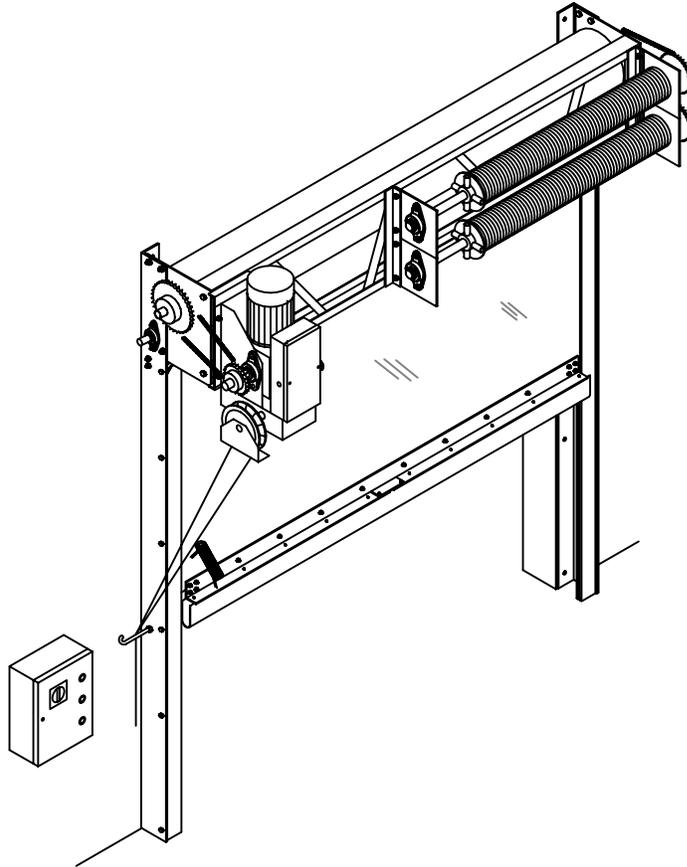


# INSTALLATION & SERVICE MANUAL

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



END USER:

DEALER:

DOOR SERIAL No.:

DOOR MODEL: EPR-10

DOOR SIZE: WIDE x HIGH

DOOR HANDING:

INSIDE TO INSIDE MEASUREMENT:

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

**CORNELL**  
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24 Elmwood Avenue • Mountain Top, PA 18707  
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www.cornelliron.com

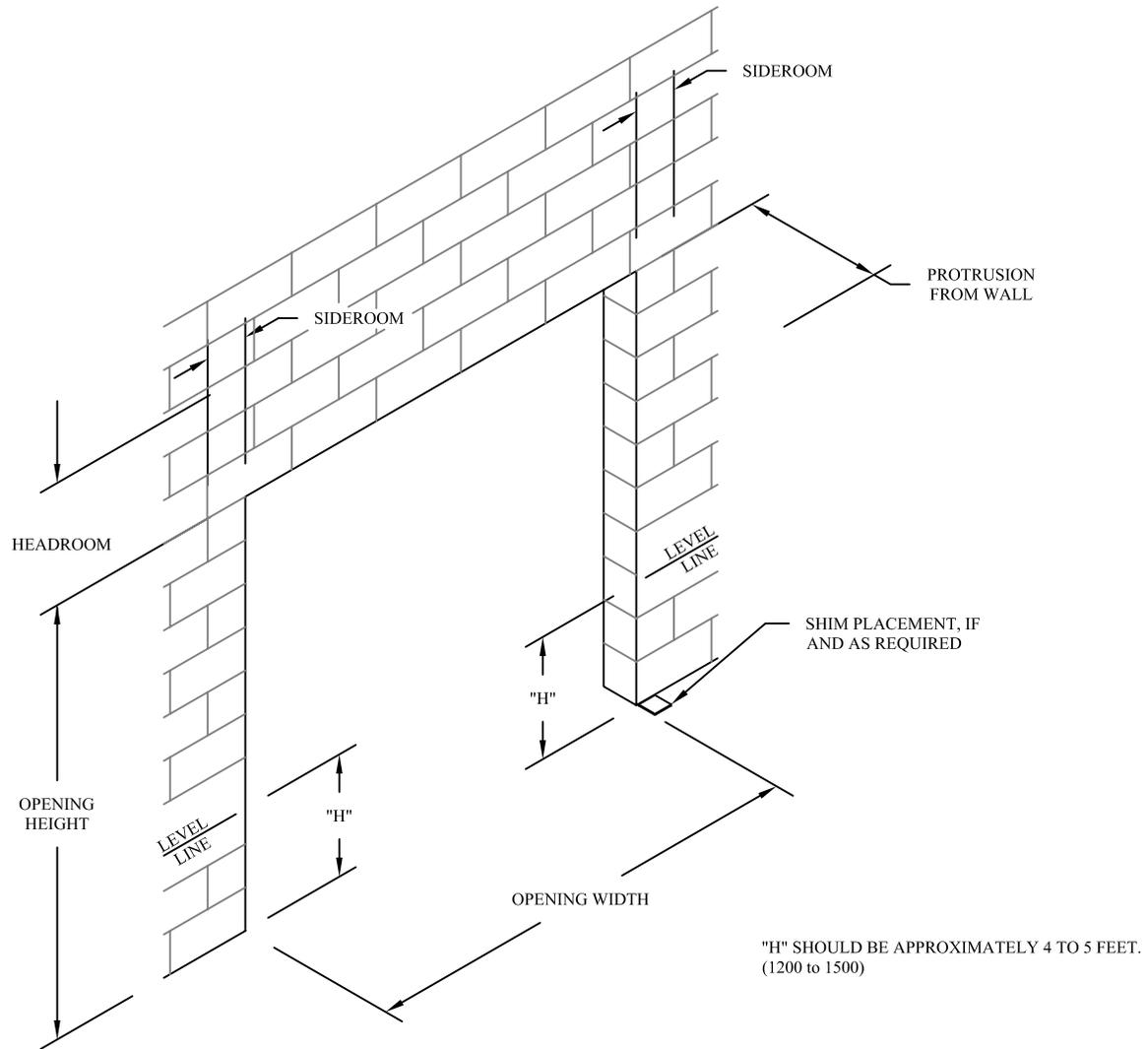
MANUAL-001

REV. DATE: APRIL 27, 2009

DRAWING No.: D-632-0012

## 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.

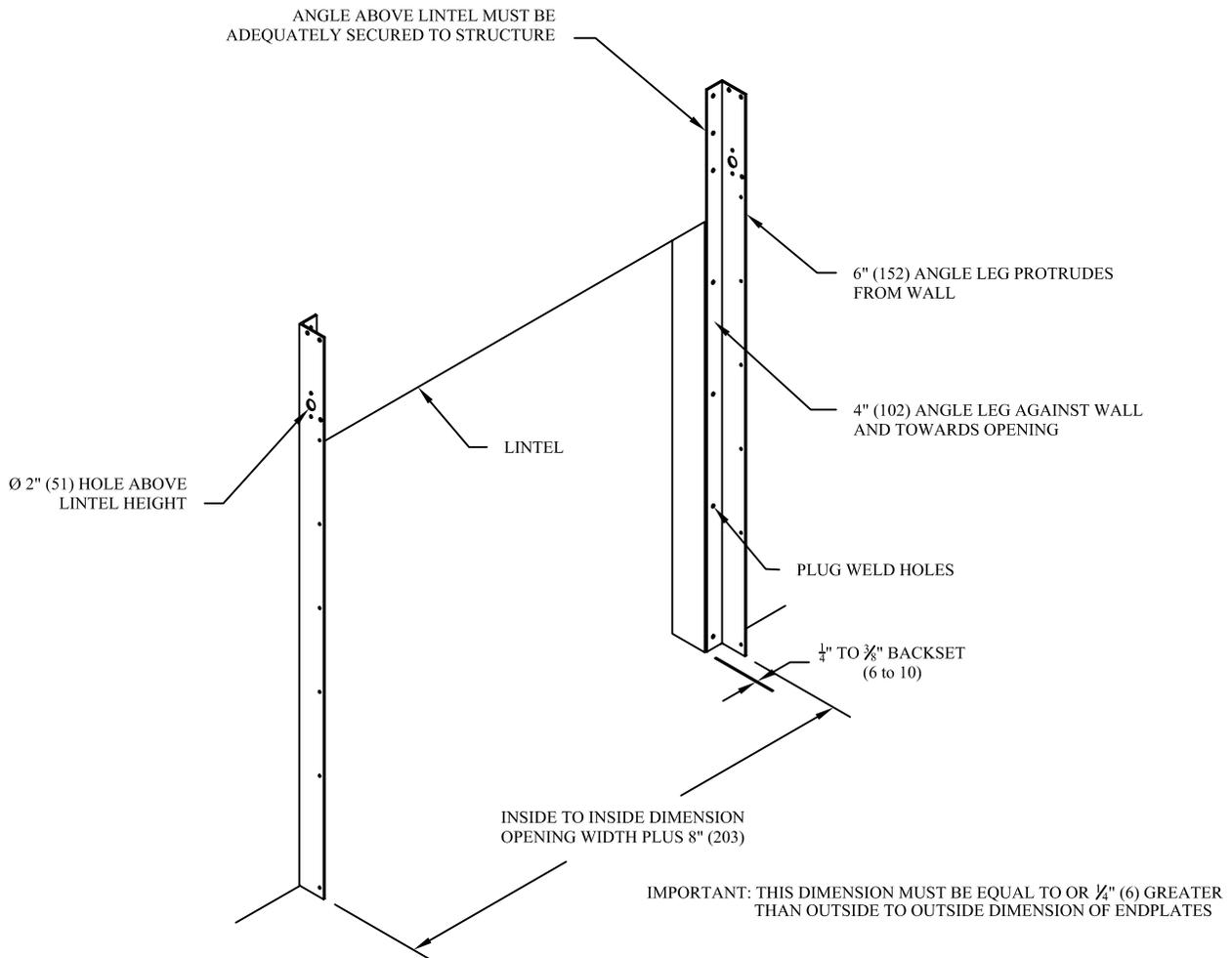
REV. DATE: OCT. 18, 2004

DRAWING No.: D-632-0001

## 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.

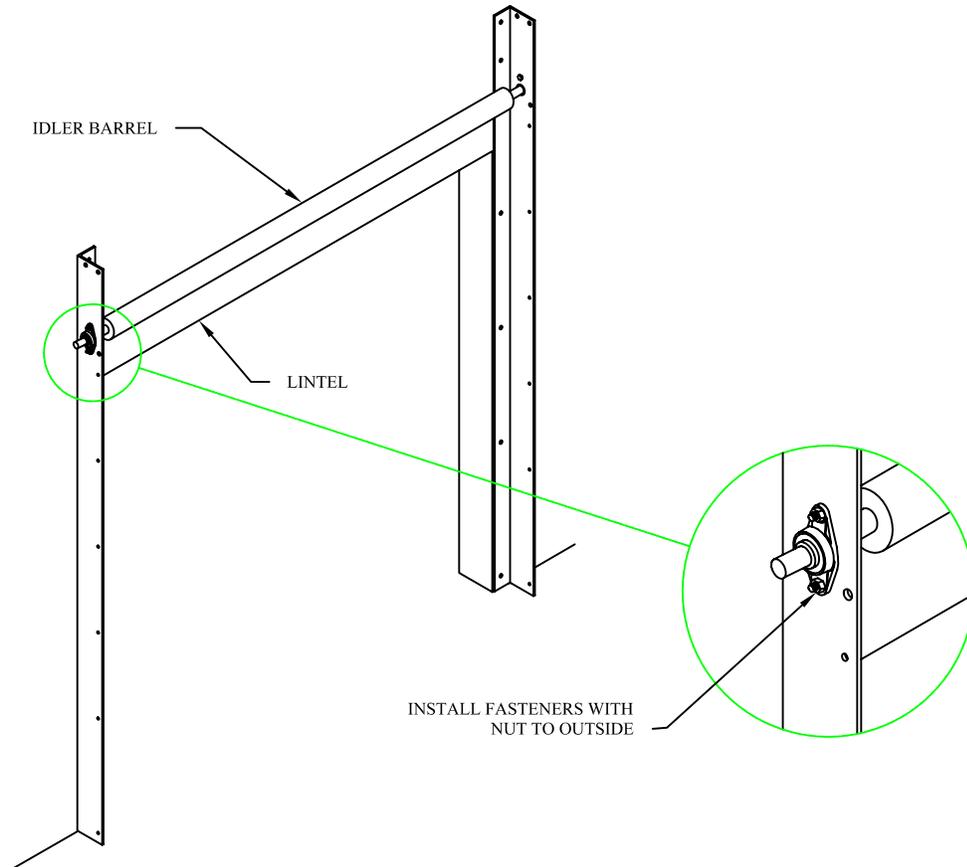
REV. DATE: APR. 27, 2006

DRAWING No.: D-632-0002



### STEP 3, INSTALL IDLER BARREL

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



(i) POSITION THE IDLER BARREL BY PLACING THE SHAFT ENDS THROUGH THE  $\varnothing 2''$  (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  $\varnothing \frac{1}{2}''$  (12) BOLTS. INSTALL THE NUTS TO THE OUTSIDE OF THE MOUNTING ANGLES.

