



## HIGHLIGHTS

- Model FTS-2500 overrunning turbine starter clutches
- Centrifugal throw-out (C/T) sprag technology for longer life
- 330 lb.ft. drive torque
- 4,800 RPM drive speed
- 11,000 RPM overrunning speed
- 11 in. OD
- Custom splined output shaft
- Custom mounting flanges
- AS 9100D/ISO-9001:2015 certified factory

## Application Success Story



## Starter Clutches

### Gas Turbines

#### PROBLEM

A leading gas turbine system OEM needed a reliable clutch solution for use on an electric starting system. The system utilizes an electric motor combined with an overrunning clutch. When starting, the electric motor rotates the main turbine shaft until the air blowing through the turbine's compressor and combustion chamber is sufficient to light the engine. Once the engine reaches a self-sustaining speed, the overrunning clutch automatically disengages the electric starting motor.

#### SOLUTION

To meet the OEM's requirements, Formsprag Clutch provided its Model FTS-2500 clutch, designed specifically for turbine starter applications to provide a smooth transfer of power from the electric starter motor to the engine.

Formsprag turbine starter overrunning clutches feature centrifugal throw-out (C/T) sprag technology. In the outer race centrifugally disengaging sprag design, the mass of the sprag is located so that when the outer race is overrunning, the centrifugal force of the sprags overcomes the force of the energizing spring, causing the sprags to completely "pull away" from the inner race. The primary advantage of the C/T sprag design is that when the sprags lift off the inner or outer race, there is no rubbing contact in the clutch, which significantly improves the life of the clutch.

The Model FTS-2500 has a drive torque of 330 lb.ft., 4,800 RPM drive speed and 11,000 RPM overrunning speed. Custom mounting flanges were engineered to meet the customer's specifications. An 11 in. OD, specially designed splined output shaft was included. All Formsprag turbine starter clutches are manufactured and assembled in an AS 9100D/ISO-9001:2015 certified factory.

US (Application Assistance)

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