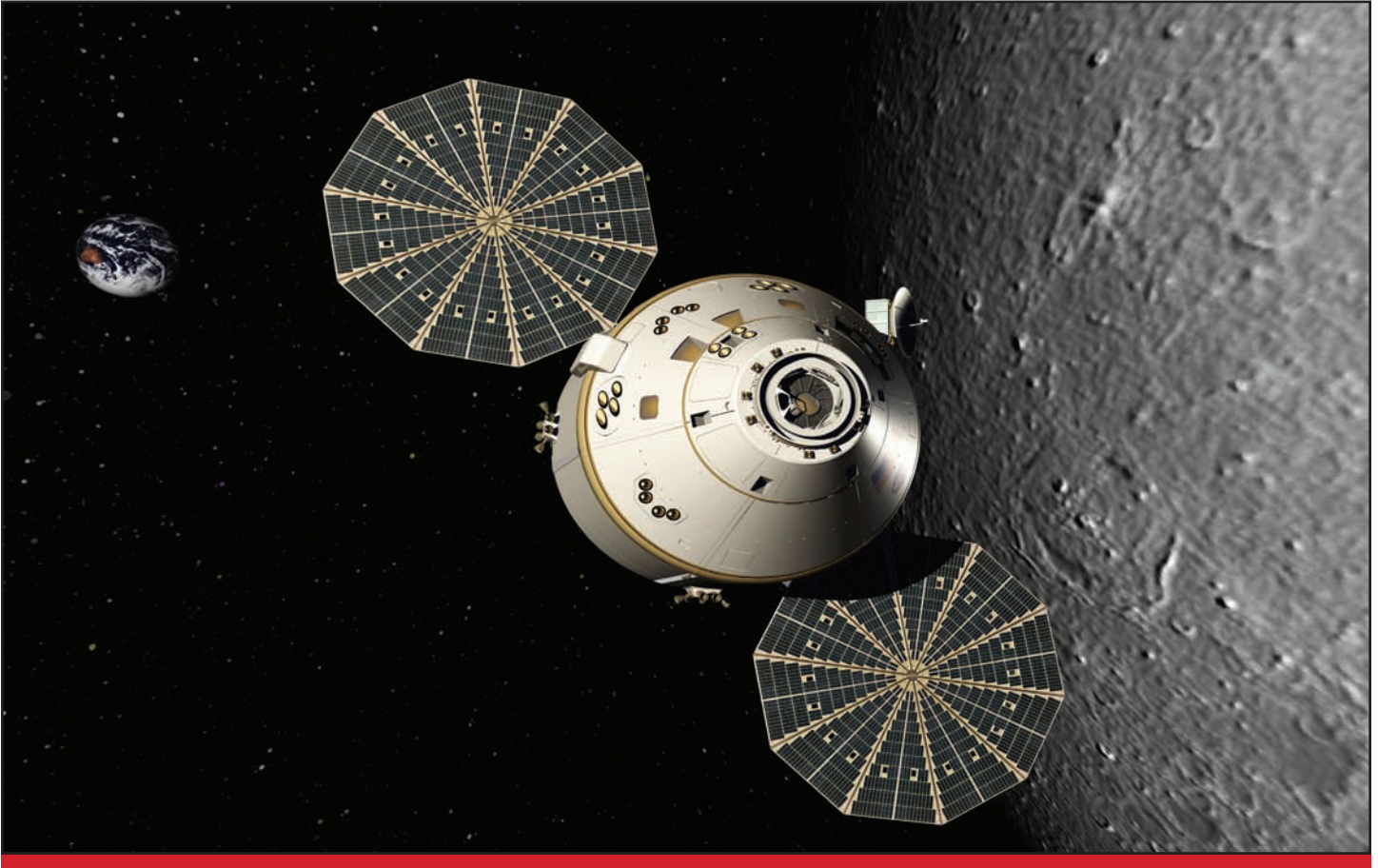


walls of paint booth

PREPARATIONS UNDERWAY FOR ORION SPACECRAFT'S FIRST MISSION

You may recall the article on the Operations and Checkout (O & C) Facility at NASA's Kennedy Space Center in Florida featured in our October, 2008 issue. Lapin Sheet Metal Company, Inc. of Orlando fabricated and installed modern energy efficient HVAC ductwork in the renovation of this facility.

