

THE INTELLIGENCE SAFETY

THINK SAFETY. THINK PROTON



THE INTELLIGENCE SAFETY

THINK SAFETY. THINK PROTON

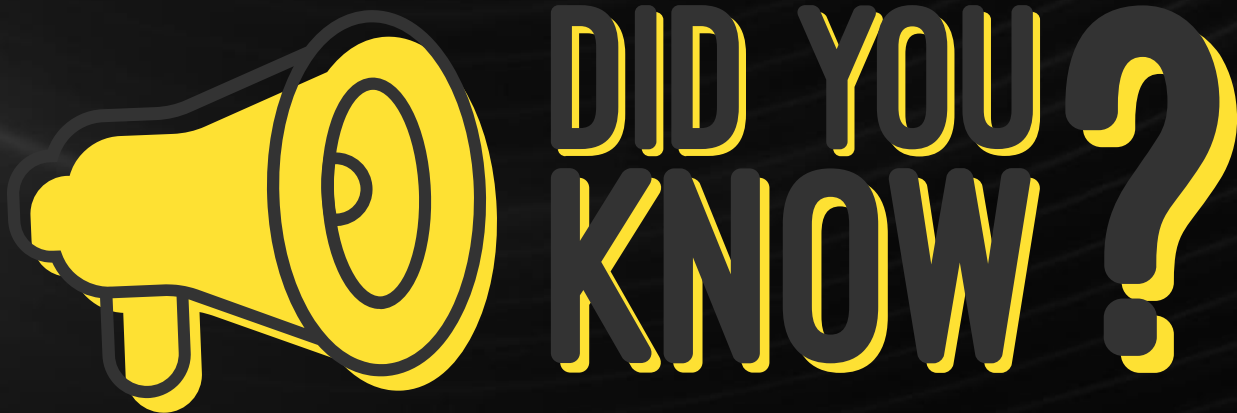


PROTON



WHY SAFETY IS IMPORTANT ?

- To minimize the occurrence and consequences of traffic collisions



Based on the value of statistical life' (VSOL) year of 2018 by MIROS, the Malaysian government has lost at least 3.12 million for each life. An average of 18 persons are killed in road accidents every day in Malaysia



SAFETY LEVEL

PASSIVE SAFETY



PROTECTION
During Accident

- Does not do any work until it is called to action.
- These features become active during an accident.
- Minimize damage and reduce the risk of injury during impact.

ACTIVE SAFETY



PREVENTION
Before Accident

- It works to prevent an accident.
- These systems always stay active while you drive, and continuously work to keep you from getting into an accident.

COGNITIVE SAFETY



PREDICTION
Way Before Accident

- Designed to remove human error when driving.
- ADAS systems will assist the driver during driving and thereby improve drivers' performance.

THE INTELLIGENCE SAFETY

THINK SAFETY. THINK PROTON



PROTON

HOW WELL DID YOU
KNOW ABOUT SAFETY
FEATURES ?





SAFETY LEVEL

PASSIVE SAFETY



PROTECTION
During Accident

- Does not do any work until it is called to action.
- These features become active during an accident.
- Minimize damage and reduce the risk of injury during impact.

ACTIVE SAFETY



PREVENTION
Before Accident

- It works to prevent an accident.
- These systems always stay active while you drive, and continuously work to keep you from getting into an accident.

COGNITIVE SAFETY



PREDICTION
Way Before Accident

- Designed to remove human error when driving.
- ADAS systems will assist the driver during driving and thereby improve drivers' performance.

THE INTELLIGENCE SAFETY

THINK SAFETY. THINK PROTON



PROTON

PASSIVE SAFETY



HPF and multi-strength steel structure for optimal crash energy management



6 Airbags for optimum occupant protection



Pretensioner belts.

Whiplash protection ready seats.

Emergency door opening and fuel cut off

THE INTELLIGENCE SAFETY

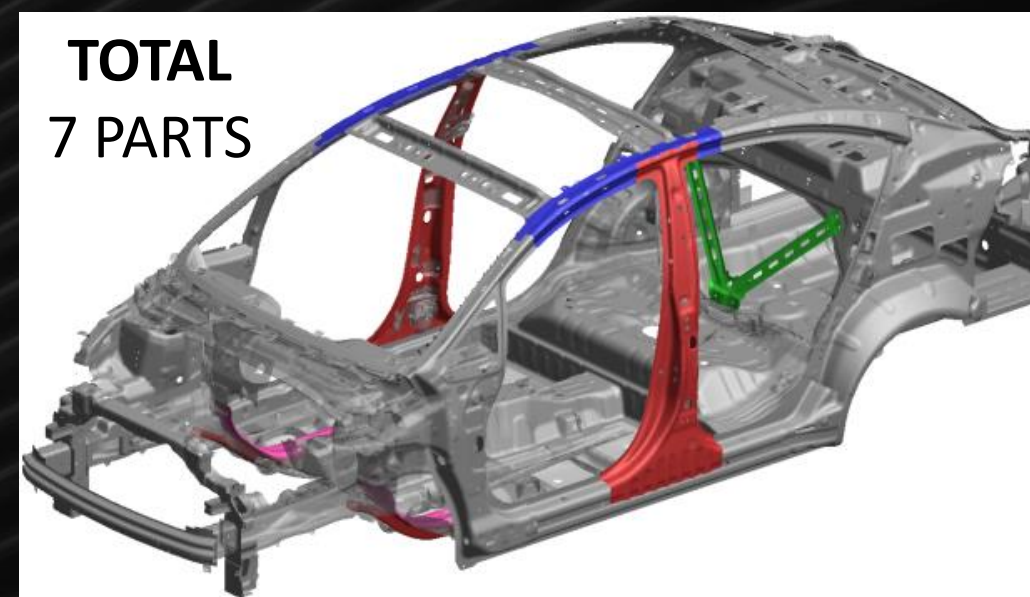
THINK SAFETY. THINK PROTON

HOT PRESS FORMING



Hot Press Forming (HPF) Technology

This technology produces a high tensile strength partly to ensure better torsional body rigidity while retaining the ideal weight for better fuel efficiency.



