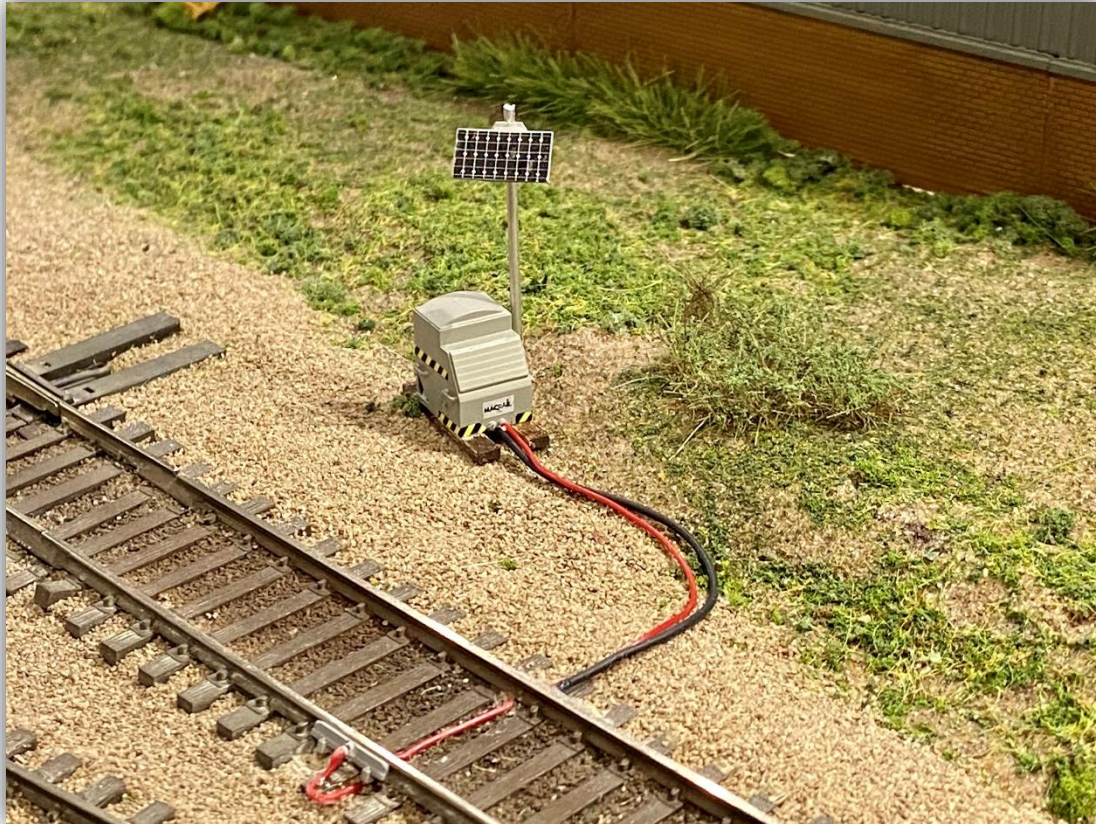


MAC-207

Wayside Lubricator “Top of Rail”

MACRAIL
Distinctive details that enhance your modeling



Thank you purchasing our MAC-207 Wayside Lubricator “Top of Rail” kit. This product has been designed using prototype dimensions scaled to suit HO Scale, bringing this Distinctive Detail trackside to your model railroad.

Prototype wayside lubricators made by various manufacturers can be found across railroads worldwide. Our kit represents a midsize unit that is readily found on North American railroads. While efficient as the steel wheel to steel rail is, there are plenty of places like curves for example that railroads want to manage friction forces better. Two type of wayside lubricators exists

Top of Rail (Outside Mount): Pumps a friction modifier onto rail to reduce noise and increase fuel efficiency.

Gage Face (Inside Mount): Pumps a greaser on inside of rail to protect curves.

The kit includes everything you need to equip your railroad to create a **Top of Rail (Outside Mount)** unit.

- Kit above shown above includes all parts and pieces either finished or prepared to be finished and assembled by the modeler. Awesome looking model railroad shown in photo not included.

