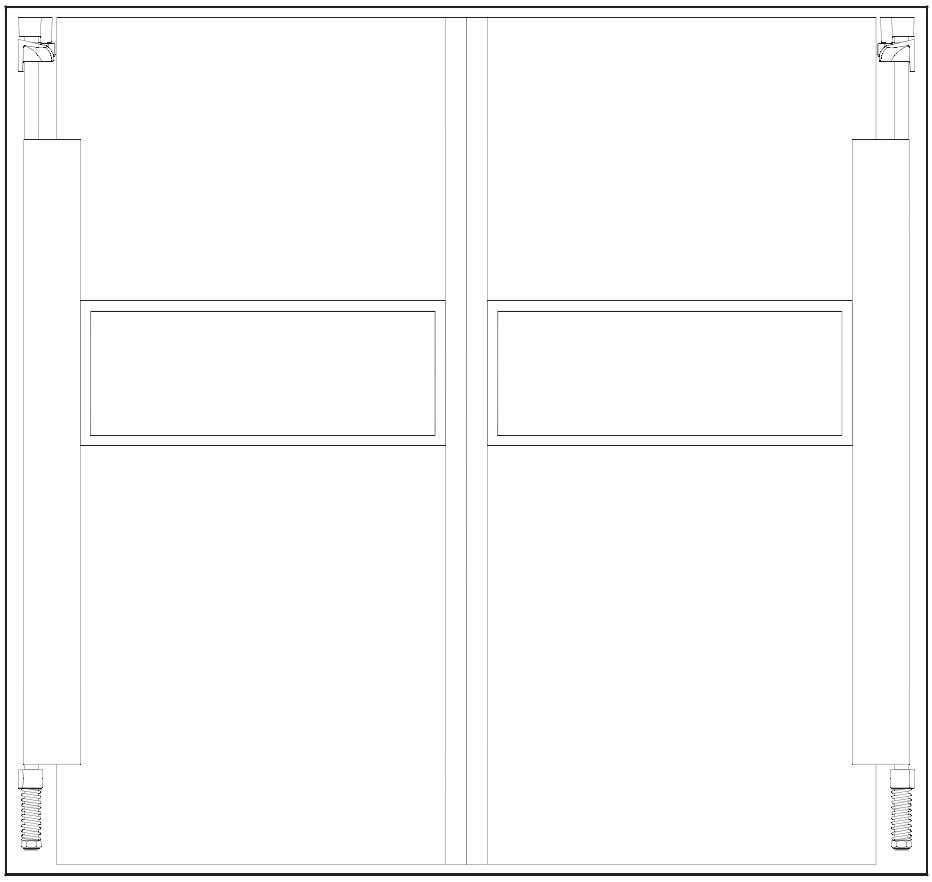
RAM-RITE® IMPACT DOOR - MODEL 4800



ISO 9001 CERTIFIED

RITE-HITE® DOORS
The Leading Edge In Door Safety.

MADE IN THE U.S.A.

This Manual Covers All 4800 Model Impact Doors To Date.

PRINTED IN U.S.A.
EMAIL: PRINTSHOP@RITEHITE.COM

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PRODUCT INTRODUCTION

NOTICE TO USER

Our mission is to "Improve Industrial Safety, Security and Productivity Worldwide through Quality and Innovation."

Thank you for purchasing the RAM-RITE® model 4800 impact door from RITE- HITE DOORS, INC. The RAM-RITE is a swinging impact door designed for areas with heavy traffic. The door has excellent sealing, appearance and durability. This owners manual MUST be stored near the door. RITE-HITE DOORS, INC. reserves the right to modify any drawings in this manual as well as the actual parts used on this product are subject to manufacturing changes and may be different than shown in this manual. Due to unique circumstances with varying requirements, separate prints may be included with the unit.
This manual should be thoroughly read and understood before beginning the installation, operation or servicing of this door. Refer to partslist manual for exploded views and part numbers.

The information contained in this manual will allow you to operate and maintain the door in a manner which will insure maximum life and trouble free operation. The serial # for your door is on a label located on the vision and/or the stile.

Your local RITE-HITE DOORS, INC. Representative provides the Planned Maintenance Program (P.M.P.) which can be fitted to your specific operation. If any procedures for the installation, operation or maintenance of the RAM-RITE® impact door have been left out of this manual or are not complete, contact RITE-HITE DOORS, INC. Technical Support at 1-563-589-2722.

RITE-HITE DOORS, INC. are covered by one or more of the following U.S. patents, including patents applied for, pending, or issued: 5,025,846, 5,143,137, 5,203,175, 5,329,781, 5,353,859, 5,392,836, 5,450,890, 5,542,463, 5,579,820, 5,601,134, 5,638,883, 5,655,591, 5,730,197, 5,743,317, 5,794,678, 5,887,385, 5,915,448, 5,944,086, 5,957,187, 6,042,158, 6,089,305, 6,098,695, 6,145,571, 6,148,897, 6,192,960, 6,321,822, 6,325,195, 6,330,763, 6,352,097, 6,360,487, 6,574,832, 6,598,648, 6,612,357, 6,615,898, 6,659,158

FEATURES

- Heavy-duty construction, which will withstand repeated use of motorized vehicles.
- Full-length stile and shaft, ductile iron cam rise hardware.
- 24" high, full-width vision - 4800
- Full perimeter gasketing.
- Maximum insulation filled with high density, lightweight polystyrene foam, with 1/8" ABS facing.

RECOMMENDED TOOL LIST

6' Level, 16' Tape Measure,. Punch, Utility Knife, Hammer, Drill Bits (3/16", 1/4", 5/16", Letter N)

RECOMMENDED SPARE PARTS LIST

Cams, Followers, Bumpers, Springs and Washers

CLEANING RECOMMENDATIONS

DOOR FACING

Clean facing with commercial, non-abrasive liquid cleaners or detergents. Furniture polish can clean and sometimes restore facing to original appearance.

VISION PANELS

It is important to remove protective masking within 2 weeks after exposure to sunlight or extreme temperatures. Clean vision panel with mild soap or detergent and lukewarm water, using a soft clean sponge or soft cloth. DO NOT use abrasive or alkaline cleaners, solvents, metal blades or scrappers.

WARRANTY

RITE-HITE DOORS, INC. warrants that its impact door model 4800 will be free from defects in design, materials, and workmanship for a period of two (2) years from the date of shipment. The warranty covers material failure under normal wear conditions or failure and the labor to replace such parts. It does not cover wear items, such as seals or labor from damage incurred from abuse, misuse or impact. All claims for breach of this warranty must be made within thirty (30) days after the defect is or can, with reasonable care, be discovered to be entitled to be benefits of this warranty, the products must have been properly installed, maintained and operated within their rated capacities, and not otherwise abused. Periodic adjustment is the sole responsibility of the owner. This warranty is RITE-HITE DOORS, INC.'S exclusive warranty. RITE-HITE DOORS, INC. expressly disclaims all implied warranties including the implied warranties of merchantability and fitness. Non-standard RITE-HITE DOORS, INC. warranties, if any, must be specified by RITE-HITE DOORS, INC. in writing.

In the event of any defects covered by this warranty, RITE-HITE DOORS, INC. will remedy such defects by repairing or replacing any defective equipment or parts, bearing all of the costs for parts, labor, and transportation, as long as the correct warranty policies are followed. This shall be the exclusive remedy for all claims whether based on contract negligence or strict liability. Neither RITE-HITE DOORS, INC., or any other manufacturer whose products are the subject of this transaction, nor any RITE-HITE DOORS, INC. representative, shall in any event be liable for any loss or use of any equipment or incidental or consequential damages of any kind whether for breach of warranty, negligence or strict liability. The application of a manufacturer's specifications to a particular job is the responsibility of the purchaser.

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INSTALLATION INSTRUCTIONS

GENERAL INSTALLATION PROCEDURES

Here are a few things to verify before getting started:

1. The door that you will be installing is a swinging impact door. The following is basic information that you should review before beginning the installation.
2. Type of option will have box checked [X]
3. Make sure you are working at the correct location.
4. Barricade work area on both sides of the opening.
5. Detour material handling equipment (forklifts trucks, etc.) during the installation of the door.
6. Be sure that you have any special work or permits.

