# Athearn Genesis GP39-2 HO Scale (2026 Release)

Factory Equipped with Tsunami2

**Default Values**




| P.N. | Description | P.N. | Description |
|---|---|---|---|
| **ATHG-1982** | HO GEN GP39-2 PH IIB, BNSF #2727 | | |

| Airhorn Selections | CV 120 Value | Airhorn Selections | CV 120 Value | Airhorn Selections | CV 120 Value |
|---|---|---|---|---|---|
| Nathan K3LA (1) | 0 | Nathan P5A | 14 | Leslie S3L | 28 |
| Nathan K3LA (2) | 1 | Nathan P5A 3rd Generation | 15 | Leslie S5T | 29 |
| Nathan K3L | 2 | Holden M3H | 16 | Leslie S5T/A200 Combo | 30 |
| Nathan K5HL | 3 | Holden K5H | 17 | Wabco A2 | 31 |
| Nathan K5LA (1) | 4 | Leslie A125 | 18 | Wabco AA2 | 32 |
| Nathan K5LA (2) | 5 | Leslie A125/200 Combo | 19 | Wabco E2 (1) | 33 |
| Nathan K5LA (3) | 6 | Leslie A125-3E | 20 | Wabco E2 (2) | 34 |
| Nathan K5LH | 7 | Leslie A200 | 21 | Wabco 2 Chime | 35 |
| Nathan K5LLA | 8 | Leslie A200/S3L Combo | 22 | Hancock 4700 Air Whistle | 36 |
| Nathan M3 | 9 | Leslie RS3L | 23 | Leslie S4T | 37 |
| Nathan M5 | 10 | Leslie RS5T | 24 | Leslie S3LR | 38 |
| Nathan P3 | 11 | Leslie S2M | 25 | Leslie RS3K | 39 |
| Nathan P5 Early | 12 | Leslie S2M/A200 Combo | 26 | | |
| Nathan P5 Modern | 13 | Leslie S2M/S3L Combo | 27 | | |

| Prime Mover Selections | CV 123 Value | Prime Mover Selections | CV 123 Value |
|---|---|---|---|
| EMD 645 8 Cylinder 2nd Generation Turbo | 0 | EMD 645 16 Cylinder 2nd Generation Turbo | 4 |
| EMD 645 12 Cylinder 2nd Generation Non-Turbo | 1 | EMD 645 16 Cylinder 2nd Generation Turbo EFI | 5 |
| EMD 645 16 Cylinder 2nd Generation Non-Turbo | 2 | EMD 645 16 Cylinder 2nd Generation Turbo V2 | 6 |
| EMD 645 12 Cylinder 2nd Generation Turbo | 3 | | |

## Default Function Assignments

| | | | | | |
|---|---|---|---|---|---|
| F0 | Headlight/Backup Light | F9 | Alternate Mixer (Half Volume) | F19 | Straight-to-Idle |
| F1 | Bell | F10 | Straight-to-Eight & Sander Valve | F20 | Steam Generator/AUX HEP Generator |
| F2 | Airhorn | F11 | Independent/Train Brake | F21 | (not used) |
| F3 | Short Airhorn | F12 | Brake Select/Train Line Charge | F22 | (not used) |
| F4 | Dynamic Brake | F13 | Couple/Uncouple | F23 | “All Aboard!”/Coach Doors |
| F5 | FX5 & FX6: On/ Off Light | F14 | Switching Mode | F24 | FX4: On/Off Brightness 2 |
| **F6** | FX7: Single Flash Strobe 1<br>FX8: Prime Stratolite | F15 | Handbrake | F25 | FX3: On/Off Brightness 1 |
| | | F16 | HEP Mode | F26 | RPM+ |
| F7 | Dimmer & Cab Chatter | F17 | Fuel Loading | F27 | RPM- |
| F8 | Mute | F18 | General Service | F28 | (not used) |