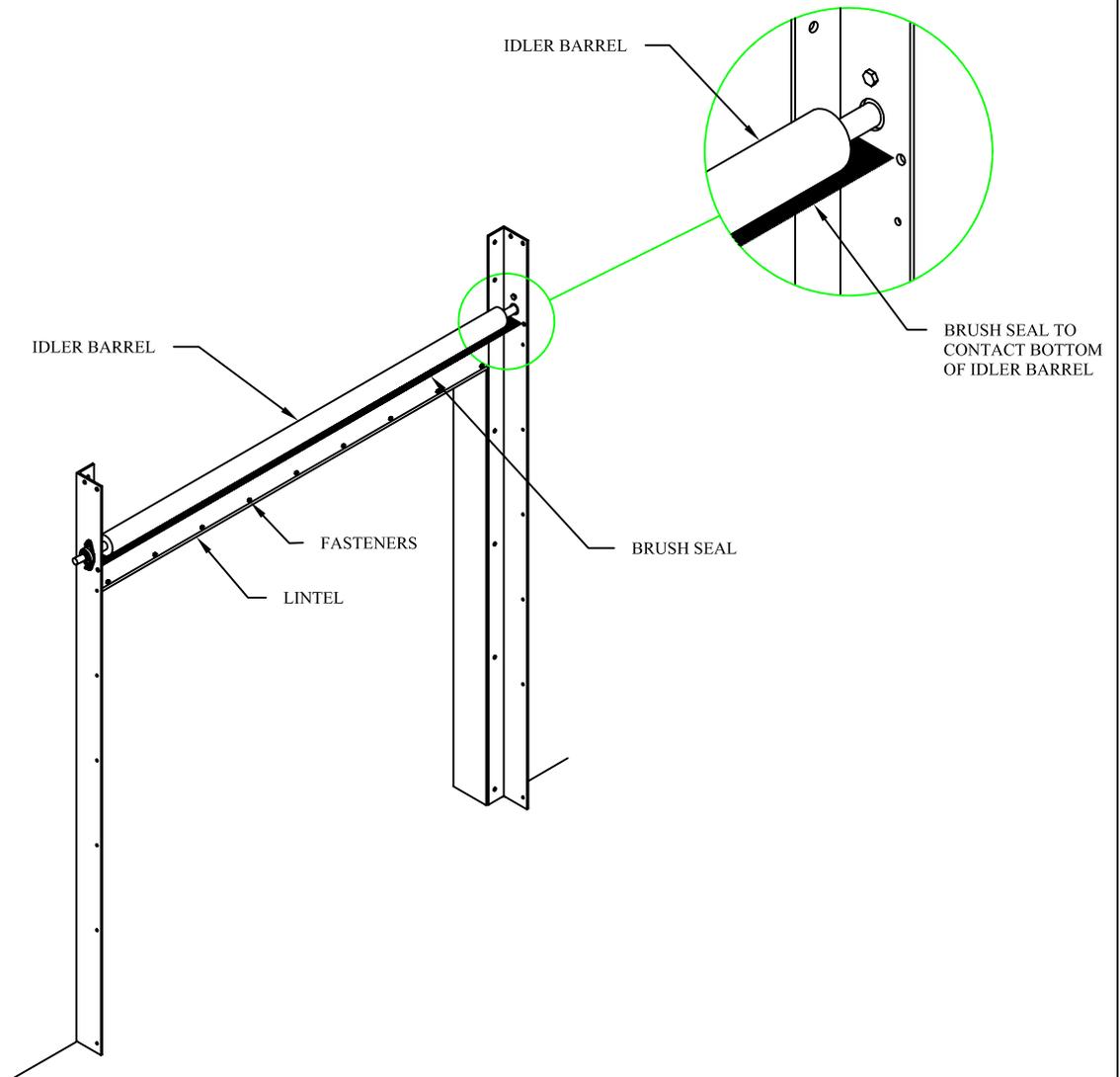
(iii) CENTRE THE IDLER BARREL AND TIGHTEN THE SETSCREWS.

REV. DATE: OCT. 18, 2004

DRAWING No.: D-632-0005

## 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.

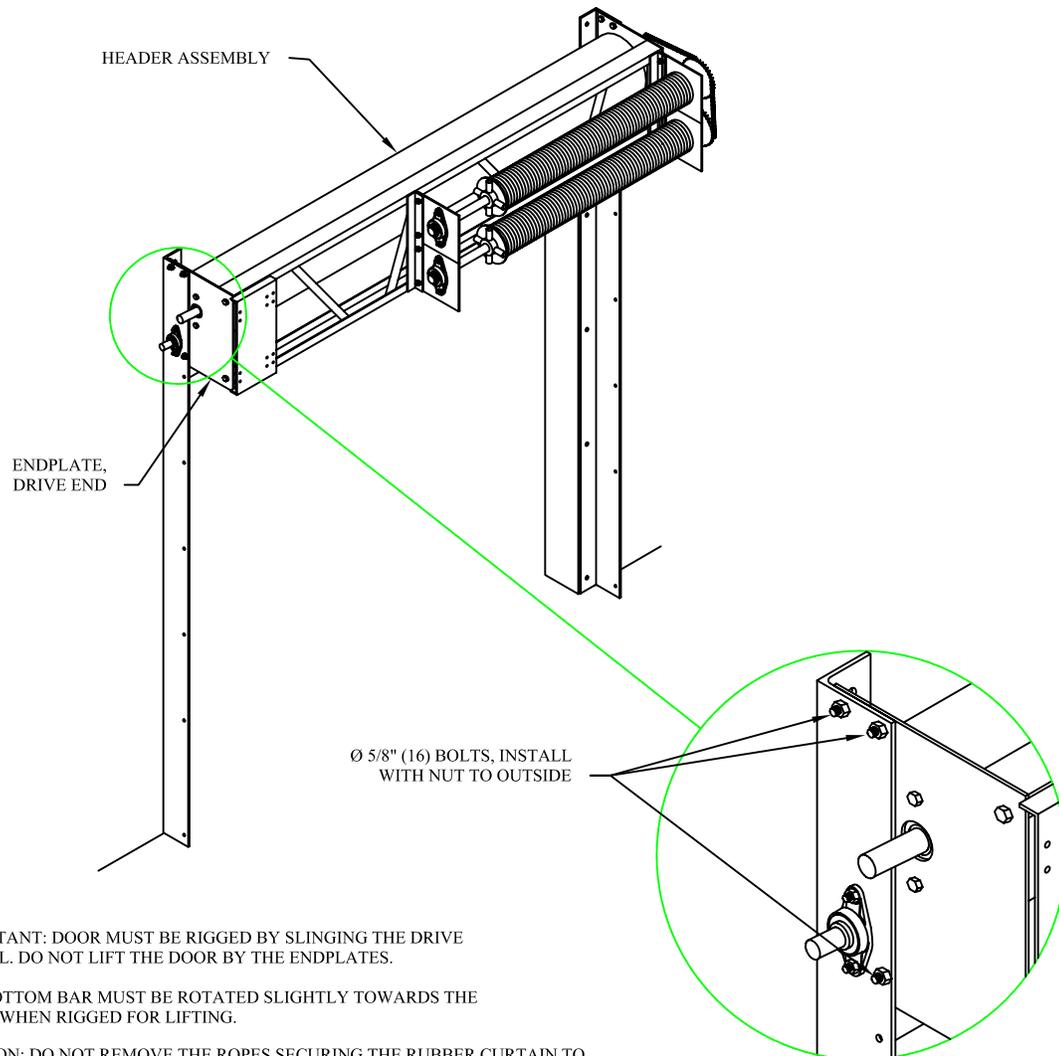
REV. DATE: MAY 27, 2005

DRAWING No.: D-632-0004

## 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  $\text{Ø } \frac{5}{8}$ " (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.

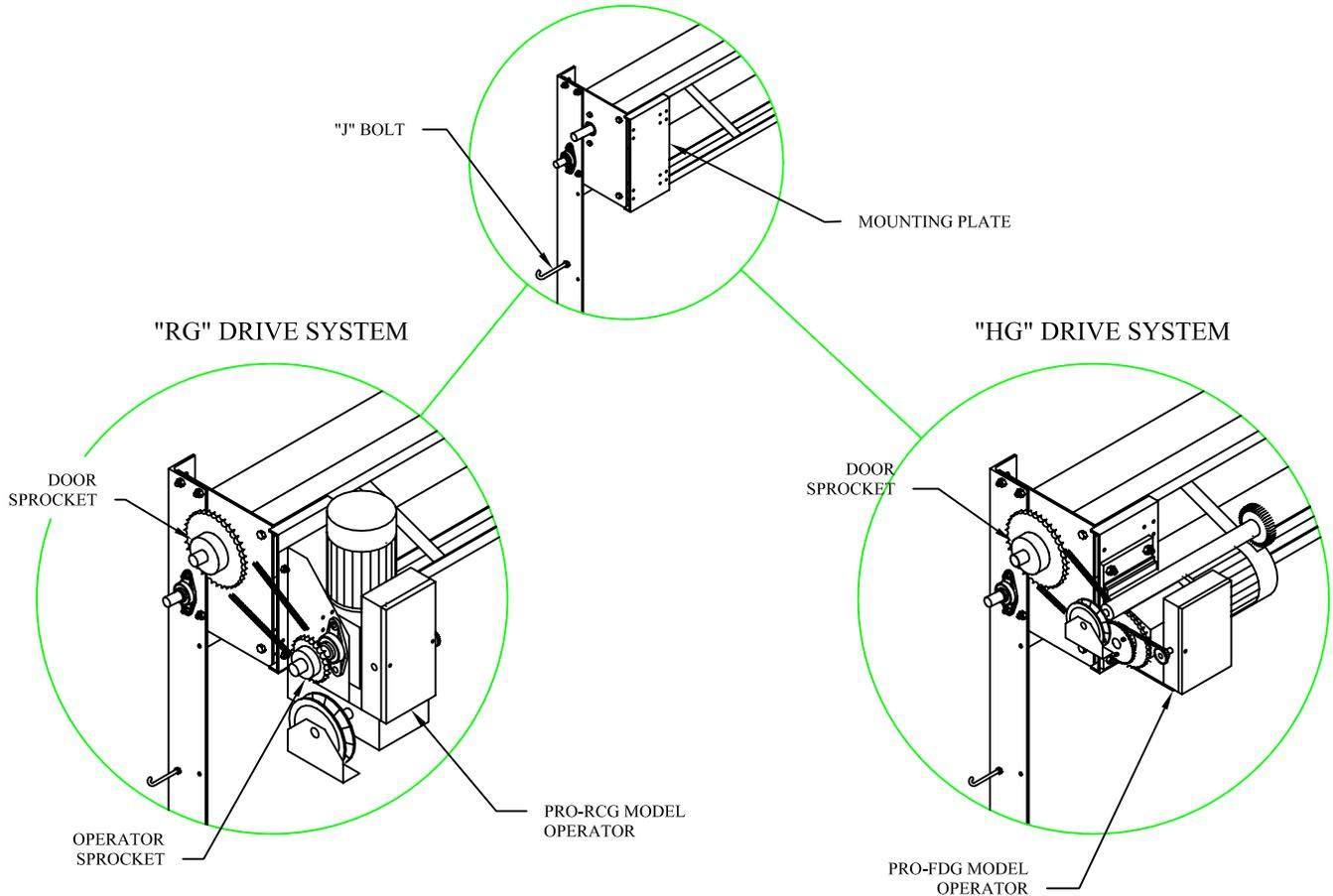
REV. DATE: OCT. 18, 2004

DRAWING No.: D-632-0006

## STEP 6, INSTALL OPERATOR

(LEFT HAND DOOR SHOWN)

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



IMPORTANT: DO NOT ENGAGE MANUAL CHAIN HOIST UNTIL SPRINGS HAVE BEEN CHARGED.

(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) IF NOT PRE-MOUNTED, MOUNT THE OPERATOR SPROCKET ON THE OPERATOR OUTPUT SHAFT. ALIGN THE SPROCKETS TO EACH OTHER AND AS CLOSE AS POSSIBLE TO THE ENDPLATE. 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. DO NOT ENGAGE UNTIL SPRINGS HAVE BEEN CHARGED.

(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.

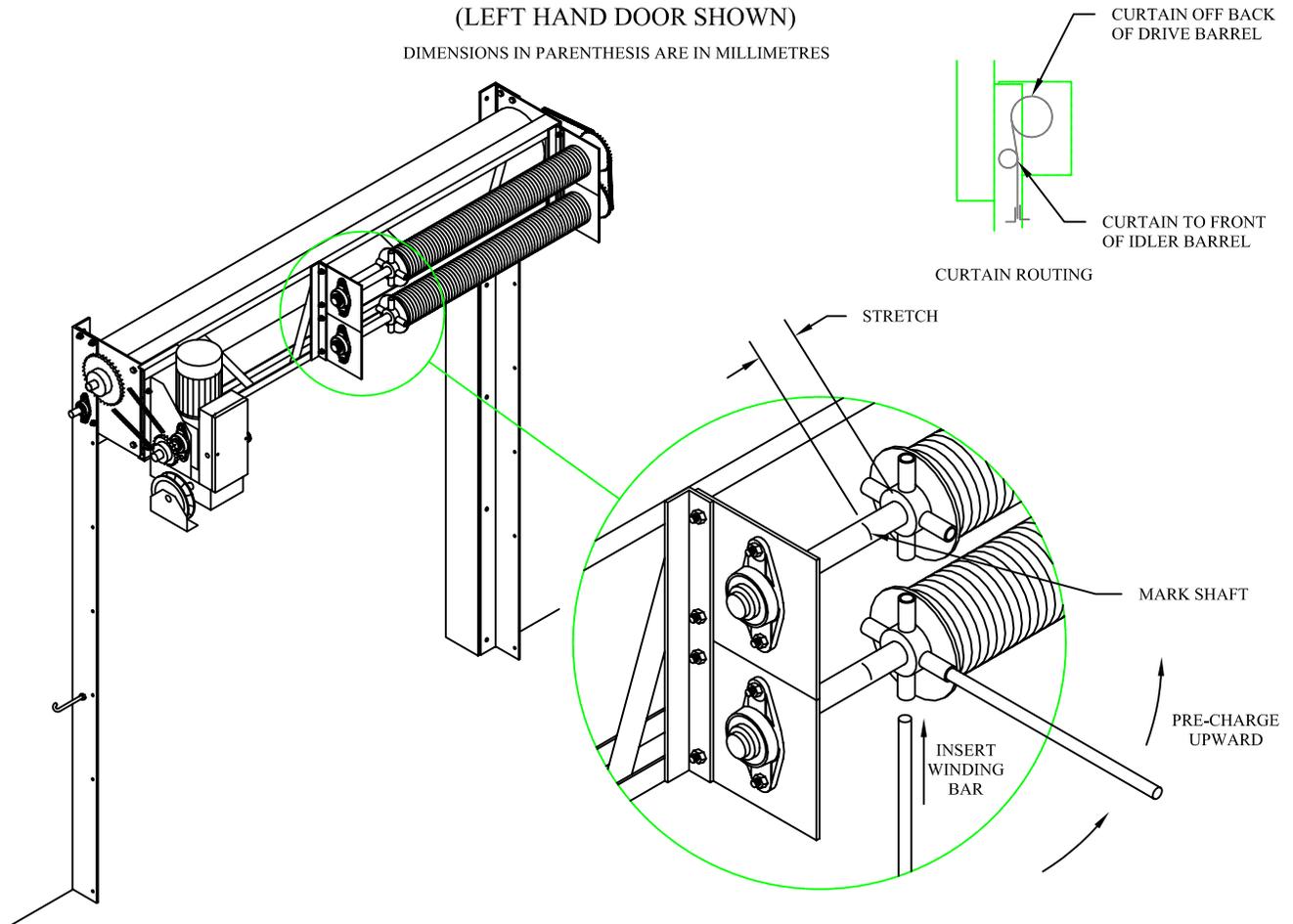
REV. DATE: JUNE 30, 2006

DRAWING No.: D-632-0007

## STEP 7, PRE-CHARGE SPRINGS

(LEFT HAND DOOR SHOWN)

DIMENSIONS IN PARENTHESIS ARE IN MILLIMETRES



CAUTION: TORSION SPRINGS STORE MECHANICAL ENERGY AND CAN BE EXTREMELY DANGEROUS. THIS PORTION OF THE INSTALLATION SHOULD BE CARRIED OUT BY A QUALIFIED DOOR SERVICE TECHNICIAN.

