Amfleet I Enhancement Pack

Installation

To install this pack, drag the "Assets" folder included inside this download into your RailWorks folder, located in Steam/Steamapps/common. After that, run the AmfleetEP_InstallMe.bat file that is located at the bottom of the "Assets" folder. Once that's done, installation is complete.

Please note: this enhancement pack is designed to work with the Amfleets included in Reppo's E60, available here.

We suggest using a utility such as LocoSwap or TS Tools to swap Amfleets used in previously available scenarios for the ones included in this pack.

How to Use in the Scenario Editor

To use in a custom scenario, follow the instructions below:

1) In the left-hand rolling stock flyout, click the icon with the blue box containing an orange arrow

2) In the right-hand flyout that has just appeared, scroll down until you see "Reppo" in the list and click it

3) Tick the second and third box next to "E60CP"

4) The coaches will now appear in the rolling stock flyout as "Amfleet I…"
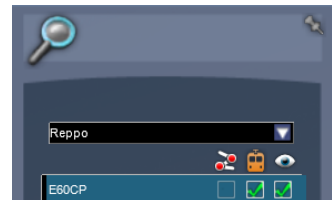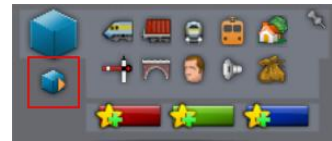
Numbering

When placing coaches in the scenario editor, there are a number of extra options for each livery that can be controlled by the rail vehicle number.

An example number might look like the following:

872533#;L=2;T=1;S=1

872533 is the displayed rail vehicle number

is a spacer digit

;L=2 controls the displayed logo on certain variations

;T=1 is the displayed car service type placard that appears near the doors
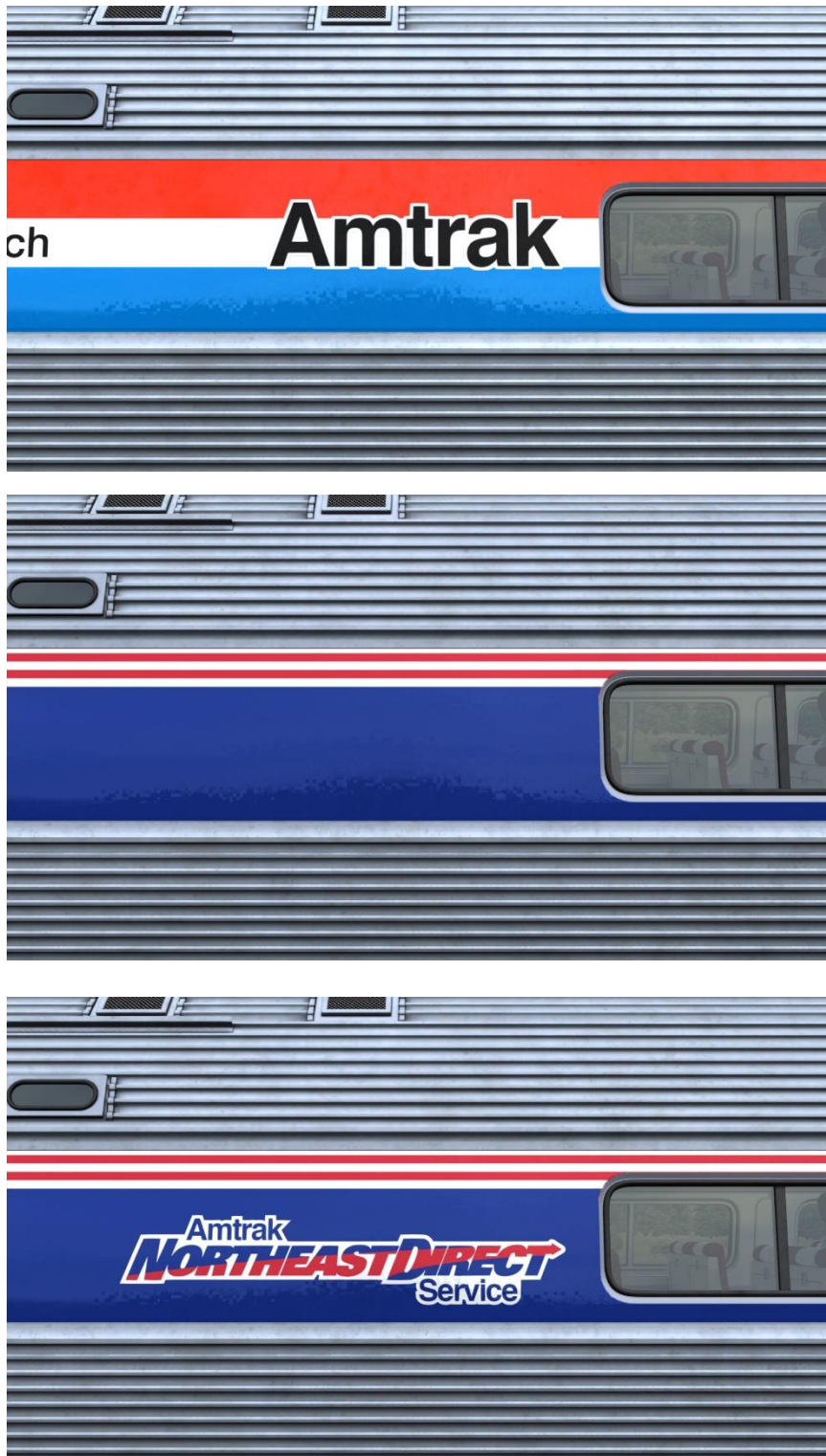
;S=1 controls a variety of optional stickers near the doors