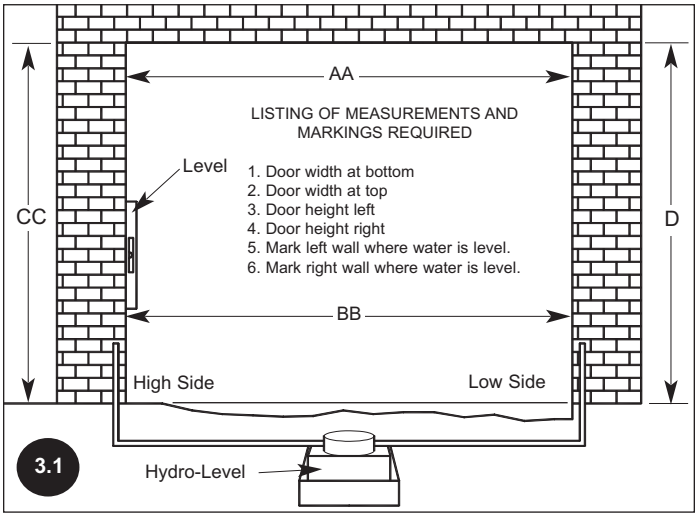
It is important to verify the door opening to the door size before starting with the installation.

1. Measure the overall width of the door opening near the floor and near the top (Dimension AA and BB), ***Figure 3.1.*** These measurement should be +/- 1/4". Compare these measurements to the size listed on the shipping carton for the door to be installed.
2. Measure the height of the door opening at the left and right-hand sides (Dimensions CC and DD), ***Figure 3.1.*** These should be within +/- 1/8" of the ordered door size. Serial number is located on vision panel and stile of door. If the measurements do not agree, STOP! Contact your RITE- HITE DOORS, INC. representative.
3. Verify that the door jambs are plumb, perpendicular and that the header is level, dimensions are taken from the top down. If the header is not level, level across from the low side of jamb and reference all measurements from level line, ***Figure 3.2.***
4. Most jambs are NOT plumb and square, but Doors must be hung plumb and square. Door hardware (hinges) are pre-aligned at factory. Therefore, shims are provided to hang doors plumb and square.

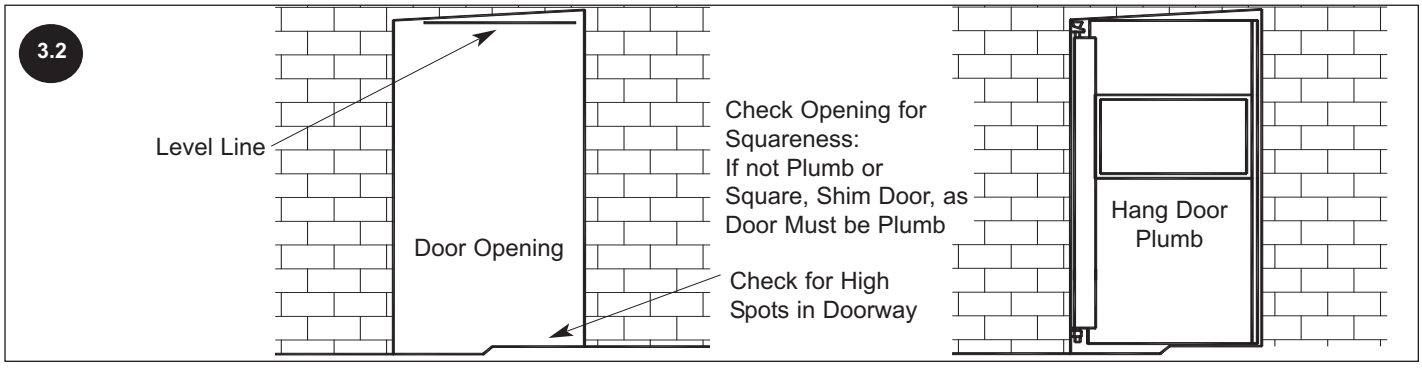
MAINTENANCE AND OPERATION

NOTE: It is recommended to set up a maintenance schedule to suit your needs based upon your usage of the doors.

1. Check all hardware fasteners.
2. Check alignment for vertical and horizontal squareness. Make sure doors open freely and close easily from open position, to insure longer life of facing material.
3. Inspect door facing for cuts and/or wear spots and material separation. When excessive cuts, wear, or separation of facing appear, contact your local RITE- HITE DOORS, INC. representative to replace part. Early detection and repair is the key to low cost maintenance.



3.1



3.2

MOUNTING BRACKET INSTALLATION

WELD PLATES

1. Mark the centerline of the jamb and plumb, ***Figure 4.1.***
2. Align guide marks of weld plates to vertical plumb line and level. Position “shorter dimension” of weld plates up, toward header, ***Figure 4.1.***

   Center the plate on the jamb. Lay a level on the studs and align the weld plate horizontally. Note the location of the 1 1/4” dimension toward top and measure 5 1/4” down to center of mounting studs from the door header. Be sure to follow location dimensions carefully.
3. Tack-weld the plate in place temporarily.
4. Repeat step two for the bottom weld plate. Make sure the 3 3/8” stud spacing is toward the top. Measure from center of studs at top weld plate, to center of top studs on bottom plate. Use dimension shown in box, ***Figure 4.1.***
5. Again, tack-weld the plate in place temporarily.
6. Check all dimensions, and be sure plates are straight with a plumb line, and horizontal. Proceed to weld plates in position, only if all dimensions and alignment are correct.
7. Weld along both outside edges of plates, using a 3/16” fillet weld. Grind off any weld that is higher than the top mounting surface of the plates.

OFF-SET WELD PLATE

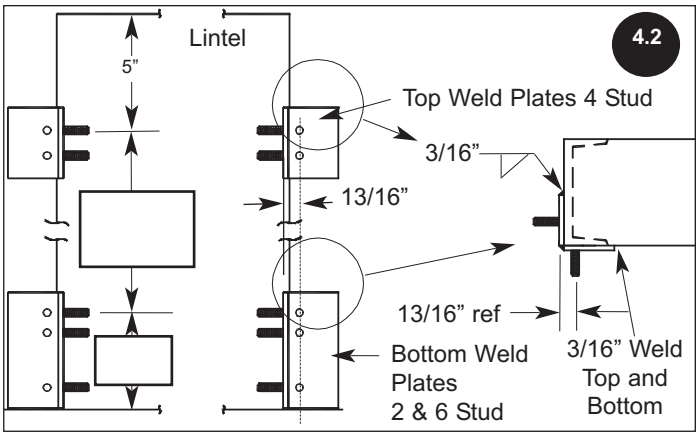
1. See “Weld Plate Instructions” for proper weld plate positioning, ***Figure 4.1.***
2. This applies to all rising type doors. If dimensions are not located from the lowest point, the door will bump the header and not fully open !

