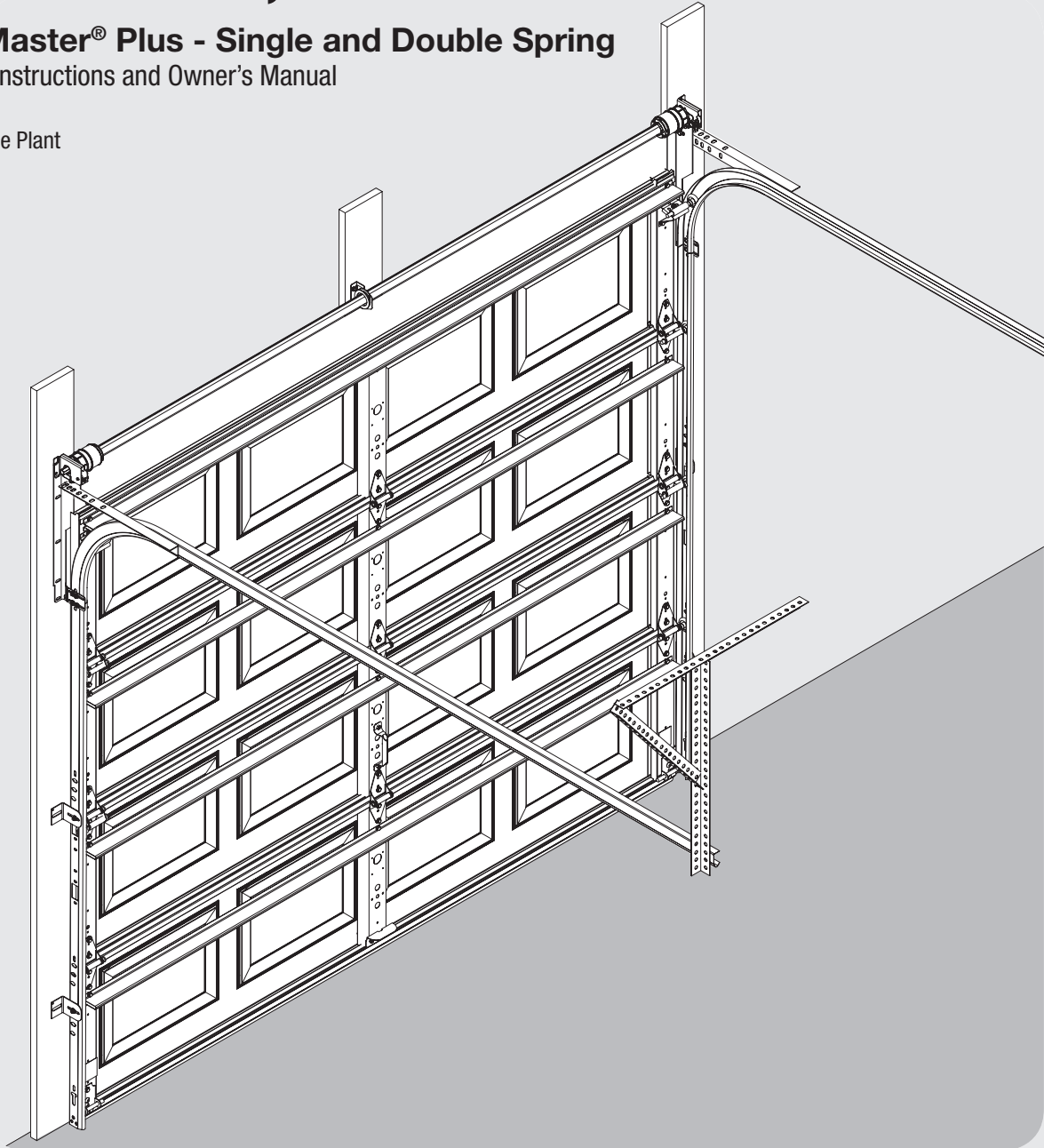




# 8000 Series, Model 46

**TorqueMaster® Plus - Single and Double Spring**  
Installation Instructions and Owner's Manual

Portland Source Plant



### **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 trained door systems technician do the installation or repairs.**

Wayne-Dalton Corp.  
P.O. Box 67  
Mt. Hope, OH 44660  
[www.wayne-dalton.com](http://www.wayne-dalton.com)

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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**

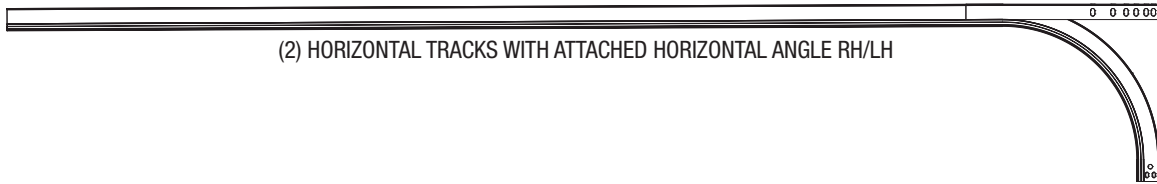
**TO AVOID POSSIBLE INJURY, READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING INSTALLATION. IF IN QUESTION ABOUT ANY OF THE PROCEDURES, DO NOT PERFORM THE WORK. INSTEAD, HAVE A TRAINED DOOR SYSTEMS TECHNICIAN DO THE INSTALLATION OR REPAIRS.**

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 severe or fatal 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.

