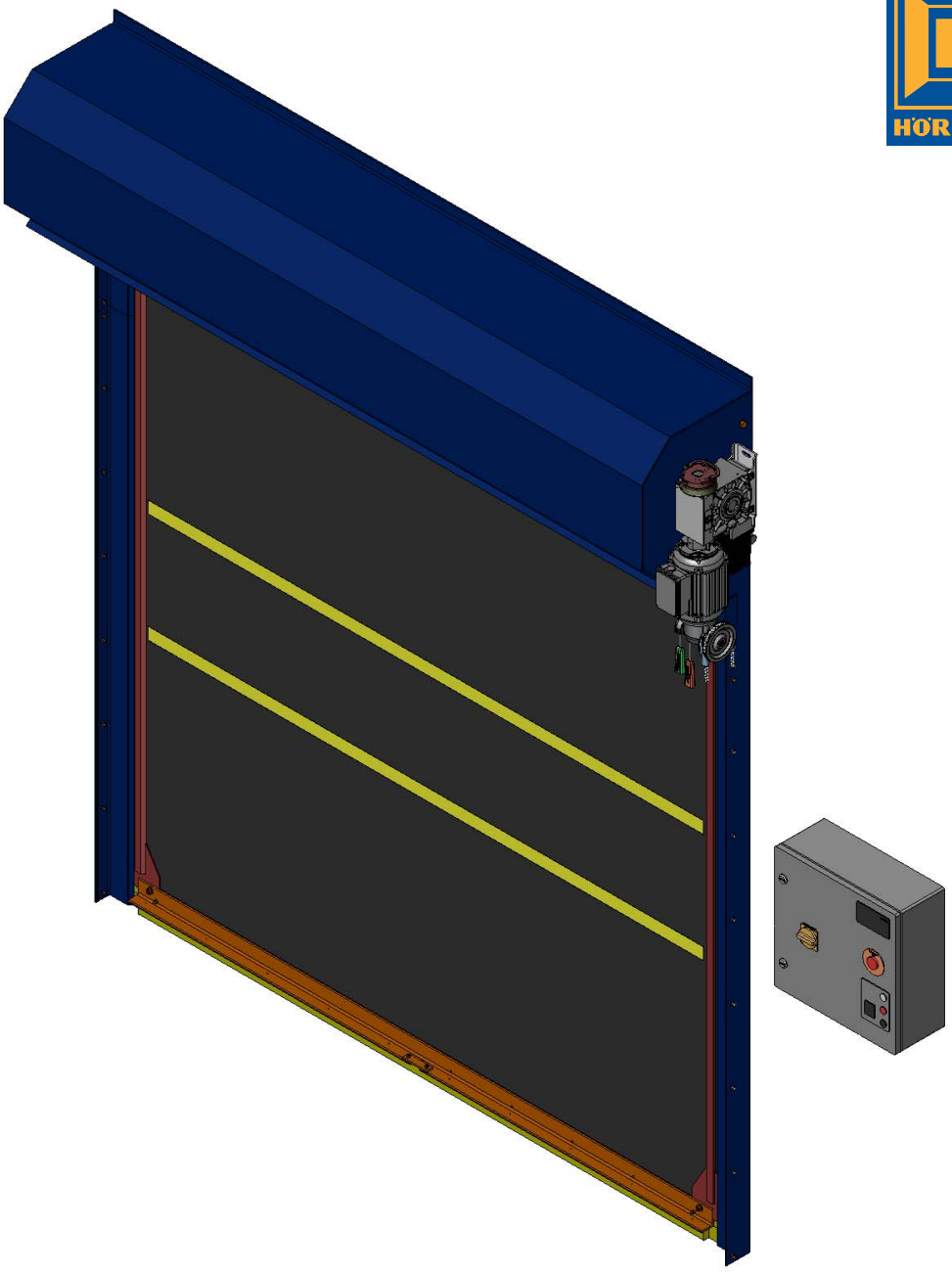
www.hormann-flexon.com



Instructions For Installation, Operating and Maintenance

Hörmann Rubber Door Models 4600 RS and 4600 RD

Springless / Direct Drive

For professional installers only

Keep this document in a safe place for future reference

Rubber Door / 11.2013

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FORWARD

THE INFORMATION CONTAINED IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE!!!

Hörmann Flexon LLC provides this information as a service to its customers. We strongly recommend that you review and study the information provided. Your complete understanding of the door system and its requirements is a priority and will allow you to enjoy the unique design features of the Rubber Door. If you have any questions regarding the following instructions, contact the factory before proceeding. Any deviation from the following instructions will result in improper operation of the door system, damage to the rubber curtain or its components, and will void the warranty extended by Hörmann Flexon LLC.

REMEMBER IT IS EASIER TO HANDLE QUESTIONS THAN IT IS TO HANDLE UNNECESSARY MISTAKES.

Hörmann Flexon LLC Limited Warranty

Warranty Service
Hourly Rate: When authorized warranty service work is performed on products or parts, HÖRMANN FLEXON LLC will pay up to $50.00/hours for one (1) man with a vehicle, and up to $75.00/hour when the work requires two (2) men with a vehicle depending on market size and location. The amount of time permitted will be determined by the Technical Support Department *PRIOR TO* the performance of the work. *NO WORK WILL BE PAID FOR UNLESS THE SERVICE PROVIDER HAS RECEIVED AN AUTHORIZATION NUMBER UNDER WHICH TO PERFORM THE WORK.*
Travel Time HÖRMANN FLEXON LLC will pay for two (2) hours of travel maximum for warranty service.

Procedure for Replacement or Repair of Defective Products or Parts

If after inspection, the Buyer believes that there is a defective product or part in any HÖRMANN FLEXON LLC equipment, HÖRMANN FLEXON LLC will replace the product or part until HÖRMANN FLEXON LLC determines whether or not the returned product or part is defective. In order to receive replacement or repair of the product or part under this warranty, the Buyer must follow these procedures:

1. The Buyer must call HÖRMANN FLEXON's Technical Support Department in order to report the problem with the product or part.

2. The Technical Support Department will issue an authorization number to the Buyer.

3. If replacement parts are needed the Buyer must issue HÖRMANN FLEXON LLC a Purchase Order. This Purchase Order must be marked: "Credit to be issued if product or part is determined to be covered under warranty".

4. The Buyer must then return the product or part pre-paid to HÖRMANN FLEXON LLC within three (3) weeks of the Buyer's receipt of the replacement product or part. IF HÖRMANN FLEXON LLC DOES NOT RECEIVE THE DEFECTIVE PRODUCT OR PART WITHING 3-WEEKS, THE BUYER WILL BE RESPONSIBLE FOR THE COST OF REPLACING OR REPAIRING THE PRODUCT OR PART.

Payment
HÖRMANN FLEXON LLC will pay all authorized warranty service charges within thirty (30) calendar days from the date which the defective products or parts have been returned to HÖRMANN FLEXON LLC as long as there is no outstanding balance due to HÖRMANN FLEXON LLC. Upon receiving the product or part, HÖRMANN FLEXON LLC will inspect the item(s) in question. If HÖRMANN FLEXON LLC so determines, HÖRMANN FLEXON LLC will notify the Buyer that the product or part is covered under warranty. If HÖRMANN FLEXON LLC determines that the product or part is not covered under warranty the Buyer will be notified in writing with an explanation and the invoice will not be credited and HÖRMANN FLEXON LLC will expect payment in full for cost of the replacement product or part.

NEVER USE PETROLEUM BASED PRODUCTS ON THE CURTAIN. IF DONE, THIS VOIDS ALL WARRANTY ON THE CURTAIN.

FEATURES

2.1 STANDARD FEATURES

1. American made door components.
2. Rubber curtain.
3. WD safety bottom bar.
4. Electric reversing safety edge.
5. Guides.
6. Hood.
7. Idler barrel.
8. Curtain barrel.
9. End brackets.
10. Complete standard mounting hardware package.
11. Direct drive operator and a wall mounted control panel.
12. 1 set of photo-eyes.

2.2 OPTIONAL EQUIPMENT (Listed, but not limited to)

1. Chain hoist operation (must be balanced).
2. Pneumatic safety edge.
3. Windows.
4. Various NEMA requirements.
5. Radio controls.
6. Time delay controls
7. Key switch.
8. Ceiling pull switch.
9. Card reader.
10. Vehicle detector.
11. Stainless steel.
12. Galvanized steel.

