

COOKSON Preferred door solutions.®

**GRILLE DOOR
INSTALLATION INSTRUCTIONS
AND MAINTENANCE MANUAL**

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IMPORTANT* FREIGHT DAMAGE INSTRUCTIONS *IMPORTANT

IMMEDIATELY UPON DELIVERY CHECK CONDITION OF MATERIALS FOR VISIBLE CONCEALED FREIGHT DAMAGE INCURRED IN TRANSIT.

UNDER NO CONDITION SHOULD INSTALLATION BE MADE WITHOUT AUTHORIZATION, AS NEITHER THE CARRIER NOR THE MANUFACTURER WILL ASSUME RESPONSIBILITY FOR LABOR COSTS INVOLVED IN REPLACING DAMAGED MATERIAL THAT HAS BEEN INSTALLED.

CONCEALED LOSS OR DAMAGE:

THE TERM "CONCEALED LOSS OR DAMAGE" INDICATES THE LOSS OR DAMAGE WAS DISCOVERED AFTER, AND THE CARRIER RECEIVED A CLEAR DELIVERY RECEIPT WITH NO EXCEPTIONS NOTED.

- REPORTING CONCEALED LOSS OR DAMAGE - IF LOSS OR DAMAGE IS DISCOVERED AFTER YOU HAVE GIVEN THE CARRIER A CLEAR DELIVERY RECEIPT, IMMEDIATELY NOTIFY THE CARRIER IN WRITING, OR IF BY PHONE CONFIRM IN WRITING LATER. HOLD THE PIECES IN THE CONDITION THEY WERE IN WHEN THE DAMAGE WAS DISCOVERED.
- INSPECTION BY THE CARRIER - THE CARRIER WILL INSPECT THE FREIGHT WITHIN FIVE WORKING DAYS, AND WILL GIVE YOU A COPY OF THE INSPECTION REPORT FOR CLAIM SUPPORT. INCLUDE THIS INSPECTION REPORT WHEN FILING YOUR CLAIM.
- FAILURE TO INSPECT - IF THE CARRIER FAILS TO INSPECT THE FREIGHT, YOU MUST MAKE THE INSPECTION AND RECORD ALL RELEVANT FACTS ABOUT THE DAMAGE. THIS INFORMATION MUST BE INCLUDED WHEN YOU FILE A CLAIM.

VISIBLE DAMAGE:

CAREFULLY CHECK ALL PIECES FOR ANY VISIBLE SIGNS OF DAMAGE. IF A PACKAGE IS DAMAGED IT SHOULD BE OPENED IMMEDIATELY WITH THE DRIVER PRESENT. A JOINT INSPECTION OF THE PIECE(S) SHOULD BE MADE BY YOU AND THE DRIVER, AND A FULL/EXACT DESCRIPTION OF THE INSPECTION SHOULD BE WRITTEN ON BOTH THE CARRIER'S AND YOUR COPY OF THE DELIVERY RECEIPT. BE SURE THE DRIVER SIGNS AND DATES YOUR COPY.

WHEN NOTING DAMAGE ON A DELIVERY RECEIPT, IT IS NOT RECOMMENDED THAT YOU ONLY USE THE WORD "DAMAGE". THIS IS A GENERAL TERM THAT DOES NOT PROPERLY SUPPORT YOUR CLAIM. WRITE THE EXACT NATURE (SCRATCHED, BROKEN, BENT OR DENTED) AND THE EXTENT OF DAMAGE ON BOTH COPIES.

INCOMPLETE DELIVERY/SHORTAGES:

CHECK FOR A SHORTAGE AS GOODS ARE BEING OFFLOADED. COUNT THE PIECES, AND MAKE A WRITTEN TALLY WHEN A LARGE NUMBER OF ITEMS ARE BEING RECEIVED. KEEP THE SHIPMENT TOGETHER UNTIL UNLOADING IS COMPLETE IN CASE A RECOUNT IS NECESSARY. IF THERE IS A DISCREPANCY, DESCRIBE IT EXACTLY ON THE CARRIER'S DELIVERY RECEIPT AND YOUR COPY OF THE DELIVERY RECEIPT BEFORE SIGNING FOR THE GOODS. CHECK THE LABELS ON ALL PIECES TO BE CERTAIN THAT THEY ARE YOURS.

MITIGATION OF LOSS:

THE FACT THAT GOODS ARE DAMAGED OR SHORT DOES NOT JUSTIFY YOUR REFUSAL TO ACCEPT THE SHIPMENT, NOR DOES ACCEPTANCE OF DAMAGED OR SHORT DELIVERY RELEASE THE CARRIER FROM COVERING REPLACEMENT MATERIAL COST. WHENEVER PRACTICAL, PRODUCT SHOULD BE ACCEPTED AND ALL NECESSARY STEPS SHOULD BE TAKEN TO MINIMIZE THE LOSS. A CLAIM SHOULD THEN BE FILED FOR THE COST OF REPAIRS AND/OR REPLACEMENT OF MATERIAL SHORT OR DAMAGED BEYOND REPAIR.

TIME LIMIT / WHO MAY FILE CLAIM:

CARRIERS SPECIFY THAT CLAIMS MUST BE FILED AFTER THE DELIVERY HAS BEEN MADE, HOWEVER THE QUICKER THIS IS DONE THE BETTER YOUR CHANCES OF BEING REIMBURSED. EVERY CARRIER HAS THEIR OWN POLICY FOR DURATION AFTER DELIVERY FOR ACCEPTING CLAIMS. CONSULT THE CARRIER FOR THEIR POLICY. A CLAIM MAY BE FILED BY THE SHIPPER, THE CONSIGNEE OR A THIRD PARTY WHO MAY HAVE PAID THE FREIGHT CHARGES.

RETURNING DAMAGED MATERIAL:

IF DAMAGED TO THE EXTENT THAT IT IS NECESSARY TO RETURN TO THE MANUFACTURER TO BE REPAIRED, PLEASE DO AS FOLLOWS:

- (A) OBTAIN PERMISSION TO DO SO FROM THE DELIVERING CARRIER.
- (B) ROUTE THE RETURN SHIPMENT VIA THE IDENTICAL CARRIER(S) INVOLVED IN THE ORIGINAL SHIPMENT.
- (C) NOTIFY THE MANUFACTURER WHEN SHIPPED.

PRE-INSTALLATION INSTRUCTIONS

WARNING

ONLY TRAINED DOOR SYSTEMS TECHNICIANS SHOULD
DROP TEST, RESET OR PERFORM MAINTENANCE

WARNING

READ AND FOLLOW THESE INSTRUCTIONS THOROUGHLY - THE COOKSON
COMPANY WILL NOT BE HELD RESPONSIBLE FOR ANY CHARGES INCURRED
THROUGH MISSING PARTS, OPERATION, OR DAMAGE- DUE TO IMPROPERLY
INSTALLED DOOR ASSEMBLIES

- 1) If you have received more than one door, you will find that all major parts and pieces for any one door are marked with corresponding numbers; therefore, a complete door should be composed of parts bearing the same numbers and letters.

DO NOT INTERCHANGE PARTS FROM ONE DOOR TO ANOTHER!!!

- 2) Before installing the door see that all component markings agree.
- 3) Before attempting installation of the door and, specifically, before leaving the jobsite make certain you have read and adhered to the attached "Safety Check List".
- 4) Should there be any discrepancies in the job conditions or manufactured materials, contact The Cookson Company in writing or by calling 1-800-294-4358 for Western U.S. and Canada or 1-800-390-8590 for Eastern U.S. and Canada. If door was purchased by a Cookson Distributor and sold to another party they should contact the Distributor for Warranty or Repair parts.

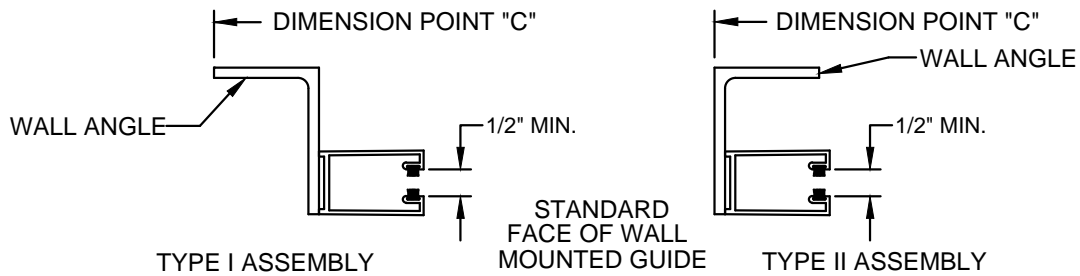
SAFETY CHECK LIST

IN ORDER FOR YOU TO ASSURE YOUR CUSTOMER THAT THIS DOOR HAS BEEN
INSTALLED PROPERLY AND IN A SAFE MANNER, WE ASK THAT YOU CHECK THE
FOLLOWING BEFORE LEAVING THE JOBSITE.

- 1) Make certain that the proper amount of tension has been applied to the torsion springs, in order to properly counterbalance the weight of the curtain.
- 2) Assure yourself that the tension wheel is securely fastened in place.
- 3) Assure yourself that sprockets or gears requiring keys have the correct keys installed and drive shaft sprockets or gears are retained by cotter pins.
- 4) Recheck the setscrews (One over key - the other located at 45° from key) in each sprocket or gear for tightness.
- 5) Check all fasteners holding guides to building structures.
- 6) Check all fasteners used in assembling door components.
- 7) Instruct owner or his/her representative in the proper method of operating this door.

GUIDE TYPE I & II INSTALLATION

Depending on your specific job conditions, you have received guides that appear as Type I or Type II

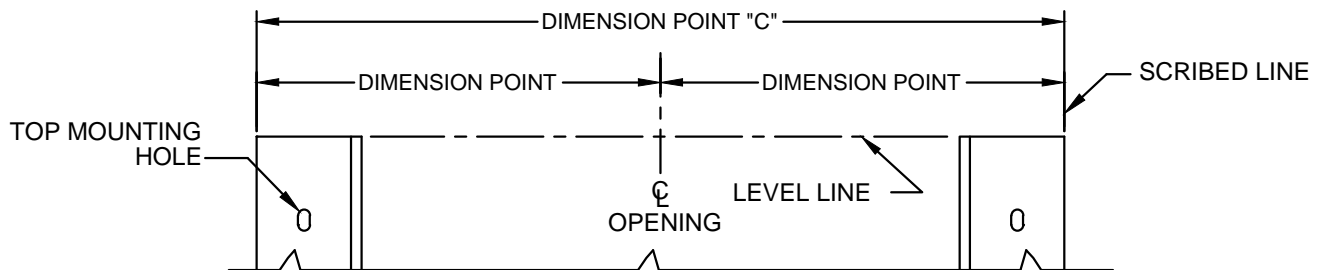


A1

NOTE: TYPE II GUIDES NORMALLY MUST BE DISASSEMBLED BEFORE INSTALLATION.

- 1) In either case, locate the center of the opening. From the centerline locate the edges of each guide by laying off a distance from the center as shown in FIG.2.
- 2) Through this mark, scribe a plumb line on the wall.
- 3) Place the guides against the scribed line and with the tops of the guides level, mark the location of the mounting holes.

IMPORTANT: The bottom of the guides MUST be at the same elevation as the top of the floor at the centerline of the door opening to ensure that the locking device engages the guide latch or interlock.



A2

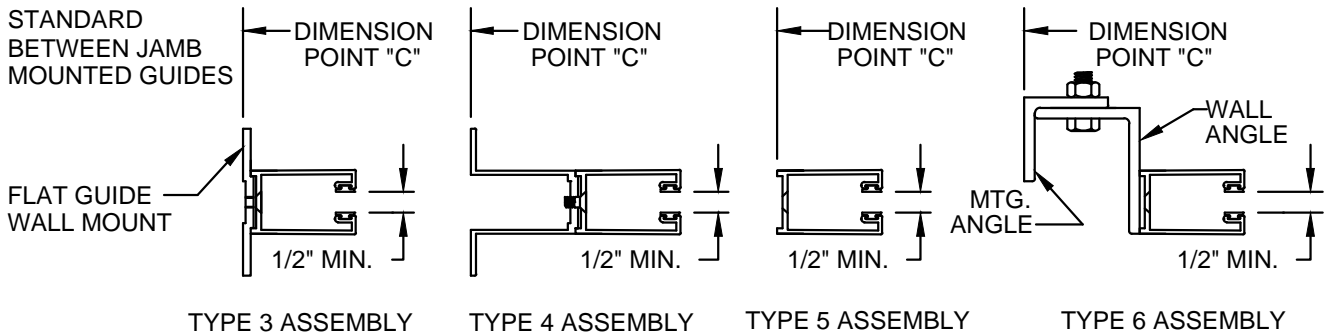
- 4) Pre-drill mounting holes according to Table 1 on page 10.
- 5) Tap or install inserts and mount the guides.
- 6) If guides are Type II and require disassembling, make sure when reassembling, that the width of the guide groove is equal to the measurements shown in FIG. 1.
- 7) Check guide opening width. See FIG. A3.



A3

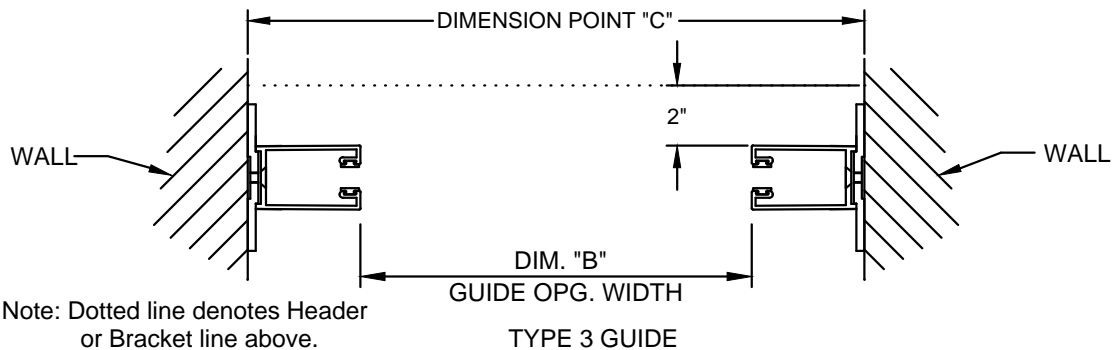
TYPE 3, 4, 5 OR 6 GUIDE INSTALLATION

Depending on your specific job conditions, you have received guides that appear as type 3, 4, 5, or 6.



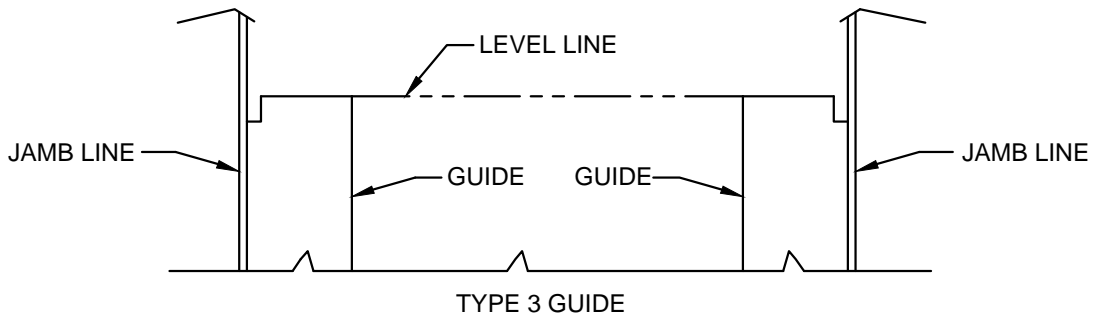
A4

- 1) Check Dim. C (jamb opg. width) to insure that it is within plus or minus 1/8" of the given measurements.
 - 2) With the guides placed against the jambs and positioned per FIG. A5, locate the mounting holes, being sure when doing so that the tops of the guides lie in a level plane as shown in FIG. A6.
- IMPORTANT:** The bottom of the guides **MUST** be at the same elevation as the top of the floor at the centerline of the door opening to insure that the locking device engages the guide latch or interlock.



A5

- 3) Pre-drill mounting holes according to Table 1 on page 10.
- 4) Tap or install inserts and mount the guides.
- 5) Check guide opening width. See FIG. A5.



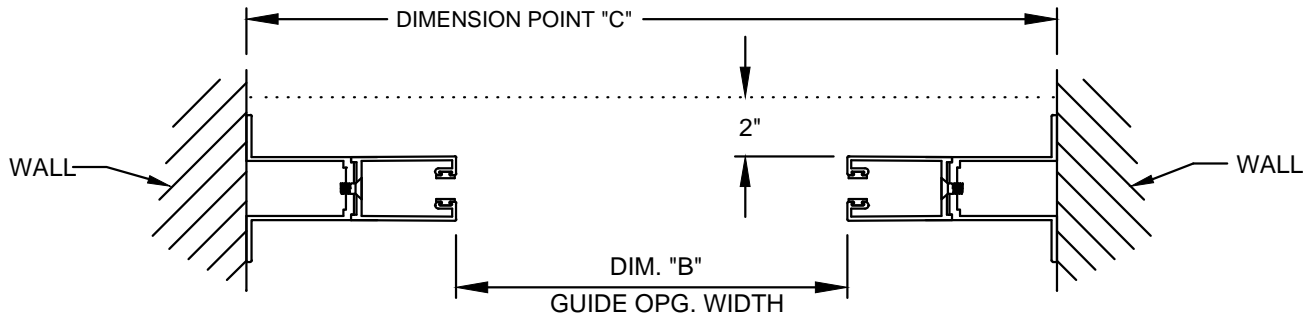
A6

SEE THE FOLLOWING PAGES FOR DETAILS OF TYPES 4, 5, AND 6 GUIDES.

TYPE 4 GUIDE INSTALLATION

- 1) Check Dim. C (jamb opg. width) to insure that it is within plus or minus 1/8" of the given measurements.
- 2) With the guides placed against the jambs and positioned per FIG. A7, locate the mounting holes, being sure when doing so that the tops of the guides lie in a level plane as shown in FIG. A8.

IMPORTANT: The bottom of the guides MUST be at the same elevation as the top of the floor at the centerline of the door opening to insure that the locking device engages the guide latch or interlock.

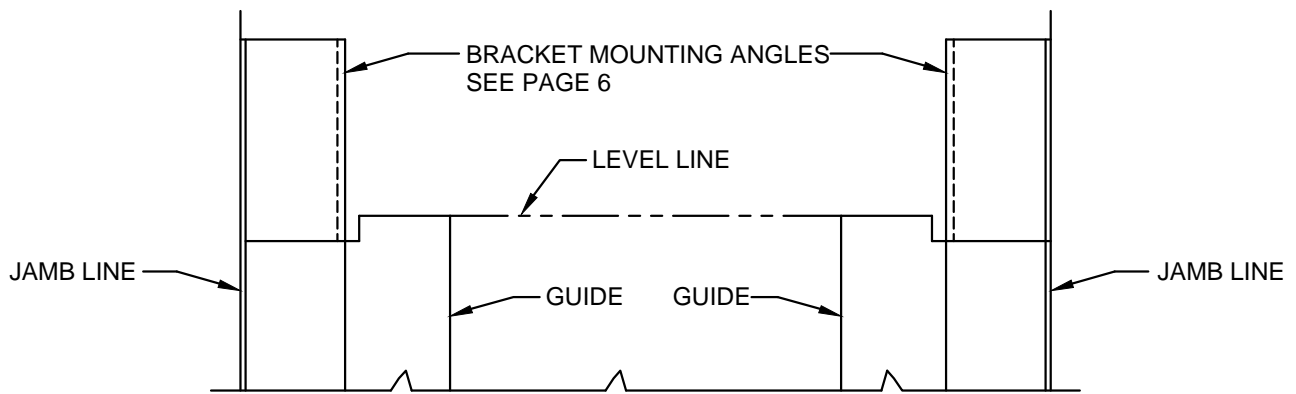


Note: Dotted line denotes Header or Bracket line above.

TYPE 4 GUIDE

A7

- 3) Pre-drill mounting holes according to Table 2 on page 10.
- 4) Tap or install inserts and mount the guides.
- 5) Check guide opening width (see FIG. A7).

