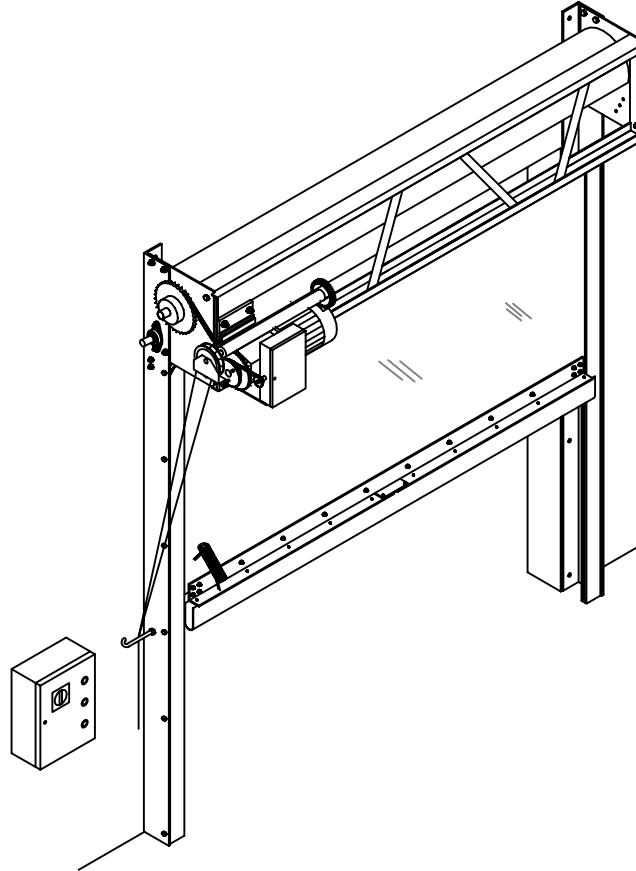


# INSTALLATION & SERVICE MANUAL

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



PROJECT NAME:

DISTRIBUTOR:

No.:

DOOR MODEL: EPR-20

DOOR SIZE: WIDE x HIGH

DOOR HANDING:

INSIDE TO INSIDE MEASUREMENT:

(SEE STEP 2) OPENING WIDTH + 8" (203)

**COOKSON** Preferred door solutions.®

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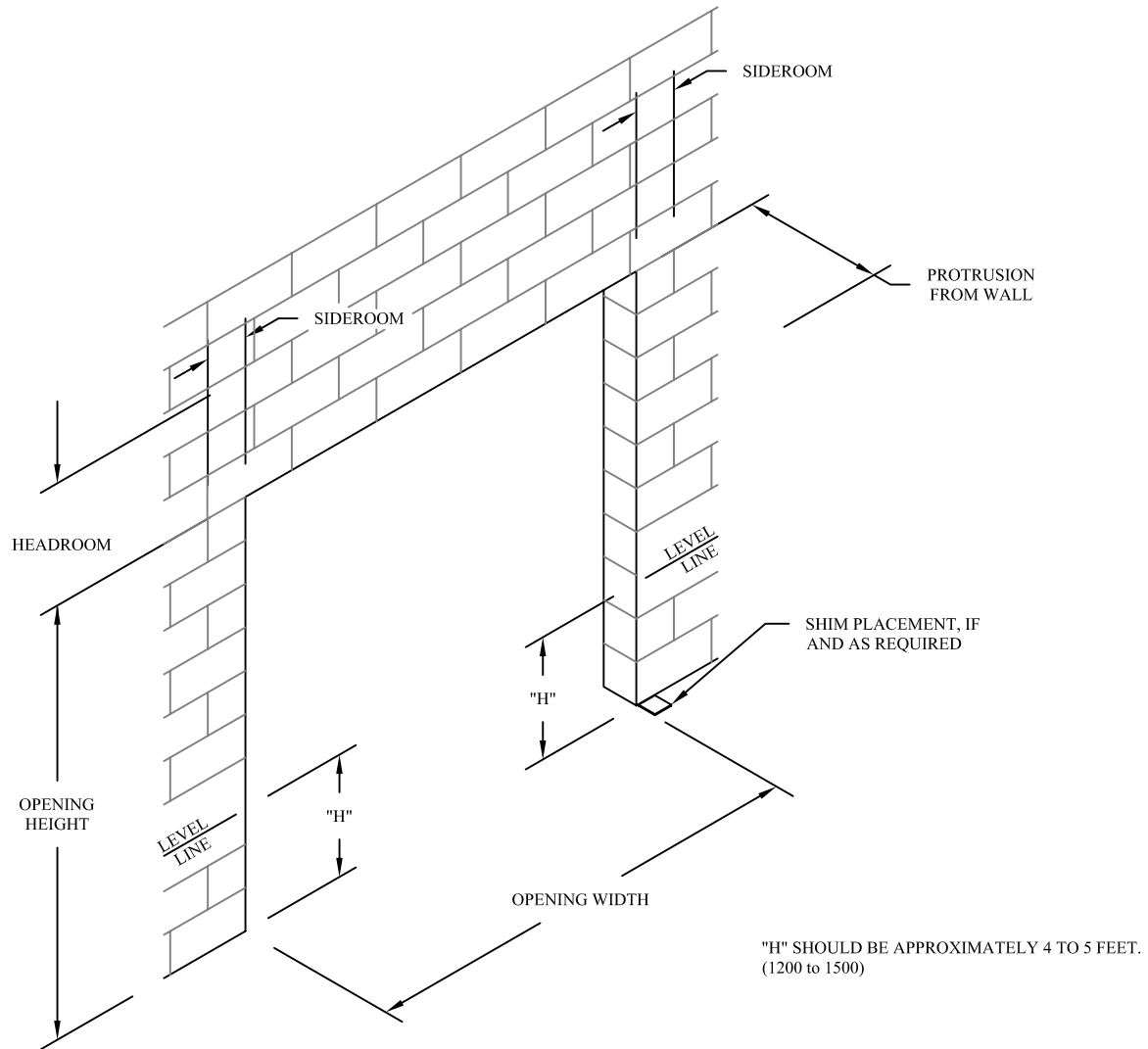
MANUAL-302

REV. DATE: DEC 16, 2010

DRAWING No.: D-632-0024

## STEP 1, VERIFY OPENING & CLEARANCES

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



(i) USE THE SHOP DRAWING TO VERIFY THE OPENING SIZE AND ASSURE ALL CLEARANCES ARE ADEQUATE PRIOR TO STARTING WITH THE INSTALLATION OF THE DOOR.

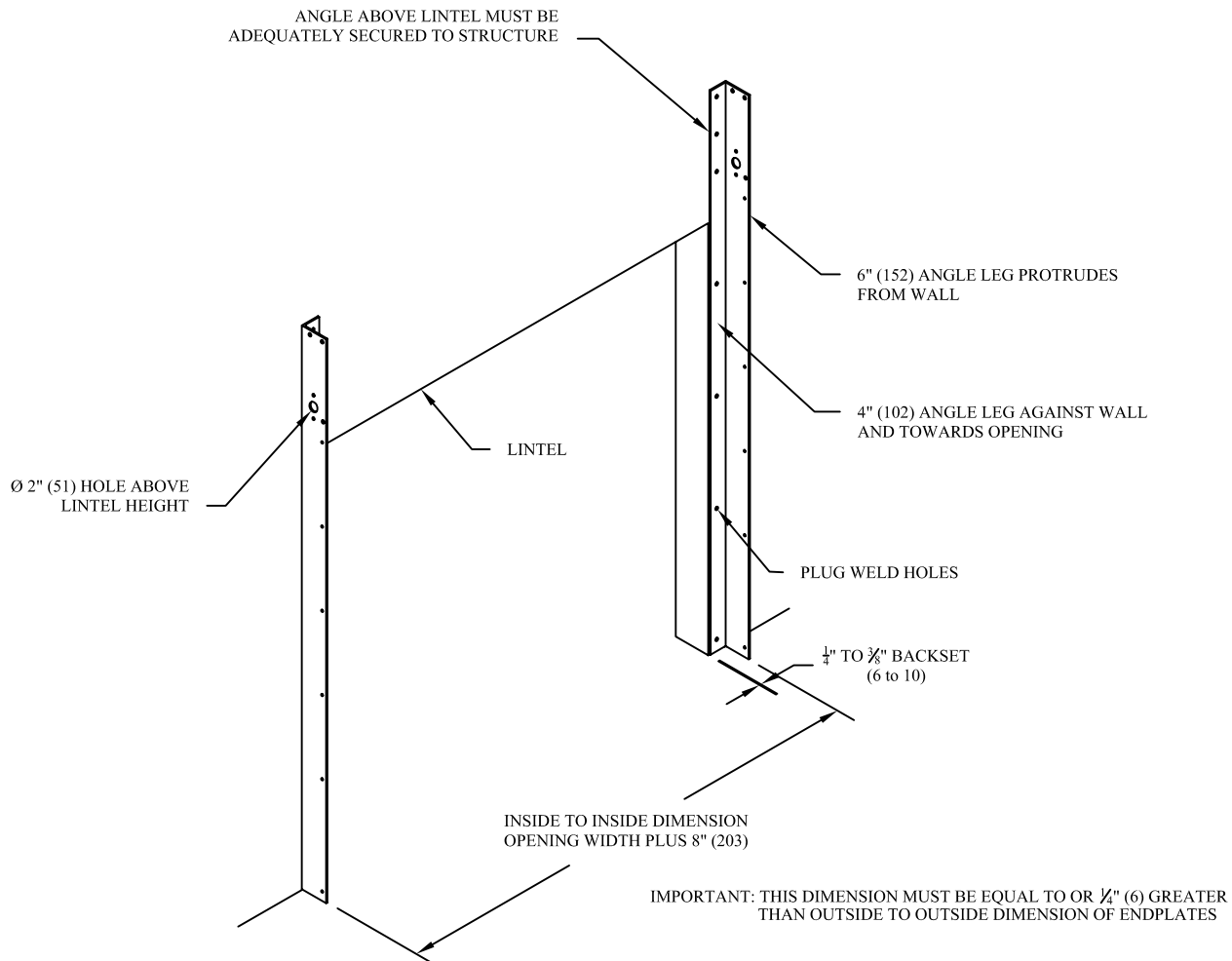
(ii) USING A WATER HOSE OR TRANSIT, MARK A LEVEL LINE ON EACH DOOR JAMB APPROXIMATELY 4 TO 5 FEET (1200 to 1500) ABOVE THE FLOOR.

(iii) MEASURE THE DISTANCE FROM THE FLOOR TO THE LEVEL LINE ON EACH JAMB. IF REQUIRED, PLACE AN ADEQUATE SHIM, MINIMUM 4" x 4" (100 x 100), ON THE FLOOR BY ONE JAMB TO ACQUIRE THE SAME VERTICAL DIMENSION TO BOTH LINES.

## STEP 2A, INSTALL DOOR MOUNTING ANGLES

STEEL FRAMED BUILDINGS ONLY  
(FOR MASON WALLS, SEE STEP 2B)

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



(i) FOR STEEL FRAMED BUILDINGS, STAND THE DOOR MOUNTING ANGLE AGAINST THE WALL WITH THE 6" (152) LEG PROTRUDING OUTWARD AND THE 4" (102) LEG EXTENDING TOWARDS THE OPENING, THE LARGE Ø 2" (51) HOLE MUST BE ABOVE THE LINTEL HEIGHT.

(ii) WITH THE 4" (102) LEG SPACED  $\frac{1}{4}$ " TO  $\frac{3}{8}$ " (6 TO 10) FROM THE JAMB, WELD THE INSIDE EDGE TO THE JAMB STEEL USING  $\frac{1}{4}$ " (6) x 2" (51) LONG FILLETS ON 24" (610) CENTRES. THE DOOR MOUNTING ANGLE MUST BE INSTALLED PLUMB WITHIN  $\frac{1}{4}$ " (6).

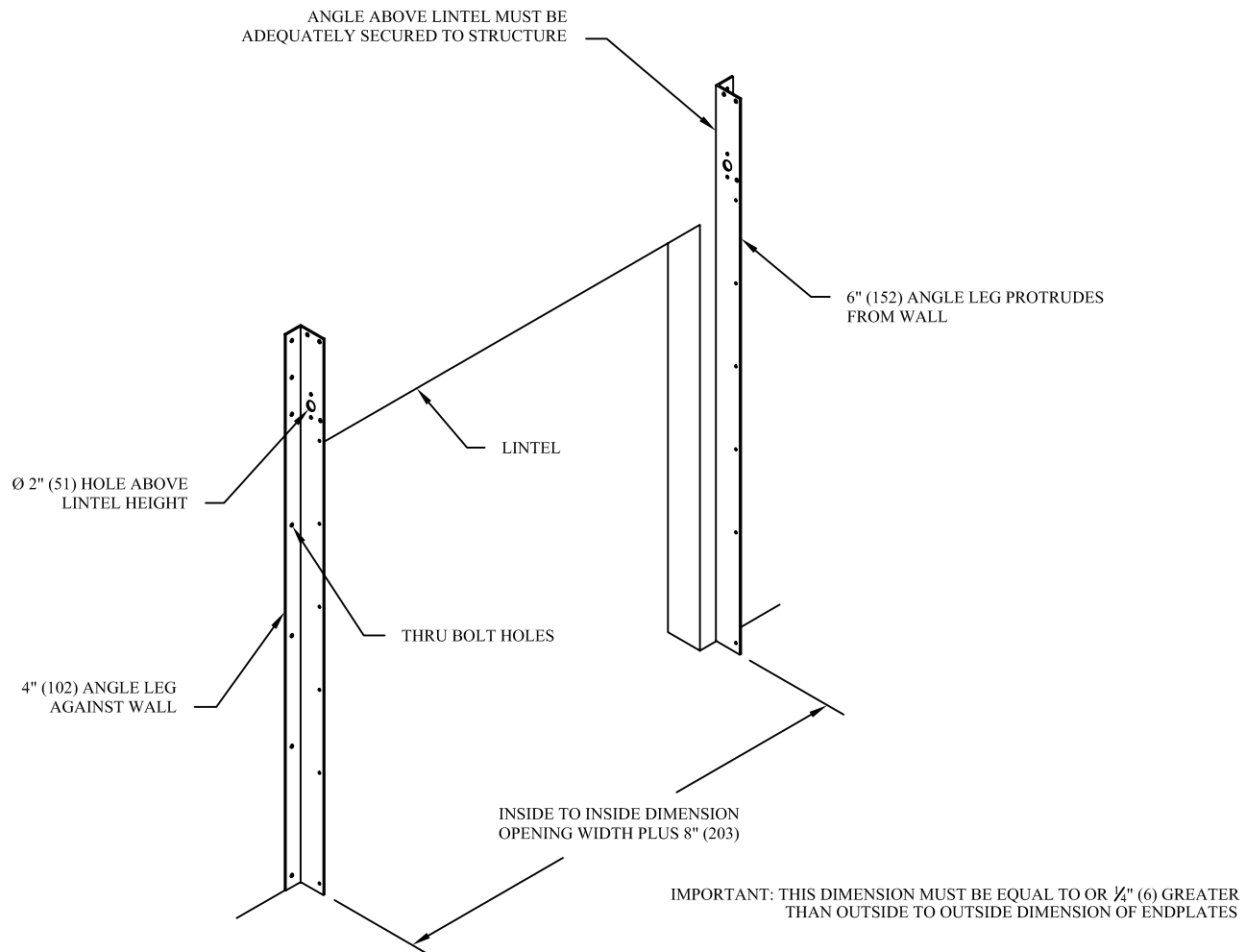
(iii) INSTALL THE SECOND DOOR MOUNTING ANGLE USING A HORIZONTAL MEASUREMENT BETWEEN THE INSIDE SURFACES OF THE TWO 6" (152) ANGLE LEGS. THIS MEASUREMENT MUST BE THE MANUFACTURED OPENING WIDTH PLUS 8" (203). CONFIRM THIS MEASUREMENT ON 48" (1220) VERTICAL INCREMENTS UP THE LENGTH OF THE ANGLE. USE  $\frac{1}{4}$ " (6) x 2" (51) LONG FILLETS ON 24" (610) CENTRES.

