

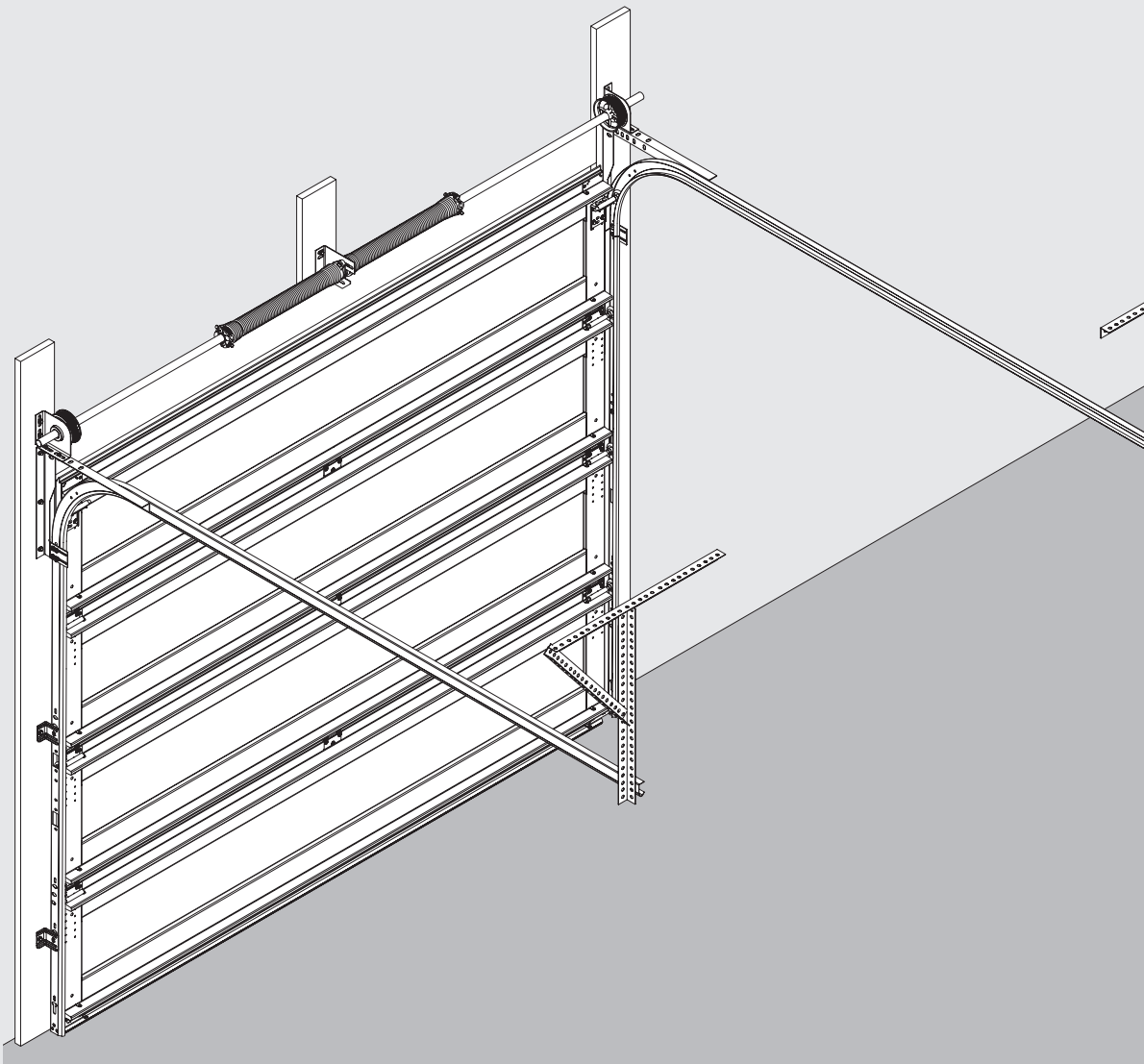


9100, 9400, 9600

Torsion Spring

Installation Instructions and Owner's Manual

Portland Source Plant



Wayne-Dalton Corp.
P.O. Box 67
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Part No. 290771

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IMPORTANT NOTICE!

Read these instructions carefully before attempting installation. If in question about any of the procedures, do not perform the work. Instead, have a qualified door agency do the installation or repairs.

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Definition of key words used in this manual:

WARNING

INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN SEVERE OR FATAL INJURY.

CAUTION: PROPERTY DAMAGE OR INJURY CAN RESULT FROM FAILURE TO FOLLOW INSTRUCTIONS.

IMPORTANT: REQUIRED STEP FOR SAFE AND PROPER DOOR OPERATION.

NOTE: Information assuring proper installation of the door.

WARNING

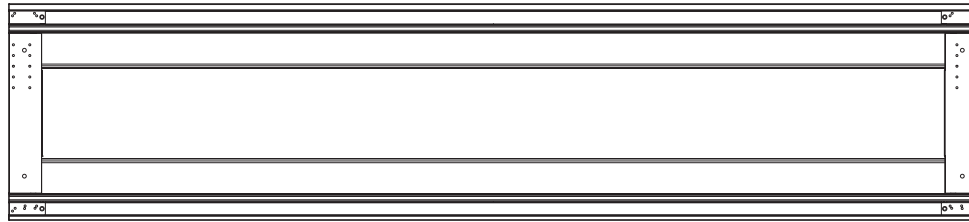
READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING INSTALLATION. IF IN QUESTION ABOUT ANY OF THE PROCEDURES, DO NOT PERFORM THE WORK. INSTEAD, HAVE A QUALIFIED DOOR AGENCY DO THE INSTALLATION OR REPAIRS.

1. **READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS.**
2. Wear protective gloves during installation to avoid possible cuts from sharp metal edges.
3. It is always recommended to wear eye protection when using tools, otherwise eye injury could result.
4. Avoid installing your new door on windy days. Door could fall during the installation causing severe or fatal injury.
5. Doors 12'- 0" wide and wider should be installed by two persons, to avoid possible injury.
6. Operate door **ONLY** when it is properly adjusted and free from obstructions.
7. If a door becomes hard to operate, inoperative or is damaged, immediately have necessary adjustments and/or repairs made by a trained door system technician using proper tools and instructions.
8. **DO NOT** stand or walk under a moving door, or permit anybody to stand or walk under an electrically operated door.
9. **DO NOT** place fingers or hands into open section joints when closing a door. Use lift handles/gripping points when operating door manually.
10. **DO NOT** permit children to operate garage door or door controls. Severe or fatal injury could result, should the child become entrapped between the door and the floor.
11. Due to constant extreme spring tension, **DO NOT** attempt any adjustment, repair or alteration to any part of the door, especially to springs, spring brackets, bottom corner brackets, red colored fasteners, cables or supports. To avoid possible severe or fatal injury, have any such work performed by a trained door systems technician using proper tools and instructions.
12. On electrically operated doors, pull down ropes must be removed and locks must be removed or made inoperative in the open (unlocked) position.
13. Top section of door may need to be reinforced when attaching an electric opener. Check door and/or opener manufacturer's instructions.
14. **VISUALLY** inspect door and hardware monthly for worn and or broken parts. Check to ensure door operates freely.
15. Test electric opener's safety features monthly, following opener manufacturer's instructions.
16. **NEVER** hang tools, bicycles, hoses, clothing or anything else from horizontal tracks. Track systems are not intended or designed to support extra weight.

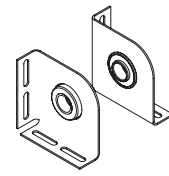
After installation is complete, fasten this manual near garage door.

Package Contents

NOTE: DEPENDING ON THE DOOR MODEL, SOME PARTS LISTED WILL NOT BE SUPPLIED IF NOT NECESSARY. REAR SUPPORTS MAY OR MAY NOT BE INCLUDED WITH YOUR DOOR.



DOOR SECTIONS (AS REQUIRED)



(2) END BEARING BRACKETS RH/LH



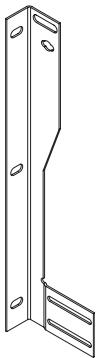
(2) VERTICAL RH/LH TRACKS

(2) HORIZONTAL TRACKS WITH ATTACHED HORIZONTAL ANGLE RH/LH

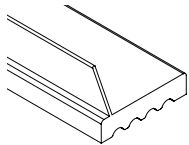


(2) SPRINGS WITH CONES RH/LH

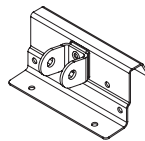
TORSION TUBE



(2) FULLY ADJUSTABLE RH/LH FLAGANGLES



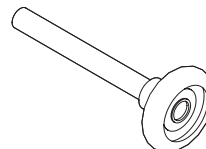
WEATHER SEAL & NAILS (IF INCLUDED)



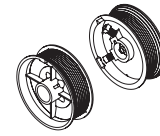
(1) OPERATOR BRACKET



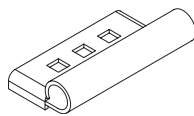
Q.I. JAMB BRACKETS (AS REQUIRED)



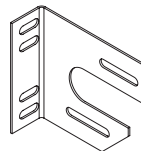
ROLLERS (AS REQUIRED)



(2) CABLE DRUMS RH/LH



(2) TOP BRACKET SLIDES



CENTER BEARING BRACKET



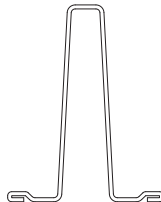
(2) COUNTERBALANCE CABLES



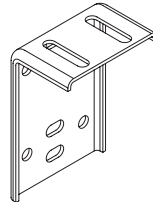
(1) NYLON CENTER BUSHING



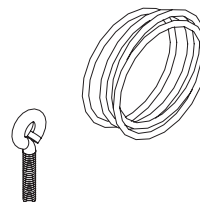
ASYMMETRICAL U-BAR (IF INCLUDED)



U-BAR (IF INCLUDED)



(2) TOP BRACKET BASE



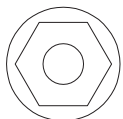
#6 SCREW EYE AND PULL ROPE (IF INCLUDED)



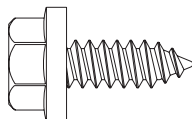
MANUAL



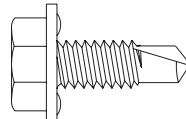
(2) 3/8" - 16 HEX NUT



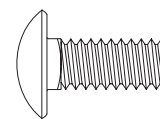
1/4" - 20 FLANGED HEX NUT (AS REQUIRED)



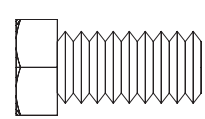
1/4" - 14 X 5/8" SELF TAPPING SCREW (AS REQUIRED)



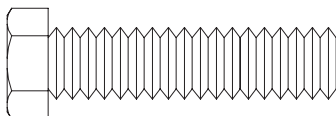
1/4" - 20 X 11/16" SELF DRILLING SCREW (AS REQUIRED)



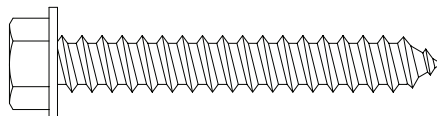
(4) 1/4" - 20 X 5/8" CARRIAGE BOLT



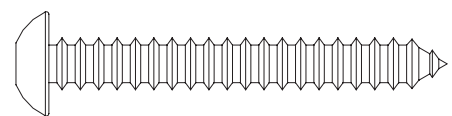
3/8" - 16 X 3/4" HEX HEAD BOLT



3/8" - 16 X 1-1/2" HEX HEAD BOLT



5/16" X 2" HEX HEAD LAG SCREW (AS REQUIRED)



5/16" X 2" TAMPER PROOF HEX HEAD LAG SCREW (AS REQUIRED)

Door Section Identification

Tools Needed:

NOTE: This provides an alternative method for identifying your door sections/stack position.

Hinges are always pre-attached at the top of each section (except top section) and the hinges are stamped for identification, #1, #2, #3, and #4 (#4 only on five section doors). See view below. The stamp identifies the stacking sequence of the section. The sequence is always determined by #1 being the bottom section to #3 or #4 being the highest intermediate section. See views to the right. If the stamp on the end hinge is illegible, refer to the section side view illustration to the right.

The section side view illustration shows the end hinge profile of all the sections, and can also be used in conjunction with identifying each sections.

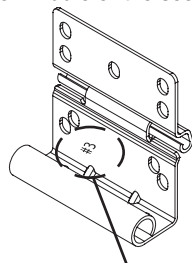
The **BOTTOM SECTION** can be identified by a #1 end hinge, the factory attached astragal, or by the bottom bracket warning labels on each end stile. This section is always the 1st section from the bottom of the door on four and five section doors.

The **LOCK SECTION** can be identified by a #2 end hinge. This section is always the 2nd section from the bottom of the door on four and five section doors.

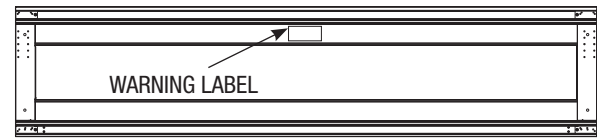
The **INTERMEDIATE SECTION** can be identified by a #3 end hinge. Sections will have a warning label attached to either the left or the right end stile of the section. This section is always the 3rd section from the bottom of the door on four and five section doors.

The **INTERMEDIATE II SECTION** can be identified by a #4 end hinge. This section is always the 4th section from the bottom of the door on only five section doors.

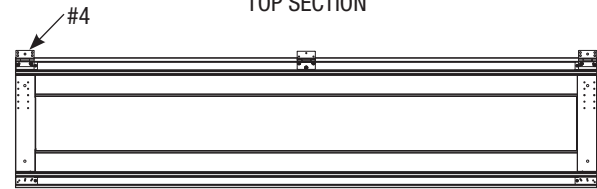
The **TOP SECTION** can be identified with no pre-installed end or center hinges on the section and the warning label attached in the upper middle of the section.



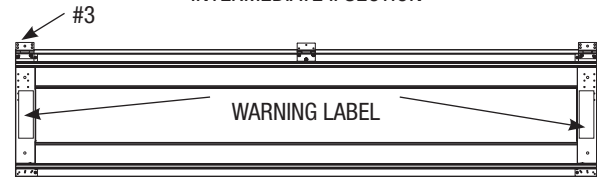
TYPICAL HINGE STAMPING LOCATION



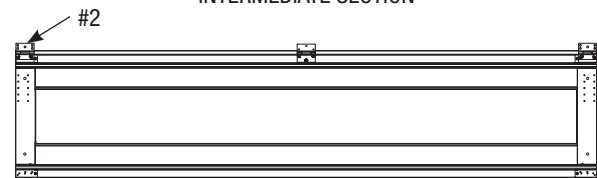
TOP SECTION



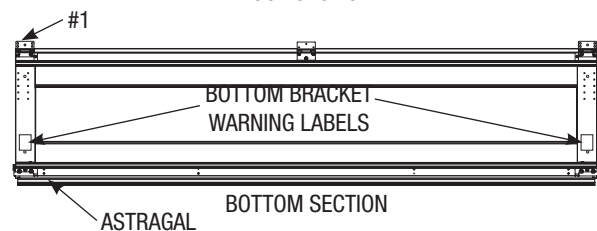
INTERMEDIATE II SECTION



INTERMEDIATE SECTION

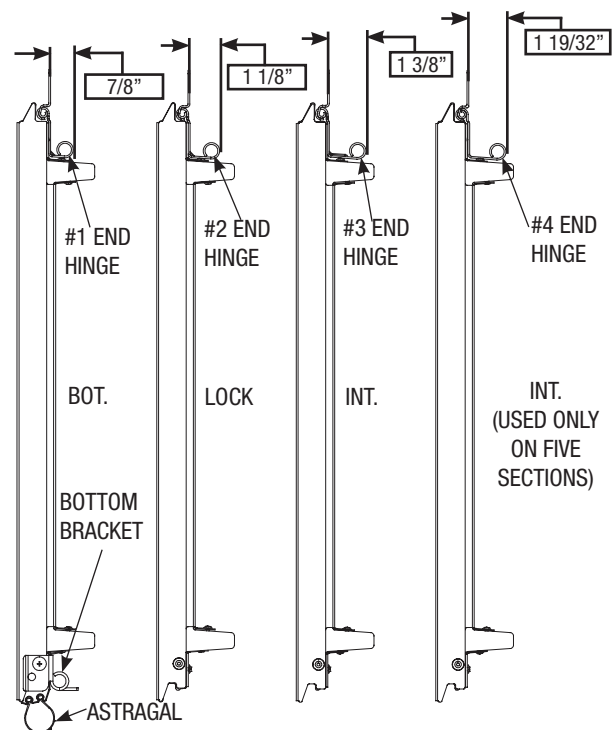


LOCK SECTION

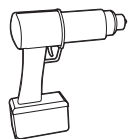


BOTTOM SECTION

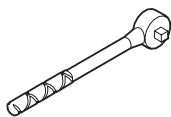
SECTION SIDE VIEW



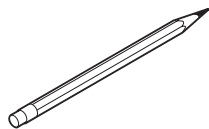
Tools Required



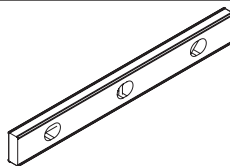
POWER DRILL



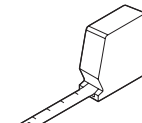
RATCHET WRENCH



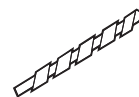
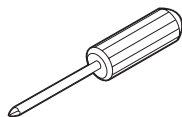
PENCIL



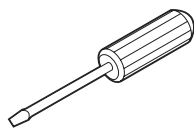
LEVEL



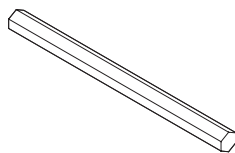
TAPE MEASURE

1/8", 7/16", 3/16"
DRILL BITS

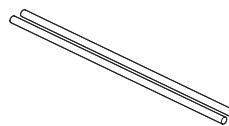
PHILLIPS HEAD SCREWDRIVER



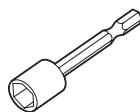
FLAT TIP SCREWDRIVER



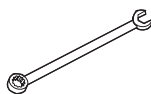
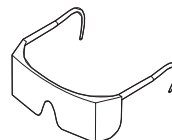
1/4" TORX BIT

APPROVED WINDING
BARS

GLOVES

7/16", 1/2", 9/16"
SOCKETS

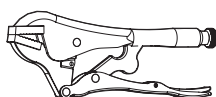
7/16" SOCKET DRIVER

7/16", 1/2", 3/8", 9/16"
WRENCHES

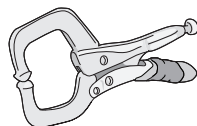
SAFETY GLASSES



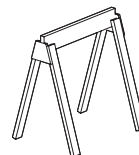
HAMMER



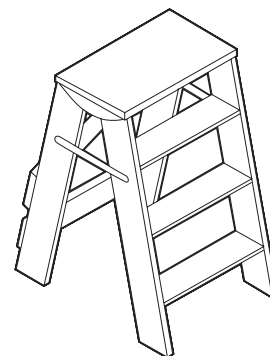
VICE GRIPS



VICE CLAMPS



SAW HORSES (PAIR)



STEP LADDER

Removing An Old Door

⚠ WARNING

IF YOUR COUNTERBALANCE SYSTEM IS OTHER THAN THOSE MENTIONED, DO NOT ATTEMPT TO WORK ON IT, BUT HAVE A QUALIFIED DOOR AGENCY PERFORM THE WORK. OTHERWISE, SEVERE OR FATAL INJURY COULD RESULT.

⚠ WARNING

DISCONNECT AND REMOVE ANY ELECTRIC OPENER PRIOR TO REMOVAL OF COUNTERBALANCE SYSTEMS TO PREVENT UNINTENDED DOOR OPERATION. OTHERWISE, SEVERE OR FATAL INJURY COULD RESULT.

⚠ WARNING

COUNTERBALANCE SPRING TENSION MUST BE RELIEVED BEFORE REMOVING ANY HARDWARE. A POWERFUL SPRING RELEASING IT'S ENERGY SUDDENLY CAN CAUSE SEVERE OR FATAL INJURY.

⚠ WARNING

IF YOU HAVE BACK PROBLEMS DO NOT ATTEMPT THIS, OR SEVERE INJURY COULD RESULT

⚠ WARNING

REMOVING AN EXISTING DOOR CAN BE DANGEROUS. FOLLOW INSTRUCTIONS ON PAGES 6-10 "REMOVING AN OLD DOOR/PREPARING THE OPENING" CAREFULLY, OTHERWISE, SEVERE OR FATAL INJURY COULD RESULT.

If you have an existing door, follow the instructions to identify which counterbalance removal is necessary. The process of removing an existing door begins by identifying it's counterbalance system. If you are not removing an existing door, proceed to PREPARING THE OPENING on page 10. Generally, you will find three (3) types of counterbalance systems: Extension Spring, Wayne-Dalton® exclusive TorqueMaster® and Torsion counterbalance system, see pages 6-9.

For more technical information regarding the opening preparation, installation and use of your garage door and opener, you can go to www.dasma.com and click on Publications and then Technical Data Sheet.

