

READ BEFORE YOU BEGIN

MEASURE WIDTH AND HEIGHT OF FRAMED OPENING AND COMPARE WITH DIMENSIONS ON YOUR ORDER. FRAMED OPENING DIMENSIONS MUST MEET ORDER DIMENSIONS WITHIN THE FOLLOWING TOLERANCES;

SINGLE DOORS	DOUBLE DOORS
HEIGHT: ±1/4"	HEIGHT: ±1/4"
WIDTH: ±1/4"	WIDTH: ±1/4"

IF THE FRAMED OPENING DOES NOT MEET THE ORDER DIMENSIONS WITHIN THESE TOLERANCES CALL THE FACTORY AT 1-800-547-6856

PROPER INSTALLATION

FRAMED OPENINGS MUST BE SQUARE AND PLUMB OR DOORS WILL NOT OPERATE PROPERLY! MAKE ANY NECESSARY ADJUSTMENTS TO SQUARE AND PLUMB OPENING. DURULITE DOORS MUST BE INSTALLED PLUMB.

DRILL BIT SIZES

FOR: ① ②
 FOR STEEL JAMBS UP TO 3/8" THICK USE: 7/32" DRILL BIT.
 FOR STEEL JAMBS 3/8" THICK AND ABOVE USE: 7/32" DRILL BIT.