STEP 1 – OPENING YOUR KIT

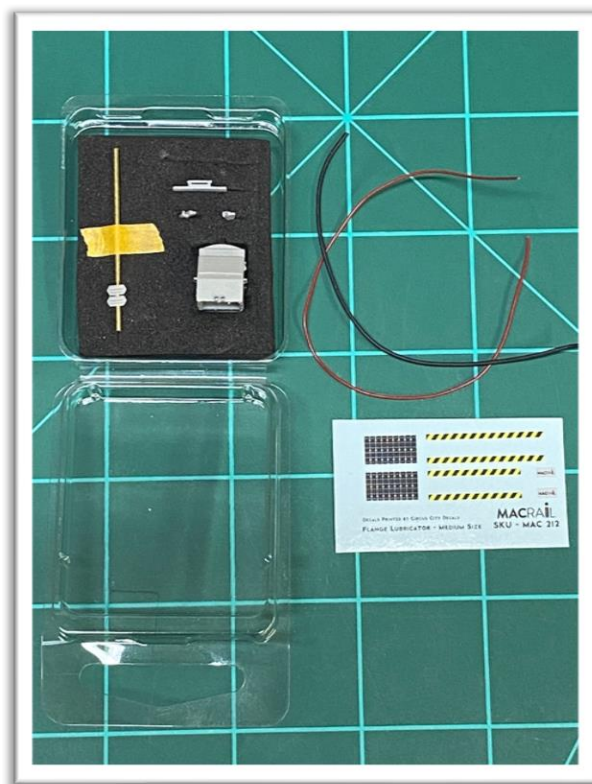
When opening your kit, you will find the following parts:

- (1) 3D printed, finished, and painted Lubricator Pump Unit
- (1) Custom decal set for kit
- (2) 3D printed and painted track applicator pieces
- (1) 3D printed and painted Solar Panel
- (1) Brass with (2) 3D printed and painted mounts
- (2) Wooden crossties
- (2) 30-gauge wire (red and black)

If you are missing anything or mess up something– please send an email to macrailllc@gmail.com

TOOLS FOR INSTALL (Does not include weathering items).

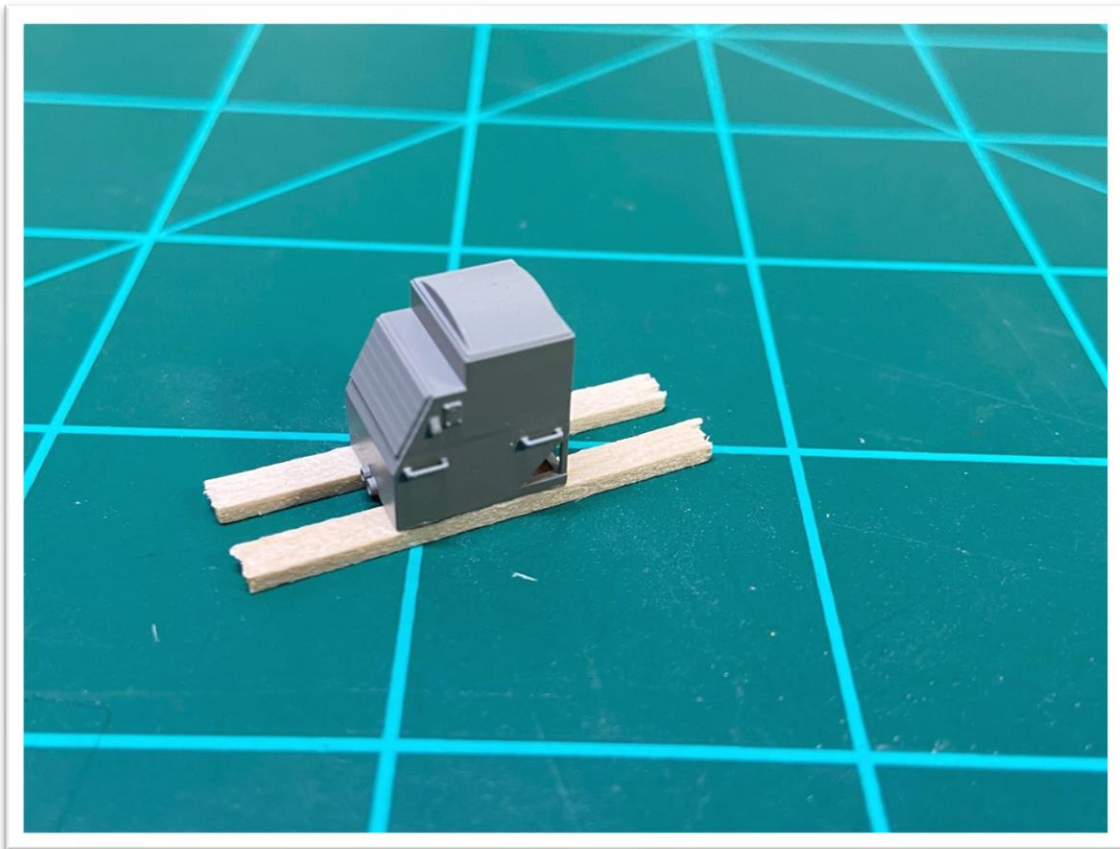
- Safety glasses
- Glue (CA Gel Type & Glue Stick)
- CA Accelerator (Recommended)
- Hobby Knife / Tweezers
- Sand Paper / Mask
- Toothpick
- Silver paint pen or silver paint (your choice)... Silver sharpie can work in a pinch



