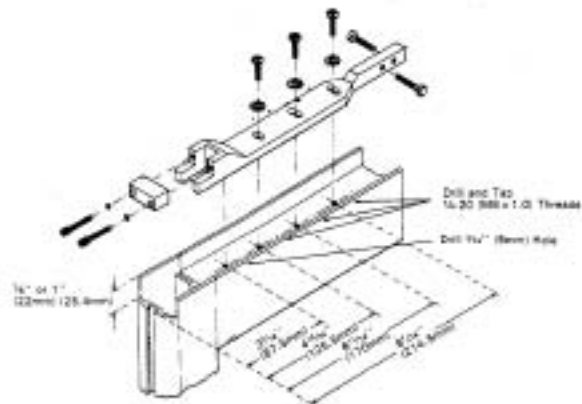


END LOADING



TOP DOOR RAIL

"A" Type End Loading Arm

Make a 1/4" (25.4mm) deep cut-out in hinge edge of door as shown.

"PT" Type End Loading Arm

Make a 1/4" (22mm) deep cut-out in hinge edge door as shown.

Drill or drill and tap holes in top of door as shown.

Position arm in door by placing arm pin in 1/4" (6mm) hole. Install arm using three 1/4-20 x 1/2" (M6 x 1.0) pan head machine screws and lock washers. Center arm in the top rail by adjusting the two 1/4 x 20 x 1" (M6 x 1.0) hex head centering bolts.

NOTE: After door is installed, the two 1/4-20 x 1" (M6 x 1.0) socket head clamp bar cap screws with lock washers must be tightened securely.

BOTTOM DOOR RAIL

End Loading

Make out cut in hinge edge of door equal to depth of bottom rail as shown.

Drill and tap 1/4-20 (M6 x 1.0) holes in bottom rail of door as shown. Install pivot bearing retainer in bottom of door using 1/4-20 x 1/4" (M6 x 1.0) pan head machine screws and lock washers.

Laterally adjust center of pivot bearing retainer 2 1/4" (66.5mm) (or 2 1/4", 68mm) from hinge edge of door (not including weatherstripping) and tighten screws securely.

NOTE: For doors with 1" (25.4mm) bottom rail depth, pivot bearing stud must be shortened by sawing off at score 1/4" (12.5mm) from bottom.

TOP DOOR RAIL

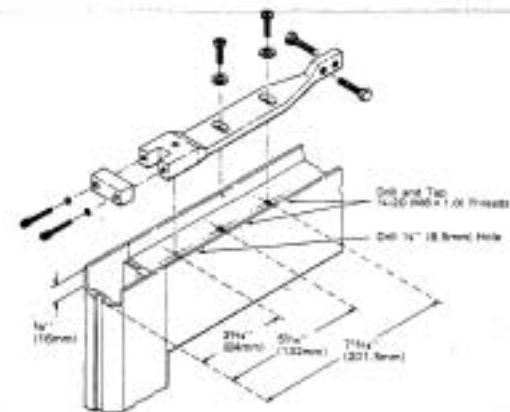
"K" Type End Loading Arm

Make a 1/4" (16mm) deep cut-out in hinge edge of door as shown.

Drill or drill and tap holes in top of door as shown.