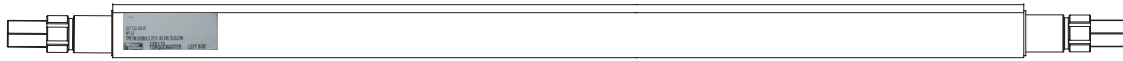
**After installation is complete, fasten this manual near garage door.**

# Package Contents

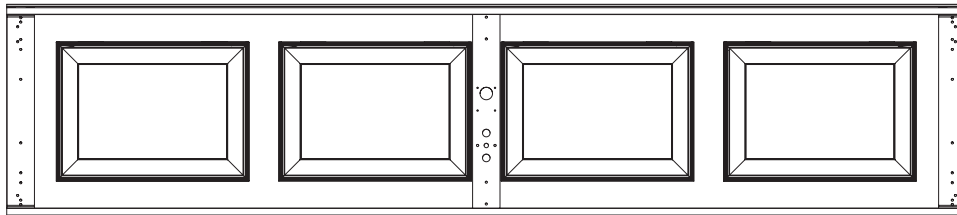
**NOTE:** DEPENDING ON THE DOOR MODEL, SOME PARTS LISTED WILL NOT BE SUPPLIED IF NOT NECESSARY. REAR SUPPORTS MAY OR MAY NOT BE INCLUDED WITH YOUR DOOR.



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



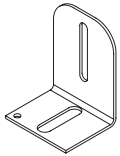
(1) TORQUEMASTER® SPRING TUBE



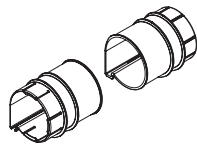
DOOR SECTIONS (AS REQUIRED)



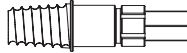
(2) VERTICAL RH/LH TRACKS



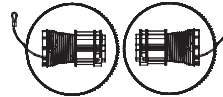
JAMB BRACKETS (AS REQUIRED)



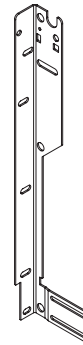
RIGHT & LEFT DRUM WRAPS



(1) LOOSE WINDING SHAFT (SINGLE SPRING ONLY)



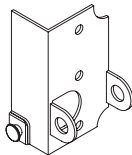
RIGHT AND LEFT CABLE DRUM ASSEMBLIES



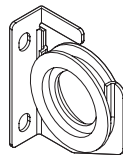
(2) FULLY ADJUSTABLE RH/LH FLAGANGLES



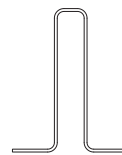
MANUAL



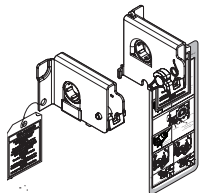
RIGHT AND LEFT BOTTOM BRACKETS



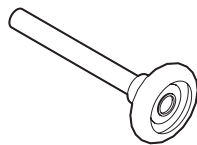
(1) CENTER BRACKET ASSEMBLY



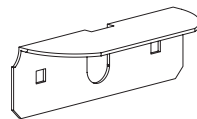
U-BAR (AS REQUIRED)



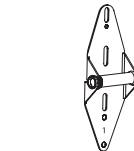
RIGHT & LEFT END BRACKETS



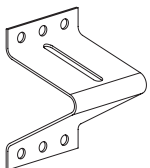
ROLLERS (AS REQUIRED)



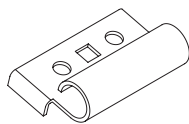
(2) STEP PLATES



#1, #2, #3 & #4 HINGES (AS REQUIRED)



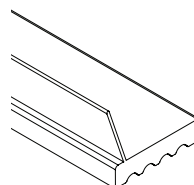
(2) TOP BRACKET BASES



(2) TOP BRACKET SLIDES



(2) LIFT HANDLES & SPACERS

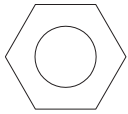


WEATHER SEAL & NAILS (IF INCLUDED)

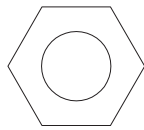


#6 SCREW EYE AND PULL ROPE (IF INCLUDED)

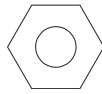
## Package Contents Continued...



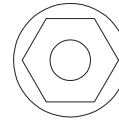
5/16" - 18 HEX NUTS  
(AS REQUIRED)



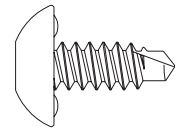
(2) 3/8" - 16  
HEX NUTS



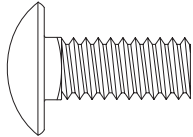
1/4" - 20 HEX NUTS  
(LIFT HANDLE)



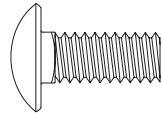
1/4" - 20 FLANGED HEX  
NUTS (AS REQUIRED)



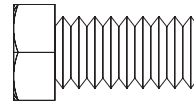
(2) 1/4" - 20 X 5/8" TAMPER-  
RESISTANT SCREWS



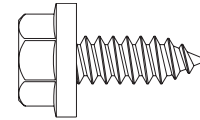
1/4" - 20 X 5/8" CARRIAGE  
BOLTS (AS REQUIRED)



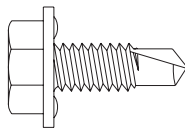
1/4" - 20 X 5/8" CARRIAGE  
BOLTS (AS REQUIRED)



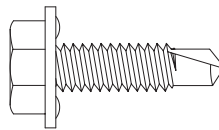
(2) 3/8" - 16 X 3/4"  
HEX HEAD BOLTS



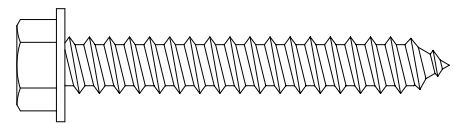
1/4" - 14 X 5/8" SELF TAPPING  
SCREWS (AS REQUIRED)