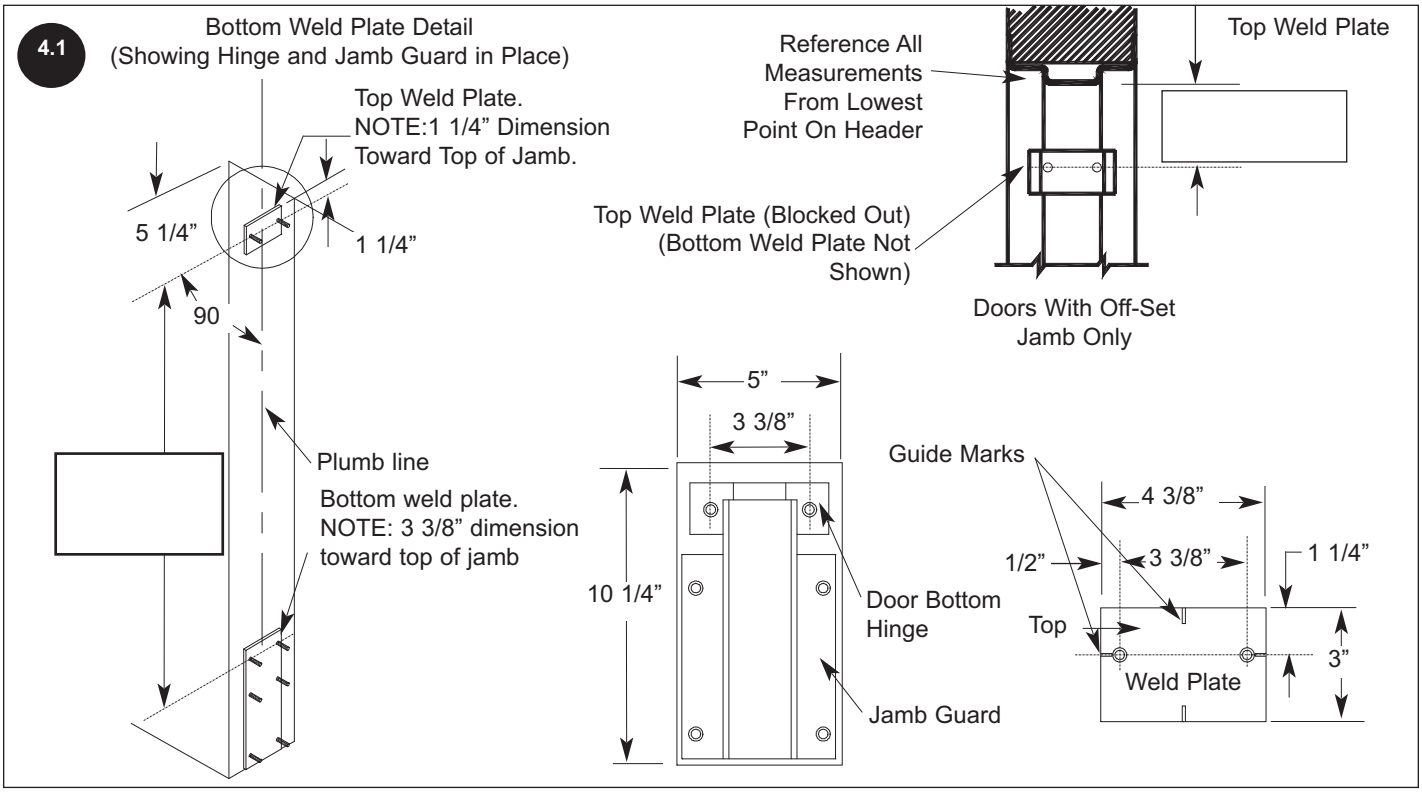
270° WELD PLATE

1. Mark the centerline of the jamb. Plumb to bottom of jamb, measure 5” from header, ***Figure 4.2.***
2. Align guide marks of weld plates to vertical plumb line and level. Position “shorter dimension” of weld plates up, toward header, ***Figure 4.2.***
3. Top or bottom weld plates are reversible as right or left, but 13/16” stud dimensions must always be mounted on wall (or 180° side).
4. Weld the weld plates in position.

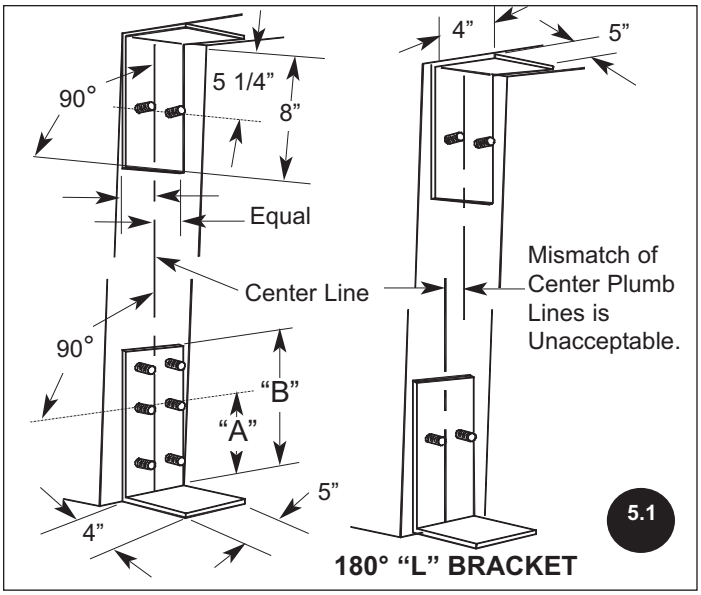
“L” BRACKETS

1. Mark centerline at top of jamb, and plumb to bottom of jamb, ***Figure 5.1 (180°) or 5.2 (270°).***
2. Align “L” brackets with center line.
3. Mount “L” brackets to the jamb at the top and the bottom.



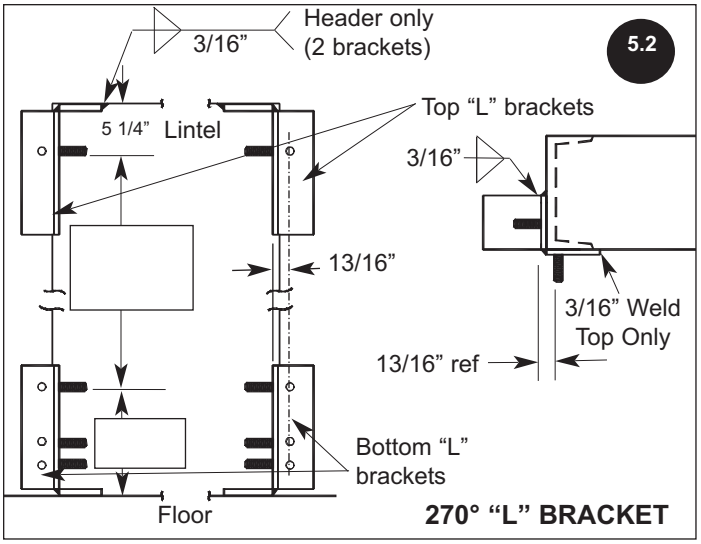


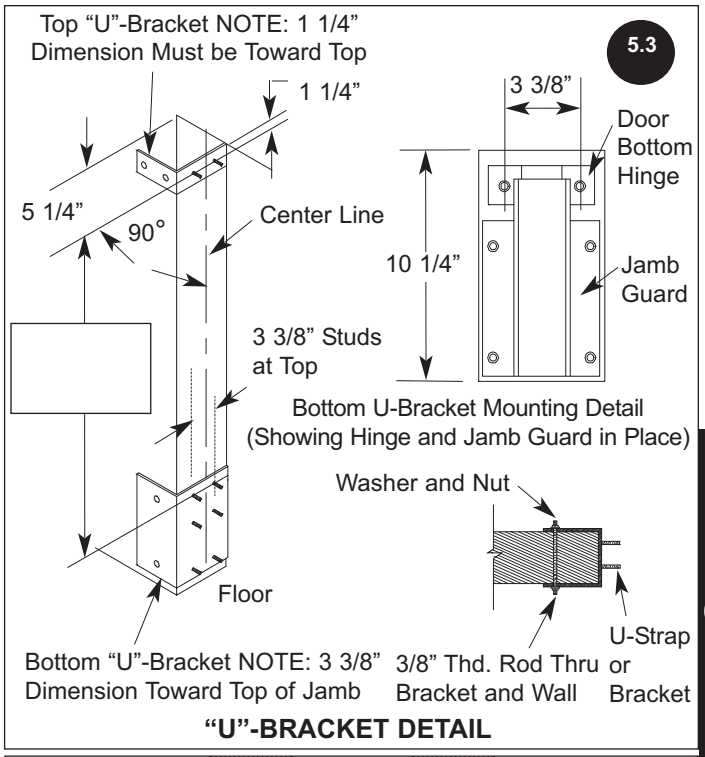
MOUNTING BRACKET INSTALLATION

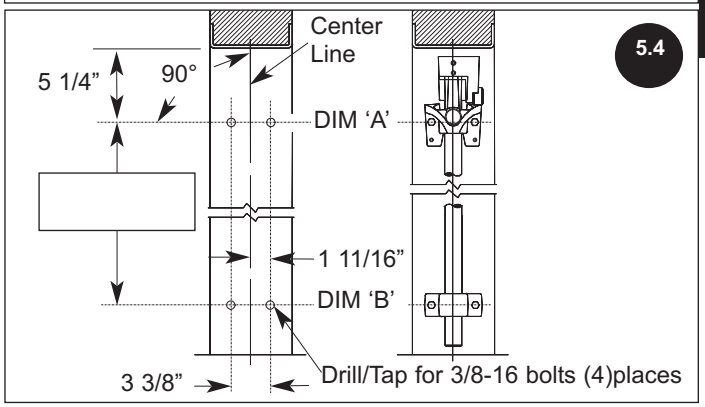


NOTE: Bearing plate A=2 3/4" B=6"

Raised bearing plate A= 9 3/6" B=12"







"U"-BRACKETS

NOTE: For doors with jamb guards.

1. Slide the plate around the jamb. Note the location of the 1 1/4" dimension toward top and dimension 5 1/4" to measure down to center of mounting studs from the door header. Be sure to follow location dimensions carefully.
2. Repeat step two for the bottom weld plate. Make sure the 3 3/8" stud spacing is toward the top. Measure from center of studs at top weld plate, to center of top studs on bottom plate. Use the dimension shown in box at left.
3. Check all dimensions, and be sure plates are straight with a plumb line, and horizontal. Proceed to weld plates in position, only if all dimensions and alignment are correct.
4. Drill thru plates and wall and thru-bolt using a minimum 3/8" all-thread, ***Figure 5.3.***
5. When jamb guards are used, position "shorter dimension" of the bottom weld plate toward floor. Refer to "HARDWARE SHIMMING" before welding.