(i) FROM THE DOOR TAG, OBTAIN THE QUANTITY FOR BOTH STRETCH AND PRECHARGE. THESE QUANTITIES APPLY TO EACH SPRING ASSEMBLY ON THE DOOR REGARDLESS OF THE TOTAL NUMBER OF SPRINGS.

(ii) ASSURING THE SPRING IS FULLY COMPRESSED, MEASURE THE STRETCH DISTANCE (inches) ALONG THE SHAFT FROM THE WINDING HUB. MARK THE SHAFT(S) AT THIS DIMENSION FROM ALL WINDING HUBS.

(iii) USE A  $\frac{3}{4}$ " (19) DIAMETRE x MINIMUM 30" (760) LONG WINDING BAR TO ROTATE THE WINDING HUB UPWARDS. ALLOW THE WINDING HUB TO SLOWLY ROTATE BACKWARDS FROM ITS OWN ENERGY. THE PRE-CHARGE TURNS MUST BE MEASURED FROM THIS INITIAL LOCATION.

(iv) MARK A HORIZONTAL LINE ALONG THE SPRING TO LATER REFERENCE THE NUMBER OF TURNS IF REQUIRED.

(v) PRE-CHARGE THE SPRINGS UPWARD THE REQUIRED NUMBER OF TURNS (COMPLETE REVOLUTIONS) BY INDEXING TWO WINDING BARS ON 90 DEGREE INCREMENTS.

(vi) AFTER COMPLETING THE PRE-CHARGE, STRETCH THE SPRING TO THE PREMEASURED MARK ON THE SHAFT. ADD ENOUGH PRE-CHARGE TO ALIGN THE NEXT SETSCREW WITH THE GROUND FLAT ON THE SHAFT AND TIGHTEN ALL SETSCREWS.

(vii) COMPLETE THIS PROCEDURE WITH ALL SPRINGS.

(viii) WITH PRE-CHARGE COMPLETE, VERIFY COUNTERBALANCE BY MANUALLY OSCILLATING THE DRIVE BARREL. A PROPER BALANCE WILL ALLOW YOU TO ALTERNATE THE CHAIN TENSION AT THE OPERATOR FROM TOP TO BOTTOM. ADJUST PRE-CHARGE AS REQUIRED.

(ix) 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.

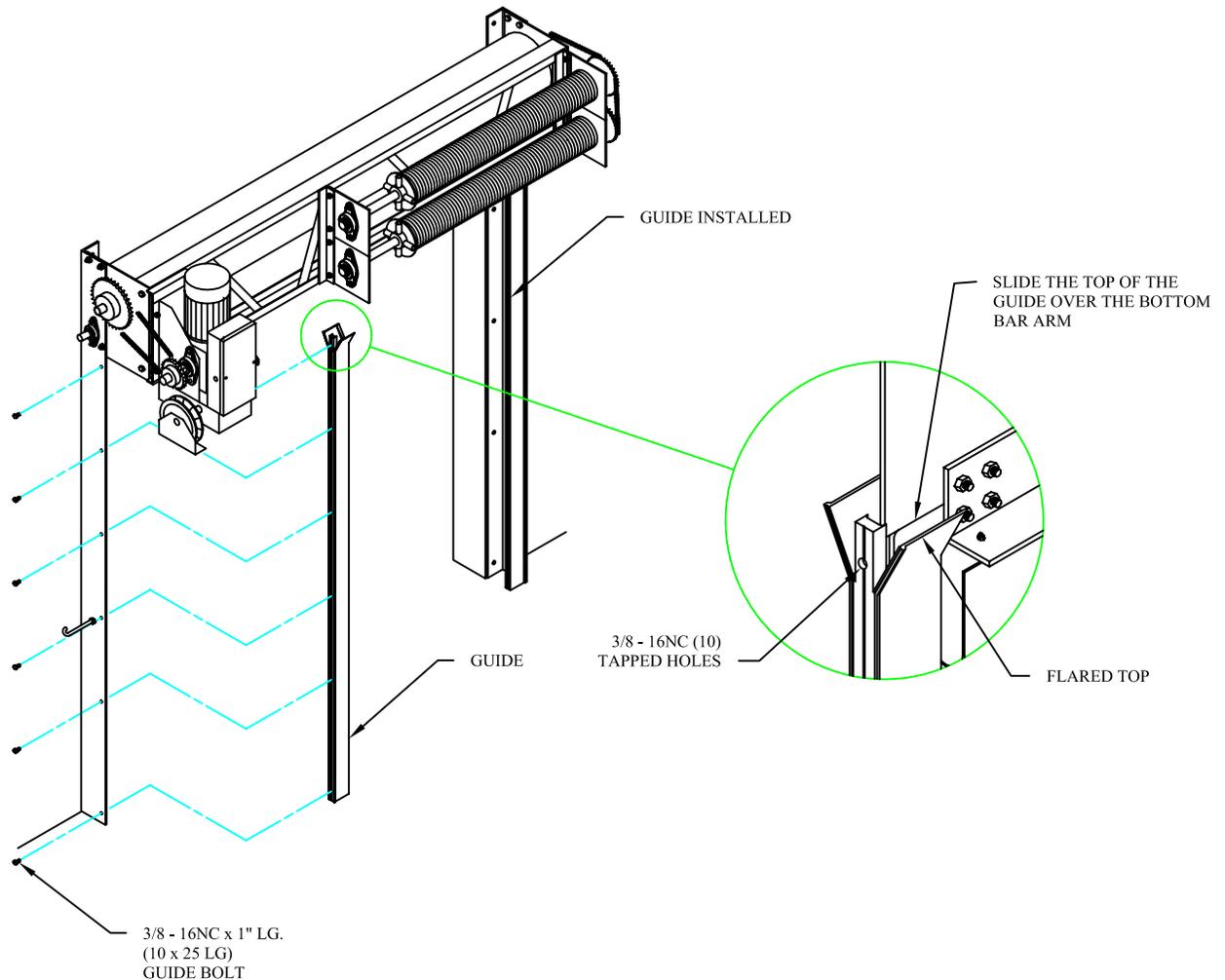
REV. DATE: OCT. 18, 2004

DRAWING No.: D-632-0008

## STEP 8, 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) BOTH GUIDES ARE INTERCHANGEABLE BETWEEN THE LEFT AND RIGHT HAND SIDE.
- (ii) 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.
- (iii) 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.

