

PRE-TENSIONER SEAT BELT

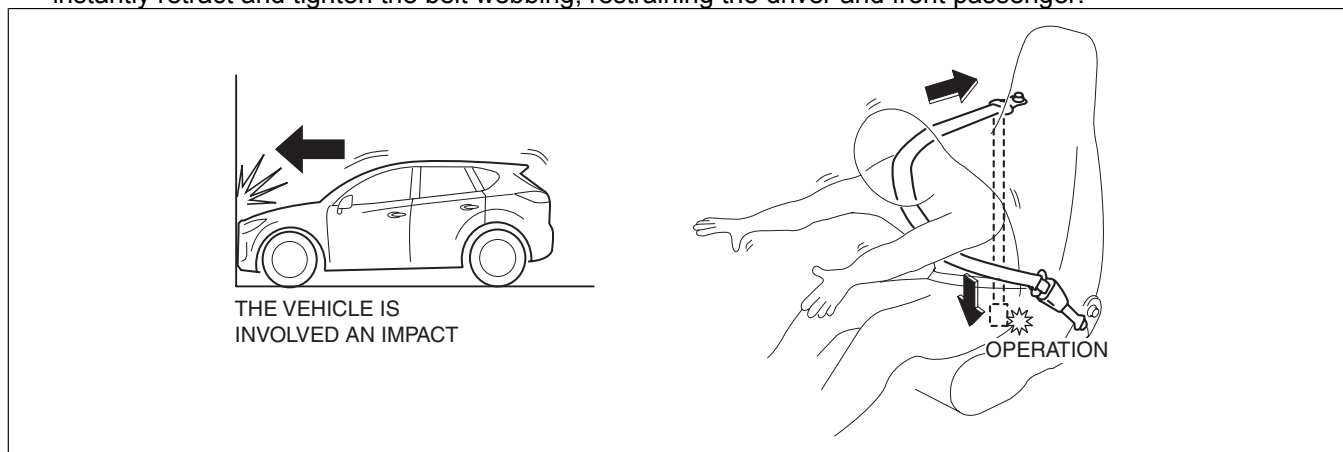
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Purpose

- The pre-tensioner seat belt retracts and tightens the seat belt webbing to protect the front passengers during a collision.

Function

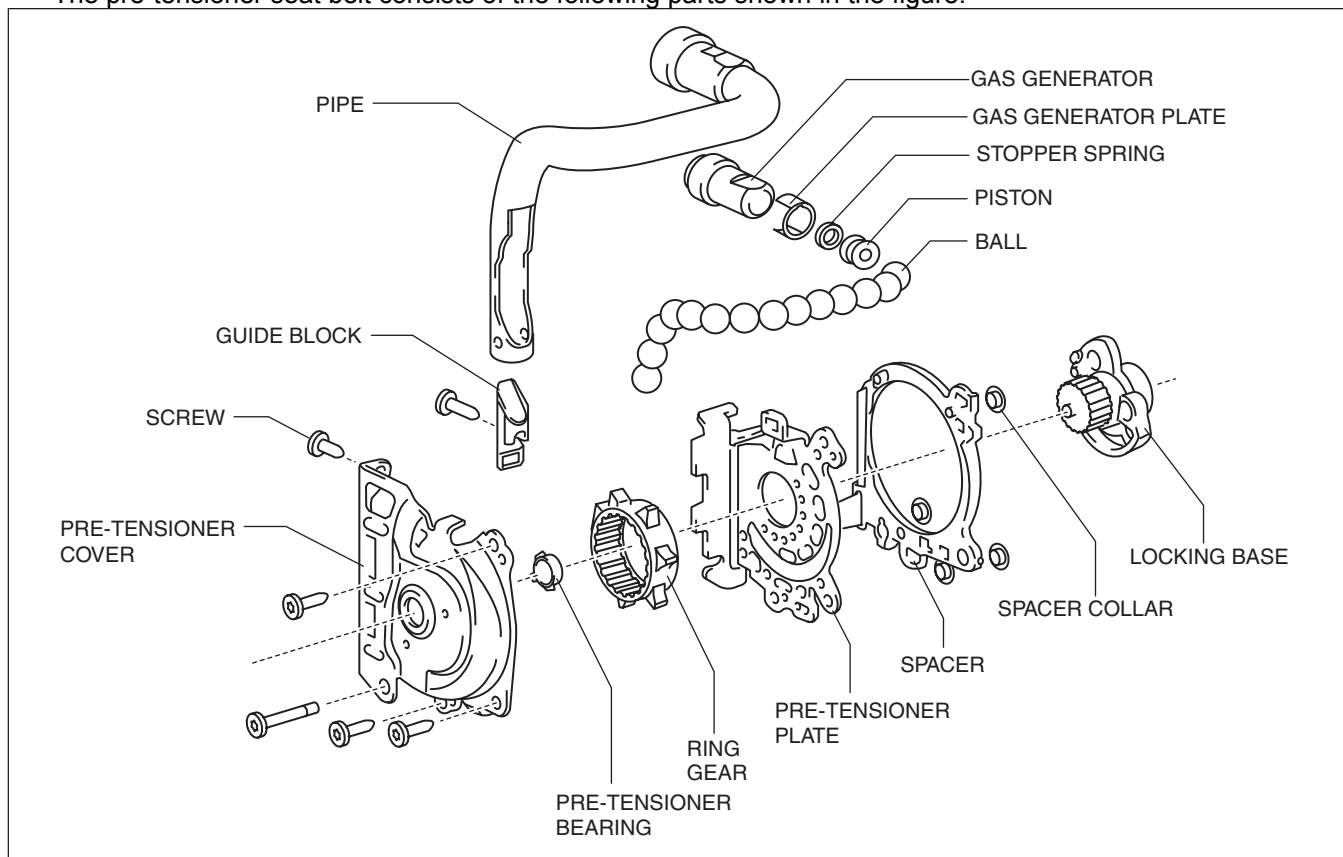
- The pre-tensioner seat belts operate (deploy) based on the operation signal from the SAS control module to instantly retract and tighten the belt webbing, restraining the driver and front passenger.