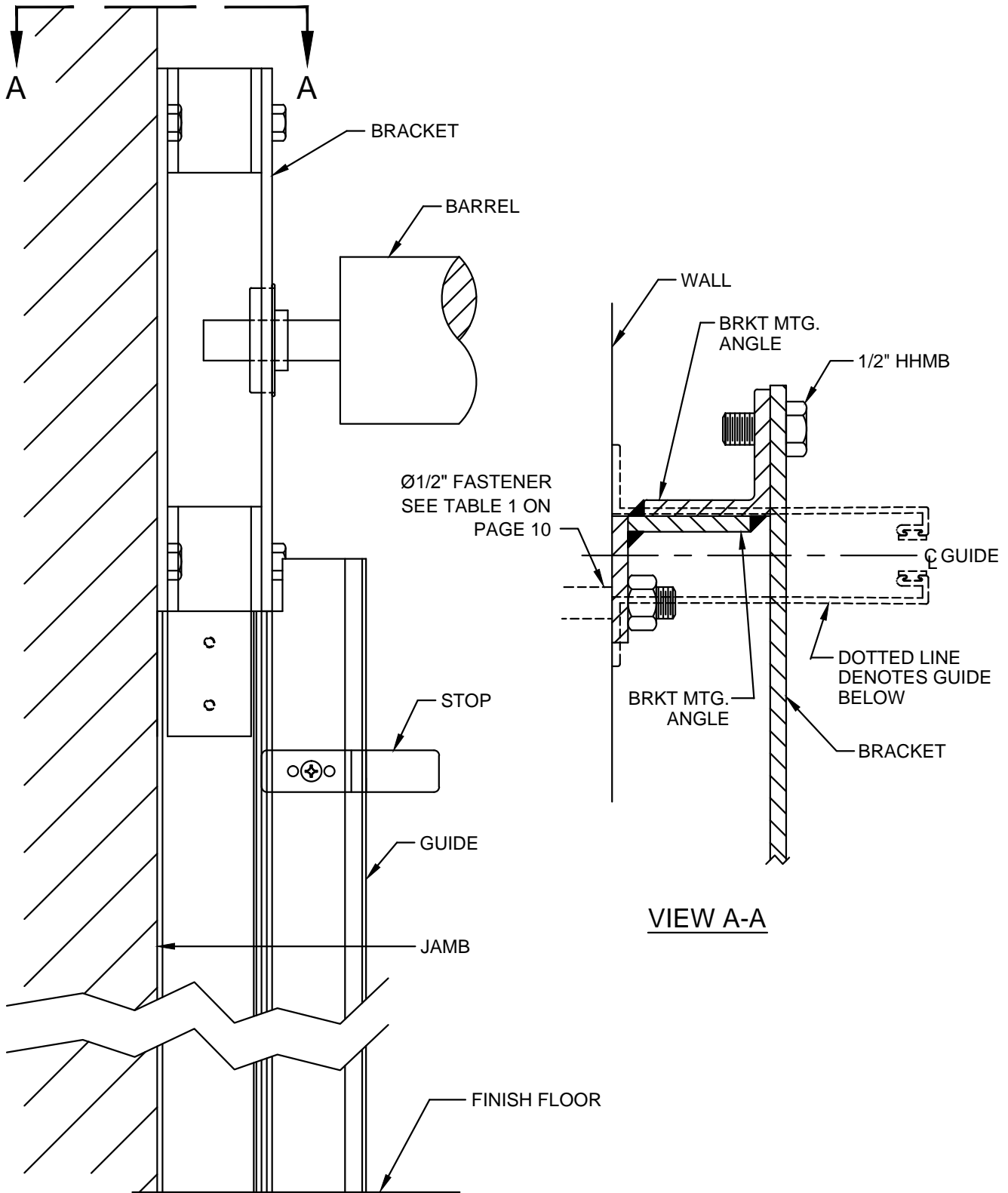


TYPE 4 GUIDE

A8

SEE THE FOLLOWING PAGES FOR DETAILS OF TYPES 5 OR 6 GUIDE.

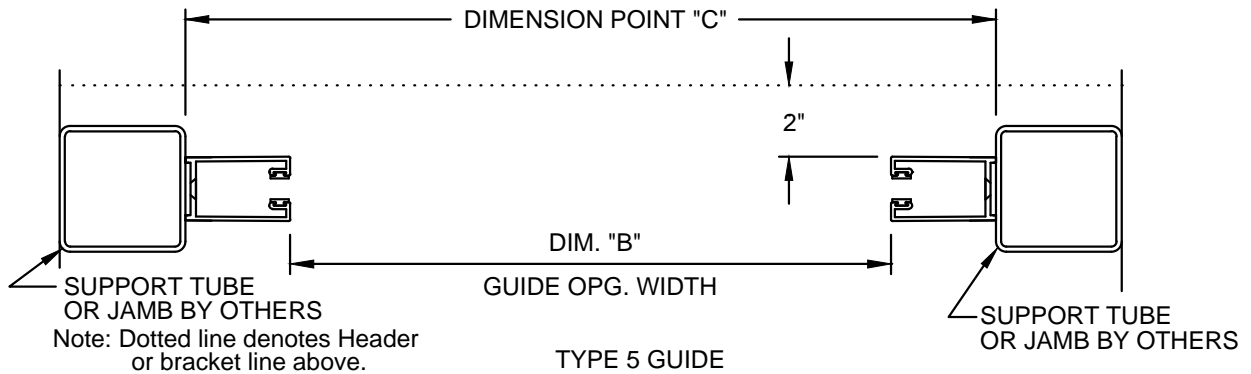
BRACKET TO WALL ANGLE MOUNTING - TYPE 4 GUIDE



TYPE 5 GUIDE INSTALLATION

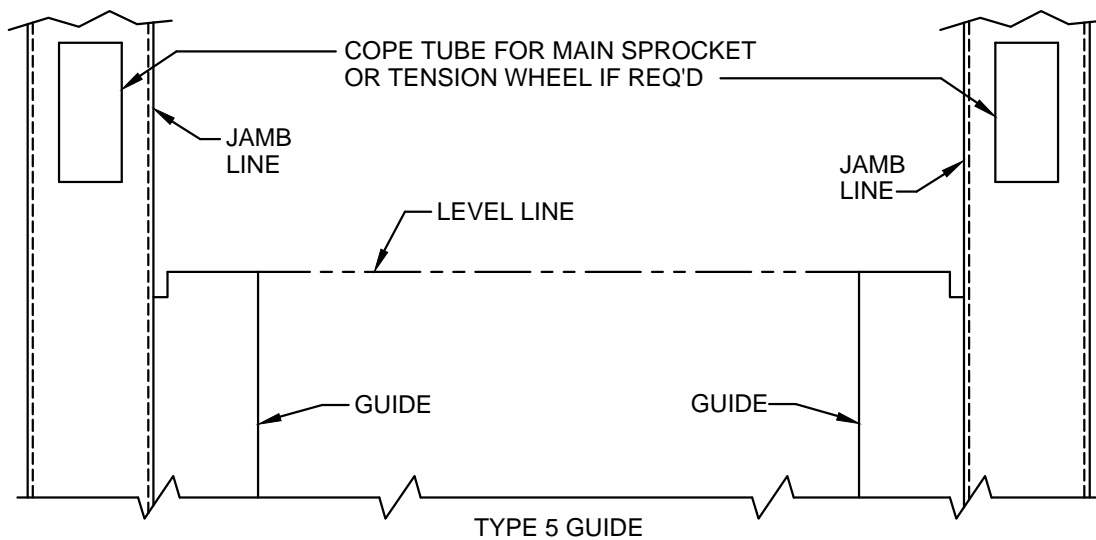
- 1) Check Dim. C (jamb opg. width) to insure that it is within plus or minus 1/8" of the given measurements.
- 2) With the guides placed against the jambs and positioned per FIG A10, locate the mounting holes, being sure when doing so that the tops of the guides lie in a level plane as shown in FIG A11.

IMPORTANT: The bottom of the guides **MUST** be at the same elevation as the top of the floor at the centerline of the door opening to insure that the locking device engages the guide latch or interlock.



A10

- 3) Pre-drill mounting holes according to Table 2 on page 10.
- 4) Tap or install inserts and mount the guides.
- 5) Check guide opening width (see FIG. A10).

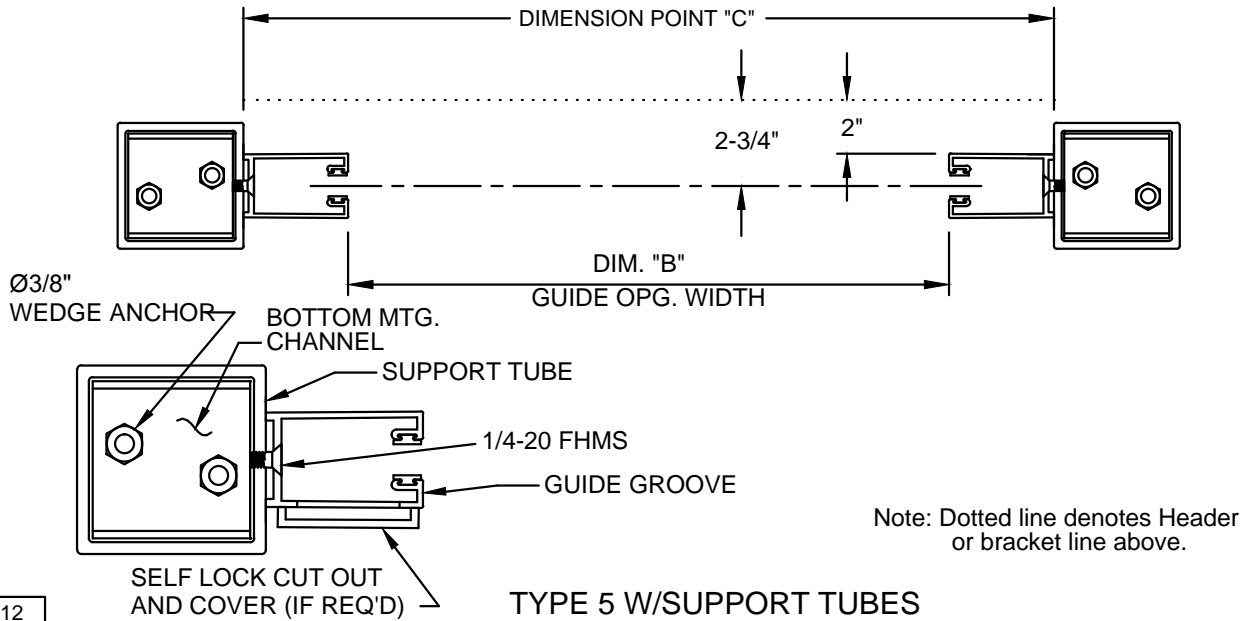


A11

TYPE 5 GUIDE W/SUPPORT TUBES

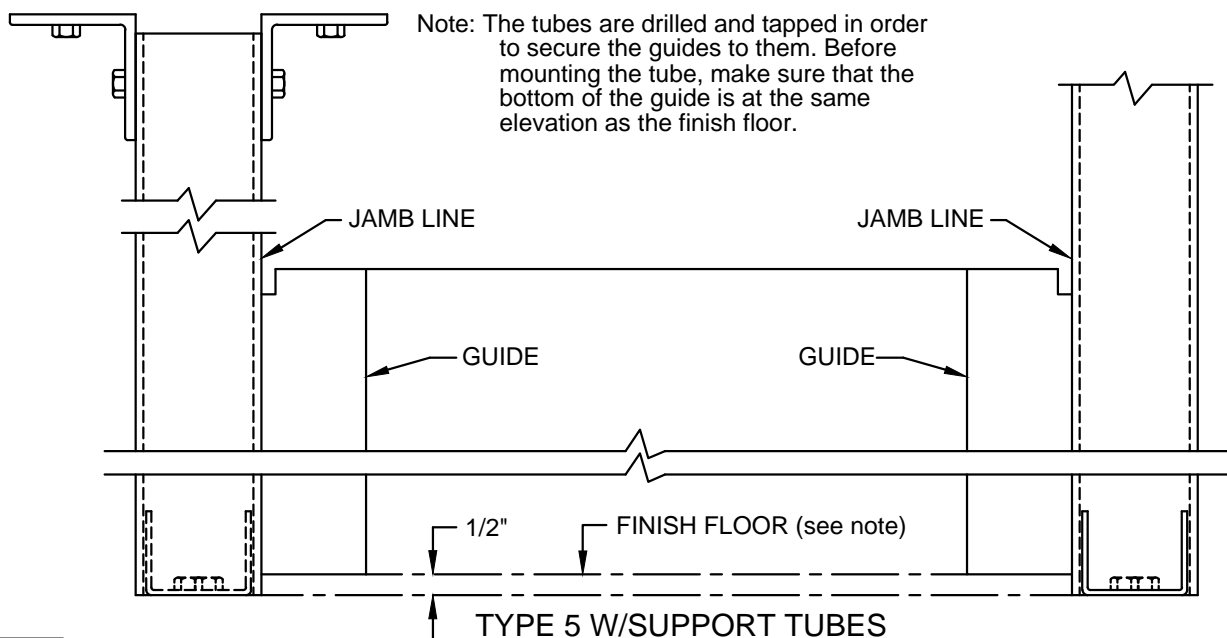
- 1) Check Dim. C (jamb opg. width) to insure that it is within plus or minus 1/8" of the given measurements.
- 2) With the guides placed against the jambs and positioned per FIG. A12, locate the mounting holes, being sure when doing so that the tops of the guides lie in a level plane as shown in FIG. A13.
- 3) The self lock cut out and cover (if provided) are to be located on the coil side of the door.

IMPORTANT: The bottom of the guides **MUST** be at the same elevation as the top of the floor at the centerline of the door opening to insure that the locking device engages the guide latch or interlock.



A12

- 4) Check guide opening width (see FIG. A12).

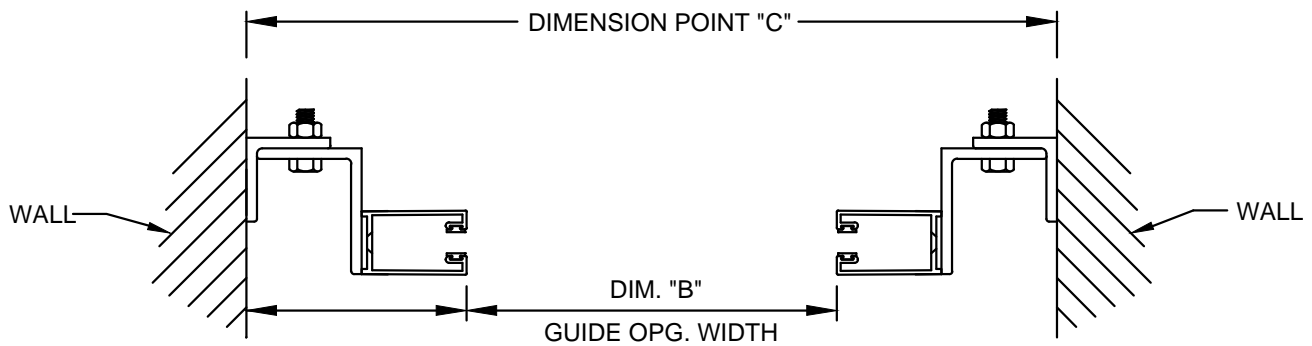


A13

TYPE 6 GUIDE INSTALLATION

- 1) The mounting angle must be disassembled from the wall angle before mounting.
- 2) Check Dim. C (jamb opg. width) to insure that it is within plus or minus 1/8" of the given measurements.
- 3) Place the disassembled mounting angle against the jamb at the distance from the edge of the opening shown in FIG. A15 and mark the top mounting hole.
- 4) Remove the mounting angle, and through the mark, scribe a plumb line on the jamb.
- 5) Place the mounting angle over the line, centering the mounting holes on the line, and level the tops of the right and left hand mounting angles.

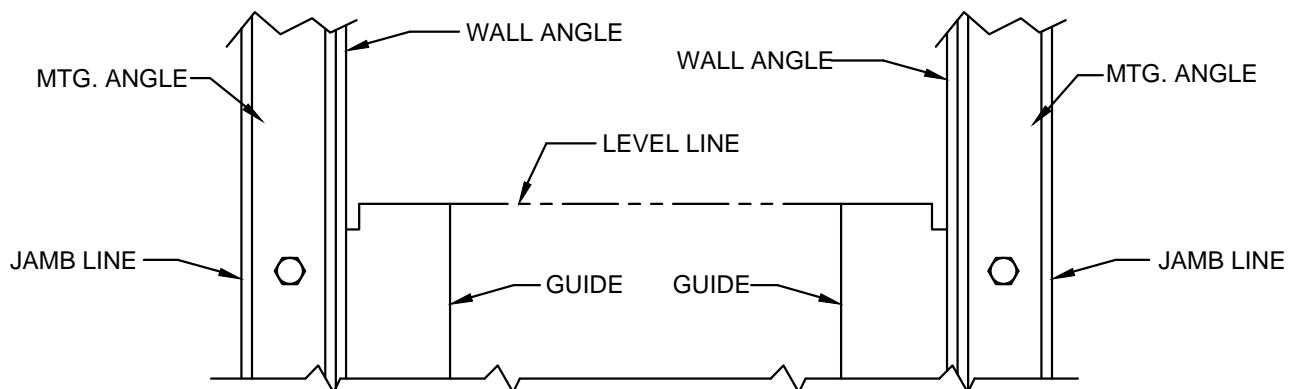
IMPORTANT: The bottom of the guides **MUST** be at the same elevation as the top of the floor at the centerline of the door opening to insure that the locking device engages the guide latch or interlock.



TYPE 6 GUIDE

A14

- 6) Mark the mounting holes on the wall, and pre-drill them according to Table 1 on page 10.
- 7) Tap or install inserts, if necessary, and mount the mounting angles.
- 8) Now mount the guides to the mounting angles.
- 9) Check the guide opening width (see FIG. A14).



