



ClearSpan™ Curtain Tube Support System (Manual Gearbox)



ATTENTION: This guide describes the assembly and installation of roll-up curtains. The design flexibility of these curtain systems allow for a variety of possible component and curtain combinations. The examples shown in this guide are presented to give the reader basic assembly and installation information. The actual curtain tube system may resemble what is presented, but differ in details.

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 **WARNING:** Cancer and Reproductive Toxicity - P65Warnings.ca.gov

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Single and Double-Output

Important Information

YOU MUST READ THIS DOCUMENT BEFORE YOU ASSEMBLE THE CURTAIN TUBE SUPPORT SYSTEM.

Thank you for purchasing this ClearSpan™ Curtain Tube Support System. These instructions include helpful hints and important information needed to safely assemble and properly maintain the curtain and related components. Please read these instructions *before* you begin. If you have any questions during the assembly, contact customer service.

SAFETY PRECAUTIONS

- Wear eye protection.
- Wear head protection.
- Wear gloves when handling the pipe and brackets.
- Use a portable GFCI when working with power tools and cords.

⚠ WARNING: Exercise caution during installation. Strong winds can lift and blow the curtain during and after installation. Do not install the curtain during windy conditions or when such conditions are expected.

REQUIRED TOOLS

The following list identifies the main tools needed to assemble the curtain tube system. *Additional tools and supports may be needed depending on the structure, location, and application.* We recommend at least two (2) people for assembly and more if curtain exceeds 50' in length.

- Tape measures or measuring devices.
- Variable speed drill (cordless with extra batteries works best) and drill bits (1/8" or smaller for pilot holes)
- Saw to cut metal pipe.
- Wrench and/or socket set.
- Hammer and gloves.
- Additional hand tools as needed.



ASSEMBLY PROCEDURE

Following the instructions as presented will help ensure the proper assembly of the curtain and related components. Failing to follow these steps can result in an improperly assembled curtain tube system. The steps outlining the assembly process are as follows:

1. Verify that all parts are included in the shipment. Notify Customer Service for questions or concerns.
2. Read these instructions and all additional documentation included with the shipment **before** you begin.
3. Gather the tools and assistance needed to assemble the curtain tube support system.
4. Assemble the curtain components in the order they are presented in these instructions.
5. Read the Care and Maintenance information.
6. Complete and return all warranty information as instructed if included.

UNPACK AND IDENTIFY PARTS

The following steps will ensure that you have all the necessary parts **before** you begin.

1. Unpack the contents of the box or boxes and place them where you can easily inventory the shipment. Refer to the Bill of Materials/Spec Sheets.
2. Verify that all parts listed on the Bill of Materials/Spec Sheets are present. If you have questions or parts are missing, contact customer service.

Important Information

PICTORIAL GUIDE

The following graphics and photos will help you identify the different parts of the curtain tube support system. Consult the Quick Start Guide for additional details and diagrams. (Some parts are not shown.)



FA4482B
Tek Screw



109331 Roller Assembly



FALF37B
5/16" Locknuts



FALB02B
5/16" Nuts



FAME07B
5/16" Washers



FAG334B
5/16" x 2" Bolt



FA2071
5/16" x 4" Eyebolt

NOTE: Customer must flatten eye portion of this bolt so it fits into the plain end of the assembled roller pipe.

1.315" Plain End (used for roller pipe)



Swaged End



109311
Gearbox



109321
Protective Cover



109322 Single
Output Shaft



109324
Eyelet



109396
1-3/8" x 1/4" Key



109397
1" x 1/4" Key



109398
Snap Ring



109399
O-ring

109392 MANUAL GEARBOX ASSEMBLY COMPONENTS (ABOVE)



109334 Bracket
with Slot



109330
Bottom Insert Bracket

Important Information

PICTORIAL GUIDE (continued)

In addition to some of the parts listed on the previous page, the following graphics and photos show the parts used when the gearbox has a double-output shaft. Gearbox is usually mounted at or near the center of the building between two curtains.



109385 Roller Assembly



109323 Double-Output Shaft



109394
Top/Bottom Insert Bracket



111189 Screws

The parts shown above are specific to a gearbox equipped with a double-output shaft. A double-output shaft allows the gearbox to be mounted between two side-by-side panels. See the diagrams in the Quick Start section for additional details.

The above components are specific to kits 109382 and 109384.

ADDITIONAL PARTS

The parts shown below are specific to a particular curtain design. Some parts may not apply to your curtain-tube system. **All parts shown below require an additional purchase.** This information is provided to help you identify the various curtain tube system parts.



109378
Roll Bar Coupler



Curtain
Roll Bar



110831 Keder
Channel



109388 Gearbox-to-Keder Tube
Adapter



109387 Gearbox-to-1.66" Pipe
Adapter



109386 Gearbox-to-1.315" Pipe
Adapter



109332 Strap Bracket

Important Information

CARE AND MAINTENANCE

Proper care and maintenance of your curtain tube support system will help to ensure reliable service. The following items identify areas that must be periodically checked to ensure that the components are maintained properly:

- Frequently check the curtain mount and mount support structure to verify that all components are tight and in good condition.
- Check all fasteners to verify that they remain tight.
- Inspect the gearbox and related mounting components regularly. Tighten all bolts and mounts as needed.
- Verify that all connections and connectors are secure. Tighten these if necessary. Replace all broken or missing components immediately.
- Check the curtain to verify that it is in good condition.
- Verify that nothing rubs against the curtain or prevents it from opening and closing as designed.
- When cleaning the panel, use tools that will not damage the material. Clean dirt and debris using mild soap and water. **Do not use solvents.**
- For replacement or missing parts, call 1-800-245-9881 for assistance.



SPACE BELOW RESERVED FOR CUSTOMER NOTES

Basic Installation

General Information

The information contained within the pages of this guide describes different ways to attach the curtain support system to the outside of a typical building. The examples may not resemble the actual installation of your curtain.

It is the customer's/installer's responsibility to use these diagrams as needed to help with the installation of the actual curtain tube support system. If you are not familiar with the installation and assembly of similar curtain systems, consult the services of a qualified contractor.

The roller assemblies shown on the following pages are mounted at the left end of the curtain. Components can also be attached at the right end of the curtain, or between panels for double-output gearboxes. **This installation option is not shown.**

Use the following diagrams, photos, and procedures to help assemble and install the curtain tube support system.



Protective Cover

ATTENTION: Center-mount assemblies equipped with the 109394 (top/bottom insert bracket—double output) do not use the eyebolt and related hardware. See additional diagrams near the back of this guide (pgs. 24-26.)

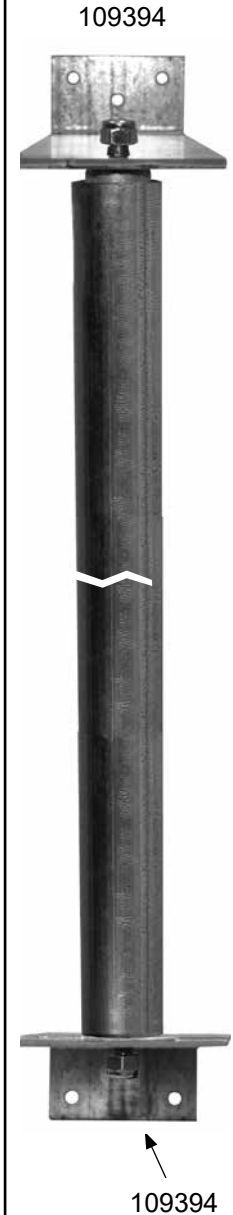
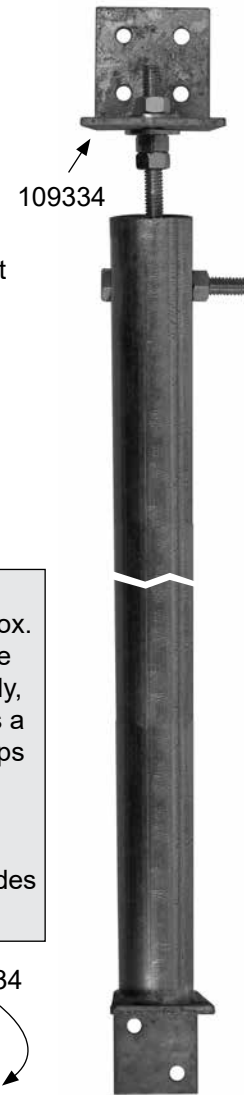
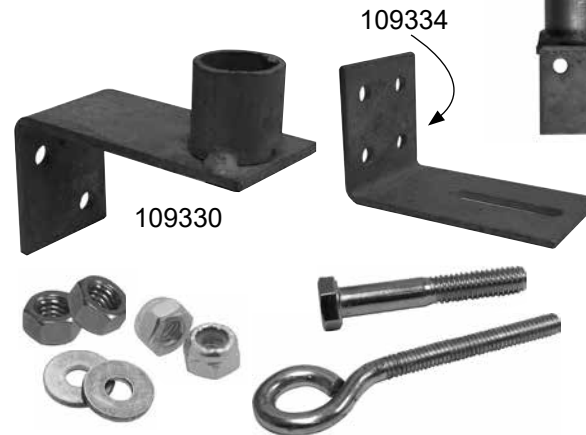
STEPS 1-2: Attach curtain(s) and anti-billow straps/ropes to the side of the building and install curtain axle(s).

STEPS 3-5: Assemble gearbox components, assemble roller and mounting plate, and attach protective cover (single-output shaft only) and roller to gearbox.

STEPS 6-8: Attach eyelet to gearbox, assemble roller pipe components, mount brackets, slide gearbox and roller assembly onto roller pipe, and attach roller pipe assembly to the building.

ATTENTION: The example shows the parts for a single-output gearbox. Some of the hardware on this page may differ from the actual assembly, especially if your gearbox includes a double-output shaft. Assembly steps are the same however.

The protective cover (lower-left) is not used with a gearbox that includes a double-output shaft.



Center-Mount Systems

Installation

1

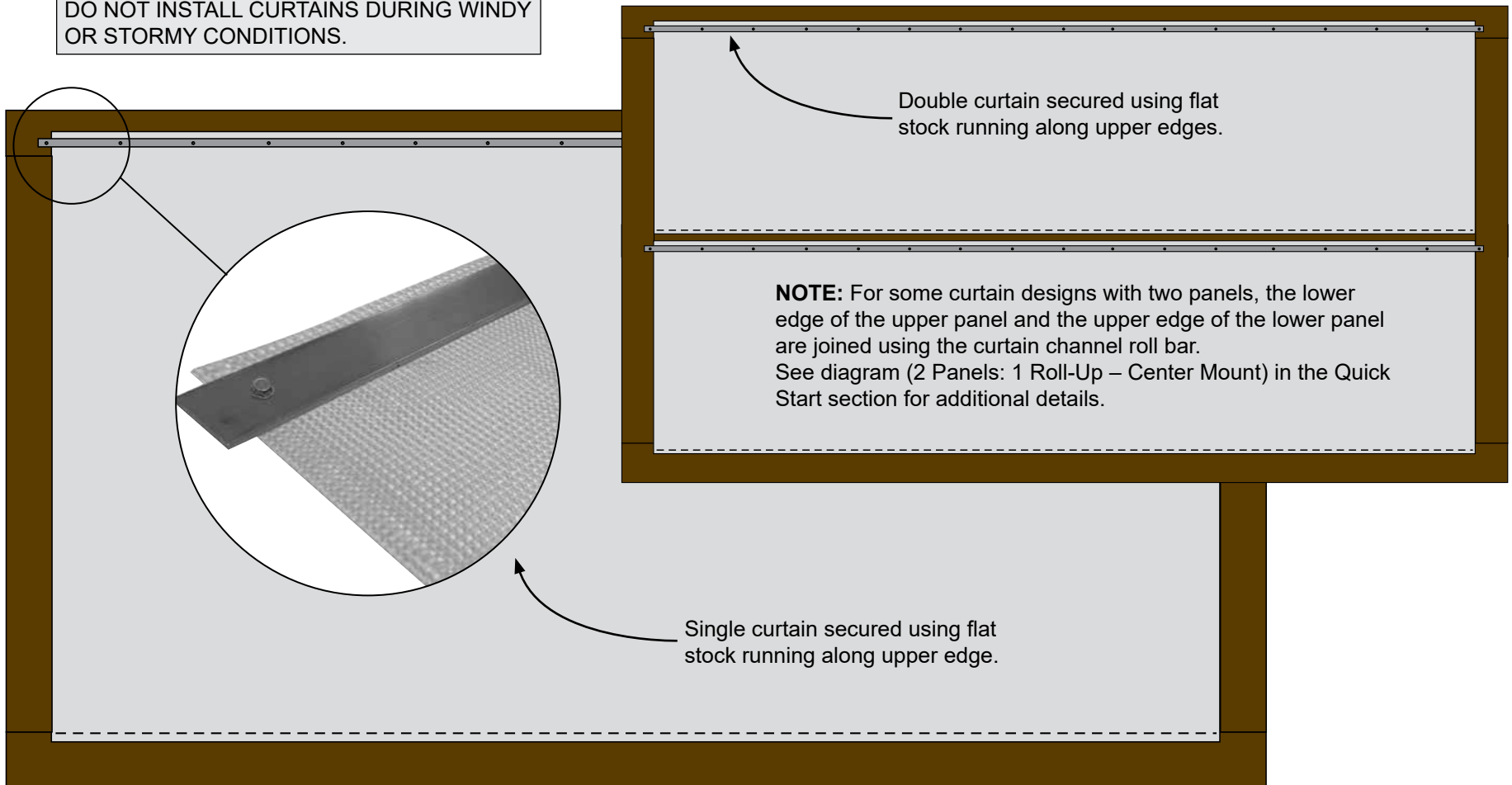
ATTACH ROLL-UP CURTAIN

Determine curtain position on the building and create a level line to mark the upper edge where the curtain will be secured. ***Curtain must hang evenly from the mounting surface to ensure that it rolls evenly onto the curtain axle.***