STEP 2 – UNIT MOUNT

The lube unit out of the package has already been painted a Tamiya Light Gray (AS-2) to provide a finished surface for installing the decals. Using a piece of sandpaper and flat surface, lightly sand the bottom of the unit, removing the nubs from the printing process. I have found circular motions to best keep from over-sanding one side of the unit. Once to your liking test fit the unit on the sleeper ties. The ties should be inside the footprint of the unit and flush with the sides. If you prefer, this is a great time to paint or weather the sleeper ties.

Using gel type CA (What I use) and, toothpick apply glue to underside of unit and place on sleeper ties and adjust before glue sets up. Once done, set this aside and let it dry. The sleeper ties will come in handy as a handle to use when installing the decals.

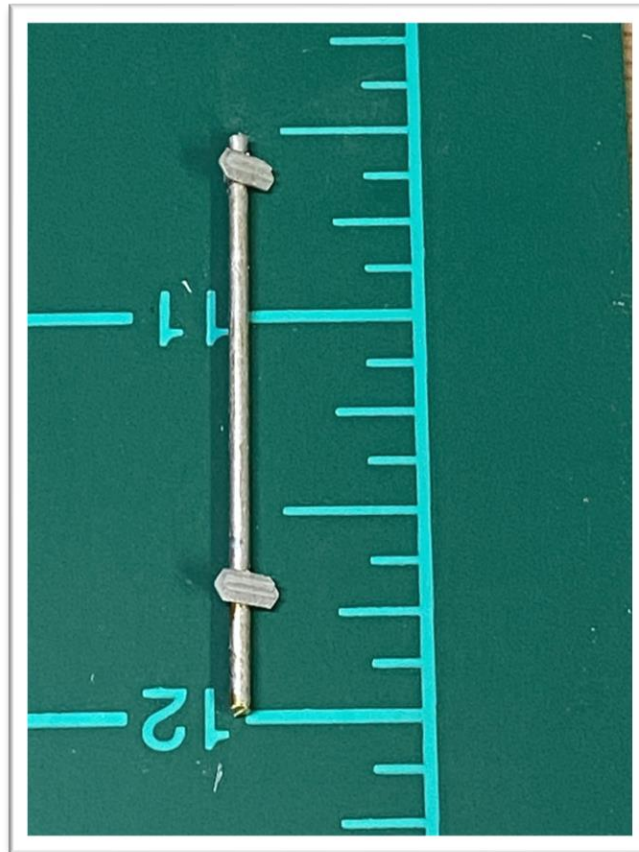


STEP 3 – PAINT SOLAR PANEL POLE

While the lube unit is aside and drying, now is a great time to paint and prepare the solar panel pole. I cut each of these from brass rod and found this thickness to be the best tradeoff to get the scale and durability of being on a model railroad.

