

Loss Prevention News

Provided by the Texas Municipal League Intergovernmental Risk Pool

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Landfill Compactors

Landfill/refuse compactors have a very important role in landfill operations. These machines churn through tons of solid waste every day, some weigh over 100,000 pounds, and cost hundreds of thousands of dollars. Proper maintenance keeps these valuable machines running. Professional landfill operators realize the importance of equipment maintenance. Ignoring compactor maintenance can be costly and devastating to the landfill due to lost productivity and cost of repair or replacement.



Equipment fires can occur at landfills. It is important to reduce the risk of fire, because repairs are costly and productivity and employee safety are affected. Once a compactor is out of service due to fire, it may cost over \$100,000 for repairs. This does not include the cost of downtime and possible injury to employees.



Training starts with the operator's manual. The manual should be a key part of periodic safety meetings. All operators should know the equipment and operating procedures, from pre-start inspection to proper shut down.

Maintenance Program

Every landfill should have a formal, documented maintenance program. Items to check on a daily basis might include the following:

- Safety and lock bars
- Radiator areas for debris
- Hoses and fan belts
- Hydraulic system
- Covers and guards
- Engine compartment (oil and fuel leaks)
- Water trap
- Air cylinder drain
- Braking system
- Electrical lines and connections

A periodic maintenance program should address at least the following:

- Engine oil and filters
- Radiator fan and fan idler pulley
- Main air cleaner
- Oil in master clutch
- Transmission filters
- Fuel filters
- Joint lubrication
- Oil and filter in final drive
- Hydraulic oil and hydraulic oil filters

Refer to the operation and maintenance manual, the equipment manufacturer, or maintenance representative for specifics.

Preventing Fires

These machines operate for long periods of time, use flammable liquids, and generate heat. Any machine has a risk of fire, perhaps due to an oil or fuel leak, electrical short, or coming into contact with hot trash, but a machine not cleaned periodically is much more likely to catch fire.

The operator and maintenance crew are responsible for preventing machine fires. Machines must be inspected and cleaned regularly, and all debris and trash must be removed. Inspect areas where fires are most likely to start—engine blocks, electrical systems, turbochargers, exhaust manifolds and brake systems, and clean areas where flammable materials such as fuel, oil, grease, hydraulic fluid and debris may collect. Oil, hydraulic fluid and gas lines should not be in contact with ignition points such as the engine block, exhaust manifolds, and turbochargers.



Compactor Radiator

Cooling System

Because of the debris in the air around the active portion of a landfill site, the equipment's radiator and air intakes can get clogged. These areas may be difficult to clean and air filters are costly. With some compactors, the radiator may need to be cleaned every day. Because the

cooling system is such a vital part to the machine, cleaning must be done. The engine will overheat if the cooling system is not properly cleaned and maintained.



Engines

Debris that accumulates inside a machine's radiator can cause obvious issues with overheating, but the debris that quietly accumulates inside the machine, perhaps in the engine compartment, can cause a machine fire.

The engine is vulnerable to trash buildup. As material gets inside the machine, it affects the engine and drive train components. Protecting the power source is a safety issue as well as maintenance issue. Schedule cleaning for the end of the work shift when heat buildup may occur after the engine is shut down.

Wheels

Another concern is wheel maintenance. Wheels do the job of cutting and shredding refuse into smaller pieces. Debris buildup around the wheels can clog up between the wheel and the body of the machine. If the buildup isn't removed, the inside of the wheel can wear down. The debris must be cleaned out on a regular basis.



Fire Suppression Systems

Manufacturers have worked to develop better side screens and seals on engine compartments. Belly pans that are easier to remove and clean are available, but belly pans with exposed cracks and seams leave the machine exposed to debris. A fire suppression system can be a valuable addition. Fire suppression systems can be installed on just about any machine.

Fire suppression systems must be regularly inspected and maintained. For the suppression system to successfully extinguish a fire, the machine must be clean. A fire suppression system is not an excuse to allow the build up of debris. Even though a fire suppression system can knock down a fire and will continue spraying until it runs out of retardant, it may not be able to completely extinguish a thick, smoldering layer of debris. Hand portable fire extinguishers may also be needed to suppress fires away from the vehicle or in areas not protected by a fire suppression system. Personnel should be properly trained on how to respond in case of fire.

Example of a Fire Suppression System



Employee Safety

Employees should be trained on operating equipment safely. When cleaning the machine, employees should wear proper personal protective equipment – hard hats, boots, gloves, safety eyewear, etc. Many items have been improved for comfort and style, which encourages more use. Supervisors should make sure employees are wearing the proper equipment. For safety meetings, refer to the TMLIRP media library, particularly #482 *Be Safe, Be Proud at the Landfill*.

Getting the Job Done

For landfill safety, management is responsible for training, personal protective equipment, and safety policies, but carrying out these precautions are crew responsibilities. Landfill equipment is expensive and expected to perform for long periods of time under extreme conditions. A simple, yet consistent maintenance program helps ensure the landfill operates efficiently. Taking care of equipment is part of getting the job done.

Resources

TML-IRP Loss Prevention Department
Austin, TX
1-800-537-6655
www.tmlirp.org

Texas Public Works Association
www.tpwa.org
The Texas Chapter of the American Public Works Association.

Waste Age Magazine
www.wasteage.com
866-505-7173
A free magazine for solid waste industry professionals.