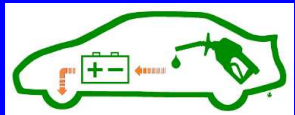


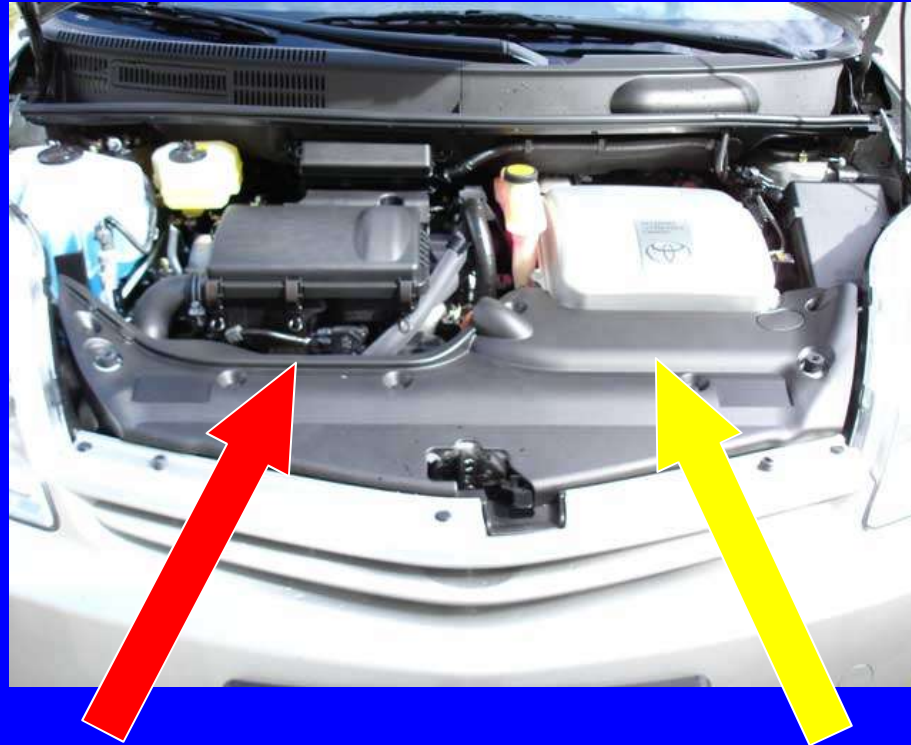
Une voiture hybride pour économiser l'énergie:



La Toyota PRIUS II



Soulevons le capot..