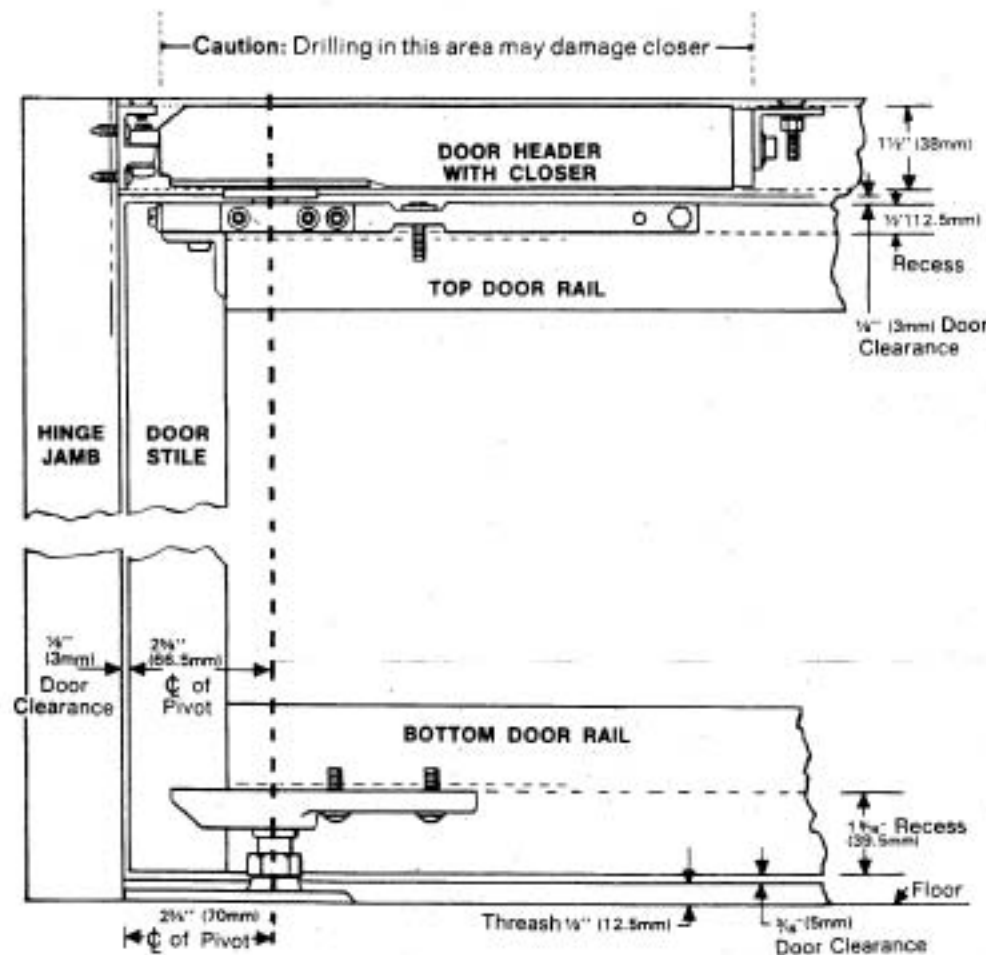
Position arm in door by placing arm pin in 1/4" (6.5mm) hole. Install arm by using two 1/4-20 x 1/2" (M6 x 1.0) pan head machine screws and lock washers. Center arm in the top rail by adjusting the two 1/4 x 20 x 1" (M6 x 1.0) hex head centering bolts.

NOTE: After door is installed, the two 1/4-20 x 1" (M6 x 1.0) socket head clamp bar cap screws with lock washers must be tightened securely.

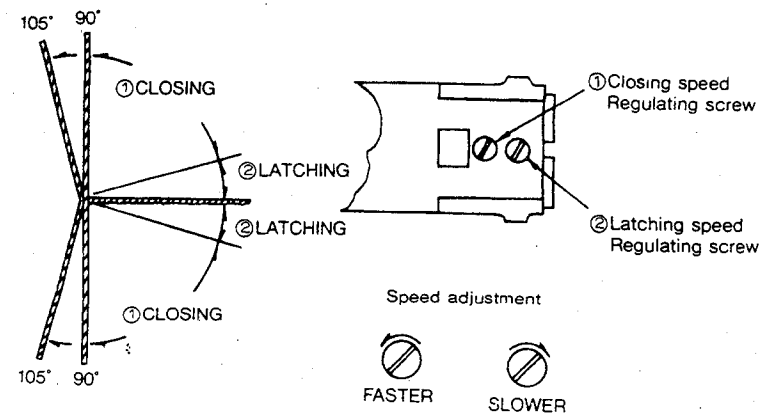


"CONCEALED OVERHEAD" INSTALLATION INSTRUCTIONS

DOUBLE OR SINGLE ACTING-CENTER HUNG-SIDE AND END LOADING
DUAL SPEED ADJUSTING VALVES FOR LATCHING
AND CLOSING SPEED ADJUSTMENT



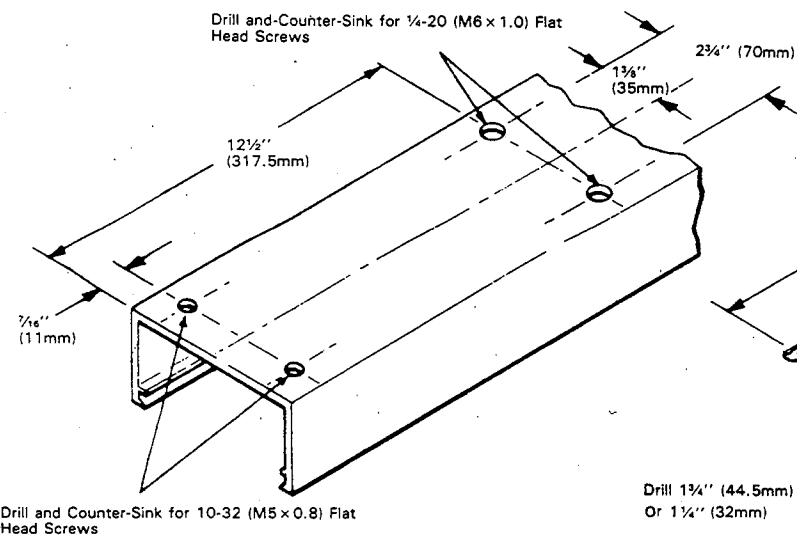
HOW TO REGULATE CLOSING AND LATCHING SPEED