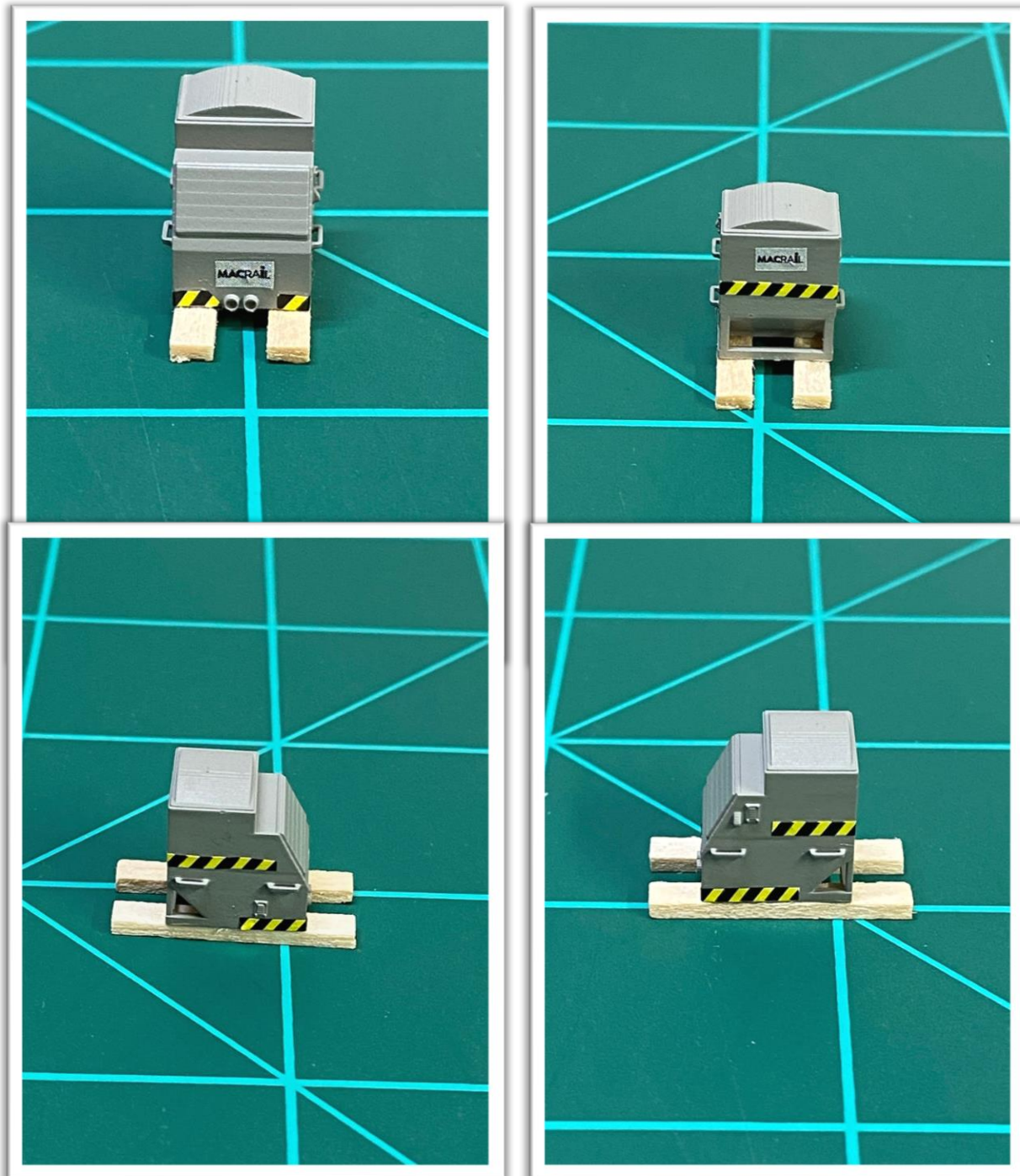
Already installed on the pole you will find the two identical mounts. One of these will be positioned to mount the pole to the lube unit and the other will be positioned to hold the solar panel. By design these mounts can be moved around on the pole before painting. However once the pole is painted, up or down movement will scratch any silver paint applied.