DRILL AND TAP JAMB MOUNTING

1. Mark the centerline of the jamb. Plumb to bottom of jamb, ***Figure 5.4.***
2. Mark the mounting holes of DIM "A" & DIM "B" at 90° angles from center line.
3. Center punch the hole locations and drill and tap for 3/8-16 x 1 1/2" hex head machine screws.

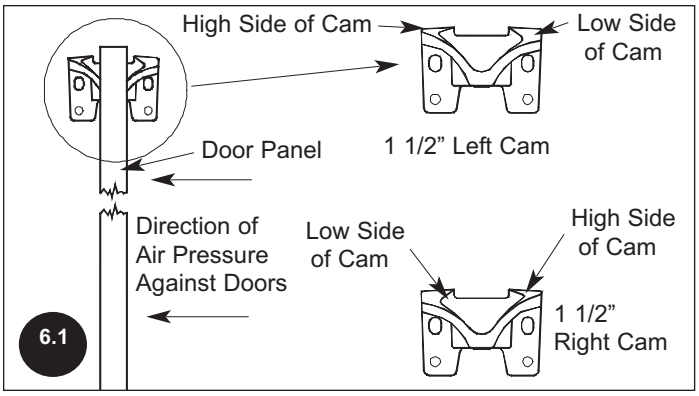
1 1/2" CAM INSTALLATION

NOTE: When installing doors, be sure high side of cam is to side opposite any air pressure on doors, Figure 6.1.

270° HINGE MOUNTING

1. NOTE: 1 7/16"' and 13/16" dimensions are mounting hole locations on the jamb, ***Figure 6.2.***
2. Either left or right cam maybe used for single doors.
3. Left and right cams must be used for double doors.

HINGE/CAM INSTALLATION

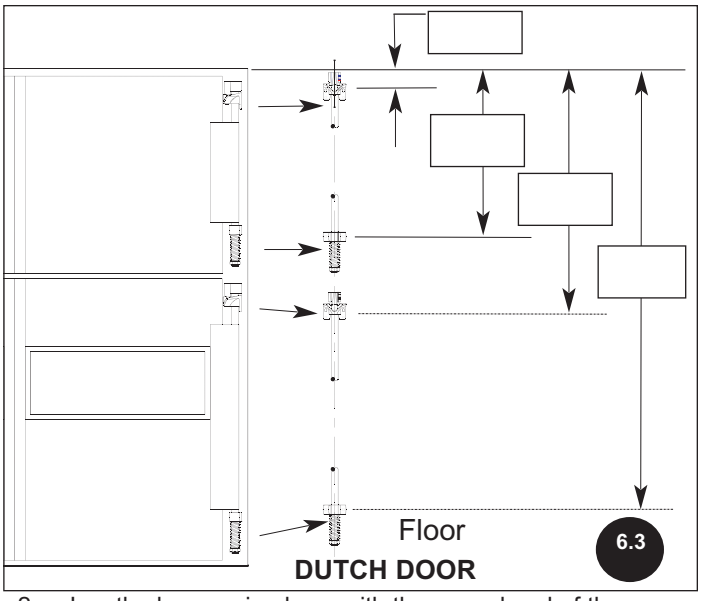


DUTCH STYLE MOUNTING

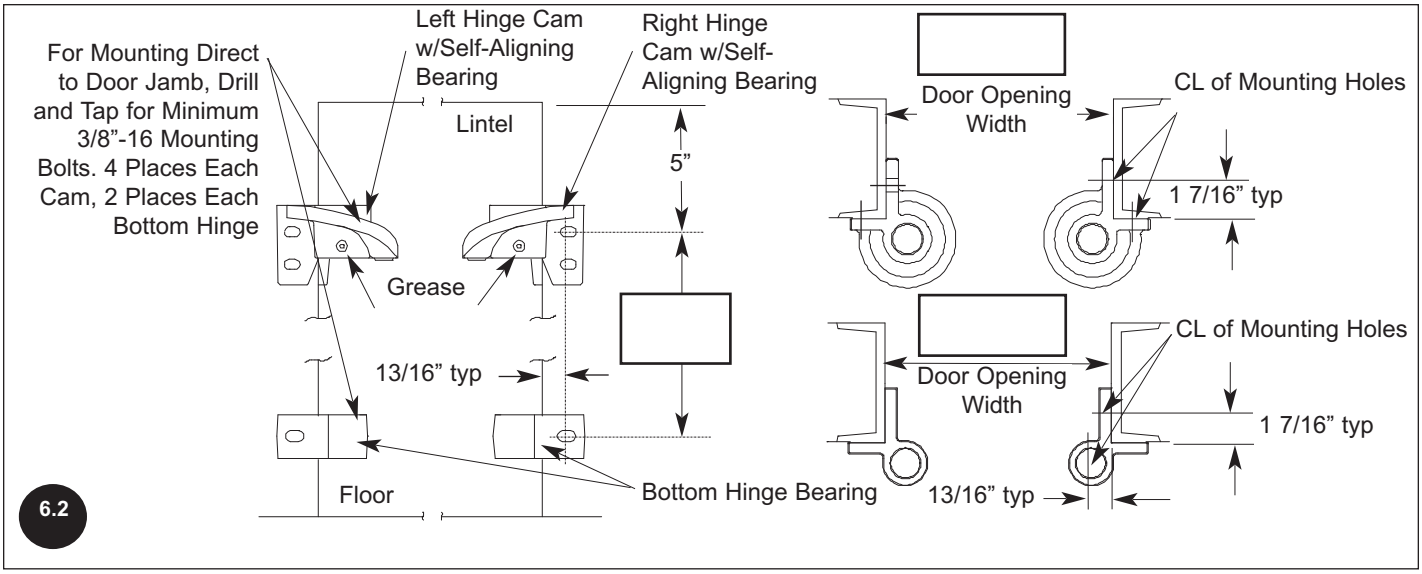
Follow all instructions per manual, along with the method shown, using gravity "V" type hinge, ***Figure 6.3.***

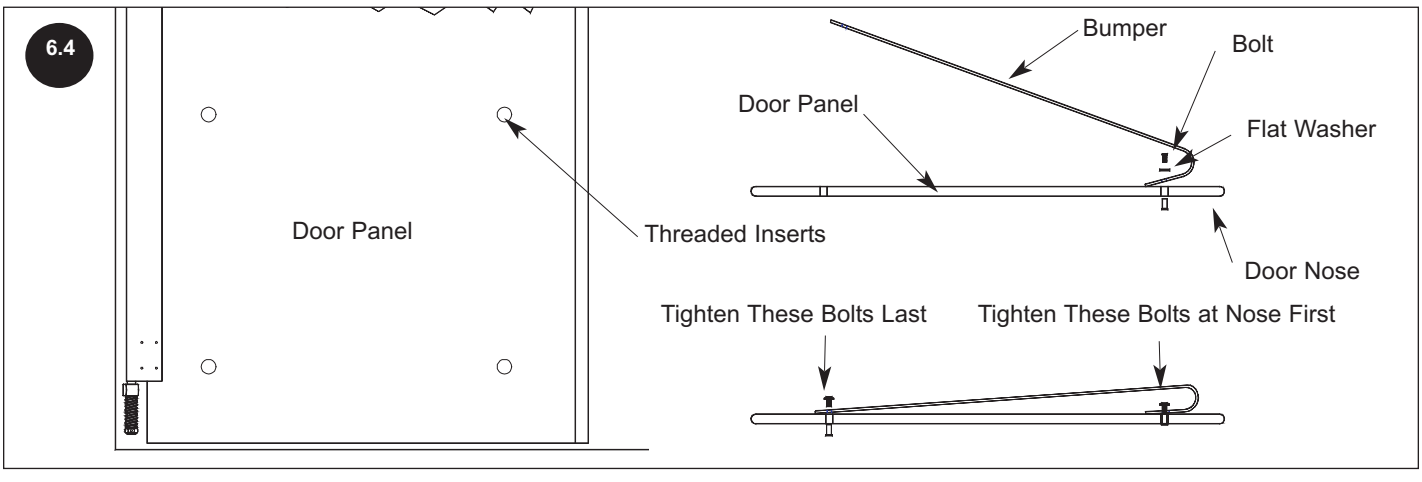
BUMPER INSTALLATION

1. It is recommended to install the bumpers at the same time as the panels are un-boxed from the factory, flat on the floor. Open the factory carton and lay the panels down on the cardboard to protect the panels from being scratched. Panels are equipped with threaded inserts welded in place in the frame of the panel, ready for bumper installation.