STORM STRAPS: After marking where the curtain will be mounted, determine the locations of the storm straps and secure the 109332 brackets (if equipped) to the upper mount and the ratchets or winches to the lower mount. (Additional purchase required.) Customer supplies the fasteners to secure these items to the building. Space storm straps evenly along the side for best results. Consult diagrams for suggestions.

Once the storm strap positions are determined and the brackets and ratchets (or winches) are attached, hang the curtain or curtains. ***Depending on the curtain length and height, additional assistants will be needed.*** After hanging the curtain(s), install the storm straps to prevent damage or injury and to keep the curtain from blowing. ***Consult the diagrams on this page and the next for examples.***

DO NOT INSTALL CURTAINS DURING WINDY OR STORMY CONDITIONS.



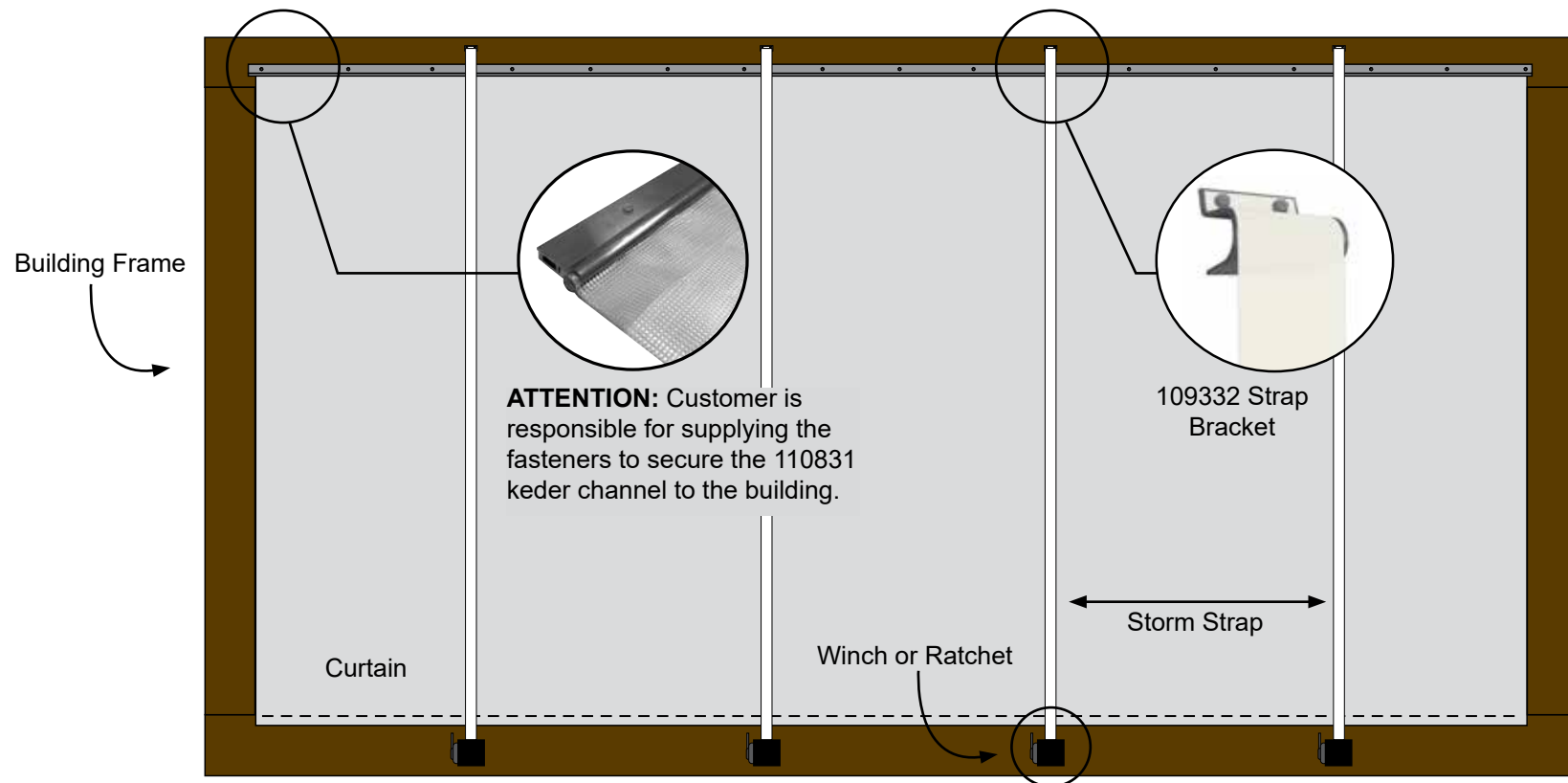
1

ATTACH ROLL-UP CURTAIN (continued)

Unfold the curtain on a clean surface and verify that it is the correct dimension and design. Curtain design differs and depends on how the curtain is mounted to the building and how it is opened and closed. In some instances, two curtains (upper and lower) may cover a single side. Curtains may also differ in height. Verify that each curtain is the desired size and secure these to the building as needed.

ATTENTION: The example on the previous page shows the upper edge of the curtain secured to the mounting surface using flat stock and fasteners. **Fastening materials are not included with the gearbox and roller kits. (Additional purchase is required.)**

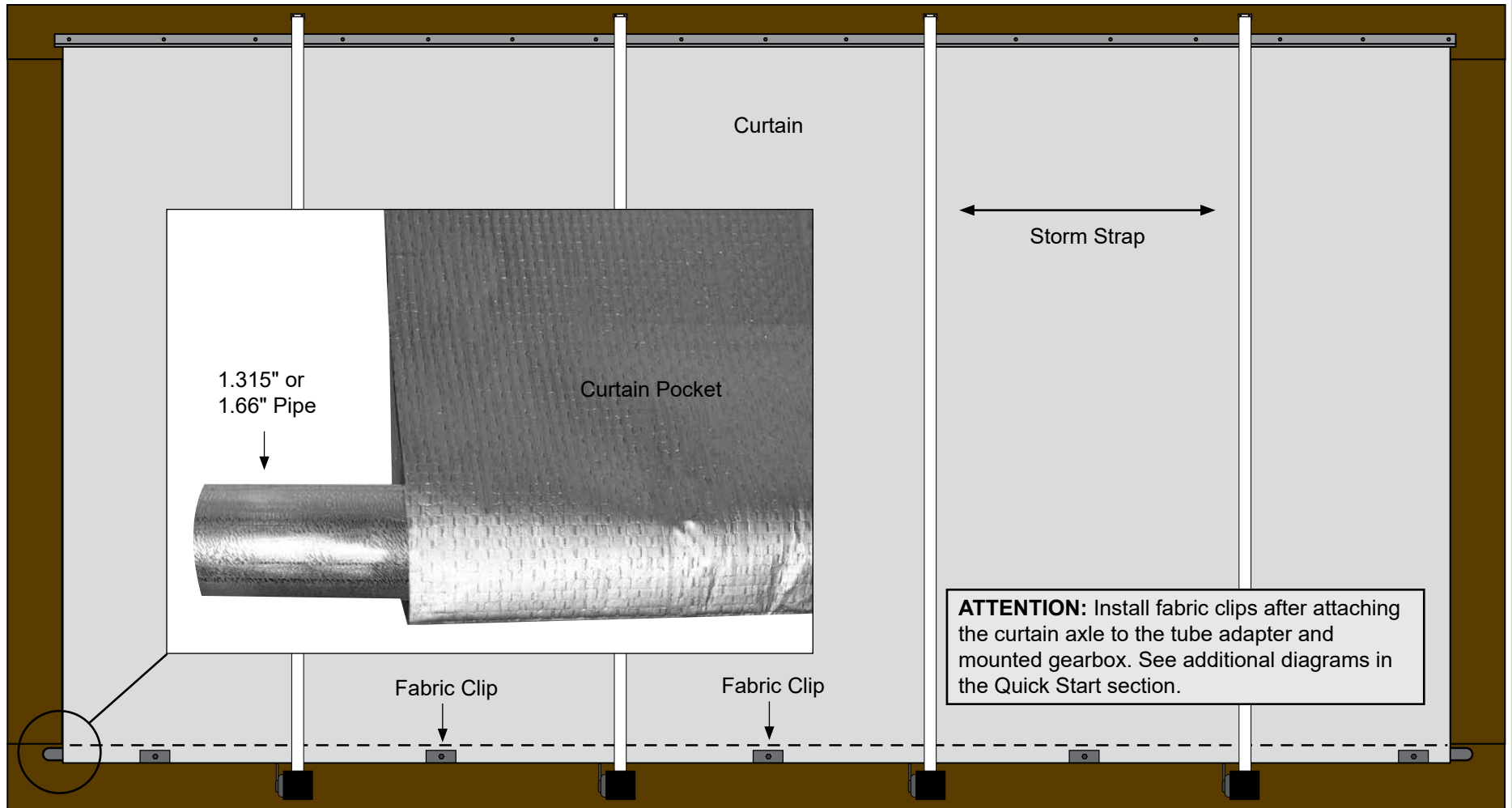
110831 Keder Channel: For those applications where the 110831 keder channel is used to secure the top edge of the curtain, use the level chalk line as a guide to secure the keder channel to the building. **Fasteners to secure the keder channel in place are not included. (Additional purchase is required.)**



2

INSTALL ROLL-UP CURTAIN AXLE

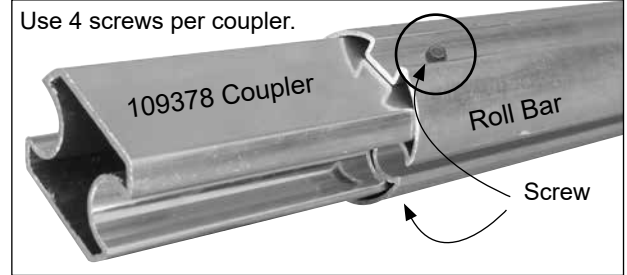
The roll-up curtain axle depends on the design of the curtain. Curtains with a pocket along the lower edge typically include a 1.315" or 1.66" pipe conduit, which is assembled, securing joints using Tek screws, and slid into the pocket. This curtain axle is then attached to the gearbox adapter and gearbox. Finally, the curtain is secured to the roll-up curtain axle using evenly spaced fabric clips.



