

F40 Locomotive Operating Manual

1. Introduction

The HP-Trainz team developed very detailed 3D-model of the American diesel-electric locomotive F40 for the use in the railway simulator Trainz™. Beside the demanding model creation and the well adjusted engine physics this machine was equipped with a number of additional functions for the locomotive and the cab. This manual should teach you in short form the handling of this locomotive.

2. The functions of the locomotive

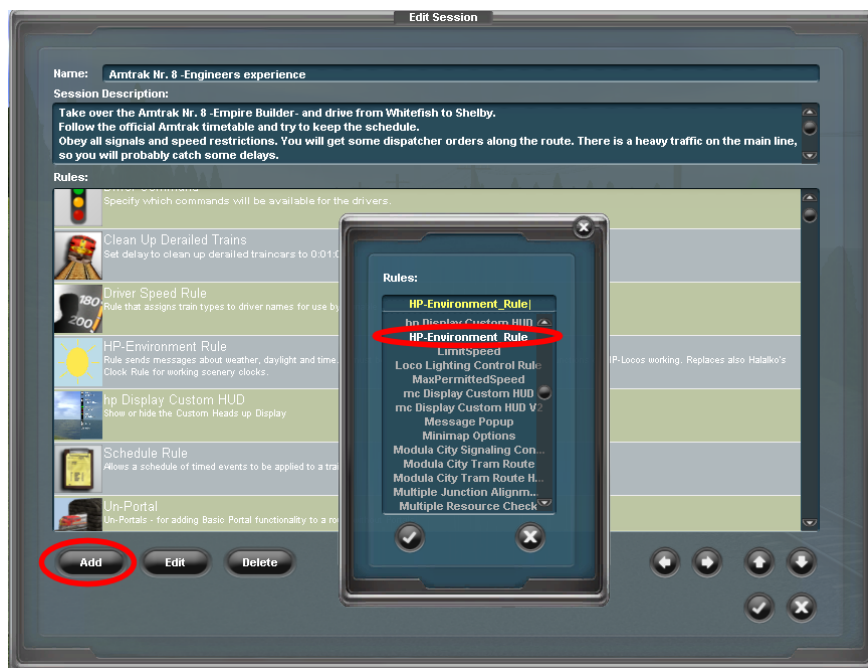
- Diesel fuel and sand consumption
- Weather conditioned driving physics
- Wiper management
- Cab functions

ACTIVATE THE FUNCTIONS

Insert in every session in which you use this locomotive the "HP-Environment Rule". Click in the Surveyor on the button „Edit Session Rules“



Click in the editor's window on "add". Select "HP-Environment Rule" from the list.



Close both windows (green hooks). The rule needs no other settings. It supplies the game objects with information about weather, time of day among other things. If you are using the Clock Rule

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from Halalko to control the station clocks, remove it. The HP-Environment Rule substitutes for this completely.

Place an Amtrak F40 locomotive on the track. Click on the button "?" below on the right in the Train tab, then click on the locomotive. In the "Properties" window you can adjust the start amount of fuel and sand, as well as switch on or switch off the function groups.



DIESEL FUEL AND SAND CONSUMPTION

Now the locomotive consumes diesel fuel, depending on the throttle position. When idling a lower fuel amount is consumed. Also consumes sand when sanding. If the fuel level falls under 10%, a warning message is given. With empty tank the locomotive develops no more tractive effort and has eventually to be towed off to the next filling facility by a helper loco. With empty sand box sanding shows no effect. The loco can be refilled in a suitable tank and sand facility (if available on the route). You can check any time the still remaining fuel and sand amount, pressing the CTRL key and clicking with the right mouse button on the locomotive, and selecting "Properties" (in the driver's module).



WEATHER CONDITIONED DRIVING PHYSICS

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In dry weather the adhesion between wheel and rail is good, the locomotive can develop full tractive effort. On start-up's, nevertheless you shouldn't engage the top throttle notch immediately (according to the weight in tow), to avoid wheel slip.

In humid weather and rain the locomotive inclines a lot rather to the wheel slipping, with snow and ice the adhesion gets worse even more. You have to handle the throttle very carefully on start-up and make use of sand, when required. Do not forget, to switch off sanding if not more needed, otherwise you will soon finish with empty sand boxes.

