Seatbelt Tightening System – Introduction
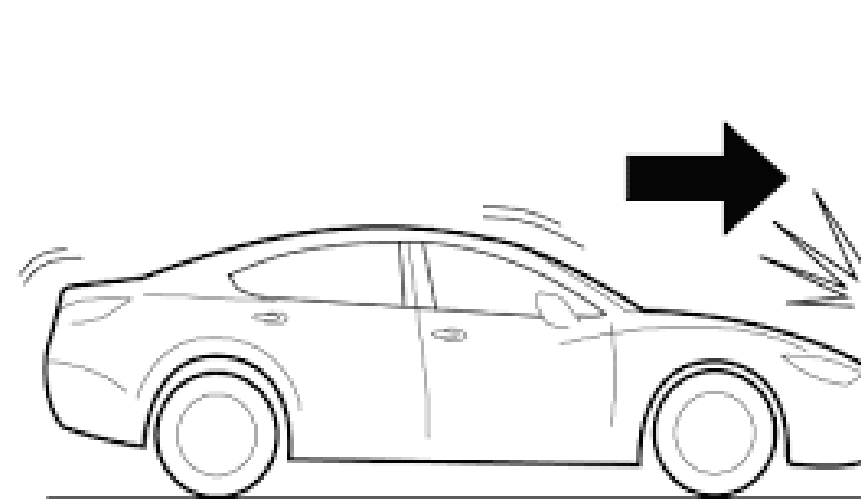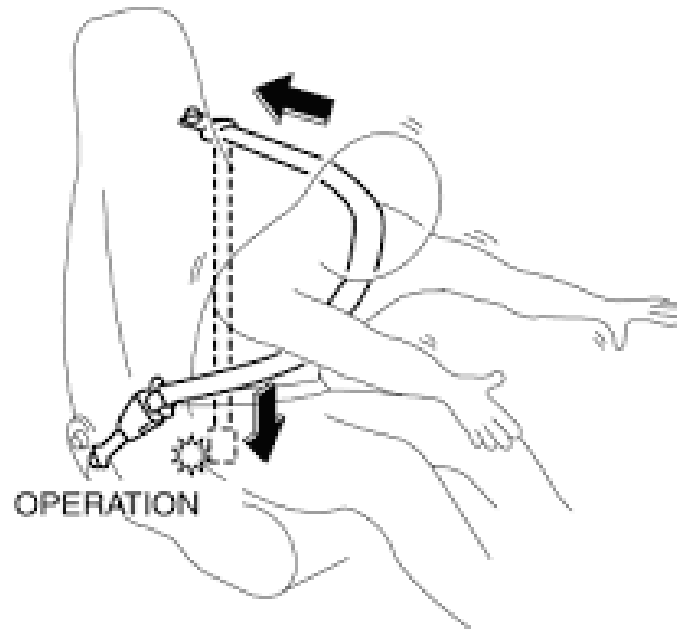
➤ A seat belt is a vehicle safety device designed to secure the driver or a passenger of a vehicle against harmful movement that may result during a collision.

➤ A seat belt reduces the likelihood of death or serious injury in a traffic collision.

➤ It reduces the force of secondary impacts with interior strike hazards, by keeping occupants positioned correctly for maximum effectiveness of the airbag.

