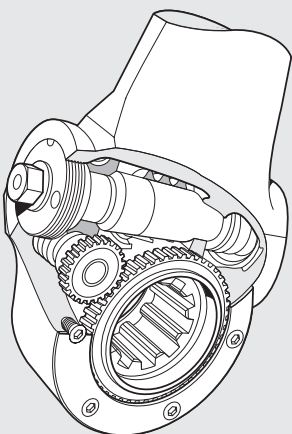


# Function Description

## **S-ABA**

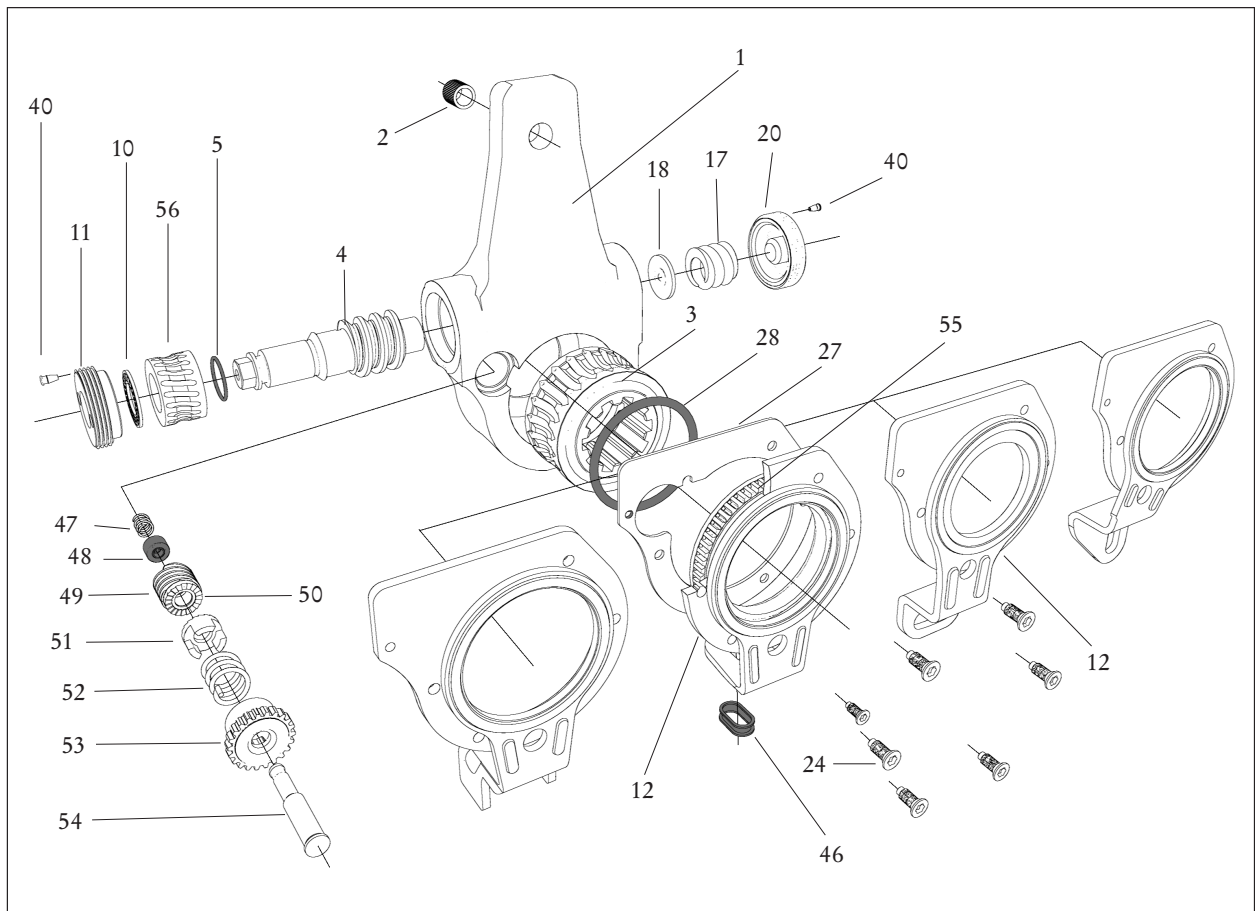
Leader's guide for OH-serie 84298



# Function Description S-ABA



Leader's guide for over-head 84298-0 to 84298-9



**84298-0 Exploded view**

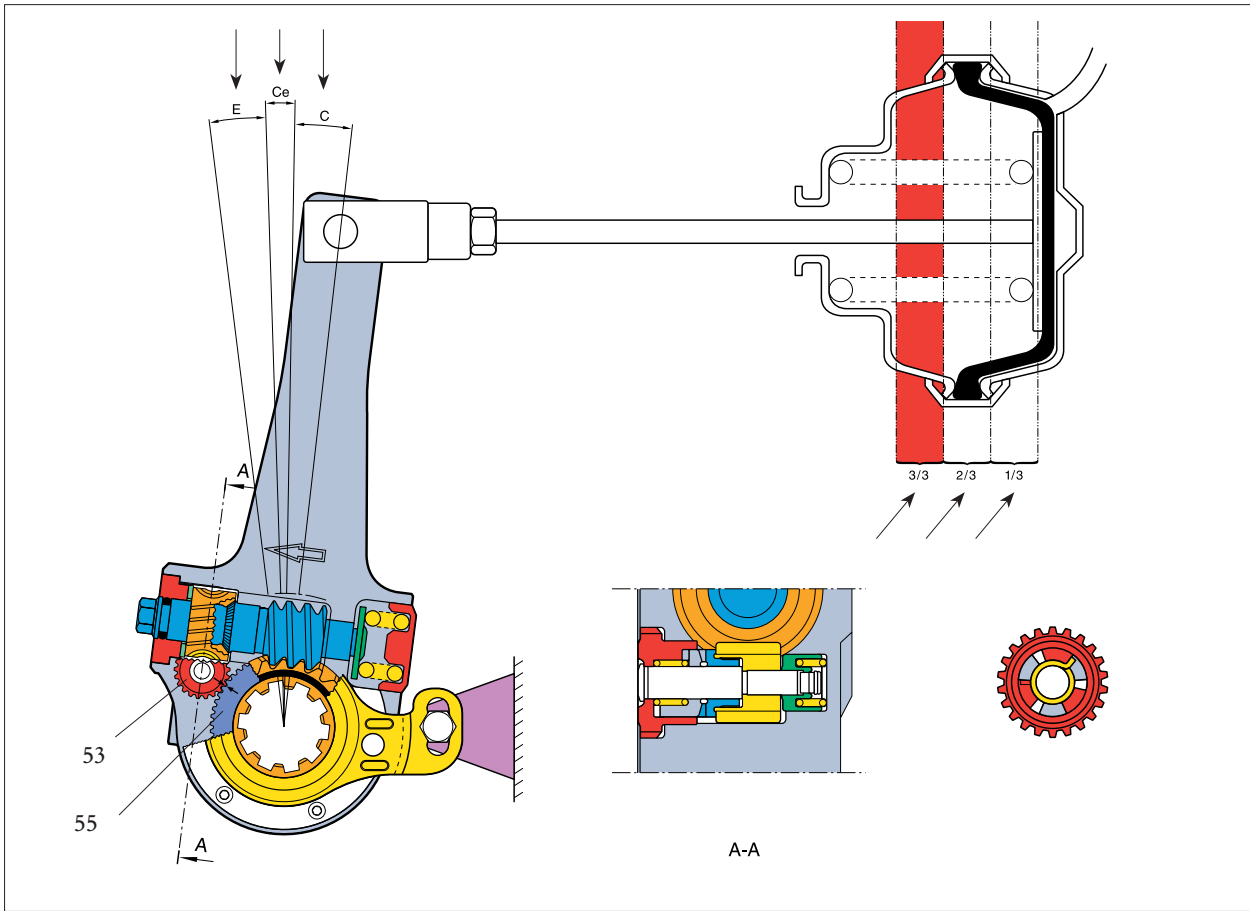
- |                           |                        |
|---------------------------|------------------------|
| 1. Housing                | 40. Rivet              |
| 2. Bushing                | 46. Plastic insert     |
| 3. Worm wheel             | 47. Compression spring |
| 4. Worm shaft             | 48. Spring support     |
| 5. O-Ring                 | 49. Adjusting screw    |
| 10. Needle bearing        | 50. Toothed plate      |
| 11. Front cover           | 51. Companion flange   |
| 12. Control unit assembly | 52. Gear wheel spring  |
| 17. Coil spring           | 53. Gear wheel         |
| 18. Thrust washer         | 54. Regulator shaft    |
| 24. Torx Screw            | 55. Control disc       |
| 27. Gasket                | 56. Clutch wheel       |
| 28. O-Ring                |                        |

47-54 = Regulator assembly

# Function Description S-ABA



Leader's guide for over-head 84298-0 to 84298-9



Of the total stroke, (= Brake chamber push rod stroke) fully applied brakes should be achieved within the full power band specified for actual brake chamber, here symbolised as 1/3 and 2/3 of the total stroke. The red band, 3/3 symbolises the section of the total stroke not recommended for use by the brake chamber manufacturer. (See force-chart for actual brake chamber.) Notice the set marks drawn on control disc (55) and gear wheel (53), used for reference picture to picture only.