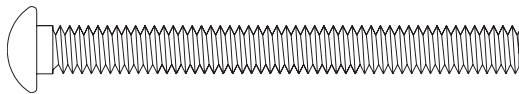
1/4" - 20 X 11/16" SELF DRILLING  
SCREWS (AS REQUIRED)



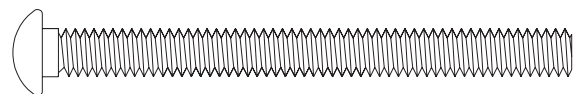
1/4" - 20 X 7/8" SELF DRILLING  
SCREWS (AS REQUIRED)



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



(2) 1/4" X 2-1/2" CARRIAGE BOLTS (LIFT HANDLE)



(2) 1/4" X 2-3/4" CARRIAGE BOLTS

## Door Section Identification

### Tools Needed:

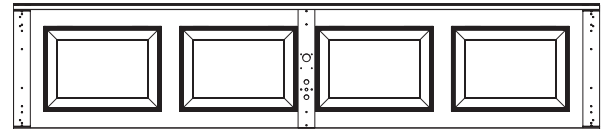
The **BOTTOM SECTION** can be identified by the factory attached bottom astragal and the bottom bracket warning labels on each end stile. This section is always the 1st section on four and five section doors.

The **LOCK SECTION** may have a yellow and black warning label on the right side of the section. This section is always the 2nd section from the bottom of the door.

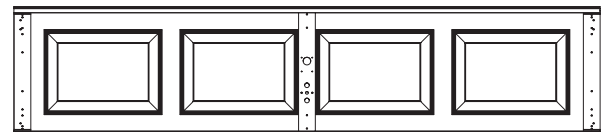
The **INTERMEDIATE I SECTION** may have a warning label attached to either right or left hand endstile of the section. This section is always the 3rd section from the bottom of the door.

The **INTERMEDIATE II SECTION** is always the 4th section on a five section door.

The **TOP SECTION** is always the 4th section on four section door and the 5th section on five section door.



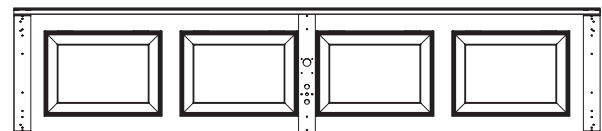
TOP SECTION



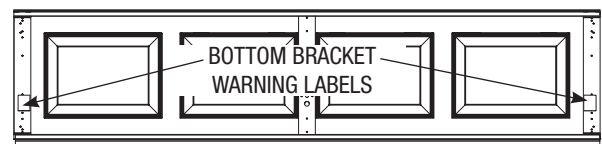
INTERMEDIATE II SECTION (5 SECTION DOORS ONLY)



INTERMEDIATE I SECTION

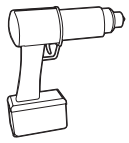


LOCK SECTION

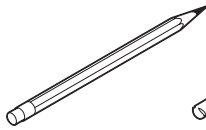


ASTRAGAL BOTTOM SECTION

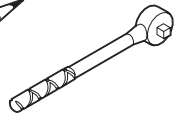
## Tools Required



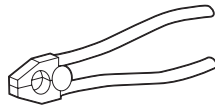
POWER DRILL



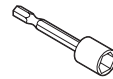
PENCIL



RATCHET WRENCH



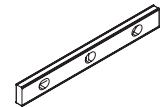
PLIERS/WIRE CUTTERS



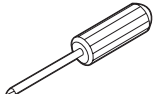
7/16", 1/2" SOCKET DRIVER



GLOVES



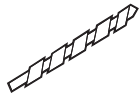
LEVEL



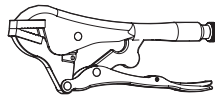
PHILLIPS HEAD SCREWDRIVER



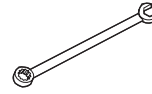
1/2", 9/16", 5/8" & SOCKET



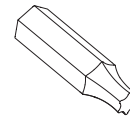
1/8", 3/16", 9/32", 5/16", 1/2" DRILL BITS



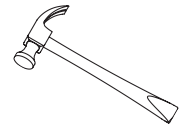
VICE GRIPS



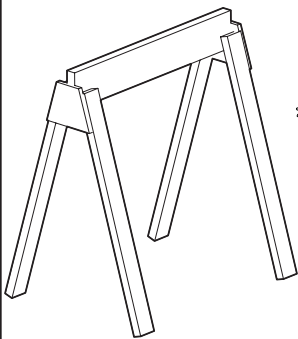
1/4", 3/8", 7/16", 1/2" & 9/16" WRENCHES



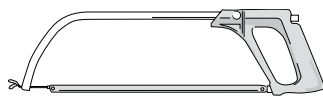
TORX BIT



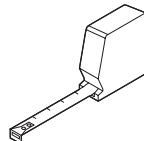
HAMMER



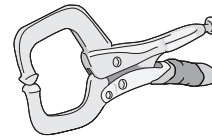
(2) SAWHORSES



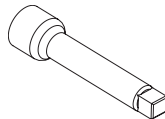
HACKSAW



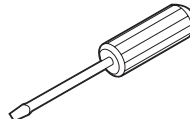
TAPE MEASURE



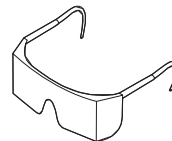
(2) VICE CLAMPS



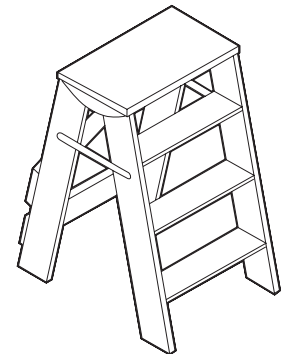
3" EXTENSION



FLAT TIP SCREWDRIVER



SAFETY GLASSES



STEP LADDER

## Removing an Existing Door

Counterbalance spring tension must always be released before any attempt is made to start removing an existing door.

