

Powered Industrial Truck Program

Procedure Revision History		
Number	Date	Approval

Prepared in accordance and in compliance with California General Industry Safety Order 3203, requirements, current reference sources, and accepted industrial safety and health principles and practices. They reflect the operating and working conditions noted on the day(s) of service(s) and relate only to those conditions specifically discussed herein.

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Powered Industrial Truck Program

Purpose

The purpose of this program is to define the requirements for safe operating of industrial forklifts. All employees and contract personnel shall operate these devices in accordance with this program.

Regulatory Authorization

This program is based on conformance with the Occupational Safety and Health Act of 1970. More specifically it meets or exceeds Cal-OSHA §3650. Powered Industrial Trucks and ANSI 92.2.

Scope

This program shall cover all forklifts used in your company and contractors under the direct supervision of a designated company employee.

Policy

All departments using forklifts shall ensure that all operators are trained and certified in the safe operation of forklifts in accordance with this policy, the manufacturer's recommendations, Cal-OSHA §3650.

Powered Industrial Trucks, ANSI 92.2, state that these devices are maintained in accordance with the manufacturer's recommendations and sound safety practices.

Contractors not under direct supervision are responsible for the inspection of their own equipment and the training and certification of their own operators in conformance with this program and Cal-OSHA §3650. Powered Industrial Trucks and ANSI 92.2. Proof of conformance shall be required.

Program Requirements

The purpose of this Mobile Equipment Safety Program is to provide our employees and managers with the tools and materials to ensure the safety of all employees who operate any of the Mobile Equipment as part of their job. Accidents are costly to the City, but more importantly, they may result in injury to our employees, other equipment, property or employees. It is the operator's responsibility to operate the Mobile Equipment in a safe manner to prevent injuries or property damage.

Your policy and its associated programs apply to all operators who maybe engaged in the operations of any of the City's Powered Industrial Trucks on either public or private property.

General Requirements

- Drivers shall check the vehicle at the beginning of each shift, and if it is found to be unsafe, the matter shall be reported immediately to a foreman or mechanic, and the vehicle shall not be put in service again until it has been made safe. Attention shall be given to the proper functioning of tires, horn, lights, battery, controller, brakes, steering mechanism, cooling system, and the lift system for fork lifts (forks, chains, cable, and limit switches). (See Appendix A)
- All equipment left unattended at night, adjacent to a highway in normal use, or adjacent to construction areas where work is in progress, shall have appropriate lights or reflectors, or

barricades equipped with appropriate lights or reflectors, to identify the location of the equipment.

- A safety tire rack, cage, or equivalent protection shall be provided and used when inflating, mounting, or dismounting tires installed on split rims, or rims equipped with locking rings or similar devices.
- Heavy machinery, equipment, or parts thereof, which are suspended or held aloft by use of slings, hoists, or jacks shall be substantially blocked or cribbed to prevent falling or shifting before employees are permitted to work under or between them.
- Bulldozer and scraper blades, end-loader buckets, dump bodies, and similar equipment, shall be either fully lowered or blocked when being repaired or when not in use. All controls shall be in a neutral position, with the motors stopped and brakes set, unless work being performed requires otherwise.
- Whenever the equipment is parked, the parking brake shall be set. Equipment parked on inclines shall have the wheels chocked and the parking brake set.
- The use, care and charging of all batteries shall conform to the requirement of manufacturer and any applicable standards.
- All cab glass shall be safety glass, or equivalent, that introduces no visible distortion affecting the safe operation of any machine covered by this subpart.
- All equipment covered by this subpart shall comply with the following requirements when working or being moved in the vicinity of power lines or energized transmitters, except where electrical distribution and transmission lines have been de-energized and visibly grounded at point of work or where insulating barriers, not a part of or an attachment to the equipment or machinery, have been erected to prevent physical contact with the lines:
 - For lines rated 50 kV or below, minimum clearance between the lines and any part of the crane or load shall be 10 feet;
 - For lines rated over 50 kV, minimum clearance between the lines and any part of the crane or load shall be 10 feet plus 0.4 inch for each 1 kV over 50 kV, or twice the length of the line insulator, but never less than 10 feet;
 - In transit with no load and boom lowered, the equipment clearance shall be a minimum of 4 feet for voltages less than 50 kV, and 10 feet for voltages over 50 kV, up to and including 345 kV, and 16 feet for voltages up to and including 750 kV;
- A person shall be designated to observe clearance of the equipment and give timely warning for all operations where it is difficult for the operator to maintain the desired clearance by visual means;
- Cage-type boom guards, insulating links, or proximity warning devices may be used on cranes, but the use of such devices shall not alter the requirements of any other regulation of this part even if such device is required by law or regulation;
- Any overhead wire shall be considered to be an energized line unless and until the person owning such line or the electrical utility authorities indicate that it is not an energized line and it has been visibly grounded;
- Prior to work near transmitter towers where an electrical charge can be induced in the equipment or materials being handled, the transmitter shall be de-energized or tests shall be made to determine if electrical charge is induced on the crane. The following precautions shall be taken when necessary to dissipate induced voltages:

- The equipment shall be provided with an electrical ground directly to the upper rotating structure supporting the boom; and
- Ground jumper cables shall be attached to materials being handled by boom equipment when electrical charge is induced while working near energized transmitters. Crews shall be provided with nonconductive poles having large alligator clips or other similar protection to attach the ground cable to the load.
 - Combustible and flammable materials shall be removed from the immediate area prior to operations.

Training

The employer shall ensure that each powered industrial truck operator is competent to operate a powered industrial truck safely, as demonstrated by the successful completion of the training and evaluation specified in this section. Prior to permitting an employee to operate a powered industrial truck (except for training purposes), the employer shall ensure that each operator has successfully completed the training required by Cal-OSHA §3668.

Trainees may operate a powered industrial truck only:

- Under the direct supervision of persons who have the knowledge, training and experience to train operators and evaluate their competence; and
- Where such operation does not endanger the trainee or other employees.
- Training shall consist of a combination of formal instruction (e.g., lecture, discussion, interactive computer learning, video tape, and written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee) and evaluation of the operator's performance in the workplace.
- All operator training and evaluation shall be conducted by persons who have the knowledge, training and experience to train powered industrial truck operators and evaluate their competence.

Powered industrial truck operators shall receive initial training in the following topics, except in topics which the employer can demonstrate are not applicable to the safe operation of the truck in the employer's workplace.

Truck-related Topics

- Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate;
- Differences between the truck and the automobile;
- Truck controls and instrumentation: where they are located, what they do, and how they work;
- Engine or motor operation;
- Steering and maneuvering;
- Visibility (including restrictions due to loading);
- Fork and attachment adaptation, operation, and use limitations;
- Vehicle capacity;
- Vehicle stability;
- Any vehicle inspection and maintenance that the operator will be required to perform;
- Refueling and/or charging and recharging of batteries;
- Operating limitations;
- Any other operating instructions, warnings, or precautions listed in the operator's manual for

the types of vehicle that the employee is being trained to operate.

Workplace-related Topics

- Surface conditions where the vehicle will be operated;
- Composition of loads to be carried and load stability;
- Load manipulation, stacking, and unstacking;
- Pedestrian traffic in areas where the vehicle will be operated;
- Narrow aisles and other restricted places where the vehicle will be operated;
- Hazardous (classified) locations where the vehicle will be operated;
- Ramps and other sloped surfaces that could affect the vehicle's stability;
- Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a build-up of carbon monoxide or diesel exhaust;
- Other unique or potentially hazardous conditions in the workplace that could affect safe operation.

Refresher Training

Refresher training, including an evaluation of the effectiveness of that training, shall be conducted as required to ensure that the operator has the knowledge and skills needed to operate the powered industrial truck safely.

Refresher training in relevant topics shall be provided to the operator when:

- The operator has been observed to operate the vehicle in an unsafe manner;
- The operator has been involved in an accident or near-miss incident;
- The operator has received an evaluation that reveals that the operator is not operating the truck safely;
- The operator is assigned to drive a different type of truck; or
- A condition in the workplace changes in a manner that could affect safe operation of the truck.
- An evaluation of each powered industrial truck operator's performance shall be conducted at least once every three years.
- Certification. The employer shall certify that each operator has been trained and evaluated as required. The certification shall include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training or evaluation.

