CHAPTER TWO

Draining, Dismantling and Storage Practices

GENERAL PRACTICES

Waste-fluid spills are most likely to occur while dismantling, draining or storing vehicles, parts and cores. Proper dismantling, draining and storage procedures help prevent pollution, such as fluids seeping into ground water, waste contact with storm-water run-off or air-conditioning refrigerant escaping into the air.

DEFINITIONS

- *Parts* — Vehicle parts that can be resold or rebuilt.
- *Scrap* — Vehicle parts that will be sorted by metal type and sent to scrap recyclers to be baled and melted down into reusable raw materials.
- *Cores* — Vehicle parts that are sold for reconditioning or rebuilding.

WHAT TO DO - An Environmental Checklist

✓ Inspect engine before draining to determine condition and usability of engine or parts.

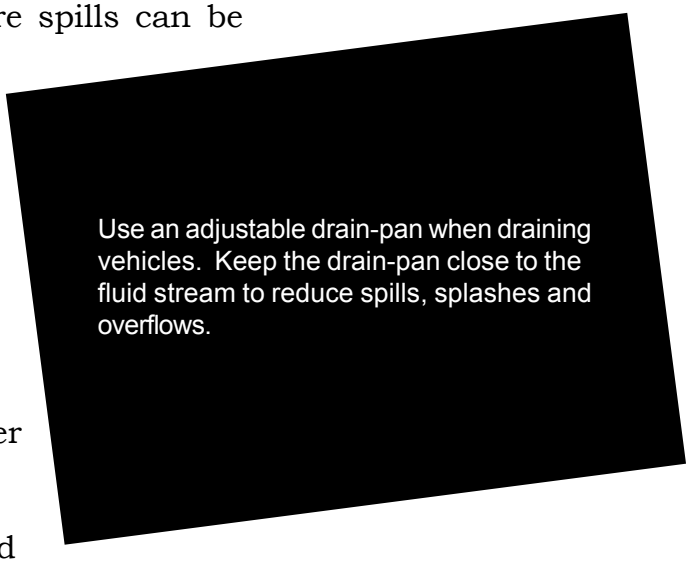
✓ Drain vehicles during incoming inspection, if possible. All vehicles, parts and cores must be drained before storing and crushing. The salvage facility must decide <u>when</u> to drain fluids, depending upon the risk of leaks and whether specific parts can be re-sold.

✓ Drain:

- engines
- radiators
- transmissions
- heater cores
- brake lines
- differentials
- lines/hoses
- fuel tanks
- torque converters
- window-washing fluid tanks
- air-conditioning units

A well-designed draining and dismantling area makes it easier to prevent environmental pollution at your facility.

- ✓ Design one area for dismantling and draining vehicles, parts, scrap and cores. Dismantling and draining should be done in an area where spills can be easily contained, such as inside a building or on a curbed, impermeable, concrete surface with proper spill controls, including drain-pans and absorbents.



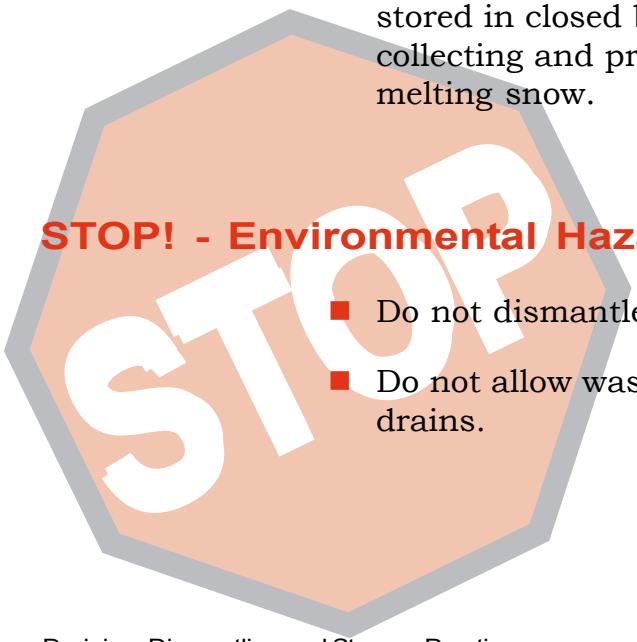
Use an adjustable drain-pan when draining vehicles. Keep the drain-pan close to the fluid stream to reduce spills, splashes and overflows.

