



Figure 1. Single-cylinder 6.5 HP small diesel engine test stand. The frame, dynamometer and the engine performance monitoring system were available at the department. The single-cylinder diesel engine was purchased and mounted on the frame. Also two-fuel containers in 2-gallon capacity were mounted on the engine.



Figure 2. Cooling tower, 4-cylinder diesel engine, data acquisition terminal box, dynamometer, and the exhaust stand.



Figure 3. Fuel stand holds three 5-gallon fuel containers that are connected to the engine fuel system. Manual valves allow the operator to select the direction of the fuel flow between the experimental fuel, base fuel and flush fuel container.



Figure 4. Water transfer tank with 200 gallon capacity. A frame on wheels was built to hold the water tank and the pump. The lower hose connected to the pump provides water from the tank to the dynamometer and the upper hose shows the water return line from the dynamometer.