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Basic Maintenance

Trains of any kind, regardless of whether they are prewar, postwar, or modern trains, represent a significant investment not only in money but also in time and care. A cherished train that was perfect out of the box also needs to be perfect 50 years later. I still have the first locomotive Santa brought me in the 1950s, and it runs just as well now as it did back then, perhaps even better. Basic maintenance and upkeep is the key. Lubricating trains is an important task that many consider to be so bothersome that they don't do it when it should be done. And no wonder. It's a pain to do and always makes a mess, right?

Well it sure doesn't have to be difficult, messy, or time-consuming. Selecting the right lubricants for the job and using the

right tools to get it done can make basic maintenance something you can actually look forward to doing. I'll help you out with some tips I've used over the years that make lubricating trains a process that actually enhances your enjoyment of the hobby.

An important thing to learn early on relates to what type of lubricant to use and when to use it. Here are some guidelines.

- Oil is for moving parts that don't have a tendency to spray the lubricant around. That makes oil perfect for pickup roller axles and lousy for gear teeth. Oil is also good to use on rolling stock wheels that rotate around fixed axles, such as on postwar-type rolling stock.
- Grease is for gears and any other such heavy application. There are different kinds of grease to use for different kinds of gears, which I'll cover in a moment.
- Dry lubricants are for mechanisms such as those found in many operating accessories.

The first most important thing to remember about lubricating model trains is to get the lubrication to where it is needed and to make sure that it doesn't get anywhere else. That's not so easy to do when you are talking about gear teeth situated right beside the wheels, or even as part of the wheels, that go down the track. Getting lubricant on the gear teeth and having it stay on the teeth is the biggest





challenge. When it gets on the wheels, it gets on the rails. That's worse than having no lubricant at all.

The second most important thing to remember is to never over lubricate anything. Extra oil and grease makes for nothing but a mess.

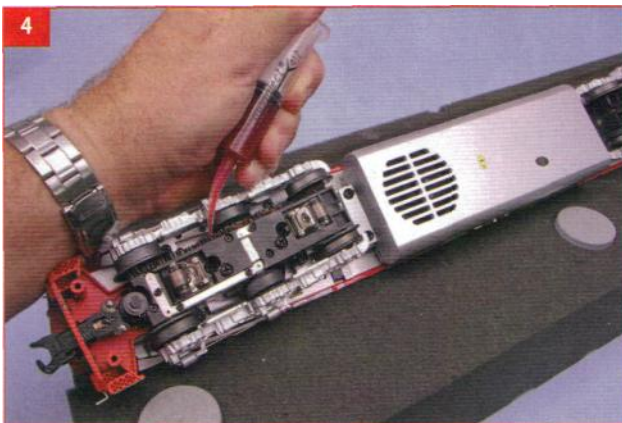
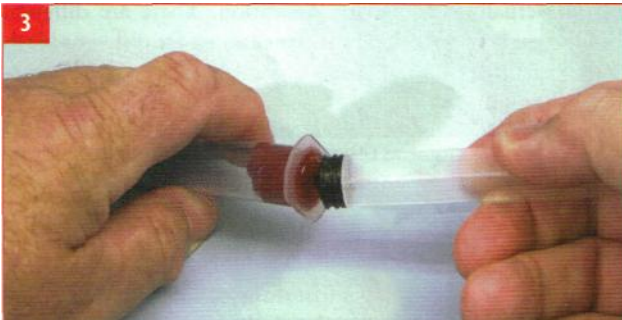
What Gets Grease, Which Kind of Grease, and Why

Shown in the upper left of Photo 1 is the only grease I use on exposed spur gears on locomotives. It does something that no other grease does. A spinning gear with Lucas Oil Products Red "N" Tacky #2 grease will somehow still retain the grease without letting it spin off. No other grease I've ever used has this feature. You can watch the grease spin away from the gear teeth in a "halo" effect, but not completely off the gear. When the gear slows down, the grease jumps right back onto the gear teeth. This is perfect for locomotives whose spur gear teeth are very close to the rail. The grease stays on the gear teeth and off the wheels and track. This product is available at most auto parts stores, or at www.lucasoil.com and browse retailers by zip code. The smallest size you can get is 14.5 oz for about five dollars, which means that one container will pretty much last you and all your train friends for a lifetime.

The way you apply the lubrication to the trains is just as important, if not more important, than the lubricant. Shown in Photo 2 is a plastic refillable syringe called the Monoject 412. It is a great tool to use for all kinds of things in our hobby, but none more important than applying grease. You can find it at www.kitkraft.biz on the Internet for \$1.89. Get a bunch of them. Once you have them on hand, you will constantly find new uses for them.

Removing the plunger and then loading some grease into the tube are very easy to do. Don't load more than a third of the tube with the grease (Photo 3), and keep the grease in the back of the tube when you load it. Insert the plunger directly against the grease so there are no air pockets and work the grease up the tube to the tip until it finally comes out. This eliminates all internal air pockets, allowing you to easily apply the finest, thinnest thread of grease right to the gear teeth without getting it anywhere else (Photo 4).

This handy tool is also perfect for loading grease through small screw holes into the gear cases of locomotive power trucks and steam engine drive chassis with internal gears, as shown in Photo 5. Lithium-based white grease such as Permatex White Lithium Grease (Photo 6), found in most auto parts stores, works perfectly



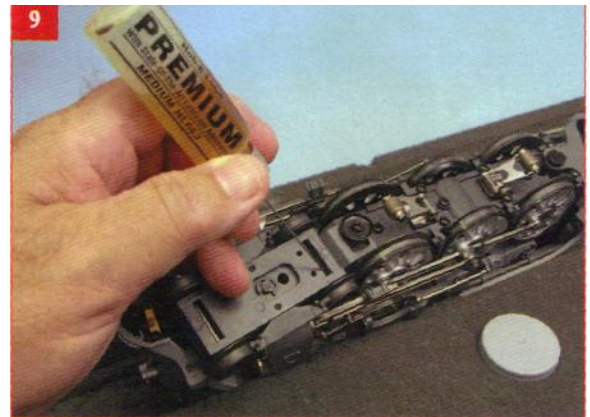
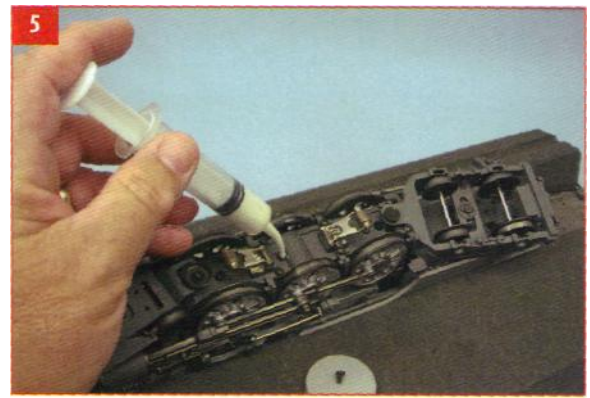
for this application. For less than four dollars, you can buy a 1.5 oz squeeze tube and load it into another Monoject 412 syringe. I use white lithium grease only when the grease will be totally enclosed, such as with the internal gearing in power trucks and locomotive chassis.

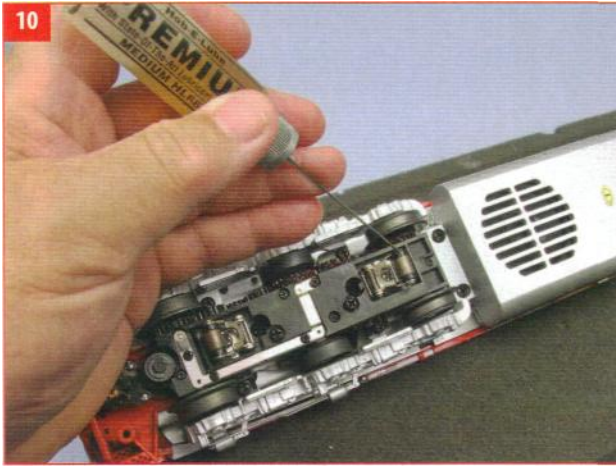
I keep several of these syringes around the shop, each loaded with different grease, and I also use them for other purposes such as for dispensing smoke fluid (Photo 7). Getting grease into the chassis is very easy thanks to these plastic syringes. Once again, how you apply the lubricant is just as important as what you apply.

Oil with an additive such as Teflon is perfect for postwar-style wheels that rotate around fixed axles. Even after the oil has gone, the Teflon deposits will continue to reduce friction on wheels and axles. Be sure to get only small needle-point oilers with Teflon additives—they can be found in hobby shops and hardware stores.

Another good oil product is Hob-E-Lube Premium Medium HL663 (Photo 8) available for about eight dollars at hobby and train shops. I like this stuff as much for the applicator as I do for the oil. Freight trucks with fixed wheel and axle sets do not need any lubricant, and none should be used on them. Using lubricating oil there results in little more than transferring oil to the track.

Lubricating guidelines change rather dramatically with the era the trains were made. Postwar engines follow different rules than later technology trains. As an example, small





wheels on the locomotive, such as pony truck or trailing truck wheels during the postwar era, frequently revolved around stationary or semi-stationary axles. This is already a higher friction situation than wheels fixed on a rotating axle where there is almost always less metal-to-metal contact.

A squeak in a fine new locomotive tends to ruin the nice effect of all those nice premium features. Adding just a single drop of oil where axles go through the frame is all you need to rectify that situation (Photo 9). Adding more drops just tends to make a mess of everything. Be sure to also carefully add a drop of oil to the collector rollers right at the point where the axle sticks out of the ends of the roller (Photo 10).

The same lubrication advice applies to rolling stock. It may not seem like much of an issue, but wheels that revolve around postwar-style axles are subject to much more friction than a pair of wheels that are fixed on a rotating axle and have tiny needle-point tips that rotate in Delrin plastic sockets. A single drop of oil on postwar wheels right at the axle is a must.

In addition, wheels rotating on a fixed axle are much more likely to pick up hair and carpet fibers than fixed wheel and axle sets. Small rotating wheels that don't want to turn freely certainly won't stop the engine, but they will almost always derail more frequently. That takes a lot of the fun out of model railroading.

Over Lubrication

Over lubricating brings with it a whole host of other problems. Too much lubricant can result in picking up dust, hair, and other foreign objects and turning the combination into a gunk that is worse than no lubricant at all. Using too much oil will result in getting oil on the track, which then causes a buildup of gunk on wheels right in the corner where the wheel meets the flange (Photo 11). If left alone, that gunk results in a buildup that can easily lift the wheel on curves or when passing through switches, resulting in persistent derailments. Another source for this gunk buildup on wheels is smoke fluid. Even though it isn't used as a lubricant, too much smoke fluid will result in smoke oil reaching the track, resulting again in gunk buildup on the wheels.

If dealing with a metal wheel that turns on a fixed axle, spinning the wheel with a Dremel tool with a rotating rubber tip attached, while carefully scraping the wheel's surface with a hobby knife, will remove die buildup gunk easily. That is a routine maintenance procedure that should definitely be performed every time a visual inspection reveals that die sharp inner corner has turned into a rounded inner corner. If the wheel is a fast-angle wheel with needle points, do not use this method because the needle point on the axle tips will usually damage the Delrin truck frame or needle-point pockets if you spin them with a Dremel tool. Instead, scrape the gunk off the wheels by hand (Photo 12).

Don't necessarily assume that trains fresh from the factory are all lubed up and ready to go. Although that is often the case, I've certainly seen a number of instances where brand-new premium locomotives arrived with no grease applied to the internal gears and little or none on the external gears. For some reason, squeaking axles on new steam locomotives are a common complaint. A touch of oil on the axle friction points of front or rear trucks should fix this problem. Always take a look at the instruction booklet that accompanies the locomotive, and you will see where to check for oil or grease. I say "check" because, if it is already there, don't do it again until it is actually needed.

That's it! It isn't complicated. You just need the right tools, the right lubricants, and the right techniques to do the job. Follow the guidelines above and you'll have done your part to keep those trains running forever.