P1

Torsion Spring Removal For Standard Lift

Tools Needed:

Recommended
tools from
page 5

WARNING

FAILURE TO USE APPROVED WINDING BARS CAN CAUSE SPRING ENERGY TO BE RELEASED SUDDENLY, RESULTING IN SEVERE OR FATAL INJURY.

WARNING

COUNTERBALANCE SPRING TENSION MUST BE RELIEVED BEFORE REMOVING ANY HARDWARE. A POWERFUL SPRING RELEASING IT'S ENERGY SUDDENLY CAN CAUSE SEVERE OR FATAL INJURY.

Do not release the torsion spring tension unless you are a qualified and experienced door technician. Instead have a professional door agency release the tension.

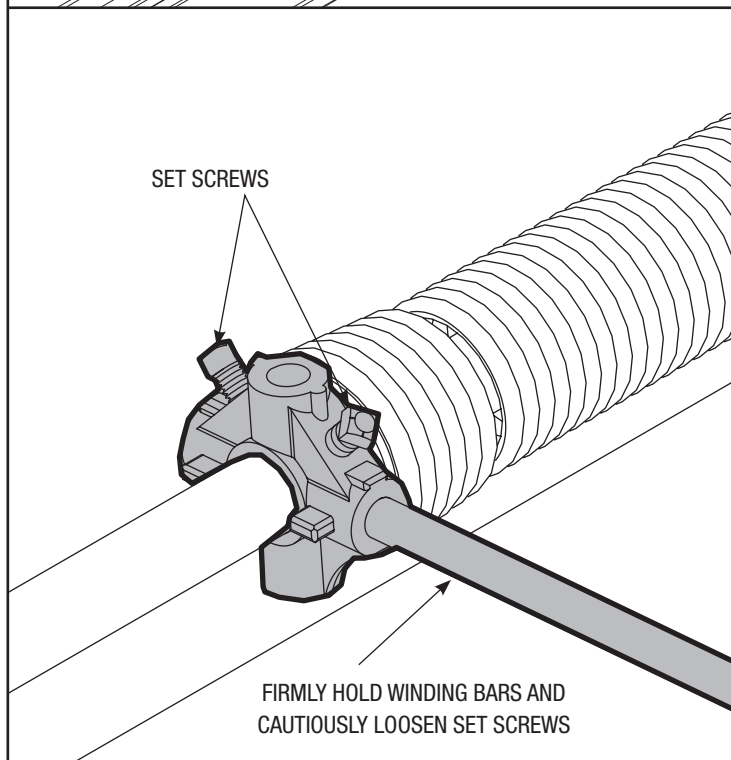
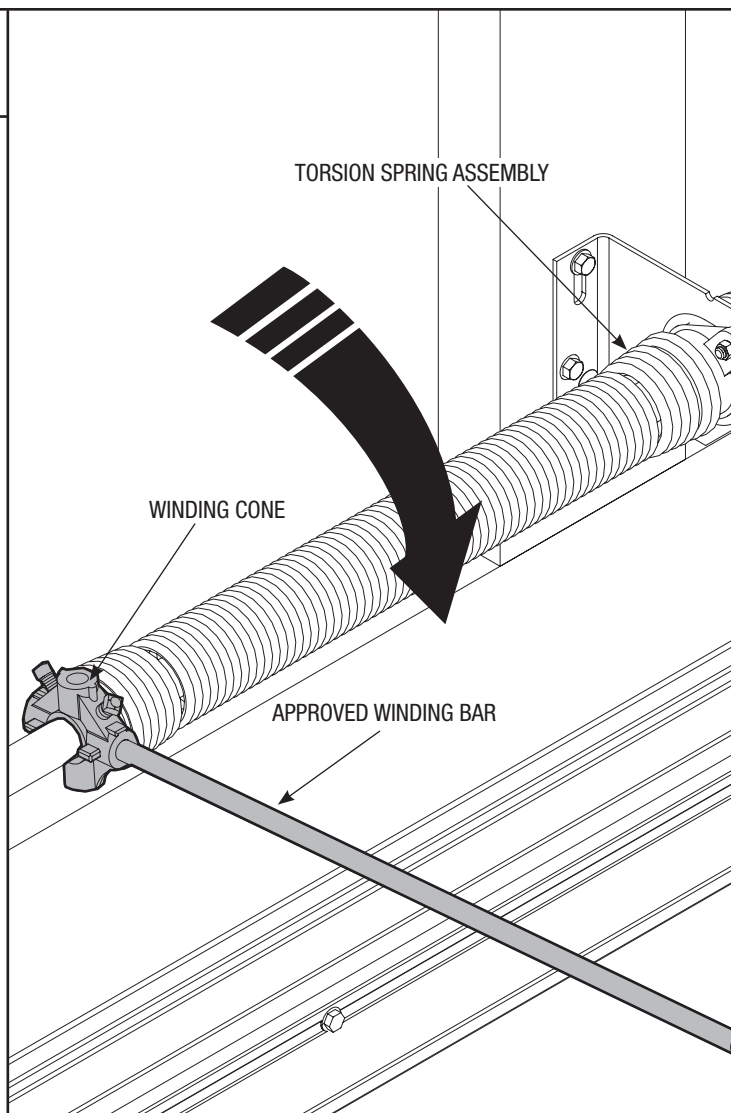
Step 1: Close the door and place vice clamps on the back legs of both vertical tracks, above the third roller to prevent the door from lifting as you unwind the springs. Use only approved winding bars available from your dealer. Do not use undersized steel rods, screw drivers or anything else to unwind the springs. Position the ladder just off to the side of the winding cone. The winding cone should be easy to reach without putting your body directly in front of it.

Step 2: Insert a winding bar into one of the holes in the winding cone. Exert upward pressure. Using caution, loosen the two (2) set screws in the winding cone. Be prepared to support the full torsional force of the spring when the set screws are loosened.

Step 3: Once set screws are loose, slowly and carefully lower the winding rod until it rests against the door. Insert other winding bar into the upper hole. Push up and remove lower bar. Carefully lower upper winding bar, 1/4 turns at a time until it rests against the door. Repeat process until all tension is relieved. If your door is equipped with two (2) torsion springs, follow the same procedure to relieve tension on the second spring.

Step 4: Remove vice clamps from tracks, unbolt torsion shaft assembly and remove from work area.

NOTE: Continue with "P4" on page 9 after completing this step.



P2

TorqueMaster® Spring Removal

Tools Needed:

Recommended tools from page 5

A TorqueMaster® spring system can be identified by the end brackets. For single spring applications, the right hand end bracket will always have a drive gear, counter gear, counter cover, and a winding bolt head. The left hand end bracket will have no gears, counter cover, or winding bolt head. The hole for the winding bolt head will be plugged.

For double springs, both the right hand and left hand end brackets will always have a drive gear, counter gear, counter cover and a winding bolt head.

IMPORTANT: RIGHT AND LEFT HAND IS ALWAYS DETERMINED FROM INSIDE THE BUILDING LOOKING OUT.

Step 1: If you have a black counter cover: Place a mark on the drive gear tooth and an adjacent mark on the right hand end bracket (Fig. 1). Loosen the lock nut using a 7/16" wrench and continue with step 2.

If you have a gray counter cover: Loosen the lock nut using a 7/16" wrench and continue with step 2.

Step 2: Using an electric drill (High torque / gear reduced to 1300 rpm preferred) with a 7/16" hex head driver, unwind the right hand winding bolt head counterclockwise (Fig. 2) and count the number of turns the mark on the drive gear passes the adjacent mark on the end bracket. Referencing the chart below, by door height, stop unwinding the spring once the counted turns have reached the listed number of turns.

6'- 0" Door Height	= 14 turns
6'- 3" Door Height	= 14 1/2 turns
6'- 5" Door Height	= 15 turns
6'- 6" Door Height	= 15 turns
6'- 8" Door Height	= 15 1/2 turns
6'- 9" Door Height	= 15 1/2 turns
7'- 0" Door Height	= 16 turns
7'- 3" Door Height	= 16 1/2 turns
7'- 6" Door Height	= 17 turns
7'- 9" Door Height	= 17 1/2 turns
8'- 0" Door Height	= 18 turns

CAUTION: DO NOT USE IMPACT GUN TO UNWIND SPRINGS.

IMPORTANT: DO NOT REFERENCE THE COUNTER COVER WHEN COUNTING THE NUMBER OF TURNS BEING UNWOUND ON THE SPRING, BUT FOLLOW THE INSTRUCTIONS ABOVE.

Step 3: Verify that spring tension has been released by pulling the counterbalance cable on the right hand cable drum away from the header (Fig. 3). If spring tension has been released, the cable will be loose. In addition, the TorqueMaster® Spring Tube should be free to rotate in either direction.

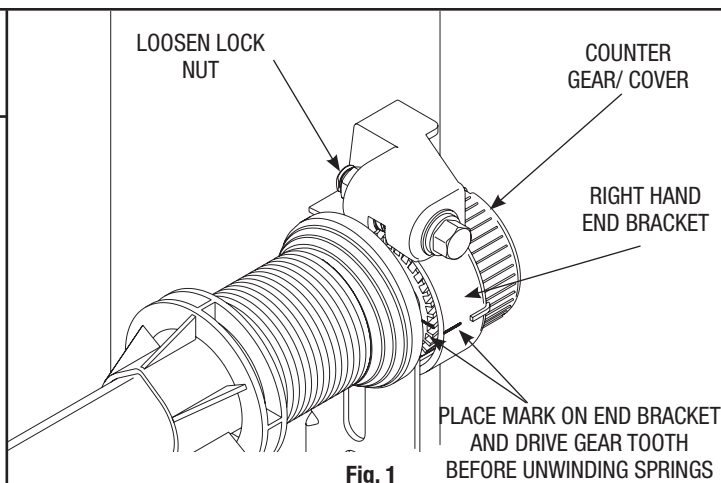


Fig. 1

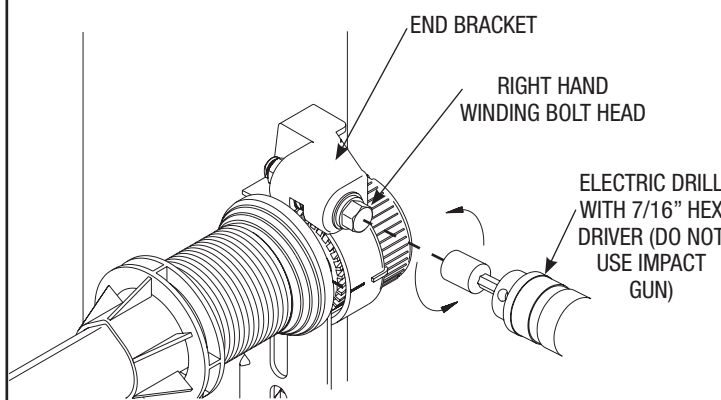


Fig. 2

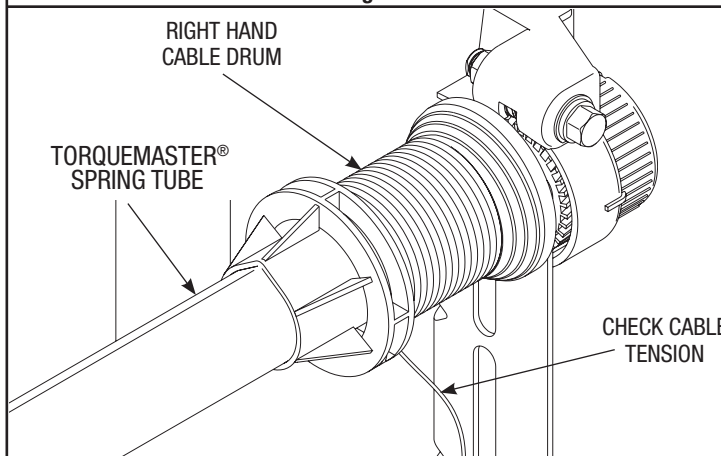


Fig. 3

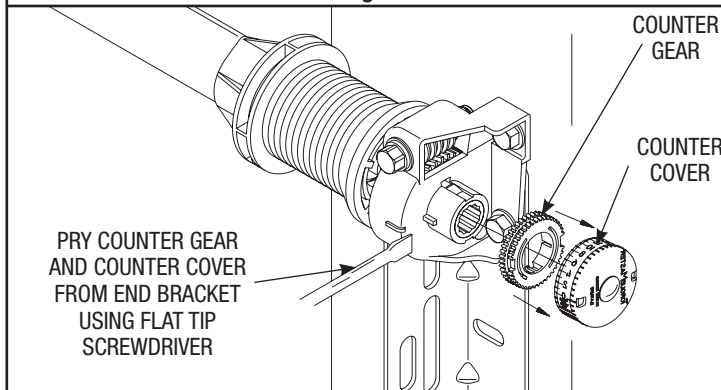


Fig. 4

TorqueMaster® Spring Removal continued...

Tools Needed:

Recommended tools from page 5

If the counterbalance cable is still taut and the TorqueMaster® Spring Tube is difficult to rotate, that is an indication that spring tension still exists on the left hand spring. Repeat Steps 1 and 2 for releasing spring tension on the left hand side.

Step 4: Using a flat tip screwdriver, pry the counter gear and counter cover from the right hand end bracket (Fig. 4 on previous page). Discard the counter gear and counter cover. On double spring applications, repeat for left hand side.

Step 5: Remove the upper 5/16" x 1-5/8" lag screw from the right hand end bracket (Fig. 5). Attach locking pliers to the upper portion of the end bracket and hold the housing steady while removing the lower 5/16" x 1-5/8" lag screw and #10 x 1/2" phillips head screw from the end bracket (Fig. 6).

Step 6: Holding the right hand end bracket steady with locking pliers, carefully pry the end bracket and drive gear off the winding shaft using a flat tip screwdriver (Fig. 7).

CAUTION: THE WINDING SHAFT MAY ROTATE WHEN REMOVING THE END BRACKET AND DRIVE GEAR.

Step 7: Repeat Step 4 for the left hand side. Holding the left hand end bracket steady with locking pliers, carefully pry the end bracket off the winding shaft using a flat tip screwdriver (Fig. 7).

Step 8: Remove the two (2) lag bolts attaching the center bracket assembly to the header board (Fig. 8).

Step 9: Lift the right hand side of the TorqueMaster® Spring Tube and slide the cable drum off. Realign the groove in the winding shaft with the round notch in the flagangle and drape the counterbalance cable with drum over the flagangle. Lift the left hand side of the TorqueMaster® Spring Tube and winding shaft off (Fig. 9). Drape the counterbalance cable with drum over the flagangle. Lift the TorqueMaster® spring assembly off the flagangles and out of the doorway. Unhook the counterbalance cables from the bottom brackets and remove all parts from the work area.

NOTE: The cable drums may be difficult to remove. If so, twist the cable drum to aid in removal.

NOTE: Continue with "P4" on page 9 after completing this step.

REMOVE TOP LAG SCREW

Fig. 5

USE LOCKING PLIERS TO HOLD END BRACKET

REMOVE #10 PHILLIPS HEAD SCREW

REMOVE BOTTOM LAG SCREW

Fig. 6

HOLD THE END BRACKET STEADY WITH LOCKING PLIERS

PRY END BRACKET FROM WINDING SHAFT USING A FLAT TIP SCREW DRIVER AND LOCKING PLIERS

Fig. 7

CENTER BRACKET ASSEMBLY

(2) 5/16" X 1-5/8" HEX HEAD LAG SCREWS

Fig. 8

REMOVE CABLE DRUM AND WINDING SHAFT

LIFT TORQUEMASTER® SPRING TUBE OFF FLAGANGLE

DRAPE CABLE ACROSS TOP OF FLAGANGLE

Fig. 9

P3

Extension Spring Removal

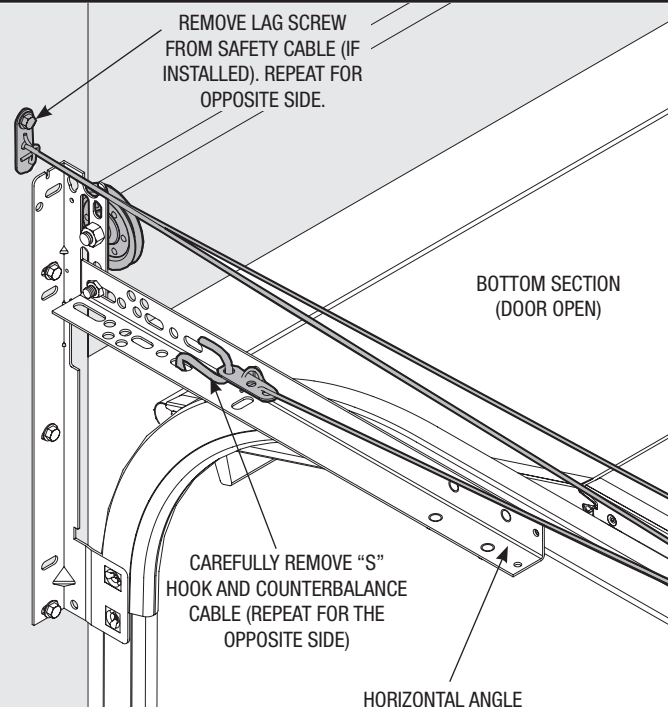
Tools Needed:
Recommended
tools from
page 5

Step 1: Raise the door to the fully open position and place vice clamps to the back legs of both vertical tracks, below the bottom rollers to prevent the door from falling. By opening the door you release most of the spring tension. Carefully unfasten the S-hook from the horizontal angle. Remove cable, sheave and extension spring. Repeat for the other side. If safety cables are running through the extension springs, remove them also. Remove parts from work area.

Step 2: Holding door in the open position, remove the vice clamps, be prepared to support the entire weight of the door. Garage doors can weigh 200-400 pounds.

With assistance, carefully lower the door, by grasping the door firmly by it's lift handles. Do not place fingers or hands near joints, between sections, or between bottom of door and floor. Otherwise, severe injury could result.

NOTE: Continue with "P4" on page 9 after completing this step.



P4

Removing the Old Door

Tools Needed:
Recommended
tools from
page 5

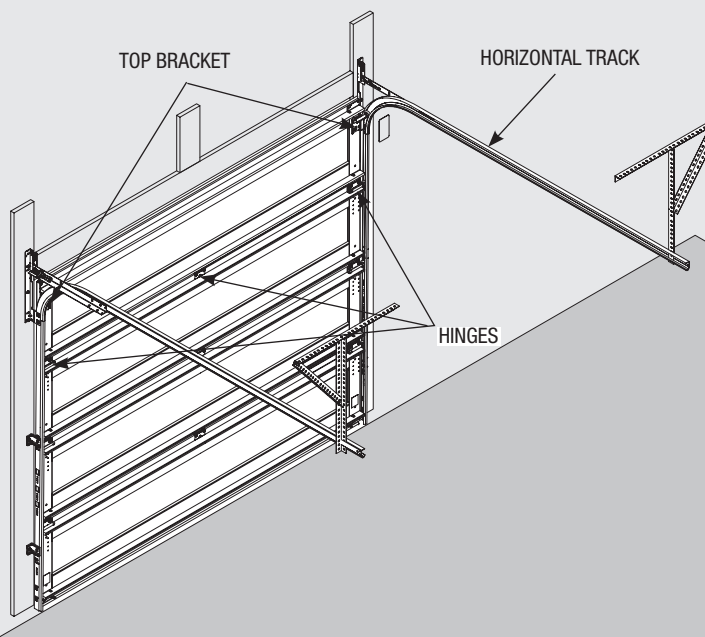
Having removed the counterbalance system, the door can now be disassembled.

Start by first removing the top row of hinges.

With assistance, hold the top section to keep it from falling and remove the top brackets. With assistance, lift the top section out of the opening and remove it from the work area. Repeat for all remaining sections.

After door is disassembled, unbolt both track assemblies from the jambs and remove all material from the work area. You can neatly dispose of the old door by placing it in the carton of your new door.

Clean up area and complete "Preparing the Opening" "P5" on page 10 before installing the new door.



P5

Preparing the Opening

Tools Needed:
Recommended
tools from
page 5

WARNING FAILURE TO SECURELY ATTACH A SUITABLE MOUNTING PAD TO STRUCTURALLY SOUND FRAMING COULD CAUSE SPRINGS TO VIOLENTLY PULL MOUNTING PAD FROM WALL, RESULTING IN SEVERE OR FATAL INJURY.

If you just removed your existing door or you are installing a new door, complete all steps in PREPARING THE OPENING.

To ensure secure mounting of track brackets, side and center bearing brackets, or steel angles to new or retro-fit construction, it is recommended to follow the procedures outlined in DASMA Technical Data Sheets #156, #161 and #164 at www.dasma.com.

The inside perimeter of your garage door opening should be framed with wood jamb and header material. The jambs and header must be securely fastened to sound framing members. It is recommended that 2" x 6" lumber be used. The jambs must be plumb and the header level. The jambs should extend a minimum of 14" (356 mm) above the top of the opening for Torsion spring applications. For low headroom applications, the jambs should extend to the ceiling height. Minimum side clearance required, from the opening to the wall, is 3-1/2" (89 mm).