2. Lay the bumper in place, with the curved end of the bumper toward the nose of the panel. At each mounting hole in the curved end, loosely install fastener bolt and large flat washer half way in, this will allow for bending the other end of the bumper and aligning it in place, ***Figure 6.4.***



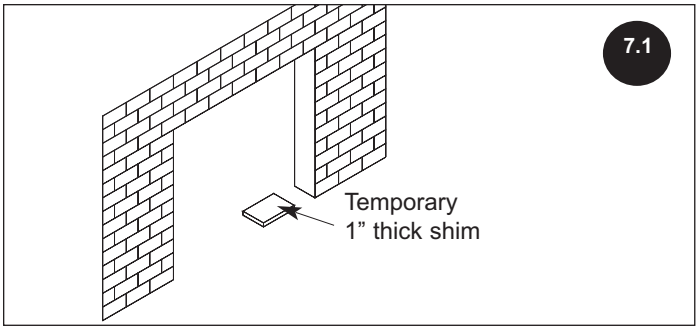


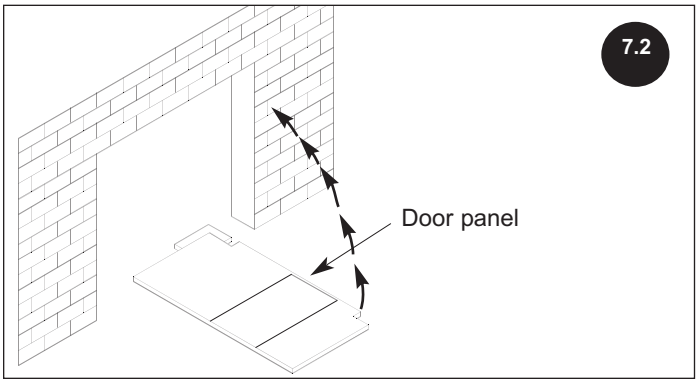
DOOR PANEL INSTALLATION

3. Bend the long end of the bumper down to door face, and align the rest of the mounting holes to the tapped frame holes. Again install a bolt and flat washer at each hole only half of the way.
4. Once the bumpers have been properly aligned, tighten all mounting bolts, starting at curved end first, then proceed to the opposite end.
5. Repeat procedure for the other side.

DOOR PANEL INSTALLATION

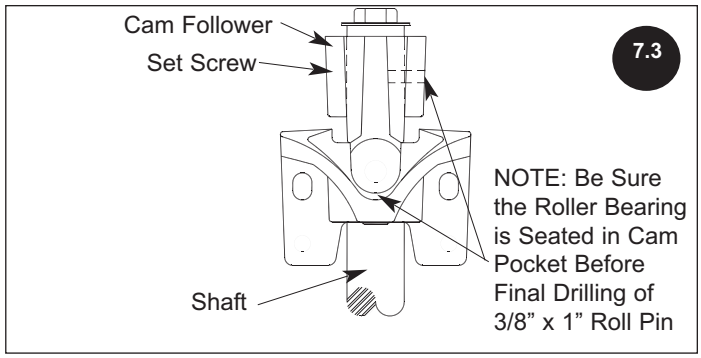
1. For doors with bumpers, proceed to "BUMPER INSTALLATION" first, then place 1" thick shim on floor, inside jamb, ***Figure 7.1.***
2. With the door on the floor, positioned with hardware toward frame, lift door panel upright and rest on the temporary 1" thick shim, ***Figure 7.2.***
3. Align top V-cam holes with DIM "A" holes on the jamb from MOUNTING HOLE INSTALLATION section. Fasten with 3/8" x 1 1/2" hex head machine screws and 3/8" external tooth lock washers. Align bottom hinge holes with DIM "B" holes in jamb, ***Figure 7.1.*** Fasten with 3/8" x 1 1/2" hex head machine screws and 3/8" external tooth lock washers.
4. If weld plates are to be used, hex washer head serrated nuts will be provided.





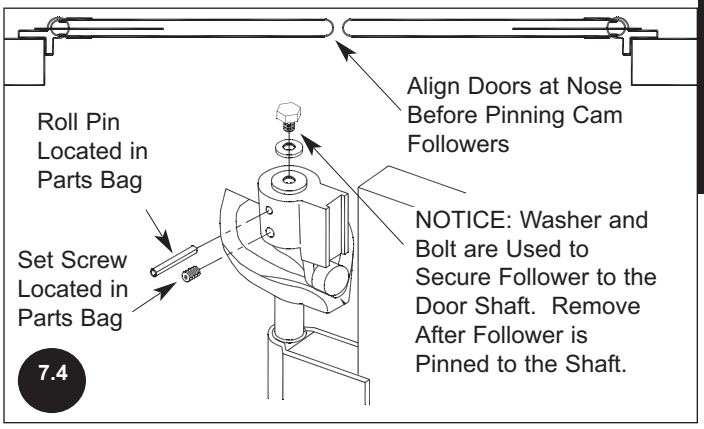
ALIGNMENT OF DOOR PANELS

1. Block the panels 1" off the floor using a wood block.
2. Align panels at the nose and block in closed position and shimming if necessary.
3. With the doors blocked in closed position, align the cam follower making sure that the follower roller bearing is seated firmly in the cam pocket.
4. Tighten follower set screw to hold the follower in position while drilling a 5/16" hole through the follower and shaft, then insert the roll pin provided, ***Figure 7.3.***



270° PANEL ALIGNMENT AND CAM FOLLOWER PINNING PROCEDURE

1. After the panels have been hung, it will be necessary to pin the followers to the shaft. Doors with 270° hardware will not have the followers fastened to the shaft to insure that panels will align after adjustment and installation.
2. Make sure the panels are blocked in position and the follower is tight up against the washer on top of the shaft and seated in the lowest center pocket of the cam. During this procedure, be sure the door panels stay in the previously aligned position.
3. Tighten the set screw to temporarily secure the follower to the shaft. Gently swing the doors and see if they return properly to closed position.
4. If everything has been aligned and checked, locate the pre-drilled pilot hole in the side of the cam follower (above the set screw). With bit provided, drill (letter N) thru cam follower all the way thru to opposite side. Hammer in the spring pin to secure the follower to the shaft, ***Figure 7.4.***
5. Remove the bolt and washer from the shaft. Failure to do this will prevent the door from fully opening.



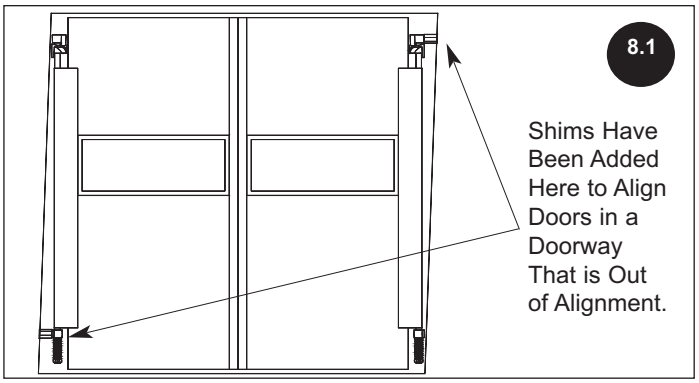
IMPORTANT!!!

