Leadership Statement

At Orbital Traction we make rotating machines more efficient. Our compact automatic transmission represents a major advancement in traction driven continuously variable drive technology. The unit is a compact, simple design that is robust, providing Powerfully Simple Change to your mechanical variable speed requirements!

Our Technology

Compact Automatic Continuously Variable Transmission

The Compact Automatic Transmission is a traction-based transmission, which is ideally suited for applications in any device that requires a variable speed control for system optimization.

Continuously variable transmissions are finding application across multiple industry sectors and are particularly suited to applications involving conserving or applying energy where the continuous dynamic control of speed provides an increase in operational efficiency.

The technology has the ability to be scaled in power handling capability and can be implemented in applications ranging from low power engine accessories all the way to high power prime transmission applications.

Application Development

Orbital Traction has continued to evolve and improve their design, creating a transmission that provides continuously variable speed in a mechanically simple and physically compact design. Through extensive development, we have refined our design to provide high power density giving it an advantage over competing traction drive technologies.

Orbital Traction is building the application base for our technology across all market sectors. Our goal is to reduce our customers energy consumption while decreasing their emissions. We hold over 50 patents and patents pending covering our unique IP and continue to identify new applications and open new markets through collaborating with industry experts.

Example Application areas:

Variable Speed Fan Drive

Cooling fans typically consume more power than all other engine accessories combined. In addition to being the largest power consumer, fans are designed for the most extreme conditions resulting in wasted energy consumption at every other operating point. Orbital Traction's fan drive solves these problems by driving the fan just fast enough to meet the required cooling demand. During a recent dynamometer test, on a USMC truck, the fan drive reduces fuel consumption by 3% and NOx emissions by 6%.

Variable Speed Engine Accessory Drives

The inline power flow and compact dimensions of the Orbital Traction transmission family facilitate easy integration into engine accessory drives. The unit can be integrated directly to the frontend of the accessory unit or configured as a separate standalone device providing same side input/output creating a "stand aside" drive. In both cases the compact architecture, wide ratio coverage, and efficient power handling make the Orbital Traction transmission the choice for powertrain integrators.

Variable Speed Supercharging/Boosting

The variable speed drive allows the supercharger to be "overdriven" at low engine RPM increasing the available power and torque to get the vehicle moving (making the smaller displacement engine feel like a large engine) and "underdriven" at cruise speed when the power is not required reducing parasitic power loss from the supercharger system and increasing economy.

Variable Speed PTO

The compact robust design can be integrated with the PTO to increase the flexibility and controllability of power take off driven accessories. Volume can be regulated in pumping applications or accessory speed can remain constant over varying engine speed as required in power generation.

Markets/Customers

Orbital Traction is developing variable speed transmission products for government (US Navy, USMC) and commercial applications in the Engine Accessory, PTO, Boosting and Energy sectors.

ORBITAL TRACTION

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