Operating Rules

Every employer using industrial trucks or industrial tow tractors shall post and enforce a set of operating rules. Every employee who operates an agricultural or industrial tractor shall be instructed in the following procedures and in any other practices dictated by the work environment. Such information shall be provided at the time of initial assignment and at least annually thereafter. Copies of these instructions, printed in a language understood by most the employees, shall be conspicuously posted at a place frequented by the drivers.

Employee Operating Instructions

- Securely fasten your seat belt if the mobile equipment has a ROPS.
- Where possible, avoid operating the mobile equipment near ditches, embankments and holes.

- Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces. Stay off slopes too steep for safe operation.
- Watch where you are going, especially at row ends, on roads and around trees.
- Do not permit others to ride.
- Operate the mobile equipment smoothly, no jerky turns, starts or stops.
- Hitch only to the drawbar and hitch points recommended by the mobile equipment manufacturers.
- When mobile equipment is stopped, set brakes securely and use the parking brake.
- Every employee who operates an agricultural or industrial tractor shall be required to check the tractor prior to operation each day and if it is unsafe report the matter immediately to a foreman or mechanic and shall not use the tractor again until it has been made safe.
- Employees shall be prohibited from stunt driving or horseplay while operating an agricultural or industrial tractor.
- No repairs shall be performed on any agricultural or industrial trucks or tractors until arrangements have been made to reduce the probability of injury to repairmen or others caused by sudden movement or operation of such equipment or its parts.

General Safety

- All name plates and model number, type designation and load capacity markings on industrial trucks, shall be maintained in a legible condition by the employer.
- Industrial trucks shall be designed, constructed and maintained in accordance with the applicable standards.
- If the truck is equipped with front-end attachments other than factory installed attachments, the truck shall be marked to identify the attachments and show the approximate weight of the truck and attachment combination, and capacity of the truck and attachment combination at maximum elevation of the load engaging means with the load laterally centered.
- Major modifications and structural changes to high lift trucks, industrial trucks and rider trucks that affect the capacity and safe handling of the vehicles shall not be performed by the employer or user without prior written approval from the manufacturer unless the modification is designed, manufactured, and installed in accordance with recognized good engineering and manufacturing principles. The capacity, operation and maintenance instruction plates shall be changed accordingly.
- Industrial trucks originally approved for the use of gasoline for fuel may be converted to liquefied petroleum gas fuel provided the complete conversion results in a truck which embodies the features specified for LP or LPS designated trucks as defined in Chapter 1-3, of NFPA 505-1987, which is herein incorporated by reference. Such conversion equipment shall be approved.
- Powered industrial trucks shall not be operated in atmospheres containing more than 20 percent of the Lower Explosive Limit of flammable gas or vapor unless approved for the

area. See Cal-OSHA Section 5144

- When industrial trucks operate in areas where general lighting is less than 2 foot-candles per square foot, directional lighting shall be provided on the truck.
- Trailers disconnected from their tractor shall be secured to prevent them from up-ending during loading or unloading operations. This may require utilization of auxiliary jacks designed for that purpose.
- Industrial trucks shall not be operated in areas that expose the operator to the hazard of collision with overhead obstructions unless the truck is equipped with overhead guards.
- Loads shall be so balanced, braced, or secured as to prevent tipping and falling. Only stable or safely arranged loads shall be handled.
- Batteries installed in trucks shall be secured in suitable racks which are secured to the truck.
- Motorized hand and hand/rider trucks shall be designed so that the brakes are applied and the power to the drive motor shut off when the operator releases his grip on the control tongue, or the device used to control travel.
 - EXCEPTION: Vehicles designed for use in order picking operations are exempt from the braking requirements, provided the speed of the vehicle does not exceed 3.5 mph while the operator is walking the vehicle.
- Radio remote control vehicles shall be equipped with positive means which restrict the speed of the vehicle to 3.5 mph while the equipment is being operated with radio remote control.
- Steering knobs shall not be used unless the truck is equipped with power steering.
- When cargo is being towed on pipe trucks or similar equipment, a safe means shall be provided to protect the driver from sliding loads.
- Counterweights shall be so affixed that they cannot be accidentally dislodged.
- Forks, fork extensions and other attachments shall be secured so that they cannot be inadvertently dislodged, and shall be used only in accordance with the manufacturer's recommendations.
- Stunt driving and horseplay are prohibited.
- Employees shall not ride on the forks of lift trucks.
- Employees shall not place any part of their bodies outside the running lines of an industrial truck or between mast uprights or other parts of the truck where shear or crushing hazards exist.
- Employees shall not be allowed to stand, pass, or work under the elevated portion of any industrial truck, loaded or empty, unless it is effectively blocked to prevent it from falling.
- Drivers shall check the vehicle at the beginning of each shift, and if it is found to be unsafe, the matter shall be reported immediately to a foreman or mechanic, and the vehicle shall not be put in service again until it has been made safe. Attention shall be given to the proper functioning of tires, horn, lights, battery, controller, brakes, steering mechanism, cooling system, and the lift system for fork lifts (forks, chains, cable, and limit switches).
- No truck shall be operated with a leak in the fuel system.
- Vehicles shall not exceed the authorized or safe speed, always maintaining a safe distance

