

**56S-LP**  
**LOW PRESSURE**  
**AIR STARTER FOR**

**GAS TURBINE ENGINES**



**For Solar Saturn Engines**

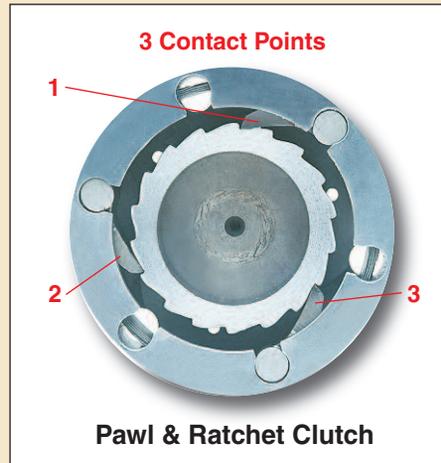
- **Powerful 155 hp**
- **Operating Pressure 50 Max. psig**
- **Industry's Most Reliable Clutch System**



**Aerospace Quality. Industrial Pricing.**

# A Low Pressure Gas Turbine Air Starter That Improves Reliability and Costs Less

## TDI Sprag Clutch vs. Other Clutch Designs



*With 22 contact points vs. just 3 contact points on pawl and ratchet design, TDI's unique sprag clutch delivers incomparable reliability. By evenly distributing torque to 22 points, instead of three, it reduces wear by over 400%. The many contact points eliminate the requirement for precise ramping speeds for successful clutch engagement. The result is a simpler, much more forgiving clutch system for reducing downtime and assuring starter reliability. While the roller clutch has 13 contact points, its lack of resistance to internal dirt and contaminants poses reliability concerns.*

### Save Thousands with Lower Priced 56S-LP

With a superior clutch and comparable performance specifications, 56S-LP delivers exceptional starter reliability while costing thousands of dollars less.

### 155 hp at Just 60 psig

The 56S-LP delivers TDI's signature high torque and horsepower on just 50 max psig meaning retrofitting to TDI won't require changing out regulators, valves or flow control devices.

### Stronger, More Reliable Clutch Assures Less Downtime

Clutch failure due to control malfunctions and long term wear are one of the most common sources for starter/engine failure. 56S-LP's sprag clutch virtually eliminates these problems by evenly dispersing torque to 22 separate points (see visual above).

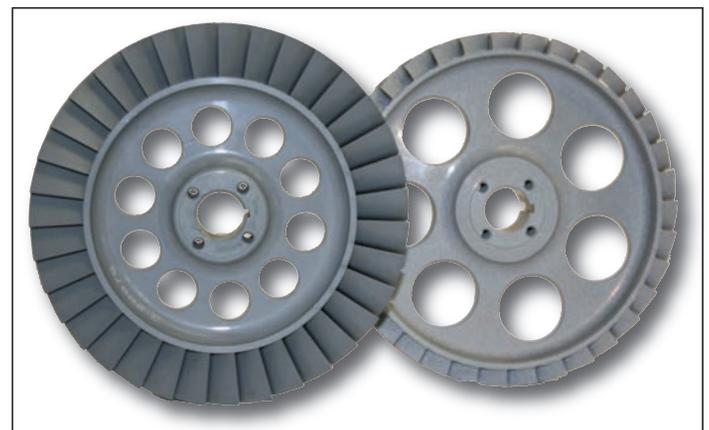
### Simple Singular Planetary Gear Design Reduces Maintenance

Fewer moving parts means less maintenance. The simplicity of the 56S-LP design reduces

maintenance, part cost, repair costs, and most of all downtime.

### Turbine Air Starters Are More Reliable

In marine, oil and gas, and even power generation, engineers and maintenance people agree that turbine designs are more reliable than positive displacement for engine starting.