Below provides a reference vs ruler on where each mount should be positioned on the pole before painting with your preferred silver paint. For my install I used a silver paint pen from Hobby Lobby.



STEP 4 – DECAL LUBE UNIT

Photos of each side of lube unit, provided below for reference. Decals are custom made by Circus City Decals and add a lot of character to the unit. The short safety stripe goes just above a crease that is above the handles. The large safety stripe must be cut in half and is then applied along the bottom of unit starting at the front hose ports and working around side of unit. Sorry about having to cut the stripe, I had already commissioned the decals when I decided to add the hose port for the 30-gauge wire. At this time also apply the solar panel decal to solar panel part.



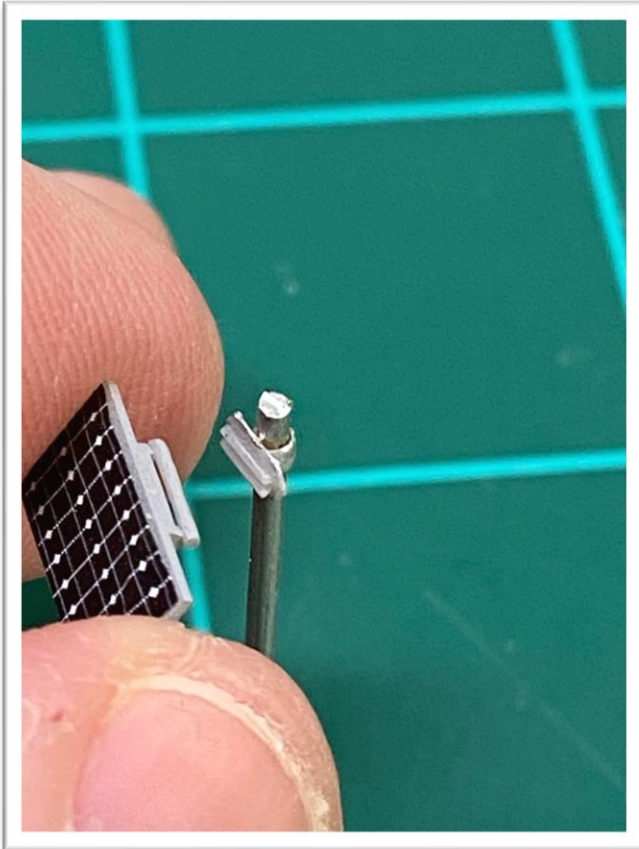
STEP 5 – MOUNT SOLAR PANEL POLE TO LUBE UNIT

Once decals are dry and sealed you can continue on with mounting solar panel pole to lube unit. While there are many variations, the style chosen for this kit has the pole mounted to the right side when facing the front of the unit. Apply CA gel to the mount and then affix to lube unit. I use a bit of CA accelerator to help.