TYPE 6 GUIDE

A15

FASTENER TABLES

TABLE 1 - TYPE 1, 2 & 6 GUIDES

TYPE OF CONSTRUCTION TO WHICH FASTENER EMBEDS	TYPE OF FASTENER TO USE	HOLE SIZE (DRILL DIA.)	TAP SIZE (IF REQ'D)	DEPTH OF HOLE
WOOD	Ø3/8" X 2" LAG BOLT	Ø3/16"	—————	1-1/2" MAX
	Ø1/2 X 3" LAG BOLT	Ø5/16"	—————	2-1/2" MAX
CONCRETE	Ø3/8" X 2-1/8" WEDGE ANCH.	Ø3/8" CARBIDE	—————	1-5/8" MIN
	Ø1/2" X 2-3/4" WEDGE ANCH.	Ø1/2" CARBIDE	—————	2-1/4" MIN
	Ø5/8" X 3-1/2" WEDGE ANCH.	Ø5/8" CARBIDE	—————	2-7/8" MIN
	Ø3/4" X 4-1/4" WEDGE ANCH.	Ø3/4" CARBIDE	—————	3-1/2" MIN
MASONRY OR BRICK	Ø5/8" X 2-1/4" SLEEVE ANCH. (Ø1/2" BOLT)	Ø5/8"	—————	2" MIN
	Ø3/4" X 2-1/2" SLEEVE ANCH. (Ø5/8" BOLT)	Ø3/4"	—————	2" MIN
STEEL	Ø3/8" BOLT	Ø5/16"	3/8"-16UNC	—————
	Ø1/2" BOLT	Ø27/64"	1/2"-13UNC	—————
	Ø5/8" BOLT	Ø17/32"	5/8"-11UNC	—————
	Ø3/4" BOLT	Ø21/32"	3/4"-10UNC	—————

TABLE 2 - TYPE 3, 4 & 5 GUIDES

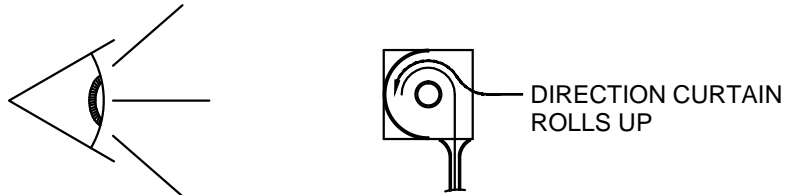
TYPE OF CONSTRUCTION TO WHICH FASTENER EMBEDS	TYPE OF FASTENER TO USE	HOLE SIZE (DRILL DIA.)	TAP SIZE (IF REQ'D)	DEPTH OF HOLE
WOOD	#12 X 1-1/2" WOOD SCREW	Ø1/8"	—————	1-1/2" MAX
CONCRETE	#12 X 1-1/2" WOOD SCREW W/ #12 PLASTIC SHIELD	Ø1/4" CARBIDE	—————	1-1/2" MAX.
STEEL	Ø1/4" BOLT	#7	1/4"-20 UNC	—————
HOLLOW METAL	1/4-20 SELF DRILLING AND TAPPING SCREW	Ø13/64	—————	—————
HOLLOW CERAMIC TILE	TYPE "L" WALL GRIP W/ 1/4"-20 MACH. SCREW	Ø7/16"	—————	—————

TABLE 3 - BRACKETS

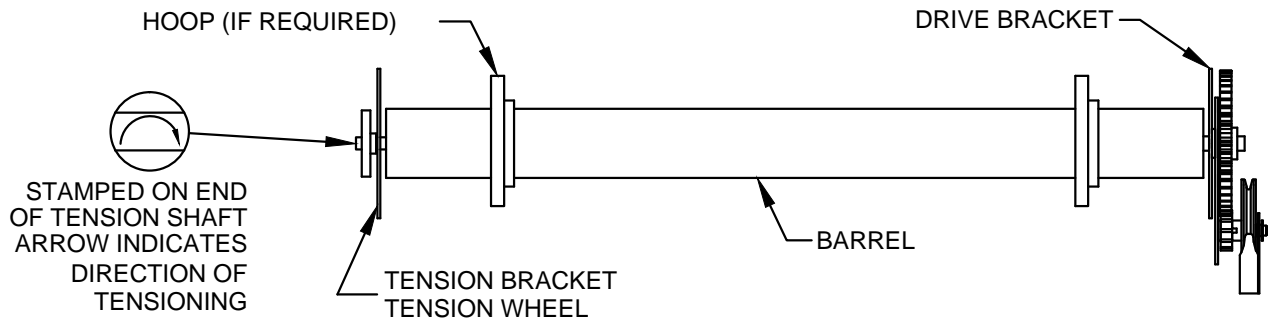
TYPE OF CONSTRUCTION TO WHICH FASTENER EMBEDS	TYPE OF FASTENER TO USE	HOLE SIZE (DRILL DIA.)	TAP SIZE (IF REQ'D)	DEPTH OF HOLE
WOOD	#20 X 2" FHWS	Ø5/32"	—————	1-1/2" MAX
	Ø3/8" X 2" LAG BOLT	Ø3/16"	—————	1-1/2" MAX
	Ø1/2 X 3" LAG BOLT	Ø5/16"	—————	2-1/2" MAX
CONCRETE	Ø3/8" X 2-1/8" WEDGE ANCH.	Ø3/8" CARBIDE	—————	1-5/8" MIN
	Ø1/2" X 2-3/4" WEDGE ANCH.	Ø1/2" CARBIDE	—————	2-1/4" MIN
	Ø5/8" X 3-1/2" WEDGE ANCH.	Ø5/8" CARBIDE	—————	2-7/8" MIN
	Ø1/2" X 3" EXP. SHIELD W/ Ø1/2" FHMS	Ø3/4" CARBIDE	—————	3" MIN
STEEL	Ø3/8" BOLT	Ø5/16"	3/8"-16UNC	—————
	Ø1/2" BOLT	Ø27/64"	1/2"-13UNC	—————
	Ø5/8" BOLT	Ø17/32"	5/8"-11UNC	—————
MASONRY OR BRICK	Ø1/2" X 2-1/4" SLEEVE ANCH. (Ø3/8" BOLT)	Ø1/2"	—————	2" MIN
	Ø5/8" X 2-1/4" SLEEVE ANCH. (Ø1/2" BOLT)	Ø5/8"	—————	2" MIN
	Ø3/4" X 2-1/2" SLEEVE ANCH. (Ø5/8" BOLT)	Ø3/4"	—————	2" MIN

BARREL AND BRACKET ASSEMBLY

1) Inspect the barrel. Notice that one shaft is stationary, whereas the other rotates. The stationary shaft is called the drive shaft. The drive bracket is mounted either on your right hand or left hand when viewing the door per FIG. B1. Make sure that the arrow on the tension shaft agrees with the drive and tension bracket assemblies when viewed as follows:

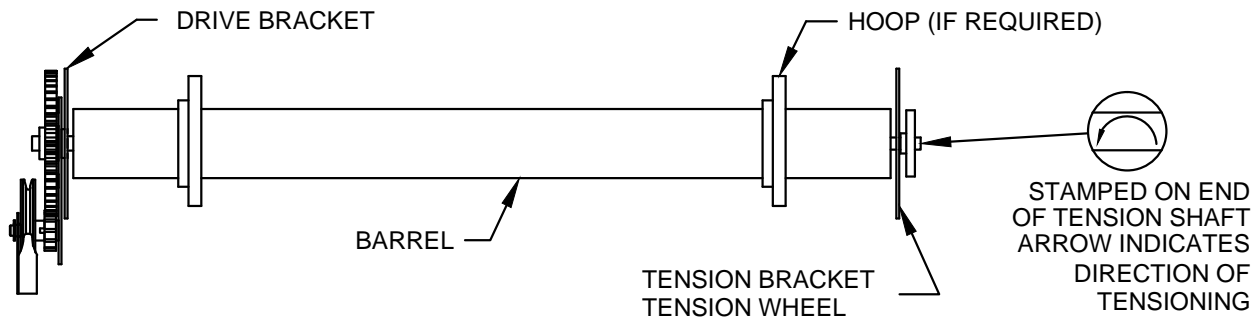


B1



B2

ASSEMBLY FOR RIGHT HAND DOOR



B3

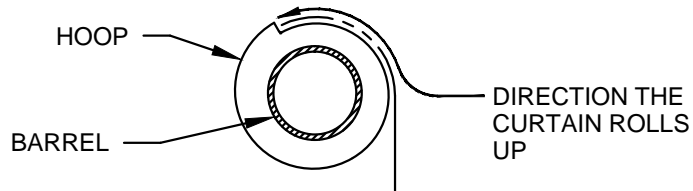
ASSEMBLY FOR LEFT HAND DOOR

NOTE: CHAIN OPERATED DRIVE BRACKET AND OUTSIDE TENSION WHEEL ARRANGEMENT SHOWN IN FIG. B2 AND FIG. B3 ARE SHOWN FOR CLARITY ONLY.

If the doors you have received are furnished with a tension wheel that mounts between the barrel and the inside face of the tension bracket, the tension wheel will be found wired to the tension bracket.

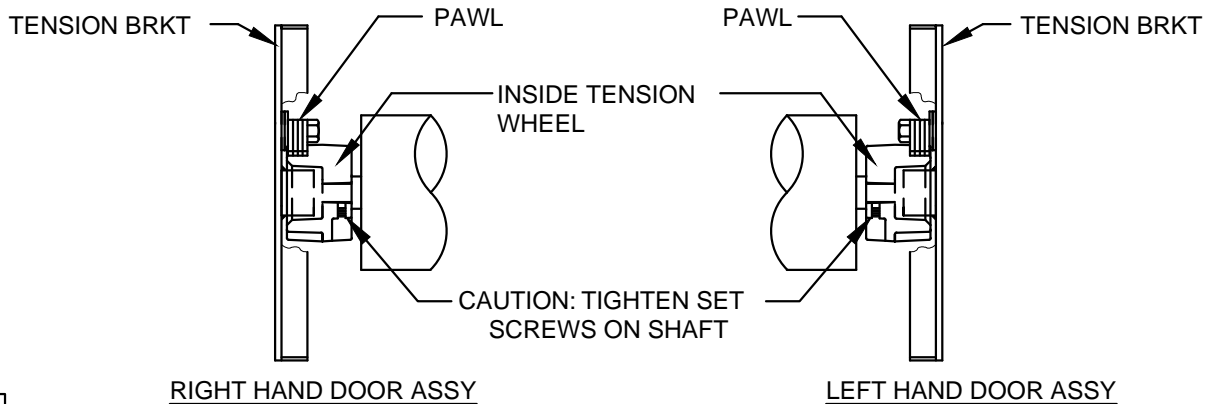
BARREL AND BRACKET MOUNTING

- 1) After determining whether you have RH or LH drive, place the barrel on the floor below the opening in the position it takes when actually mounted. If you have hoops, mount them loosely on the barrel as shown in FIG. B4. If wire rings are furnished consult page 14.



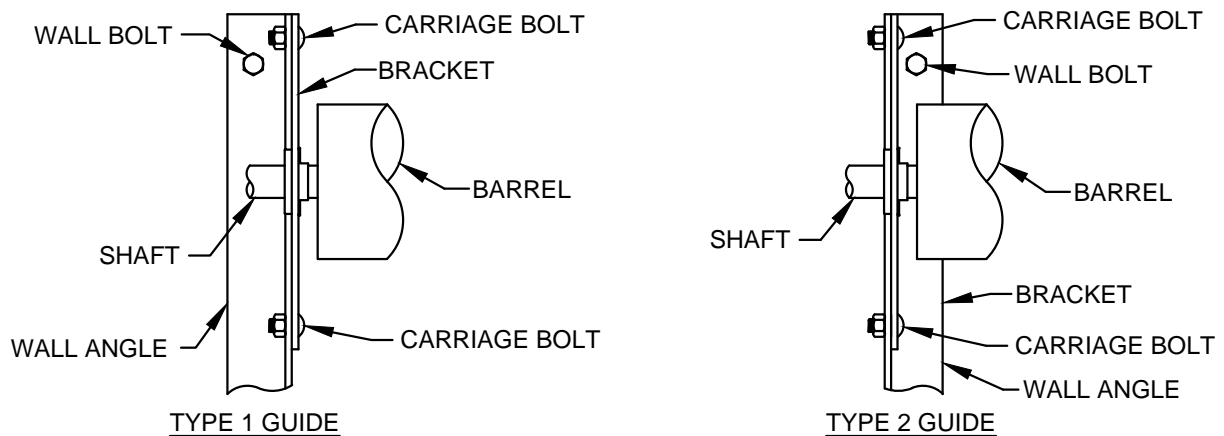
B4

- 2) If you have an inside tension assembly, the tension wheel will be attached to the barrel as shown in FIG. B5.



B5

- 3) Slide the mounting brackets onto their respective ends of the barrel and raise the entire assembly into position at the head of the opening.
- 4) Using the carriage bolts as shown in FIG. B6, bolt the brackets to the wall angle.

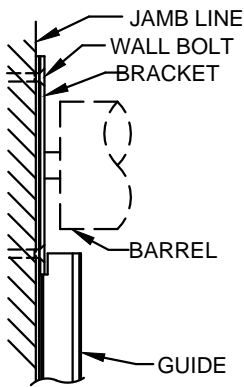


B6

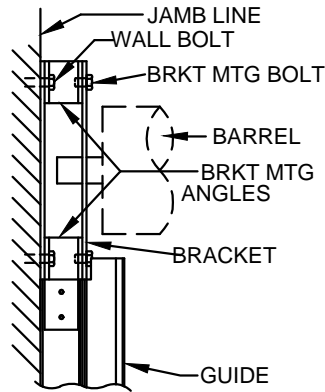
NOTE: LEFT SIDE SHOWN. RIGHT SIDE OPPOSITE

- 5) Center the barrel, with an equal distance from ends of pipe, to inside face of both brackets only if outside tension wheel is supplied.

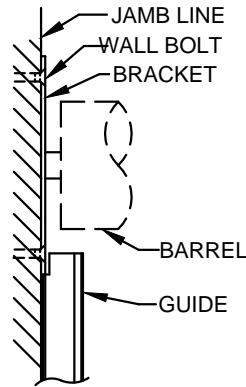
BARREL AND BRACKET MOUNTING (CONT.)



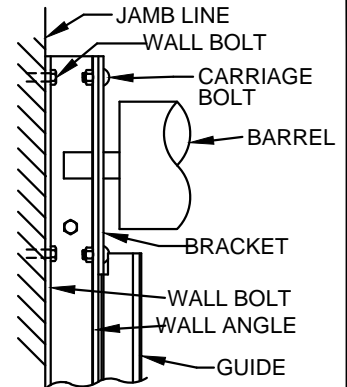
TYPE 3 GUIDE



TYPE 4 GUIDE



TYPE 5 GUIDE



TYPE 6 GUIDE

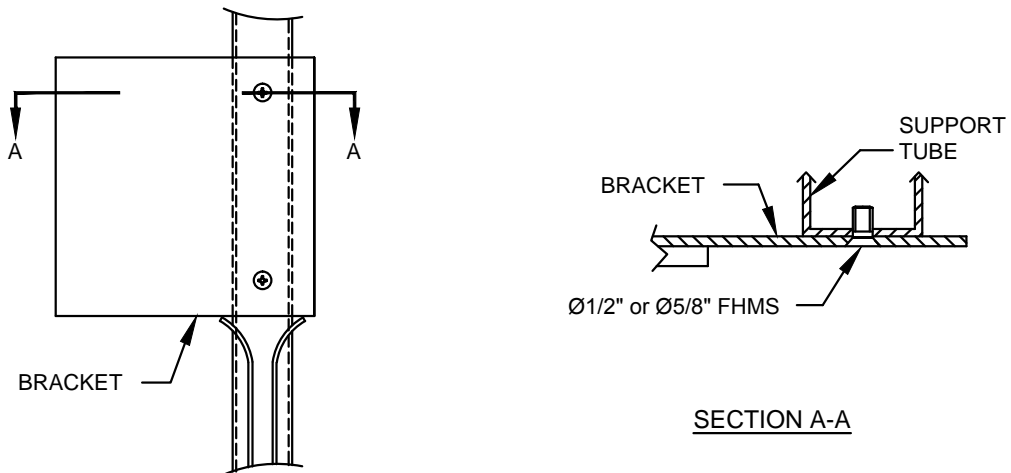
B7

IMPORTANT

USE BRACKET FASTENERS PROVIDED
SEE TABLE 3 ON PAGE 10 FOR FASTENER SCHEDULE

FOR TYPE 5 GUIDES W/SUPPORT TUBES

4A) Using the mounting screws as shown in FIG. 23 attach the brackets to the support tubes.

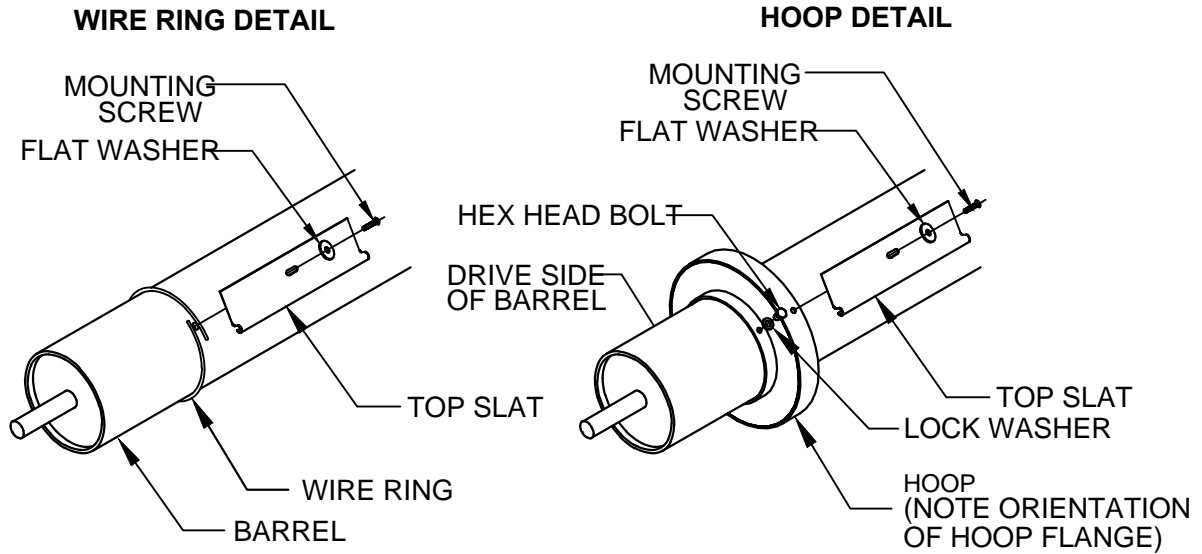


B8

5A) Center the barrel with an equal distance from the ends of the pipe to the inside face of both brackets.

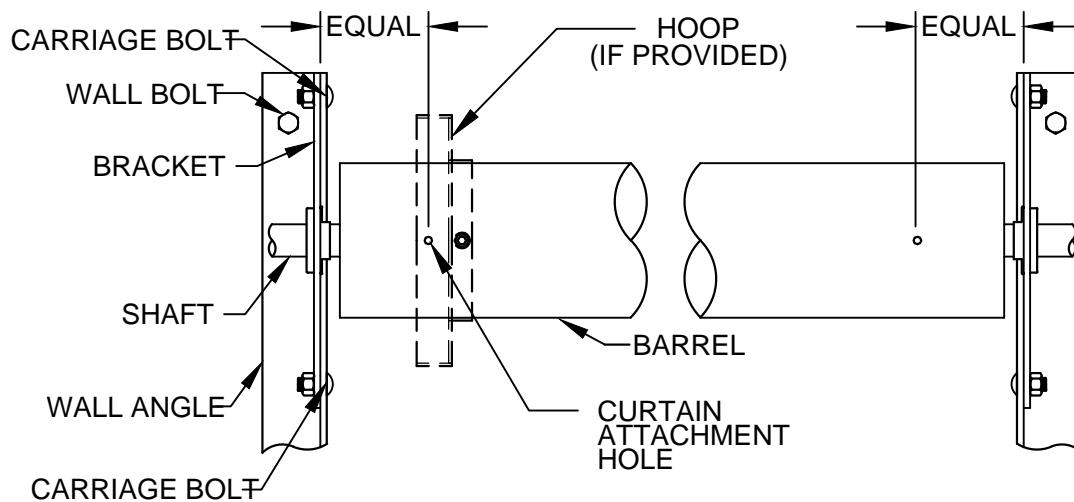
BARREL AND BRACKET ASSEMBLY

- 1) Determine whether you have Right Hand (RH) or Left Hand (LH) drive, place the barrel below the opening in the position it takes when actually mounted. If you have hoops or wire rings consult FIG. B9.



B9

- 2) Slide the brackets onto their respective ends of the barrel and raise the **entire assembly into position at the head of the opening.**
- 3) Using the carriage bolts as shown in FIG. B10, bolt the brackets to the wall angle.



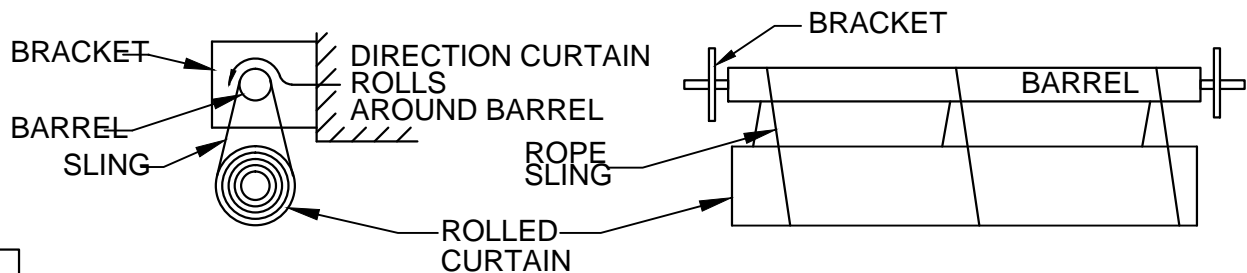
B10

- 4) Position the barrel, with an equal distance from the first curtain attachment hole, to the inside face of both brackets. See FIG B10.

