

NEVADA SMALL BUSINESS DEVELOPMENT CENTER BUSINESS ENVIRONMENTAL PROGRAM

CS-FY95010XX

CABINET PARTS WASHERS AT AUTO REPAIR SHOPS

Waste Reduction Case Study

PROJECT

Five auto repair shops in Nevada received grant funding from the Nevada Division of Environmental Protection to purchase a cabinet parts washer. With the purchase of the equipment these companies have either completely eliminated or reduced the use of solvents.

BACKGROUND

Cabinet parts washers offer an alternative to solvent cleaning tanks used in automotive repair and other applications. The use of a cabinet parts washer can eliminate or reduce the use of solvents, costs associated with purchase of virgin solvents and proper management of spent solvent waste. Cabinet parts washers have proved to save on labor costs associated with cleaning/degreasing as the technicians/ mechanics are free to perform other tasks while the parts are being cleaned.

The following businesses purchased one or more of the Megamate cabinet parts washers to replace traditional solvent tanks:

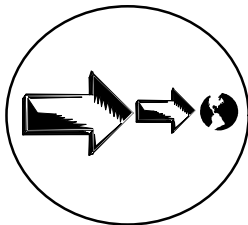
- ◆ Capital Ford Mercury, a 54 employee car dealership in Carson City
- ◆ Fallon Auto Mall, a 45 employee car dealership in Fallon
- ◆ Performance Auto Care, a 4 employee auto repair shop in Carson City
- ◆ A&L Automotive, a 3 employee auto repair shop in Reno
- ◆ A&K Earth Movers, a 120 employee earth moving equipment maintenance in Fallon

TECHNOLOGY

Parts washers are similar to domestic dishwashers in kitchens. The cabinet parts washer uses water and detergent in a jet stream to clean parts. The parts are placed on a turntable inside an enclosed cabinet and can be set on a timed cleaning cycle. Water containing a detergent is sprayed through a number of orifices at high temperature and pressure to clean the parts. The rotation of the turntable enables the water to reach all surfaces. The Megamate washer is available in various models depending on the size of the turntable and the work height.

Different cabinet washers have different filtration system to filter the water for re-use. The Megamate cabinet parts washers use shop towels as the filter medium. After the water cleans the parts, it is captured and passed through a stack of shop towels in a tower; this filters the dirty water and the water is re-circulated for reuse. The Megamate parts washers are also fitted with oil skimmers to separate oil from the sludge. Every day, fresh water equivalent to 10-20% of the tank capacity is added to compensate for evaporation.

“Work place safety, cleanliness and cost savings were important aspects when we considered a cabinet parts washer,” says Steve Halen, owner of Performance Auto Care, “today we are generating less waste, achieving better cleaning, and most importantly, saving money on waste management; I would encourage other businesses to do the same.”



This case study was developed by the Business Environmental Program of the Nevada Small Business Development Center with funding provided by the Nevada Division of Environmental Protection.



WASTE MANAGEMENT

Under the Federal and State regulations, the spent filter medium, i.e., shop rags, needs to be tested for hazardous waste characteristics under the 7-11 TCLP test prior to disposal. If the test results indicate the spent filter shop rags to be non-hazardous, it can be disposed of as non-hazardous waste. If the spent filter medium/sludge is considered hazardous then it has to be managed as a hazardous waste. Under the terms of the grant funding, the grantees were required to test the shop towels when they were spent under TCLP 7-11. The results from these tests indicated the shop towels were non-hazardous.

The Nevada Division of Environmental Protection has a new position on the management of Wipers and Rags as of June 1996. This new position indicates that if the wipers and rags are not "inherently waste like," and are intended for reuse, they can be serviced by a properly licensed laundry and would not be considered a hazardous waste. The rags must not contain any free liquids and must be managed in labeled closed containers. This exemption applies only to wipers and rags intended for reuse; if wipers and rags are disposed of, the hazardous waste regulations apply. If you have any questions on this new policy, please contact the Business Environmental Program at (800) 882-3233.

COST SAVINGS

There are various models of Megamate Parts Washers available based on the internal diameter of the turn table and the height of the cabinet. The model M-30T has a turn table diameter of 28 inches and the model M-24T has a turntable diameter of 22 inches. The workable heights differ between the T models and the non T models. The model M-30T costs approximately \$7,100; model M-30 costs approximately \$6,300, and model M-24 costs approximately \$5,800. The following table summarizes the cost savings and break even periods for

Company	Megamate Model	Total Cost \$	Savings, \$			Payback, Years
			labor	disposal	Total	
Capital Ford Mercury	M-30T, M-30, 2 M-24	21,778	8,640	9,329	17,969	1.2
A&K Earthmovers	M-30T	7,104	5,760	1,328	7,088	1.0
A&L Automotive	M-24	5,800	4,320	1,008	5,328	1.1
Fallon Auto Mall	M-30	6,300	4,140	600	4,740	1.3
Performance Auto Care	M-30T	7,069	5,760	1,800	7,560	0.9

COMMENTS

There are various cabinet parts washers available in the market; some of the cabinet parts washers are not fitted with the closed loop water recycling system thus generating washwater every time the parts are washed. If the washwater is discharged to the sewer it must meet your local sewer discharge limits. Discharge of washwaters to septic systems, storm drains, or the ground is usually prohibited. Evaporation of washwaters in specially designed units may be an economical alternative for managing washwaters. Some cabinet parts washers are fitted with evaporators to function as a closed looped system. For further information on cabinet washers and information on compliance with applicable regulations using this alternative cleaning approach contact the Business Environmental Program at 800-882-3233.