

**56H**  
**HYDROSTART**  
**HYDRAULIC STARTERS**

**GAS TURBINE ENGINES**



**For Engines**

**GE**  
**LM2500**  
**LM6000**

**Pratt &**  
**Whitney**  
**FT4s**

**Dresser**  
**Rand**  
**DR990s**

**Rolls**  
**Royce**

**Solar**

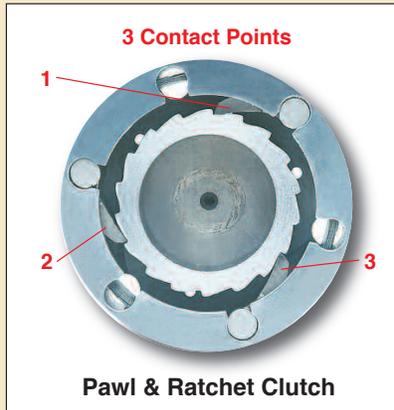
**Many Custom Configurations to Fit Your Specific Application**



**Reliable Hydraulic Design Custom Fit to Your Gas Turbine Engine**

# 56H Hydraulic Gas Turbine Starter 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.*

### Compact Hydraulic Starter for Marine and Mobile Applications

With a small footprint and weighing 15 to 30 percent less than most other hydraulic starters, 56H is the ideal starting solution for any environment with space limitations.

### Save Thousands with Lower Priced 56H

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

### 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. 56H's sprag clutch virtually eliminates these problems by evenly dispersing torque to 22 separate points (see visual above).

### Clean, Green Hydraulics

56H's hydraulic system releases no fugitive emissions. It is a good solution where strict clean air regulations are enforced.



56H mounted on a Pratt & Whitney FT4 engine.



56H hydraulic starter

# When You Can't Start on Gas, 56H is the Best Hydraulic Solution



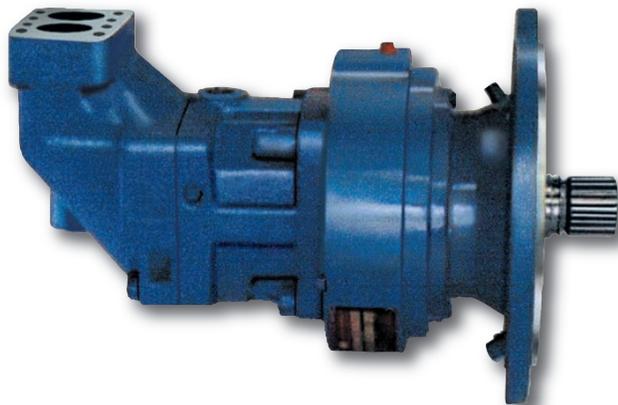
56H is the industry's most reliable hydraulic starter.  
TDI is the industry leader for reliable starting in the world's harshest environments.

## Longer Life & Better Reliability

The 22 points of contact on TDI's unique sprag clutch deliver unequaled load transfer from the starter to the frame which promotes better shaft alignment and reduced wear on gear box couplings. The result is longer life and improved reliability over other starter designs.

## TDI is the Leader in Turbine Starting

56H is part of TDI's extensive line of turbine starters. Because TDI is the world leader and 56H uses common parts, the price of the 56H is surprisingly low.



## 56H Advantages

- Costs Thousands Less
- More Reliable Sprag Clutch Design
- Simpler, More Reliable Mechanics
- Superior, Turbine-Powered System
- Fewer Moving Parts
- Longer MTBF



**TDI TURBOSTART™**

**AIR STARTERS FOR**

**GAS TURBINE ENGINES**

## **TDI Hydraulic Starters: Field Proven Reliability When Air Starting is Not an Option**

Having your gas turbine engine available when you need it depends on the reliability of your start system.

This becomes an even bigger challenge in certain marine and mobile applications where traditional air starters are not feasible. In these environments, hydraulic starters are an alternate choice.



As the leader in pneumatic starting for the oil & gas, marine, and mining, industries, TDI has applied its deep understanding of engine start systems to hydraulic powered starters. Time proven design advantages like the industry's most reliable sprag clutch, simpler mechanics, and fewer moving parts are cornerstones of the 56H hydraulic starter's reliability.

The ability to use a wide array of commercial and military fluids, and TDI's willingness to custom-configure the starter to specific make the 56H a very versatile starting solution when air units are not an option.

For custom-configured starters from the leader in reliability, anything less than a HydroStart™ is a compromise.



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

**Reliable Hydraulic Design Custom Fit to Your Gas Turbine Engine**

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