IMPORTANT: Closely inspect existing jambs, header and mounting surface. Any wood found not to be sound, must be replaced.

For Torsion spring applications, a suitable mounting surface must be firmly attached to the wall, above the header at the center of the opening. The mounting surface must be 2" x 6" lumber minimum (Select southern yellow pine lumber. Do not use lumber marked as spruce-pine-fir or SPF). The mounting surface must be securely attached to the wall with four (4) 3/8" anchors for masonry constructions or four (4) 5/16" x 4" lag screws for wood construction.

NOTE: Drill a 3/16" pilot hole in the mounting surface to avoid splitting the lumber. Do not attach the mounting surface with nails.

Weather Seal (May Not Be Included):

Cut or trim the weather seal (if necessary) to the header and jambs.

For quick install track: Align the header seal with the inside edge of the header and temporarily secure it to the header with equally spaced nails. Next, fit the jamb seals up tight against the header seal and flush with the inside edge of the jamb. Temporarily secure the jamb seals with equally spaced nails. This will keep the bottom section from falling out of the opening during installation. Space nails approximately 12" apart.

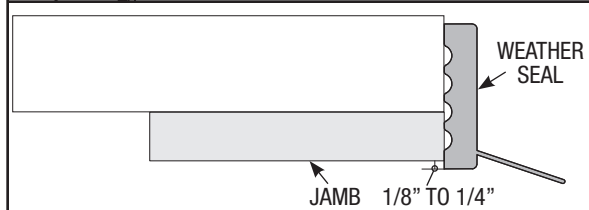
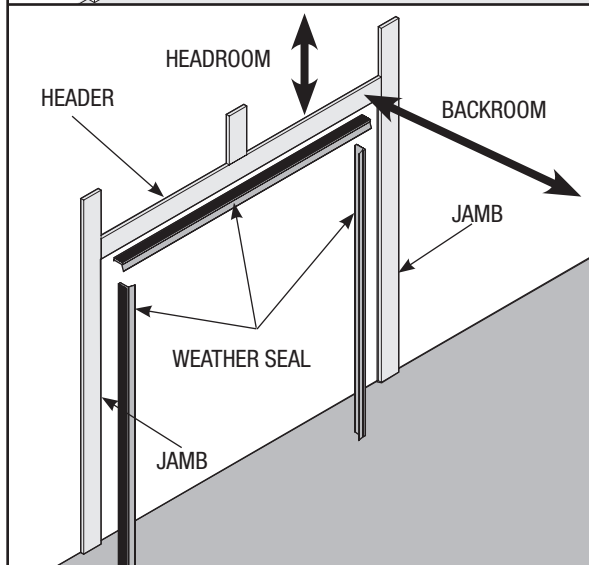
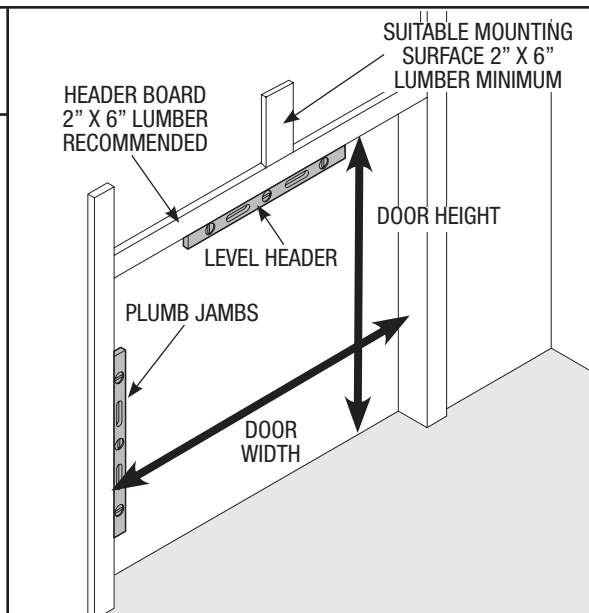
For fully adjustable track: Align the header seal 1/8" to 1/4" inside the header and temporarily secure it to the header with equally spaced nails. Next, fit the jamb seals up tight against the header seal and 1/8" to 1/4" inside the jamb. Temporarily secure the jamb seals with equally spaced nails. This will keep the bottom section from falling out of the opening during installation. Space nails approximately 12" apart.

NOTE: Do not permanently attach weather seal to the jamb at this time.

HEADROOM REQUIREMENT: Headroom is defined as the space needed above the top of the door for tracks, springs, etc. to allow the door to open properly. If the door is to be motor operated, 2-1/2" (64 mm) of additional headroom is required.

NOTE: 6" LHR Conversion Kit is available for 12" Radius only. Contact your local Wayne-Dalton dealer.

BACKROOM REQUIREMENT: Backroom is defined as the distance needed from the opening back into the garage to allow the door to open fully.



HEADROOM REQUIREMENT

TRACK TYPE	TorqueMaster®
15" Radius Track	11-3/4"
12" Radius Track	10-1/2"
6" LHR Kit	6"

BACKROOM REQUIREMENT

DOOR HEIGHT	TRACK	MANUAL LIFT	MOTOR OPERATED
6'5", 6'6", 7'0"	12", 15" Radius	98"	120"
7'6", 8'0"	12", 15" Radius	110"	132"

Installation

IMPORTANT: READ INSTRUCTIONS TITLED “P4” “REMOVING THE OLD DOOR” ON PAGE 9 AND “P5” “PREPARING THE OPENING” ON PAGE 10 BEFORE ATTEMPTING DOOR INSTALLATION.

IMPORTANT: STAINLESS STEEL OR PT 2000 COATED LAG SCREWS MUST BE USED WHEN INSTALLING CENTER BEARING BRACKETS, END BRACKETS, JAMB BRACKETS, OPERATOR MOUNTING/SUPPORT BRACKETS AND DISCONNECT BRACKETS ON TREATED LUMBER (PRESERVATIVE-TREATED). STAINLESS STEEL LAG SCREWS ARE NOT NECESSARY WHEN INSTALLING PRODUCTS ON UNTREATED LUMBER.

NOTE: It is recommended that 5/16" x 2" lag screws be pilot drilled using a 3/16" drill bit, and 1/4" x 2" lag screws and 1/4" x 1-1/2" lag screws be pilot drilled using a 1/8" drill bit, prior to fastening.

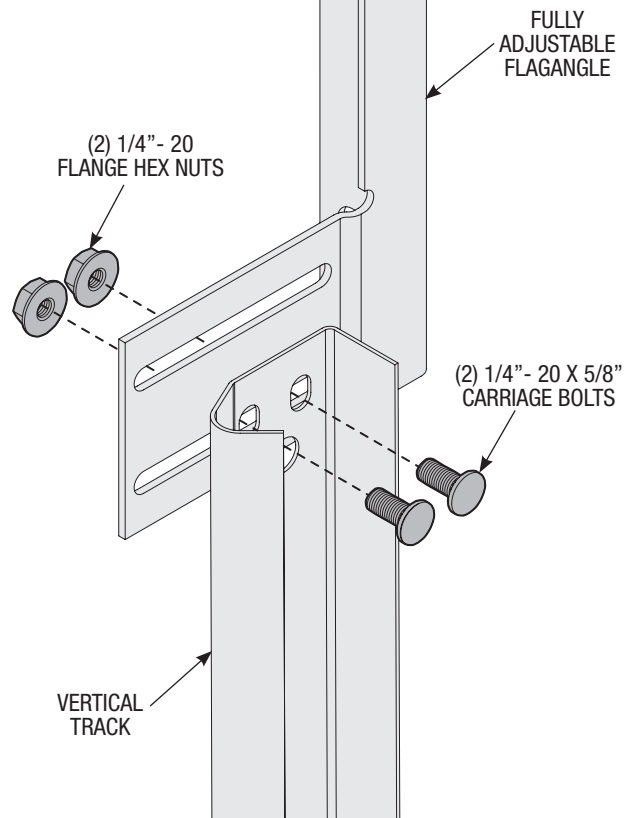
NOTE: If you have riveted track, skip these steps, 1 through 2 and proceed to step3.

1

Attaching Fully Adjustable Flagangle to Vertical Track

Tools Needed:
None

Hand tighten the flagangle to the vertical track using (2) 1/4"- 20 x 5/8" carriage bolts and (2) 1/4"- 20 flange hex nuts. Secure the flange nuts after flagangle spacing is complete (Step 11).



2

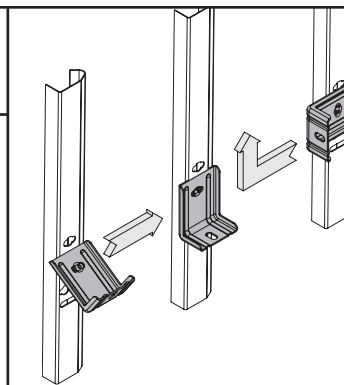
Installing Q.I. Jamb Brackets

Tools Needed:

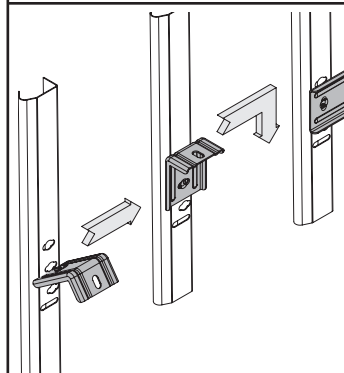
None

Measure the length of the vertical tracks. Using the jamb bracket schedule, determine the placement of the jamb brackets for your door height and track type.

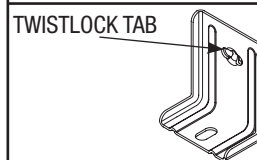
To install the jamb brackets, align the twistlock tab on the quick install jamb bracket with the quick install feature in the track and turn the bracket perpendicular to the track so the mounting flange is toward the back (flat) leg of the track.



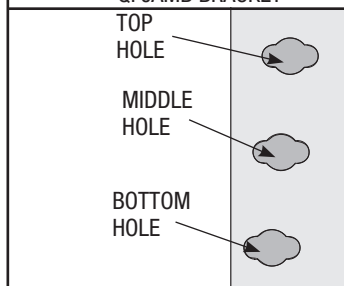
LEFT SIDE SHOWN



RIGHT SIDE SHOWN



QI JAMB BRACKET



QUICK INSTALL FEATURE

3RD SET HOLES

2ND SET HOLES

1ST SET HOLES

JAMB BRACKET SCHEDULE

DOOR HEIGHT	1ST SET		2ND SET		3RD SET	
	JAMB BKT	POSITION	JAMB BKT	POSITION	JAMB BKT	POSITION
6'0"	QIJB-3	MIDDLE	QIJB-6	TOP	NOT APPLICABLE	
6'5"	QIJB-3	MIDDLE	QIJB-5	BOTTOM	NOT APPLICABLE	
6'8"	QIJB-3	MIDDLE	QIJB-5	BOTTOM	NOT APPLICABLE	
7'0"	QIJB-3	MIDDLE	QIJB-5	BOTTOM	NOT APPLICABLE	
7'3"	QIJB-3	MIDDLE	QIJB-5	MIDDLE	QIJB-6	MIDDLE
7'6"	QIJB-3	MIDDLE	QIJB-5	MIDDLE	QIJB-6	MIDDLE
7'9"	QIJB-3	MIDDLE	QIJB-5	MIDDLE	QIJB-6	MIDDLE
8'0" (4 SECTION)	QIJB-3	MIDDLE	QIJB-5	MIDDLE	QIJB-6	MIDDLE
8'0" (5 SECTION)	QIJB-3	BOTTOM	QIJB-5	BOTTOM	QIJB-6	BOTTOM

3

Drums

Tools Needed:
None

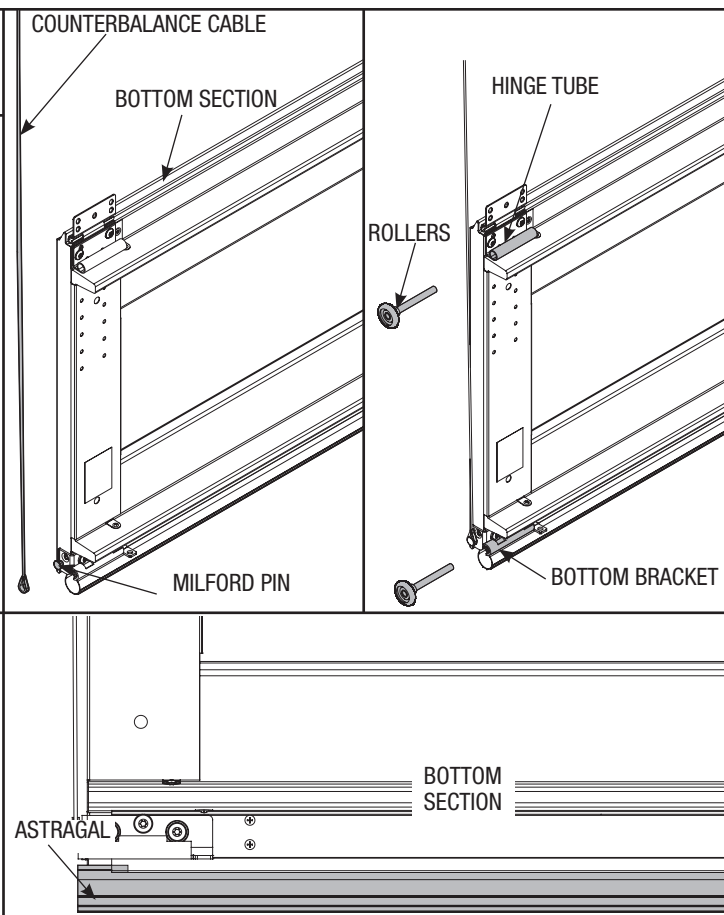
IMPORTANT: RIGHT AND LEFT HAND IS ALWAYS DETERMINED FROM INSIDE THE BUILDING LOOKING OUT.

NOTE: For door section identification see page 4.

Uncoil the counterbalance cables and make sure you place the right hand cable loop on the right hand milford pin and place the left hand cable loop on the left hand milford pin.

Insert a roller into bottom bracket of the bottom section and insert another roller at #1 end hinge at the top of the bottom section. Repeat for other side.

NOTE: Verify astragal (bottom seal) is aligned with door section. If there is more than 1/2" excess astragal on either side, trim astragal even with door section.



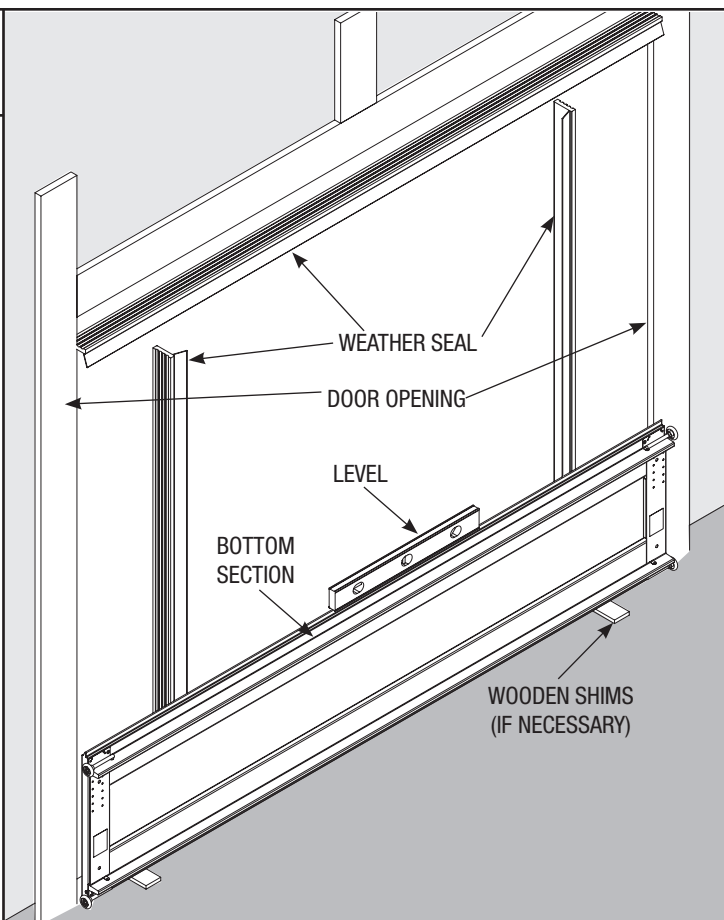
4

Bottom Section

Tools Needed:
Level

Before installing the bottom section, the weather seal (may not be included) must be installed (see PREPARING THE OPENING on page 10)

Center the bottom section in the door opening. Level section using wooden shims under the bottom astragal if necessary.



5

Vertical Track

Tools Needed:

3/16" Drill Bit

Power Drill

7/16" Socket Driver

Tape Measure

Level

(2) Vice Grips

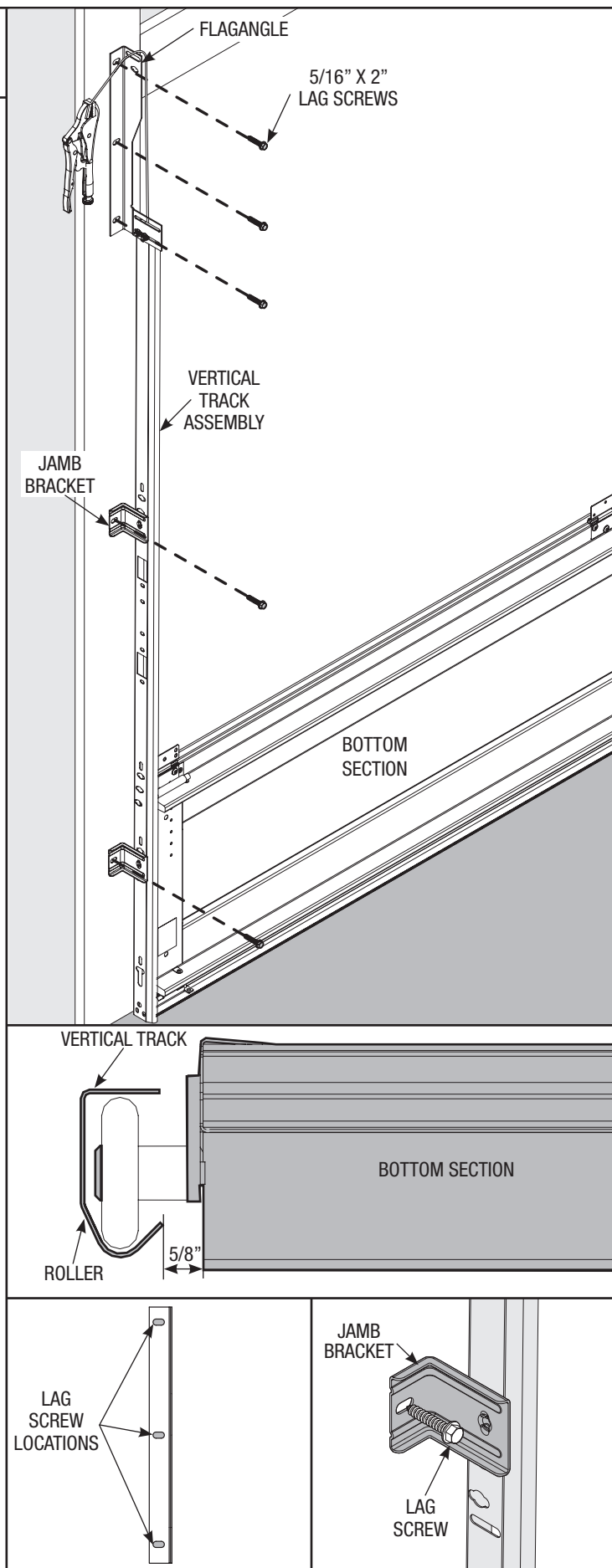
IMPORTANT: THE TOPS OF THE VERTICAL TRACKS MUST BE LEVEL FROM SIDE TO SIDE. IF THE BOTTOM SECTION WAS SHIMMED TO LEVEL IT. THE VERTICAL TRACK ON THE SHIMMED SIDE, MUST BE RAISED THE HEIGHT OF THE SHIM.

Position the left hand vertical track assembly over the rollers of the bottom section. Make sure the counterbalance cable is located between the rollers and the door jamb.

Drill 3/16" pilot holes for the lag screws. Loosely fasten jamb brackets and flagangle to the jamb using 5/16" x 2" lag screws.

On the bottom jamb bracket, tighten the lag screw securing the bottom jamb bracket to the jamb, to maintain the 5/8" spacing.

Repeat for the right hand side.



6

Stacking Sections

Tools Needed:

Power Drill

7/16" Socket
Driver

NOTE: For door section identification see page 4.

NOTE: Make sure hinge leaves are flipped down, when stacking another section on top.

Place rollers in hinge tubes of the second section (lock section).

With assistance, lift the second section and guide rollers into the vertical tracks.

