



# MICHOUD

## ASSEMBLY FACILITY

### Fiber Placement

The National Center for Advanced Manufacturing (NCAM) has 2 Automated Fiber Placement Machines that are located in the main manufacturing building in a controlled, enclosed environment.





## Enclosure

- 160 ft x 90 ft enclosure
- Temperature control, 70°F +/-5°
- Humidity control, 45% +/-5°
- (2) 20 ton overhead cranes
- (2) 20 ft x 20 ft roll up doors
- A 20 ft x 30 ft freezer contains storage of resin pre-impregnated fiber on spools is attached to the FPM enclosure. The freezer maintains a temperature range of -10 to 0 F°.



## Fiber Placement Machine #1; 5-axis (FPM1)

### Capacity:

- 15 meters (16.4 ft) diameter x 12 meter (40 ft long)
- 80,000 lb. maximum mandrel weight

### Features:

- 24 tow, bi-directional
- Used in the manufacture of large-scale, complex-shaped structures
- 450° F head maximum lay down temp
- Cantilevered tool and "Domes on" capability
- Advanced offline programming and simulation software



## Fiber Placement Machine #2; 7-axis (FPM2)

### Capacity:

- 8 ft diameter and 20 ft length
- 40,000 lb. maximum mandrel weight

### Features:

- 24 tow, bi-directional,
- 500° F head maximum lay down temp
- Used in the manufacture of small to medium-scale, complex-shaped structures
- "Domes on" capability
- Advanced dexterity, streamlined head
- New advanced CPS offline programming software

National Aeronautics and Space Administration

### Michoud Assembly Facility

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