



Fueling your Mirai with Hydrogen

Hydrogen Basics

Hydrogen (H₂) tank capacity is described using mass in kilograms (kg), unlike the volume units for gasoline (gallons, liters, etc.).

1 kg of H₂ has approximately the same energy as 1 gallon of gasoline. Because FCEVs are about 2x as efficient as gasoline vehicles, less fuel is needed. The Mirai holds approximately 5 kgs.

The amount of fuel in the vehicle tank is described as the State of Charge (SOC). Most stations are designed to provide between 95~100% SOC, but may be less during periods of high demand.

After refueling your Mirai, the indicated driving range will be based on two factors, the ending SOC of the fuel tank and the average past fuel economy.

H35 vs. H70 Standards

Some hydrogen fueling stations have two different fueling nozzles: H70 for full-capacity and H35 for half-capacity. H70 & H35 are measures of pressure: H70 is approximately 70MPa / 10,000PSI; H35 is approximately 35MPa/5,000PSI. The Mirai is compatible with both the H35 and H70 nozzles, however, it is optimized for H70 fueling, which contributes to a longer driving range.

H35 fueling adds hydrogen at half the pressure of an H70 station. If using H35, Mirai drivers should be aware of the following:

- Fueling from empty, and H35 nozzle can only fill Mirai's tanks half way, resulting in a reduced driving range.
- If Mirai has half a tank of hydrogen or more remaining, an H35 nozzle will not be able to add additional hydrogen to the tanks.
- Many stations offer both H70 and H35 pumps, so look carefully and use the H70 (when available).



For more information, refer to the Toyota Mirai Owner's Manual—Refueling. If you notice anything unusual with the vehicle receptacle or O-rings, please notify your Authorized Toyota Mirai Dealer. If you notice anything unusual with the hydrogen dispenser or nozzle, please notify the hydrogen station operator. Revision Date: February 2022.

Mirai Refueling Tips

Several Factors Affect Refueling Your FCEV

- The design capacity of the station
- Hardware at the station may be under maintenance or repair. Please check station status using the California Fuel Cell Partnership website (m.cafcp.org) or a smartphone app.
- The availability of hydrogen fuel at the station
- The ambient temperature (a warmer temperature will increase the fueling time)



Communication Fills

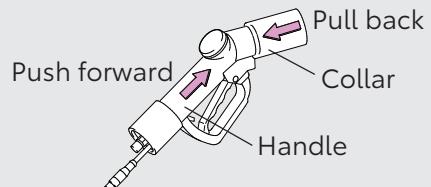
The Mirai is equipped with infrared communication that allows the station to provide a "full" vehicle tank, typically between 95-100% SOC, using an H70 nozzle.

If the infrared communication system between the station and vehicle is not working, then the station will only provide a partial fill. Depending on the design of the station, this will result in 1/2 ~ 3/4 full tank indicated on the fuel gauge, and reduced indicated driving range.

Nozzle freeze

During periods of high-humidity, the nozzle may become frozen and unable to disconnect from the vehicle for a period of several minutes or longer. In this condition, do not pour water or spray any chemicals on the nozzle.

TIP: For the WEH H70 nozzle, you may try pulling the collar back with one hand while pushing forward on the handle. This may help to thaw the nozzle mechanism and aid in removal.



Mirai

FUEL CELL ELECTRIC VEHICLE

FUELING THE TOYOTA MIRAI



Fueling a Mirai

Fueling the Toyota Mirai is similar to fueling a gasoline vehicle. Here are a few reminders:

1. Ensure that your Mirai is OFF and in Park with the parking brake set.
2. Press the fuel-filler door opener switch on the lower left side of the dash.
 - The fuel-filler door will not open if the READY indicator on the instrument panel is illuminated.
 - TIP: The fuel-filler door will automatically re-lock if not opened within 30 seconds.
3. Open the fuel-filler door by pushing inward to release, remove the cap and place it on the holder.
4. Follow the instructions of the hydrogen station and the information in this guide.