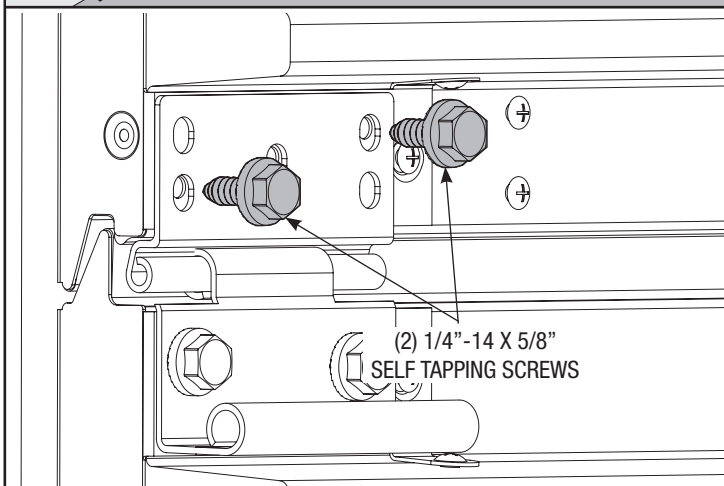
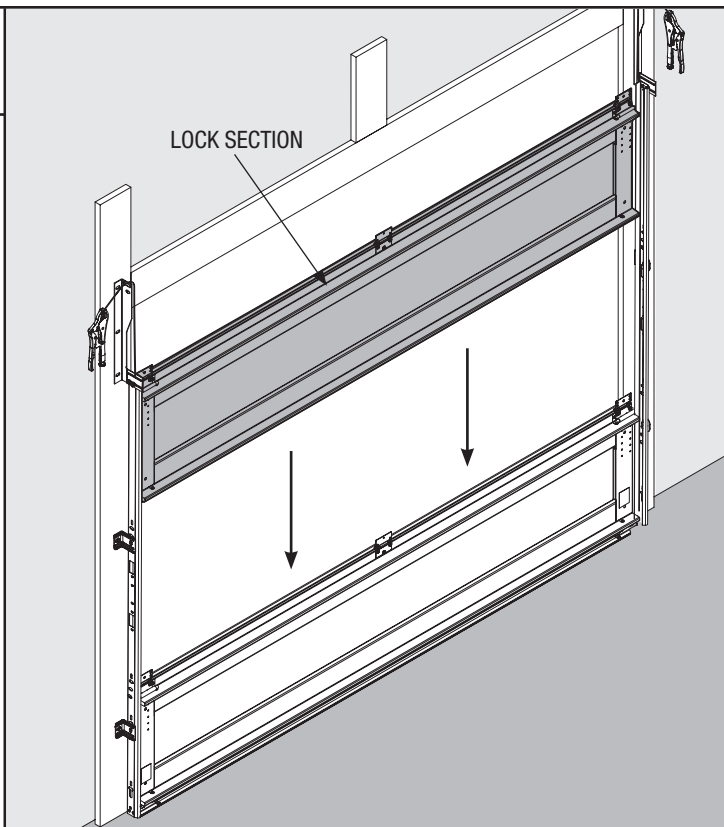
Keep sections vertically aligned and fasten hinges to connect the sections using 1/4" - 14 x 5/8" self tapping screws.

Repeat for other section(s) except top section.

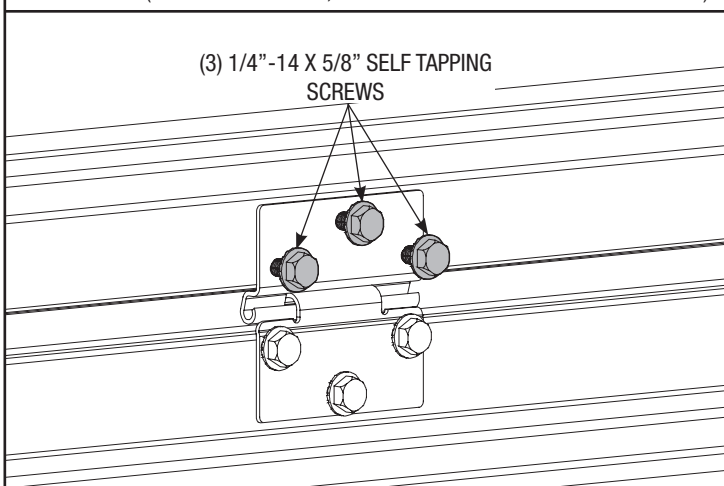
IMPORTANT: END HINGES HAVE (2) SCREWS AND INTERMEDIATE HINGES HAVE (3) SCREWS.

NOTE: Install lock at this time (sold separately). See instructions in OPTIONAL SIDELOCK INSTALLATION on page 28.

LOCK SECTION



END HINGES (LEFT HAND SHOWN, RIGHT HINGE SYMMETRICALLY OPPOSITE)



INTERMEDIATE HINGES

7

Top Brackets

Tools Needed:
Power Drill

7/16" Socket
Driver

NOTE: This step may be pre-assembled on some models.

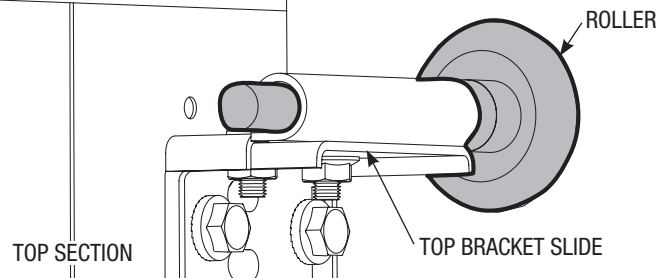
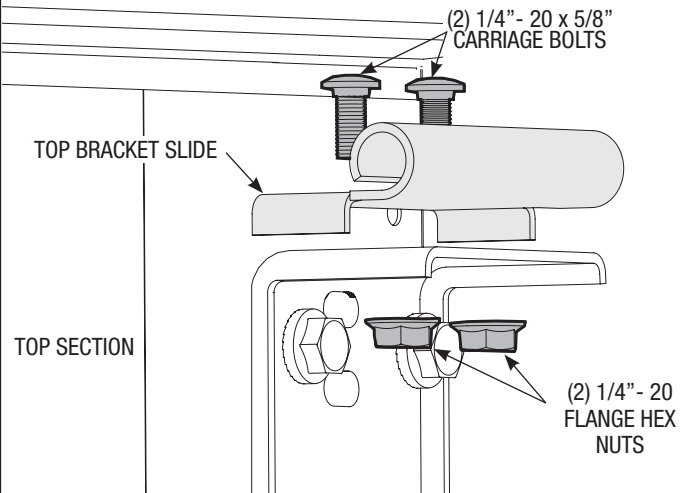
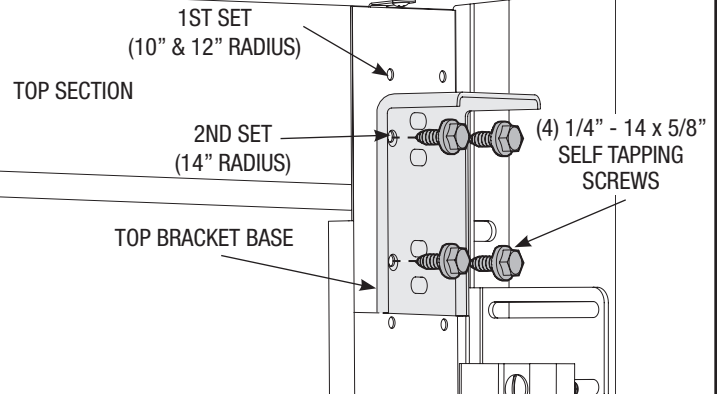
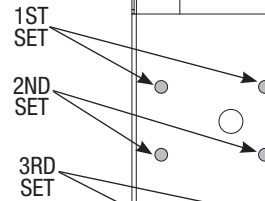
To install the L-shaped top brackets, align the top holes in the top bracket base with:

- a) the second set of holes in the endstile for 14" radius track.
- b) the first set of holes in the endstile for 10" & 12" radius track.

Fasten using (4) 1/4" - 14 x 5/8" self tapping screws.

Secure the top bracket slide to the bracket base using (2) 1/4" - 20 x 5/8" carriage bolts and (2) 1/4"-20 flange hex nuts.

The top bracket slide will be tightened and adjusted in Step 13. Insert rollers into top bracket slide. Repeat for other side.



8

U-Bar

Tools Needed:
Power Drill
7/16" Socket Driver

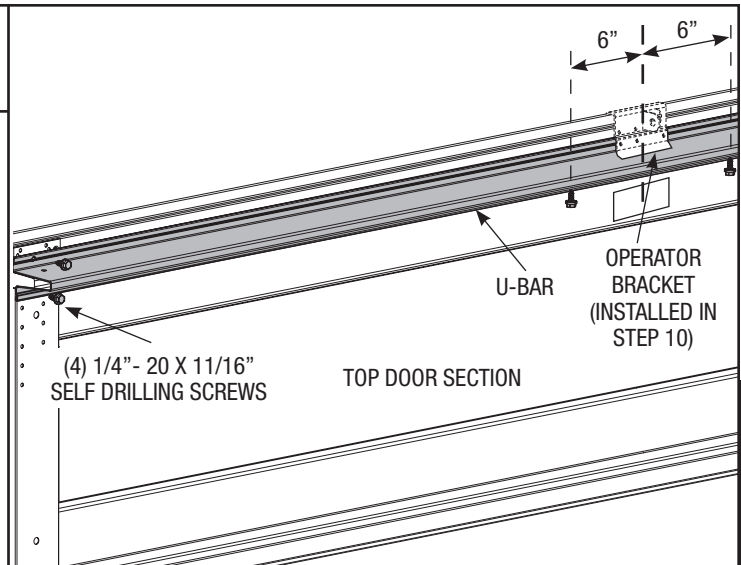
NOTE: If you have a model 9600 Series door with windows in the top section or 9100 Sonoma (8' high), skip this step and complete step 9.

NOTE: Model 9100 Series door over 13' wide require a 3" U-Bar (supplied).

Place the 3" u-bar over the top rib. Fasten each end of the u-bar to the endstile with (2) 1/4" - 20 x 11/16" self drilling screws.

Fasten center of the u-bar as shown to the rib using (2) 1/4" - 14 x 5/8" self tapping screws 6" to the left and 6" inches to the right of the center of the door section.

NOTE: Upon completion of this step, continue with Step 10.



ATTACHING CENTER OF U-BAR

ATTACHING ENDS OF U-BAR

9

U-Bar - Asymmetrical

Tools Needed:
Power Drill
7/16" Socket Driver

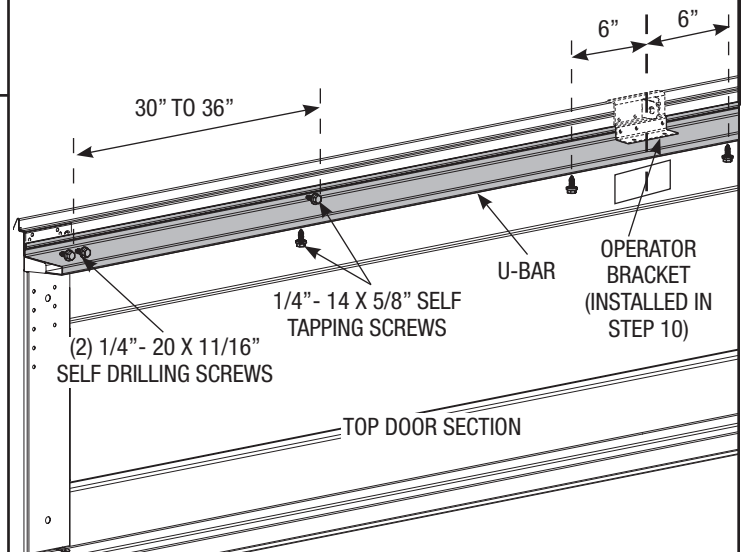
NOTE: If a 3" U-Bar was installed in step 8, skip this step.

NOTE: Model 9600 glazed top doors 13'-0" wide or greater will be supplied with a 3" asymmetrical u-bar for the top section.

Place the 3" asymmetrical u-bar over the top rib. Fasten each end of the u-bar to the endstile with (2) 1/4" - 20 x 11/16" self drilling screws.

Fasten center of the u-bar as shown to the rib using (2) 1/4" - 14 x 5/8" self tapping screws 6" off of the center of the door section.

Fasten both walls of the u-bar as shown using 1/4" - 14 x 5/8" self tapping screws every 30-36 inches. (approximately 18 self tapping screws per 18' u-bar)



ATTACHING CENTER OF U-BAR

ATTACHING INTERMEDIATES OF U-BAR

10

Operator Bracket

Tools Needed:

Power Drill

7/16" Socket
Driver

Vice Clamps

Phillips Head
Screwdriver

NOTE: Operator bracket must be mounted and secured prior to installing top section.

NOTE: If an *idrive*™ operator is to be installed, the operator bracket is not required to be installed.

IMPORTANT: WHEN INSTALLING A TROLLEY TYPE OPERATOR ON 9100, 9400 AND 9600 SERIES DOORS, A WAYNE-DALTON TROLLEY BRACKET MUST BE SECURELY ATTACHED TO THE TOP SECTION, ALONG WITH ANY U-BAR'S INITIALLY PROVIDED WITH THE DOOR. IT IS THEN UNNECESSARY TO FURTHER REINFORCE THE TOP SECTION OF THIS WAYNE-DALTON DOOR WHEN ATTACHING A TROLLEY TYPE OPERATOR, AS LONG AS THE INSTALLATION OF THE OPERATOR IS ACCORDING TO WAYNE-DALTON'S INSTRUCTIONS AND FORCE SETTINGS ARE ADJUSTED PROPERLY.

Locate the center of the top section and place the operator bracket on top of the section as illustrated. Align the center of the bracket with the center line of the top section. For retro fit applications, the operator bracket must be aligned with an existing operator and positioned on the top section as illustrated.

Install (2) #12 x 1/2" phillips head screws on the top flange of the operator bracket.

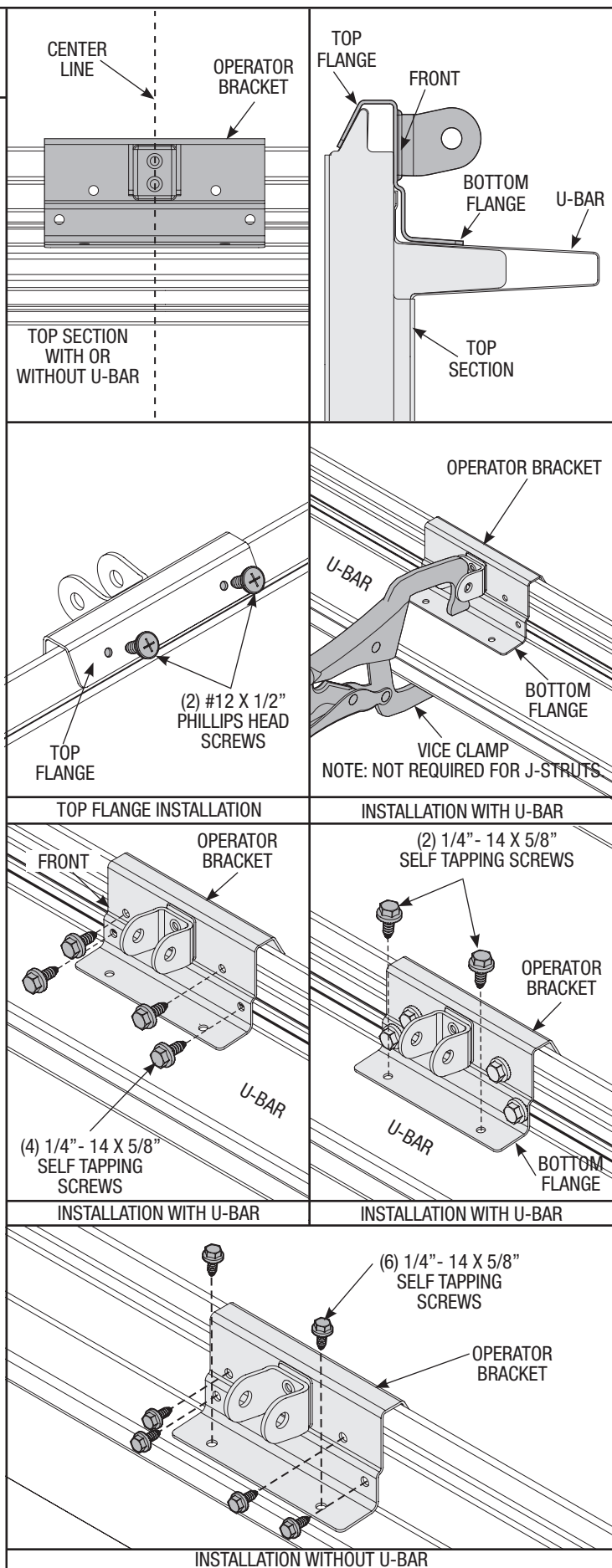
U-BAR INSTALLED: If a U-Bar is installed on the top section, clamp the bottom flange of the operator bracket to the U-Bar. Make sure the bottom flange of the bracket is held in place, flush against the U-Bar before continuing.

NO U-BAR INSTALLED: If a U-Bar is not installed on the top section, continue with the steps below.

Attach (4) 1/4" - 14 x 5/8" self tapping screws to the front of the operator bracket. Next attach (2) 1/4" - 14 x 5/8" self tapping screws to the bottom flange of the operator bracket. Remove vice clamps if placed on operator bracket previously.

NOTE: If you have a 9100 door, use (2) 1/4" - 20 x 11/16" self drilling screws used to attach the U-Bar instead of the (2) 1/4" - 14 x 5/8" self tapping screws when attaching the bottom flange of the operator bracket to U-Bar.

NOTE: When attaching an operator bracket to the top section with a U-Bar installed, apply additional pressure to thread the fasteners into the U-Bar.



11

Top Section

Tools Needed:

Hammer

Tape Measure

Power Drill

7/16" Socket
Driver

Place the top section in the opening and vertically align with lower sections.

Temporarily secure the top section by driving a nail in the header near the center of the door and bending it over the top section.

Now flip up hinge leaf against section, fastening center hinges first, and end hinges last. (Refer to Step 6).

When installing a door with a torsion counterbalance system, vertical track alignment is critical. Position flagangle between 1-11/16" (43 mm) to 1-3/4" (44 mm) from the edge of the door. Tighten the bottom lag screw. Flagangles must be parallel to the door sections.

Repeat for opposite side.

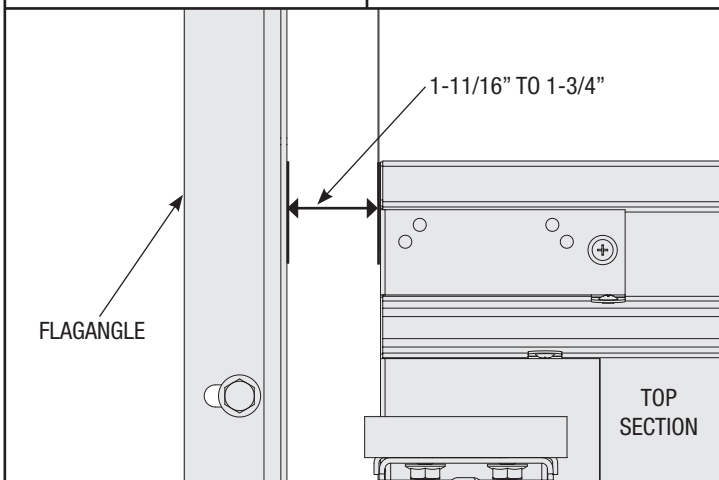
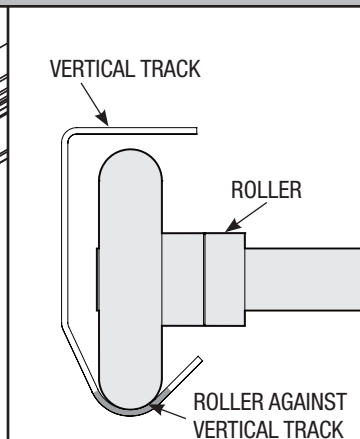
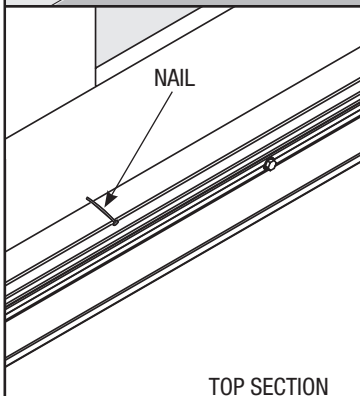
IMPORTANT: THE DIMENSION BETWEEN THE FLAGANGLES MUST BE DOOR WIDTH PLUS 3-3/8" (86MM) TO 3-1/2" (89 MM) FOR SMOOTH, SAFE DOOR OPERATION.

Complete the vertical track installation by securing the center jamb bracket(s) and tightening the other lag screws.