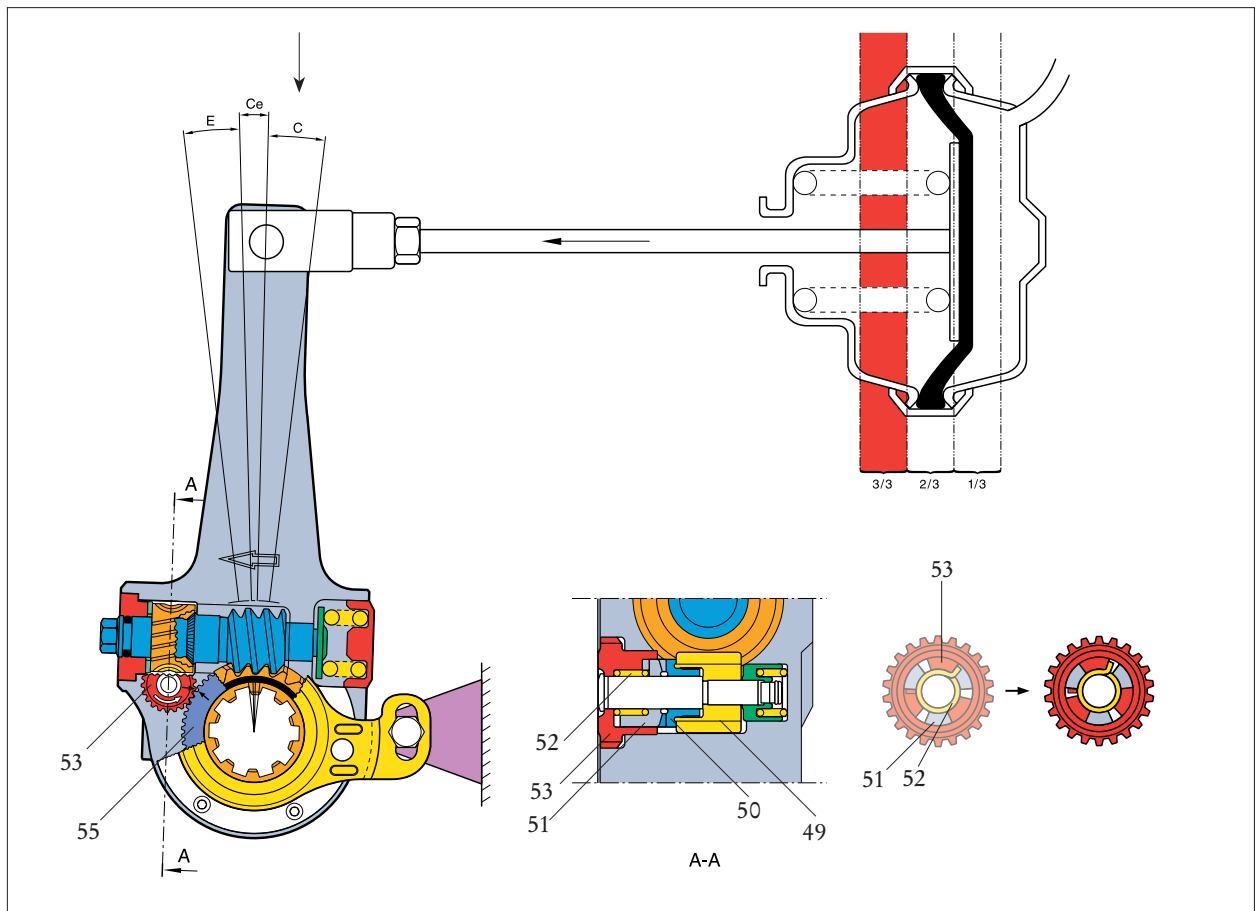
## 84298-1 Rest Position

The brake application cycle is divided into three sections: C, stroke related to designed clearance between brake lining and drum = free stroke. Ce, stroke related to excessive clearance. E, elasticity zone.

# Function Description S-ABA



Leader's guide for over-head 84298-0 to 84298-9



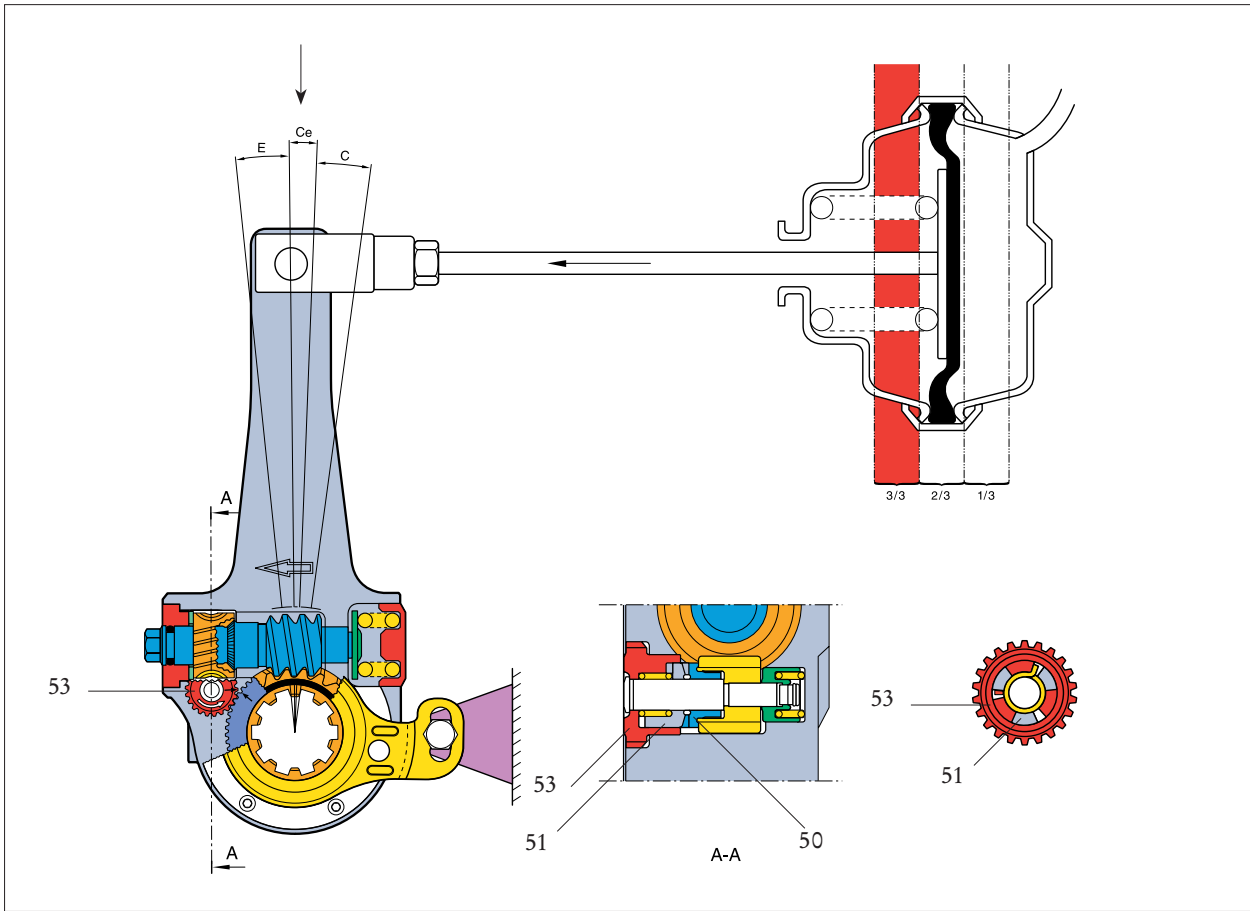
## 84298-2 Brake Apply Passing the nominal clearance C

