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Material Handling Equipment

Material handling equipment eases manual handling chores and enhances operational efficiency. In today's economic climate of high labor and capital equipment cost, unexpected machine failures and malfunctions can seriously – and negatively - impact company profits. The equipment we are discussing are carts, hand trucks, fork lifts, and conveyors. The breakdown, failure, or malfunction of these types of equipment can cost a company time and money. Material handling equipment needs to be maintained to provide long uninterrupted service.

The benefits of a maintenance program for your equipment will help to maintain the high efficiency you expect when the equipment is kept in top running condition. The benefits reduce the cost of expensive repairs as a result of a breakdown or unnecessary wear, enhanced productivity due to less machinery downtime, and the reduction in the potential for personal injury.

Forklifts require a daily inspection for proper operation. Daily checks should include wheels, brakes, forks, chains, hydraulics, steering, horn, and fuel. Forklifts with engines should be checked for coolant and engine oil levels. When checking and servicing batteries, proper personal protective equipment should be worn.

Hand trucks and carts should be checked regularly for worn wheels, broken welds, or other mechanical damage. Equipment that is damaged should not be used until it is repaired.

Most material handling equipment has wheels. Wheels allow workers to move material loaded on the piece of equipment. Wheels should be inspected for wear and tear. Uneven wheels may cause a worker to exert additional effort and movement (e.g., pulling, pushing, twisting) while using the equipment.

In addition to the wheels, the surface that the equipment is operated on needs to be inspected. Rough areas, cracks, pot holes, or broken concrete need to be identified and repaired. Floor surfaces, when improperly maintained, create problem for all types of material handling equipment in addition to slip, trip and fall hazards. These conditions can cause an accident, resulting in damage to the material or to the worker operating the equipment. These hazards may be controlled by using correct surfacing/cleaning methods and materials. Schedule repairs for cracks and other damage, repair holes immediately.

Conveyer systems need to be inspected on a regular basis. Important areas include rollers, bearings, chains and belts. All of these moving parts are subject to wear and tear. Check conveyers to detect any belt slippage, dragging or defective rollers. Be sure that all necessary guards are in place to protect workers from mechanical injury. Moving machine parts should be lubricated regularly according to Manufacturers' instructions. Frequently overlooked during regular maintenance procedures are conveyor rollers, belts, chains, etc. Moving equipment parts are subject to breaks caused by metal fatigue, loose bearings and obstructions. Check conveyors regularly to detect any belt slippage, dragging or defective rollers. Control static electricity through bonding and grounding to minimize static charges.

Material handling equipment attachment devices like carton clamps and barrel handling devices are often overlooked but should be treated as essential components.

Industrial trucks need special attention to the fork blade and wheel assembly. Forks are subject to jolts, abrasion, overloading etc, which may reduce the thickness of blades, bend or twist them and cause fatigue cracks in areas of high stress concentration. Inspect trucks carefully for signs of excessive wear and tear. Remove accumulations of grease

and dirt. Scheduled maintenance based on engine-hour or motor-hour experience may reduce malfunctions. Give special attention to brakes, limit switches, trolley wheels, load hooks, cables and chains. These needs to be examined for evidence of wear, malfunction, damage and proper operation. Inspect sheaves, nuts, bolts, clamps, braces, hooks and similar parts monthly or more frequently, depending upon usage.

Check jacks. Inspect jacks for broken teeth or faulty holding fixtures and remove from service if there are any signs of hydraulic fluid leakage, malfunctions or other defects. Test jacks under load conditions after repairs have been made.

Pay attention to portable cranes. Keep loads within design limits on portable cranes that are mounted on wheels or wheeled platforms. Test controls, brakes, load hoisting and lowered mechanisms. Inspect boom, base and platform for any sign of stress, e.g., cracks, bends, breaks etc.

Watch out for overhead cranes. Keep attachments used within the rating capacity stated by manufacturers. Maintain original safety factors for replacement parts according to manufacturer specifications. Keep rail: level, grounded, properly aligned, properly spaced, securely attached to the supporting structure, free of beading and bends.

Examine overspeed sensing/stopping mechanisms, brakes and clutch, sheaves, pins, gears, cables, hooks, rails, etc., for wear and maladjustment. Check welded connections (e.g. main chords and other structural items) for cracks, bends, abrasion and corrosion.

Training is the key to safe material handling and the operation of equipment being used to complete the job. Remember, no one should operate a piece of equipment until they are trained. Training will help to reduce unnecessary damage to equipment and prevent personal injury to employees.

Selecting the right equipment for the job is important. Before purchasing a piece of equipment, have a good understanding of what and where the equipment is going to be used. An example would be selecting the proper fork lift for work inside a closed warehouse. The obvious choice would be an electric fork lift to avoid carbon monoxide exposure from the exhaust. Another example is selecting a hand truck for rough ground or floor conditions. While basic design of the hand truck doesn't change much, the wheels that come with the hand truck can make moving materials easier. In this case with rough ground or floor conditions, a hand truck with larger pneumatic wheels would be the right choice.

There is no single, complete maintenance program which will fit all your needs. Follow manufacturers recommendations, but tailor procedures to suit your specific equipment, operation and personnel needs.