Moteur à essence + Moteur électrique

= véhicule hybride



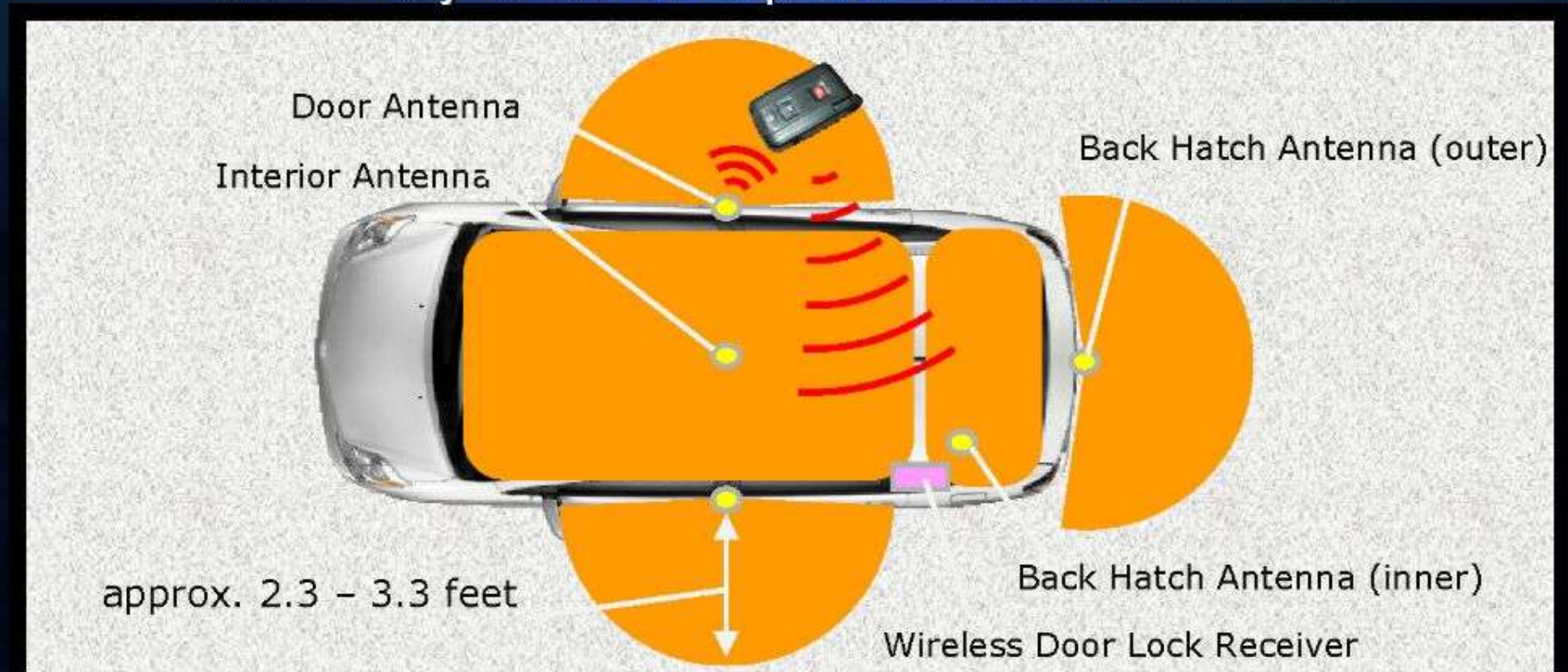
Pourquoi une voiture hybride?

- Pour tenter de consommer moins de 5l/100k
- Pour réduire les émissions de CO₂

20.000 Km annuel = 1 tonne de CO₂ en moins!!!

Smart Entry & Smart Start

- Antennas send request signals to Smart Key
- Smart Key receives request and sends ID code



