



Twin Disc powers hydraulic fracturing applications



Transmission:	TA90-8501 9-Speed Transmission
Maximum Power Rating:	up to 3000 hp (2237 kW) at 2100 rpm
Features:	Automatic or manual power shift
	Advanced control system for smooth engagement
	Easy to operate and maintain
Controls:	TDEC-500 Electronic Control System



Twin Disc transmissions provide durable performance in ORTEQ fracturing rigs. The TA90-8501 supplies the oil and gas industry with the necessary power and performance.

Situation

When Gainesville, Texas-based ORTEQ Energy Technologies was designing their hydraulic fracturing rigs, they turned to Twin Disc to provide transmissions with the necessary power and rugged reliability.

ORTEQ, an OEM that manufactures equipment for the oil and gas industry, prides itself on providing long-lasting custom equipment to its clients. Their platforms are employed in applications across the energy development field and have to endure demanding working conditions.

Implication/Problem

As their manufacturing business expanded, ORTEQ needed a transmission that provided total integration with their hydraulic fracturing rigs, required minimal service downtime and could hold up to the roughest conditions.

Solution

The ORTEQ team found their solution in the Twin Disc TA90-8501 9-Speed Transmission. Providing reliable power shift capability in the toughest conditions, the transmission is designed to be easy to operate and maintain throughout the entire product lifespan. Seamless integration is provided through the use of a proprietary electronic control system, which safeguards the transmission from unsafe shifts that could damage the clutch, transmission or other equipment.

The TA90-8501 provides up to 3000 HP at 2100 rpm. An efficient mechanical design and customized electronic control system make it a perfect match for any application, from stationary equipment like fracturing rigs to mine haul trucks and more.

Features of the TA90-8501 include:

- Efficient gear train combined with electronic controls tailored to the needs of the specific application to optimize machine performance.
- Available automatic shifting or manual power shift combined with shift inhibits and interlocks.
- Durable heavy-duty components.

The electronic control system can be programmed to handle shifting automatically through a series of preset speeds and interlocks, allowing the operator to focus on the task at hand. The TA90-8501 comes in automatic and manual power shift variants. Both are designed to reduce wear and tear over the product lifespan.

The TA90-8501 incorporates the TDEC-500 Electronic Control System, which provides the proper level of operator input and support for any job.

Features of the TDEC-500 include:

- Operates from 12 VDC or 2 4VDC battery power
- J1939 CAN-Bus interface includes operating status messages from the TDEC-050
- LED Indicators for providing operational status as well as fault codes, including battery power monitoring
- Warning relay output for fault conditions
- Monitoring of engine speed to protect clutch during engagement process
- Monitoring of engine speed and output speed for controlled engagement process, to help ensure precise clutch engagement without overloading the engine or damaging the clutch
- Integrated brake control

Results

The Twin Disc TA90-8501 provides long-lasting and durable performance in ORTEQ fracturing applications. The transmissions allow the applications to operate for long periods of time, under the most demanding work conditions, with little need for maintenance.

“We’re big fans of the 8500 because it’s served us well. We’ve been using it for quite some time with no major issues. In our industry, the equipment gets beat down. It has to run 24/7/365 with no breaks. When it’s time for maintenance, they bring it in, change the oil on it, and it goes right back to location. The 8500 is very high utilization, rugged equipment. It’s easy to maintain and operate”

Dillon Ott
VP, ORTEQ Energy Technologies