The regulator gear wheel (53) rolls down the control disc (55) along the angular distance corresponding to the pre-determined clearance between the gear wheel (53) and the companion flange (51). During this sequence, the torque transmitted by the gear wheel spring (52) is decreased. The gear wheel spring (52) is retained between the gear wheel (53) and the companion flange (51) so that both provide a torque and a compression force to the ratchet one way clutch (50+51) between the companion flange (51) and the adjusting screw (49).

# Function Description S-ABA



Leader's guide for over-head 84298-0 to 84298-9



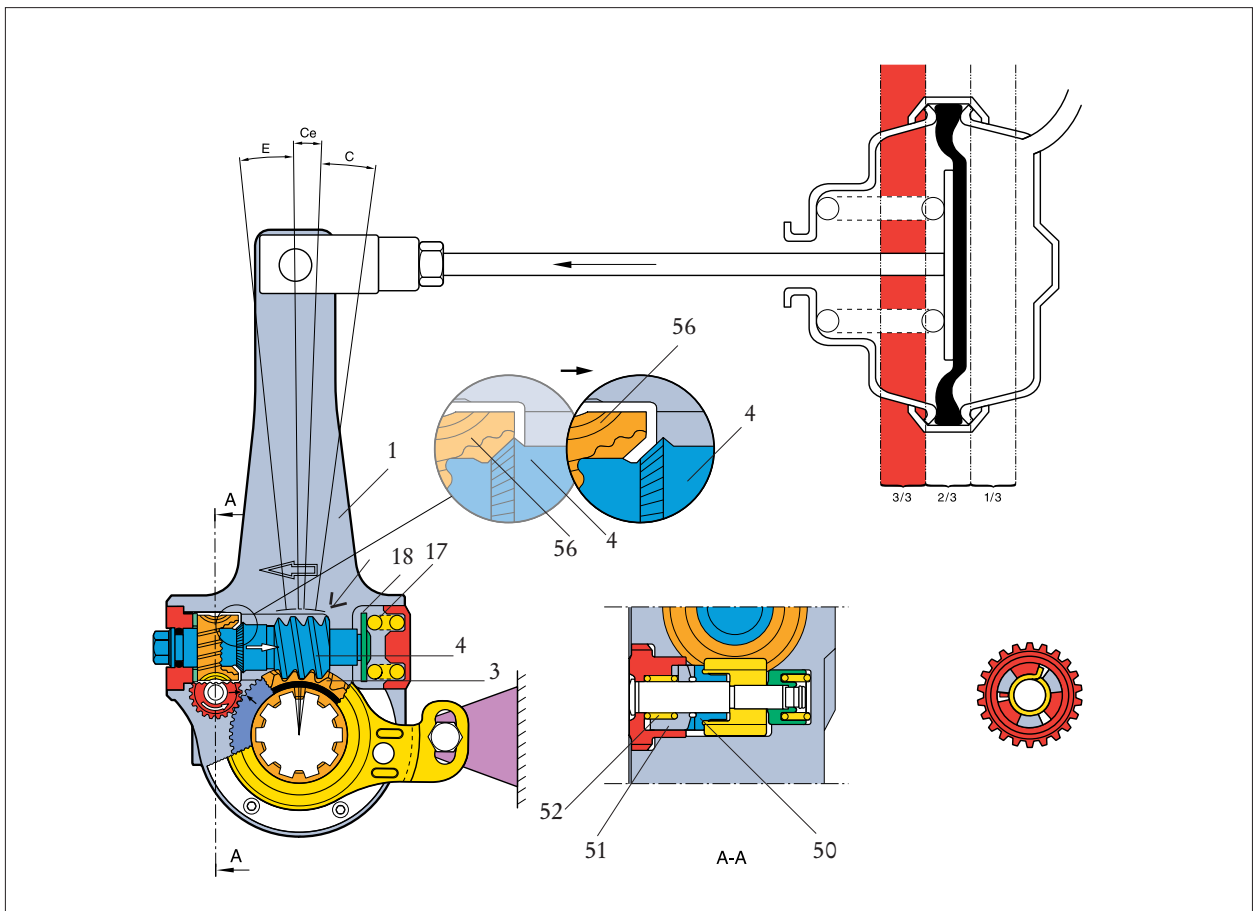
## 84298-3 Brake Apply Passing the excessive clearance Ce

During this stroke section the gear wheel (53) starts to drive the companion flange (51) and the toothed plate (50) axially apart. If  $C_e$  is large enough, a new tooth engagement will take place. New tooth engagement does not happen under normal operation, as lining wear is continuously compensated for.