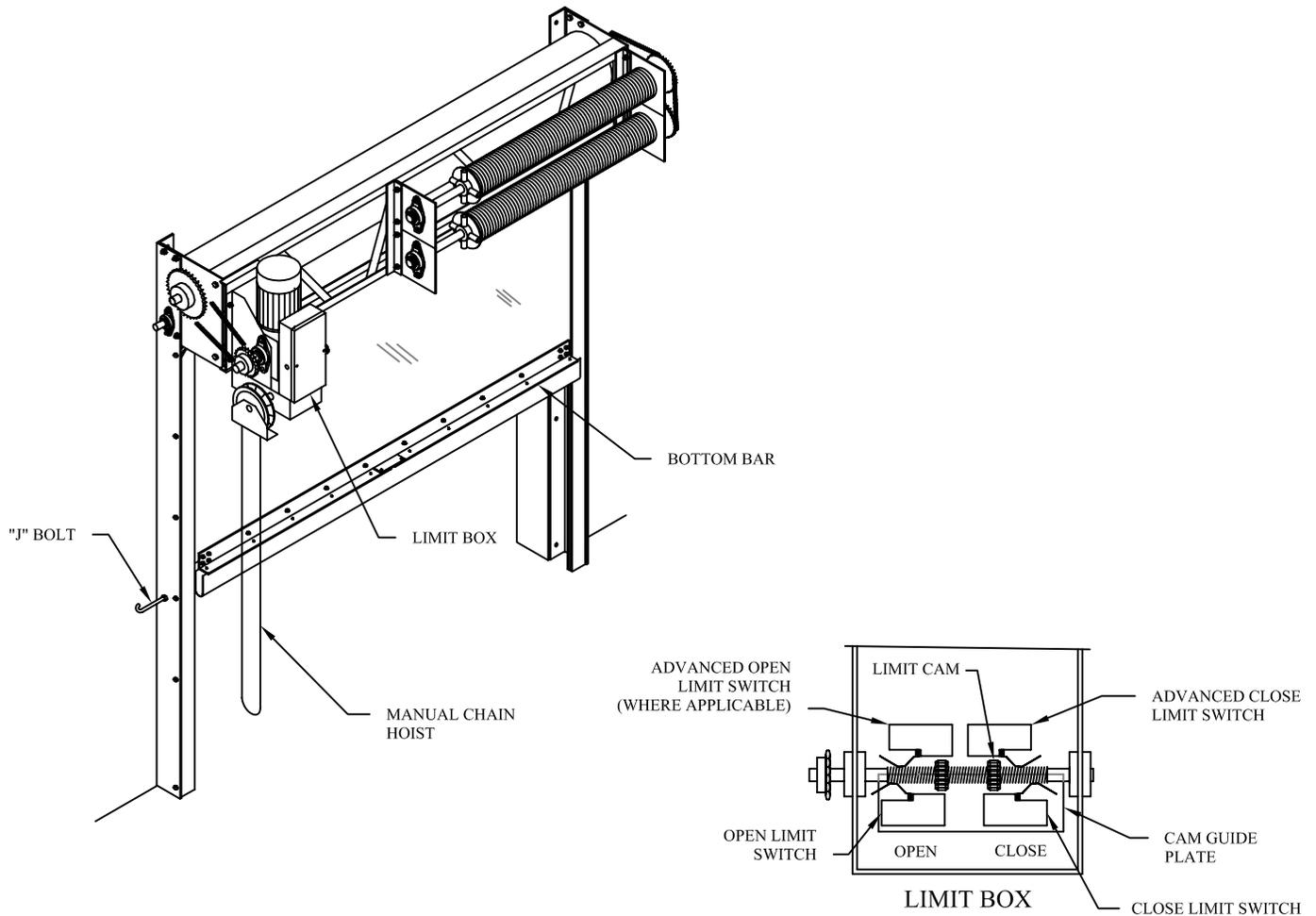
REV. DATE: OCT. 18, 2004

DRAWING No.: D-632-0009

## STEP 9, 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.

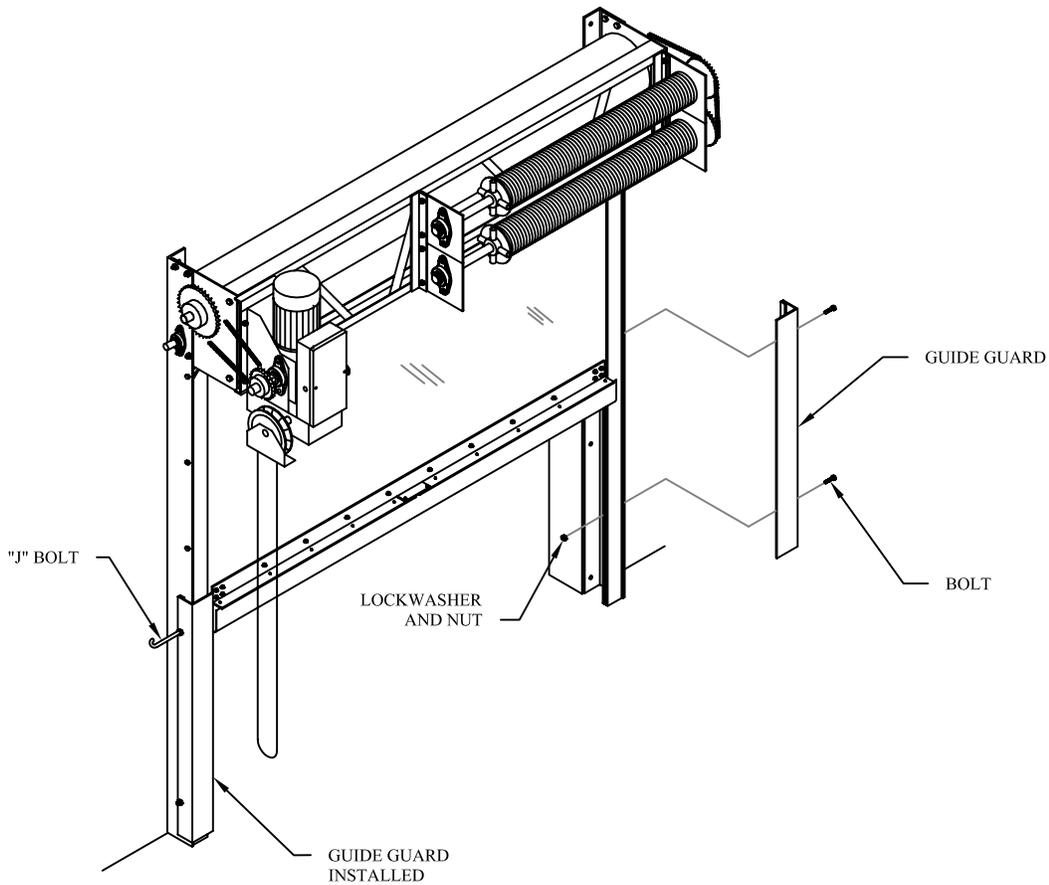
REV. DATE: DEC. 13, 2006

DRAWING No.: D-632-0010

## 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.

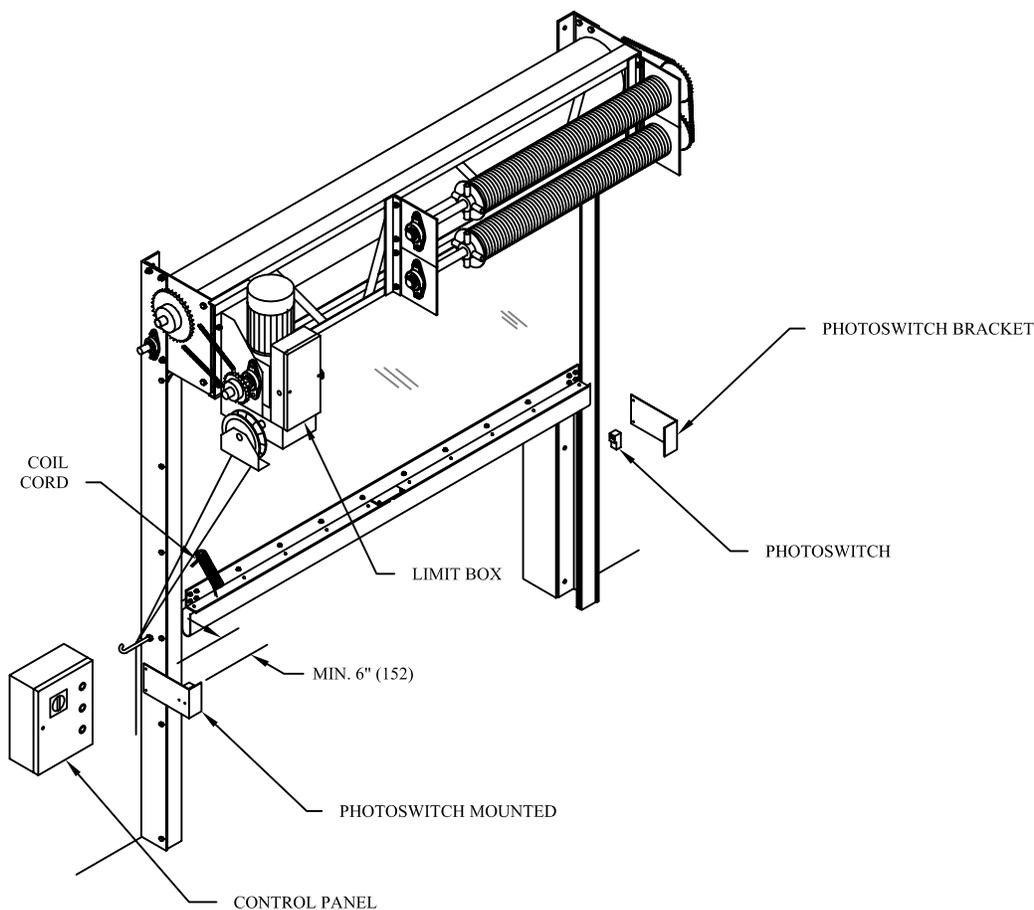
REV. DATE: OCT. 18, 2004

DRAWING No.: D-632-0039

## STEP 10, 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.
- (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.

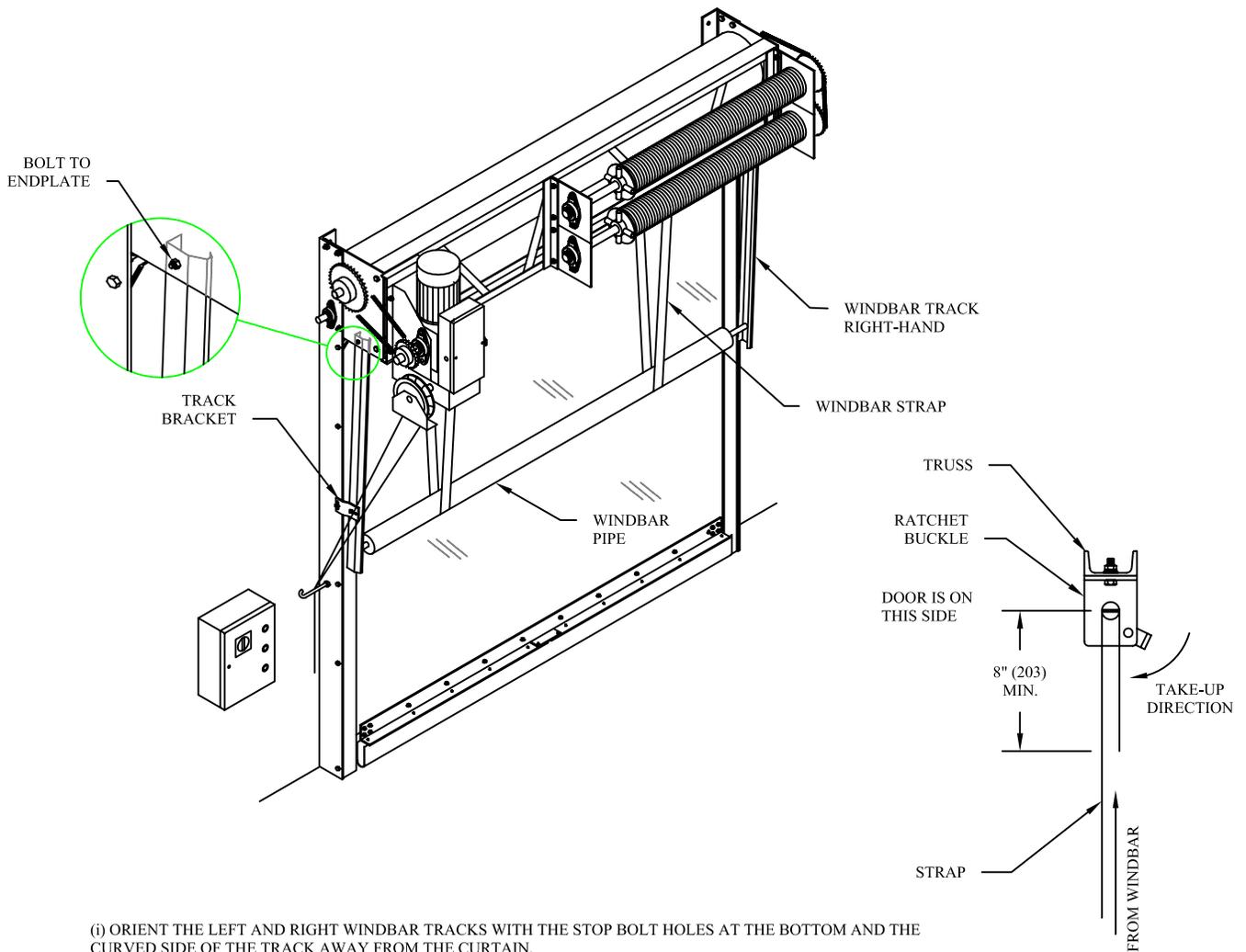
REV. DATE: OCT. 18, 2004

DRAWING No.: D-632-0011

## 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.

REV. DATE: May 16, 2006

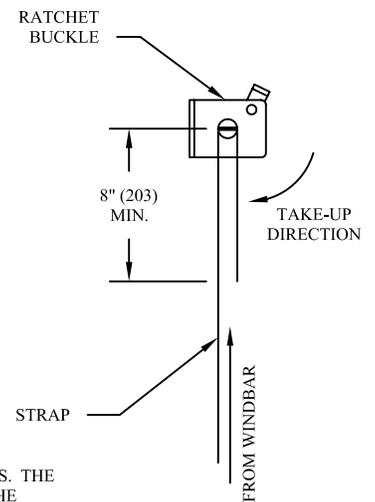
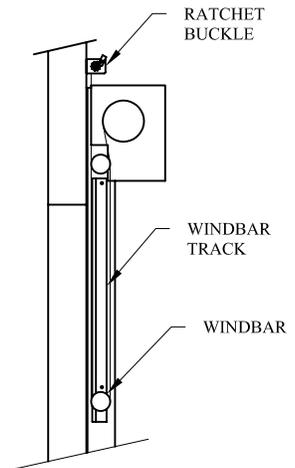
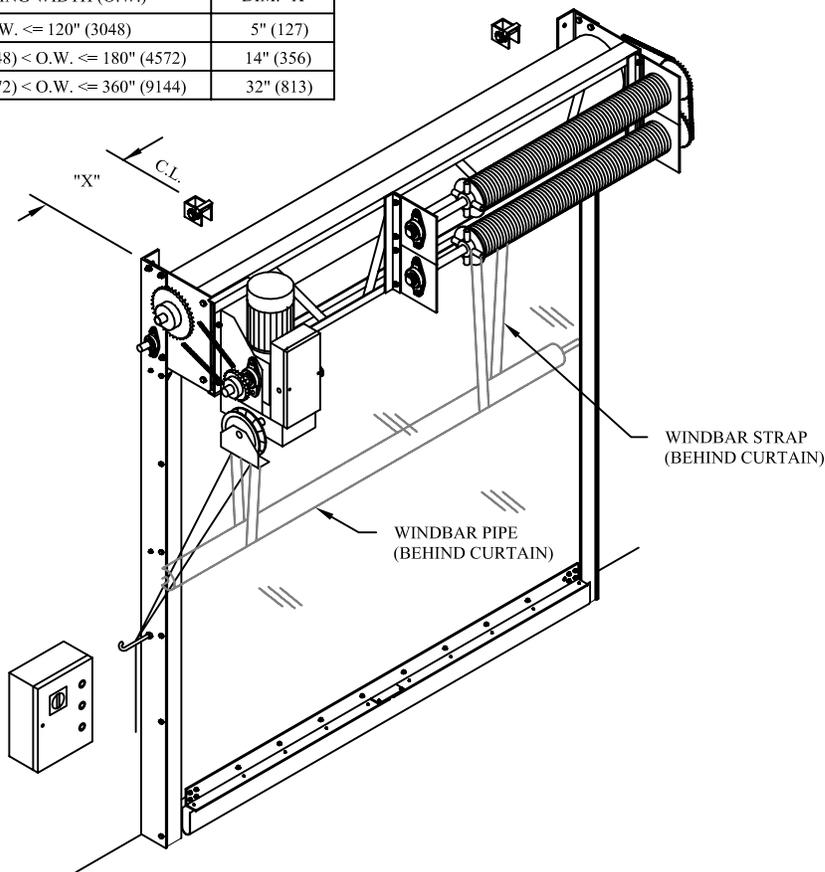
DRAWING No.: D-632-0013

## 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 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.

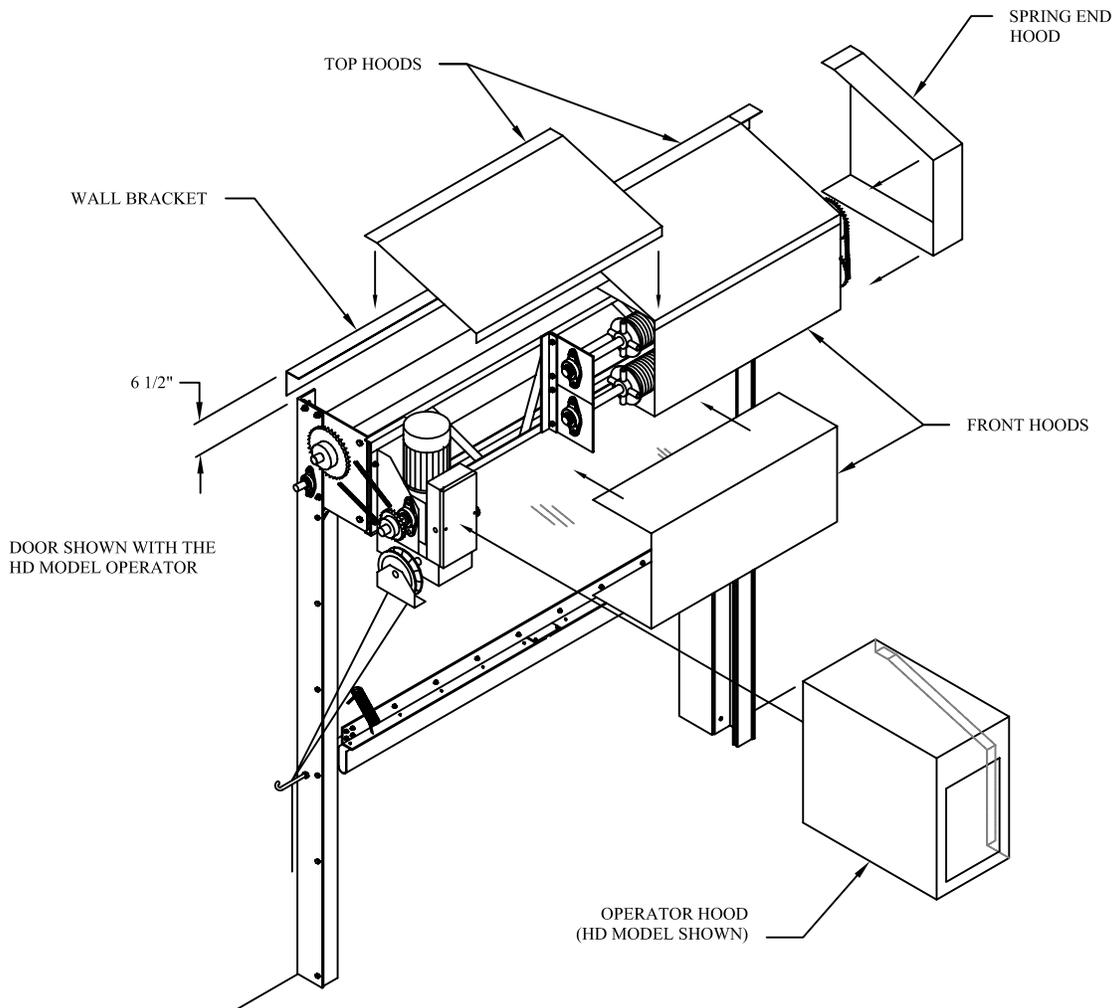
REV. DATE: JUL. 25, 2005

DRAWING No.: D-632-0038

## HOOD INSTALLATION (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 6 1/2" (165) 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 SPRING END, INSTALL THE FRONT HOODS OVER THE SPRINGS 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) FALSE SUPPORT PLATES HAVE BEEN PROVIDED WHERE THE HOOD MUST EXTEND PAST THE LAST SPRING SUPPORT PLATE.