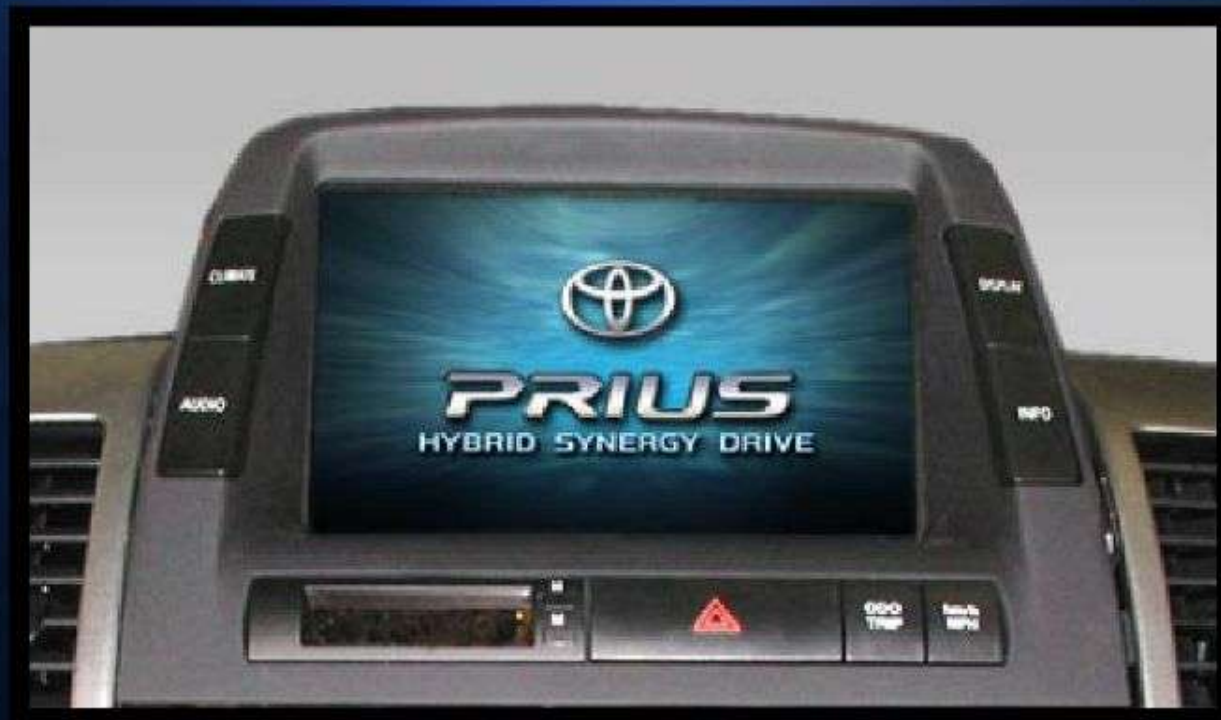






Multi Display

- 7" LCD screen with pressure-sensitive touch screen display



Multi Display



Energy Monitor Display



Air Conditioning Control



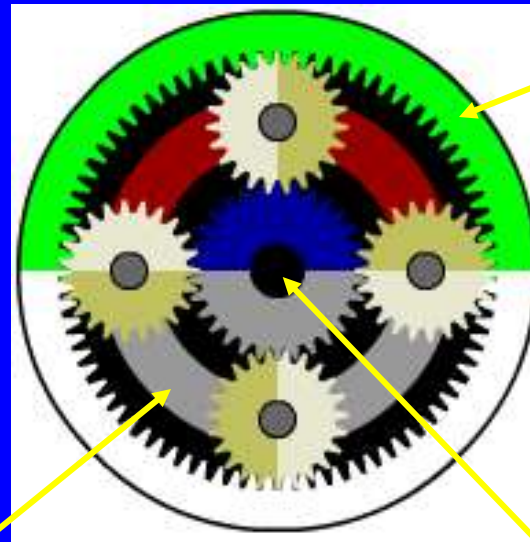
Navigation Display



Hands Free Telephone



Différentiel planétaire Variateur



Moteur électrique

Pas d'embrayage!

Moteur à essence

Génératrice

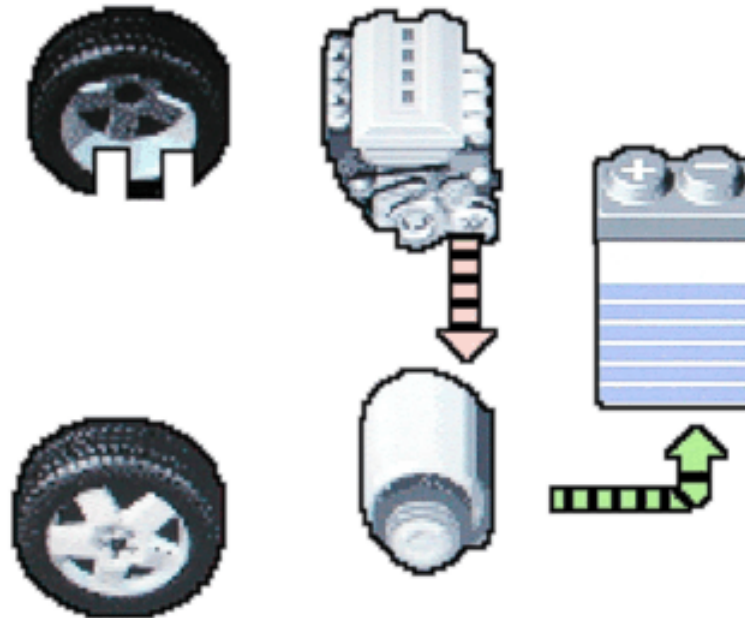
Battery

- Increased Specific Power (35%)
- Reduced Modules (38→28)
- Same Power (21 kW)



Sealed Nickel-Metal Hydride (Ni-MH)