### **⚠ WARNING**

A POWERFUL SPRING RELEASING ITS ENERGY SUDDENLY CAN CAUSE SEVERE OR FATAL INJURY. TO AVOID INJURY HAVE A TRAINED DOOR SYSTEMS TECHNICIAN, USING PROPER TOOLS AND INSTRUCTIONS, RELEASE THE SPRING TENSION.

For detailed information see supplemental instructions "removing an existing door/preparing the opening". These instructions are available at no charge from Wayne-Dalton Corp., P.O. Box 67, Mt. Hope, OH 44660, or at [www.wayne-dalton.com](http://www.wayne-dalton.com).

## 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 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](http://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 12" (305 mm) above the top of the opening for TorqueMaster® Plus counterbalance systems. 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 jambs, header and mounting surface. Any wood found not to be sound, must be replaced.

For TorqueMaster® Plus counterbalance systems, a suitable mounting pad (2" x 4") must be firmly attached to the wall, above the header at the center of the opening.

**NOTE:** Drill 3/16" pilot holes in the mounting pad to avoid splitting the lumber, and attach mounting pad with lag screws of appropriate length. Do not attach the mounting pad with nails.

### Weather Seal (May Not Be Included):

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

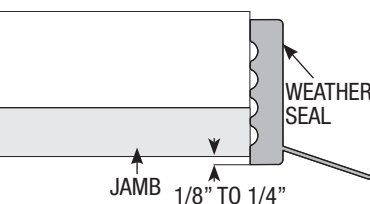
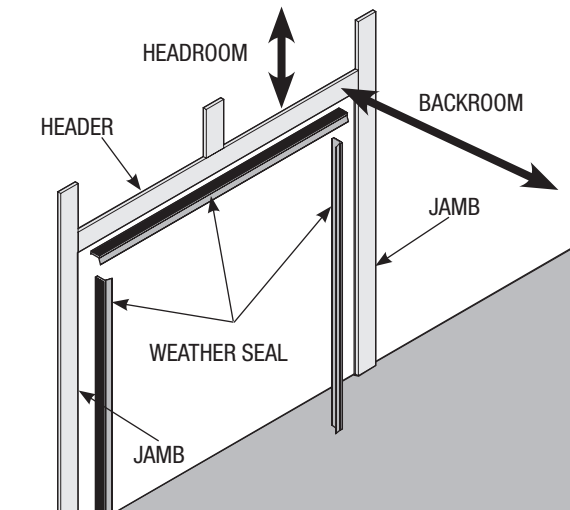
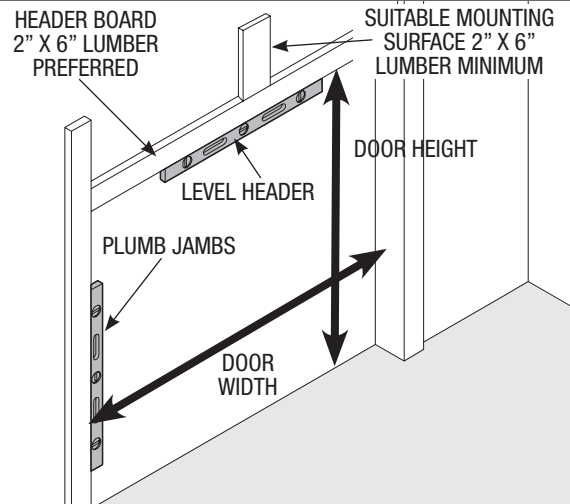
**For fully adjustable track:** Align the header seal 1/8" to 1/4" inside the header and temporarily secure it to the header with equally spaced nails. Next, fit the jamb seals up tight against the header seal and 1/8" to 1/4" inside the jamb. Temporarily secure the jamb seals with equally spaced nails. Equally space nails approximately 12" to 18" apart. This will keep the bottom section from falling out of the opening during installation.

**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" track 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® Plus
10", 12"	10"
14"	12"
3-1/2" LHR	6"
LHR Kit	6 1/2"

### BACKROOM REQUIREMENT

DOOR HEIGHT	TRACK	MANUAL LIFT	MOTOR OPERATED
6'5"	10", 12", 14" Radius	89"	125"
6'5"	Low Headroom	101"	125"
6'6"	10", 12", 14" Radius	90"	125"
6'6"	Low Headroom	102"	125"
7'0"	10", 12", 14" Radius	96"	125"
7'0"	Low Headroom	108"	125"
7'6"	10", 12", 14" Radius	102"	137"
7'6"	Low Headroom	114"	137"
8'0"	10", 12", 14" Radius	108"	137"
8'0"	Low Headroom	120"	137"

Begin the installation of the door by checking the opening. It must be the same size as the door. Vertical jambs must be plumb and the header level. Side clearance, from edge of door to wall, must be minimum of 3-1/2" (89 mm) on each side.

**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 will be pilot drilled using a 3/16" drill bit, prior to fastening.

# 1

## Cutting Vertical Track and Installing Fully Adjustable Jamb Brackets

Tools Needed:  
Tape Measure  
Hacksaw  
Power Drill  
5/16" Drill Bit

**NOTE:** If you have riveted track, skip this step.

Vertical track must be cut to the proper length prior to installation.

**IMPORTANT:** DOORS THAT ARE 7'-0" OR 8'-0" IN HEIGHT DO NOT REQUIRE CUTTING THE VERTICAL TRACK.

Determine the radius of your horizontal track. Using this measurement, refer to the vertical track cutting chart to determine the length of the vertical track. Cut the track off at the TOP.

