

| NMRA STANDARDS | |
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| TRACTION / OVERHEAD STANDARDS (MODULES) | |
| Revised 1-90 | MS-1.2 |

Modules built prior to the acceptance of these Standards will be exempt from these standards. However, if non-conforming modules are to interface with conforming modules, a Transition module will be required to accommodate any difference in trackage, electrical, etc.

(*) denotes change from previous issue.

| Scale | Height From Floor To Top of Rail | Hand Laid or Commercial Rail Code | Track Clearances Per Standard S-6* | Interface Track Center Lines from Front Edge of Module | Track Centers Parallel Tracks | Track Setback From End of Module | Center Lines On Curves |
|-------|----------------------------------|-----------------------------------|--|--|-------------------------------|----------------------------------|---|
| N | 40" (1016mm) | (*)80** | I=13/16" (20.6mm) O=21/32" (16.7mm) | 4"-5 1/2"- 7" (101.6) 139.7 (177.8mm) | 1-13/32" (35.7mm) | 2-1/2" (63.5mm) | 1-13/32" (35.7mm) |
| HO | 40" (1016mm) | 83 | I=1-1/2" (38.1 mm) O=1-1/4" (31.8mm) | 5"-7" (127,177.8mm) | 2-1/16" (50.9mm) | 4-1/2" (114.3mm) | 2-9/16" (65mm) |
| S | 42" (1067mm) | 100 | I=2-1/32" (51.6mm) O=1-11/16" (42.9MM) | 6"-9" (152.4) (228.6mm) | (*) 2-3/4" (69.8mm) | 2"(*) (50.8mm) | 3-1/2" (88.9mm) |
| O | 42" (1067mm) | 125 | I=2-23/32" (69.1 mm) O=2-9/32" (57.9mm) | 6"-10" (152.4mm) (254mm) | 3-3/4" (95.2mm) | 2" (50.8mm) | 4-21/32" (118.3mm) on min. rad. of 11-1/4" per Std. S-6 |

* I=Inside
O=Outside

Length of modules for all scales/gauges will be 4', 6', and 8' with 2' minimum as a spacer or Transition module.***

Electrical Standard for Traction see NMRA Standard S-5, RP-12 and module electrical Standards.

Track Standards shall be prescribed by NMRA Standard S-5. Use of Standard S-6 track centers for curved track should be used ONLY where heavy multiple unit cars and electric locomotives will NOT be permitted to operate. Clearance requirements of S-7 and S-8 shall be utilized where standard railroad operating conditions exist.

Overhead structure Standards shall be prescribed by S-5. Overhead support at module interface shall be provided at no more than 1/2 normal pole spacing from interface, but in no case more than 50 scale feet. Overhead structure at interface shall provide for removable overhead section.

** NTRAK and N-CAT are using Atlas & Peco code 80 rail. Code 70 is allowed within the module but must be brought back to code 80 at interface.

*** See note (4), MS-1