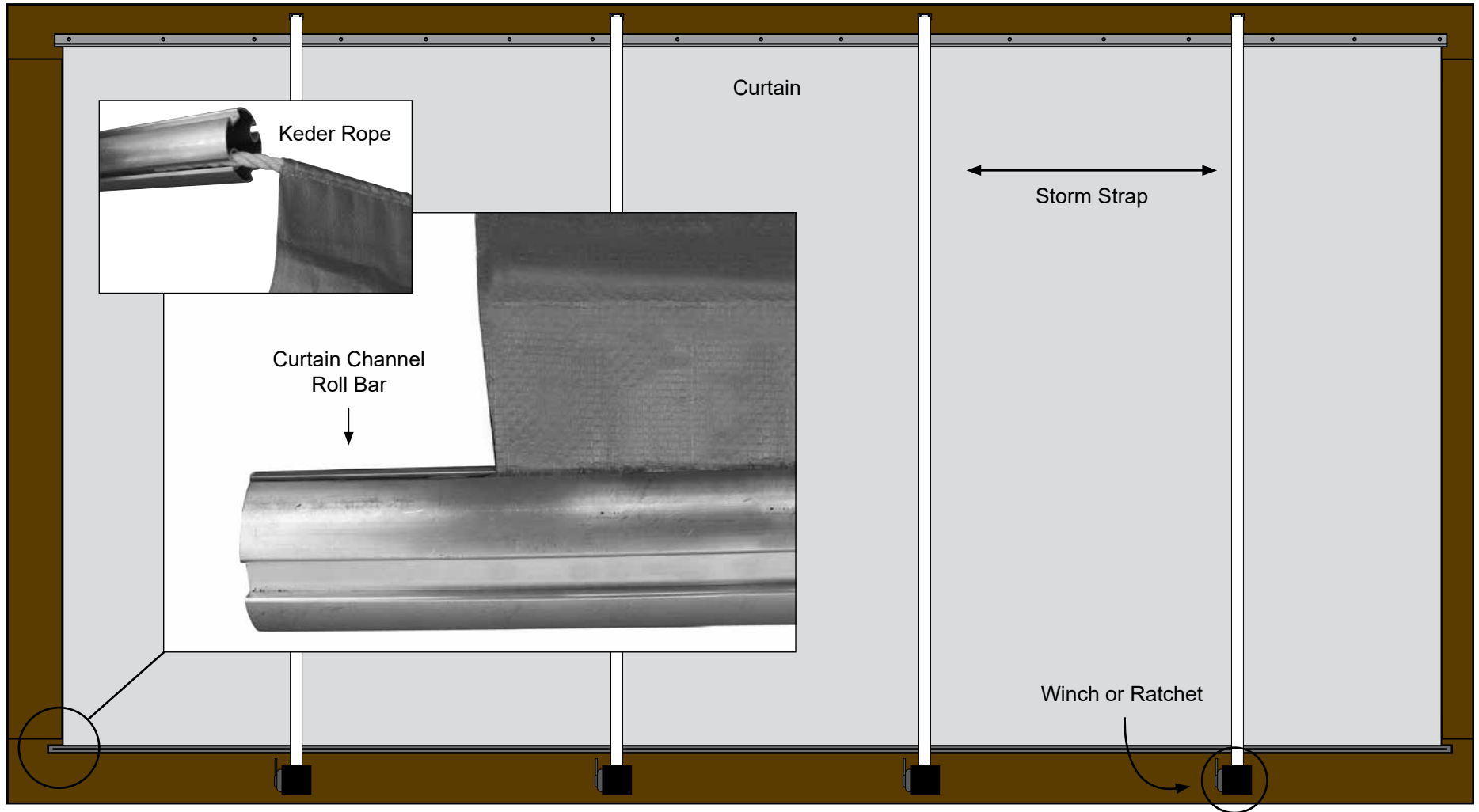
2

INSTALL ROLL-UP CURTAIN AXLE (continued)

Another curtain axle design consists of the curtain channel roll bar. This aluminum axle includes a groove that accepts the keder rope present along at least one edge of the curtain. After hanging the curtain, the roll bar axle is assembled and slid onto the keder curtain edge. Once in place, the axle is attached to the gearbox adapter.



Secure coupler to roll bar *on each side* using the screws (FA4472B) supplied with curtain and axle components.



3

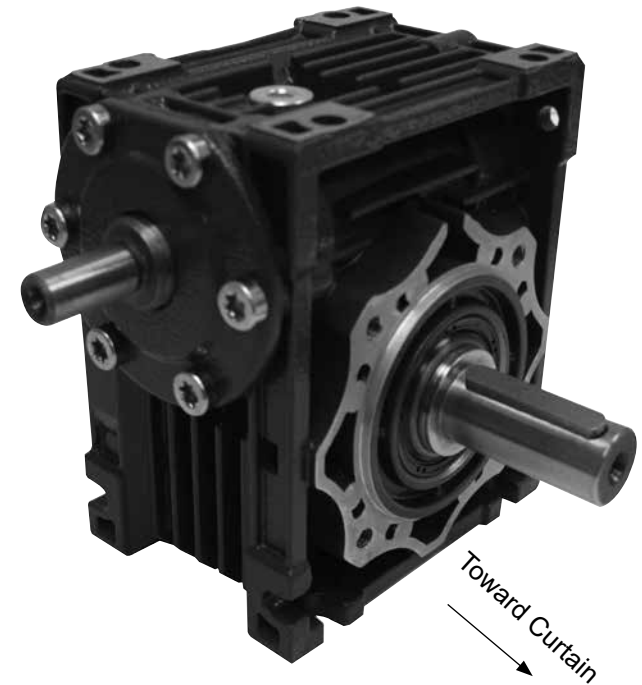
ASSEMBLE GEARBOX (Double and Single Output)

Determine the gearbox position on the building and assemble the gearbox accordingly. This example shows the gearbox shaft installed so that the gearbox is positioned at the left end of the attached curtain as viewed from outside the building.

DOUBLE-OUTPUT SHAFT: Assemble a gearbox that includes the double-output shaft in the same manner shown on these pages for the single-output shaft.

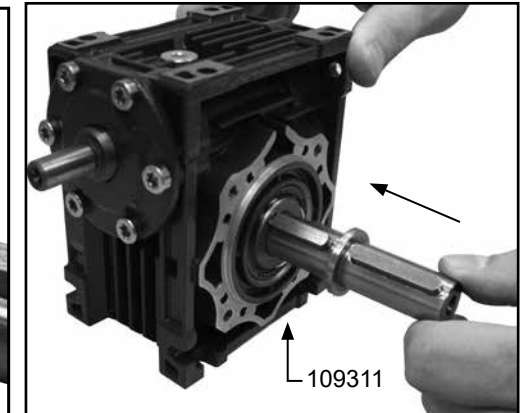
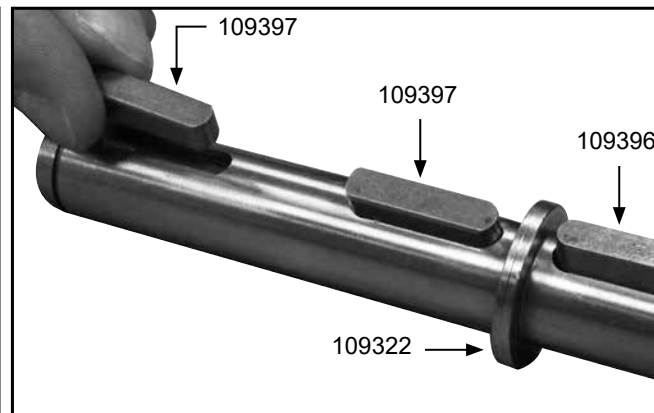
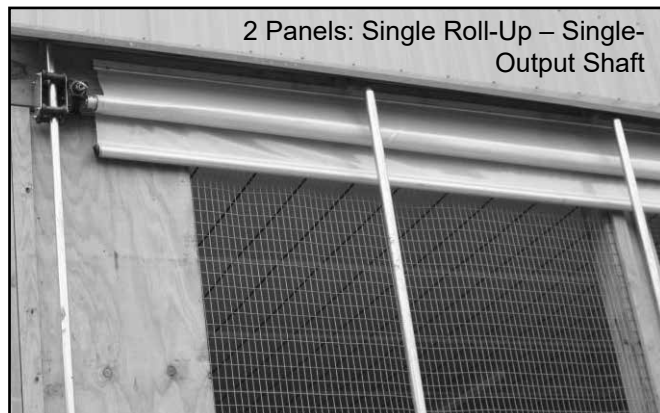
Begin by adding one snap ring to the double-output shaft and continue with the washers, keys, and final snap ring.

NOTE: A gearbox with a double-output shaft is typically installed between and operates two (2) side-by-side panels. See the diagrams at the back of this guide.



Insert keys into the shaft as shown below. Lightly tap the keys in place using a small hammer.

Insert the shaft into the gearbox as shown.

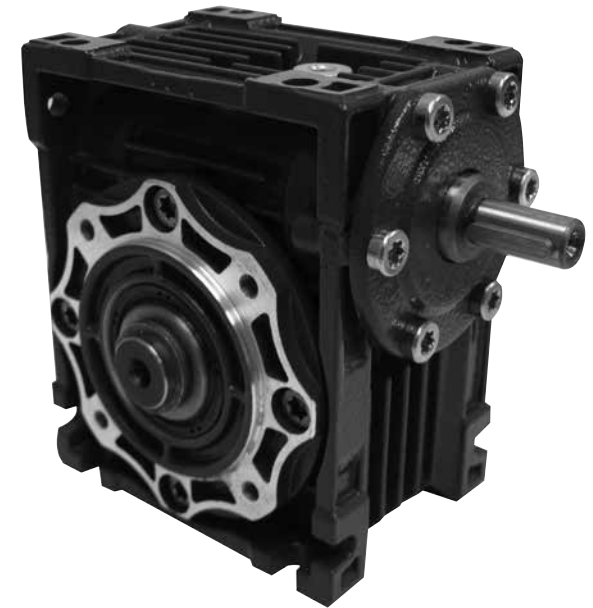


3

ASSEMBLE GEARBOX (continued)

Install O-ring and add snap ring to secure shaft to the gearbox (single-output shaft).

DOUBLE-OUTPUT SHAFT: The double-output shaft is secured to the gearbox using an O-ring and snap ring on each side of the gearbox housing.

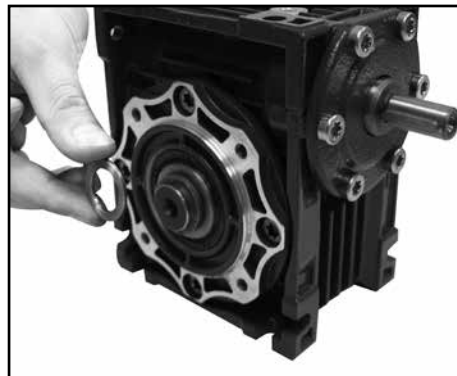


109399
O-ring



109398
Snap Ring

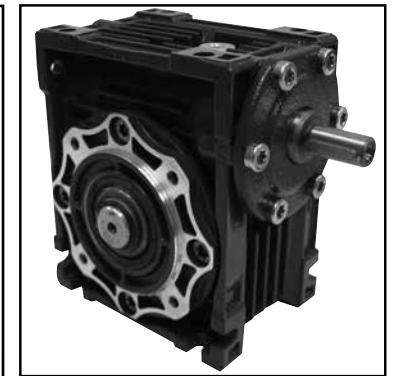
Place O-ring onto shaft.



Using a snap ring pliers, place snap ring over shaft and seat into machined groove on shaft.



Photo shows installed O-ring and snap ring in place.

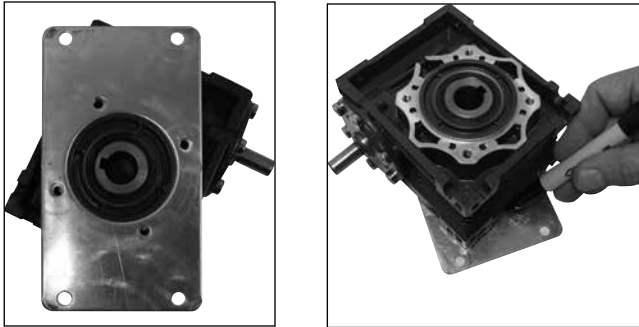


4

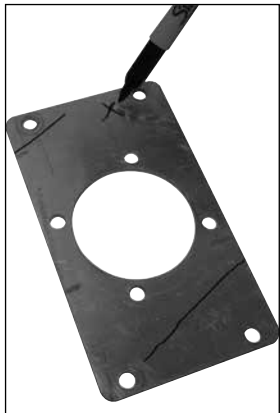
ASSEMBLE ROLLER AND MOUNTING PLATE

Using the photos at the right as guides, assemble the roller by attaching the mounting plate as shown. The gearbox must be mounted with the shaft at the top and at the angle shown in the photo. **Example below shows assembling the roller to mount on the left side of the gearbox.**

The roller assembly can be attached to either side of the gearbox; however the gearbox angle and orientation must remain the same regardless of the roller assembly position (i.e., left or right).