HEADERS & JAMBS

DOOR HEADED

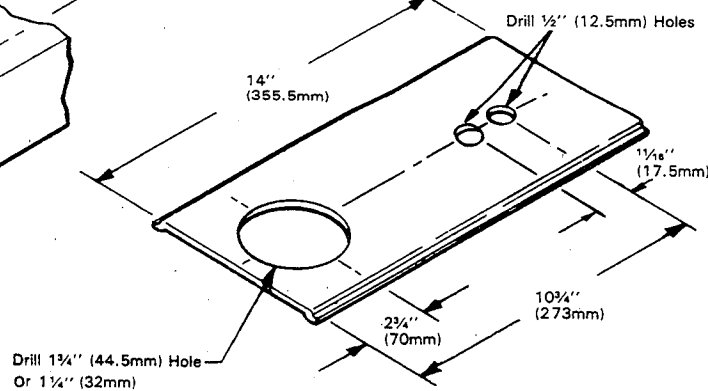
Drill and counter-sink outside top surface for 10-32 \times $\frac{7}{16}$ " (M5 \times 0.8) and $\frac{1}{4}$ -20 \times $\frac{1}{4}$ " (M6 \times 1.0) flat head screws as shown.



COVER PLATE

Drill $\frac{1}{4}$ " (44.5mm) hole as shown.

Drill $\frac{1}{2}$ " (12.5mm) hole as shown.

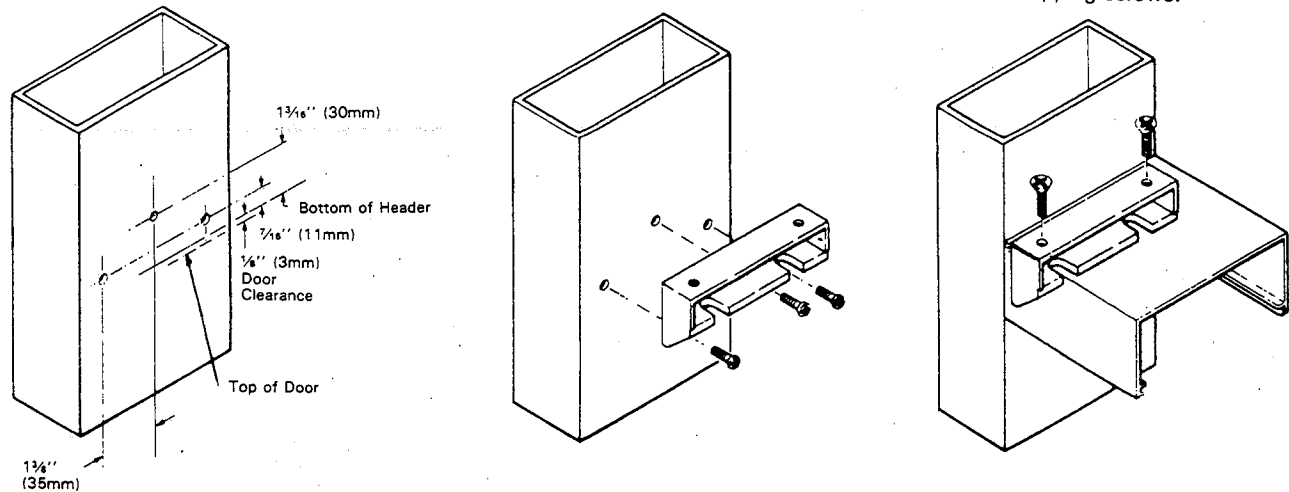


HINGE JAMB

Drill holes for #10 pan head self-threading screws as shown.

Install anchor using #10 \times $\frac{9}{16}$ " pan head self-threading screws.

Mount door header on anchor using 10-32 \times $\frac{7}{16}$ " flat head self-tapping screws.



SIDE LOADING

TOP DOOR RAIL

"S" Type Side Loading Arm

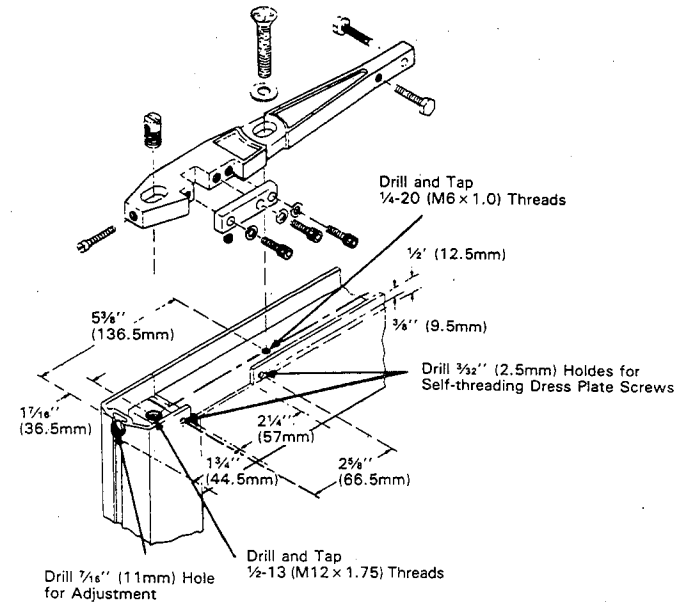
Drill or drill and tap holes in top of door as shown.

