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Product Highlight:
**HYDRAULIC HYBRID
DRIVE UNIT TESTING**

The MCM Hydraulic Hybrid test machine is designed to test hydraulic hybrid drive systems, typically in use on large commercial and industrial vehicles for the reduction in fuel consumption, brake wear, and CO2 emissions. The test machine is integral with the manufacturing process and will accept post production assemblies to ensure validation of function, safety limits, and quality.



Background

Hydraulic hybrid systems were developed as an alternative to battery-electric hybrid systems. They offer key advantages that make them a growing technology in reducing fuel consumption in the large commercial vehicle segment. Their designs utilize high pressure hydraulic motors, accumulators, valves, and control systems to capture regenerative braking energy; using this energy to propel the vehicle.

With a unique design and operating environment, high strength components and robust hydraulic systems must be ensured to be safe, leak free, function under extreme conditions, and meet high quality expectations. The MCM test machine system ensures these functions while simulating a dynamic environment, emulating the vehicle application. The machine checks component functions including spinning and absorbing power from the drive system.

Machine Features:

- Auto fill and flush of hydraulic fluid pre-test.
- Verify ECU function, sensor connections, and CAN communication
- Pressurize hydraulic systems with temperature-controlled fluid to validate:
 - Pressure loss (fluid leak)
 - Valve and Motor actuation
- Spin test the system at multiple drive and wheel drive speeds to validate:
 - Proper motor function, response, speed and torque output
 - Expected system fluid flow, temperature, and pressure
 - Regenerative braking modes and expected accumulator function
- Capability for long Duration (60 Minute) test modes, break-in schedules, and production run-in time.

Ease of Use

The machine design can be configured for a multitude of operational setups, including standalone HMI and PC control, or full assembly line integration with Ethernet and propriety customer communication. We design our touch interface to be intuitive to use, best match your specific situation, and display what you and the operator need to know, all with the touch of a finger.

Please contact us at sales@mcm1.com for more information.