# Function Description S-ABA



Leader's guide for over-head 84298-0 to 84298-9

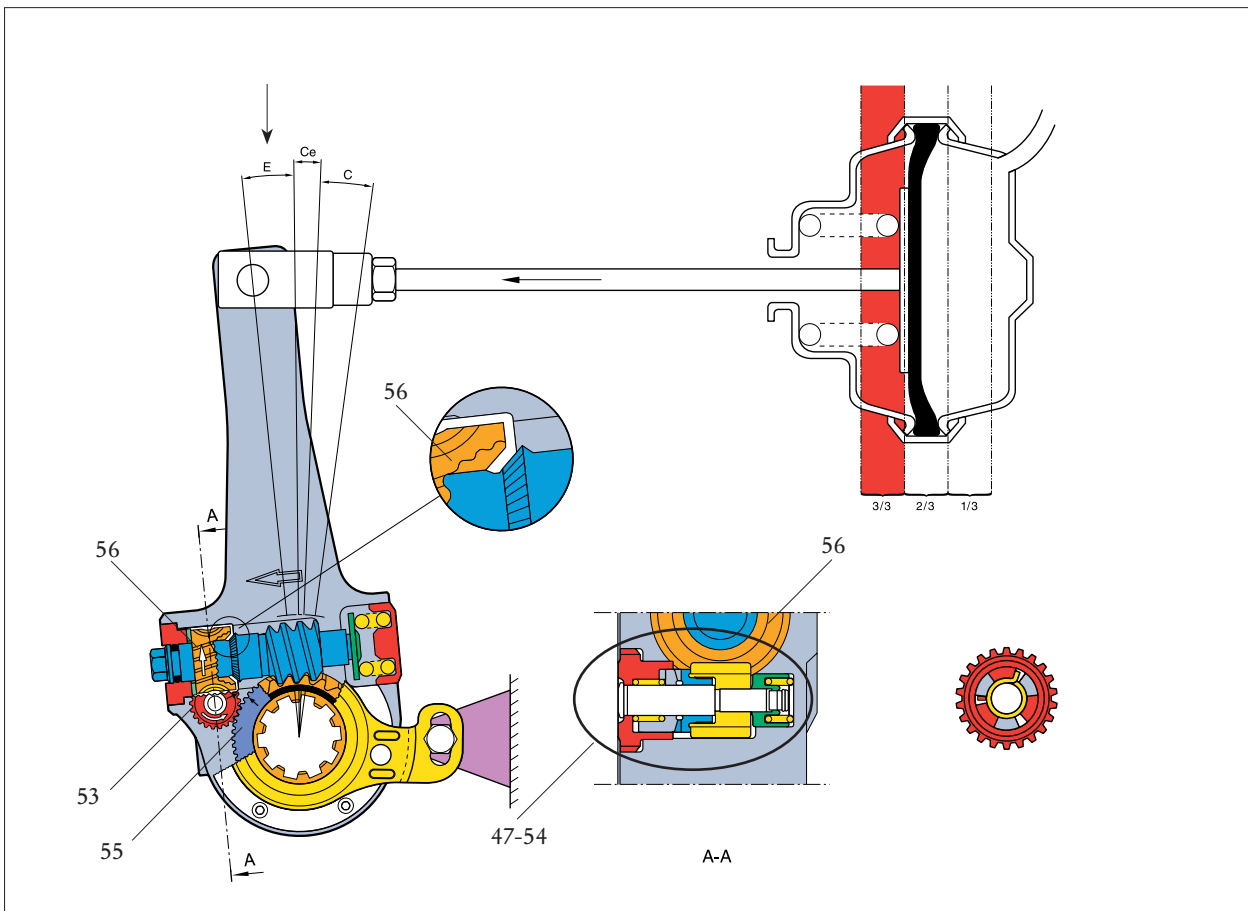


## 84298-4 Brake apply Disconnection of adjustment mechanism

The brake linings are now in touch with the drum. Input torque transmitted from the S-cam, via the worm wheel (3), the worm shaft (4) to the thrust washer (18). The coil spring (17) is compressed as the worm shaft (4) moves axially until it reaches its bottom position towards the internal wall in the housing (1). The cone clutch between the worm shaft (4) and the clutch wheel (56) is now open. The axial opening between the companion flange (51) and the toothed plate (50) (corresponding to Ce) is now closed again by the gear wheel spring (52).