With panels aligned and working properly (no binding at hinge area), secure V-Cam by drilling 23/64" Ø hole thru bottom hole in cam and insert a 3/8"x1" roll pin. FAILURE TO PERFORM THIS STEP WILL VOID WARRANTY, *Figure 7.4.*

HARDWARE AND CAM INSTALLATION

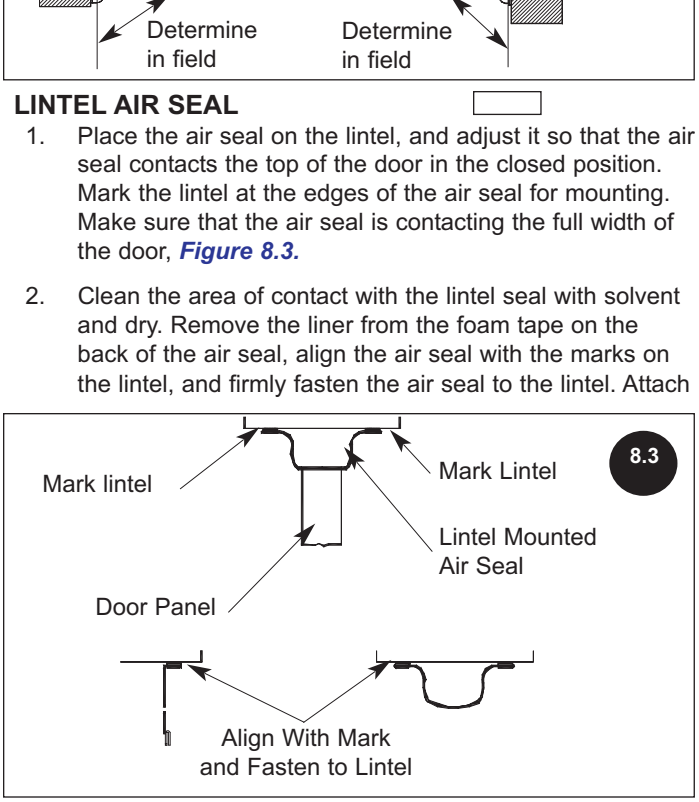
HARDWARE AND CAM ALIGNMENT

1. If weld plates, “L” or “U” brackets are used, and you can determine that 1/8” or more shimming is required, use metal shims behind weld plates.
2. If doors do not align squarely in frame as in, ***Figure 8.1*** add shims as required to plumb and square off door in jamb. Check vision panels for horizontal alignment.
3. If doors do not meet at nose as in, ***Figure 8.2*** door jamb is vertically out of square. Shim opposite the misalignment to bring hardware square.
4. Shim evenly behind V-cam and bottom hinge if jamb is out of square from top to bottom, ***Figure 8.2.***

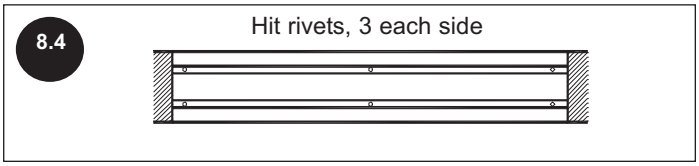


LINTEL AIR SEAL

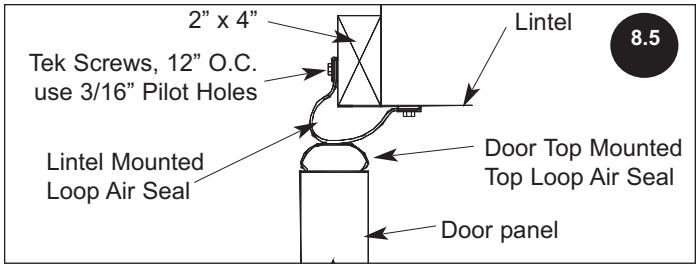
1. Place the air seal on the lintel, and adjust it so that the air seal contacts the top of the door in the closed position. Mark the lintel at the edges of the air seal for mounting. Make sure that the air seal is contacting the full width of the door, ***Figure 8.3.***
2. Clean the area of contact with the lintel seal with solvent and dry. Remove the liner from the foam tape on the back of the air seal, align the air seal with the marks on the lintel, and firmly fasten the air seal to the lintel. Attach the front edge of the air seal first, then repeat for the remaining edge.
3. After the air seal has been firmly mounted to the lintel, drill 1/4” pilot holes and secure it with hit rivets provided. Install three on each end of the air seal, ***Figure 8.4.***



NOTE: If top hardware covers are to be used which are flush to lintel, trimming of lintel air seal to hardware cover will be necessary.

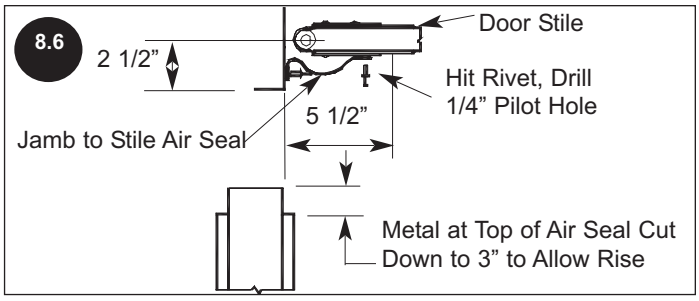


270° LINTEL AIR SEAL, *Figure 8.5.*



180° JAMB TO STILE AIR SEAL

1. After doors are properly hung, and the door in the closed position, measure out 5 1/2” from face of jamb and mark door panel.
2. Measure out 2 1/2” from center line of pivot shaft and mark jamb.
3. Clean area for the tape with solvent.
4. Attach air seal to the door panel and the jamb with the double sided foam tape in place on the air seal.
5. For final attachment, drill 1/4” pilot holes on 12” centers and fasten with hit rivets, this can vary based on application, ***Figure 8.6.***
6. ***Figure 8.6*** applies to jambs of 6” wide or wider. If less than 6” wide, mount air seal to face of wall.
7. When installing outdoors or in a cooler, install air seal on coldest side.
8. Mount on side of wash down.



SEAL INSTALLATION

STILE MOUNTED BLADE AIR SEAL

1. Work from the 180° side of the door.
2. Push door open toward 90° side, ***Figure 9.1.***
3. The back surface of the stile must be cleaned free of dirt, grease, and moisture. Use the cleaning packet included in the blade air seal parts bag. Use one cleaning pad per door stile.

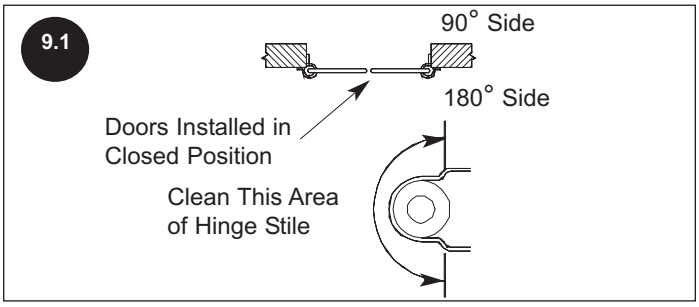
   For best results, temperature of door stile should be 40° F. or above.
4. 270° - Place the seal in position, making sure the blade contacts the door jamb at corner as shown, ***Figure 9.2.***
5. 180° - Place the seal in position, making sure the blade contacts the door jamb as shown, ***Figure 9.3.***
6. Mark the location of the blade seal on the door stile. Remove the protective liner from the backside of the foam tape that is pre-attached to the blade air seal.
7. Carefully adhere the seal to the door stile,making sure it is straight.
8. Drill 1/4” holes five places thru one side of the stile. Insert hit rivets in each hole, and tap the center stem of the rivet down flush with the rivet head.

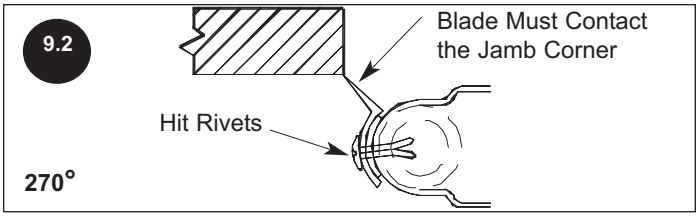
180° HARDWARE COVERS

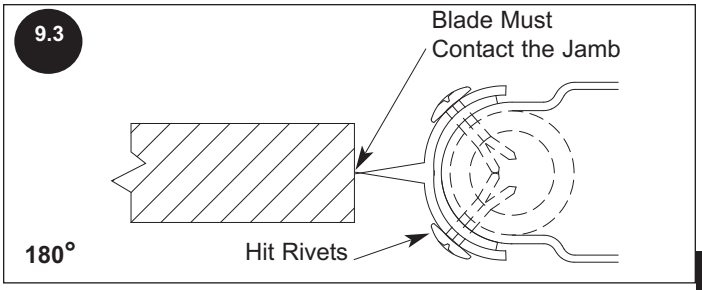
NOTE: Top hardware covers with bottom steel jamb guards are standard.

