



GE GTELs for Train Simulator 2021 Owner's Manual





Index

A Little Bit of History.....	3
Cab Controls.....	4
Keyboard Controls.....	5
How to Drive.....	5
Included Career Scenarios.....	6
How to Use in Your Own Scenario.....	9
Included Rolling Stock.....	11





A Little Bit of History

Union Pacific operated the largest fleet of gas turbine-electric locomotives (GTELs) of any railroad in the world. The prototype, UP 50, was the first in a series built by General Electric for Union Pacific's long-haul cargo services and marketed by the Alco-GE partnership until 1953. The prototype was introduced in 1948 and was followed by three series of production locomotives. At one point, Union Pacific said the GTELs hauled more than 10% of the railroad's freight.

Fuel economy was poor, for the turbine consumed roughly twice as much fuel as an equally powerful diesel engine. This was initially not a problem, because Union Pacific's turbines burned Bunker C heavy fuel oil that was less expensive than diesel. But this highly viscous fuel is difficult to handle, with a room-temperature consistency similar to tar or molasses. To solve this problem, a heater was built into the fuel tanks (and later into fuel tenders) to heat the fuel to 200 °F (93 °C) before feeding it into the turbine. Eventually UP switched from Bunker C to modified No. 6 heavy fuel oil, which contained fewer pollutants and solvents.

Soot buildup and blade erosion caused by corrosive ash plagued all of the turbines. Changes to the air intake systems on the production turbine locomotives improved the quality of the air that reached the turbines, which in turn reduced the wear to the turbine blades and increased the turbine's running life. The GTELs were operated into late 1969 and the final two (numbers 18 and 26) were stored at the Cheyenne roundhouse in operating condition until being retired in February 1970. Both of these units were later sent to museums.

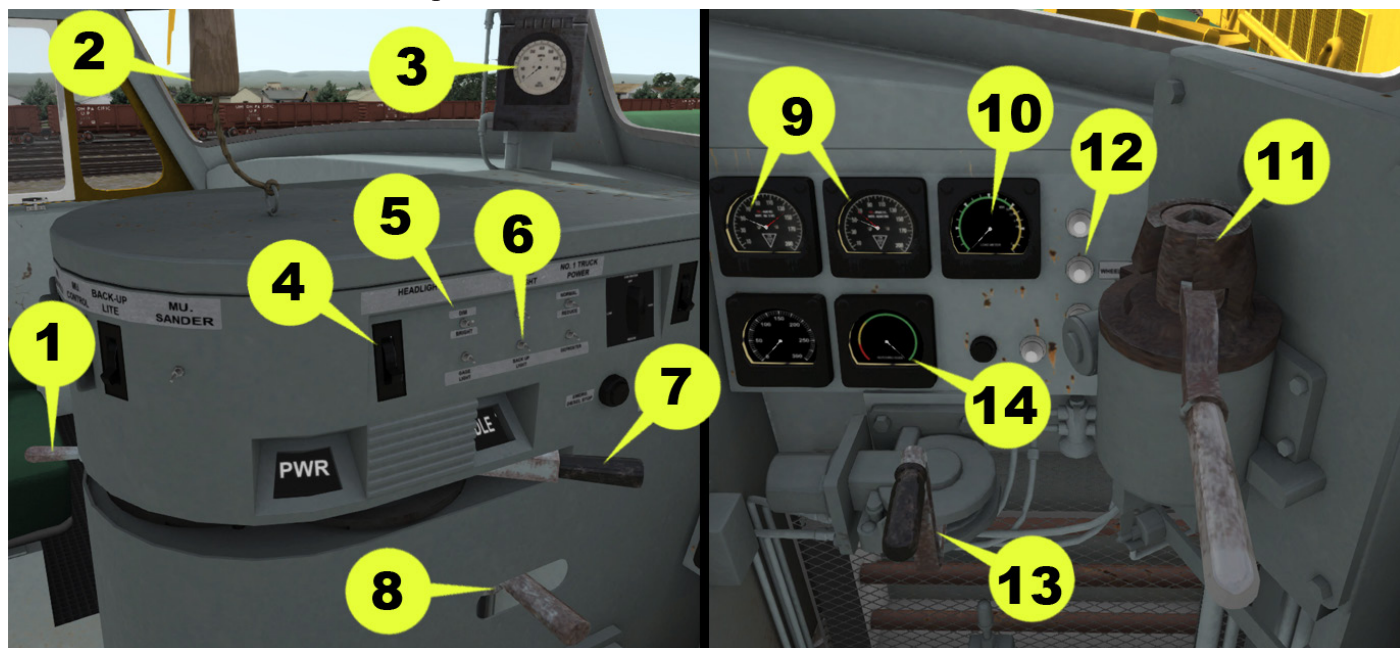
Source: Wikipedia.