WINDSHIELD WIPER CONTROL

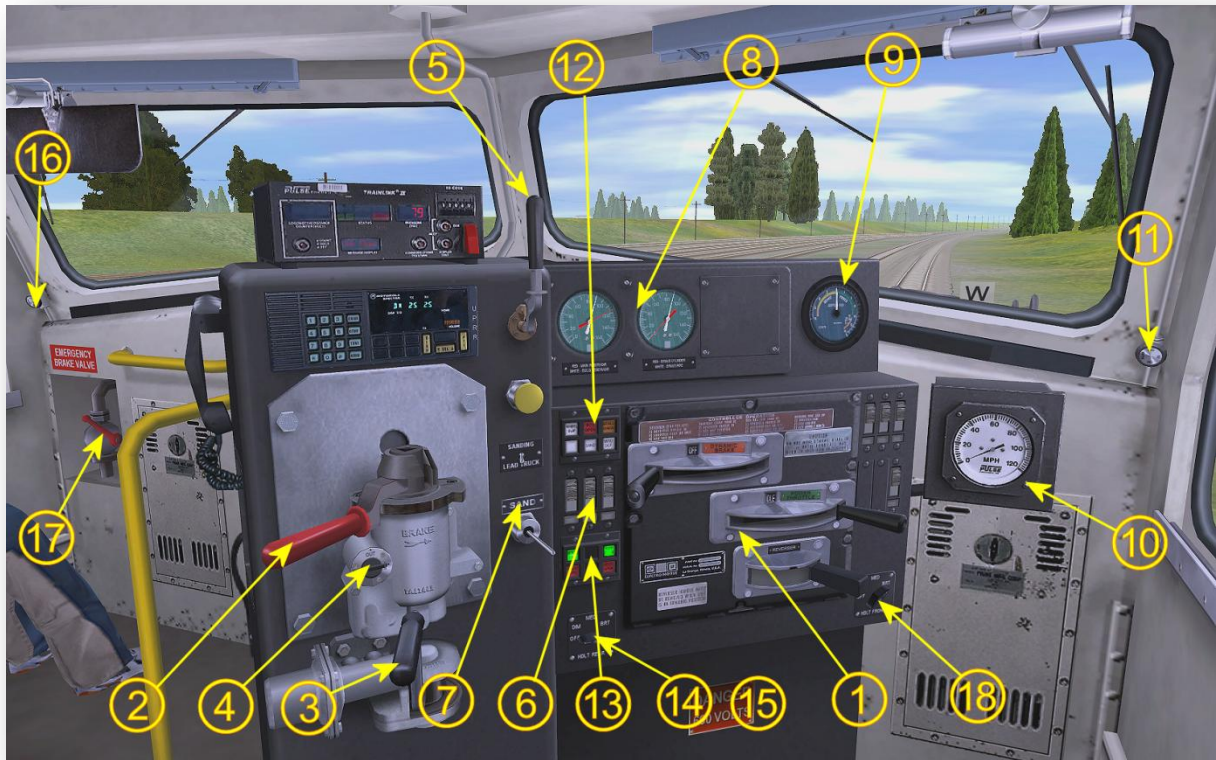
If you control the locomotive yourselves, you are responsible as a train driver for the function of the windshield wipers. (Controls are in the cabin mode). The outside visible windshield wipers follows the wipers in the cabin.

In the AI mode the windshield wipers of the leading locomotive are automatically controlled according to weather condition. With starting rain these start moving after a short time, with storm and heavy rain they switch in the quick speed. The windshield wipers of all other locomotives in the consist remain inactive.

Remark: during the loading process in the station or in an industry the train is always in the AI mode.

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3. Controls, Gauges, Indicators