(iv) PLUG WELD THE 4" (102) LEG TO THE MOUNTING STEEL WHERE HOLES ARE PROVIDED. THE DOOR MOUNTING ANGLE MUST BE SUPPORTED ABOVE THE LINTEL. IF MOUNTING STRUCTURE DOES NOT EXIST ABOVE THE LINTEL, INSTALL ADEQUATE BRACING.

## STEP 2B, INSTALL DOOR MOUNTING ANGLES

### MASON WALLED BUILDINGS

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



(i) FOR BRICK OR CONCRETE BUILDINGS, STAND THE DOOR MOUNTING ANGLE AGAINST THE WALL WITH THE 6" (152) LEG PROTRUDING OUTWARD AND THE 4" (102) LEG EXTENDING AWAY FROM THE OPENING, THE LARGE Ø 2" (51) HOLE MUST BE ABOVE THE LINTEL HEIGHT.

(ii) WITH THE MOUNTING ANGLE SPACED 4" (102) FROM THE JAMB, FASTEN TO THE WALL WITH APPROPRIATE FASTENERS. THE DOOR MOUNTING ANGLE MUST BE INSTALLED PLUMB WITHIN  $\frac{1}{4}$ " (6). APPROPRIATE FASTENERS ARE MINIMUM Ø  $\frac{1}{2}$ " (12) WEDGE ANCHORS FOR SOLID CONCRETE AND MINIMUM Ø  $\frac{1}{2}$ " (12) THREADED ROD, THRU BOLTED FOR MOST OTHER MATERIALS, USE APPROPRIATE BACKING PLATES FOR THRU BOLTING.

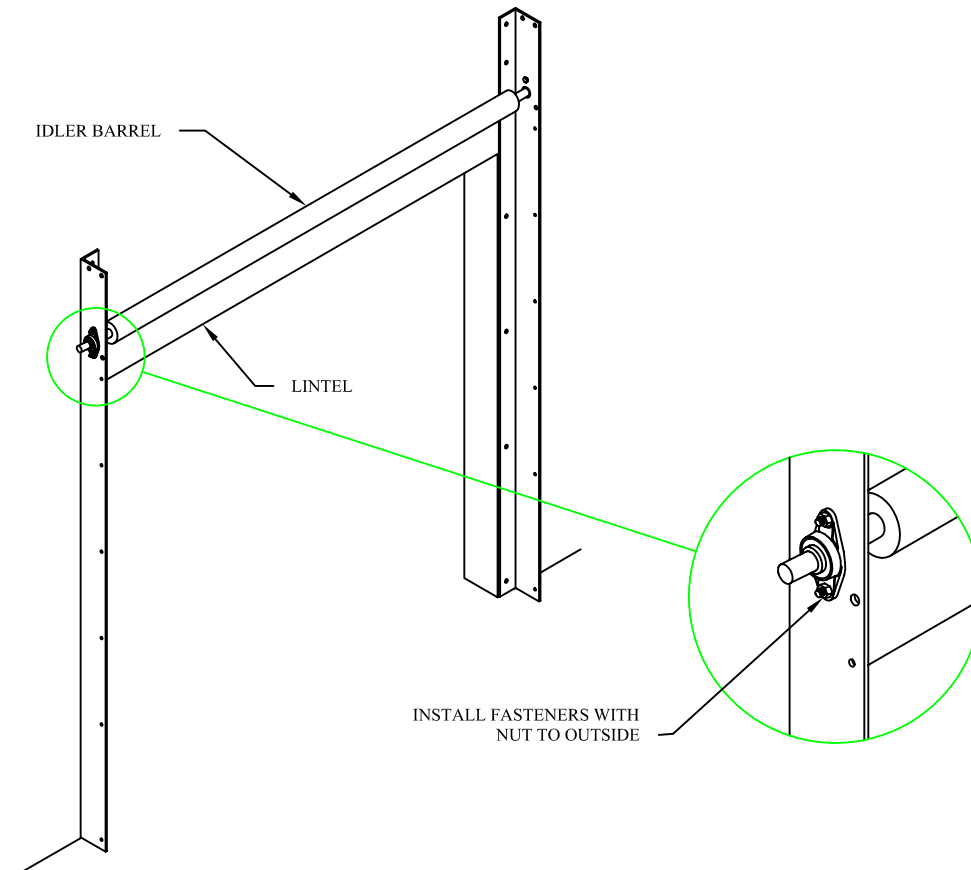
(iii) INSTALL THE SECOND DOOR MOUNTING ANGLE USING A HORIZONTAL MEASUREMENT BETWEEN THE INSIDE SURFACES OF THE TWO 6" (152) ANGLE LEGS. THIS MEASUREMENT MUST BE THE MANUFACTURED OPENING WIDTH PLUS 8" (203). CONFIRM THIS MEASUREMENT ON 48" (1220) VERTICAL INCREMENTS UP THE LENGTH OF THE ANGLE.

(iv) THE DOOR MOUNTING ANGLE MUST BE SUPPORTED ABOVE THE LINTEL. IF MOUNTING STRUCTURE DOES NOT EXIST, INSTALL ADEQUATE BRACING.



### STEP 3, INSTALL IDLER BARREL

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



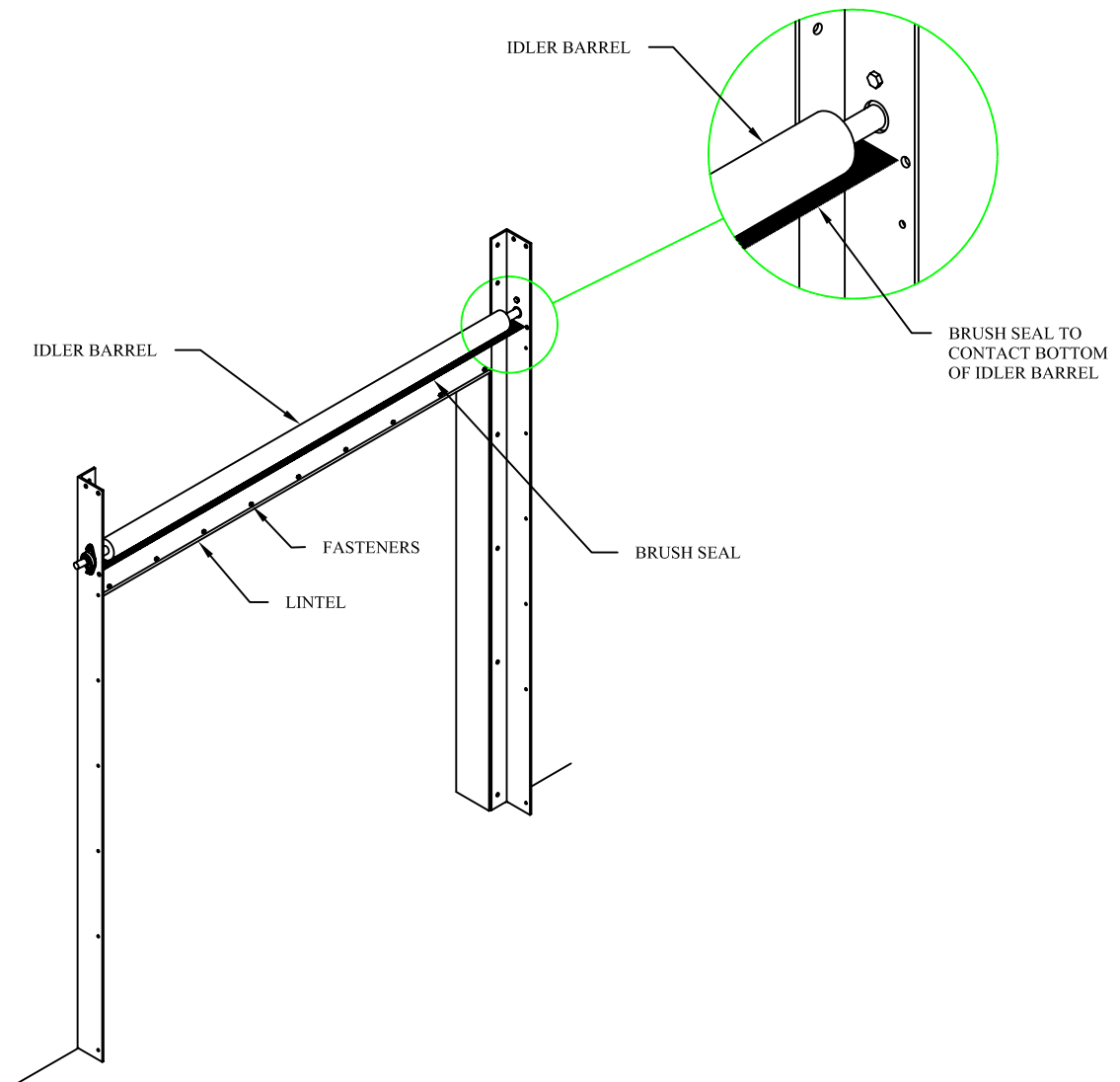
(i) POSITION THE IDLER BARREL BY PLACING THE SHAFT ENDS THROUGH THE Ø 2" (51) HOLE IN EACH DOOR MOUNTING ANGLE.

(ii) SLIDE A FLANGE BEARING ONTO EACH END OF THE IDLER BARREL AND FASTEN TO THE DOOR MOUNTING ANGLE USING Ø ½" (12) BOLTS. INSTALL THE NUTS TO THE OUTSIDE OF THE MOUNTING ANGLES.

(iii) CENTRE THE IDLER BARREL AND TIGHTEN THE SETSCREWS.

## STEP 4, INSTALL LINTEL SEAL

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES

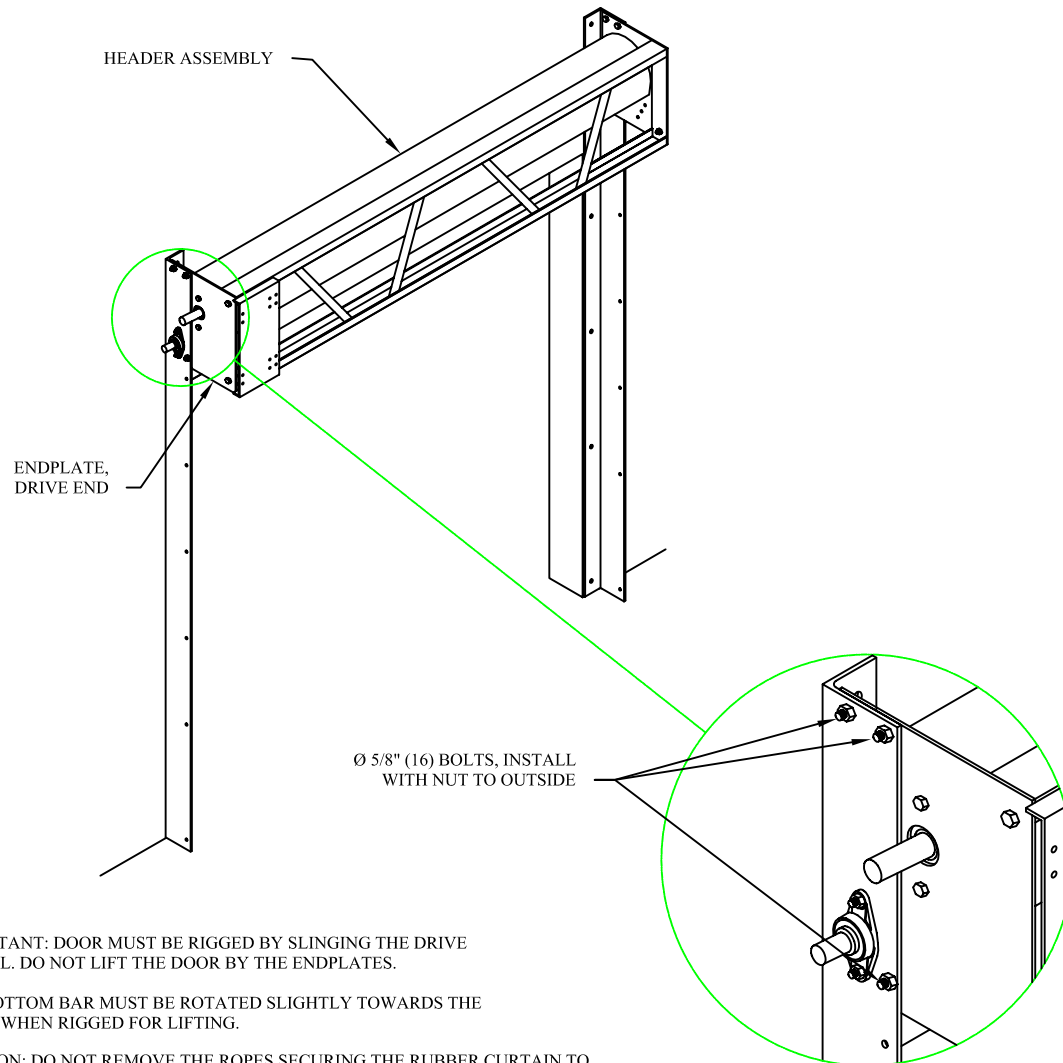


- (i) POSITION THE LINTEL SEAL AGAINST THE HEADER BETWEEN THE TWO (2) DOOR MOUNTING ANGLES.  
(THE LINTEL SEAL IS FABRICATED IN MULTIPLE PIECES ON WIDE DOORS)
- (ii) PUSH THE RETAINER UPWARDS UNTIL THE BRUSH FITS SNUGGLY AGAINST THE BOTTOM OF THE IDLER BARREL.
- (iii) FASTEN THE RETAINER TO A STEEL LINTEL WITH THE SELF-TAPPING SCREWS PROVIDED OR APPROPRIATE FASTENERS FOR CONCRETE BULKHEADS ON APPROXIMATELY 18" (460) CENTERS.

## STEP 5, INSTALL HEADER ASSEMBLY

(LEFT HAND DOOR SHOWN)

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



IMPORTANT: DOOR MUST BE RIGGED BY SLINGING THE DRIVE BARREL. DO NOT LIFT THE DOOR BY THE ENDPLATES.

THE BOTTOM BAR MUST BE ROTATED SLIGHTLY TOWARDS THE TRUSS WHEN RIGGED FOR LIFTING.

CAUTION: DO NOT REMOVE THE ROPES SECURING THE RUBBER CURTAIN TO THE DRIVE BARREL UNTIL INSTRUCTED TO DO SO.

(i) POSITION THE HEADER ASSEMBLY ON THE FLOOR IN FRONT OF THE OPENING. LOOSEN THE TWO (2) TRUSS BOLTS ON THE DRIVE ENDPLATE AND TIP THE WALL SIDE OF THE ENDPLATE INWARD TO ALLOW SOME CLEARANCE BETWEEN THE ENDPLATE AND DOOR MOUNTING ANGLE.

(ii) RIG AND LIFT THE HEADER ASSEMBLY INTO POSITION AND FASTEN TO THE DOOR MOUNTING ANGLE WITH Ø 5/8\" (16) BOLTS. INSTALL NUTS ON THE OUTSIDE TO PREVENT CURTAIN CONTACT. ALLOW THE ENDPLATES TO SETTLE INTO THE LOWEST POSITION OF THE SLOTS AND TIGHTEN FASTENERS.