GTCLs Cab Controls

Cab doors and windows can be opened with the mouse.



- 1) Selector
- 2) Horn
- 3) Speed Recorder
- 4) Headlights On/Off
- 5) Headlights Dim/Bright
- 6) Gauge Lights
- 7) Throttle
- 8) Reverser
- 9) Air Gauges
- 10) Ammeter
- 11) Train Brake
- 12) Wheel Slip
- 13) Loco Brake
- 14) Notching Guide





Keyboard Controls

W/S = Reverser

A/D = Throttle

`/; = Train Brake

/ = Handbrake

[/] = Locomotive Brake

Z = Start Up / Shut Down

B = Bell

H = Headlights On

H + Shift = Headlights Off

L = Cablight

V = Forward Wipers

Backspace = Emergency Brake

Space Bar = Horn

X = Sander

Shift + E = Side Air Intake (1st Gen)

Shift + R = Roof Details (1st Gen)

Shift + T = Tender Connection

How to Drive

The GE GTEL is easy to drive. Once in game, the engine is ON by default. To start moving it do the following steps:

- 1) Set the Reverser forwards or backwards.
- 2) Release Loco brake if the locomotive is light or Train brake if the locomotive is coupled to a consist.
- 3) Move up the Throttle. Depending on the consist it might need more power to move the train.
- 4) Use brakes levers to stop the train. Loco brake if you are operating a light engine or Train brake if you are operating a consist.

To operate the train with simple controls is even easier. You only have to worry about two controls. Reverser button and Throttle/brake lever. Reverser is usually set to forwards and can be changed with a single click on it. To move the train just move up the Throttle/Brake lever from the brake area, the bottom half, to the power area, the top half. Move it down to the brake area to stop the train.

To apply dynamic brakes first move the Selector lever from PWR to DYN, then use the throttle lever to brake. Dynamic brakes needs 8 second to engage.





Included Career Scenarios

All included scenarios are for Sherman Hill route.

01 - PFE Eastbound

It's a nice summer morning and you are ready to depart driving the UP 4500 HP Gas Turbine Prototype leading the famous Pacific Fruit Express. If the results of the tests on this unit are positive UP will consider purchasing more units to GE. Be careful!

02 - 1st Gen Turbine to Laramie

This evening your task is driving the 1st Generation GTEL #52 leading a manifest train from cheyenne to Dale. It's a heavy train, be patient with the throttle. Once at Dale your shift will be over.

03 - Oil to the West Part 1

It's a warm summer morning. This is your first service today driving your 2nd Gen GTEL leading an oil tanker to Laramie. Grab a mug of coffee and prepare to climb the Sherman Hill.

04 - Oil to the West Part 2

It's a warm summer morning. This is your first service today driving your 2nd Gen GTEL leading an oil tanker to Laramie. Grab a second mug of coffee and prepare to down the Sherman Hill.