CURTAIN ASSEMBLY INSTRUCTIONS

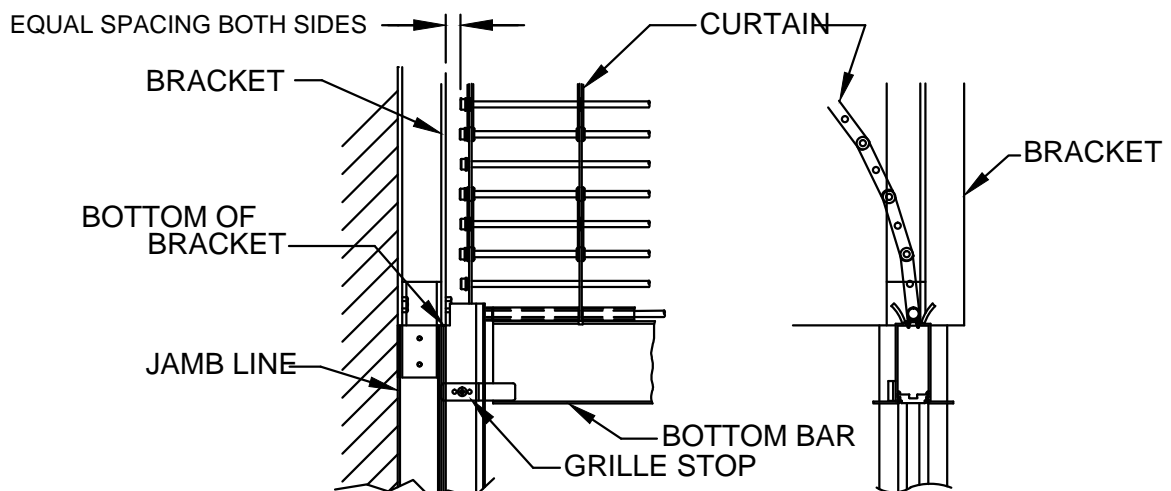
IMPORTANT: Be sure the tension shaft is free to rotate and that the tension wheel is not restrained such that it prevents rotation of the tension shaft. Do not install outside tension wheel at this time.

- 1) Place the rolled curtain below the Barrel Assembly. Make sure the curtain roll is in the direction the rolls around the barrel. Hoist the curtain approx. 3 Ft. below the barrel and suspend it there by means of two or more slings. Make sure the quantity and capacity of slings are sufficient to safely support the curtain without damaging the curtain.



C1

- 2) Pull the top slat up around the barrel. This can be accomplished by clamping the top slat to the slings and rotating the barrel.
- 3) Attach top slat to barrel with provided fasteners. **IMPORTANT: BE SURE THE ENDS OF THE CURTAINS ARE EQUIDISTANT FROM THE INSIDE FACES OF THE BRACKETS.**
- 4) If your door has a means of manually operating, use it to roll the curtain onto the barrel.
- 5) If you door is the push up type, use a tensioning bar inserted into the tension wheel to rotate the barrel while rolling the curtain onto the barrel. Rotate the tension wheel in the same direction the barrel turns when the curtain coils onto it.
- 6) With the curtain completely rolled onto the barrel, feed the bottom bar into the guides and attach the stops as shown in FIG. C2.



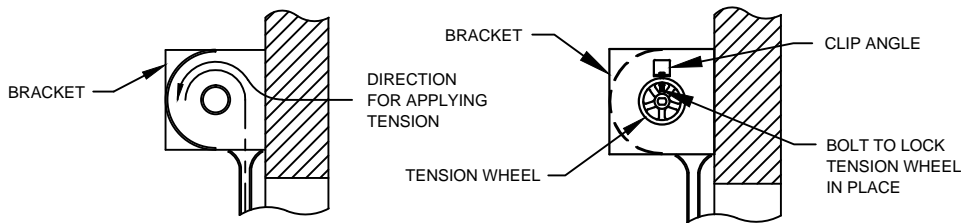
C2

TENSIONING INSTRUCTIONS STANDARD TENSION WHEEL

WARNING TENSION COMPONENTS UNDER EXTREME SPRING TENSION. CAN CAUSE SERIOUS INJURY OR DEATH. SERIOUS INJURY MAY BE INCURRED IF THE CURTAIN IS NOT FULLY COILED ON THE BARREL WHILE MAKING ADJUSTMENTS TO THE TENSION ASSEMBLY.



- 1) Raise the curtain to the full open position.
- 2) Install tension wheel on to tension shaft.
- 3) Rotate the tension wheel, by means of a bar inserted into the tension wheel. See installation information sheet for number of turns. Rotate in direction the curtain normally winds onto the barrel. See FIG C3.
- 4) Lock the tension wheel to the bracket with the supplied bolt. The bolt can be found in the angle clip that is welded to the bracket.
- 5) Test the door for operation. The balance should be such that the door remains stationary when at the top and bottom of the opening.



C3

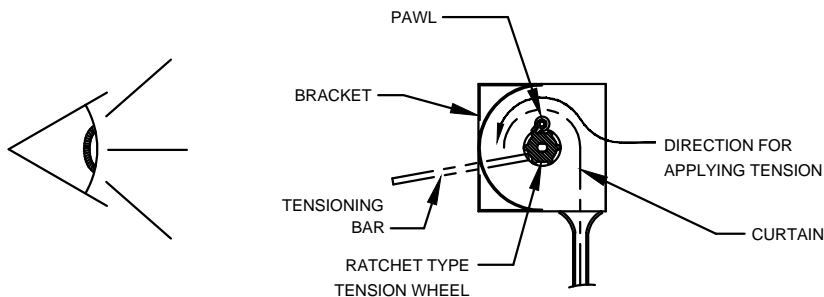
TENSIONING FOR EMERGENCY EGRESS DEVICE

- 1) Tension door according to Standard Procedure above.
- 2) Install release handle per Motor Manufacturer Instructions.
- 3) Lower door to the closed position thru the motor. Pull emergency opening cable. Door should automatically raise to approximately 3 feet off the floor. If it does not reach this desired level, open the door completely and add tension (notch by notch) until it rises to 3 feet.
- 4) Now bring the door in full open position. Pull emergency opening cable. If door drops, open door completely and add tension (notch by notch). Retest per above instructions until door does not drop.
- 5) Now, retest the auto rise function. Lower door to the closed position thru the motor. Pull emergency opening cable. Door should now rise to an acceptable height to permit emergency egress.

TENSIONING INSTRUCTIONS FOR DOORS WITH INSIDE TENSION WHEEL

- 1) For doors with an inside tension wheel, LOWER the curtain all the way down until access to the tension wheel is available. Engage a bar into one of the slots in the tension wheel and rotate it in the direction shown in FIG. C4. SEE INSTALLATION INFORMATION SHEET FOR THE NUMBER OF TURNS NEEDED.

CAUTION: DO NOT REMOVE THE TENSIONING BAR UNLESS THE PAWL IS ENGAGED FULLY IN THE TENSION WHEEL DOGS.



C4

- 2) Test the door for operation. The balance should be such that the door remains stationary when at the top of the opening.

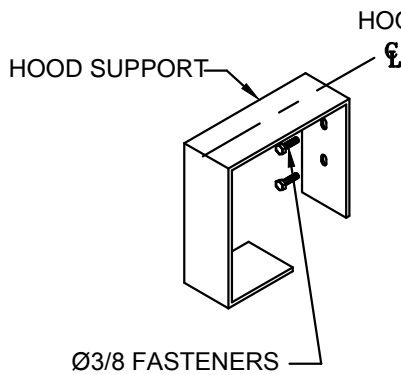
HOOD INSTALLATION - SQUARE HOOD

Note: Follow steps 1 thru 3 in Fig. C5 & C6 only if hood support is required.

- 1) Locate the center line(s) of the hood support(s) and mount to the lintel using $\varnothing 3/8$ " bolts.
- 2) Place the hood section(s) over the hood support(s). If the hood has more than one section, butt the ends of the sections together and center them on the supports.
- 3) Place the buttstrap(s) over the hood. Drill $\varnothing .157$ holes through the butt strap, hood, and support. Fasten the three together with the #10 pan head self-tapping machine screws provided.

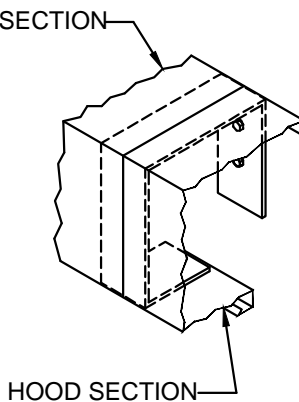
FOR TYPE I & II GUIDES

STEP 1

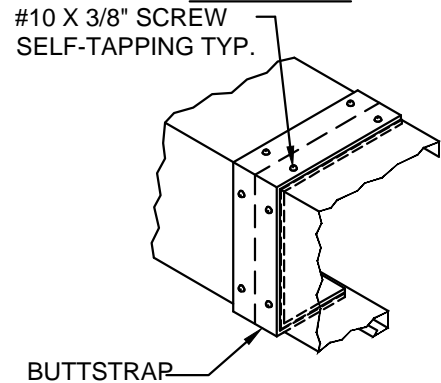


C5

STEP 2

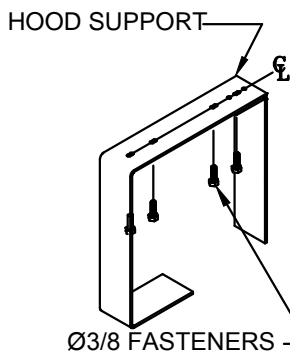


STEP 3



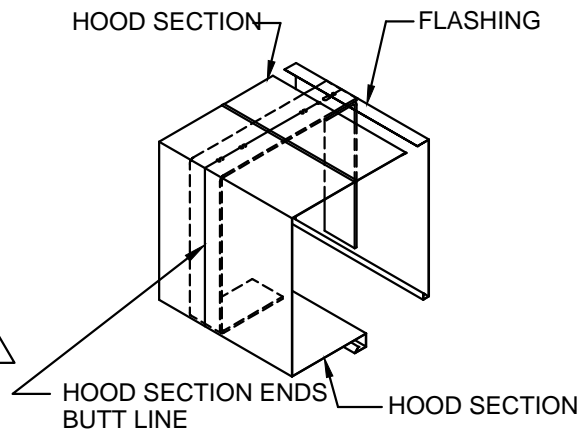
FOR ALL OTHER GUIDES

STEP 1

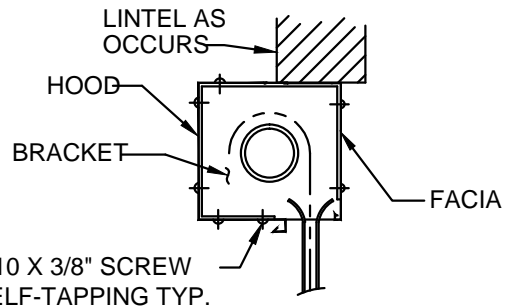
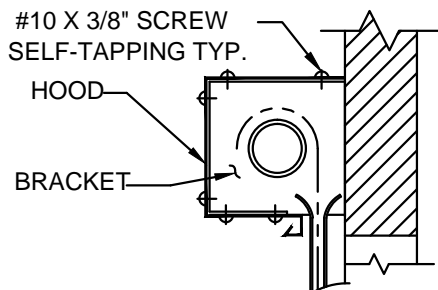
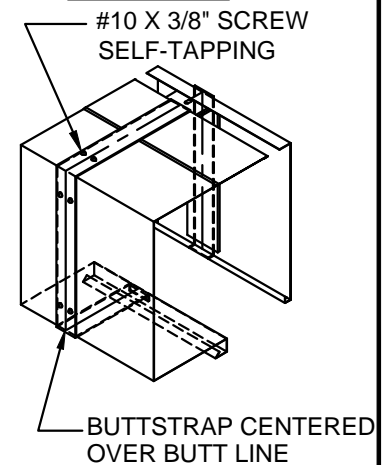


C6

STEP 2

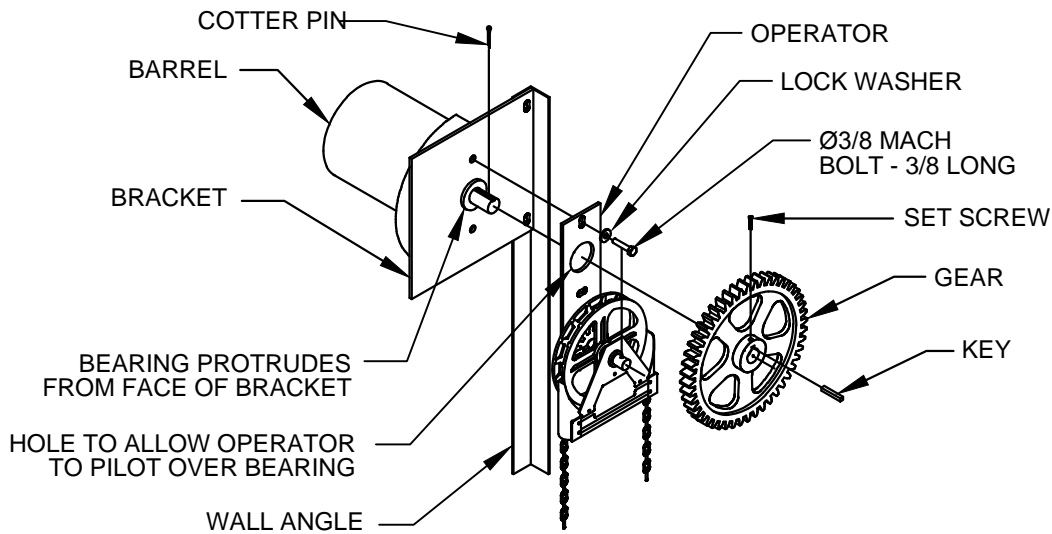


STEP 3



C7

HAND CHAIN OPERATOR INSTALLATION



D1

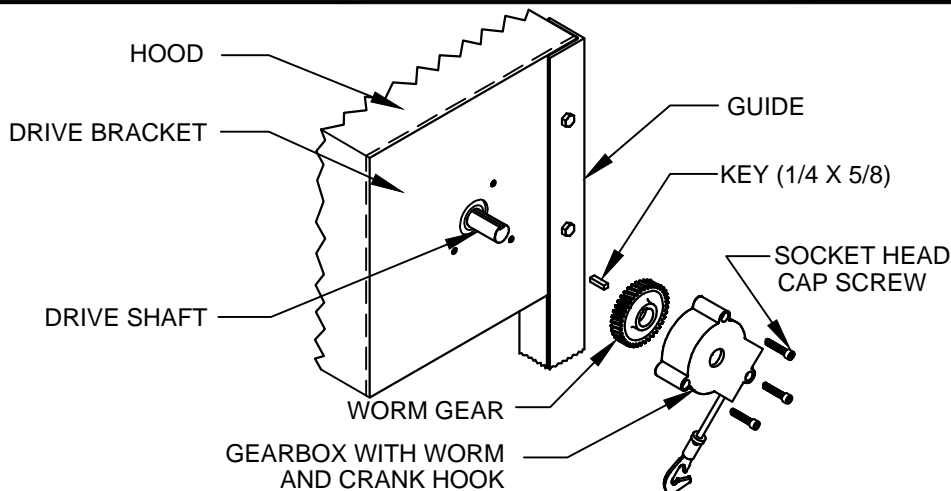
- 1) Raise brackets and barrel into position and bolt brackets to wall angle.
- 2) Bolt operator to bracket.
- 3) Insert key in keyway and tighten set screw.

NOTE: Right hand operator shown.
Left hand operator opposite as shown.

DOORS WITH SINGLE GEAR SYSTEM: Preposition gear to mesh with 3" pinion before installing operator on bracket.

DOORS WITH DOUBLE GEAR SYSTEM: Remove all gears from operator, install operator on bracket, then reinstall gears.

CRANK GEARBOX ASSY - WORM GEAR TYPE

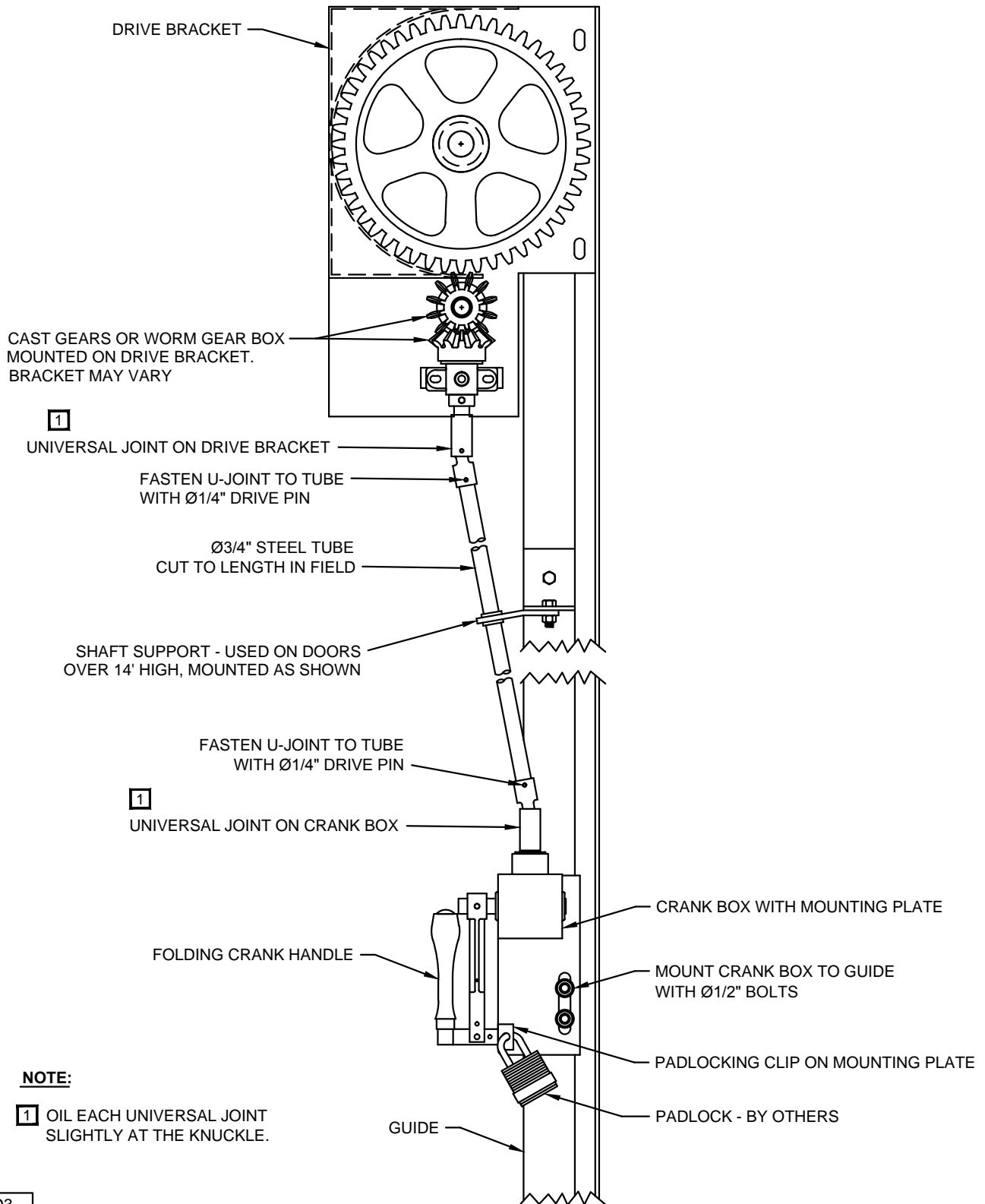


D2

NOTE:

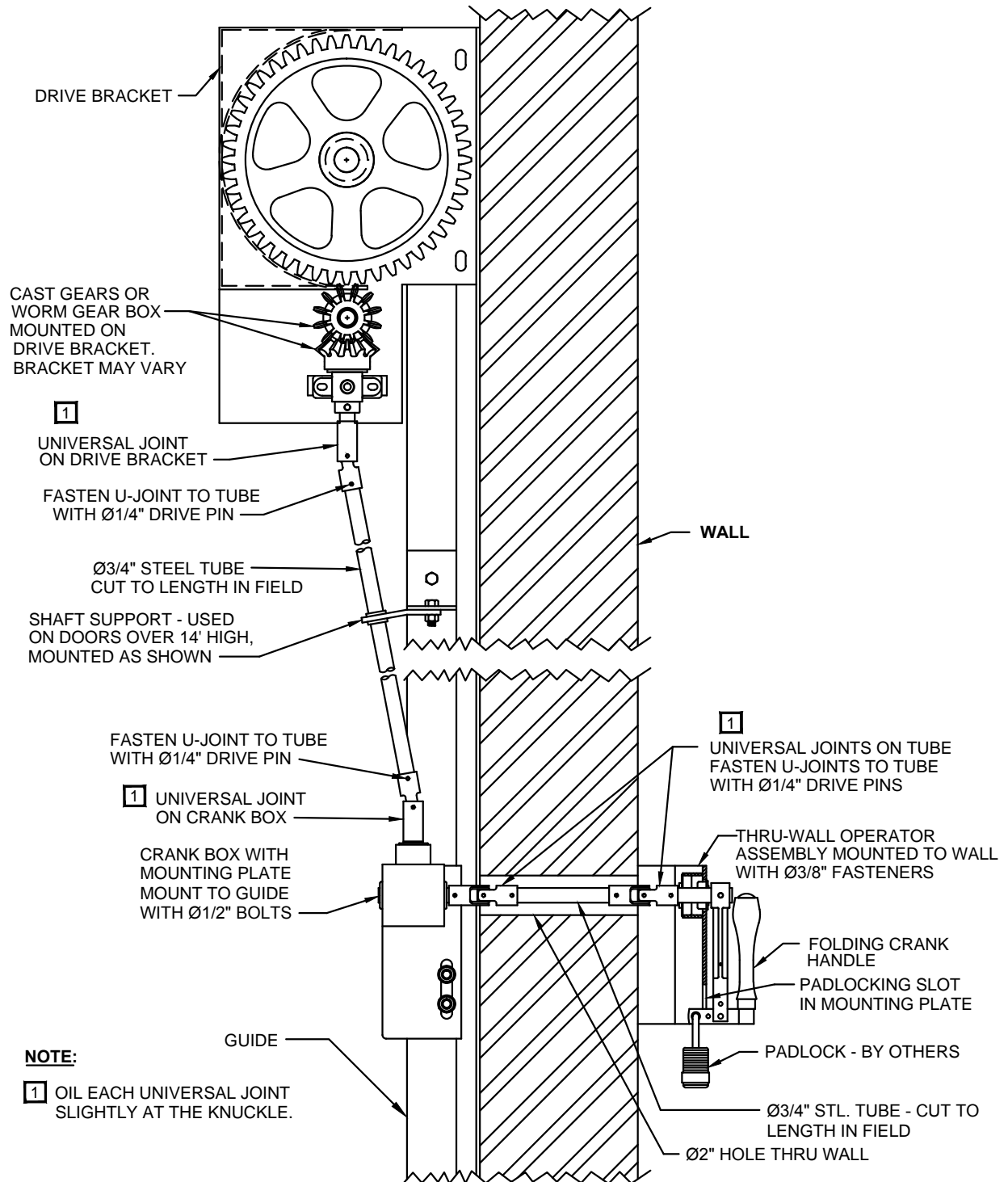
- 1) Worm wheel and gearbox are shipped mounted to bracket.
- 2) Unbolt gearbox and assemble over drive shaft as shown above.
- 3) On between jamb doors, this is usually easiest done prior to assembling brackets to guides.

