

*Soaring to  
new heights  
with innovative  
performance  
technology  
solutions*

**UNISON**



# ***Harness and Tube External***





# Unison knows *the fit*

*Unison has the knowledge and tools to optimize the configuration of your gas turbine engine wiring harnesses and pneumatic tubes and ducts.*




## Harsh Environment Wiring Harnesses

No matter what your harness needs, Unison can develop the solution. Advanced design capabilities and an in-depth knowledge of the latest component developments enable Unison to create custom solutions that meet your unique specifications. All Unison proprietary designs are tailored to meet or exceed vibration-level characteristics of customer specifications. In addition, the Unison engineering team is constantly developing new designs to address field repair needs, potting and molding compounds for moisture-seal requirements, and stud & lug improvements for high-vibration capabilities. Multiple harness design options include:

- Open Bundle
- Closed Bundle
- Overmolded
- Closed-Bundle designs with Overmolded backshells
- Peek and NOMEX Braid

## Precision Tubes, Ducts, and Manifolds

Unison is one of aviation's most relied upon manufacturers of precision tubes, ducts, and manifold assemblies. These assemblies are the vital arteries that carry critical fluids and gases throughout the aircraft. Unison's tubes, ducts, and manifolds:

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- Deliver fuel to engines
  - Deliver lubricants to wear surfaces and bearings
  - Provide power to engine starters
  - Provide hot air for anti-icing of critical surfaces
  - Supply fluid power to flight control surfaces and actuators
  - Supply pressurized air to make the interior environment comfortable

## Electronic Modeling

Using the latest in electronic modeling and design software, Unison is able to design superior harness, tube, and duct systems, components, and systems routing before manufacturing. Designers use electronic modeling in a "concurrent engineering" design environment whereby engineering is performed in parallel with customer-prepared design specifications. This modeling helps designers identify potential problems early in the design phase and prior to initiation of fabrication. Electronic modeling provides customers with faster start-up cycles, and allows Unison to meet all of its customer design requirements accurately, on time, and without additional cost.

## Engine Configuration System Management

In addition to being the original designer and manufacturer, Unison also repairs and overhauls harnesses and tubes/ducts. Configuration hardware management and repair logistics is made simple through Unison's Engine Configuration System Management (ECSM). ECSM uses shadow boxes to ensure that configuration tube/duct and harness hardware are organized in the correct order of assembly. Custom configurations with tubes/ducts and harnesses are also available. With no metal-to-metal contact, great configuration flexibility, and reduced cycle time, ECSM is a great way to minimize removal and installation damage, and:

- Reduce costs
- Eliminate shortages
- Improve scheduling
- Reduce inventory
- Manage and implement service bulletins

## Contact Unison

For more information on Unison's harness and tube/duct external components, call our automated phone system at (904) 739-4000, or email [turbinehelp@unison.ae.ge.com](mailto:turbinehelp@unison.ae.ge.com), or visit [www.unisonindustries.com](http://www.unisonindustries.com).



**Unison's portfolio of other external products:**

### Ignition

- Exciters
- Ignition Leads
- Igniter Plugs

### Power Generation

- Engine Dedicated Alternators
- Wound-Field Alternators
- Power Conditioning and Control Devices

### Sensors

- Speed, Temperature, and Pressure Sensors
- Pressure Switches
- Thermocouples
- Accelerometers