FASTENERS

FOR: ① ②
 FOR STEEL JAMB USE: 1/4" X 1-1/2" TEK SCREWS

**180° X 90° RETAILER
 INSTALLATION INSTRUCTIONS**

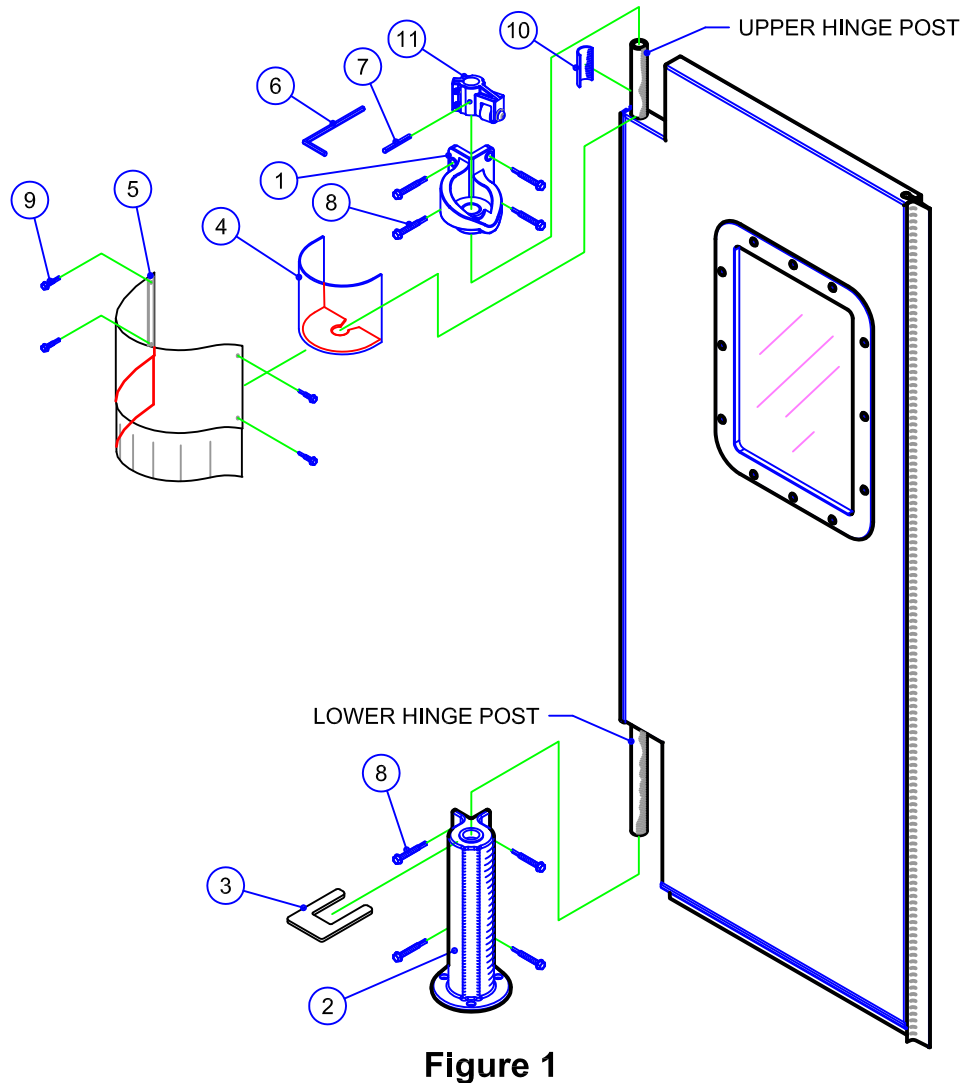


Figure 1

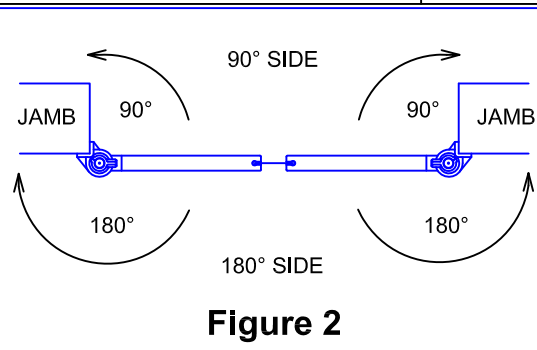


Figure 2

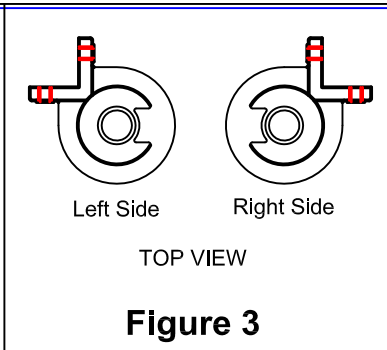


Figure 3

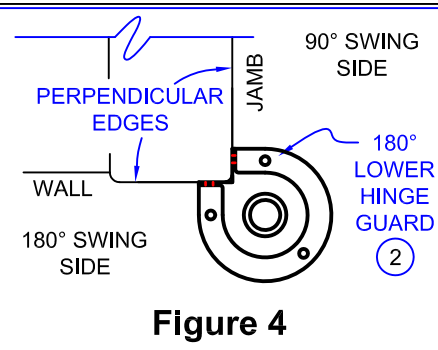


Figure 4

STEP 1. PREPERATION FOR INSTALLATION.

LOCATE YOUR HARDWARE PACKAGE AND CAREFULLY REMOVE HARDWARE FROM THE PLASTIC SEAL. THERE MUST BE ONE HARDWARE PACKAGE FOR EACH PANEL WITHIN AN OPENING. EACH HARDWARE PACKAGE WILL CONTAIN THE FOLLOWING (SEE FIGURE 1):

Item	Qty	Description
1	1	Upper Hinge V-Cam (Left or Right)
2	1	Lower Hinge Guard
3	1	1/4" Lower Shim
4	1	Solid Riser
5	1	Upper Hinge Seal

Item	Qty	Description
6	1	* 3/16" HEX (Allen) Wrench
7	1	3/16" x 2" Roll Pin
8	8	1/4 - 20 x 1 3/4" Tek Screws
9	16	1/4 - 20 x 1 1/4" Tek Screws
10	1	1/2 PVC Pipe (V-Cam Shim)
11	1	* 3/16" DRILL BIT

* THE QUANTITY FOR THE PARTS MARKED WITH AN ASTERISK EQUAL ONE PER OPENING. IF YOU HAVE A DOUBLE DOOR THESE ITEMS WILL BE LOCATED IN THE RIGHT SIDE HARDWARE PACK ONLY! SINGLE DOORS WILL HAVE ALL PARTS LISTED ABOVE FOR EACH DOOR.

YOU SHOULD HAVE RECEIVED YOUR PANEL/PANELS WITH THE ROLLER ASSEMBLY ⑪ LIGHTLY FASTENED TO THE TOP HINGE POST AT THE BACK OF THE DOOR PANEL. THERE SHOULD ALSO BE A 2 3/8" TALL HALF PVC PIPE ⑩ FASTENED TO THE LOWER PORTION OF THE UPPER HINGE POST, (DO NOT REMOVE THIS PART UNTIL INSTRUCTED TO DO SO). IF ANY OF THESE PARTS ARE MISSING PLEASE CALL OUR CUSTOMER SERVICE DEPARTMENT IMMEDIATELY.

THE LOWER HINGE GUARD ② WILL BE USED AS A TEMPLATE FOR LOCATING THE BOTTOM MOUNTING HOLES. LOWER HINGE GUARDS ② ARE UNIVERSAL AND WILL FIT EITHER SIDE.