- ✓ Keep drain-pans under vehicles while unclipping hoses, unscrewing filters and removing parts. *Replace drain plugs when done draining.*

- ✓ Plug all hoses after draining. Store-bought plugs or golf tees work well to plug rubber hoses. Crimp metal lines.

- ✓ Pour collected waste fluids into properly marked containers immediately after draining. (Please refer to the fact sheet *Steps 4 & 5: Mark and Store Hazardous Wastes Correctly*.)

- ✓ Store all parts and cores in a leak-proof container or on a covered and curbed, impermeable, concrete surface with spill controls, including drain-pans and absorbents. Parts and cores need to be stored in closed bins or in a covered area to keep rainwater from collecting and prevent polluted run-off from contaminating rain or melting snow.



STOP! - Environmental Hazards

- Do not dismantle or drain vehicles on unprotected ground.
- Do not allow waste fluids to enter floor, storm or sanitary sewer drains.

Years of poor dismantling and storage practices take their toll on the environment and lead to long-term pollution.

RESOURCES

Minnesota Pollution Control Agency

Northeast Region (Duluth) (218) 723-4660
North Central Region (Brainerd) (218) 828-2492
Northwest Region (Detroit Lakes) (218) 847-1519
Southwest Region (Marshall) (507) 537-7146
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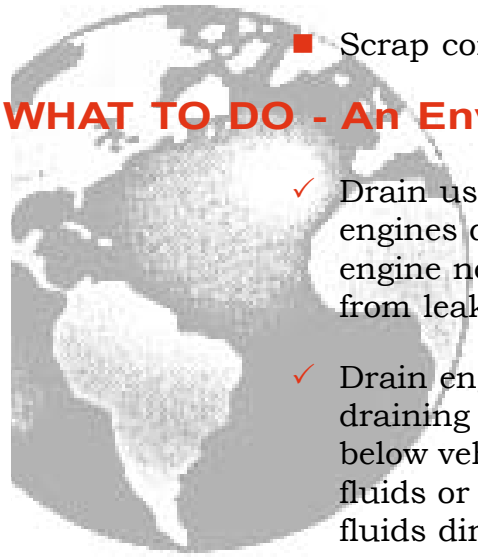
For further information, please refer to the following fact sheet on the MPCA Web site:

Steps 4 & 5: Mark and Store Hazardous Waste Correctly, located at http://www.pca.state.mn.us/waste/pubs/business.html#general

ENGINES

All engines should be evaluated during incoming inspection to determine their value. It is recommeded that salvage facilities classify and handle used engines in one of the three following categories:

- Reusable engines that are left in vehicles to be sold "as is";
- Reusable engines to be removed from vehicles and sold as parts; and
- Scrap core engines.



WHAT TO DO - An Environmental Checklist

✓ Drain used engine oil from all engines. Oil left in reusable engines does not protect parts. Engine oil can be added if the engine needs to be started. It should be drained to prevent oil from leaking during storage.

✓ Drain engines on a hoist or draining stand. Place drain-pans below vehicles to collect waste fluids or use a funnel to drain fluids directly into storage containers. If draining is done outdoors, make sure the area is covered to prevent rainwater from collecting and that the stand is located on a curbed, impermeable, concrete surface with spill controls.

A hydraulic rack for lifting vehicles makes engines and other parts easily accessible for draining.

✓ Remove engines using a large forklift or hoist to lift vehicles for engine removal. Do not tip vehicles on their sides to remove engines unless all fluids have been drained from the vehicles.