from other vehicles, keeping the truck under positive control at all times and all established traffic regulations shall be observed.

- For trucks traveling in the same direction, a safe distance may be considered to be approximately 3 truck lengths or preferably a time lapse -3 seconds -passing the same point.
- Trucks traveling in the same direction shall not be passed at intersections, blind spots, or dangerous locations.
- The driver shall slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.
- Operators shall look in the direction of travel and shall not move a vehicle until certain that all persons are in the clear.
- Trucks shall not be driven up to anyone standing in front of a bench or other fixed object of such size that the person could be caught between the truck and object.
- Grades shall be ascended or descended slowly.
- When ascending or descending grades in excess of 10 percent, loaded trucks shall be driven with the load upgrade.
- On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface.
- Motorized hand and hand/rider trucks shall be operated on all grades with the load-engaging means downgrade.
- The forks shall always be carried as low as possible, consistent with safe operations.
- When leaving a vehicle unattended (the operator is over 25 feet (7.6 meters) from or out of sight of the industrial truck), the brakes are set, the mast is brought to the vertical position, and forks are left in the down position, either:
 - The power shall be shut off and, when left on an incline, the wheels shall be blocked;
 - The power may remain on provided the wheels are blocked, front and rear.
- When the operator of an industrial truck is dismounted and within 25 feet (7.6 meters) of the truck which remains in the operator's view, the load engaging means shall be fully lowered, controls placed in neutral, and the brakes set to prevent movement.

EXCEPTION: Forks on fork-equipped industrial trucks may be in the raised position for loading and unloading if the forks are raised no more than 42 inches above the level where the operator/loaders are standing and the power is shut off, controls placed in neutral and the brakes set. If on an incline, the wheels shall be blocked.

- Vehicles shall not be run onto any elevator unless the driver is specifically authorized to do so. Before entering an elevator, the driver shall determine that the capacity of the elevator will not be exceeded. Once on an elevator, the industrial truck's power shall be shut off and the brakes set.
- Motorized hand trucks shall enter elevators or other confined areas with the load end forward.
- Vehicles shall not be operated on floors, sidewalk doors, or platforms that will not safely support the loaded vehicle.

- Prior to driving onto trucks, trailers and railroad cars, their flooring shall be checked for breaks and other structural weaknesses.
- Vehicles shall not be driven in and out of highway trucks and trailers at loading docks until such trucks or trailers are securely blocked or restrained and the brakes set.
- To prevent railroad cars from moving during loading or unloading operations, the car brakes shall be set, wheel chocks or other recognized positive stops used.
- The width of one tire on the powered industrial truck shall be the minimum distance maintained from the edge by the truck while it is on any elevated dock, platform, freight car or truck.
- Railroad tracks shall be crossed diagonally, wherever possible. Parking closer than 8 1/2 feet from the centerline of railroad tracks is prohibited.
- Trucks shall not be loaded in excess of their rated capacity.
- A loaded vehicle shall not be moved until the load is safe and secure.
- Extreme care shall be taken when tilting loads. Tilting forward with the load engaging means elevated shall be prohibited except when picking up a load. Elevated loads shall not be tilted forward except when the load is being deposited onto a storage rack or equivalent. When stacking or tiering, backward tilt shall be limited to that necessary to stabilize the load.
- The load engaging device shall be placed in such a manner that the load will be securely held or supported.
- Special precautions shall be taken in the securing and handling of loads by trucks equipped with attachments, and during the operation of these trucks after the loads have been removed.
- When powered industrial trucks are used to open and close doors, the following provisions shall be complied with:
 - A device specifically designed for opening or closing doors shall be attached to the truck.
 - The force applied by the device to the door shall be applied parallel to the direction of travel of the door.
 - The entire door opening operation shall be in full view of the operator.
 - The truck operator and other employees shall be clear of the area where the door might fall while being opened.

