

CLUB STANDARDS AND OPERATING RULES

[Adopted 14 March 1995]

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ARTICLE I: PHYSICAL STANDARDS FOR MODULES

NOTE: See accompanying diagrams to clarify standards.

- Section 1. GENERAL: Construction of the individual modules shall conform to the following:
- A) Modules shall be 30" wide, 2, 4 or 6 feet long, and 42" high at the top of the roadbed. 8-foot long modules will be considered under special circumstances, and the main yards shall be 36" wide.
 - B) Modules shall utilize self-contained legs (e.g., folding, etc.) where feasible. If not feasible, legs shall have the ability to transport with the module. 6'-0" modules shall have 4 legs; 4'-0" modules may have three. All legs shall be equipped with leveling devices with a 3/4" minimum adjustment.
 - C) Modules shall use 1x4 (or similar plywood) construction for the framework, with the ends to be straight and level so as to match with any other module adjacent to it. Module front and rear may deviate from level.
 - D) Modules shall have a permanent backdrop, of 1/4" lauan plywood and 1x4 framework, that shall double as a clamshell crating device. Backdrop shall extend 12" above the benchwork standard. Modules with special requirements for transport, including corners, shall be exempt from this rule, but shall still be required to have some kind of backdrop. Backdrops, as a minimum, shall be painted light blue, similar to F&F "Bonnie Blue". Clouds and other embellishment is optional.
 - E) Modules shall have 5/8" diameter holes in their fascias, 12" from the ends and 24" o/c thereafter, on a level line, to accommodate the standoff dowels.
 - F) Modules may be of open grid or flat plywood construction. If module is flat, 1/2" plywood shall be used, most likely four-ply CDX.
 - G) No more than three (3) adjacent modules, or 12' of modules, whichever is greater, shall be made to be required to be connected together. This rule is to allow maximum flexibility in assembly.
 - H) Clearance under the module at the ends is required for clamping.
 - I) Pairs or groups of modules that must always be connected together shall have a form of alignment device between them to ease the setup process. Such alignment devices shall not interfere with the normal crating or assembly procedures as outlined above. Such devices may be dowel pins, hinges, hasps, or other similar hardware.
 - J) Yards are common Club property and will not be constructed for individual members.
- Section 2. TRACK: Track on modules shall conform to the following:
- A) There shall be two primary mainlines (A & B) and an **optional** third industrial mainline (C) that shall be located 4", 6", and 8" from the front edge of the layout to their centerlines, respectively. In general, adjacent parallel tracks shall be 2" o/c minimum.
 - B) Mainline radii on corners shall be 42", 39-1/2", and 37" for A, B, and C respectively. In general, adjacent curved track shall be 2-1/2" o/c minimum.
 - C) Mainline track shall consist of Atlas nickel-silver code 100 track or equivalent. Sidings and additional track may be code 83 or smaller; transitions must be smooth and gradual.
 - D) Mainline turnouts from A & B shall be Atlas Custom-Line #6 or equivalent, or larger. Cross-overs to C shall also be #6. Turnouts from C may be #4. Yard tracks and industrial sidings may use #4 turnouts. In general, sidings and yard tracks typically carrying passenger service or intermodal should use #6 turnouts; all other turnouts can be #4.

- E) Solder all rail joints and cut gaps later. Fill gaps with CA or styrene and file to shape. Install feeders on the outside of the rail, using a good clean solder joint.
- F) Mainline tracks and additional tracks between modules shall be cut back 3" from the end of the module to accommodate 6" sectional pieces when modules are assembled. Special tracks connecting non-mainline track on pairs or groups of modules are the responsibility of that owner.
- G) Roadbed shall be 1/8" cork or equivalent; roadbed shall be cut back where the 6" sectional pieces are used so that ballast material does not interfere with the connections.
- H) Turnouts, unless powered, shall use a Caboose Industries N-scale rigid ground-throw (#105R) or other operable switchstand to control them. In no case shall a turnout be left "free", i.e., without a control device of some kind. Staging and other non-scenic turnouts may use spring or snap-switch controls.