STEP 6 – MOUNT SOLAR PANEL TO POLE

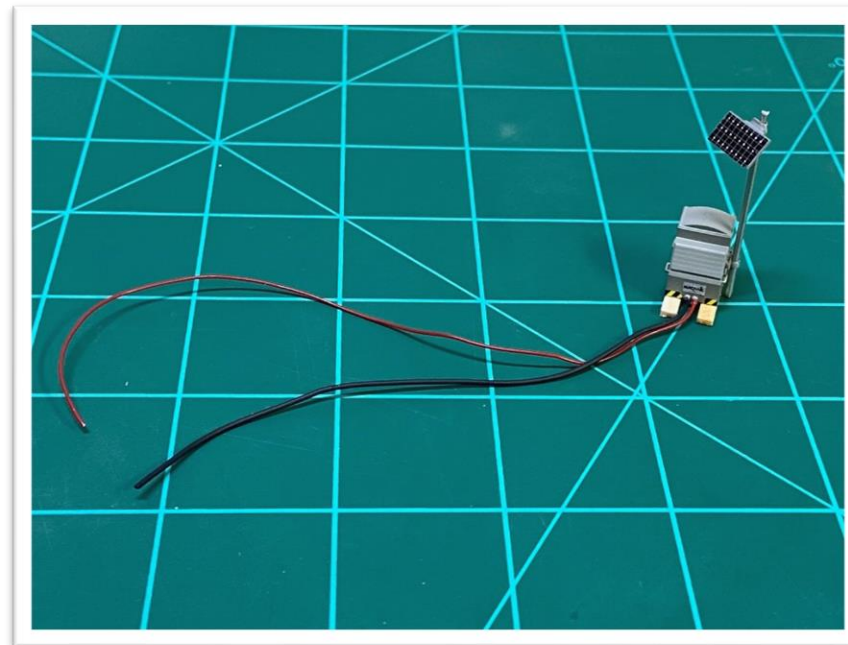
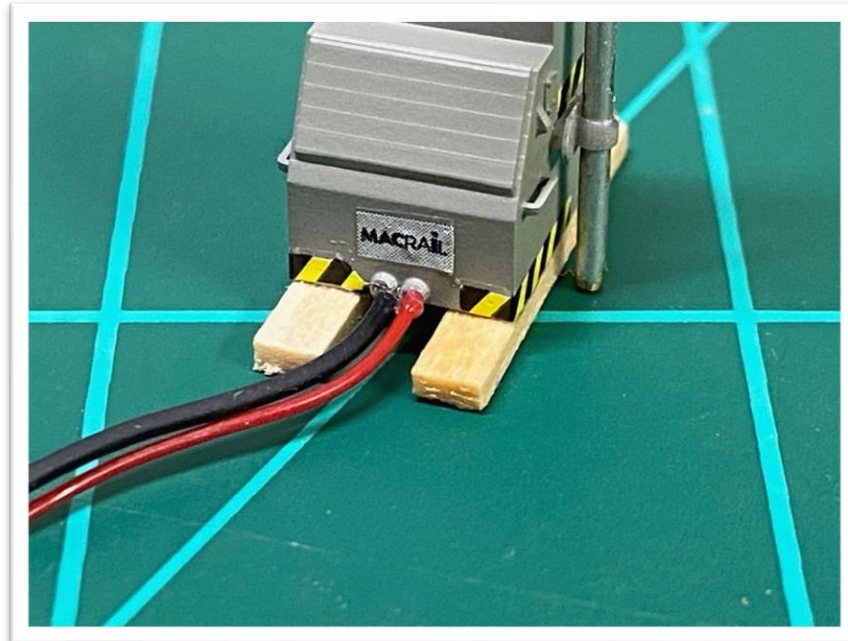
On the solar panel there is a cylindrical bar that will seat in between the ribs the mount on the pole. Apply CA gel along this bar then using one hand gently seat and position the vertical angle you want your solar panel to be. Using the other hand I have a small bit of CA accelerator ready to help set this part. Once set and dry the solar panel / pole mount can be swiveled 360 degrees like the prototype to best capture sunlight depending on location.



STEP 7 – ADDING FEEDLINE HOSES

With the unit now assembled and decaled, its time to begin the detailing work with 30-gauge wire included in your kit. Purposely the red wire is longer than the black to provide enough length to reach across to other side of track.

Use CA gel and accelerator to mount the wires to the hose ports on the front of unit. Let the model now setup and dry before moving to layout for installation.



STEP 8 – LOCATE ON LAYOUT

You are now ready to bring the unit to your model railroad and complete the final installation.

Basic location criteria like on prototype:

- Tangent track leading into curves or between curves
- Level grade location
- Track where trains are not frequently stopping or starting on
- Location where unit will not interfere with other trackside equipment or other tracks
- Level terrain for foundation of unit
- Ensure plenty of clearance from right of way (minimum 8-9' scale)

** Understanding in the model world space is a premium, so don't over stress on the location. Case in point, on my MCIS St. Clair Sub I located the demo unit on the east end of Bay City. Probably a little closer to switch points and not exactly level but the location for what I needed checked the most boxes. You will be your hardest critic and remember this is a hobby to enjoy. ***

Secure the lube unit using white glue once verified the feedlines will reach your rail applicators.

