

smiths

TUBULAR SYSTEMS



Introduction

Smiths Tubular Systems (STS) provides customers with complete fluid transfer solutions in flexible, rigid or flex-rigid hybrid assemblies. We lead the world in steel braided and para-aramid flexible hose, while also producing complex rigid assemblies in various metals. As a result, STS can offer program management and kitting support for tubular systems. Our assemblies support fuel, hydraulics, lubrication, gases, oxygen or air in aircraft turbine engines, missiles and space vehicles. Our highly dedicated team provides innovative, advanced technology solutions for our global customers, and comply with the most stringent quality standards. We are leaders in lean production and cost effective developments, creating value in the aerospace supply chain. STS' products are supported throughout their life cycle by a dedicated distributor network as well as a FAA certified overhaul and repair facility.



Turbine Engines



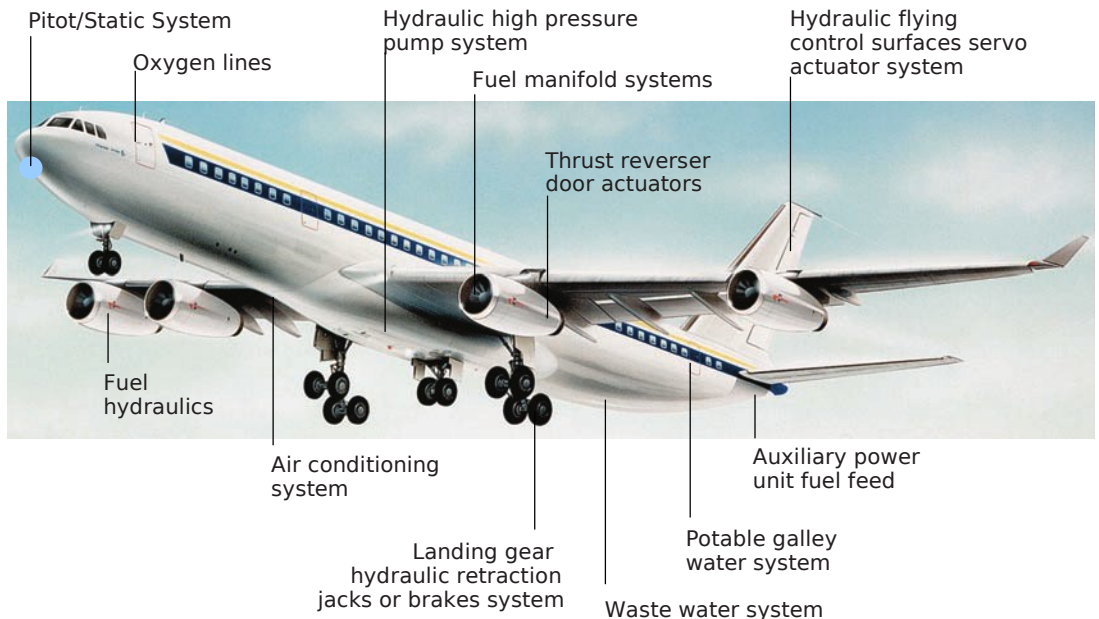
Military Aircraft



Space Vehicles

The STS Difference

The STS team of engineers offers unmatched capabilities and expertise in applications engineering, design, development and manufacture of complete fluid transfer systems. This team services major aircraft, aircraft engines, missile and space systems providers throughout the world. Due to the diverse requirements of the aerospace market, STS fabricates its products to the leading industry specifications and regulatory standards, and is the premier choice for engineering complex, flex-rigid and specialized assemblies.



Capabilities

From airframes to engines to Space Station technology, STS is prepared to meet the growing challenges of today's global aerospace market. STS provides, but is not limited to, the following capabilities:



Engineering & Design

- Complex product design and qualification
- Catia & UG

Quality

- Testing Facilities
 - ISO17025 registered environmental test lab
- AS9100 Registered Quality System
- NADCAP accreditation
 - Welding
 - Heat Treat
 - NDT
 - Chemical Processing
- NDT
 - Radiographic
 - Fluorescent penetrant
 - Ultra sonic
 - Pressure & leak test
- CMM and Laser Vision inspection systems

Metal Joining

- Precision brazing
 - Vacuum, induction, torch
 - Orbital, manual, atmospheric chamber
- Precision TIG welding

Products

- Complex Manufacturing
 - Flex-Rigid assemblies
 - CAD/CMM Interfaced Fixturing
 - Precision tube bending and fabrication
 - Titanium, stainless steel, nickel alloys, aluminum
 - Convoluted metal inner core
 - Stainless steel, inconel
 - PTFE inner core
 - Smooth bore extrusion
 - Convoluted fabrication
 - Reinforcement braiding
 - Stainless steel
 - KEVLAR®
 - NOMEX®
 - Fire and chafe protection, AS1055 and special testing
 - Molded and extruded sleeve, spiral wrap
 - Hose fittings
 - JIC, NAS, dual seal
 - Gamañ, quick disconnect-QD
 - High level cleaning and clean room facilities
 - Class 1000
- Environmental**
- ISO14001

Manufacturing facilities

Smiths Tubular Systems - Laconia, Inc.

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Representative in Germany/Austria/Switzerland

Allied International Corporation

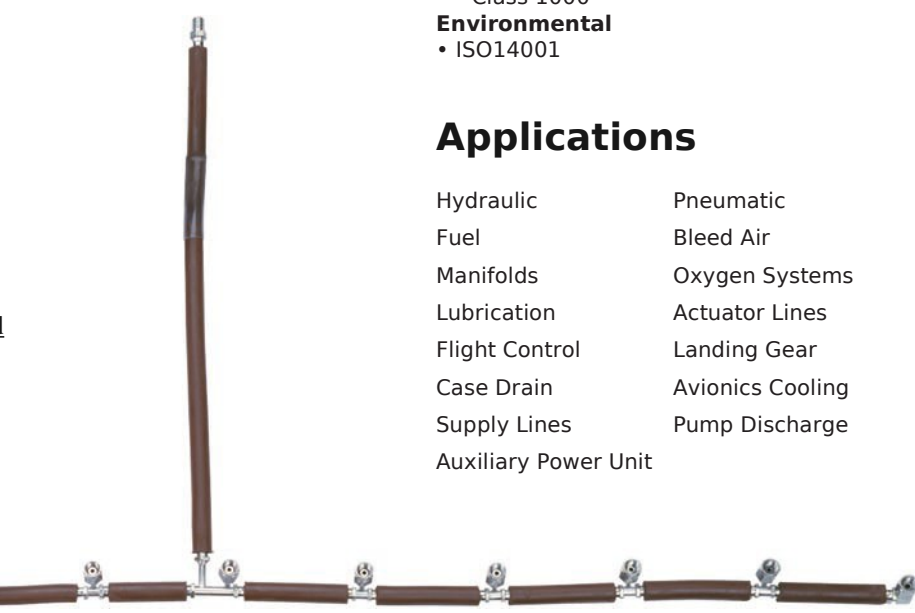
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Applications

- | | |
|----------------------|------------------|
| Hydraulic | Pneumatic |
| Fuel | Bleed Air |
| Manifolds | Oxygen Systems |
| Lubrication | Actuator Lines |
| Flight Control | Landing Gear |
| Case Drain | Avionics Cooling |
| Supply Lines | Pump Discharge |
| Auxiliary Power Unit | |



Overhaul & Repair facility

Smiths Tubular Systems - Laconia, Inc. dba Lewis & Saunders

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