

F2. Vehicle and Heavy Equipment Repair and Maintenance

Commercial / Industrial / Institutional
& Municipal Pollution Prevention



Goal: Prevent or reduce the risk of discharge of pollutants to stormwater from vehicle repair and maintenance activities

APPLICABLE OPERATIONS AND ACTIVITIES

Any facility or operation that repairs and maintains motorized vehicles and heavy equipment including:

- Vehicle Service and Repair Shops
- Body Shops
- Business, Government and Institutional Vehicle Fleet Yards
- Car Dealerships
- Trucking Facilities
- Rental Car Facilities
- Operations with Industrial and Construction Equipment

POLLUTION CONTROL APPROACH

Implement proper procedures during repair and maintenance, vehicle storage, waste handling and cleaning activities to prevent contaminants from entering the stormwater drainage system

KEY POLLUTION PREVENTION AND CONTROL MEASURES

- Perform maintenance and repair activities indoors whenever possible
- Use a tarp or ground cloth, and drip pans for any temporary or mobile repair or maintenance work
- Clean up vehicle fluid leaks immediately
- Inspect stored vehicles for leaks
- Recycle oil, greases and other fluids
- Do not pour liquid wastes to sinks or storm drains
- Use rags and absorbents to clean up spills. Use dry sweeping or damp mops for work areas

TARGETED POLLUTANTS

- Sediment
- Nutrients
- Bacteria
- Organic Matter
- Oil & Grease
- Heavy Metals
- Toxic Chemicals
- Abnormal pH
- Trash & Debris
- Other: Vehicle fluids

Overview

Vehicle and heavy equipment repair and maintenance activities are potentially significant sources of stormwater pollution, due to the use of harmful materials and wastes involved. Engine repair and service, brake and transmission work, parts cleaning, replacement of vehicle fluids, and outdoor vehicle and equipment storage can all contribute a number of contaminants to stormwater runoff such as hydrocarbons (motor oil, gasoline, diesel fuel and greases), heavy metals (such as lead, copper and zinc), antifreeze, solvents and other toxic chemicals.

Pollution Prevention and Control Measures

Repair and Maintenance Activities:

- ▶ All maintenance and repair activities should be done in an indoor garage or vehicle maintenance area whenever possible.
- ▶ Any outdoor maintenance and repair activities at a stationary facility should only be done in a designated vehicle maintenance area covered with a roof and bermed or enclosed to prevent contact with rain and stormwater runoff.
- ▶ For temporary or mobile repair or maintenance work being done outdoors, always use a tarp or ground cloth, and drip pans beneath the vehicle or equipment to capture spills and drips.
- ▶ Check all incoming vehicles for oil and other vehicle fluid leaks. Use a drip pan underneath leaking vehicles and equipment.
- ▶ Designate a special area to drain and replace motor oil, coolant, and other vehicle fluids where drips and spills can be easily cleaned up. The designated area should have no connections to a stormwater drain or sanitary sewer.
- ▶ Avoid changing motor oil or vehicles fluids, or performing heavy equipment maintenance near a stormwater drain, drainage ditch, surface water or anywhere where contaminants could come into contact with rain or stormwater runoff.
- ▶ Always use a funnel when pouring liquids, and use a drip pan under a vehicle when unclipping hoses, unscrewing filters and removing other parts that might leak to keep splatters and drips off the shop floor.
- ▶ Clean up vehicle fluids with rags or other absorbent materials immediately.

Vehicle and Heavy Equipment Storage:

- ▶ Store idle equipment under cover.
- ▶ Inspect vehicles and heavy equipment for leaks on a regular basis, particularly those parked or stored long term. Use a drip pan underneath leaking vehicles and heavy equipment.
- ▶ Drain all fluids, including unused gasoline, engine oil, transmission and hydraulic oil, brake and radiator fluid, and air conditioning coolant, from wrecked vehicles and “part cars.”
- ▶ Store batteries upright in a contained and covered place indoors. Do not store batteries outside on the ground. Check to ensure batteries are not damaged or leaking. Keep battery acid-neutralizing materials, such as baking soda, available near the storage area.

Material and Waste Handling:

- ▶ Recycle greases, used oil and oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic fluids, and transmission fluids. Collect and store these recyclable materials separately and contract with a recycling service for pickup.
- ▶ Promptly transfer used fluids to the proper waste or recycling drums. Avoid leaving full drip pans or other open containers sitting out for extended periods of time.
- ▶ Place oil filters in a funnel over a waste oil recycling drum and allow to drain for at least 24 hours before recycling or disposing.
- ▶ Keep waste oil, antifreeze, and other fluids properly covered and contained, and provide for secondary containment [see Section A2 (Storage of Liquid Materials) for more information].
- ▶ Place cracked or leaking batteries in a non-leaking secondary container and dispose of properly at recycling or household hazardous waste facilities.
- ▶ Do not pour liquid wastes to floor drains, sinks, or into any other sanitary sewer connection, and do not dispose of liquid wastes to a stormwater drain, drainage ditch or surface water.