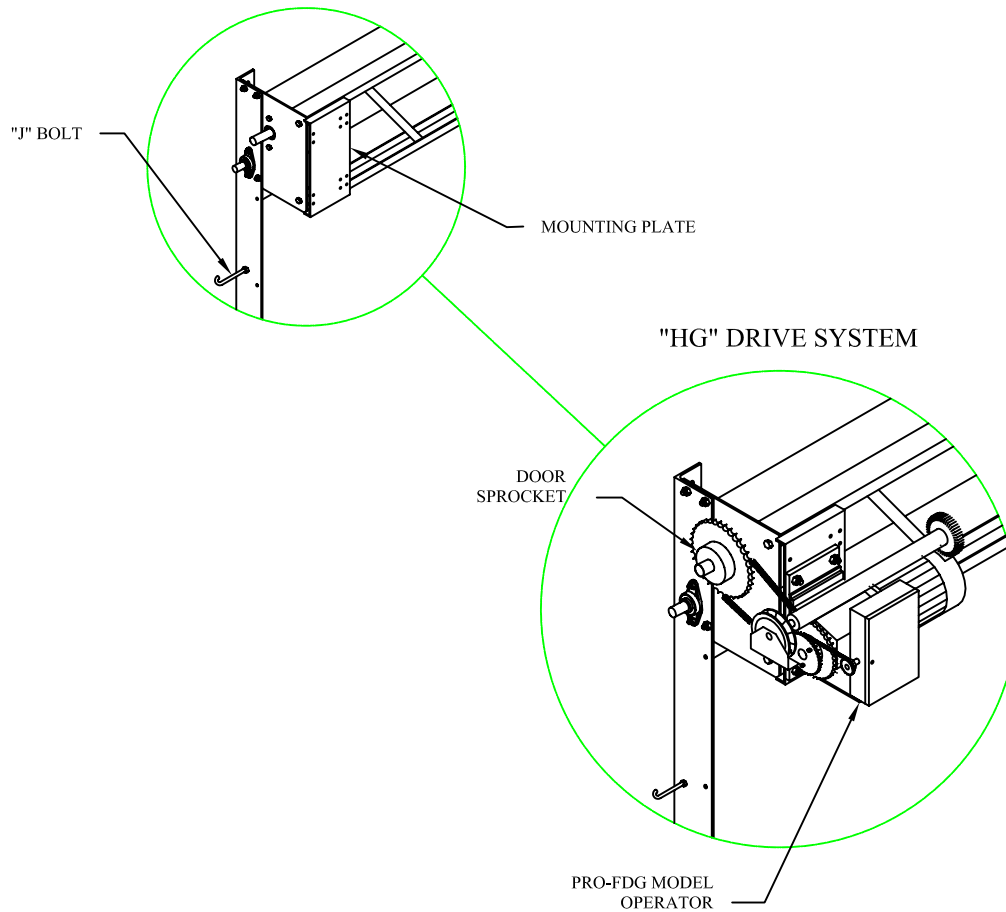
(iii) TIGHTEN TRUSS BOLTS.

(iv) ALLOW BOTTOM BAR TO SWING INTO THE BOTTOM, DEAD CENTRE POSITION WHEN REMOVING THE RIGGING STRAPS.

## STEP 6, INSTALL OPERATOR

(LEFT HAND DOOR SHOWN)

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



(i) POSITION AND BOLT THE OPERATOR TO THE MOUNTING PLATE ON THE LOWER HOLE SET. TIGHTEN THE MOUNTING BOLTS WITH THE OPERATOR COMPLETELY RAISED IN THE ADJUSTMENT SLOTS.

(ii) MOUNT THE DOOR SPROCKET WITH KEYSTOCK TO THE DRIVE BARREL SHAFT WITH THE HUB AWAY FROM THE ENDPLATE.

(iii) FOLLOW THE INSTRUCTIONS SUPPLIED WITH THE BUSHING. ALIGN THE DOOR SPROCKET WITH THE OPERATOR SPROCKET. ASSURE ADEQUATE CLEARANCE BETWEEN CHAIN AND MOUNTING PLATE. TIGHTEN SETSCREWS.

(iv) SIZE AND INSTALL THE DRIVE CHAIN. LOOSEN THE MOUNTING BOLTS AND LOWER THE OPERATOR TO SET CHAIN TENSION. PROPER CHAIN TENSION IS ABOUT  $\frac{1}{4}$ " (6) SLACK. TIGHTEN THE MOUNTING BOLTS.

(v) INSTALL THE HAND CHAIN AND DISCONNECT LEVER.

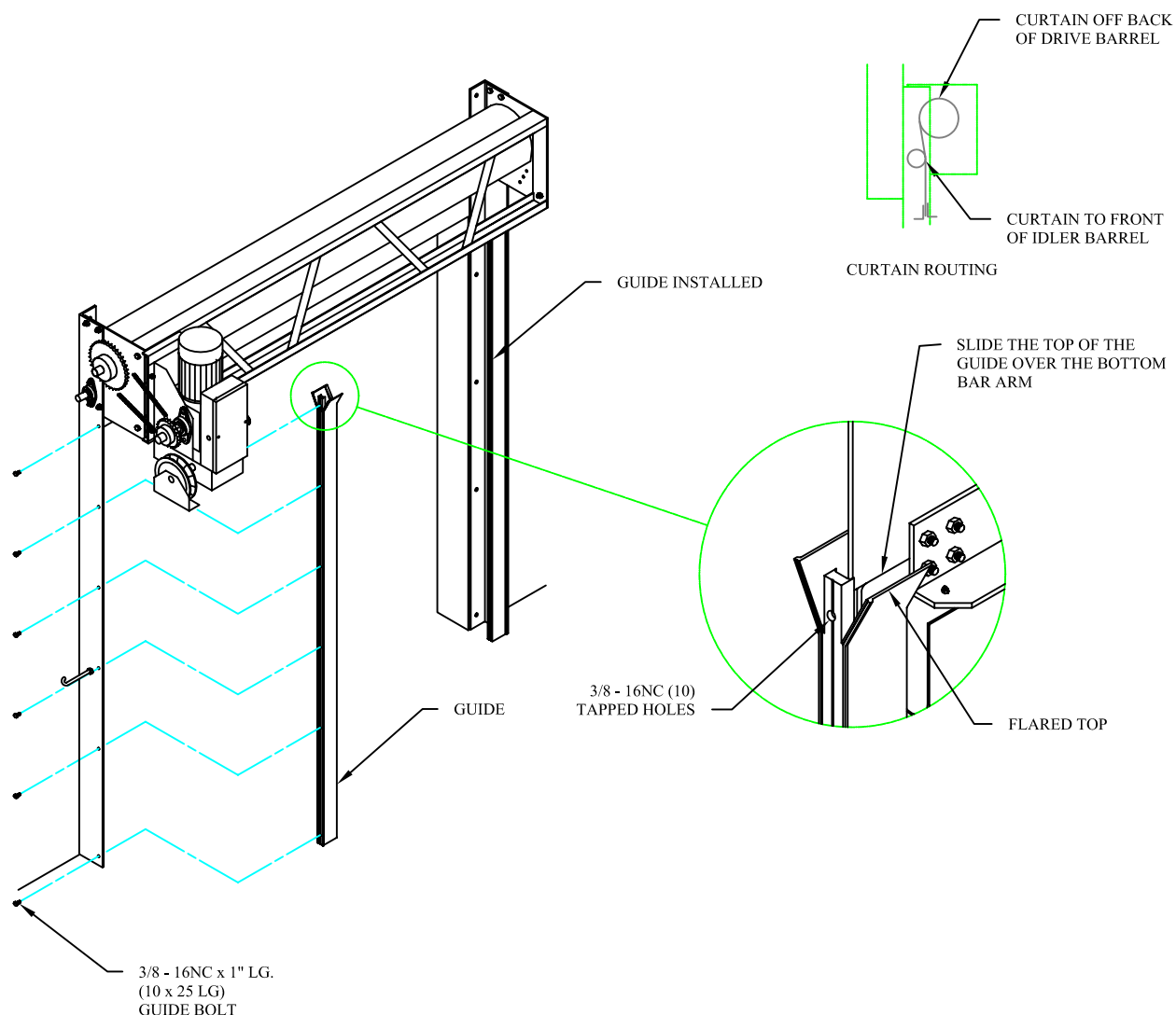
(vi) INSTALL THE "J" BOLT ON THE DOOR MOUNTING ANGLE (HOLE PROVIDED) ABOUT 48" (1220) FROM THE FLOOR. THE "J" BOLT IS TO PROTRUDE AWAY FROM THE DOOR OPENING TO ALLOW THE HAND CHAIN TO BE HELD CLEAR OF THE DOOR DURING ELECTRICAL OPERATION.

(vii) WITH THE HAND CHAIN DISENGAGED (THUS ALLOWING THE BRAKE TO HOLD THE DOOR OPEN) REMOVE THE ROPES SECURING THE CURTAIN TO THE DRIVE BARREL. REMAIN CLEAR OF THE BOTTOM BAR AS IT FALLS INTO POSITION AGAINST THE FORWARD SIDE OF THE IDLER BARREL.

## STEP 7, INSTALL GUIDES

(LEFT HAND DOOR SHOWN)

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



CAUTION: DO NOT INSTALL LONGER BOLTS INTO THE GUIDE THAT WOULD PROTRUDE INTO THE GUIDE CAVITY AND INTERFERE WITH CURTAIN TRAVEL.

(i) ONCE PROPERLY BALANCED, REMOVE THE ROPES SECURING THE CURTAIN TO THE DRIVE BARREL. REMAIN CLEAR OF THE BOTTOM BAR AS IT FALLS INTO POSITION AGAINST THE FORWARD SIDE OF THE IDLER BARREL.

(ii) BOTH GUIDES ARE INTERCHANGEABLE BETWEEN THE LEFT AND RIGHT HAND SIDE.

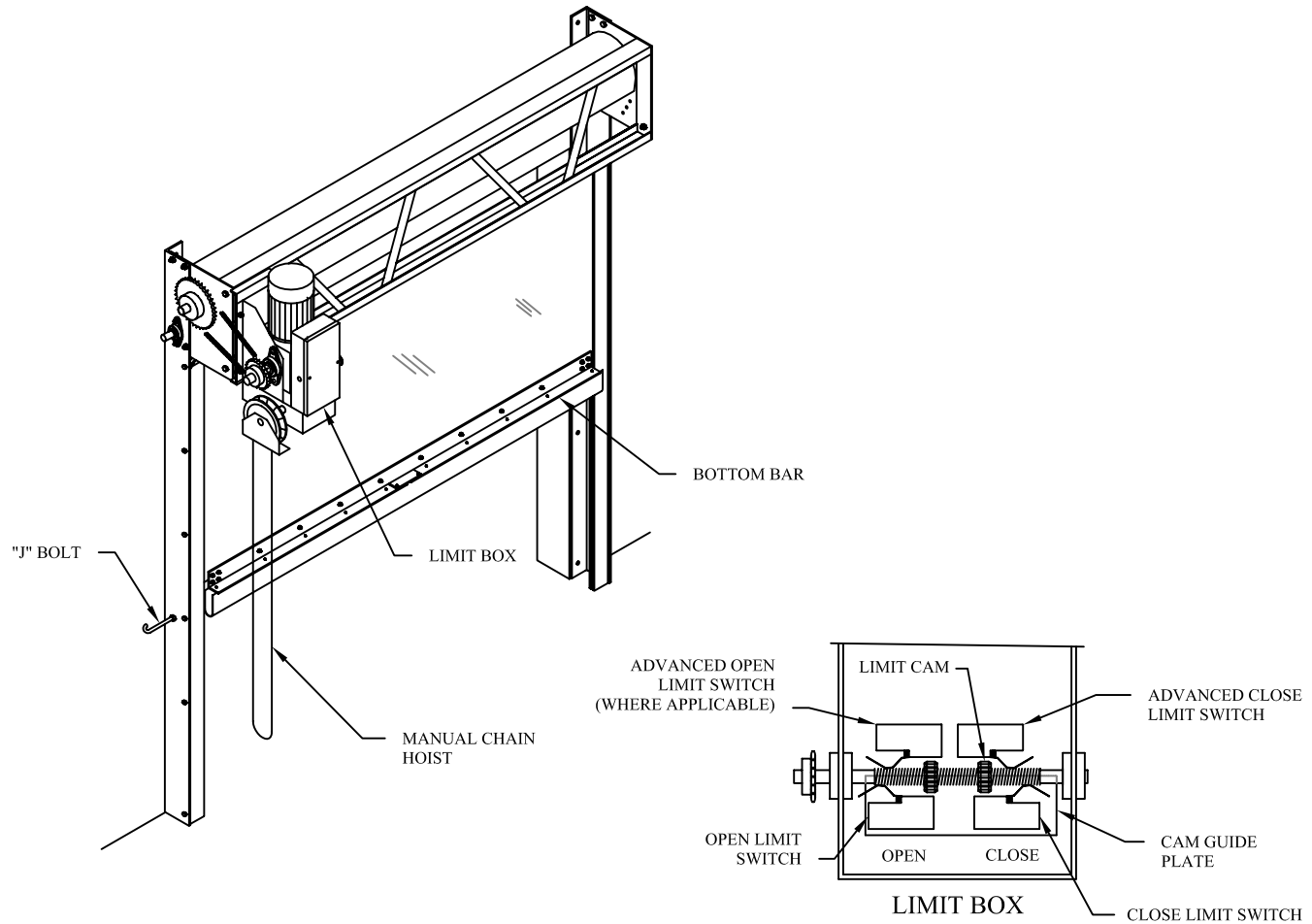
(iii) INSTALL THE GUIDES WITH THE FLARED ENDS TO THE TOP. SLIDE THE TOP OF THE GUIDE OVER THE BOTTOM BAR ARM TO CAPTURE THE BOTTOM CORNER OF THE CURTAIN. POSITION THE GUIDE TO THE DOOR MOUNTING ANGLE.

(iv) FASTEN THE GUIDE TO THE MOUNTING ANGLE USING  $\frac{3}{8}$  - 16NC x 1" LONG (10 x 25 LG.) HEX HEAD BOLTS AND FLAT WASHER. DO NOT USE LONGER BOLTS THAT WILL PROTRUDE INTO THE GUIDE CAVITY.

## STEP 8, MANUAL CHECK OF OPERATION

(LEFT HAND DOOR SHOWN)

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



CAUTION: ASSURE THE LIMIT CAMS DO NOT ENGAGE AND DAMAGE LIMIT SWITCHES DURING MANUAL CHAIN HOIST OPERATION.

(i) OPEN THE LIMIT BOX COVER ON THE FRONT OF THE OPERATOR. ROTATE THE LIMIT CAMS AWAY FROM THE CLOSE LIMIT SWITCHES TO PREVENT CONTACT DURING MANUAL OPERATION.

(ii) ENGAGE THE MANUAL CHAIN HOIST AND LOWER THE DOOR TO THE FULLY CLOSED POSITION. CHECK FOR PROPER CURTAIN TRACKING WHILE CYCLING THE DOOR.

(iii) WITH THE BOTTOM BAR ABOUT 24" (600) FROM THE FLOOR, ADJUST THE CLOSE LIMIT CAM TO CONTACT THE CLOSE LIMIT SWITCH.