A full list of options, and what they display, is available below:

;L=n

Logos displayed on cars. For Phase III, IV, switches between Amtrak, none, and Northeast Direct. For IVb, toggles Northeast Regional branding on café cars. Valid ranges for *n* are 0–2.

Phase III, IV

;S=n

Stickers displayed on car ends. For IV and V, toggles ADA accessibility markers. For IVb coach cars, controls bike car stickers. Valid ranges for *n* are 0–1.
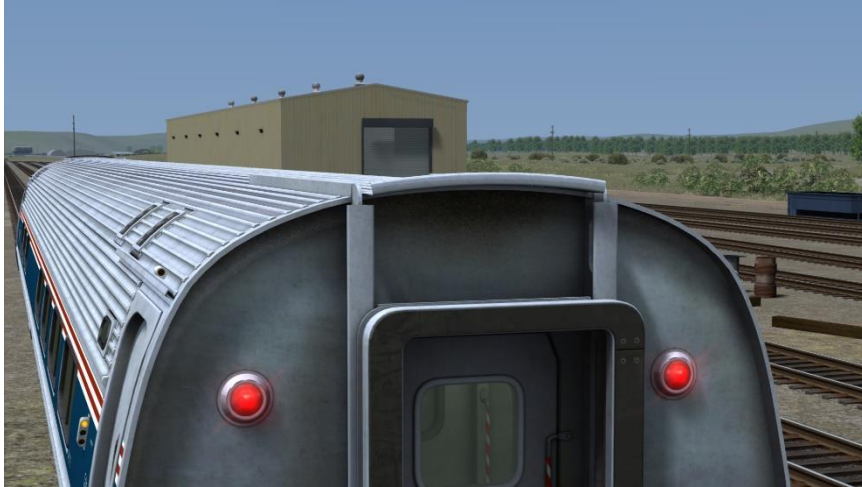
Phase III, IV, V

Phase IVb

;T=n

Service type placards. For all liveries, switches between none, Amtrak Empire Service, Northeast Direct, and Regional. Valid ranges for *n* are 0–3.

;W=n

Wi–Fi equipment. IVb only. On café cars, controls both stickers and rooftop antenna equipment. On coach cars, controls only stickers.

Consist Messages

For modders, some of the new functionality provided by this enhancement pack can be controlled by consist messages.

Message 10101 – Brake light indicators

This message controls the brake status indicator lights on the sides of the Amfleets. It is compatible with the logic used by the P42Pack01 Superliners; send the current value of TrainBrakeControl and the lights will turn green above 0.167, amber otherwise.

For enhanced realism, there is another mode that uses brake pipe pressure to display more combinations of lights. Append digits to the end of the transmitted number such that they follow this format:

10101PSI

where "PSI" is the value of AirBrakePipePressurePSI encoded into exactly three (no more, no less) digits. In this mode, the lights turn on according to the following ranges:

- Below 95 psi: Red
- 95 to 97 psi: No lights
- 97 to 100 psi: Amber
- 100 to 102 psi: No lights
- Above 102 psi: Green

To illustrate what the messages look like in practice, here are some samples:

Message	Amfleet Lights	Superliner Lights
0.10010101098	Amber	Amber
0.21810101101	None	Green
1.00010101125	Green	Green

By inserting the brake pipe pressure at the end of the number, this mode retains backwards compatibility with the Superliner logic.

