

EMC/EMD SW1 as Built “Phase” Identification

By Seth Lakin, Hindsight 2020 Virtual RPM Series

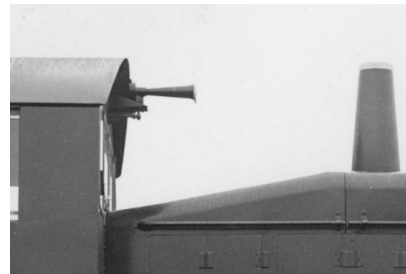
All photos except noted from the New York Central System Historical Society Archives

Hood in Front of Cab

Early
Steeped



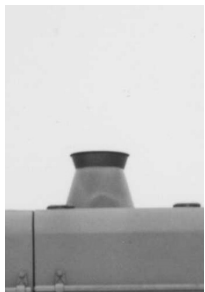
or



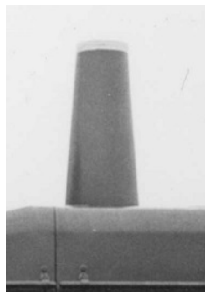
Late
Slanted



Exhaust Stack



or



Early
Short

Late
Conical
Phase Ic
Built 1944-1948



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Early Handrails
Phase Ia early
Built 1939-1940



or



Intermediate Handrails
Phase Ia late
Built 1940-1941

or



Late Handrails
Phase 1b
Built 1941-1942

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Cab Windows



Early Arched Cab Windows
Windows

Phase II

Built 1948-1950

or



Late Rectangular Cab



Step Risers

Note:
Only Ph3b SW1's
are B&M 1119-1132,
C&NW 1268-1279
and a small number
of industrial operators

Phase IIIb step photo
Jim Parker Photo
Fallen Flags.org



Early Closed Step risers

Phase IIIa

Built 1950-1952

or



Late Open Step Risers

Phase IIIb

Built 1952-1953

Notes: **Early handrails:** ends had two separate bars, lower bar came off end just below coupler cut bar, went up to just above walkway deck then turned went through four castings deck then back down on the other side. Second bar started on outer end casting, went up then turned horizontal with two intermediate stanchions that ended in lower castings, then turned down to end in outside casting. Side handrails were a single inverted U that did not go below the walkway deck. **Intermediate handrails:** Side rails did not change from early. End handrails started below coupler up bar, went up to full height and turned horizontal with three intermediate stanchions each of which ended in a casting, then turned back down to end below coupler cut bar. Then a lower handrail for footboard riders went through the three intermediate stanchion castings. **Late handrails:** End handrails did not change. Side handrails started at second tread from bottom went up then turned along edge of frame, one intermediate stanchion then turned down to end at top of walkway.

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EMD builders photos from the New York Central System Historical Society Archives

Other Phase Details

Frame Corners

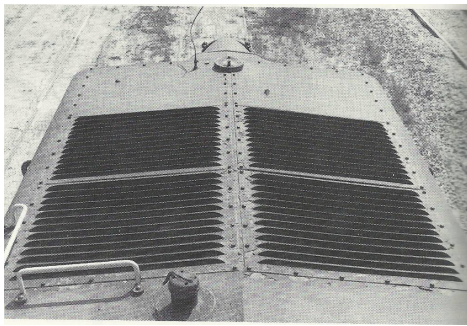
Phase I units had a decorative extension added below the frame plate besides the steps to disguise the welded frame as being a cast frame. The Phase II and III units did not have these extensions resulting in the frame being straight from step to step.



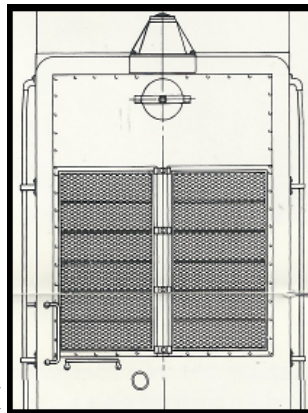
Early Phase I



Late Phase II and III



Early Phase I and II



Late Phase III

Radiator Vents

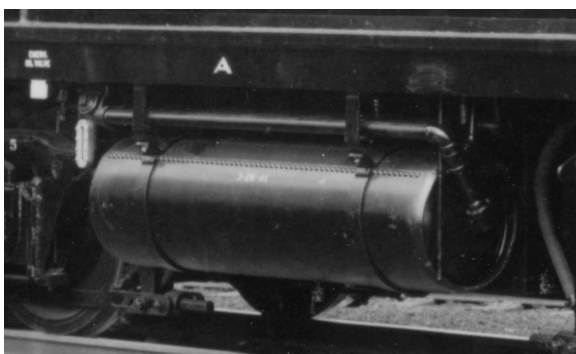
Phase I and II units had louvered radiator vents on the top of the hood. There were a total of four plates each with thirteen louvers. Each louver vented toward the cab. Phase III radiator vents were two frames each with six radiator segments covered with wire screens.