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Construction

- The pre-tensioner seat belt is installed to the front seat belt retractor.
- The pre-tensioner seat belt consists of the following parts shown in the figure:

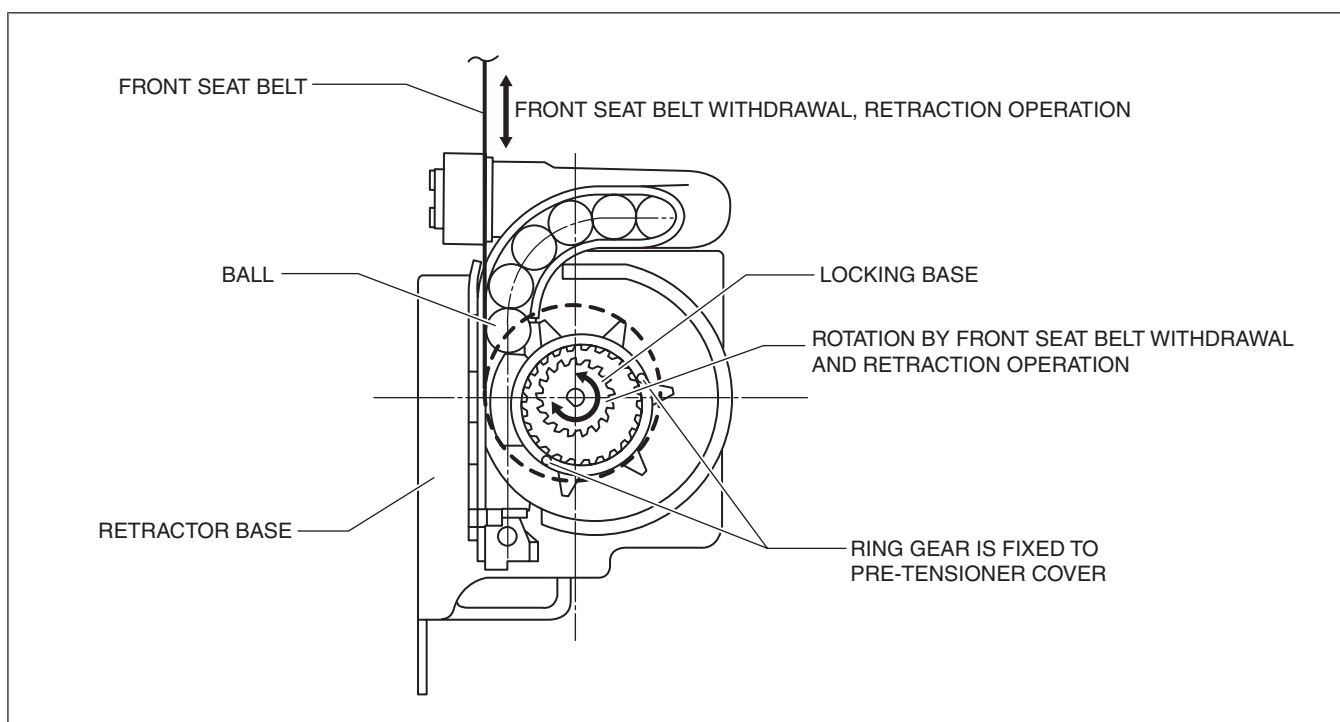


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Operation

Normal operation (pre-tensioner non-operation)