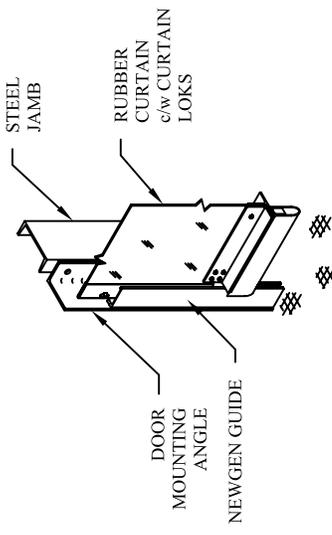
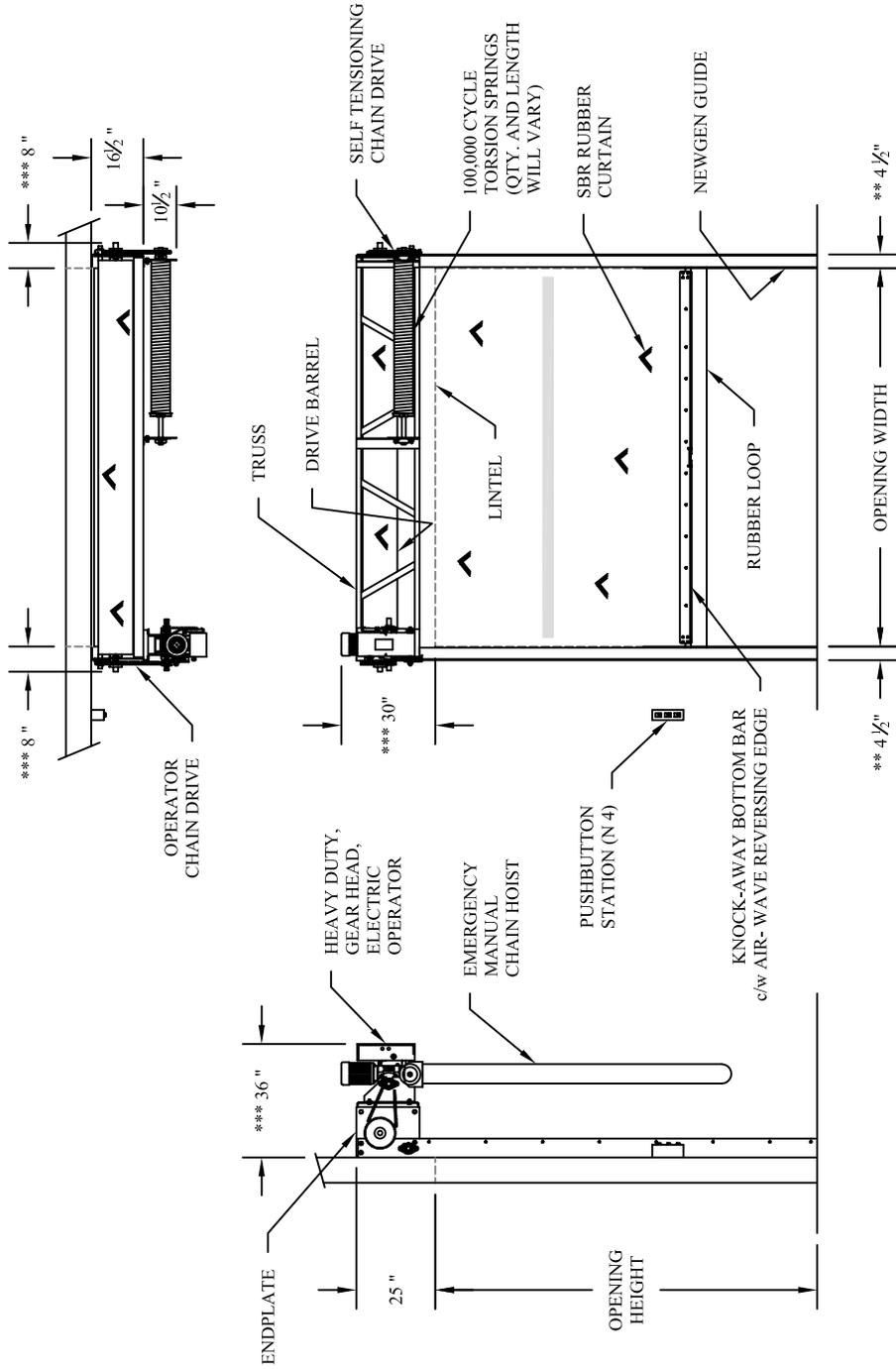
(iv) INSTALL THE TOP HOODS STARTING FLUSH WITH THE SPRING ENDPLATE. MULTI-PIECE HOODS HAVE PROVISIONS FOR A 1" (25) OVERLAP PER SEAM. INSTALL SCREWS WHERE HOLES ARE PROVIDED.

(v) INSTALL THE SPRING END HOOD OVER THE SPRING CHAINS. ALLOW A 2" (51) OVERLAP ONTO THE DOOR HOODS. INSTALL SCREWS WHERE HOLES ARE PROVIDED.

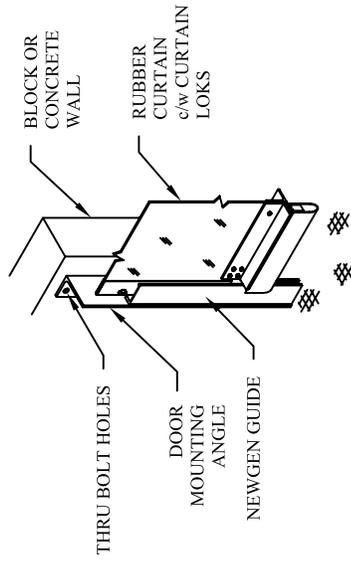
(vi) INSTALL THE OPERATOR HOOD IN THE SAME MANNER AS THE SPRING END HOOD. REMOVE THE HOOD ACCESS COVER TO ALIGN THE ACCESS HOLE WITH THE LIMIT BOX COVER.

REV. DATE: JUL. 25, 2005

DRAWING No.: D-632-0014



NEWGEN GUIDE AND CURTAIN LOK SYSTEM STEEL JAMB MOUNTING



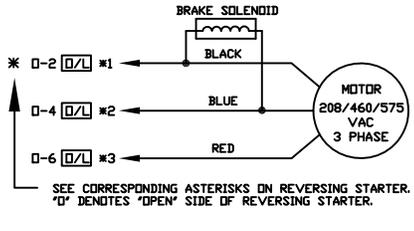
NEWGEN GUIDE AND CURTAIN LOK SYSTEM CONCRETE WALL MOUNTING \*\*

\* OPTIONAL WALL MOUNTED CONTROL PANEL REQUIRED FOR ELECTRICAL OPTIONS NOTED  
 \*\* CLEARANCE DIMENSION IS 8" FOR CONCRETE MOUNT CONFIGURATION  
 \*\*\* OPTIONAL HOODS REQUIRE 10" SIDEROOM, 33" HEADROOM AND 38" OPERATOR PROTRUSION

**CORNELL IRON WORKS, INC.**  
**SHOP DRAWING, MODEL EPR-10, LEFT HAND**

EXT. DETAIL: DOOR MOUNT OPERATOR & C'BAL SPRINGS	STANDARD SYSTEM INCLUDES
LIMITATIONS: MAX. OPENING WIDTH 20", MAX. OPENING HEIGHT 20"	- SPEEDS UP TO 18 IPS
DATE DRN: NOVEMBER 27, 2003	- OPERATOR MOUNTED CONTROLS
REVISION: E - MAY 6, 2009	- NEMA 1 LIMIT BOX, NEMA 4 PUSHBUTTON
DRAWN BY: HOWARD MULRAIN	- 100,000 CYCLE COUNTERBALANCE SPRINGS
DRAWING No.: D-630-001	- REVERSING EDGE
ELECTRICAL CRITERIA:	- THRU-BEAM PHOTOEYE
OPTIONAL CONTROL PANEL NEMA/EEMAC 4 STD. OR	- 5" HIGH, BLACK EPDM RUBBER LOOP
PRIMARY POWER SUPPLY: _____ Volts, 3 Phase, 60 Hertz	- KNOCK-AWAY STYLE BOTTOM BAR
OPERATOR CRITERIA: RG GEAR HEAD	- NEWGEN GUIDE AND CURTAIN LOK SYSTEM
LIMIT BOX NEMA/EEMAC 1 STD. OR	-
_____ HP, DOOR SPEED: OPEN & CLOSE @ _____ ips	-
END USER:	-
DEALER:	-
DOOR SIZE:	-

MECHANICAL OPTIONS	ELECTRICAL OPTIONS	STANDARD SYSTEM INCLUDES
<input type="checkbox"/> - GUIDE MOUNTED WINDBAR	<input type="checkbox"/> - WALL MOUNT CONTROL PANEL (RELAY)	- SPEEDS UP TO 18 IPS
<input type="checkbox"/> - JAMB MOUNTED WINDBAR	<input type="checkbox"/> - TIMER TO CLOSE (RELAY ONLY)	- OPERATOR MOUNTED CONTROLS
<input type="checkbox"/> - 200,000 CYCLE C'BAL SPRINGS	<input type="checkbox"/> - WALL MOUNT CONTROL PANEL (PLC)	- NEMA 1 LIMIT BOX, NEMA 4 PUSHBUTTON
<input type="checkbox"/> - GUIDE GUARDS	<input type="checkbox"/> - * FUSED DISCONNECT	- 100,000 CYCLE COUNTERBALANCE SPRINGS
<input type="checkbox"/> - *** EXTERIOR HOODS	<input type="checkbox"/> - * LOOP DETECTOR	- REVERSING EDGE
<input type="checkbox"/> - *** SAFETY CHAIN GUARDS	<input type="checkbox"/> - * WIRELESS RECEIVER	- THRU-BEAM PHOTOEYE
<input type="checkbox"/> - 16" x 16" WINDOWS, QTY. _____	<input type="checkbox"/> - WIRELESS TRANSMITTER, QTY. _____	- 5" HIGH, BLACK EPDM RUBBER LOOP
<input type="checkbox"/> - ELECTRIC REVERSING EDGE	<input type="checkbox"/> - N 4X, PUSHBUTTON STN, QTY. _____	- KNOCK-AWAY STYLE BOTTOM BAR
<input type="checkbox"/> - BLUE EPDM CURTAIN	<input type="checkbox"/> - MOTION DETECTOR, QTY. _____	- NEWGEN GUIDE AND CURTAIN LOK SYSTEM
<input type="checkbox"/> - GRAY EPDM CURTAIN	<input type="checkbox"/> - ADD. THRU-BEAM PHOTOEYE, QTY. _____	-
<input type="checkbox"/> -	<input type="checkbox"/> - ADD. REFLECTIVE PHOTOEYE, QTY. _____	-
<input type="checkbox"/> -	<input type="checkbox"/> -	-



**NOTE:** ①  
TO REVERSE MOTOR DIRECTION, INTERCHANGE ANY TWO BLACK WIRES (L1, L2 OR L3) ON POWER SUPPLY TERMINAL STRIP.

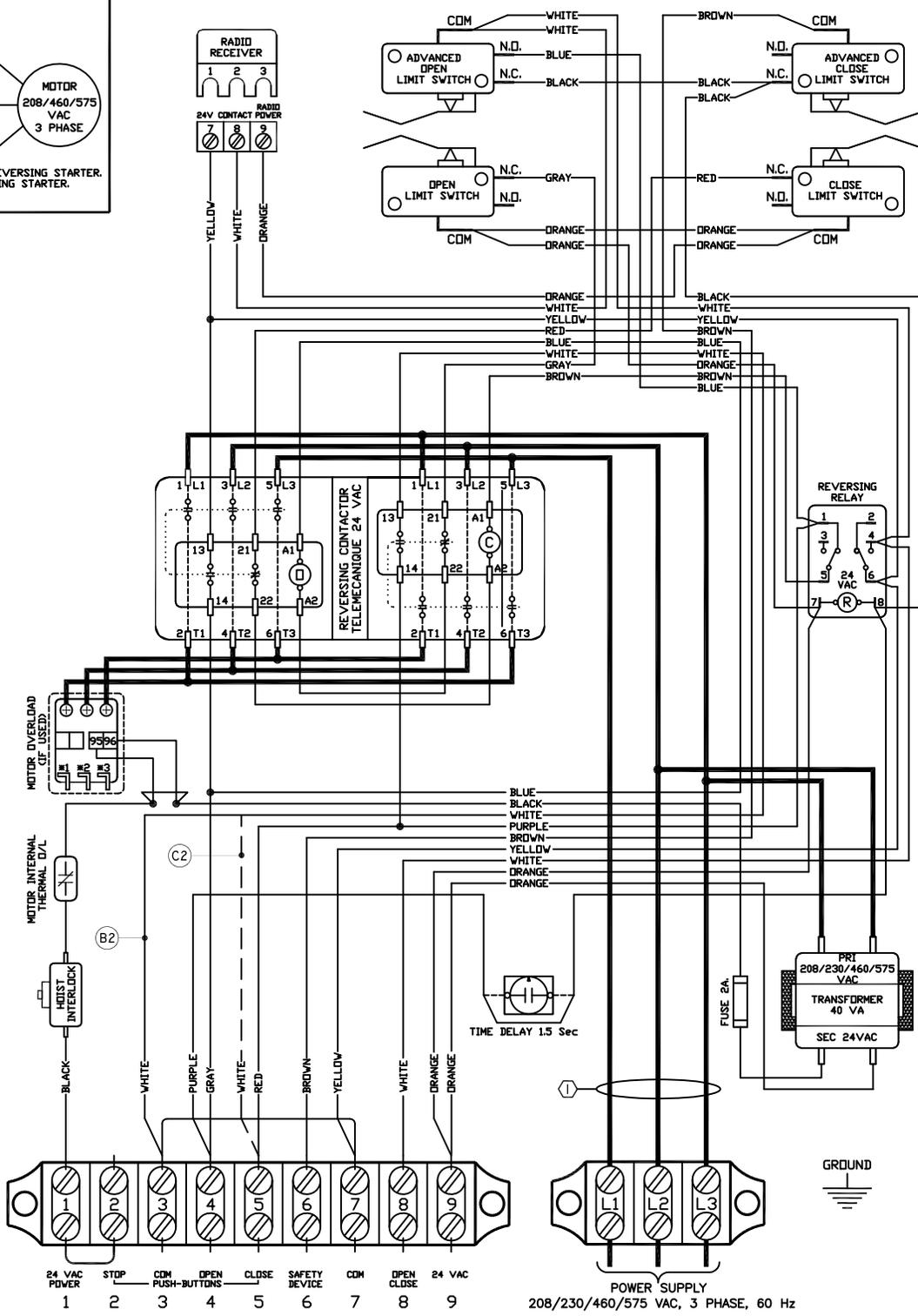
**NOTE:** C2/B2  
**CONTROL WIRING OPTION ON CLOSE:**

C2 THIS OPERATOR LEAVES THE FACTORY WITH A "C2" WIRING - MEANING THAT CONSTANT PRESSURE IS REQUIRED TO CLOSE THE DOOR.