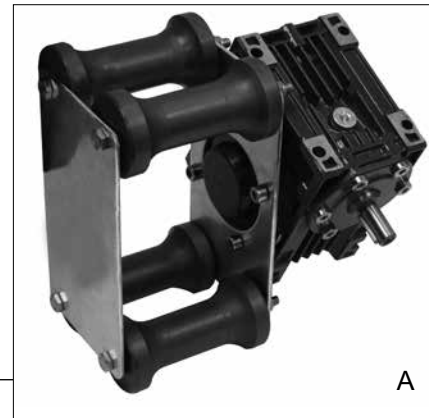
Position mounting plate on gearbox to align the mounting holes. Carefully turn the gearbox over and mark the gearbox angle on the plate. Lift gearbox and mark the top of the plate with an X as shown below. **Marking the plate will help minimize mistakes during assembly.**



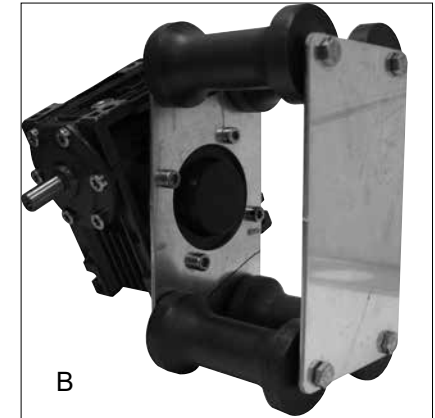
Slide a sleeve into each roller before assembly. Add plates and secure using bolts and locknuts. Rollers should spin easily when assembled.



A and B show **correct** gearbox angle.



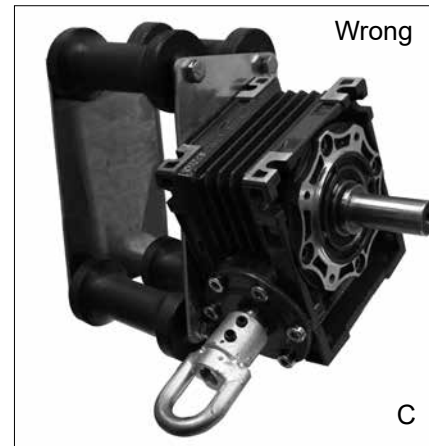
A



B

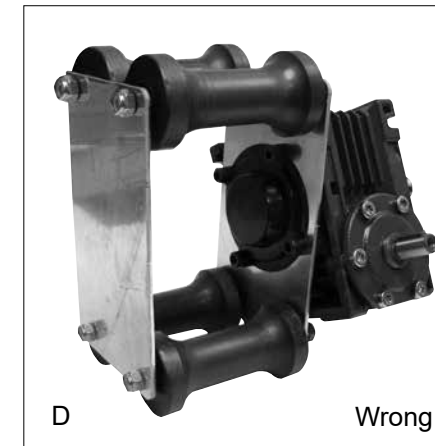
Roller mounted left side of gearbox. Assembly to be mounted at the left end of the curtain.

Roller mounted right side of gearbox. Assembly to be mounted at the right end of the curtain.



Wrong

C



Wrong

C and D show **incorrect** gearbox angle.

109331 Roller Assembly (left)

Lines show angle of the gearbox; the X identifies the top of the roller, which is positioned toward the top of the curtain.

DOUBLE-OUTPUT SHAFT: For a gearbox with the double-output shaft, angle and gearbox position must match either Photo A or B.

See Section 6 for details.

5

ATTACH PROTECTIVE COVER AND ROLLER ASSEMBLY

Attach roller assembly to the gearbox. Example shows attaching the roller to the left side of the gearbox so gearbox can be attached at the left end of the curtain.

Attach roller to the right side of the gearbox if the gearbox is to be mounted at the right end of the curtain. See photo B on the previous page.

See the previous page to verify you have assembled the roller as needed to install at the desired end of the curtain. Do not attach the gearbox at an incorrect angle. Gearbox angle must match what is shown in the photos.



Place protective cover onto gearbox. **Does not apply to a gearbox with a double-output shaft.**

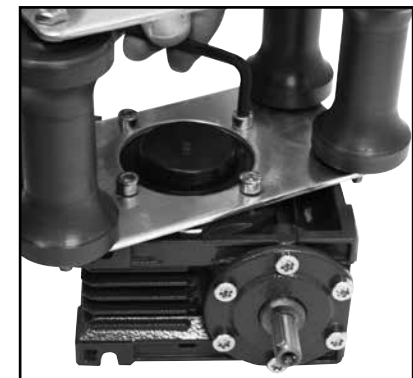
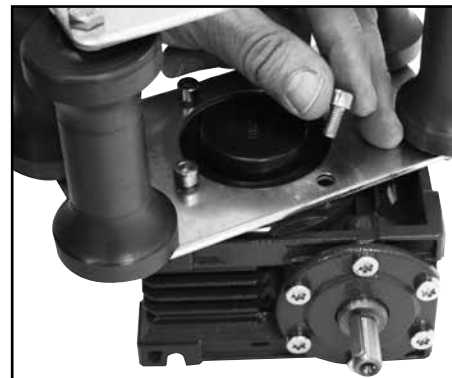


ATTENTION: USE THE LONGER MOUNTING SCREWS THAT SHIPPED WITH THE PROTECTIVE COVER WHEN ATTACHING THE ROLLER ASSEMBLY TO THE GEARBOX—SINGLE OUTPUT APPLICATIONS ONLY.

Place roller assembly over protective cover and align holes.

Secure roller assembly and cover to the gearbox using the bolts supplied with cover.

Tighten the mounting bolts using a hex (Allen) wrench. Bolts should be snug.

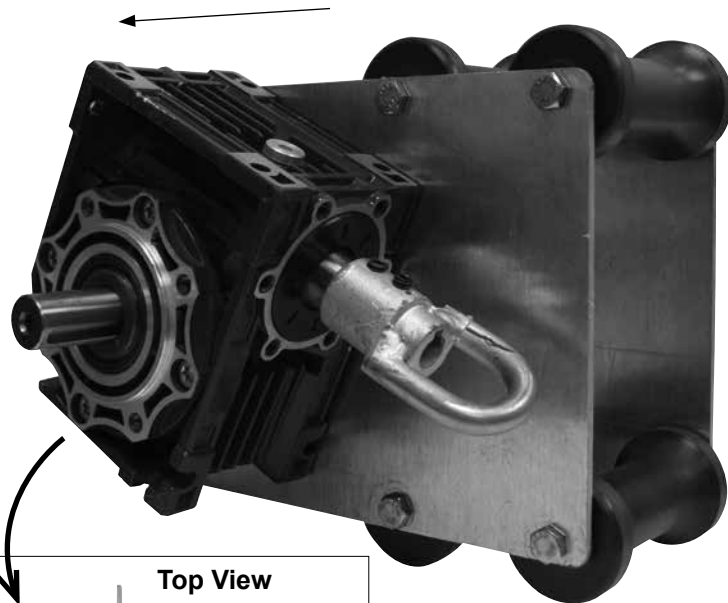


6

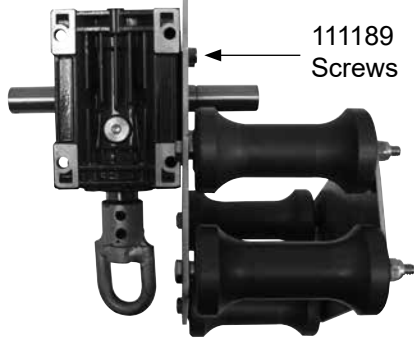
ATTACH EYELET

Attach the 109324 eyelet to the gearbox.

Position gearbox toward the curtain.



Top View

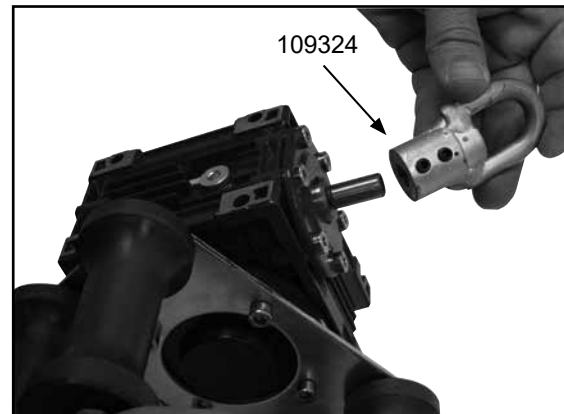


111189
Screws



Photo above shows a gearbox with the single-output shaft as attached to the roller assembly.

Align key way with key on shaft, slide the eyelet onto the gearbox shaft, and tighten hex (Allen) set screws to secure eyelet to the shaft.



Photos above shows a gearbox with the double-output shaft as attached to the roller assembly.

Secure gearbox to roller assembly using the 111189 screws—double output only.

7

ATTACH TUBE ADAPTER

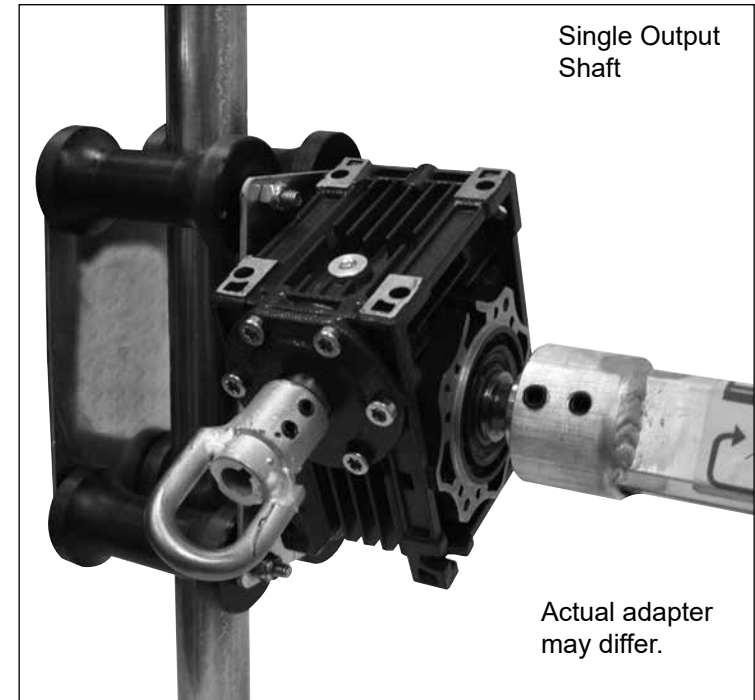
The tube adapter connects the gearbox to the curtain axle. Its design depends on the design of the curtain axle: 1.315" pipe, 1.66" pipe, or curtain channel roll bar. The tube adapter is not included with the gearbox or roller assemblies; additional purchase is required.

The tube adapter shown in this example is designed to connect the gearbox to the curtain channel roll bar. Curtain is not shown. Adapters are shown on the Additional Parts Pages near the beginning of this guide.

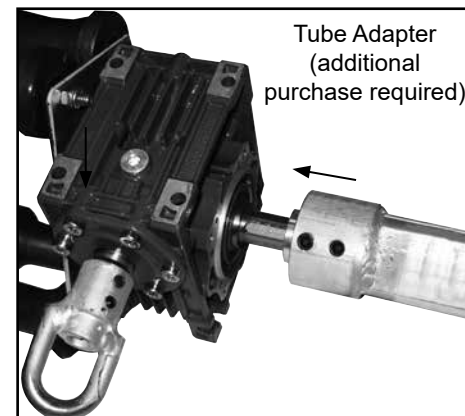
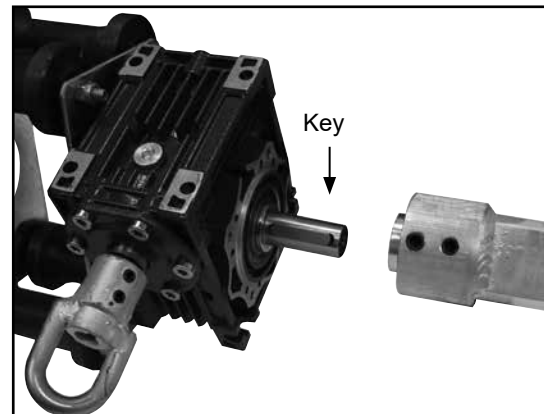
NOTE: In some instances, it may be easier to slide the adapter into the curtain axle and then attach the adapter to the gearbox shaft once the gearbox and roller assemblies are attached to the building. *This example is not shown.*

Adapter is attached to curtain axle later in these instructions.