5X Stronger

- Compared to normal galvanized of any car
- 1470/1650 Mega Pascal (Mpa) in critical sections.



HPF Body structure helps keep passengers safe during a collision

THE INTELLIGENCE SAFETY

THINK SAFETY. THINK PROTON

SRS AIRBAG



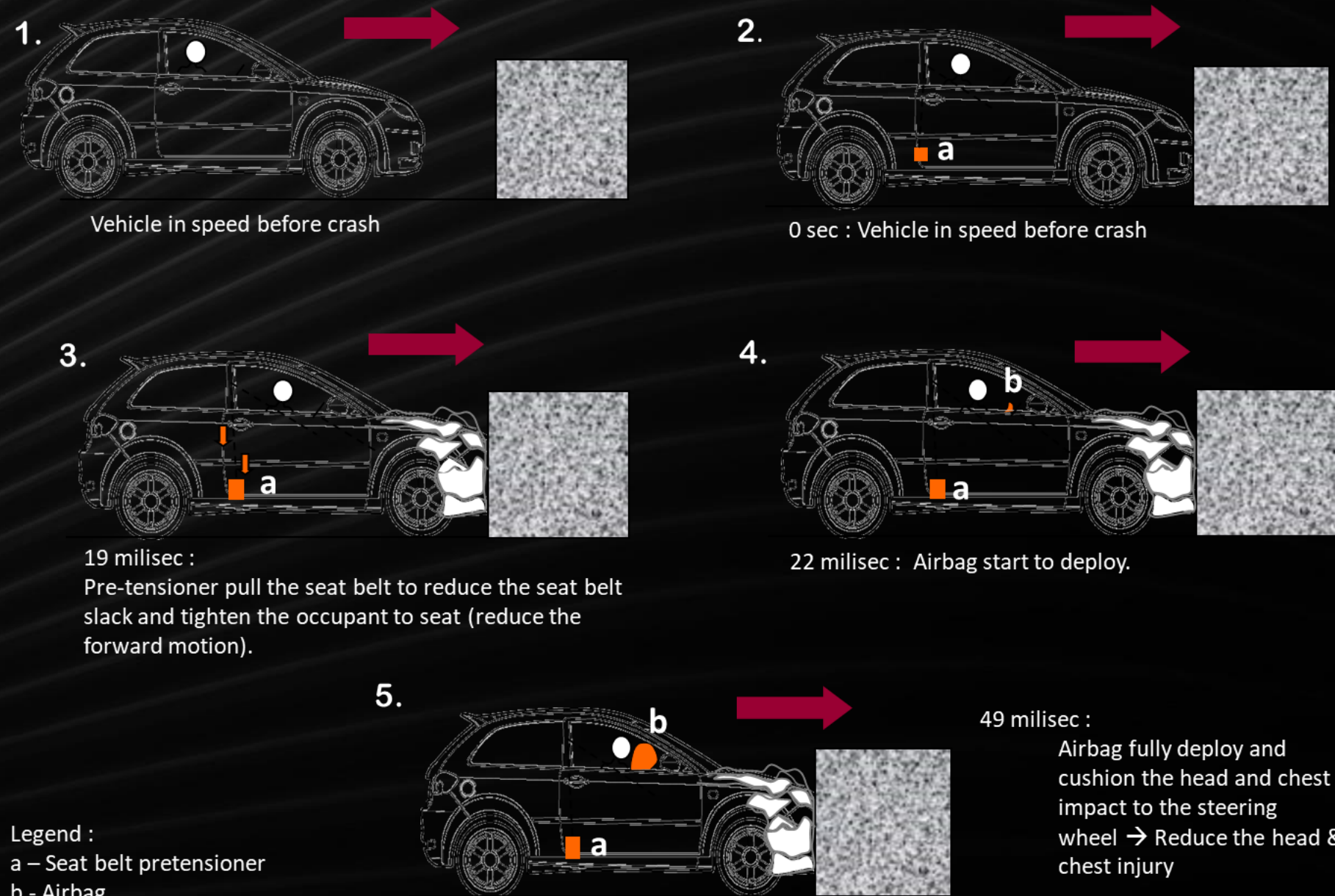
PROTON

Supplemental Restraint System (SRS) Airbag system is designed to supplement the seatbelt system and improve occupant protection in a certain type of vehicle collision.

- Its purpose is to minimize injuries to occupants during crashes and provide protection to their bodies



