

Engine Tilt Rig

Intertek

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Intertek Transportation Technologies operate one of the UK's only commercially available tilting engine test dynamometers. The engine tilt rig is installed in one of Intertek's larger engine test cells and fitted with a dynamometer allowing transient or steady state fully loaded operation of engines upto 250 kW

All of the standard test cell services and instrumentation are retained on the tilt rig including full three-term control of oil and coolant temperature and availability of chilled fluids for intercooler temperature control.

The tilt rig can be used for a variety of engine and subsystem development tests including oil sump pan design and scavenge pump efficiency.

Intertek Transportation Technologies new test capability offers

- Full-load engine testing at angles ranging from 0° up to 45° in both the tilt and roll axes including compound angles
- Engines of up to 1200 kg
- Dynamometer of 250 kW and 2000 Nm capacity



The rig is capable of running full-load engine testing at angles ranging from 0° up to 45° in both the tilt and roll axes including compound angles.

Engines of up to 1200 kg can be accommodated on the tilt rig and the tilt bed can tilt with a rate of approximately 1°/sec fore aft and approximately 3°/sec for roll.

Angular measurement is via two inclinometers and the test bed control system is able to move the rig to a requested demand value in closed loop control such that automatic cycle based testing is possible.

The exhaust system is routed via two swivel joints on the tilt and roll axes such that entry to the test cell is not required during testing. To add to the rig capability, an Air-X real time in-line oil aeration measurement system is also available.

Test programs completed and specific to this equipment include; sump and oil pickup development, breather system, and oil separator development and sign-off testing program on large capacity OEM diesel and gasoline engines.

Key features

- Full Load Engine Dynamometer
- Steady state or Transient Testing
- Single or Compound Angle Tilt
- Engines upto 1200 kg
- Upto 45° in both the tilt and roll axes including compound angles
- Full dynamic tilt in four degrees of freedom
- Air-X real-time measurement equipment
- Bespoke onsite fabrication to support bespoke flxture creation
- Greater tilt angles can therefore be achieved
- Customer drivecycles or bespoke tests available
- Typical Applications Include:
 - Driveline Efficiency
 - Breather Development
 - Oil Aeration
 - Oil Pump Pickup & Durability



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