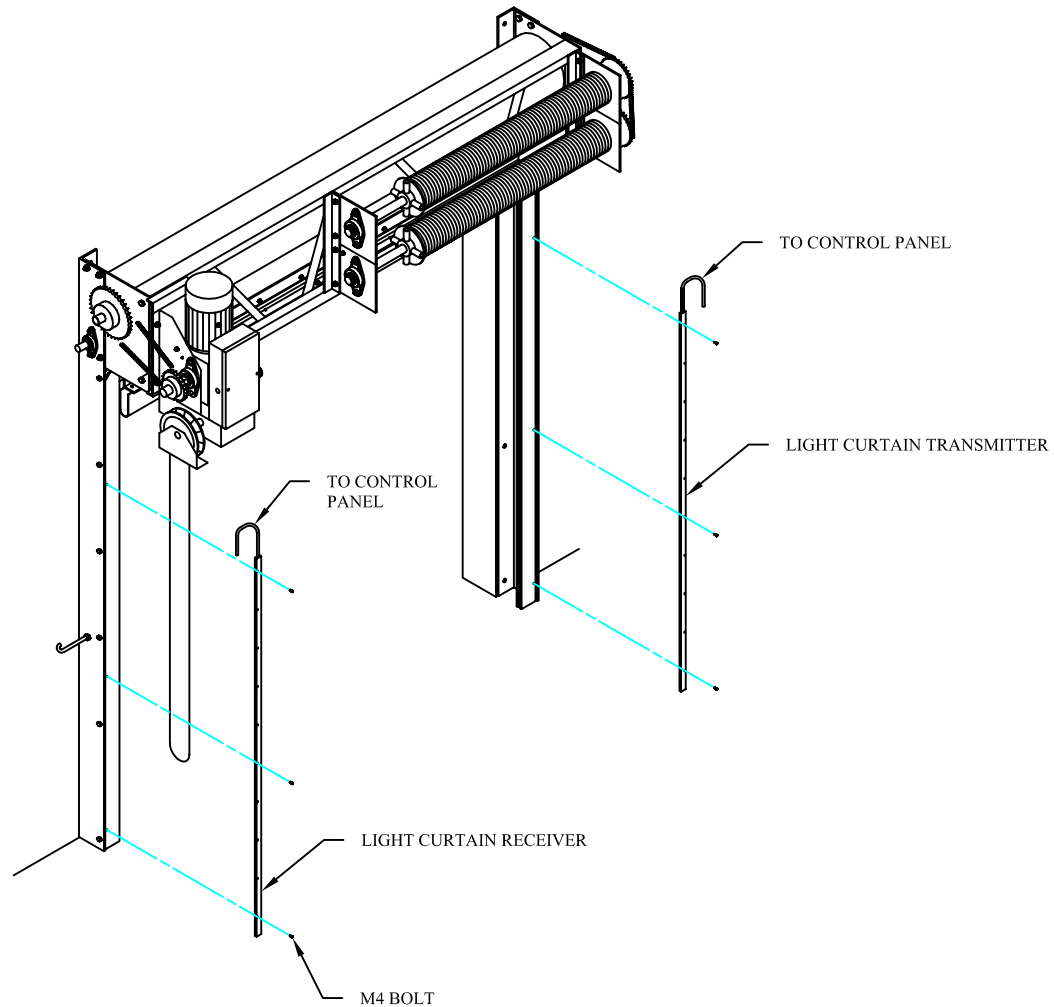
(iv) USE THE MANUAL CHAIN HOIST TO CYCLE THE DOOR TO THE OPEN POSITION. WITH THE BOTTOM BAR ABOUT 24" (600) BELOW THE HEADER, ADJUST THE OPEN LIMIT CAM TO ENGAGE THE OPEN LIMIT SWITCH.

(v) DISENGAGE THE CHAIN HOIST AND HOOK THE HAND CHAIN BEHIND THE "J" BOLT TO HOLD THE CHAIN CLEAR OF THE OPENING.

## LIGHT CURTAIN INSTALLATION

(LEFT HAND DOOR SHOWN)

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



IMPORTANT: THE WALL ANGLES MUST BE INSTALLED SQUARE TO THE OPENING AND PARALLEL TO EACH OTHER TO ENSURE PROPER LIGHT CURTAIN ALIGNMENT

LIGHT CURTAIN MUST BE INSTALLED ON THE INTERIOR SIDE OF THE DOOR

NOTE: INSTALL LIGHT CURTAINS PRIOR TO INSTALLING GUIDE GAUARDS.

(i) FASTEN THE LIGHT CURTAIN RECEIVER, WITH THE CABLE AT THE TOP OF THE UNIT, TO THE ALUMINIUM GUIDE ON THE DRIVE SIDE OF THE DOOR USING THE SUPPLIED M4 BOLTS.

(ii) FASTEN THE LIGHT CURTAIN TRANSMITTER, WITH THE CABLE AT THE TOP OF THE UNIT, TO THE ALUMINIUM GUIDE ON THE SPRING/FREE END SIDE OF THE DOOR USING THE SUPPLIED M4 BOLTS.

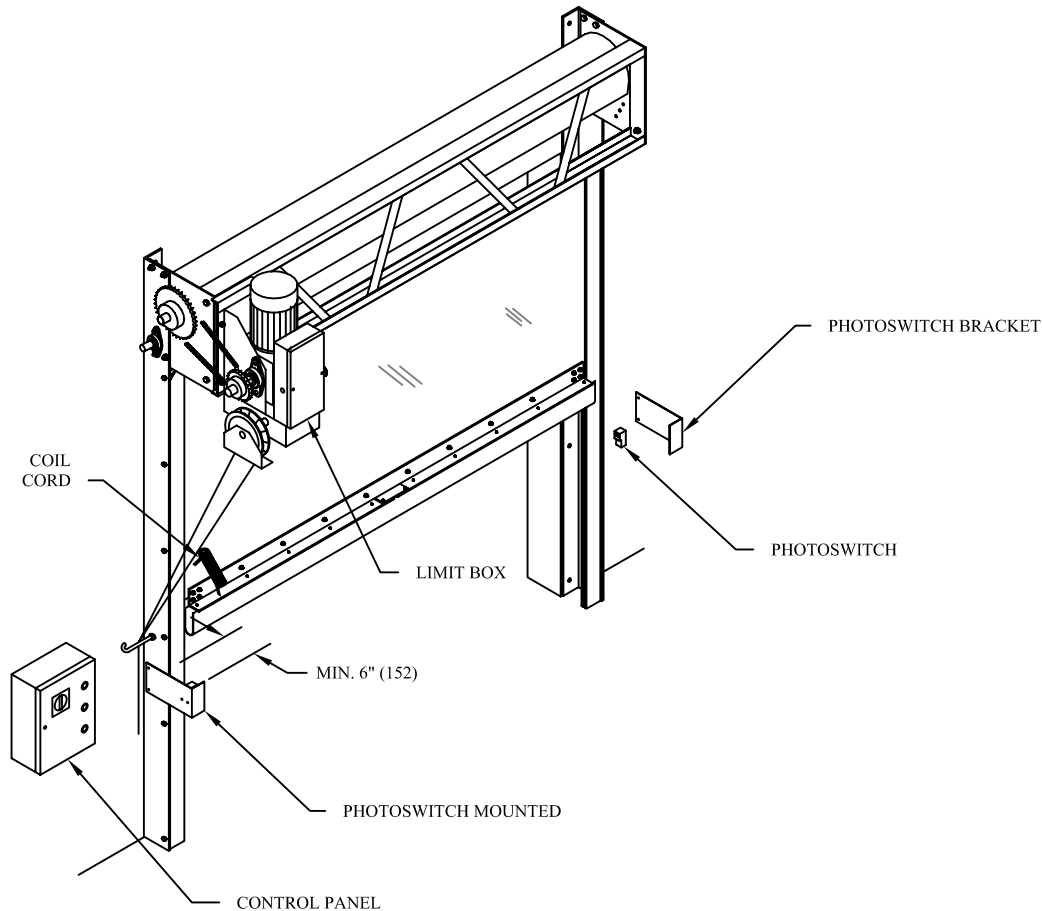
(iii) WIRE THE RECEIVER TO THE CONTROL PANEL AS INDICATED ON THE WIRING SCHEMATIC FOR THE DOOR. CAP ANY UNUSED WIRES SEPARATELY INSIDE THE CONTROL PANEL.

(iv) WIRE THE TRANSMITTER TO THE CONTROL PANEL AS INDICATED ON THE WIRING SCHEMATIC FOR THE DOOR. CAP ANY UNUSED WIRES SEPARATELY INSIDE THE CONTROL PANEL.

## STEP 9, WIRE ELECTRICS

(LEFT HAND DOOR SHOWN)

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



CAUTION: ELECTRICAL WIRING IS TO BE PERFORMED BY A QUALIFIED ELECTRICIAN AND MUST ADHERE TO LOCAL ELECTRICAL CODES.

IMPORTANT: THE PHOTOSWITCH SUPPLIED WITH THE DOOR IS INTENDED FOR USE AS A REDUNDANT REVERSING DEVICE

(i) THE OPERATOR AND CONTROLS ARE TO BE WIRED AS PER THE ELECTRICAL DRAWING LOCATED INSIDE THE CONTROL PANEL. THE INERTIA BRAKE INTERLOCK HAS BEEN TEMPORARILY JUMPED.

(ii) PRIMARY POWER TO THE ELECTRIC MOTOR MUST BE IN A SEPARATE ELECTRICAL CONDUIT FROM THE CONTROL WIRE CIRCUIT.

(iii) IF THE OPEN AND CLOSE PUSH BUTTONS HAVE THEIR FUNCTIONS REVERSED, CHANGE THE ELECTRICAL PHASING BY REVERSING ANY TWO OF THE THREE PHASE WIRES SUPPLYING THE PANEL.

(iv) INSTALL THE COIL CORD CLIP TO ANCHOR THE CORD TO THE DOOR MOUNTING ANGLE AT THE MID OPENING HEIGHT LEVEL. ASSURE THE COIL CORD DOES NOT CATCH ON ANY MECHANICAL COMPONENTS OF THE GUIDE OR BOTTOM BAR DURING DOOR OPERATION.

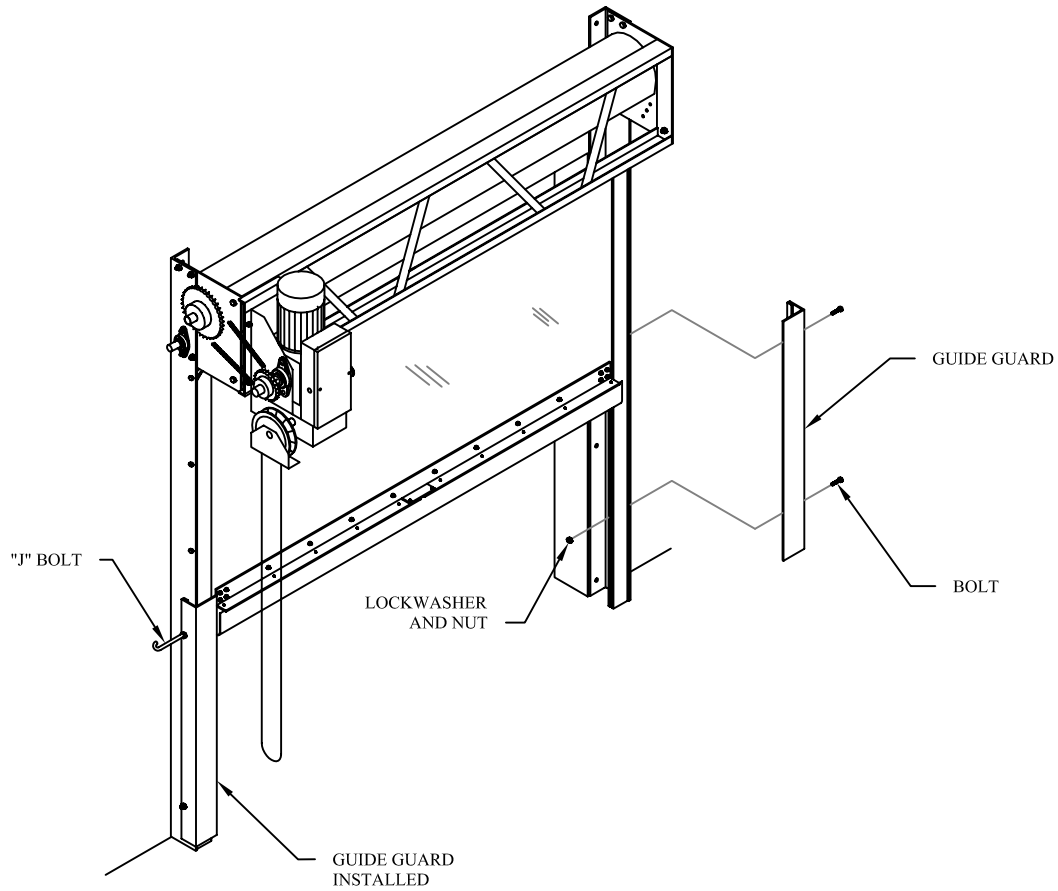
(v) MOUNT THE PHOTOSWITCH BRACKETS TO THE DOOR MOUNTING ANGLE AT AN APPROPRIATE ELEVATION FOR THE DOOR USAGE. THE BRACKETS MUST PROTRUDE A MINIMUM OF 6" (152) FROM THE GUIDE TO CLEAR THE COIL CORD. THE BRACKETS MAY BE WELDED OR DRILL AND FASTEN IF PREFERRED. WIRE TO THE CONTROLS AS A REVERSING DEVICE.



## GUIDE GUARD INSTALLATION (OPTIONAL)

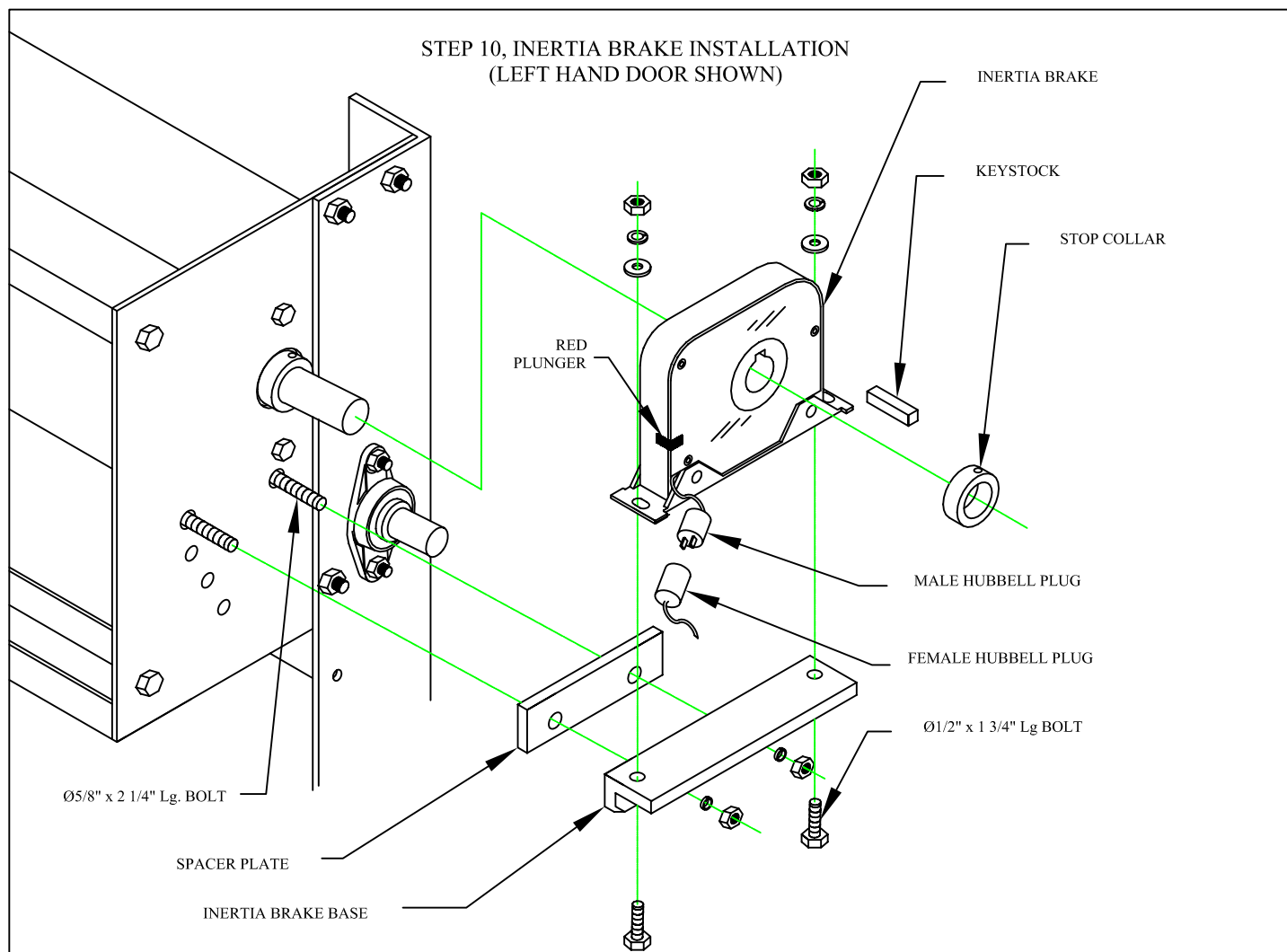
(LEFT HAND DOOR SHOWN)

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



(i) POSITION THE GUIDE GUARD WITH THE FLATBAR SPACER AGAINST THE OUTSIDE OF THE DOOR MOUNTING ANGLE. THE LONG LEG OF THE GUIDE GUARD PROTRUDES TOWARDS THE OPENING, SHIELDING THE ALUMINUM GUIDE.

ii) USE THE FASTENERS IN THE GUIDE GUARD HARDWARE KIT TO FASTEN THE GUARDS TO THE DOOR MOUNTING ANGLE. USE THE "J" BOLT TO SECURE THE UPPER BOLT LOCATION ON THE DRIVE SIDE.



