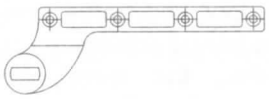
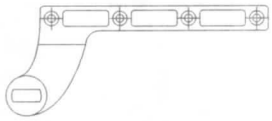
3000 SERIES FLOOR SPRINGS

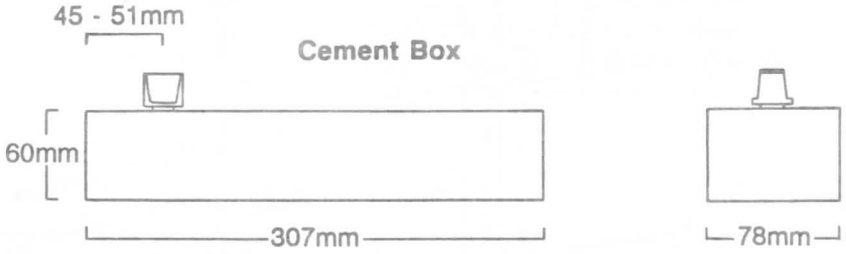
Floor springs are sold in four separate packs comprising units, top straps, bottom straps and covers. All four are required but they will vary according to whether the door is double swing or single swing and the amount of offset.
All floor spring units suit double swing or single swing doors of both hands with openings up to 180°.
Suitable for doors from 500mm wide and up to but not exceeding 1400mm.
For door masses of 600kg maximum (double swing) and 400kg maximum (single swing).

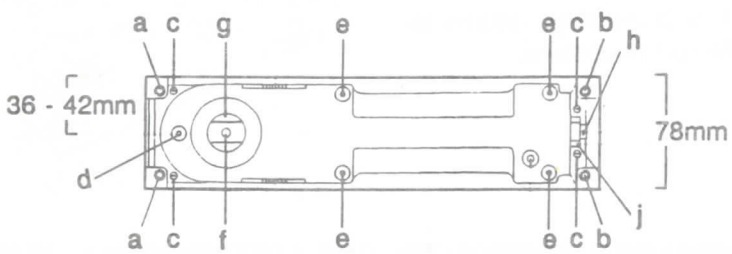
Floor Spring Packages

Double Swing	Single swing 25mm offset	Single swing 36mm offset
1. Floor spring, cement box and spindle.	1. Floor spring, cement box and spindle.	1. Floor spring, cement box and spindle.
2. Bottom strap.	2. 25mm offset bottom strap (state finish).	2. 36mm offset bottom strap (state finish).
3. Top centre.	3. 25mm offset top centre (state finish).	3. 36mm offset top centre (state finish).
4. Coverplate and top centre covers (state finish).	4. Coverplate (state finish).	4. Coverplate (state finish).

Dimensions

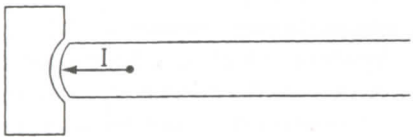




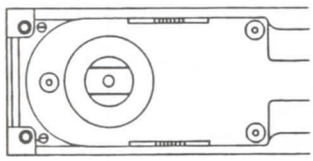
a Fixed clamp screws (2)
b Removable clamp screws (2)
c Height adjustment screws (4)
d Spindle cover fixing screw (1)
e Cover plate fixing screws (4)
f Spindle insert fixing pin
g Spindle insert
h Speed control valve
j Power and backcheck adjustment control

For Double Swing Doors.

1. Determine the heel radius of the door (dimension I).

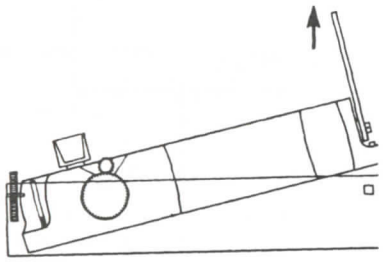


2. Note the minimum to maximum spindle position of the mechanism.

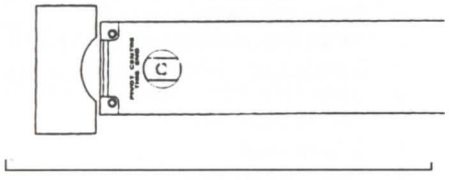


45 - 51mm

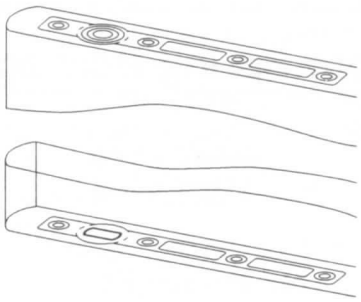
3. Remove the mechanism from the cement box. The screws for the removable clamps (b) should be unscrewed 10 turns each. Tap the clamps down to remove them from the sockets in the cement box. Lift the front of the unit using the adjustment spanner.