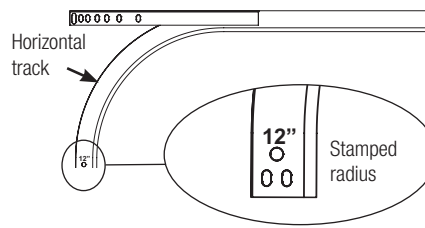
Now, two holes must be drilled into the top of the cut vertical track. Refer to the illustration shown for hole locations. Use a 5/16" drill bit.

Repeat for other vertical track.

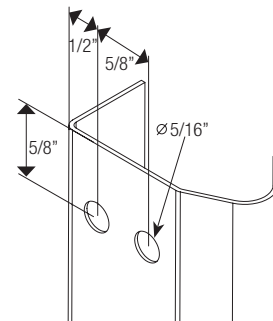
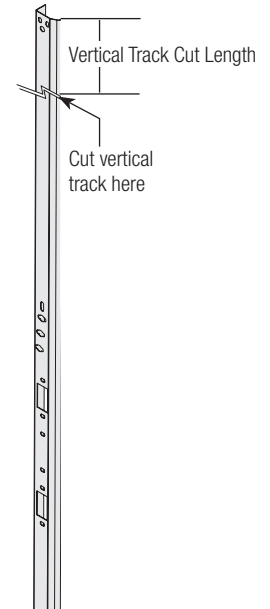
To attach the bottom jamb bracket, JB-2, locate the first set of quick install features of the vertical track. Align the slot in the jamb bracket with the slot above the quick install features in the vertical track. The long side of the bracket is placed against the track. Fasten the jamb bracket finger tight, using (1) 1/4" - 20 x 5/8" carriage bolt and (1) 1/4" - 20 flange hex nut.

To attach the top jamb bracket, JB-3, locate the third set of quick install features of the vertical track. Align the slot in the jamb bracket with the slot above the quick install features in the vertical track. The long side of the bracket is placed against the track. Fasten the jamb bracket finger tight, using (1) 1/4" - 20 x 5/8" carriage bolt and (1) 1/4" - 20 flange hex nut.

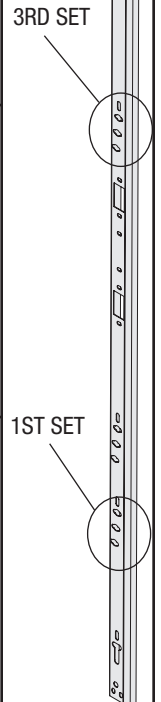
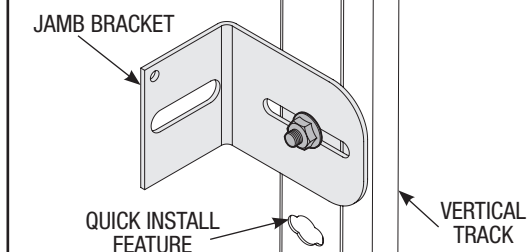
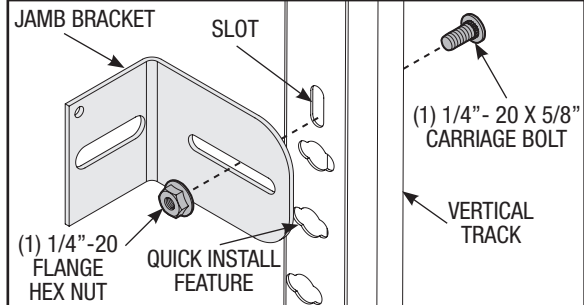
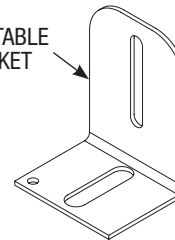
Repeat for other vertical track.



Vertical Track Cutting Chart	
Horizontal Track Radius	Vertical Track Cut Length
10", 12"	Door Height Minus 10"
14"	Door Height Minus 8"
3-1/2" LHR	Door Height Minus 15"
6-1/2" LHR	Door Height Minus 12"



FULLY ADJUSTABLE JAMB BRACKET





# 2

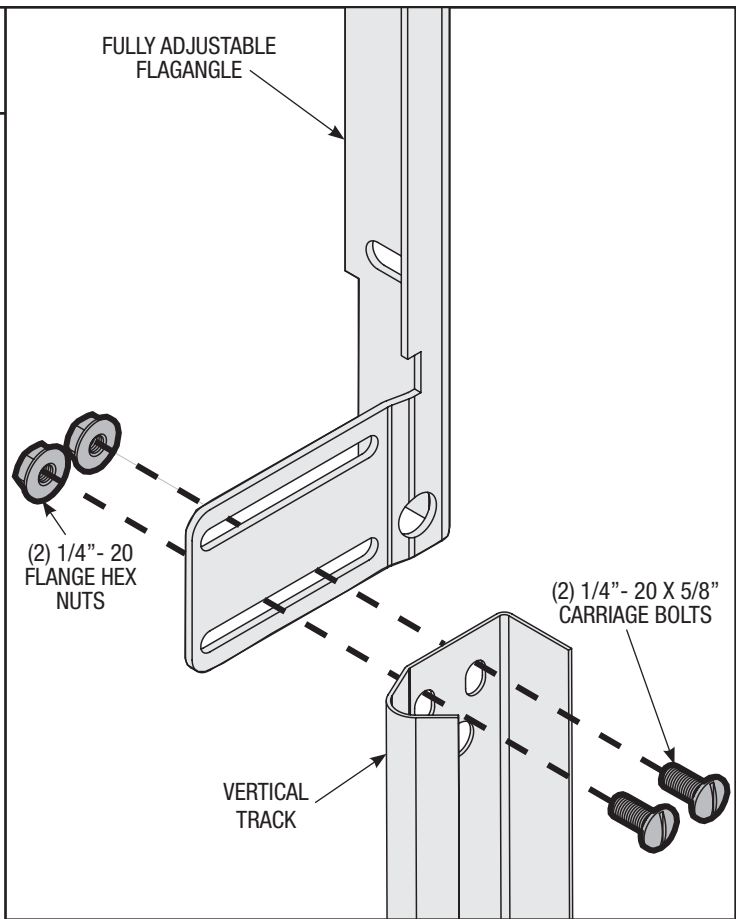
## Attaching Fully Adjustable Flagangle to Vertical Track