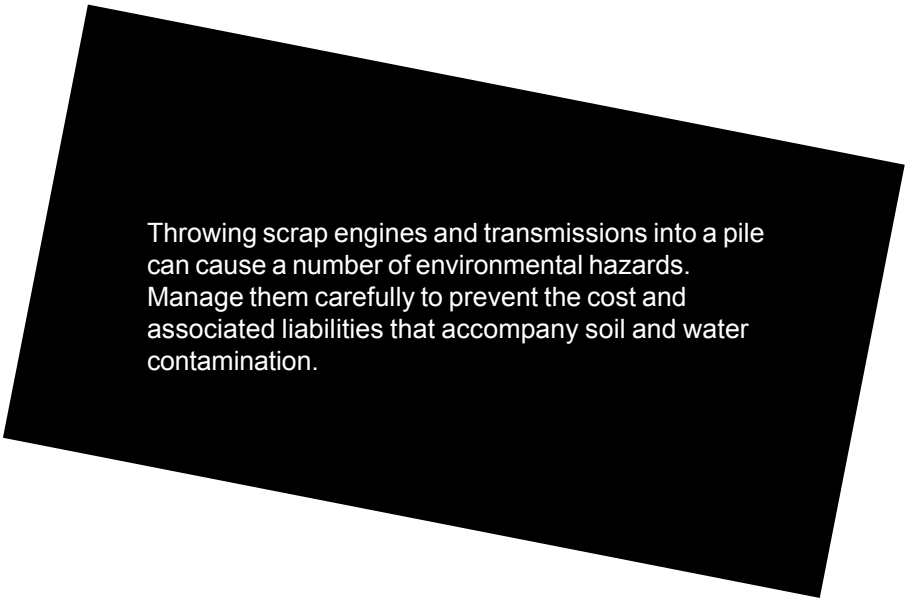
✓ Store engines in an area where spills and polluted run-off can be easily controlled, such as in a covered container or on a covered and curbed, impermeable, concrete surface with spill controls.

✓ Regularly remove accumulated contaminants and water from storage areas; manage properly.

✓ Drain differential fluid on all rear-wheel drive vehicles. Store the one to two quarts of fluid and recycle with used oils.

STOP! - Environmental Hazards

- Do not punch holes in the oil pan to drain engines. Remove the drain plug and replace the plug after draining to prevent leaks.
- Do not drain vehicles or engines on unprotected ground.
- Do not tip undrained vehicles on their sides to remove engines. This may cause gas, transmission fluid or other fluids to spill on the ground.
- Do not store oily engines uncovered outdoors or without secondary containment.
- Do not pile scrap engines or crush vehicles until fluids have been removed.



Throwing scrap engines and transmissions into a pile can cause a number of environmental hazards. Manage them carefully to prevent the cost and associated liabilities that accompany soil and water contamination.

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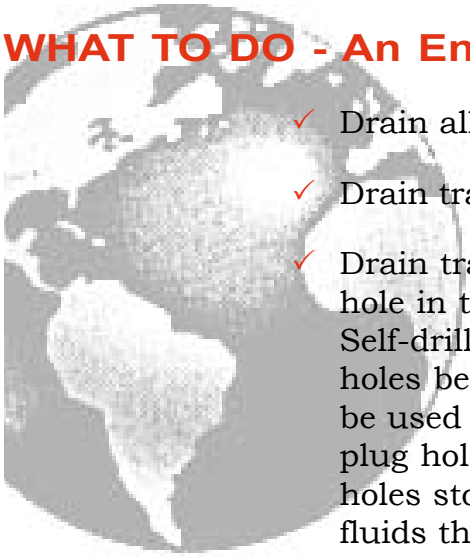
Managing Towels, Wipes and Sorbents (#4.61)

Managing Used Oil and Related Wastes – for Generators (#4.30)

TRANSMISSIONS

Transmission fluid is difficult to remove and spills are a very common occurance. Up to eight quarts of fluid can be drained from a car's transmission. Take extra care to properly drain transmissions so that spills do not occur.