Push the vertical track against the rollers so that the rollers are touching the deepest part of the curved side of the track (see illustration). Tighten all the carriage bolts and nuts.

Repeat for opposite side.

DOOR WIDTH
+3-3/8" TO 3-1/2"



INSTALLATION

12

Attaching Horizontal Track to Adjustable Flagangle

Tools Needed:

9/16" Socket

7/16" Socket

Ratchet Wrench

9/16" Wrench

Level

Hammer

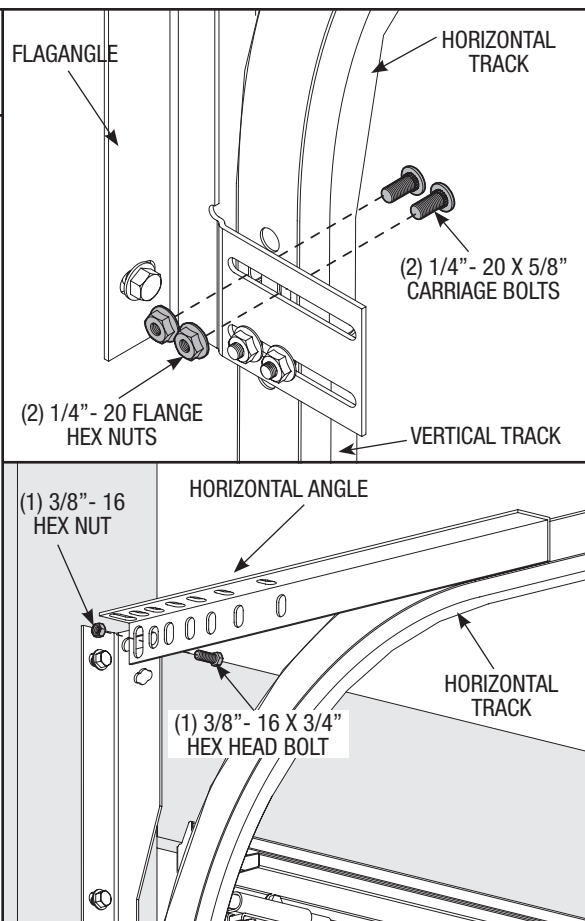
To install horizontal track, place the curved end over the top roller. Align the bottom of the horizontal track with the vertical track. Hand tighten the horizontal track to the flagangle with (2) 1/4" - 20 x 5/8" carriage bolts and (2) 1/4" - 20 flange hex nuts.

Level the horizontal track assembly and bolt the horizontal angle to the slot in the flagangle using (1) 3/8" - 16 x 3/4" hex head bolt and (1) 3/8" - 16 hex nut. Repeat for other side. Remove the nail that was temporarily holding the top section in place, installed in Step 11.

IMPORTANT: FAILURE TO REMOVE NAIL BEFORE ATTEMPTING TO RAISE DOOR COULD CAUSE PERMANENT DAMAGE TO TOP SECTION.

WARNING

DO NOT RAISE DOOR UNTIL HORIZONTAL TRACKS ARE SECURED AT REAR, AS OUTLINED IN STEP 21, OR DOOR COULD FALL FROM OVERHEAD POSITION CAUSING SEVERE OR FATAL INJURY.



13

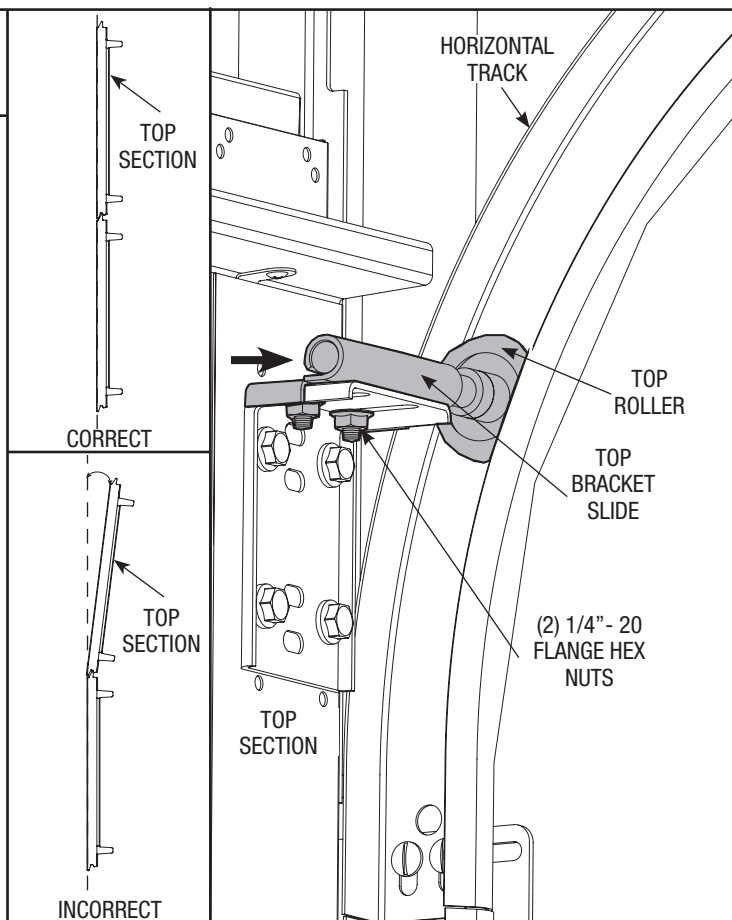
Adjusting Top Brackets

Tools Needed:

7/16" Wrench

With horizontal tracks installed, you can now adjust the top brackets. Vertically align the top section of the door with the lower sections. Once aligned, position the top bracket slide, out against the horizontal track.

Maintaining the slide's position, tighten the (2) 1/4" - 20 flange hex nuts to secure the top roller slide to the top bracket base.



14

Torsion End Bearing Brackets

Tools Needed:
Power Drill

7/16" Socket
Driver

9/16" Socket

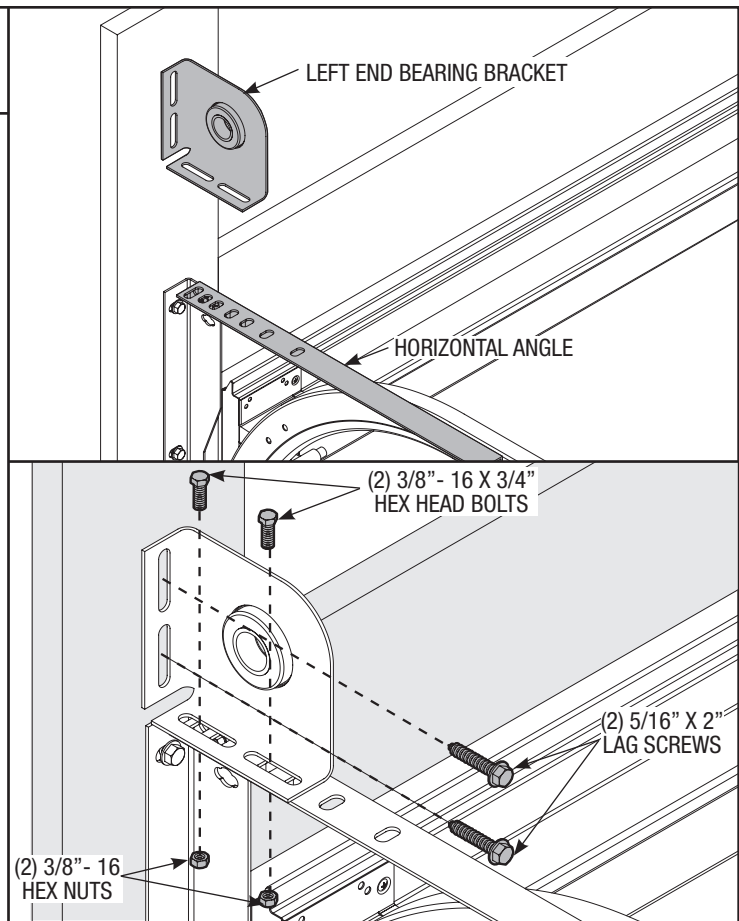
Ratchet Wrench

9/16" Wrench

End bearing brackets are right and left. Using the slots in the lower flange of the end bearing bracket, align the bracket with the flagangle on top of the horizontal angle and secure the end bearing bracket to the horizontal angle using (2) 3/8" - 16 x 3/4" hex head bolts and (2) 3/8" - 16 nuts.

Once the bracket is secured to the horizontal angle, secure the top of the end bearing bracket to the jamb using (2) 5/16" x 2" lag screws. Repeat for other side.

NOTE: Right and left hand is always determined from inside the garage looking out.



15

Center Bearing Bracket

Tools Needed:

Power Drill

7/16" Socket
Driver

Level

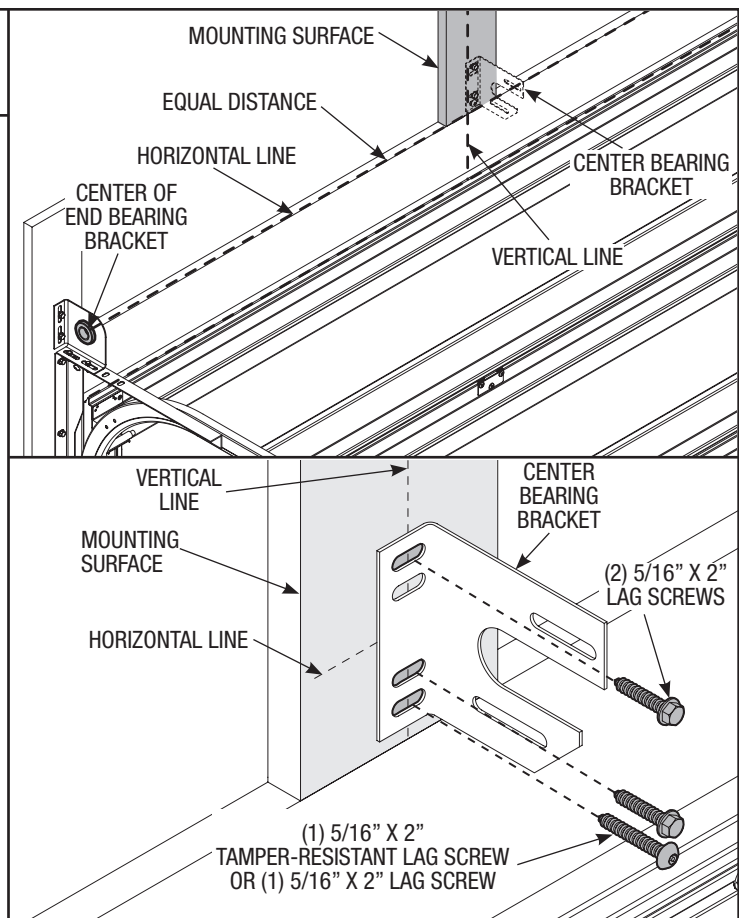
Tape Measure

Pencil

1/4" Torx Bit

Measure to locate the center of the door and mark a vertical pencil line on the mounting surface above the door, to indicate the center line of the door. Then, measure from the center of the bearing, in one of the end bearing brackets, DOWN to the top of the door. Using that dimension, measure UP from the top of the door and mark a horizontal pencil line on the mounting surface, intersecting the vertical pencil line. Now align the edge of the center bearing bracket along the vertical pencil line on the mounting surface. Center the bearing bracket on the horizontal line. This will ensure the torsion tube is level between the center and end bearing brackets. Attach the center bearing bracket, in this location, to the mounting surface, using (2) 5/16" x 2" lag screws and (1) 5/16" x 2" tamper-resistant lag screw.

IMPORTANT: USE THE 5/16" X 2" TAMPER-RESISTANT LAG SCREW ONLY IF MOUNTING SURFACE MOUNTED OVER MASONRY. TAMPER-RESISTANT LAG SCREW MUST BE ATTACHED THROUGH THE BOTTOM HOLE OF THE CENTER BEARING BRACKET.



16

Torsion Spring Assembly

Tools Needed:
none

NOTE: Right and left hand is always determined from inside the garage looking out.

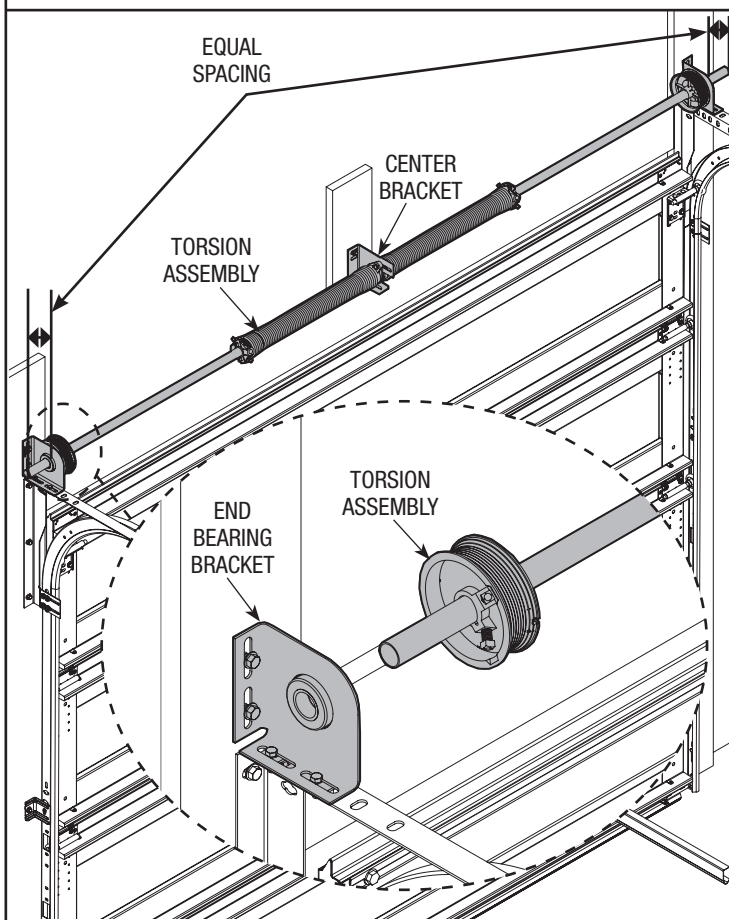
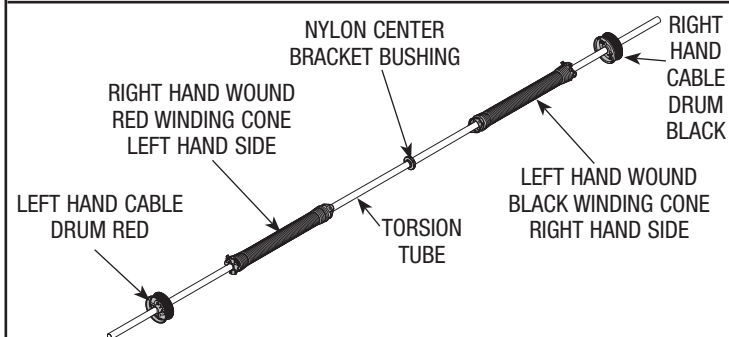
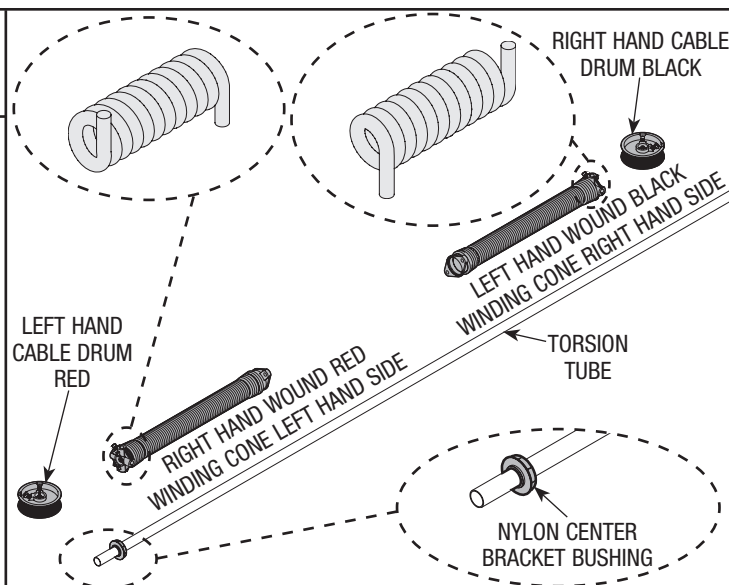
NOTE: Identify the springs provided as either right hand wound (red winding cone), which goes on the LEFT HAND SIDE or left hand wound (black winding cone), which goes on the RIGHT HAND SIDE.

Facing the inside of the door, lay the torsion tube on the floor. Lay the spring with the black color coded winding cone and the black color coded cable drum, at the right hand end of the tube. Lay the spring with the red color coded winding cone and the red color coded cable drum, at the left hand end of the tube.

NOTE: The set screws used on all torsion counterbalance winding cones and cable drums, are now colored red. DO NOT identify right and left hand by the set screw color.

Slide the nylon center bushing onto the torsion tube followed by the springs and cable drums. The nylon center bushing, springs and cable drums must be positioned, as shown.

With assistance, pick up the torsion assembly and slide one end of the tube through one end bearing bracket. Lay the torsion tube into the center bearing bracket and slide the other end of the tube into the opposite end bearing bracket. Position the torsion tube so that equal amounts of the tube extend from each end bearing bracket.



17

Nylon Center Bushing

Tools Needed:

9/16" Socket

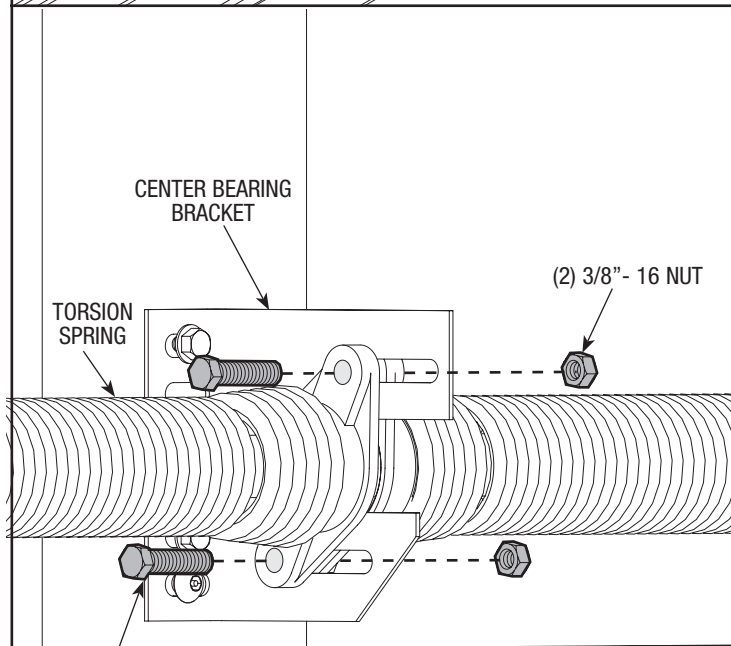
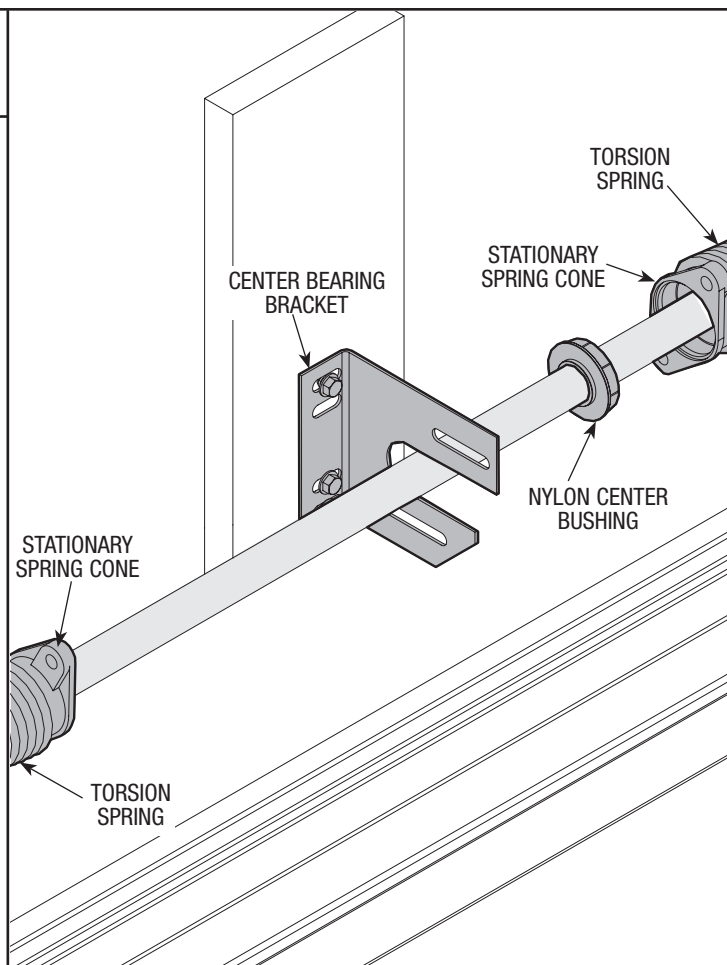
Ratchet Wrench

9/16" Wrench

Slide the nylon center bushing into the stationary spring cone at the end of the spring and align the stationary spring cone(s) with the holes in the center bearing bracket. Secure the spring(s) to the center bearing bracket with (2) 3/8" - 16 x 1-1/2" hex head bolts and (2) 3/8" - 16 nuts.