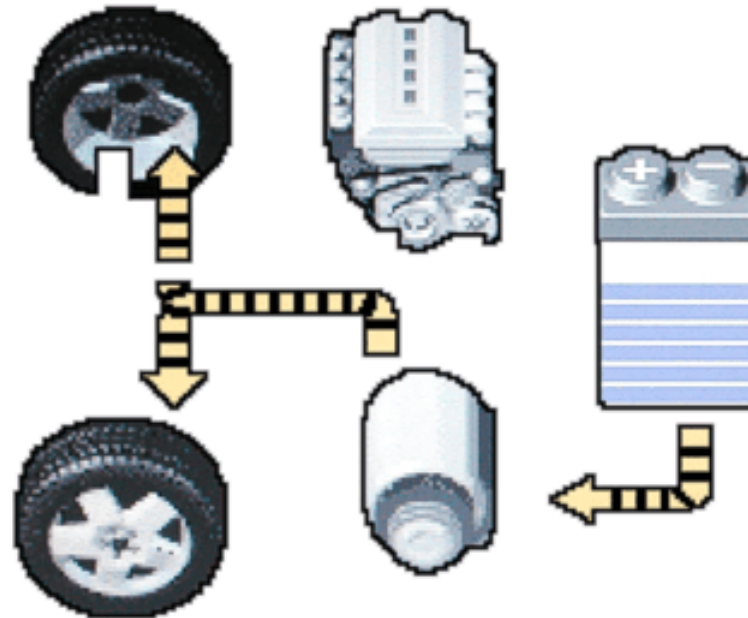
Charge seule



Charge Only

When you first startup the Prius and while waiting in traffic, the engine will sometimes create electricity to replenish the battery.

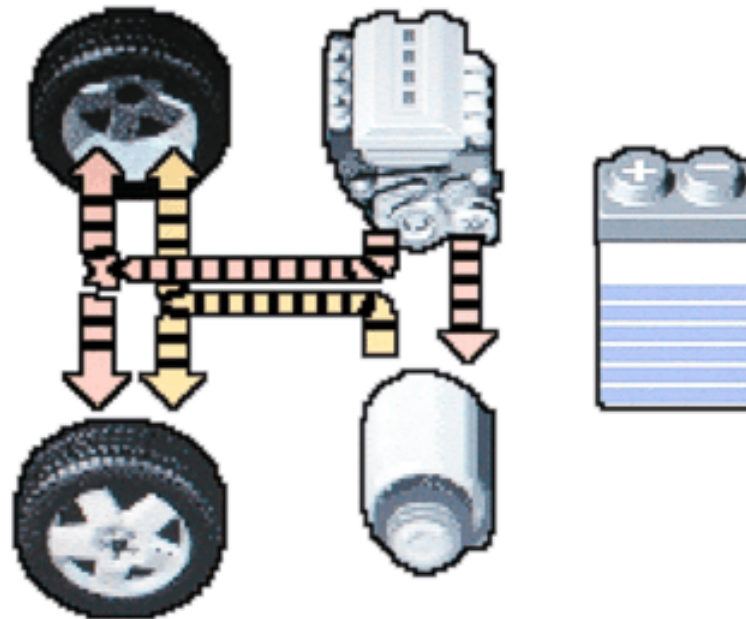
Traction électrique seule



Battery Only

Propulsion is sometimes provided exclusively using the electric motor & battery-pack. The engine can shut off during this time.

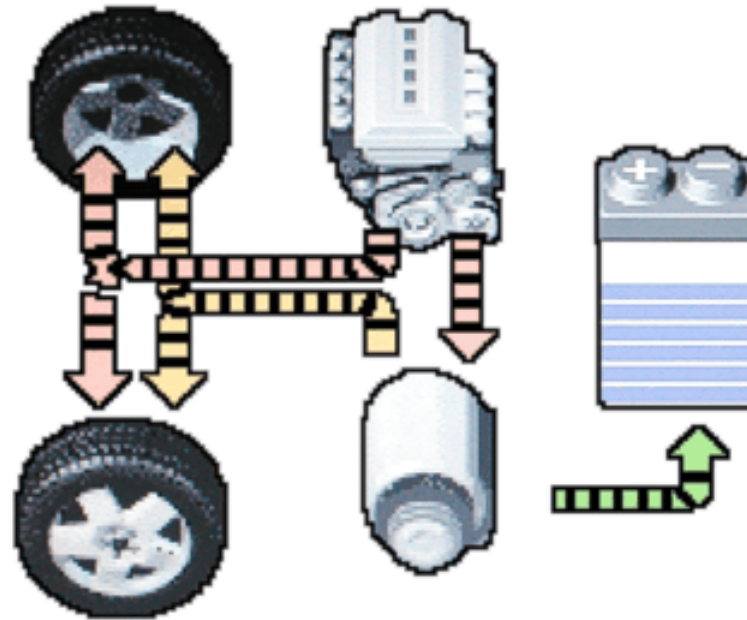
Accélération "normale"