Section 3. SCENERY: Scenery shall conform to the following general guidelines:

- A) While grade may deviate from level on each module or group of modules, track shall return to zero (42") at the end of the module or group. Grade shall not exceed 1%.
- B) Mainlines A & B shall have Woodland Scenics "Medium Gray" ballast, or equivalent. Optional industrial mainline C shall use a 70/30 mixture of "Fine Brown" and "Fine Cinders". A sprinkling of other colors to mainline ballast may be used for effect. Other tracks may use any ballast as appropriate.
- C) In general, rigid extruded polystyrene insulation board (**not** white beadboard) should be used for contouring, with plaster or plaster gauze as the evening agent. Keep in mind that the modules will be subject to a limited amount of abuse, so keep the scenery simple, strong, and light. (Cardboard strips and newspaper probably will not hold up for long.)
- D) Scenery and structures above 42" shall be limited to 3-3/4" in height, unless removable. Under certain circumstances, such as when two modules can nest together, scenery may be up to 7" high. Modules with special requirements that will be "traveling" alone are exempt from this requirement. Owners are responsible for the integrity of their scenery and structures.

Section 4. WIRING: Electrical components shall conform to the following general guidelines. See separate wiring standards for more specific information. These are the standards for individual modules only; head-end power and main connectors are proprietary and do not affect the modules.

- A) Modules shall utilize a standard ten-conductor "power" bus, carrying power for A, B, and C mainlines, an 18VDC lighting/accessory bus, and a 12VAC tortoise-power bus. The bus shall utilize "exposed" conductors as opposed to "constrained" conductors (i.e., ribbon cable or multiple zip cords as opposed to a 10-conductor jacketed cable). Bus conductors shall be minimum 18-gauge. A second ten-conductor "signal" bus with 9VDC power and sensors for grade-crossing and track signaling shall run parallel to the main "power" bus and otherwise conform to similar requirements [standards not yet finalized].
- B) The "power" bus shall terminate at each end with a 12-pin "molex" connector, such as the kind found at Radio Shack. The "male" connector shall be at the right end (standing facing the public), and the "female" at the left. As much as practical, the bus shall line up directly under the A & B mainlines for maximum accessibility. Allow 6" overhang at each end for reach to adjacent modules. The "signal" bus shall utilize nine-pin "molex" connectors, with the male and female ends opposite of those for the "power" bus [standards not yet finalized].
- C) Jumpers to track and accessories shall tap into the bus using compression-style ("Scotch-lock") crimp taps. Jumpers may be soldered to bus, however a screw-terminal strip must then be used directly off the bus. In no case shall the bus be interrupted or cut within a module. Jumpers shall be minimum 22-gauge; all unsoldered track sections require jumpers.
- D) Tethered walk-around throttles, if provided, require a continuous bus around the layout; however, such a bus need not be directly mounted to any specific module (see item "I"). The walk-around bus and 120VAC wiring shall be run around under the layout after setup has been completed.
- E) Any switches or controls required for operation on a module shall be self-contained and are the responsibility of the owner. Power on a mainline shall not be dependent upon a switch setting on an individual module, except for crossover control, and where a switch is required for module integration into the member's home layout.

- F) If the modules require or will otherwise use a separate power pack for switching or other operation, the pack must be powered from 120VAC, not tapped off any accessory bus. Any tracks operated by the pack must be switchable between that pack and the mainline cabs as required.
- G) All buses, accessories, and other wiring shall be securely attached to the underside of the module and arranged so as to not interfere with the operation of the legs. All accessories shall not protrude beyond the lower edge of the module so as to prevent being damaged during transport.
- H) If a module has an excessive amount of accessories, it is recommended that a separate 120VAC power transformer be installed under that module for operating the accessories.
- I) Corner modules and yards shall have installed a 120VAC power strip and a set of wal-karound jacks that can be connected to the rest of the system.
- J) All members are required to learn how to use the layout's control systems effectively, particularly the control "pedestal" and the DCC system.