4. COMPONENTS

4.1 GUIDES

The guides are pre-engineered to corresponding door heights that, when placed vertically on each side of the opening, direct the rubber curtain's travel and manage how the wind-lock of the curtain reacts during impact and wind pressure. The top portions of the guides are hinged to allow the curtain to be re-inserted should it be pulled out of the guides.

4.2 END BRACKETS

The end brackets are mounted to the top of the guide system that holds it to the face of the door opening. These brackets support the operating device, curtain barrel, outboard spring assembly, idler barrel and bearings.

4.3 CURTAIN BARREL ASSEMBLY

This curtain barrel is constructed of a steel barrel and is enclosed with end plugs on both ends that holds the pipe concentric to the shaft. The curtain barrel allows an anchoring point to which the top of the curtain is secured to.

4.4 CURTAIN

The curtain is a ¼" nominal S.B.R. (Styrene Butadiene Rubber) R.M.A. Grade II material with R.M.A. Grade II Covers. A ½" R.M.A. Grade II material is attached to the curtain to form beveled wind-locks. This wind-lock is designed to react in specific ways during impact and to help maximize the thermal properties of the door system.

4.5 IDLER BARREL

The idler barrel is constructed of a steel tube with end plugs on either end that support the shaft. This shaft attaches the idler barrel to the end bracket and mounts into the pillow block bearings. The idler barrel maintains the curtain position in relationship to the lintel of the opening. This “curtain to lintel” relationship helps the door system’s thermal control properties.

4.6 BOTTOM BAR

The bottom bar is an angle and flat steel component that leads the curtain in the guide system. It contains a safety notch with a span plate that allows the bottom bar to react during impacts, and insures proper performance of the wind-lock during impacts. The bottom bar also holds either a standard electric safety edge or an optional pneumatic safety edge.

4.7 ELECTRIC OPERATOR

The electrical operator is a direct drive motor operator with a wall mounted control panel. Operator includes an auxiliary hoist assembly for non-powered operation. The wall mounted control panel includes means to set the digital limits from floor level and a rotary disconnect.

5. ERECTION INSTRUCTIONS

SEE DOOR GENERAL ARRANGEMENT DRAWING WD1000

5.1 SET UP PRIOR TO INSTALLATION

*** NOTE: It is absolutely vital to the proper operation of the door that the guides be erected according to the strict instructions provided. Any deviation from these instructions will cause the 4600 RS or 4600 RD to operate improperly and cause damage to its components. If you have any questions or need clarification please contact the factory at: 1-800-365-3667 or 1-724-385-9150.**

a. Determine that the opening jambs are true by measuring the width at the lintel line and the floor level. These dimensions should be equal (only ¼" maximum tolerance).

b. Check the measurements of the opening to the width and height of the door ordered. (See Drawing A.) The guides must be spaced horizontally by the given "C" dimension (shown on the General Arrangement Drawing) and must be set plumb.

c. Ensure that the jambs are perpendicular by using a proper level.

d. At the ends of the lintel measure from the underside of the lintel to the floor of the opening. There should be no more than ½" difference between the opening measurement and the height of the door ordered.

e. Finally, using a level or transit, make a horizontal line across the opening to ensure the guides are level when installed.

* NOTES: If any of the measurements exceed the maximum tolerances specified **CONTACT THE FACTORY BEFORE PROCEEDING WITH THE INSTALLATION!**

DO NOT remove the straps from the curtain until instructed to do so. By leaving the straps on, your job will be made easier during the installation.

5.2 STEP I: ERECTION OF GUIDES

a. The guides for the door systems are marked “left guide” and “right guide”. These guides are pre-assembled and do not require disassembly prior to installation.

b. Refer to Drawing B. Place the Left guide (with hinged portion facing out) flush with the inside edge of the steel column or frame on the left side of the opening. Position the top of the retainer to correspond with the mark line 6” above the underside of the lintel. Ensuring that the guide is exactly perpendicular, attach it to the steel column of the frame by tack welding (using approximately 12” centers) to guide leg and lag bolt to the wall.

c. Repeat step b with the Right side.

d. The clearance of ½” or 9/16” in the guide opening (see arrangement drawing) has been determined at the factory. It allows the curtain to move freely within the guides. However, during shipment or assembly, the guide opening may have been altered so we recommend that you pass a ½” or 9/16” bolt through the guide opening to verify that the opening is not too wide or too narrow for the curtain to pass. Any deviation from this measurement could result in damage to the curtain or reduction in the wind load capacity of the door. If variations do exist in the opening of the guide, such as being too narrow, simply spread the opening with a pry bar. If the opening is too wide, strike the outside section of the guide using a block or hammer.

e. Unbolt the hinged portion at the top of the guides so that the swinging part of the guide is completely opened. This will make it easier to insert the curtain later in the installation process.

Congratulations! The installation of the guides is complete. It would be to your benefit to briefly review your work at this point to ensure proper installation of the guide system.

5.3 STEP II: PLACEMENT OF END BRACKETS

a. The end brackets are the flat steel plates that are shaped in somewhat of an octagon shape. Your components should include two of these brackets. Carefully slide the two end brackets onto the shafts of the curtain barrel. Reference Drawing C. *NOTE: The set screws are NOT to be tightened down at this point in time.

b. NOTE: It will work to your advantage during installation if you position the bottom bar between the curtain barrel and the wall while lowering the assembly into the guides. At this point remove the nuts and washers from the guide angle bracket studs if attached.

c. Using a device sufficient to raise the weight of the door, position the curtain barrel (with the curtain end bracket assemblies) until it is above the guide angles. Lower the assembly until the brackets rest on the angle shelf above the guides. Bolt the brackets to the top of the guides. Bolt the brackets to the guide angles (heads of the bolts should be on the inside to permit the curtain clearance). Replace the washers and nuts on the bracket studs.

5.4 STEP III: PLACEMENT OF CURTAIN BARREL & CURTAIN.

a. With the curtain and end brackets in place, use a plumb line across the two end brackets to insure that the door is level. End brackets can be repositioned by loosening bolts and adjusting up or down within the slotted holes. The end bracket support on the top of the guide angle may require shimming.

b. Center the curtain between the end brackets and tighten the bearing screws.

5.5 STEP IV: PLACEMENT OF ELECTRIC OPERATOR

a. The direct drive motor operator comes mounted on the head unit's drive side (specified by the customer).

b. Consult operator manual for wiring and setting of the limits.

OPERATOR MOUNTING IS NOW COMPLETE. AS IN PREVIOUS STEPS, CHECK YOUR WORK FOR ACCURACY!

5.6 STEP V: PLACEMENT OF IDLER BARREL

a. Remove the shipping straps from the door curtain.

b. Use the manual chain hoist to lower the curtain into the guide system, two (2) feet below the lintel.

c. Place two (2) bearings, one on each side, of the idler barrel shaft. Raise the idler barrel with bearings under the curtain and into the slotted portion of the end brackets. Bolt the bearings to the end of the brackets with the heads of the bolts on the inside of the brackets. Now bolt the rest of the pillow block holes using the special rectangular washers furnished through the guide angle bolting.

d. Position the roll equal distance between each end bracket and tighten bearing set screws.

e. Lower the curtain into the guide system 18" below the hinged guide sections. Close the hinged guide retainers and bolt sections to the guide angle.

   The distance between the curtain and the wall is 1". (If the clearance tolerances are not within the specifications the clearance can be adjusted by loosening the bolts on the idler barrel bearings and moving the idler barrel the proper direction. After adjustment is made, tighten the bearing bolts again and recheck clearance measurement).

f. It is necessary at this point to check the tracking of the curtain inside the guide system. Unbolt one of the hinged guide sections. While keeping your attention on the outer edge of the curtain, lower the curtain with the chain hoist and observe the travel of the curtain. If the curtain tracks to either side of the guide, it is necessary to realign the counterbalance spring barrel. To do this, simply raise or lower the counterbalance spring barrel. After operating the door again by chain hoist and it is determined that the curtain is tracking properly, bolt the hinged portion of the guide system again to the mounting angle.

THE PLACEMENT OF THE IDLER BARREL IS NOW COMPLETE. AGAIN REVIEW YOUR WORK TO INSURE THAT YOU HAVE COMPLETED THE STEPS PROPERLY.

