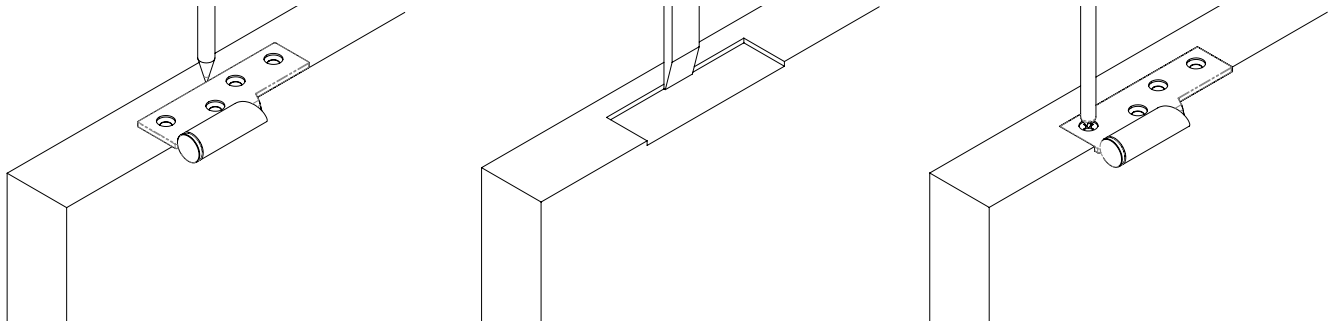


Mortice Preparation for Rising Butt Hinge

Not suitable for use on Fire Compartmentation or Escape Route Doors

It is essential that the door frame is vertically/horizontally plumb, especially the hinge side as the co-axial (pivot) point of all hinges requires to be the same for correct operation. Misalignment can cause the integrity of the hinge and/or other hardware components to become compromised, leading to the breakdown of the doorset operation.

The door head and frame detail may require planing to allow the door to rise during operation. Most manufacturers installation instructions reference the requirement, however, if no detail is supplied, refer to top of door preparation guide. Always refer to manufactures installation instructions for any special requirements



The leaf with the pin must be fitted to the frame, with the pin pointing upwards. At the determined spacing, position the non pin hinge leaf to the door so that the edge of leaf by knuckle is flush with edge of door and mark around leaf. Repeat at each hinge position. Mortice out door to equal the thickness of the hinge leaf. The mortice should be smooth and any shavings or swarf must be removed.

Position leaf into mortice, mark the fixing holes, pilot drill to suit the fixing screws. Secure the hinge leaf to the door using screws provided and repeat for other hinges on door. Offer the door upto the door frame. Pack under the door leaf to required clearance.

Once in required position, put the frame leaf with pin into top hinge on door, mark the frame at the bottom of the hinge to identify it's bottom position. Do same with bottom hinge, then remove door. Put the frame leaf with pin flat against the frame so that the edge of leaf by knuckle is flush with the edge of the frame and mark round the hinge leaf. Repeat at each hinge position.

Mortice out frame to equal the thickness of the hinge leaf as was done on door. Position leaf into mortice, pilot drill the fixing holes and secure with screws provided and repeat for remaining hinges. Lift door and align door leaf hinges with the pins of the frame leaf hinges and lower door.