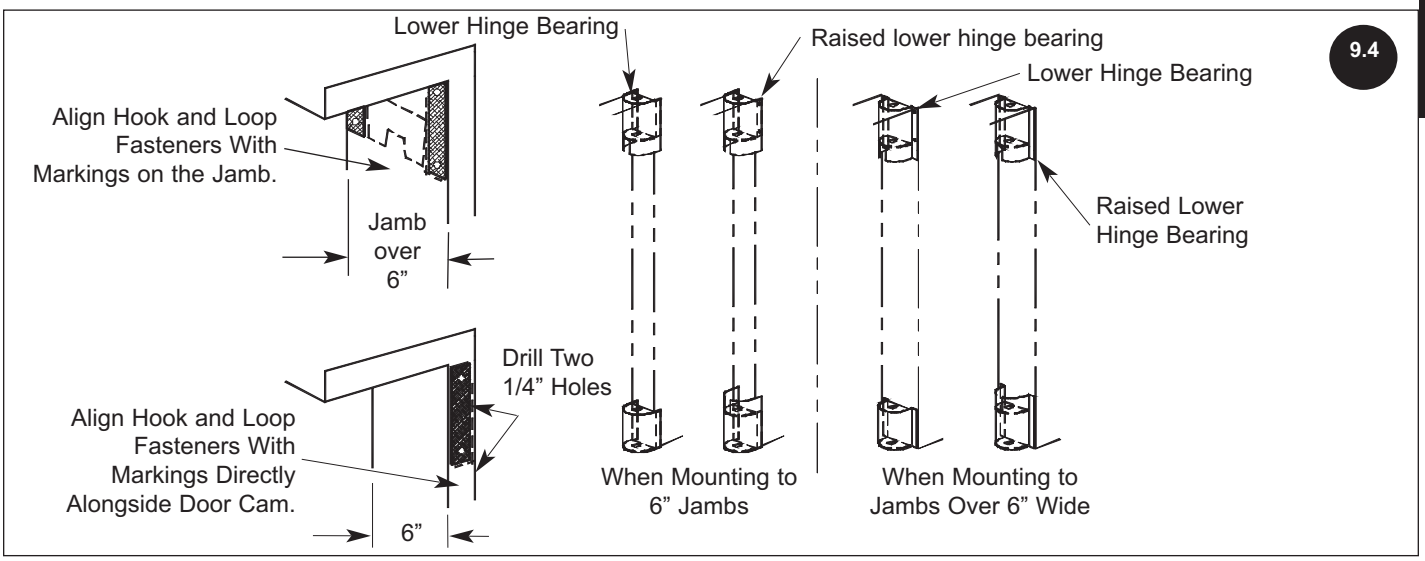
1. Measure jamb width and determine type, ***Figure 9.4.***
2. Position the hardware covers and mark the locations of the mounting flaps to each side of the cam, onto the jamb.
3. Repeat this procedure for each cover installed.
4. Re-position the hardware covers to their jamb locations and firmly press them into position onto the touch and hold fasteners pieces.
5. If hardware covers pull out, mechanical fasteners can be installed in addition to the touch and hold fasteners.

NOTE: If lintel mounted seal is to be used, install the hardware covers first and then follow the instructions for the lintel mounted seal.

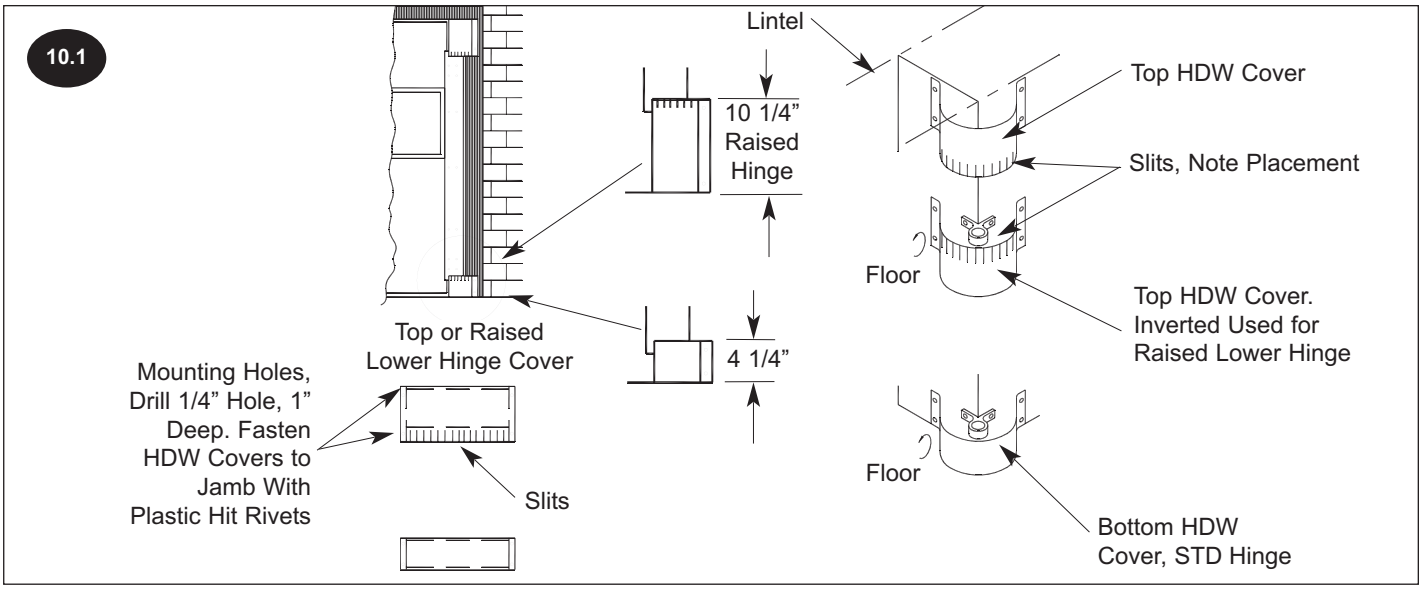








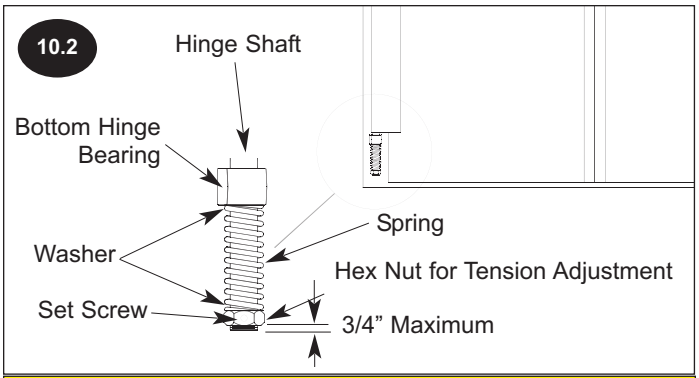
SPRING ADJUSTMENT



270° HARDWARE COVERS, ***Figure 10.1.***

SPRING ADJUSTMENT

1. Loosen set screw in hex nut.
2. With door in "closed position", tighten hex nut to give desired resistance.
3. Tighten set screw in hex nut, ***Figure 10.2.***



⚠ CAUTION !!!

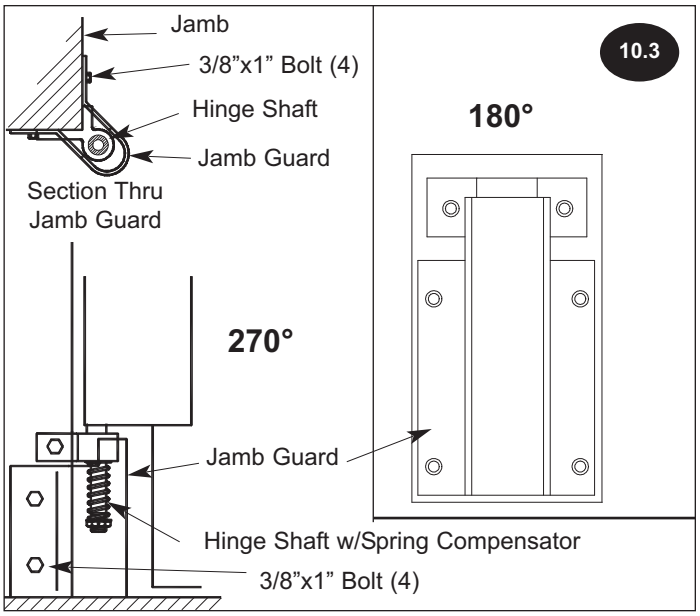
DO NOT over tighten hex nut. With door in fully open position, spring coils SHOULD NOT be touching, *Figure 10.2.* See Spring Adjustment

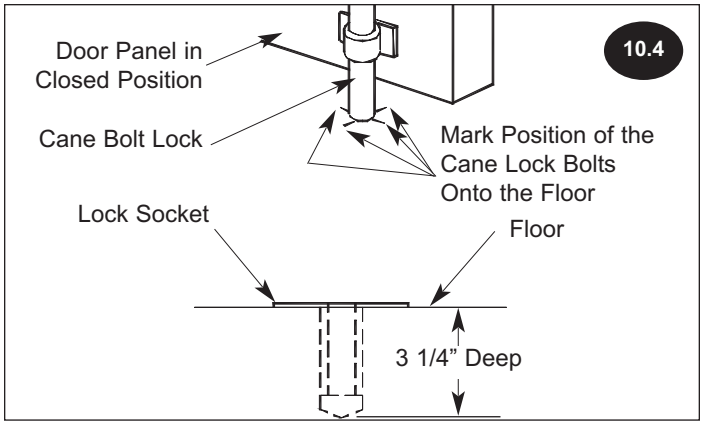
180° & 270° JAMB GUARD MOUNTING

Figure 10.3.