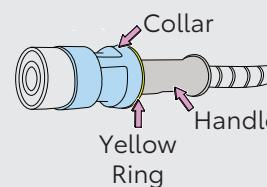
Need Assistance? Call Customer Support toll free at **1-800-331-4331 (option 3)**



There are Four Different Hydrogen Nozzles Currently in Use

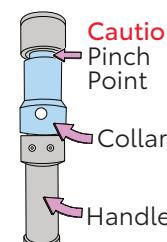
① Tatsuno H70

70 MPa/700 bar/10,000 psi



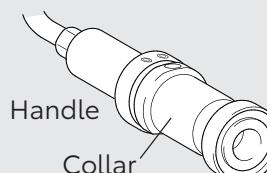
- The integrated collar snaps into place with a "click," creating a secure connection.
- The Tatsuno nozzle is the most common nozzle type.**

- Grasp the black handle with one hand, and support the blue collar with the other.
- Place the nozzle on Mirai's fuel receptacle and push toward the car using the handle.
- A yellow ring will be visible below the collar when the nozzle is fully connected. To ensure a positive connection, gently tug on the handle. Begin fueling.
- Once fueling is finished, grab the black handle with one hand while supporting the blue collar with the other, just as before.
- Pull on the collar and the nozzle will release. Keep pulling until the nozzle is fully disconnected.
- If the nozzle cannot be removed after fueling, it may be frozen. Wait for the nozzle to thaw before attempting to remove. Do not pull or rotate the nozzle forcibly or damage will occur.



② Walther H70

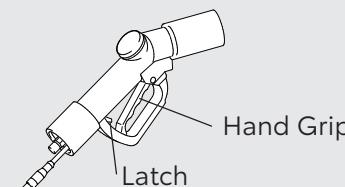
70 MPa/700 bar/10,000 psi



- Operation of the Walther nozzle is identical to that of the Tatsuno nozzle with one notable exception: When connected, the Walther indicator ring is green.

③ WEH H70

70 MPa/700 bar/10,000 psi

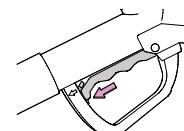


- The integrated hand grip locks and unlocks the nozzle, creating a secure connection for safe fueling.

- Make sure that the nozzle is fully seated onto the receptacle. This is the first step to help create a secure connection for safe fueling.
- To lock the nozzle to the vehicle, squeeze the hand grip until the latch is engaged
- To ensure a positive connection, gently tug on the handle. Be careful to not squeeze or contact the hand grip when checking if the nozzle is secure, as it may unlock the nozzle.

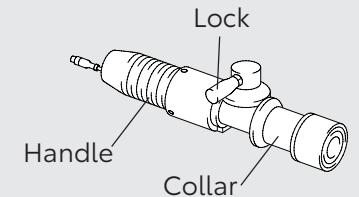
CAUTION: Ensure that the nozzle lock is properly engaged to the vehicle. Failure to do this may result in the nozzle coming off when the flow of hydrogen begins. This may result in damage to the nozzle, station, vehicle, your own person or people near the fueling station.

- Begin fueling.
- After fueling is complete, pull the latch to unlock the hand grip.
- If the nozzle cannot be removed after fueling, it may be frozen. Wait for the nozzle to thaw before attempting to remove. Do not pull or rotate the nozzle forcibly or damage will occur.



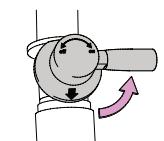
④ WEH H35

35 MPa/350 bar/5,000 psi

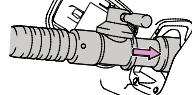


- The integrated collar snaps into place with a "click" and the cam lock handle rotates clockwise, creating a secure connection.
- H35 allows for up to a half tank fill from empty.

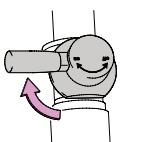
- Make sure the lock is positioned fully counterclockwise to the OFF position, as shown in the illustration. The lock will be pointing to the right of the nozzle.



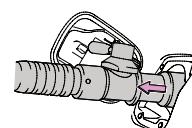
- Hold the handle and fully insert the nozzle onto the receptacle.



- Rotate the lock fully clockwise to the ON position. The lock will be pointing to the left of the nozzle.

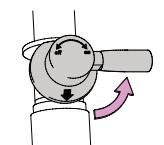


- To ensure a positive connection, gently tug on the handle.



- Begin fueling.

- After filling is complete, rotate the lock fully counterclockwise OFF. The lock will be pointing to the right of the nozzle.



- Hold the handle and collar, pull back on the collar to unlock and remove the fuel nozzle.