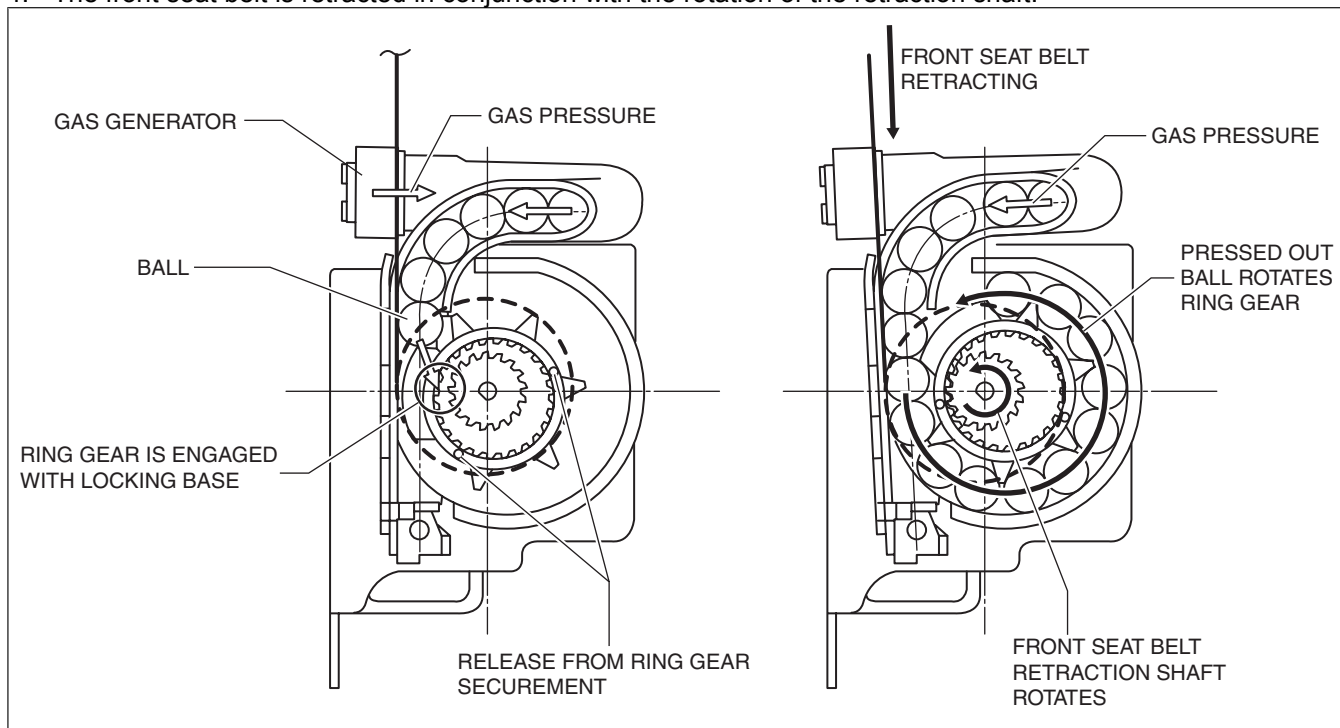
- Normally, there is a gap between the locking base and the ring gear.
- The ring gear rotates in conjunction with the withdrawal and retraction of the front seat belts, however, in the pre-tensioner part it is kept separated.



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Pre-tensioner activation

1. The gas generator produces gas when it receives an operation signal from the SAS control module.
2. The ball in the cylinder is pressed by the gas pressure and the ring gear is removed from its securement.
3. The ring gear is engaged with the locking base and the force of the ball being pressed out is transmitted to the retraction shaft.
4. The front seat belt is retracted in conjunction with the rotation of the retraction shaft.



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Fail-safe

- Function not equipped.