

450E Transmission Test Stand
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Model 450E Transmission Test Stand

The 450E is designed for testing automatic and power shift transmissions used in commercial applications built by most popular OEM transmission manufacturers. This quiet, compact machine has been progressively engineered to facilitate quick transmission coupling and alignment. The 450E will perform the following diagnostic tests to evaluate performance and troubleshoot faults.

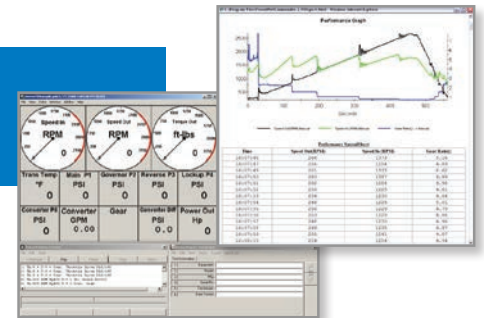
Perform all of the following tests:

- Check shift points (automatic)
- Set shift points (automatic)
- Full and closed throttle upshift and downshift test (loaded or unloaded)
- Downshift inhibitor test
- Measure output torque dynamically and stalled
- Locate shaft seal leaks
- Identify clutch leakage
- Check noise/vibration
- Detect mechanical binding
- Check main, clutch and converter pressure
- Monitor converter flow and temperature
- Determine converter inlet and outlet pressure



450E with optional ESC shift cart, gauge panel package, air cooling system and PowerNet TD

PowerNet TD Data Acquisition and Control System is available for all AIDCO Transmission and Hydraulic Test Stands.



Data Acquisition and Control Systems

PowerNet TD is designed to provide a comprehensive, easy to use data acquisition and control system for all AIDCO customers. PowerNet TD utilizes a Windows-based computerized data acquisition system to monitor and record speeds, torque, pressures, temperatures, flow rates and shift events.

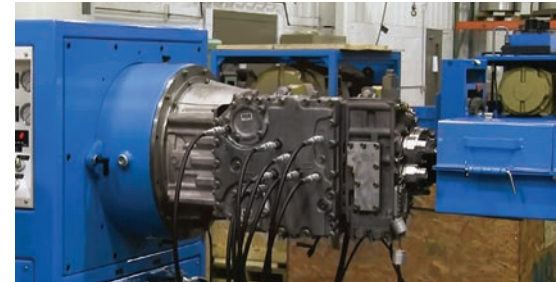
In addition to advanced monitoring and recording, PowerNet TD enables AIDCO users to run an automated test procedure for electronically controlled transmissions. This not only ensures consistent repeatability of test procedures, but provides a record of performance parameters exhibited during a test.

Designed for ease of use, PowerNet TD allows for easy configuration of instrumentation, operator designated warnings for High/Low limit and operator customized full-feature data reports. All reports are generated in a standardized HTML format.



Features and Benefits of the 450E

- Ease of transmission connectivity. Splined input allows for quick positioning and takes the guesswork out of alignment.
- Driveshaft output connection eliminates the need for precise alignment and also eliminates vibration.
- Extremely quiet design aids in troubleshooting the transmission.
- Capable of applying measurable output load to the transmission to confirm integrity, monitor noise issues and simulate actual operational conditions.
- Dynamic Load Sensing (DLS) reduces input torque as needed to eliminate shift stacking.
- Indexing allows the transmission to be rotated/indexed for ease of access to the valve body.
- Can test in-line, remote and mid-ship transmissions as well as drop-box output configurations (maximum 38 cm vertical offset).
- Integral oil flow measurement, cooling and filtration.
- Integral drain sump with pump and filter to reuse oil.
- Conveniently placed filters and ten taps for pressure monitoring.
- Transmissions with SAE #1 flange mount directly to the 450E. Adapter rings are available for other SAE sizes.
- Requires minimal floor space. Input power of 380-460 VAC 3 PH 50-60 HZ.
- Adapter kits available for all Allison transmissions as well as other major makes and models.
- Provides printed reports (customized with your company logo) of the test results including shift patterns.



Electronic Shift Consoles

The optional consoles are designed for either factory authorized service centers with the ability to flash Transmission Control Units (TCUs) or non-dealer service centers that require the ability to exercise multiple brands and models of transmissions. Both provide a convenient storage and work surface for PowerNet TD data acquisition system.



