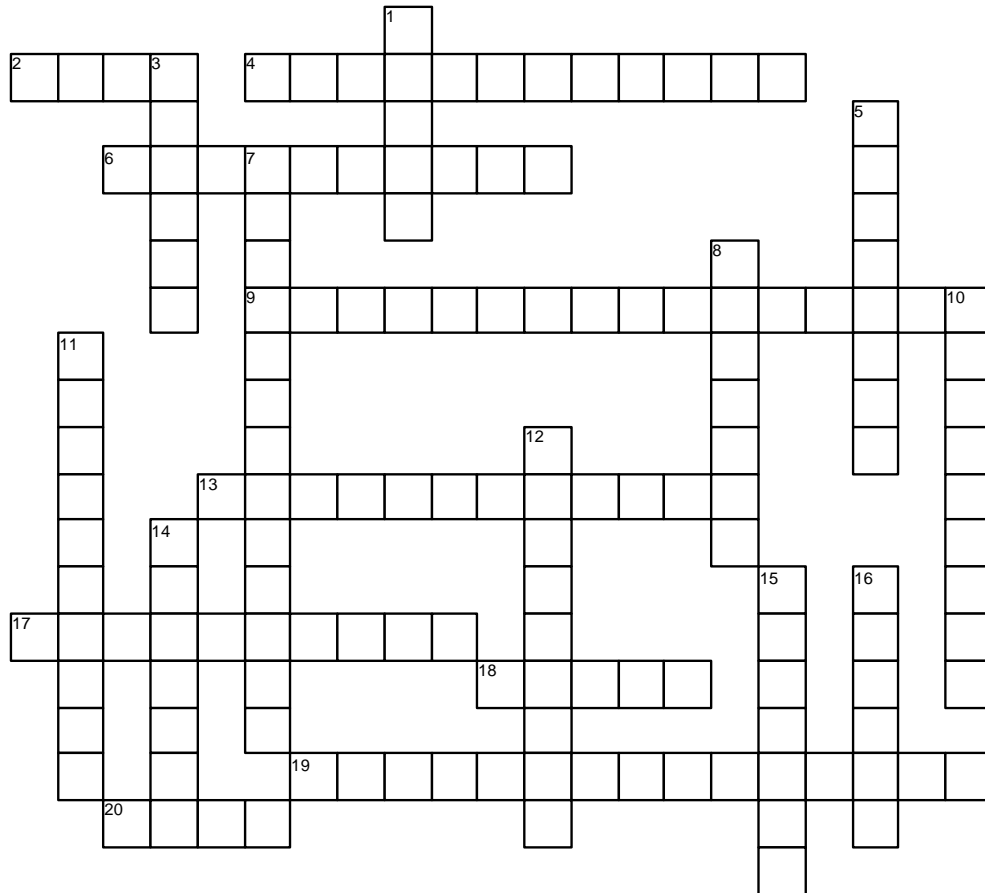


Regenerative Braking Systems

Chapter 21



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ACROSS

- 2 Regenerative braking can be extremely powerful and can recover about 20% of the energy normally wasted as brake _____.
- 4 Electricity becomes electrical energy, which is directed to and recharges the high-voltage battery. This process is called _____ or simply reclaiming energy.
- 6 Regenerative brake systems use a _____ position (BPP) sensor as an input signal to the brake ECU.
- 9 All series regenerative braking systems use an _____ brake system, which includes the hydraulic control unit that manages the brake cylinder pressure, as well as the front -rear
- 13 _____ rates are measured in units of "feet per second per second."
- 17 Inertia is the fundamental property of physics that is used to reclaim energy from the vehicle, instead of using 100% friction brakes (_____).
- 18 A _____ applied to move an object results in the equation: $F = ma$.
- 19 Most hybrid electric vehicles use unique _____ that do look like conventional _____.
- 20 _____ is the amount of matter in an object.

DOWN

- 1 _____ is short for regeneration.
- 3 All vehicles generate _____ to move the wheels to drive the vehicle down the road.
- 5 _____ regenerative braking systems use the base (friction) brakes along with energy recovery by the motors becoming generators.
- 7 A hybrid electric vehicle reclaims energy by converting the energy of a moving object, called _____, into electric energy.
- 8 Regenerative _____ is the process of slowing the vehicle using the drive motor as a generator that is driven by the momentum of the vehicle.
- 10 One of the major concerns with hybrid vehicles is rust and _____ on the brake rotors and drums.
- 11 Brakes slow and stop a vehicle by converting kinetic energy into heat energy, which is then _____ to the air.
- 12 The Toyota Prius is equipped with a center dash LCD that shows how many _____ - _____ of regeneration have occurred every five minutes.
- 14 If a moving object has a mass, it has _____.
- 15 Regenerative braking _____ the overall life of the battery pack.
- 16 In _____ regenerative braking systems, the amount of regeneration is proportional to the brake pedal position.