Make $\frac{2}{4}$ " \times $\frac{1}{2}$ " (57mm \times 12.5mm) cut-out in top of door as shown. Cut-out must be on the inside of the door.

Install arm using $\frac{1}{4}$ -20 \times $\frac{1}{4}$ " (M6 \times 1.0) flat head machine screw and $\frac{1}{8}$ " washer. Install $\frac{1}{2}$ -13 \times $\frac{3}{4}$ " (M12 \times 1.75) arm stud and $\frac{1}{4}$ -20 \times $\frac{1}{4}$ " (M6 \times 1.0) dome head arm adjustment screw. Laterally adjust center of the arm spindle retainer $\frac{2}{8}$ " (66.5mm) from hinge edge of door (not including weatherstripping). Center arm in the top rail by adjusting the two $\frac{1}{4}$ -20 \times $\frac{1}{4}$ " (M6 \times 1.0) hex head centering bolts.

After installation of door, attach dress plate with self-threading screws.

NOTE: Before attaching dress plate, make certain the three $\frac{1}{4}$ -20 \times $\frac{7}{8}$ " (M6 \times 1.0) socket head clamp bar screws with lock washers are tightened securely.

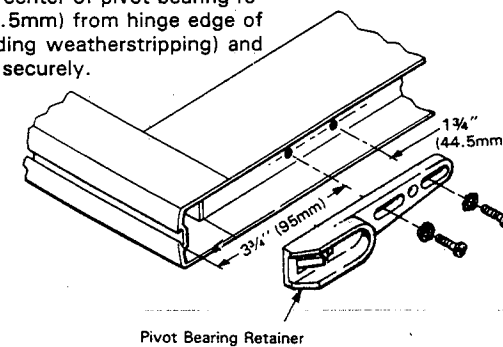


BOTTOM DOOR RAIL

Side Loading

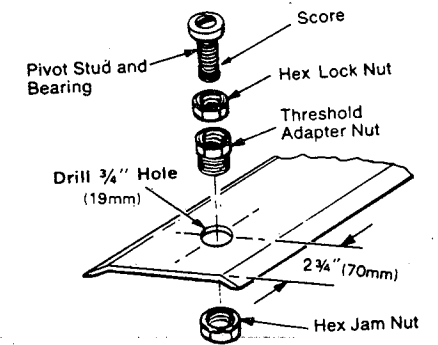
Drill and tap $\frac{1}{4}$ -20 (M6 \times 1.0) holes in bottom rail of door as shown. Install pivot bearing retainer in bottom of door using $\frac{1}{4}$ -20 \times $\frac{5}{8}$ " (M6 \times 1.0) pan head machine screws and lock washers.

Laterally adjust center of pivot bearing retainer $\frac{2}{8}$ " (66.5mm) from hinge edge of door (not including weatherstripping) and tighten screws securely.



THRESHOLD MOUNT PIVOT

Drill hole in threshold as shown. Install pivot stud and bearing with hex lock nut as shown and adjust bearing height for proper door clearance and firmly tighten lock nut.



FLOOR MOUNT PIVOT

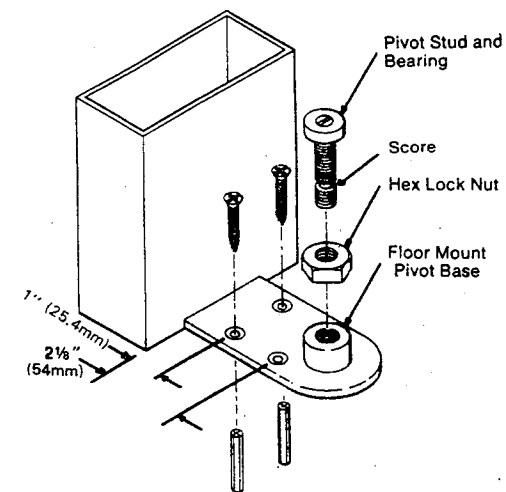
Center pivot base against door jamb on hinge side. Mark and drill $\frac{1}{4}$ " (6.5mm) holes $1\frac{1}{2}$ " (38mm) deep in floor for plastic expansion plugs.

Mount base using #12 \times $\frac{1}{4}$ " plastic expansion plugs and #12 \times $\frac{1}{4}$ " flat head wood screws.