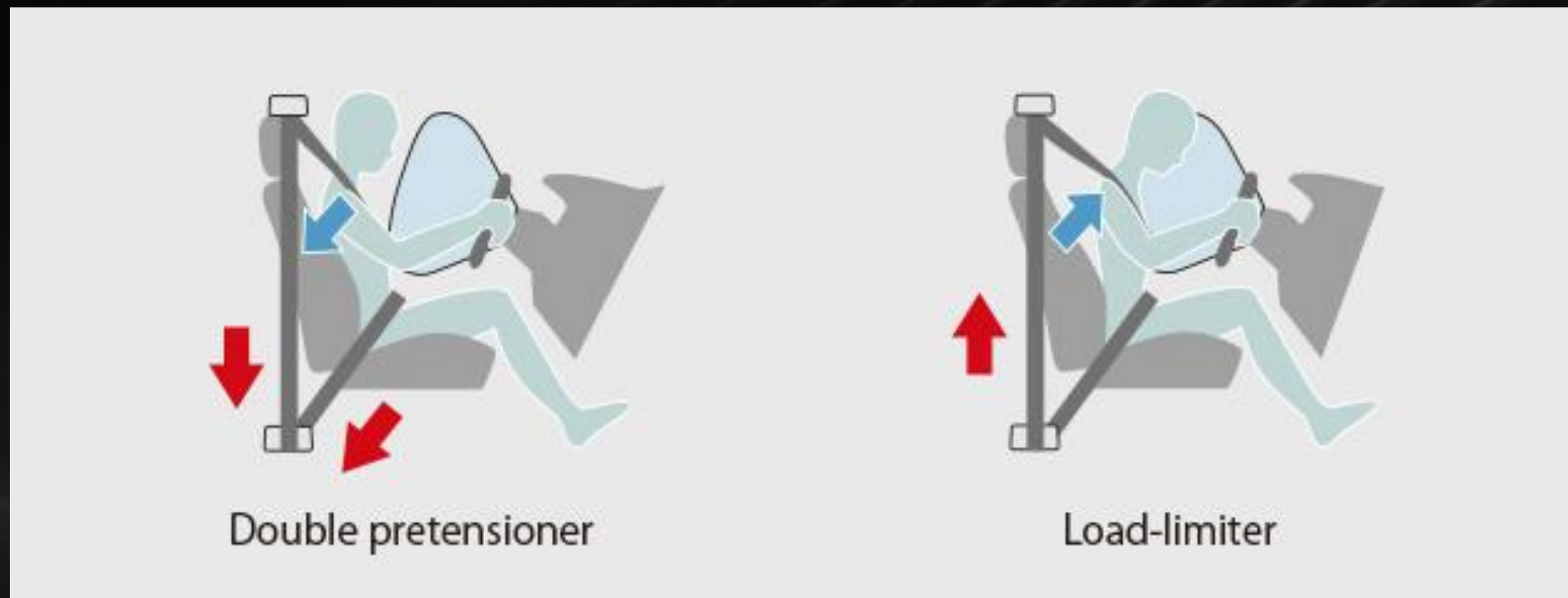
HOW IT WORKS



PRE-TENSIONER WITH LOAD LIMITER



- **Pre-tensioner** - Hold the driver and front passenger firmly in their seats immediately after the collision.
- **Load Limiter** - Once the pre-tensioner of the retractor is activated, the seatbelt is pulled back. Then load limiter would act as a certain pulling load is achieved and release back the seatbelt to prevent the chest from being compressed more than it should.



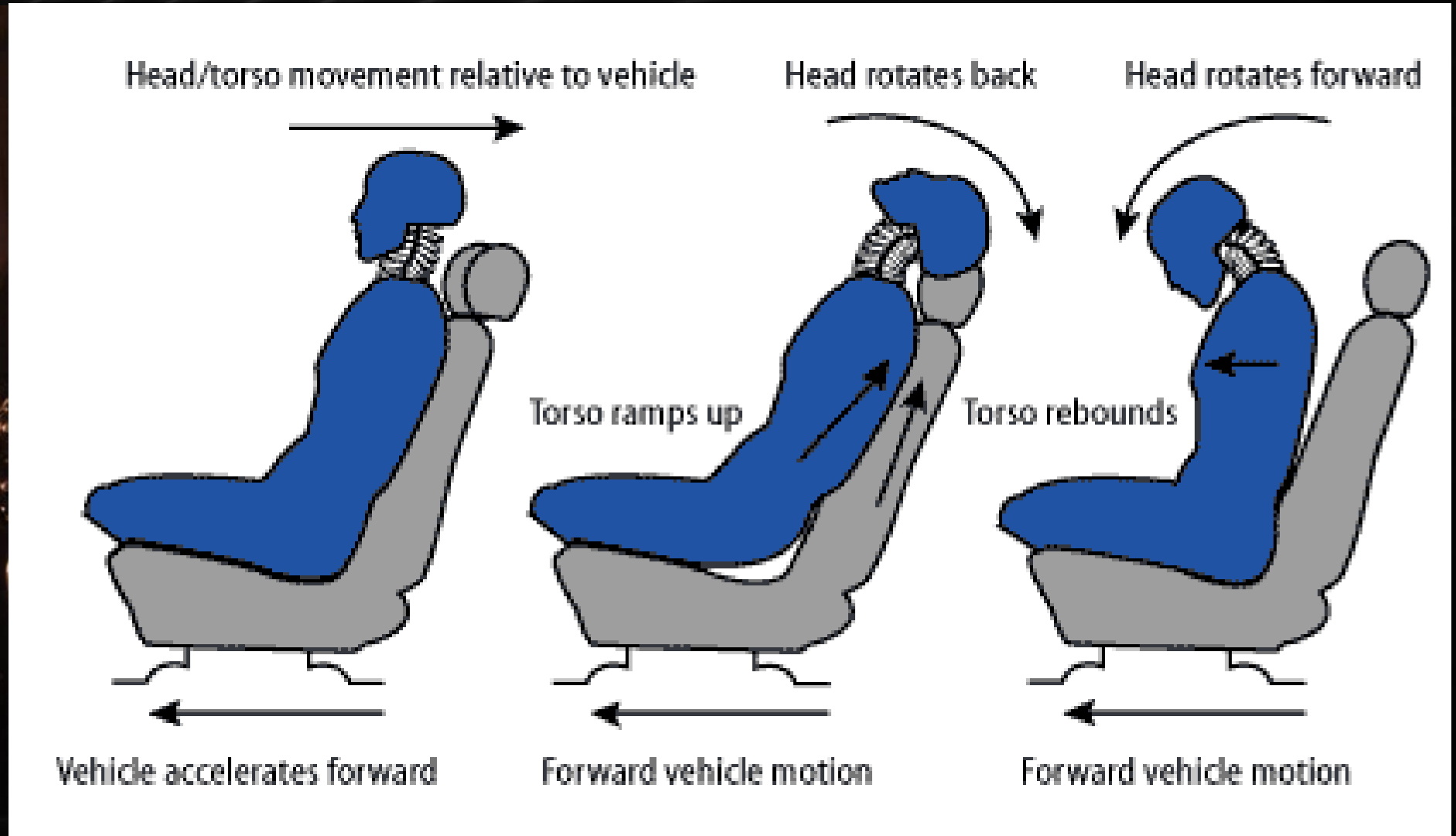
Designed to operate only one time. After activation, pre-tensioner seat belts must be replaced.

- To secure the occupant against harmful movement that may result during a collision or a sudden stop



THINK SAFETY. THINK PROTON

- **Whiplash Protection Headrests** are designed to restrict head movement during a rear-impact collision and reduce the chance of neck and shoulder





SAFETY LEVEL

PASSIVE SAFETY



PROTECTION
During Accident

- Does not do any work until it is called to action.
- These features become active during an accident.
- Minimize damage and reduce the risk of injury during impact.

