

RAYTHEON AIRCRAFT IMPLEMENTS **ENVIROStrip**[®] ADHESIVE REMOVAL PROCESS

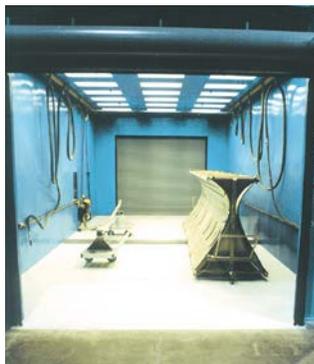
June 2000



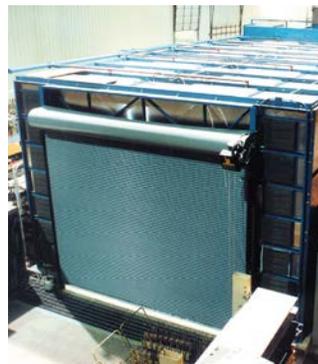
RAYTHEON AIRCRAFT COMPANY (Wichita, Kansas) recently took a strategic step to improve their adhesive removal process for aircraft production. Adhesive “squeeze out” occurs when bonding metal to metal on aircraft sub-assemblies. This excess adhesive must often be removed for part fit-up, appearance or weight reduction requirements. Installation of Raytheon’s **Integrated Adhesive Removal and Wash Facility** using **ADM/Ogilvie ENVIROStrip**[®] **Wheat Starch** media has resulted in major reductions in labor and production time. The EnviroStrip[®] process has eliminated parts damage and the additional production step of reworking parts (i.e. reapplication of bond primer or conversion coatings).

The media’s ability to remove excess bond adhesive without removing bond primer or conversion coatings now allow Raytheon to alodine parts prior to performing metal bonding. Raytheon had previously used conventional hand sanding and scraping techniques to remove unwanted adhesive, a damaging and labor intensive method.

The adhesive removal facility, manufactured and installed by **PAULI SYSTEMS** (Fairfield, California), consists of two 40-foot chambers separated by a rollup door. One chamber is equipped with two dry media blast nozzles for removing adhesive. The second chamber is designed to clean parts with a hot water rinse.

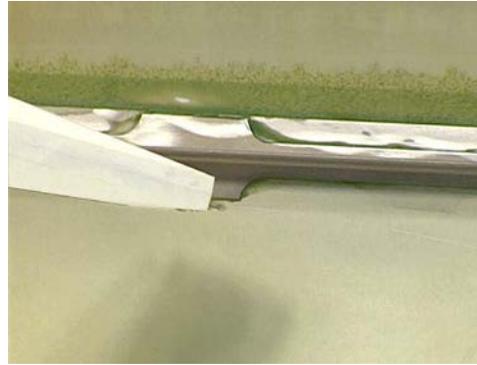


INTERIOR



EXTERIOR

The resulting 50% reduction in labor produced immediate savings at **RAYTHEON**, while eliminating any damaged or scrapped parts. Production efficiencies were also achieved because the wheat starch treated parts do not require rework - such as reapplication of primer or conversion coatings - prior to painting. Notably, the use of flat nozzles has enhanced the overall productivity and controllability of the EnviroStrip® adhesive removal process. Flat nozzles improve the distribution of particles and uniformity of the blast stream, resulting in faster removal rates. Optimization of the process is expected to further increase timesaving.



FANBLAST® FLAT NOZZLE

EnviroStrip® media products remove the excess adhesive without undercutting the adhesive bond line.

CESSNA AIRCRAFT and **BOEING'S COMMERCIAL AIRPLANE GROUP** also use **ENVIROStrip®** wheat starch and **ENVIROStrip® XL** corn hybrid polymer media for their metal bond adhesive removal requirements.

ENVIROStrip® media is used worldwide by major aircraft manufacturers and overhaul/refurbishment facilities to remove various types of aerospace paints, coatings and adhesives. **BOEING, CESSNA, RAYTHEON, BOMBARDIER, NORTHROP GRUMMAN and GULFSTREAM** have approved the **ENVIROStrip®** media for use on both aluminum and composite substrates.

ADM/Ogilvie has established distributors throughout North America and Internationally. ADM/Ogilvie operates a fully equipped **ENVIROStrip® Test Center** where parts can be processed to support customer engineering and operational impact assessments.

For information and a video featuring the **ENVIROStrip®** adhesive and coating removal process contact **ADM: 1 (888) 995-9722 or 1 (321) 728-9100.**