

Discover how automatic lubrication leads to **Better & safer working conditions**

Modern operations call for modern lubrication methods

Industries such as construction, mining, and off-road mobile applications require frequent greasing operations to keep their machines in operation. Many companies still use manual grease guns to lubricate their heavy equipment. Manual lubrication is not only inefficient, it also compromises operator safety and environmental risk.

! Unsafe situations

Unsafe situations (climbing, crawling etc) due to hard-to-reach grease points

! Slipping

Slipping or falling due to lubricant spilled on floors or ladders

! Wounds

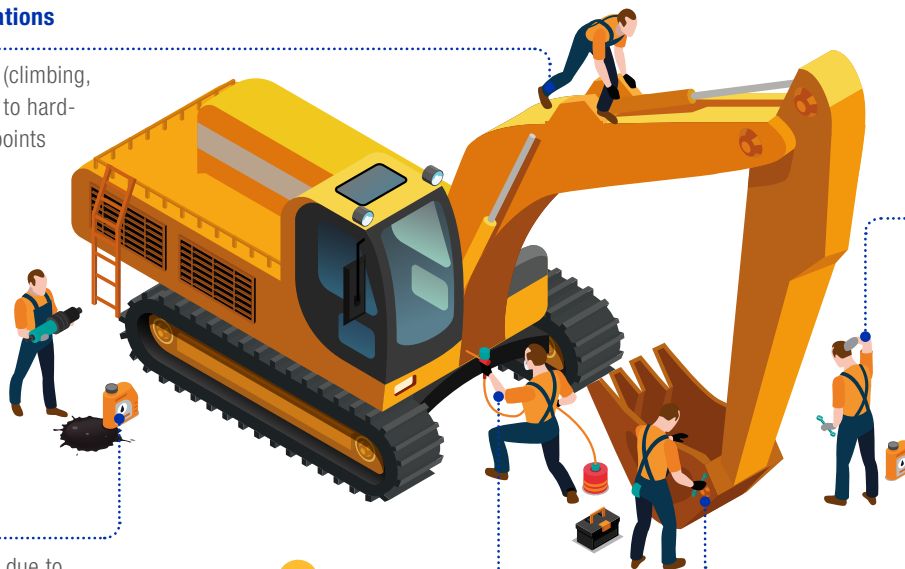
Injection wounds due to high pressure of grease guns (up to 15,000psi)

! Irritation

Irritation, itching, or skin rashes from prolonged exposure to lubricants

! Moving parts

Getting yourself or your tools caught between rotating or moving parts



Time to increase safety



Modern lubricants are specifically engineered in laboratories to provide exceptional linkage protection and high machine performance in some of the worst operating conditions imaginable. While the jump in lubricant technology has been great for fleet uptime

and utilization metrics, it also means **it is necessary to switch from old (manual) lubrication practices.** Technological innovation provides fleets and operators with more options to optimally lubricate their fleet and **increase safety and uptime.**

In detail: Inefficient & unsafe working conditions of manual lubrication

The manual process is considered to be 'fine' by many operators, manufacturers, and owners. But if it's the only way they've ever performed lubrication tasks, they're likely unaware of the inefficient and unsafe working conditions it causes.



1

Hard-to-reach grease points

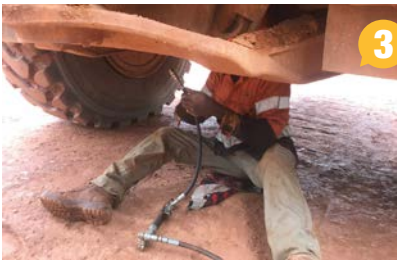
Grease points are spread all over heavy-duty equipment. They are at the bottom of the machine as well as all the way at the top of a boom arm. That means many grease points may be very difficult to reach with a manual grease gun. Technicians often have to **crawl under the machine or climb a ladder** to get access to a grease point, which compromises operator safety.



2

Dirty grease fittings or Zerk fittings

Given their position, many grease points **can't be visually checked for cleanliness**. This has consequences not only for operator safety but also for system performance. If dirty grease fittings aren't cleaned before manual greasing, dirt will be pushed inside the lubrication point. With dirt inside the bearing or bushing, wear will occur, compromising the lifespan of the equipment.