WHAT TO DO - An Environmental Checklist

- ✓ Drain all transmissions before crushing vehicles.
- ✓ Drain transmissions on a hoist or work rack.
- ✓ Drain transmissions by either removing the oil pan or by drilling a hole in the pan. Replace the pan after draining and seal holes. Self-drilling or self-tapping screws work well for drilling drain holes because they can be used to easily re-plug holes. Sealing holes stops leaking of fluids that may be left after draining.
- ✓ Drain transmissions on a drain rack over a drain-pan, or use a funnel to drain fluids directly into a storage container.
- ✓ Drain transmissions on a curbed, impermeable concrete surface with spill controls. If the draining area is outdoors, it should be covered to prevent rainwater from collecting and also to prevent contaminated run-off from polluting rain and melting snow.

Removing all of the fluid from transmissions is very difficult. For this reason, it is important to store drained transmissions on a covered and curbed, impermeable surface to capture leaks or in a leak-proof storage container. If storing outdoors, take precautions to prevent contaminating run-off from rainwater and melting snow.

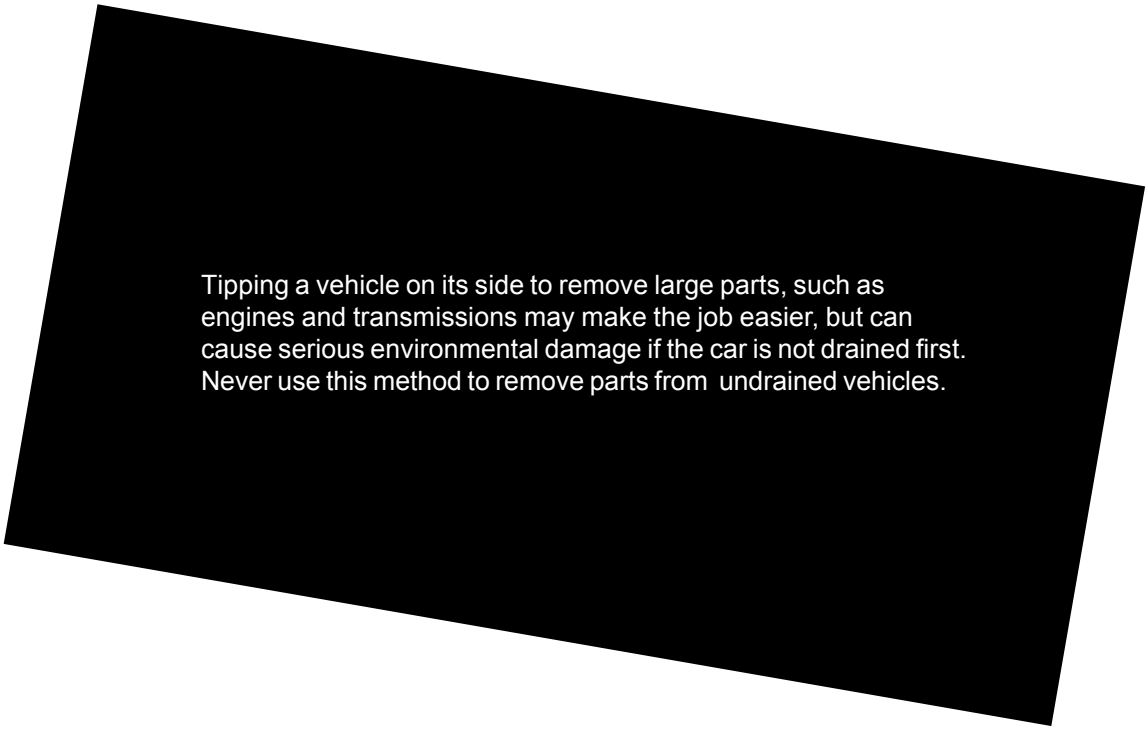
- ✓ Leave drive-shaft yokes on transmissions to prevent leaks. Wire yokes in palce to prevent them from falling out.
- ✓ Remove and drain torque converters when removing transmissions. Torque converters are difficult to drain because of their round shape. Tip them at different angles to remove as much fluid as possible. Plug torque converter openings to prevent leaks. (See photo below.)
- ✓ Seal all fluid lines after draining so they do not leak. Metal lines can be crimped or bent; openings can be sealed with plugs or golf tees.
- ✓ Store transmissions on a curbed, impermeable, concrete surface with spill controls. Transmissions stored outdoors should be placed in a leak-proof container and covered to prevent contaminated run-off from polluting rain and melting snow.
- ✓ Store transmission fluid with other used oils. (Please refer to the section *Waste Handling, Storage and Disposal Practices – Used Oils,* on page 48.)