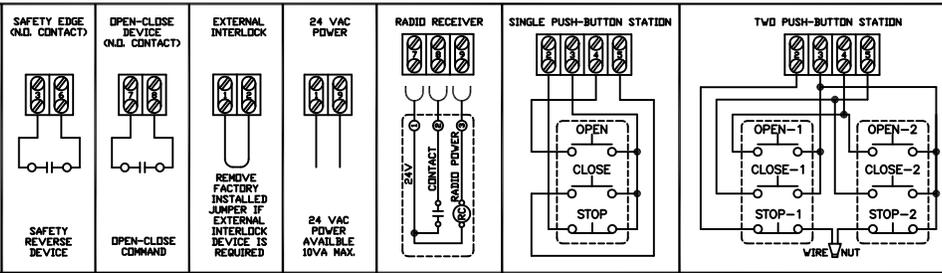
B2 IF MOMENTARY OPERATION ON CLOSE ("B2" WIRING) IS DESIRED, THEN REMOVE THE WHITE WIRE FROM TERMINAL #5 AND PLACE IT ON TERMINAL #3.

**TIME DELAY UPON REVERSE:**  
IF 1.5 SEC TIME-DELAY UPON SAFETY REVERSE IS REQUIRED, REMOVE THE PURPLE WIRE FROM TERMINAL #4, AND CONNECT TO ONE END OF TIME-DELAY AND OTHER END, BACK TO TERMINAL #4.

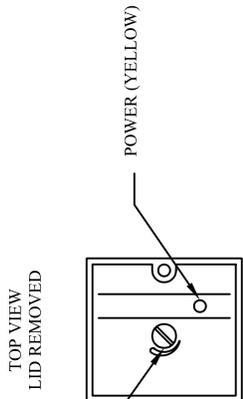
**WARNING**  
MICANAN STRONGLY RECOMMENDS THE USE OF ENTRAPMENT PROTECTION SYSTEMS WHEN B2 (MOMENTARY CONTACT) WIRING IS USED.



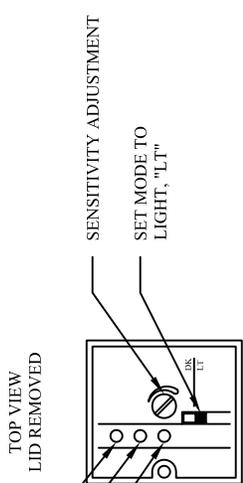
3- PHASE WIRING DIAGRAM  
MS300-WW  
REV. C | DATE: 04.04.03



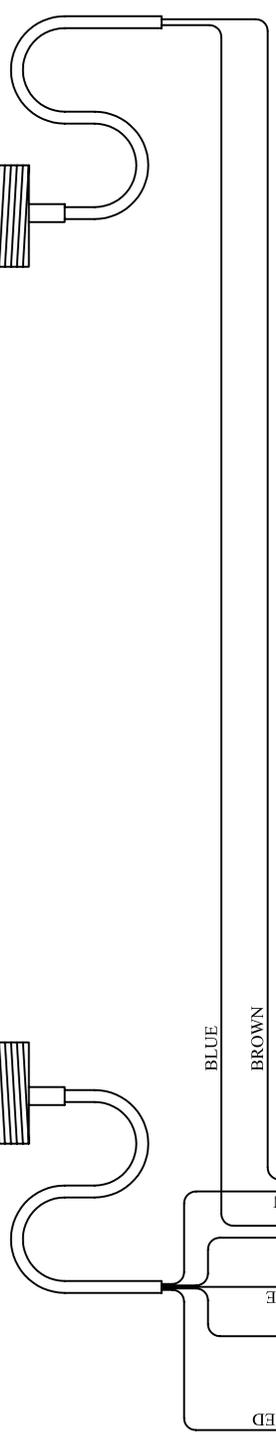
THE INFORMATION CONTAINED HEREIN IS PROPRIETARY TO MICANAN SYSTEMS INC. AND SHALL NOT BE REPRODUCED OR DISCLOSED OR USED FOR ANY DESIGN OR MANUFACTURE EXCEPT WHEN USER POSSESSES DIRECT WRITTEN AUTHORIZATION FROM MICANAN SYSTEMS INC.



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



CONTROL PANEL TYPES	
PLC CONTROL PANEL (120 VAC PHOTOSWITCH)	4
OPERATOR MOUNTED CONTROLS (24 VAC PHOTOSWITCH)	1
RELAY LOGIC CONTROL PANEL (120 VAC PHOTOSWITCH)	5
RELAY LOGIC CONTROL PANEL c/w TIMER TO CLOSE (120 VAC PHOTOSWITCH)	5

REVERSING DEVICE CONTROLS COMMON NEUTRAL + VOLTAGE

**CORNELL IRON WORKS, INC.**  
 TITLE:  
**THRU-BEAM PHOTOSWITCH WIRING**

EXT. DETAIL: ALLEN-BRADLEY 9000 SERIES AS REVERSING DEVICE	
CODE: PHOTOSWITCH	REV. NO.: A
DATE DRAWN: NOVEMBER 7, 2005	REV. DATE: APRIL 24, 2009
DRAWN BY: HOWARD MULRAIN	DRAWING No.: D-720-0010

# Recommended Wiring Requirements From Control Panel to Electric Operator

Revised: April 20, 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. Recommended: 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. Recommended: 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 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

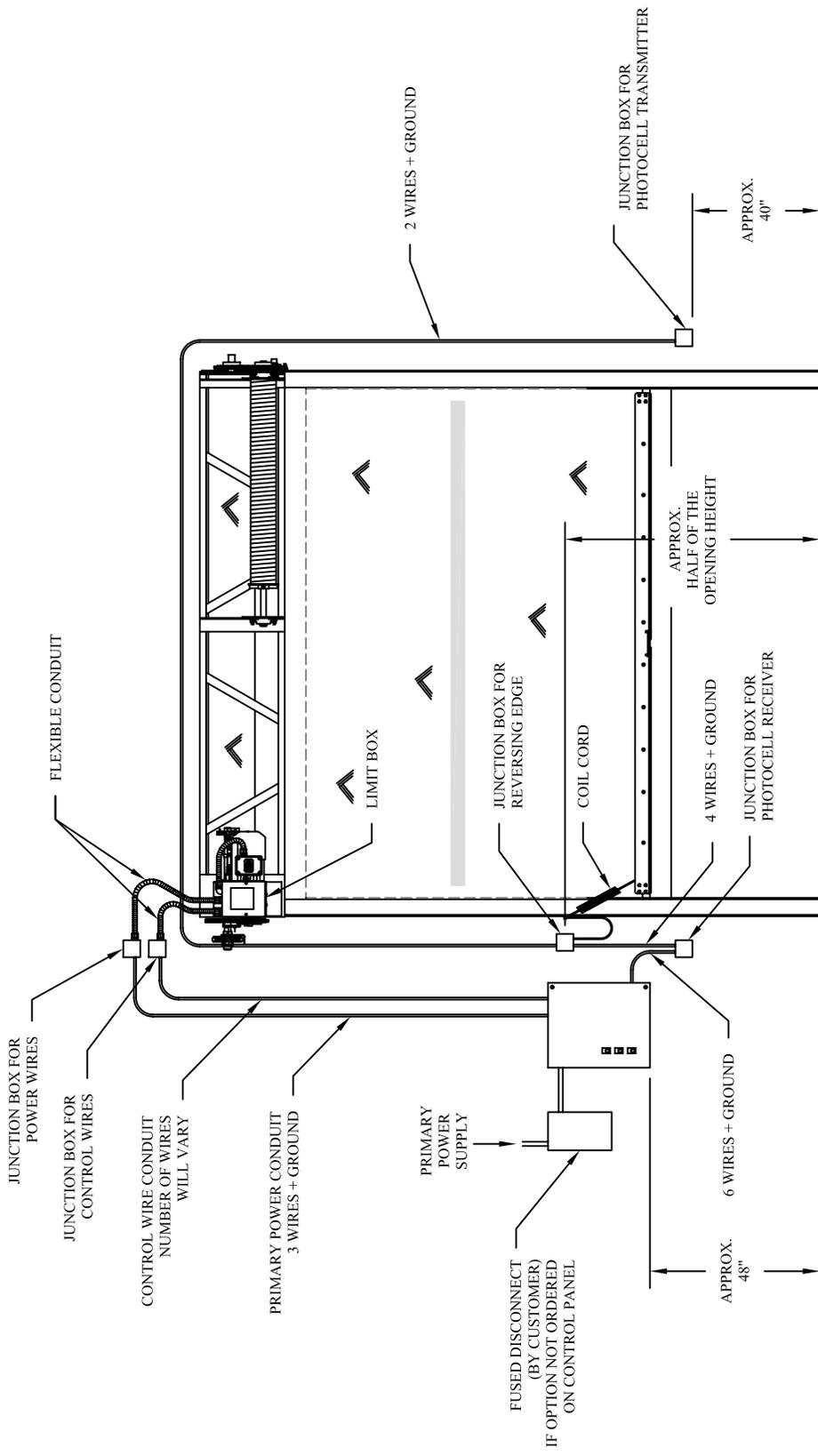
## **Model EPR-10 Door**

(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.

GENERAL TOLERANCES UNLESS SPECIFIED OTHERWISE	
FRACTIONAL ± 1/32"	
DECIMAL ± .002"	
ANGULAR ± 1°	
REV.	ECO
DESCRIPTION	DATE

<b>CORNELL IRON WORKS, INC.</b>	
TITLE: <b>RECOMMENDED ELECTRICAL CONDUIT</b>	
EXT. DETAIL: STANDARD DOOR WITH CONTROL PANEL	REV. NO.: REL.
CODE: WIRING	REV. DATE: REL.
DATE DRAWN: FEBRUARY 3, 2005	DRAWING No.: D-720-0004
DRAWN BY: HOWARD MULRAIN	

# 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	
DOOR SERIAL No.: _____													
FOR THE YEAR _____													
WHEN PERFORMING SCHEDULED MAINTENANCE, RECORD DATE AND CURRENT CYCLE COUNT. PERFORM CHECK/TEST/TASK AS INDICATED BY AN UNSHADED BOX. INITIAL BOX TO INDICATE MAINTENANCE ITEM HAS BEEN PERFORMED.													
DATE	CYCLES	SCHEDULE	NOTE 1	NOTE 2	NOTE 3	NOTE 4	NOTE 5	NOTE 6	NOTE 7	NOTE 8	NOTE 9	NOTE 10	-
		JANUARY											
		FEBRUARY											
		MARCH											
		APRIL											
		MAY											
		JUNE											
		JULY											
		AUGUST											
		SEPTEMBER											
		OCTOBER											
		NOVEMBER											
		DECEMBER											

NOTE 1, PROPER LIMIT CHAIN TENSION IS ABOUT  $\frac{1}{8}$ " (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

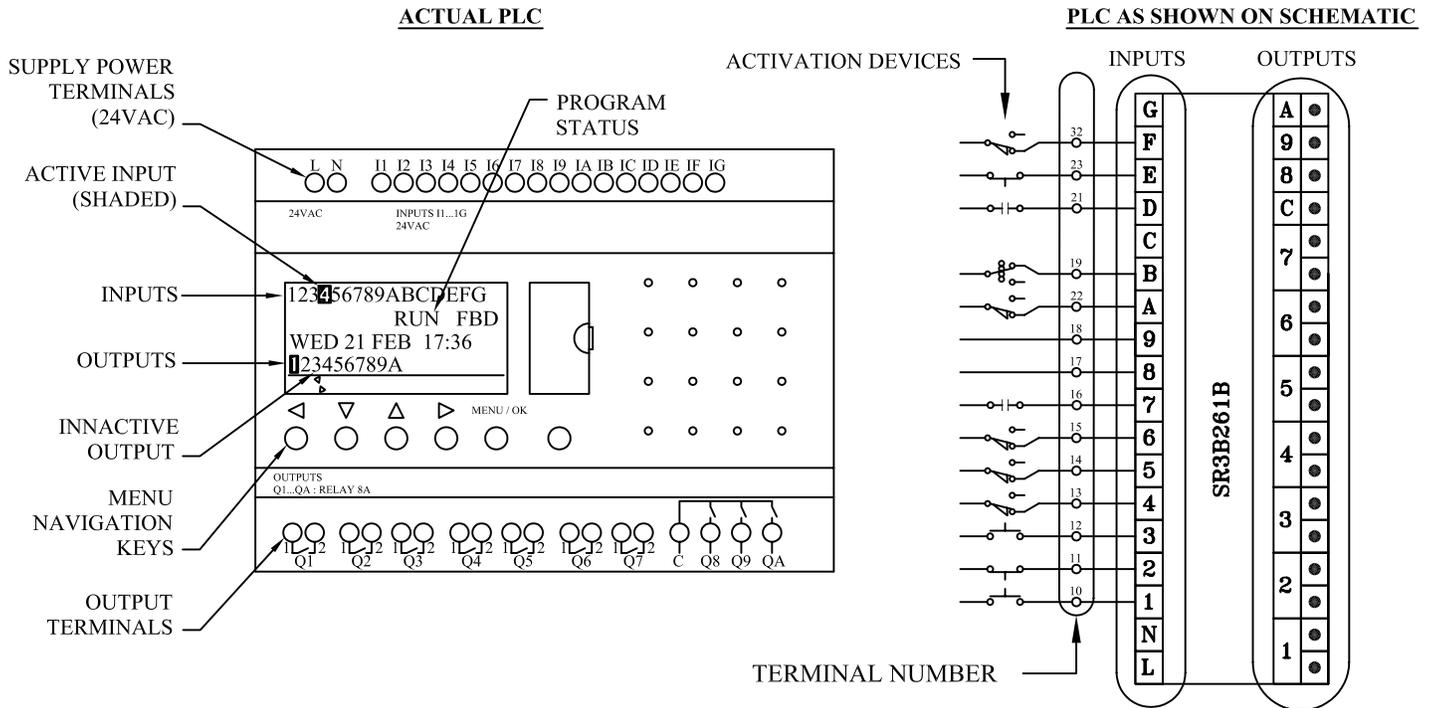
THERE ARE NO PARTS TO REPLACE ON THE DOOR SYSTEM DURING REGULAR MAINTENANCE CHECKS. AS THE MAINTENANCE SCHEDULE APPROXES 100,000 CYCLES (OR OPTIONAL 200,000 CYCLE SPRINGS) REPLACEMENT SPRINGS MAY BE ORDERED TO FACILITATE A SCHEDULED CHANGE.

