

Engine Cold Start Testing with CyFlex

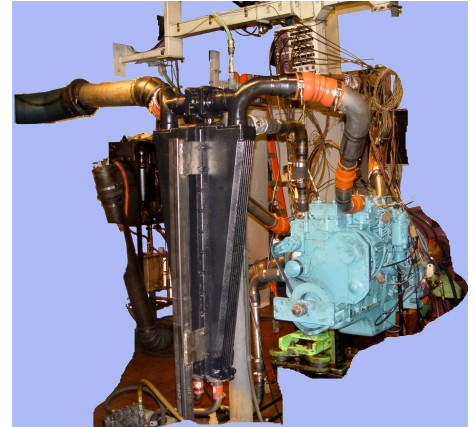
Benefits:

1. Automated test sequencing increases test throughput and quality through cold room control, comprehensive cold soak stability criteria, controlled start sequencing and highly integrated data acquisition - including ECU data.
2. Engineers can be notified of test status anytime during the process. Notification is via pager and/or email.

An Application

Configuration of CyFlex

CyFlex has been configured to control diesel engine cold start testing. Diesels can be difficult to start in cold conditions or can have problems idling. Cold weather can also cause oil to be more viscous and cause oil starvation to the engine. Increased white smoke in the exhaust often occurs in cold weather.



**Diesel Engine Cold Start Testing
with CyFlex**

Integration Highlights:

1. Integrates test data with customer's product development systems.
2. Integrates commercial, off-the-shelf gas analyzers and instrumentation and cold room controls.

CyFlex is used during engine design to optimize engine performance and characteristics and control emissions within targets during cold start conditions. During the test process, engineers



can monitor a variety of events including

changes in temperature; the use and removal of starting devices such as water heaters, grid heaters, glow plugs, etc.; valve timing; compression ratios; swirl ratios; lubricant systems; etc.

Engineers can develop improved cold-start controls and incorporate this information directly into their product development processes.

*CyberMetrix specializes in test cell, test stand and portable test solutions that empower the user with choices of features, functionality and pricing. At the core is **CyFlex**, a powerful, efficient and deterministic application suite with a wide range of capabilities.*

Many Applications: One Application Suite: emissions cart sampling & gaseous analyzer control, engine steady state and transient performance, engine calibration, engine transient emissions, crank-angle resolved data collection & analysis, mini-dilution tunnel control & sampling, particulate emissions weighing & filter management, injector shot-to-shot variability, chassis dyno vehicle, turbo mapping & endurance, on-vehicle data logging.

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