5.7 STEP VI: OPERATOR ELECTRICAL CONNECTION

a. Connecting to the power supply.
Consult local electrical codes before proceeding with permanent installation.

WARNING: Exercise caution when engaging electrical operator. Wiring diagrams can be found inside the control box cover and install the control stations as required.

On Three phase units, make certain that the operator rotates in the correct direction. If the direction is wrong, the limit switches will not function and damage will occur to the door. It is **strongly recommended** that the door be moved manually to mid-position before turning the power on so that it may be stopped before any damage can occur should the rotation be incorrect. Consult operator manual and wiring schematic to correct the direction.

b. Limit switch adjustment
Consult operator manual.

5.8 STEP VII: HOOD COVER PLACEMENT

a. For a one piece cover, set the hood on top of the bracket with the top flange of the hood tight against the wall. Drill six (6) spaced holes in the supporting angle on the end brackets and anchor with the self tapping screws provided.
b. For a two or more piece hood cover, fasten cover support(s) to the wall on equal centers, and attach the hood cover to the end brackets and the supports as described in 5.9-a.

THE DOOR INSTALLATION IS NOW COMPLETE.

6. MAINTENANCE

While the 4600 RS and 4600 RD have been designed to help eliminate maintenance requirements traditionally required by conventional door systems, by implementing the following minor maintenance checks you will get the maximum life from your new rubber door.

a. Door Assembly

All external bearings should be greased via the attached fitting at least once a year. Standard wheel bearing grease is recommended.

b. Electric Operator

Check the level of oil in the power operator reducer once a year to insure that no leaks have developed in the oil seals. Check the wiring connections and power supply wiring for continuity once a year.

c. Guides

Check to insure that the clearance in the guide opening is maintained at the specified width, 1/2" or 9/16". This should be checked every three months by passing a ½" or 9/16" bolt through the guide opening. If the clearance is too narrow, spread the opening to the correct width. If the clearance is too wide, strike the outside of the windlock guide using a block or hammer.

d. Curtain

In the unlikely event that a curtain should tear, it possibly, may be addressed in the field, depending on the severity. Consult our engineering office for the details on the rubber curtain repair kit at 1-800-255-3667. **DO NOT EVER USE PETROLEUM BASED PRODUCTS ON THE CURTAIN. IF DONE, THIS VOIDS ALL WARRANTY ON THE CURTAIN.**

7. CURTAIN REMOVAL AND REINSTALLATION

7.1 REMOVAL FROM THE GUIDE SYSTEM

If it becomes necessary to remove the curtain from the guide system, use the following process:

a. Unbolt the top hinged section of the guide system.

b. Raise the curtain until the bottom bar is at the bottom portion of the hinged section.

c. Lift the curtain and remove it from the guide system.

d. Lower the curtain and make sure that it does not hang up on any part of the guide system. (Reverse this order to re-install.)

7.2 REINSTALLATION AFTER AN IMPACT HAS REMOVED THE CURTAIN FROM THE GUIDE SYSTEM

a. Straighten the bottom bar assembly and replace the span plate as well on all sheared span plate bolts.

b. Raise the curtain to the hinged portion of the guide system.

c. Unbolt the hinged portion of the guide system and open fully. Place the curtain into the guide system, lower the curtain two (2) feet into the guide system, then close the hinged portions and replace the bolts.

8. PARTS

8.2 PARTS LIST – END BRACKET ASSEMBLIES– DRAWING L (For door heights 10’-0” and under)

Item #	Description	Part #	# Required
1	End Bracket - LH	EB-1	1
	End Bracket - RH	EB-1	1
2	Drive Bearing	007335/007340	1 per bracket
3	Idler Bearing	007330	1 per bracket
4	Washer	NA	4 per bracket
5	Brg. Bolt, L.W. & Nut	NA	2 per bracket
6	Brg. Bolt, L.W. & Nut	NA	2 per bracket

PARTS LIST – END BRACKET ASSEMBLIES – DRAWING L (For door heights greater than 10’-0” UP TO 17’-6”)

Item #	Description	Part #	# Required
1	End Bracket – LH	EB-2	1
	End Bracket – RH	EB-2	1

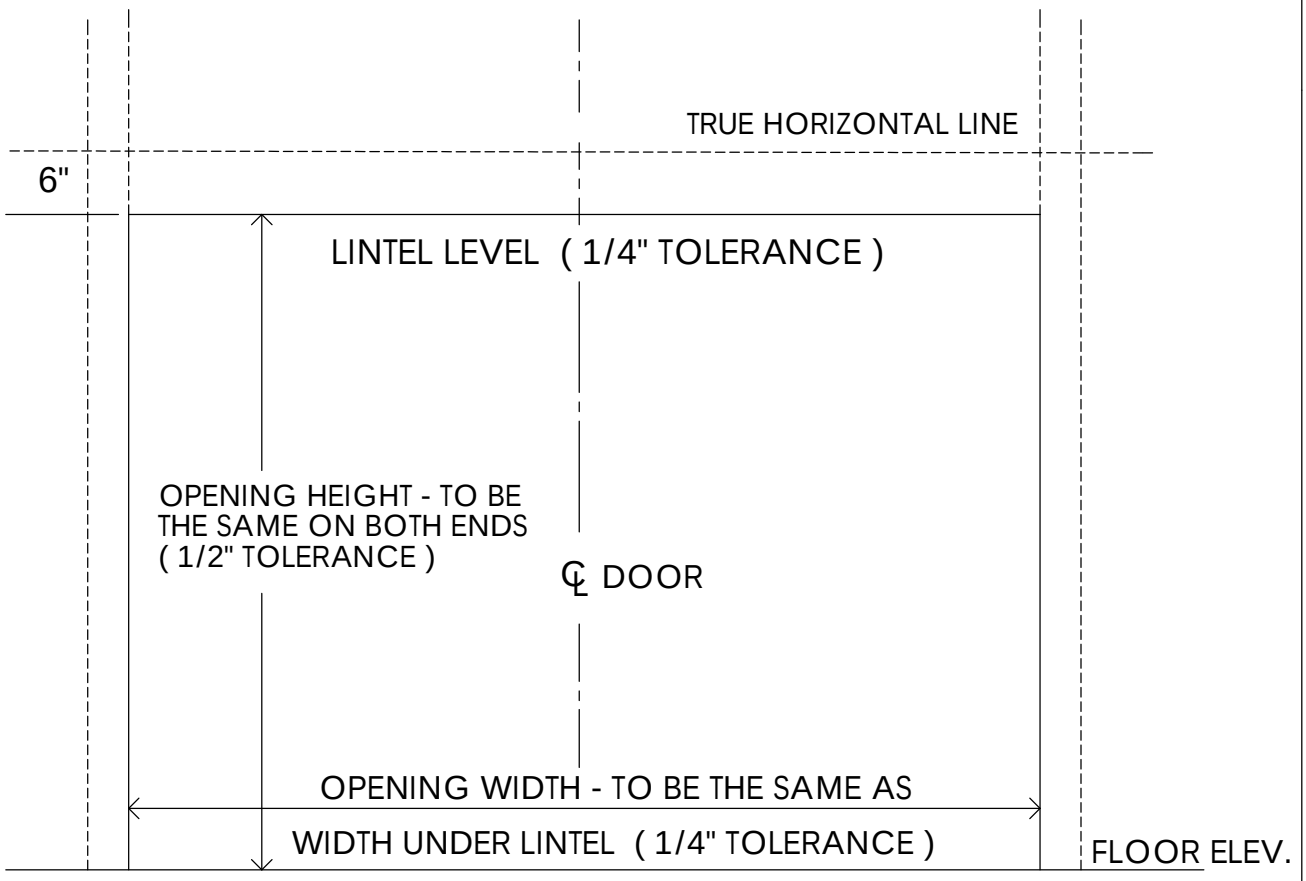
(Items 2 through 6 are the same as above)

PARTS LIST – END BRACKET ASSEMBLIES – DRAWING L (For door heights greater than 17’-6” UP TO 22’-0”)