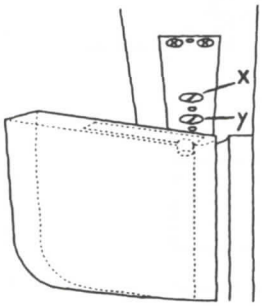
4. Set the cement box in the floor with the fixed clamps (a) nearest to the frame, taking care to align the spindle position with the centre of the heel radius of the door. Allow a 3mm gap behind the door.



5. Mortice into the door on the pivot centre line the bottom strap and the bearing half of the top centre.
Mortice into the transom the pivot half of the top centre.

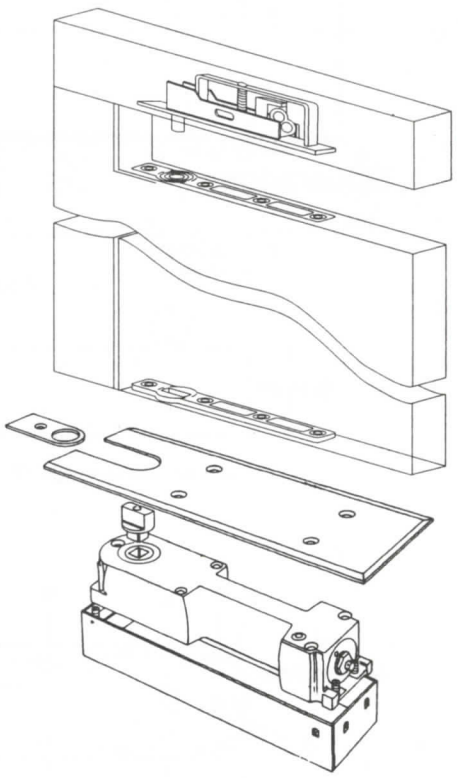


6. Replace the mechanism in the cement box. Ensure the removable clamps are engaged in their sockets and tighten the clamp screws. Screw on the spindle cover.
7. Position the door over the floor spring and locate the strap over the spindle.
8. Carefully open the door and adjust down the top centre pivot to engage in the bearing in the door.
9. Adjust the vertical gaps to 3mm between the door and frame using the top centre lateral adjustment (x) and by sliding the mechanism within the cement box. Fully tighten the top centre retracting screw (y).



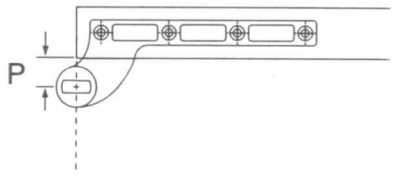
10. Check that the door returns to the correct centre position.

11. Adjust the gap at the top of the door to 3mm using the height adjustment screws (c), slackening the clamp screws (a and b) as the mechanism rises. Ensure the mechanism is level. Longer spindle inserts are available if necessary.
12. Fully tighten each clamp screw (a and b) and tighten the height adjustment screws (c) for a firm fixing.
13. Adjust the speed control (h) to give a smooth closing speed of approximately 5 to 7 seconds closing from 90° open.
14. For adjustable power units only. If the door is particularly heavy and/or wide, increase the backcheck resistance of the mechanism, by increasing the power of the spring (j). The floor spring is set in the factory on power size 3. Keep any power increase to a minimum since the lower the power, the easier it is to use the door. (Turn clockwise to increase or anti-clockwise to decrease the power).
15. Screw on the cover plates of the mechanism and top centre.



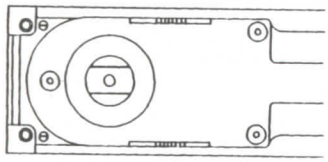
For Single Swing Doors.

