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| NMRA RECOMMENDED PRACTICES | |
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| TRACTION / OVERHEAD, MODULES | |
| Revised 1-90 | MRP-1.2 |

Recommended Practices are only less mandatory than Standards by virtue of their slightly less critical subject matter and/or the fact that deviation for specific reason is permissible.

| Scale Radius | Minimum Mainline Grade | Maximum Mainline Turnout | Minimum Mainline | Module Width Length* | Tangent Track |
|-----------------|------------------------------|--------------------------------|---------------------|----------------------------|------------------------|
| N | 3-3/8" (85.7mm) | 0% | #4 | 24"-36" | 50 scale ft. (3.750") |
| HO | 6-3/16" (157.2mm) | 3% | #4 | 24"-36" | 50 scale ft. (6.889") |
| S | 8-7/16" (214.3mm) | 3% | #4 | 24"-36" | 50 scale ft. (9.375") |
| O | 11-1/4" (285.8mm) | 3% | #4 | 24"-36" | 50 scale ft. (12.500") |

* Tangent track length is the distance from the end of the bridge track at the interface to the first deviation in the mainline, i.e., a switch, curve, etc.

1. OVERHEAD***

At interface, a flat pan-type connector is recommended for the removable wire section between the modules. The width of the pan between the side flanges (mounted flanges down) should be wide enough to allow trolley sliders to pass but not so wide as to allow dewirement. (Refer to NMRA Traction Standard RP 5.1 for minimum dimensions of frogs). A hole slightly larger than the contact wire being used should be drilled in each end of the connector and the permanent wire on the module may be soldered to the connector. The connector pan should be suspended directly from the span wire or bracket for stability. The removable section of wire can then be inserted and bent over at each end to secure it during setup and operation. A temporary end-of-track pole can be placed in a socket located near the end of the module and a short connector wire used to provide wire tension when the traction module is at "end-of-line", i.e., the adjacent module does not have a matching track and/or overhead. The end-of-track pole (or structure) can be centerline or offset to one side of the track.

Solid metal threaded poles are recommended for overhead construction, to withstand the more rigorous setups and storage of modules. In HO scale, 1/8" copper-clad welding rod cut to length and threaded to accept 6-32 nuts and using fender washers on top and bottom provides a well-scaled and very sturdy support system.** In the larger scales, similar material (or tubing) could be utilized. Overhead wire bracket arms can be made of small section rail (code 70 in HO) turned upside

down, shaped to the diameter of the pole and soldered to the copper clad pole. Feeding the trolley wire for block control and to maintain the full power is then possible from under the layout using a terminal wire lug. Either span wire or brackets and either single wire or compound (catenary) wire can be utilized depending upon prototype practice and desire of the modeler. Pole spacing and pull-offs for the overhead system should follow prototype practice to the degree possible and as provided in the Data Sheets D6v.01-04.

If traction is used behind the standard gauge mainline, with the intention of interfacing with other standard gauge modules, mainlines should conform to established standards for that scale module. If modules are primarily traction, with standard gauge rails as auxiliary only, Traction Standards will prevail. For additional Recommended Practices, see MRP-1, items 1-11, as applicable.

This RP provides for satisfactory operation of interurban and street railway equipment only. Heavy multiple unit cars or electric locomotives and a few exceptionally large interurban units operating under standard railroad conditions are to the requirements of MRP-1. Check with your scale S.I.G. for more details.

** 1/8" diameter rod may also be threaded 5-40.

* S scale only. See MRP-1 Note++.

*** N-Cat has a data sheet, check with the N-Cat S.I.G.