ARTICLE II: OPERATING RULES AT SHOWS

Section 1. ROLLING STOCK: Rolling stock / engine protocols shall conform to the following:

- A) Members may bring as many rolling stock and engine units as they wish, but are fully responsible for transportation and security of their property. Notify the person making the running schedule what kind of equipment you plan to run.
- B) All rolling stock intended for use shall be placed on the layout in either the main yard or the "HOG" yard, with the latter being preferable. In no case shall rolling stock be set on the layout on a mainline. Rolling stock, if used for static display, may be set on sidings, provided the sidings aren't being used for a specific operating session. All persons operating during the show shall be assigned a yard track or tracks, depending upon the amount of equipment available and the number of participating members.
- C) All engines intended for use shall be placed on the layout in one of the engine facilities, if provided, or on **unpowered** yard tracks (not ladders). In no case shall engines be set on the layout on a mainline. Engines, if used for static display, may be set on **unpowered** sidings, provided the sidings aren't being used for a specific operating session. All persons operating during the show shall be assigned an engine track in the "HOG" yard and/or a roundhouse stall, if provided. Additional slots in the engine facilities are to be available on an as-needed basis.
- D) If a member wishes to place his equipment on a siding or track other than one on his own module, permission must be granted by the "host" module owner and the dispatcher in charge at the time, if one is present.
- E) Rolling stock to be used in mixed consists shall conform to typical NMRA guidelines (weight optional but preferable) and have Kadee-style knuckle couplers *set at the correct height*. The latter requirement may be waived if the owner is running a unit train with rigid couplers or drawbars in between. In no case will "horn-hook"-style couplers be allowed. Metal wheelsets on all equipment is strongly suggested. In general, non-conforming equipment is inexcusable these days with the quality of manufactured products now available. There are "rip tracks" provided for poorly-running equipment; defective or consistently troublesome equipment will be promptly removed whether the owner is there or not.
- F) Multiple-unit consists of widely-varying manufacturers may not be allowed in the interest of smooth running trains. For example, unless an Athearn has been repowered or regearred, it shouldn't be run with an Atlas or Kato unit. Use judgment when running Spectrum or brass units, as performance can vary wildly. It is usually not a good idea to run diesel with steam! None of these requirements apply if DCC is being used and the units are programmed to run together properly. Members are responsible for tuning their equipment prior to the show!
- G) Members shall clean the wheels of their engine units prior to running on the layout. There will be a Kadee electric brush cleaner provided for that purpose, as well as cleaning fluid. Check wheels periodically for grime buildup.

Section 2.

OPERATION: Operation of trains shall conform to the following:

- A) Only an operator fully familiarized with the control pedestal and DCC system will be allowed to run trains.
- B) In the absence of a dispatcher, only three operators will be allowed to run trains at a time: two on the mainlines, and one running the industrial line or yards.
- C) During an operating session one operator may double as a dispatcher, or (preferably) an additional person shall act as a dispatcher if conditions merit. All operators shall follow that dispatcher's instructions. When a separate dispatcher is used, additional operators may be authorized over and above the basic three.
- D) All operators ("engineers") and the dispatcher shall wear the wireless headset radios during their time slot; such radios are provided by the Club. If the batteries go dead, replace them immediately with fresh or fully-charged batteries; place dead rechargeables back on the charging units. Helpers, spotters, and other active participants are strongly encouraged to also wear headsets if available. Dispatcher shall assign the channel based upon interference from other organizations and building conditions. (Do NOT talk over a channel being used by another organization!)
- E) During a show, an operator may run his or another member's equipment, provided permission is granted. In no case shall an operator run another member's equipment unless that member is present or otherwise authorizes such use. The operator assumes all responsibility for that other member's equipment.
- F) Trains shall be limited to approximately the length of the longest layout side; anything longer requires special dispatcher clearance and additional "spotters" around the layout. Passenger trains shall be limited to the length of a siding or yard track they can "park" on. In general, if you cannot keep track of the entire train at a glance, don't run it that long! Keep in mind that these are **maximums**; if a long train is running poorly, shorten it!
- G) Unless manpower is short, operators shall not run trains longer than two hours at a time. If there are several operators available to rotate positions, cut the time down to give everyone a chance to run. For larger shows, a printed running schedule with trains rotating on a staggered timeline is required.
- H) If a running schedule is provided as above, members are required to follow that schedule! If you cannot, and wish to trade slots with another member, **inform the dispatcher** or an officer! Members must be ready to operate a train when their timeslot is up; timeslots should not be spent setting up your train! Operators **must be present** and alert at all times during their timeslot. If you have to go to the restroom or leave for some other reason during your timeslot, find another member to take over for you while you are gone; inform the dispatcher immediately! **Do not walk away from your train!**
- I) Regardless of who is running trains, one owner's equipment shall not be run longer than two hours at a time, unless rolling stock is in short supply or special permission is granted by the dispatcher. When equipment will not be running for a while, it shall be stored in the "HOG" yard, main yard, or taken off the layout.
- J) Dispatching and staging must be done from inside the layout. Engineers using tethered throttles must operate from inside the layout as well; engineers with wireless throttles may operate from the outside perimeter. Spotters and helpers may assist from inside or outside, as conditions permit.
- K) A Digitrax DCC system is provided; however, bring your own throttles or arrange to borrow someone else's. DC (analog) throttles are the Club's and are for everyone.
- L) Members may start "taking down" trains and packing away one hour prior to the dismantling of the layout, host permitting. Trains, regardless of consist, shall be limited in length one hour prior to take-down to the length of a siding or yard track they can be "parked" on.
- M) Members may leave equipment on the layout overnight for two-day shows at their own risk. In such a case, all trains must be taken off the mainlines into a yard or siding.
- N) Prior to running **anything**, operators shall clean the mainline trackage, at the very least; track "erasers" are provided. (Typically, this step will be part of the setup process anyway.) A track-cleaning car may be run periodically during a show to keep the rails and wheels clean.
- O) After the setup process is complete, immediately run a "test train" around the layout to help locate possible trouble track and electrical problems. Typically such a train should be "finicky", like an intermodal or passenger set.
- P) Note that for operations, "North" is out from the layout towards the public aisle. Therefore, "Eastbound" is to your right and "Westbound" is to your left.