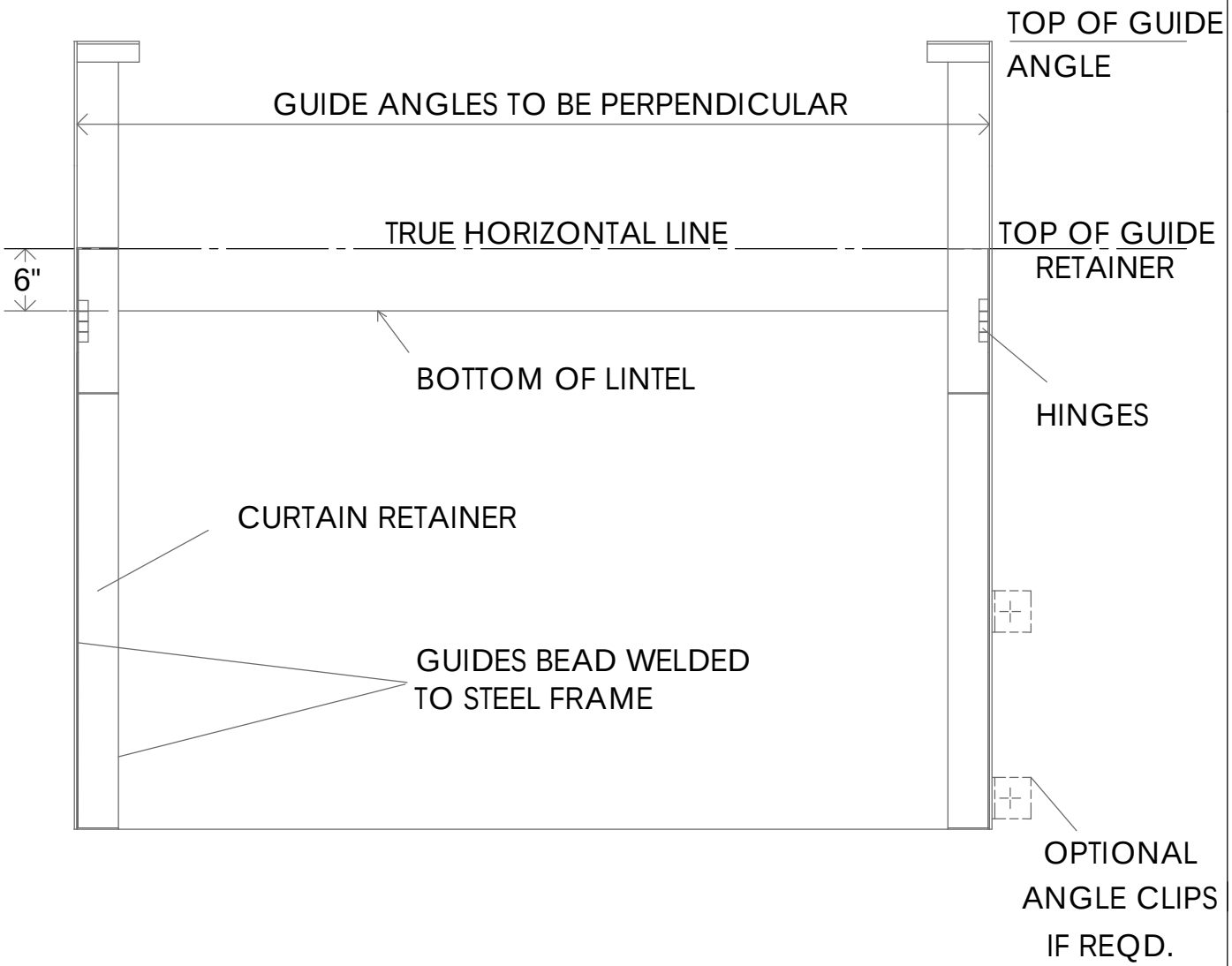
Item #	Description	Part #	# Required
1	End Bracket – LH	EB-3	1
	End Bracket – RH	EB-3	1

(Items 2 through 6 are the same as above)