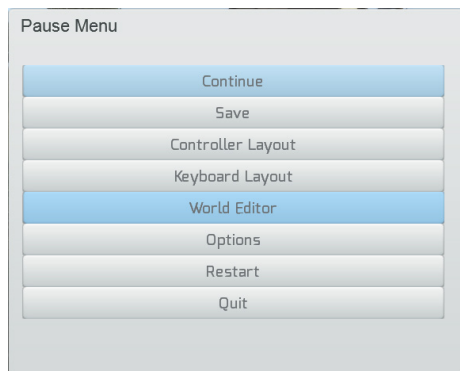
Digital**T**rain**M**odel

GE GTELs

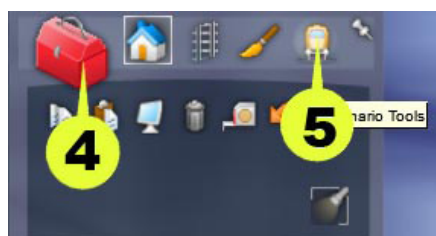




How to Use This in Your Own Scenario



- 1) Open your desired route.
- 2) Press Esc key.
- 3) Click on World editor from the pop up menu.



- 4) Go to the Tool Box panel.
- 5) Click on the Scenario icon.
- 6) Click yes from the warning pop up.



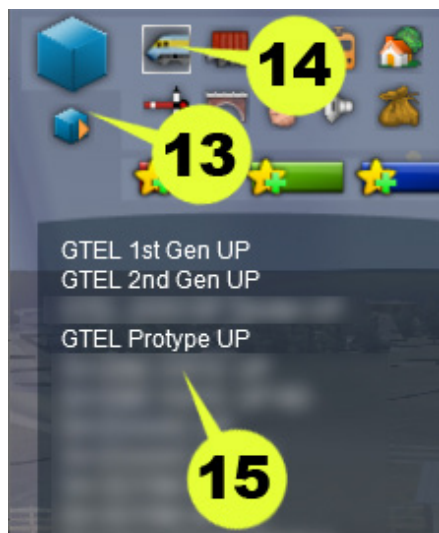
- 7) Go to the Browser panel.
- 8) Click on the Object Set Filter icon.



- 9) Go to the Browser Panel at the right of the screen.
- 10) Click the roll out menu.
- 11) From the roll out menu click on DTM.



- 12) Click the GTELS UP checkbox.



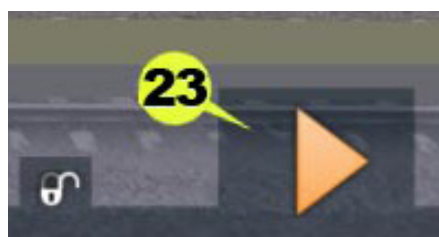
- 13) Return to the Browser panel.
- 14) Click on Engines & Tenders icon.
- 15) Click the any of the GTEL pack units.
- 16) Click on the track to place it.



- 17) Go to the Rolling Stock panel.
- 18) Click any of the GTEL trucks
- 19) Click on the track to place it. Note that the Prototype use the same truck at both ends. Then move them under the turbine until coupling.



- 20) Return to the Tool Box panel.
- 21) Click the Driver icon.
- 22) Click on the engine.



- 23) Click the Play icon.
- 24) Save the changes in your scenario.
- 25) Drive your locomotive.





Included Rolling Stock



GTEL Prototype UP (with and without cab crew)



GTEL 1st Gen UP (with and without cab crew)





GTEL 2nd Gen UP (with and without cab crew)



GTEL Front Truck, GTEL Prototype Front Truck and GTEL Rear Truck
© 2020 Digital Train Model (DTM), All rights reserved



GTEL 4500 HP Tender UP



PFE R-30-6



4000 Gal. Tank Car



46ft Gondola UP (loaded with pipes or rolled steel)
© 2020 Digital Train Model (DTM), All rights reserved



40ft Boxcar UP (Brown01, Brown02 and Yellow)



Caboose CA-5
© 2020 Digital Train Model (DTM), All rights reserved



UP mark used under license

Thanks to:
Ricardo Rivera
Gary Dolzall
Dovetail Team

www.facebook.com/Digitaltrainmodel/



Instagram @digitaltrainmodel

DTM
Digital Train Model