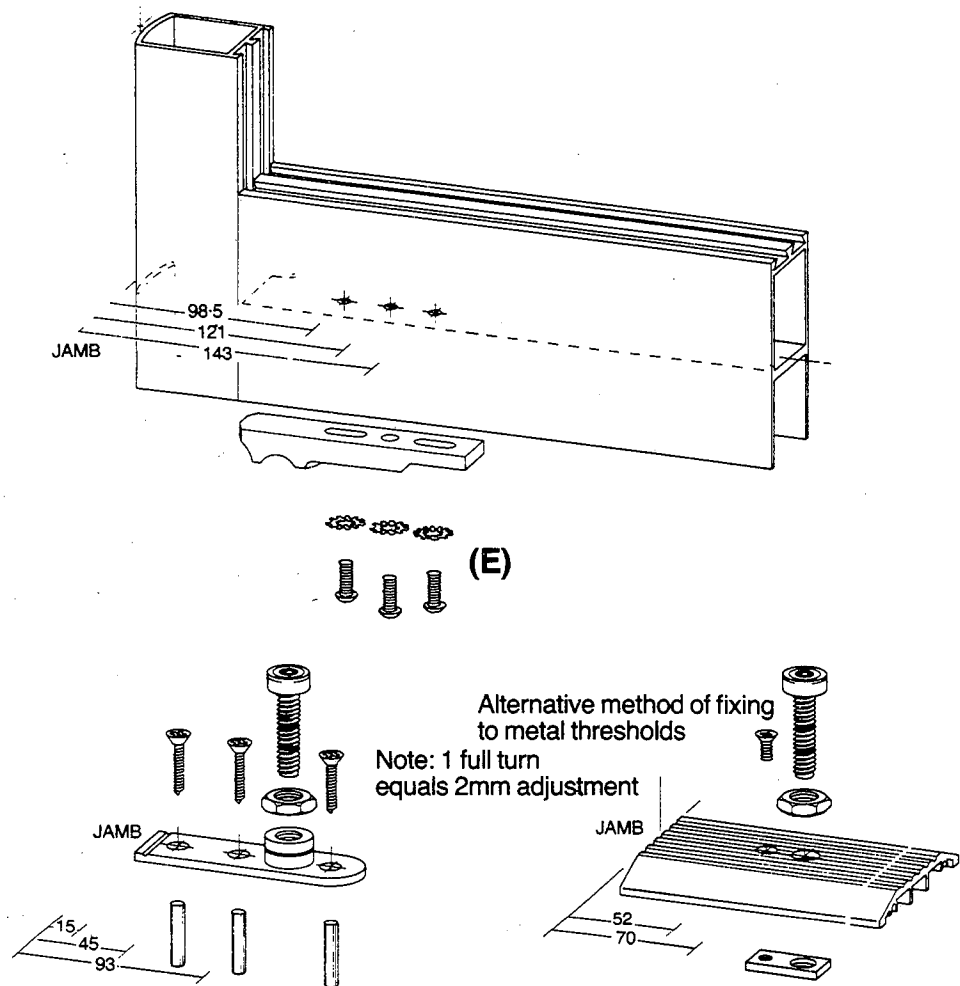
Install pivot stud and bearing with hex lock nut as shown, and adjust bearing height for proper door clearance and firmly tighten lock nut.

When using threshold, drill $\frac{1}{4}$ " (32mm) hole for clearance of pivot base on center line $\frac{2}{4}$ " (70mm) from hinge end of threshold.

NOTE: When threshold is not used, pivot bearing stud must be shortened by sawing off at score $\frac{1}{2}$ " (12.5mm) from bottom.