Seat Belts

When provided by the industrial truck manufacturer, an operator restraint system such as a seat belt shall be used.

- Where a suspended seat is used, the seat belt shall be fastened to the movable portion of the seat to accommodate ride motion of the operator.
- The webbing material shall have a resistance to acids, alkali's, mildew, aging, moisture, and sunlight equal to or better than that of untreated polyester fiber.

Overhead Guards

- High-lift rider industrial trucks shall be equipped with overhead guards.
- Every high-lift rider truck shall be fitted with an overhead guard.

- The operator shall be protected from all overhead hazards other than falling loads.
- Canopy-type overhead guard frames shall be braced to overhead members on each side of the frame to provide structural rigidity both longitudinally and transversely.

Elevating Employees

Where a lift truck is used to elevate personnel, the operation shall comply with Cal-OSHA regulations.

- A work platform shall be used in accordance with the following conditions:
- The platform shall be of sufficient size to accommodate the personnel and material being elevated but not less than 2 feet by 2 feet.
- Where the platform is not attached to the boom, the base of the platform shall be secured to the forks or the base of the fork carriage to prevent tipping, slipping or falling.
- The platform shall meet the guardrail and toe board requirements of Cal-OSHA

Exception: Guardrails need not be provided where a clearance restriction or the nature of the work prohibits the use of guardrails, provided that a safety belt with lanyard, or harness with lanyard is used.

- The platform floor shall have no spaces or holes greater than one inch.
- The platform floor shall have a slip resistant surface.
- Lift trucks used to elevate personnel shall be equipped with a means to prevent the raised platform from lowering at a rate in excess of 135 feet per minute in case of a failure in the load supporting hydraulic control circuits.
- Where the truck is operated under conditions which expose the operator to danger from falling objects, the truck shall be equipped with overhead protection.
- There shall be an operator in the control position on the truck while employees are on the elevated platform.
- When a truck is equipped with vertical only, or vertical and horizontal controls that elevate with the lifting carriage or forks (upper controls), means shall be provided whereby personnel on the platform can shut off the motive power of the truck.
- Means shall be provided to render inoperative all operating controls other than those on the elevating platform when the controls on the elevating platform have been selected for use. Only one location of controls shall be capable of being operated at one time.
- All bridge cranes and other moving or motorized equipment which could overrun or otherwise injure the elevated worker shall be shut down or locked out.
- Personnel shall not sit, climb or stand on the platform guardrails or use planks, ladders or other devices to gain elevation.
- When elevating personnel, the lift truck operator shall:
 - Use a securely attached safety work platform.
 - Make sure the lifting mechanism is operating smoothly.
 - Make sure that the mast is vertical if the lift truck is equipped with a mast. The mast shall not be tilted forward or rearward while persons are elevated.
 - Place the truck in neutral and set the parking brake when the truck is stationery.

- Lift and lower personnel smoothly and with caution.
- Make sure the path of the work platform travel is clear of hazards such as projections, overhead obstructions, and electrical wires.
- Never travel with personnel on the work platform other than to make minor movements for final positioning of the platform.

Exception: Minor movement of a variable reach (boom type) rough-terrain lift truck is permitted for construction operations when positioning the platform along a straight line where the path of movement is free from excavations, holes, obstructions and debris.