3

Operator fatigue

Operator fatigue is a critical safety issue in high-risk environments. With manual greasing taking up to an hour per machine, it can be an **exhausting job**. That's why many operators choose to use a battery-powered grease gun. Although it makes the job easier, it also has a downside. With the power and ease of use, operators lose the feedback to 'feel' whether a grease point is blocked or if the linkage is appropriately greased.



4

Waste of grease

Many lubrication technicians treat **lubricating as a purging operation**: Fresh grease goes into the grease fitting until 'clean' grease flows out somewhere else. By doing this, the contaminants are presumed to be flushed out of the system. However, this wastes a lot of grease. Using too much grease is not only a waste of material, it also risks violating environmental and safety laws.

Automatic lubrication is the answer

An automatic lubrication system **consistently dispenses accurate doses of lubricant**. This increases equipment life and extends machine performance, reducing the maintenance and repair

frequency and leading to minimal downtime. More importantly, by greasing during equipment operation, automatic lubrication **increases workers' safety and reduces other environment-related risks**.

AUTOMATIC LUBRICATION

Refilling: A closer look at the fast & safer maintenance options of automatic lubrication

Just like any machine, automatic lubrication systems require periodic attention, from refilling to ensuring the system is operating as expected. Most auto lube reservoirs are mounted high on heavy off-road equipment to keep them out of harm's way. This means refill technicians may have to climb to get access to the reservoir for preventive maintenance. With reservoirs mounted at a great height, it's often a risky challenge to reach the reservoir, and in some cases it is difficult to tell when the reservoir is full.

Automatic lubrication offers a variety of solutions to overcome this issue:



Clear reservoirs within line of sight

Some auto lube systems use clear reservoirs within line of sight of the ground-level fill port. That makes it easy for the refill operator to see when to stop the refill operation in order to avoid spilling or overfilling the reservoir.



Overfill hoses

In cases with steel reservoirs, some systems use an overfill hose to allow the excess grease to flow out of the reservoir and into a bucket to alert the refiller that the reservoir is full.



Automatic fill shut-off

These systems automatically stop the flow of grease when the reservoir is full. The operator does not need to see the grease level and no overfill hoses are required. These systems reduce the risk of pressurizing the grease reservoir or wasting grease.

Automatic fill shut-off at ground level: the safest, most efficient solution



On very large machines, it is common for a refiller to **climb a ladder or stairs with a fill hose** to connect to the reservoir. By carrying a hose, the refiller automatically loses the use of one hand which they should be using to safely maintain three-point contact when moving to the reservoir.



To make refilling safer, Graco offers automatic lube systems with automatic fill shut-off and ground-level refilling options for both electric and hydraulic pump auto lube systems. Graco's solutions work mechanically, meaning a single person can **safely refill the reservoir at ground level**, without the machine being electrically powered.

CONCLUSION

Automatic lubrication leads to healthier & safer working conditions



Many fleets require their machines to be lubricated once per shift, which can take up to an hour for the operator to complete. In most cases that means shutting down the machine and thus sacrificing productivity. Above all, this method is **exhausting for the operator and it wastes a lot of grease**. The **risk of wear is also high**, as an operator can't always visually check whether a Zerk fitting is clean or clogged.

Beyond manual, air-powered or battery-powered grease guns, fleets can choose automatic lubrication systems that lubricate while the machine is in operation, **reducing — and even eliminating — operator fatigue and downtime**. Because equipment may be massive, with components that are not easily accessible, it is important to make refilling as efficient and safe as possible. An **automatic lubrication system with automatic fill shut-off** and ground-level refilling options is your best option.

Discover our other journals on automatic lubrication

- 1 Extended equipment lifetime
- 2 Less downtime & higher productivity
- 3 Reduced costs & higher ROI



**ALWAYS ON.
ALWAYS INNOVATING.**

Graco manufactures automatic lubrication systems specifically designed for yellow iron construction and mining equipment. Our systems provide certainty for today's modern equipment manufacturers, managers, and operators seeking continuous uptime and optimal productivity from the machines they rely on daily.

For more information on automatic lubrication for heavy equipment, go to www.graco.com/heavyequipment

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