SD/FD/GRILLE GUIDE MOUNTED CRANK OPERATED INSTALLATION INSTRUCTION



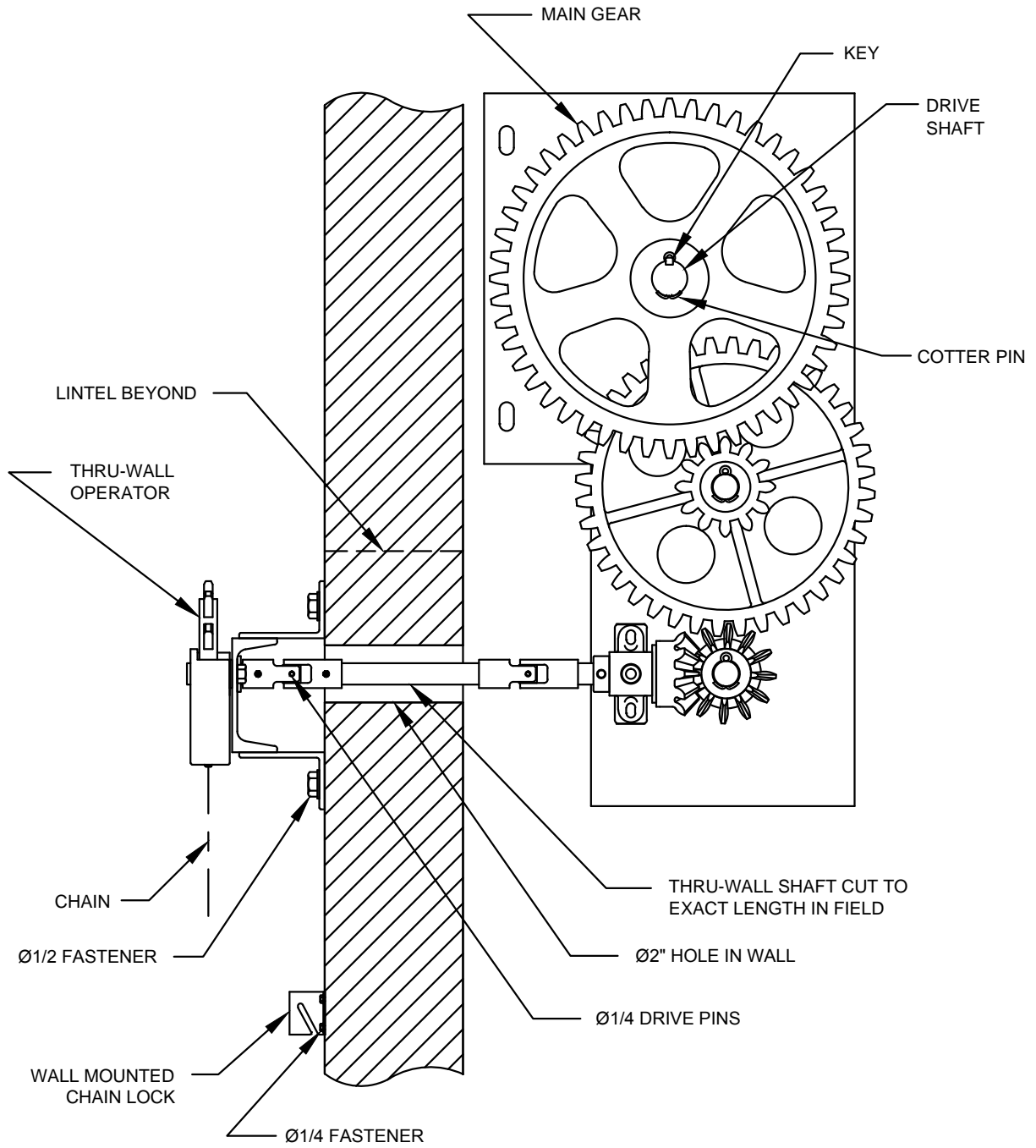
D3

SD/FD/GRILLE GUIDE MOUNTED THRU-WALL CRANK OPERATED INSTALLATION INSTRUCTION



D4

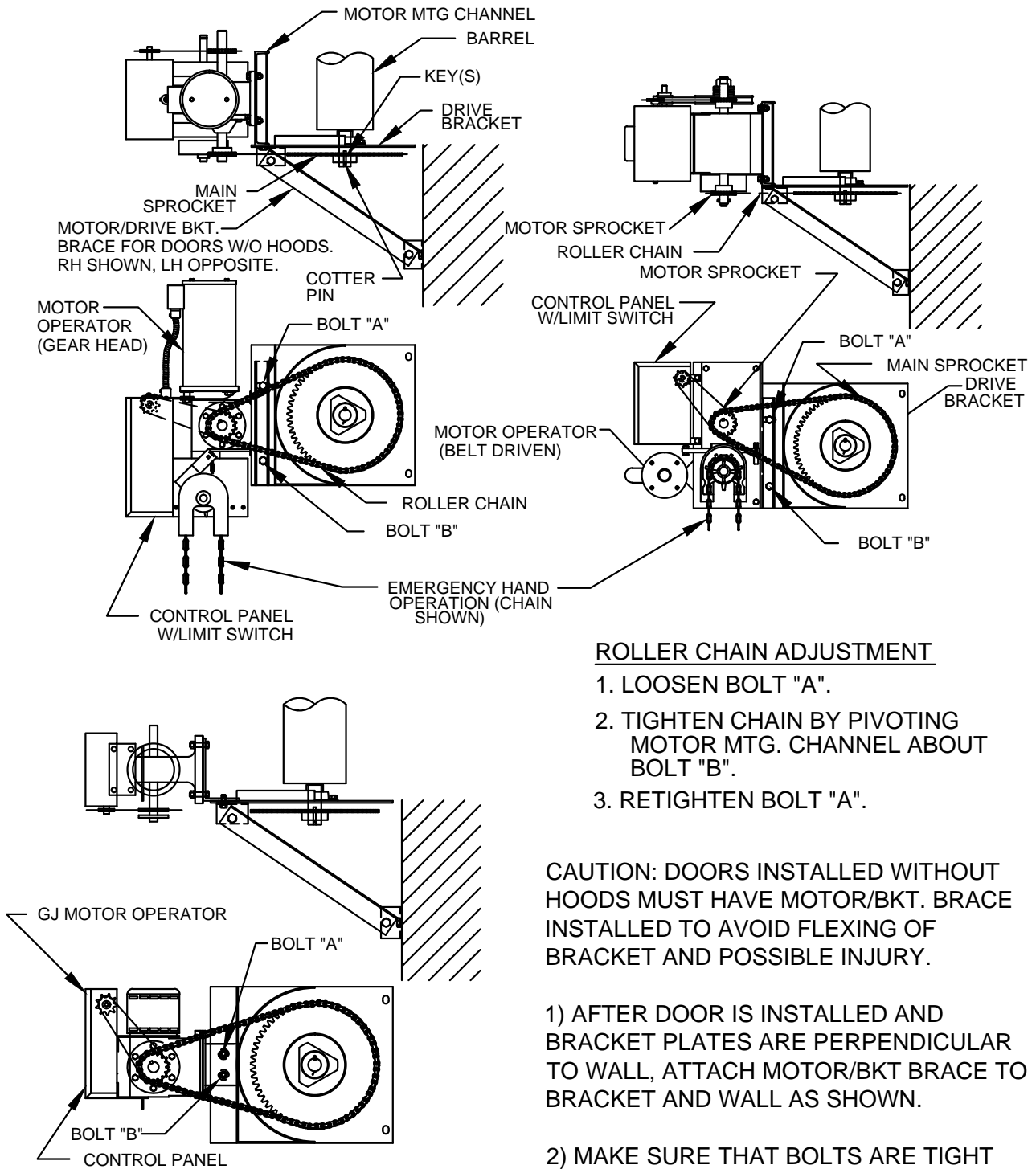
THRU-WALL CHAIN OPERATED ASSEMBLY



D5

VERTICALLY MOUNTED MOTOR OPERATOR

RIGHT HAND IS SHOWN - LEFT HAND IS OPPOSITE



ROLLER CHAIN ADJUSTMENT

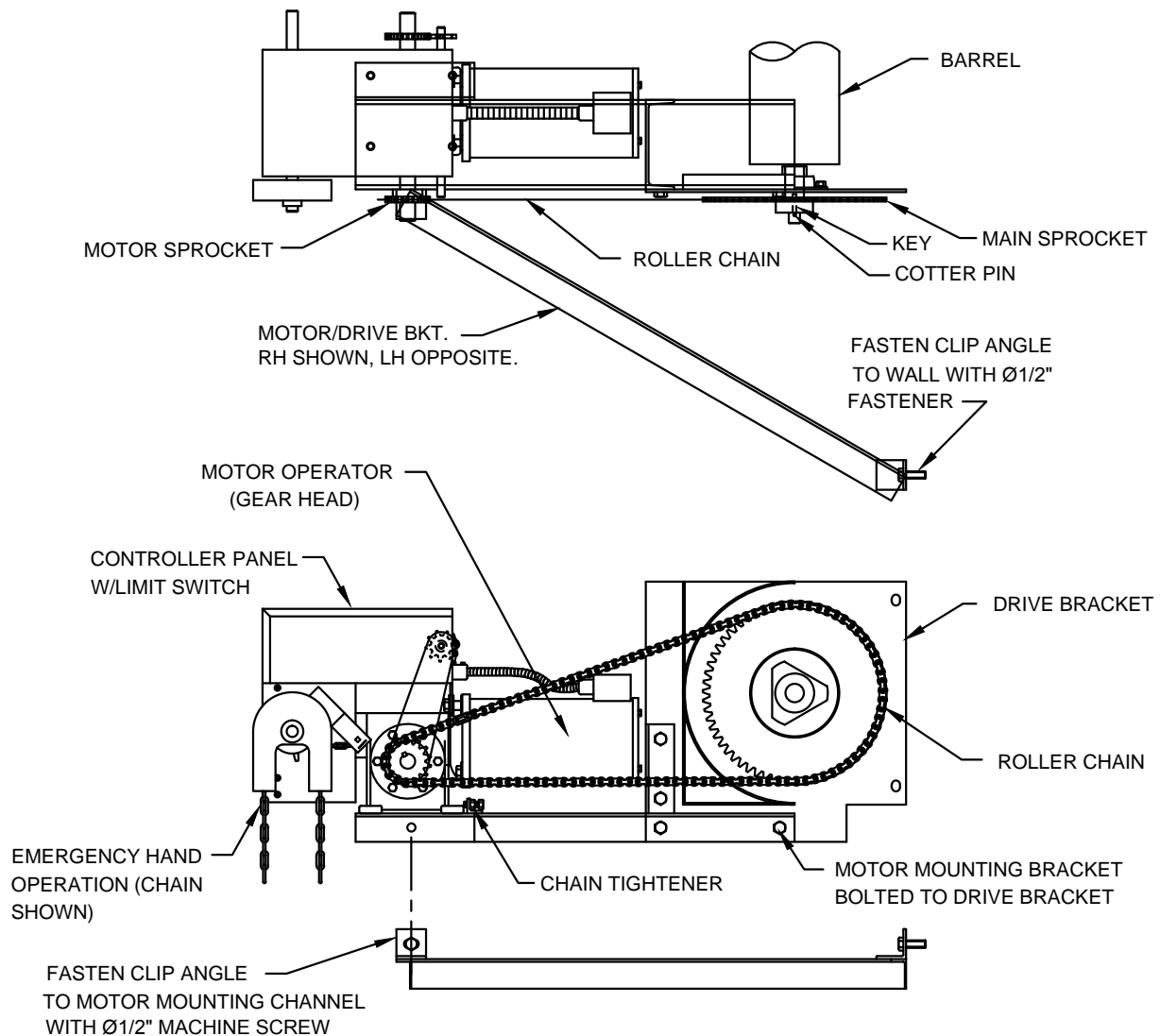
1. LOOSEN BOLT "A".
2. TIGHTEN CHAIN BY PIVOTING MOTOR MTG. CHANNEL ABOUT BOLT "B".
3. RETIGHTEN BOLT "A".

CAUTION: DOORS INSTALLED WITHOUT HOODS MUST HAVE MOTOR/BKT. BRACE INSTALLED TO AVOID FLEXING OF BRACKET AND POSSIBLE INJURY.

1) AFTER DOOR IS INSTALLED AND BRACKET PLATES ARE PERPENDICULAR TO WALL, ATTACH MOTOR/BKT BRACE TO BRACKET AND WALL AS SHOWN.

2) MAKE SURE THAT BOLTS ARE TIGHT AND BRACKET PLATE IS PERPENDICULAR TO WALL.

HORIZONTALLY MOUNTED GH MOTOR OPERATOR

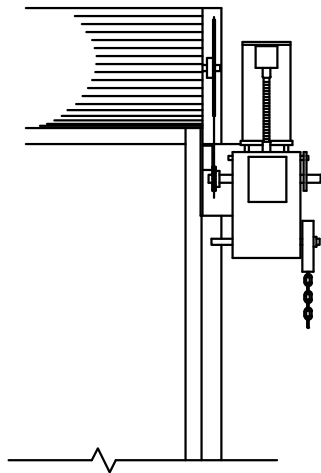


CAUTION: HORIZONTALLY MOUNTED MOTORS MUST HAVE MOTOR/BKT. BRACE INSTALLED TO AVOID FLEXING OF BRACKET AND POSSIBLE INJURY.

1) AFTER DOOR IS INSTALLED AND BRACKET PLATES ARE PERPENDICULAR TO WALL, ATTACH MOTOR/BKT BRACE TO BRACKET AND WALL AS SHOWN.

2) MAKE SURE THAT BOLTS ARE TIGHT AND BRACKET PLATE IS PERPENDICULAR TO WALL.

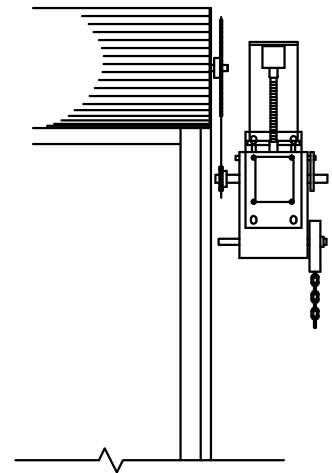
SIDE MOUNT/WALL MOUNT GH MOTOR OPERATOR



CAUTION: DOORS INSTALLED WITHOUT HOODS MUST HAVE MOTOR/BRK. BRACE INSTALLED TO AVOID FLEXING OF BRACKET AND POSSIBLE INJURY.

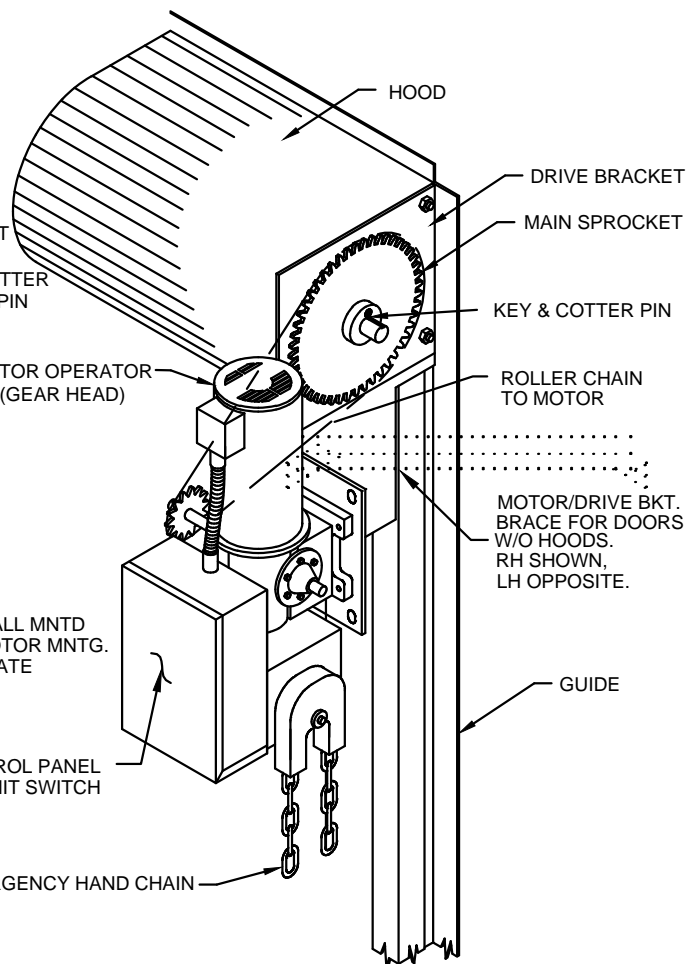
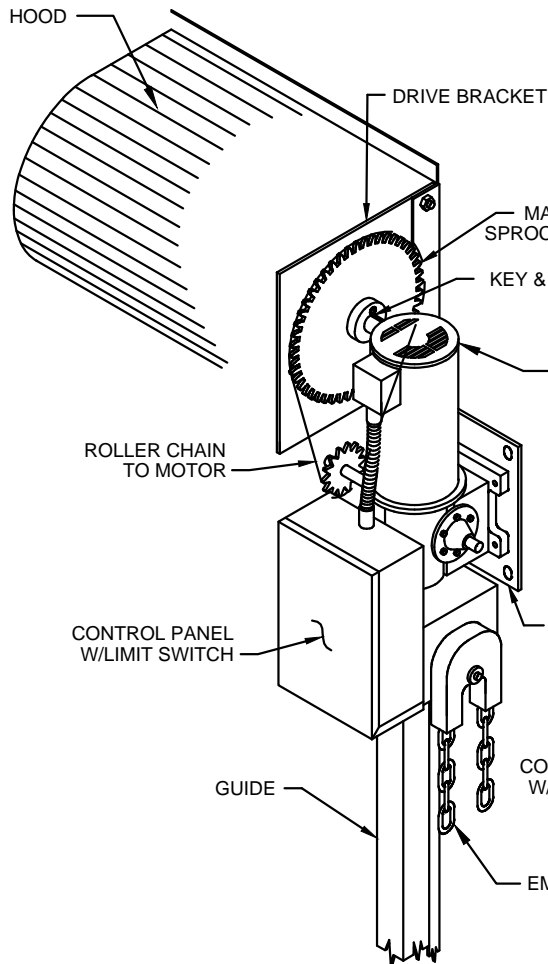
1) AFTER DOOR IS INSTALLED AND BRACKET PLATES ARE PERPENDICULAR TO WALL, ATTACH MOTOR/BKT BRACE TO BRACKET AND WALL AS SHOWN.