ACTIVE SAFETY



PREVENTION
Before Accident

- It works to prevent an accident.
- These systems always stay active while you drive, and continuously work to keep you from getting into an accident.

COGNITIVE SAFETY



PREDICTION
Way Before Accident

- Designed to remove human error when driving.
- ADAS systems will assist the driver during driving and thereby improve drivers' performance.

THE INTELLIGENCE SAFETY

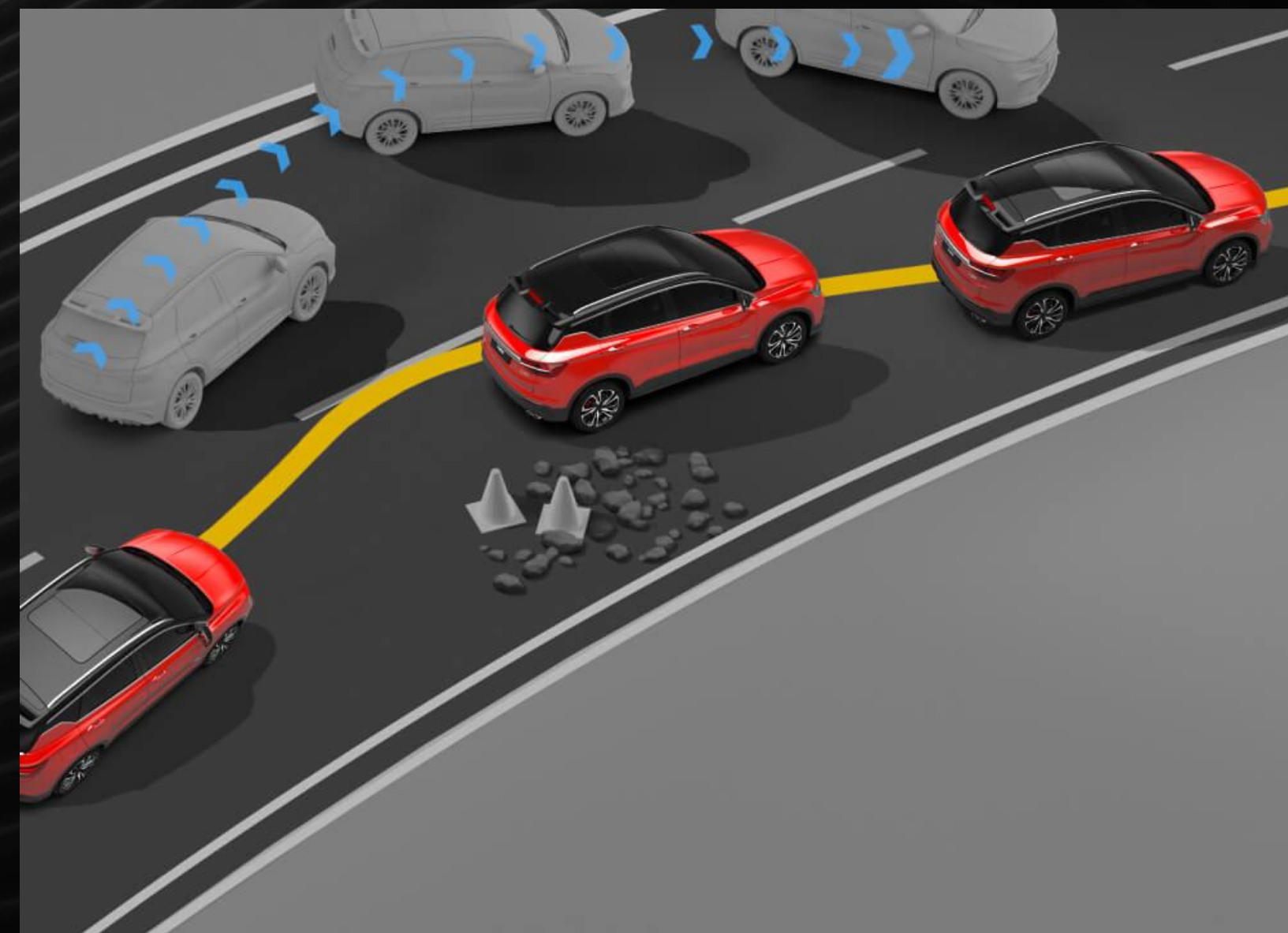
THINK SAFETY. THINK PROTON



PROTON

ACTIVE SAFETY

- **ABS** – Anti-Lock Braking System
- **EBC** – Electronic Brake Distribution
- **BA** – Brake Assist
- **ESS** – Emergency Stop Signal
- **EPB** – Electronic Parking Brake
- **HHA** – Hill Hold Assist
- **HDC** – Hill Descent Control
- **ESC** – Electronic Stability Control
- **TCS** – Traction Control System



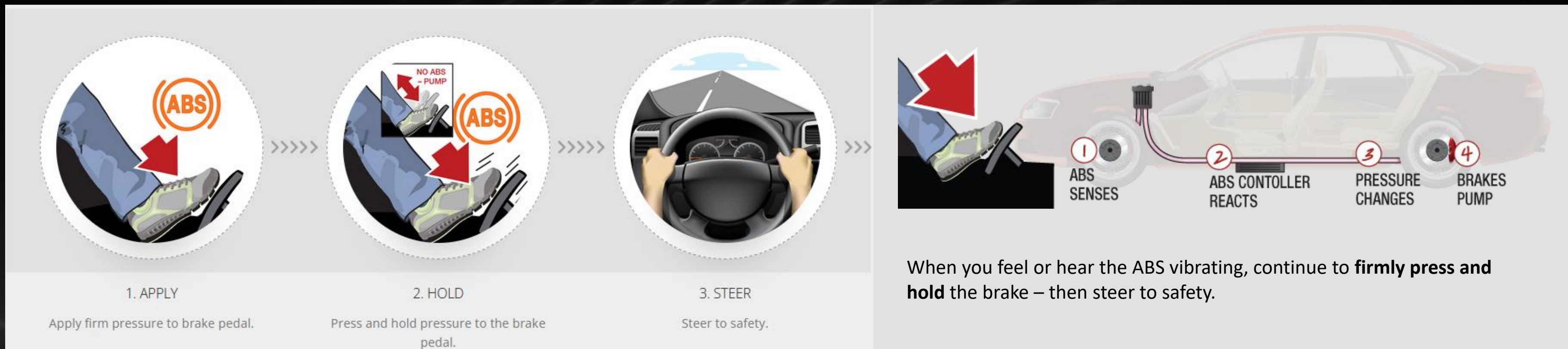
THE INTELLIGENCE SAFETY

THINK SAFETY. THINK PROTON

ANTI-LOCK BRAKING SYSTEM (ABS)



- **Anti-lock braking systems (ABS)** help steer in emergencies by restoring traction to your tires.
- Prevent wheels from locking up – possibly allowing the driver to steer to safety.