9. DRAWINGS

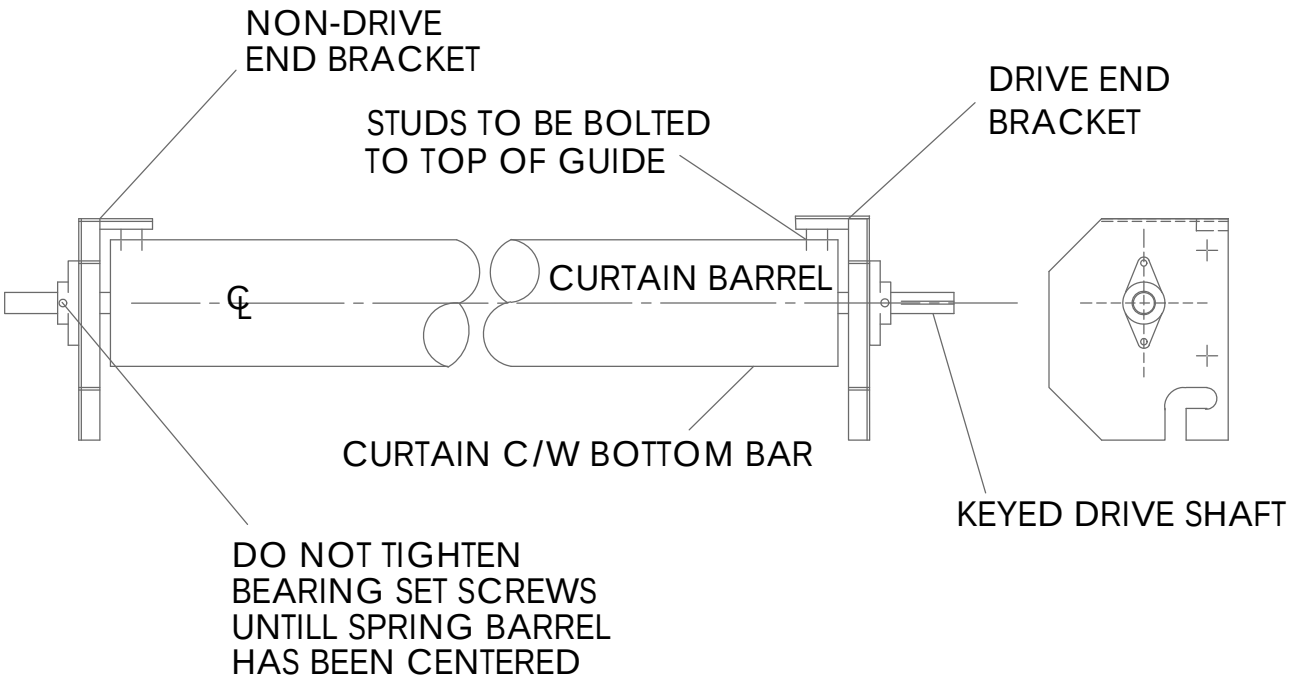


DATE. 10/09/13	SCALE: NTS	CHECKED KMW
		DWG NO.
DOOR FRAME		A

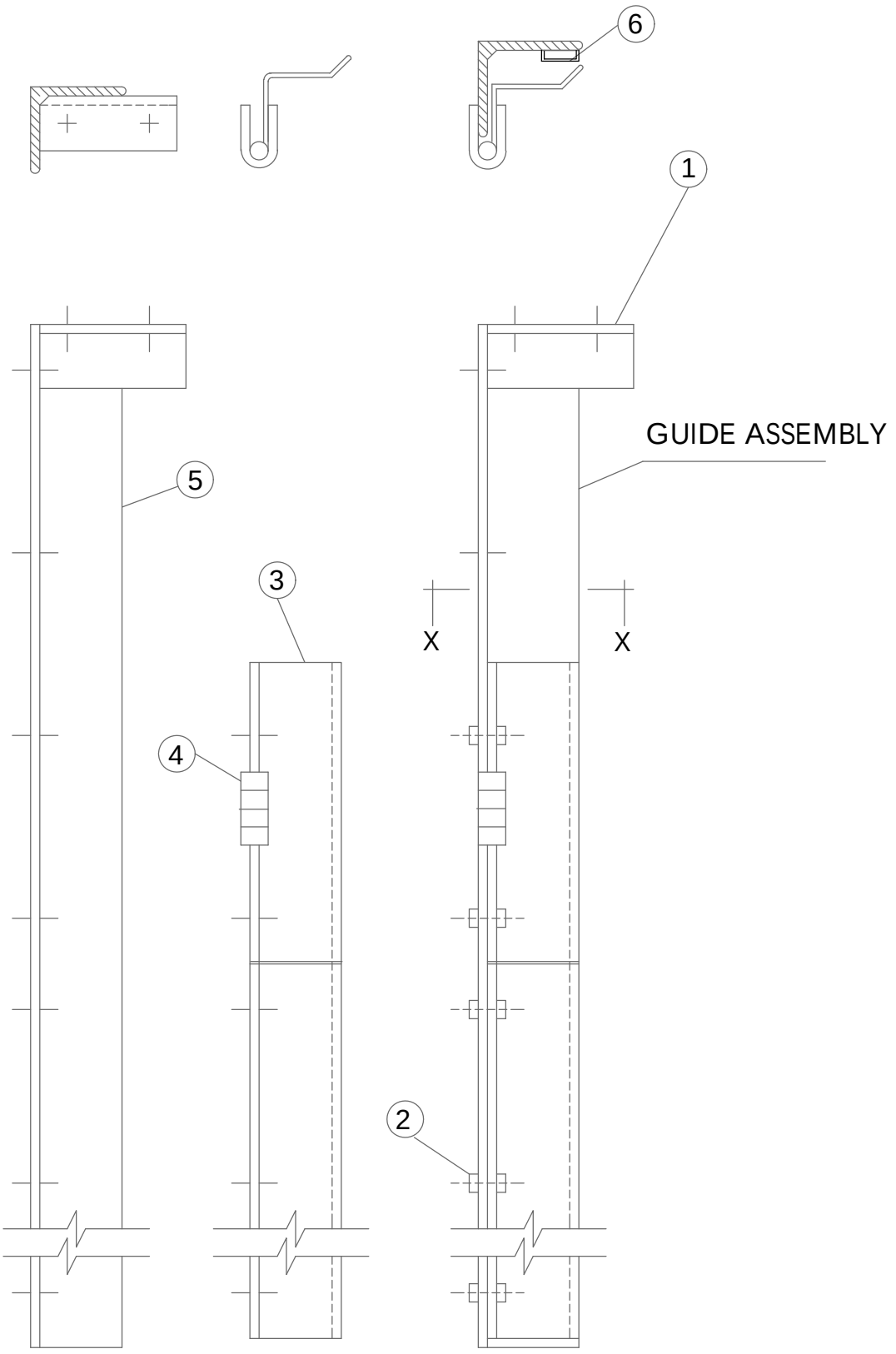


DATE. 10/09/13	SCALE: NTS	CHECKED KMW
		DWG NO.
GUIDE INSTALLATION		B

RIGHT HAND DRIVE SHOWN
LEFT HAND OPPOSITE

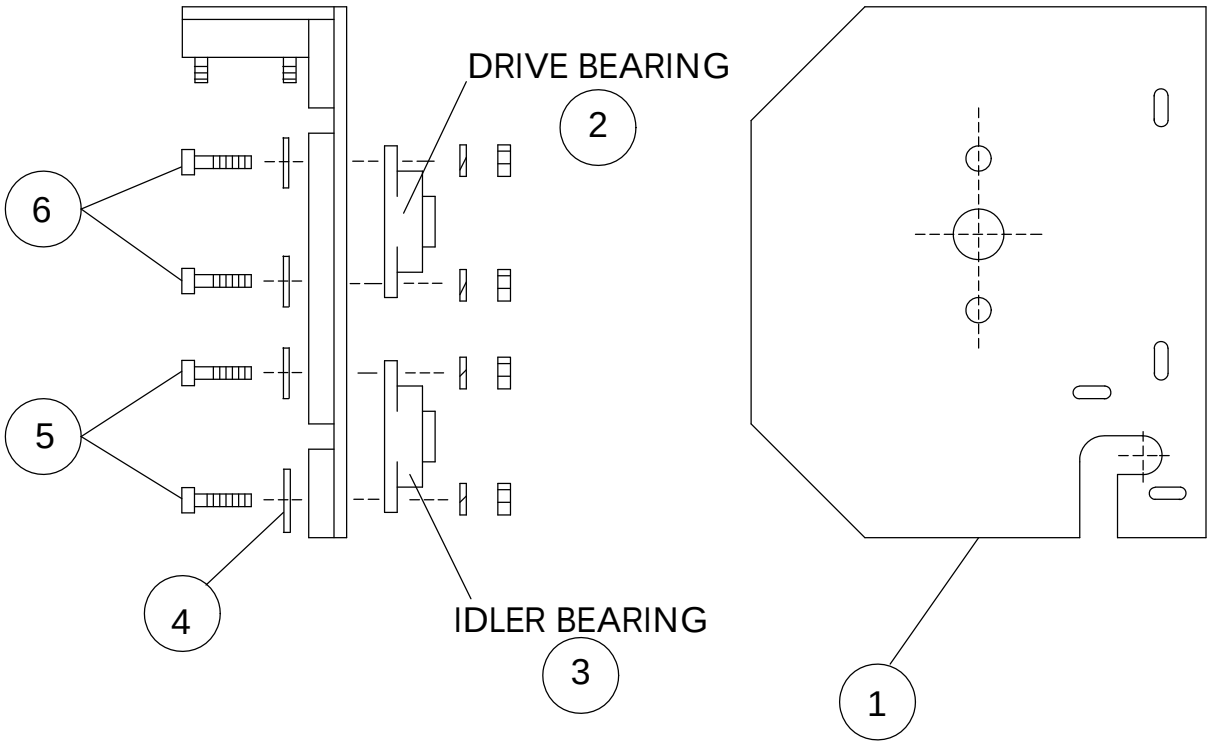


DATE. 10/09/13	SCALE: NTS	CHECKED KMW
CURTAIN BARREL ASSEMBLY END BRACKET ASSEMBLY		DWG NO. C



1 - END BRACKET MOUNTING ANGLE
2 - HEX HEAD BOLTS
3 - GUIDE RETAINER
4 - GUIDE HINGE
5 - GUIDE ANGLE
6 - BAR CHANNEL

DATE. 10/09/13	SCALE: NTS	CHECKED KMW
		DWG NO.
GUIDE ASSEMBLY		J



RIGHT HAND BRACKET SHOWN
LEFT HAND OPPOSITE

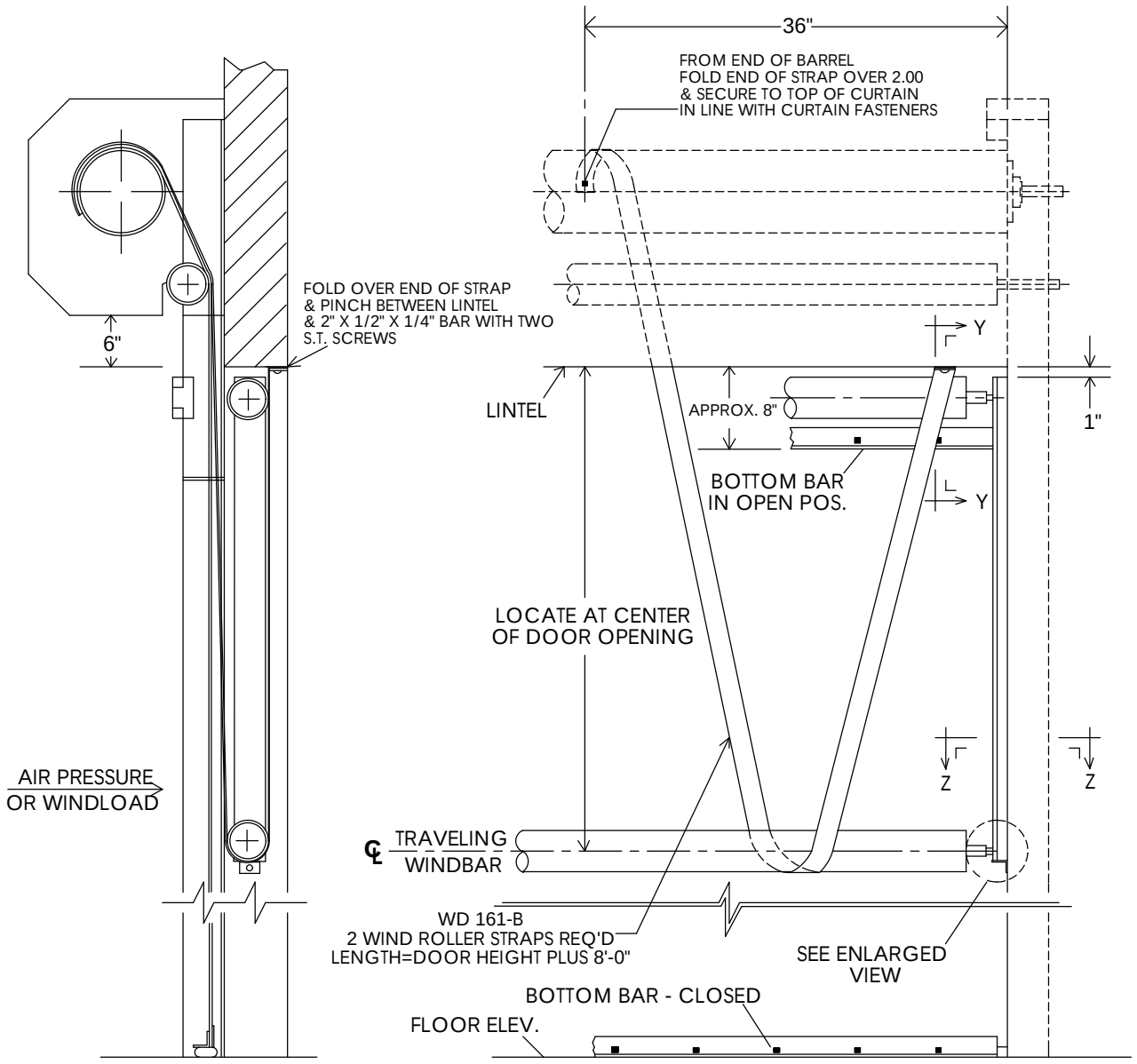
DATE. 10/09/13	SCALE: NTS	CHECKED KMW
DRIVE END END BRACKET ASSEMBLY		DWG NO. L