IMPORTANT: SPRINGS UNDER TENSION CAN BE DANGEROUS.

IMPORTANT: THE SPRING WARNING TAG(S) SUPPLIED MUST BE SECURELY ATTACHED TO THE STATIONARY SPRING CONE IN PLAIN VIEW. SHOULD A REPLACEMENT SPRING WARNING TAG BE REQUIRED, CONTACT WAYNE-DALTON CORP. FOR FREE REPLACEMENTS.



(2) 3/8" - 16 X 1-1/2"
HEX HEAD BOLT

INSTALLATION

18

Counterbalance Cables

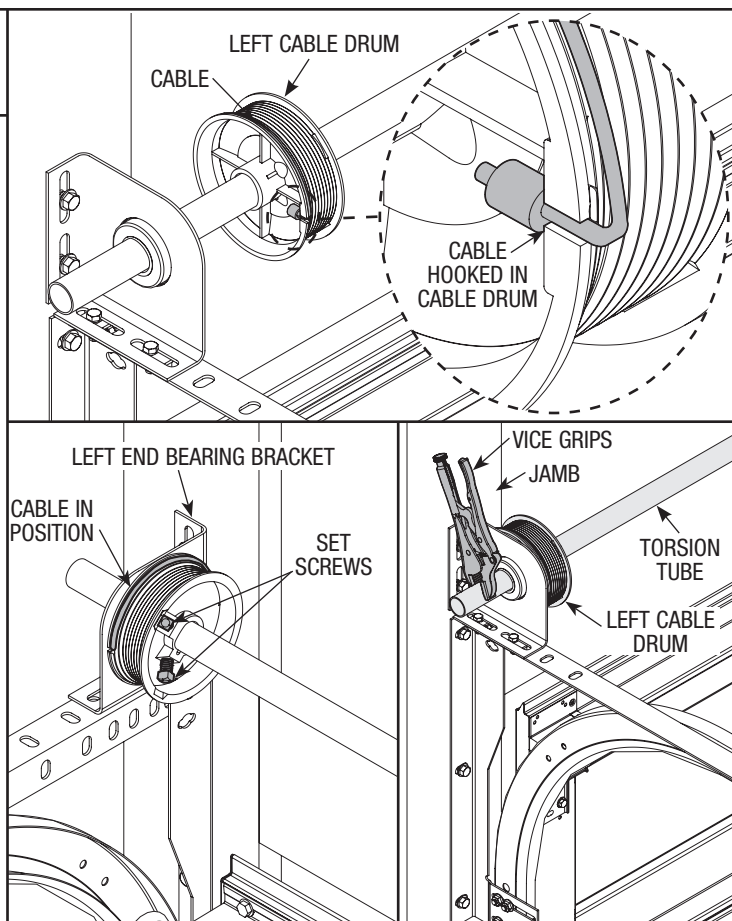
Tools Needed:

Vice Grips

3/8" Wrench

Release the vice grips from the ends of the cables and thread the counterbalance cables around the back side of the cable drums and verify that there are no cable obstructions. Hook the cables into the drums. Slide the left hand cable drum against the left hand end bearing bracket and tighten the set screws in the drum to 14-15 ft. lbs. of torque (Once set screws contact the tube, tighten screws one full turn). Rotate the left hand drum and torsion tube until cable is taut. Attach vice grips to torsion tube and brace vice grips against jamb to keep cable taut. Slide the right hand cable drum against the right hand end bearing bracket and rotate drum until cable is taut. Tighten set screws in right hand cable drum to 14-15 ft. lbs. of torque (Once set screws contact the tube, tighten screws one full turn).

IMPORTANT: CHECK EACH CABLE, MAKING SURE BOTH ARE SEATED PROPERLY ON THE CABLE DRUMS AND HAVE EQUAL CABLE TENSION.



19

Securing Door for Spring Winding

Tools Needed:

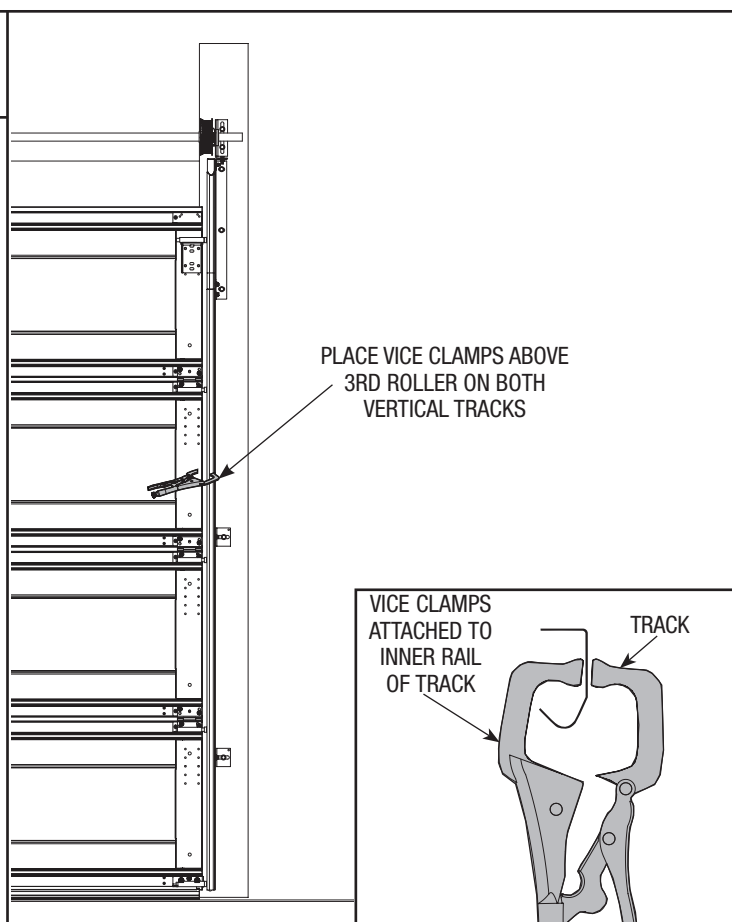
(2) Vice Clamps

Place vice clamps onto both vertical tracks just above the third roller. This is to prevent the garage door from raising while winding torsion springs.

WARNING

FAILURE TO PLACE VICE CLAMPS ONTO VERTICAL TRACK CAN ALLOW DOOR TO RAISE AND CAUSE SEVERE OR FATAL INJURY

IMPORTANT: DO NOT USE IMPACT GUN TO WIND SPRING(S).



Winding Torsion Spring(s)

Tools Needed:

Power Drill

3/16" Drill Bit

7/16" Socket Driver

Phillips Head Screwdriver

Approved Winding Bars

Position a ladder slightly to the side of spring so that the winding cone is easily accessible, yet your body is not in direct line with the winding bars. Check the label attached to the spring warning tag for the required number of complete turns to balance your door.

6'6" Door Height = Approx 7 Turns

7'0" Door Height = Approx 7-1/2 Turns

8'0" Door Height = Approx 8-3/4 Turns

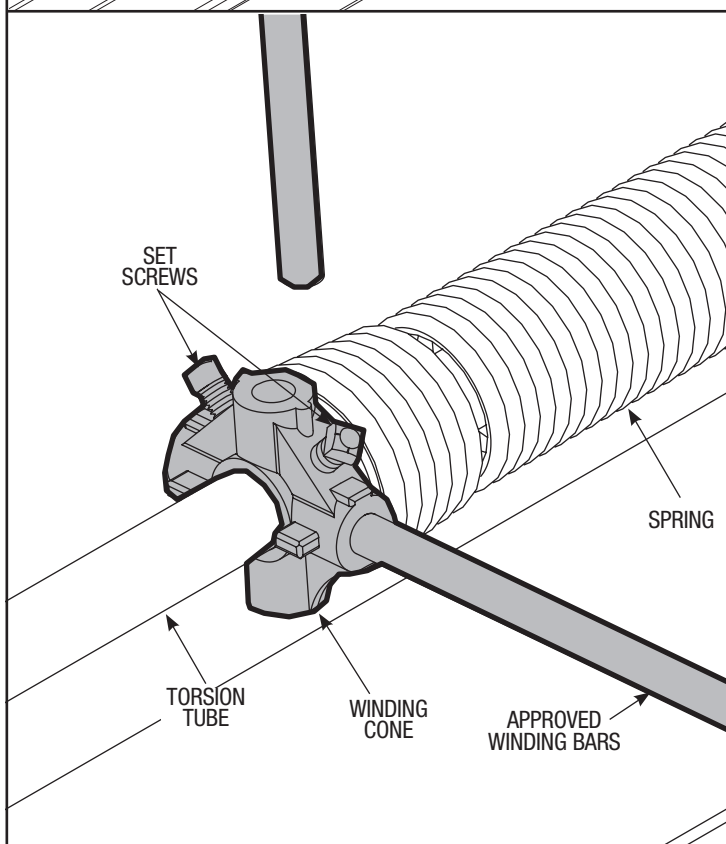
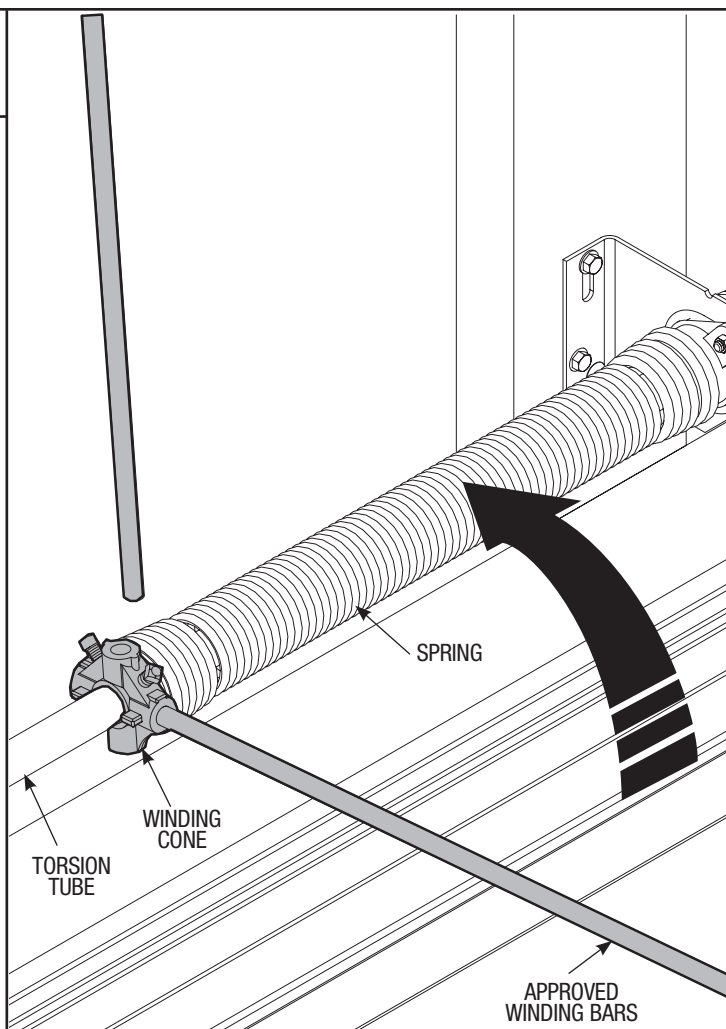
⚠ WARNING

PRIOR TO WINDING OR MAKING ADJUSTMENTS TO THE SPRINGS, ENSURE YOU'RE WINDING IN THE PROPER DIRECTION AS STATED IN THE INSTALLATION INSTRUCTIONS. OTHERWISE THE SPRING FITTINGS MAY RELEASE FROM SPRING IF NOT WOUND IN THE PROPER DIRECTION AND COULD RESULT IN SEVERE OR FATAL INJURY.

Alternately inserting the winding bars into the holes of the spring's winding cone, rotate the winding cone upward toward ceiling, 1/4 turn at a time, until the required number of complete turns for your door height is achieved. As the last 1/4 turn is achieved, securely hold winding bar while tightening both set screws in winding cone to 14-15 ft. lbs. of torque (Once set screws contact the tube, tighten screws one full turn). Carefully remove winding bar from winding cone. Proceed to wind the second spring in the same manner. While holding the door down, to prevent it from rising unexpectedly, in the event the spring(s) were overwound, carefully remove the locking clamps from the torsion tube and the vertical tracks.

IMPORTANT: CAUTIOUSLY REMOVE LOCKING PLIERS FROM THE TORSION TUBE AND LOCKING CLAMPS FROM THE VERTICAL TRACKS.

Adjustments to the required from the number of turns stated may be necessary. If door raises off floor under spring tension alone, Reduce spring tension until door rests on the floor. If the door is hard to raise or drifts down on its own, add spring tension. An unbalanced door such as this can cause garage door opener operation problems.



Rear Support

Tools Needed:
Ratchet Wrench
1/2" Socket
1/2" Wrench
(2) Vice Clamps

⚠ WARNING

KEEP HORIZONTAL TRACK PARALLEL AND WITHIN 3/4" MAXIMUM OF DOOR EDGE, OTHERWISE DOOR COULD FALL, RESULTING IN SEVERE INJURY OR DEATH.

Raise the door until the top section and half of the next section are in a horizontal position. Do not raise door any further since rear of horizontal track is not yet supported.

⚠ WARNING

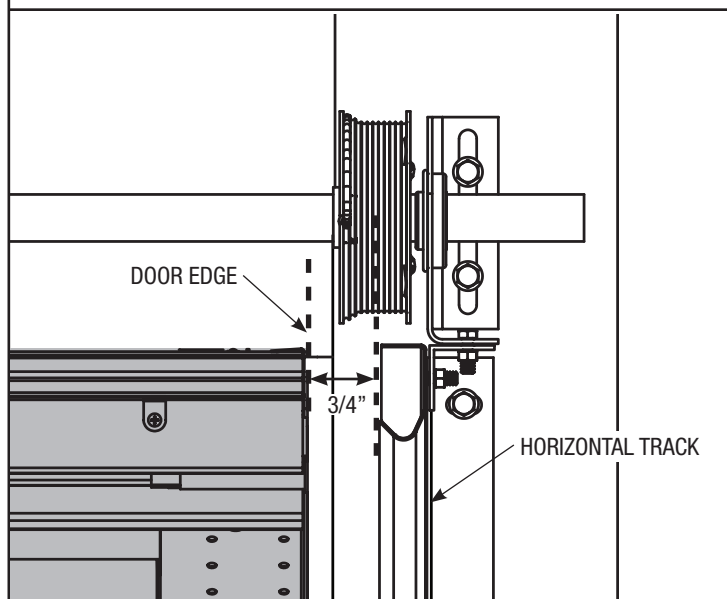
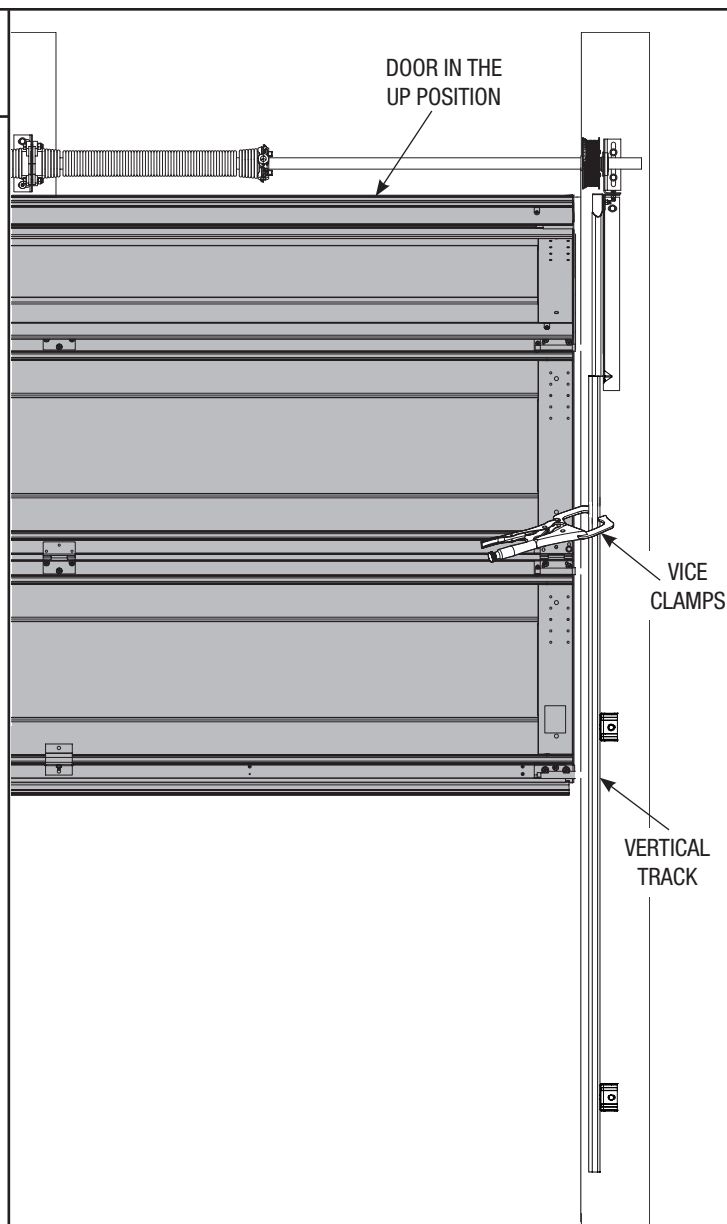
RAISING DOOR FURTHER CAN RESULT IN DOOR FALLING AND CAUSE SEVERE INJURY OR DEATH.

Clamp a pair of vice clamps on the vertical tracks just above the second roller on one side, just below the second roller on the other side. This will prevent the door from raising or lowering while installing the rear support.

Using perforated angle, 5/16" x 1-5/8" hex head lag screws and 5/16" bolts with nuts (may not be supplied), fabricate rear support for horizontal tracks. Attach horizontal tracks to the rear supports with 5/16" - 18 x 1-1/4" hex bolts and nuts (may not be supplied). Horizontal tracks must be level and parallel with door.

NOTE: If rear supports are to be installed over drywall, use 5/16" x 2" hex head lag screws.

Adjust weather seal (if necessary) Now permanently attach the weather seal to both door jambs and header. (Temporarily attached in PREPARING THE OPENING on page 10.) Avoid pushing weather seal stop too tightly against face of door.



Rear Support Continued...