Phase I/II radiator photo by D Scott Chatfield
Railmodel Journal Jan 1993

Phase III radiator drawing by Robert Hundman
Mainline Modeler July 1992

Note: Some locomotives, notably Chicago Sanitary District #1-3 are known to have late phase III cab windows and early phase I-II radiators louvers making an unidentified intermediate phase.

Other production changes not detailed as phases



Early type Phase Ia and Ib

Air Tanks

Early air tanks had a “beer keg” end, while late had domed ends. Change occurred with restart of production following WWII. Air tanks have been known to be changed between locomotives



Late type Phase Ic-III

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EMD builders photos from the New York Central System Historical Society Archives

Other production changes not detailed as phases



Under Cab Vent
Vent for air brake equipment located under engineer's forward window added.
Photos seen to suggest that addition of vent was with change of hood slant from phase I to II.
Some vents may have been replaced with a plate, resulting in an access hatch.

No Vent
Phase I



Vent
Phase II and II



Early Phase I-II

Headlights
Pyle headlights were standard equipment. Originally headlights were a single light with large lens and then changed to dual beam with smaller lenses. Change of headlights types occurred about the time of cab change from phase II to phase III. Some phase II locomotives may have later headlight, likewise some phase III locomotives may have had earlier headlight.



Late Phase III

References:

The UNofficial EMD Homepage: <http://www.trainweb.org/emdloco/>

Listing of EMD locomotive models, orders, individual locomotive serial numbers and subsequent locomotive renumbering.

Fallen Flags and Other Railroad Photos: <http://www.rr-fallenflags.org/>

Lots of locomotive photos grouped by railroad.

Railroad Picture Archives: <http://www.rrpicturearchives.net/>

Lots of locomotive photos, can be searched by serial number and subsequent/future renumbering.

Mainline Modeler: February, April and July 1992 details each individual phases

Railmodel Journal: January 1993 Overview of all phases of SW1

Modeling the different phases of the SW1 using the Walthers HO scale model

Walthers originally introduced its SW1 model in 1992, then introduced a upgraded model in the WalthersMainline product line in 2014. The original model is standard DC with only a head light on the front. While the WalthersMainline is DCC ready with 8-pin plug and full LED headlights. While both are currently discontinued, models can easily found at swap meets and eBay.

Both versions of the HO model are a Phase Ic, but can be easily modified to model most phases of the SW1.

Back dating the model to Phase Ib:

Replace the exhaust stack with the short stack. Custom Finishing #284 or Kato #965080

Replace the air tanks with “beer keg” tanks depending on prototype. Kato NW2 phase I air tanks #954031

Note: Many railroads later replaced the short stack with standard EMD tall conical stack or railroad built stack

Back dating further to Phase Ia:

Rework handrails using Custom Finishing Custom Finishing #241. Process was detailed by Charles Roth in Railway Prototype Cyclopedia Vol 2.

Updating to the model to Phase II:

Replace the hood taper with Custom Finishing #285 SW1 hood conversion.

Add under cab vent to cab. Part is included in Cannon & Company’s EMD switcher cabs #1503 or 1504. The parts could be grafted onto the Walthers cab or entire cab replaced with #1503.

Updating further to Phase III:

Replace the top mounted radiator louvers with KV Models #139 Late SW1 Top Grills

Replace the headlights with Detail Associates 1011 Pyle Sealed Dual Beam EMD Switcher Headlight

Replace the cab with Cannon & Company #1504 Late EMD Switcher Cab

Updating further to Phase IIIB:

Remove steps and replace with photo etched steps.

Further detailing:

Railroads added and changed many details to their SW1’s over time. Some detail that can be modeled include cab arm rests, canvas or steel cab awnings, different air horns, various radio antenna, side view mirrors (wind deflectors), roller bearing trucks, headlight upgrades, louvered plates to engine room doors, photo etched radiator grills and inner louvers, beacon lights on cab roof, coupler cut levers and polling pockets. Most of these details are available from various manufactures.