

The Missing Link



Lubrication systems keep chains up and running

By Mike Deckert

Several leading factors contribute to accelerated chain wear, including incorrect chain selection and installation, inadequate chain tension, environmental exposure and, of course, improper lubrication. In fact, according to chain manufacturers, 70 percent of all failures are a direct result of some form of improper lubrication. Below are a few considerations regarding various lubrication methods.

• **Traditional manual lubrication.** Manual methods of chain lubrication can allow for visual inspection of the chain. However, this can also be time-consuming and lead to difficulty in maintaining a production schedule. Worker safety can also become an issue. Choosing a lubrication system to lubricate the chain can positively impact production as this process can be done while the chain is in motion. By implementing lubrication systems, additional savings can also be realized through improved worker safety and better housekeeping and or procedures.

• **Spray or oil-mist systems.** With these spray or misting systems, the user can see the oil penetration into the metal-to-metal (pin) areas. This method can also be automated. However, proper set-up and maintenance of this type of system is key to the efficient application of oil. Failure in this can result in airborne volatile organic compounds, contamination of the workplace and high lube consumption.

• **Squirt systems.** Typical squirt systems offer low-cost material and installation benefits to the application of an automatic system. This system is primarily used in low-chain-speed applications due to the timing sequence required between the activation of the dispense valves and application of the oil onto the pins. Improper set-up can result in inconsistent

application of the lube, over-lubrication and contamination of the workplace.

• **Automated metering valves and pump systems.** Another low-cost method that lends itself to automation is the use of positive displacement metering valves and pumps supplying oil to a brush or felt pad. This type of system eliminates the need for specific timing of lube dispensing. Care must be taken in mounting and location of the applicator — mounting brackets will need to be movable to allow for wear of the brush or felt. Dirt or dust can also build up on the applicator, contaminating the workplace or product. Whereas the spray and squirt systems both result in significant penetration of oil into the wear areas, the brush or felt applicators typically apply lube only to the exterior of the chain.

• **Drip feed, oil cup or sight feed lubricators.** Simple to operate and relatively low in cost, these can have the benefits of being both automatic and remotely mounted. When using any of these, particular attention must be paid to deciding the location of the units as controlling the dispense rate can be difficult. Oil viscosity and temperature can also become a factor in maintaining a consistent oil application. Some oilers are simple in nature or design, making it difficult to control the dispense amount or rate. This can ultimately lead to high lube usage or housekeeping, environmental and workplace-safety issues.

Any system will have advantages and disadvantages. It is up to the individual plant and maintenance professionals to determine what works best. **PEM**

Mike Deckert is vice-president of FLO Components in Mississauga, Ont. For more information, visit www.flocomponents.com.