Wheel sensors detect when your car's tires begin locking up. Then, they rapidly apply and release (pulse) the brakes to automatically keep your tires from skidding.

THE INTELLIGENCE SAFETY

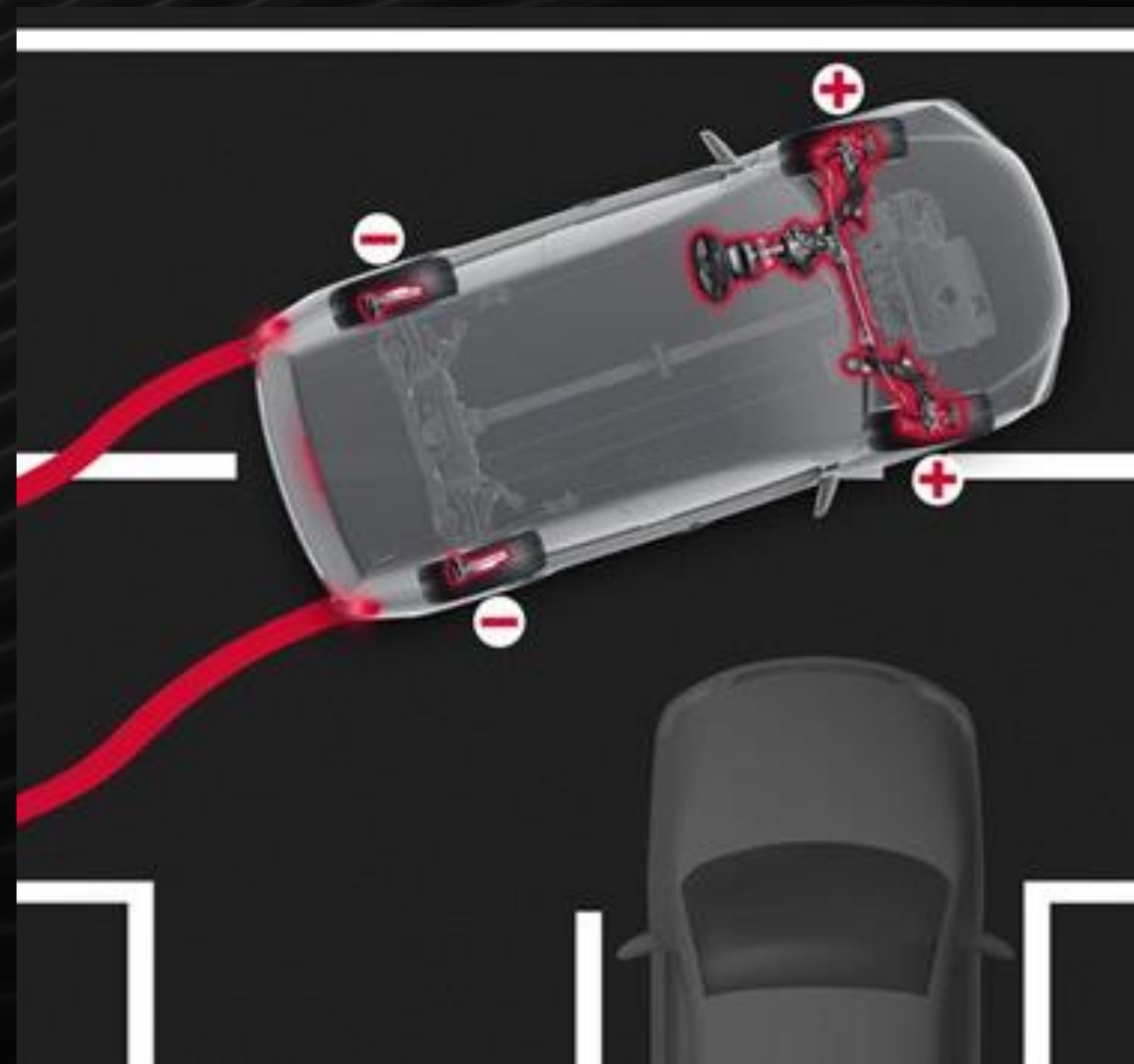
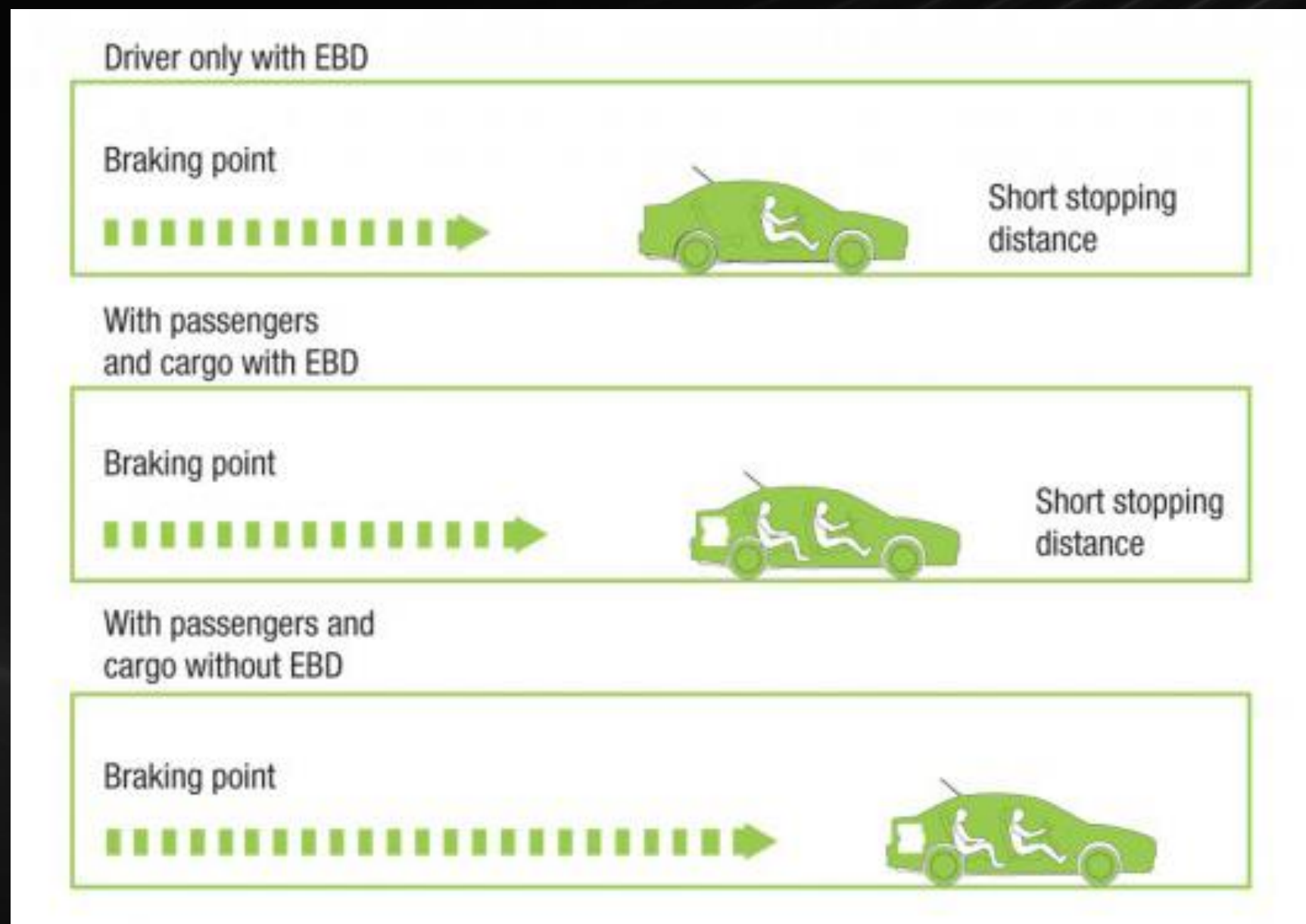
THINK SAFETY. THINK PROTON