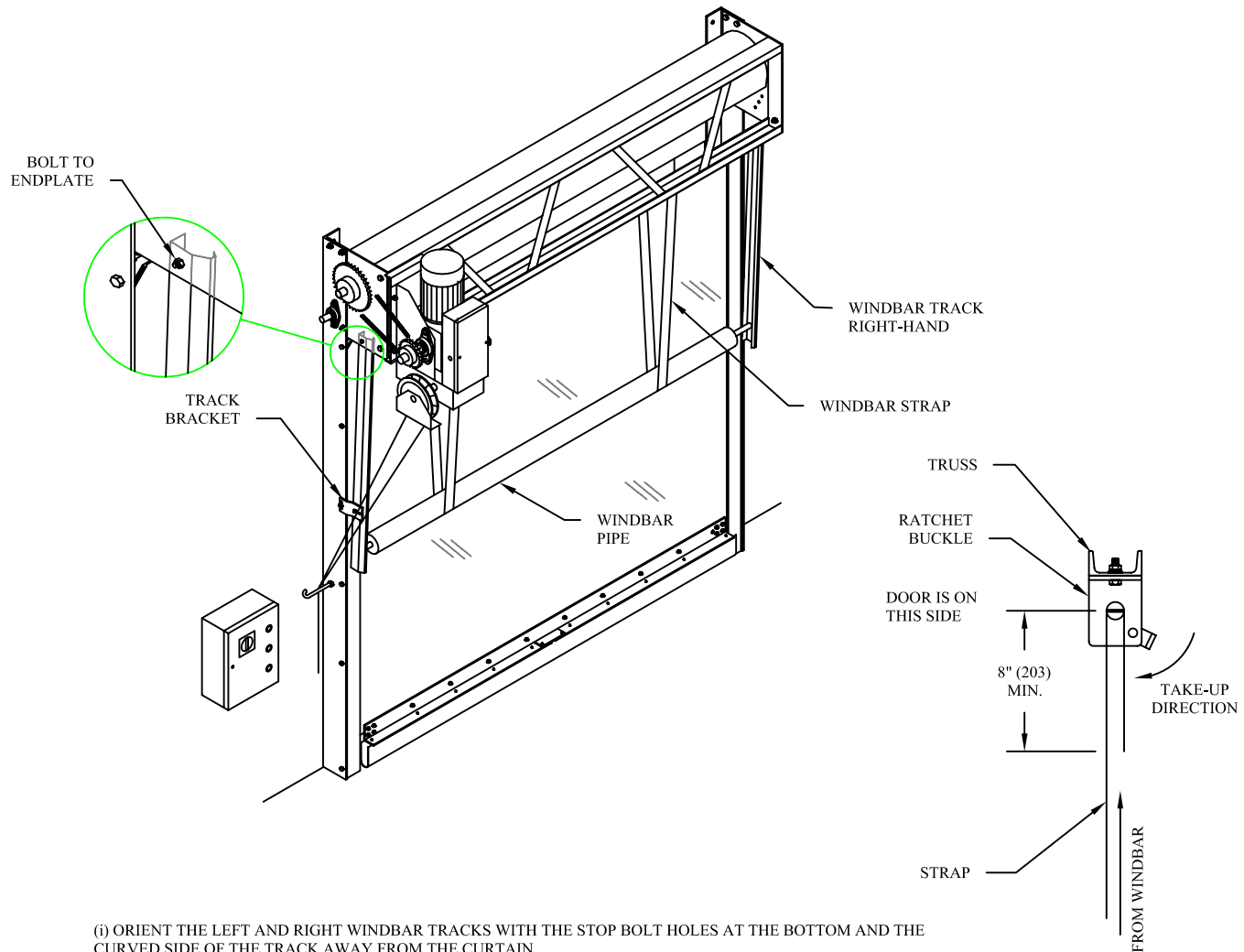
**IMPORTANT: THE DOOR MUST BE ELECTRONICALLY FUNCTIONAL AND LIMITS SET PRIOR TO INSTALLING THE INERTIA BRAKE.**

- (i) MOVE DOOR TO THE CLOSED POSITION AND DISCONNECT THE POWER SUPPLY.
- (ii) SLOWLY ROTATE THE INNER RACE OF THE INERTIA BRAKE TO ASSURE THAT IT SPINS FREELY. ASSURE THAT THE RED PLUNGER IS PUSHED IN FULLY.
- (iii) INSERT (2) 5/8 x 2-1/4 LG. BOLTS FROM THE DRIVE BARREL SIDE OF THE ENDPLATE, THRU THE TWO HOLES SHOWN.
- (iv) MOUNT THE 1/2" THICK SPACER PLATE AND INERTIA BRAKE BASE OVER THE THREADED PORTION OF THE BOLTS AND SECURE USING THE LOCK WASHERS AND NUTS. DO NOT TIGHTEN THESE BOLTS AT THIS TIME.
- (v) MOUNT THE INERTIA BRAKE ON THE DRIVE BARREL SHAFT WITH THE WIRE LEAD TOWARDS THE FRONT OF THE DOOR. PUSH INERTIA BRAKE INWARD TO CONTACT THE INNER STOP COLLAR. INCLUDE THE KEYSTOCK TO SECURE THE INERTIA BRAKE TO THE SHAFT. INSERT 1/2 x 1-3/4" BOLTS FROM UNDER THE INERTIA BRAKE BASE. INSTALL FLAT WASHER, LOCKWASHER AND NUT FROM THE TOP SIDE.
- (vi) MAKE SURE THE INERTIA BRAKE IS LEVEL AND TIGHTEN ALL FASTENERS.
- (vii) INSERT STOP COLLAR ON DRIVE SHAFT AGAINST INERTIA BRAKE AND TIGHTEN SETSCREW.
- (viii) ATTACH THE MALE HUBBELL PLUG TO THE INERTIA BRAKE WIRE LEAD.
- (ix) INSTALL TWO WIRES (MIN. 16 AWG.) FROM THE INERTIA BRAKE TO THE LIMIT BOX. INSTALL THE FEMALE HUBBELL CONNECTOR TO FACILITATE THE INERTIA BRAKE CONNECTION.
- (x) REMOVE THE FACTORY JUMPER LOCATED IN THE LIMIT BOX BETWEEN TERMINALS 6 & 32 AND CONNECT ONE WIRE INTO TERMINAL 6 AND THE OTHER WIRE INTO TERMINAL 32.
- (xi) CHECK ELECTRICS, WITH HUBBELL CONNECTOR UNPLUGGED, DOOR SHOULD NOT BE OPERABLE. PLUG IN HUBBELL CONNECTORS AND TEST DOOR.

## GUIDE MOUNTED WINDBAR (OPTIONAL)

(LEFT HAND DOOR SHOWN)

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



(i) ORIENT THE LEFT AND RIGHT WINDBAR TRACKS WITH THE STOP BOLT HOLES AT THE BOTTOM AND THE CURVED SIDE OF THE TRACK AWAY FROM THE CURTAIN.

(ii) BOLT THE TRACKS TO THE BOTTOM OF THE ENDPLATE USING THE BUTTON HEAD CAP SCREWS. INSTALL A TRACK BRACKET IN THE NEXT TRACK HOLE AND FASTEN TO THE DOOR MOUNTING ANGLE BY SUBSTITUTING THE 1" (25) LONG GUIDE BOLT WITH A 1 1/4" (32) LONG BOLT.

(iii) INSTALL TRACK BRACKETS IN THE REMAINING HOLES PROVIDED (IF APPLICABLE) IN THE WINDBAR TRACK.

(iv) BOLT THE TWO RATCHET BUCKLES TO THE BOTTOM SIDE OF THE TRUSS WHERE THE HOLES ARE PROVIDED. ORIENT THE RATCHET BUCKLE WITH THE RELEASE HANDLE AWAY FROM THE DRIVE BARREL.

(v) WITH THE DOOR IN THE FULLY CLOSED POSITION, INSERT A ROLLER INTO EACH END OF THE WINDBAR PIPE AND LIFT THE PIPE INTO THE BOTTOM OF THE ROLLER TRACKS. CLOSE OFF THE BOTTOM OF EACH TRACK WITH A 3 1/2" (90) LG. BOLT WITH NUT.

(vi) FEED THE WINDBAR STRAP BETWEEN THE CURTAIN AND WINDBAR PIPE, AROUND THE BOTTOM OF THE PIPE AND UP TO THE RATCHET BUCKLES ON THE TRUSS. ASSURE THERE ARE NO TWISTS IN THE WINDBAR STRAPS.

(vii) ATTACH THE STRAPS TO THE RATCHETS AS SHOWN, ALLOW A MINIMUM OF 8" (203) OF STRAP TO FEED THROUGH THE RATCHET BUCKLE. RATCHET THE WINDBAR PIPE ABOUT 2" (51) OFF THE STOP BOLTS IN THE BOTTOM OF THE TRACK. ASSURE THE WINDBAR PIPE IS LEVEL.

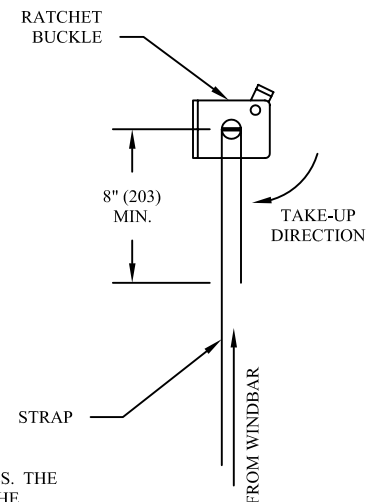
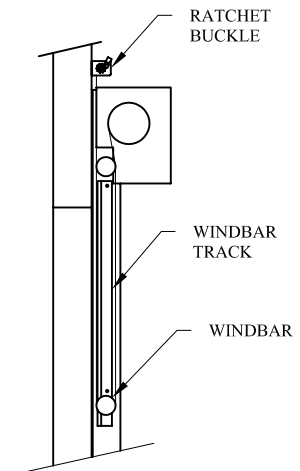
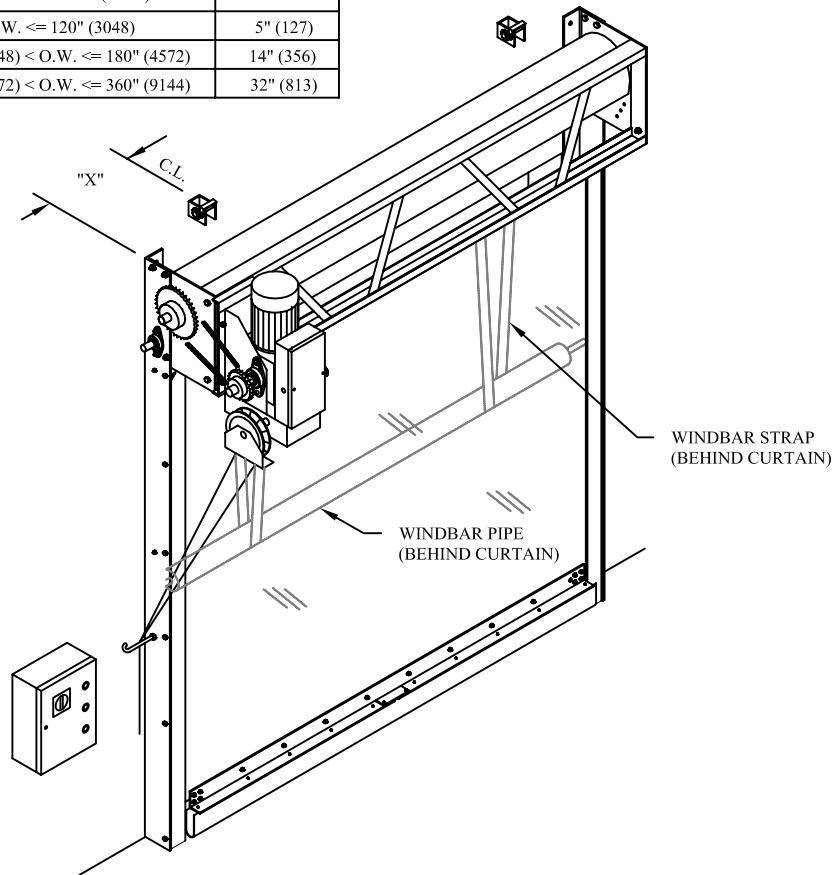
(viii) CAREFULLY CYCLE THE DOOR TO THE OPEN POSITION. USE THE RATCHETS TO ADJUST THE WINDBAR PIPE LOCATION.

## JAMB MOUNTED WINDBAR (OPTIONAL)

(LEFT HAND DOOR SHOWN)

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES

OPENING WIDTH (O.W.)	DIM. "X"
O.W. $\leq 120"$ (3048)	5" (127)
120" (3048) $<$ O.W. $\leq 180"$ (4572)	14" (356)
180" (4572) $<$ O.W. $\leq 360"$ (9144)	32" (813)



(i) ORIENT THE LEFT AND RIGHT WINDBAR TRACKS TO THE INSIDE LEG OF THE DOOR MOUNTING ANGLES. THE CURVED SIDE OF THE WINDBAR TRACK MUST BE AWAY FROM THE CURTAIN AND THE STOP BOLTS AT THE BOTTOM.

(ii) BOLT THE TRACKS TO THE DOOR MOUNTING ANGLE USING THE BUTTON HEAD CAP SCREWS.

(iii) MOUNT THE TWO RATCHET BUCKLES A FEW INCHES ABOVE THE HEADER ASSEMBLY AND AT DIMENSION "X" FROM THE DOOR MOUNTING ANGLE. ORIENT THE RATCHET BUCKLE WITH THE RELEASE HANDLE UPWARD. IF THE DOOR WAS ORDERED WITH HOODS, THE RATCHET BUCKLES ARE PREMOUNTED TO THE WALL BRACKET.

(iv) FROM THE RATCHET BUCKLE LOCATION, FEED A "FISH" LINE DOWN THE WALL BEHIND BOTH THE DRIVE BARREL AND IDLER BARREL. THE LINTEL BRUSH HOLDER HAS BEEN NOTCHED TO FACILITATE THE STRAP.

(v) WITH THE DOOR IN THE FULLY CLOSED POSITION, INSERT A ROLLER INTO EACH END OF THE WINDBAR PIPE AND LIFT THE PIPE INTO THE BOTTOM OF THE ROLLER TRACKS. CLOSE OFF THE BOTTOM OF EACH TRACK WITH A  $3 \frac{1}{2}"$  (90) LG. BOLT WITH NUT.

(vi) FEED THE WINDBAR STRAP BETWEEN THE CURTAIN AND WINDBAR PIPE, AROUND THE BOTTOM OF THE PIPE AND UP TO THE RATCHET BUCKLES ON THE WALL USING THE "FISH" LINE. ASSURE THERE ARE NO TWISTS IN THE WINDBAR STRAPS.