Tools Needed:  
None

**NOTE:** If you have riveted track, skip this step.  
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.

Repeat for opposite side.

The flange nuts will be tightened after flagangle spacing is complete (Step 14).



INSTALLATION

# 3

## Bottom Bracket

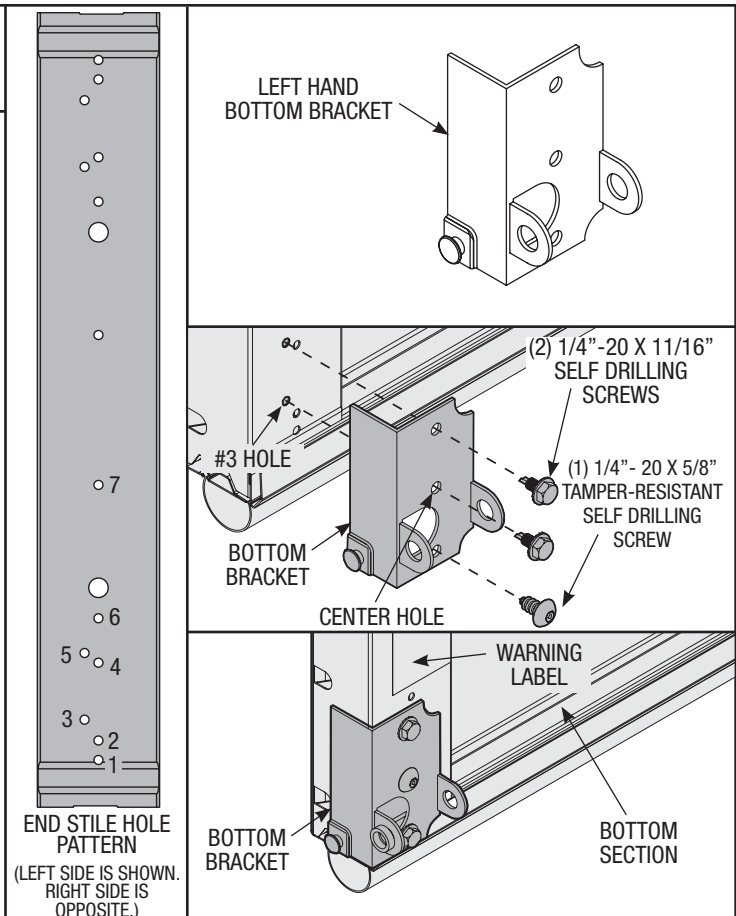
Tools Needed:  
Power Drill  
7/16" Socket Driver  
Torx Bit

**NOTE:** For door section identification see page 4.

Align the center hole of bottom bracket with hole #3 in the end stile of bottom section. Fasten with (2) 1/4"-20 x 11/16" self drilling screws and (1) 1/4"-20 x 5/8" tamper-resistant self drilling screw as shown.

Repeat for other side.

**NOTE:** All doors are provided with the tamper resistant fastener for the bottom brackets. However, the professional installer is most likely to have the proper tool to install this fastener. If the homeowner does not have the proper tool to install the tamper resistant fastener, use a regular 1/4 - 20 x 7/8" self drilling screw in its place.