1. Note the position of the pivot centre relative to the door.



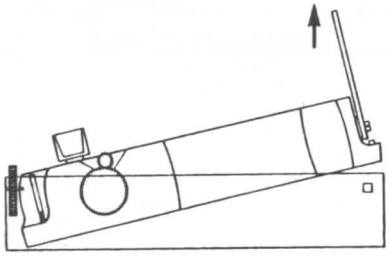
P = 25mm or 36mm

2. Note the minimum to maximum spindle position of the mechanism

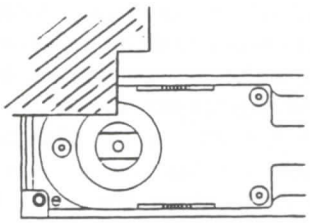


45 - 51mm

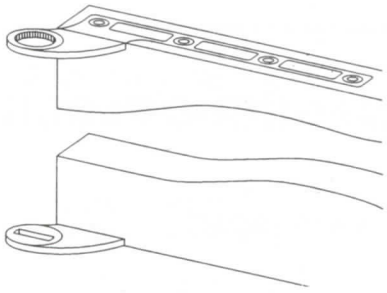
3. Remove the mechanism from the cement box. The screws for the removable clamps (b) should be unscrewed 10 turns each. Tap the clamps down to remove them from the sockets in the cement box. Lift the front of the unit using the adjustment spanner.



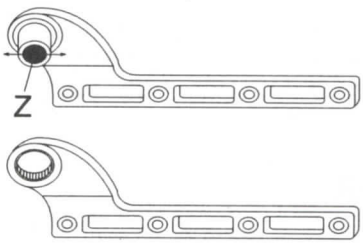
4. Set the cement box in the floor with the fixed clamps (a) nearest the frame taking care to align the spindle position with the pivot centre of the door. Allow a 3mm gap behind the door.



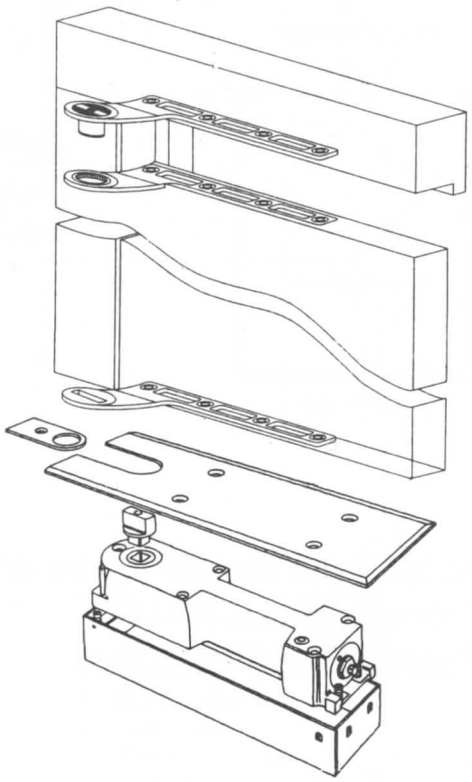
5. Mortice into the door on the pivot centre line the bottom strap and the bearing half of the top centre. Mortice into the transom the pivot half of the top centre.



6. Replace the mechanism in the cement box. Ensure the removable clamps are engaged in their sockets and tighten the clamp screws (a and b). Screw on the spindle cover.
7. Position the door over the floor spring and locate the strap over the spindle.
8. Locate the top centre pivot and loosely bolt in place.
9. Adjust the vertical gaps to 3mm between the door and frame using the top centre lateral adjustment and by sliding the mechanism within the cement box. Fully tighten the top centre pivot retaining screw (z).



10. Adjust the gap at the top of the door to 3mm using the height adjustment screws (c). Ensure the mechanism is level. Longer spindle inserts are available if necessary.
11. Fully tighten each clamp screw (a and b). For 25mm offset straps it may not be possible to gain access to all four screws. Tighten down the height adjustment screws (c) for a firm fixing.
12. Adjust the speed control (h) to give a smooth closing speed of approximately 5 to 7 seconds, closing from 90° open.
13. For adjustable power units only. If the door is particularly heavy or wide, increase the backcheck resistance of the mechanism by increasing the power of the spring (j). The floor spring is set in the factory on power size 3. Keep any power increase to a minimum since the lower the power, the easier it is to use the door. (Turn clockwise to increase or anti-clockwise to decrease the power).
14. Screw on the cover plate for the mechanism. Fix on the top centre and strap covers.