SIDE-LOAD BOTTOM PIVOT ASSEMBLY, 70mm PIVOT POINT



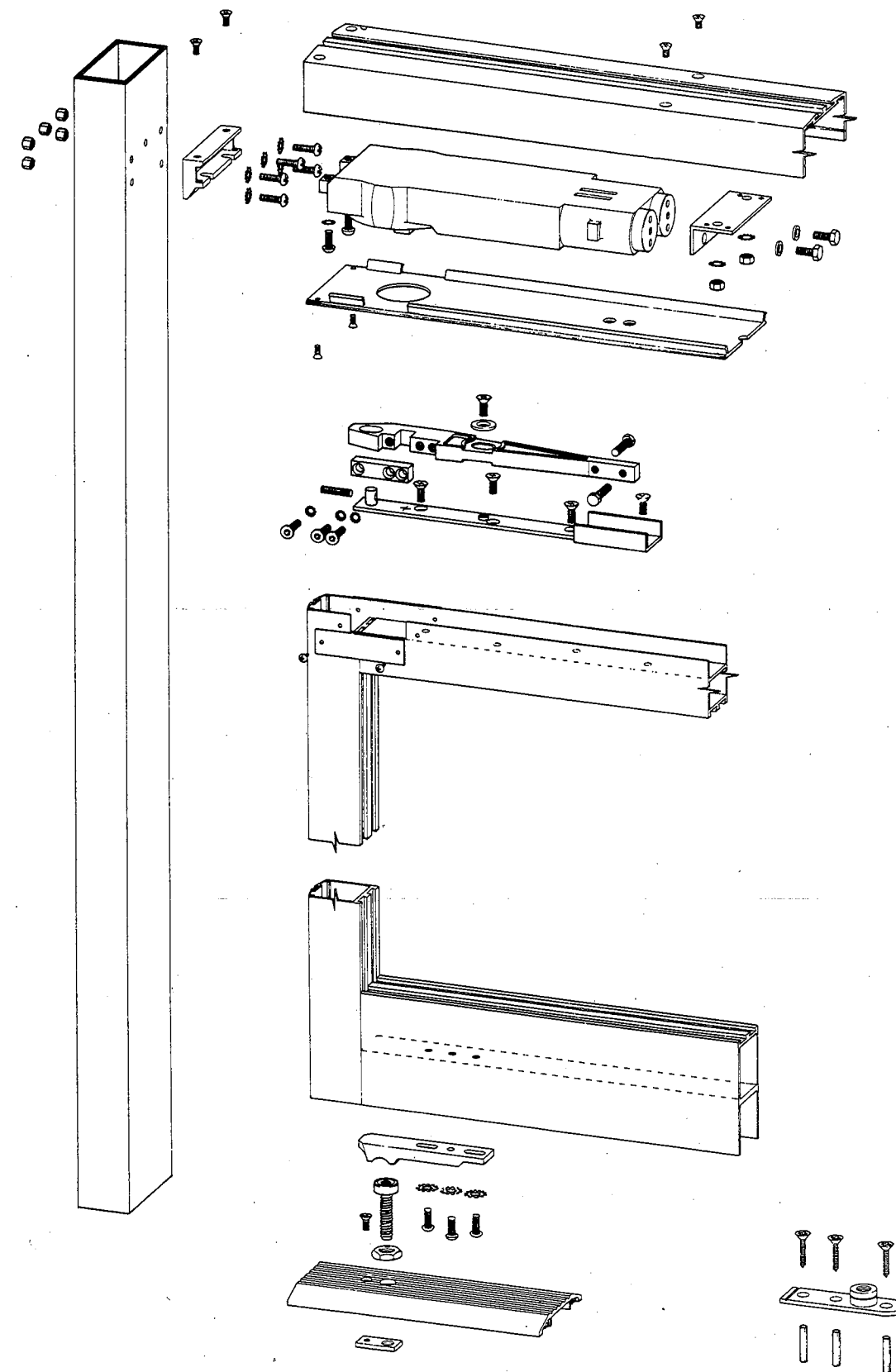
Prepare the bottom rail of the door to accommodate the pivot shoe with 2No. drilled and tapped M6 holes at 98.5mm and 143mm centres.
 Fit pivot shoe to underside of door, through the slotted holes with 2No. M6 x 10mm round head screws and lock-washers.
 The centre hole should be drilled and tapped on site when correct alignment of the door has been achieved. **THIS FINAL FIXING MUST BE USED.**

If an aluminium threshold is being used prepare as shown below.
 The 5mm thick plate is held in position by the M5 countersunk screw and the pivot bolt can be installed. Determine the correct height of the pivot and tighten the locknut.
 If the bolt protrudes below the base of the threshold excess must be removed or the floor level drilled accordingly.

