

HYDROSTATIC TRANSMISSION & HYDRAULIC STEERING SYSTEMS w/TROUBLESHOOTING

DESCRIPTION

The TS model trainers were designed to help schools and colleges overcome the critical shortage of highly-skilled hydraulic diagnostic technicians. Even students who graduate from a noteworthy technical college are unable to safely and effectively troubleshoot industrial and mobile hydraulic systems. The main reason for the problem is that instructors simply do not have the proper tools to teach students safe and highly effective diagnostic procedures – until now!

The Model MF300-VCLS-TS simulator is a “lean, mean troubleshooting teaching machine.” It has the same superb capability as the standard model with the added benefit of making almost every hydraulic component “fail” at the flick of a switch! Designing the TS model simulators was no easy task. We conducted an extensive nine (9) year study of typical wear patterns and rates of the vast majority of hydraulic components.

With this data in-hand, we designed the leakage rates into the components on the TS model trainers. We then developed a technique for analyzing leakage rates in hydraulic components without either removing them from the circuit or disassembling them. We perfected the technology and called it “pressure/leak testing.”

This revolutionary troubleshooting system is built into every TS model trainer built by the FPTI™. Schools and colleges who make pressure/leak testing an integral component of their hydraulics training will play an important role in ending the current crisis

Target Client

Technical colleges, universities, high schools, military training facilities, machine and equipment manufacturers, and corporate training facilities.

Target Audience

Students who plan a career in the following areas: component rebuild technicians, diagnostic technicians, drafting personnel, engineers, field service technicians, maintenance planners, multi-craft technicians, sales personnel, system designers, technical writers.



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LEARNING OBJECTIVES – Hydraulic Steering System

The MF300-VCLS-TS training simulator will aid an instructor in teaching students how to troubleshoot the following components:

1. Fixed displacement pump.
2. Steering orbitrol valves.
3. Priority flow dividers.
4. Steering system's main pressure relief valves.
5. Dual cross-port relief valves.
6. Single and dual steering cylinders

LEARNING OBJECTIVES – Hydrostatic Transmission System

The hydrostatic transmission is a relatively simple system, yet arguably the most challenging and expensive to troubleshoot. The MF300-VCLS-TS training simulator will aid an instructor in teaching students how to troubleshoot hydrostatic transmissions when:

1. Transmission doesn't operate in either direction – forward or reverse.
2. Neutral is difficult or impossible to find.
3. Transmission is overheating and lacks power.
4. Transmission is sluggish.

In addition students will learn how to execute the following diagnostic procedures:

1. Flow test an overcenter pump.
2. Flow test a charge pump.
3. Determine why charge pressure is too high or too low.
4. Determine why charge pressure is too low in forward and reverse.
5. Flow test a hydraulic motor.
6. Test pump and motor case pressure.

In addition, students will learn critical thinking and analytical skills:

1. How to interview a machine operator to accelerate the troubleshooting process.
2. How to properly apply symptoms to the appropriate components.
3. How to plan the “troubleshooting trip.”
4. How to select the proper diagnostic instruments for the task at hand.
5. How to safely and correctly use flow meters, pressure gauges, vacuum gauges, temperature gauges, and tachometers to solve problems.