# Function Description S-ABA

Leader's guide for over-head 84298-0 to 84298-9



## 84298-5 Brake Apply

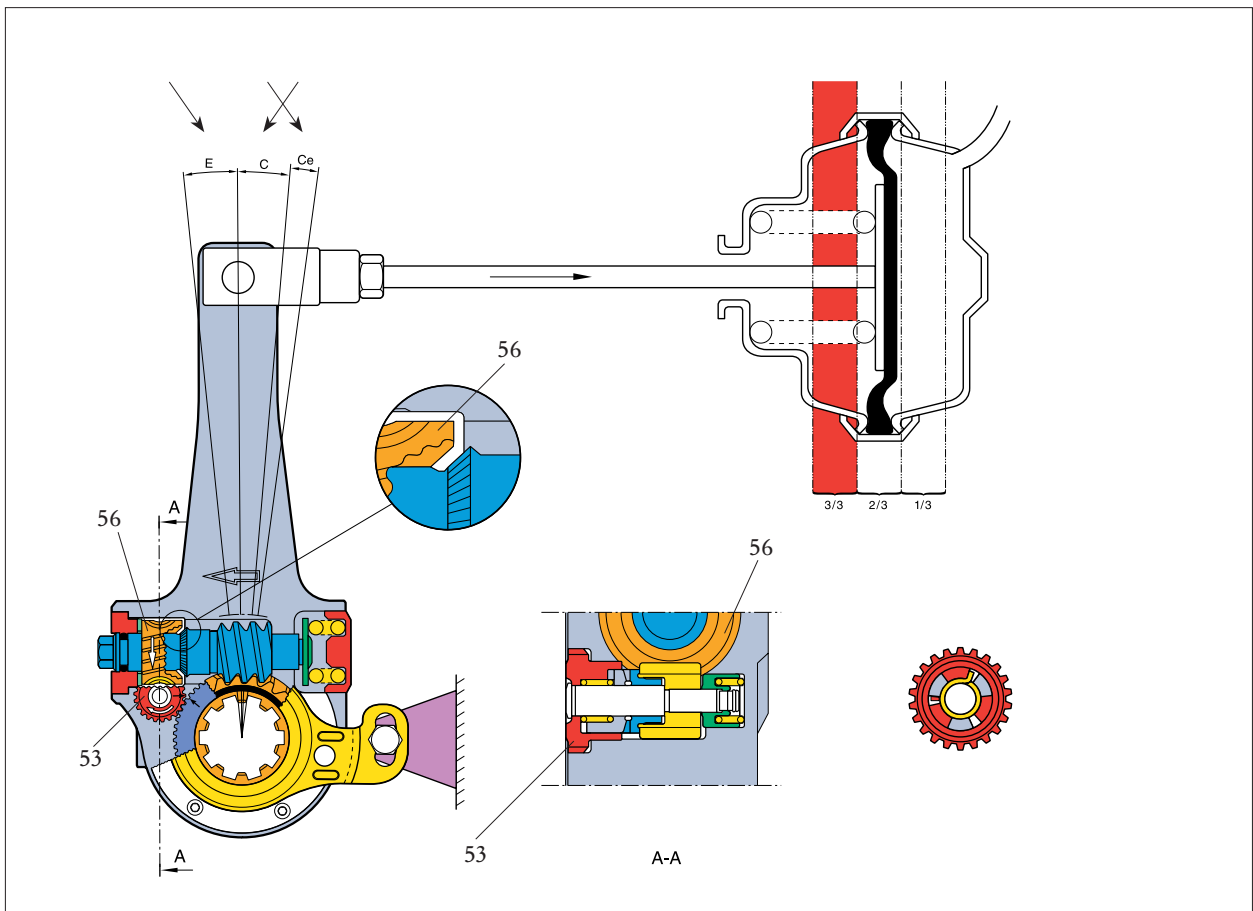
The braking takes place, elasticity zone E

The regulator gear wheel (53) rolls further down the control disc (55). As the cone clutch is now open, the regulator assembly (47-54) can freely rotate the clutch wheel (56).

# Function Description S-ABA



Leader's guide for over-head 84298-0 to 84298-9



**84298-6 Brake Release**  
Beginning of brake release, elasticity zone E

The regulator gear wheel (53) returns the corresponding distance to the previous position and, as the conus clutch is open, freely turns the clutch wheel (56).