ELECTRONIC BRAKE DISTRIBUTION (EBD)



PROTON

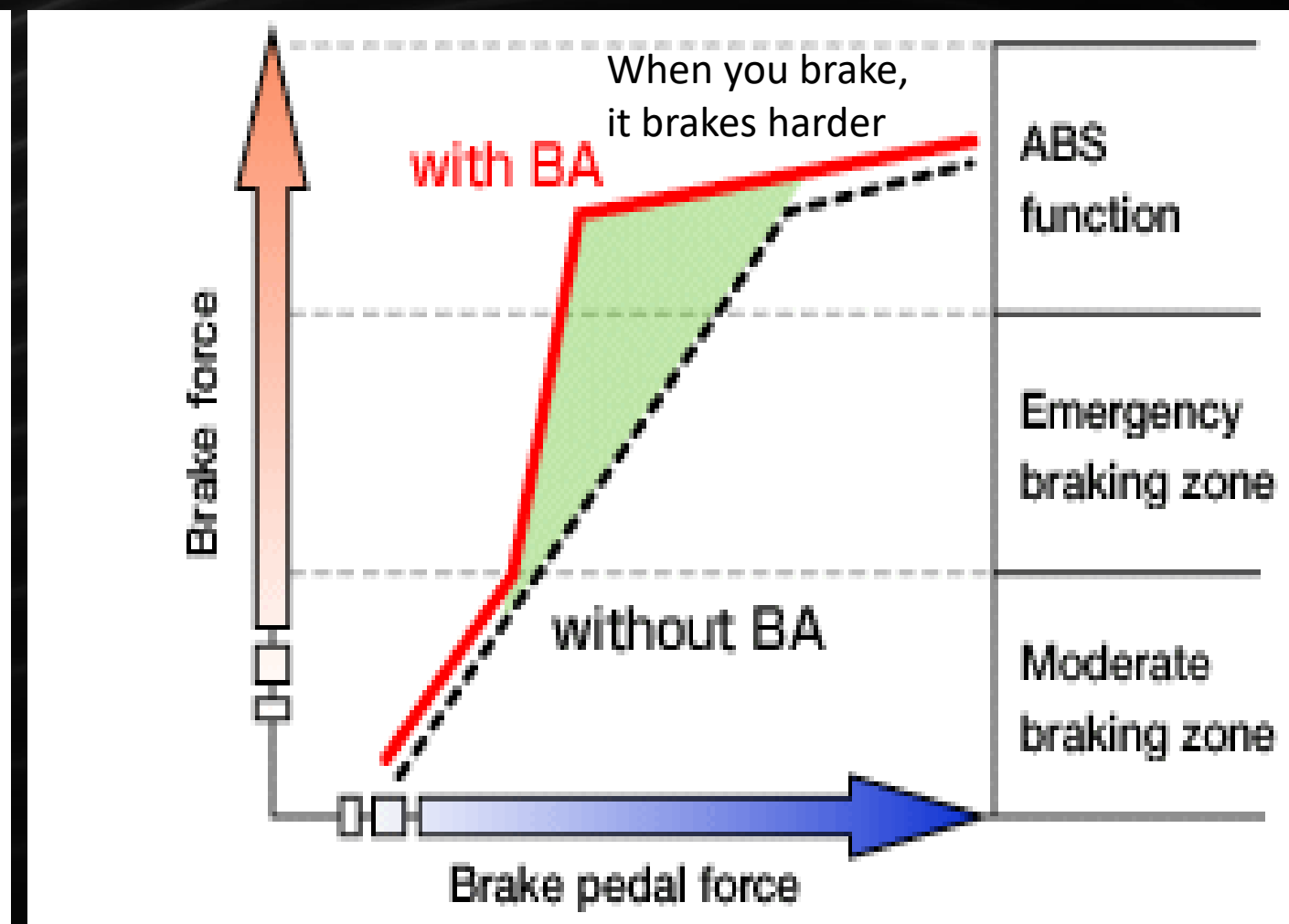
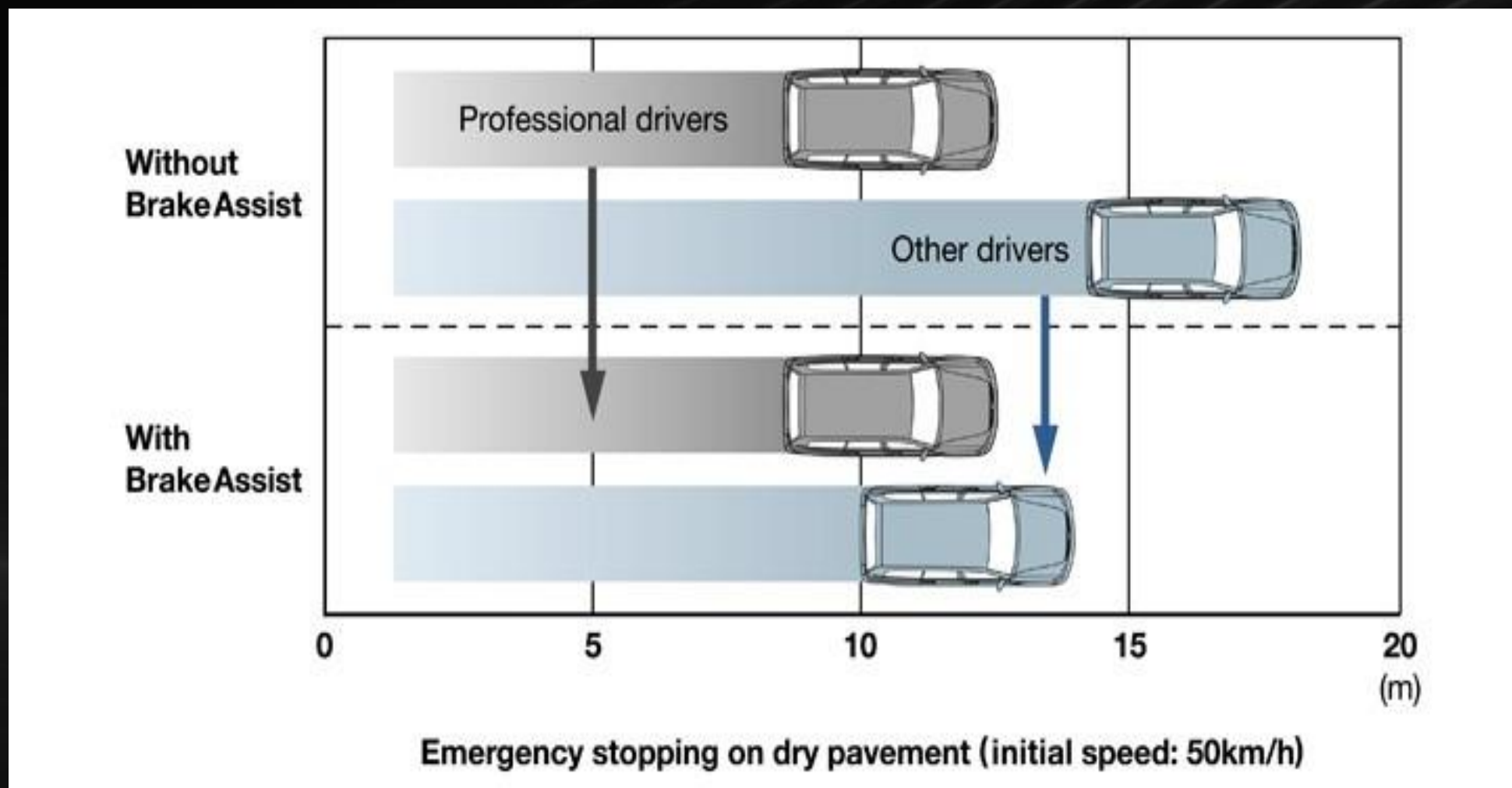
- **Electronic Brake Distribution (EBD)** works to prevent over braking of the rear wheels by adjusting rear brake pressure close to the ideal brake force distribution curve.
- Ensure effective braking hence reducing the braking distance



BRAKE ASSIST(BA)



- **Brake Assist (BA)** adds braking power to your car during emergency stops.
- Drivers' reaction times don't always match how quickly they need to react to avoid a crash. If electronic braking assistance notices drivers slamming the brake pedal, it applies maximum force to the brakes to help make sure the car stops as quickly as possible.





THINK SAFETY. THINK PROTON

- **Emergency Signal System (ESS)** causes the hazard lights to flash at high speed if the driver suddenly brakes when traveling at high speed.
- This helps prevent collisions by warning vehicles that the car is braking hard. If the vehicle comes to a complete stop, the hazard lights switch to a normal flashing speed to help prevent rear-end collisions.



- **Electronic Parking Brake (EPB)** comes with an **Auto brake hold** function giving more convenience and reassurance to driving in the stop-and-go city traffic.
- **Auto Brake Hold** if the driver steps on the brake pedal to stop, then the system will retain the braking force and maintain the vehicle in a stopped state, even when the driver's foot is removed from the pedal.

❑ Turning on system



- Fasten the seat belt, then start the engine. Press the automatic brake hold button.
- Indicator light will come on means system is turned on

❑ Activating the system



- Depress the brake pedal when coming to a complete stop
- Auto brake hold indicator comes on. Braking is kept for up to 10 minutes.

AUTO
HOLD



Under the following conditions, the system automatically cancels, and the parking brake is applied:

- Braking is kept for more than 10 minutes.
- The driver's seat belt is unfastened.
- The engine is turned off.
- There is a problem with the automatic brake hold system.
- The battery is disconnected.