Stockpiles of scrap can create both storage and environmental problems. Recycle transmissions and other cores regularly.

Use all-purpose plugs in torque converters, transmissions, and other parts to prevent excess fluids from leaking out after the parts have been drained.

STOP! - Environmental Hazards

- Do not store transmissions without proper spill protection, including a cover, secondary containment, drain-pans and absorbents.
- Do not crush vehicles that contain fluids.
- Do not drain transmissions on bare ground.
- Do not tip undrained vehicles on their side to remove transmissions.
- Do not stack vehicles or transmissions until all fluids are removed.
- Do not smelt aluminum tranmissions unless they have been drained well.



Tipping a vehicle on its side to remove large parts, such as engines and transmissions may make the job easier, but can cause serious environmental damage if the car is not drained first. Never use this method to remove parts from undrained vehicles.

RESOURCES

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For further information, please refer to the following section in this manual:

Waste Handling, Storage and Disposal Practices - Used Oils Page 48

RADIATORS & HEATER CORES

WHAT TO DO - An Environmental Checklist

- ✓ Drain antifreeze from radiators and heater cores as soon as possible after vehicles enter the facility. Store antifreeze in a marked container for recycling or disposal. (Please refer to section *Waste Handling, Storage and Disposal Practices – Antifreeze*, on page56.)
- ✓ Place drain-pans under radiators and heater cores while draining. Use separate drain pans for antifreeze and oil to prevent cross-contamination.
- ✓ Remove drained radiators and heater cores on a curbed, impermeable, concrete surface with spill controls. If draining outdoors, make sure the draining area is covered to keep rainwater from collecting and prevent contaminated run-off from rain and melting snow.

- ✓ Remove iron parts from radiators and heater cores for separate recycling. Cutting torches should be used in a well-ventilated area. Wear respiratory protection, such as a filtering mask, to reduce the risk of breathing airborne lead that may be released by heating lead straps on radiators. Also, all lead parts and components must be removed from vehicles before crushing.
- ✓ Store radiators and heater cores in a leak-proof container or on a covered and curbed, impermeable, concrete surface with spill controls, including drip-pans and absorbents.
- ✓ Recycle used radiators and heater cores regularly.
- ✓ Cover radiators and heating cores exposed to the weather to prevent heavy (toxic) metals from contaminating the soil.

STOP! - Environmental Hazards

- Do not store undrained radiators and heater cores uncovered or without proper spill protection.
- Do not drain antifreeze from radiators and heater cores into floor drains or sanitary or storm sewer systems.
- Do not stack radiators and heater cores without draining first.
- Do not leave radiators and heater cores in vehicles to be crushed. All lead parts must be removed from vehicles before crushing.

Storing radiators on the ground can cause lead contamination of the soil and lead to costly cleanup.

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For further information, please refer to the following section in this manual:

