

The Green Battalion

By Mr. Michael T. Wolford

The 58th Transportation Battalion at Fort Leonard Wood, Missouri, received official notification in April that it had won the Army Award for Maintenance Excellence for its category. Not only does the unit have a great maintenance program, it also embraces environmentally friendly technology that has saved thousands of dollars. The battalion uses several technologies to reduce operational costs while helping the environment: fuel-motor oil blending and battery and air filter reclamation.

The battalion uses a fuel-motor oil blending process to save on fuel and operating costs for handling and disposing of waste motor oil. The blending process, which mixes fuel with used motor oil that would otherwise be discarded, is simple



A maintenance worker for the 58th Transportation Battalion demonstrates the fuel-motor oil blending process.

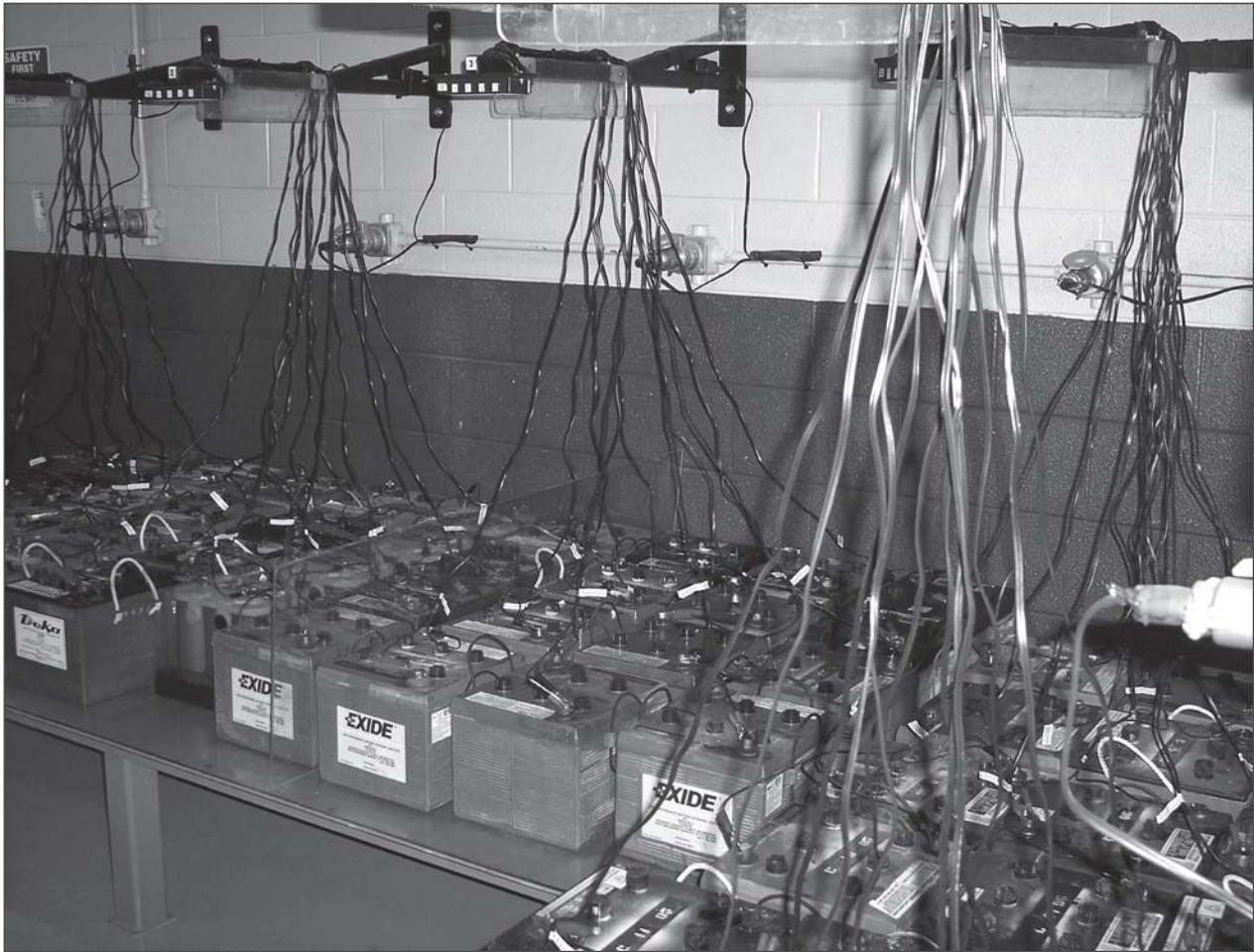


Fuel-motor oil blending system

and only occurs while a vehicle is being serviced. The blending system consists of the blending machine with filters, two fuel tank hoses, and an oil pan and hose. The mechanic uses the following steps to blend the fuel with the motor oil:

- Insert two hoses into the vehicle fuel tank. One hose delivers fuel to the blender, and the other delivers blended fuel back to the fuel tank.
- Place the oil pan under the vehicle's drain plug, and connect the hose to the blending machine.
- Drain motor oil into the oil pan.
- Turn the timer to the appropriate time, and turn on the machine.
- Continue with services while the machine blends the fuel and the used motor oil automatically.

In 2005, the first year the battalion mechanics blended fuel, they reused 771 gallons of motor oil. In 2006, they reused more than 2,500 gallons of motor oil. The unit realized a savings of over \$7,200 in the first two years. This savings is mainly from the fuel the battalion did not have to buy, since each gallon of used motor oil blended equals a gallon of fuel. From an environmental point of view, this technology significantly reduces a waste stream.



Environmentally friendly technology, such as the vehicle battery recovery system, helps save resources.

The battalion has also increased operational efficiency by recovering its dead vehicle batteries. Most of the dead batteries are unusable because the battery plates collect a lead sulfate buildup that prevents the battery from accepting a charge. The battalion has acquired a recharging system that recovers dead batteries by removing the lead sulfate deposits and then recharging the batteries. Each system costs about \$250, recovers 12 batteries at a time, and takes approximately 48 hours to charge the batteries. The battalion turned in 373 batteries to the Directorate of Logistics (DOL) from July to November 2006. DOL considered 142 of those batteries to be “bad,” meaning they would not accept a charge. The remaining 231 batteries were charged by DOL and returned to the battalion. Once the battalion’s recharging system was in place, the number of batteries turned in to DOL dropped by more than two thirds to 103. Of those 103 batteries, 90 were coded as bad. The battalion’s recharging technology has saved the unit over \$9,000 in replacement costs and inventory reduction in just five months. The unit has promoted sustainable systems and helped the environment by keeping more than 270 batteries in use.

Finally, the battalion recycles its air filters by sending them to a private firm in nearby Rolla, Missouri, to be cleaned and

reused. The filters are cheaper to clean than to replace, and the private firm can clean most air filters up to five times. Since January 2006, the battalion has saved over \$2,500 by using this system.

The 58th Transportation Battalion has realized savings of over \$18,000 in the past two years from three technologies that also promote sustainability and protect the environment. Fuel-motor oil blending and the battery recovery systems are technologies that can be used in deployed situations to divert waste streams to usable products. These technologies are reasonably priced, and the fuel-motor oil blender has a General Services Administration catalog number: GS-07F-0187M.

For more information concerning these technologies, e-mail <michael.wolford1@us.army.mil> or call 573-329-1927. 

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