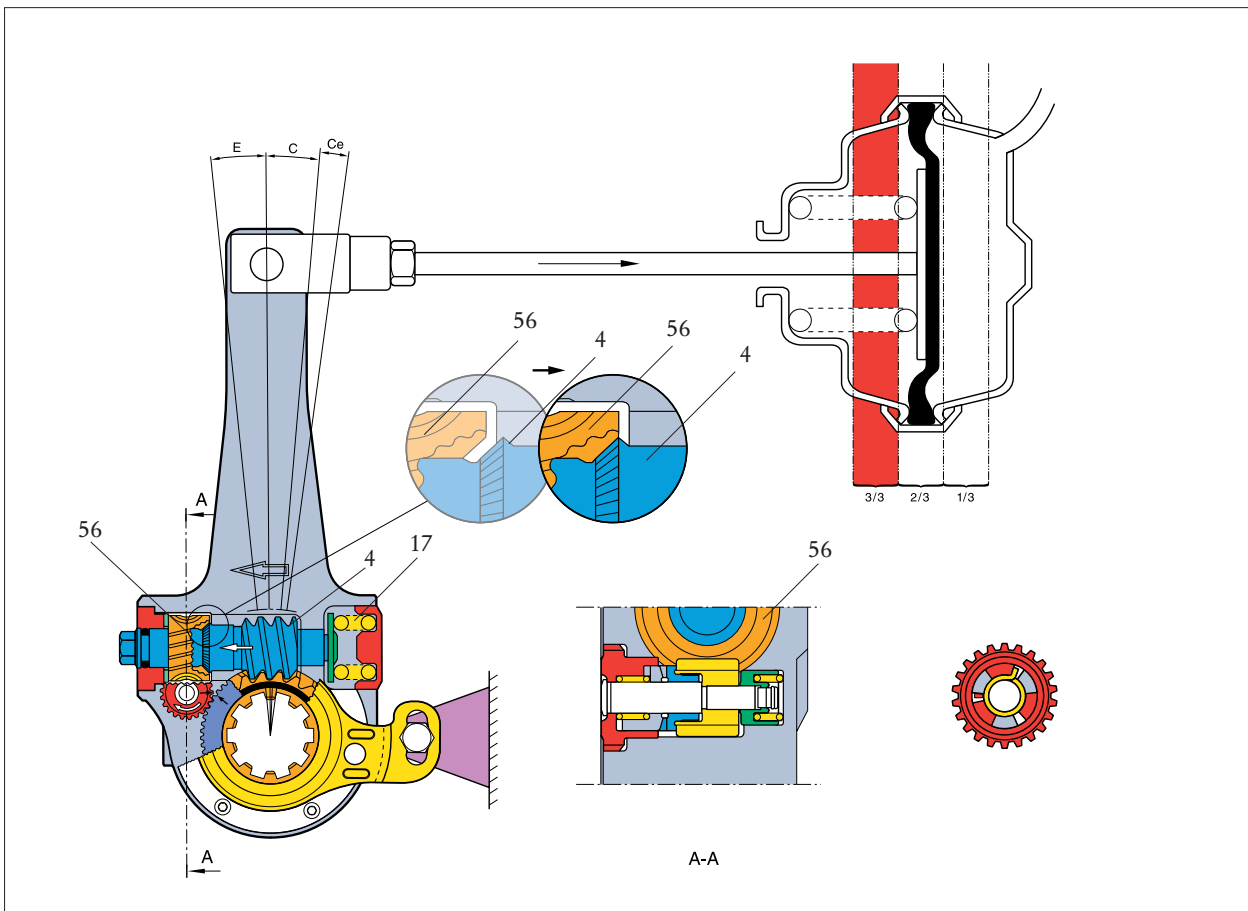
*Note! As the adjustment takes place on the last portion of the angular travel of the return stroke, C and Ce have now changed places.*



# Function Description S-ABA



Leader's guide for over-head 84298-0 to 84298-9



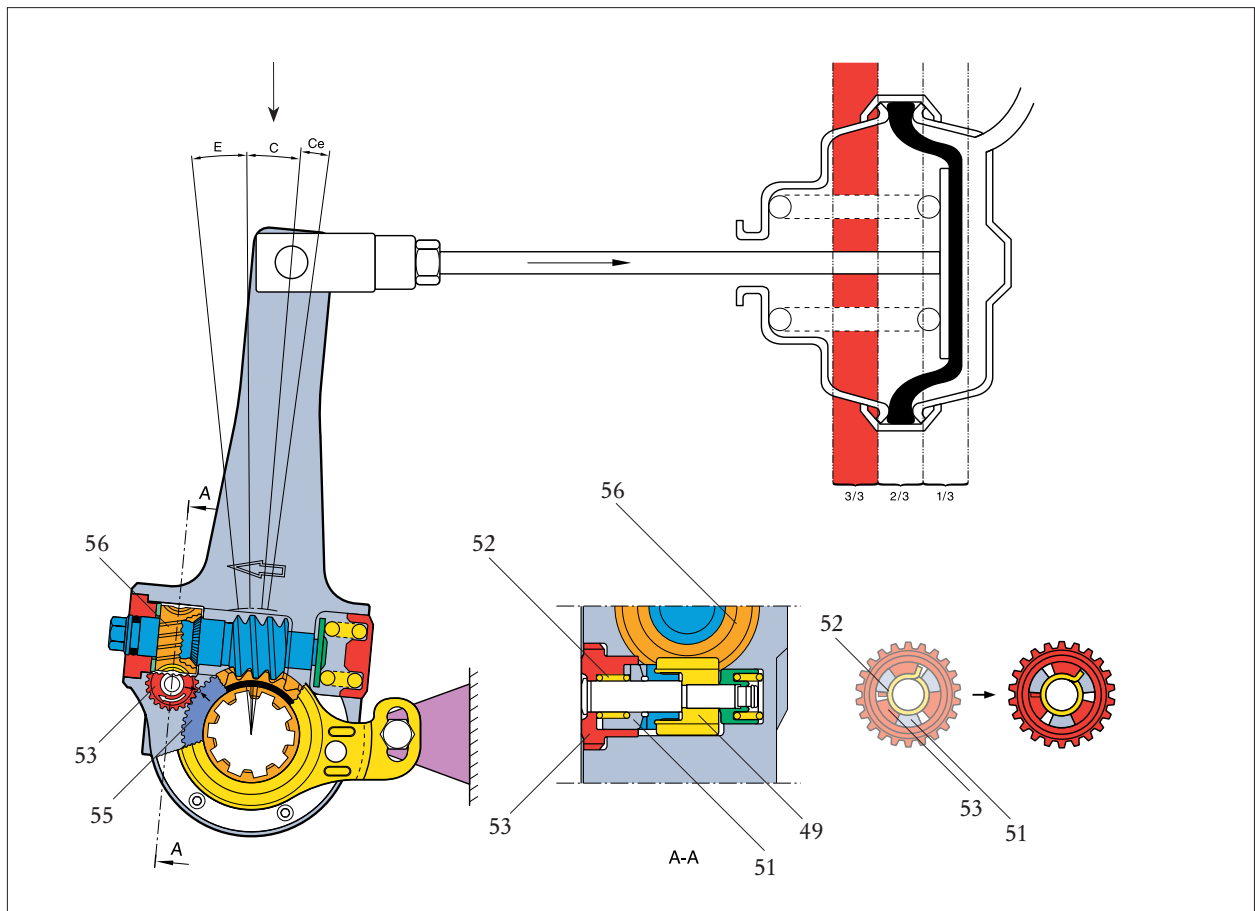
**84298-7 Brake Release**  
Connection of adjustment mechanism

The input torque transmitted is now decreased and overcome by the force in the coil spring (17). The worm shaft (4) moves axially until it reaches the clutch wheel (56). The cone clutch is re-engaged.