THE INTELLIGENCE SAFETY

THINK SAFETY. THINK PROTON

HHA & HDC



PROTON

- **Hill Hold Assist** starts on a hill, the system can keep brake force in a short time, to prevent the vehicle from rolling backward.
- **Hill Descent Control** when descending on a hill, the system will operate the brake and accelerator automatically (4km/h – 35km/h) and the driver just controls the steering wheel.



- HHA has activated automatically when a slope is larger than 3° and keeps the vehicle in place for 2/3s
- With the HDC system, minimum descending speed reaches as low as 4km/h & up to 35km/h,



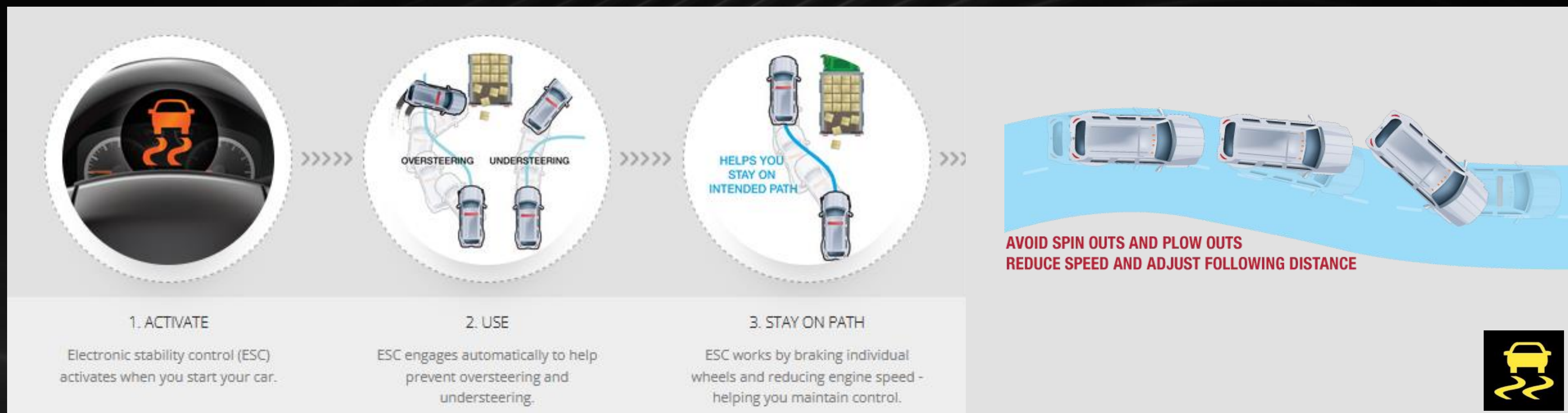
THE INTELLIGENCE SAFETY

THINK SAFETY. THINK PROTON

ELECTRONIC STABILITY CONTROL (ESC)



- **Electronic Stability Control (ESC)** optimizes vehicle stability while cornering. When the car begins to skid due to a sudden change in steering, or on the road surface, ESC helps the driver retain vehicle control



THE INTELLIGENCE SAFETY

TRACTION CONTROL SYSTEM (TCS)



PROTON

THINK SAFETY. THINK PROTON

- **Traction Control System (TCS)** prevents loss of traction between the wheels and the road.
- Effective when accelerating from a stopped or slowed position, or when trying to accelerate up a slippery hill from making driving smoother to helping them stay in control during rainy weather.



1. Increases Traction

Helps prevent wheels from spinning on slippery surfaces and increases traction when accelerating.



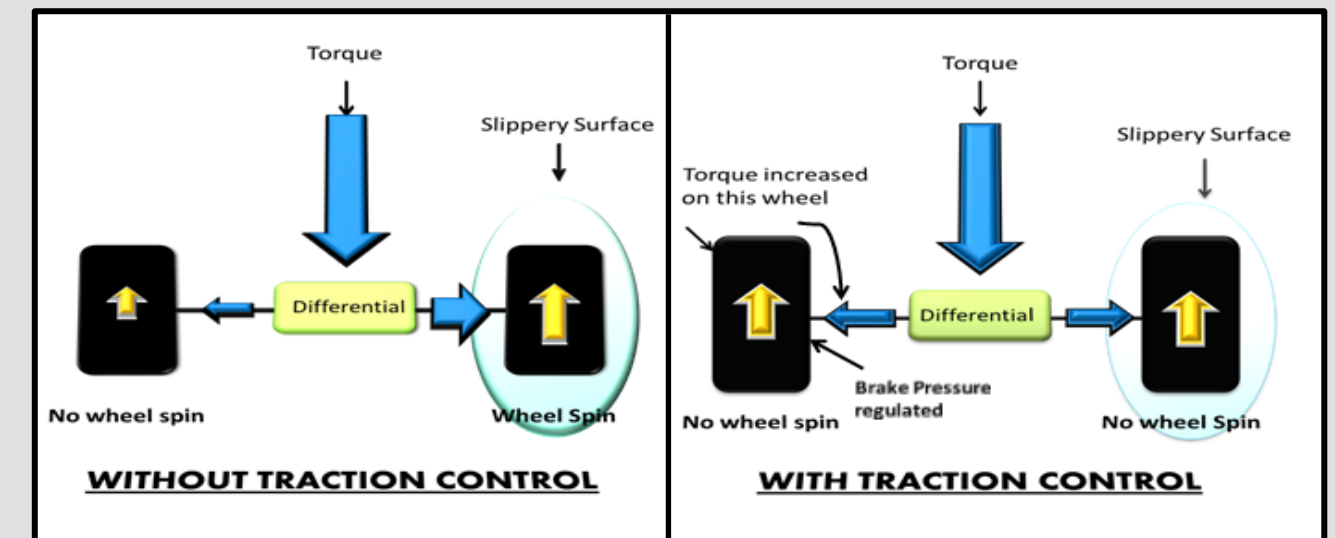
2. When to turn off

Turn off Traction Control if stuck in mud or snow and need to rock the car or when using tire chains.



3. Engage

Traction Control will only engage when your wheels start to slip.



Stabilized torque at driven wheel running with the highest slip / reduce slip at both driven wheels.

THE INTELLIGENCE SAFETY

THINK SAFETY. THINK PROTON

THANKS YOU

