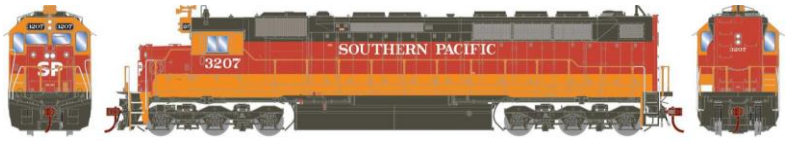
Athearn Genesis SDP45 HO Scale (2026 Releases)

Factory Equipped with Tsunami2

Default Values



P.N.	Description	P.N.	Description
ATHG-2021	HO EMD SDP45, SP Daylight #3201	**ATHG-2022**	HO SDP45, Legendary Liveries SP 'Daylight' #3207

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	EMD 645 Turbo 20 Cylinder	7

Default Function Assignments

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

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Configuration Variable Default Values

CV	Description	Value	CV	Description	Value	CV	Description	Value
13	Analog Mode Functions 1	48	59	Lighting Flash Rate	7	230	1kHz Cut/Boost	100
21	Consist Function Enable 1	136	114	Engine Exhaust Control	103	231	2kHz Cut/Boost	160
22	Consist Function Enable 2	60	122	Bell Select, EMD #1	12	232	4kHz Cut/Boost	170
25	Speed Table Enable	16	123	Exhaust Select	7	233	Reverb Control Register	7
29	Configuration Data 1	6	125	Poppet Valve Select	0	234	Reverb Output Level	54
*37	F3 Output Location	16	175	Poppet Valve Reverb	0	235	Reverb Delay Time	255
49	Headlight Control Register	143	195	Coach Door Count	0	236	Reverb Feedback Gain Level	128
50	Backlight Control Register	143	197	Analog Auto Sound Enable	4	242	Analog Mode Function Enable 4	24
51	FX3: On/Off Brightness 1	147	200	Poppet Valve Release Rate	90	243	Analog Mode Function Enable 5	15
52	FX4: On/Off Brightness 2	148	218	Analog Motor Start Voltage	25	246	Consist Function Enable 4	24
53	FX5: On/Off Light	128	223	Prime Mover Pitch	88	1.263	FX7 Effect	5
54	FX6: Prime Stratolite	136	225	EQ Control Register	7	1.392	FX8 Auxiliary Effect	16
55	FX7: Gyralite	131	226	62Hz Cut/Boost	0	*1.403	Independent/Train Brake	12
56	FX8: Emergency Gyralite	149	227	125Hz Cut/Boost	200	2.504	DDE Load Slope	186
57	Forward Direction Enable	253	228	250Hz Cut/Boost	180	3.257	Clickety-Clack Configuration	6
58	Reverse Direction Enable	46	229	500Hz Cut/Boost	160	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.

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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	0	0
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	50	25	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.