# 4

## Drums

Tools Needed:  
None

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

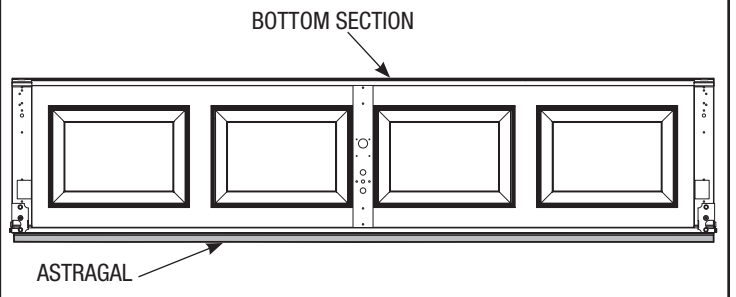
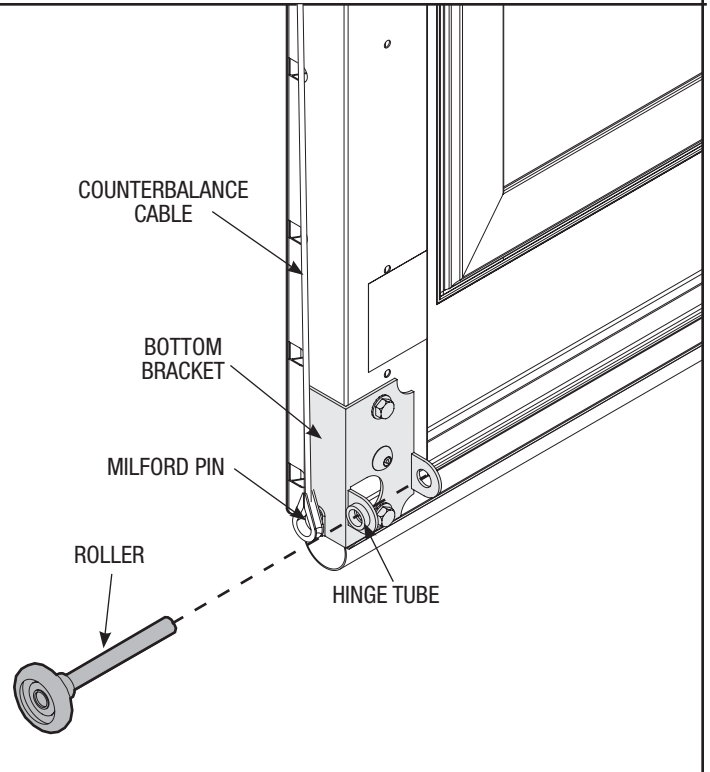
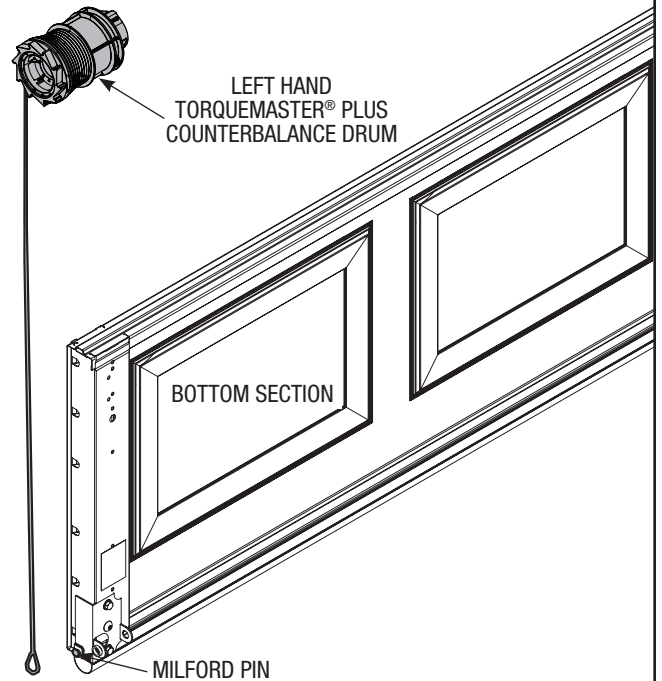
**NOTE:** For door section identification see page 4.

TorqueMaster® Plus counterbalance drums are marked right and left hand.

Uncoil the counterbalance cables and make sure you place the right hand cable loop on the milford pin of the right hand bottom corner bracket. Place the left hand cable loop on the milford pin of the left hand bottom corner bracket.

Insert a roller into each bottom bracket of the bottom section.

**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.



# 5

## Hinges

Tools Needed:  
Power Drill  
7/16" Socket Driver

Position the lower (numbered) leaf of the #1 end hinge over the #1 and #4 holes in the top of the end stiles, and secure to the end stiles by 1/4"-14 x 5/8" self tapping screws. Position and secure #1 center hinge(s) with 1/4"-14 x 5/8" self tapping screws using the pre-punched holes in the top of the center stile(s).

**NOTE:** The #1 hinges serve as end hinges on the bottom section. The #1 hinges also serve as center hinges at all center hinge locations.

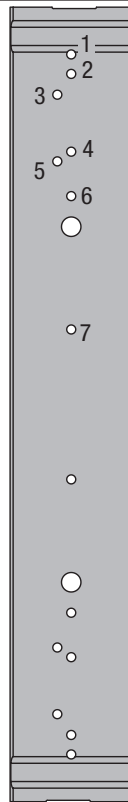
Insert roller into appropriate hinge tubes.

Repeat for all other sections using the #2 end hinges on the second (lock section) and the #3 end hinges on the third section (intermediate section).

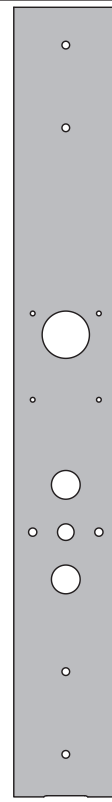
**NOTE:** #4 End hinges are used on fourth section of five section doors.

**IMPORTANT:** WHEN PLACING ROLLERS INTO END HINGES #2 AND HIGHER, THE ROLLER GOES INTO THE TUBE FURTHEST AWAY FROM SECTION.

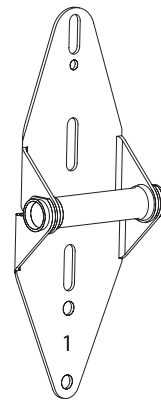
**IMPORTANT:** ONCE FASTENERS ARE SNUG AGAINST HINGE LEAF, TIGHTEN AN ADDITIONAL 1/4 TO 1/2 TURN TO RECEIVE MAXIMUM DESIGN HOLDING POWER.



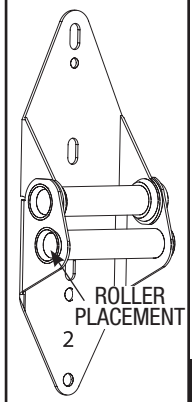
END STILE HOLE PATTERN  
(LEFT SIDE IS SHOWN. RIGHT SIDE IS OPPOSITE.)