FACE THE OPENING FROM THE 180° SWING SIDE, SEE FIGURE 2. ALL REFERENCES TO THE LEFT AND RIGHT SIDES IN THESE INSTRUCTIONS SHOULD BE TAKEN AS VIEWING YOUR OPENING FROM THIS PERSPECTIVE.

THERE IS ONE V-CAM PER PANEL. THE V-CAMS ① CAN BE IDENTIFIED IN FIGURE 3, AND ARE ALSO MARKED ON THE BOTTOM OF THE PART WITH AN "L" (for Left) OR AN "R" (for Right). CALL OUR CUSTOMER SERVICE DEPARTMENT IMMEDIATELY IF YOU DO NOT HAVE THE PROPER V-CAMS FOR YOUR APPLICATION.

IMPORTANT: BE SURE THAT THE V-CAMS ① ARE INSTALLED AS SHOWN IN FIGURES 2 & 3. INSTALLING THE V-CAMS INCORRECTLY CAN CAUSE SERIOUS DAMAGE TO THE PANELS AND POSSIBLE INJURY TO PERSONEL

STEP 2. MARKING & DRILLING THE HARDWARE MOUNTING HOLES.

PLACE THE LOWER HINGE GUARD ② ONTO THE CORNER OF THE JAMB AND AT THE FINISHED FLOOR LEVEL WITH THE BASE PLATE RESTING ON THE FLOOR, SEE FIGURE 4.

NOTE: IF A FLOORING MATERIAL IS TO BE LAID DOWN AFTER THE DOOR INSTALLATION, YOU MUST MAKE THE NECESSARY ADJUSTMENTS BEFORE PROCEEDING.

WITH THE LOWER HINGE GUARD ② HELD FIRMLY IN PLACE, MARK THE CENTER OF THE MOUNTING HOLES WITH A PENCIL OR FELT TIP PEN. REMOVE THE LOWER HINGE GUARD ② AND STRIKE THE CENTER OF THE MARKS WITH A CENTER PUNCH.

USING THE APPROPRIATE SIZE DRILL BIT FOR YOUR APPLICATION (SEE "DRILL BIT SIZES" AT LEFT), DRILL A PILOT HOLE AT THE CENTER OF EACH MARK.

PLACE THE LOWER HINGE GUARD ② IN POSITION. INSERT THE FOUR FASTENERS AND TIGHTEN SECURELY.

REMOVE THE ROLLER ASSEMBLY ⑪ FROM THE UPPER HINGE POST.

INSERT THE LOWER HINGE POST OF THE DOOR PANEL INTO THE BUSHING LOCATED ON TOP OF THE LOWER HINGE GUARD ②.

RAISE THE DOOR ENOUGH TO PLACE THE LOWER SHIM ③ BETWEEN THE TOP OF THE LOWER HINGE GUARD ② AND THE BOTTOM OF THE DOOR AT THE LOWER HINGE POST. POSITION THE LOWER SHIM ③ SO IT IS NOT RESTING ON THE WHITE UHMW BUSHING, SEE FIGURE 5 - PAGE 2.

SLIDE THE PROPER (LEFT OR RIGHT) V-CAM ① ONTO THE UPPER HINGE POST AND ALLOW IT TO REST ON THE 2 3/8" LONG 1/2 PVC PIPE V-CAM SHIM ⑩, SEE FIGURE 6 - PAGE 2.

180° X 90° RETAILER

INSTALLATION INSTRUCTIONS *Continued*

STEP 2. MARKING & DRILLING THE HARDWARE MOUNTING HOLES (Continued).

NOTE: BE SURE THAT THE 2 3/8" PVC SHIM IS AS FAR DOWN ON THE UPPER HINGE POST AS POSSIBLE. THE SPACE BETWEEN THE DOOR AND THE VCAM IS CRITICAL FOR PROPER OPERATION!

MARK THE FOUR MOUNTING HOLES WITH A PENCIL OR FELT TIP PEN.

REMOVE THE V-CAM ① FROM THE UPPER HINGE POST. REMOVE THE DOOR PANEL FROM THE LOWER HINGE GUARD ② AND SET ASIDE.

STRIKE THE CENTER OF EACH MARK WITH A CENTER PUNCH AND DRILL PILOT HOLES AT EACH MARK USING THE APPROPRIATE SIZE DRILL BIT. SEE "DRILL BIT SIZES" PAGE 1.

STEP 3. MOUNTING THE V-CAM (Upper Hinge).

