

Fueling the J&S Dreamland Express

Ensuring Adequate Fuel

To ensure the train does not run out of fuel, we change the fuel tank after 2-3 hours of operation. Normally, this happens at the shift change. This means that prior to beginning a day's operation, we ensure that we have at least two full tanks, one mounted on the engine and one spare. At the end of a weekend's operation, the coordinator should refill the fuel tanks.

Removing the Fuel Tank from the Engine

**** Always wear gloves to handle tanks. ** (We keep a pair behind the driver's seat.)**

1. Close valve on tank (turn clockwise).
2. Unscrew the hose from the tank. Position hose so it is out of the way of the "shelf" so that the tank can be removed easily.
3. Uncouple the two clamps that hold the tank. Driver-side clamp comes off, passenger-side clamp stays on.
4. Slide tank out towards passenger side. Caution: tanks are heavy!

Filling Tanks

Tanks are normally filled at Ferrell Gas, located at 309 Fruitland Street, Kennewick. Take the key from the engine, which has attached to it a round key needed to operate the propane pump.

If we need fuel and can't refuel at Ferrell Gas (e.g., when their tank is empty), you may get fuel at another retail source. Save the receipt; you will be reimbursed in a timely manner. After filing a claim with the Treasurer. However, not all propane sellers can fuel our tank fittings. Also, it will certainly *cost us more money* as we get a wholesale rate from Ferrell, so do not use an alternate source if Ferrell Gas can supply us. If you do use an alternate source, you should have them to fill our tank with their equipment or show you how.

**** Always wear gloves to refill tanks. ****

1. Point the valve handle on the ground toward the Ferrell office building.
2. Reset the meter on the Ferrell tank by rolling dial back to 0.
3. We use the left hose (farthest from Ferrell office building). Uncap the tank's connection valve and attach the hose securely to the tank.
4. Close the small relief valve on the return hose by setting the valve handle perpendicular to the line.
5. Open the little bleed valve on the top of the tank ½ turn left. (*Do not open the bleed valve any farther than ½ turn!*)
6. Insert the round pump key into hole C5 and turn the pump on.
7. Open the fuel delivery valve on the large hose at our tank. To open: release the locking "catch" to straighten the handle so that it is perpendicular to the line. This allows gas to flow into the tank.
8. Let the tank fill while watching the Ferrell meter and the bleed valve. These are 10 gallon tanks, but they should cut off at about 80% full (approximately 8 gallons).

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9. Stop loading when the Ferrell meter stops, OR the little bleed valve is emitting a steady stream. Close and latch the delivery handle on hose to stop the flow of gas. Unless you have more tanks to fill, turn off the pump with the key in C5.
10. Close the bleed valve (turn clockwise). Do not over tighten.
11. Open the relief valve on the hose by aligning the valve handle with the line to bleed it.
12. There should be no pressurized gas escaping when you begin to disconnect the hose. When nothing is coming out of the return line on the ground, disconnect fuel line from tank.
13. Screw the fuel nozzle back into Ferrell's holder.
14. Replace the cover on our tank's connection valve. If you have more tanks to fill repeat from step #2.
15. Reset the valve handle on the ground to the off position (perpendicular to both lines).
16. Annotate the activity sheet with the number of gallons loaded into our tank(s).
17. Take the key with you! Return the key to the train.

Replacing the Fuel Tank on the Engine

**** Always wear gloves to handle tanks. Full tanks are heavy. Get help if needed! ****

1. Slide tank in from passenger side.
2. Rotate the tank so that the spigot for the fuel hose points down.
3. Couple the two clamps that hold the tank. **Warning:** Push the clamps closed with the heel of your palm. Do not wrap your fingers around the clamp when trying to close it. If a clamp won't close, try closing the other clamp first.
4. Attach the hose to the tank. Sometimes, when reattaching the hose, the valve does not seat properly to the hose and the engine will run out of gas after a few feet. If so, close the valve (clockwise), unscrew and carefully reattach the hose, open the valve and reopen the valve (counterclockwise).