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Turning the used-up into usable

02:22 PM EDT on Tuesday, April 17, 2007

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Everett Mello, above, owner of Dave's Tire and Auto Service of Fall River, burns used motor oil in a furnace to keep his garage warm. At left, a collection of tires headed for recycling.

The Providence Journal / Steve Szydowski

One thing's for sure: used batteries, oil and tires do not just fade away. Nor can they be thrown away.

All have to be recycled: Batteries broken down into their basic elements, tires shredded and used as fuel or for surfaces and waste oil either burned in special boilers or recycled into semi-clean oil.

Ideally, nothing goes to waste.

Used Batteries

Everett Mello, president of Dave's Tire and Auto Service in Fall River, said he trades in his used batteries for new ones one-to-one in a deal with Interstate Batteries. "For every one we buy, we take one back," he said, adding that Interstate collects old batteries once a month from his shop.

This Saturday will be slightly different as his shop will be one of the locations where anyone can drop off old car and truck batteries from 9 a.m. to noon as part of AAA Southern New England's fifth annual Great Battery Roundup. Dave's Tire is at 325 Bedford St., in Fall River. ([Click here for a list of other collection centers.](#))

"They called me and asked if we would do this for them," said Mello, noting it was a problem disposing of old

batteries properly. “You can’t bring them to the dump,” he said, adding that one of his employees told him he would be bringing in five batteries that had “ended up in his garage.”

“Batteries actually have the highest recycling rate, about 94 percent, 95 percent,” said Tom Armstrong, principal environmental planner for the Rhode Island Department of Environmental Management. He said part of the reason was the incentive given to consumers to bring them back in the form of a “core charge,” or deposit that is refunded when the battery is returned. “The manufacturers and distributors want them back, as the used core has a value to it,” he said.

While batteries can oftentimes be recharged, he said the three main elements of a battery — the acid, plastic casing and lead — are all recovered and recycled.

Rhode Island, however, has no recycling plants for either batteries or tires. After Interstate picks up the batteries from Dave’s Tire, it sends them to Middletown, N.Y., where they are recycled, according to Mike St. Don, distributor for Interstate Batteries of Cape Cod, which covers southeastern Massachusetts. “We’ve been recycling batteries for forever,” he said.

He said the acid is turned into detergent while the lead and plastic are stripped out and recycled.

Waste oil

Waste oil from cars and trucks is either burned as a fuel or cleaned to create a semi-clean oil known as spec oil, which is then mixed with virgin oil for use in small factories.

Mello uses all the waste oil left over from oil changes to heat his shop. “I’ve got a waste-oil burner,” he said, noting that it runs 24 hours a day for about nine months a year, effectively keeping his shop warm for free — except for the \$1,000 or so that he spends every year on servicing his burner.

Armstrong said it was increasingly common for waste oil to be consumed in burners “under 5,000 BTU’s in size, which means they do not need an air permit.”

“Burners are a lot better than they used to be,” he said. “Now they are very, very clean.”

“I’ve got 11 service bays and doors that are 14 feet tall by 12 feet wide,” Mello said. During the winter, he said, the doors are being opened and closed all the time — every 45 minutes for tire changes. “I’m heating Bedford Street,” he said, referring to the street where Dave’s Tires is located. “So what the (waste oil burner) saves me in heating bills is incredible.”

For the three months of the summer that he doesn’t need heat, Mello said a company takes the used oil away and sells it to “greenhouses that heat with waste oil.”

Paul D’Adamo, who is president of Bill’s Auto Parts in Cumberland and also of the Rhode Island Auto Recyclers Association, said he also uses waste oil to heat his recycling plant. Indeed, he burns most of the oils drained from old vehicles — brake, power steering and transmission fluids as well as motor oil — in his burner, adding that what he does not burn he sells to a company that gives him a credit. Companies pay firms to take their waste products away.

“We sell it back to a company that also takes our waste oil filters,” he said, adding that the company cleans the waste oil and sells it as spec oil, which is mixed with clean oil for light industrial use.

Indeed, Armstrong said most used oil is recycled. “Most used oil by far is picked up and processed into spec oil and blended with virgin oil,” he said, adding that whatever waste sludge is left over is treated as hazardous waste and incinerated. He noted that there are no hazardous waste treatment facilities in Rhode Island and most is shipped out of New England to be treated in plants mostly in the south.

Old Tires

Tires, traditionally a classic bucolic eyesore, cannot be recycled into new tires because they contain a number of elements such as steel, synthetic rubber, polyester, nylon and chemicals in addition to natural rubber. Those that cannot be retreaded and reused are shredded and either used in preparing such surfaces as roads, tracks and playgrounds or as a fuel in the form of chips known as Tire Derived Fuel. Dave's Tire and Bill's Auto Parts, for example, send their old tires to Bob's Tire in New Bedford, which shreds them into crumb rubber, which it sends to Maine to be used as a fuel in energy-intensive pulp and paper mills.

In fact about 50 percent of used tires in the U.S. are used as fuel, as it has a higher BTU value than coal. Cement kilns consume some 40 percent of scrap tires, according to the Rubber Manufacturers Association, partly because the tires do not have to be shredded and the ash is incorporated into the final product.

"I send (Bob's Tire) about 200 tires a week," said Mello, noting he pays to get rid of them. But he said that was nothing compared to "Sears, the King of Tires."

Meanwhile, the Rhode Island Resource Recovery Corporation, a quasi-public agency dedicated to reducing reliance on landfills in the state, notes in a flier about recycling that many of the state's transfer stations will take batteries and tires for a fee and limited quantities of waste oil for free.