CUT THE NYLON ZIP TIE HOLDING THE 1/2 PVC PIPE SHIM ⑩ IN PLACE AND REMOVE THE PVC SHIM ⑩

STAND THE DOOR PANEL UPRIGHT AND PLACE THE LOWER HINGE POST INTO THE WHITE BUSHING ON TOP OF THE LOWER HINGE GUARD ②.

PLACE THE V-CAM ① OVER THE UPPER HINGE POST. LINE UP THE MOUNTING HOLES WITH THE PILOT HOLES. INSERT THE PROPER FASTENERS AND SECURE TIGHTLY.

RAISE THE DOOR ENOUGH TO PLACE THE LOWER SHIM ③ BETWEEN THE TOP OF THE LOWER HINGE GUARD ② AND THE BOTTOM OF THE DOOR AT THE LOWER HINGE POST. POSITION THE LOWER SHIM SO IT IS NOT RESTING ON THE WHITE UHMW BUSHING, SEE FIGURE 5 - PAGE 2.

PLACE THE ROLLER ASSEMBLY ⑪ OVER THE UPPER HINGE POST ABOVE THE V-CAM ① SEE FIGURE 1 - PAGE 1. ALLOW THE ROUND BEARING TO SIT IN THE LOWEST POINT IN THE V-CAM ① PATH, SEE FIGURE 7.

LINE THE DOOR UP IN THE CLOSED POSITION (FIGURE 2 - PAGE 1) AND USING THE SUPPLIED 3/16" ALLEN WRENCH ⑥ SECURELY TIGHTEN THE TOP CAP SCREW ON THE ROLLER ASSEMBLY ⑪, SEE FIGURE 7.

RAISE THE DOOR PANEL ENOUGH TO GAIN ACCESS TO THE LOWER CAP SCREW (SEE FIGURE 7) AND TIGHTEN SECURELY.

TIGHTEN THE TOP CAP SCREW ONCE AGAIN. REPEAT THE TIGHTENING OF THE TOP AND BOTTOM CAP SCREWS UNTIL BOTH BECOME TIGHT.

IMPORTANT: IF YOU HAVE A PAIR OF DOORS FOR A DOUBLE DOOR OPENING, INSTALL THE SECOND DOOR NOW. REPEAT ALL PREVIOUS STEPS FOR INSTALLATION OF SECOND DOOR. PROCEED TO STEP 4 AFTER INSTALLING THE SECOND PANEL.

WARNING: FAILURE TO INSTALL ROLL PIN WILL VOID THE MANUFACTURERS WARRANTY!

DRILL COMPLETELY THROUGH THE FAR SIDE!

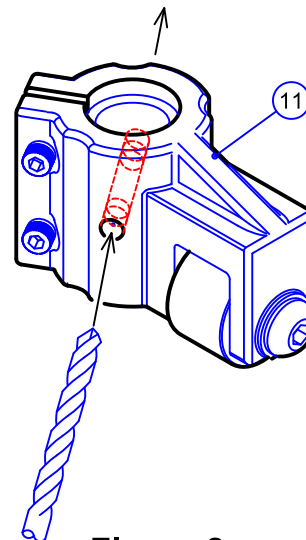


Figure 8a

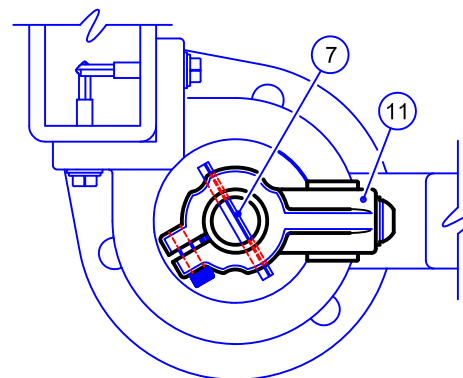


Figure 8b

STEP 4. ROLL PIN INSTALLATION (Securing Panel to Hinge).

NOTE: DOOR SWING IS EXTREMELY DIFFICULT TO ADJUST AFTER INSERTING THE ROLL PIN ⑦ INTO THE ROLLER ASSEMBLY ⑪! BEFORE INSTALLING THE ROLL PIN ⑦, YOU MUST MAKE ABSOLUTELY SURE THAT THE DOOR CLOSES IN THE PROPER POSITION, PARALLEL TO THE FRAMED OPENING, SEE FIGURE 2 - PAGE 1. ALLOW DOUBLE DOORS TO CLOSE COMPLETELY AND MAKE SURE THAT THE DOORS SEAL AT THE LEADING EDGE GASKET.