2) MAKE SURE THAT BOLTS ARE TIGHT AND BRACKET PLATE IS PERPENDICULAR TO WALL.

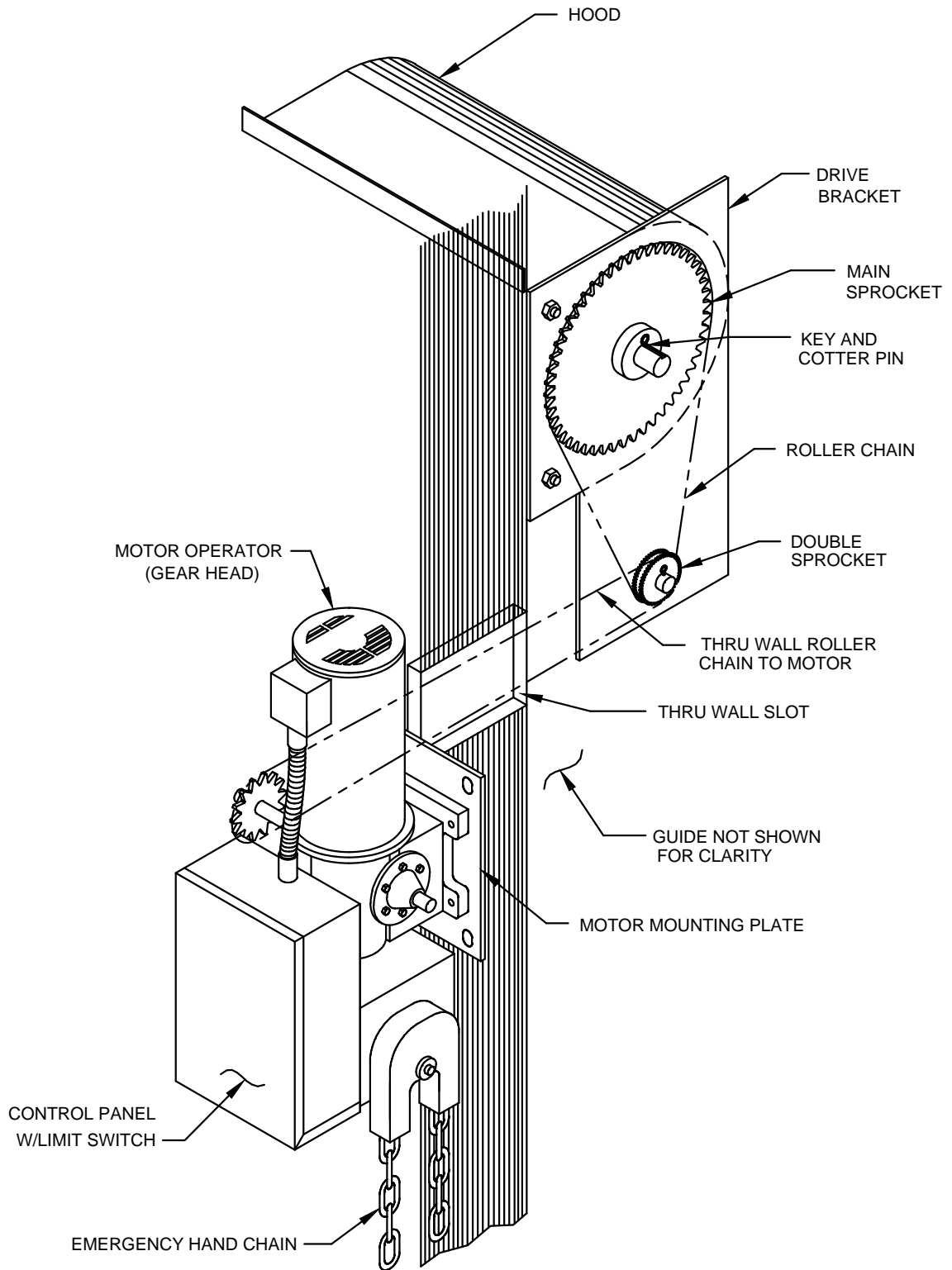


WALL MOUNTED GH OPERATOR

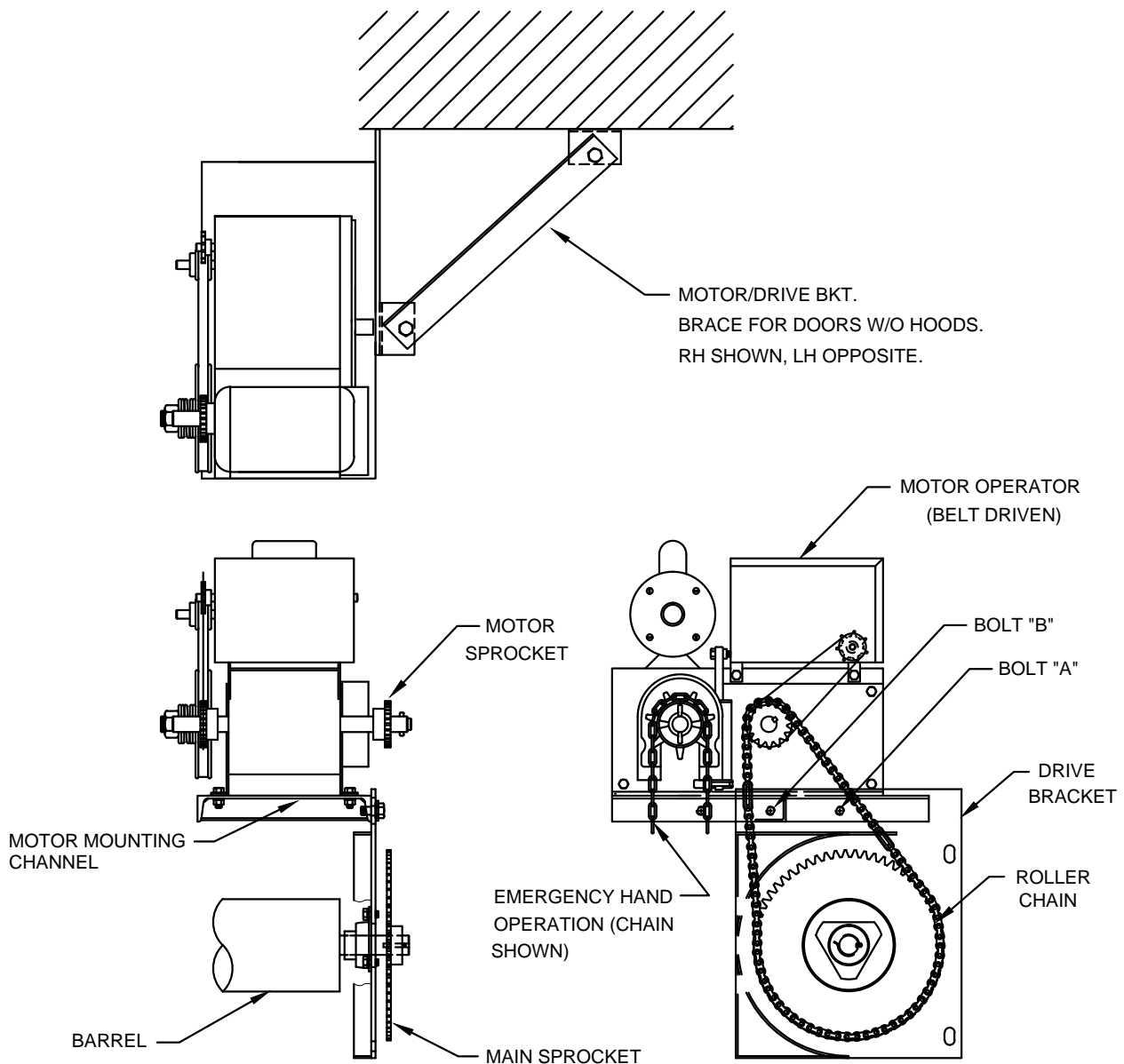
SIDE MOUNTED GH OPERATOR



THRU WALL GH MOTOR OPERATOR



BELT DRIVE MOTOR BRACKET ASSY- TOP MOUNT



RIGHT HAND SHOWN - LEFT HAND IS OPPOSITE

CAUTION: DOORS INSTALLED WITHOUT HOODS MUST HAVE MOTOR/BKT. BRACE INSTALLED TO AVOID FLEXING OF BRACKET AND POSSIBLE INJURY.

ROLLER CHAIN ADJUSTMENT

- 1) LOOSEN BOLT "A".
- 2) TIGHTEN CHAIN BY PIVOTING MOTOR MTG. CHANNEL ABOUT BOLT "B".
- 3) RETIGHTEN BOLT "A".

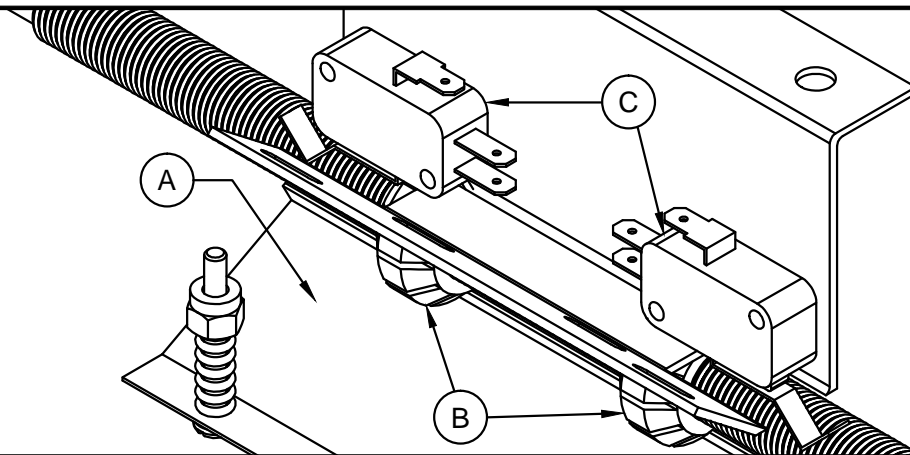
- 1) AFTER DOOR IS INSTALLED AND BRACKET PLATES ARE PERPENDICULAR TO WALL, ATTACH MOTOR/BKT BRACE TO BRACKET AND WALL AS SHOWN.

- 2) MAKE SURE THAT BOLTS ARE TIGHT AND BRACKET PLATE IS PERPENDICULAR TO WALL.

INSTRUCTIONS FOR SETTING ROTARY LIMIT SWITCH

**CAUTION: ONLY ADJUST THE ROTARY LIMIT SWITCH WITH THE POWER "OFF".
ONLY TRAINED PERSONNEL SHOULD SET OR ADJUST THE LIMIT SWITCH.**

- 1) USING THE MANUAL OPERATOR, LOWER OR RAISE THE CURTAIN TO THE MIDPOINT OF THE OPENING.
- 2) OPEN THE LIMIT SWITCH BOX AND IDENTIFY ALL PARTS:
 Ⓐ DETENT PLATE Ⓑ CAM NUT Ⓒ BASIC SWITCHES
- 3) DEPRESS THE SPRING LOADED DETENT PLATE AND ROTATE EACH CAM NUT APPROXIMATELY 1/8" FROM THE BASIC SWITCHES AS SHOWN BELOW.



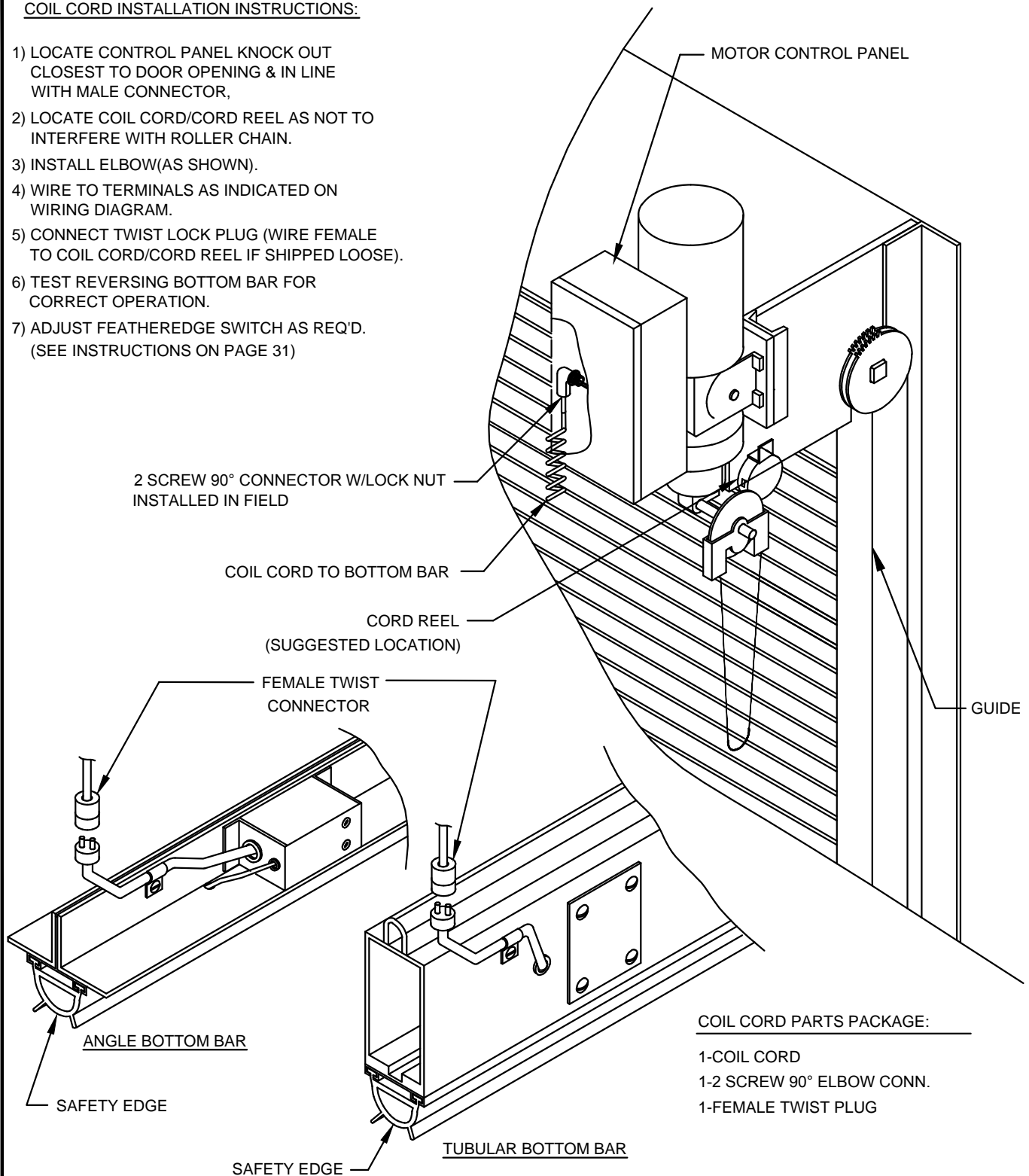
E6

- 4) APPLY POWER TO THE MOTOR AND TEST THE OPERATION OF THE DOOR. AS THE DOOR IS OPENING THE "OPEN" CAM NUT SHOULD BE TRAVELING TOWARDS THE "OPEN" BASIC SWITCH. AS THE DOOR IS CLOSING THE "CLOSE" CAM NUT SHOULD BE TRAVELING TOWARDS THE "CLOSE" BASIC SWITCH. THE CAM NUTS ARE DESIGNED TO ACTIVATE THE BASIC SWITCHES AND TERMINATE THE TRAVEL OF THE DOOR.
- 5) **IMPORTANT:** CHECK THAT THE MOTOR IS CORRECTLY WIRED IN REGARDS TO ROTATION AND DIRECTION. OPERATE THE OPEN AND CLOSE FUNCTIONS. IF THE MODE OF OPERATION IS INCORRECT (WHEN THE "OPEN" FUNCTIONS OF THE CONTROL STATION MAKES THE DOOR CLOSE OR THE "CLOSE" FUNCTIONS OF THE CONTROL STATION MAKES THE DOOR OPEN) OR THE ROTATION DIRECTION OF THE CAM NUT IS INCORRECT (CAM NUT TRAVELS TOWARD THE "OPEN" BASIC SWITCH WHEN CLOSING AND THE "CLOSE" BASIC SWITCH WHEN OPENING) DISCONTINUE OPERATION OF THE DOOR AND CHECK THE WIRING. ALL WIRING MUST BE CORRECT BEFORE PROCEEDING.
- 6) ONCE THE CORRECT ROTATION AND ORIENTATION OF THE CONTROL FUNCTIONS AND BASIC SWITCHES HAS BEEN DETERMINED, PROCEED WITH THE FINALIZED SETTING OF THE ROTARY LIMIT SWITCH.
- 7) TURN POWER OFF. WITH THE MANUAL OPERATOR LOWER THE DOOR TO THE FULLY CLOSED POSITION. ROTATE THE "CLOSE" CAM NUT TOWARD THE "CLOSE" BASIC SWITCH UNTIL THE SWITCH CLICKS. THE "CLOSE" BASIC SWITCH IS NOW SET. RAISE THE DOOR TO THE FULLY OPEN POSITION. ROTATE THE "OPEN" CAM NUT TOWARD THE "OPEN" BASIC SWITCH UNTIL THE SWITCH CLICKS. THE OPEN BASIC SWITCH IS NOW SET.
- 8) MAKE SURE THAT THE DETENT PLATE IS FULLY ENGAGED IN THE SLOTS OF EACH CAM NUT, REPLACE THE COVER ON THE LIMIT SWITCH AND APPLY POWER TO THE MOTOR OPERATOR TO TEST THE OPERATION OF THE DOOR. IF FURTHER FINE TUNING ADJUSTMENTS ARE REQUIRED MAKE SURE THAT THE POWER IS OFF BEFORE ADJUSTMENTS ARE MADE.