Waste Handling, Storage and Disposal Practices – Antifreeze
Page 56

General Operating Procedures – Storm Water Management
Page 14

FUEL TANKS

WHAT TO DO - An Environmental Checklist

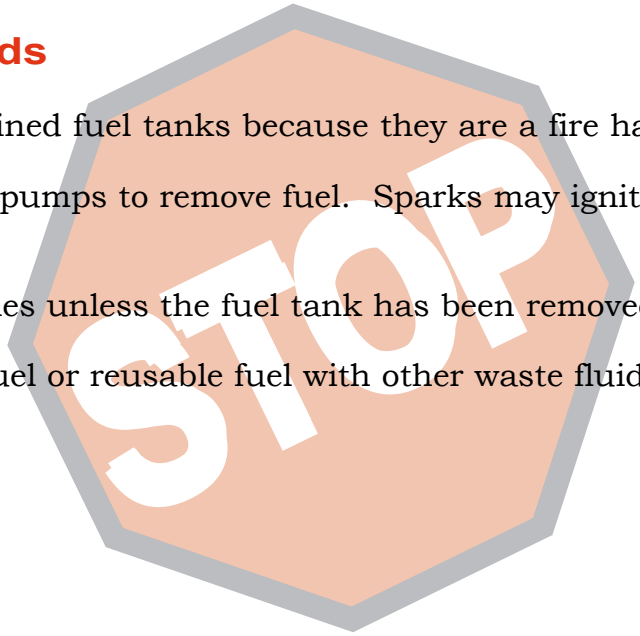
- ✓ Drain and remove fuel tanks as soon as possible. Use one of the following draining methods:
  - Remove tank from vehicle and pump or pour fuel into storage tank;
  - Use an air-driven pump to remove and drain fuel into a storage container; or
  - Remove plug where sensor and gas line enter the tank and drain the fuel into a storage container.

An air-driven pump can siphon fuel directly into a storage container, eliminating spills that can occur when transferring fluids from one container to another.

Clearly mark all fuel storage containers. For example, if the fuel is contaminated or mixed with hazardous waste, mark the container as "Hazardous Waste – Fuel."

- ✓ Store used tanks in piles on a covered and curbed, impermeable, concrete surface with spill controls.
- ✓ Store waste fuel and reusable fuel in closed storage containers that are clearly marked. (Please refer to the fact sheet *Steps 4 & 5: Mark and Store Hazardous Wastes Correctly*.) Do not mix waste or reusable fuel with other fluids. (Please refer to the section *Waste Handling, Storage and Disposal Practices – Fuel,* on page 60.)

STOP! - Environmental Hazards



- Do not store undrained fuel tanks because they are a fire hazard.
- Do not use electric pumps to remove fuel. Sparks may ignite fuel vapors.
- Do not crush vehicles unless the fuel tank has been removed.
- Do not mix waste fuel or reusable fuel with other waste fluids.

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Steps 4 & 5: Mark and Store Hazardous Wastes Correctly

Also, please refer to the following section in this manual:

Waste Handling, Storage and Disposal Practices – Fuel Page 60

AIR BAGS

In the past few years, air bag units have presented a new problem for salvage facilities. There are no regulations governing the final disposal of air bag units, yet they are becoming more common in salvaged vehicles. The units, whether made of plastic, vinyl or metal, contain a propellant called sodium azide, a hazardous substance, which is dangerous if inhaled and may burn exposed skin. Undeployed air bags can also damage vehicle shredders by releasing sodium azide into the processing equipment and ultimately into the auto "fluff." Contaminated fluff requires costly handling and disposal methods.

WHAT TO DO - An Environmental Checklist

- ✓ Leave deployed (used) air-bag units in vehicles. (Air bags that have been deployed do not present a human or an environmental risk.)
- ✓ Remove or deploy all undeployed (unused) air-bag units when vehicles enter the facility. Undeployed air bags are valuable, so do not deploy unless necessary.
- ✓ Store undeployed air bag units indoors, protected from the weather until they can be resold or disposed of properly.
- ✓ Deploy air bags using the following method:
  - Disconnect cables from the vehicle's battery.
  - Wait 20 minutes for the unit's internal battery to discharge completely.
  - Deploy air bags remotely using the jumper harness/ wiring system outlined in the fact sheet *Disposal of Air Bags in Scrap Vehicles*, or by using the manufacturer's recommended method.

The chemical in undeployed air bags is a hazardous substance called sodium azide, which is harmful to humans if inhaled. It can also damage vehicle shredders and contaminate the auto "fluff," which then requires costly disposal methods. Remove bags carefully for resale.

STOP! - Environmental Hazards

- Do not deploy air-bag units using methods that do not meet industry approval.

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Disposal of Air Bags in Scrap Vehicles