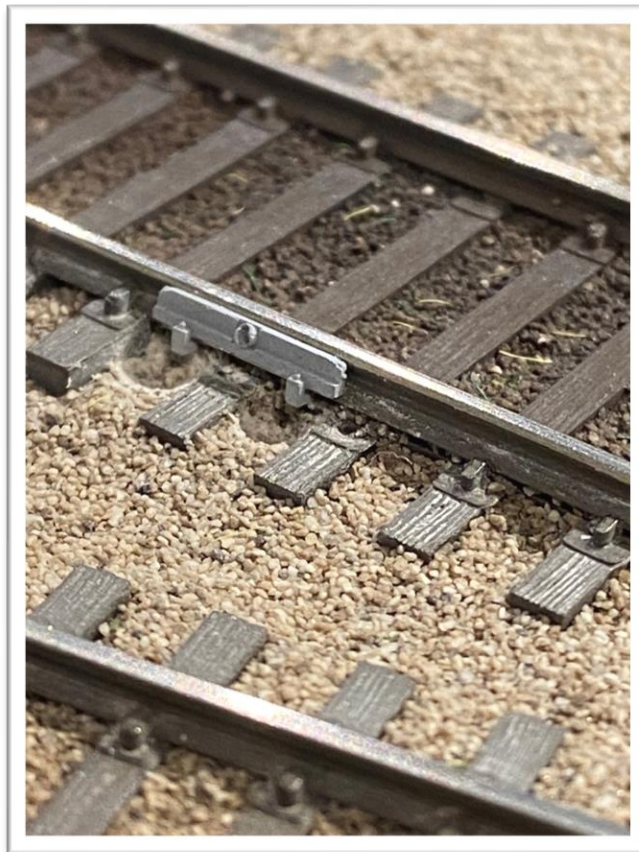


STEP 9 – INSTALL RAIL APPLICATORS

Once your unit is mounted along your right of way, the next item to focus on is preparing your track for the applicators.

Identify the location and then cut the tie spike flush where the track applicator will straddle the tie. This will allow the applicator to seat under the rail just enough. The applicator was designed for Code 83 track and in this demo, I am using Atlas track. If you have ballasted, you will need to dig out some of the ballast for the underside clearance of the applicator. After everything is installed, you can go back and add it back as needed.

Applicator should be flush with the top of rail. I recommend for this install using CA gel but no accelerator to allow adjust time and ensure no interference with rolling stock. Since the applicator in this kit is designed for outside rail mount, it should not interfere unless it was installed above the top of rail.