SAFETY EDGE COIL CORD/ CORD REEL INSTALLATION INSIDE DOOR WITH MOTOR MOUNTED CONTROLLER

COIL CORD INSTALLATION INSTRUCTIONS:

- 1) LOCATE CONTROL PANEL KNOCK OUT CLOSEST TO DOOR OPENING & IN LINE WITH MALE CONNECTOR.
- 2) LOCATE COIL CORD/CORD REEL AS NOT TO INTERFERE WITH ROLLER CHAIN.
- 3) INSTALL ELBOW (AS SHOWN).
- 4) WIRE TO TERMINALS AS INDICATED ON WIRING DIAGRAM.
- 5) CONNECT TWIST LOCK PLUG (WIRE FEMALE TO COIL CORD/CORD REEL IF SHIPPED LOOSE).
- 6) TEST REVERSING BOTTOM BAR FOR CORRECT OPERATION.
- 7) ADJUST FEATHEREDGE SWITCH AS REQ'D. (SEE INSTRUCTIONS ON PAGE 31)



SAFETY EDGE COIL CORD/ CORD REEL INSTALLATION OUTSIDE AND ABOVE MOUNTED DOORS

MOTOR SHOWN RECTANGULAR & DOTTED FOR CLARITY
THE CONDUIT FROM THE CONDUIT BOX TO THE
CONTROLLER IS TO BE DONE IN FIELD

COIL CORD OPTION:
2 X 4 CONDUIT BOX

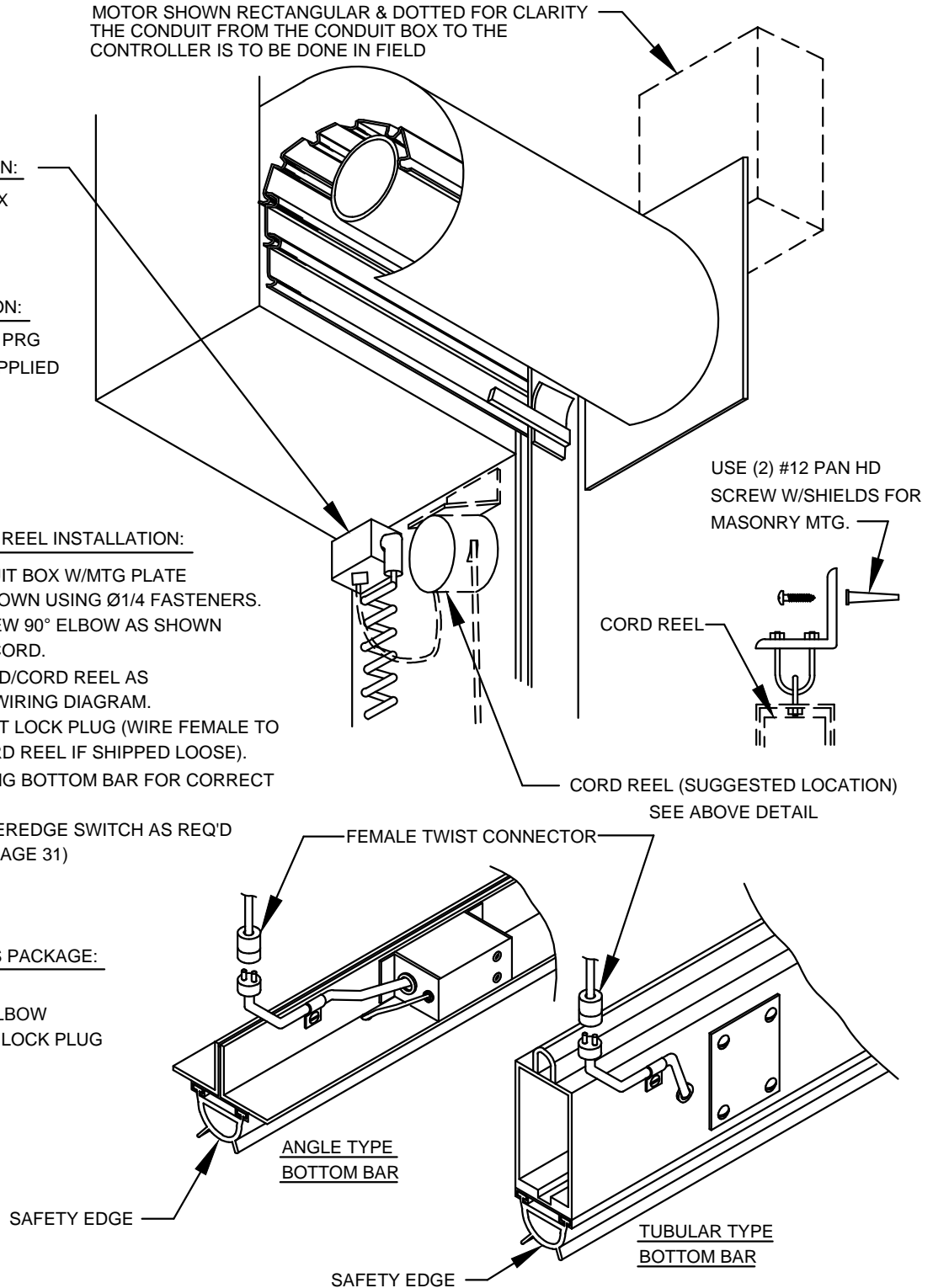
CORD REEL OPTION:
CONDUIT BOX W/2 PRG
OUTLET TO BE SUPPLIED
BY OTHERS.

COIL CORD/CORD REEL INSTALLATION:

- 1) FASTEN CONDUIT BOX W/MTG PLATE TO WALL AS SHOWN USING Ø1/4 FASTENERS.
- 2) INSTALL 2 SCREW 90° ELBOW AS SHOWN IF USING COIL CORD.
- 3) WIRE COIL CORD/CORD REEL AS INDICATED ON WIRING DIAGRAM.
- 4) CONNECT TWIST LOCK PLUG (WIRE FEMALE TO COIL CORD/CORD REEL IF SHIPPED LOOSE).
- 5) TEST REVERSING BOTTOM BAR FOR CORRECT OPERATION.
- 6) ADJUST FEATHEREDGE SWITCH AS REQ'D (SEE INST. ON PAGE 31)

COIL CORD PARTS PACKAGE:

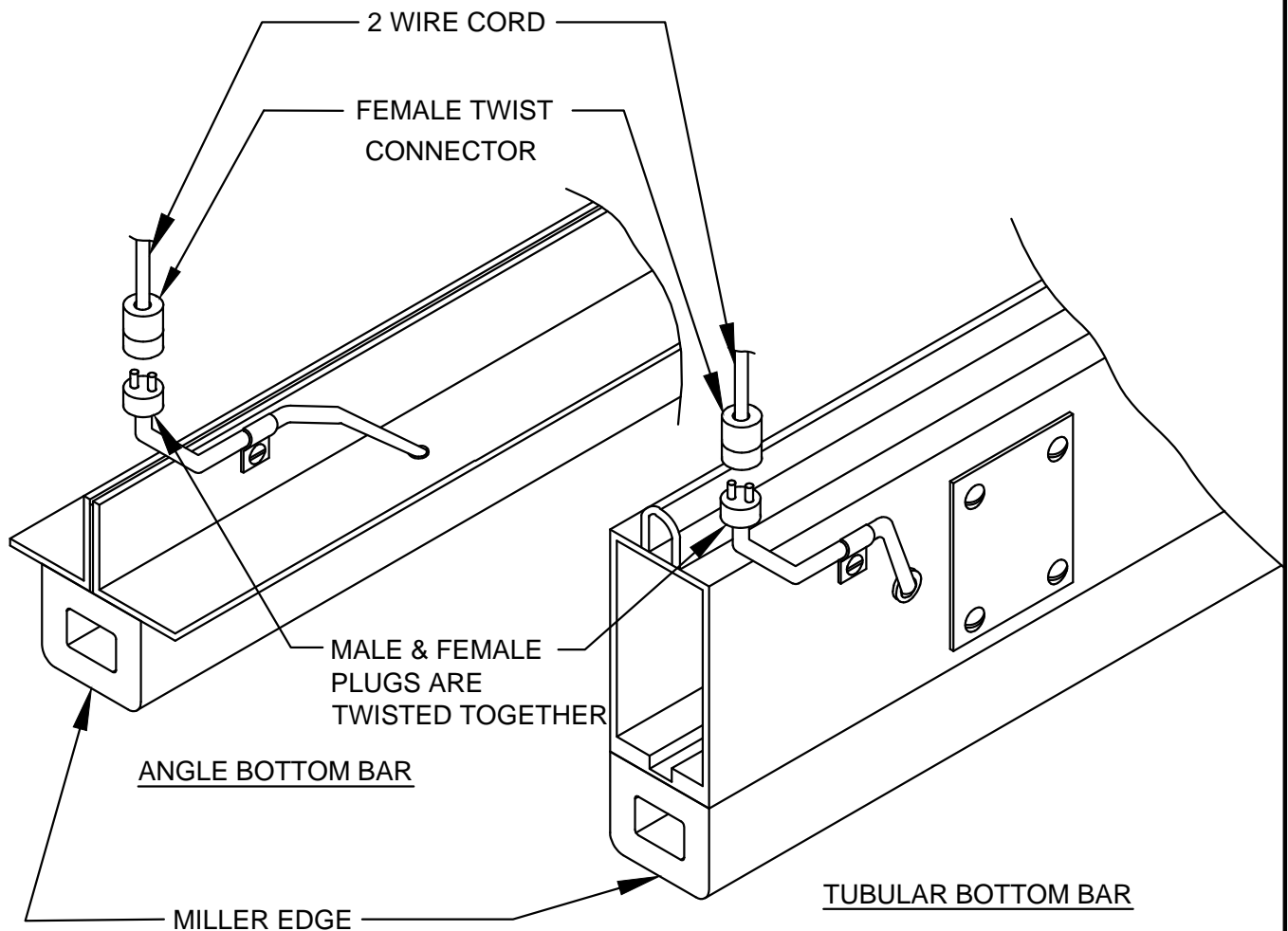
- 1 - COIL CORD
- 2 - 2 SCREW 90° ELBOW
- 3 - FEMALE TWIST LOCK PLUG



MILLER EDGE INSTALLATION INSTRUCTIONS

NOTE: EDGE IS PROVIDED PREWIRED ON BOTTOM BAR. IF WIRELESS EDGE IS PROVIDED, FOLLOW THE INSTRUCTIONS FOUND INSIDE THE KIT BOX.

- 1) LOCATE COIL CORD/CORD REEL AS NOT TO INTERFERE WITH ROLLER CHAIN.
- 2) WIRE THE FEMALE PLUG TO THE COIL CORD FOR WIRELESS EDGE KITS. FOLLOW THE INSTRUCTIONS FOUND INSIDE THE WIRELESS KIT BOX.
- 3) TEST BOTTOM BAR FOR CORRECT OPERATION.
- 4) IF MOTOR DOES NOT OPERATE OR EDGE SHOWS A FAULT CONDITION TEST EDGE CONTINUITY OR RESISTANCE. (MONITORED EDGES WILL HAVE A RESISTANCE OF 10K +/- 10%)(NON-MONITORED EDGES MUST SHOW CONTINUITY EVERY TIME THE EDGE IS DEPRESSED).

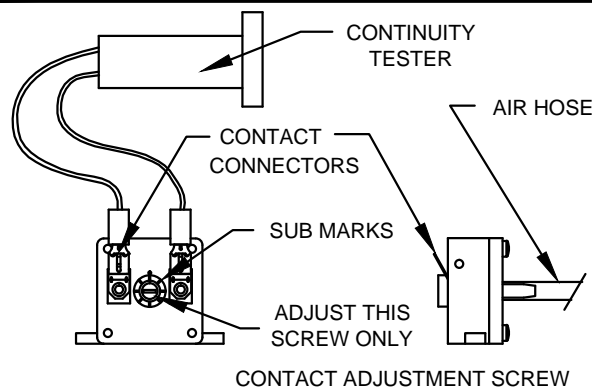


SETTING INSTRUCTIONS FOR FEATHEREDGE SWITCH

The Featheredge switch has been factory preset for normal operation from the supplier. The factory preset setting is 0.3mm to 0.4mm contact opening. Adjustment of the switch is not necessary unless operation will be under extremely unusual circumstances.

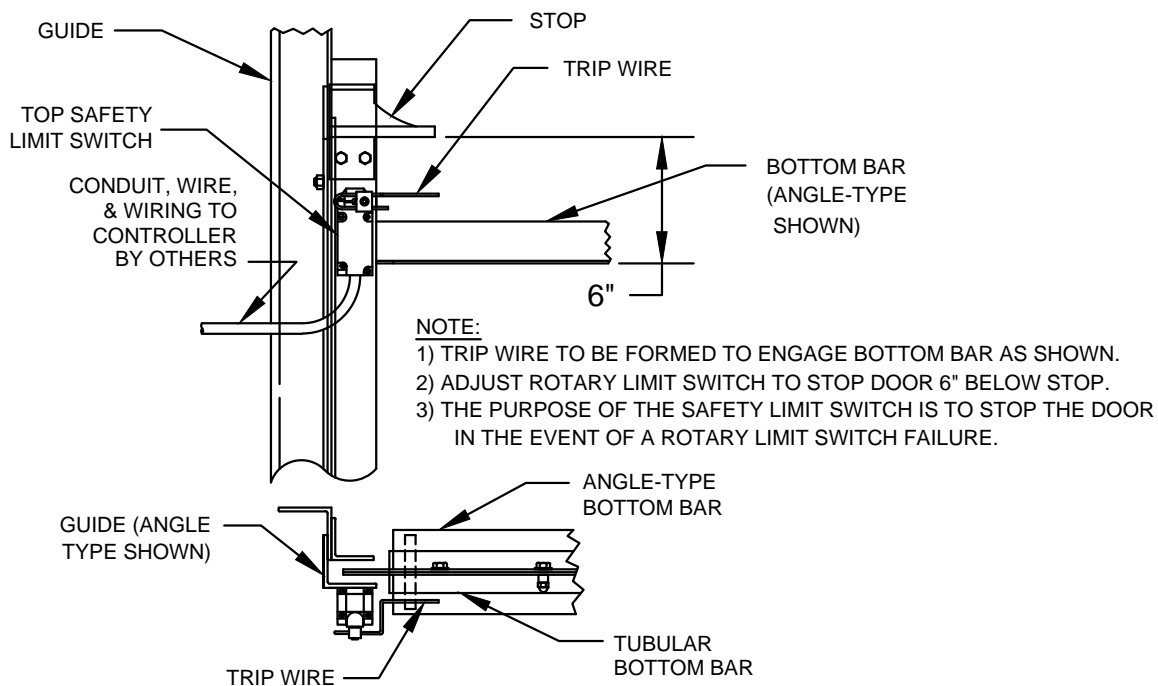
ALTERATION OF THE FACTORY PRESET SWITCH

- 1) Connect a multimeter/continuity tester (Ohm range) to the contact connectors on the switch.
- 2) Turn contact screw in a clockwise direction until contact is achieved.
(Contact opening = 0.0mm)
- 3) Turn the contact screw in a counter clockwise direction until the desired contact distance is reached. Scale division on the switch is: 1 Sub marking = 0.1mm of contact opening (Factory = 0.3mm to 0.4mm). The closer the setting is to 0.0mm, the more sensitive the switch becomes.



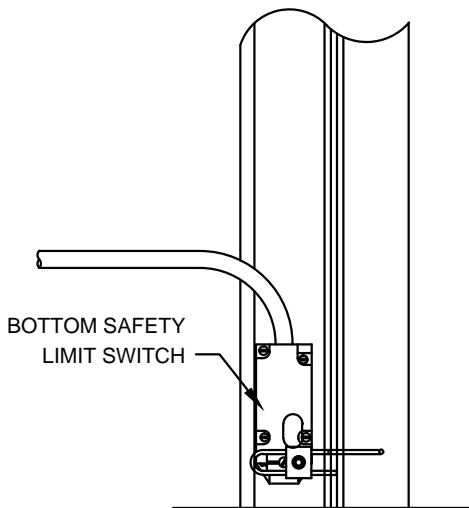
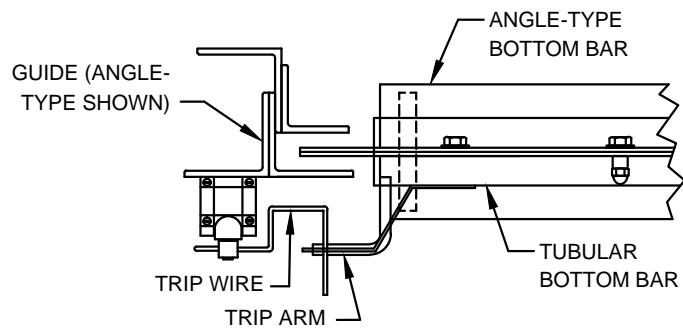
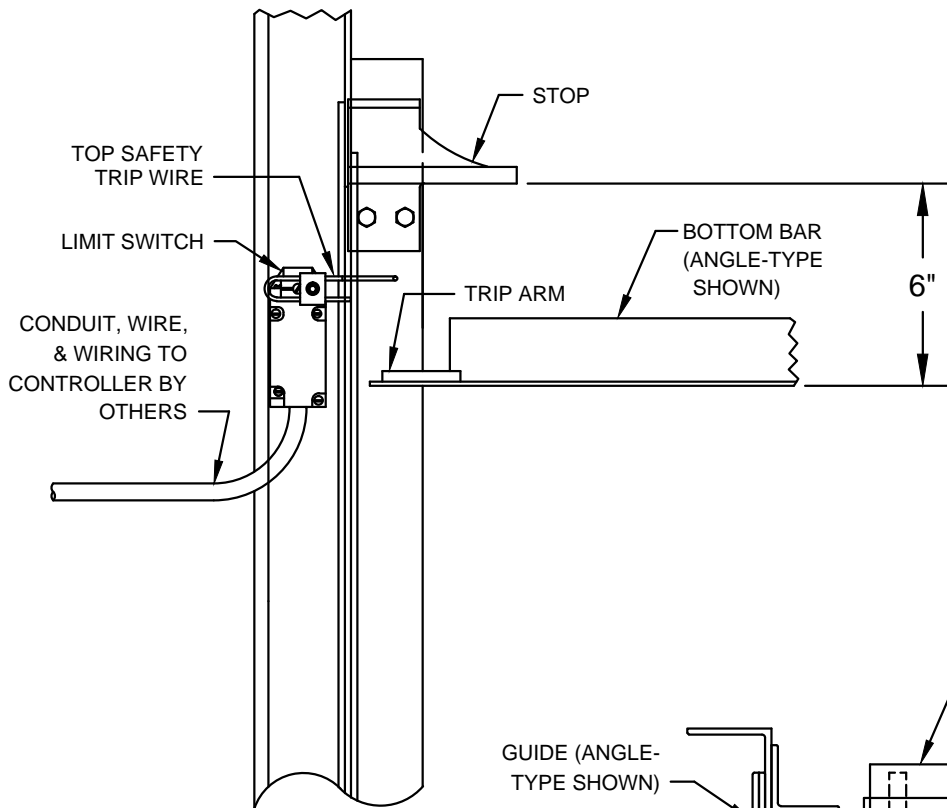
F4

TOP SAFETY LIMIT SWITCH INSTALLATION



F5

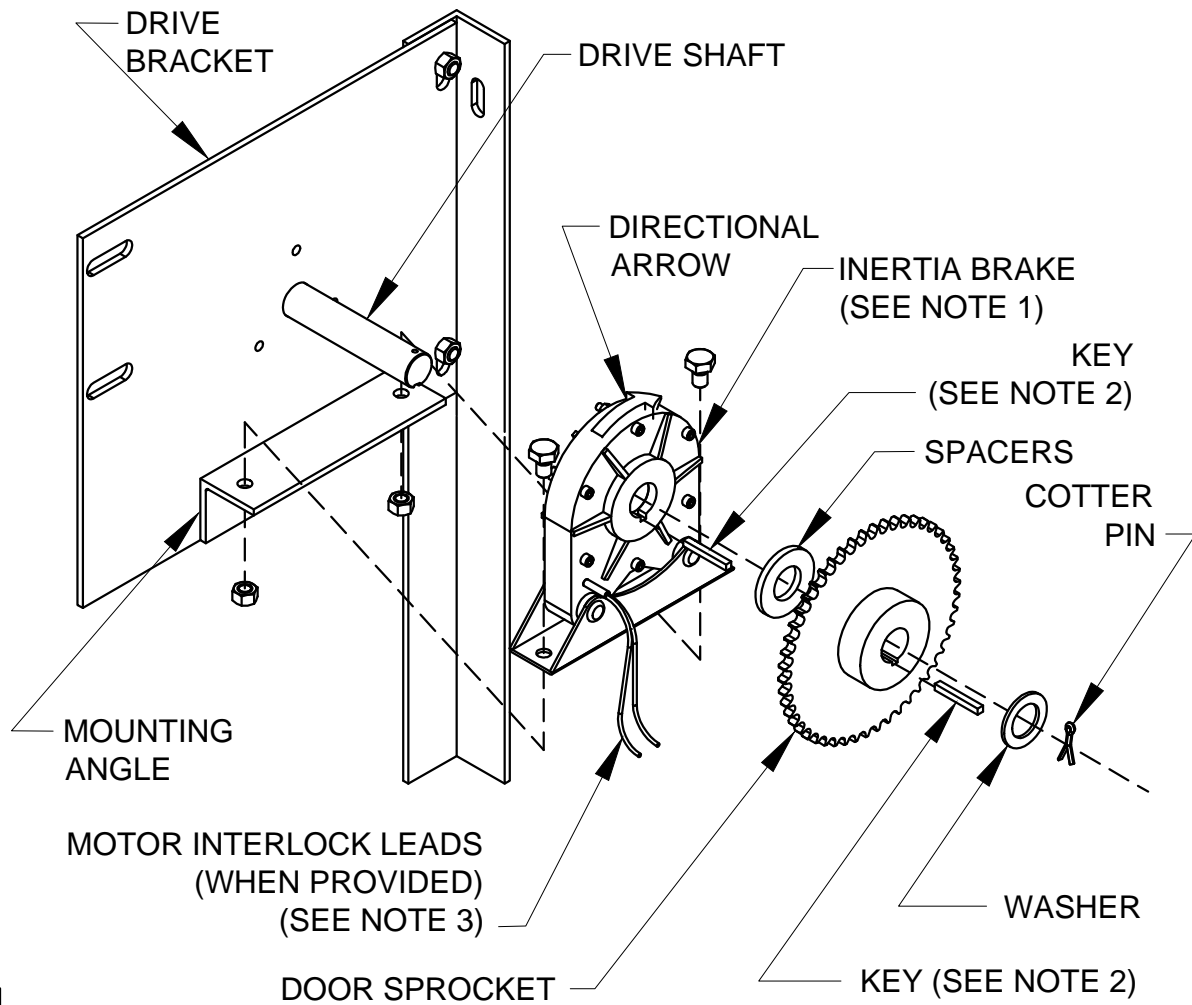
TOP AND BOTTOM SAFETY LIMIT SWITCH INSTALLATION



NOTE:

- 1) TRIP WIRE TO BE FORMED TO ENGAGE TRIP ARM AS SHOWN.
- 2) ADJUST ROTARY LIMIT SWITCH TO STOP DOOR 6" BELOW STOP.
- 3) THE PURPOSE OF THE SAFETY LIMIT SWITCHES ARE TO STOP THE DOOR IN THE EVENT OF A ROTARY LIMIT SWITCH FAILURE.