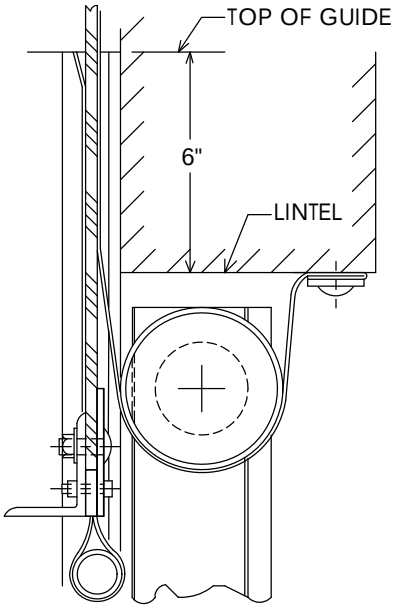
10. Windbar Installation

For exterior mounted doors

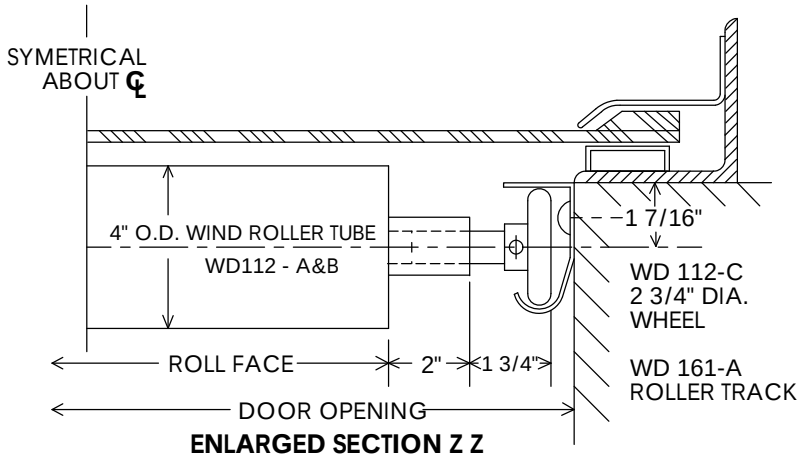
For interior mounted doors

ROLLER WINDBAR INSALLATION
EXTERIOR MOUNTED DOOR.





ENLARGED SECTION Y Y
DOOR SHOWN IN MAX OPEN POSITION



ENLARGED SECTION Z Z

IMPORTANT!

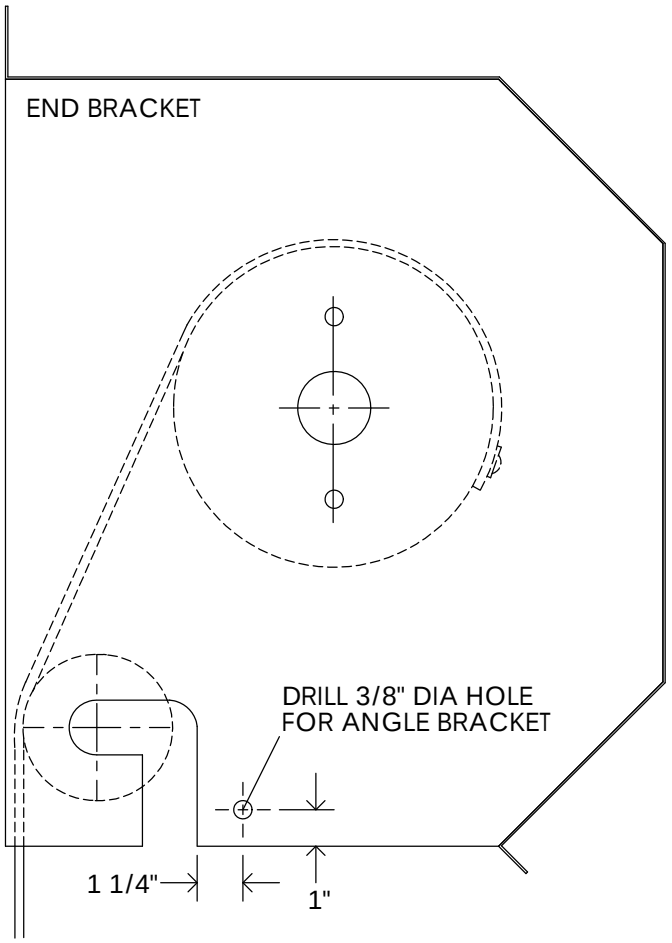
SHUT OFF ALL POWER TO DOOR
BEFORE INSTALLING WINDBAR.
DOOR SHOULD BE IN CLOSED POSITION.

DATE. 10/09/13	SCALE: NTS	CHECKEDKMW
ROLLER WINDBAR INSTALLATION		
EXTERIOR MOUNTED DOOR.		

ROLLER WINDBAR INSALLATION
INTERIOR MOUNTED DOOR.

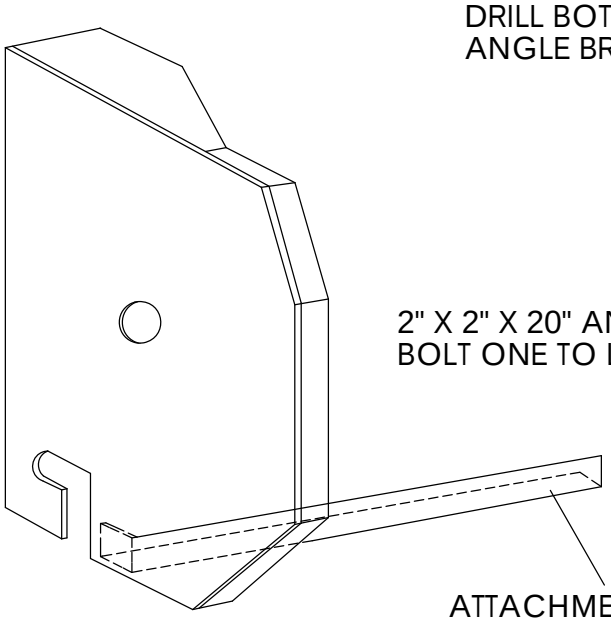
IMPORTANT!

SHUT OFF ALL POWER TO DOOR
BEFORE INSTALLING WINDBAR.
DOOR SHOULD BE IN CLOSED POSITION.



