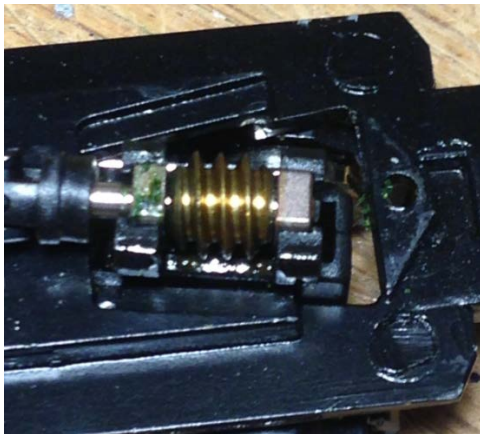


Engine Trouble

Submitted by Ernie Little

I have several locomotives in my railroad fleet that range from Athearn, Broadway Limited, Proto, Proto 2000, and Mikes Train House as the manufacturer. I take pride in my railroad and really enjoy working with it when everything is working properly. A few months ago I decided to perform maintenance on my locomotives in the form of cleaning, lubricating, and running them on the main line of my layout per the manufacturer's recommendations. Some of them hadn't been run in over a year and it was my opinion that they needed some exercise. The process was proceeding along nicely and I was enjoying seeing the locomotives perform as expected until I encountered my Proto 2000 SD60. When I placed it on the mainline and advanced the throttle it would not move properly. I could see that the decoder was working as the locomotive would begin to go the direction I had it set to go, however, it would not gain speed. Rather it made a noise that sounded like nylon gears stripping. As I worked a little additional gear oil into the gear boxes the locomotive began to move better however continued to make the noise. I was aware of a history of cracked drive gears in Proto 2000 locomotives but something in my mind seemed to be saying it wasn't a cracked gear but more like something causing a resistance to the gears movement. I proceeded to remove the locomotive's shell to gain better access to the gear boxes and attempted to run the unit with the shell removed. No difference in the sound but my thought of resistance to turning seemed to be reinforced. The SD60 is somewhat a challenge to get into the gear boxes as the locomotive needs to be almost completely disassembled in order to get the gearboxes out of them. At this point I turned to the internet and located a couple of forums that had discussions about the Proto 2000 problem. It was there, in one of the forums that I learned about older Proto 2000 units having a problem with the original grease lubricants drying out and caking causing run problems. With that in mind I proceeded to take the gear boxes out of the unit and found that this was my problem. Picture 1 shows one of the worm gears in the gear box on the locomotive and tells the story. If you look closely at pictures 1 and 2 you will see green discoloration which is corrosion caused by the poor quality lubricant. This corrosion caused significant resistance to the work gears turning properly



Picture 1



Picture 2

I proceeded to remove the work gear and drive shafts from the unit and clean them with alcohol until the corrosion was no longer present. Picture 3 shows the assembly after it was cleaned.



Picture 3

I then lubricated the gearboxes with appropriate grease and oil, per the manufacturer's recommendations, and put the locomotive back together.