

WASTE MINIMIZATION

VEHICLE MAINTENANCE & REPAIR INDUSTRY



BACKGROUND

The Vehicle Maintenance and Repair Industry (VMRI) is comprised of a large number of businesses offering a wide range of services, generating a wide variety of wastes, including:

- brake fluids and carburetor cleaners
- coolants
- degreasers
- floor dust (including paint chips and sanding dust)
- floor wash water
- lead-acid batteries
- oil filters
- paints, thinners
- paper products (including cardboard and masking paper)
- plastic containers
- rags and absorbent (paper and cloth)
- refrigerants

- sludges and filter wastes (from sump, equipment, solvent)
- spent solvent
- tires
- used oil
- used parts/metals

This information sheet will assist vehicle maintenance and repair shop owners and staff in minimizing the quantity of waste being disposed. There are many suggestions which can be used in your business to develop a waste minimization program. Implementing a waste minimization program can benefit you in a number of ways, including:

- environmental protection
- possible cost savings
- improved image with customers
- compliance with regulations
- reduced liability for shop owners



WASTE MINIMIZATION OPPORTUNITIES

The 3Rs: Reduce, Reuse, and Recycle are the main options for waste minimization. Reduce involves changing the process or operating practice which causes waste to be generated. Reusing waste materials rather than disposing of them is also an effective waste minimization technique. Recycling is the recovery of components from the waste stream for processing and use elsewhere.

Here are some options that can be used to minimize the wastes produced at vehicle maintenance and repair shops.

Improve Inventory Control

Ways to Reduce:

- Use rigid inventory controls to maximize the use of, and minimize left-over material such as paint, thinner and paper.
- Implement controls for releasing supplies such as returning empty containers before issuing new supplies to ensure supplies are not being wasted.
- Designate a person to be responsible for waste management.
- Keep records of the quantities and costs of materials sent for recycling, treatment, or disposal. This will allow you to monitor and re-design your waste management program in the future.
- Track the volumes of waste against the purchase of materials. This is another method of locating possible processes where waste can be minimized.

Improve Material Handling

Ways to Reduce

- Monitor bulk liquid containers regularly for leaks.
- Use drip pans and funnels to prevent spillage when dispensing liquids from bulk tanks.

- Inspect drums, packages and containers for damage before accepting them.
- Purchase in bulk to reduce the number of containers used.
- Use storage techniques to prevent overstocking and waste storage problems. Contact the supplier or read the Material Safety Data Sheet for information.
- Use spill prevention measures to reduce the volume of product entering the environment.

Ways to Reuse and Recycle:

- Return drums, containers and packaging to suppliers.
- Reuse for another purpose or recycle drums, containers and packaging.

Solvents and Cleaners

Ways to Reduce:

- Use solvent for parts cleaning – not for floor cleaning.
- Establish guidelines as to when solvents or other cleaners should be used and how clean parts need to be for servicing.
- Use precleaning methods such as wire brushing, wiping with a reusable rag, water or detergent washing, and soaking in dirty solvent to reduce the need for clean solvent.
- Use steam cleaners instead of chemical cleaners.
- Use alternative cleaners such as water/detergent or other more environmentally friendly cleaners.

Ways to Reuse:

- Routinely remove sludges and solids from hot tanks to prolong the life of the fluid.
- Use still rinses instead of free running rinses; this water can be used as make-up to your aqueous cleaner bath.

Ways to Recycle:

- Use solvent sinks and purchase recycled solvent.
- Allow clean parts to drain inside the solvent sink or hot tank.
- Monitor water-based cleaning solutions and adjust as necessary.
- Use a registered waste hauler to collect your dirty solvent or aqueous cleaning solution for recycling or treatment.
- Purchase equipment for on-site recycling or waste treatment.

Automotive Fluids and Other Wastes

Ways to Reduce:

- Educate customers to maintain required air pressure and wheel alignment to extend tire life.
- Monitor fluid quality to determine if fluids or other parts (such as oil filters) need to be changed. Change them only when required.
- Use distilled water to dilute coolant.
- Educate customers to have regular maintenance checks done on their vehicles to reduce the potential for fluid leaks and vehicle emissions.

Ways to Reuse:

- Use rebuilt parts.
- Promote the use of retreaded tires where this is appropriate.

Ways to Recycle:

- Use recycled products for oils, coolant and refrigerant.
- Air conditioning units should only be serviced by qualified persons. In Alberta, ozone-depleting substances (e.g. CFCs) from air conditioners must be recovered and recycled.
- Recycle fluids and materials such as oils, coolant, filters, metal, core parts, lead-acid batteries and refrigerant.

- If you choose not to recycle oil filters, they must be drained before disposal.
- Collect and separate all waste fluids and materials so they may be more easily recycled or rebuilt.
- Accept your customers' used oil and lead-acid batteries as a service or in exchange on the purchase of new oil and lead-acid batteries.

Body Repair and Painting

Ways to Reduce:

- Mix the least amount of filler required for the job.
- Use sweep brooms or vacuum units to collect filler dust to avoid flushing it down the sewer.
- Mix only the amount of paint needed to do the job.
- Use biodegradable spray-on masking instead of masking paper.
- Use computers which have recently been developed for precisely measuring paint to save on materials.
- Keep informed about the new paints, such as low volatile organic compound (VOC) paints.
- Use high transfer efficiency spray equipment. Operators will have to learn new painting techniques to use the high transfer efficiency spray equipment; however, many shops have proven this equipment reduces costs.

Ways to Reuse:

- Provide customers with leftover paint for touch-up use.
- Clean booth filters for reuse instead of purchasing new booth filters.

Ways to Recycle:

- Collect paint and thinner for recycling or, if you are painting a large number of cars per month, you may want to consider purchasing your own recycling unit.

Shop Clean-up

Ways to Reduce:

- Inspect vehicles for leaks and use drip pans as needed for leaks and dirty parts to reduce the need for floor cleaning.
- Wipe up spills as soon as they occur.
- Sweep and use a biodegradable detergent for cleaning shop floors. Some shops avoid using detergent altogether by washing with water.
- Discharge washdown waste water to the sanitary sewer instead of storm drains so that it is treated before reaching the environment.
- Test the composition of your sump sludges so that they may be disposed of properly. Sump sludges may contain heavy metals or chlorinated solvents which are hazardous and, therefore, require special treatment and waste disposal rather than landfilling.
- Encourage employees to find ways to reduce leaks and spills and keep work areas clean.
- Use a laundry service to clean rags and uniforms.

Ways to Recycle:

- Team up with a couple of neighbouring shops to get a recycling bin if you generate waste volumes which are too small for pick-up and recycling (e.g. cardboard bin).

Employee Training

Ways to Reduce:

- Conduct regular training programs on material handling, spill prevention, proper storage techniques, and waste handling procedures.
- Consider an award program to encourage employees to identify further waste minimization opportunities.

*A Waste Minimization Guidance Manual for the Vehicle Maintenance and Repair Industry
is available from Action on Waste*