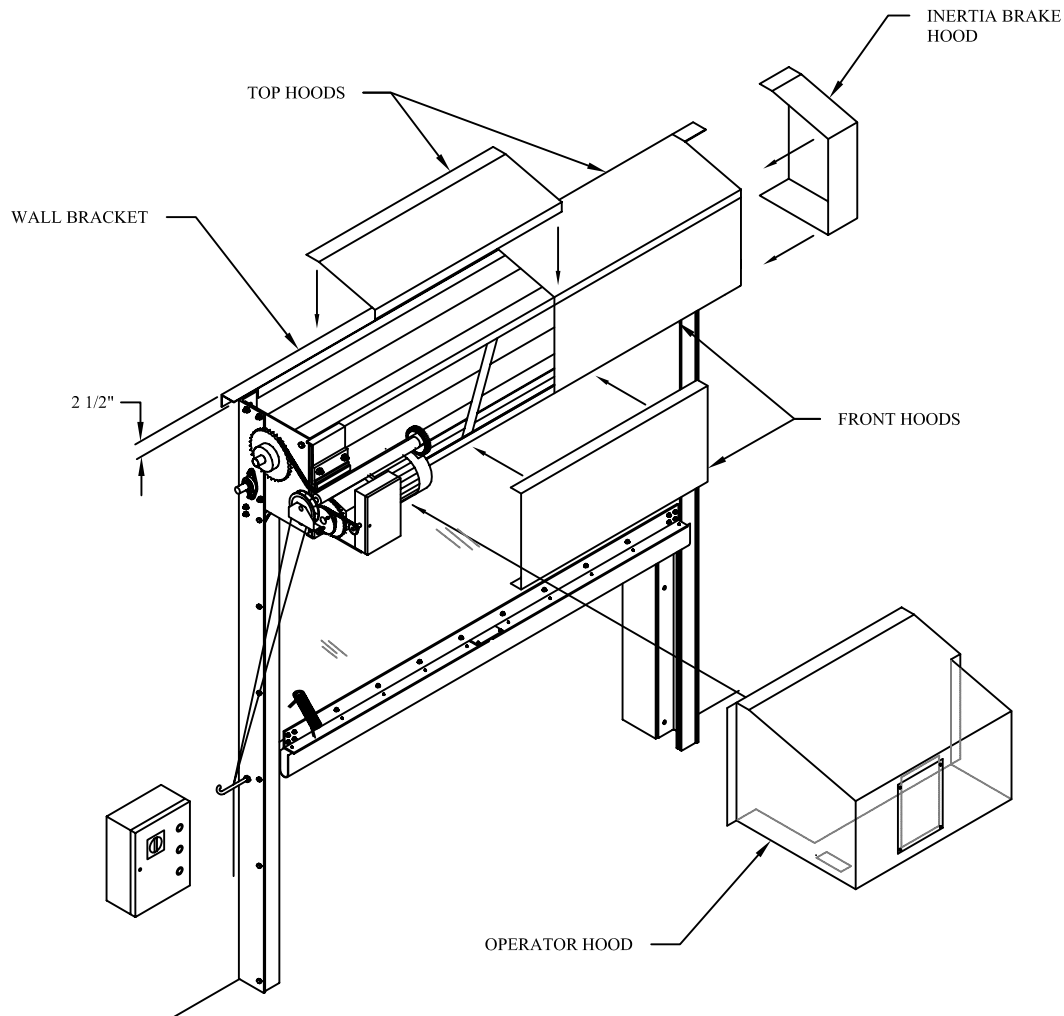
(vii) ATTACH THE STRAPS TO THE RATCHETS AS SHOWN, ALLOW A MINIMUM OF 8" (203) OF STRAP TO FEED THROUGH THE RATCHET BUCKLE. RATCHET THE WINDBAR PIPE ABOUT 2" (51) OFF THE STOP BOLTS IN THE BOTTOM OF THE TRACK. ASSURE THE WINDBAR PIPE IS LEVEL.

(viii) CAREFULLY CYCLE THE DOOR TO THE OPEN POSITION. USE THE RATCHETS TO ADJUST THE WINDBAR PIPE LOCATION.

## HOOD INSTALLATION, HDC (OPTIONAL)

(LEFT HAND DOOR SHOWN)

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



(i) INSTALL THE WALL BRACKET ONTO THE WALL WITH THE TOP 3" (76) LEG 2 1/2" (64) ABOVE THE TOP OF THE ENDPLATES. THE WALL BRACKET SHOULD EXTEND EVENLY BEYOND THE ENDPLATE AT EACH END. (THE WALL BRACKET IS FABRICATED IN MULTIPLE PIECES ON WIDE DOORS)

(ii) BEGINNING AT THE INERTIA BRAKE END, INSTALL THE FRONT HOODS OVER THE TRUSS AND FASTEN TO THE TOP AND BOTTOM OF THE DOOR TRUSS WITH SELF-TAPPING SCREWS. THE FIRST HOOD IS MOUNTED FLUSH WITH THE ENDPLATE. MULTI-PIECE HOODS HAVE PROVISIONS FOR A 1" (25) OVERLAP PER SEAM.

(iii) INSTALL THE TOP HOODS STARTING FLUSH WITH THE INERTIA BRAKE ENDPLATE. MULTI-PIECE HOODS HAVE PROVISIONS FOR A 1" (25) OVERLAP PER SEAM. INSTALL SCREWS WHERE HOLES ARE PROVIDED.

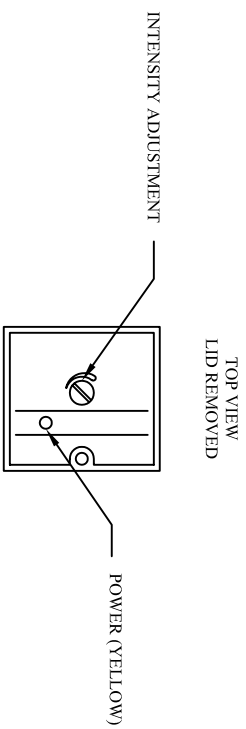
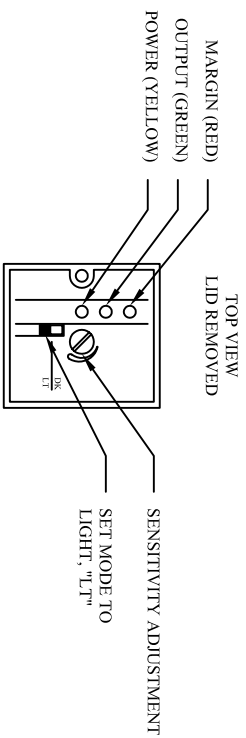
(iv) INSTALL THE INERTIA BRAKE HOOD OVER THE ENDPLATE. ALLOW A 2" (51) OVERLAP ONTO THE DOOR HOODS. INSTALL SCREWS WHERE HOLES ARE PROVIDED.

(v) INSTALL THE OPERATOR HOOD IN THE SAME MANNER AS THE INERTIA BRAKE HOOD. REMOVE THE HOOD ACCESS COVER TO ALIGN THE ACCESS HOLE WITH THE LIMIT BOX COVER.

INSERT SHOP DRAWING HERE

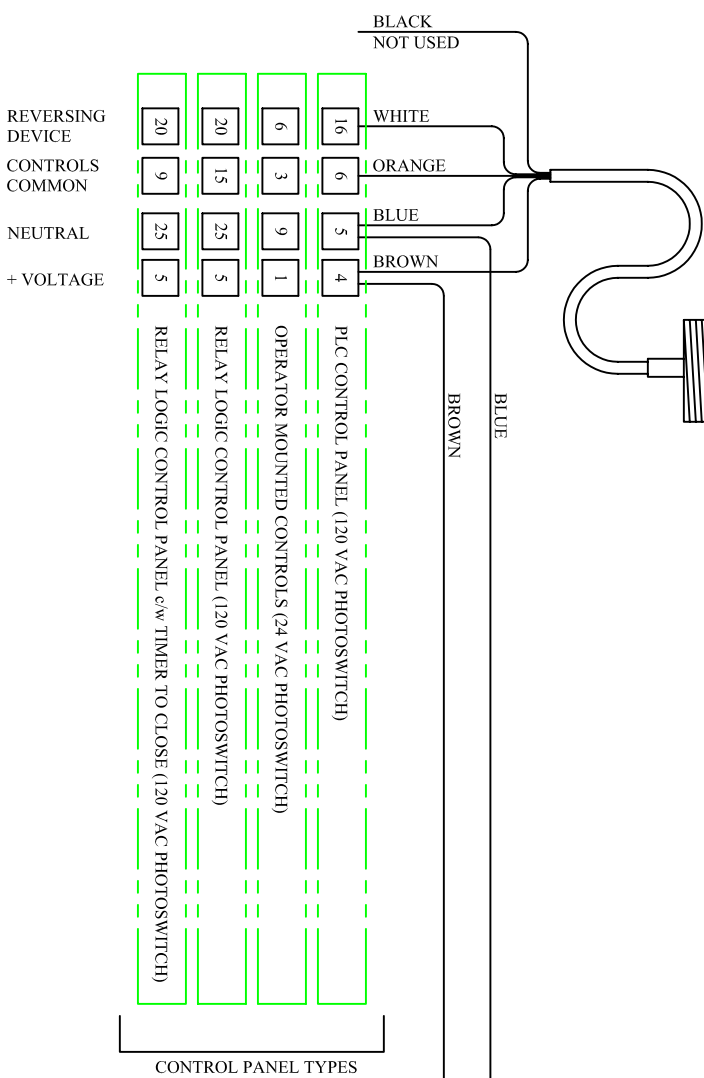
INSERT ELECTRICAL  
DRAWING HERE

11" x 17" PAPER



PHOTOSWITCH RECEIVER  
AND RELAY  
ALLEN-BRADLEY 42GRR-9002  
USED FOR 120VAC  
ALLEN-BRADLEY 42GRR-9001  
USED FOR 24VAC

PHOTOSWITCH TRANSMITTER  
ALLEN-BRADLEY 42GRL-9000  
USED FOR 24VAC OR 120VAC



CORNELL IRON WORKS, INC.			
TITLE: THRU-BEAM PHOTOSWITCH WIRING			
EXT. DETAIL: ALLEN-BRADLEY 9000 SERIES AS REVERSING DEVICE			
CODE: PHOTOSWITCH	REV. NO.:	REL	
DATE DRAWN: APRIL 21, 2010	REV. DATE:	RELEASE	
DRAWN BY: MARIA ZIEGLER	DRAWING No.:	D-720-0010	



# **Recommended Wiring Requirements From Control Panel to Electric Operator**

Revised: April 24, 2010

## **General**

If your control panel was not ordered with the optional fused disconnect, it is recommended (and most likely local code) that the power source be fused immediately prior to entering the panel. Consult your local electrical codes for fusing requirements. When making penetrations in any enclosure, ensure that the components and circuitry are protected from debris and contact with tools. Use the appropriate fittings for the application/environment.

## **Primary Power Conduit**

In all cases, Primary Power wires must be an appropriate gauge based on the amperage and length of feed to the electric operator limit box. Consult your local electrical codes. TNR recommends a minimum 14 gauge, multi-strand wire installed in a protective conduit.

## **Control Wire Conduit**

In all cases, Control wires must be an appropriate gauge based on amperage and length of feed to the electric operator limit box. Consult your local electrical codes. TNR recommends a minimum 16 gauge, multi-strand wire installed in a separate protective conduit from the Primary Power wires.

From both conduits, an appropriate flexible conduit should bridge the wires from the wall to the electric operator. In all cases, the reversing edge wires should connect to the coil cord via an electrical junction box located at half the door opening height. Reversing edge wires are not included in the quantities below.

## **Model EPR-10 Door with Optional Wall Mounted Control Panel**

**(Some options may require additional wires)**

### **Relay Logic Panel;**

Primary Power: 3 wires + 1 ground wire

Controls: 11 wires + 2 spare wires + 1 ground wire

### **SR Controller Panel;**

Primary Power: 3 wires + 1 ground wire

Controls: 5 wires + 2 spare wires + 1 ground wire

## **Model EPR-10 Door**

**(Some options may require additional wires)**

### **Relay Logic Panel;**

Primary Power: 3 wires + 1 ground wire

Controls: 13 wires + 2 spare wires + 1 ground wire

### **SR Controller Panel;**

Primary Power: 3 wires + 1 ground wire

Controls: 8 wires + 2 spare wires + 1 ground wire

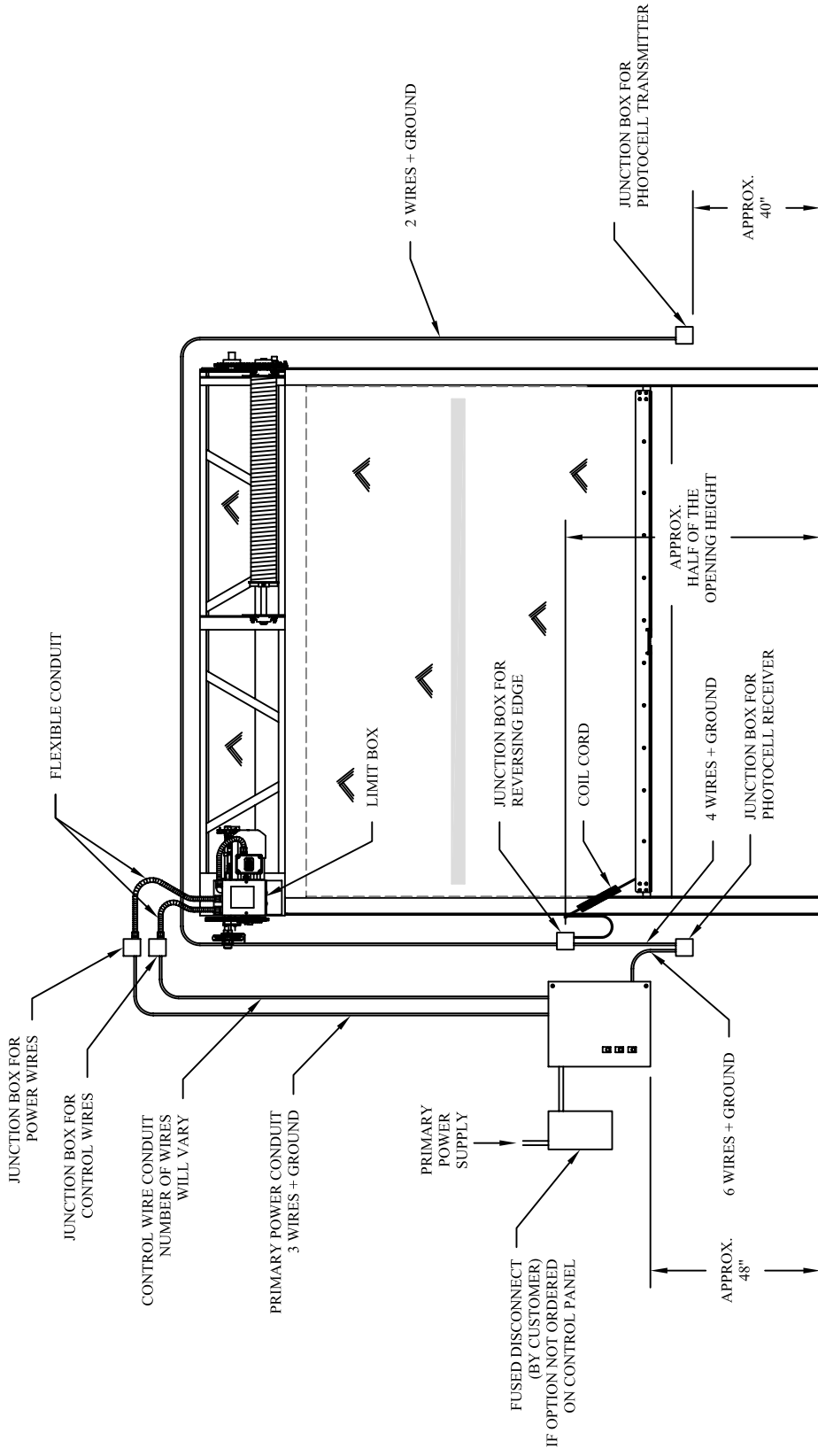
## **Model EPR-10 & Model EPR-20 Door**

**(Some options may require additional wires)**

### **SR Controller with Inverter Panel;**

Primary Power: 3 wires + 1 ground wire

Controls: 10 wires + 2 spare wires + 1 ground wire



NOTES:

THIS DRAWING IS INTENDED AS A GENERAL GUIDELINE ONLY. CONSULT YOUR LOCAL ELECTRICAL CODES.  
 SOME ELECTRICAL OPTIONS MAY REQUIRE ADDITIONAL WIRING.  
 ALL WIRING SHOULD BE INSTALLED BY A QUALIFIED ELECTRICIAN.

