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Toyota Mirai (2014 - 2020)

The future according to Toyota

First impression | Toyota made a big promise. It promised to build cars that produce no harmful emissions at all. The Prius was a good start. Its modern technology reduced emissions significantly, but not to zero. Thus, an emission free vehicle would be introduced by 2015. And... Toyota kept its promise because that revolutionary vehicle is now on sale! Meet the Toyota Mirai.

Haven't emission free vehicles been around for ages? They are called "electric cars" and almost all brands offer one. Certainly! But, electric cars have two big drawbacks: they have a very limited range and charging the batteries takes a lot of time.

To force a real breakthrough, these problems have to be solved. And while battery technology is improving, the revolution everybody is waiting for doesn't come. That's why Toyota decided to focus on an entirely different technology: the fuel cell.

The Toyota Mirai is propelled by an electric motor, just like an electric car. The difference is that the required electricity is not only supplied by a battery, but mainly by a small on-board "power plant". The so-called "fuel cell" converts hydrogen, which is stored in gaseous form in a tank, into electricity and water. The water that the Mirai emits is so pure, that one could (theoretically) drink it.

Fuelling up on hydrogen is like fuelling a car with LPG and takes just 2 or 3 minutes. On a full tank of gas (122 litres at 700 bar) the Mirai can cover about 650 km, and thereby the biggest problem of electric vehicles is solved.

Vicious circle

Regrettably, a new problem is introduced instead: all the time hydrogen cars are rare, fuel stations won't offer hydrogen. And all the time hydrogen isn't available, no one will buy a hydrogen car. Therefore, the most important purpose of the Mirai is to break this vicious circle.

Honda and Hyundai already offer hydrogen cars, but these are either too expensive (Hyundai) or only available for lease (Honda) to a small audience. As of now, the Mirai is actually on sale in Japan. Europe will follow in September 2015, with Denmark, Germany and the UK as the primary markets. In Japan the Mirai costs about 48,000 euro.

Sedan

And that price tag may well be the biggest revolution! The Mirai is far more affordable than its rivals. This means that Toyota is the first brand that offers a hydrogen car that can really compete with traditional petrol or diesel cars.

Size-wise the Mirai can be compared with a BMW 5-Series or Mercedes-Benz E-Class. And when it comes to trim levels and cabin space the Mirai is in the same league as well. The special technology doesn't go at

the expense of the cabin space. The Mirai is a bit taller than the average luxury sedan, with an easier entry as a "perk".

The cabin looks modern, almost futuristic and yet familiar. Regrettably Toyota doesn't use any eco-friendly or biodegradable materials like BMW does. Those who know the Prius will feel right at home in the Mirai: most buttons, knobs and displays are exactly the same. Driving the Mirai doesn't require any special skills; everyone can drive this revolutionary car.

One button is unique just for the Mirai: the CO2 button. While driving, water drips from the "exhaust". To prevent a water trail in a garage, all the liquid in the "exhaust tank" can be flushed at the push of a button. The damping hot water then tinkles onto the ground as if the car is urinating...

Handling

During this first drive a Japanese spec car was driven in Japan. In many cases cars are fine-tuned to suit the

taste of different drivers in different parts of the world. For example, the Japanese prefer soft suspension and ultra light steering. But... even this Japanese spec car impresses with its dynamic handling!

The tall body didn't result in a high centre of gravity. On the contrary! All major technical components are located right underneath the seats, giving the Mirai a low and central centre of gravity. Therefore, roadholding is excellent.

Because of the unusual set-up, the weight distribution of the Mirai differs from traditional sedans and the Mirai is obviously better off! The Mirai eats corners with an enthusiasm that is rare for luxury sedans. After cornering fast, the Mirai balances back quicker as well!

And when it comes to performance and comfort, the Mirai is also superior to traditional petrol and diesel vehicles. The electric engine delivers its power with much more ease, giving the driver a superior feeling. Up to speeds of 70 km/h (43 mph) the Mirai is so eager that only the most sporty sedans in its class can compare.

On top of that, the electric motor and fuel cell perform their duties in absolute silence. This is why the Mirai is also more comfortable than a traditional sedan. Toyota had a good reason to name this revolutionary vehicle "Mirai"; it is the Japanese word for "future".

Conclusion

Big news from Toyota! The "Mirai" promises to start a revolution in the automotive world. Thanks to "fuel cell" technology the Mirai offers all the strong points of a traditional car, but without the harmful exhausts. But is the Mirai as revolutionary as Toyota says it is? Honda introduced a similar car many years ago, but only offers it as a lease car to a selected audience. Hyundai introduced a hydrogen car mere months ago.

Toyota now reduces the price of hydrogen technology and wraps it in a more appealing body. Because this hydrogen vehicle isn't a huge SUV, but a luxury sedan, it can compete with traditional cars on price, performance, equipment, space, range and handling. On top of that the Mirai is more comfortable, while the emissions are zero.

The only problem that remains is the limited number of hydrogen fuel stations. But because Toyota makes the hydrogen car more affordable, this problem is likely to be solved. This means the Toyota Mirai really is a big step into the future. ■

Specifications
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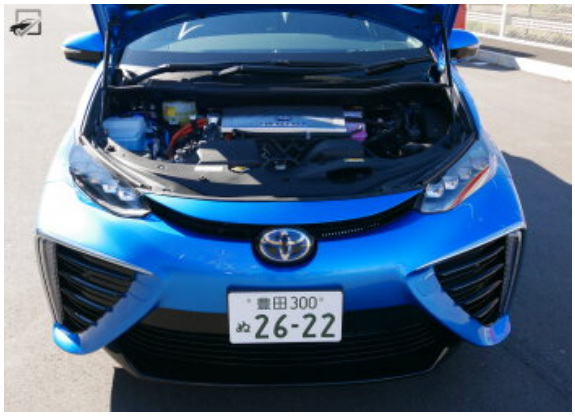
Size and weight

Length x width x height	489 x 182 x 154 cm
Wheelbase	278 cm
Kerb weight	1.850 kg
Trailer	unknown
Trailer - braked	unknown
Fuel capacity	123 l
Luggage space	l
Tyre size	

Engine and performance



Capacity	unknown
Cylinders / valves	
Max power	154 PS @ 1 rpm
Max torque	335 Nm @ 1 rpm
Drive	front wheels
Acceleration 0 - 62 mph	9.6 secs
Top speed	178 km/h
Mileage urban	unknown
Mileage urban	unknown
Mileage extra urban	unknown
CO2 emissions	unknown

Price

Price	Â£ 0
Price base model	Â£ 0