Tools Needed:

WARNING

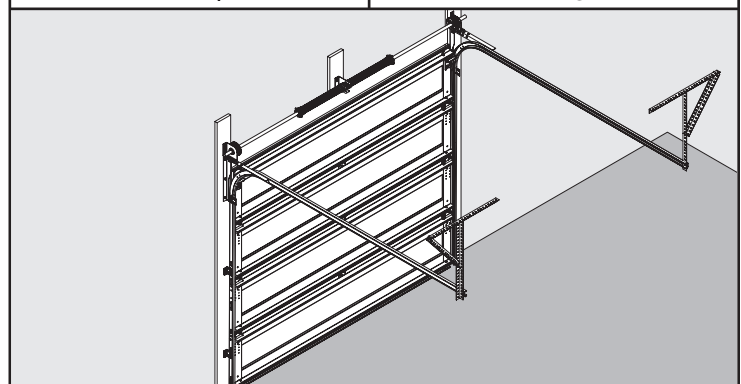
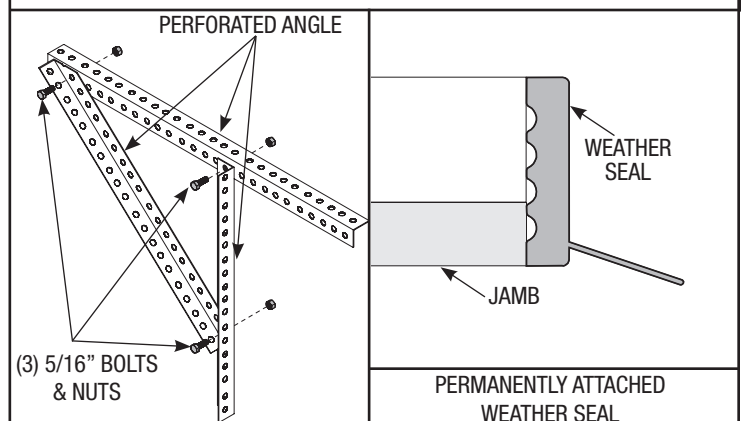
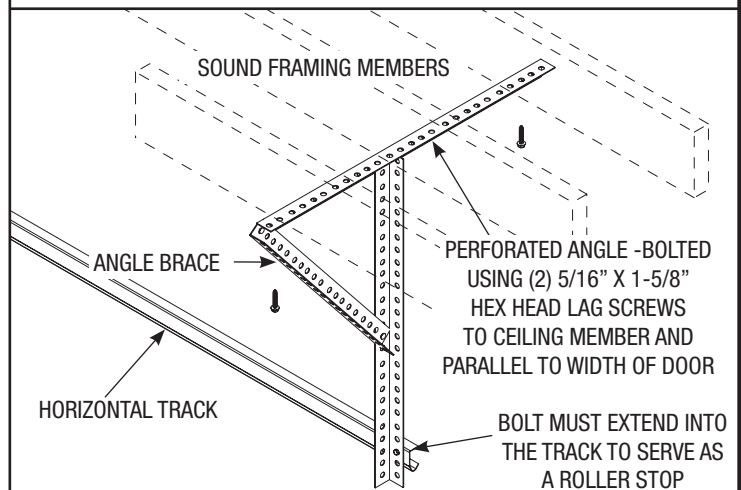
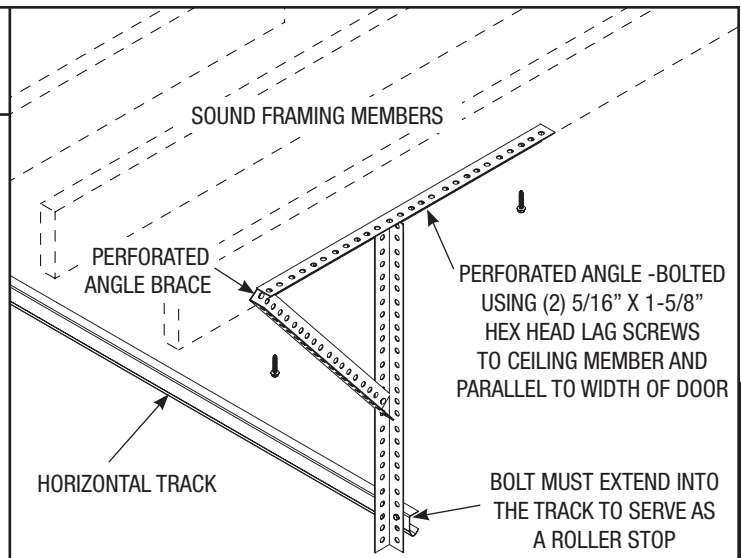
PRIOR TO WINDING OR MAKING ADJUSTMENTS TO THE SPRINGS, ENSURE YOU'RE WINDING IN THE PROPER DIRECTION AS STATED IN THE INSTALLATION INSTRUCTIONS. OTHERWISE THE SPRING FITTINGS MAY RELEASE FROM SPRING IF NOT WOUND IN THE PROPER DIRECTION AND COULD RESULT IN SEVERE OR FATAL INJURY.

To adjust spring tension, fully close door. Apply locking pliers to track above third roller. Insert a winding bar into the winding cone. Push upward on the winding bar while carefully loosening the set screws in the winding cone. BE PREPARED TO SUPPORT THE FULL FORCE OF THE TORSION SPRING ONCE THE SET SCREWS ARE LOOSE. Carefully adjust spring tension 1/4 turn. Retighten both set screws in the winding cone and repeat for the other side. Recheck door balance DO NOT ADJUST MORE THAN 1/2 TURN FROM THE RECOMMENDED NUMBER OF TURNS. If door still does not balance correctly, contact a qualified door agency.


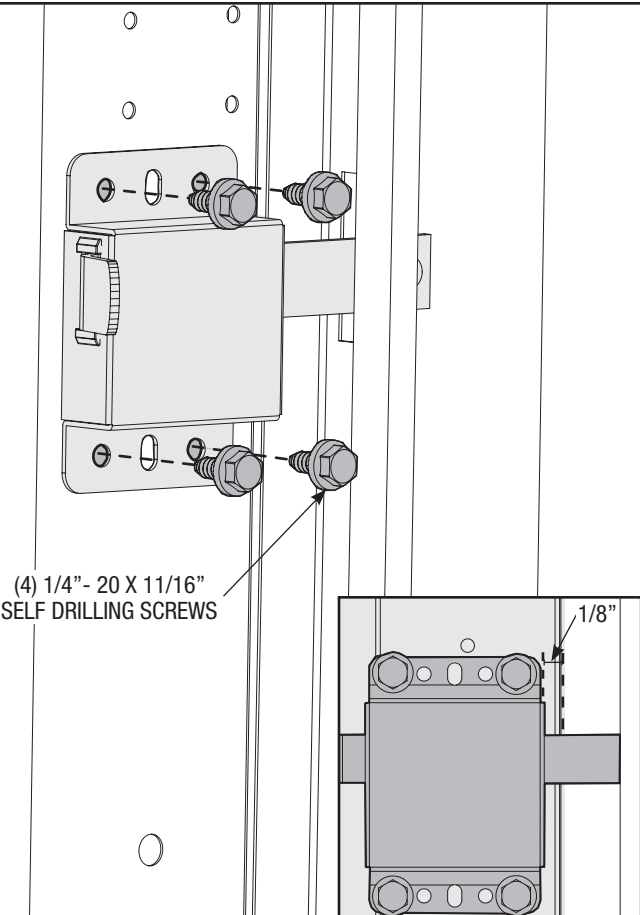
If the door still does not operate easily, lower the door into the closed position, UNWIND THE SPRING(S) FULLY (Refer to "P1" on page 6 "Torsion Spring Removal For Standard Lift") and recheck the following the items:


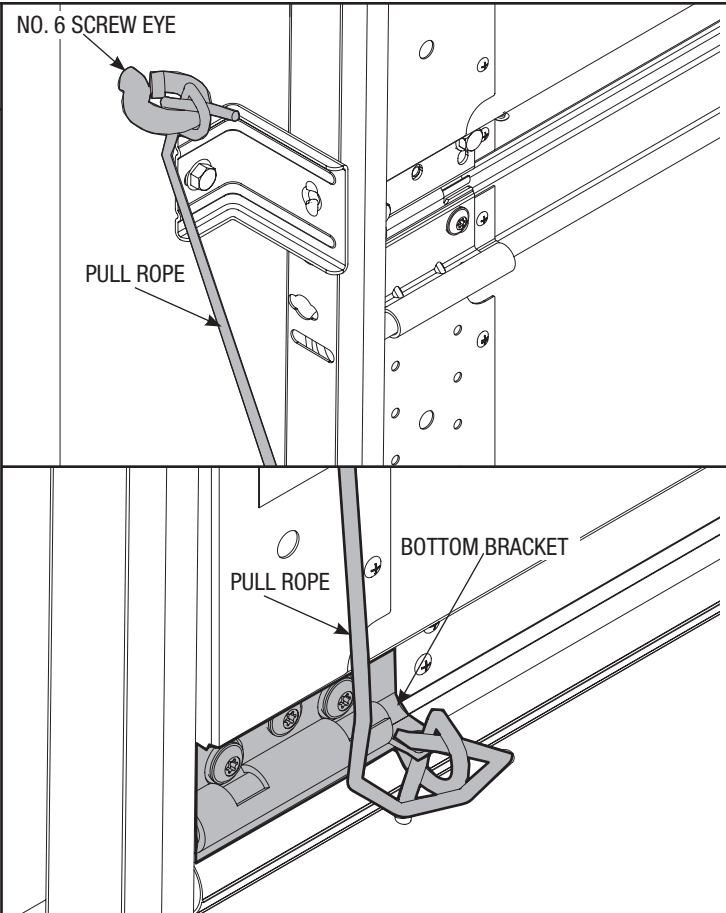
- 1.) Check the door for level.
- 2.) Check the torsion tube for level.
- 3.) Check the track spacing.
- 4.) Check the counterbalance cables for equal tension.
- 5.) Check the track for potential obstruction of the rollers.
- 6.) Clamp locking pliers onto track and rewind springs

IMPORTANT: IF DOOR STILL DOES NOT OPERATE PROPERLY, THEN CONTACT A QUALIFIED DOOR AGENCY.



INSTALLATION

	<h2>Side Lock</h2>	
<p>Tools Needed:</p> <p>Power Drill</p> <p>7/16" Socket Driver</p>	<p>Install the side lock on the second section of the door. Secure the lock to the section with (4) 1/4" - 20 x 11/16" self drilling screws. Square the lock assembly with the door section and align with the square hole in the vertical track. The side lock should be spaced in approximately 1/8" from the section edge.</p> <p>IMPORTANT: SIDE LOCKS MUST BE REMOVED OR MADE INOPERATIVE IN THE UNLOCKED POSITION IF AN OPERATOR IS INSTALLED ON THE DOOR.</p> <p>NOTE: After completing this step, continue with step 7 on page 16.</p>	

	<h2>Pull Rope</h2>	
<p>Tools Needed:</p> <p>Power Drill</p> <p>1/8" Drill Bit</p>	<p>⚠ WARNING</p> <p>DO NOT INSTALL PULL ROPES ON DOORS WITH ELECTRIC OPERATORS. CHILDREN MAY BECOME ENTANGLED IN THE ROPE CAUSING SEVERE OR FATAL INJURY.</p> <p>Measure and mark the jamb approximately 48" to 50" (1220 to 1270 mm) from floor on the right or left side of door. Drill 1/8" pilot hole for No. 6 screw eye. Install the No. 6 screw eye. Tie the pull rope to the No. 6 screw eye and to the bottom bracket as shown.</p>	



Step Plate

Tools Needed:

7/16" Drill Bit

Power Drill

7/16" Wrench

Make one mark 1" (25 mm) up from the center of bottom edge of the bottom section and another mark 2-3/16" (56 mm) up from the first mark.

Drill a 7/16" (11 mm) hole through the section at each mark and insert the outside step plate.

Loosely fasten step plate slide to base with (1) 1/4" - 20 x 5/8" carriage bolt and nut.

Align inside step plate holes and fasten from inside using the #8 screws provided. Install one #8 x 3/4" screw in the bottom step plate hole. The screw in the top hole varies with door models.

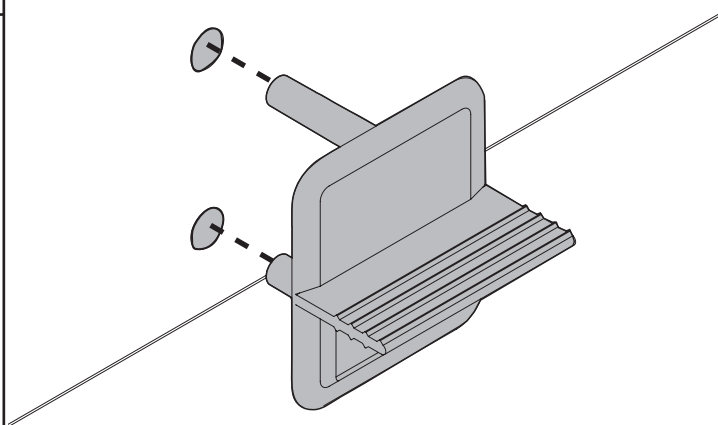
Use the screw size shown below for your model door.

a) #8 x 3/4" screw for Model 9100

b) #8 x 1" screw Model 9600

Tighten 1/4"-20 carriage bolt and nut.

STEP PLATE OUTSIDE

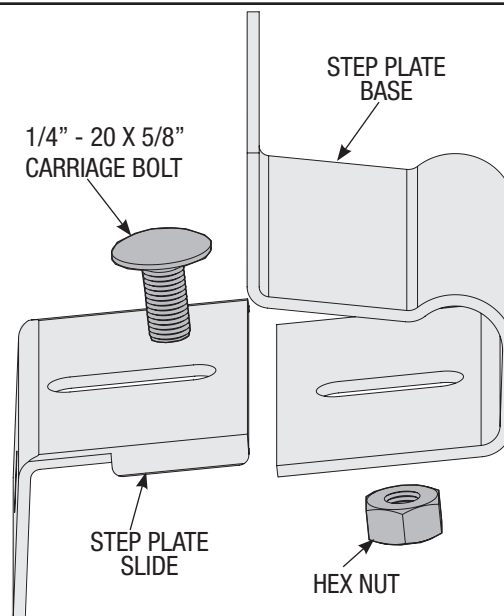


1/4" - 20 X 5/8"
CARRIAGE BOLT

STEP PLATE
BASE

STEP PLATE
SLIDE

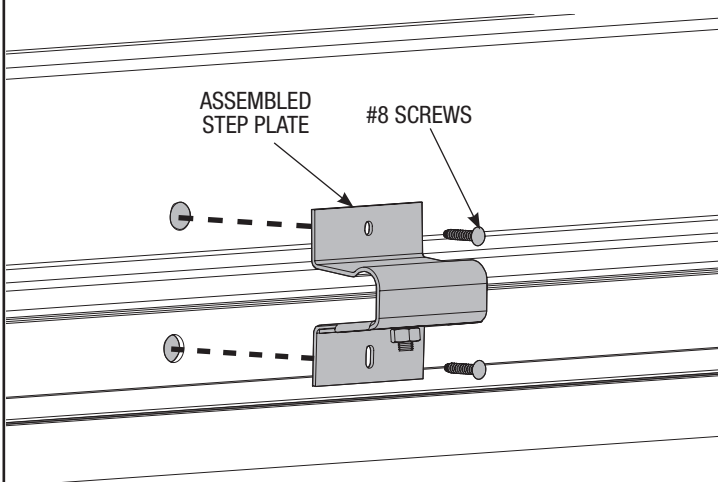
HEX NUT



STEP PLATE INSIDE

ASSEMBLED
STEP PLATE

#8 SCREWS





Trolley Installation for Standard Lift

Measure the curved ends of the horizontal track to determine if you have a 12" or 15" radius horizontal track, as shown in FIG. 2.1. Determine center line of door. Mark vertical line at this point, on the header wall. Raise the door slightly until the top section reaches the highest point of travel (high arc). Using a level, mark this high arc point of travel on the header wall, intersecting the vertical center line, as shown in FIG. 2.2 through 2.3. Hold the wall bracket's bottom edge to the appropriate 1/2" - 1" (room permitting) above of the high arc line and centered on the vertical line, as shown in FIG. 2.3. Spot the wall brackets mounting holes on the header wall and then refer to your garage door operator manual for pre-drilling and securing the wall bracket to header. Using the OPERATOR HOOK-UP CHARTS, refer to referenced illustrations in FIG. 2.4 through FIG. 2.5 for correct arm hook-up from trolley to operator bracket.

NOTE: Refer to your operator manual for specific details on how to assembly the curved and straight arm, as shown in FIG. 2.4 through FIG. 2.5.

NOTE: Depending on your setup, you may or may not have to cut straight arm to accomplish trolley settings, as shown in FIG. 2.4 through FIG. 2.5.

Attach door arm to trolley and align the appropriate door arm hole with the hole in the door operator bracket. Insert (1) hex head bolt through hole of operator bracket and door arm. Install (1) LOCKING hex nut and just tighten until snug.

⚠ WARNING

FAILURE TO USE LOCKING NUT CAN RESULT IN ARM RELEASING AND POSSIBLE RESULTING IN PROPERTY DAMAGE AND/OR PERSONAL INJURY.

QUANTUM AND CLASSIC OPERATORS REQUIRE:

(1) 3/8" - 16 x 1" hex bolt and (1) 3/8" - 16 LOCKING hex nut, as shown in FIG. 2.6.

LINEAR, LIFTMASTER (SEARS), GENIE OPERATORS REQUIRE:

(1) 5/16" - 18 x 1" hex bolt and (1) 5/16" - 18 LOCKING hex nut, as shown in FIG. 2.6.

DETERMINE THE WAYNE-DALTON TRACK RADIUS BEING USED:

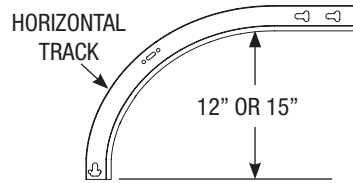


FIG. 2.1

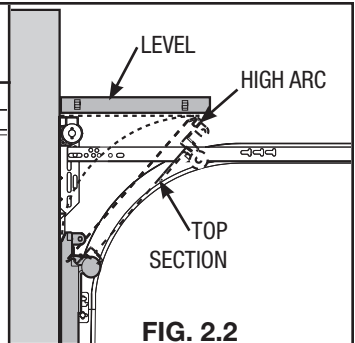


FIG. 2.2

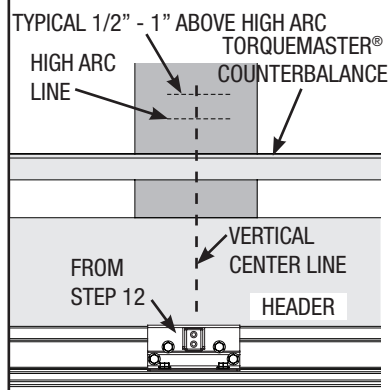


FIG. 2.3

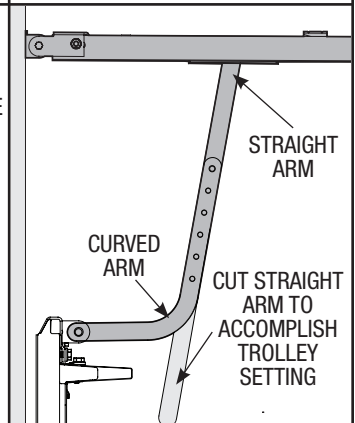


FIG. 2.4

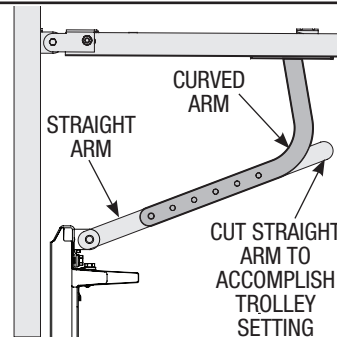


FIG. 2.5

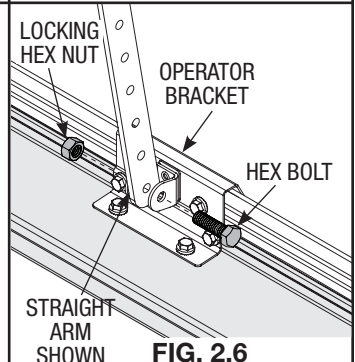


FIG. 2.6

OPERATOR HOOK-UP CHART STANDARD LIFT FOR 12" RADIUS

OPERATOR MODELS	TYPE OF ARM BEING USED	REF. ILLUSTRATIONS ABOVE
QUANTUM/CLASSIC	CURVED / STRAIGHT	FIG. 2.5
LINEAR	STRAIGHT / CURVED	FIG. 2.4
LIFTMASTER (SEARS)	CURVED / STRAIGHT	FIG. 2.5
GENIE	CURVED / STRAIGHT	FIG. 2.5

OPERATOR HOOK-UP CHART STANDARD LIFT FOR 15" RADIUS

OPERATOR MODELS	TYPE OF ARM BEING USED	REF. ILLUSTRATIONS ABOVE
QUANTUM/CLASSIC	CURVED / STRAIGHT	FIG. 2.5
LINEAR	STRAIGHT / CURVED	FIG. 2.4
LIFTMASTER (SEARS)	CURVED / STRAIGHT	FIG. 2.5
GENIE	CURVED / STRAIGHT	FIG. 2.5



Trolley Installation for Low Headroom

Determine center line of door. Mark vertical line at this point, on the header wall. Raise the door slightly until the top section reaches the highest point of travel (high arc). Using a level, mark this high arc point of travel on the header wall, intersecting the vertical center line, as shown in FIG. 3.1 through FIG. 3.2. Hold the wall bracket's bottom edge to the appropriate 1/2" - 1" (room permitting) above of the high arc line and centered on the vertical line, as shown in FIG. 3.2. Spot the wall brackets mounting holes on the header wall and then refer to your garage door operator manual for pre-drilling and securing the wall bracket to header. Using the OPERATOR HOOK-UP CHARTS, refer to referenced illustrations in FIG. 3.3 through FIG. 3.4 for correct arm hook-up from trolley to operator bracket.

NOTE: Refer to your operator manual for specific details on how to assembly the curved and straight arm, as shown in FIG. 3.3 through FIG. 3.4.

NOTE: Depending on your setup, you may or may not have to cut straight arm to accomplish trolley settings, as shown in FIG. 3.3 through FIG. 3.4.

Attach door arm to trolley and align the appropriate door arm hole with the hole in the door operator bracket. Insert (1) hex head bolt through hole of operator bracket and door arm. Install (1) LOCKING hex nut and just tighten until snug.

WARNING

FAILURE TO USE LOCKING NUT CAN RESULT IN ARM RELEASING AND POSSIBLE RESULTING IN PROPERTY DAMAGE AND/OR PERSONAL INJURY.

QUANTUM AND CLASSIC OPERATORS REQUIRE:

(1) 3/8" - 16 x 1" hex bolt and (1) 3/8" - 16 LOCKING hex nut, as shown in FIG. 3.5.