CORNELL IRON WORKS, INC.			
TITLE: RECOMMENDED ELECTRICAL CONDUIT			
EXT. DETAIL:	STANDARD DOOR WITH CONTROL PANEL	REV. NO.:	REL.
CODE:	WIRING	REV. DATE:	RELEASE
DATE DRAWN:	APRIL 21, 2010	DRAWN BY:	MARIA ZIEGLER
DRAWN BY:	MARIA ZIEGLER	DRAWING No.:	D-720-0004

GENERAL TOLERANCES UNLESS SPECIFIED OTHERWISE	DESCRIPTION	DATE
FRACTIONAL $\pm 1/32"$		
DECIMAL $\pm .002"$		
ANGULAR $\pm 1^\circ$		
REV. ECO		

# MAINTENANCE SCHEDULE / SPARE PARTS

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES

## IMPORTANT:

DISCONNECT AND LOCK-OUT POWER SUPPLY BEFORE SERVICING MOVING PARTS.  
COPY THIS SHEET TO RECORD MAINTENANCE HISTORY.

ANNUAL MAINTENANCE SCHEDULE			CHECK LIMIT CHAIN TENSION	CHECK DRIVE CHAIN TENSION	CHECK SPRING CHAIN TENSION	LUBRICATE ALL CHAINS	TEST FUNCTION OF REVERSING EDGE	TEST FUNCTION OF REVERSING PHOTOSWITCH	CHECK OPEN AND CLOSE LIMIT SETTINGS	CHECK FOR LOOSE FASTENERS	CHECK COUNTERBALANCE SPRINGS	LUBRICATE COUNTERBALANCE SPRING	.
DATE	CYCLES	SCHEDULE											
		JANUARY											
		FEBRUARY											
		MARCH											
		APRIL											
		MAY											
		JUNE											
		JULY											
		AUGUST											
		SEPTEMBER											
		OCTOBER											
		NOVEMBER											
		DECEMBER											

NOTE 1, PROPER LIMIT CHAIN TENSION IS ABOUT  $\frac{3}{8}$ " (3) SLACK IN EACH DIRECTION FOR A TOTAL MOVEMENT OF ABOUT  $\frac{1}{4}$ " (6).

NOTE 2, PROPER DRIVE CHAIN TENSION IS ABOUT  $\frac{1}{4}$ " (6) SLACK IN EACH DIRECTION FOR A TOTAL MOVEMENT OF ABOUT  $\frac{1}{2}$ " (12).

NOTE 3, SPRING CHAIN TENSION IS MAINTAINED AUTOMATICALLY. CHECK THAT CHAIN IS TAUT.

NOTE 4, CONDITIONS WILL DICTATE LUBRICATION REQUIREMENTS, CHAINS MUST BE KEPT CLEAN AND WELL LUBRICATED WITH A W30 OIL.

NOTE 5, STANDING CLEAR OF THE CURTAIN PATH, COMPRESS THE REVERSING EDGE DURING THE CLOSE CYCLE. DOOR SHOULD REVERSE.

NOTE 6, STANDING CLEAR OF THE CURTAIN PATH, COVER THE PHOTOSWITCH BEAM DURING THE CLOSING CYCLE. DOOR SHOULD REVERSE..

NOTE 7, CYCLE THE DOOR TO THE OPEN AND CLOSE POSITION. CHECK FOR ADEQUATE STOPPING LOCATIONS.

NOTE 8, CHECK FOR ANY LOOSE FASTENERS. TIGHTEN AS REQUIRED.

NOTE 9, VISUAL CHECK FOR BROKEN SPRING WIRE.

NOTE 10, APPLY A SPRAY LUBRICANT TO BOTH THE INNER AND OUTER SPRING TO REDUCE NOISE AND MAINTAIN INTENDED SPRING LIFE.  
RECOMMENDED LUBRICANT IS "FLUID FILM" MADE BY EUREKA.

## RECOMMENDED SPARE PARTS

THERE ARE NO PARTS TO REPLACE ON THE DOOR SYSTEM DURING REGULAR MAINTENANCE CHECKS. AS THE MAINTENANCE SCHEDULE APPROACHES 100,000 CYCLES (OR OPTIONAL 200,000 CYCLE SPRINGS) REPLACEMENT SPRINGS MAY BE ORDERED TO FACILITATE A SCHEDULED CHANGE.

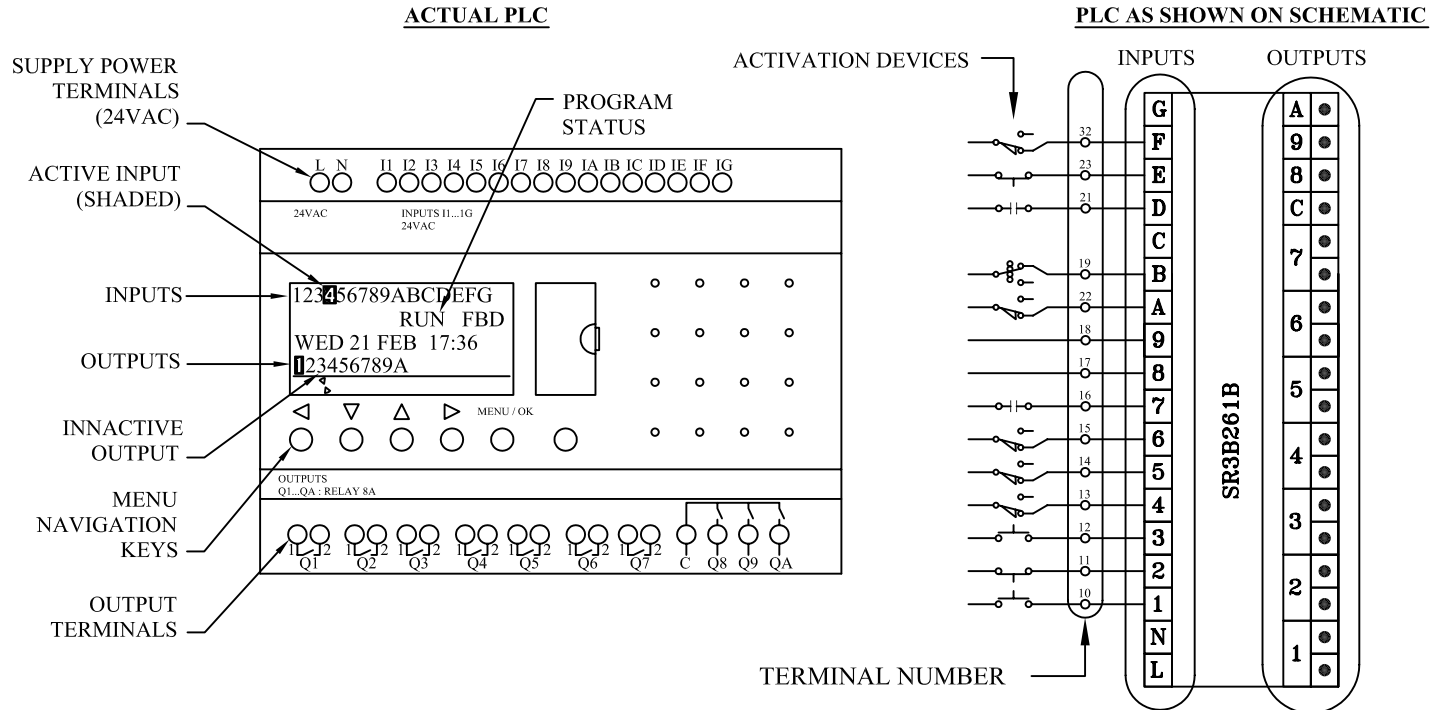
IF THE DOOR IS LIKELY TO BE IMPACTED, KNOCK-AWAY BOLTS & NUTS SHOULD BE KEPT ON HAND FOR BOTTOM BAR ASSEMBLY.



REV. DATE: APRIL 21, 2010

DRAWING No.: D-632-0022

## ELECTRICAL TROUBLESHOOTING GUIDE



REFER TO NOTES (i), (ii), AND DIAGRAMS FOR HOW TO READ PLC INPUT/OUTPUT ACTIVATION

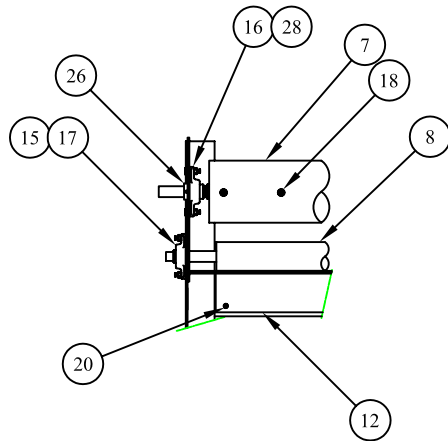
SYMPTOM	POSSIBLE CAUSE	SOLUTION
DOOR DOES NOT OPERATE ELECTRICALLY	<ul style="list-style-type: none"> <li>- MANUAL CHAIN HOIST DISCONNECT SWITCH ENGAGED</li> <li>- BLOWN FUSE</li> <li>- DISCONNECT TURNED OFF</li> <li>- MOTOR OVER LOAD TRIPPED</li> <li>- PLC PROGRAM STOPPED</li> </ul>	<ul style="list-style-type: none"> <li>- DISENGAGE CHAIN HOIST / ADJUST CABLE TENSION</li> <li>- REPLACE FUSES</li> <li>- TURN DISCONNECT ON</li> <li>- RESET OVER LOAD</li> <li>- CHECK PROGRAM STATUS ON DISPLAY. RESTART PROGRAM</li> </ul>
RUNS IN OPPOSITE DIRECTION	<ul style="list-style-type: none"> <li>- PHASING IS REVERSED</li> </ul>	<ul style="list-style-type: none"> <li>- INTERCHANGE M1 &amp; M2 FIELD WIRES</li> </ul>
DOOR REVERSES WHEN CLOSING	<ul style="list-style-type: none"> <li>- PHOTCELLS MISALIGNED</li> <li>- REVERSING EDGE / PHOTCELL / FLOOR LOOP SENSITIVITY SET TOO HIGH</li> <li>- SHORT CIRCUIT IN SAFETY DEVICE WIRING</li> <li>- COIL CORD TRIPS PHOTOCCELL</li> </ul>	<ul style="list-style-type: none"> <li>- ADJUST PHOTOCCELLS SO THAT ALL THREE LIGHTS ARE LIT ON TOP OF PHOTOCCELL RECEIVER</li> <li>- ADJUST DEVICE SENSITIVITY</li> <li>- TRACE WIRING TO FIND SHORT CIRCUIT</li> <li>- ADJUST COIL CORD / PHOTOCCELL POSITION</li> </ul>
REVERSING EDGE DOES NOT REVERSE DOOR	<ul style="list-style-type: none"> <li>- KINKED SENSING TUBE</li> <li>- SENSITIVITY SET TOO LOW</li> <li>- FAULTY REVERSING EDGE</li> <li>- WIRED INCORRECTLY</li> </ul>	<ul style="list-style-type: none"> <li>- DISCONNECT POWER, THEN DISCONNECT THE SENSING TUBE FROM THE AIR SWITCH AND HOLD THE END OF THE TUBE UP TO YOUR EAR AND HIT THE REVERSING EDGE WITH YOUR HAND. IF YOU CAN'T FEEL AND HEAR THE AIR COMING FROM THE EDGE, TRY TO CLEAR THE SENSING TUBE. IF PROBLEM PERSISTS REPLACE THE SENSING TUBE.</li> <li>- ADJUST SENSITIVITY</li> <li>- CONTINUITY TEST REVERSING EDGE AND REPLACE IF NECESSARY</li> <li>- VERIFY WIRING.</li> </ul>
PHOTOCCELL DOES NOT REVERSE DOOR	<ul style="list-style-type: none"> <li>- SENSITIVITY SET TOO LOW</li> <li>- WIRED INCORRECTLY</li> <li>- FAULTY PHOTOCCELL</li> </ul>	<ul style="list-style-type: none"> <li>- CHECK THE TOP OF THE LIGHT SOURCE AND RECEIVER TO ENSURE ALL OF THE LIGHTS ARE LIT UP. PLACE SOMETHING OVER ONE OF THE PHOTOCCELLS TO BLOCK THE BEAM AND CHECK THE PLC TO SEE THAT THE PHOTOCCELL IS ACTIVATED. REFER TO PHOTOCCELL WIRING DIAGRAM FOR PROPER WIRING AND LIGHT DESCRIPTIONS.</li> <li>- DISCONNECT WHITE AND ORANGE PHOTOCCELL LEADS FROM FIELD WIRING. CHECK THE WHITE AND ORANGE LEADS FOR CONTINUITY. THERE SHOULD ONLY BE CONTINUITY WHEN THE BEAM IS BLOCKED.</li> </ul>

(i) INPUTS ARE SHOWN ON THE TOP OF THE PLC DISPLAY. IF AN INPUT IS SHADED IT IS ACTIVE (RECEIVING A SIGNAL FROM THE ACTIVATION DEVICE).

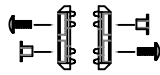
(ii) OUTPUTS ARE SHOWN ON THE BOTTOM OF THE PLC DISPLAY. IF AN OUTPUT IS SHADED IT IS ACTIVE.

# PRIMARY PARTS LIST

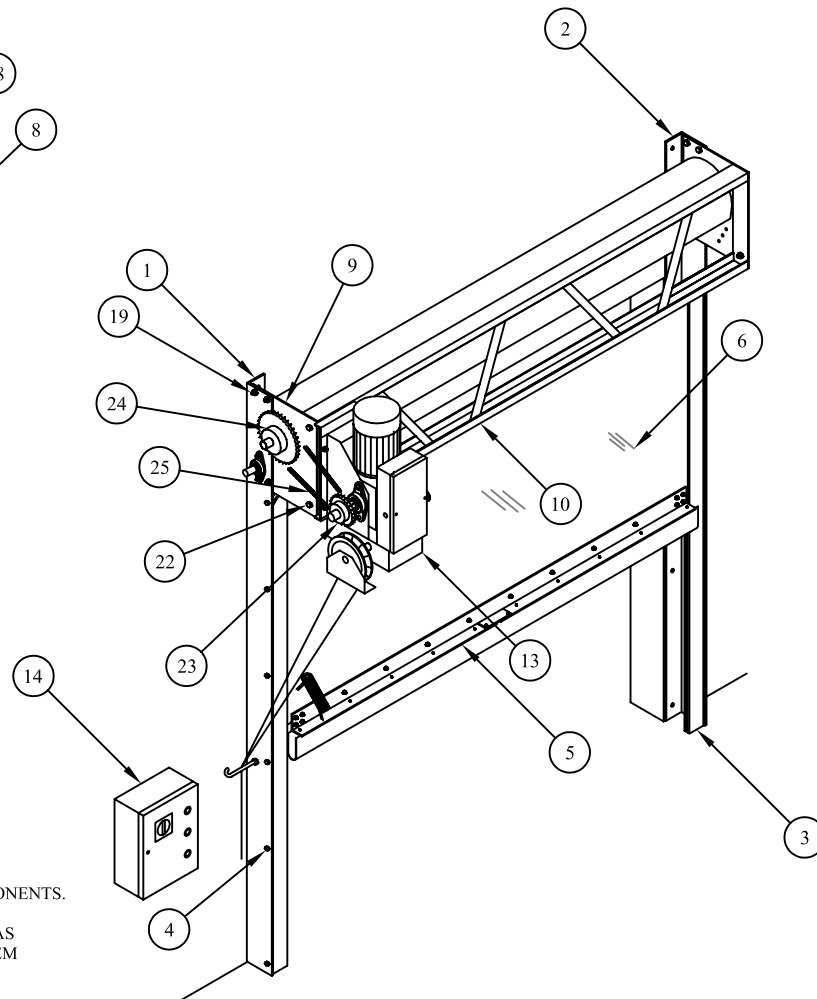
MODEL EPR-20  
(LEFT HAND DOOR SHOWN)



ENLARGED FRONT VIEW WITH  
TRUSS AND CURTAIN REMOVED



ENLARGED VIEW  
ITEM 27



\* SEE ADDITIONAL PARTS LIST FOR SUB-COMPONENTS.

