

8/19/2013

Track Cleaning

APN Recommended Approach

INTRODUCTION

We are all aware that there are literally hundreds of methods to track cleaning. Many opinions exist with MMRs, clubs, owners of home layouts, and others for which each claim to have the best method, and are certain theirs is the only one to use. And, of course, for each method proposed, there are those that would shoot it down based on their opinions and experience. All that being said, we at APN needed a consistent cleaning method which best fits our current situation.

Your Operations Committee was assigned the task of developing a track cleaning procedure for APN. Rich Cutler accepted the lead in this effort conducted in 2008. In early 2008, we tested various methods for cleaning and chemicals or non chemicals to use. From those tests APN developed an approach which was endorsed by the Operations Committee and the membership in mid-2008. Like any procedure or program, this is track cleaning approach is effective only if done consistently.

SOME HISTORY and BACKGROUND

Some literature states that oxidation of track is a major problem in maintaining conductivity. Elsewhere the literature states that nickel silver oxidation is conductive. I personally have not found either to be entirely true. Crud appears to be the real issue. Crud is a mixture of dust, plastic wheels, oils, oxidation, etc. It gets so thick on loco wheels that the loco stops ‘dead in its track’ pun excused.

The other major track conductivity issue is the “dreaded dust”. Track oxidation impacts operation (with dust part of the culprit). Oxidation of nickel-silver track occurs but at a rate slower than that of the old brass track. You may have noticed the covered tunnels are not as much of an issue as the mainline or Industry Areas. Tunnels protect the track from dust. Also, the more you use the track, the fewer problems you will have. Thus Industrial Siding Areas are notorious for poor track conductivity unless someone is diligent and cleans these areas.

APN tried oil (endorsed by many) as a means to coat the rails and prevent oxidation and improve conductivity. This was a failure at APN. However, upon review, it was observed that too much oil was applied at APN. One half a bottle of Wahl Oil was used in a very short time, as to many members were applying without any control. As expected, the excess oil compounded the problem when mixed with the dust. Oil must be applied very, very sparingly to be effective per the literature. That one bottle should have lasted many years! In MMR, Don Bozman’s 30 years, he has hardly dented his only bottle of Wahl Oil. However, because of our experience with too many people applying

oil, and that there are other effective cleaning techniques, Oil is not to be used on APN track.

We have tried Bright Boys (rubber eraser with abrasive), and they should only be used sparingly and lightly on small areas only. They are abrasive and if used with too much force or excessively can scratch the track surface accelerating future cleaning frequency by trapping dirt in those minute scratches. It has also been said that a Bright Boy actually reduces wheel to track contact area because contact is not made in the minute grooves (open to opinion). A Bright Boy has its limited application, for example during an operating session to keep things moving on an as needed basis, by cleaning a switch or dirty spot. Do not clean large sections of track with a Bright Boy. In the same vein, never, never use steel wool, sand paper or emery cloth to clean track, even if it is covered with dried paint. The abrasives in these are many times harsher than a bright boy and leave small grooves in the railheads, which accumulate dirt, dust, and oxidation. The net result is impaired electrical contact, not to mention the iron particles from the steel wool entering your motor magnets. Paint can be removed with Methyl Ethyl Ketone, MEK. (be careful with the plastic ties), methanol, or thinners. No acetone, DMK, should be used as it aggressively attacks plastic more so than MEK.

Don Bozman passed on some of his experience. The Children's Hospital layout is close to the entrance. Don warned the Children's Hospital that the dust from the outside would create maintenance issues. He found he had to return to the Hospital daily to clean track and engines. The Hospital then installed a pressurized air filtration system at a cost of \$40,000. Don no longer cleans track. Also, Don has only cleaned his home layout mainline once in 30 years (he runs a lot of trains and operating sessions). He does use a masonite car to remove dust and occasionally applies oil to a 2' track section on which he holds an engine at full throttle over this section, then wipes the track and wheels with a cloth to remove the excess oil and runs the engine around the layout..

In my experience, I had a simple circle of which 55% was tunnel for 5 years. I never cleaned inside the tunnel. I did sparingly oil the track like Bozman and never aggressively cleaned the track. My G scale outside garden railroad was brass track and only cleaned for visitors and grandkids with a broom stick with a cloth on a cross stick and then sparingly oiled. It stayed running for three years till we moved and seldom did I have dead track spots.

All that said, we found oil would not work at APN with a large group applying inconsistently. Thus, the development of the APN Procedure.

APN PROCEDURE

APN wants a track cleaning program which will require minimum effort and to maximize the time between cleanings. Mark Herzog purchased a TrackVac which is pulled by an engine. It clearly demonstrated one of our issues was dust as we were able to see full

vacuum car quantities of homosote powder and dust collected over runs of around 100'. For those who saw the results, it was an eye-opener. We have not run that car in the last three to four years. It eats batteries, and we no longer cut Homosote inside. The procedures which follow should make our fun runs and operating sessions more enjoyable even without the vacuum car. Track cleaning is not that time consuming particularly if we all chip in. It is also fun to run a cleaning train with a consist of multiple engines.

MAINLINE CLEANING

Mainline track cleaning can be done with a track cleaning train made up of the three or four cars listed below and a consist of at least two or three engines. There is a lot of drag with the cleaning cars and multiple powered engines are needed. Before cleaning, be sure the motive power wheels are clean. If not, you may just end up transferring to the clean track, the crud on the loco wheels. We have the following cars which should be included in a mainline cleaning train: Don't forget the passing sidings.