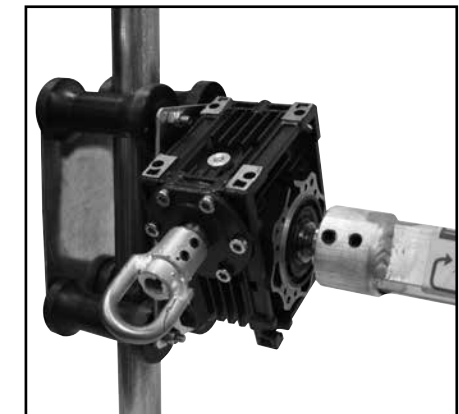
DOUBLE-OUTPUT SHAFT (not shown on this page): The double-output shaft requires an adapter for each shaft end when the assembly is mounted between panels. See the diagrams in the Quick Start section for additional details.



Align key way with key and slide the tube adapter onto the gearbox shaft.



Secure adapter to gearbox shaft using a hex (Allen) wrench.



8

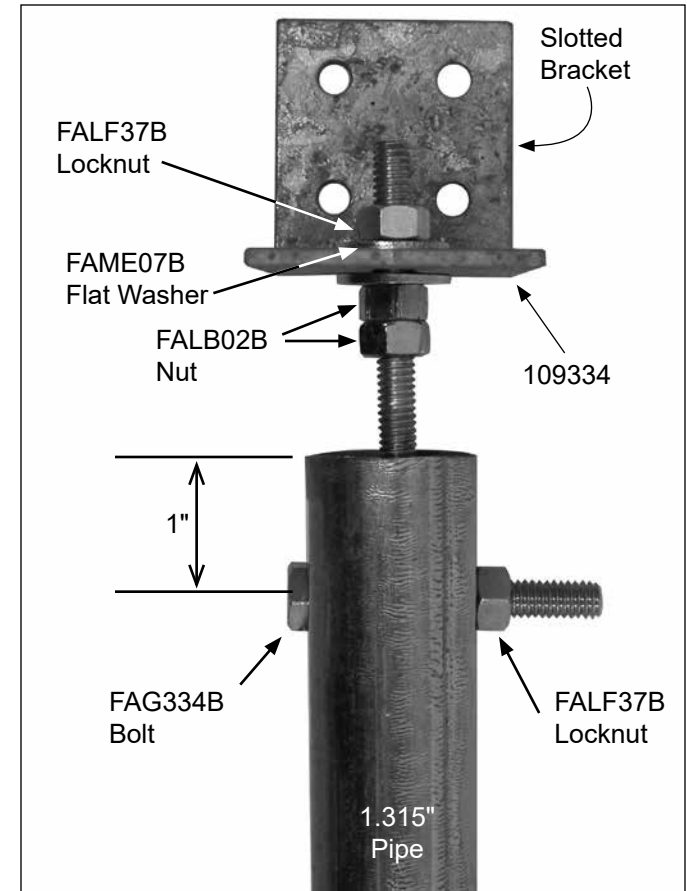
ATTACH ROLLER PIPE — for systems using the 109334 and 109330 brackets.

ATTENTION: If your center-mount curtain system uses the 109394 brackets—see pages 24-26—, skip this procedure and continue with **Procedure 8a** on page 19.

Two (2) 131S075 (75") pipes are sent for the roller pipe. When connected and attached to the building, the maximum distance that the gearbox can travel will be approximately 11'-6". If the curtain height exceeds this range, additional (or longer) 1.315" pipe must be purchased.

1. Take the FA2071 eyebolt and place the eye of the bolt between the jaws of a vice. Squeeze the bolt until the eye fits into the **plain end** of the 1.315" pipe.
2. Using the photo (right) for details, attach slotted bracket to the eyebolt.
3. Measure 1" from the plain end of one 1.315" pipe and mark. Using a 5/16" drill bit, drill a hole through the end of the pipe.
4. Slide the eyebolt and bracket assembly into the pipe and secure using the FAG334B bolt and FALF37B locknut.
5. Locate the remaining 1.315" (1310S75) pipe and slide the plain end of that pipe over the swaged (tapered) end of the pipe from Step 3.
6. Determine the required pipe length needed so the curtain opens/rolls up to the desired height and cut the roller pipe to length as needed. Set the assembly aside.

NOTE: If the entire pipe length is needed, you must remove the swaged/ tapered end of the lower pipe assembly so that the end fits over the insert of the bottom bracket.



Place eyebolt in vice.



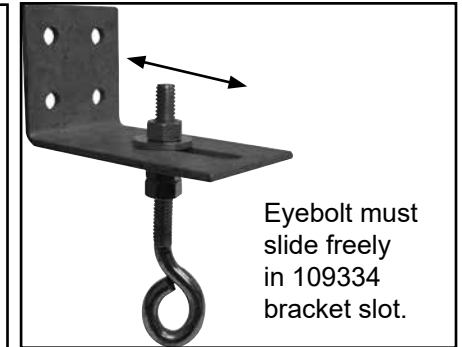
Tighten jaws.



Check fit in 1.315" pipe (plain end).



Attach slotted bracket.

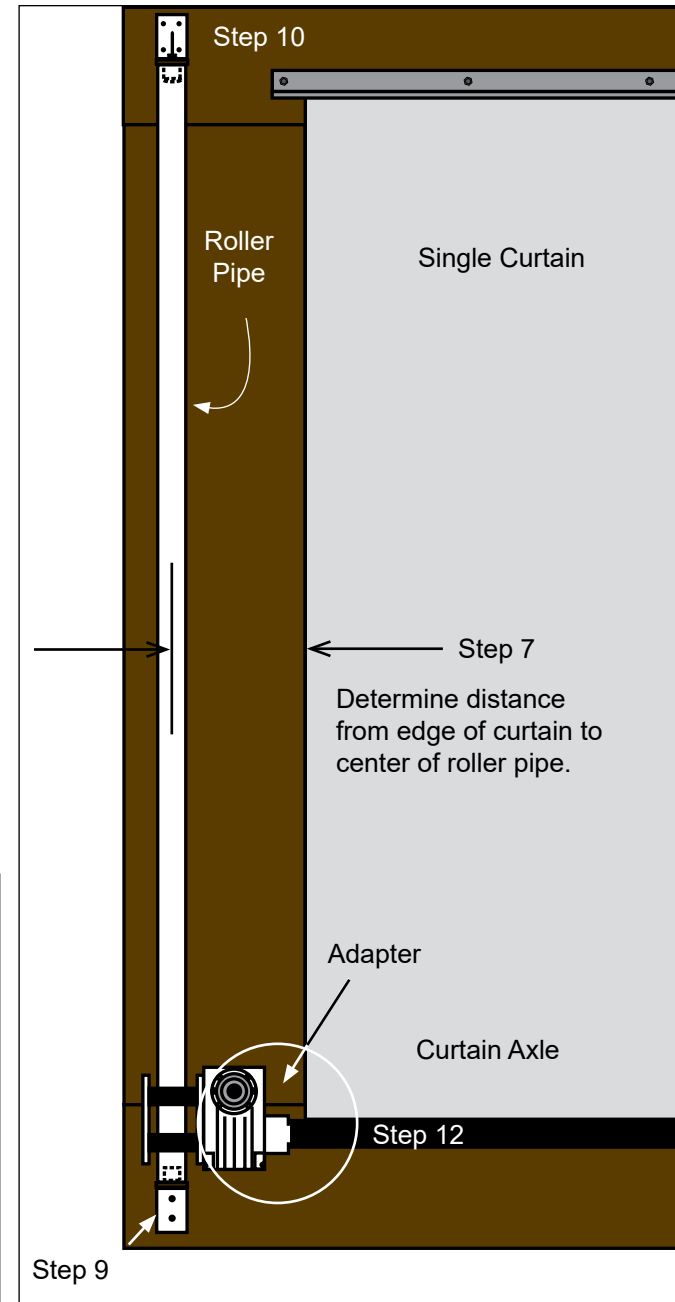
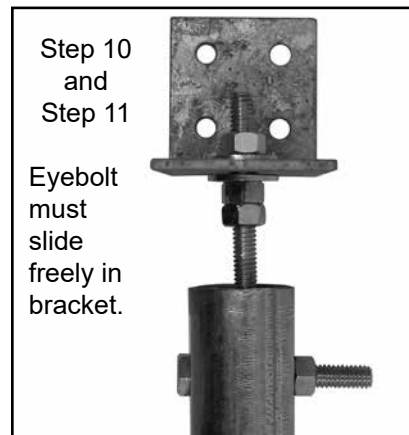
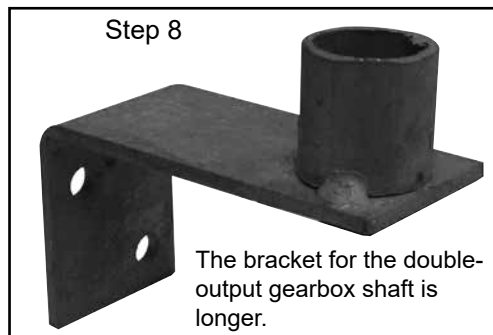


8

ATTACH ROLLER PIPE (continued)

7. Move to the curtain or curtains attached to the building and determine the position of the gearbox and roller assemblies. Use the curtain axle and tube adapter as guides when deciding how far away from the curtain the gearbox should be mounted. Consult the diagrams in the Quick Start section of this guide for additional suggestions.
8. Once the distance from the curtain has been determined, attach the bottom insert bracket to the building using customer-supplied fasteners. This bracket is typically installed lower than the bottom edge of the curtain, which allows the curtain to close completely. *Example shows a bracket for a single-output shaft.*
9. Using the photos and diagrams as guides, slide the assembled gearbox onto the roller pipe and set the lower end of the roller pipe assembly onto the insert of the 109330 bracket attached to the building (previous step).
10. With assistance, tip the upper end of the roller pipe toward the building, verify that it is plumb, and secure slotted bracket to the building.
11. Verify that the eyebolt slides freely in the bracket slot and tighten the double nuts on the underside of the bracket against each other to maintain the setting.
12. Connect the curtain axle to the adapter. (See the circled area in the diagram at the right.) Use an FAG334B (5/16" x 2") bolt and an FALF37B locknut for the 109386 and 109387 adapters; use the self-tapping screws for the 109388 adapter. (These are the same screws used to secure the splices of the curtain channel roll bar.)
13. Secure curtain axle to the curtain using fabric clips (1.315" or 1.66" curtain axle pipe only). Test the operation of the curtain.

Attach bottom bracket, add gearbox to roller pipe, set pipe assembly onto bottom bracket, and secure slotted bracket to building.



8a

ATTACH ROLLER PIPE — for center-mount systems equipped with the 109394 brackets.

ATTENTION: Center-mount assemblies equipped with the 109394 (top/bottom insert bracket—double output) *do not* use the eyebolt and related hardware. See additional diagrams near the back of this guide (pgs. 24-26.)