As always, remember that consist messages are expensive, so be sure to throttle your transmission rate.

Message 10146 – Trapdoor toggle

This message controls the Amfleet's low-platform trapdoors. By default, they will lower whenever the player loads passengers. Send a value of "0" to prevent the trapdoors from lowering. Send "1" to get them to lower again.

If you have an engine and it only operates in high-platform territory (any Northeast Corridor electric, for example), you can script it to run GetIsPlayer() at startup and if it is an AI, send a "0" message to ensure the trapdoors stay up at station stops.

Audio Analysis

Extreme care has been put into how the audio plays throughout the coaches to ensure the most realistic experience possible. An in depth analysis on the audio has been provided for those interested in the work put in.

Analysis of Audio:
- The rolling audio consists of three levels, low speed, medium speed, and high speed. Each level includes their own randomized flat wheel sound, which has a 20% chance of sounding. All audio has been sourced from Dovetail Games' Train Sim World.

- The flange squeal audio consists of two levels, low speed, and high speed, which has two randomized sounds each. All audio has been sourced from TSW, except for internal audio, which have been sourced from my own recordings.

- The rail joint audio also consists of two levels, which have 8 randomized sounds each. All audio has been sourced from TSW, except for internal audio, which have been sourced from Griggs.

- The braking squeal audio has two randomized sounds, a less harsh, and a very harsh sound. The brakes will sound and pitch up according to brake level, and make a final pitch up between 2MPH and 0MPH.

- The air release audio has two randomized sounds, which will sound when the brakes are fully released, along with a randomized air release squark that has a 25% change of sounding. All audio has been sourced from my own recordings.

- The door audio consists of three levels, which are all properly synced with the door animation. When applicable, the steps will also sound. All audio has been sourced from CT Trains & Aviation except for the bell and steps, which have been sourced from TSW.

For added realism, all audio play from their corresponding spots throughout the coach. A diagram has been provided below which shows which audio plays where.

● = Rolling, Brake Squeal, Flange Squeal, Joints
● = Air Release
● = Doors
● = HVAC
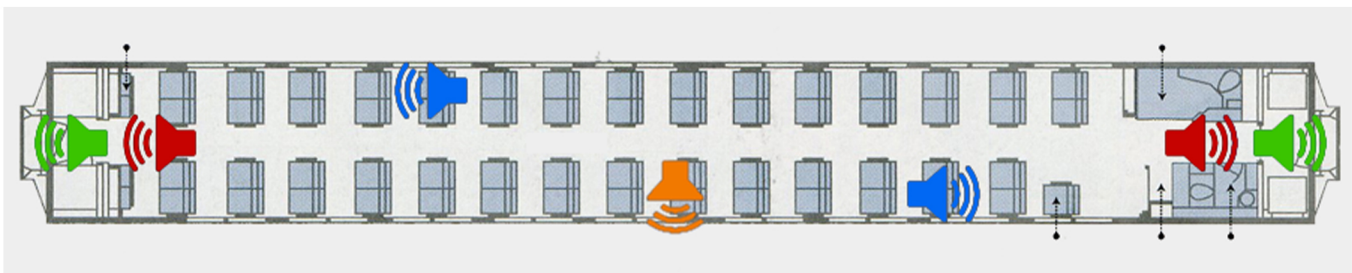
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Credits and Thanks

CTSL Railfan – Audio, reskins

Jacob Seabolt – Reskins, research

Knife Waifu – Reskins, decals

Ryan Young – Code, optimization

Matt Jauchler – Decals, new objects

A special thanks goes out to CTR Aerial for their video Last Stand of the E60s, which served as an excellent source for both reference and inspiration during the development of this project.

We'd additionally like to thank all of the members of both our beta team and the Train Sim Community Modding Discord server for their assistance in bugfixing and troubleshooting.

Finally, thank you for downloading this enhancement pack. If you've got any questions, comments, or concerns, feel free to get in touch with us on either Discord or the Train Sim Community website.

Source code for this project can be found here.