



## Use Our Turbine Expertise

Aerospace product design and engineering has never been more demanding. Get more power from a smaller package. Make it safer. Make it cheaper. And get it to market faster.

At TDI, optimizing turbine performance and the reliability of high speed rotating devices is our core business. Since 1958 we have been a significant player in the design, testing and manufacturing of turbine-related machinery and components for the world's most sophisticated aircraft. And we still are today.

Our talented designers, engineers and manufacturing specialists provide valuable understanding and assistance with turbine design concepts, material selection, performance and quality testing, as well as help you with precision fabrication.

Whether you're working with cold air or hot air components, or looking for volume OEM products and parts, TDI's multi-disciplined expertise provides a rich resource for getting the most from turbine technology.

### PRODUCTS

Turbine propulsion simulators & support systems  
Ejectors  
Turbine air motors  
Turbine components  
Tip turbine fans  
Gas turbine starters  
Magnetic bearings  
Air cycle machines  
Wind tunnel models

### SERVICES

Turbine product design & development  
Model design & development  
Turbine components design & development (proprietary capability)  
Fabrication  
Assembly  
Test

### CUSTOMERS

NASA  
B.F. Goodrich  
Boeing  
Airbus  
Lockheed-Martin  
Allison  
Pratt & Whitney  
Sundstrand  
General Electric  
Solar



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## TDI AEROSPACE TURBOMACHINERY

PRODUCT  
DESIGN

TURBINE  
PROPULSION  
SIMULATORS

WIND TUNNEL  
MODELS

AIR CYCLE  
MACHINES

MAGNETIC  
BEARING  
TECHNOLOGY

TURBINE AIR  
MOTORS

TURBINE AIR  
STARTERS

TIP  
TURBINE FANS

TURBINE  
COMPONENTS

EJECTORS



Specialists In Turbine Technology.



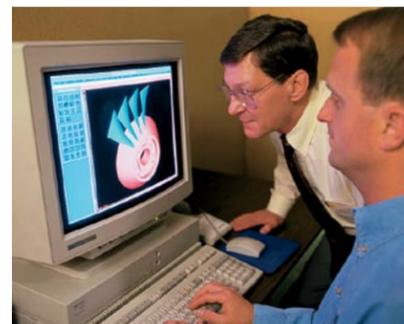
# Our Services

## Helping You Maximize Turbine Performance In Aerospace Applications.

Tech Development's Aerospace Turbo-machinery Group specializes in the design, testing, and manufacturing of a diverse range of turbine-related OEM products and components. TDI's unique integration of more than 50 years of turbine manufacturing expertise and leadership in custom propulsion wind tunnel test simulators offers the aerospace industry a powerful resource for turbine product and component design. Add to that one of the country's finest precision machine shops, featuring four and five axis milling, and it's easy to see why TDI has been a valuable partner for NASA, B.F. Goodrich, Boeing, Airbus, Sundstrand, General Electric and other leading aerospace organizations.

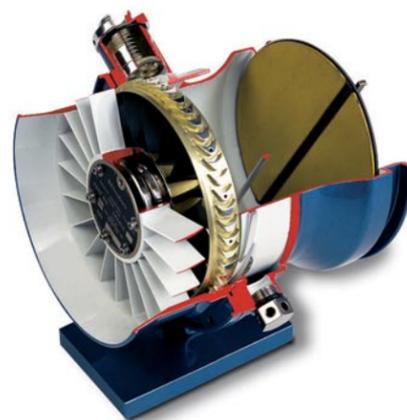
This experience has led to an expansive line of turbine-related products as well as a number of custom products and systems.

Whether you are designing a new product, require a custom pneumatic test system, or need OEM turbine products and components, TDI's skilled team of designers, engineers and CNC programmers and technicians are here to help you get the most from turbine technology.



### Turbine Design and Development

How do you optimize air throughput? What materials are best for hot air? Cold air? After hundreds of successful, application-specific turbine designs, TDI engineers help you maximize performance.



### Design and Development of Turbine Systems and Products

In addition to turbine design, TDI has been very successful in helping aerospace firms design and develop specific turbine-related products and systems. Cooling systems, fans, ejectors, wind tunnel simulators and anything involving air movement fit into our core technology competency.



### Flight Hardware Design and Development

Since 1958 TDI has worked with aerospace manufacturers in the design and development of custom turbine air motor assemblies, starter assemblies, fans, and other specialized aircraft hardware to meet specific performance objectives.

### Precision Four and Five Axis Machining

TDI's state-of-the-art four and five axis CNC machining is organized into highly productive manufacturing work cells. Skilled CNC programmers and technicians achieve precision machining of turbine blades and components ranging from complex turbine vanes to intricate, large diameter bladed disks.



# Our Products

### Turbine Propulsion Simulators

Since its first simulator in 1965 used in the development of the C5A transport aircraft, TDI has been a leading supplier of systems that produce both scaled flows and thrust of high bypass ratio aircraft engines for wind tunnel testing. Used by almost every major commercial aircraft manufacturer, these systems help study high speed drag interference phenomenon, power effects on high and low speed stability, high lift parameters, thrust reverser aerodynamics and more.



### Turbine Air Motors

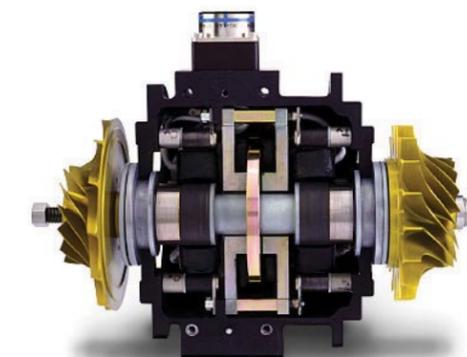
TDI Turbine Air Motors are used in a wide variety of applications from OEM parts that drive helicopter and aircraft propellers in R&D scale models to spin pit drives and rotor drives. More than 15 standard models provide from 2 hp to 700 hp with operating speeds from 2000 RPM to 100,000 RPM.

### Turbine Air Starters

TDI is a leading supplier of turbine air starters for ground-based gas turbine engines. TDI starters provide power, flexibility, and substantial savings as an OEM or replacement starter.

### Air Cycle Machines

TDI's Air Cycle Machines are the technology leader for cabin and electronics cooling on aircraft. This is the latest extension of turbomachinery technology through the incorporation of magnetic bearings.



### Magnetic Bearing Technology

TDI's magnetic bearing technology provides continual levitation of the rotors, eliminating mechanical friction common to air and ball bearings, resulting in longer life and greater reliability. This core technology provides a new solution-base for future TDI products and custom engineering.