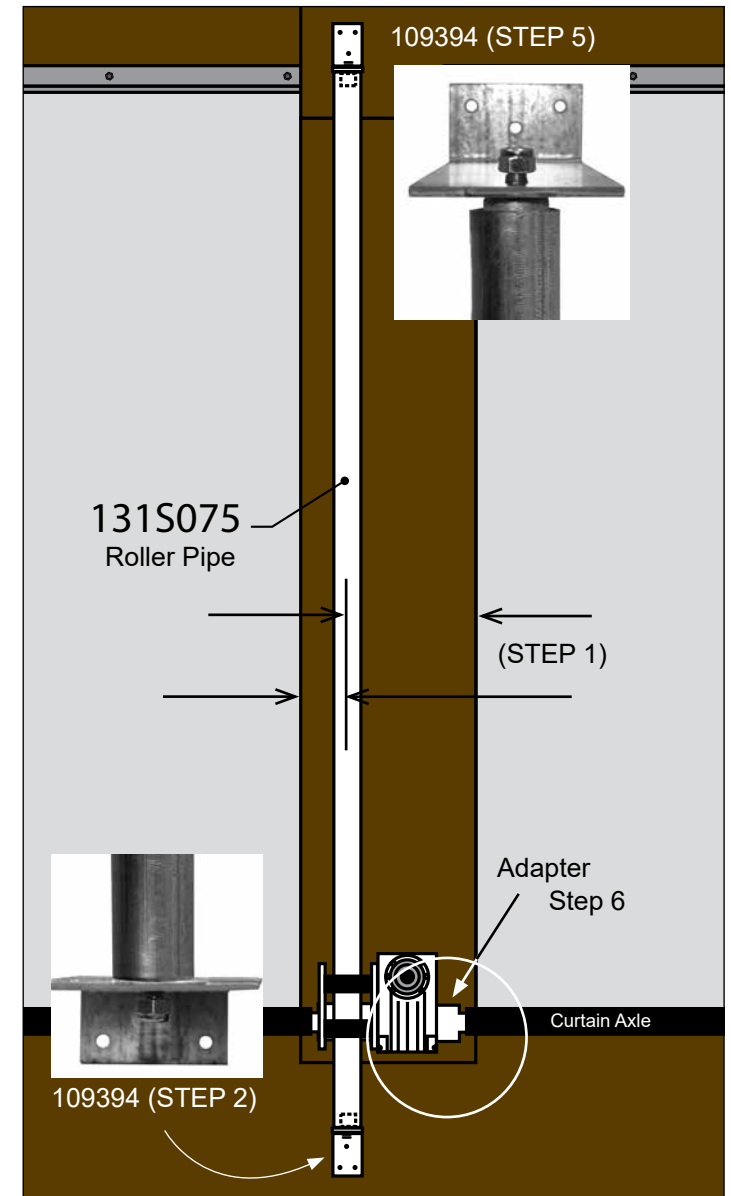
Complete these steps:

1. Move to the curtain panels and determine the position of the gearbox and roller assemblies. Consult the diagrams in the Quick Start section of this guide for additional details.
2. Attach the lower 109394 top/bottom insert bracket to the building using customer-supplied fasteners. This bracket is typically installed lower than the bottom edge of each curtain, which allows the curtains to close completely. See the diagram.
3. Determine the required pipe length needed so the curtains open/roll up to the desired height and cut the roller pipe to length.

NOTE: Remove the swaged/tapered end of the pipe assembly so that the end fits over the adjustable insert of the 109394 brackets.

4. Using the photos and diagrams in this manual as guides, slide the assembled gearbox onto the roller pipe and set the lower end of the roller pipe onto the 109394 bracket insert (Step 2).
5. With assistance, carefully tip the upper end of the roller pipe toward the building, add the upper 109394 bracket with insert to the pipe assembly, verify that the assembly is plumb, and secure the bracket to the building using customer-supplied fasteners. Verify that the insert of the bracket slides freely in the bracket slot.
6. Connect the curtain axles to the adapters. (See the circled area in the diagram at the right.) Use an FAG334B (5/16" x 2") bolt and an FALF37B locknut for the 109386 and 109387 adapters; use the self-tapping screws for the 109388 adapter. (These are the same screws used to secure the splices of the curtain channel roll bar.)
7. Secure curtain axle to the curtain using fabric clips (1.315" or 1.66" curtain axle pipe only) if this has not been completed yet.
8. Adjust the insert of each 109394 bracket as needed and test the operation of the curtain.

ATTENTION: Example shows a manually operated, center-mount system that controls two separate panels.



Quick Start Guide

Quick Start Guide

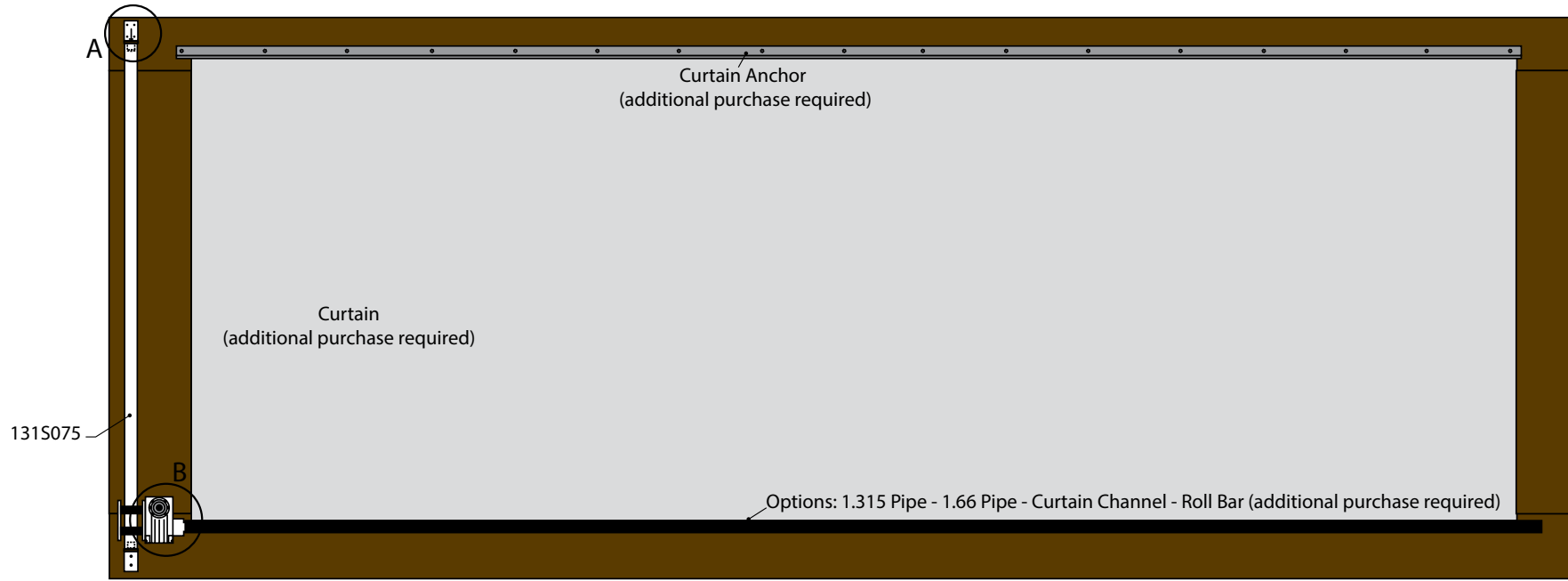
The diagrams shown in this section describe typical curtain applications. These examples are presented to give the customer additional details regarding the installation and use of the curtain tube components. The examples may or may not apply directly to the customer's application.

The customer is responsible to use the diagrams to the extent that they help with the assembly of the actual curtain system that has been purchased.

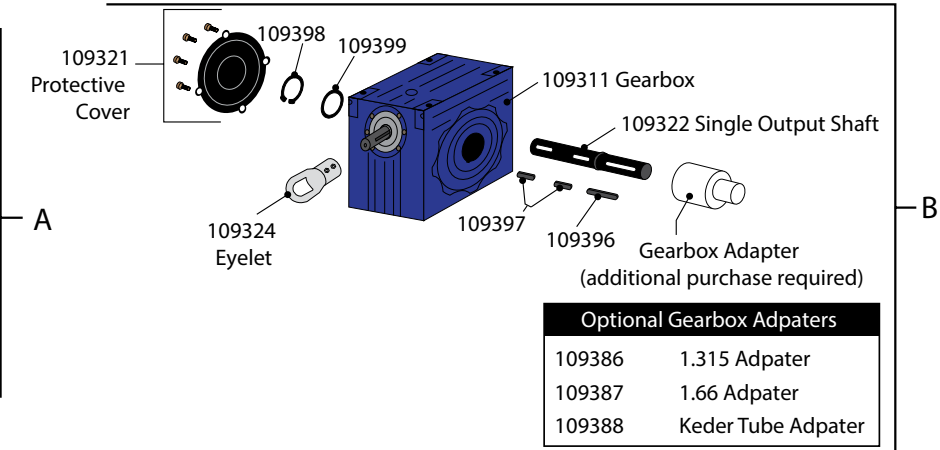
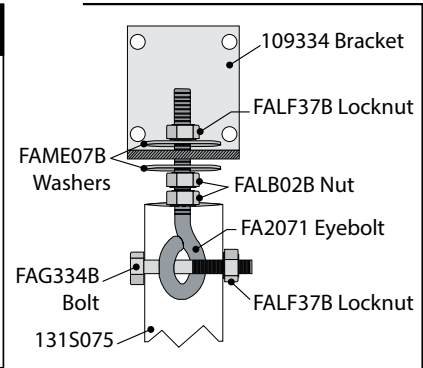


The photo above shows two (2) panels with a single roll-up assembly and single-output shaft. The center tube is a curtain channel roll bar. (Additional purchase is required for the keder channel and connecting hardware.)

1 Panel: 1 Roll-Up (109393) – End Mount

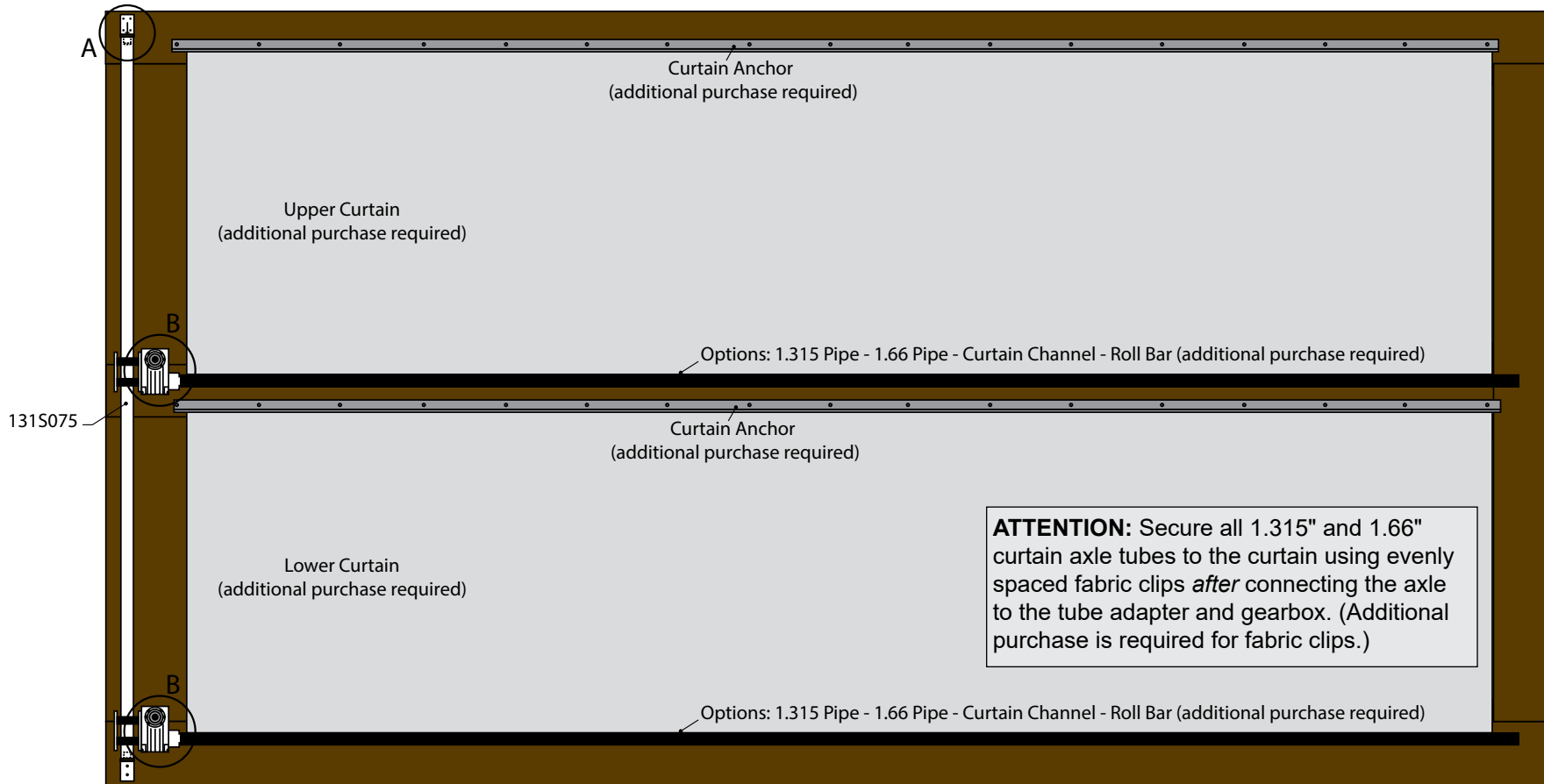


Symbol Key	
	109334 Bracket with Slot
	109331 Roller Assembly
	109311 Gearbox
	Gearbox Adapter (additional purchase required)
	109330 Bottom Insert Bracket



ATTENTION: Secure all 1.315" and 1.66" curtain axle tubes to the curtain using evenly spaced fabric clips *after* connecting the axle to the tube adapter and gearbox. (Additional purchase is required for fabric clips.)

