

### Our Company

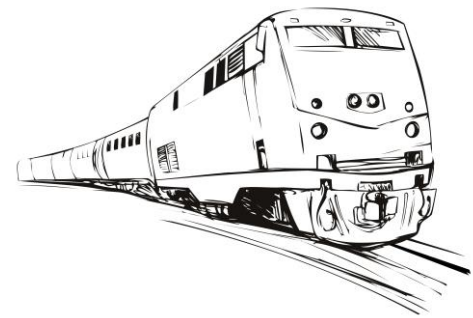
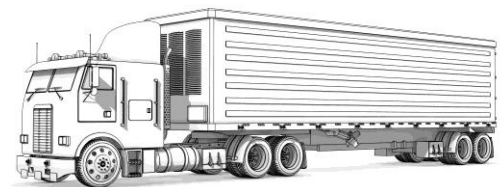
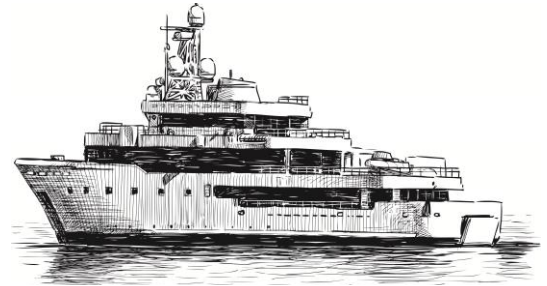
HFWSolutions is North America's largest friction stir welding and large-scale machining provider producing ABS certified components. We use a process-driven, methodical approach to developing production, engineering and quality excellence. Products range from large sheets and plates to complex fabricated structures.

### Friction Stir Welding

Friction stir welding (FSW) is a solid-state joining process that uses frictional heat. Using this method creates a high-strength, high-quality weld. FSW has many applications, including, but not limited to aerospace, shipbuilding, aircraft, construction and architecture, and automotive industries.

### Advantages of Friction Stir Welding

- Provides a significantly stronger joints than fusion welding or mechanical fastening
- Lower cost solutions
- More aesthetically appealing finish/joint
- More consistent results
- Lower heat input leads to:
  - Significantly reduced Heat Affected Zone
  - Decrease in horizontal contraction by 20 times
  - Decrease in distortion over 20 times
- All CNC controlled – Significantly reduced and /or eliminated defects
- Ability to join thicker, more difficult and higher strength aluminum alloys
- No filler material – FSW joints retain parent metal chemistry
- Allows the ability for joining dissimilar alloys more efficiently



## HFWSOLUTIONS

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