- Where a variable reach (boom type) rough-terrain lift truck is used to elevate personnel, the operation shall comply with the following conditions, in addition to the requirements of this section:
 - If the lift truck is provided with a load chart for elevating personnel, the work platform shall be loaded and positioned within the limitations on the load chart.
 - If the lift truck is not provided with a load chart for elevating personnel, the combined weight of the work platform, load, and personnel shall not exceed one third of the rated capacity of the rough-terrain lift truck at the load center position as indicated on the load chart for regular loads.
- The rough-terrain lift truck shall be placed on firm footing. When used, outriggers or stabilizers shall be placed on a solid surface. If necessary, pads or cribbing shall be used to provide a firm footing.
- Each person on a work platform supported by a variable reach rough-terrain lift truck shall use a personal fall restraint system or positioning device system:
 - A lanyard shall be attached to each person's harness or safety belt and to an anchorage provided on the work platform.
 - Anchorages shall be capable of supporting the greater of 3000 pounds or twice the intended load. Each person's lanyard shall be attached to an approved anchorage point.
 - For positioning device systems, the combination of anchorage location and lanyard length shall be arranged so that workers cannot fall more than two feet from the work platform.
 - For personal fall restraint systems, the combination of anchorage location and lanyard length shall be arranged to allow the movement of employees only as far as the sides of the work platform.
- When elevating personnel with a variable reach rough-terrain lift truck, the operator shall:
 - Maintain the platform at level throughout the personnel lifting operation.
 - Alert elevated personnel before moving the platform, then move the platform smoothly and with caution.
 - Never travel with personnel on the work platform.

Exception: Minor movement of the lift truck is permitted for construction operations when positioning the work platform along a straight line where the path of movement is free from excavations, holes, obstructions and debris.

- Level the lift truck before elevating personnel when operating on a side slope.

Operator Platforms

Every end control, reach, narrow aisle and motorized hand/rider truck shall be equipped with an operator platform of sufficient size to contain the operator's feet within its periphery and strong enough to withstand a compression load equal to the weight of the loaded truck applied longitudinally against a flat vertical surface. When installed, operator enclosures shall not restrict movement to and from the operating position.

Back Guards

The side of the platform nearest the mast frame truss shall be guarded on every high-lift industrial truck where employees ride up or down. This guard shall consist of a substantial frame covered with 1/2 inch expanded metal, laminated safety glass or equivalent providing effective guarding to a height of 7 feet.

If the type of load presents a hazard, high-lift industrial trucks shall be equipped with a load backrest extension high enough to reach above the center of the top row of the maximum height load handled or other positive means acceptable to the Division shall be used to prevent parts of the load falling onto the operator or into the operator's compartment. The openings shall not be greater than the smallest parcel carried.

Rated Capacity

The rated capacity of all industrial lift trucks and industrial tractors shall be displayed at all times on the vehicle in such a manner that it is readily visible to the operator. Industrial lift trucks and industrial tractors equipped with forks shall not be loaded beyond their designated capacity.

Brakes and Warning Devices

- Every industrial truck and tractor shall be equipped with brakes or other effective devices adequate to bring the vehicle to a complete safe stop while fully loaded.
- Every industrial truck and tractor shall be equipped with a parking brake or other effective device to prevent the vehicle moving when unattended.
- Every industrial truck and industrial tow tractor, except those guided or controlled by a walking operator, shall be equipped with a warning horn, whistle, gong, or other device which can be heard clearly above the normal industrial noises in the places of employment.

Internal Combustion Engines

Internal combustion engine-driven equipment shall be operated inside of buildings or enclosed structures, only when such operation does not result in harmful exposure to concentrations of dangerous gases or fumes.

Maintenance of Industrial Trucks

Industrial truck repair operations involving open flames or which may produce sparks or other sources of ignition shall not be performed in Class I, II and III locations. Such precautions could include, but not be limited to removal of flammable material, provision for adequate ventilation, etc.

Changing and Charging Batteries

Employees charging and changing batteries shall be authorized to do the work, trained in the proper handling, and required to wear protective clothing, including face shields, long sleeves, rubber boots, aprons, and gloves.

Location

- Battery charging installations must be located in areas designated for that purpose.
- Racks and trays shall be substantial and shall be treated to make them resistant to the electrolyte.
- Floors shall be of acid resistant construction unless protected from acid accumulations.
- Facilities must provide for: flushing and neutralizing spilled electrolyte, fire protection, protection of charging apparatus from damage by trucks, adequate ventilation for dispersal of fumes from gassing batteries.
- Precautions must be taken to prevent open flames, sparks, or electric arcs in battery charging areas.
- Charging apparatus shall be protected from damage by trucks.