Moderate Acceleration

This configuration is very common when accelerating, including when you need to merge onto a highway. This is also the method Prius uses to climb most hills.

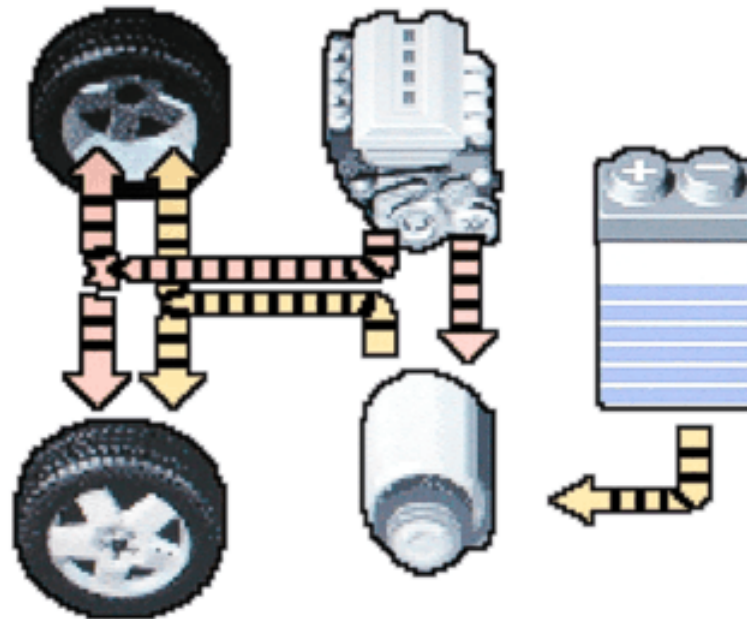
Pleine puissance



High Power

When moderate acceleration isn't enough, the engine speed will increase. The result is more electricity being created than needed, so the battery-pack is charged too.

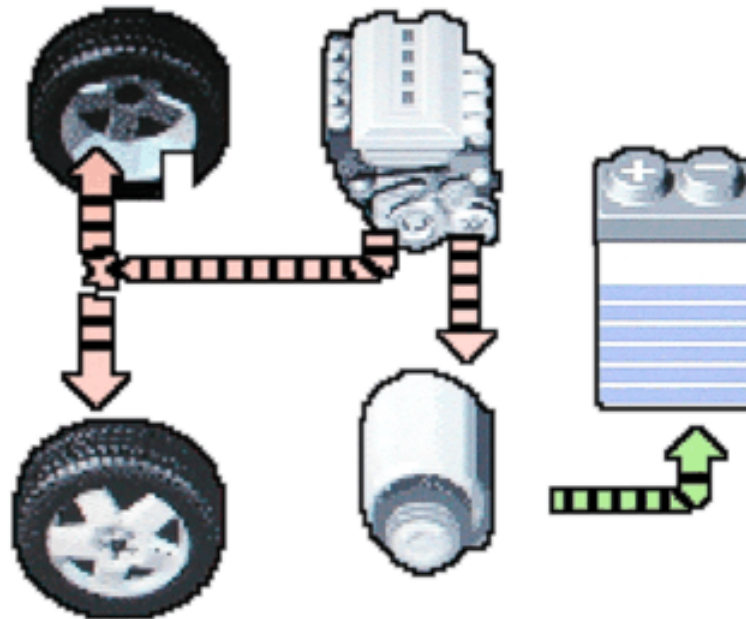
Légère montée



Full Power & Slowing

This mode occurs in 2 very different situations, when maximum thrust is needed and when gradual slowing occurs.