INERTIA BRAKE INSTALLATION INSTRUCTIONS



F7

INSTRUCTIONS:

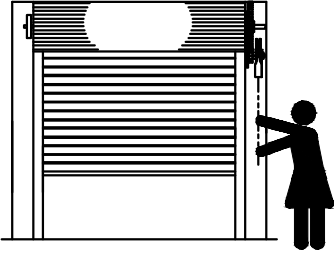
- 1) Remove Brake from Drive Bracket prior to mounting Barrel/Bracket Assy to Guides.
- 2) Slide Brake over end of Drive Shaft, align keyways and insert Key. **IMPORTANT:** Arrow on Brake must point in the direction the Barrel rotates when the door is closing.
- 3) Bolt Brake to Mounting Angle w/provided fasteners.
- 4) Install provided Spacers, Door Sprocket and Key as shown.
- 5) Align Sprocket with Motor Sprocket, tighten Sprocket Set Screws and install Washer & Cotter Pin to end of Drive Shaft.

NOTES:

- 1) Directional arrow on Brake must point in the direction the Barrel rotates when the Door is closing. (Towards the wall)
- 2) Key length must be at least as long as Hub.
- 3) Wire Interlock to Motor Control Circuit.

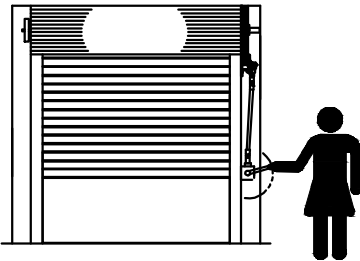
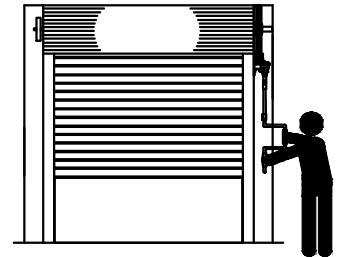
OPERATING INSTRUCTIONS

PUSH-UP - BE SURE THE ROLLING DOOR IS UNLOCKED, GRIP THE CENTER OF THE BOTTOM BAR & SMOOTHLY LIFT IN AN UPWARD MOTION. TO CLOSE, GENTLY PULL THE BOTTOM BAR DOWN TAKING CAUTION NOT TO LET THE DOOR FALL.



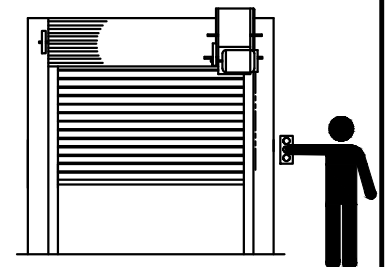
CHAIN - PULL THE OUTERMOST PART OF THE CHAIN LOOP (FARTHEST AWAY FROM THE DOOR) VERTICALLY DOWNWARD TO OPEN. TO CLOSE, PULL THE INNERMOST PART OF THE CHAIN LOOP (CLOSEST TO THE DOOR) VERTICALLY DOWNWARD. DO NOT LET THE DOOR FALL; ALWAYS CHAIN IT DOWN, MAINTAINING CONTROL OF THE CHAIN. USE BOTH HANDS TO CONTROL THE DESCENT OF THE DOOR.

CRANK - INSERT TIP OF WINDING SHAFT INTO THE HOOK LOCATED ON THE DRIVE BRACKET. HOLDING THE LOWER OF THE CRANK ROD SECURE WITH ONE HAND, CRANK THE MIDDLE PIECE CLOCKWISE WITH THE OTHER HAND. REVERSE THIS ACTION TO CLOSE THE DOOR.



CRANK BOX - WITH A SECURE GRIP ON THE HANDLE, CRANK THE HANDLE IN A CLOCKWISE DIRECTION TO OPEN THE DOOR. CRANK COUNTERCLOCKWISE TO CLOSE THE DOOR.

MOTOR - PRESS THE OPEN BUTTON TO OPEN THE DOOR, PRESS THE STOP BUTTON TO STOP THE MOVEMENT OF THE DOOR, AND PRESS THE CLOSE BUTTON TO CLOSE THE DOOR.



WARNING: WHEN OPERATING A ROLLING DOOR ALWAYS MAKE SURE THERE ARE NO OBSTRUCTIONS BLOCKING THE PATH OF MOVEMENT. KEEP FEET AND OTHER LIMBS AWAY FROM THE DOOR WHILE IT IS IN MOTION. WHEN OPENING A PUSH-UP OPERATED DOOR, USE CAUTION TO LIFT WITH YOUR LEGS AND NOT YOUR BACK. THE MANUFACTURER AND AFFILIATES SHALL NOT BE RESPONSIBLE FOR INJURY OR DAMAGE DUE TO FAILURE TO FOLLOW OPERATING INSTRUCTIONS.

MAINTENANCE INSTRUCTIONS

REGULAR SCHEDULED MAINTENANCE:

ALL ROLLING DOORS SHOULD BE INSPECTED ON A REGULAR BASIS TO ENSURE PROPER AND SAFE OPERATION. THE FREQUENCY OF THE INSPECTION IS DEPENDANT ON THE USAGE OF THE DOOR BUT ALL DOORS SHOULD BE INSPECTED AT LEAST ONCE A MONTH. THE INSPECTION SHOULD CONSIST OF THE FOLLOWING:

A. VISUAL INSPECTION

- 1) BENT BOTTOM BARS
- 2) DAMAGED SLATS
- 3) PINCHED GUIDES
- 4) DENTED OR MISSING HOOD

B. CHECK ALL FASTENERS

- 1) WALL ATTACHMENT BOLTS
- 2) GUIDE ASSEMBLY BOLTS
- 3) BRACKET ATTACHMENT BOLTS
- 4) SET SCREWS ON GEARS AND SPROCKETS
- 5) TENSION WHEEL SECURE
- 6) KEYS SECURE

C. CHECK OPERATING ASSEMBLIES

- 1) OPERATING ASSEMBLY
- 2) GOVERNOR ASSEMBLY
- 3) BARREL ASSEMBLY

D. LUBRICATE

- 1) ALL PIVOT JOINTS
- 2) SHAFTS
- 3) ROLLER CHAIN

E. CHECK NORMAL OPERATION

- 1) OPERATION
- 2) SPRING TENSION
- 3) BALANCE

TROUBLESHOOTING GUIDE

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BARREL

<u>PROBLEM</u>	<u>CAUSE</u>	<u>CORRECTION</u>
DOOR STARTS DOWN THEN BINDS	1) CURTAIN BINDS IN GUIDES. 2) SCREWS CONNECTING CURTAIN TO BARREL TOO LONG AND INTERFERING WITH TORSION SPRING. 3) INCORRECT BARREL FOR OPENING. 4) INTERNAL INTERFERENCE INSIDE BARREL.	1) INCREASE GUIDE GROOVE OPENING. CURTAIN MUST BE LOOSE IN GUIDES. 2) REPLACE MACHINE SCREWS WITH SHORTER LENGTH. THEY MUST NOT PROTRUDE PAST BARREL WALL. 3) CHECK DOOR MARK. LOCATE CORRECT BARREL. 4) CONSULT DISTRIBUTOR.
TENSION WHEEL TURNS FREELY	1) SPRING BROKEN. 2) BROKEN SHAFT TIE. 3) BROKEN BARREL TIE.	1) CONSULT DISTRIBUTOR. 2) CONSULT DISTRIBUTOR. 3) CONSULT DISTRIBUTOR.
TENSION SHAFT SLIPPED INTO BARREL.	1) DRIVE PIN FAILURE - SHIPPING DAMAGE. 2) BEARING FAILURE - SHIPPING DAMAGE.	1) CONSULT DISTRIBUTOR. 2) CONSULT DISTRIBUTOR.
DOOR LOSES TENSION (SPRUNG DOORS ONLY)	1) PAWL SLIPPING ON INTERNAL TENSION WHEEL BECAUSE PAWL IS BINDING ON ATTACHING RIVET. 2) DOOR DAMAGED CAUSING INCREASED DRAG. 3) HOOPS SLIPPING.	1) LOOSEN PAWL PIVOT POINT. 2) CONSULT DISTRIBUTOR. 3) TIGHTEN HOOPS.
DRIVE SHAFT CROOKED	1) BROKEN WELD OR SHIPPING DAMAGE.	1) CONSULT DISTRIBUTOR FOR DETERMINATION IF FIELD REPAIR IS POSSIBLE.

CURTAIN

<u>PROBLEM</u>	<u>CAUSE</u>	<u>CORRECTION</u>
CURTAIN ROLLS UP UNEVENLY	1) TOP SLAT NOT IN LINE. 2) BARREL NOT LEVEL.	1) LOOSEN TOP SCREWS AND STRAIGHTEN CURTAIN. 2) USE BUBBLE LEVEL TO LEVEL BARREL.
DOOR CURTAIN SEPARATES	1) FREIGHT DAMAGE.	1) CONSULT DISTRIBUTOR.
CURTAIN SEPARATES FROM BARREL	1) MACHINE SCREWS PULLED THRU TOP SLAT. 2) INTERLOCKS NOT INSTALLED ON MOTOR OPERATED DOOR.	1) INSTALL WASHER UNDER HEAD OF SCREWS. 1) INSTALL INTERLOCKS TO PREVENT MOTOR OPERATION WHEN DOOR IS LOCKED.

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CURTAIN (CONT)

<u>PROBLEM</u>	<u>CAUSE</u>	<u>CORRECTION</u>
FINISH PROBLEMS	1) DOOR CORRODES DUE TO ENVIRONMENTAL CONDITIONS.	1) CLEAN DOOR PERIODICALLY.
CURTAIN APPEARS TO SAG AT CENTER	2) CENTER OF CURTAIN IS AGAINST BARREL AND EDGE OF CURTAIN IS PULLED TOWARD LINTEL AS IT ENTERS GUIDES. 3) BARREL DEFLECTION OF WIDE DOORS. SHOULD NOT EXCEED .03 INCHES PER FOOT OF OPERATING WIDTH.	2) CURVATURE OF CURTAIN MAKES IT APPEAR TO BE SAGGING WHILE IT IS ACTUALLY LEVEL. CHECK WITH CARPENTER'S LEVEL. 3) CONSULT DISTRIBUTOR. 1) CONSULT DISTRIBUTOR.

BOTTOM BAR

<u>PROBLEM</u>	<u>CAUSE</u>	<u>CORRECTION</u>
SAFETY EDGE NOT WORKING	1) OPEN CIRCUIT IN BOTTOM BAR. CONFIRM THIS BY DISCONNECTING PLUG AT BOTTOM BAR AND INSERTING CONTINUITY CHECKER. IF PRESSING UP ON SAFETY EDGE DOES NOT CLOSE CIRCUIT, PROBLEM IS OPEN CIRCUIT IN BOTTOM BAR. 2) OPEN CIRCUIT IN COIL CORD OR CORD REEL. CONFIRM THIS BY INSERTING VOLTMETER INTO PLUG. READING SHOULD BE 24VAC. 3) DOOR LOCATED IN EXTREMELY WET OR FLOOD ENVIRONMENT.	1) DEFECTIVE SWITCH OR CONNECTION AT SWITCH TO PLUG. CHECK TO MAKE SURE ALL WIRES ARE SECURELY FASTENED. REPLACE SWITCH IF NECESSARY. 2) REPLACE COIL CORD OR CORD REEL. 3) ELIMINATE WATER. REPLACE SAFETY EDGE OR SAFETY EDGE SWITCH.
LOCKS INOPERATIVE	1) CAM OF CYLINDER NOT IN CORRECT POSITION. 2) DAMAGE TO INTERNAL COMPONENTS	1) REPOSITION CYLINDER AND FIRMLY SECURE WITH SMALL SCREW LOCATED BELOW CYLINDER. 2) REMOVE BOTTOM BAR FROM GUIDE. REPLACE LOCK MECHANISM.
ELECTRICAL INTER-LOCKS INOPERATIVE	1) LOCK BOLT DOES NOT LINE UP WITH SWITCH ON GUIDE. 2) INTERLOCK DOES NOT PREVENT MOTOR FROM OPERATING.	1) ADJUST SWITCH LOCATION WHERE IT IS MOUNTED ON GUIDES. 2) DEFECTIVE SWITCH. CHECK ELECTRICAL CONNECTION AND REPLACE IF NECESSARY.

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BRACKET

<u>PROBLEM</u>	<u>CAUSE</u>	<u>CORRECTION</u>
BRACKETS NOT PERPENDICULAR TO BARREL	1) WALL ANGLE FLANGE NOT SQUARE.	1) BRACE BRACKET INTO POSITION.
DRIVE CHAIN TENSION	1) SPROCKET POSITION OUT OF ADJUSTMENT.	1) TIGHTEN CHAIN BY SLIDING OPERATOR OR REMOVE LINK FROM CHAIN.
BINDING IN BEVEL GEAR BOX	1) LACK OF LUBRICATION.	1) LUBRICATE GEAR BOX.

GUIDES

<u>PROBLEM</u>	<u>CAUSE</u>	<u>CORRECTION</u>
CURTAIN BINDS IN GUIDE GROOVE	1) INCORRECT GUIDE GROOVE OPENING. 2) INCORRECT TIP-TO-TIP DIMENSION OF GUIDES.	1) REFER TO INSTALLATION INSTRUCTIONS AND ADJUST GUIDE GROOVE OPENING. 2) REFER TO INSTALLATION INSTRUCTIONS FOR TIP-TO-TIP DIMENSION AND ADJUST GUIDE SPACING.

HOODS

<u>PROBLEM</u>	<u>CAUSE</u>	<u>CORRECTION</u>
INCORRECT DIMENSIONS, MATERIAL OR END COVERS	1) ORDERING PROCESSING PROBLEM. OPENING.	1) GET ALL DIMENSIONS OF MATERIAL SUPPLIED AND CONSULT DISTRIBUTOR.

MOTOR OPERATOR

<u>PROBLEM</u>	<u>CAUSE</u>	<u>CORRECTION</u>
EMERGENCY HAND CHAIN OR CRANK FAILS OR IS DIFFICULT TO OPERATE DOOR. (THIS IS NORMAL ON UN-SPRUNG DOORS)	1) DOOR MAY BE JAMMED OR OBSTRUCTED. 2) INCORRECT TENSION IN SPRING. 3) DOOR MAY BE LOCKED. 4) PROBLEM IN GEARBOX HOUSING.	1) REMOVE OBSTRUCTION. 2) MAKE SURE THAT SPRING HAS CORRECT TENSION. 3) CHECK TO SEE IF LOCK IS DISENGAGED. 4) CONSULT DISTRIBUTOR.
EMERGENCY HAND OR CRANK TURNS BUT DOES NOT TURN THE OUTPUT SHAFT OF GEAR BOX	1) KEYS FIXING GEARS TO SHAFTS ARE SHEARED.	1) CHECK KEYS AND KEYWAYS.

TROUBLESHOOTING GUIDE

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MOTOR OPERATOR (CONT)

<u>PROBLEM</u>	<u>CAUSE</u>	<u>CORRECTION</u>
FINISH PROBLEMS	1) DOOR CORRODES DUE TO ENVIRONMENTAL CONDITIONS.	1) CLEAN DOOR PERIODICALLY.
CURTAIN APPEARS TO SAG AT CENTER	2) CENTER OF CURTAIN IS AGAINST BARREL AND EDGE OF CURTAIN IS PULLED TOWARD LINTEL AS IT ENTERS GUIDES. 3) BARREL DEFLECTION OF WIDE DOORS. SHOULD NOT EXCEED .03 INCHES PER FOOT OF OPERATING WIDTH.	2) CURVATURE OF CURTAIN MAKES IT APPEAR TO BE SAGGING WHILE IT IS ACTUALLY LEVEL. CHECK WITH CARPENTER'S LEVEL. 3) CONSULT DISTRIBUTOR. 1) CONSULT DISTRIBUTOR.
MOTOR FAILS TO RUN OR CONTROL CIRCUIT FAILS TO ENERGIZE	1) FUSES BLOWN OR CIRCUIT BREAKER TRIPPED. 2) OPERATORS ARE PROTECTED FROM RUNNING IN OVERLOAD CONDITION BY THERMAL OVERLOAD DEVICES OF THE AUTOMATIC RESET TYPE. 3) IF CONTACTS FOR MOTOR CONTROLLER ENERGIZE BUT MOTOR STILL FAILS TO OPERATE. 4) PUSHBUTTONS ENERGIZE ON ONLY ONE SIDE OF THE CONTROL CONTACTS.	1) CHECK FUSE OR CIRCUIT BREAKER BOX. 2) CONSULT DISTRIBUTOR. 3) CONSULT DISTRIBUTOR. 4) CHECK ALL ELECTRICAL CONNECTIONS FOR BROKEN OR LOOSE WIRES, ETC. CHECK ELECTRICAL CONNECTIONS FOR ANY OPTIONAL EQUIPMENT: CARD KEY, CYLINDER KEY SWITCH, PHOTO CELL, REVERSING BOTTOM BAR OR SPECIAL INTERLOCKS.
MOVEMENT OF THE DOOR IS IN AGREEMENT WITH PUSHBUTTON STATION, BUT THE LIMIT SWITCH DOES NOT STOP DOOR	1) ELECTRICAL CONNECTIONS ARE SWITCHED.	1) CHECK ELECTRICAL CONNECTIONS AND JUMPER WIRE LEAD BETWEEN THE MICRO SWITCHES. CONSULT DISTRIBUTOR.
LIMIT SWITCH DOES NOT HOLD ITS SETTING.	1) SPROCKET SHAFT END PLAY TOO LARGE. 2) DRIVE CHAIN LOOSE. 3) LIMIT SWITCH DETENT PLATE LOOSE.	1) END PLAY SHOULD NOT EXCEED 1/32". 2) CHECK DRIVE CHAIN. 3) THE PLATE MUST ENGAGE BOTH TRAVELING CAMS.
ELECTRICAL CONTROL CIRCUIT ENERGIZES BUT THE MOTOR DOES NOT RUN OR MOTOR OVERLOADS TRIP.	1) INCORRECT WIRING.	1) CONSULT DISTRIBUTOR.