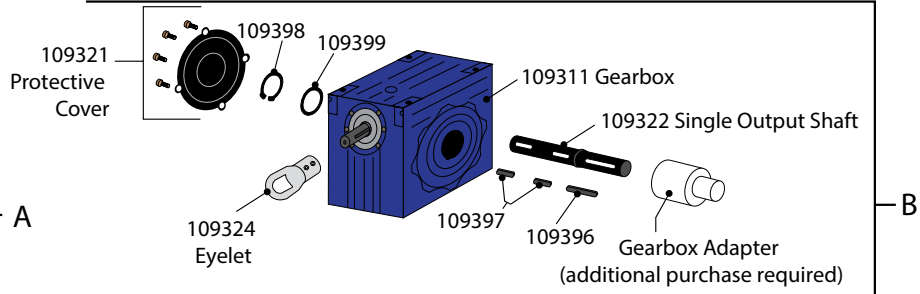
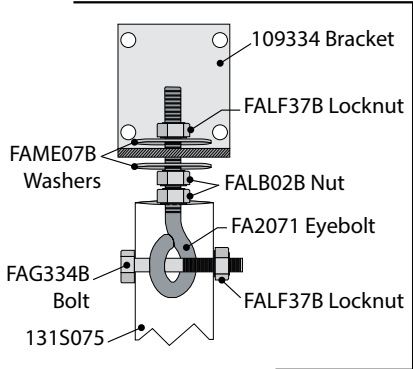
2 Panels: 2 Roll-Ups (109383) – End Mount



ATTENTION: Secure all 1.315" and 1.66" curtain axle tubes to the curtain using evenly spaced fabric clips *after* connecting the axle to the tube adapter and gearbox. (Additional purchase is required for fabric clips.)

Symbol Key

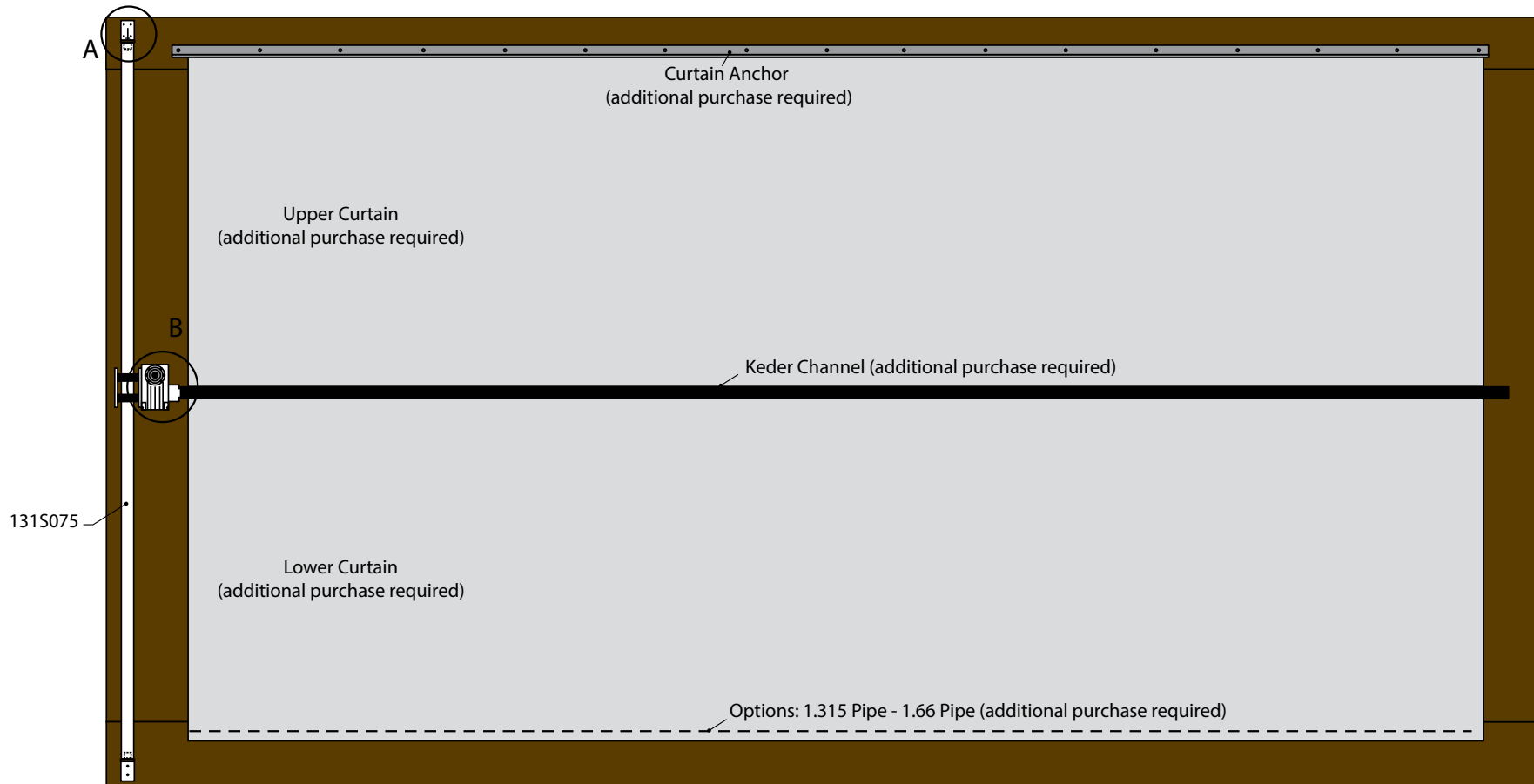
	109334 Bracket with Slot
	109331 Roller Assembly
	109311 Gearbox
	Gearbox Adapter (additional purchase required)
	109330 Bottom Insert Bracket



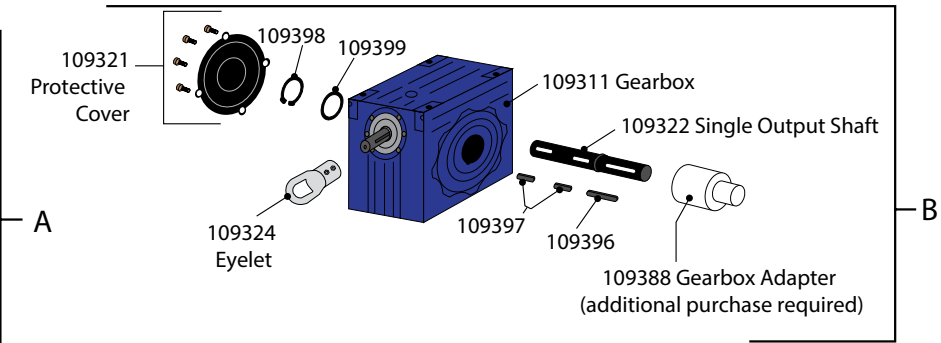
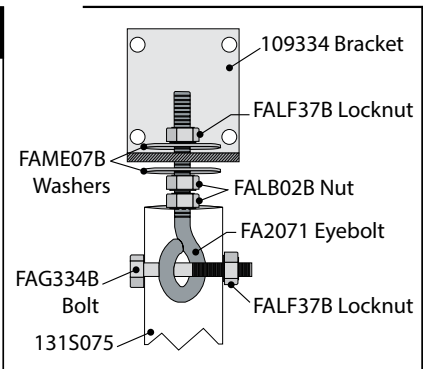
Optional Gearbox Adapters

109386	1.315 Adapter
109387	1.66 Adapter
109388	Keder Tube Adapter

2 Panels: 1 Roll-Up (109393) – End Mount

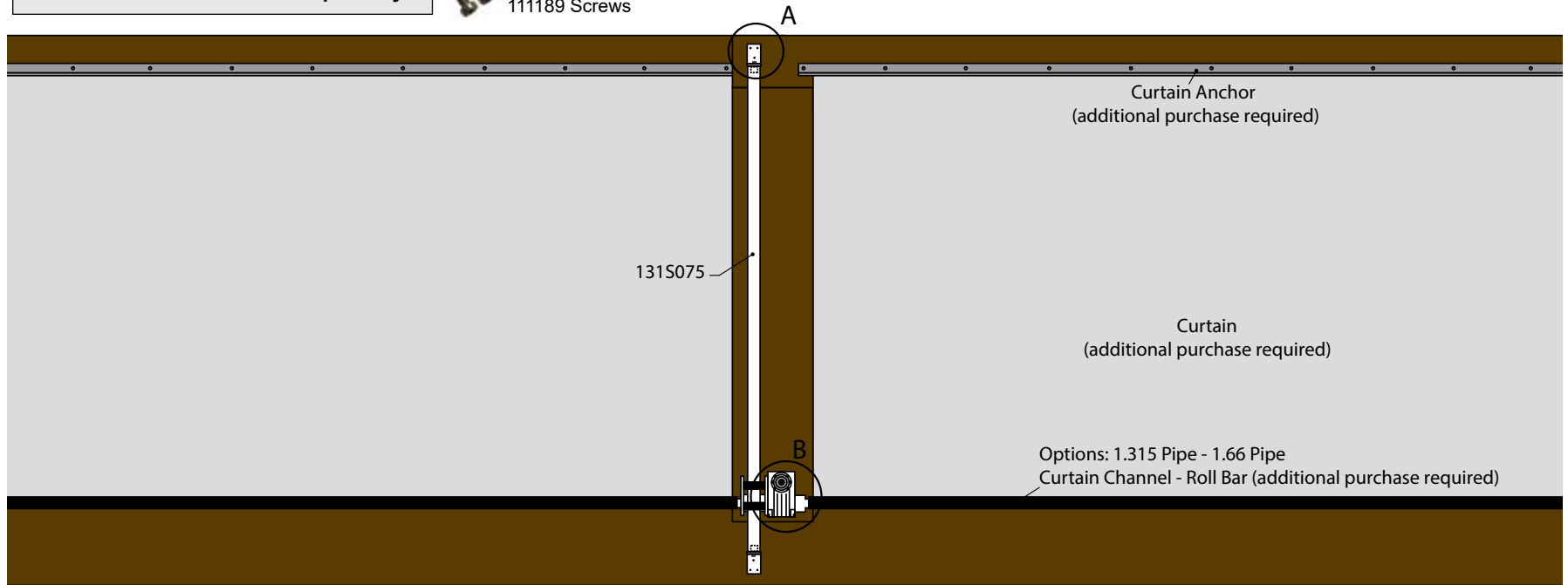


Symbol Key	
	109334 Bracket with Slot
	109331 Roller Assembly
	109311 Gearbox
	109388 Gearbox Adapter (additional purchase required)
	109330 Bottom Insert Bracket



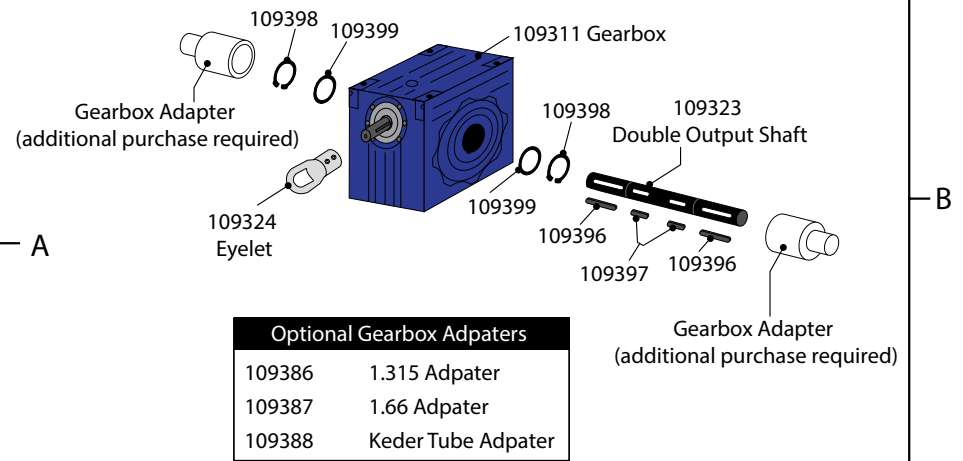
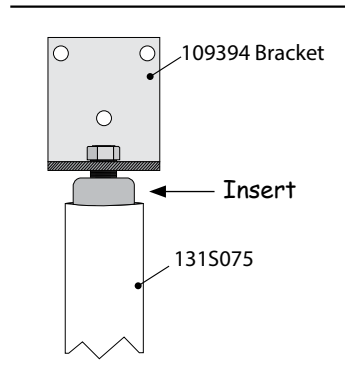
2 Panels: 1 Roll-Up (109382) – Center Mount

Secure gearbox to roller assembly using the 111189 screws—double output only.