Cleaning Activities and Good Housekeeping Practices:

- ▶ Keep work areas, tools and equipment clean and orderly. Ensure that oil and grease accumulations do not buildup.
- ▶ Reusable cloth rags can be used to clean up small drips and spills. A permitted laundry can wash reusable cloth rags.
- ▶ For larger spills, apply absorbent materials such as absorbent granules, socks and pads. Absorbents should be cleaned up promptly, bagged and placed in the trash.
- ▶ Sweep or damp mop for regular cleaning of work areas.
- ▶ Avoid hosing down work areas and parking lots. If the area is pressure-washed, wash water should be collected and/or directed to the sanitary sewer [see Section D2 (Pressure Washing and Surface Cleaning) for more information]. Never direct washwater to a stormwater drain, drainage ditch or surface water.
- ▶ Post signs on sinks to remind employees not to pour wastes down sink drains.
- ▶ Stencil or mark nearby stormwater drains to indicate that they are not to receive liquid or solid wastes.
- ▶ Switch to the use of non-toxic or less toxic chemicals for maintenance and cleaning when possible:
 - Minimize use of solvents and chlorinated compounds.
 - Switch to non-chlorinated cleaners such as citrus-based solvents.
 - Consider use of water-based cleaning system.
 - Use non-caustic cleaning methods instead of caustic agents.
- ▶ Clean parts with a wire brush, steam cleaning or in a bake oven before using liquid cleaners.
- ▶ Consider recycling washwater with a closed loop system or use self-contained parts washers. Numerous products are commercially available that recycle and contain washwater and cleaning solvents.

- ▶ Use self-contained sinks and tanks when cleaning with solvents. Do all liquid cleaning at a centralized area so the solvents and residues stay in one area.

Inspection and Preventive Maintenance Requirements

Table F2-1 Typical Inspection and Preventive Maintenance Activities for Vehicle and Heavy Equipment Repair and Maintenance

Activity	Schedule
<ul style="list-style-type: none"> • Check to make sure all drip trays and used fluids are transferred to the proper waste or recycling drums 	Daily
<ul style="list-style-type: none"> • Inspect outdoor work area(s) to check for any contaminants. Promptly contain and clean up. Do not hose down paved areas. 	Daily / More often as needed

Spill Prevention and Response

- ▶ Develop Standard Operating Procedures (SOPs) for spill prevention and clean up (see Section 2.1.5).
- ▶ Store and maintain appropriate spill cleanup materials on site in a location near the work area(s).

Considerations for Local Government-Owned or Operated Facilities and Operations

- ▶ The following local government functions and departments are often undertake vehicle and heavy equipment repair and maintenance:
 - Local fleet management
 - Public works
 - Transportation (streets & highways)

Local government entities that perform vehicle and equipment repair and maintenance activities should adopt these pollution prevention and control measures, and develop appropriate Standard Operating Procedures (SOPs) for implementing them.

Considerations for Industrial NPDES (Georgia IGP) Stormwater Pollution Prevention Plans (SWPPPs)

- ▶ Applicable industrial activity sectors with coverage under the Georgia IGP that often undertake vehicle and heavy equipment repair and maintenance include, but are not limited to:

Sector G: Transportation Equipment, Industrial or Commercial Machinery
 Sector I: Oil and Gas Extraction
 Sector J: Mining and Dressing
 Sector P: Land Transportation and Warehousing
 Sector Q: Water Transportation Maintenance/Cleaning
 Sector R: Ship and Boat Building and Repairing Yards
 Sector S: Air Transportation Facilities

Please see Appendix B for the SIC codes that correspond to each industrial activity sector

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- ▶ All facilities covered under the Georgia IGP are required to identify the location(s) of any industrial activity and pollutant(s) that may come in contact with stormwater in their SWPPP, as well as document applicable control measures.
 - ▶ The following are not allowable under the Georgia IGP: non-stormwater discharges containing inks, paints, or substances (hazardous or nonhazardous) resulting from an onsite spill, including materials collected in drip pans; washwater from material handling and processing areas; and washwater from drum, tank or container rinsing and cleaning.

Specific State Regulations and Requirements

- ▶ Georgia Oil or Hazardous Materials Spills or Releases Act (O.C.G.A. 12-14-1)
- ▶ Georgia Hazardous Waste Management Act (O.C.G.A. 12-8-60)