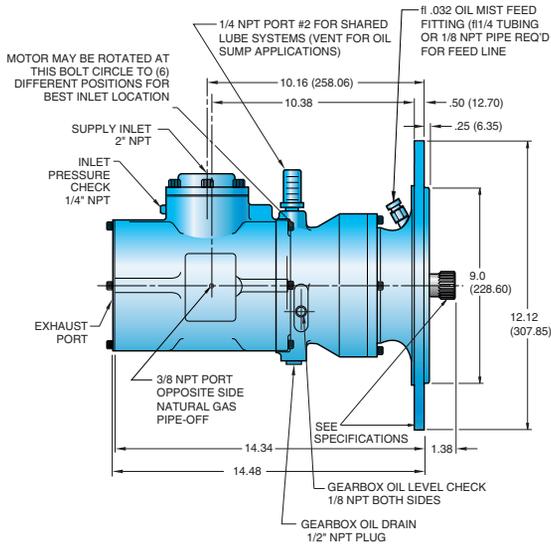


**Low Pressure Turbine Rotor    Standard Turbine Rotor**

# Why Pay Thousands More for a Less Reliable Starting System?

## DIMENSIONAL DATA

TDI 56S *TURBOSTART*



- Costs Thousands Less
- Simpler, More Reliable Mechanics
- The Sprag Clutch Advantage
- No Lubrication of Supply Air Required
- No Wear Surfaces
- No Limit on Run Time, No Cool Down Required
- Superior Turbine-Powered Design
- Fewer Moving Parts
- Less Maintenance
- Longer MTBF

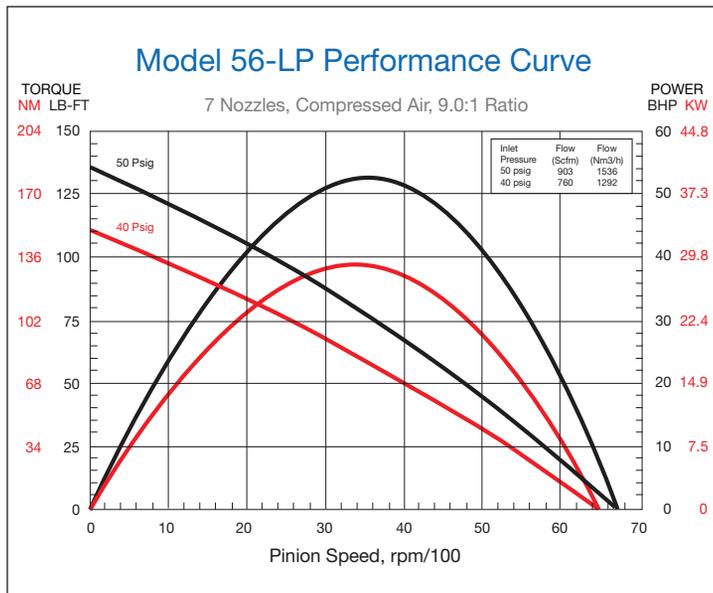
The Model 56S-LP is lightest and most powerful in its class. It is also designed to replace aero-derived starters costing thousands more. Excellent availability, powerful performance, and a high tolerance for contaminated air supplies creates a solid value for application on GE gas turbine engines.

## OPERATING SPECIFICATIONS

**Power** 155 hp  
**Operating Pressure** 50 Max. psi  
**Supply Air** Compressed Air or Natural Gas  
**Weight** 48 lbs. (21.8 kg)



56S mounted on Solar Saturn engine.



56S mounted on a Solar Saturn engine.

# TDI *TURBOSTART*™

## AIR STARTERS FOR

## GAS TURBINE ENGINES

### TDI is the World Leader in Turbine Air Start Systems

Since 1958, TDI has been a significant player in the design, testing and manufacturing of turbine-related machinery for the world's most sophisticated aircraft. So it's no surprise that when TDI engineers put their minds to designing starters for industrial gas turbines, their TurboStart motors quickly garnered recognition for their power, reliability and efficiency.



The honing and discipline of a demanding aerospace industry has enabled TDI to establish new standards for industrial turbine starters based on the concepts of more power and smaller packages. The result is a line of starters that display the precision and quality of aerospace components, yet designed to match the harsh environmental challenges facing industrial gas turbine engines.

Our engineers introduced their first industrial gas turbine starter in 1984. Twelve models and hundreds of refinements later, they continue to introduce products that break new ground for power and reliability for industrial gas turbine starters.



[www.tdi-turbostart.com](http://www.tdi-turbostart.com)

**Aerospace Quality. Industrial Pricing.**

6800 Poe Avenue, Dayton, Ohio 45414 • Tel: (937) 898-9600 Fax: (937) 898-8431  
*TURBOSTART*, *TURBOVALVE*, *TURBOSTART TWO*, AND *TURBOTWIN* are trademarks of Tech Development  
U.S.A. © Copyright 2011, Tech Development U.S.A.