



## Inspection of Single-Point Lubricators

Automatic lubricators have become an expected method of lubricating critical pumps, conveyors, fans and blowers in manufacturing facilities today. These remarkable devices provide a number of benefits including worker safety, reduced production downtime, and extended equipment life to name a few. But while they offer these benefits and do their job with little to no user interaction, they still need to be periodically inspected.

### Why inspect?

Periodic inspections help to ensure that your automatic lubricators are effective and working properly to meet your performance expectations. This is especially important after the initial installation. You may find that by injecting a small amount of fresh grease at regular intervals, you will need less amount than when manually lubricating with a grease gun. Inspection becomes even more important if the single-point lubricator will be exposed to an adverse environment.

**Environment** - Exposure to water, high or low temperatures and vibration can have unfavorable effects on a single-point lubricator.



**Water** - Exposure to direct sunlight, rain, or snow, equipment wash-down or wet manufacturing environments can cause problems if the moisture gets into the internal electronics. Protective covers should be used.



**High Temperatures** - Elevated temperatures can cause the oil to separate prematurely from the thickeners in some greases. This separation can create a blockage in lube lines and in the bearings. High temperatures can also speed-up gas generation in electrochemical lubricators.



**Low Temperatures**- The base-oil viscosity increases with the exposure to colder temperatures. This reduces the flow ability of grease and can cause a single-point lubricator, depending on the design, to dispense reduced volumes of lubricant or stop dispensing altogether. Be sure to know the operating temperature range of the lubricator and lubricant prior to installation.



**Vibration** - Constant vibration can also cause the oil to separate prematurely from the thickeners and create blockages. In addition, high vibration can damage internal components in some single-point lubricators. We recommend installing the lubricator remotely, away from the vibration source.



**Location** - When remotely installing the lubricator and lube lines it's important to locate them in protected areas. Lube lines and fittings can become damaged, interrupting the lubricant supply to the lube point. They should be regularly inspected.

## Who should inspect?

These inspections should be done by trained personnel who are familiar with the type, operation, and the check function of their lubricators.

**Types & Operations** - there are three basic types of single-point lubricators:

- **Spring-Loaded** - These units operate by using a compressed spring to push the grease into a lube point. They have been around for decades but over the years have been superseded by more advanced and more reliable lubricator technology.
- **Electrochemical** - These lubricators rely on a chemical reaction to generate a gas at a controlled rate. As the volume of gas increases, it pushes on a piston located behind the lubricant reservoir and dispenses the lubricant into the lube point.
- **Electromechanical** - There are a few different designs of this type of lubricator. Some, like the MEMOLUB®, have a positive displacement pump design that dispenses a metered amount of lubricant at a controlled rate. Others operate very similar to the electrochemical type, only instead of using gas they use a mechanical drive to advance the piston. Both sub-types of electromechanical lubricators can be battery or externally powered.

## What should you inspect?

When inspecting single-point lubricators in the field, here are some areas to check:

- **Lubricant Reservoir** - You should always check the lubricant level of the single-point lubricators. Most types have visual access to the lubricant reservoir. If the lubricator is set on a long dispense rate, it might not always be apparent that it is dispensing lubricant because the piston is moving at such a slow rate. One “low tech” way to verify the lube level is decreasing is to put a hash mark on the housing each time you make an inspection.

- **Lubricant Lines & Fittings** – Check to ensure the lubricant lines and fittings are still attached. If you see lubricant pooling near the single-point lubricator or at the lube point, it is an indication that a fitting or lubricant line is damaged. If excess lubricant is found around the bearing seal the lubricator maybe over lubricating and need to be reset.
- **Visual Indicators** – Some lubricator types have blinking lights or LCD screens that indicate the electronics are functioning correctly. Other types use more reliable mechanical means to verify operation. The MEMOLUB®, for example, has a check function where you simply depress any one of three contact pins located at the base of the lubricator to test-cycle it.

## How often should you check?

The recommended frequency of inspection is based on several factors, including:

- **The critical nature of the equipment** – Often single-point lubricators are installed on critical pieces of equipment and should be inspected on a regular PM schedule.
- **The lubricator dispense rate** – If the single-point lubricator is set to dispense lubricant over a 1 to 6 month period it should be inspected on a weekly basis. If the single-point lubricator is set to dispense from 6 to 12 months, it can be scheduled at a longer time interval.
- **Comfort level** – After the initial installation of the single-point lubricator you should check them on a regular basis. As you become familiar with how your single-point lubricator works and begin to trust its reliability, you can adjust your schedule accordingly.

## Summary

Single-point lubricators have been widely used for years to lubricate industrial equipment reliably and economically all over the world. And technological advancements have made them more versatile and dependable than ever. Of course, the greatest risk in using them is failure to inspect them. So, the take-away here is that they should be inspected regularly just like any other piece of equipment.

To discuss our full line of automatic lubrication products, contact:

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