➤ It preventing occupants being ejected from the vehicle in a crash or if the vehicle rolls over.
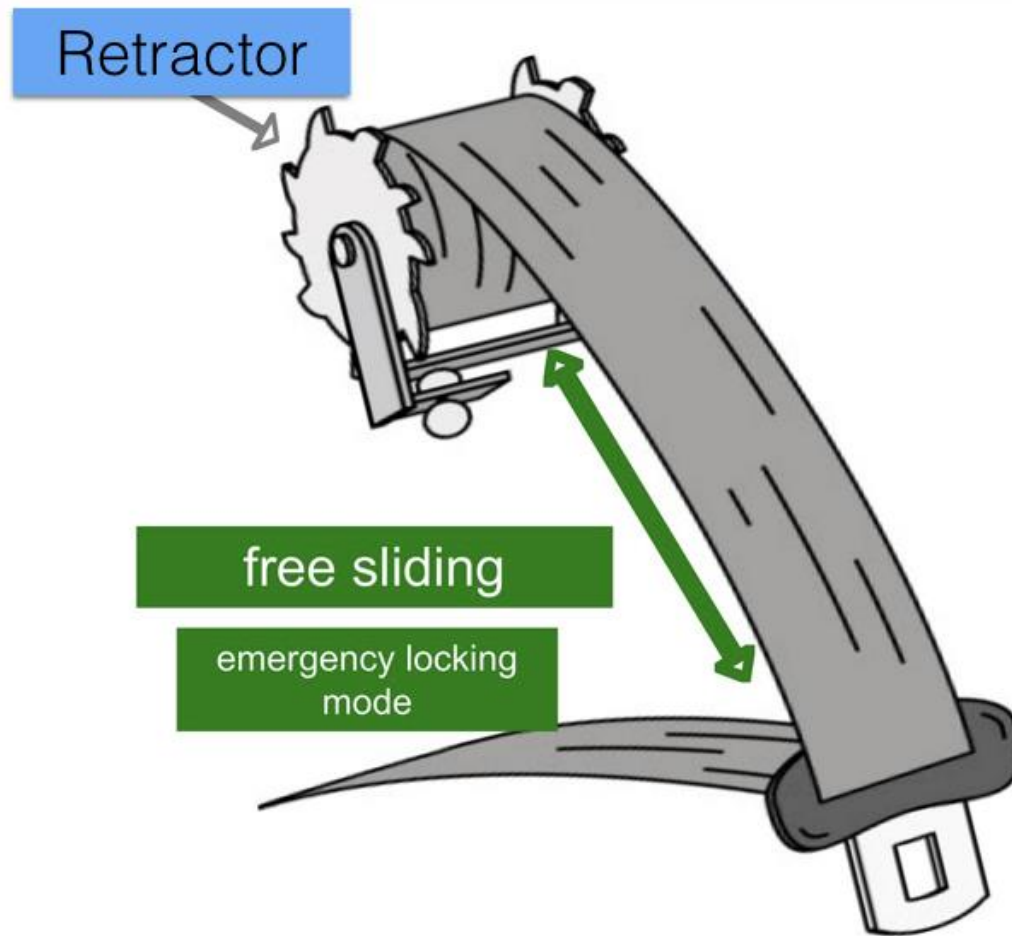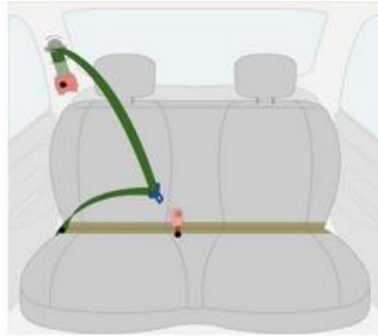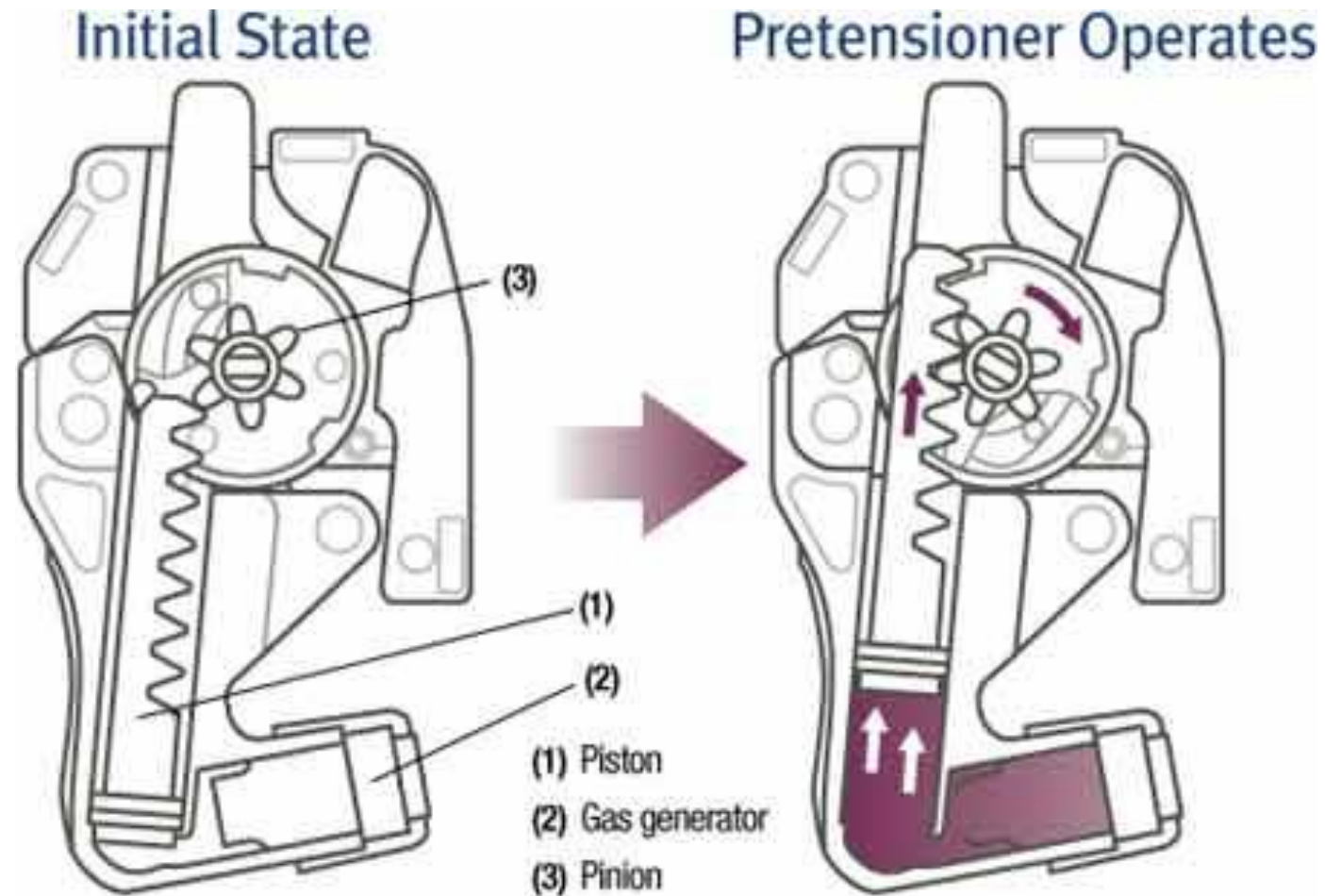
Need for Seat Belt Tightening

OPERATION

THE VEHICLE IS
INVOLVED AN IMPACT

RETRACT SYSTEM

PRETENSIONER SYSTEM

Initial State → Pretensioner Operates

(1) Piston
(2) Gas generator
(3) Pinion

Difference between pretensioner and Retract system

❖ The idea of a pretensioner is to tighten up any slack in the belt webbing in the event of a crash.

❖ Whereas the conventional locking mechanism in a retractor keeps the belt from extending any farther

ADVANTAGES

❖ Saves the life during an accident.

❖ Reduces the accident rate.

DISADVANTAGES

❖ Proper Maintenance should be there