RAISE THE DOOR AND PLACE A BLOCK UNDER THE BOTTOM OF THE DOOR AT THE FLOOR LEVEL. STUFF A RAG OR PAPER TOWEL BETWEEN THE BOTTOM OF THE ROLLER ASSEMBLY ⑪ AND THE INSIDE OF THE V-CAM ① TO CATCH THE ALUMINUM AND METAL SHAVINGS DURING THE DRILLING PROCESS.

NOTE: ALUMINUM AND/OR METAL SHAVINGS IN THE BUSHING WILL CAUSE PREMATURE WEAR ON VITAL PARTS.

LOCATE THE CONE SHAPED DIMPLE ON THE ROLLER ASSEMBLY ⑪ WALL. USING THE 3/16" DRILL BIT INCLUDED IN YOUR HARDWARE PACK, DRILL A PERPENDICULAR HOLE COMPLETELY THROUGH THE ROLLER ASSEMBLY ⑪, SEE FIGURE 8a.

PLACE THE 3/16 ROLL PIN ⑦ TO THE HOLE AND GENTLY STRIKE WITH A HAMMER UNTIL EQUAL AMOUNT OF THE PIN CAN BE SEEN ON EACH SIDE OF THE ROLLER ASSEMBLY ⑪ (Approx. 1/8"), SEE FIGURE 8b.

STEP 5. UPPER HINGE SEAL INSTALLATION.

SNAP THE SOLID RISER ④ OVER THE UPPER HINGE POST AND UNDER THE V-CAM ① SEE FIGURE 9. LOCATE THE UPPER HINGE SEAL ⑤, AND WRAP IT "LOOSELY" AROUND THE SOLID RISER, SEE FIGURE 10. LET THE BOTTOM OF THE HINGE SEAL ⑤ BARELY TOUCH THE INSIDE BOTTOM OF THE HINGE CUTOUT.

NOTE: HINGE SEAL MUST ⑤ FIT LOOSELY SO THE SOLID RISER ④ CAN RISE AND FALL WITH THE DOOR PANEL.

FASTEN SECURELY TO THE JAMB WITH SUPPLIED FASTENERS ⑨

STEP 6. TOP (Header) SEAL INSTALLATION.

LOCATE THE TOP SEAL, SEE FIGURE 11 (PART WILL BE IN A SEPARATE BOX), PLACE THE TOP SEAL ONTO THE HEADER, CENTERED IN THE OPENING. THERE IS A SLIT ON EACH END THAT WILL FIT OVER THE HINGE SEALS ⑤. ALLOW THE BOTTOM PORTION TO TOUCH THE TOP OF THE DOOR PANEL/PANELS, SEE FIGURE 11.

FASTEN SECURELY WITH SUPPLIED FASTENERS ⑨

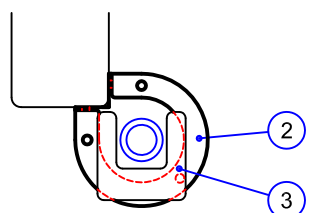


Figure 5

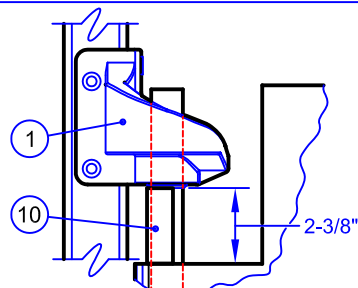


Figure 6

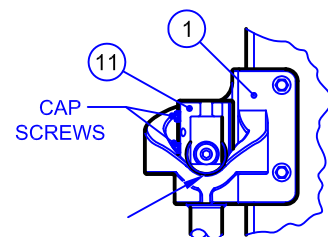


Figure 7

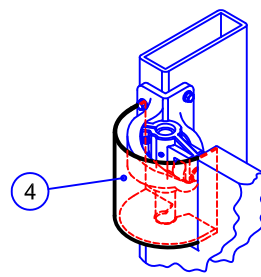


Figure 9

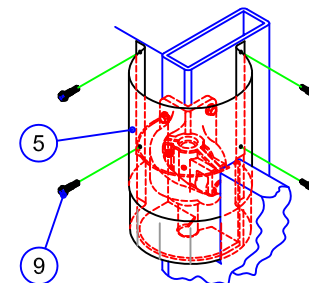


Figure 10

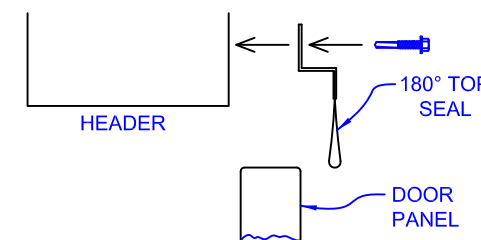


Figure 11