



Automatic Lubrication: Your Best Defense Against Downtime

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Buffalo NY - The battle against downtime is never-ending for sawmill managers. Unscheduled downtime is a worst-case scenario, costing mills in the neighborhood of \$500 a minute. But the best defense against unplanned failures, regular lubrication service, is itself a costly effort. Safety dictates a complete shutdown anytime crews approach the machinery to perform a grease service. In most manually greased mills, these service shutdowns occur several times daily. It's for this reason that a growing number of mills are updating to automatic lubrication systems to keep their equipment up and running for more hours every day.

The daily challenge of grease service

The largest challenge with traditional lubrication methods is simply getting access to the grease points. To begin with, the complete line is cordoned off by safety fences. OSHA demands that no one crosses the fence while the equipment is running. Once it's powered down, crews have to locate and connect to grease nipples that are often buried deep within a complex arrangement of machinery. Some equipment manufacturers are taking steps to make their zerks more accessible, but some awkward and hard to reach zerks are probably still the rule in your mill.

The size of the machinery in a large facility is another obstacle. Technicians will often have to bring in a ladder or an aerial lift, and will have to hook up safety harnesses before they can service a grease point. Elsewhere, they may have to crawl under the machine to do the job.

The mere number of service points throughout the mill can also be daunting. Along with saws and other cutting equipment, service is especially needed for carriers, sorting machines and transport chains. A typical sawmill or OSB plant will have up to 2,000 service points to cover. Mobile equipment that manages the wood yard and loads the feed deck is also part of the process. Any bearing failure on any one machine will mean an unscheduled stoppage in production.

Finally, manual servicing for both mill machinery and mobile loaders is subject to simple errors. Zerks may be skipped or overlooked; service points may be under greased (which is essentially the same as not greasing at all), or they may be over greased, which creates spills leading to fire hazards and to slip and fall liabilities.

Simplify to improve safety, reduce downtime

Autolube systems are gaining popularity because they virtually eliminate all of those issues. Automatic lubrication solves your accessibility and safety issues, while dramatically reducing service downtime on a



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daily basis. It can, in effect, increase the mill's production capacity and order response cycle without the expense of expanding the facility.

But autolube also does more than just simplify grease servicing. The pump that powers the system is calibrated to deliver precise doses of grease or oil matched specifically to the machine. Dosing intervals are much more frequent than manual servicing can provide, ensuring consistent level or lubrication throughout the operating cycle. The grease film on the bearing is constantly serving its role as the wear surface for the bearing. The machine uses up grease instead of metal, so the life of the machine will be appreciably longer. The pump never "forgets" a service point, and never delivers excess grease to spill onto the machine surface or onto the floor.

Lubricating on the run

A key difference between automatic and manual lubrication is that autolube lubricates while the machine is operating. As a result, all bearing and wear surfaces are covered equally. As outlined by Dave McDougall, Product Manager for BEKAWORLD LP, a machine that's shut down doesn't need to be greased; a machine needs grease while it's running!

Along with continuous lubrication, today's autolube systems also maintain a consistent watch on the status of your service points. Monitors and alarms are built into the lubrication circuits at every distribution block and every grease nipple, so maintenance staff are alerted immediately if any part of the machine is not getting the service it needs.

Upgrading your facility to automatic lubrication involves designing grease circuits to reach each zerk, installing the conduit and connecting all the fittings. The "progressive" circuits from BEKAWORLD will also include a number of distribution blocks, which individually control the flow of lubricant to the branch circuits they feed. A lubrication pump supplies all of the lines in the circuit. Proper installation is painstaking and, at first look, it's a costly process threading and securing all the lines through the machinery, avoiding pinch points and completing each connection by hand. Simple analysis shows, however, how quickly an autolube system can pay back your investment.

Making autolube affordable

Your investment in autolube becomes affordable, firstly, with every-day savings in downtime and energy costs and then, in the longer term, by longer equipment life, improved competitiveness and the ability to stage your installation over multiple budget periods.

According to studies done by BEKAWORLD, downtime savings are easily the most significant and most immediate. As soon as the autolube system is activated, you put an end to the daily routine of service shutdowns. The time you once spent to power down, complete your greasing routine, recompress your hydraulics and run up to speed again is now devoted to uninterrupted production time. The increase in machine availability and throughput must be evaluated individually by each mill, but the potential is to add thousands of dollars per day to your bottom line.

Consistent, in-motion lubrication means smoother operation for and a reduced draw on power to operate conveyors, chain drives and hydraulics. Research indicates that lower energy costs also begin to recover your autolube investment from day one.

Many mills take a prudent approach to bearing failures, replacing all bearings in the line at the same time whenever a single bearing drops out. With consistent, accurate lubrication, the mean time between



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bearing failures is greatly reduced. You save on the part costs for replacement bearings, and save even more by reducing a major stoppage in production while the bearings are replaced. The same is true of chain drives and transports. Continuous cleaning and oiling with your autolube will reduce friction and wear on chains and slide ways, so that means that their replacement intervals are also extended. Consider that the cost to replace a drive is typically upwards of \$2,500 for the parts alone, plus downtime and labor to install, and you can start to see the value of installing automatic lubrication instead almost immediately.

Additional benefits begin to appear downstream of the saving in operating costs. Less downtime and increased capacity make a more reliable source for buyers, better equipped to meet just-in-time needs of the customer. A more agile response to customer orders and lower operating costs create the opportunity to be more competitive and win new business with no other changes to your operation.

Flexible choices for deploying autolube

As you consider your way forward, you'll find that autolube systems are readily adaptable to your maintenance and capital budgets. BEKAWORLD can help you to plan your upgrade in stages. You can deploy part of your lubrication solution now, and use the savings to cover the cost of expanding the autolube circuits later.

A number of choices are available to large facilities. For example, a BEKA-MAX complete progressive system uses one pump to feed all the lubrication circuits through its network of distributors and service points. However, it can be developed to begin small, by upgrading the machine or process that has the most trouble with bearings dropping out, or the area that incurs the greatest downtime cost. When your next budget period arrives, the initial circuits may be extended to serve additional machines and carriers.

An alternative to this arrangement is a sectional system. It will resemble a progressive system, except sections of the mill equipment are isolated from each other. One pump serves each of the sections in sequence, so it is never required to supply the entire process at the same time. For example, in an OSB plant, one lube section might service the press, while a second circuit supports the feeder, and a third section serves the packaging line. By treating each section separately, BEKAWORLD can scale down the size and cost of the system components accordingly.

Many of the advantages of a progressive system can be achieved without the use of a grease pump at all. A single-point lubrication system is designed and installed with the same grease lines, distribution blocks and service point connectors as a full autolube system. However, instead of a pump, a service technician pumps the grease in manually through a central grease nipple. This approach is especially useful when budgets are tight. A system of single-point circuits can be installed over time, and then pulled together with an automatic pump at a later date. In the interim, the single-point system will save time and simplify access to multiple grease service points in one stop. With the circuit's central service point located outside of the equipment's safety fence, technicians can perform their service rounds without interrupting production!

Autolube for now and the future

Ensuring safety is paramount in every sawmill. But this necessity is also a key factor in the daily downtime that limits the productivity of the mill. Automatic lubrication is a solution that keeps personnel out of harm's way while it optimizes service intervals for your machinery, reduces operating costs and increases throughput. With experienced support from a qualified autolube vendor like BEKAWORLD, you can plan



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for a complete, integrated automatic lubrication system that's affordable now and will earn dividends on every front in the long term.

About the authors

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With engineering and manufacturing based in Germany, BEKA is a leading global brand for OEM and aftermarket lubrication technologies.



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