

Rappel:
1 GALLON= 3,7 litres (US) mais 4,5 litres (GB)
1 MILE = 1.6 km

A

The gas engine

Power: **76-horsepower**

Volume: **1.5 liter**

Number of cylinders: **4**

The electric motor

Power: **67 horsepower**

Average gas consumption: **55 miles per gallon**

Acceleration: **from zero to 60 miles per hour** (= mph) **in around 60 seconds**

What is used in town? **The electric motor**

And on the highway? **The gas engine**

What can be surprising when you drive the Prius on a highway?

The engine shuts off = turns off when you stop (at a tollbooth for example)

B

Type of transmission: **CVT** (What does it stand for?) **Continuously Variable Transmission**

Type of gear system in the CVT: **planetary gear system**

2 advantages of this gear system: **more reliable** ("greater reliability") + **more silent**

C

Type of screen: **LCD screen** on the dashboard

Information shown on screen: **Mileage data** + a **graphic** to show which system is on (electric motor or gas engine)

What did the "CalCars" hackers want to do when they transformed a Prius?

To reduce use of the gas engine

What is specific about the Priuses in Europe?

They have an "electric only" button

D

Compare the aerodynamics of a Prius with that of an average SUV:

Low-profile tires + **spats** around the front wheel to reduce turbulence + a **chin spoiler** + a **rounded shape** + a **drag coefficient of .26** (.35 for SUVs)

Give 2 examples of details that improve the Prius' aerodynamics:

E

Type of battery used: a **nickel-metal hydride battery**

What are the 2 types of dangers associated with this battery?

Battery leakage + puts out over 200 volts

What protections have been found against these dangers?

A plastic casing + the high-voltage system is automatically disabled in case of impact.

+ **high-voltage wiring is colored orange** to identify it

Duration of guarantee: **8 years** (or 100,000 miles)

Price of new battery: **\$ 3,000**

F

Specific role of the brakes on a Prius:

When you hit the brakes , **the energy is captured and reused** / it charges the battery

G

Difference between the Prius and other vehicles in terms of emissions?

Cleaner = it reduces gasoline use

What is new about the engine coolant? Why is it beneficial in terms of gas emissions?

The engine is kept warm = it eliminates extra pollution created when a cold engine starts up.

It **generates 80% less smog-forming emissions**

The **engine coolant is kept at the correct temperature**