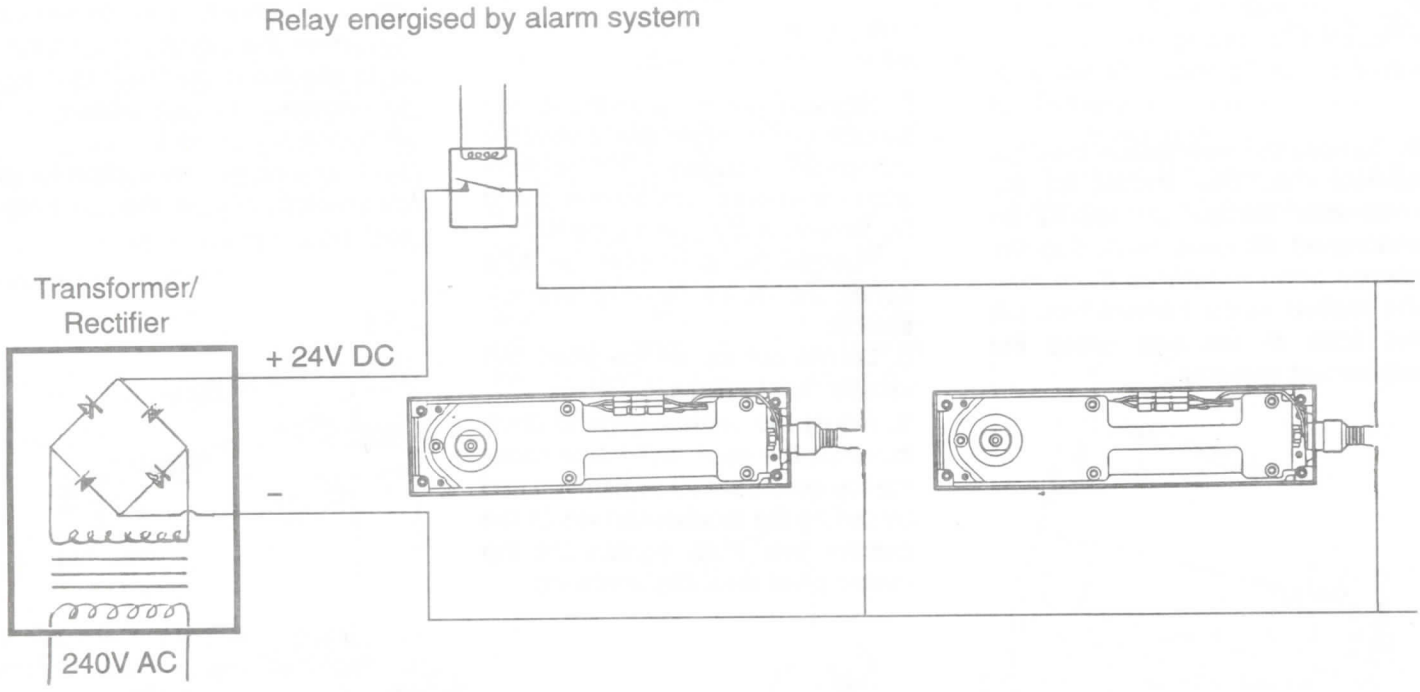
Maintenance

The internal mechanism of the floor spring is immersed in oil and has been designed so that it requires no maintenance. It is protected from misuse by an overload safety feature. **On no account should any attempt be made to dismantle a floor spring since it contains a pre-stressed spring which could be dangerous.** Once the floor spring has been installed and adjusted to suit local conditions no further maintenance should be necessary. However, an annual check should ensure that:

- the door leaf closes freely and positively into its frame from any angle without slamming.
- all fixing screws to the units and accessories are tight.

Any failure to close the door leaf should be investigated. It may indicate that the power of the floor spring requires adjustment or that excessive force is required to close the door leaf, due to distortion or mis-alignment.

ELECTROMAGNETIC FLOOR SPRINGS



Note: Each closer draws 95 mA
Transformer = 24V DC
Polarity is unimportant