Lockheed Martin has produced a video of this state of the art complex designed to support NASA's next generation spacecraft fleet. To view video on the facility and Lapin's ductwork in it go to: http://www.lockheedmartin.com/news/press_releases/2010/0921_ss_orion.html



Florida SMACNA, Inc. is a trade association made up of qualified sheet metal and air conditioning contracting firms dedicated to improving the quality of the construction business in Florida. The Association is part of a nationwide network of chapters that represent the leading voice in the industry, the Sheet Metal and Air Conditioning Contractors' National Association (SMACNA) located in Chantilly, Virginia.



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In the sheet metal and air conditioning business, nobody knows excellence quite the way SMACNA Contractors do. After all, they wrote the book on it. Why take a chance on doing business with anyone who offers less.

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System Tech Services

Triple M Roofing Corp.

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HVAC SYSTEMS APPLICATIONS MANUAL, SECOND EDITION, 2010

The HVAC Systems Applications manual focuses primarily on the advancement of HVAC systems technology, with increased emphasis on energy efficiency and the emergence of green and sustainable building.

The manual provides guidance for HVAC system selection, operation and design.

It covers the fundamentals of space condition requirements and explains how the various types of air, hydronic and refrigeration HVAC system designs can be applied to buildings.

Individual chapters detail system information for controls, multizone, dual duct, terminal reheat, variable air volume, induction and special applications such as dedicated out-

side air and thermal energy storage.

Architects and Engineers may purchase the new publication at the discounted price of \$110 for the hard copy, \$133 for the CD-Rom, \$110 for the PDF download.

To order, go to www.smacna.org and visit the SMACNA Publications Store or call SMACNA's Publication Department at (703) 803-2989.

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SMACNA'S CONSTRUCTION STANDARDS

- Accepted Industry Practices for Sheet Metal Lagging.
- Architectural Sheet Metal Inspection Guide.
- Architectural Sheet Metal Manual, 6th edition 2003
- Fire Smoke and Radiation Damper Installation Guide for HVAC Systems.
- Guide for Steel Stack Construction.
- Guidelines for Roof Mounted Outdoor Air-Conditioner Installations.
- HVAC Duct Systems Inspection Guide.
- Kitchen Ventilation Systems & Food Service Equipment Fabrication & Installation Guidelines.
- Residential Sheet Metal Guidelines.
- Seismic Restraint Manual: Guidelines for Mechanical Systems.

- Sheet Metal Welding Guide.
- Standard Practice in Sheet Metal Work.

SMACNA'S DESIGN GUIDES

- Duct System Calculator - Imperial + Metric
- Ducted Electric Heat Guide for Air Handling Systems.
- Guidelines for Change Orders
- HVAC Systems - Duct Designs.

SMACNA'S DUCT STANDARDS

- Accepted Industry Practice for Industrial Duct Construction.
- Fibrous Glass Duct Construction Standards.
- HVAC Air Duct Leakage Test Manual.
- HVAC Duct Construction Standards - Metal and Flexible.
- Rectangular Industrial Duct Construction Standards.
- Residential Comfort System Installation Standards Manual.
- Round Industrial Duct Construction Standards.

- Round Industrial Duct Construction Standards (RIDCS) Software Version 2.0.
- Thermoplastic Duct (PVC) Construction Manual.
- Thermoset FRP Duct Construction Manual.

SMACNA'S ENVIRONMENTAL PUBLICATIONS

- Building Systems Analysis and Retrofit Manual.
- Energy Systems Analysis and Management.
- HVAC Sound & Vibration Manual
- HVAC Systems - Applications.
- HVAC Systems - Commissioning Manual.
- HVAC Systems - Testing, Adjusting & Balancing.
- IAQ Guidelines for Occupied Buildings Under Construction.
- Indoor Air Quality - A Systems Approach.
- TAB Procedural Guide.

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