STEP - 1 ANGLE ATTACHMENT BRACKETS
FOR LIFTING STRAPS

DRILL BOTH LEFT AND RIGHT END BRACKETS AND INSTALL
ANGLE BRACKETS AS PER SKETCH BELOW



2" X 2" X 20" ANGLE BRACKET
BOLT ONE TO LEFT AND RIGHT END BRACKETS

ATTACHMENT POINT FOR
LIFTING STRAPS

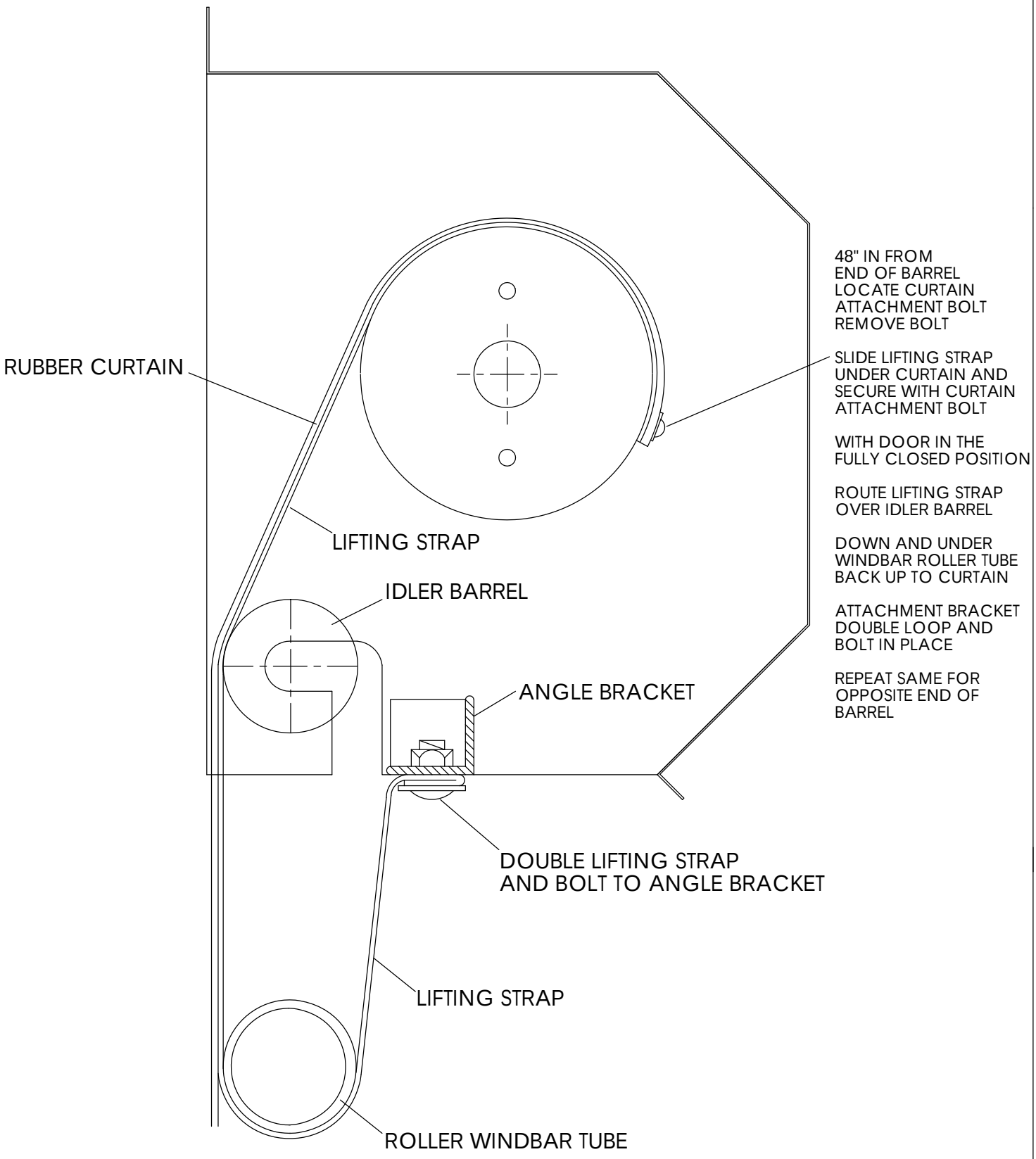
DATE. 10/09/13	SCALE: NTS	CHECKED KMW
ROLLER WINDBAR INSTALLATION		
INTERIOR MOUNTED DOOR.		

WBSTEP1

ROLLER WINDBAR INSALLATION
INTERIOR MOUNTED DOOR.

IMPORTANT!

SHUT OFF ALL POWER TO DOOR
BEFORE INSTALLING WINDBAR.
DOOR SHOULD BE IN CLOSED POSITION.



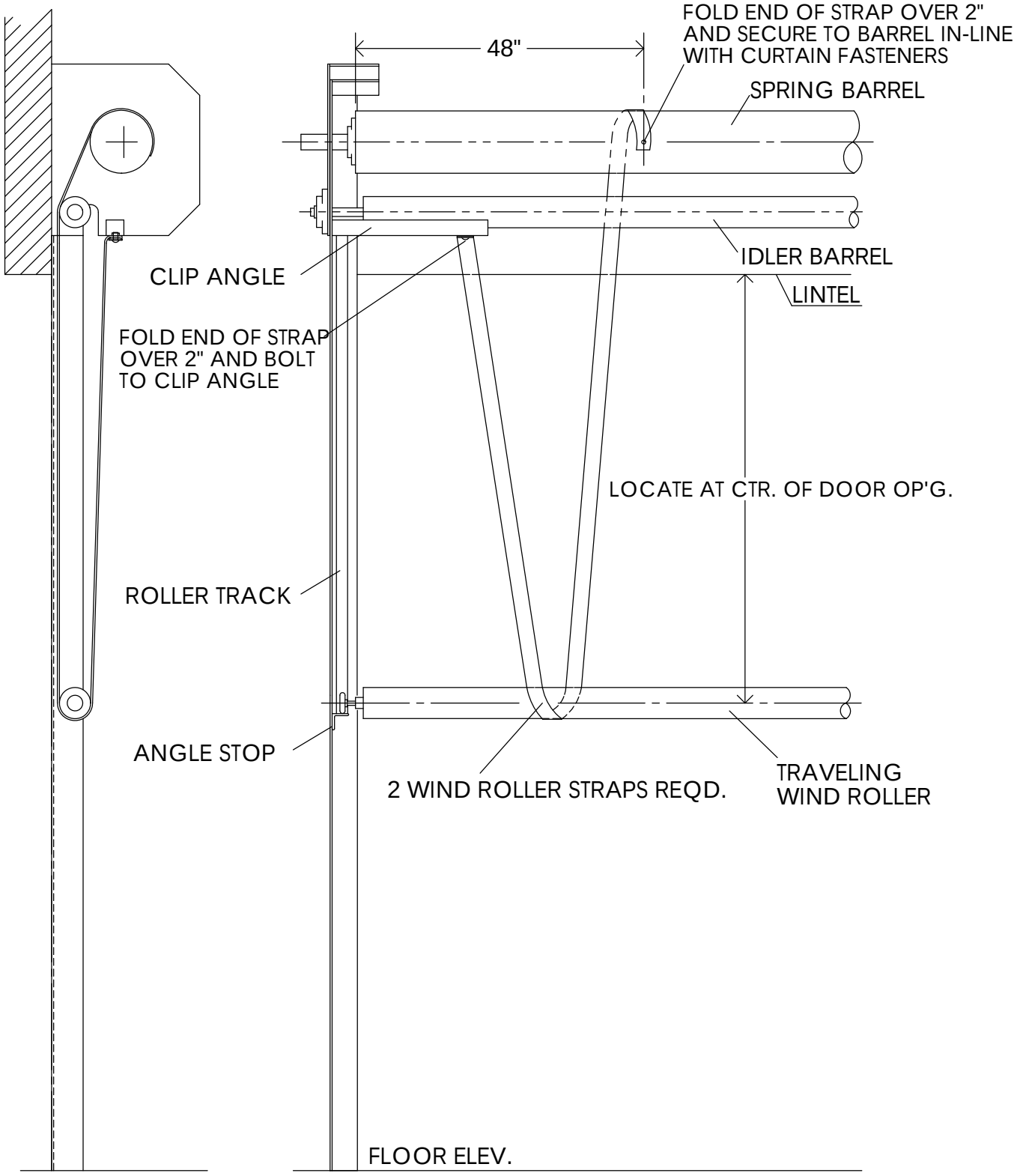
DATE. 10/09/13	SCALE: NTS	CHECKED KMW
ROLLER WINDBAR INSTALLATION		
INTERIOR MOUNTED DOOR.		

