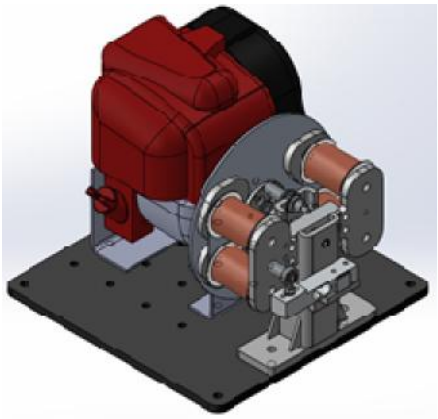
DYNAMOMETRY & ENGINE TESTING

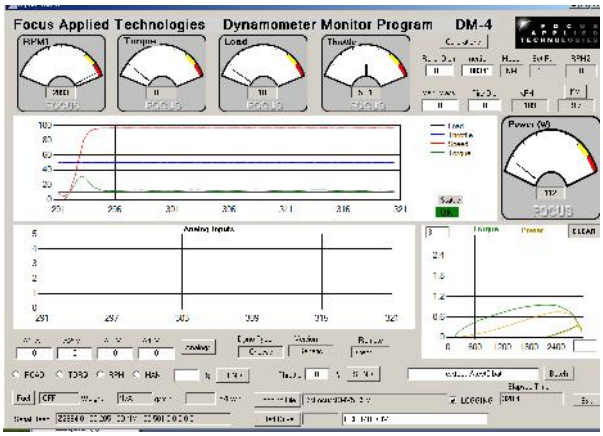
Using Desk-Top Dynamometer

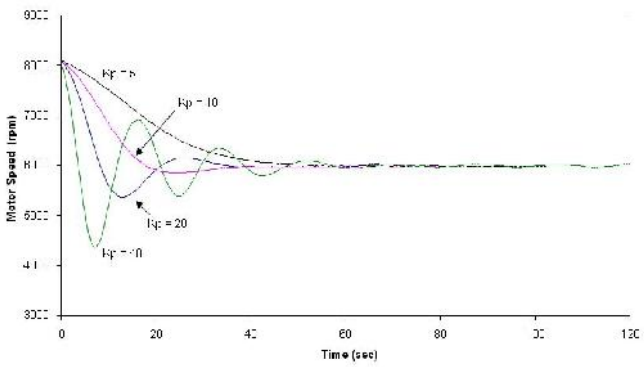


In this course the flexible “DeskTop Dynamometer” is used to explore many aspects of Engine Testing. The DeskTop Dynamometer comes with a Honda GX35 Gasoline Engine, and dynamometer controller, together with software for displaying and logging data from the engine. Various experiments are described, along with theoretical considerations, and then demonstrated live, including analysis of the resulting data.

Covered Topics Include:

* Dynamometry Basics
    - Speed Measurement
    - Torque Measurement
    - Load Control
    - Throttle Control
* Speed Control Mode
* Torque Control Mode
* Engine Characterization
    - Wide Open Throttle Torque Curve
    - Part Throttle Torque Curve
* Dynamometry Characterization
    - Dyno Torque Curves
* Engine Frictional Torque
* Thermal Torque Degradation
* Inertial Dynamics
* Control System Dynamics
    - Overshoot
    - Slew Rate
    - Setting Time
* Proportional Control
* Differential Control
* Remote Operation
* Automated Testing
* Additional Engine
* Instrumentation
    - Temperature
    - AFR
    - Fuel Consumption





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