



POWERED INDUSTRIAL TRUCKS AND HIGH-TEMPERATURE APPLICATIONS



Make an informed decision on the use of “fire-resistant” hydraulic fluids used in powered industrial trucks working in applications involving high temperatures.

IMPROPER USE OF POWERED INDUSTRIAL TRUCKS

in applications involving high temperatures may result in fires causing serious injury to personnel and damage to property



Danger:

Improper use of powered industrial trucks in applications involving high temperatures.

What Can Happen:

Fire may result causing serious injury to personnel or damage to property.

How to Avoid Danger:

- Understand the limitations of the powered industrial truck “as equipped” and avoid improper use. Make an informed decision on the use of the “fire-resistant” hydraulic fluid such as water glycol. Never carry loads with temperatures in excess of 450 degrees Fahrenheit unless the truck is equipped with fire-resistant hydraulic media. Implement work practices that limit the duration of contact between the powered industrial truck and high-temperature applications. Avoid contact between truck and ignition sources within the work environment. Follow the manufacturer’s inspections and maintenance recommendations.
- Hydraulic machines are those which utilize fluids, including petroleum, glycol, and water-based fluids under pressure, usually within cylinders and tubular lines, as a means of generating large forces necessary to accomplish industrial jobs. Hydraulic presses, rams, saws, mining and construction equipment, automobiles and trucks, and forklifts are a few examples of industrial hydraulic equipment.
- Petroleum oil is widely used and accepted as the fluid most preferred as hydraulic media because it gives long life to pumps, seals, and other componentry used in hydraulic machines to minimize maintenance costs and operating expenses. Oil is an excellent lubricant. Also, fluid levels and viscosity are easier to maintain. However, petrol oil can ignite and burn if permitted to come into contact with very hot surfaces, open flames, molten metal, and electric arcs that exist in many industrial work sites. If these conditions are present in your industrial worksite, you should consider using hydraulic media other than petroleum-based media in your powered industrial trucks. This is especially true in industrial sites involving aluminum or steel smelting or forging operations. However, other industrial sites such as wood or brick kilns and others (depending on the temperatures involved) may need to consider alternative hydraulic media.
- Powered industrial trucks can be adapted to utilize several different types of fire-resistant hydraulic fluids, including water glycol. Water glycol should always be the first consideration as a fire-resistant fluid in a powered industrial truck. Some minor special equipment must be installed on the forklift, and some additional maintenance, especially in maintaining water levels (due to evaporation), is necessary. Contact your Taylor representative for parts and instructions needed to convert an existing petroleum-based system to a water-glycol system. Never change back and forth between fluids without making the necessary equipment changes. Every industrial site should designate a knowledgeable person to investigate and make an informed decision on the use of fire-resistant hydraulic fluids instead of standard petroleum-based fluids in all industrial hydraulic equipment, including existing Taylor equipment or proposed Taylor equipment acquisitions.



Important:

It is important to remember that “fire-resistant hydraulic fluids” are just that... “fire-resistant;” they are not non-flammable or fireproof. If the ignition sources are high enough, they may ignite and burn. Therefore, even if using fire-resistant hydraulic fluids in industrial equipment, good judgment and common sense require taking other measures to avoid potentially dangerous situations. As found in OSHA 29 CFR 1910.178, federal law has since 1971 governed the use of powered industrial trucks in the workplace. These rules can be found in the appendices of the Taylor publication, *Safety Check*.

Operations of the Truck

(1) If at any time a powered industrial truck is found to be in need of repair, defective, or in any way unsafe, the truck shall be taken out of service until it has been restored to safe operating condition.

Maintenance of Industrial Trucks

(1) Any powered-operated industrial truck not in safe operating condition shall be removed from service. All repairs shall be made by authorized personnel.

All parts of any such industrial truck requiring replacement shall be replaced only by parts equivalent to safety with those used in the original design.

Industrial trucks shall not be altered so that the relative positions of the various parts are different from what they were when originally received from the manufacturer, nor shall they be altered either by the addition of extra parts not provided by the manufacturer...



(7) Industrial trucks shall be examined before being placed in service and shall not be placed in service if the examination shows any condition adversely affecting the safety of the vehicle. Such examination shall be made at least daily. When industrial trucks are used on a round-the-clock basis, they shall be examined after each shift. Defects, when found, shall be immediately reported and corrected.

While these rules apply to all powered industrial truck operations, they may be especially important to operations where high-temperature materials are transported. Hydraulic hoses may become worn and frayed over time, especially if subjected to high temperatures. They must be kept in a state of good repair. All hydraulic fittings must be kept tight and not allowed to leak. Extremely high temperatures may increase metal fatigue. The forks or other attachments may weaken. Steps can be taken in the operational process to shorten the duration of contact between the high-temperature load and the powered industrial truck. Rather than picking a high-temperature load and transporting it over a long distance with the powered industrial truck, consider placing the high-temperature materials on a trailer designed to carry high-temperature materials. Transport the high-temperature materials to their destination on the trailer and then unload them with a powered industrial truck. This process may prove to be not only safer but more cost-efficient.

As with all types of mobile equipment, numerous items on a powered industrial truck can ignite and burn if brought in close proximity to high temperatures. Rubber tires are just one example. Choose forklift travel routes not only with pedestrian safety in mind; also, remember to route powered industrial trucks away from high temperatures used in industrial operations.

Remember:

Powered industrial trucks can be used safely in applications that involve high temperatures, but only if good judgment is used.





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