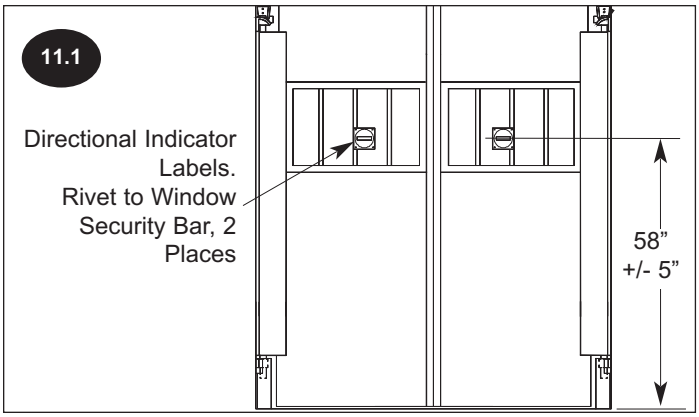
FLOOR LOCK

1. With the doors in the "closed position", drop the cane bolt locks so they are resting on the floor. Mark the position of the lock bolts on the floor.
2. Make sure proper nose seal alignment has been achieved before attempting to install lock sockets.
3. Drill 1" Ø hole, 3 1/4" deep into the floor centered on each of the marks from step 1, ***Figure 10.4.***
4. Install the lock socket in the hole, the hole is undersized, so the socket must be driven into the hole with force.
5. Repeat process for each floor lock to be used.





FLOOR, LINTEL AND CHAIN LOCK INSTALLATION



LINTEL LOCK SOCKETS

1. With the door in the "closed position", raise the cane bolt lock so it is touching the lintel, mark the position of the lock bolt on the lintel. Refer to ***Step 1*** on the FLOOR LOCK INSTALLATION.
2. Drill a 3/4" hole, 3 1/4" deep into the lintel centered on each of the marks from ***Step 1***.
3. Since the drilled hole itself will be used to retain the door, no socket insert will need to be installed.

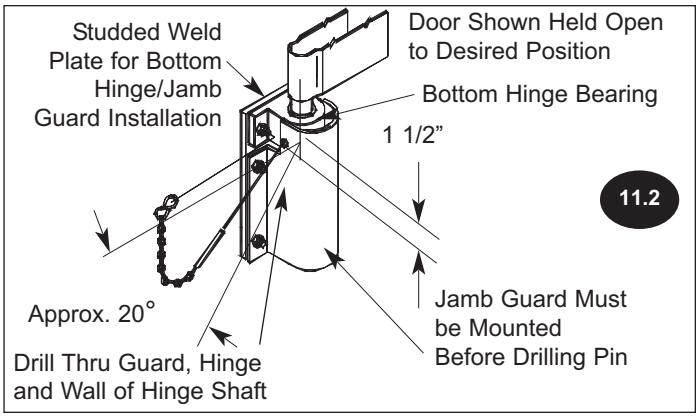
DIRECTIONAL LABEL

1. Position traffic flow label to appropriate side of door based on traffic flow pattern present in the opening.
2. Peel off protective paper from double faced tape on back of the label, and adhere label in place.
3. After positioning the label, drill 3/16" holes using existing holes as a template. Pop rivet the label in place (4 corners). Two of the four rivets should fasten to window bar, ***Figure 11.1.***

HOLD OPEN PIN INSTALLATION

1. Doors must be completely installed before drilling for the hold open pin.
2. Jamb guards must be installed before drilling.
3. Block the door open to the desired position.
4. Disregard the holes pre-drilled in the bottom hinge, these holes are for no-jamb guard applications only.
5. Measure down from the top edge of the guard 1 1/2", point a drill bit toward the centerline of the hinge shaft. approximately 20° as measured from the door mounting surface.
6. Drill thru the jamb guard, the bottom hinge bearing, and one side of the door hinge shaft.
7. Swing the door to opposite side and repeat procedure if hold open function is required in other direction. Attach the open pin (S-hook end) underneath either bottom hinge mounting hex nut.

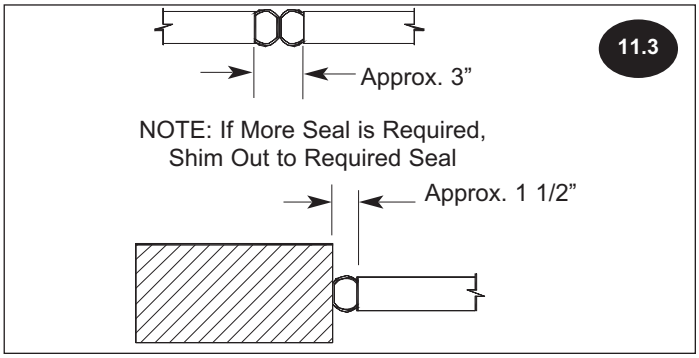
NOTE: This procedure is for doors using a combination bottom hinge/jamb guard weld plates only. If weld plate is not being used, hang the door and install the jamb guard. Once installed, measure down from the top of the bottom hinge 1 1/2" to locate where to drill.



Follow the same 20° drill angle as shown, Figure 11.2.

FINAL INSTALLATION CHECK

1. With shimming complete, make the following check.
2. Door panels should be hung square with hardware at a 90° angle from the center plumb line. Open panels to full open position. Doors should freely close without binding.
3. Doors are manufactured to allow the loop nose seals to touch and make a positive seal at the nose.
4. Single panel doors are manufactured to allow the nose loop to make a positive seal at the nose, ***Figure 11.3.***



CORRECTING HINGE BIND

1. Door will not close automatically, either direction.
2. Hinge bind occurs when the following conditions exist:

   a) The pivot shaft has not been installed plumb, and/or the hinges have not been installed at 90° from the plumb line.

   Possible solution: Remove bottom hinge fasteners, plumb the door panel, fasten the bottom hinge.

   b) Door panels/shafts are hung plumb, hinges square, but the jamb can be twisted out of square at the top or the bottom.

Possible solution:

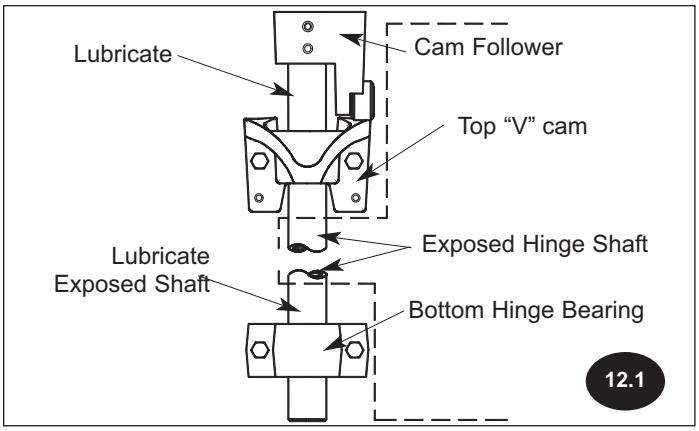
With the door bound open, loosen one of the hinge fasteners. If the door does not respond (close), tighten the fastener, repeat the procedure on the other side. If the door closes when loosening a fastener, place a shim behind that side of the hinge, tighten the fastener. Note: this procedure may be required top and bottom.

FINAL INSTALLATION CHECK

NOTE: With the door open at 90º, check the pivot shaft above the hinges for excess wear. This may help determine the side required to shim.

LUBRICATION

1. Apply lubricant grease tube supplied in parts box to exposed shaft, with door open 90°.
2. Repeat in opposite 90° open position, ***Figure 12.1.***
3. Use light to medium viscosity silicone based grease. For individual or unusual applications consult factory.



PROBLEM	CAUSE/REMEDY
Doors do not swing freely.	Are mounting holes from dimension “A” and “B” at a 90° angle from center plumb line. Re-measure dimension “A”. Is door mounted to maintain approximately 1/2” clearance from floor to lintel. Check for high spots in floor. Is door mounted plumb and level.
Doors do not open full 90°.	Check for obstructions. Are doors mounted too high in jamb? Re-measure dimension “A” Is spring compensator too tight? If coils are fully closed with door fully open, loosen hex nut.
Panels not aligned when close	See “SHIM PROCEDURE” on ***Page 8.***