ASC shift Console



ECS shift Console

ASC Shift Cart

- Primarily used by non-dealer service centers.
- Easily switches between different shift profiles using the touchscreen computer.
- Eliminates the expense and need for multiple TCUs. Does not require an OEM TCU for reprogramming.

ESC Shift Cart

- Primarily used by factory authorized service centers with ability to flash TCUs.
- OEM software, such as Allison DOC (not included), can connect directly to the console to perform diagnostics, read and reset trouble codes and reflash the TCU.
- Oversized enclosure can house multiple TCUs.

Model 450E Specifications

Electric Motor	450E-150 150HP (112 kW) 460V/60 Hz - 225 Amps 125HP (93 kW) 380V/50 Hz - 225 Amps 450E-200 200HP (147 kW) 460V/60 Hz - 300 Amps 165HP (125 kW) 380V/50 Hz - 300 Amps 450E-300 300HP (224 kW) 460V/60 Hz - 400 Amps 250HP (185 kW) 380V/50 Hz - 400 Amps Inverter Duty: 460V/60 Hz, 380V/50 Hz 3-Phase
Max. Transmission Input Torque (continuous)	450E-150 442 lb.-ft. (610 Nm) up to 1,785 rpm 450E-200 588 lb.-ft. (811 Nm) up to 1,785 rpm 450E-300 883 lb.-ft. (1,216 Nm) up to 1,785 rpm
Max. Transmission Input Speed	4,000 rpm (bi-directional)
Converter Flow Monitoring Circuit	(1) 50 GPM (189 L/min) flow meter with digital display Flow circuit includes 22 Micron filter Manual control for differential pressure adjust (backpressure) Heat exchanger with digital temperature controller
Eddy Current Absorber	Continuous braking torque 525 lb.-ft. (712 Nm) Intermittent braking torque 1,474 lb.-ft. (1,998 Nm) Max. stall torque (with stall bar) 2000 lb.-ft. (2712 Nm) Maximum rpm: 3,000 Rotation: bi-directional
Worktable Sump	Capacity: 60 gallons (378 L) Fill Pump w/filter standard
Pressure Taps	(10) pressure taps to monitor pressures of component under test (8) 600 PSI (4,137 kPa) and (2) 100 PSI (689 kPa)
Dimensions (with worktable)	W 178 inches (452 cm) H 67 inches (160 cm) D 48 inches (122 cm)
Weight	Weight with work table: Approximately 6,000 lbs. (3175 kg)
Adapters available to test the following popular transmissions (additional OEMs available)	Allison: 1000/2000 Series (RWD Only), 3000/4000 WTEC Series, 3000/4000 GEN 4/5 Series, 3070PT/3700SP Military, AT500/MT600/HT700 Series, V730/731, 5000/6000 Series, DP8000/9000 Series GM: 3L80, 4L80E Voith: DIWA.3/3E, DIWA.5/.55 ZF: ECOMAT 2,4

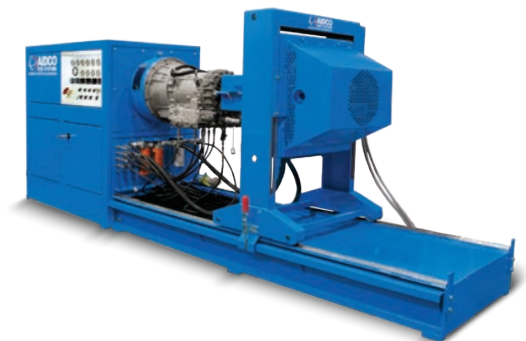
Optional Equipment

Gauge panel package, oil-to-air transmission cooler, input torque measurement system, power rotation/indexing, large eddy load unit, air brake stall kit, motorized vertical load unit adjustment, oil preheat and supply cart, short/long/offset worktables.

Power Test - Your Full Service Dynamometer Manufacturer

Power Test can provide facility design and installation of every dynamometer we sell. We also offer a complete line of support equipment, including ventilation systems, exhaust systems, auxiliary cooling systems, and water recirculation systems.

Contact your Power Test representative or visit our web site at www.pwrtst.com for more information.



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