Selecting Hinge Spacing

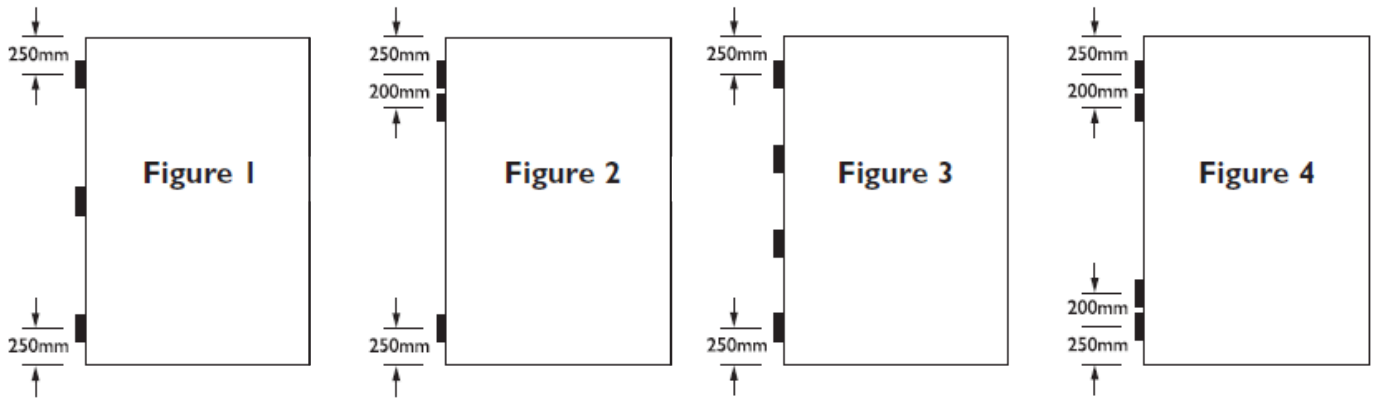


Figure 1 – The standard practice and most common, providing maximum resistance to “warping”, hinges are spaced as shown.

Figure 2 – Where overhead door closers are used, additional lateral forces are applied to the top hinge. Whilst this is taken into consideration within the design calculation, to reduce the lateral force on the top hinge, it is recommended that the hinges are spaced as shown.

Figure 3 – Where the door width is more than 1000mm or the door mass exceeds that allowed for 3 hinges, additional hinges can be fitted. Equal spacing shown provides maximum resistance to “warping”. Based on 4 hinges, the design door mass can be calculated as per “Side Load Calculation” table before determining the suitable grade of hinge.

Figure 4 – where overhead closers are used within the example illustrated in Figure 3, due to the increased lateral forces created by the closer on the top hinge, it is recommended that the hinges are spaced as shown.

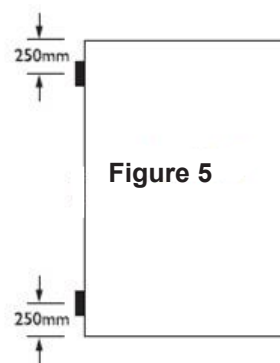


Figure 5 - The standard practice for fitting rising butt hinges. Assistance should be sought from manufacturer in circumstances where a 3rd hinge is required as a co-axial point must be maintained.

Top of Door Preparation for Rising Butt Hinge

The door head and frame detail may require planing to allow the door to rise during operation.

Most manufacturers installation instructions reference the requirement, however, if no detail is supplied, use the following as a guide:

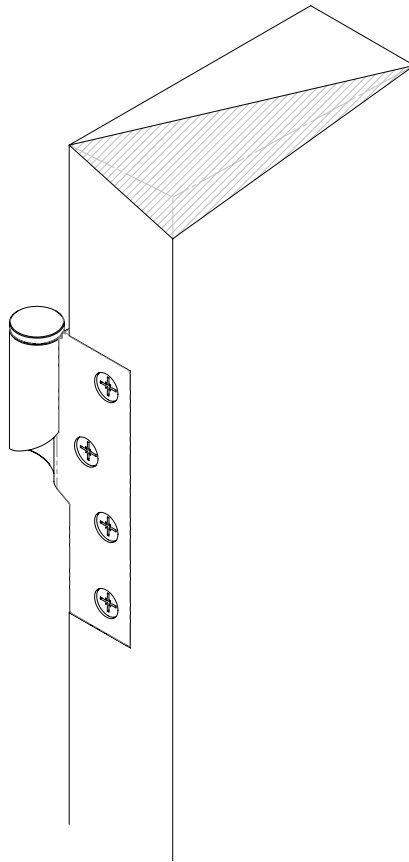
Using the travel of rise of hinge at 180degrees, subtract the required door gap, then add 1mm for tolerance This will be the starting point from the top inside corner of the hinge side of the door.

Example: Rise 10mm – Gap 3mm + 1mm tolerance = Plane allowance 8mm

Mark the door at this point, then draw a line to top outside corner at hinge side and another to the top inside corner at the lock side of door.

Draw a line from top outside corner at hinge side to top inside corner of lock side – This will create a triangle on the door.

Plane the top edge of the door within these lines. If once hinges are fitted, the door still touches the top of frame during operation, simply plane the door further.



Example: Rise 10mm – Gap 3mm + 1mm tolerance = Plane allowance 8mm