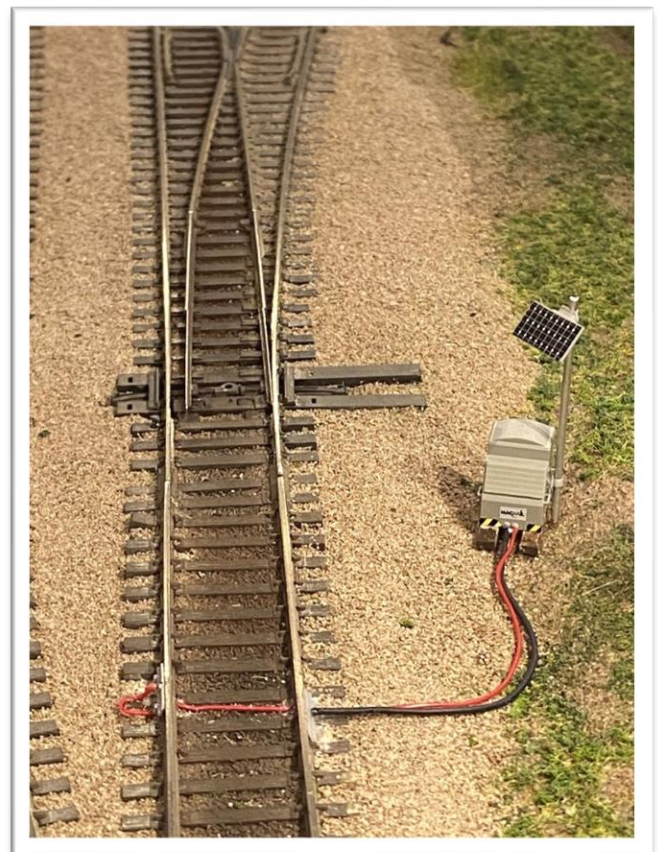
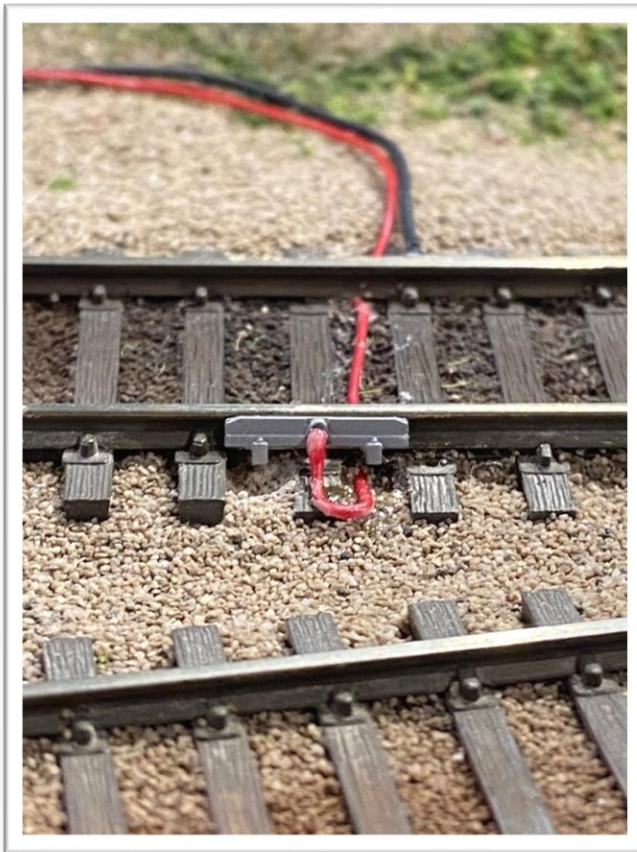


STEP 10 – INSTALL RAIL APPLICATOR FEED LINE HOSES

After your rail applications are dry and secure the final step details out the scene with 30-gauge feedline hose from the lube unit to rail applicator. As a note the red wire is longer to reach to the far side of rail. Use CA gel and accelerator to secure the wire to the hose ports on the rail applicators.

As the demo unit was installed on a completed scene I had to cut and fit the red wire to give the appearance of going under the near rail, routing in the gauge, and coming out the far side. There should be plenty of wire to complete this task and make changes if necessary.

After all wire was measured and cut to fit, I then installed and glued wire down to ensure no interference with snowplows or ultra-sagging coupler trip pins. Glue down wire leading from lube unit to track giving a neat and orderly look.



STEP 11 – BLANKET OR NO BLANKET

You are probably wondering where's the track blanket, diaper, drip cover, or a million names for the fabric used to cover the tracks at this lubricator sites. Short answer is this type of outside mounted lubrication system does not use the blankets. The inside mount type of units do use a blanket.

MACRail will be making blankets that are available as an add-on. These will be made with material that gives the look and texture of this prototype protection surface. These are mounted on the outside and inside of track gauge at the lube site. Directions for installation of this add-on will come with package.

STEP 12 – WEATHERING

Lubricators that are mounted on outside of rail as noted above have much less grease residue on the tracks than type mount on the inside. Use prototype and satellite photos to help weather appropriately. Tamiya black panel liner and black weathering powders are great materials to help add prototypical weathering.

STEP 13 – ENJOY

Thank you again for purchasing and installing the MAC-207 Wayside Lubricator "Top of Rail" kit on your model railroad. I hope you enjoyed this all-inclusive kit that made the most of your time while working on your model railroad.

Best Regards,

- MAC

Any issues, broken / missing parts please send email to: gmccomas@macrailproducts.com