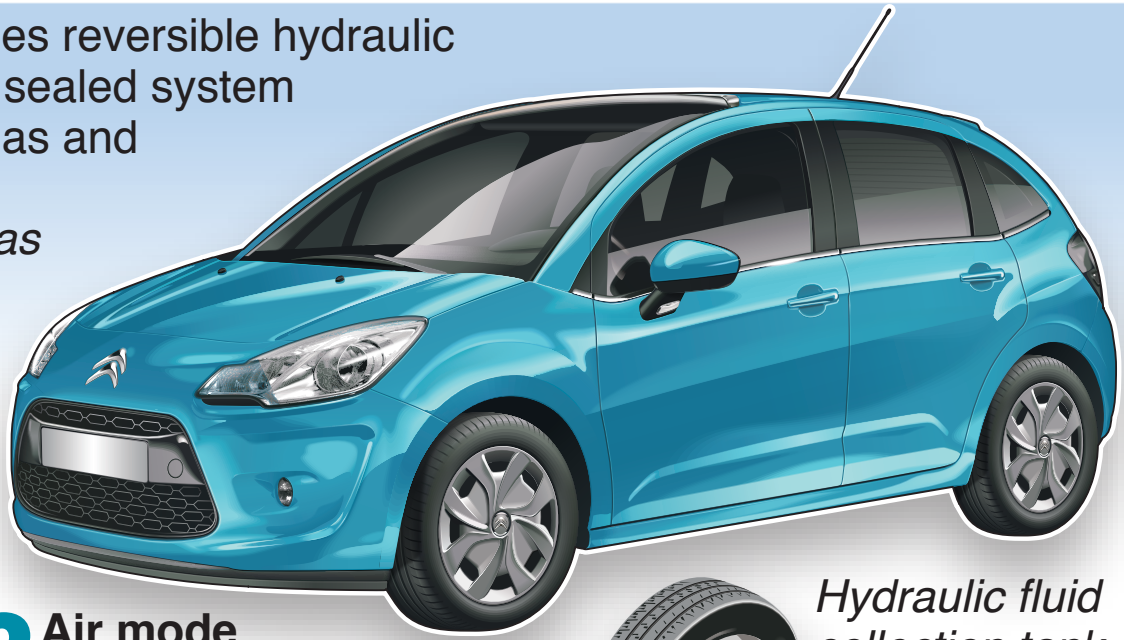
Peugeot Citroen's Hybrid Air technology

Peugeot's Hybrid Air system uses a high-pressure air tank rather than heavy batteries to store recaptured energy. Air power can boost both fuel economy and cut CO_2 emissions by as much as 45 percent

Hybrid Air system: Uses reversible hydraulic motor/compressor and sealed system that contains nitrogen gas and hydraulic fluid

Prototype Citroen C3 has achieved fuel economy of 2.9 litres per 100km (81mpg), and CO2 emissions of 69g/km



1 Petrol mode
1.2-litre, three-cylinder, petrol engine drives front wheels and compressor

2 Air mode
Compressed gas forces fluid through hydraulic motor to drive wheels

3 Energy capture
Kinetic energy from braking drives compressor. System re-pressurized in 10 seconds

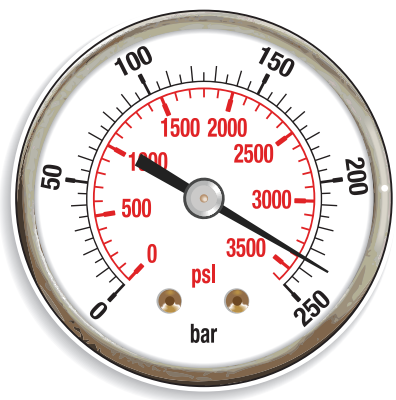
Hydraulic fluid collection tank

Petrol engine

Petrol tank

Hydraulic fluid line

Pressure tank: 20 litre tank contains nitrogen at 250kg/cm^2 (3,600psi) plus hydraulic fluid. *Energy stored in tank is equivalent to about 25cm^3 of petrol*



Hydraulic motor/ compressor

Sources: Neil Winton, Citroen