LINEAR, LIFTMASTER (SEARS), GENIE OPERATORS REQUIRE:

(1) 5/16" - 18 x 1" hex bolt and (1) 5/16" - 18 LOCKING hex nut, as shown in FIG. 3.5.

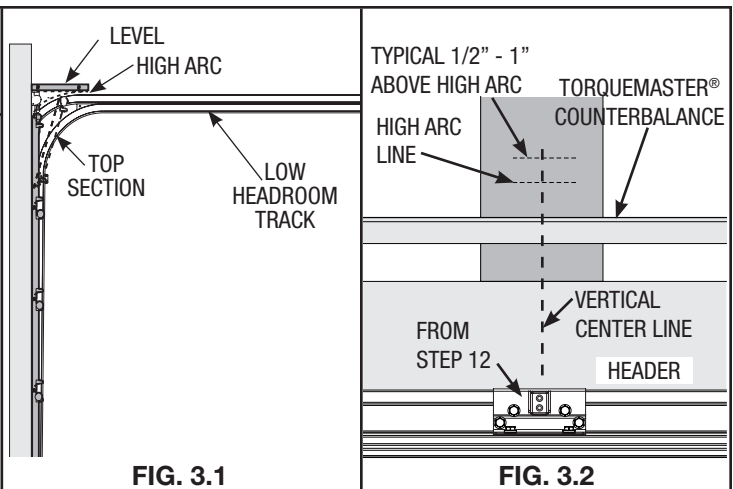


FIG. 3.1

FIG. 3.2

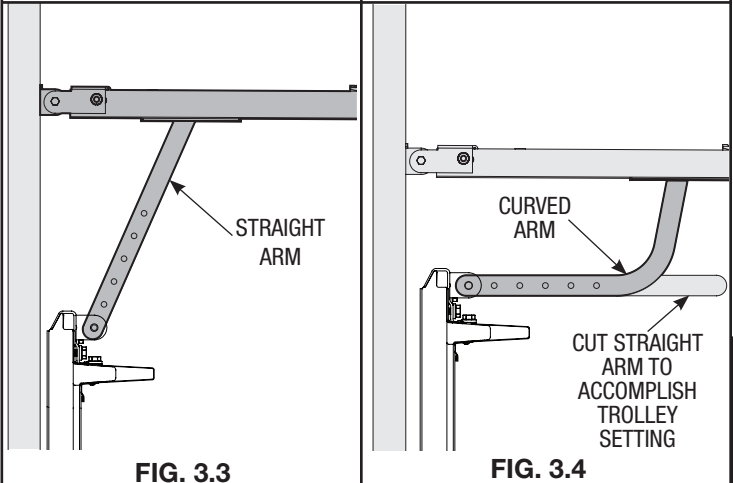


FIG. 3.3

FIG. 3.4

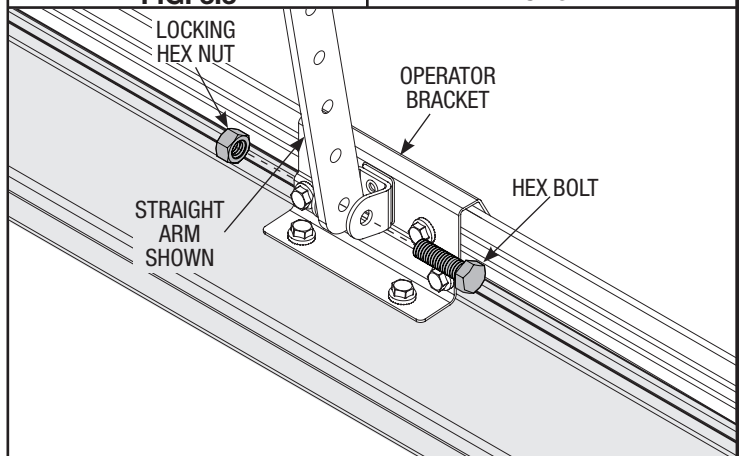


FIG. 3.5

OPERATOR HOOK-UP CHART FOR LOW HEADROOM

OPERATOR MODELS	TYPE OF ARM BEING USED			
	PREFERRED HOOKUP	REF. ILLUSTRATIONS ABOVE	OPTIONAL HOOKUP	REF. ILLUSTRATIONS ABOVE
QUANTUM/CLASSIC	CURVED / STRAIGHT	FIG. 3.4	STRAIGHT	FIG. 3.3
LINEAR	STRAIGHT	FIG. 3.3	N/A	N/A
LIFTMASTER (SEARS)	CURVED / STRAIGHT	FIG. 3.4	STRAIGHT	FIG. 3.3
GENIE	CURVED / STRAIGHT	FIG. 3.4	STRAIGHT	FIG. 3.3



Trolley Operator

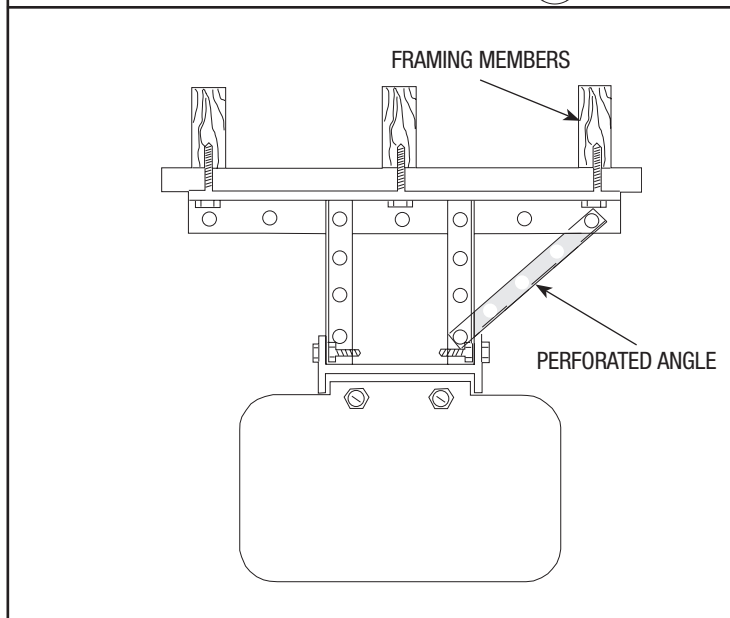
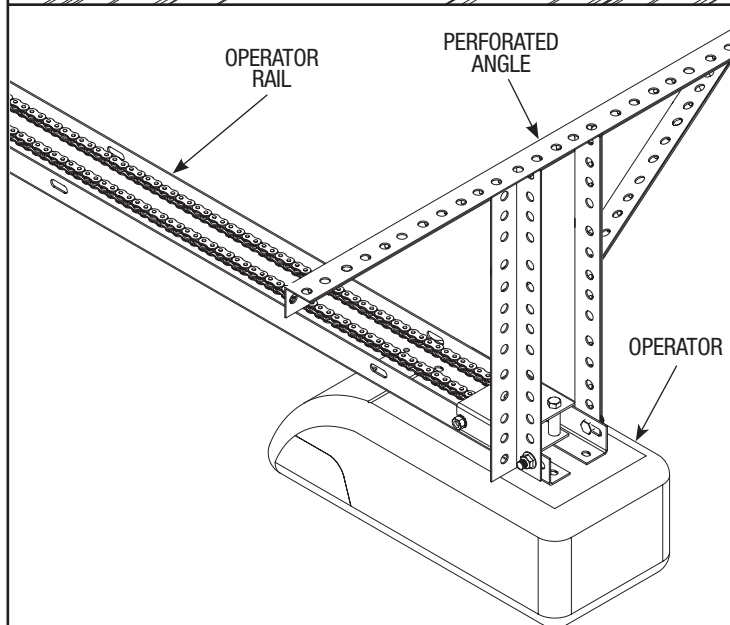
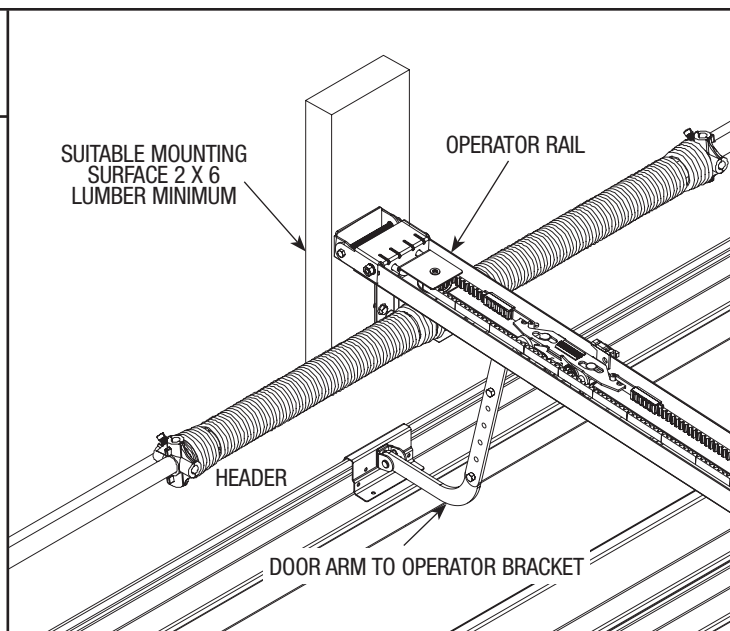
Tools Needed:

WARNING

OPERATOR MUST BE TESTED AT TIME OF INSTALLATION AND MONTHLY THEREAFTER TO ENSURE THAT DOOR REVERSES ON CONTACT WITH 2 X 4 BOARD LAID FLAT UNDER THE DOOR. FAILURE TO ADJUST OPERATOR, IF NECESSARY, CAN RESULT IN SEVERE OR FATAL INJURY. IF YOUR OPERATOR IS EQUIPPED WITH A PHOTOELECTRIC EYE SYSTEM, THEN THIS MUST BE TESTED AT THE SAME TIME TO ENSURE THAT DOOR DOES NOT CLOSE AND A CLOSING DOOR OPENS IF PHOTOELECTRIC EYE SYSTEM IS OBSTRUCTED. FAILURE TO MAKE ADJUSTMENTS, IF NECESSARY, CAN RESULT IN SEVERE OR FATAL INJURY.

1. Install operator rail 1/2" to 1-1/2" (13 - 38 mm) above high arc of top section of the door.
2. Mount operator to ceiling so that 1" to 1-1/2" (25 - 38 mm) clearance is maintained between trolley rail and top section when door is fully open (trolley rail will slope down towards rear).
3. Attach door arm to operator bracket installed in Step 10.
4. Attach operator rail to suitable mounting surface, 2 x 6 lumber minimum.
5. Attach operator to ceiling using perforated angle.

IMPORTANT: ANGLES MUST BE SECURELY ATTACHED TO SOUND FRAMING MEMBER(S).





Cleaning

Cleaning Your Garage Door

IMPORTANT: DO NOT USE A PRESSURE WASHER ON YOUR GARAGE DOOR!

While factory-applied finishes on garage doors are durable, it is desirable to clean them on a routine basis. Some discoloration of the finish may occur when a door has been exposed to dirt-laden atmosphere for a period of time. Slight chalking may also occur as a result of direct exposure to sunlight.

Cleaning the door will generally restore the appearance of the finish. To maintain an aesthetically pleasing finish of the garage door, a periodic washing of the garage door is recommended.

The following cleaning solution is recommended

A mild detergent solution consisting of one cup detergent (with less than 0.5% phosphate) dissolved into five gallons of warm water will aid in the removal of most dirt.

NOTE: The use of detergents containing greater than 0.5% phosphate is not recommended for use in general cleaning of garage doors.

NOTE: Be sure to clean behind weather stripping on both sides and top of door.

CAUTION: NEVER MIX CLEANSERS OR DETERGENTS WITH BLEACH.

GLASS CLEANING INSTRUCTIONS

Clean with a mild detergent solution (same as above) and a soft cloth. After cleaning, rinse thoroughly.

ACRYLIC CLEANING INSTRUCTIONS

Clean acrylic glazing with nonabrasive soap or detergent and plenty of water. Use your bare hands to feel and dislodge any caked on particles. A soft, grit-free cloth, sponge or chamois may be used to wipe the surface. Do not use hard or rough cloths that will scratch the acrylic glazing. Dry glazing with a clean damp chamois.

NOTE: DO NOT USE any window cleaning fluids, scouring compounds, gritty cloths or solvent-based cleaners of any kind.



Painting

Surface Preparation for Painting

Wax on the surface must be removed or paint peeling/flaking will result. To remove this wax, it will be necessary to lightly scuff the surface with a fine steel wool pad, saturated with soapy water. A final wipe and rinse should be done with clean water only, to remove any loose particles and any soapy film residue.

Surface scratches, which have not exposed the metal substrate, can be lightly buffed or sanded with 0000 steel wool or No. 400 sand paper to create a smoother surface. Care must be taken to not expose the substrate under the paint. Once the substrate is exposed, the likelihood for rusting is greatly increased.

If substrate is exposed, it must be treated to prevent rust from forming. Sand the exposed area lightly and paint with a high quality metal primer, specifically intended for galvanized surfaces, to protect the area from corrosion. Allow for drying time on primer can label before applying topcoat. The surface of the factory-applied finish, that is being painted, must not be too smooth, or the paint will not adhere to it. It is advisable to test in an inconspicuous area, to evaluate adhesion. If poor adhesion is observed, surface preparation for painting the factory-applied finish must be repeated until desired results are achieved. Again, care must be taken to not expose the substrate under the paint.

Painting

After surface has been properly prepared, it must be allowed to dry thoroughly, and then coated immediately with premium quality latex house paint. Follow paint label directions explicitly. Oil base or solvent base paints are not recommended. Please note that if substrate is exposed and not properly primed, painting with latex paint may cause accelerated rusting of the steel in the exposed area.

Painting Continued....

NOTES:

1. Repainting of finish painted steel doors cannot be warranted, as this condition is totally beyond the door manufacturer's control.
2. Consult a professional coatings contractor if in doubt about any of the above directions.
3. Follow directions explicitly on the paint container labels for proper applications of coatings and disposal of containers. Pay particular attention to acceptable weather and temperature conditions in which to paint.

Lifetime Limited Warranty Models 9100, 9400, 9600

Subject to the terms and conditions contained in this Lifetime Limited Warranty, Wayne-Dalton Corp. ("Manufacturer") warrants the sections of the door, which is described at the top of this page, **for as long as you own the door** against:

- (i) The door becoming inoperable due to rust-through of the steel skin from the core of the door section, due to cracking, splitting, or other deterioration of the steel skin, or due to structural failure caused by separation or degradation of the foam insulation.
- (ii) Peeling of the original paint on the door as a result of a defect in the original paint or in the application of the original paint coating, in cases where the door sections and the original paint: (a) have not been subjected to adverse atmospheric conditions or contaminants (such as salt water or other marine environment, or to toxic or abrasive substances, including those in the air); (b) have been maintained in compliance with Manufacturer's recommendations; and (c) have not been subject to physical abrasion, impacted by a hard object, or punctured (including without limitation "paint rub" occurring in metal to metal contact and movement).

The Manufacturer warrants the garage door hardware (except springs) and the tracks of the above-described door, **for as long as you own the door**, against defects in material and workmanship, subject to all the terms and conditions below.

The Manufacturer warrants those component parts of the door not covered by the preceding provisions of this Lifetime Limited Warranty against defects in material and workmanship for a period of **ONE (1) YEAR** from the date of installation.

The Manufacturer warrants the factory-applied finish and the factory attached stiles against fading and cosmetic changes from the time of installation for **TWO (2) YEARS**. If the door is re-stained or re-painted, the **TWO (2) YEARS** warranty for the factory-applied finish is void. The Model 9400 factory attached stiles are warranted against peeling, cracking, chalking, or delamination from the time of installation for **TWO (2) YEARS**.

After a period of **TWENTY (20) YEARS**, from time of installation, replacement of Lifetime Limited Warranty materials will be pro-rated at 50 per cent of Manufacturer's published list pricing at time of claim, and you must pay this amount.

This Limited Warranty is extended only to the person who purchased the product and continues to own the premises (where the door is installed) as his/her primary residence ("Buyer"). This Limited Warranty does not apply to residences other than primary, or to commercial or industrial installations, or to installations on rental property (even when used by a tenant as a residence). This Limited Warranty is not transferable to any other person (even when the premises is sold), nor does it extend benefits to any other person. As a result this warranty does NOT apply to any person who purchases this product from someone other than an authorized Wayne-Dalton dealer or distributor.

The Manufacturer will not be responsible for any damage attributable to improper storage, improper installation, or any alteration of the door or its components, abuse, damage from corrosive fumes or substances, salt spray or saltwater air, fire, Acts of God, failure to properly maintain the door, or attempt to use the door, its components or related products for other than its intended purpose and its customary usage. This Limited Warranty does not cover ordinary wear. This Limited Warranty will be voided if the original finish is painted over, unless Manufacturer's preparation and painting instructions are followed explicitly. This Limited Warranty will be voided if any holes are drilled into the door, other than those specified by the Manufacturer.

THIS LIMITED WARRANTY COVERS A CONSUMER PRODUCT AS DEFINED BY THE MAGNUSON-MOSS ACT. NO WARRANTIES, EXPRESS OR IMPLIED (INCLUDING BUT NOT LIMITED TO THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) WILL EXTEND BEYOND THE TIME PERIOD SET FORTH IN **UNDER-SCORED BOLD FACE** TYPE IN THIS LIMITED WARRANTY, ABOVE.

- Some States do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

Any claim under this Limited Warranty must be made in writing, within the applicable warranty period, to the dealer from which the product was purchased. Unless the dealer is no longer in business, a written claim to the Manufacturer will be the same as if no claim had been made at all.

At the Manufacturer's option, a service representative may inspect the product on site, or Buyer may be required to return the product to the Manufacturer at Buyer's expense. Buyer agrees to cooperate with any representative of the Manufacturer and to give such representative full access to the product with the claimed defect and full access to the location of its installation.

If the Manufacturer determines that the claim is valid under the terms of this Limited Warranty, the Manufacturer will repair or replace the defective product. The decision about the manner in which the defect will be remedied will be at the discretion of the Manufacturer, subject to applicable law. THE REMEDY WILL COVER ONLY MATERIAL. THIS LIMITED WARRANTY DOES NOT COVER OTHER CHARGES, SUCH AS FIELD SERVICE LABOR FOR REMOVAL, INSTALLATION, PAINTING, SHIPPING, ETC.

Any repairs or replacements arranged by Manufacturer will be covered by (and subject to) the terms, conditions, limitations and exceptions of this Limited Warranty; provided, however, that the installation date for the repaired or replaced product will be deemed to be the date the original product was installed, and this Limited Warranty will expire at the same time as if there had been no defect. If a claim under this Limited Warranty is resolved in a manner other than described in the immediately preceding paragraph, then neither this Limited Warranty nor any other warranty from the Manufacturer will cover the repaired or replaced portion of the product.

THE REMEDIES FOR THE BUYER DESCRIBED IN THIS LIMITED WARRANTY ARE EXCLUSIVE and take the place of any other remedy. The liability of the Manufacturer, whether in contract or tort, under warranty, product liability, or otherwise, will not go beyond the Manufacturer's obligation to repair or replace, at its option, as described above. THE MANUFACTURER WILL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, including (but not limited to) damage or loss of other property or equipment, personal injury, loss of profits or revenues, business or service interruptions, cost of capital, cost of purchase or replacement of other goods, or claims of third parties for any of the foregoing.

- Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

No employee, distributor, dealer, representative, or other person has the authority to modify any term or condition contained in this Limited Warranty or to grant any other warranty on behalf of or binding on the Manufacturer, and anyone's attempt to do so will be null and void.

Buyer should be prepared to verify the date of installation to the satisfaction of the Manufacturer.

The rights and obligations of the Manufacturer and Buyer under this Limited Warranty will be governed by the laws of the State of Ohio, USA, to the extent permitted by law.

- This Limited Warranty gives you specific legal rights and you may also have other rights, which may vary from State to State.

Covered by one or more of the following Patents; 5,408,724; 5,409,051; 5,419,010; 5,495,640; 5,522,446; 5,562,141; 5,566,740; 5,568,672; 5,718,533; 6,019,269; 6,089,304; 6,644,378; 6,374,567; 6,561,256; 6,527,037; 6,640,872; 6,672,362; 6,725,898; 6,843,300; 6,915,573; 6,951,237; 7,014,386; 7,036,548; 7,059,380; 7,121,317; 7,128,123; 7,134,471; 7,134,472; 7,219,392; 7,254,868. Canadian: 2,384,936; 2,477,445; 2,495,175; 2,507,590; 2,530,701; 2,530,74; 2, 2,532,824. Other US and Foreign Patents pending.

Please Do Not Return This Product To The Store

Contact your local Wayne-Dalton dealer. To find your local Wayne-Dalton dealer, refer to your local yellow pages business listings or go to the **Find a Dealer** section online at **www.wayne-dalton.com**

Thank you for your purchase