Homburg Contractors, Inc. – Equipment Upgrades

The Homburg companies are a family-run small business with a full line of services and over 60 employees. Homburg Contractors specializes in design-build site work projects, from small parking lot rebuilds to large industrial and commercial developments and major public infrastructure projects.

Challenge

Homburg Contractors' mainline construction equipment includes excavators, front end loaders, compactors, motor graders, bulldozers, haul trucks, and motor scrapers. Each piece of equipment is powered by a diesel engine and represents a significant capital investment. As a family-run company, a culture of frugality suggests that each piece of equipment should be maintained, repaired, and used for as long as possible. However, newer diesel engines that meet the U.S. Environmental Protection Agency's Tier 2, 3 and 4 performance standards are more efficient and less polluting.

Strategy

For the past 15 years, Homburg has aggressively upgraded its mainline construction equipment to newer equipment with Tier 2, 3 or 4 engines. New nonroad diesel engines built after these standards took effect (1999-2006, depending on engine horsepower and category) must meet strict emissions standards for hydrocarbons, nitrogen oxides, carbon monoxide and particulate matter. They reduce emissions from a typical nonroad diesel engine by up to two-thirds from the levels of previous standards. As a side effect, many of these engines are much more fuel-efficient than older engines. Homburg focused on the increased fuel efficiency when they implemented their upgrade policy.

All sizes of equipment are considered for upgrade based on the amount and type of work the company has scheduled and the pricing available on the equipment. When a replacement piece of equipment is purchased, the old piece of equipment isn't always taken completely offline. Some pieces become support equipment, running only a few hours a week. Support equipment contributes to meeting job requirements at peak work times but consumes relatively little fuel and produces relatively little pollution compared to mainline equipment because of its limited operating time.

Homburg's upgraded quarry haul truck

Homburg also focuses on better sizing equipment to meet the needs of each particular job, reducing waste by sending the most efficient piece of equipment that can do the job.

Results

By upgrading their equipment early, Homburg has saved thousands of dollars in fuel costs and avoided significant pollution. A typical new piece of equipment can cost $200,000 –$750,000 and saves $15,000–$40,000 per year in fuel costs. These savings put a significant dent in the cost of the new equipment. Although the purchases aren't always justifiable based purely on fuel savings, there are substantial added production efficiencies in the newer

Green Tier Program
Wisconsin Department of Natural Resources
Bureau of Cooperative Environmental Assistance

Mark McDermid
608-267-3125
mark.mcdermid@wisconsin.gov

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equipment, savings on maintenance of the equipment, and gains in job satisfaction for the operators, who prefer to use newer equipment. Homburg believes fuel efficiency is increasingly important as diesel costs rise. Further, Homburg sees fuel efficiency as a competitive advantage in today's economy because *any* additional efficiencies are helpful to a business in a down economy.

An example of equipment that Homburg replaced for significant savings was their quarry haul truck. This truck is used exclusively to haul material up a steep ramp out of their quarry. The old quarry haul truck was rated to haul 25 tons, but it labored up the ramp even when it was loaded with only 20 tons. Recently, this truck was replaced with a 40-ton haul truck with a Tier 3 engine. Because of its increased fuel economy, the new truck uses only 15% more fuel per mile than the old truck, yet the new truck can navigate the steep ramp fully loaded with 40 tons. Thus, the fuel cost per ton hauled is only about 55% of the previous truck.

By right-sizing equipment Homburg also saves thousands of dollars in diesel fuel each week. For example, a 100,000-pound excavator that uses up to 12 gallons of diesel per hour can be replaced by a 75,000-pound excavator that uses only 7 gallons of diesel per hour in many instances. If the 75,000-pound excavator meets the needs of the construction job, using it instead of the over-capacity 100,000-pound excavator can save $600–$800 per week in diesel costs on that piece of equipment alone.

Chris Homburg, Vice President, Homburg Contractors, Inc.: chomburg@homburginc.com