Ventilation

- Adequate ventilation shall be provided during charging.
- Batteries of the unsealed type shall be located in enclosures with outside vents or in well ventilated rooms and shall be arranged so as to prevent the escape of fumes, gases, or electrolyte spray into other areas.
- Ventilation shall be provided to ensure diffusion of the gases from the battery and to prevent the accumulation of an explosive mixture.

Safety

- Only designated persons shall change or charge batteries.
- Face shields, aprons, and rubber gloves shall be provided for workers handling acids or batteries.
- Facilities for quick drenching of the eyes and body shall be provided within 25 feet (7.62m) of battery handling areas.
- Facilities shall be provided for flushing and neutralizing spilled electrolyte and for fire protection.
- When a jumper battery is connected to a battery in a vehicle, the ground lead shall connect to ground away from the vehicle's battery.
- Ignition, lights and accessories on the vehicle shall be turned off before connections are made.
- Smoking and other ignition sources are prohibited in charging areas.
- Carboy tilters or siphons shall be used to handle electrolyte in large containers.
- Battery handling equipment which could contact battery terminals or cell connectors shall be insulated or otherwise protected.
- Metallic objects shall not be placed on uncovered batteries.
- Installed batteries shall be secured to avoid physical or electrical contact with compartment walls or components.

Charging

- When batteries are being charged, the vent caps shall be kept in place to avoid electrolyte spray.
- Vent caps shall be maintained in functioning condition.
- Filler caps shall be in place when batteries are being moved.
- Parking brakes shall be applied before batteries are charged or changed.
- Batteries shall be free of corrosion buildup and cap vent holes shall be open.
- Chargers shall be turned off when leads are being connected or disconnected.

APPENDIX A

SAMPLE

Power Industrial Truck Operator's Daily Checklist

Date		Operator	
Truck#		Model#	
Department		Serial#	
Shift		Hour Meter	

SAFETY AND OPERATIONAL CHECKS (PRIOR TO EACH SHIFT)

Have a **qualified** mechanic correct all problems.

Engine Off Checks	Monday	Tuesday	Wednesday	Thursday	Friday
Leaks – Fuel, Hydraulic Oil, Engine Oil or Radiator Coolant					
Tires – Condition and Pressure					
Forks, Top Clip Retaining Pin and Heel – Check Condition					
Load Backrest – Securely Attached					
Hydraulic Hoses, Mast Chains, Cables and Stops – Check Visually					
Overhead Guard – Attached					
Finger Guards – Attached					
Propane Tank (LP Gas Truck) – Rust Corrosion, Damage					
Safety Warnings – Attached (Refer to Parts Manual for Location)					
Battery – Check Water/Electrolyte Level and Charge					
All Engine Belts – Check Visually					
Hydraulic Fluid Level – Check Level					
Engine Oil Level – Dipstick					
Transmission Fluid Level – Dipstick					
Engine Air Cleaner – Squeeze Rubber Dirt Trap or Check the Restriction Alarm (if equipped)					
Fuel Sedimentor (Diesel)					
Radiator Coolant – Check Level					
Operator's Manual – In Container					
Nameplate – Attached and Information Matches Model, Serial Number and Attachments					
Seat Belt – Functioning Smoothly					
Hood Latch – Adjusted and Securely Fastened					
Brake Fluid – Check Level					
Engine on Checks – Unusual Noises Must Be Investigated Immediately					
Accelerator or Direction Control Pedal – Functioning Smoothly					
Service Brake – Functioning Smoothly					
Parking Brake – Functioning Smoothly					
Steering Operation – Functioning Smoothly					
Drive Control – Forward/Reverse – Functioning Smoothly					
Tilt Control – Forward and Back – Functioning Smoothly					
Hoist and Lowering Control – Functioning Smoothly					
Attachment Control – Operation					
Horn and Lights – Functioning					
Cab (if equipped) – Heater, Defroster, Wipers – Functioning					
Gauges: Ammeter, Engine Oil Pressure, Hour Meter, Fuel Level, Temperature, Instrument Monitors – Functioning					

SAMPLE