# Function Description S-ABA



Leader's guide for over-head 84298-0 to 84298-9

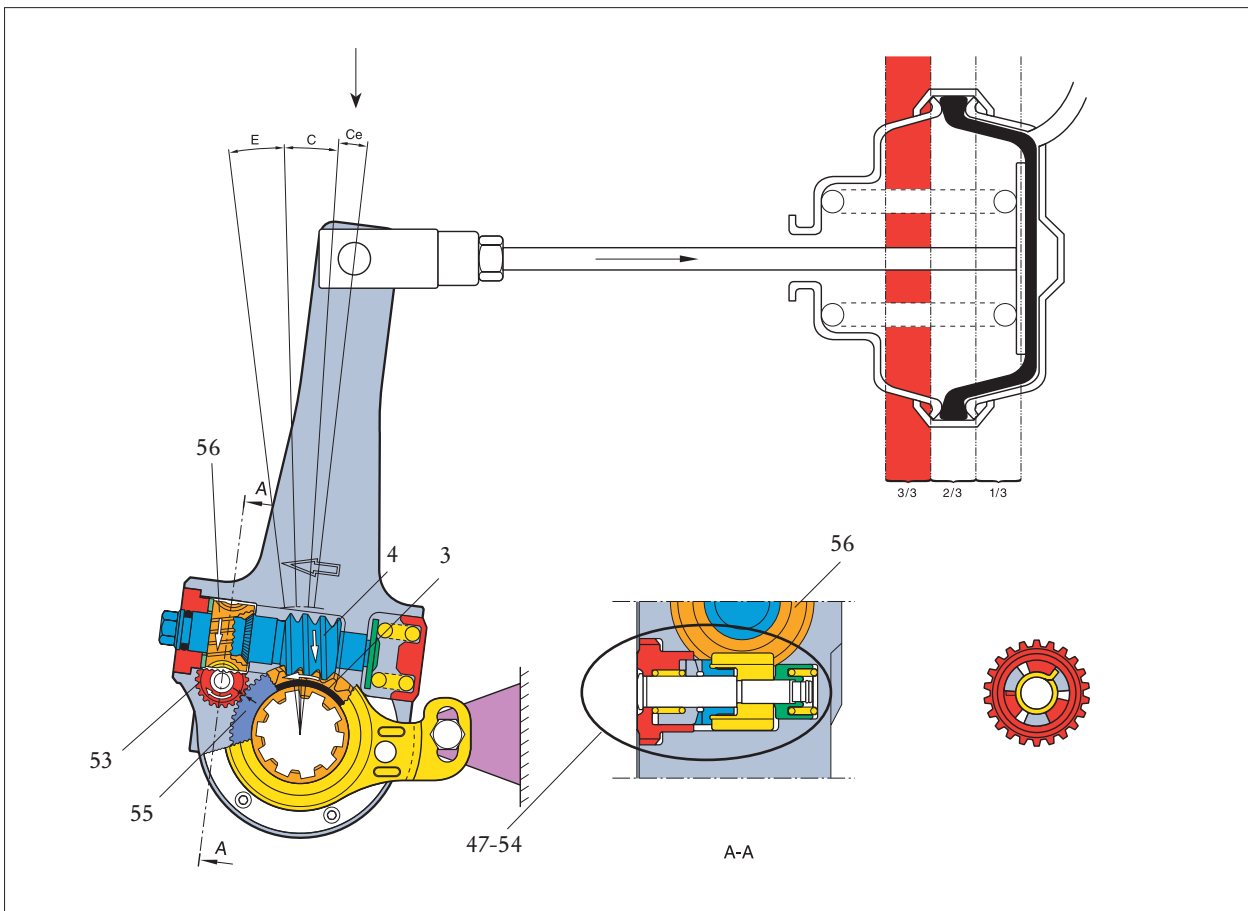


**84298-8 Brake Release**  
Passing through nominal clearance C

As the cone clutch now is closed, the rotation resistance for the clutch wheel (56) is increased and the wheel stops. During continued ABA return movement, the gear wheel (53) rolls further up the control disc (55), but the gear wheel spring (52) is not able to turn the companion flange (51) and the adjusting screw (49) because of the resistance in the clutch wheel (56). During this phase the predetermined clearance between the gear wheel (53) and the companion flange (51) is travelled. This tensions the gear wheel spring (52) radially.

# Funktionsbeschreibung S-ABA

Funktionsbeschreibung S-ABA Overhead Folien 84298-0 bis 84298-9



## 84298-9 Adjustment

Passing Ce, lining wear is partly compensated for

The gear wheel (53) rolls on the control disc (55) and drives through the regulator assembly (47-54), the clutch wheel (56), the worm shaft (4), and the worm wheel (3) which in turn rotates the S-cam. Note the set marks – back in starting position.

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