Section 3.

GENERAL: The following general rules shall be observed during an event or show:

- A) All members are expected to help set up and take down the layout unless circumstances prevent it. Either assign specific duties or come to some general organization as to who-does-what. Members are responsible for packing up their own rolling stock and other ancillary equipment. Vice-president is in charge of setup/takedown organization.
- B) All members shall wear their club shirts and/or nametags during a show, particularly if operating. All members are expected to be clean and reasonably well dressed.
- C) All members present at a show are responsible for security! This applies especially to keeping track of young children and over-exuberant train buffs. Watch all equipment as if it were your own.
- D) When approached with questions, answer courteously. If you cannot answer a question, refer the person to someone who (probably) can. Accept donations graciously, and take information if they wish a tax deduction.
- E) Make sure the Secretary or President gets all application forms.
- F) Any contact with the host organization or building management and security shall be the responsibility of the officers unless otherwise delegated by the officers.
- G) When observing from outside the layout, members shall be ready to assist operators in the case of derailments, other train problems, and security.
- H) Any eating shall be done at a table inside the layout, preferably somewhere other than a workstation around equipment or tools. Do **not** eat or place food or beverages directly on the modules. Throw away all trash and keep the area clean and tidy.
- I) Keep equipment boxes, coolers, storage boxes, etc. out of the way and under the layout if possible. Keep clutter, casual seating, and work areas from getting in the way of operators.
- J) All equipment repairing or model building shall be done at a table inside the layout, unless it directly affects your module or if you are demonstrating to the public. Use chairs provided by the host facility; stools are reserved for the operators.
- K) Do not attempt repairs or modifications on another member's module or equipment -- inform that member, get permission, or leave a note. Refer problems with common club modules to an officer prior to any disruption of layout and club activities. If it will affect operation, notify the dispatcher.
- L) Respect all other members' equipment, rolling stock, and tools. Return all borrowed tools to their place of origin.
- M) Sales of a member's equipment are the responsibility of that member, and then only if the host permits such sales. If you collect money from a sale, make sure that money gets to the owner of the equipment sold.
- N) If a visitor requests that something of theirs be run on the layout, it shall be checked for NMRA standards and Kadee couplers, and permission from the dispatcher or operator shall be obtained before placing on the layout for running. If a member of the public approaches the Club to test a newly purchased locomotive for them, place the unit on an unused yard track and run it back-and-forth; do not insert it into a train.
- O) Act responsibly, courteously, and logically. Above all, have fun and allow everyone else in the Club to have just as much fun!