WBSTEP2

ROLLER WINDBAR INSALLATION
INTERIOR MOUNTED DOOR.

IMPORTANT!

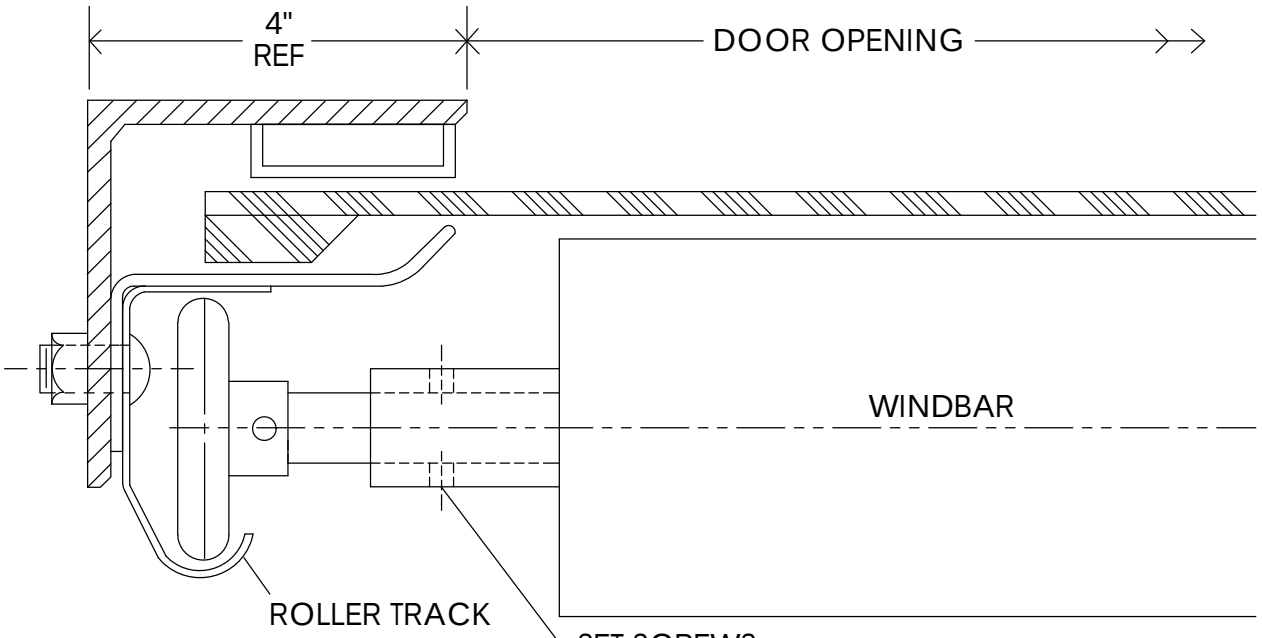
SHUT OFF ALL POWER TO DOOR
BEFORE INSTALLING WINDBAR.
DOOR SHOULD BE IN CLOSED POSITION.



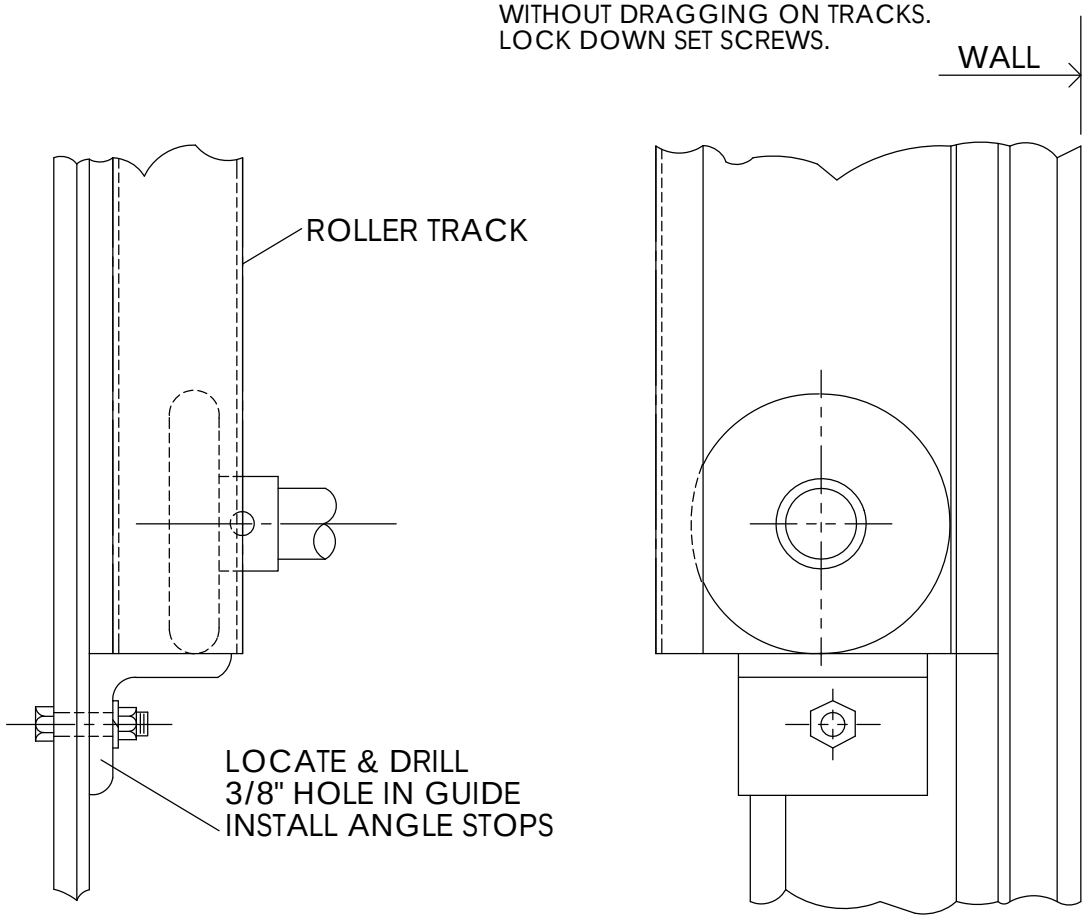
DATE. 10/09/13	SCALE: NTS	CHECKED KMW
ROLLER WINDBAR INSTALLATION INTERIOR MOUNTED DOOR.		

WBSTEP3

ROLLER WINDBAR INSALLATION
INTERIOR MOUNTED DOOR.



NOTE: ADJUST TRACK ROLLERS IN OR OUT FOR BEST FIT, ROLLERS SHOULD MOVE WITHOUT DRAGGING ON TRACKS. LOCK DOWN SET SCREWS.



IMPORTANT!

SHUT OFF ALL POWER TO DOOR
BEFORE INSTALLING WINDBAR.
DOOR SHOULD BE IN CLOSED POSITION.

DATE. 10/09/13	SCALE: NTS	CHECKED KMW
ROLLER WINDBAR INSTALLATION INTERIOR MOUNTED DOOR.		

WBSTEP4

Everything you've always wanted in a high performance door, and more.

German Engineered, American Made

Our promise to you.

As one of the world's leading manufacturers of doors, we're committed to providing the best quality, value, and selection. Whether, industrial or commercial, we have the door you're looking for.

The Hörmann Flexon product line gives you the ability to accommodate any door application with the right product from one manufacturer.

Hörmann Flexon LLC, Burgettstown, PA
Headquarters and Manufacturing Plant

High Performance Doors

If you need assistance please call 1-800-365-3667 or 1-724-385-9150

Hörmann Flexon LLC • High Performance Doors • Starpointe Business Park •117 Starpointe Boulevard • Burgettstown, PA 15021-9506
Phone: 800.365.3667 • 724.385.9150 • Fax: 724.385.9151 • www.hormann-flexon.com • Email: sales@hormann-flexon.com
Specifications are subject to change.

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