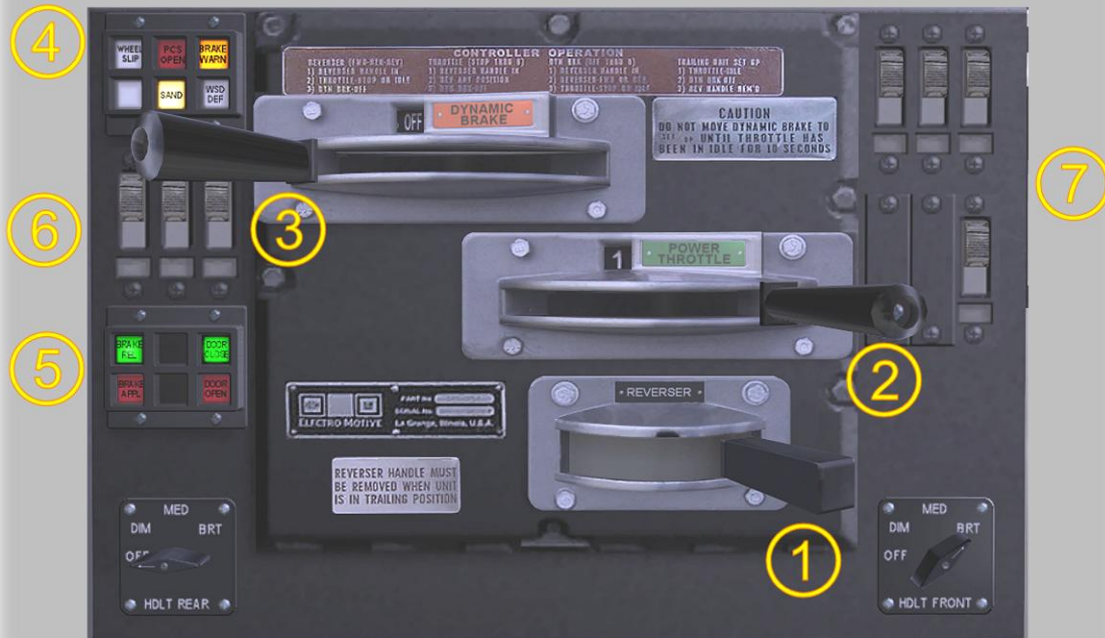
- | | |
|---|-----------------------------------|
| 1. Controller | 10. Speed Recorder |
| 2. Automatic Brake Valve Handle | 11. Right Wiper Control Valve |
| 3. Independent Brake Valve Handle | 12. No. 1 Indicating Lights Panel |
| 4. Cutoff Valve* | 13. No. 2 Indicating Lights Panel |
| 5. Air Horn | 14. Headlight Switch Rear* |
| 6. Light and Operating Switches | 15. X |
| 7. Sand Wobble Switch** | 16. Left Wiper Control Valve |
| 8. Air Gauges | 17. Emergency Brake Valve |
| 9. Load And Dynamic Braking Current Meter | 18. Headlight Switch Front |

* Can be moved but has not specific function

** Moves when you switch the sanding on/off on your keyboard. Cannot be operated with the mouse.

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4. Controller Panel



1. Reverser Handle
2. Throttle Handle
3. Dynamic Brake Handle
4. No. 1 Indicating Lights Panel
5. No. 2 Indicating Lights Panel
6. Light Switches
7. Operating Switches

MECHANICAL INTERLOCKS ON THE CONTROLLER

The handles on the controller are interlocked so that:

- Throttle in IDLE position -
 - a. Dynamic brake handle can be moved to any position.
 - b. Reverser handle can be placed in forward or reverse position if dynamic brake handle is in OFF position.
- Throttle above IDLE position -
 - a. Dynamic brake handle can not be moved.
 - b. Reverser handle can not be placed in forward or reverse position.

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- Dynamic brake handle in OFF position –
 - a. Throttle can be moved to any position.
 - b. Reverser handle can be moved to any position if throttle is in IDLE position.
- Dynamic brake handle moved out of OFF position -
 - a. Throttle can not be moved out of IDLE position into power positions.
 - b. Reverser handle can not be placed in forward or reverse position.

NO. 1 INDICATING LIGHTS PANEL

- **WHEEL SLIP Light**
Indicates slipping wheels. (Differs from prototype function.)
- **PCS OPEN Light**
Comes on to indicate a safety control or emergency air brake application. The pneumatic control switch PCS functions to automatically cut power to the traction motors in the event of a safety control or emergency air brake application. Locomotive power is restored by resetting of the PCS switch. This occurs automatically, provided that:
 1. Control of the air brake is recovered.
 2. The throttle is returned to IDLE position.
- **BRAKE WARN Light**
Indicates the application of any brake.
(Differs from prototype function. There it indicates excessive dynamic braking current.)
- **SAND Light**
Indicates that the "SANDING LEAD TRUCK" switch on the control stand is on to provide continuous sanding at the leading truck of the locomotive consist.
- **WSD DEF Light**
Indicates that the windshield defroster switch is on.

NO. 2 INDICATING LIGHTS PANEL

This indicating lights panel provides indications for functions dealing exclusively with the passenger section of the train.

- **BRK REL Light**
This light indicates a signal from the conductor that the train brake is released. (Without specific function here. The green light is lit permanently)
- **BRAKE APPL Light**
This light indicates a signal from the conductor that the train brake is applied. (Without specific function here. The red light remains dark permanently)
- **DOOR CLOSE Light**
This light indicates a signal from the conductor that the passenger car doors are closed.
- **DOOR OPEN Light**
Indicates open passenger car doors. (Works only if the loco is stopped within an active zone of a passenger platform).

LIGHT SWITCHES

- Instruments lights switch
- Cabin light switch (function can be recognized only by darkness)
- Windshield defroster switch (no specific function yet)