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

REV. DATE: FEB. 3, 2005

DRAWING No.: D-632-0040

## ELECTRICAL TROUBLESHOOTING GUIDE



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

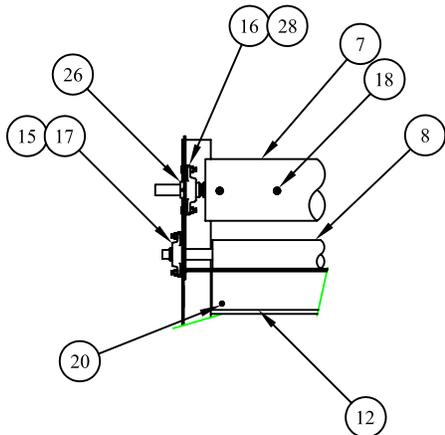
SYMPTOM	POSSIBLE CAUSE	SOLUTION
DOOR DOES NOT OPERATE ELECTRICALLY	<ul style="list-style-type: none"> <li>- MANUAL CHAIN HOIST DISCONNECT SWITCH ENGAGED</li> <li>- BLOWN FUSE</li> <li>- DISCONNECT TURNED OFF</li> <li>- MOTOR OVER LOAD TRIPPED</li> <li>- PLC PROGRAM STOPPED</li> </ul>	<ul style="list-style-type: 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).

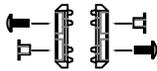
(ii) OUTPUTS ARE SHOWN ON THE BOTTOM OF THE PLC DISPLAY. IF AN OUTPUT IS SHADED IT IS ACTIVE.

# PRIMARY PARTS LIST

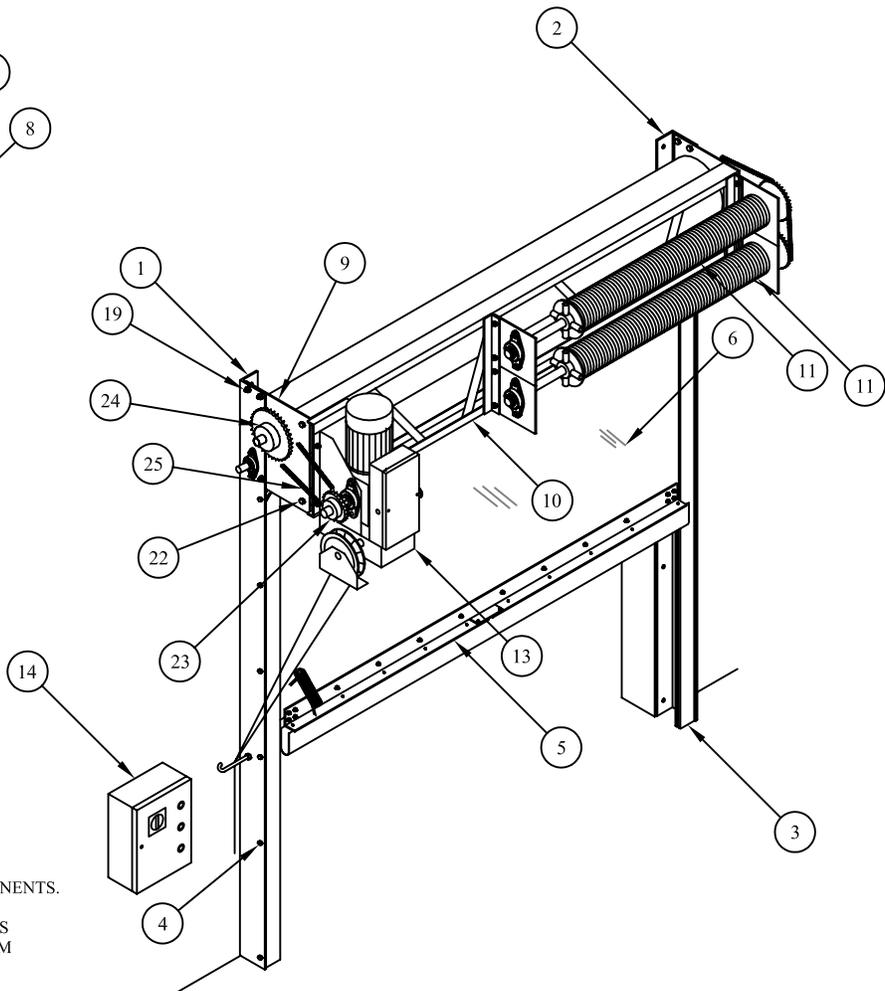
(LEFT HAND DOOR SHOWN)



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.

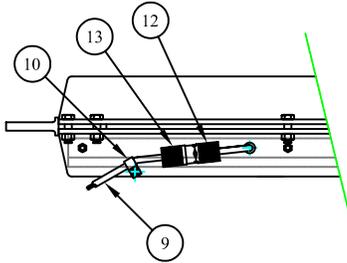
ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION	ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION
1	1	D-205-0002	** DOOR MOUNTING ANGLE, LEFT HAND	15	2	105-0005	IDLER BARREL BEARING, 1 1/2" I.D.
2	1	D-205-0003	** DOOR MOUNTING ANGLE, RIGHT HAND	16	2	105-0006	DRIVE BARREL BEARING, 1 1/2" I.D.
3	2	D-205-0013	4" GUIDE, 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	VARIES	604-0004	* SPRING SHAFT 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 ASSY KIT (5 ASSEMBLIES)
14	1	604-0006	* ELECTRICAL CONTROL PANEL	28	2	210-0042	BEARING MOUNTING HARDWARE KIT, 5/8"

REV. DATE: JAN 3, 2008

DRAWING No.: D-632-0015

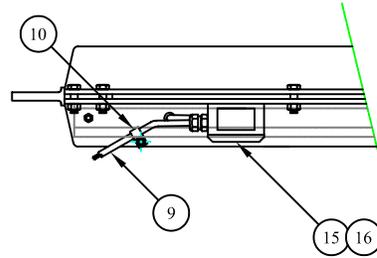
# BOTTOM BAR ASSEMBLY PARTS LIST

(LEFT HAND BOTTOM BAR SHOWN)

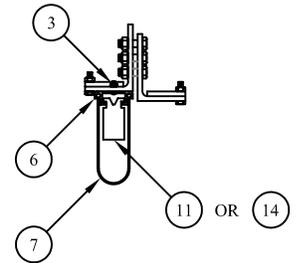
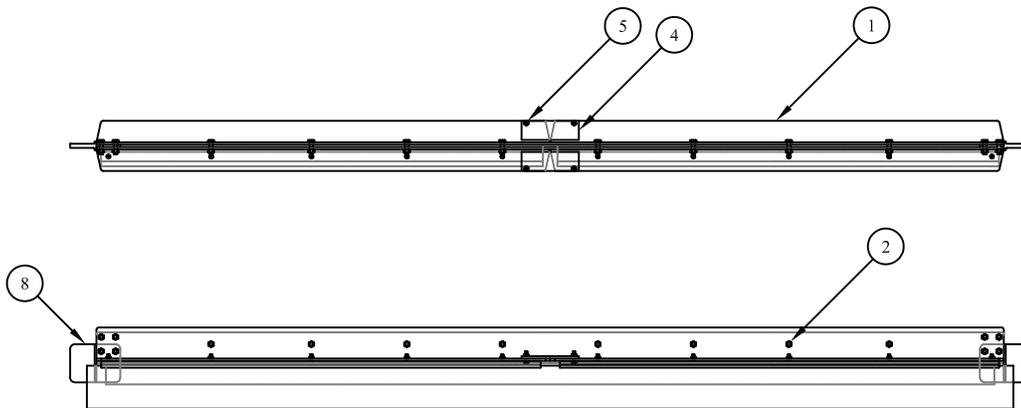


ELECTRIC REVERSING EDGE  
SHOWN AS LEFT-HAND DOOR.

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.

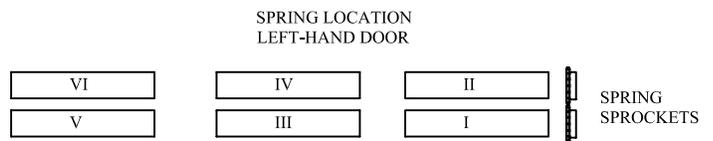
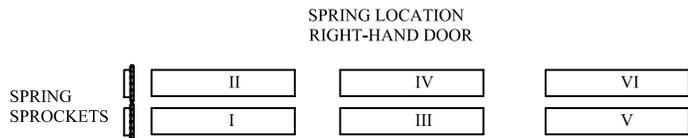
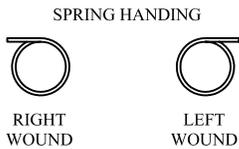
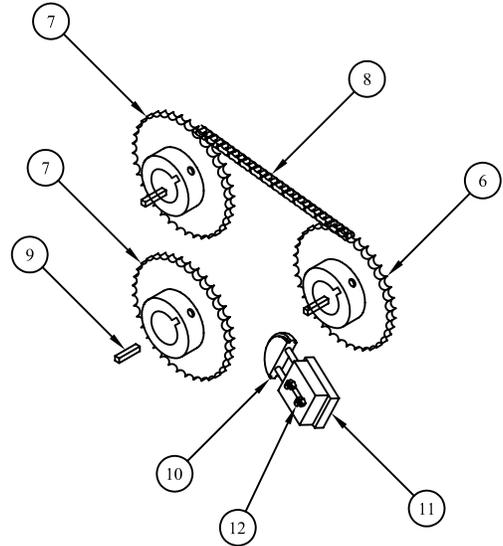
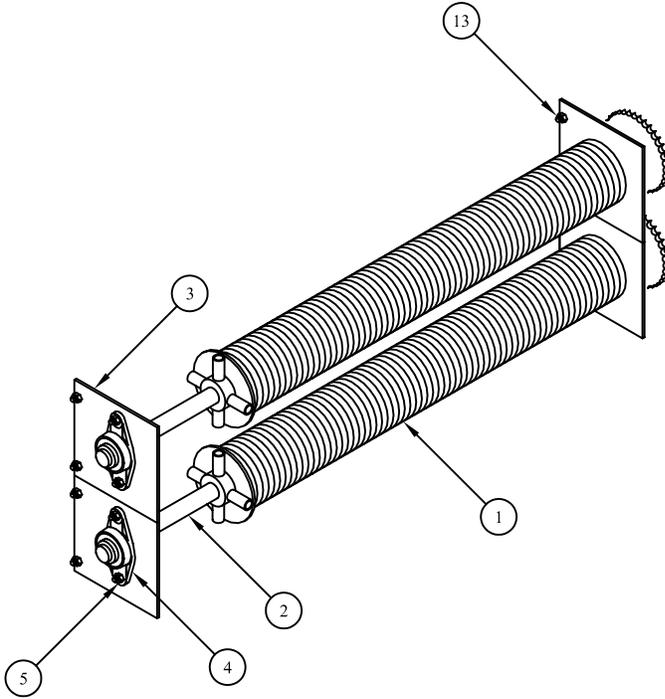
ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION	ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION
1	1	D-202-0001	BOTTOM BAR STRUCTURAL	11	1	D-202-0009	* REVERSING EDGE
2	VARIES	D-210-0019	B-BAR MOUNTING BOLT & NUT (10 PAIR KIT)	12	1	109-0007	* MALE ELECTRICAL CONNECTOR
3	VARIES	D-210-0020	RETAINER MOUNTING BOLT & NUT (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	-	-	-

REV. DATE: APR. 20, 2007

DRAWING No.: D-632-0016

# SPRING SHAFT ASSEMBLY PARTS LIST

EPR-10 SERIES DOORS



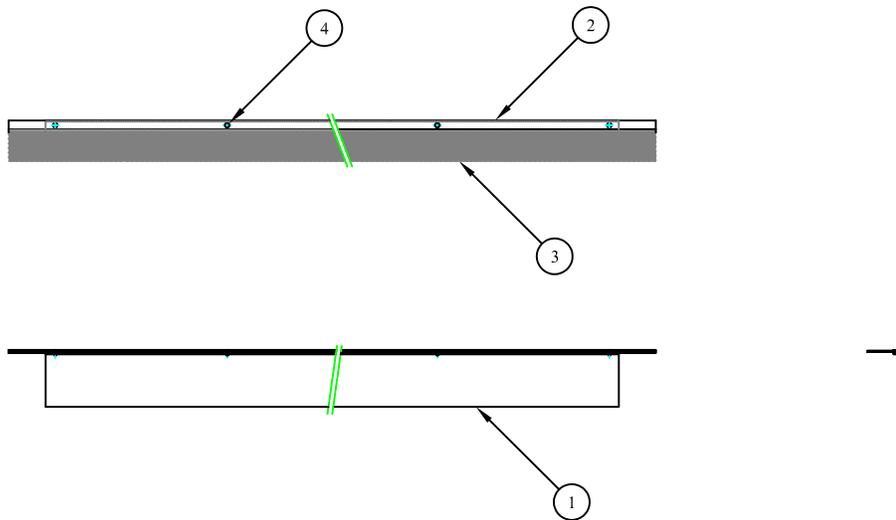
\* IF ORDERING ONLY ONE SPRING FOR A MULTI-SPRING CONFIGURATION, SPECIFY EITHER THE HANDING OF THE SPRING OR THE SPRING LOCATION.

ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION	ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION
1	VARIES	604-0010	* SPRING ASSEMBLY	11	1	604-0016	CHAIN TENSIONER BASE
2	VARIES	604-0011	SPRING SHAFT	12	1	D-210-0022	CHAIN TENSIONER MOUNTING BOLT KIT
3	VARIES	D-206-0005	SPRING ANCHOR PLATE	13	VARIES	D-210-0023	ANCHOR PLATE FASTENER KIT (MOUNTS 1 PLATE)
4	VARIES	105-0006	SPRING SHAFT BEARING, 1 1/2" I.D.	14	-	-	-
5	VARIES	106-0011	HEX NUT	15	-	-	-
6	1	604-0012	SPRING DOOR SPROCKET	16	-	-	-
7	VARIES	604-0013	SPRING SHAFT SPROCKET	17	-	-	-
8	1	604-0014	SPRING CHAIN (10 FT)	18	-	-	-
9	VARIES	105-0002	KEYSTOCK	19	-	-	-
10	1	604-0015	CHAIN TENSIONER	20	-	-	-

REV. DATE: JUNE 30, 2006

DRAWING No.: D-632-0017

# LINTEL SEAL ASSEMBLY PARTS LIST



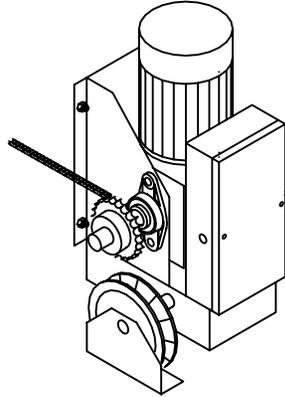
ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION	ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION
1	1	D-209-0032	BRUSH RETAINER HOLDER	4	-	107-0015	Ø 3/16" RIVET
2	1	101-0001	1 1/2" ALUMINUM RETAINER	5	-	-	-
3	1	102-0014	3" BRUSH	6	-	-	-

REV. DATE: APR. 27, 2006

DRAWING No.: D-632-0018

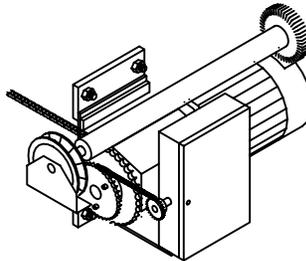
# OPERATOR MOUNTING HARDWARE PARTS LIST

## "RG" DRIVE SYSTEM



ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION	ITEM No.	QTY. REQ'D	PART No.	DESCRIPTION
1	1	604-0019	MASTERLINK	7	1	D-210-0027	RG 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	-	-	-

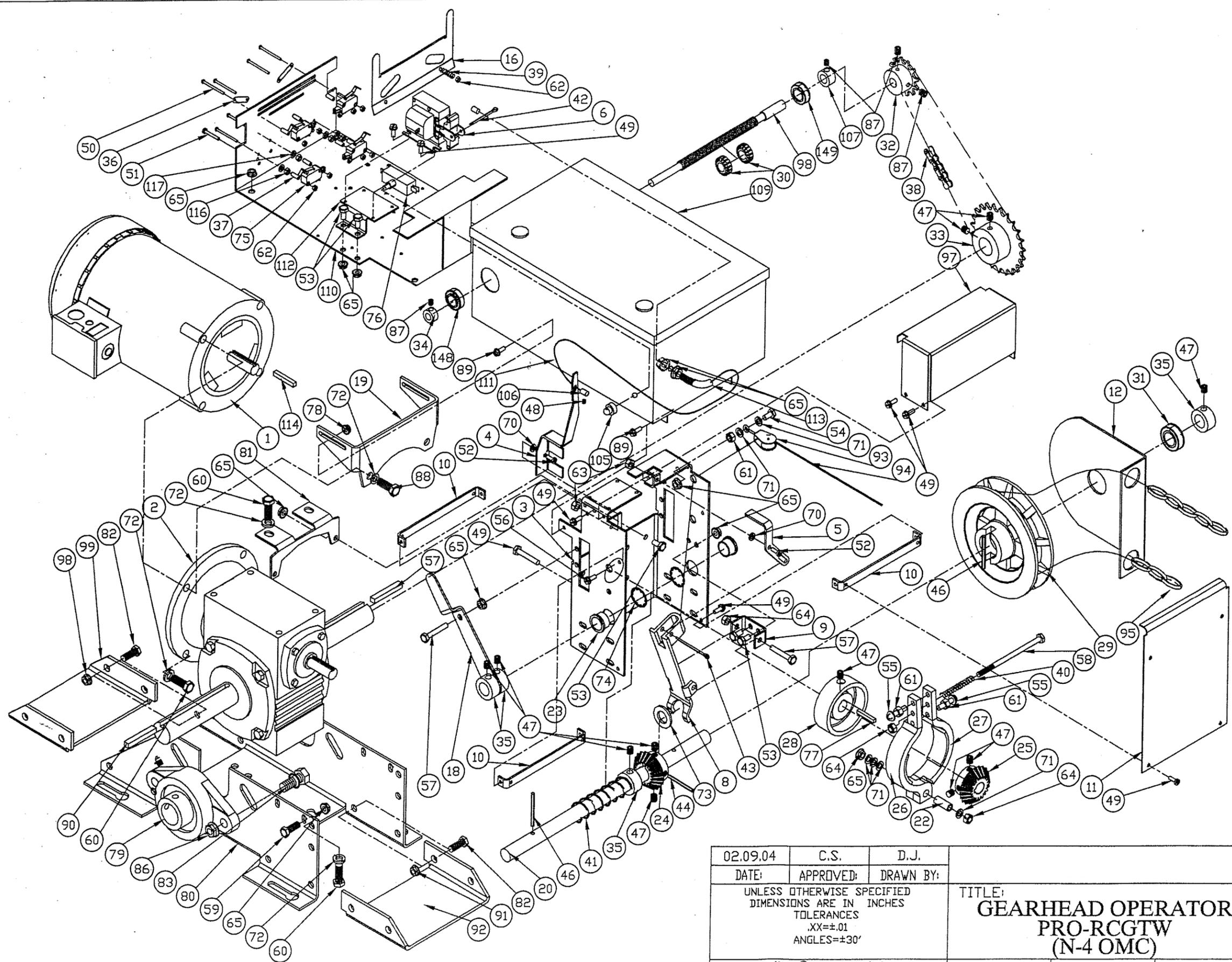
## "HG" DRIVE SYSTEM



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	-	-	-

REV. DATE: JUNE 30,2006

DRAWING No.: D-632-0019



ITEM#	PART#	DESCRIPTION	QTY.
1		MOTOR	1
2A	MC00005	REDUCER BHC 80 201 143TC (1.2F)	1
2B	MC00006	REDUCER BHC 80 201 182TC (3HP)	1
3	MM00004	FRAME GEARHEAD	1
4	MM00015	SOLENOID LEVER GEARHEAD	1
5	MM00017	PIVOT BRACKET GEARHEAD	1
6A	MK00026	SOLENOID 110V	1
6B	MK00027	SOLENOID 220V	1
6C	MK00028	SOLENOID 460V	1
6D	MK00029	SOLENOID 575V	1
8	MM00020	DISCONNECT ARM GEARHEAD	1
9	MM00022	SUPPORT U-BRACKET	1
10	MM00007	FRAME SUPPORT C-BRACKETS	3
11	MM00005	BACK COVER	1
12	MM00013	CHAIN GUIDE	1
16	MM00055	CAM PLATE	1
18	MM00028	CUT-OUT SWITCH ACTIVATION PLATE	1
19A	MM00027	REAR BRACKET (S5, 63, 70, 80, 143TC) 1.2F	1
19B	MM00028	REAR BRACKET (182TC) 3HP	1
20	ME00008	DISCONNECT SHAFT 3/4" x1.575"	1
22	MH00002	MILD STEEL BUSHING 9/32"ID x 13/32"ID x 1-1/16"	1
23	MH00003	BRONZE FLANGED BUSHING 3/4"ID x 7/8"ID	2
24	MD00001	BEVEL GEAR 20 TOOTH 3/4"ID C/V KV 2SS	1
25	MD00002	BEVEL GEAR 20 TOOTH 5/8"ID C/V KV 2SS	1
26	MJ00001	BRAKE SHOE LEFT	1
27	MJ00002	BRAKE SHOE RIGHT	1
28	MJ00003	BRAKE SHOE DRUM	1
29	MI00003	POCKET WHEEL C/V 2PINS & BUSHING 3/4" ID	1
30	MG00030	LIMIT CAM 1/2"-20UNF	2
31	MH00013	FLANGE BEARING 3/4" ID x 1-3/8" OD	1
32	*	SPROCKET 41B x 1/2"	1
33	*	SPROCKET 41B x 1-3/8"	1
34	MH00006	COLLAR 3/8" ID	1
35	MH00008	COLLAR 3/4" ID	4
36	MM00009	HONEYWELL DOUBLE NUT FOR LIMIT SWITCH	2
37	MG00052	LIMIT SWITCH SPACER 1/4" DIA x 1/2" LONG	8
38	MD00029	#41 ROLLER CHAIN C/V CONNECTING LINK	1
39	MC00001	CAM PLATE COMPRESSION SPRING	2
40	MC00002	BRAKE COMPRESSION SPRING	1
41	MC00014	DISCONNECT SPRING	1
42	MC00001	CUTTER PIN 1/8" x 1-1/2"	1
43	MC00018	CUTTER PIN 1/8" x 2-1/2"	1
44	MC00005	SPRING PIN 3/16" x 1-1/2" LONG	1
46	MC00030	SPRING PIN 1/4" x 2-1/2" LONG	2
47	MC00008	SET SCREW 5/16"-18	12
48	MC00010	SET SCREW 10-24	1
49	MG00005	HH SLOTTED SELF ROUNDING WASHER HEAD SCREW 8-32 UNF x 3/8"	18
50	MF00039	RH PHILLIPS MACHINE SCREW 6-32UNC x 1-3/4"	8
51	MF00004	RH PHILLIPS MACHINE SCREW 6-32UNC x 1"	2
52	MF00005	RH PHILLIPS MACHINE SCREW 10-32UNC x 5/8"	2
53	MF00006	HH BOLT 1/4"-20UNC x 1/2" (FULL THREAD)	6
54	MF00008	HH BOLT 1/4"-20UNC x 1" (FULL THREAD)	1
55	MF00048	HH BOLT 1/4"-20UNC x 1-1/4" (FULL THREAD)	2
56	MF00076	HH BOLT 1/4"-20UNC x 2" (FULL THREAD)	1
57	MF00009	HH BOLT 1/4"-20UNC x 2-1/4" (NIT FULL THREAD)	2
58	MF00044	HH BOLT 1/4"-20UNC x 4" (NIT FULL THREAD)	1
60	MF00019	HH BOLT 3/8"-16UNC x 1" (FULL THREAD)	8
61	MG00006	HEX NUT 1/4"-20UNC	3
62	MG00007	HEX NYLON NUT 6-32UNC	10
63	MG00008	HEX NYLON NUT 10-32UNC	2
64	MG00009	HEX NYLON NUT 1/4"-20UNC	3
65	MG00011	RIBBED HEX NUT 1/4"-20UNC	18
70	MG00016	#10 FLAT WASHER	6
71	MG00017	1/4" FLAT WASHER	6
72	MG00018	LOCK WASHER 3/8"	10
73	MG00019	FLAT WASHER 13/16"ID x 1-1/2" (3/4" SHAFT SIZE)	1
74	MG00041	SPRING CLIPS 7/8"ID	2
75	MK00063	LIMIT SWITCH (HONEYWELL)	4
76	MK00005	CUTOUT SWITCH C/V NUT & WASHER	1
77	ME00018	KEYWAY 3/16" SQ. x 1-1/4" LONG	1
78	MG00010	RIBBED HEX NUT 10-32	2
79	MH00004	FLANGE BEARING UCFL 207 1-3/8"	2
80	MM00008	FRAME GHC	1
81	MM00030	FRONT BRACKET	1
82	MF00011	HH BOLT 3/8"-16UNC x 3/4"	8
83	MF00002	HH BOLT 1/2"-13UNC x 1-1/4"	4
86	MG00001	RIBBED HEX NUT 1/2"-13UNC	4
87	MG00009	SET SCREW 1/4"-20UNC	4
88	MF00020	HH BOLT 3/8"-16UNC x 1-1/4"	2
89	MF00046	HH SCREW 10-32UNC x 1/2"	4
90	*	KEYWAY 5/16" SQ. x 3" LONG	2
91	MG00013	RIBBED HEX NUT 3/8"-16UNC	8
92	MM00149	GEARHEAD FRAME SUPPORT U-PLATE	2
93	MJ00007	HEAVY DUTY SWIVEL PULLEY	1
94	MR00027	3/32" CABLE 25FT. LONG C/V CABLE STOP	1
95	MR00006	HAND CHAIN	1
96	MF00007	HH BOLT 1/4"-20UNC x 3/4"	4
97	MM00040	N-4 SOLENOID COVER	1
98	ME00026	N-4 RCG/FDG LIMIT SHAFT 1/2"-3/8" x 11"LONG	1
105	MK00098	N-4 CUTOFF SWITCH BOOT	1
106	MC00012	ADJUSTABLE CABLE STOPPER	1
107	MH00027	COLLAR 1/2"ID	1
109	ML00033A	N-4/N-4X 13" x 8" CONTROL BOX	1
110	ML00033B	N-4/N-4X 13" x 8" BACKPLATE	1
111	MR00007	1/16" CABLE (1FT. LONG) C/V CABLE STOPPER	1
112	MM00082	SOLENOID SUPPORT BRACKET	1
113	MM00139	N-4 CURVED TUBE	1
114	ME00055	KEYWAY 3/16" x 1-3/4" LONG	1
116	MG00023	HEX NUT 6-32	4
117	MG00022	LOCK WASHER #6-32	4
118	MG00012	RIBBED HEX NUT 5/16"-18UNC	2
148	MH00096	PRECISION FLANGE BEARING 3/8"ID x 1-3/8"ID	1
149	MH00097	PRECISION FLANGE BEARING 1/2"ID x 1-3/8"ID	1

02.09.04      C.S.      D.J.  
 DATE:      APPROVED:      DRAWN BY:  
 UNLESS OTHERWISE SPECIFIED  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES  
 .XX=±.01  
 ANGLES=±30'  
 JOB#: 09-2463  
 REVISION:A

TITLE:  
**GEARHEAD OPERATOR  
 PRO-RCGTW  
 (N-4 OMC)**  
 WEIGHT: 1b      SIZE: B      PAGE: 1/1  
 CAD FILE: 3D-PRORCGTW-XE-N4DMC      SCALE: