SERVICE FIRE DOORS

INSTALLATION INSTRUCTIONS

AND MAINTENANCE MANUAL

3-3952-01(12) ECN 1147 BY RG 1/18/13

THIS REVISION SUPERSEDES ALL PREVIOUS REVISIONS

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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.

FOLLOW THE DIRECTIONS BELOW:

CONCEALED DAMAGE:

(A) MUST BE INSPECTED BY CARRIER'S REPRESENTATIVE WITHIN 15 DAYS FROM DATE OF DELIVERY.
(B) CONSIGNEE MUST OBTAIN COPY OF INSPECTION REPORT.
(C) MATERIAL SHOULD NOT BE MOVED FROM POINT OF DELIVERY TO OTHER PREMISES PRIOR TO DISCOVERY AND/OR REPORTING OF DAMAGE.
(D) CONTAINER AND PACKING SHOULD BE RETAINED BY CONSIGNEE UNTIL INSPECTION IS MADE.

VISIBLE DAMAGE:

(A) MUST BE INSPECTED BY CARRIER'S REPRESENTATIVE WITHIN 15 DAYS FROM DATE OF DELIVERY.
(B) CONSIGNEE MUST OBTAIN COPY OF INSPECTION REPORT.
(C) MATERIAL SHOULD NOT BE MOVED FROM POINT OF DELIVERY TO OTHER PREMISES PRIOR TO DISCOVERY AND/OR REPORTING OF DAMAGE.
(D) CONTAINER AND PACKING SHOULD BE RETAINED BY CONSIGNEE UNTIL INSPECTION IS MADE.

NOTE: IF DAMAGE IS CERTAIN, GOODS SHOULD NOT BE UNPACKED UNTIL INSPECTION IS MADE. IF DAMAGE IS UNCERTAIN, PACKAGES MAY BE OPENED BUT PACKING MATERIAL MUST BE SAVED UNTIL INSPECTION IS MADE.

INCOMPLETE DELIVERY:

(A) SHOULD BE NOTED ON DELIVERY RECEIPT.
(B) ACKNOWLEDGES BY DRIVER'S SIGNATURE.
(C) START TRACING IMMEDIATELY.
(D) NOTIFY SHIPPER.

RETURNING DAMAGED MATERIAL:

IF DAMAGED TO THE EXTANT 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 ON DOORS

WARNING

READ AND FOLLOW THESE INSTRUCTIONS THOROUGHLY - THE MANUFACTURER 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, INC. 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 RIGHTS.

SAFETY CHECK LIST

WARNING

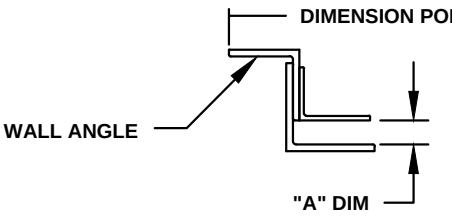
IN ORDER FOR YOU TO ASSURE YOUR CUSTOMER THAT THIS DOOR HAS BEEN INSTALLED PROPERLY AND IN A SAFE MANNER, WE ASK THAT YOU CHECK THE FOLLOWING BEFORE LEAVING THE JOBSITE

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 90ÁFROM 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 OWNERS OR HIS/HER REPRESENTATIVE IN THE PROPER METHOD OF OPERATING THIS DOOR.

FIRE DOORS GUIDE INSTALLATION

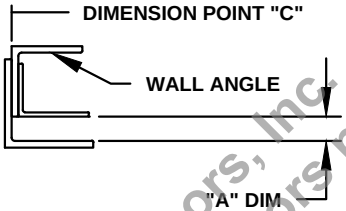
DEPENDING ON YOUR SPECIFIC JOB CONDITIONS, YOU HAVE RECEIVED GUIDES THAT APPEAR AS SHOWN BELOW.

TYPE I ASSY



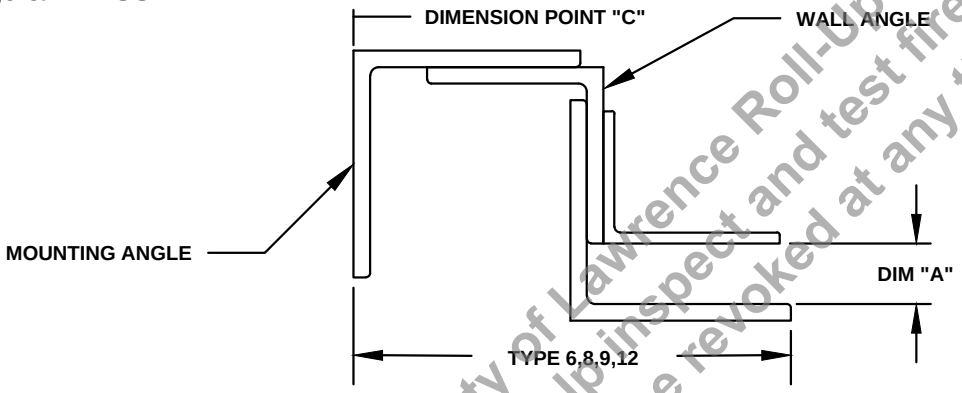
STANDARD FACE OF WALL MOUNTED GUIDE

TYPE II ASSY



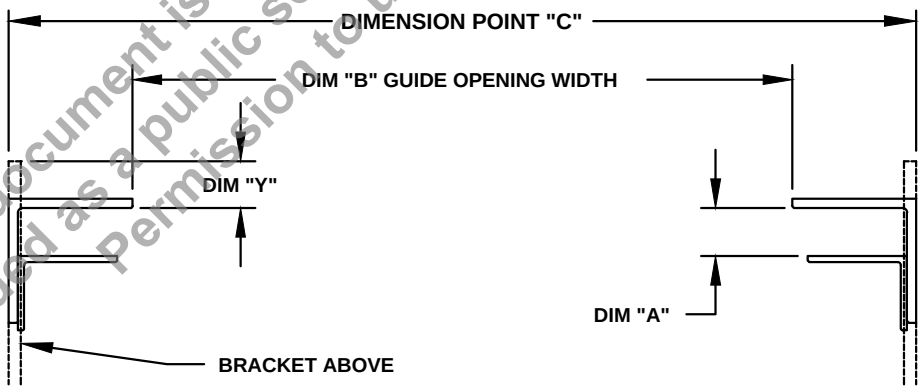
A1

TYPE 6,8,9 & 12 ASSY



A2

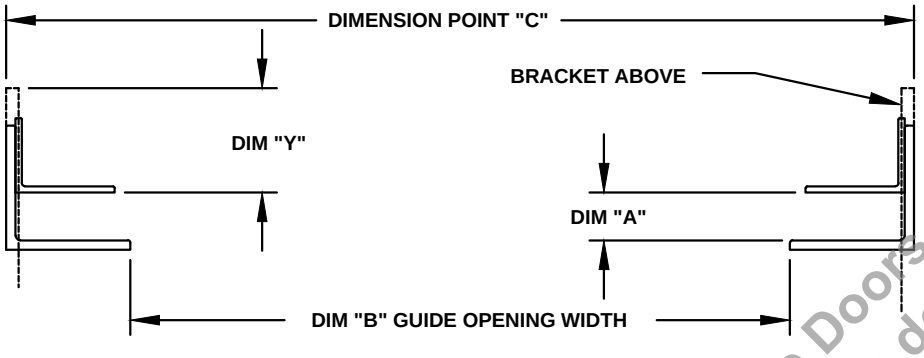
TYPE 3 ASSY



A3

FIRE DOORS GUIDE INSTALLATION

TYPE 4 ASSY



A4

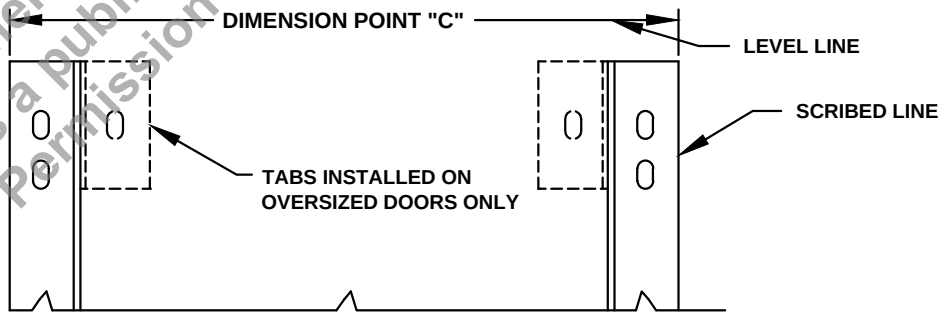
1) LOCATE GUIDE DIMENSION POINT FOR BOTH LEFT AND RIGHT JAMB. MEASUREMENT BETWEEN DIMENSION POINTS MUST EQUAL DIMENSION "C".
2) FOR TYPICAL INSTALLATION FOR TYPE I AND II (SEE FIG A1) GUIDE ASSEMBLIES, DIMENSION POINT "C" IS CENTERED AROUND JAMB OPENING - (IF SIDE ROOM PERMITS) - IF THERE ARE QUESTIONS CHECK JOB CONSTRUCTION DRAWINGS (IF AVAILABLE).
3) CHECK THE GUIDE OPENING MEASUREMENT. LOCATE A MARK ON THE FLOOR AT THE TIP OF EACH GUIDE AND MEASURE. GUIDE MEASUREMENT MUST EQUAL DIM "B". (SEE FIG A6) THIS IS CRITICAL. IF GUIDE OPENING DOES NOT EQUAL DIM "B", STOP AND REDO STEPS 1 AND 2.
4) SCRIBE A PLUMB LINE ON THE WALL AT DIMENSION POINTS.
5) PLACE THE GUIDES AGAINST THE SCRIBED LINE AND WITH THE TOPS OF GUIDES LEVEL, MARK THE LOCATION OF THE MOUNTING HOLES. NOTE: GUIDE TYPES 2, 6, 8, 9 AND 12 MAY HAVE TO BE DISASSEMBLED.

NOTE: MOUNTING HOLES TO BE LOCATED AT THE TOP OF EACH SLOT.

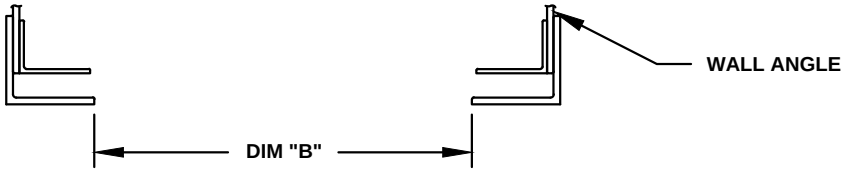
6) DRILL MOUNTING HOLES FOR WALL FASTENERS AND MOUNT THE GUIDES. (SEE PAGE 6 FOR FASTENER TYPE) REASSEMBLE GUIDES IF NECESSARY.

NOTE: ON OVERSIZED DOORS: TOP 3 FASTENERS MAY BE LARGER. CHECK PACKING LIST.

7) MAKE SURE THAT THE WIDTH OF THE GUIDE GROOVE IS EQUAL TO DIM "A". (SEE PAGE 6) ADJUST IF NECESSARY.



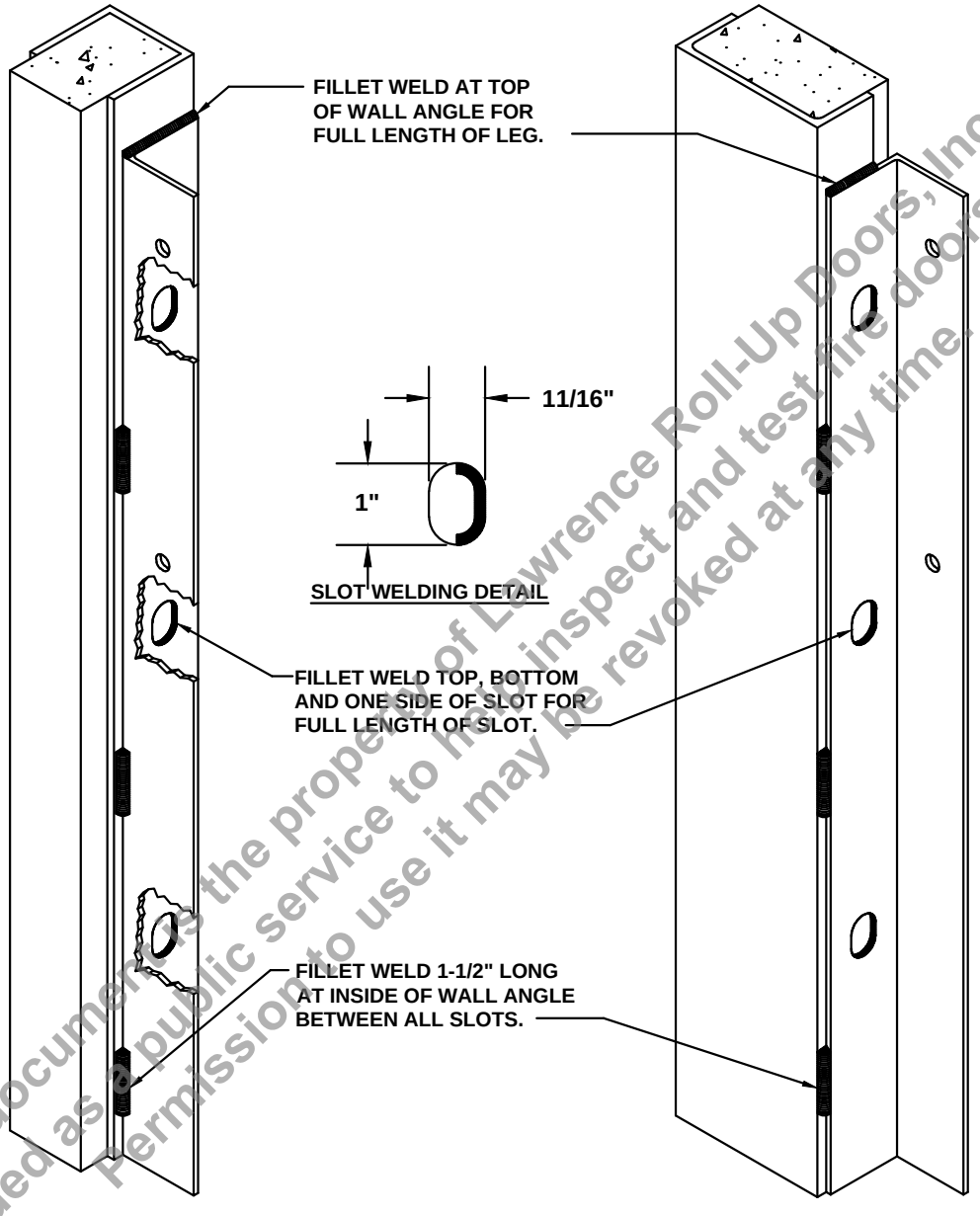
A5



A6

OPTIONAL WELDED WALL ANGLE INSTALLATION
APPVD FOR WARNOCK HERSEY AND UL LABELED DOORS

NOTE: APPROVED FOR STRUCTURAL STEEL JAMBS ONLY.



METHOD 2
(WELDING ON INSIDE OF WALL ANGLE)

METHOD 1
(WELDING ON OUTSIDE OF WALL ANGLE)

A7

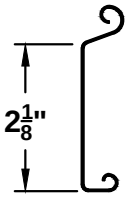
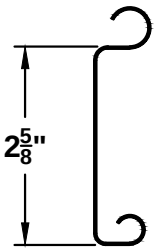
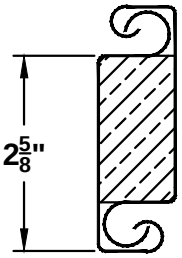
FILLET WELD SIZES ARE TO BE EQUAL TO THE WALL ANGLE THICKNESS.
(FILLET WELDS TO BE MINIMUM 3/16" WIDE).
USE E6011/E6011 ELECTRODES OR ELECTRODES OF EQUIVALENT STRENGTH.
ALL WELDS TO BE DONE "VERTICAL-UP" (START FROM THE BASE OF AN INDIVIDUAL WELD AND WELD UPWARDS)
WELDING PROVISIONS TO BE IN COMPLIANCE WITH U.B.C. STD #27-6.

FASTENER TABLE

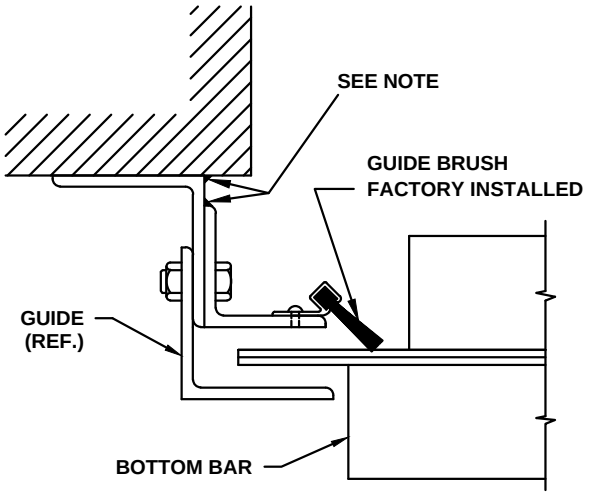
TYPE OF CONSTRUCTION TO WHICH FASTENER EMBEDS	TYPE OF FASTENER TO USE	HOLE SIZE (DRILL DIA.)	TAP SIZE (IF REQ'D)	DEPTH OF HOLE
CONCRETE/ MASONRY	Ï 1/2" THRU BOLTS	Ï 5/8" CARBIDE	———	THRU WALL
	Ï 5/8" THRU BOLTS	Ï 3/4" CARBIDE	———	THRU WALL
	Ï 3/4" THRU BOLTS	Ï 7/8" CARBIDE	———	THRU WALL
CONCRETE	Ï 1/2" X 5-1/2" WEDGE ANCH.	Ï 1/2" CARBIDE	———	4" MIN
	Ï 5/8" X 6" WEDGE ANCH.	Ï 5/8" CARBIDE	———	5" MIN
	Ï 3/4" X 8-1/2" WEDGE ANCH.	Ï 3/4" CARBIDE	———	6" MIN
MASONRY OR BRICK	Ï 5/8" X 4-1/4" SLEEVE ANCH. (Ï 1/2" BOLT)	Ï 5/8"	———	4" MIN
	Ï 3/4" X 6-1/4" SLEEVE ANCH. (Ï 5/8" BOLT)	Ï 5/8"	———	5" MIN
STEEL	Ï 1/2" BOLT	Ï 27/64"	1/2"-13UNC	———
	Ï 5/8" BOLT	Ï 17/32"	5/8"-11UNC	———
	Ï 3/4" BOLT	Ï 21/32"	3/4"-10UNC	———

NOTE: SEE THE PREVIOUS PAGE IF THE GUIDES ARE TO BE WELDED TO THE JAMBS.

GUIDE GROOVE DIMENSION TABLE

SLAT NO.	5	4	45 DBL.INSUL
SLAT PROFILE			
DIM "A"	1"	1 1/8"	1 1/4"

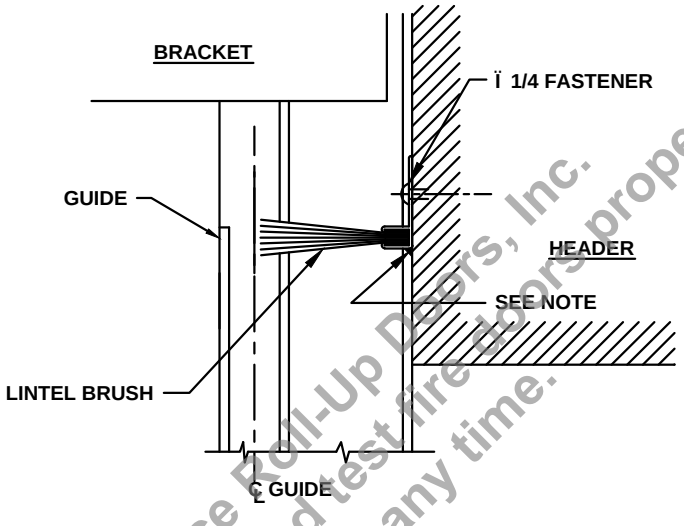
BRUSH TYPE GASKETING INSTALLATION INSTRUCTION



JAMB GASKET

(SHIP MOUNTED ON GUIDES)

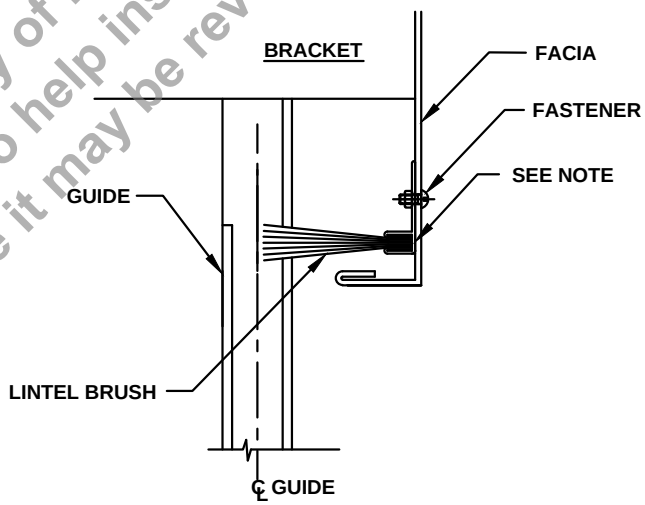
A8



LINTEL GASKET

A9

NOTE: FOR LEAKAGE RATED S LABELED DOORS, APPLY 1/8" MINIMUM APPROVED RTV CAULKING (PROVIDED)



OPTIONAL FACIA MOUNTING

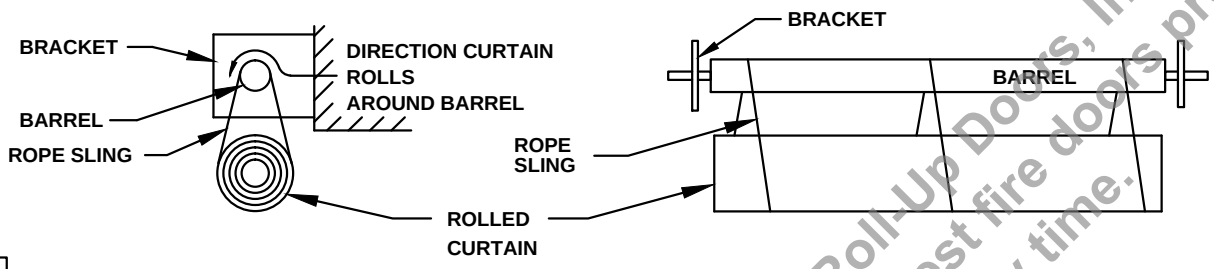
A10

CURTAIN ASSEMBLY FOR SERVICE FIRE DOORS

IMPORTANT

BE SURE THAT THE TENSION SHAFT IS FREE TO ROTATE
DO NOT INSTALL TENSION WHEEL AT THIS TIME

1) PLACE THE ROLLED CURTAIN BELOW THE BARREL ASSEMBLY. HOIST THE CURTAIN APPROXIMATELY 3 FEET BELOW THE BARREL AND SUSPEND IT THERE BY MEANS OF TWO OR MORE SLINGS.



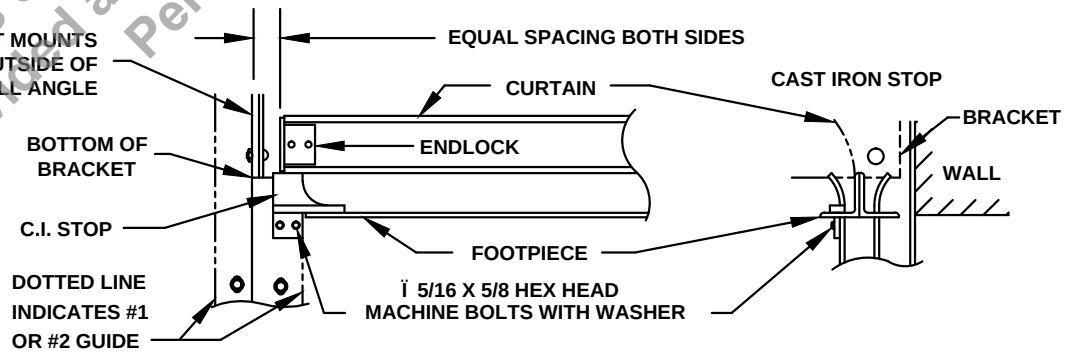
A11

2) USING SLINGS TIED THROUGH THE CENTER HOLE OF THE TOP SLAT OF THE CURTAIN; WRAP THE SLINGS AROUND THE BARREL IN THE DIRECTION OF COIL UP ROTATION, PULL THE TOP SLAT UP AROUND THE BARREL. IF HOOPS ARE USED; PLACE IN LINE WITH THE HOLES IN THE TOP SLAT, AND WITH THE TOP SLAT LINED UP STRAIGHT ON THE BARREL, SECURE THE HOOPS TO THE BARREL.

IMPORTANT

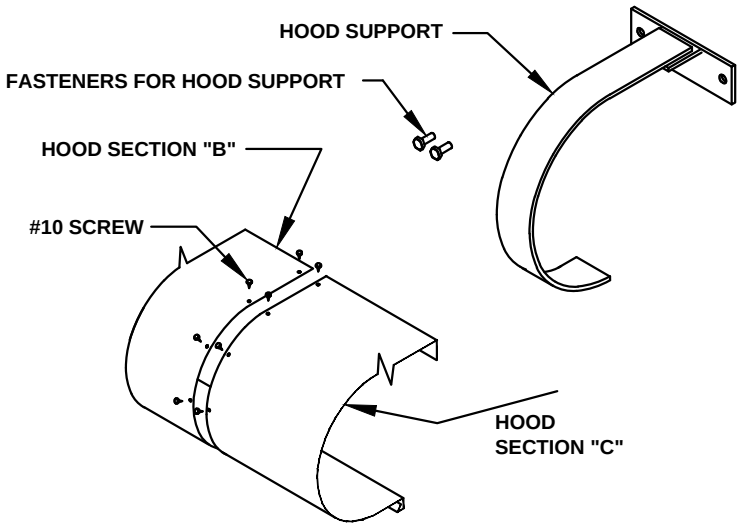
BE SURE THAT THE ENDS OF THE CURTAIN ARE EQUIDISTANT
FROM THE INSIDE FACES OF THE BRACKETS

3) IF YOUR DOOR HAS A MEANS OF MANUALLY OPERATING, USE IT TO ROLL THE CURTAIN ONTO THE BARREL.
4) IF YOUR 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 ROLLS ONTO IT.
5) WITH THE CURTAIN COMPLETELY ROLLED ONTO THE BARREL, FEED THE BOTTOM BAR INTO THE GUIDES AND ATTACH THE STOPS AS SHOWN IN FIG A12.



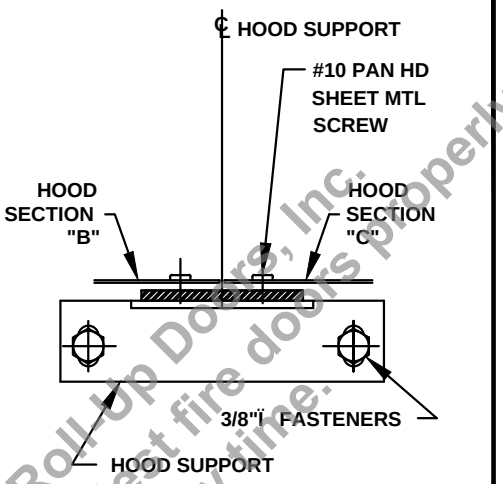
A12

HOOD SUPPORT MOUNTING INSTRUCTION



MULTI-SECTION HOOD ASSEMBLY

A13



SECTION THRU HOOD SUPPORT

A14

ASSEMBLY MULTI SECTION HOOD:

1) VERIFY SUPPORT SIZE BY COMPARING TO BRACKET PLATE HOOD BAND.
2) LOCATE SUPPORT AS PER TABLE 2.
3) LAYOUT AND DRILL WALL FOR Ï 3/8 HOOD SUPPORT BOLTS (2 BOLTS PER SUPPORT) AND ATTACH HOOD SUPPORT(S) TO WALL.
4) WITH THE HOOD SECTIONS OVER THE SUPPORT, BUTT HOOD ENDS TOGETHER, AND CENTER ON THE HOOD SUPPORT(S) TO WALL. COPE ENDS OF TOP FLANGE IF REQUIRED.
5) DRILL Ï .157 HOLE THROUGH THE HOOD AND SUPPORT. FASTEN TOGETHER WITH THE #10 PAN HEAD SELF-TAP MACHINE SCREWS PROVIDED. NOTE: SCREWS SHOULD NOT INTERFERE WITH CURTAIN. VERIFY.

TABLE 1

ITEM NUMBER	MOUNTING MATERIAL	DRILL SIZE	DRILL DEPTH	TAP SIZE	INSERT	MOUNTING BOLT
1 (TABLE 3)	MASONARY	3/8" CARBIDE	2"		3/8" WEDGE ANCH.	
2 (TABLE 3)	WOOD	3/16"Ï	1"			3/8" X 2" LAG
3 (TABLE 3)	STEEL	5/16"Ï	1"	3/8"-16		3/8" X 1" HHMB

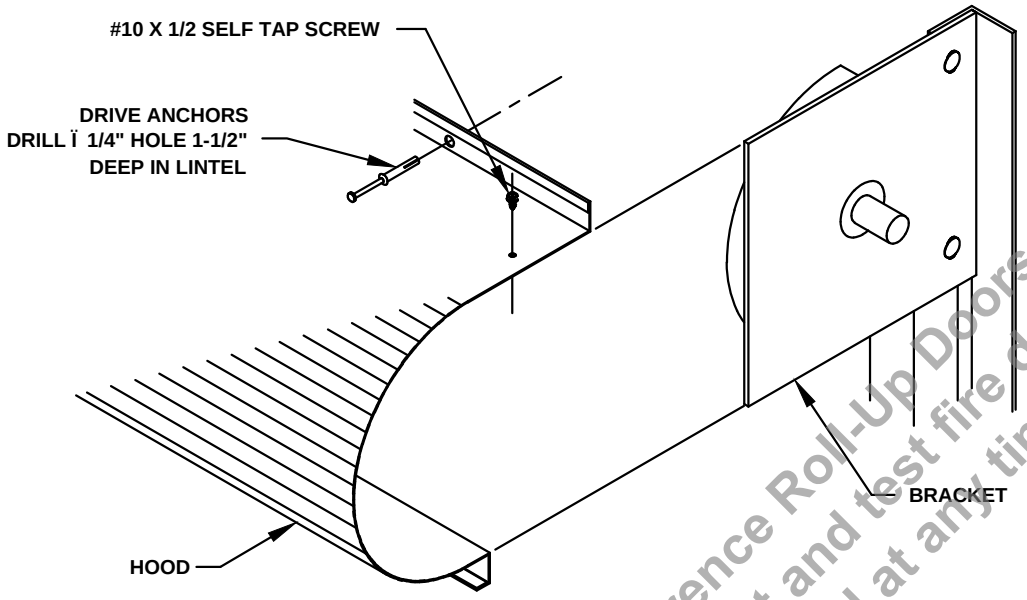
TABLE 2

HOOD LENGTH	SECTIONS	SUPPORTS	LOCATION
0 TO 14'-0"	1	0	
14'-0 1/8" TO 28'-0"	2	1	CENTER OF HOOD
28'-0 1/8" TO 42'-0"	3	2	AT 1/3 POINTS
42'-0 1/8" TO 56'-0"	4	3	AT 1/4 POINTS

TABLE 3

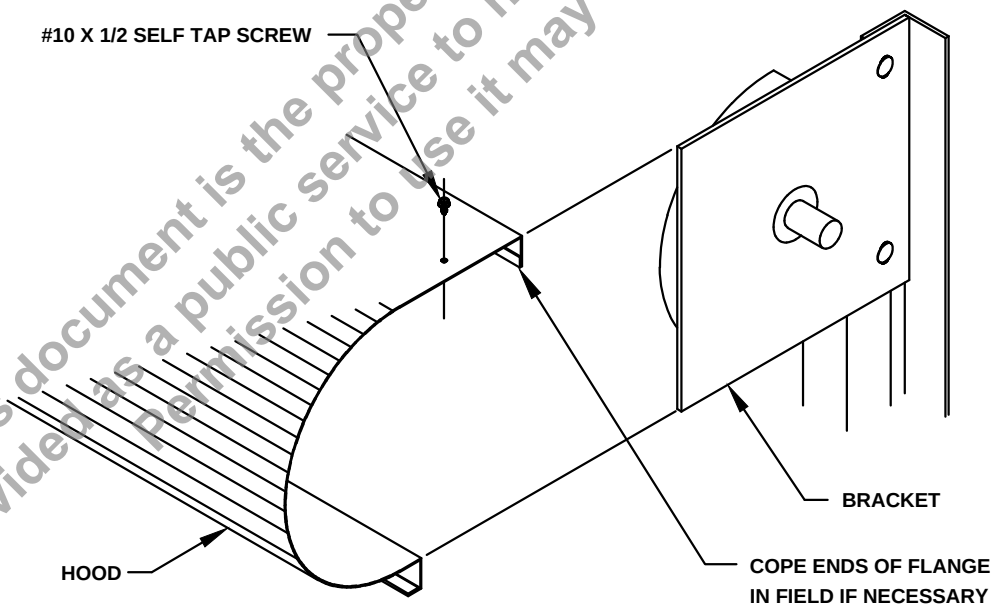
ITEM NO.	PART NO.	DESCRIPTION
1	3-2210-01	ANCHOR WEDGE 3/8 X 2-1/4.
2	3-2120-01	SCREW LAG 3/8 X 2 STL PL.
3	3-2150-11	BOLT HHMB 3/8 X 1 PL.

HOOD INSTALLATION



A15

SERVICE/FIRE DOORS HOOD FLANGE UP



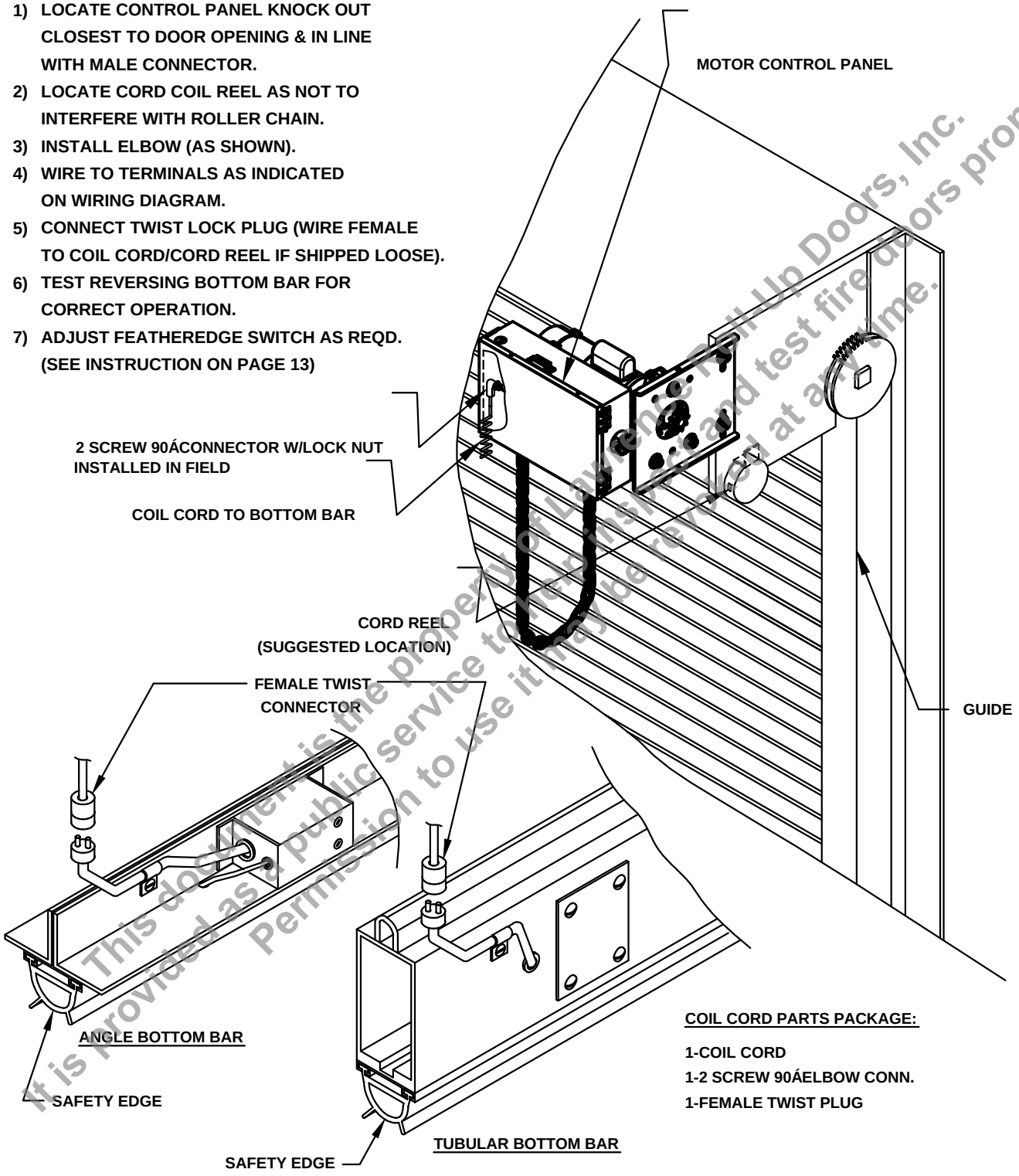
SERVICE/FIRE DOORS HOOD FLANGE DOWN

A16

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 CORD COIL 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 REQD. (SEE INSTRUCTION ON PAGE 13)

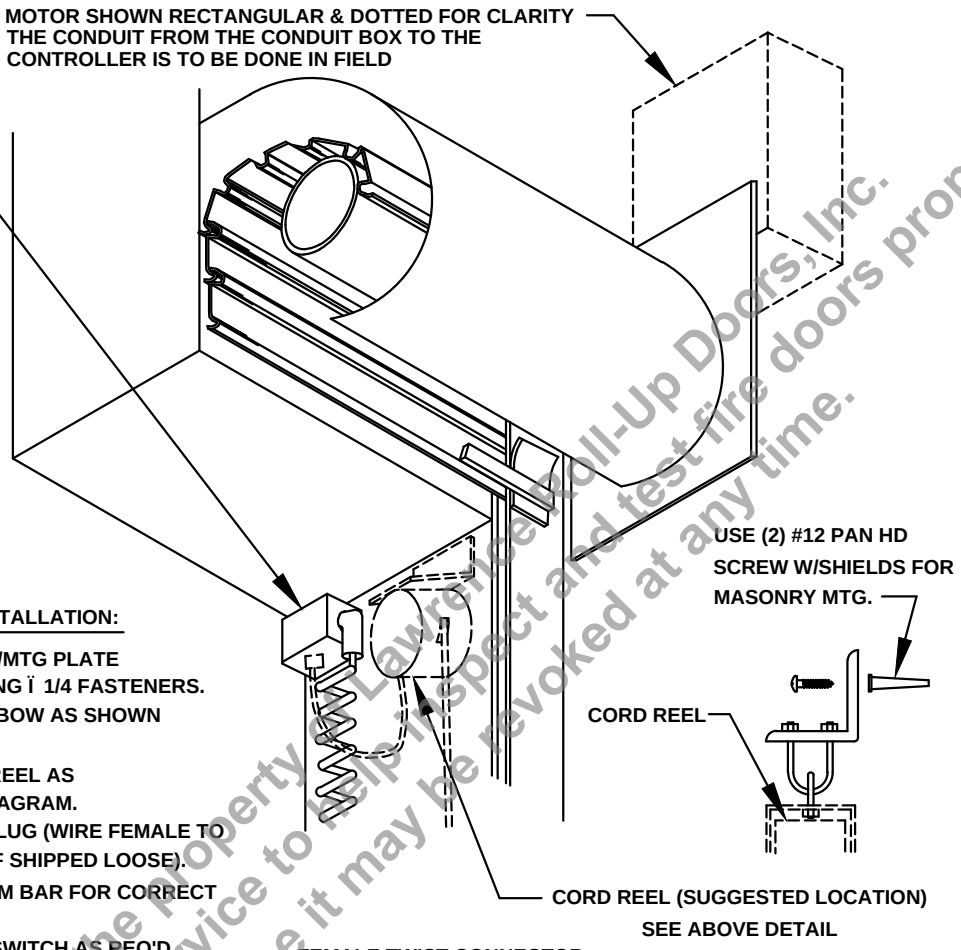


COIL CORD PARTS PACKAGE:

1-COIL CORD
1-2 SCREW 90ÁELBOW CONN.
1-FEMALE TWIST PLUG

SENSING DEVICES

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

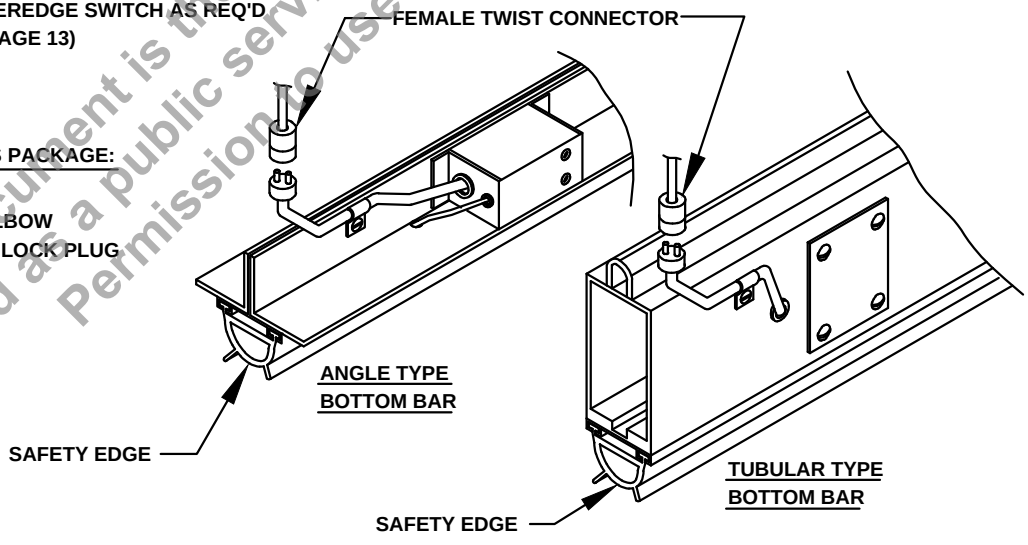


COIL CORD/CORD REEL INSTALLATION:

1) FASTEN CONDUIT BOX W/MTG PLATE TO WALL AS SHOWN USING Ï 1/4 FASTENERS.
2) INSTALL 2 SCREW 90ÁELBOW 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 13)

COIL CORD PARTS PACKAGE:

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

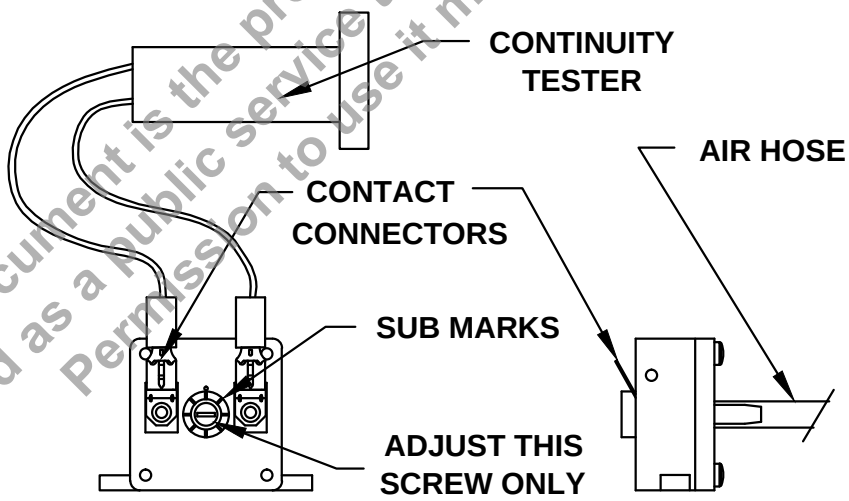


SETTING INSTRUCTIONS FOR FEATHEREDGE SWITCH

THE FEATHEREDGE SWITCH HAS BEEN FACTORY PRESET FOR NORMAL OPERATION FROM THE SUPPLIER. THE FACTORY PRESET SETTING IS 0.3 MM TO 0.4 MM 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 = 0.0 MM)**
3) **TURN THE CONTACT SCREW IN A COUNTER-CLOCKWISE DIRECTION UNTIL THE DESIRED CONTACT**
4) **DISTANCE IS REACHED. SCALE DIVISION ON THE SWITCH IS: 1 SUB MARKING = 0.1 MM OF CONTACT OPENING (FACTORY = 0.3 MM TO 0.4 MM). THE CLOSER THE SETTING IS TO 0.0 MM, THE MORE SENSITIVE THE SWITCH BECOMES.**



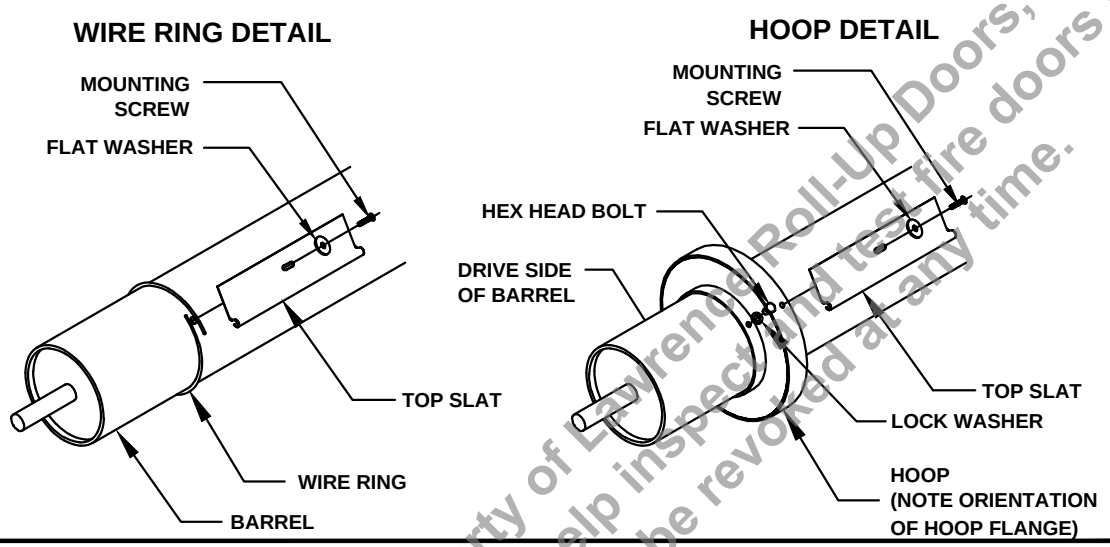
CONTACT ADJUSTMENT SCREW

BARREL AND BRACKET ASSEMBLY

YOU MUST DETERMINE THE FOLLOWING:

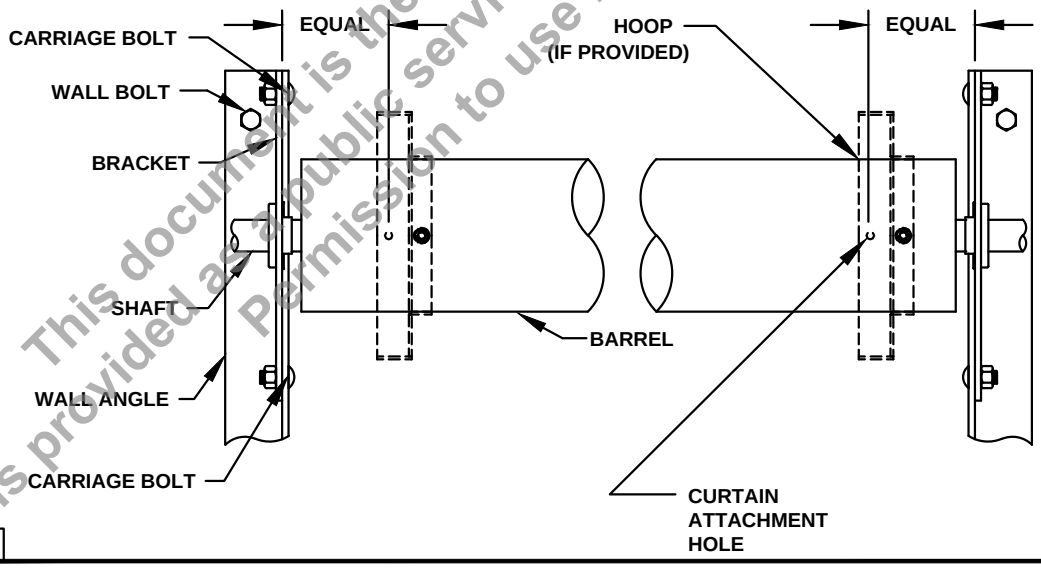
1) HAND OF DOOR (LH OR RH).
2) TYPE OF OPERATION (MANUAL, MOTOR, COMPOUND MOTOR / CHAIN).
3) TYPE OF GOVERNOR (PALLET OR TYPE III VISCOUS GOVERNOR).
4) SINGLE OR DUAL SPRING (DUAL SPRING ONLY APPLIES TO MANUALLY OPERATED).

IDENTIFY APPROPRIATE BARREL & BRACKET ASSEMBLY FIGURE (FIGURES B4 THRU B22)
ALL BARREL & BRACKET ASSY FIGURES SHOWN IN RH VIEW (LH VIEW OPPOSITE)



B1

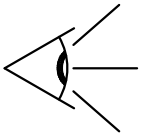
1) SLIDE THE MOUNTING BRACKETS ONTO THEIR RESPECTIVE ENDS OF THE BARREL AND RAISE THE ENTIRE ASSEMBLY INTO POSITION AT THE HEAD OF THE OPENING.
2) USING THE CARRIAGE BOLTS AS SHOWN IN FIG B2, BOLT THE BRACKETS TO THE WALL ANGLE.

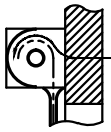


B2

3) POSITION THE BARREL, WITH AN EQUAL DISTANCE FROM THE FIRST CURTAIN ATTACHMENT HOLE, TO THE INSIDE FACE OF BOTH BRACKETS. SEE FIG B2. ASSEMBLE BRACKETS COMPONENETS ACCORDING TO APPROPRIATE BARREL AND BRACKET ASSEMBLY FIGURE.

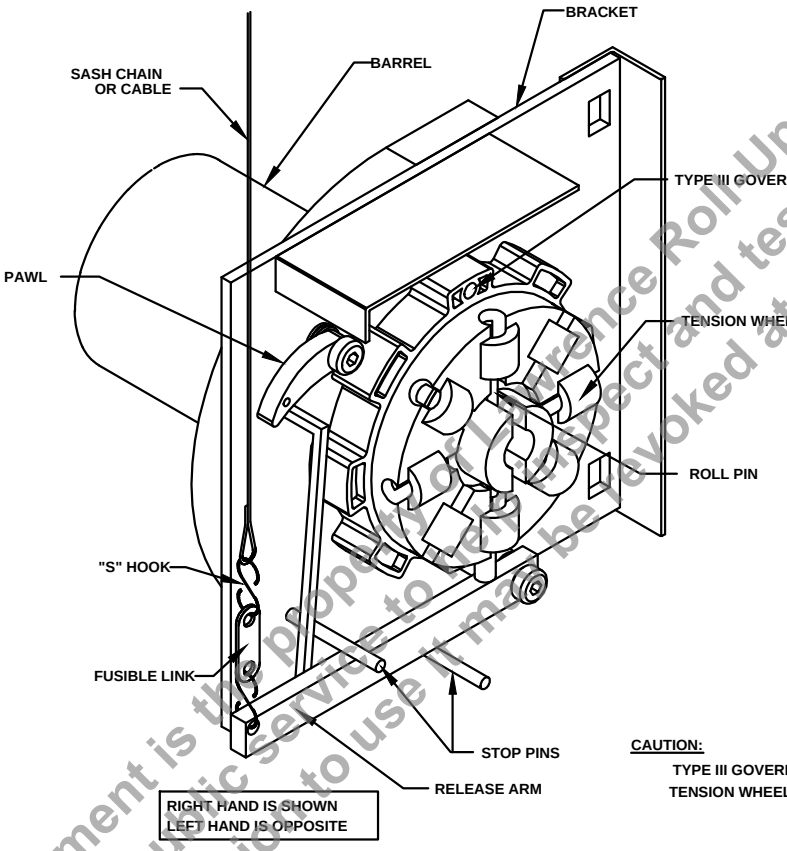
BARREL AND BRACKET ASSEMBLY
PUSH UP TYPE III SINGLE & DUAL SPRING





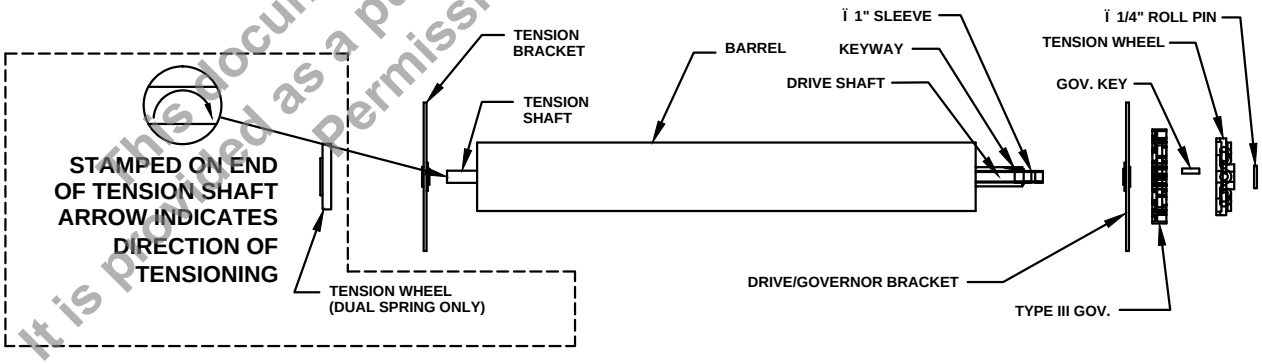
DIRECTION CURTAIN ROLLS UP

B3



CAUTION:

TYPE III GOVERNOR MUST BE KEYED TO SHAFT.
TENSION WHEEL MUST BE SECURED WITH ROLL PIN.



TENSION SIDE **DRIVE SIDE**

B4

FIRE DOORS TENSIONING INSTRUCTIONS
SINGLE SPRING/GOVERNOR - PUSH UP OPERATION

IMPORTANT

DO NOT ATTEMPT TO MAKE ANY ADJUSTMENTS TO THE TENSION ASSEMBLY WITH THE CURTAIN IN ANY POSITION OTHER THAN FULLY COILED ON THE BARREL (DOOR OPEN). WINDING BARS SHOULD BE A MINIMUM OF 3/8 SOLID STEEL ROD, 2 TO 3 FT LONG. DO NOT USE PIPE OR CONDUIT.

1) TO CHARGE THE COUNTERBALANCE SPRING, THE CURTAIN IS TO BE IN THE RAISED POSITION WITH THE BOTTOM BAR POSITIONED APPROXIMATELY 6" BELOW THE GUIDE STOPS (OR FLAT BAR STOPS IF PROVIDED). NOW, PLACE A "C" CLAMP ACROSS THE THROAT OF THE DOOR'S GUIDE TO PREVENT THE CURTAIN FROM DRIFTING TO THE CLOSED POSITION.
2) INSTALL ADJUSTING WHEEL ON THE END OF THE DRIVE/GOVERNOR SHAFT.
3) WITH THE RELEASE ARM IN THE DISENGAGED POSITION, ROTATE THE ADJUSTING WHEEL IN THE DIRECTION THE BARREL ROTATES WHEN COILING THE CURTAIN ON THE BARREL. THE SHAFT IS TO BE ROTATED UNTIL THE BOTTOM BAR RAISES UP TO THE GUIDE STOPS AND REMAINS IN THAT POSITION. FOR OPTIMUM OPERATION, YOU MAY FIND MORE TURNS ARE REQUIRED, OR IN SOME CASES, LESS TURNS ARE REQUIRED.

IMPORTANT

UNDER NO CIRCUMSTANCES SHOULD MORE THAN ONE FULL TURN BE ADDED OVER THAT WHICH IS REQUIRED TO HOLD THE CURTAIN'S BOTTOM BAR AT THE GUIDE STOPS.

4) RAISE THE RELEASE ARM SO THAT IT COMPLETELY ENGAGES THE ADJUSTING WHEEL.
5) CONNECT RELEASE ARM TO THE FUSIBLE LINK SYSTEM OR OTHER APPROVED TEST DEVICE.
6) GENTLY "PULL PAWL HOLD UP ROD" AWAY FROM BRACKET AND ROTATE PAWL TO THE DISENGAGED POSITION.
7) FINALLY, MAKE SURE THE GOVERNOR PAWL IS HELD TO THE DISENGAGED POSITION (SEE FIG D1).
8) THE DOOR IS NOW PROPERLY SET AND READY TO TEST. TEST THE DOOR FOR NORMAL OPERATION.
9) AFTER NORMAL OPERATION TESTS HAVE BEEN MADE, IT REMAINS TO TEST THE AUTOMATIC CLOSE FEATURE. PROCEED AS FOLLOWS:

WARNING
ONLY TRAINED DOOR SYSTEMS TECHNICIANS SHOULD DROP TEST DOOR

10) WITH THE DOOR IN THE FULL OPEN POSITION, DROP THE RELEASE ARM. THE ARM WILL DROP, DISENGAGING THE ADJUSTING WHEEL, RELEASING THE DRIVE/GOVERNOR COUNTERBALANCE SPRING. (SIMULTANEOUSLY, THE PAWL WILL ROTATE DOWNWARD AND ENGAGE THE GOVERNOR). THE DOOR SHOULD NOW DESCEND TO THE FULLY CLOSED POSITION.
11) PROPER CLOSING SPEED IS WHEN THE AVERAGE SPEED OF THE DOOR FALLS BETWEEN 6" AND 24" PER SECOND.
12) IF THE CLOSING VELOCITY GREATLY EXCEEDS THE AVERAGE SPEED OF 24" PER SECOND OR IS LESS THAN 6" PER SECOND, CONTACT CUSTOMER SERVICE FOR FURTHER INSTRUCTION. WHEN CONTACTING US, BE SURE TO ADVISE THE TIME IT TOOK IN SECONDS FOR THE DOOR TO CLOSE AND THE CLEAR OPENING HEIGHT.
13) TO RESET THE DOOR, SEE RESET INSTRUCTION IN FIG B5.
14) CONNECT FUSE LINK SYSTEM TO RELEASE ARM.

FIRE DOORS TENSIONING INSTRUCTIONS
DUAL SPRING/GOVERNOR - PUSH UP OPERATION

IMPORTANT

DO NOT ATTEMPT TO MAKE ANY ADJUSTMENTS TO THE TENSION ASSEMBLY WITH THE CURTAIN IN ANY POSITION OTHER THAN FULLY COILED ON THE BARREL (DOOR OPEN). WINDING BARS SHOULD BE A MINIMUM OF 3/8 SOLID STEEL ROD, 2 TO 3 FT LONG. DO NOT USE PIPE OR CONDUIT.

1) TO CHARGE THE COUNTERBALANCE SPRING, THE CURTAIN IS TO BE IN THE RAISED POSITION WITH THE BOTTOM BAR POSITIONED APPROXIMATELY 6" BELOW THE GUIDE STOPS (OR FLAT BAR STOPS IF PROVIDED). NOW, PLACE A "C" CLAMP ACROSS THE THROAT OF THE DOOR'S GUIDE TO PREVENT THE CURTAIN FROM DRIFTING TO THE CLOSED POSITION.
2) NOW APPLY TENSION TO THE TENSION SIDE COUNTERBALANCING SPRING. ROTATE THE WHEEL IN THE SAME DIRECTION THE CURTAIN NORMALLY WINDS ONTO THE BARREL. SEE INSTALLATION INFORMATION SHEET FOR NUMBER OF TURNS. LOCK THE TENSION WHEEL IN PLACE TO THE TENSION BRACKET.
3) WITH THE RELEASE ARM IN THE DISENGAGED POSITION, ROTATE THE ADJUSTING WHEEL IN THE DIRECTION THE BARREL ROTATES WHEN COILING THE CURTAIN ON THE BARREL. THE SHAFT IS TO BE ROTATED UNTIL THE BOTTOM BAR RAISES UP TO THE GUIDE STOPS AND REMAINS IN THAT POSITION. FOR OPTIMUM OPERATION, YOU MAY FIND MORE TURNS ARE REQUIRED, OR IN SOME CASES, LESS TURNS ARE REQUIRED.

IMPORTANT

UNDER NO CIRCUMSTANCES SHOULD MORE THAN ONE FULL TURN BE ADDED OVER THAT WHICH IS REQUIRED TO HOLD THE CURTAIN'S BOTTOM BAR AT THE GUIDE STOPS.

4) RAISE THE RELEASE ARM SO THAT IT COMPLETELY ENGAGES THE ADJUSTING WHEEL.
5) CONNECT RELEASE ARM TO THE FUSIBLE LINK SYSTEM OR OTHER APPROVED TEST DEVICE.
6) GENTLY "PULL PAWL HOLD UP ROD" AWAY FROM BRACKET AND ROTATE PAWL TO THE DISENGAGED POSITION.
7) FINALLY, MAKE SURE THE GOVERNOR PAWL IS HELD TO THE DISENGAGED POSITION (SEE FIG D1).
8) THE DOOR IS NOW PROPERLY SET AND READY TO TEST. TEST THE DOOR FOR NORMAL OPERATION.
9) AFTER NORMAL OPERATION TESTS HAVE BEEN MADE, IT REMAINS TO TEST THE AUTOMATIC CLOSE FEATURE. PROCEED AS FOLLOWS:

WARNING

ONLY TRAINED DOOR SYSTEMS TECHNICIANS SHOULD DROP TEST DOOR

10) WITH THE DOOR IN THE FULL OPEN POSITION, DROP THE RELEASE ARM. THE ARM WILL DROP, DISENGAGING THE ADJUSTING WHEEL, RELEASING THE DRIVE/GOVERNOR COUNTERBALANCE SPRING. (SIMULTANEOUSLY, THE PAWL WILL ROTATE DOWNWARD AND ENGAGE THE GOVERNOR). THE DOOR SHOULD NOW DESCEND TO THE FULLY CLOSED POSITION.
11) PROPER CLOSING SPEED IS WHEN THE AVERAGE SPEED OF THE DOOR FALLS BETWEEN 6" AND 24" PER SECOND.
12) IF THE CLOSING VELOCITY GREATLY EXCEEDS THE AVERAGE SPEED OF 24" PER SECOND OR IS LESS THAN 6" PER SECOND, CONTACT CUSTOMER SERVICE FOR FURTHER INSTRUCTION. WHEN CONTACTING US, BE SURE TO ADVISE THE TIME IT TOOK IN SECONDS FOR THE DOOR TO CLOSE AND THE CLEAR OPENING HEIGHT.
13) TO RESET THE DOOR, SEE RESET INSTRUCTION IN FIG B5.
14) CONNECT FUSE LINK SYSTEM TO RELEASE ARM.

FIRE DOORS RESETTING INSTRUCTIONS

WARNING

ONLY TRAINED PERSONNEL SHOULD RESET FIRE DOORS

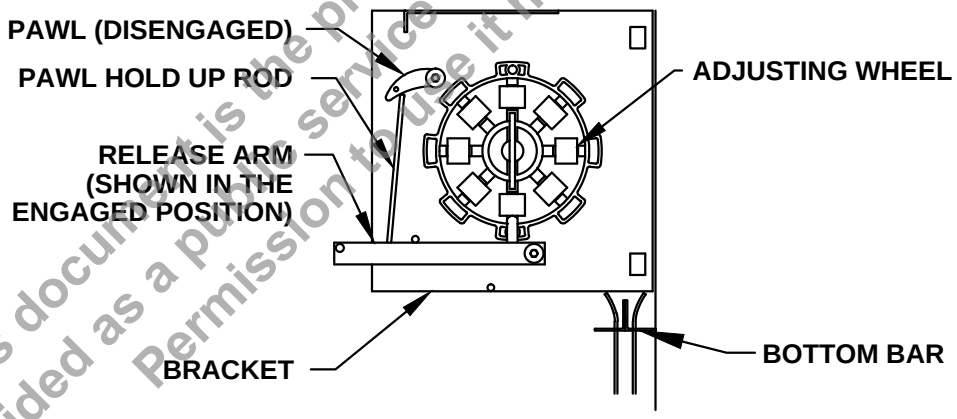
MANUAL PUSH UP OPERATION

1) THE CURTAIN IS TO BE IN THE RAISED POSITION WITH THE BOTTOM BAR POSITIONED APPROXIMATELY 6" BELOW THE GUIDE STOPS (OR FLAT BAR STOPS IF PROVIDED). NOW, PLACE A "C" CLAMP ACROSS THE THROAT OF THE DOOR'S GUIDE TO PREVENT THE CURTAIN FROM DRIFTING TO THE CLOSED POSITION.
2) WITH THE RELEASE ARM IN THE DISENGAGED POSITION, ROTATE THE ADJUSTING WHEEL IN THE DIRECTION THE BARREL ROTATES WHEN COILING THE CURTAIN ON BARREL. THE SHAFT IS TO BE ROTATED UNTIL THE BOTTOM BAR RAISES UP TO THE GUIDE STOPS AND REMAINS IN THAT POSITION.
3) RAISE THE RELEASE ARM SO THAT IT COMPLETELY ENGAGES THE ADJUSTING WHEEL.
4) CONNECT RELEASE ARM TO THE FUSIBLE LINK SYSTEM OR OTHER APPROVED RELEASE DEVICE.
5) GENTLY PULL "PAWL HOLD UP ROD" AWAY FROM BRACKET AND ROTATE PAWL TO THE DISENGAGED POSITION. SEE FIG B5.

IMPORTANT

UNDER NO CIRCUMSTANCES SHOULD MORE THAN ONE FULL TURN BE ADDED OVER THAT WHICH IS REQUIRED TO HOLD THE CURTAIN'S BOTTOM BAR AT THE GUIDE STOPS.

6) THE DOOR IS NOW PROPERLY SET AND READY FOR NORMAL OPERATION.



FIRE DOORS TROUBLE SHOOTING
TYPE III - VIBRATECH GOVERNOR

GENERAL OPERATION

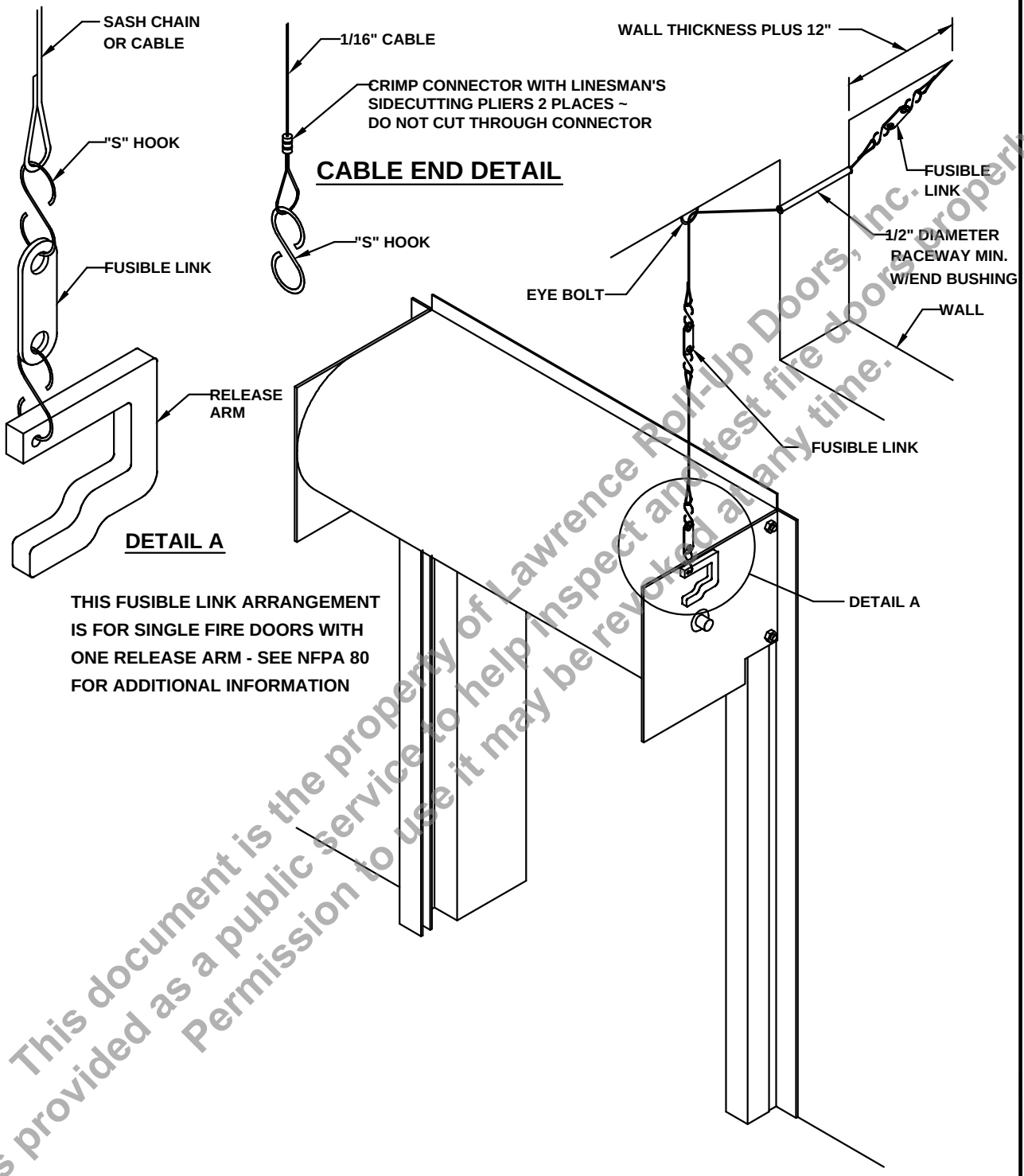
THE VIBRATECH GOVERNOR IS A VISCUOUS TYPE GOVERNOR. THE SHEARING FORCE IN THE VISCUOUS FLUID CREATES BRAKING TORQUE. THE FASTER THE GOVERNOR TURNS THE MORE BRAKING TORQUE IS CREATED. WHILE ALL GOVERNORS ARE THE SAME SIZE DIFFERENT FLUIDS ARE USED TO CREATE MORE OR LESS BRAKING TORQUE. ON LARGER DOORS A TENSION SPRING IS REQUIRED TO ASSIST THE VIBRATECH GOVERNOR. THE ADVANTAGE OF THE VIBRATECH GOVERNOR IS THAT THERE IS NO MECHANICAL WEAR AND THAT BRACKET ADJUSTMENTS ARE NOT REQUIRED.

TROUBLE SHOOTING

ALL BRACKETS ARE FACTORY PRESET AND TESTED. THE FOLLOWING CHECKS SHOULD BE PERFORMED BEFORE ADJUSTING THE BRACKET.

1) IF TENSION SIDE SPRING IS USED VERIFY INITIAL TURNS.
2) VERIFY BRACKETS ARE PERPENDICULAR TO THE BARREL.
3) VERIFY CURTAIN IS NOT BINDING IN GUIDES.
4) VERIFY CURTAIN ENDLOCKS ARE NOT RUBBING BRACKET PLATE (CURTAIN SHIFTER).
5) VERIFY THAT THE VIBRATECH GOVERNOR IS KEYED TO THE DRIVE SHAFT.
6) VERIFY THAT THE PAWL CAN ROTATE FREELY AND FULLY ENGAGES COGS ON GOVERNOR.

FUSIBLE LINK SYSTEM



THIS FUSIBLE LINK ARRANGEMENT IS FOR SINGLE FIRE DOORS WITH ONE RELEASE ARM - SEE NFPA 80 FOR ADDITIONAL INFORMATION

B6

⚠ IMPORTANT

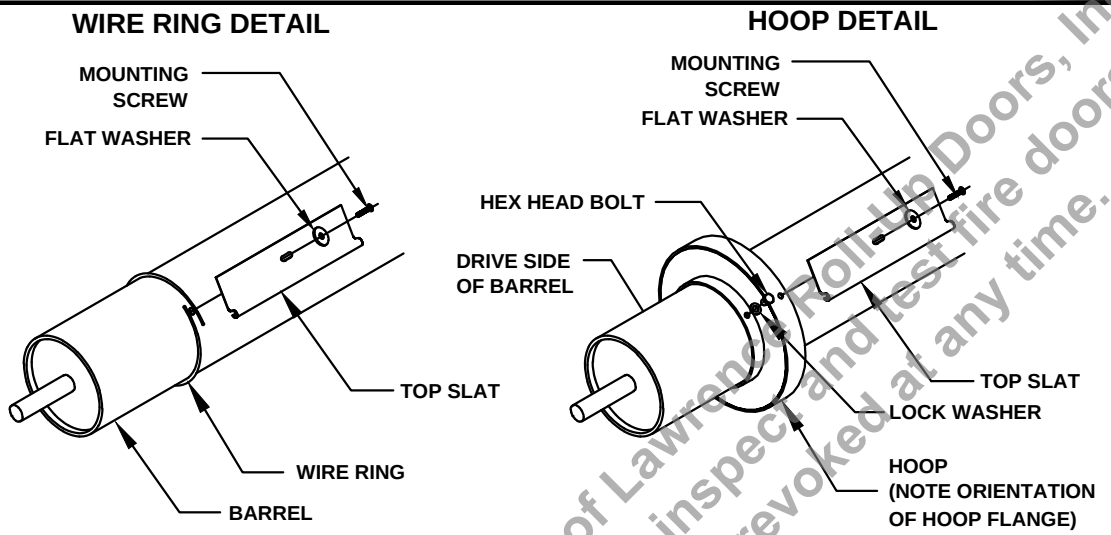
RACEWAY MUST REMAIN OPEN AND UNOBSTRUCTED FOR FREE MOVEMENT OF THE FUSIBLE LINK CABLE / CHAIN UPON FUSING OF THE LINKS. FIRESTOPPING OR OTHER SEALANTS SHOULD NOT BE USED ON SLEEVES BECAUSE THEY CAN ENCUMBER MOVEMENT AND PREVENT AUTOMATIC CLOSING OF A FIRE DOOR IN A FIRE EVENT

BARREL AND BRACKET ASSEMBLY

YOU MUST DETERMINE THE FOLLOWING:

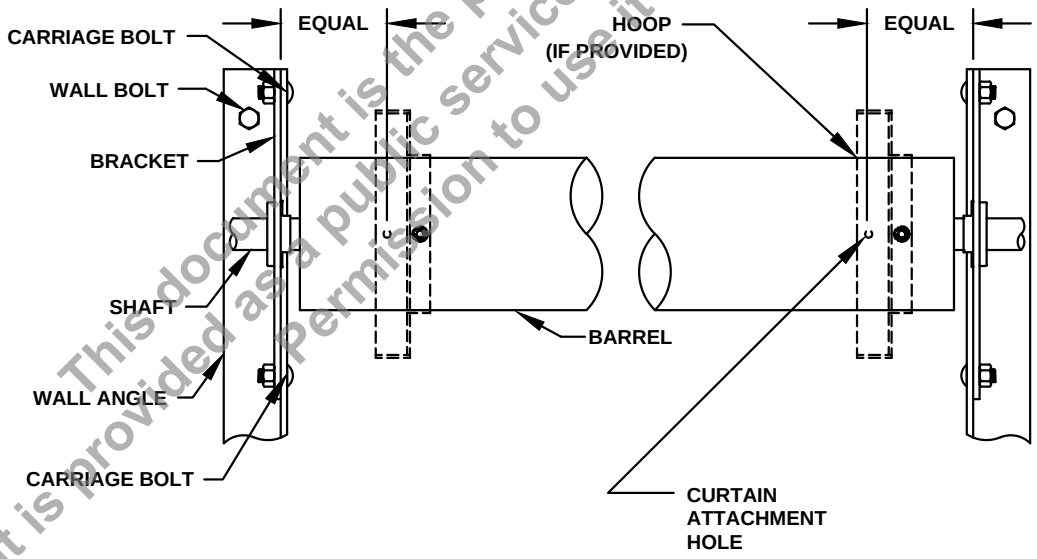
1) HAND OF DOOR (LH OR RH).
2) TYPE OF OPERATION (MANUAL, MOTOR, COMPOUND MOTOR / CHAIN).
3) TYPE OF GOVERNOR (PALLET OR TYPE III VISCOUS GOVERNOR).
4) SINGLE OR DUAL SPRING (DUAL SPRING ONLY APPLIES TO MANUALLY OPERATED).

IDENTIFY APPROPRIATE BARREL & BRACKET ASSEMBLY FIGURE (FIGURES C1 THRU C8)
ALL BARREL & BRACKET ASSY FIGURES SHOWN IN RH VIEW (LH VIEW OPPOSITE)



C1

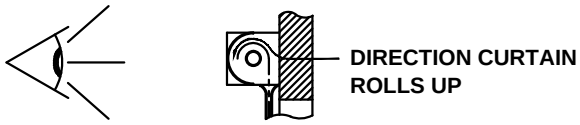
1) SLIDE THE MOUNTING BRACKETS ONTO THEIR RESPECTIVE ENDS OF THE BARREL AND RAISE THE ENTIRE ASSEMBLY INTO POSITION AT THE HEAD OF THE OPENING.
2) USING THE CARRIAGE BOLTS AS SHOWN IN FIG C2, BOLT THE BRACKETS TO THE WALL ANGLE.



C2

3) POSITION THE BARREL, WITH AN EQUAL DISTANCE FROM THE FIRST CURTAIN ATTACHMENT HOLE, TO THE INSIDE FACE OF BOTH BRACKETS. SEE FIG C2. ASSEMBLE BRACKETS COMPONENETS ACCORDING TO APPROPRIATE BARREL AND BRACKET ASSEMBLY FIGURE.

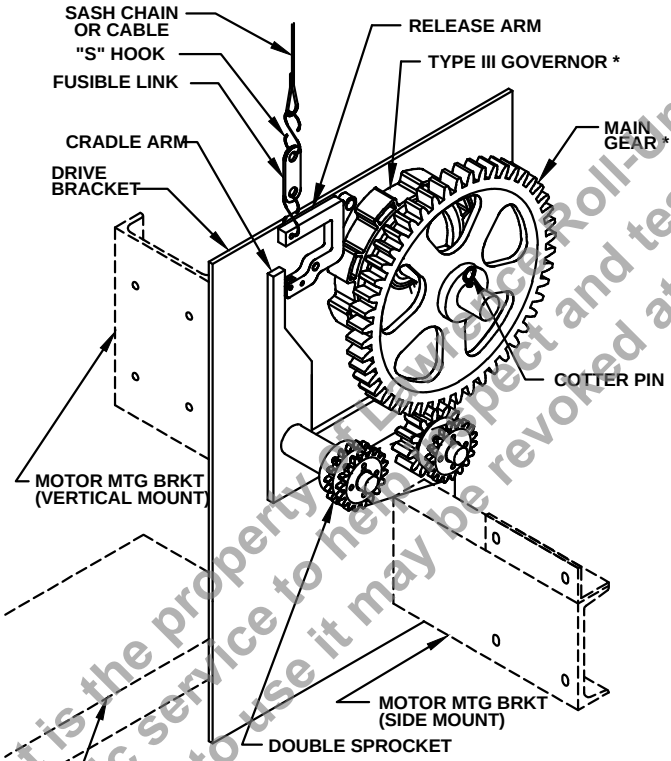
BARREL AND BRACKET ASSEMBLY
GH MOTOR OPERATED VERT/HORIZ/SIDE MOUNT



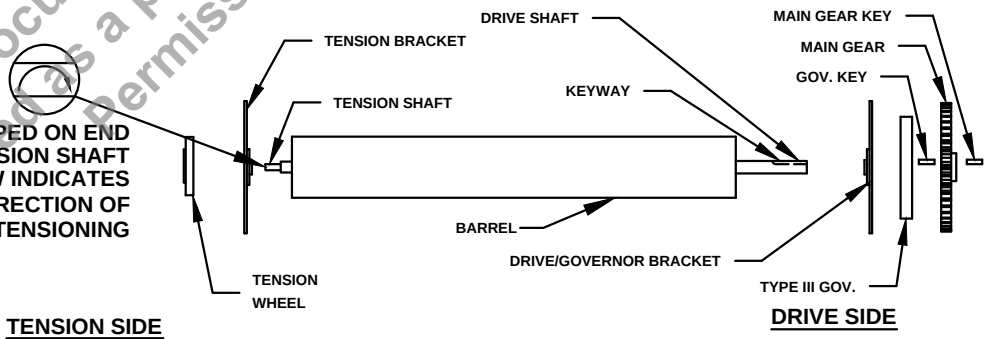
C3

TYPE III GOVERNOR

RIGHT HAND SHOWN
LEFT HAND OPPOSITE



* MAIN GEAR AND GOVERNOR MUST BE KEYED TO SHAFT. MAIN GEAR MUST BE POSITIONED AND SECURED BY SET SCREWS SO AS NOT TO CONTACT YOKE.

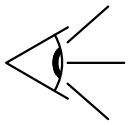


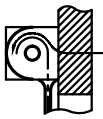
TENSION SIDE

DRIVE SIDE

C4

BARREL AND BRACKET ASSEMBLY
GH COMPOUND MOTOR OPERATED



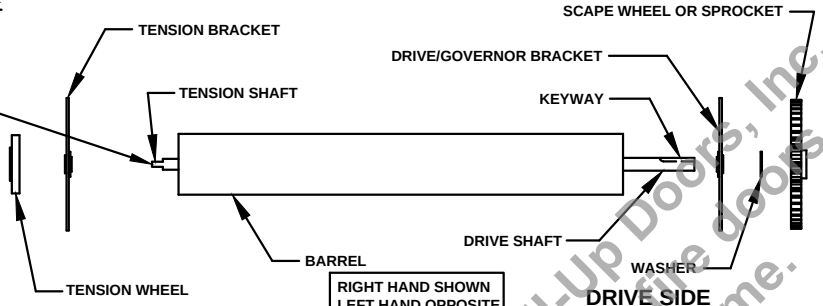


DIRECTION CURTAIN ROLLS UP

C5

TYPE III GOVERNOR

STAMPED ON END OF TENSION SHAFT ARROW INDICATES DIRECTION OF TENSIONING



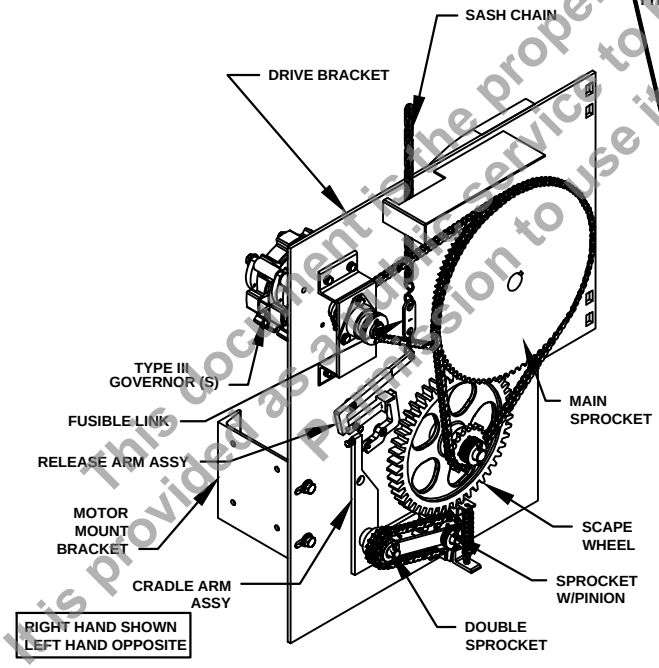
RIGHT HAND SHOWN
LEFT HAND OPPOSITE

C6

TENSION SIDE

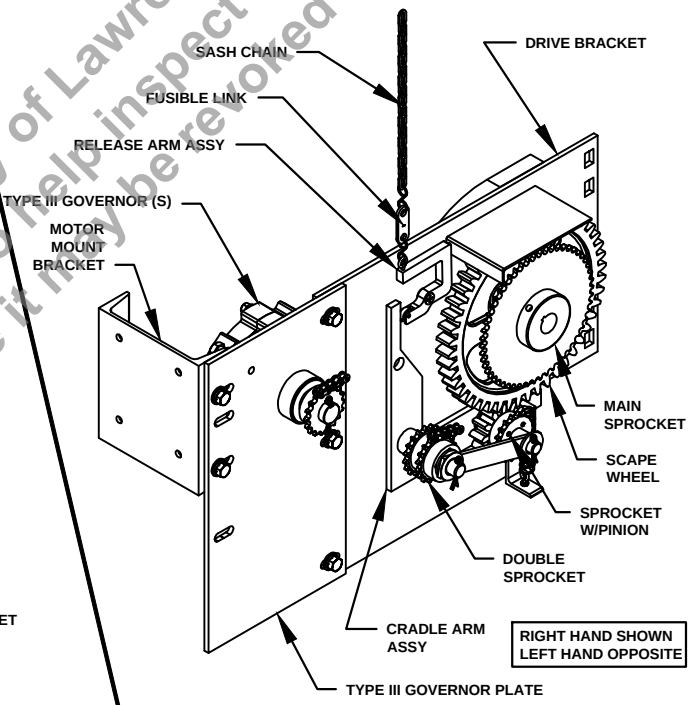
DRIVE SIDE

MOTOR OPERATED TYPE III GOVERNOR - COMPOUND VERTICAL MOUNT - V4



RIGHT HAND SHOWN
LEFT HAND OPPOSITE

MOTOR OPERATED TYPE III GOVERNOR - COMPOUND VERTICAL MOUNT



RIGHT HAND SHOWN
LEFT HAND OPPOSITE

NOTE: WHEN USING 12" SCAPE WHEEL, HUB SET SCREWS FACE AWAY FROM BRKT. WHEN USING 15" SCAPE WHEEL, HUB SET SCREWS MUST FACE TOWARD BRKT IN ORDER TO CLEAR RELEASE ARM AND ALIGN PROPERLY.

C7

C8

FIRE DOORS TENSIONING INSTRUCTIONS
MOTOR OPERATED - CONVENTIONAL DROP-OUT

IMPORTANT

DO NOT ATTEMPT TO MAKE ANY ADJUSTMENTS TO THE TENSION ASSEMBLY WITH THE CURTAIN IN ANY POSITION OTHER THAN FULLY COILED ON THE BARREL (DOOR OPEN). WINDING BARS SHOULD BE A MINIMUM OF 3/8 SOLID STEEL ROD, 2 TO 3 FT LONG. DO NOT USE PIPE OR CONDUIT.

1) TO CHARGE THE COUNTERBALANCE SPRING, THE CURTAIN IS TO BE IN THE RAISED POSITION WITH THE BOTTOM BAR POSITIONED APPROXIMATELY 6" BELOW THE GUIDE STOPS (OR FLAT BAR STOPS IF PROVIDED). NOW, PLACE A "C" CLAMP ACROSS THE THROAT OF THE DOOR'S GUIDE TO PREVENT THE CURTAIN FROM DRIFTING TO THE CLOSED POSITION.
2) NOW APPLY TENSION TO THE TENSION SIDE COUNTERBALANCING SPRING. ROTATE THE WHEEL IN THE SAME DIRECTION THE CURTAIN NORMALLY WINDS ONTO THE BARREL. SEE INSTALLATION INFORMATION SHEET FOR NUMBER OF TURNS. LOCK THE TENSION WHEEL IN PLACE TO THE TENSION BRACKET.
3) TEST THE DOOR FOR NORMAL OPERATION.
4) AFTER NORMAL OPERATION TESTS HAVE BEEN MADE, IT REMAINS TO TEST THE AUTOMATIC CLOSE FEATURE. PROCEED AS FOLLOWS:

WARNING
ONLY TRAINED DOOR SYSTEMS TECHNICIANS SHOULD DROP TEST DOOR

5) WITH THE DOOR IN THE FULL OPEN POSITION, DROP THE RELEASE ARM. THE CRADLE ARM WILL DROP ALLOWING ENGAGEMENT OF THE "GOVERNOR" AND DISENGAGE THE MOTOR FROM THE DRIVE SYSTEM. THE DOOR WILL NOW DESCEND TO THE FULLY CLOSED POSITION.
6) PROPER CLOSING SPEED IS WHEN THE AVERAGE SPEED OF THE DOOR FALLS BETWEEN 6" AND 24" PER SECOND.
7) DOOR SPEED ADJUSTMENT: (AUTOMATIC CLOSING MODE)
   - IF THE DOOR DROPS FASTER THAN 24" PER SECOND, ADD TENSION TO THE TENSION SIDE COUNTERBALANCING SPRING. ADD ONLY ONE HOLE (IN TENSION WHEEL) AT A TIME AND UP TO A MAXIMUM OF TWO HOLES.
   - IF THE DOOR DROPS SLOWER THAN 6" PER SECOND, DECREASE THE AMOUNT OF TENSION TO THE TENSION SIDE COUNTERBALANCE SPRING. DECREASE ONE HOLE (IN TENSION WHEEL) AT A TIME AND UP TO A MAXIMUM OF TWO HOLES.
   - IF AFTER MAKING THE ABOVE ADJUSTMENTS THE CLOSING SPEED STILL EXCEEDS 24" PER SECOND, OR IS LESS THAN 6" PER SECOND, CONTACT CUSTOMER SERVICE FOR FURTHER INSTRUCTIONS. WHEN CONTACTING US, BE SURE TO ADVISE THE TIME IT TOOK, IN SECONDS, FOR THE DOOR TO CLOSE. ALSO ADVISE THE NUMBER OF INITIAL TURNS OF TENSION APPLIED AND ANY ADJUSTMENTS THAT WERE MADE AND CLEAR OPENING HEIGHT.
8) TO RESET THE DOOR, SEE RESET INSTRUCTIONS IN FIG C9.
9) CONNECT FUSE LINK SYSTEM TO RELEASE ARM AS SHOWN IN FIG C13.

FIRE DOORS TENSIONING INSTRUCTIONS
COMPOUND MOTOR OPERATED

IMPORTANT

DO NOT ATTEMPT TO MAKE ANY ADJUSTMENTS TO THE TENSION ASSEMBLY WITH THE CURTAIN IN ANY POSITION OTHER THAN FULLY COILED ON THE BARREL (DOOR OPEN). WINDING BARS SHOULD BE A MINIMUM OF 3/8 SOLID STEEL ROD, 2 TO 3 FT LONG. DO NOT USE PIPE OR CONDUIT.

1) TO CHARGE THE COUNTERBALANCE SPRING, THE CURTAIN IS TO BE IN THE RAISED POSITION WITH THE BOTTOM BAR POSITIONED APPROXIMATELY 6" BELOW THE GUIDE STOPS (OR FLAT BAR STOPS IF PROVIDED). NOW, PLACE A "C" CLAMP ACROSS THE THROAT OF THE DOOR'S GUIDE TO PREVENT THE CURTAIN FROM DRIFTING TO THE CLOSED POSITION.
2) ROTATE THE TENSION WHEEL IN THE DIRECTION THE CURTAIN NORMALLY WINDS ONTO THE BARREL. SEE INSTALLATION INFORMATION SHEET FOR NUMBER OF TURNS. NOW LOCK THE TENSION WHEEL IN PLACE TO THE TENSION BRACKET.
3) TEST THE DOOR FOR NORMAL OPERATION.
4) AFTER NORMAL OPERATION TESTS HAVE BEEN MADE, IT REMAINS TO TEST THE AUTOMATIC CLOSE FEATURE. PROCEED AS FOLLOWS:

WARNING
ONLY TRAINED DOOR SYSTEMS TECHNICIANS SHOULD DROP TEST DOOR

5) WITH THE DOOR IN THE FULL OPEN POSITION, DROP THE RELEASE ARM. THE CRADLE ARM WILL DROP ALLOWING THE "PALLET" TO ENGAGE THE "SCAPE WHEEL" AND DISENGAGE THE MOTOR FROM THE DRIVE SYSTEM. THE DOOR WILL NOW DESCEND TO THE FULLY CLOSED POSITION.
6) PROPER CLOSING SPEED IS WHEN THE AVERAGE SPEED OF THE DOOR FALLS BETWEEN 6" AND 24" PER SECOND.
7) IF THE CLOSING VELOCITY GREATLY EXCEEDS THE AVERAGE SPEED OF 24" PER SECOND OR IS LESS THAN 6" PER SECOND, CONTACT CUSTOMER SERVICE FOR FURTHER INSTRUCTION. WHEN CONTACTING US, BE SURE TO ADVISE THE TIME IT TOOK IN SECONDS FOR THE DOOR TO CLOSE AND THE CLEAR OPENING HEIGHT.
8) TO RESET THE DOOR, SEE RESET INSTRUCTIONS IN FIG C9.
9) CONNECT FUSE LINK SYSTEM TO RELEASE ARM AS SHOWN IN FIG C13.

FIRE DOORS RESETTING INSTRUCTIONS

MOTOR OPERATION - CONVENTIONAL DROP-OUT

CAUTION: ONLY TRAINED PERSONNEL SHOULD RESET FIRE DOORS AND ADJUST LIMIT SWITCH. ADJUST LIMIT SWITCH WITH POWER "OFF"

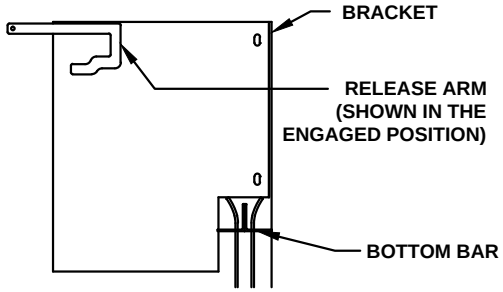
1) WITH THE DOOR CLOSED BY FIRE DROP AND THE RELEASE ARM IN THE DISENGAGED POSITION, ACTIVATE THE "CLOSE" CONTROL AND ALLOW THE MOTOR TO RUN UNTIL IT IS STOPPED BY THE DOWN LIMIT SWITCH.

CAUTION: THIS STEP IS CRITICAL. FAILING TO RUN MOTOR TO CLOSE WILL RESULT IN DAMAGE TO DOOR.

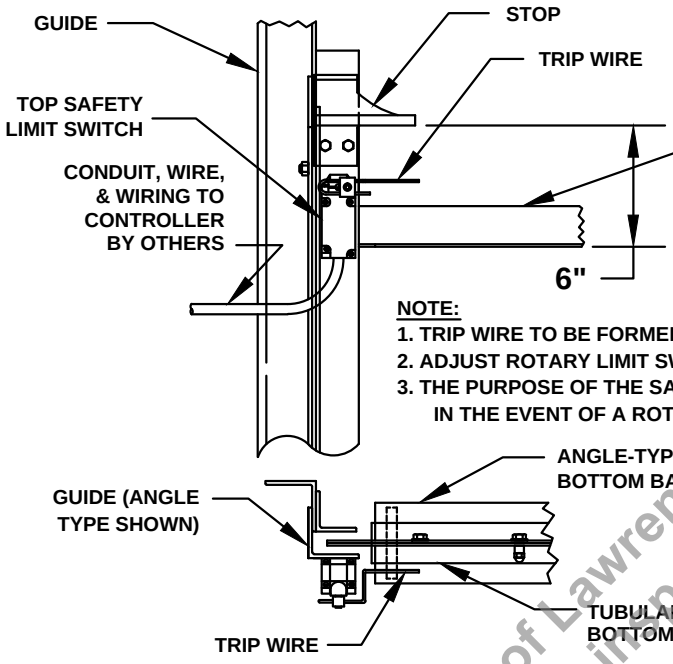
2) RAISE THE RELEASE ARM TO THE ENGAGED POSITION. CONNECT THE RELEASE ARM TO THE FUSIBLE LINK SYSTEM OR OTHER APPROVED RELEASE DEVICE.
3) ACTIVATE THE "OPEN" CONTROL AND ALLOW THE DOOR TO OPEN. STOP THE DOOR BY ACTIVATING THE "STOP" CONTROL WHEN THE BOTTOM BAR IS APPROXIMATELY 12" BELOW THE STOPS AT THE TOP OF THE DOOR.
4) USING MANUAL OPERATION, RAISE THE DOOR TO APPROXIMATELY 3" BELOW THE STOPS.
5) DISCONNECT THE POWER.
6) THE UP LIMIT SWITCH CAN NOW BE IDENTIFIED AS THE ONE WITH THE CAM NUT CLOSEST TO IT. DEPRESS THE LOCKING PLATE AND ROTATE THE CAM NUT TOWARD THE LIMIT SWITCH UNTIL A "CLICK" IS HEARD. THE "UP" LIMIT IS NOW SET.
7) RE-CONNECT THE POWER.
8) ACTIVATE THE "CLOSE" CONTROL AND ALLOW THE DOOR TO CLOSE. STOP THE DOOR BY ACTIVATING THE "STOP" CONTROL WHEN THE BOTTOM BAR IS APPROX. 12" ABOVE THE FLOOR.
9) USING MANUAL OPERATION, LOWER THE DOOR TO APPROX. 3" ABOVE THE FLOOR.
10) DISCONNECT THE POWER.
11) THE DOWN LIMIT SWITCH CAN NOW BE IDENTIFIED AS THE ONE WITH THE CAM NUT CLOSEST TO IT. DEPRESS THE LOCKING PLATE AND ROTATE THE CAM NUT TOWARD THE LIMIT SWITCH UNTIL A "CLICK" IS HEARD. THE DOWN LIMIT IS NOT SET.
12) RECONNECT THE POWER.
13) TEST THE DOOR OPERATION AT THE TOP AND BOTTOM AND FINE ADJUST AS DESIRED.

CAUTION: DO NOT ALLOW THE MOTOR TO FORCE THE BOTTOM BAR AGAINST THE STOPS OR THE FLOOR

14) TEST ENTIRE DOOR MOTOR OPERATION.



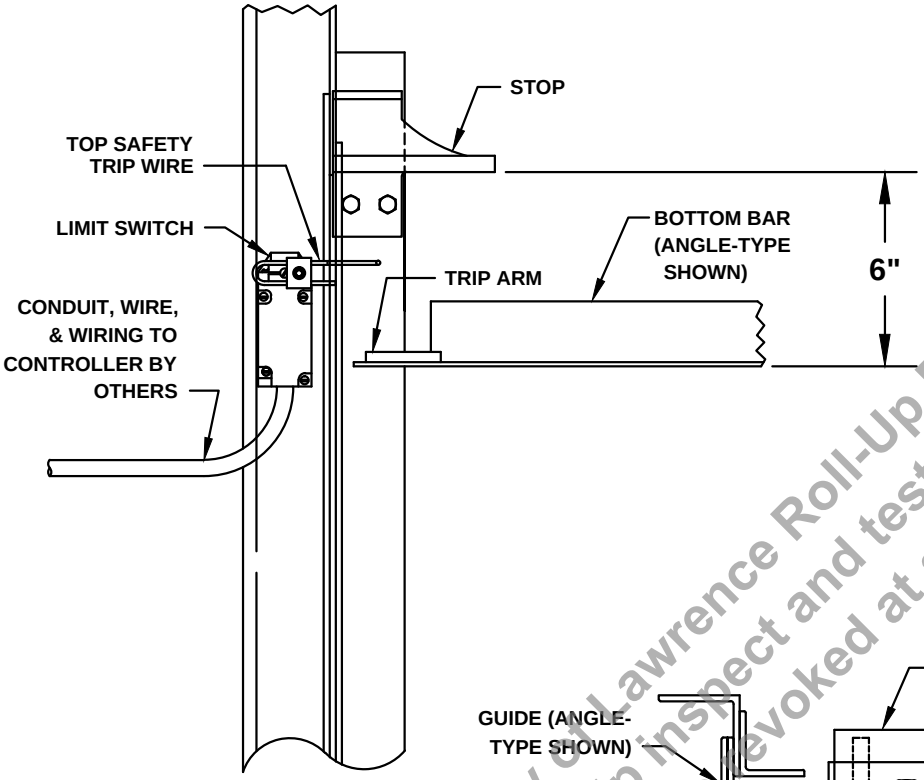
TOP SAFETY LIMIT SWITCH INSTALLATION

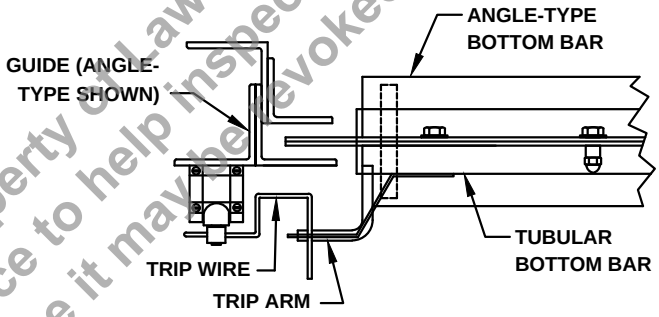


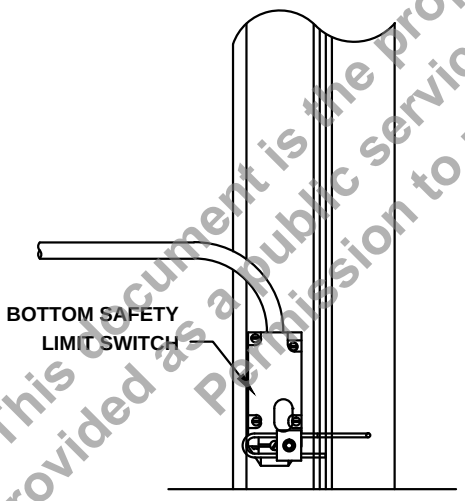
NOTE:

1. TRIP WIRE TO BE FORMED TO ENGAGE BOTTOM BAR AS SHOWN.
2. ADJUST ROTARY LIMIT SWITCH TO STOP DOOR 6" BELOW STOP.
3. THE PURPOSE OF THE SAFETY LIMIT SWITCH IS TO STOP THE DOOR IN THE EVENT OF A ROTARY LIMIT SWITCH FAILURE.

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.

FIRE DOORS TROUBLE SHOOTING
TYPE III - VIBRATECH GOVERNOR

GENERAL OPERATION

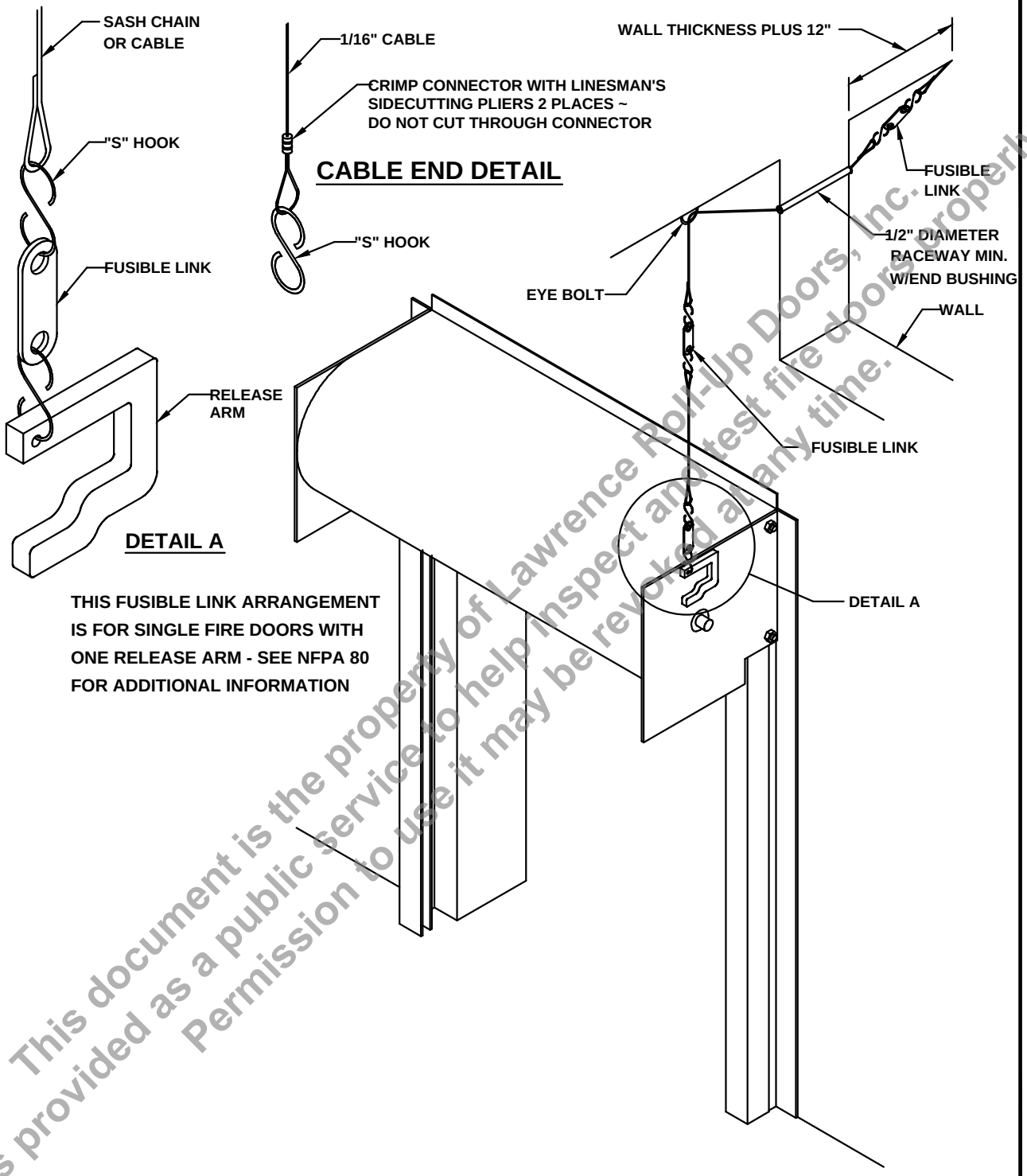
THE VIBRATECH GOVERNOR IS A VISCUOUS TYPE GOVERNOR. THE SHEARING FORCE IN THE VISCUOUS FLUID CREATES BRAKING TORQUE. THE FASTER THE GOVERNOR TURNS THE MORE BRAKING TORQUE IS CREATED. WHILE ALL GOVERNORS ARE THE SAME SIZE DIFFERENT FLUIDS ARE USED TO CREATE MORE OR LESS BRAKING TORQUE. ON LARGER DOORS A TENSION SPRING IS REQUIRED TO ASSIST THE VIBRATECH GOVERNOR. THE ADVANTAGE OF THE VIBRATECH GOVERNOR IS THAT THERE IS NO MECHANICAL WEAR AND THAT BRACKET ADJUSTMENTS ARE NOT REQUIRED.

TROUBLE SHOOTING

ALL BRACKETS ARE FACTORY PRESET AND TESTED. THE FOLLOWING CHECKS SHOULD BE PERFORMED BEFORE ADJUSTING THE BRACKET.

1) IF TENSION SIDE SPRING IS USED VERIFY INITIAL TURNS.
2) VERIFY BRACKETS ARE PERPENDICULAR TO THE BARREL.
3) VERIFY CURTAIN IS NOT BINDING IN GUIDES.
4) VERIFY CURTAIN ENDLOCKS ARE NOT RUBBING BRACKET PLATE (CURTAIN SHIFTER).
5) VERIFY THAT THE VIBRATECH GOVERNOR IS KEYED TO THE DRIVE SHAFT.
6) VERIFY THAT THE PAWL CAN ROTATE FREELY AND FULLY ENGAGES COGS ON GOVERNOR.

FUSIBLE LINK SYSTEM



CABLE END DETAIL

DETAIL A

THIS FUSIBLE LINK ARRANGEMENT IS FOR SINGLE FIRE DOORS WITH ONE RELEASE ARM - SEE NFPA 80 FOR ADDITIONAL INFORMATION

C12

⚠ IMPORTANT

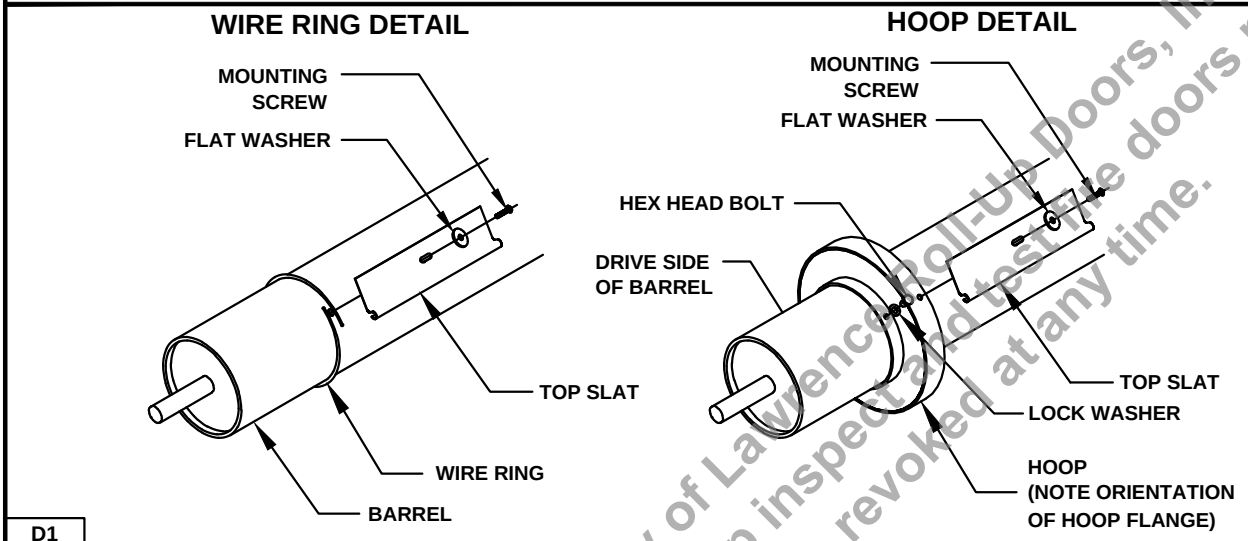
RACEWAY MUST REMAIN OPEN AND UNOBSTRUCTED FOR FREE MOVEMENT OF THE FUSIBLE LINK CABLE / CHAIN UPON FUSING OF THE LINKS. FIRESTOPPING OR OTHER SEALANTS SHOULD NOT BE USED ON SLEEVES BECAUSE THEY CAN ENCUMBER MOVEMENT AND PREVENT AUTOMATIC CLOSING OF A FIRE DOOR IN A FIRE EVENT

BARREL AND BRACKET ASSEMBLY

YOU MUST DETERMINE THE FOLLOWING:

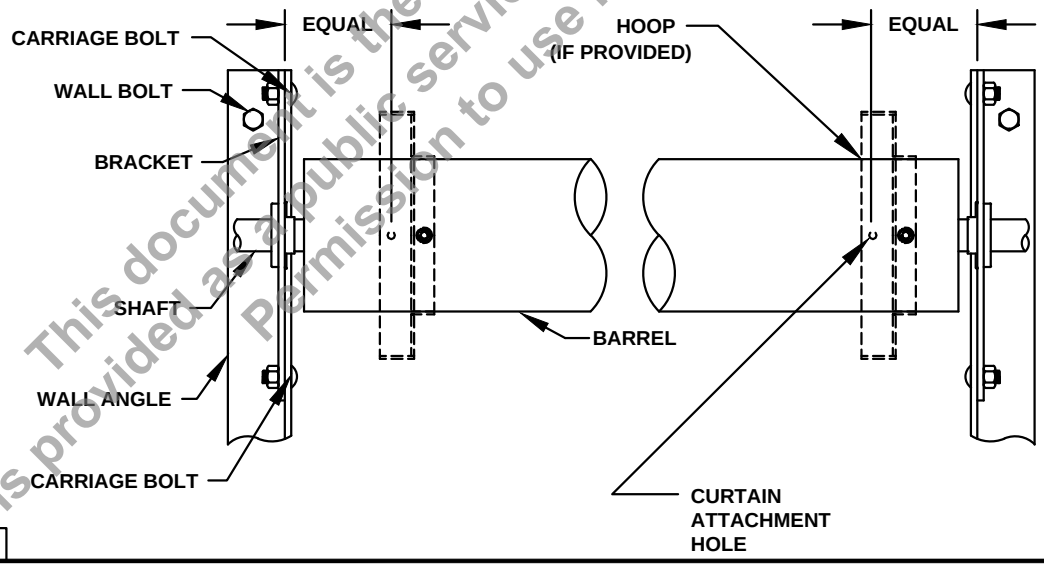
1) HAND OF DOOR (LH OR RH).
2) TYPE OF OPERATION (MANUAL, MOTOR, COMPOUND MOTOR / CHAIN).
3) TYPE OF GOVERNOR (PALLET OR TYPE III VISCOUS GOVERNOR).
4) SINGLE OR DUAL SPRING (DUAL SPRING ONLY APPLIES TO MANUALLY OPERATED).

IDENTIFY APPROPRIATE BARREL & BRACKET ASSEMBLY FIGURE (FIGURES D1 THRU D6)
ALL BARREL & BRACKET ASSY FIGURES SHOWN IN RH VIEW (LH VIEW OPPOSITE)



D1

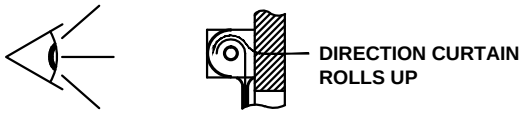
2) SLIDE THE MOUNTING BRACKETS ONTO THEIR RESPECTIVE ENDS OF THE BARREL AND RAISE THE ENTIRE ASSEMBLY INTO POSITION AT THE HEAD OF THE OPENING. USING THE CARRIAGE BOLTS AS SHOWN IN FIG D2, BOLT THE BRACKETS TO THE WALL ANGLE.



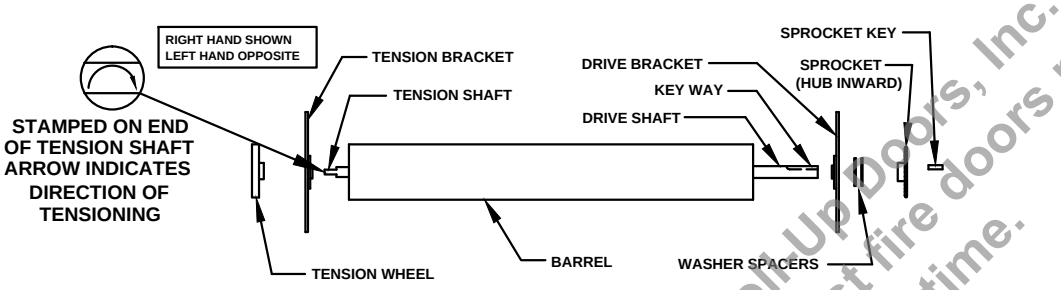
D2

3) POSITION THE BARREL, WITH AN EQUAL DISTANCE FROM THE FIRST CURTAIN ATTACHMENT HOLE, TO THE INSIDE FACE OF BOTH BRACKETS. SEE FIG B2. ASSEMBLE BRACKETS COMPONENETS ACCORDING TO APPROPRIATE BARREL AND BRACKET ASSEMBLY FIGURE.

BARREL AND BRACKET ASSEMBLY
SIMPLE-TEST CHAIN / SIMPLE-TEST CRANK OPERATED

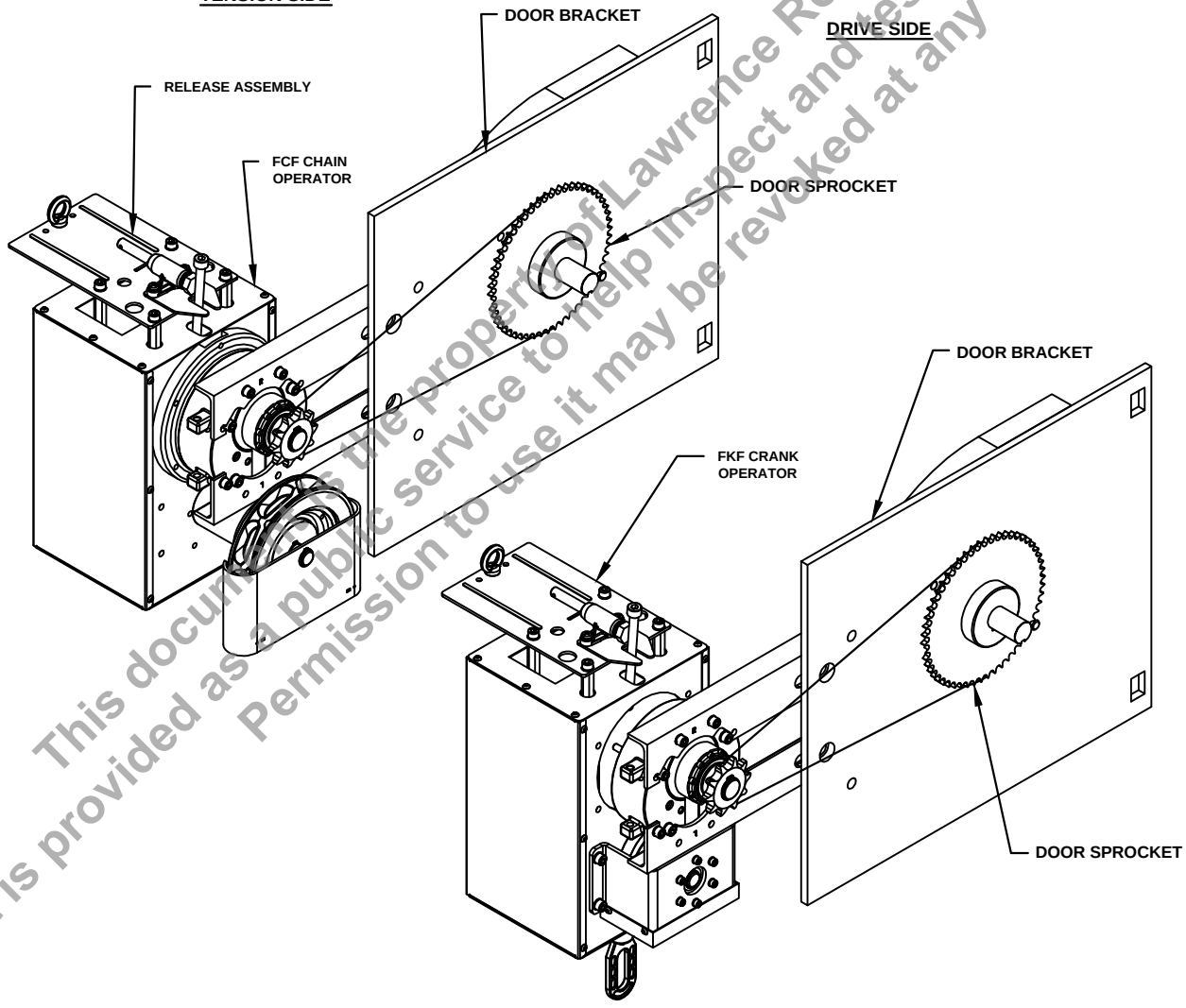


D3



TENSION SIDE

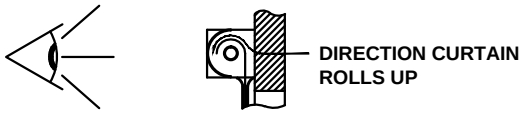
DRIVE SIDE



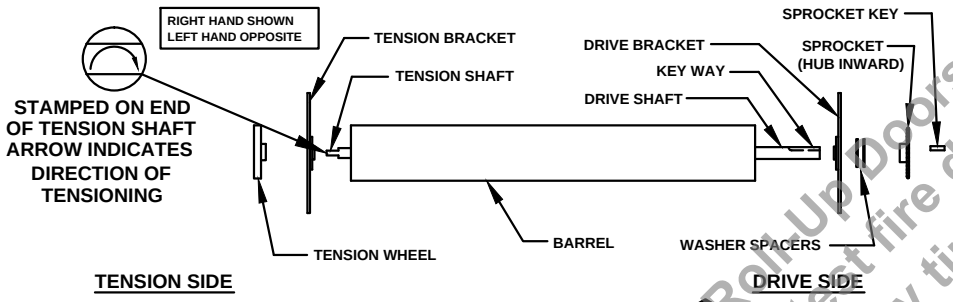
RIGHT HAND IS SHOWN - LEFT HAND IS OPPOSITE

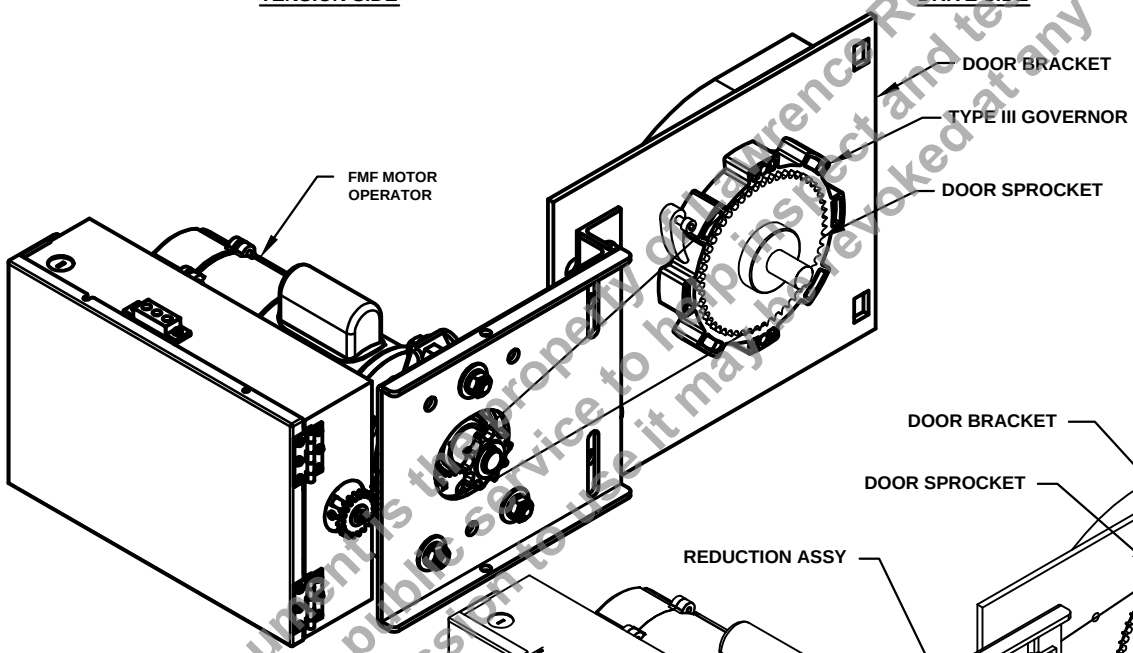
D4

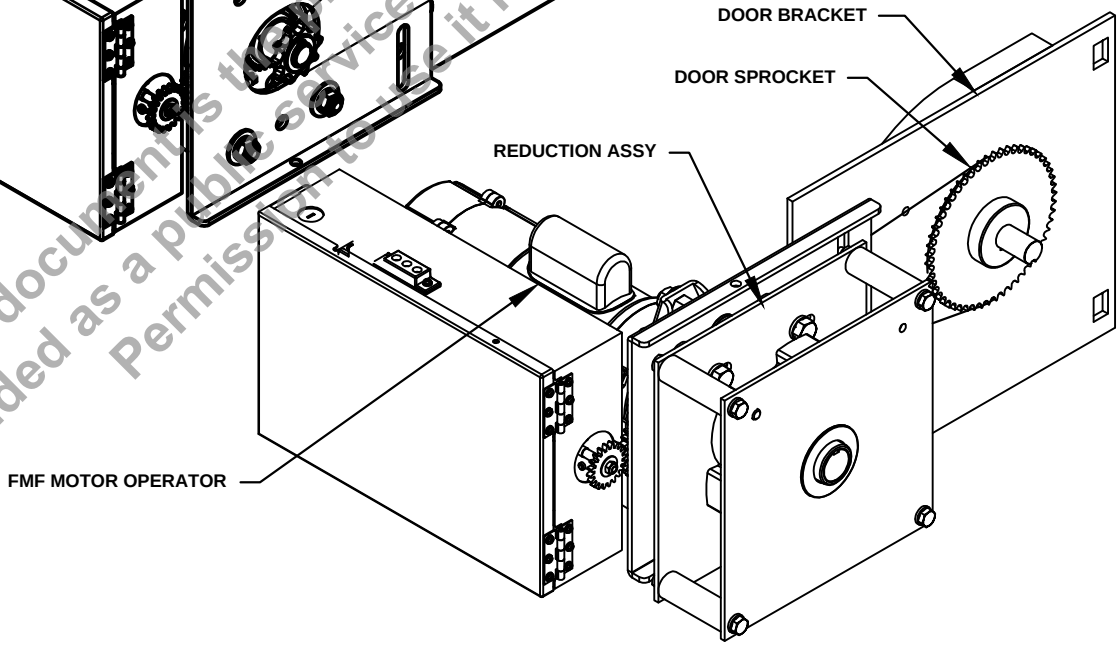
BARREL AND BRACKET ASSEMBLY
SIMPLE-TEST MOTOR OPERATOR



D5







RIGHT HAND IS SHOWN - LEFT HAND IS OPPOSITE

D6

FIRE DOORS TENSIONING INSTRUCTIONS
SIMPLE-TEST CHAIN / CRANK / MOTOR OPERATION

IMPORTANT

DO NOT ATTEMPT TO MAKE ANY ADJUSTMENTS TO THE TENSION ASSEMBLY WITH THE CURTAIN IN ANY POSITION OTHER THAN FULLY COILED ON THE BARREL (DOOR OPEN). WINDING BARS SHOULD BE A MINIMUM OF 3/8 SOLID STEEL ROD, 2 TO 3 FT LONG. DO NOT USE PIPE OR CONDUIT.

1) TO CHARGE THE COUNTERBALANCE SPRING, THE CURTAIN IS TO BE IN THE RAISED POSITION WITH THE BOTTOM BAR POSITIONED APPROXIMATELY 6" BELOW THE GUIDE STOPS (OR FLAT BAR STOPS IF PROVIDED). NOW, PLACE A "C" CLAMP ACROSS THE THROAT OF THE DOOR'S GUIDE TO PREVENT THE CURTAIN FROM DRIFTING TO THE CLOSED POSITION.
2) NOW APPLY TENSION TO THE TENSION SIDE COUNTERBALANCING SPRING. ROTATE THE WHEEL IN THE SAME DIRECTION THE CURTAIN NORMALLY WINDS ONTO THE BARREL. SEE INSTALLATION INFORMATION SHEET FOR NUMBER OF TURNS. LOCK THE TENSION WHEEL IN PLACE TO THE TENSION BRACKET.

IMPORTANT

UNDER NO CIRCUMSTANCES SHOULD MORE THAN ONE FULL TURN BE ADDED OVER THAT WHICH IS REQUIRED TO HOLD THE CURTAIN'S BOTTOM BAR AT THE GUIDE STOPS.

3) THE DOOR IS NOW PROPERLY SET AND READY TO TEST. TEST THE DOOR FOR NORMAL OPERATION.
4) AFTER NORMAL OPERATION TESTS HAVE BEEN MADE, IT REMAINS TO TEST THE AUTOMATIC CLOSE FEATURE. PROCEED AS FOLLOWS:

WARNING
ONLY TRAINED DOOR SYSTEMS TECHNICIANS SHOULD DROP TEST DOOR

5) WITH THE DOOR IN THE FULLY OPEN POSITION, PULL THE COTTER PIN FROM THE FUSIBLE LINK PLUNGER SWITCH. WHEN THE PLUNGER IS RELEASED, THE DOOR SHOULD BEGIN TO CLOSE.
6) PROPER CLOSING SPEED IS WHEN THE AVERAGE SPEED OF THE DOOR FALLS BETWEEN 6" AND 16" PER SECOND.
7) DOOR SPEED ADJUSTMENT: (AUTOMATIC CLOSING MODE)
   - IF THE DOOR DROPS FASTER THAN 16" PER SECOND, ADD TENSION TO THE TENSION SIDE COUNTERBALANCING SPRING. ADD ONLY ONE HOLE (IN TENSION WHEEL) AT A TIME AND UP TO A MAXIMUM OF TWO HOLES.
   - IF THE DOOR DROPS SLOWER THAN 6" PER SECOND, DECREASE THE AMOUNT OF TENSION TO THE TENSION SIDE COUNTERBALANCE SPRING. DECREASE ONE HOLE (IN TENSION WHEEL) AT A TIME AND UP TO A MAXIMUM OF TWO HOLES.
   - IF AFTER MAKING THE ABOVE ADJUSTMENTS THE CLOSING SPEED STILL EXCEEDS 16" PER SECOND, OR IS LESS THAN 6" PER SECOND, CONTACT CUSTOMER SERVICE FOR FURTHER INSTRUCTIONS. WHEN CONTACTING US, BE SURE TO ADVISE THE TIME IT TOOK, IN SECONDS, FOR THE DOOR TO CLOSE. ALSO ADVISE THE NUMBER OF INITIAL TURNS OF TENSION APPLIED AND ANY ADJUSTMENTS THAT WERE MADE AND CLEAR OPENING HEIGHT.
8) TO RESET THE DOOR, SEE RESET INSTRUCTIONS IN FIG D7.
9) CONNECT FUSE LINK SYSTEM TO FUSIBLE LINK PLUNGER SWITCH AS SHOWN IN FIG D9.

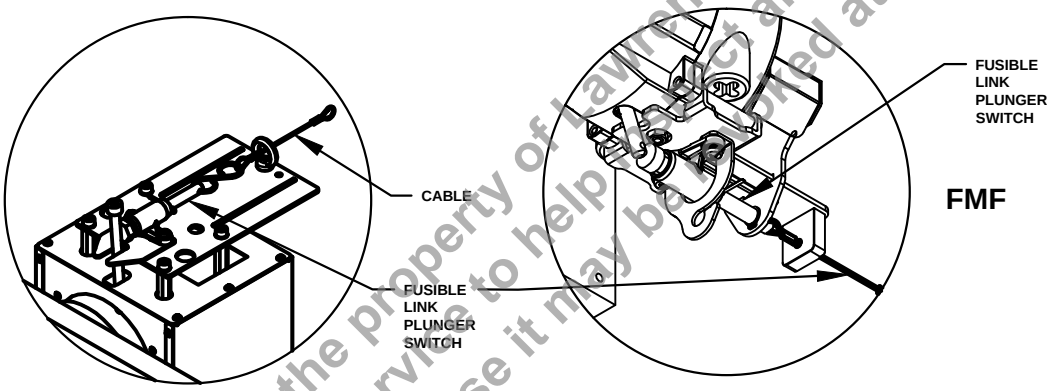
FIRE DOORS RESETTING INSTRUCTIONS

SIMPLE TEST CHAIN / CRANK / MOTOR OPERATOR

WARNING

ONLY TRAINED PERSONNEL SHOULD RESET FIRE DOORS

1) **RECONNECT FUSIBLE LINK PLUNGER SWITCH TO THE FUSIBLE LINK SYSTEM OR OTHER APPROVED RELEASE DEVICE.**
2) **THE DOOR IS NOW PROPERLY SET AND READY FOR NORMAL OPERATION.**



FIRE DOORS TROUBLE SHOOTING
TYPE III - VIBRATECH GOVERNOR

GENERAL OPERATION

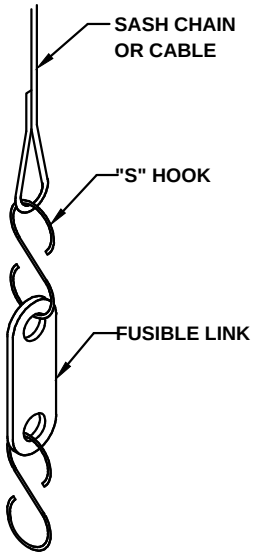
THE VIBRATECH GOVERNOR IS A VISCUOUS TYPE GOVERNOR. THE SHEARING FORCE IN THE VISCUOUS FLUID CREATES BRAKING TORQUE. THE FASTER THE GOVERNOR TURNS THE MORE BRAKING TORQUE IS CREATED. WHILE ALL GOVERNORS ARE THE SAME SIZE DIFFERENT FLUIDS ARE USED TO CREATE MORE OR LESS BRAKING TORQUE. ON LARGER DOORS A TENSION SPRING IS REQUIRED TO ASSIST THE VIBRATECH GOVERNOR. THE ADVANTAGE OF THE VIBRATECH GOVERNOR IS THAT THERE IS NO MECHANICAL WEAR AND THAT BRACKET ADJUSTMENTS ARE NOT REQUIRED.

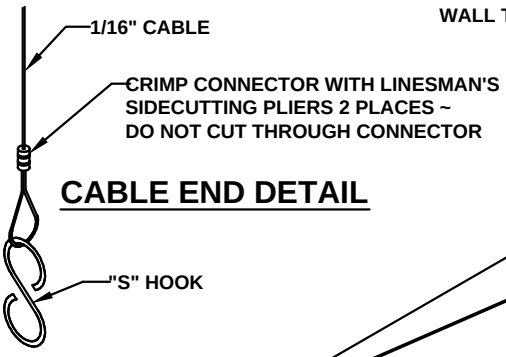
TROUBLE SHOOTING

ALL BRACKETS ARE FACTORY PRESET AND TESTED. THE FOLLOWING CHECKS SHOULD BE PERFORMED BEFORE ADJUSTING THE BRACKET.

1) IF TENSION SIDE SPRING IS USED VERIFY INITIAL TURNS.
2) VERIFY BRACKETS ARE PERPENDICULAR TO THE BARREL.
3) VERIFY CURTAIN IS NOT BINDING IN GUIDES.
4) VERIFY CURTAIN ENDLOCKS ARE NOT RUBBING BRACKET PLATE (CURTAIN SHIFTER).
5) VERIFY THAT THE VIBRATECH GOVERNOR IS KEYED TO THE DRIVE SHAFT.
6) VERIFY THAT THE PAWL CAN ROTATE FREELY AND FULLY ENGAGES COGS ON GOVERNOR.

FUSIBLE LINK SYSTEM



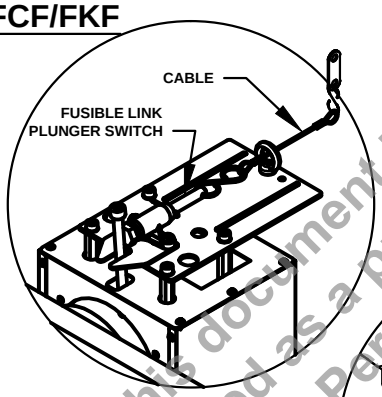


CABLE END DETAIL

DETAIL A

THIS FUSIBLE LINK ARRANGEMENT IS FOR SINGLE FIRE DOORS WITH ONE RELEASE ARM - SEE NFPA 80 FOR ADDITIONAL INFORMATION

FCF/FKF



FMF

D8

IMPORTANT

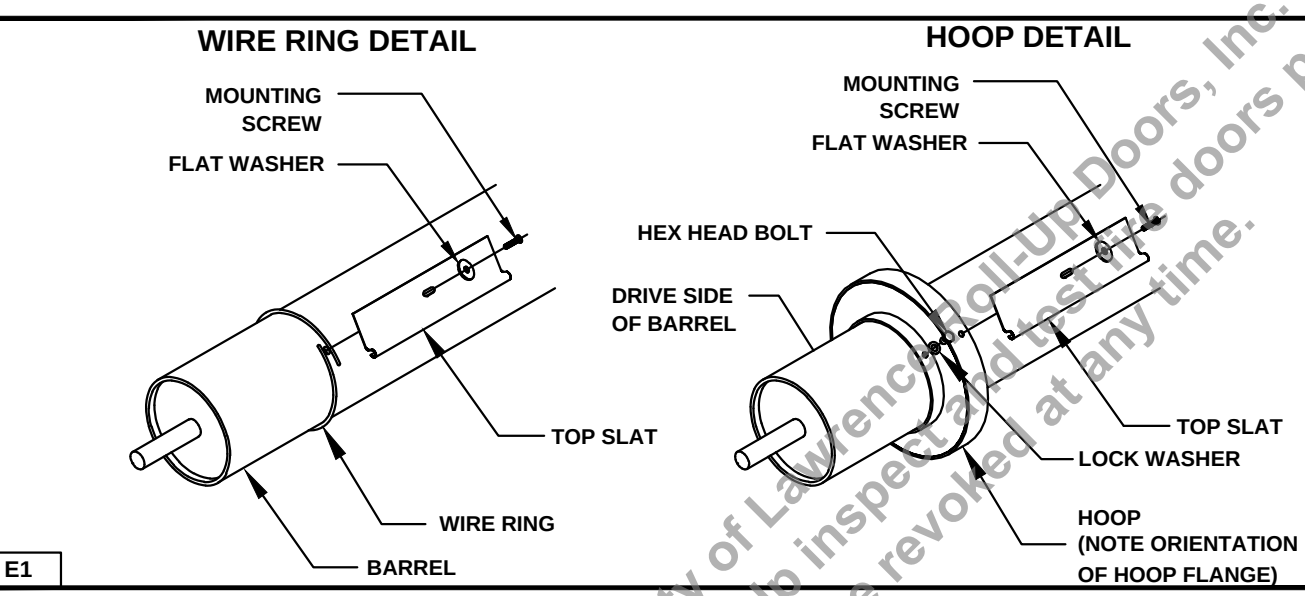
RACEWAY MUST REMAIN OPEN AND UNOBSTRUCTED FOR FREE MOVEMENT OF THE FUSIBLE LINK CABLE / CHAIN UPON FUSING OF THE LINKS. FIRESTOPPING OR OTHER SEALANTS SHOULD NOT BE USED ON SLEEVES BECAUSE THEY CAN ENCUMBER MOVEMENT AND PREVENT AUTOMATIC CLOSING OF A FIRE DOOR IN A FIRE EVENT

BARREL AND BRACKET ASSEMBLY

YOU MUST DETERMINE THE FOLLOWING:

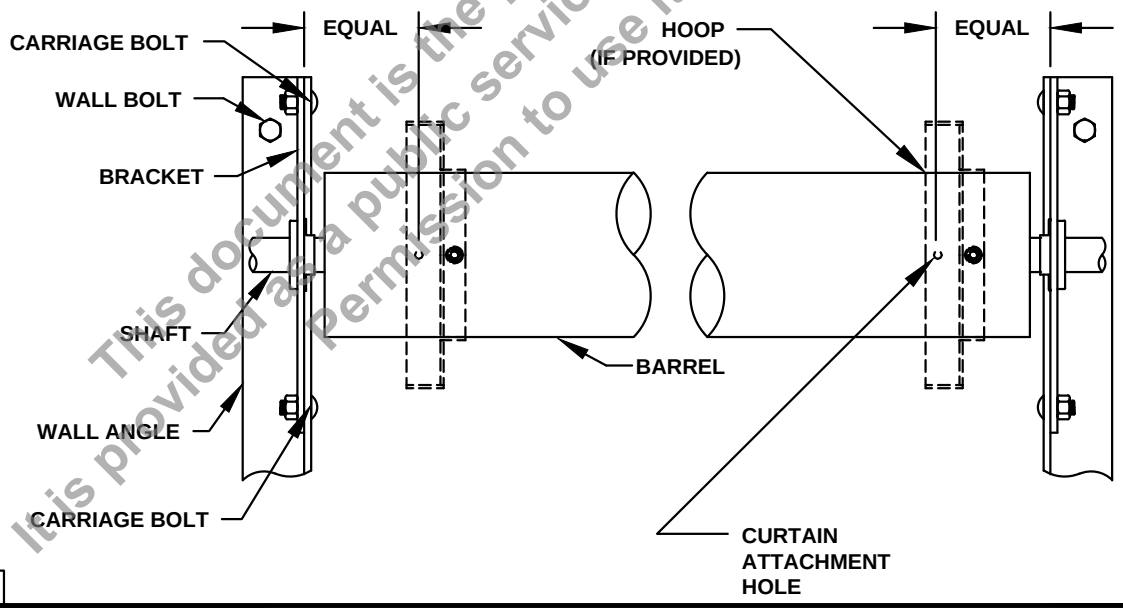
1) HAND OF DOOR (LH OR RH).
2) TYPE OF OPERATION (MANUAL, MOTOR, COMPOUND MOTOR / CHAIN).
3) TYPE OF GOVERNOR (PALLET OR TYPE III VISCOUS GOVERNOR).
4) SINGLE OR DUAL SPRING (DUAL SPRING ONLY APPLIES TO MANUALLY OPERATED).

IDENTIFY APPROPRIATE BARREL & BRACKET ASSEMBLY FIGURE (FIGURES B4 THRU B22)
ALL BARREL & BRACKET ASSY FIGURES SHOWN IN RH VIEW (LH VIEW OPPOSITE)



E1

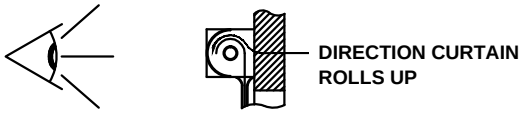
1) SLIDE THE MOUNTING BRACKETS ONTO THEIR RESPECTIVE ENDS OF THE BARREL AND RAISE THE ENTIRE ASSEMBLY INTO POSITION AT THE HEAD OF THE OPENING.
2) USING THE CARRIAGE BOLTS AS SHOWN IN FIG E2, BOLT THE BRACKETS TO THE WALL ANGLE.



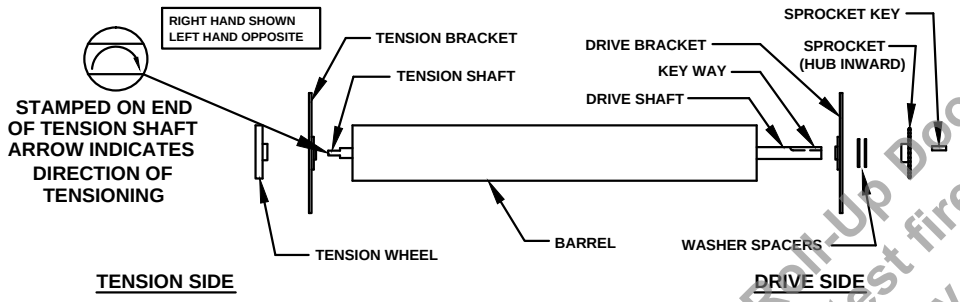
E2

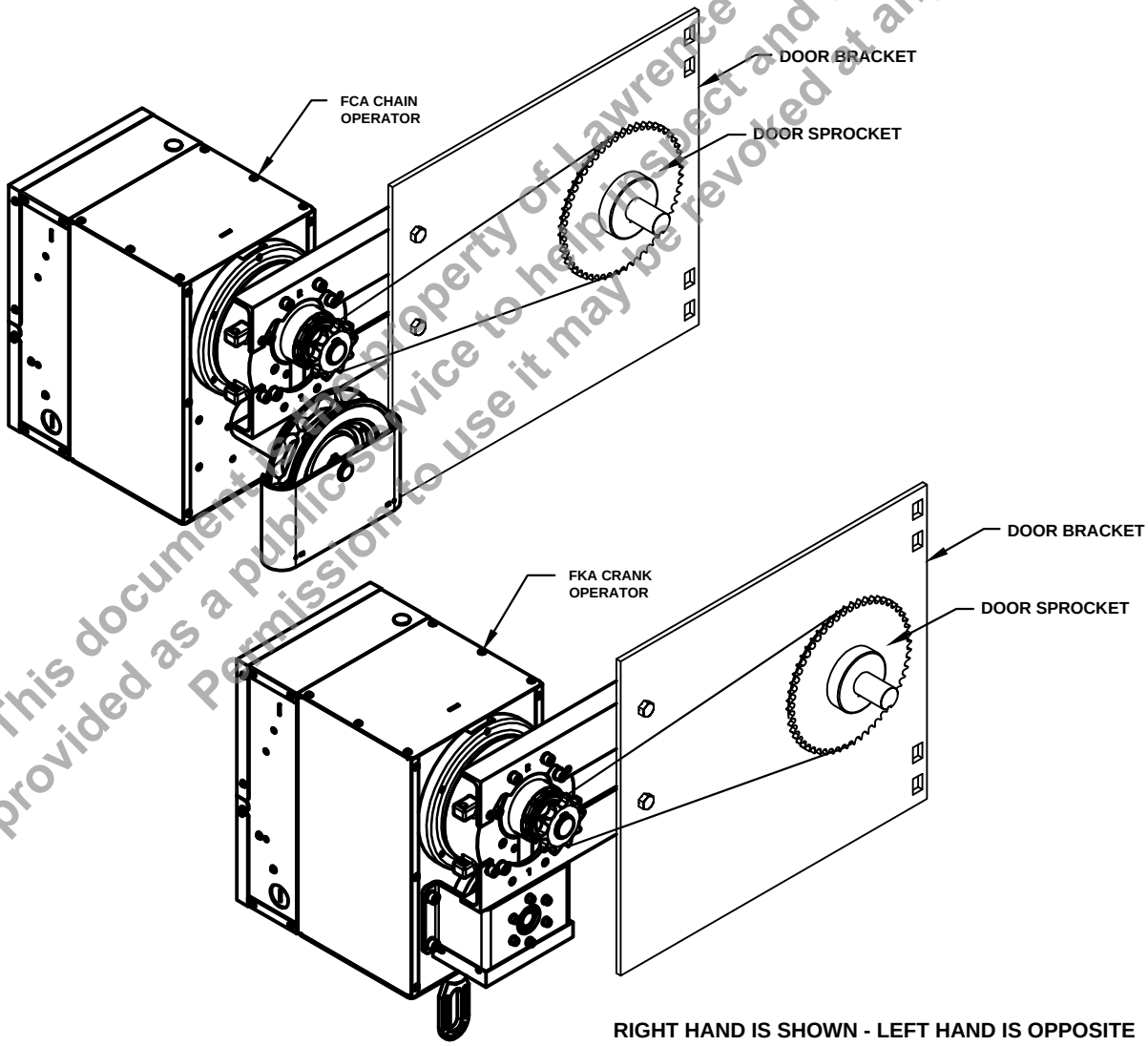
3) POSITION THE BARREL, WITH AN EQUAL DISTANCE FROM THE FIRST CURTAIN ATTACHMENT HOLE, TO THE INSIDE FACE OF BOTH BRACKETS. SEE FIG E2. ASSEMBLE BRACKETS COMPONENETS ACCORDING TO APPROPRIATE BARREL AND BRACKET ASSEMBLY FIGURE.

BARREL AND BRACKET ASSEMBLY
AUTO-TEST CHAIN / AUTO-TEST CRANK OPERATED



E3



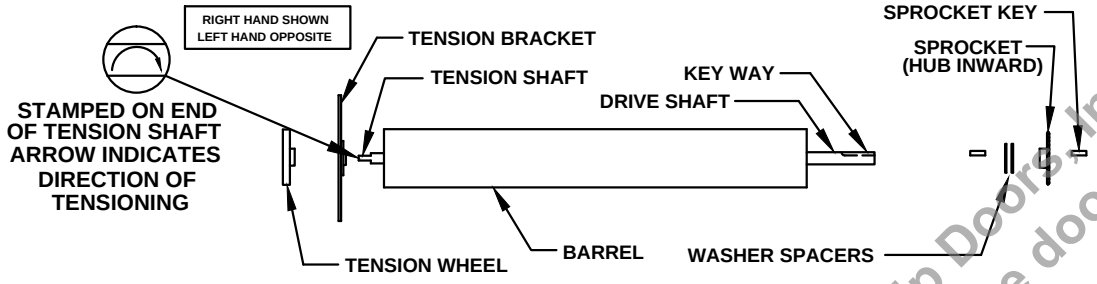


RIGHT HAND IS SHOWN - LEFT HAND IS OPPOSITE

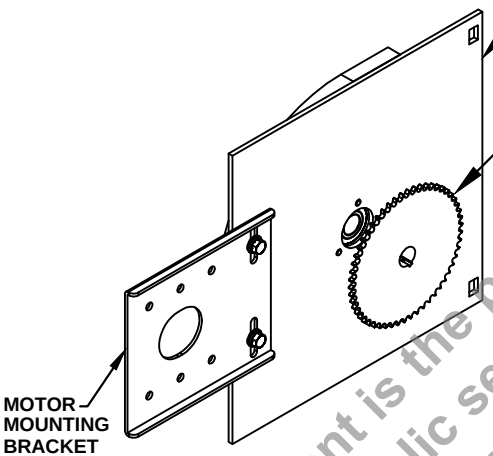
E4

BARREL AND BRACKET ASSEMBLY
AUTO-TEST MOTOR OPERATED VERTICAL MOUNT

E5



FS-3 / FS-5



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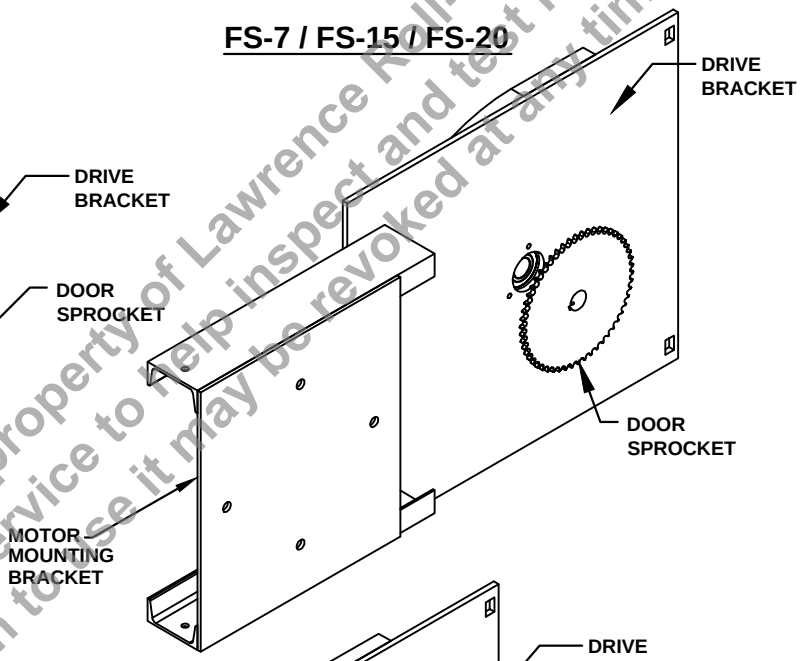

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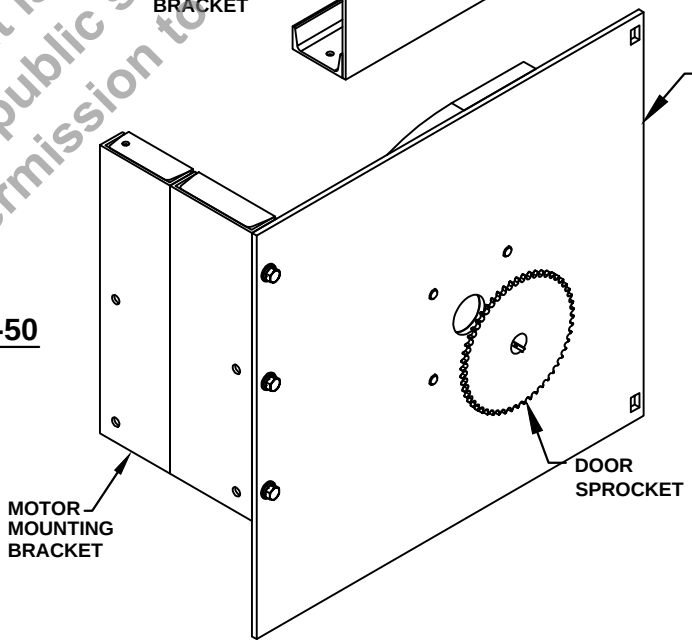
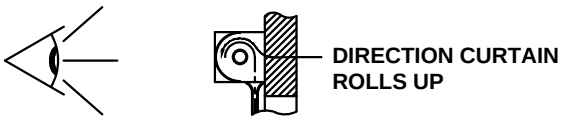


E6

BARREL AND BRACKET ASSEMBLY
AUTO-TEST MOTOR OPERATED TOP MOUNT



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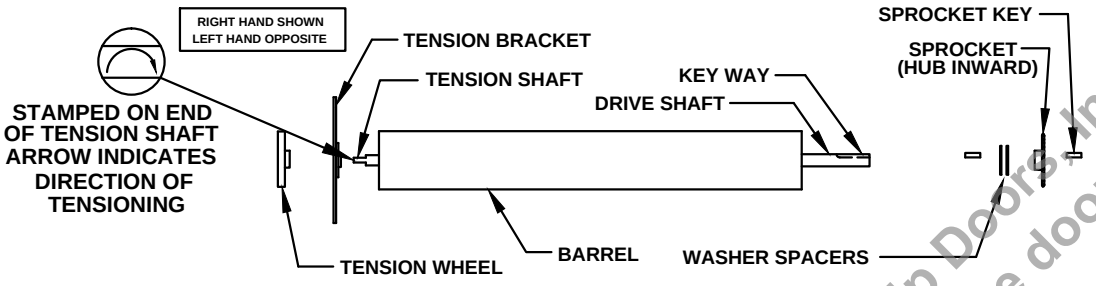

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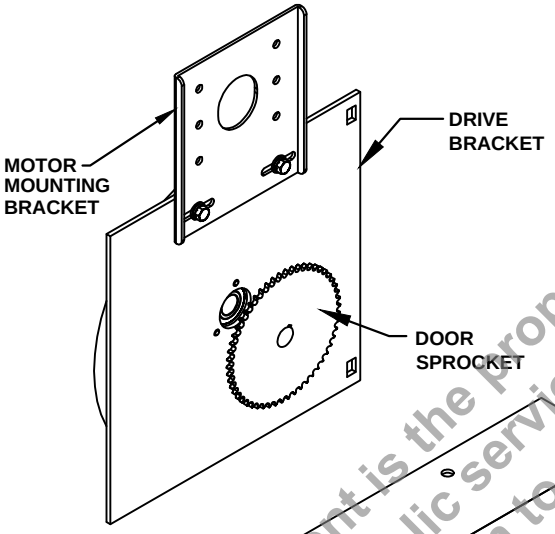

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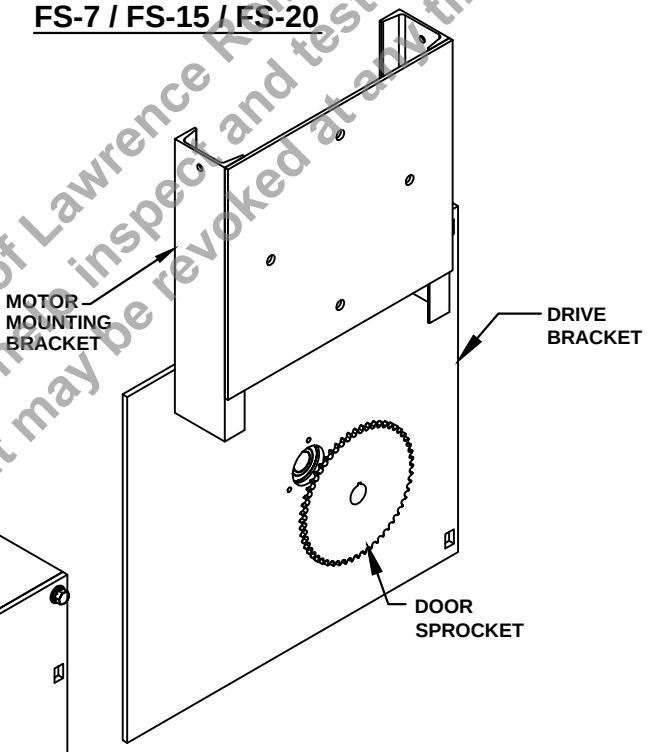
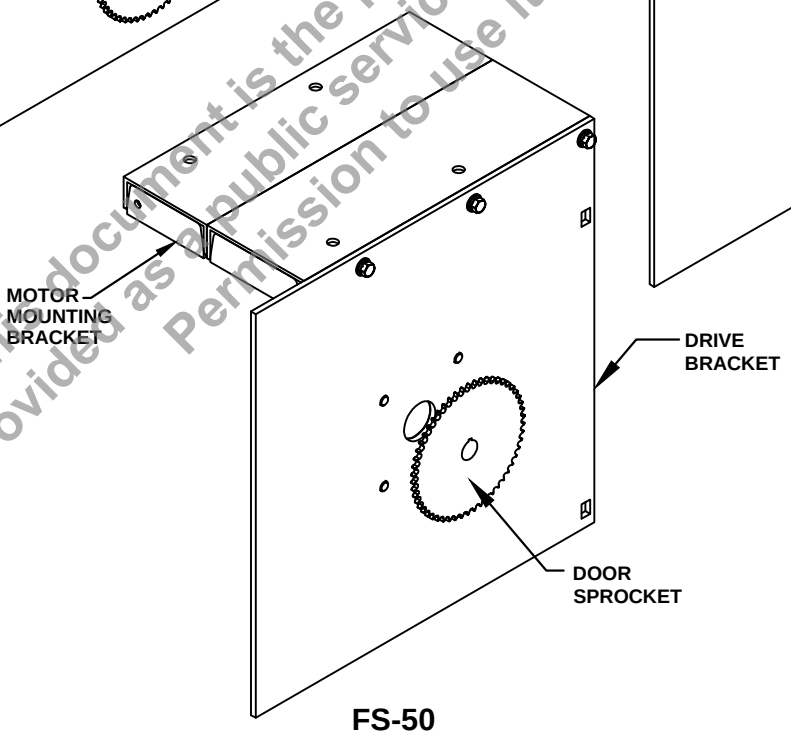
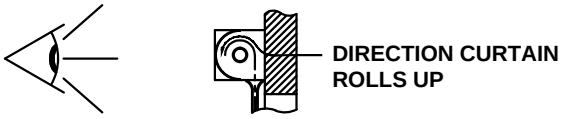




FS-50

E8

BARREL AND BRACKET ASSEMBLY
AUTO-TEST FDO-A & FDO-B MOTOR OPERATED



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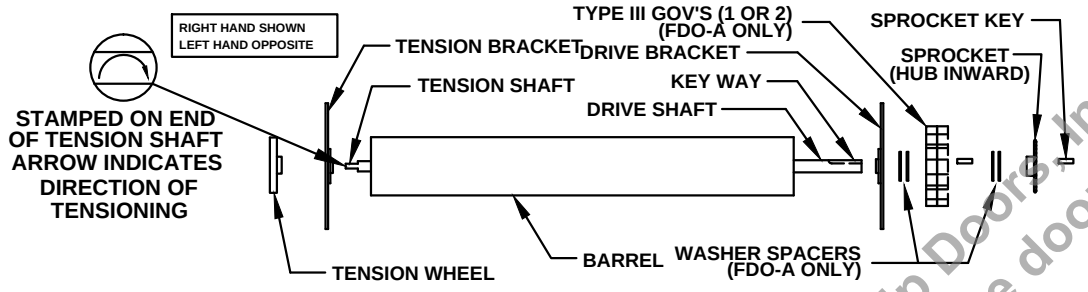
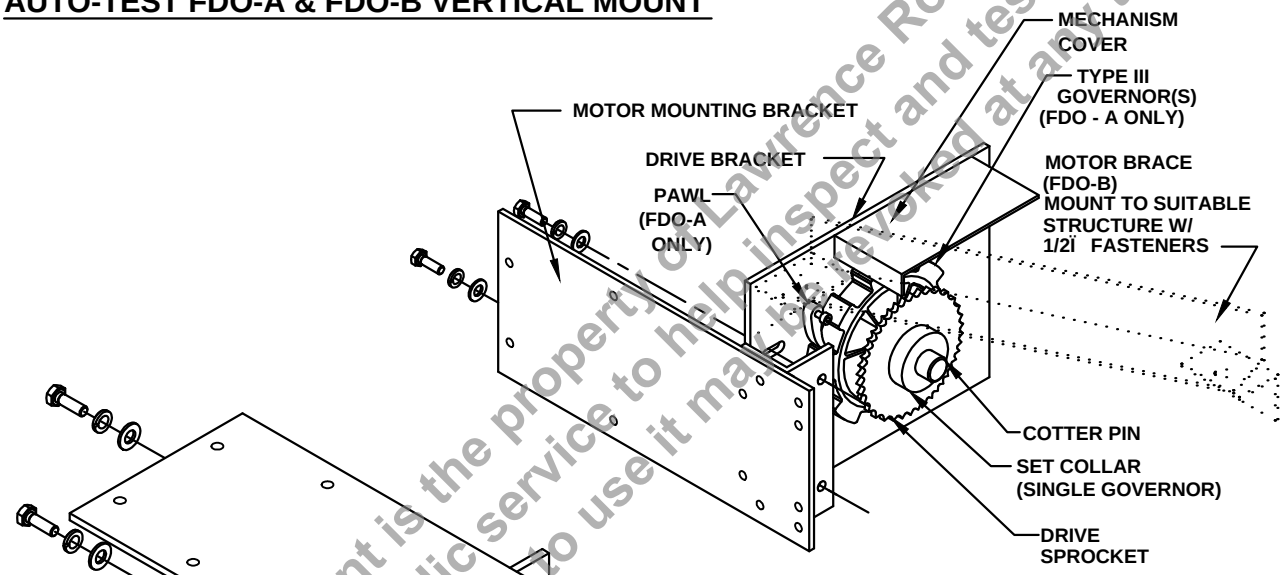
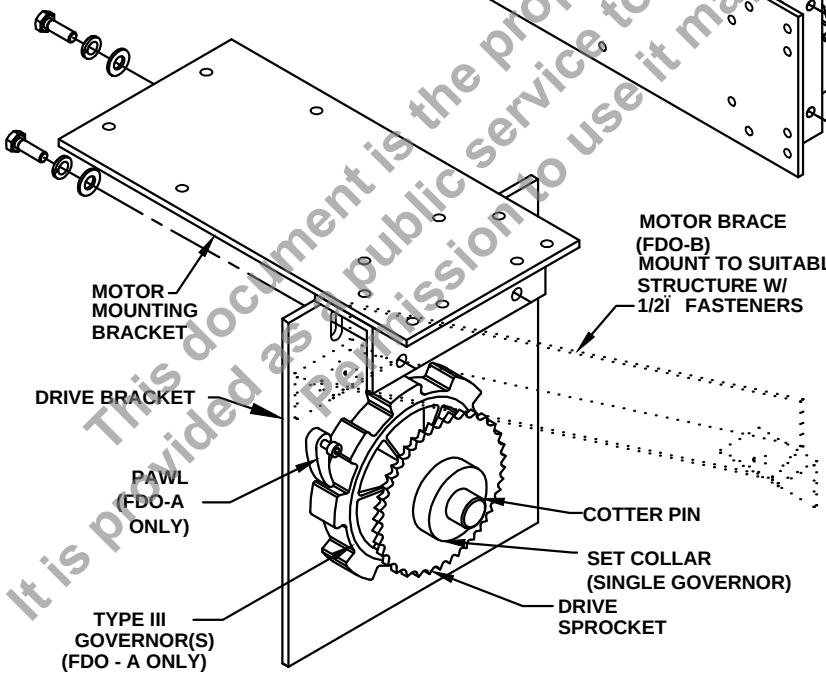


AUTO-TEST FDO-A & FDO-B VERTICAL MOUNT



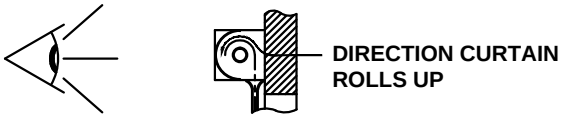


AUTO-TEST FDO-A & FDO-B TOP MOUNT

CAUTION:
***DRIVE SPROCKET AND GOVERNOR(S) MUST BE KEYED TO SHAFT.**

E10

BARREL AND BRACKET ASSEMBLY
AUTO-TEST FDO-A COMPOUND MOTOR OPERATED



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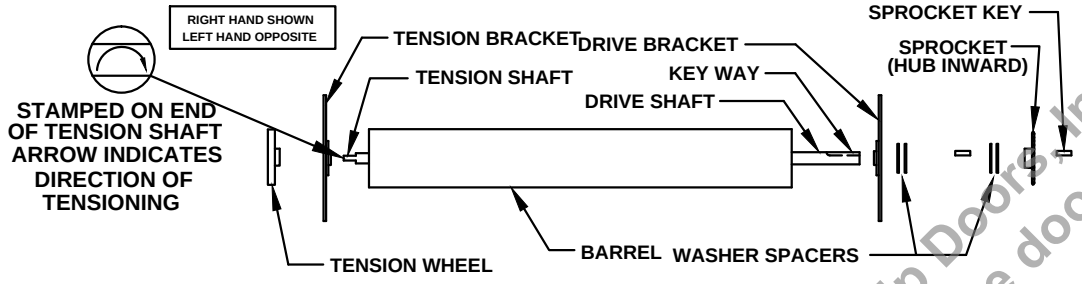
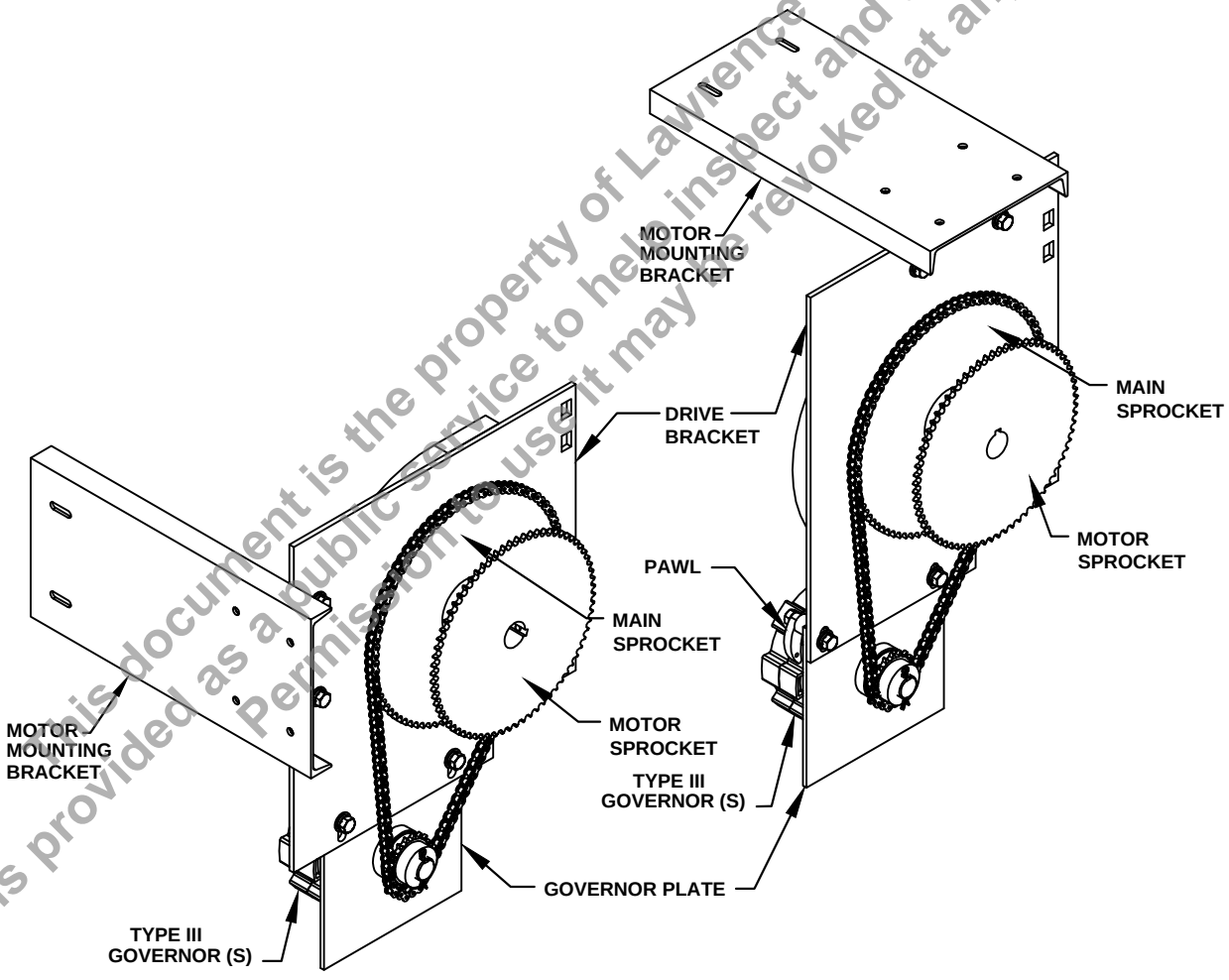


AUTO-TEST FDO-A COMPOUND TOP MOUNT



AUTO-TEST FDO-A COMPOUND VERTICAL MOUNT

E12

FIRE DOORS TENSIONING INSTRUCTIONS
AUTO-TEST MOTOR OPERATED

IMPORTANT

DO NOT ATTEMPT TO MAKE ANY ADJUSTMENTS TO THE TENSION ASSEMBLY WITH THE CURTAIN IN ANY POSITION OTHER THAN FULLY COILED ON THE BARREL (DOOR OPEN). WINDING BARS SHOULD BE A MINIMUM OF 3/8 SOLID STEEL ROD, 2 TO 3 FT LONG. DO NOT USE PIPE OR CONDUIT.

1) INSTALL THE MOTOR OPERATOR ON THE BRACKET. CONNECT THE ROLLER CHAIN FROM THE MOTOR SPROCKET TO THE DRIVE SPROCKET ON THE BARREL SHAFT. WIRE THE OPERATOR PER THE WIRING DIAGRAM PROVIDED.
2) TO CHARGE THE COUNTERBALANCE SPRING, THE CURTAIN IS TO BE IN THE RAISED POSITION WITH THE BOTTOM BAR POSITIONED APPROXIMATELY 6" BELOW THE GUIDE STOPS (OR FLAT BAR STOPS IF PROVIDED). NOW, PLACE A "C" CLAMP ACROSS THE THROAT OF THE DOOR'S GUIDE TO PREVENT THE CURTAIN FROM DRIFTING TO THE CLOSED POSITION.
3) NOW APPLY TENSION TO THE COUNTERBALANCE SPRING. ROTATE THE WHEEL IN THE SAME DIRECTION THAT THE CURTAIN NORMALLY WINDS ONTO THE BARREL. SEE THE INSTALLATION INFORMATION SHEET FOR THE NUMBER OF TURNS REQUIRED. LOCK THE TENSION WHEEL IN PLACE TO THE TENSION BRACKET.
4) SET THE LIMIT SWITCHES. SEE THE INSTRUCTIONS FOR SETTING THE LIMIT SWITCHES ON PAGE 47.
5) TEST THE DOOR FOR NORMAL OPERATION. CHECK THE TOP AND BOTTOM LIMIT SWITCHES AND THE SAFETY EDGE OPERATION.
6) AFTER NORMAL OPERATION TESTS HAVE BEEN MADE, IT REMAINS TO TEST THE AUTOMATIC CLOSE FEATURE. FOLLOW PROCEDURE OUTLINED IN MOTOR OPERATOR OWNER'S MANUAL.

WARNING

ONLY TRAINED DOOR SYSTEMS TECHNICIANS SHOULD DROP TEST DOOR

FIRE DOORS TENSIONING INSTRUCTIONS
AUTO-TEST CHAIN / AUTO-TEST CRANK OPERATED

1) TO CHARGE THE COUNTERBALANCE SPRING, THE CURTAIN IS TO BE IN THE RAISED POSITION WITH THE BOTTOM BAR POSITIONED APPROXIMATELY 6" BELOW THE GUIDE STOPS (OR FLAT BAR STOPS IF PROVIDED). NOW, PLACE A "C" CLAMP ACROSS THE THROAT OF THE DOOR'S GUIDE TO PREVENT THE CURTAIN FROM DRIFTING TO THE CLOSED POSITION.
2) NOW APPLY TENSION TO THE COUNTERBALANCE SPRING. ROTATE THE WHEEL IN THE SAME DIRECTION THAT THE CURTAIN NORMALLY WINDS ONTO THE BARREL. SEE THE TABLE ON THE FRONT SHEET FOR THE NUMBER OF TURNS REQUIRED. LOCK THE TENSION WHEEL IN PLACE TO THE TENSION BRACKET.
3) TEST THE DOOR FOR NORMAL OPERATION.
4) RECHECK DRIVE CHAIN TENSION AND ADJUST AS NECESSARY.
5) AFTER NORMAL OPERATIONAL TESTS HAVE BEEN MADE, IT REMAINS TO TEST THE AUTOMATIC CLOSE FEATURE.

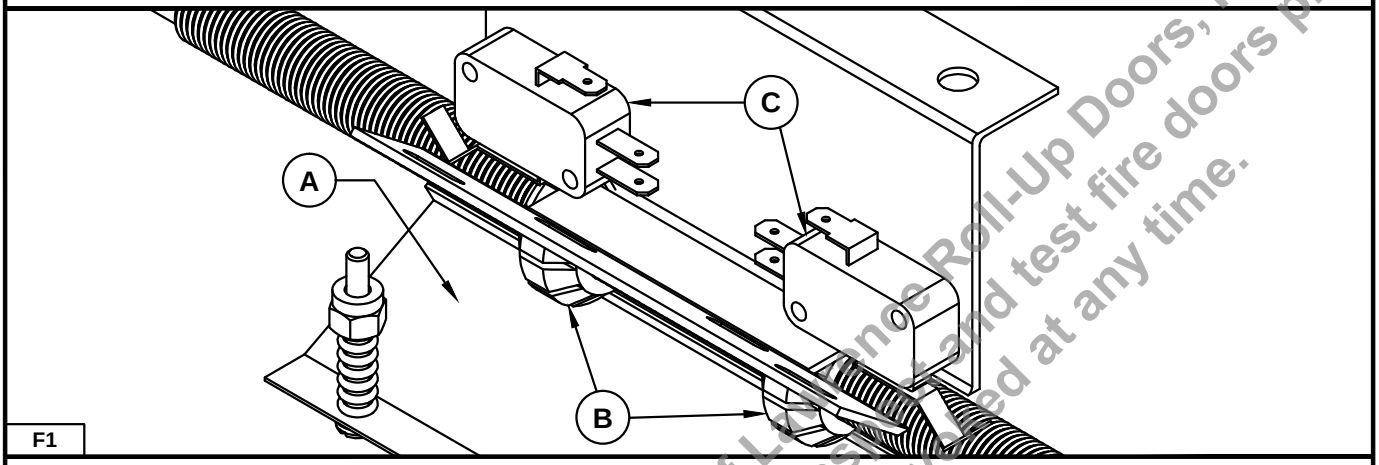
AUTOMATIC CLOSE TESTING PROCEDURE

1) OPEN DOOR TO FULLY OPEN POSITION.
2) VERIFY WIRING PER DIAGRAM.
3) ACTIVATE INITIATING DEVICE (SMOKE DETECTOR/FIRE ALARM).
4) CLUTCH MECHANISM WILL DISENGAGE ALLOWING THE DOOR TO DESCEND.
5) ONCE DOOR HAS REACHED THE FULLY CLOSED POSITION DEACTIVATE THE SMOKE DETECTOR/FIRE ALARM. POWER SHOULD NOW BE RESTORED TO THE UNIT.
6) BEGIN PULLING HOIST HAND CHAIN OR ROTATE THE CRANK HANDLE TO RAISE THE DOOR. THE HOIST/CRANK MAY FREEWHEEL UNTIL THE CLUTCH REENGAGES.
7) THE DOOR IS RESET BY RESTORING POWER TO THE UNIT AND/OR RESETTING THE ALARM INITIATING DEVICE. IF CLOSURE WAS DUE TO FUSE LINK ACTIVATION REFER TO FIG E2 IN ADDITION TO THE ABOVE.

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.



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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.

CURTAIN CARE AND TOUCH-UP INSTRUCTIONS

WHILE COOKSON DOOR FINISHES ARE ENGINEERED TO LAST, THE INHERENT DESIGN OF ROLLING DOOR PRODUCTS WILL EVENTUALLY ABRADE VIRTUALLY ANY APPLIED FINISH. CARE SHOULD BE TAKEN ON DIRTY OR DUSTY JOBSITES NOT TO USE THE DOORS UNLESS THEY HAVE BEEN CLEANED, OTHERWISE THE FINISH MAY BE DAMAGED. ROUTINE CARE AND MAINTENANCE WILL FURTHER HELP PROLONG FINISH LIFE BY REDUCING THE AMOUNT OF WEAR CAUSED BY FOREIGN SUBSTANCES ON THE DOOR CURTAIN. FOLLOWING THE CLEANING AND TOUCH-UP INSTRUCTIONS BELOW WILL HELP TO PROTECT AND MAINTAIN THE SURFACE FINISH.

TO FURTHER PROTECT THE DOOR, IT IS ALSO RECOMMENDED THAT IT BE DISABLED IN THE OPEN POSITION UNTIL PROJECT CLOSE OUT. IF THE DOOR IS TO BE UTILIZED BY OTHER TRADES DURING THE CONSTRUCTION PROCESS, THEN THE CONTRACTOR SHOULD ACCEPT OWNERSHIP OF IT AT THE TIME OF INSTALL TO ENSURE THAT THE DOOR IS TURNED OVER TO THE BUILDING OWNER IN ITS ORIGINAL "NEW" CONDITION.

CLEANING INSTRUCTIONS

1) **CLEAN THE DOOR PRIOR TO USE, AND REGULARLY, USING A DAMP CLOTH OR LIGHT SPRAY WASH. REMOVE ALL DUST, DIRT AND DEBRIS FROM THE CURTAIN SURFACE.**
2) **FOR DOORS WHICH ARE SUBJECTED TO HEAVIER DIRT CONDITIONS, WASH THE DOOR WITH A MIXTURE OF LIGHT DISH SOAP AND WATER. USE 2 OZ OF SOAP FOR EACH GALLON OF WATER, THEN RINSE ALL SOAP FROM THE DOOR AND DRY.**

TOUCH-UP INSTRUCTIONS

1) **CLEAN THOROUGHLY AND ENSURE THAT THE DOOR IS COMPLETELY DRY.**
2) **MIX PAINT FOR ONE FULL MINUTE PRIOR TO USE.**
3) **APPLY MULTIPLE LIGHT COATINGS TO AVOID PAINT RUNS. FOR SPRAY APPLICATIONS, HOLD THE CAN APPROXIMATELY 8" TO 12" FROM THE SURFACE, COVERING ALL WEAR AREAS. FOR BRUSH APPLICATIONS, APPLY EVENLY ACROSS WEAR AREA AND EXTEND OVER COATED AREA.**
4) **LET DRY FOR 24 TO 48 HOURS BEFORE CYCLING THE DOOR.**

MAINTENANCE INSTRUCTIONS

DOOR INSTALLATION:

ALL ROLLING FIRE DOORS SHOULD BE INSTALLED IN CONFORMANCE WITH NFPA 80.
INSPECT FOR NFPA CONFORMANCE:

A. INSTALLATION

B. FUSE LINKS OR SMOKE DETECTORS

C. MOUNTING

ANNUAL INSPECTION OF DOOR:

ALL ROLLING FIRE DOORS SHOULD BE INSPECTED AND TEST DROPPED ANNUALLY BY AN AUTHORIZED DISTRIBUTOR. FOR THE LOCATION OF THE NEAREST DEALER PLEASE CONTACT THE MANUFACTURER.

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:

⚠ IMPORTANT

ONLY TRAINED PERSONNEL SHOULD PERFORM MAINTENANCE

A. VISUAL INSPECTION
- **1) BENT BOTTOM BARS**
- **2) DAMAGED SLATS**
- **3) PINCHED GUIDES**
- **4) DENTED OR MISSING HOOD**
- **5) FUSE LINKS**
- **6) RELEASE HOLDERS**
- **7) SMOKE DETECTORS**
- **8) RACEWAYS**

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**

MAINTENANCE INSTRUCTIONS (CONT)

D. LUBRICATE

1) ALL PIVOT JOINTS

2) SHAFTS

3) ROLLER CHAIN

E. CHECK NORMAL OPERATION

1) OPERATION

2) SPRING TENSION

3) BALANCE

F. TEST DROP

1) ANNUALLY OR MORE FREQUENTLY AS REQUIRED

2) RESET PER MANUFACTURER'S INSTRUCTIONS ONLY

IMPORTANT

ONLY TRAINED PERSONNEL SHOULD TEST AND RESET FIRE DOORS

IF ANY PARTS OF THE ROLLING DOOR ARE DAMAGED THEY SHOULD BE REPLACED IMMEDIATELY WITH APPROVED PARTS MADE BY THE DOOR MANUFACTURER. THE USE OF OTHER PARTS WILL VOID ALL WARRANTIES AND MAY RESULT IN UNSAFE OPERATION.

TROUBLESHOOTING GUIDE

NOTE: FOR MAINTENANCE OR REPAIR OF THIS PRODUCT, PLEASE CONSULT YOUR LOCAL AUTHORIZED DISTRIBUTOR

BARREL

PROBLEM	CAUSE	CORRECTION
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

PROBLEM	CAUSE	CORRECTION
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.

TROUBLESHOOTING GUIDE

NOTE: FOR MAINTENANCE OR REPAIR OF THIS PRODUCT, PLEASE CONSULT YOUR LOCAL AUTHORIZED DISTRIBUTOR

CURTAIN (CONT)

PROBLEM	CAUSE	CORRECTION
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

PROBLEM	CAUSE	CORRECTION
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.

TROUBLESHOOTING GUIDE

NOTE: FOR MAINTENANCE OR REPAIR OF THIS PRODUCT, PLEASE CONSULT YOUR LOCAL AUTHORIZED DISTRIBUTOR

BRACKET

PROBLEM	CAUSE	CORRECTION
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

PROBLEM	CAUSE	CORRECTION
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

PROBLEM	CAUSE	CORRECTION
INCORRECT DIMENSIONS, MATERIAL OE END COVERS	1) ORDERING PROCESSING PROBLEM. OPENING.	1) GET ALL DIMENSIONS OF MATERIAL SUPPLIED AND CONSULT DISTRIBUTOR.

MOTOR OPERATOR

PROBLEM	CAUSE	CORRECTION
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

NOTE: FOR MAINTENANCE OR REPAIR OF THIS PRODUCT, PLEASE CONSULT YOUR LOCAL AUTHORIZED DISTRIBUTOR

MOTOR OPERATOR (CONT)

PROBLEM	CAUSE	CORRECTION
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.

TROUBLESHOOTING GUIDE

NOTE: FOR MAINTENANCE OR REPAIR OF THIS PRODUCT, PLEASE CONSULT YOUR LOCAL AUTHORIZED DISTRIBUTOR

MOTOR OPERATOR (CONT)

PROBLEM	CAUSE	CORRECTION
LOW VOLTAGE TO MOTOR.	1) INCORRECT ELECTRICAL POWER TO MOTOR.	1) CHECK VOLTAGE AGAINST THE CORRECT VOLTAGE STAMPED ON THE MOTOR. IF THE VOLTAGE IS 10% BELOW THE RATING, THERE IS NOT SUFFICIENT VOLTAGE TO RUN THE MOTOR.
MOTOR IS BURNED OUT.	1) INCORRECT WIRING.	1) CONSULT DISTRIBUTOR.