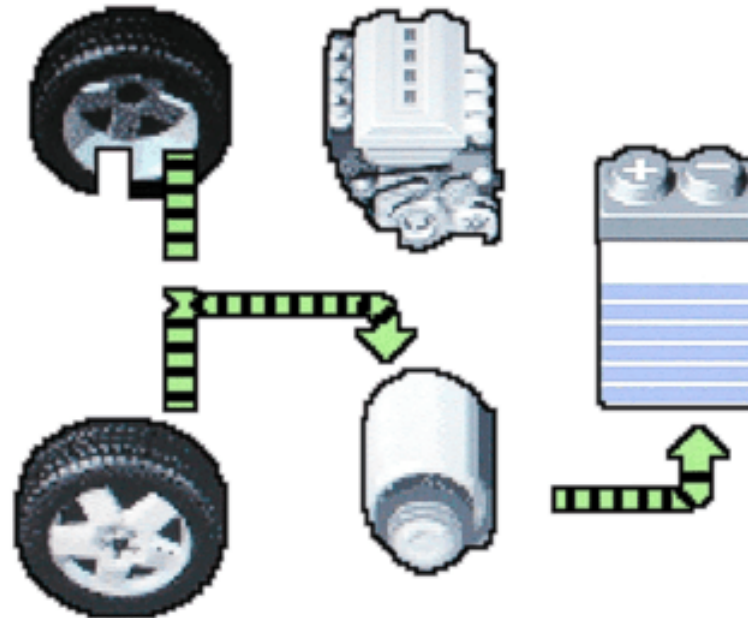
Mode "autoroute"



Highway Cruising

This is the most common behavior while traveling at a constant speed on the highway. This electrical activity often surprises those researching how Prius operates.

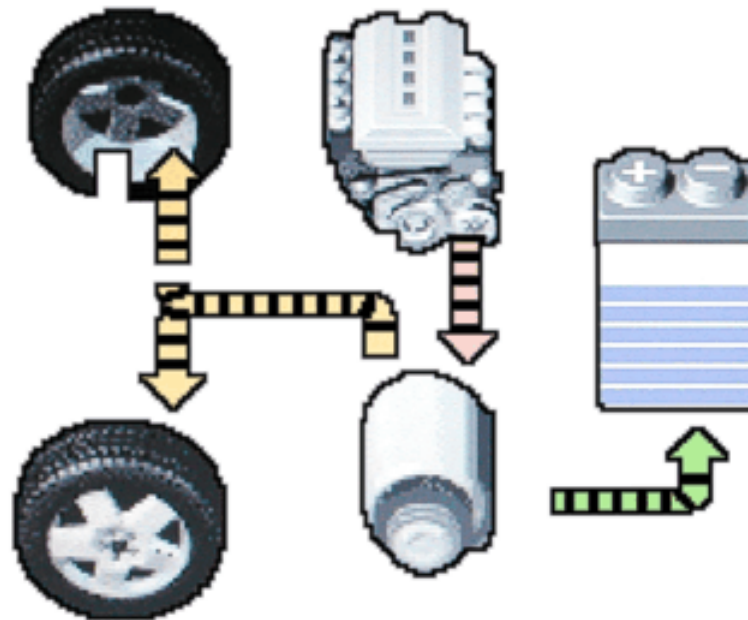
Décélération



Regenerating

When you step on the brake or remove your foot from the accelerator, the system will automatically convert the kinetic energy to electricity for the battery-pack.

Marche arrière



Electric Drive/Charge

This rare occurrence happens because Prius simplifies design by eliminating a reverse gear; instead, backward motion is provided exclusively by the electric motor.

A l'arrêt, le silence...



Conclusion

- L'ingénieur doit tenir compte des coûts écologiques lors de la conception d'un produit
- La technologie hybride est une bonne solution pour faire face à la pénurie de pétrole et à son coût élevé pour les 20 ans à venir
- Impossible à réparer par un mécano non spécialiste...

