It is a device that permits some hinge or rotational movement between the denture base or its supporting framework and the direct retainers (whether they are intra coronal or extracoronal retainer), this device separate the action of the direct retainers from the base movement, so it was used to minimize strain on the abutment teeth to which the partial denture is attached and transfer them to the denture bearing areas. It is indicated in a distal extension restoration.

All vertical and horizontal forces applied to the artificial teeth are distributed throughout the supporting portions of the dental arch. Broad distribution of the force is obtained through the rigid major, minor connectors and stabilizing components.

**Causes of using stress breaker**

Improper design and non-rigid fabrication of the restoration (partial denture) that causes harm to the abutment teeth. Also used in conjunction with locking type intracoronal retainers (dove tail, pre-fabricated within abutments crown) on distal extension dentures, otherwise tipping forces will be transmitted directly to the abutment teeth and subsequent leverage will result. In addition stress breakers were used when the dentist was failed to obtain a maximum support for free end extension removable partial dentures.

**Types of stress breakers**

1- **FIRST GROUP:** include hinge, sleeve, and cylinder, ball and socket device.

These types have a movable joint between the direct retainer and the denture base and permit vertical movement and hinge action of the distal extension denture base.
2- **SECOND GROUP:** include design having a flexible connection between the direct retainer and the denture base (articulated partial denture) this group include the use of:

**Divided major connector (split bar):** by using this type of stress breakers, the vertical forces applied on distal extension base must pass anteriorly along the lower bar and then back along more rigid upper bar to reach abutment tooth therefore the tipping forces that would otherwise be transmitted directly to abutment tooth are dissipated by flexibility of lower bar and distance traveled.
ADVANTAGES

1- Preservation of alveolar support of abutment teeth by minimizing the horizontal forces acting on the teeth.
2- The flexible type of stress breaker creates a balance of stress between the abutment teeth and the residual ridge.
3- Prevents bone resorption and eliminates the need for relining as a consequence result of the physiologic stimulation to the mucosa.
4- If relining is needed and but not done, the abutment teeth are not damaged quickly.
5- The flexible attachment (non-rigid attachment) of the distal extension base to the major connector makes splinting of weak teeth by the denture framework is possible.

DISADVANTAGES

1- Lack of occlusal stability.
2- Not provide bracing for lateral forces.
3- Improper control of forces distribution between the dentulous and edentulous areas.
4- The denture is more difficult to fabricate and therefore more costly.
5- Vertical and horizontal forces are concentrated on the residual ridge resulting in excessive soreness and increased ridge resorption.
6- If relining is not done when needed excessive resorption of the residual ridge may result.
7- The effectiveness of indirect retainers is reduced or eliminated.
8- Flexible connectors may be bent and fractured by careless handling and by repeated flexing; more stress will be applied on the abutment.
9- Repair and maintenance of any stress breaker are difficult, costly, and frequently required.
10- All mechanical devices those are free to move in the mouth in collect debris and become unclean. And some split connector is used as stress breaker pinch the underlying soft tissue or the tongue as they open and close under function.