1. Tank Cleaning Car (put one or two in your train if you have sufficient motive power). The car is filled at the front thumb screw cap using low odor mineral spirits. There are chemical eyedroppers to accomplish this. Although mineral spirits evaporates quickly, it leaves a molecular film which helps prevent track oxidation. The track cleaning car must be filled with the chemical dropper. Mineral spirits will attack the plastic syringe and its rubber seat.

Check the cleaning pad and change if worn or very dirty. Some black is expected. Supplies are in the plastic tub. The pad can be moved right or left to provide a cleaner surface.

Open the fill cap slightly to ensure no vacuum is formed as the solvent is dripped to the cleaning pad. Open the center thumb screw to allow solvent to drip out at a slow but continuous drip to the pad. Just enough to keep the pad damp. The car is now ready to go.

2. Magnet box car is used to pick up rail spikes, parts, metal powder, etc. Manually clean off the magnets on the car bottom before using.

3. Masonite car. This car will wipe the track and I find is best located behind the solvent cars. A Dremel with a wire brush is used to clean the masonite pad of accumulated crud, which you will get in one pass around the layout.

4. Drying car This weighted car and follow the Tank Cleaning cars. It will add substantially to the drag.

We have tried 91% rubbing alcohol, IPA, which, while an effective solvent, it does not appear as effective as the mineral spirits. Our standard is therefore, low odor mineral

spirits, and they do not mix in the cleaning car with rubbing alcohol (9% water). Spot cleaning can safely be done with a cloth and 91% IPA. Do not use 50% or 70% solutions of rubbing alcohol for cleaning as more dilution means you will work harder. There is unanimous agreement in the literature that 70% is less effective and the use of water should be avoided. Leakage onto the sides of the rails and into switches, etc, may cause corrosion. I do not know how, but it is in the literature. Please avoid the temptation to use this 91% alcohol for scenery as 91% is twice the cost of 70%.

Spot cleaning during an operating session can be done with a red eraser. The eraser will be black from the rails and you will think the track is clean. It is better than when you started but not sufficient for a good through cleaning and the eraser may leave unwanted eraser dust which needs to be wiped off. Eraser is not as effective as the solvent and should not be used for large areas.

INDUSTRY AND SIDING CLEANING

The sidings and industries are often not cleaned or only have minor cleaning. Nothing can kill the fun of an operating session faster than dirty industry track. There are a couple of effective cleaning methods for sidings and industries. Clean the track, then test it with a single locomotive with clean wheels. If the loco doesn't run smoothly, at low speed, then the track will fail in an operating session. Re-clean the track and/or the locomotive.

The easiest cleaning method for sidings is manual use of the cleaning tank car. Set up the car as you would for the mainline. Then push it forward and back a few times on each siding and the switches (thrown in both directions. Not very prototypical, but it is effective and quick.

The best cleaning method for both the mainline and sidings, which also lasts the longest, is the use of Flitz polish. The Flitz removes crud and oxidation. Use Flitz sparingly. A cotton cloth such as an old white tee shirt works best. Do not use a towel with loops or paper towels. These get caught up in the ballast and in the case of a paper towel, it dissolves.

Wrap a small strip of tee shirt around a pvc pipe coupling. Put a sparse dab of Flitz on your finger and sparingly wipe your finger on the rail to be cleaned. Polish the rail section with the tee wrapped coupling. The coupling should be rotated to a clean spot frequently as it turns black with the removed oxidation.

THINGS TO AVOID

- 1 GooGone leaves a film which holds dust. Do not use it even with a centerline car.
- 2 Minimize use of Bright Boy
- 3 Do not use DMK, acetone on anything plastic.
- 4 Be careful cleaning paint from track with MEK, Methyl Ethyl Keytone.

- 5 Never use steel wool or fine grit sand paper on track
- 6 Do not clean track with eraser or Bright Boy, these are for spot cleaning only during operating session.
- 7 Avoid running with dirty wheels on engines and cars. Cleaning of both is quick and easy. Dirty car and loco wheels can transfer to the track and undo the previous effort.

ENGINE CLEANING

Dirty engine wheels are as bad as dirty track for operating sessions. We at APN have a number of methods to clean engine wheels, all require power to the engine.

There is a brass wire brush which is powered and the wheels spin on the brush. The method is time consuming as each axel must be cleaned. It is also less effective than other available methods. Another down side is that the engine is handles and cleaned upside down in a pad or your hand.

We have a powered foam pad cleaner. It is faster than the brass wire brush as all axels are cleaned at once. It has not been proven as effective as solvent and paper towel cleaning. It may be acceptable for wheels that are fairly clean, but why spent the time when you can clean as fast and better with solvent.

Solvent cleaning is done on one of the two decoder pro stations. Simply moisten a paper towel laid on the test track with 91% rubbing alcohol (IPA) or low odor mineral spirits. Both are effective as the other. Hold the engine with one set of axels on the paper and the other on the powered test track. Be sure the wheels on the paper are sitting on the rails or cleaning will not be as effective. Move the axels and paper until there is no longer black oxidation and crud. Turn the engine 180 degrees to get the other axel. Of course a full axel pick-up is required for all but the foam pad cleaning.

CAR CLEANING

Car wheels become dirty and if not maintained with some frequency, will just transfer that crud to the track and to the engines. The most effective is the use of a Dremel and wire brush. Wear eye protection glasses. Place the wire brush against a wheel and with a thumb or finger allow the axel the turn slowly. Repeat with each wheel. Plastic wheel sets from home should not be run on APN as cleaning of the plastic is difficult and plastic alone leaves crud on the tracks.