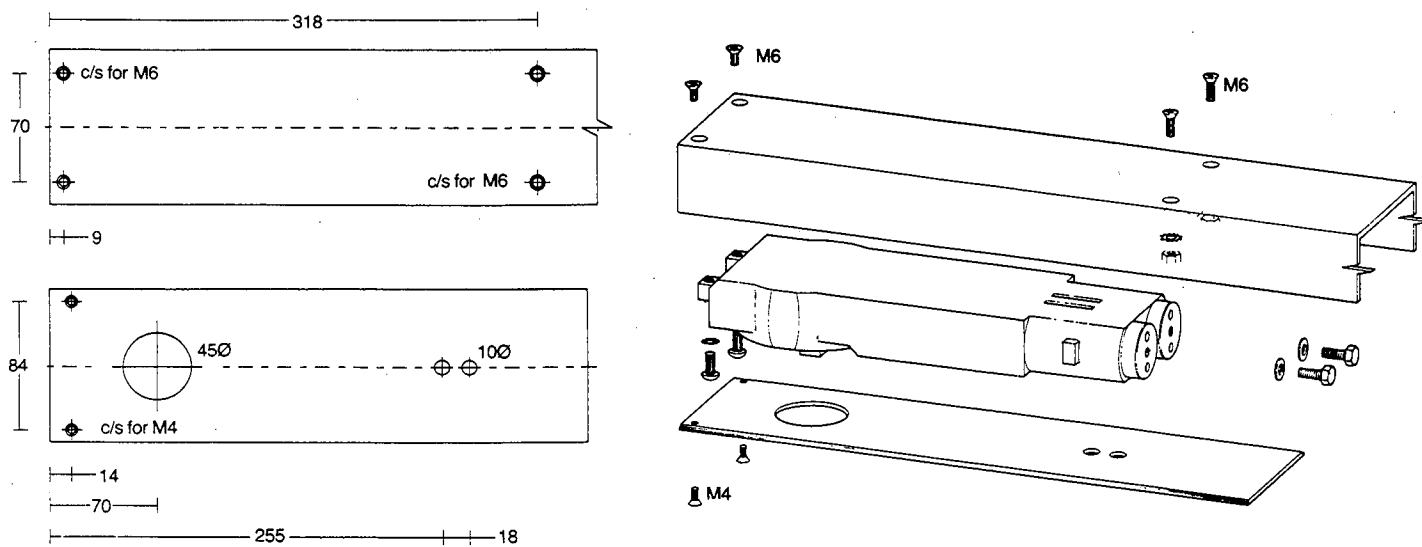
TO ERECT THE DOOR

Holding door at approximately 15 degrees, lower onto the pivot bolt and swing the door into the vertical position locating the closer spindle into the arm recess.
Note: To ease the hanging of single action doors it may be necessary to temporarily remove the door stop if already fitted.
 Wedge the door in position and fit the arm clamp block with the 3 No. socket head screws and conical lock washers. **Use allen key provided to tighten block down securely.**
 Fit tag plate to top rail cut-out. Align door to jamb and meeting stile by adjusting screw (C) and bolts (D). Fit final fixing screw in bottom pivot shoe and tighten all fixings securely.

