

**METRO EAST MODEL RAILROAD CLUB**  
**Approved Layout Operation Protocol**  
**Revised: May 3, 2024**

**Purpose:** The purpose of this protocol is to establish and maintain standards which should allow for the safe, consistent, and low-maintenance operation of the club's layout. Standards within this protocol are either derived from NMRA Guidelines or from experience with the operation of the club's layout. This protocol may be adopted or modified by a simple majority of the members at any club business meeting; however deletion of the protocol in its entirety requires unanimous consent by active members of the Metro East Model Railroad Club.

**General:** All locomotives and rolling stock used in operating sessions and open houses must meet the requirement set forth in this protocol. Fixing any non-conforming equipment is the responsibility of its owner. The exception to this General rule is that guests may bring pieces of equipment to test-run or enjoy operation of, for a brief period and those pieces may be operated on the club's layout so long as none adversely affects the layout. All locomotives and pieces of rolling stock must operate smoothly and in prototypical fashion.

**Digital Command Control (DCC):** The club's layout shall be operated by an NMRA-conforming DCC system.

**Couplers:** Except as provided in the General section above all locomotives and rolling stock must use Kadee or Kadee-compatible couplers. Such couplers must be mounted at the proper height for consistent operation, and must contain a trip pin and spring or whisker centering device. Trip pins must be adjusted so that they do not drag on diamonds, frogs, guard rails, or other areas within the trackage.

- (1) Diesel locomotives must have operable couplers mounted on both ends, except that locomotive units that function as permanently-coupled sets may alternately be connected by drawbars.
- (2) Steam locomotives must have operable couplers at the rear of the tender (or of the locomotive on tank-type or tender-less units) and a coupler attached to the end of the pilot beam. The pilot beam coupler must be operable if that locomotive is ever to be other than the lead unit in a consist or as rolling stock within a train.

**Detail parts:** In general, any parts that were on the rolling stock or engine when new must be in place when operated and super-detailing is encouraged. However, it is recognized that in prototypical operation some parts may be worn or damaged or weathered and, unless such situation interferes with operation on the layout, comparably missing or damaged elements will be allowed.

**Wheel sets:** All wheel sets will have an RP-25 or better contour and all wheels operated on the club layout except as provided in the General section above will be metal. The one added exception is that dummy (non-powered) locomotives may be operated in a

consist without metal wheels if it is found not to be practical to convert plastic to metal wheels.

**Club-managed database of locomotives:** The club maintains a database of locomotives owned by the club. The purpose of this particular database is to ensure that the DCC operational address of each is also known. That said, any locomotive which is on the layout may be operated by any member unless its owner is at the club at that time and chooses to operate it him/herself. Any locomotive operated on the layout must be dispatched from the DCC system at the conclusion of its usage, and such dispatch is the responsibility of the last person operating it.

**Clearances:** All locomotives and rolling stock must not exceed the clearances required to operate on any part of the layout on which it will be placed. This determination will be made using both an NMRA standards gauge and routine operation with rail equipment so as to identify and then remove offending aspects of the layout.

**Inspection procedures:**

- (1) A Kadee #205 Coupler Gauge is owned by the club and will be used, as needed, to verify coupler height and alignment.
- (2) An NMRA HO-scale track-wheel gauge is owned by the club and will be used, as needed, to verify wheel spacing, tire alignment, and track spacing.
- (3) Rolling stock weighting will be in accordance with NMRA standards except as provided alternately in the General section above. The added exception will be any track-cleaning rolling stock for which added weight is required to satisfactorily clean and finish track. Rolling stock, under the NMRA standards, will have an initial weight of one ounce plus ½ ounce for every inch of carbody length.

**Track:** Track installed on the club's layout will be Code 100 Flextrack on all ordinary runs except when Code 83 track is required due to availability for some special feature. All track will be nickel-silver and, when installed, will be verified to assure track gauge and contour throughout. Any ties which must be removed to connect sections to each other will be replaced as soon as practical. Track will be cleaned prior to and every time any operation is to be made on the layout for all tracks on which equipment will be run. Track sections will not be soldered together so as to allow for expansion/contraction without deformation, and non-conductive sections will be replaced when found, or jumpered if determined not feasible to replace.

**Track cleaning:** Track will be maintained in a clean fashion via mechanical and/or liquid cleaners. However, no substances which leave a residue such as Goo-Gone or Rail-Zip may be used since their use makes track sticky and causes it to retain dirt and grime. Acceptable cleaners would include rubbing alcohol and WD40; other possible cleaners to use will be considered if they meet or exceed the standard set in this section.

**Ballasting:** Ballast which is prototypical is encouraged throughout the layout except in areas which are inaccessible or where installation of ballast would impair operation of a movable feature. Non-ballasted sections will be painted to match the surrounding ballasted areas and/or sandpaper or other suitable materials may be employed, however minor variations are allowable in the same way that prototype turnout (switch) sections may differ slightly from surrounding track.

**Turnouts (switches):** Turnouts will be a minimum of #6 on any trackage which would be expected to operate at road speed. Turnouts within low-speed yard limits may be #4, however #6 should be used unless space limits. No ballast will be placed within one inch of any movable parts of a turnout, and any attempt to make that area within the movable zone appear prototypical will be governed first by the need to keep points and other movable sections fully operational. Turnouts will not be soldered to adjoining runs of track (to enable removal as needed), and turnouts will likewise not be power-routing. DCC-compatible switch motors will be used; except that manual throws may be used within Madison Yard.

**Operational governance:** It is the intent of the club that all members will have an opportunity to operate on any operating session or open house and, as such, a Train Order Board is provided for allocation of operating time.