

UNIT

5

Seat, Door and Window mechanism

Structure

- 5.1 Construction and working of door lock mechanism
- 5.2 Construction and working of Manual window regulating mechanism
- 5.3 Construction and working of Power window regulating mechanism
- 5.4 Construction and working of Seat Adjustment mechanism.

Learning Objectives

After studying this unit the student will be able to understand

- Construction or working, door, door locking mechanism
- Construction of working on window regulating mechanism (manual and power)
- Construction and working of seat adjustment

5.1 Construction and working of door lock mechanism

In automobiles the doors play an important role of closing of the vehicle for protecting of passengers and cargo as the case may be. In cargo transport vehicles, the doors are closed as plain doors by using simple plain tower locking mechanism.

In cars and luxury vehicles, the door locking provision is almost all vehicles separately. In some door locking mechanism locks are provided outwards and in some other vehicles inward direction. In some recent models they are operated with remote control.

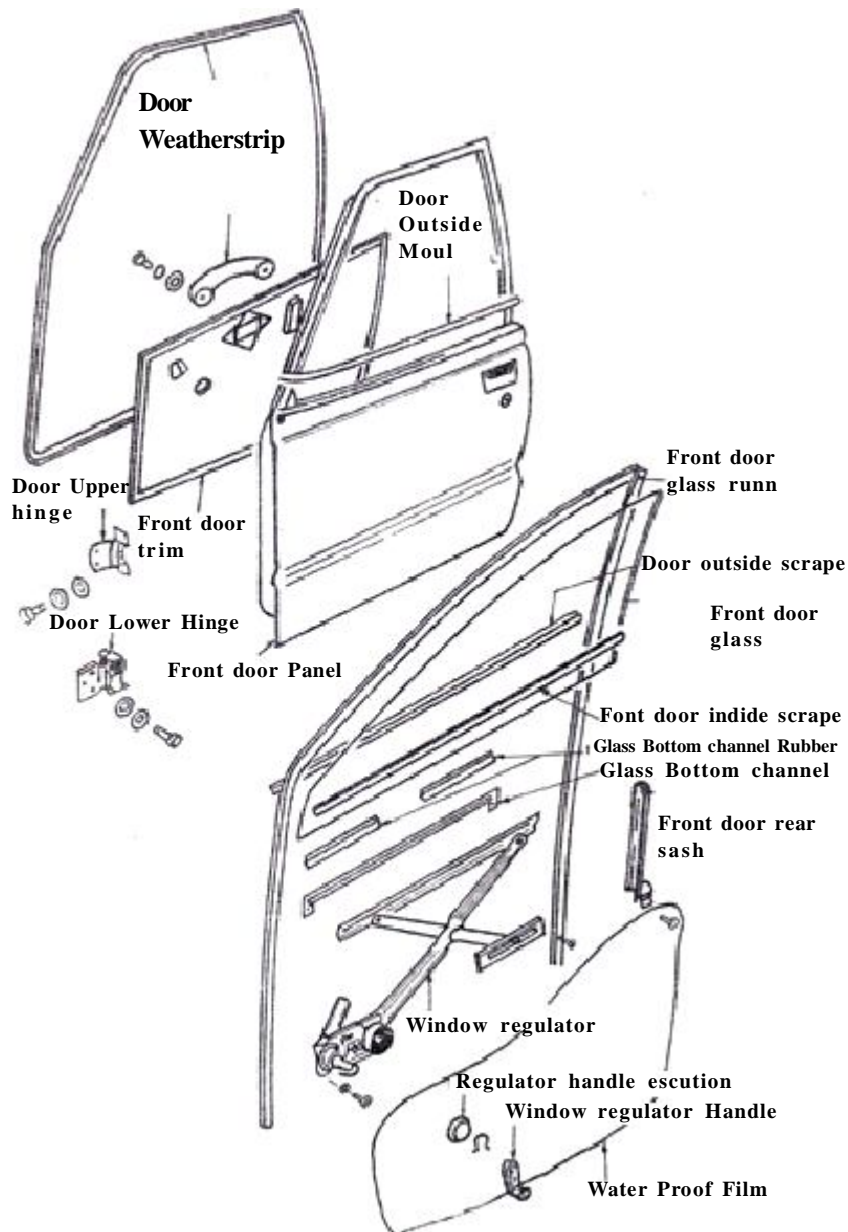


Fig 5.1 Doorregulating mechanism

Method of door locking mechanism

Almost in all kinds of automobiles, the door locking mechanism is just closing the door and the lock will be automatically operated. For unlocking any of the following methods may be applied.

- (a) With a key
- (b) By pressing the unlock button inside the vehicle
- (c) By using a combination lock outside the door
- (d) By pulling up the knob inside the door panel
- (e) With a keyless entry remote control
- (f) By a signal from control centre

Some of the vehicles, are having different methods of self check for door locking. It will warn you if is not properly locked by lighting the body light or beeping a horn etc. In power lock mechanism, body controller monitors are the possible sources of locking and unlocking signals. There will be an actuator in the door and a latch will be connected to the locking handle. When the actuator moves, it connects the handle to lock the door. To unlock it the body controller supplies power to the door lock actuated for timed interval.

A key less remote entry device consists of a fob in the key ring and a radio receiver controller inside the car, which opens and closes the car doors on the receipt of a signal form the fob.

5.2 Construction and working of Manual window regulating mechanism

In cars and in some luxury vehicles, the window glasses can be operated for opening and closing to some extent as per the necessity. This can be done of manually or by using a single button of at each window or by using a panel of buttons at the control of the driver.

In olden days only manually operated window regulating mechanism were being used. There will be handle inside the door to regulate it. This can be operated manually by rotating the handle to the extent required . There will be a wheel inside of door panel which is connected to this handle.

5.3 Construction and working of Power window regulating mechanism

In modern days the window regulating mechanisms are being operated with power. By using the switches the height of closing and opening of window

glasses can be regulated. It is operated with electricity from the battery. In some cars, these can be operated with remote control.

5.4 Construction and working of Seat Adjustment mechanism

In automobiles the seat adjustment plays an important role in almost all kinds of vehicles. The seat should be in proper manner for comfort sitting as per the requirement of the operator. The space between the seat and operation pedals like accelerator, clutch, brake etc. Should be in a proper manner that the operator can reach them and it should be as long as possible if the operator is tall. The seat can be moved to and from the front dash board. Its height also can be increased or decreased as the case may be .

In buses of high comfort, the passenger seats can be adjusted according to the requirements . These can be adjusted like an easy chair for a comfort sitting or even for sleeping.

The seats used in cars are of various types such as rigid, folding back and bucket type . The front seats may be single type or full bench type with seat cushion and back rest . In case of two doors cars, the seat back rest in folding type, so that it swings forwards to allow access into back seat. Front seats are provided with adjustment that allows the seat to move back and forth or up and down as per the requirements. These adjustment are done manually or by using electric motor also.

Summary

- There are two types of Door locking mechanism.
 - i. Manual
 - ii. Automatic
- Sophisticated sensor operated door and window locking system are there.
- Window regulating mechanism is also either manually or battery operated can also be used. These are operated with remote control.
- The seat also can be adjusted according to the height of the person and also giving sufficient space for legs.

Short Answer Type Questions

1. What is the purpose of window regulating?
2. How many types of door locking mechanism are there.
3. What is the necessity of seat adjustment?

Long Answer Type Questions

1. Briefly explain manual and power of operated window regulating mechanism.