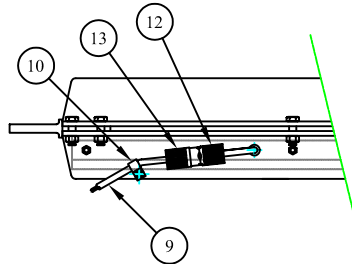
\*\* DOOR MOUNTING ANGLES ARE IDENTIFIED AS SHOWN. SOME INSTALLATIONS MAY HAVE THEM EXCHANGED.

\*\*\* SEE OPERATOR MOUNTING HARDWARE PAGE.

ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION	ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION
1	1	D-205-0002	** DOOR MOUNTING ANGLE, LEFT HAND	15	2	105-0005	IDLER BARREL BEARING, 1 1/4" I.D.
2	1	D-205-0003	** DOOR MOUNTING ANGLE, RIGHT HAND	16	2	105-0006	DRIVE BARREL BEARING, 1 1/2" I.D.
3	2	D-205-0013	4" GUIDE, FABRICATED	17	2	D-210-0004	BEARING MOUNTING HARDWARE KIT, 1/2"
4	VARIES	D-210-0011	GUIDE MOUNTING BOLT (10 BOLT KIT)	18	VARIES	D-210-0007	CURTAIN BOLT & WASHER (10 PAIR KIT)
5	1	604-0001	* BOTTOM BAR ASSEMBLY	19	1	D-210-0003	DOOR MOUNTING HARDWARE KIT
6	1	604-0002	CURTAIN ASSEMBLY	20	VARIES	D-210-0008	LINTEL HARDWARE KIT (10 SCREW KIT)
7	1	D-200-0004	DRIVE BARREL ASSEMBLY	21	1	VARIES	*** OPERATOR MOUNTING HARDWARE KIT
8	1	D-204-0003	IDLER BARREL ASSEMBLY	22	1	D-210-0018	TRUSS MOUNTING HARDWARE KIT
9	2	D-203-0012	ENDPLATE	23	1	604-0007	OPERATOR DRIVE SPROCKET
10	1	604-0003	TRUSS ASSEMBLY	24	1	604-0008	OPERATOR DOOR SPROCKET
11	1	604-0041	* INERTIA BRAKE ASSEMBLY	25	1	604-0009	OPERATOR DRIVE CHAIN (10 FT)
12	1	D-209-0033	* LINTEL SEAL ASSEMBLY	26	2	105-0011	STOP COLLAR, 1 1/2" ID
13	1	604-0005	* ELECTRIC OPERATOR	27	VARIES	D-210-0040	GREY CURTAINLOK ASS'Y KIT (5 ASSEMBLIES)
14	1	604-0006	* ELECTRICAL CONTROL PANEL	28	2	210-0042	BEARING MOUNTING HARDWARE KIT, 5/8"

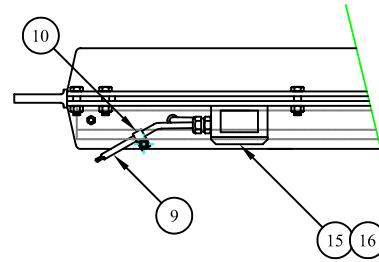
# BOTTOM BAR ASSEMBLY PARTS LIST

(LEFT HAND BOTTOM BAR SHOWN)

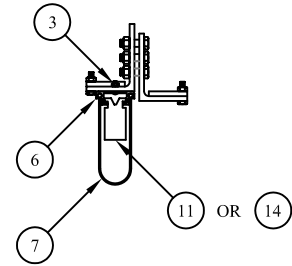
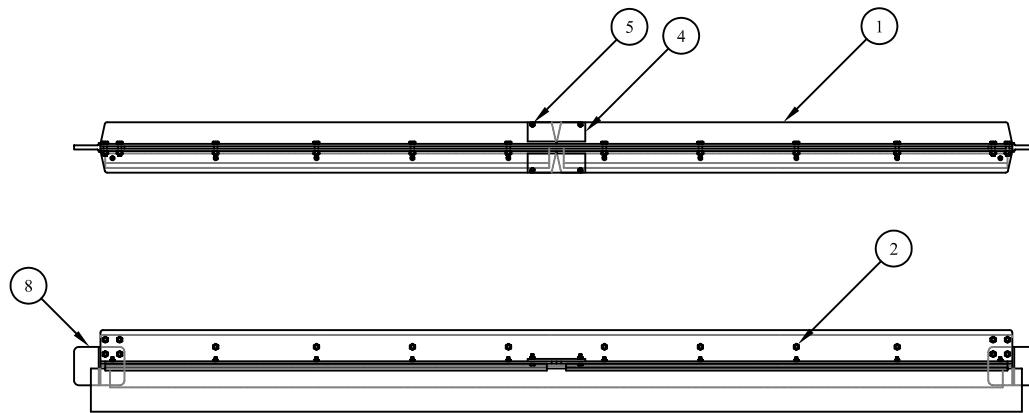


ELECTRIC REVERSING EDGE  
SHOWN AS LEFT-HAND DOOR.

OR



AIR-WAVE REVERSING EDGE  
SHOWN AS LEFT-HAND DOOR.



ENLARGED SIDE VIEW  
BOTTOM BAR ARM NOT  
SHOWN IN THIS VIEW

\* PARTS APPLY TO ELECTRIC REVERSING EDGE ONLY.

\*\* PARTS APPLY TO AIR-WAVE REVERSING EDGE ONLY.

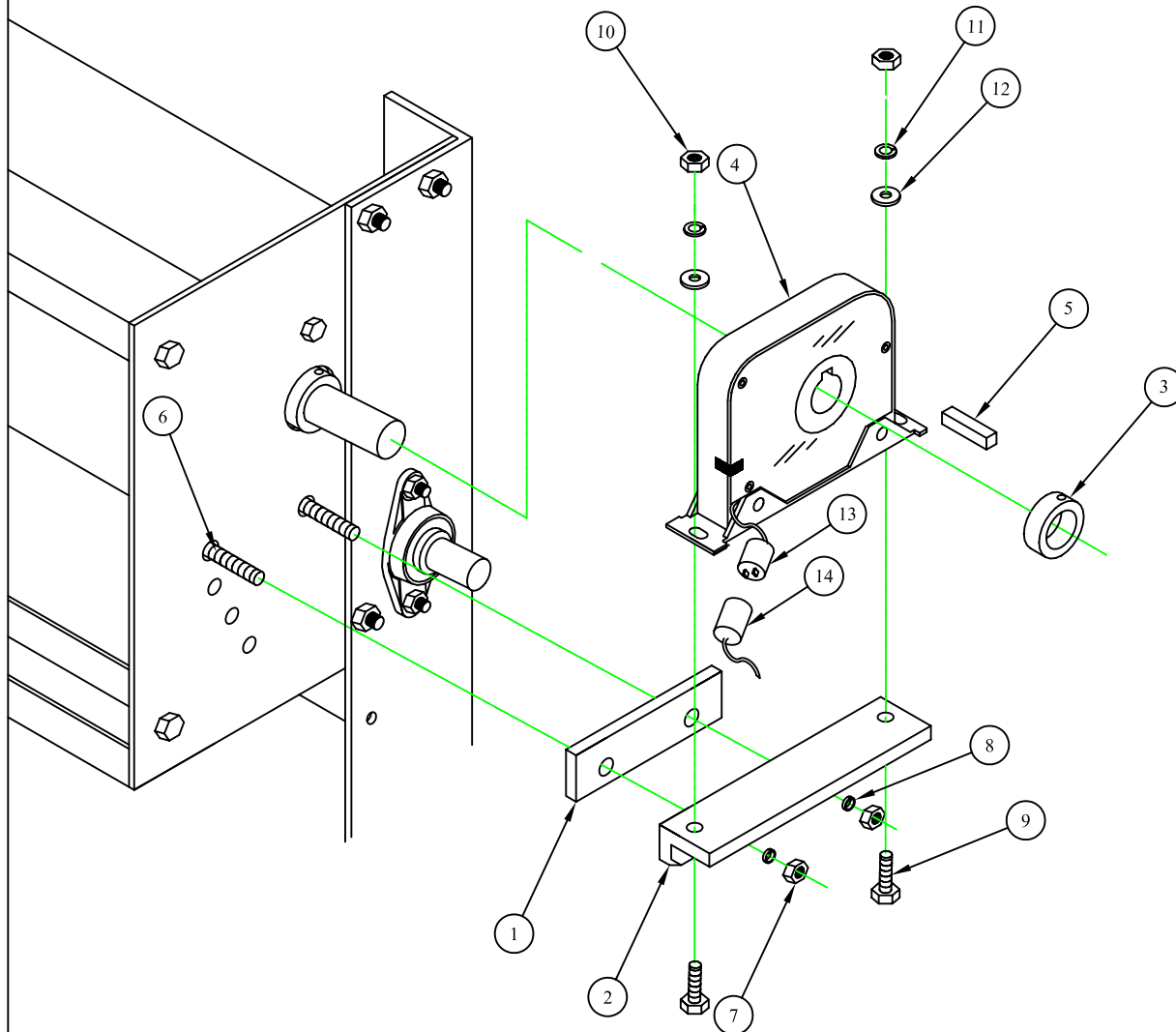
ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION	ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION
1	1	D-202-0001	BOTTOM BAR STRUCTURAL	11	1	D-202-0009	* REVERSING EDGE
2	VARIES	D-210-0019	B-BAR MOUNTING BOLT & NUT (10 PAIR KIT)	12	1	109-0007	* MALE ELECTRICAL CONNECTOR
3	VARIES	D-210-0020	RETAINER MOUNTING BOLT & NUT (10 PAIR KIT)	13	1	109-0008	* FEMALE ELECTRICAL CONNECTOR
4	2	D-202-0003	KNOCK-AWAY PLATE	14	1	D-202-0010	**REVERSING EDGE
5	1	D-210-0021	KNOCK-AWAY BOLT & NUT (4 PAIR KIT)	15	1	109-0021	** AIR-WAVE SWITCH
6	2	D-202-0005	ALUMINUM RETAINER	16	2	106-0036	** AIR-WAVE SWITCH MOUNTING SCREW
7	1	D-202-0006	RUBBER LOOP EXTRUSION	17	-	-	-
8	2	D-202-0019	BOTTOM BAR ARM	18	-	-	-
9	1	109-0077	2 WIRE COIL CORD	19	-	-	-
10	1	107-0016	WIRE CLIP	20	-	-	-

**COOKSON** Preferred door solutions®

REV. DATE: APRIL 21, 2010

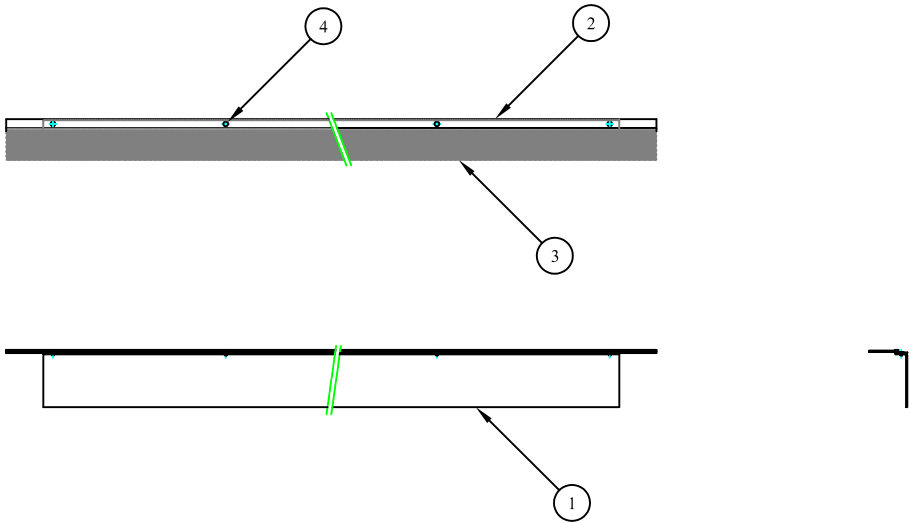
DRAWING No.: D-632-0016

## INERTIA BRAKE ASSEMBLY PARTS LIST



ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION	ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION
1	1	203-0048	FG SPACER PLATE, 1/2" THICK	11	2	106-0012	1/2" SPLIT LOCKWASHER PLATED
2	1	203-0047	FG INERTIA BRAKE BASE	12	2	106-0013	1/2" FLAT WASHER PLATED
3	1	105-0011	1 1/2" I.D. STOP COLLAR	13	1	109-0007	HUBBELL CONNECTOR, MALE HBL7465VCN
4	1	105-0021	INERTIA BRAKE, ELEK. FG65-38	14	1	109-0008	HUBBELL CONNECTOR, FEMALE HBL7464VCN
5	1	105-0002	KEYSTOCK, 3/8" x 3/8"	15	-	-	-
6	2	106-0031	5/8- 11NC x 2 1/4" LG. HHCS, GRADE 5, PLATED	16	-	-	-
7	2	106-0016	5/8- 11NC HEX NUT, PLATED	17	-	-	-
8	2	106-0017	5/8" SPLIT LOCKWASHER, PLATED	18	-	-	-
9	2	106-0010	1/2-13NC x 1-3/4" LG. HHCS GRADE 5 PLATED	19	-	-	-
10	2	106-0011	1/2-13NC HEX NUT PLATED	20	-	-	-

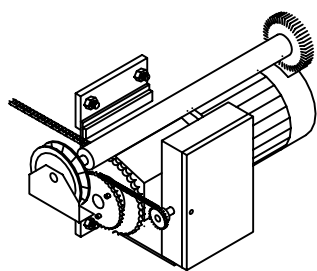
# LINTEL SEAL ASSEMBLY PARTS LIST



ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION	ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION
1	1	D-209-0032	BRUSH RETAINER HOLDER	4	-	107-0015	Ø 3/16" RIVET
2	1	101-0001	1 1/4" ALUMINUM RETAINER	5	-	-	-
3	1	102-0014	3" BRUSH	6	-	-	-



# OPERATOR MOUNTING HARDWARE PARTS LIST



ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION	ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION
1	1	604-0019	MASTERLINK	7	1	D-210-0026	HG OPERATOR MOUNTING BOLT KIT
2	1	604-0020	HALFLINK	8	-	-	-
3	1	107-0003	"J" CLIP	9	-	-	-
4	1	604-0021	KEYSTOCK FOR OPERATOR DRIVE SPROCKET	10	-	-	-
5	1	604-0022	KEYSTOCK FOR OPERATOR DOOR SPROCKET	11	-	-	-
6	1	D-210-0025	"J" BOLT AND NUT KIT	12	-	-	-

INSERT OPERATOR  
DRAWING HERE

11" x 17" PAPER