# Athearn Genesis GP39-2 HO Scale (2026Release)

## Configuration Variable Default Values

| CV | Description | Value | CV | Description | Value | CV | Description | Value |
|---|---|---|---|---|---|---|---|---|
| 13 | Analog Mode Functions 1 | 48 | 59 | Lighting Flash Rate | 7 | 229 | 500Hz Cut/Boost | 160 |
| 21 | Consist Function Enable 1 | 136 | 61 | Brightness Register 1 | 145 | 230 | 1kHz Cut/Boost | 100 |
| 22 | Consist Function Enable 2 | 60 | 62 | Brightness Register 2 | 70 | 231 | 2kHz Cut/Boost | 160 |
| 25 | Speed Table Enable | 16 | 114 | Engine Exhaust Control | 103 | 232 | 4kHz Cut/Boost | 170 |
| 29 | Configuration Data 1 | 6 | 122 | Bell Select, EMD #1 | 36 | 233 | Reverb Control Register | 7 |
| *37 | F3 Output Location | 16 | 123 | Exhaust Select | 3 | 234 | Reverb Output Level | 54 |
| 49 | Headlight Configuration | 143 | 125 | Poppet Valve Select | 0 | 235 | Reverb Delay Time | 255 |
| 50 | Backup Light Configuration | 143 | 195 | Coach Door Count | 0 | 236 | Reverb Feedback Gain Level | 128 |
| 51 | FX3: On/Off – Brightness 1 | 147 | 197 | Analog Auto Sound Enable | 4 | 242 | Analog Mode Function Enable 4 | 24 |
| 52 | FX4: On/Off – Brightness 2 | 148 | 200 | Poppet Valve Release Rate | 90 | 246 | Consist Function Enable 4 | 24 |
| 53 | FX5: On/ Off Light | 128 | 218 | Analog Motor Start Voltage | 25 | 247 | Consist Function Enable 5 | 31 |
| 54 | FX6: On/ Off Light | 128 | 223 | Prime Mover Pitch | 208 | 1.263 | FX7 Output | 6 |
| 55 | FX7: Single Flash Strobe 1 | 133 | 225 | EQ Control Register | 7 | 1.264 | FX8 Output | 6 |
| 56 | FX8: Prime Stratolite | 136 | 226 | 62Hz Cut/Boost | 0 | *1.403 | Independent/Train Brake | 12 |
| 57 | Forward Direction Enable | 221 | 227 | 125Hz Cut/Boost | 200 | 2.504 | DDE Load Slope | 186 |
| 58 | Reverse Direction Enable | 238 | 228 | 250Hz Cut/Boost | 180 | 3.258 | Clickety-Clack Rate | 0 |

**Note: *** CV 37: The short horn function can be changed to a grade crossing horn sequence by changing CV 37 to 0. If you would like to re-map the short horn function to another key using SoundTraxx' Flex-Map™ function mapping, CV 37 must also be set to 0 to prevent the short horn function from being activated with function key 3.

*CV 1.403: From the factory, Tsunami2 equipped Athearn Genesis models feature three types of functioning brakes for more prototypical operation. In order to use these brake rates to slow and stop your model, you must disable the automatic brake release. Set CV 1.403 to 0 before programming any brake rates in CV 117 (Independent Brake Rate) or CV 118 (Automatic Brake Rate) to allow control of the brakes with function key 11.

## Speed Table Default Values

| CV | Value | CV | Value | CV | Value | CV | Value | CV | Value | CV | Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *67 | 9 | 72 | 48 | 77 | 86 | 82 | 116 | 87 | 148 | 92 | 220 |
| 68 | 17 | 73 | 55 | 78 | 93 | 83 | 122 | 88 | 157 | 93 | 238 |
| 69 | 25 | 74 | 62 | 79 | 99 | 84 | 129 | 89 | 166 | 94 | 255 |
| 70 | 32 | 75 | 71 | 80 | 104 | 85 | 135 | 90 | 184 | | |
| 71 | 40 | 76 | 78 | 81 | 110 | 86 | 141 | 91 | 202 | | |

**Note:** *CVs 67-94 have been assigned values to allow your new Athearn Genesis Tsunami2 equipped model to operate with earlier models released with Tsunami technology. To enable this custom speed curve, program CV 25 to a value of 16 and ensure the Speed Table Enable bit in CV 29 is turned on.

## Default Volume, Alternate Mixer, and Reverb Mixer Settings

| CV | Sound Effect | Std. Volume | Alt. Volume | CV | Sound Effect | Std. Volume | Alt. Volume |
|---|---|---|---|---|---|---|---|
| 128 | Master Volume | 192 | | 147 | Relays | 128 | 64 |
| 129 | Horn | 192 | 96 | 148 | Emergency Stop | 70 | 35 |
| 130 | Bell | 55 | 27 | 149 | Uncouple | 150 | 75 |
| 131 | Prime Mover | 200 | 100 | 150 | “All Aboard!”/Doors | 192 | 96 |
| 132 | Air Compressor | 115 | 57 | 153 | Clickety-Clack | 150 | 75 |
| 133 | Dynamic Brakes | 150 | 75 | 154 | Sander Valve | 10 | 5 |
| 134 | Fans | 75 | 37 | 155 | Fuel Loading | 50 | 25 |
| 135 | Alarm Bell | 15 | 7 | 156 | Air Conditioner | 20 | 10 |
| 137 | Coupler | 128 | 64 | 157 | Wrench | 50 | 25 |
| 138 | Train Brake | 128 | 64 | 158 | Pneumatic Oiler | 40 | 20 |
| 139 | Brake Squeal | 100 | 50 | 159 | Toilet | 20 | 10 |
| 140 | Brake Release | 70 | 35 | 160 | Cab Chatter | 30 | 7 |
| 143 | Poppet Valve | 40 | 20 | 161 | Airhorn Reverb | 100 | |
| 144 | Steam Generator | 0 | 0 | 162 | Bell Reverb | 64 | |
| 145 | Cab Door | 128 | 64 | 175 | Poppet Valve Reverb | 0 | |

*If a CV or a sound selection is not listed within this documentation, the default value or selection choices match those of aftermarket SoundTraxx products. For more information about unlisted items, please refer to the Tsunami2 product documentation found on our website.*