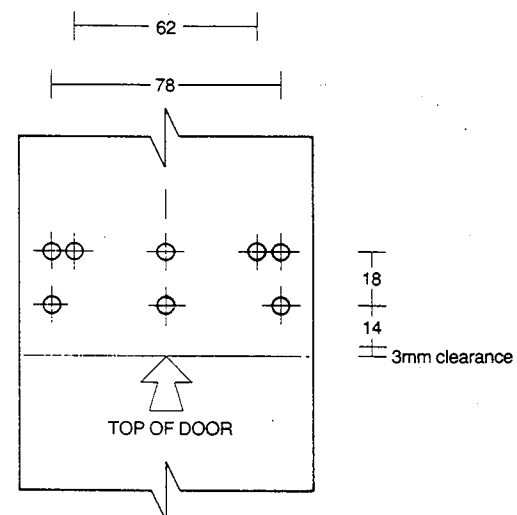
CONCEALED OVERHEAD DOOR CLOSER CENTRE PIVOTED - DOUBLE OR SINGLE ACTING



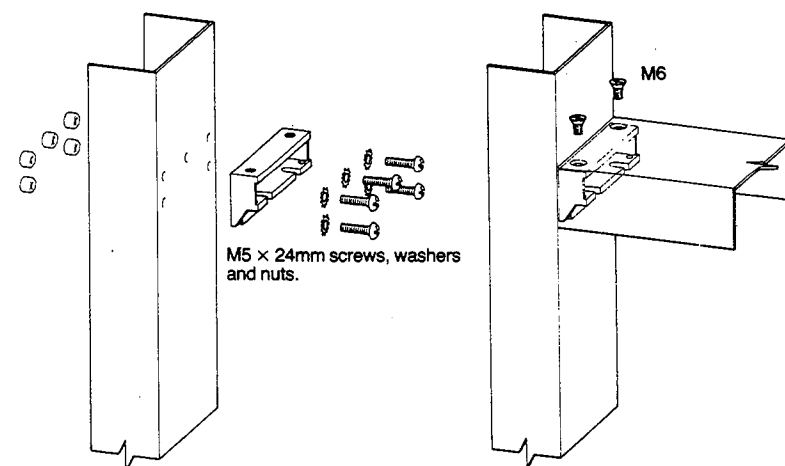
TRANSOM/HEADER BAR, 70mm PIVOT POINT



HINGE JAMB



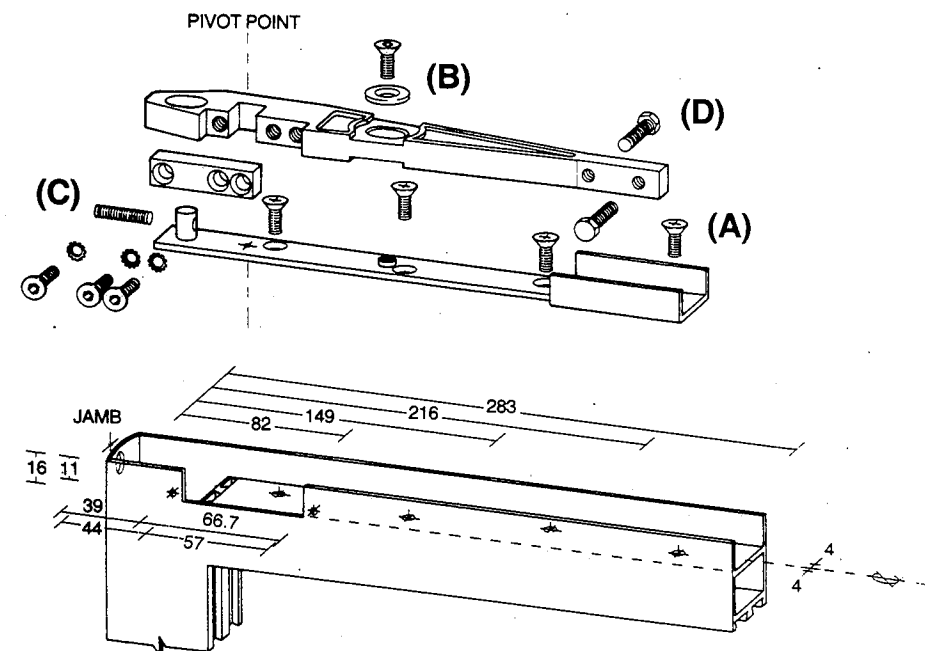
Select fixing holes most suitable for section and drill clearance size for M5 screws.



Prepare transom/header bar and cover plate to accept closer as detailed below.
Fit jamb bracket to jamb with the 5 No. M5 x 24mm screws, washers and nuts.
Drill clearance holes and countersink header bar for 2No. M6 x 10mm screws and 2No. M6 x 15mm CSK bolts.
Fit steel angle bracket to header bar using the 2No. M6 x 15mm bolts, locking washers and nuts.

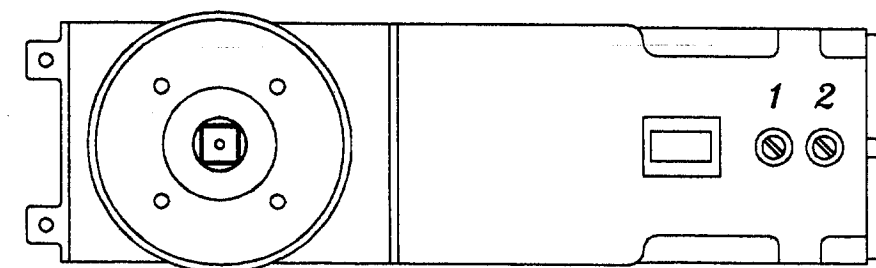
Locate the 2 fixing lugs into jamb bracket and raise the rear end of the closer into position.
Fit the 2No. M6 x 15mm Hexagon head bolts and flat washers through the angle bracket and the 2No. M6 x 15mm Round head screws and lock washers in to the closer lugs.
Check the 70mm pivot position, centralise the closer and secure all fixings.

SIDE-LOAD TOP ARM AND CHANNEL, 70mm PIVOT POINT

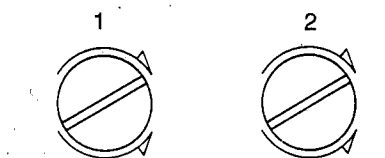


Prepare the top rail of the door as detailed, ensuring that the internal faces of the stile and top rail have been cut away to enable the closer spindle to be engaged during door hanging. Drill 7mm hole in the heel of the door giving access to the adjustment screw (C).
Fit steel arm channel to the door top rail using the 4 No. M6 csk screws (A).
Fit the adjustment screw (C) into the channel post and the 2No. alignment bolts into the arm.
Place the arm into the channel and fit the large countersunk washer and socket head screw (B).
Slide the arm centrally over the pre-punched pivot point mark in the channel and adjust position with screw (C).
Unwind alignment bolts (D) equally on to the steel channel upstands. Tighten all fixings.

TO ADJUST THE DOOR CLOSING SPEED

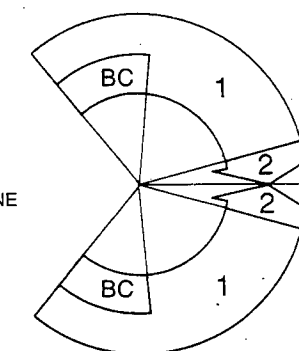


CLOSING SPEED ADJUSTMENT



TURN CLOCKWISE FOR SLOWER SPEED
ANTI-CLOCKWISE FOR FASTER SPEED

DOOR SWING



1. CLOSING RANGE
2. LATCHING RANGE
BC BACKCHECK ZONE