EMBRAER MELBOURNE PRODUCTION FACILITY, 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.
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.
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.
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.*
FLORIDA SMACNA, INC. MEMBER FIRMS

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.

All Southern Fabricators, Inc.
5010 126th Avenue N.
Clearwater, FL 33760
727-573-4846
Manuel Santana, Jr.

Bohnert Sheet Metal
2225 NW 76th Street
Miami, FL 33147
305-696-6851
William H. Marvel, Jr. (Skip)

BSA Sheet Metal
2530 Ali Baba Avenue
Opa Locka, FL 33054
305-681-3771
John Rudisill

CADVANTAGE Drafting Service, Inc.
2220 1st Avenue S.
St. Petersburg, FL 33712
727-321-2072
Dan Sinclair

Dodec Inc.
3140 W. 84th Street, Bay #2
Hialeah, FL 33018
305-826-4022
Trevor Pantry

Ferber Sheet Metal Works, Inc.
4121 Evergreen Avenue
Jacksonville, FL 32206
904-356-3042
George Ferber

Lapin Sheet Metal Company
3825 Gardenia Avenue
Orlando, FL 32839
407-423-9897
Ronald J. Lapin

Lee’s Sheet Metal Works, Inc.
P.O. Box 756
East Palatka, FL 32131
386-328-5563
James Lee

McDonald Air and Sheet Metal, Inc.
2730 Eunice Avenue
Orlando, FL 32808
407-295-0220
Ralph Carver

Magnum Sheet Metal, Inc.
7470 NW 68th Street
Miami, FL 33166
305-885-5656
William H. Murphy, Sr.

MetalFab, Inc.
P. O. Box 1184
San Antonio, FL 33576-1184
352-588-9901
Wally Ruda

Moffitt Mechanical, LLC
1351 13th Avenue South, Suite 130
Jacksonville Beach, FL 32250
904-241-9944
John Moffitt

National Sheet Metal Co.
8318 Atlantic Blvd.
Jacksonville, FL 32211
904-724-7476
Lance Herlong

Omega Test and Balance
126 Wisteria Avenue
Fort Pierce, FL 34982
772-216-7632
Hugh Grimes

R. Neth & Son, Inc.
360 E. Landstreet Road
Orlando, FL 32824
407-855-9096
Brad Supplies

Ray’s Metal Works, Inc.
P.O. Box 700
Alachua, FL 32616
386-462-1415
Ray Burnsed, Sr.

Sheet Metal Experts, Inc.
8986 N.W. 105th Way
Medley, FL 33178
305-805-2019
William F. Medlin

South Florida Sheet Metal
5264 NW 163rd St.
Miami, FL 33014
305-430-0075
Harold Woods

United Sheet Metal Company/Applegate
1141 NW 31st Avenue
Pompano Beach, FL 33069
954-773-2910
Rich Applegate

Vickers Metal Works, Inc.
6701 Edgewater Commerce Pkwy.
Orlando, FL 32810
407-297-7546
Tim Vickers

OTHER CONTRIBUTORS TO THE FLORIDA SHEET METAL INDUSTRY

Advanced Metal Works
Apollo Construction & Engineering
Colbert Air Conditioning
Crown Corr Erection
D&J Sheet Metal
DKG & Associates
Digital Climate & Control
Florida Metal Art
FCR Mechanical Contractors
Hanen Mechanical
Industrial Steel
JV Installation
Lindab, Inc.
MFH Sheet Metal Fabricators, Corp.
Quality Metal Works, Inc.
SDB Engineers and Constructors, Inc.
Spratlin Sheet Metal
System Tech Services
Triple M Roofing Corp.
Veritab Environmental

skarr@flsmacna.org
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 outside 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.

**Florida**

**SMACNA Inc.**

**SMACNA’S CONSTRUCTION STANDARDS**
- Accepted Industry Practices for Sheet Metal Lagging.
- Architectural Sheet Metal Inspection Guide.
- Guide for Steel Stack Construction.
- Guidelines for Roof Mounted Outdoor Air-Conditioner Installations.
- HVAC Duct Systems Inspection Guide.
- Residential Sheet Metal Guidelines.
- Sheet Metal Welding Guide.
- Standard Practice in Sheet Metal Work.

**SMACNA’S DESIGN GUIDES**
- Duct System Calculator - Imperial + Metric
- 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 Duct Construction Standards - Metal and Flexible.
- Rectangular Industrial Duct Construction Standards.
- Round Industrial Duct Construction Standards.
- Thermoset FRP Duct Construction Manual.

**SMACNA’S ENVIRONMENTAL PUBLICATIONS**
- Energy Systems Analysis and Management.
- HVAC Sound & Vibration Manual
- HVAC Systems - Applications.
- IAQ Guidelines for Occupied Buildings Under Construction.
- Indoor Air Quality - A Systems Approach.
- TAB Procedural Guide.