



# MICHOUD

## ASSEMBLY FACILITY

### Friction Stir Weld

The benefits of Friction Stir Weld include, higher strength and higher quality welds, significantly reduces residual stresses, strong and flexible joints with low deformation, shrinkage and porosity. Process is relatively simple, is fully automated and can function well in any position.



Machine	X-axis	Y-axis	Z-axis	Turntable (TT)
UWS1	192 in.	246 in.	118 in.	20 ft.
UWS2	49 ft. 10 in.	22 ft. 8 in.	12 ft. 2 in.	22 ft.
RWT3	93 ft. Each weld machine	22 ft. 5 in. Each weld machine	12 ft. Each weld machine	3 annular TTs 20 ft. OD each, 15 ft. IN each
PDS1	40 in.	120 in.	24 in.	–

\*RWT3 has 2 weld machines that share a common X-axis. OD=outer diameter, ID=inner diameter.



Universal FSW System (UWS1)



Universal FSW System (UWS2)



Universal FSW System (RWT3)



Process Development System (PDS1)

## Product Building Capability

- Aerospace
  - Space Shuttle External Tank
  - Orion Crew Vehicle Ground Test Article
  - Boeing Delta II and Delta IV Expendable Launch Vehicles
- Automotive
- Ocean Thermal Energy Conversion
- Shipbuilding
- Railway Rolling Stock

National Aeronautics and Space Administration

### Michoud Assembly Facility

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[www.nasa.gov](http://www.nasa.gov)

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