Symbol Key

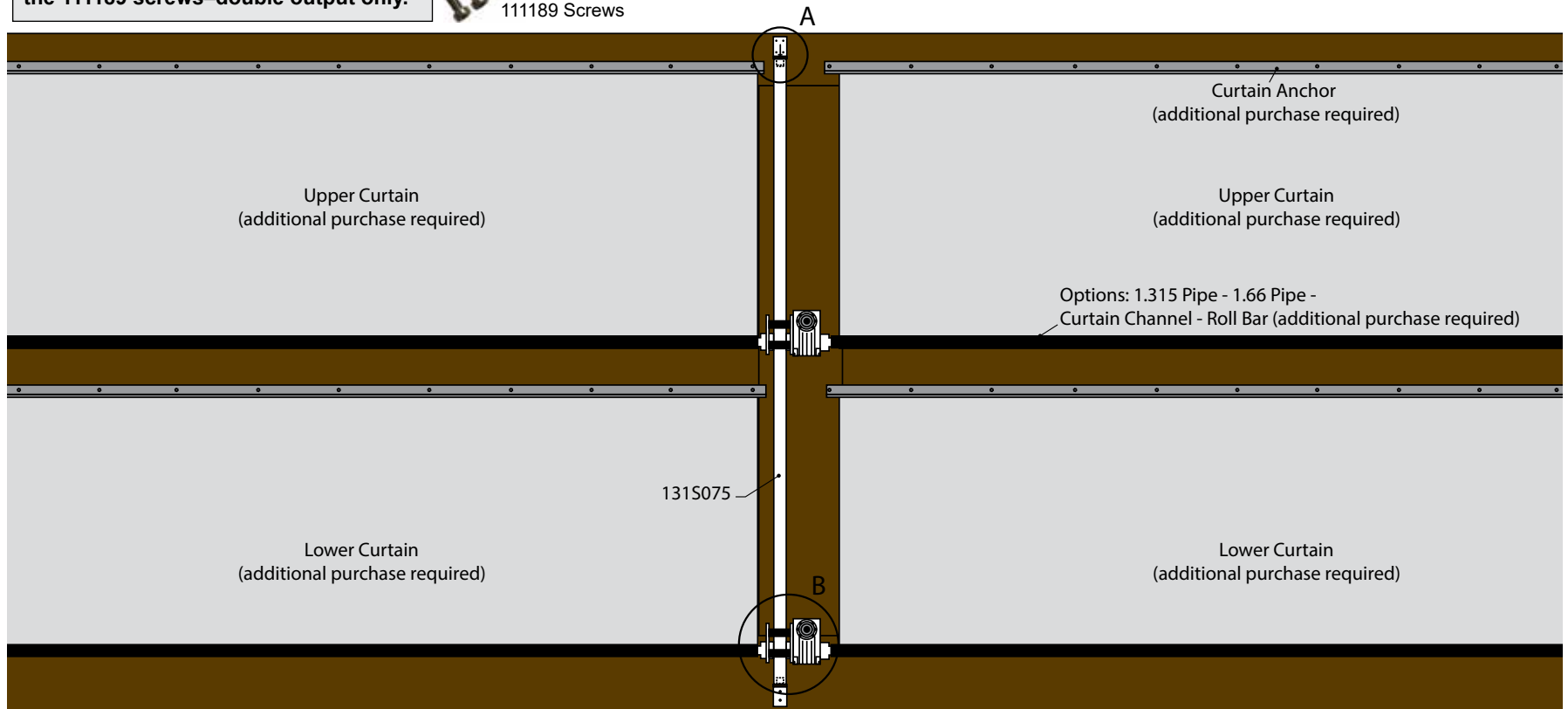
- 109394 Top/Bottom Insert Bracket
- 109385 Roller Assembly
- 109311 Gearbox
- Gearbox Adapter (additional purchase required)







ATTENTION: Secure all 1.315" and 1.66" curtain axle tubes to the curtain using evenly spaced fabric clips *after* connecting the axle to the tube adapter and gearbox. (Additional purchase is required for fabric clips.)

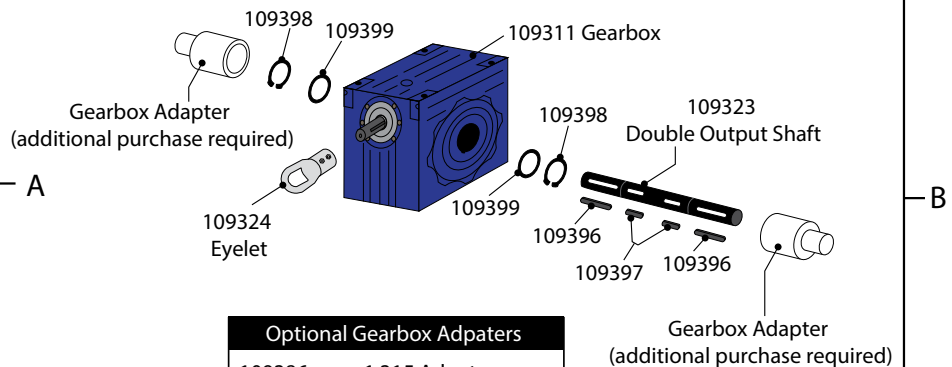
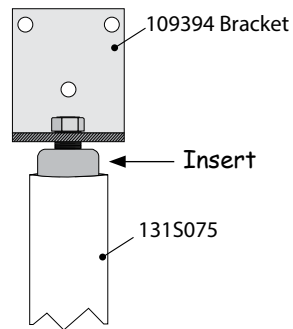
4 Panels: 2 Roll-Ups (109384) – Center Mount

Secure gearbox to roller assembly using the 111189 screws—double output only.



Symbol Key

-  109394 Top/Bottom Insert Bracket
-  109385 Roller Assembly
-  109311 Gearbox
-  Gearbox Adapter (additional purchase required)

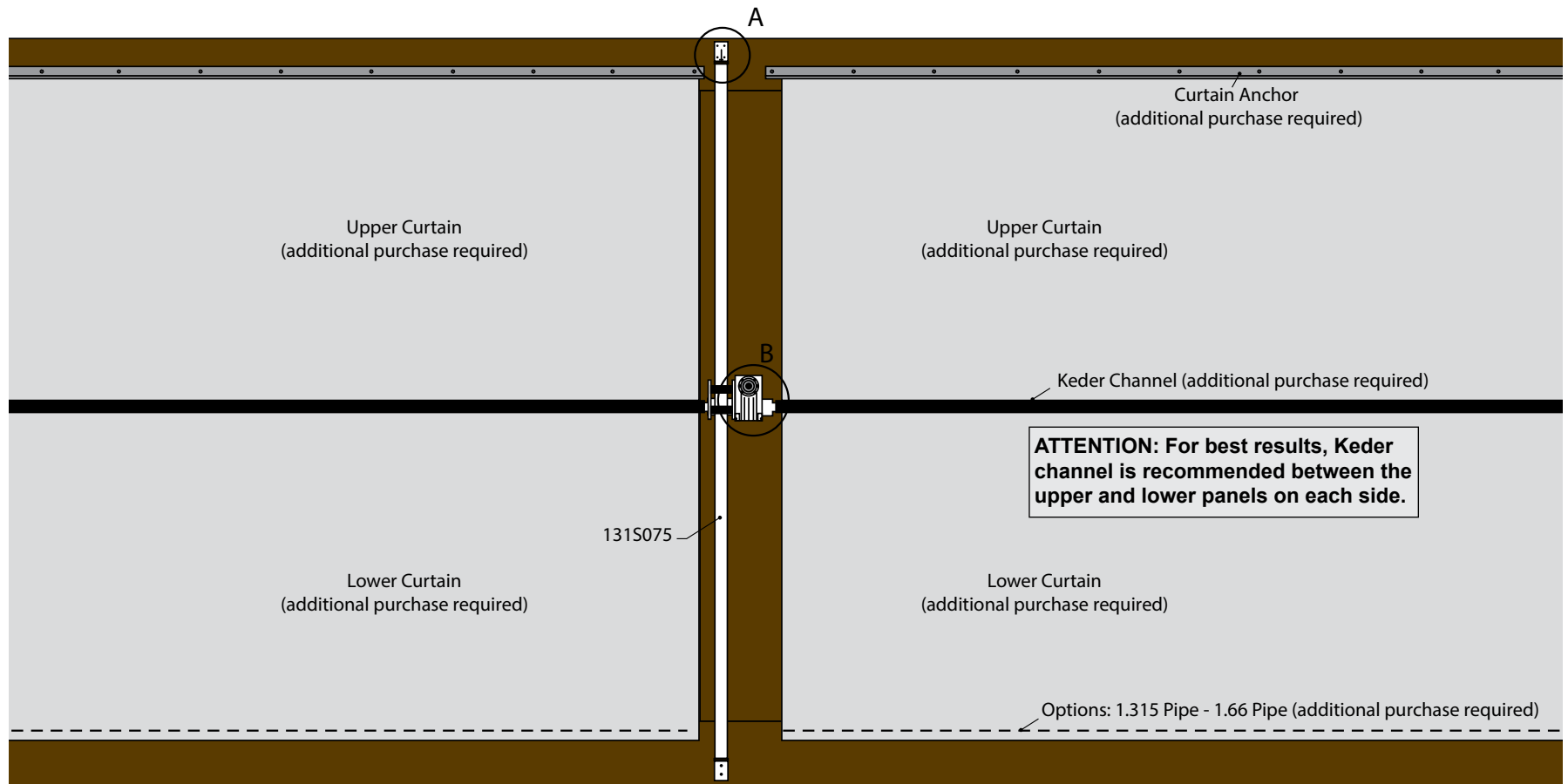


Optional Gearbox Adapters

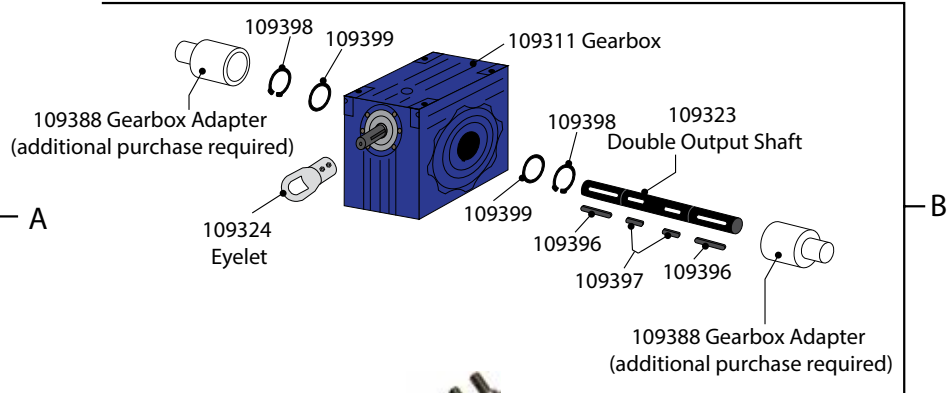
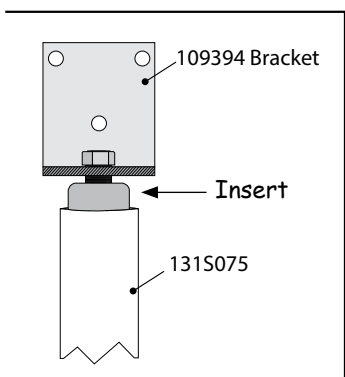
109386	1.315 Adapter
109387	1.66 Adapter
109388	Keder Tube Adapter

ATTENTION: Secure all 1.315" and 1.66" curtain axle tubes to the curtain using evenly spaced fabric clips *after* connecting the axle to the tube adapter and gearbox. (Additional purchase is required for fabric clips.)

4 Panels: 1 Roll-Up (109382) – Center Mount (Keder only)



Symbol Key	
	109394 Top/Bottom Insert Bracket
	109385 Roller Assembly
	109311 Gearbox
	Gearbox Adapter (additional purchase required)



Secure gearbox to roller assembly using the 111189 screws—double output only.