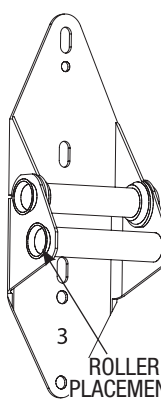
CENTER STILE HOLE PATTERN



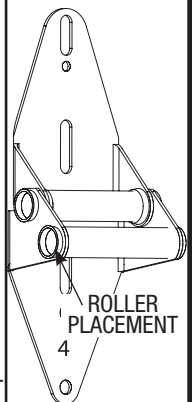
#1 HINGE



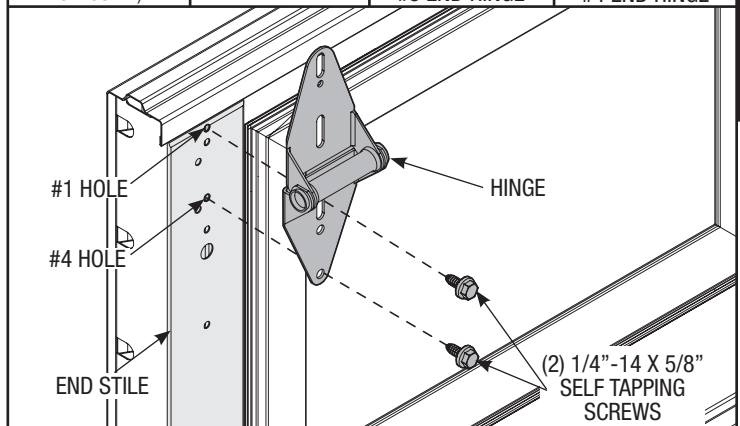
#2 END HINGE



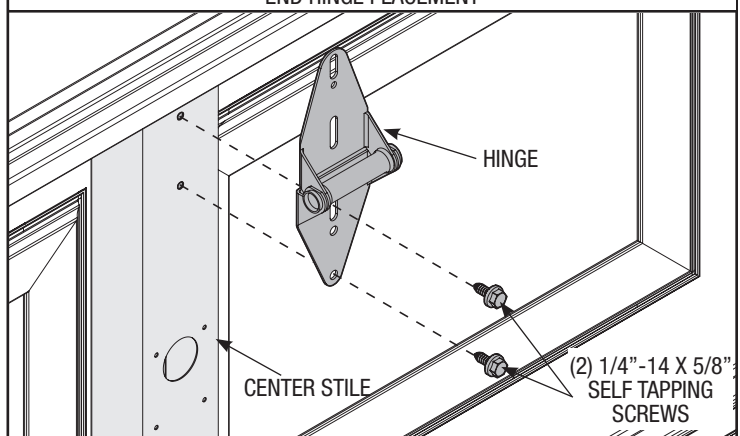
#3 END HINGE



#4 END HINGE



END HINGE PLACEMENT



CENTER HINGE PLACEMENT

# 6

## Top Bracket

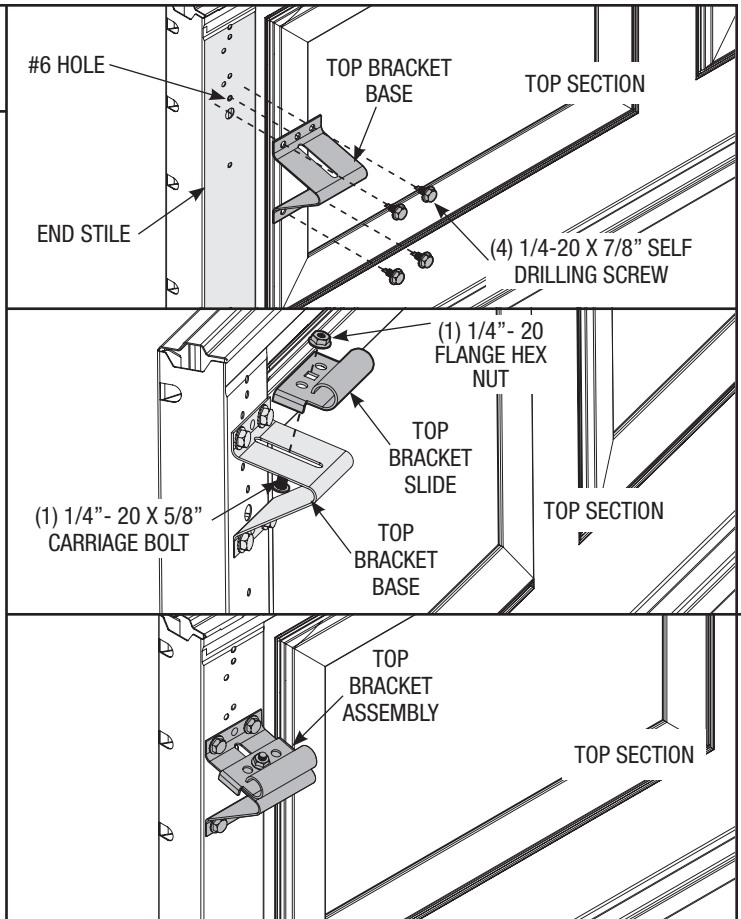
Tools Needed:  
Power Drill  
7/16" Socket Driver

Align upper-center hole of top bracket base with #6 hole in the end stile (See end stile hole layout). Secure with (1) 1/4" - 20 x 7/8" self drilling screw. Ensuring top bracket is level and aligned with edge of section. Permanently fasten top bracket with (4) 1/4" - 20 x 7/8" self drilling screws, one in each corner of the top bracket base.

Remove the 1/4" - 20 x 7/8" self drilling screw installed in the upper-center hole of the top bracket base.

Loosely hand tighten top bracket slide to base with (1) 1/4" - 20 x 5/8" carriage bolts and (1) 1/4" - 20 flange hex nuts. Insert roller and repeat for other side.

**NOTE:** For doors with a glazed top section (windows). Top strut may be mounted between #2 and #6 holes before top bracket is installed. See step 8 for U-Bar installation.



# 7

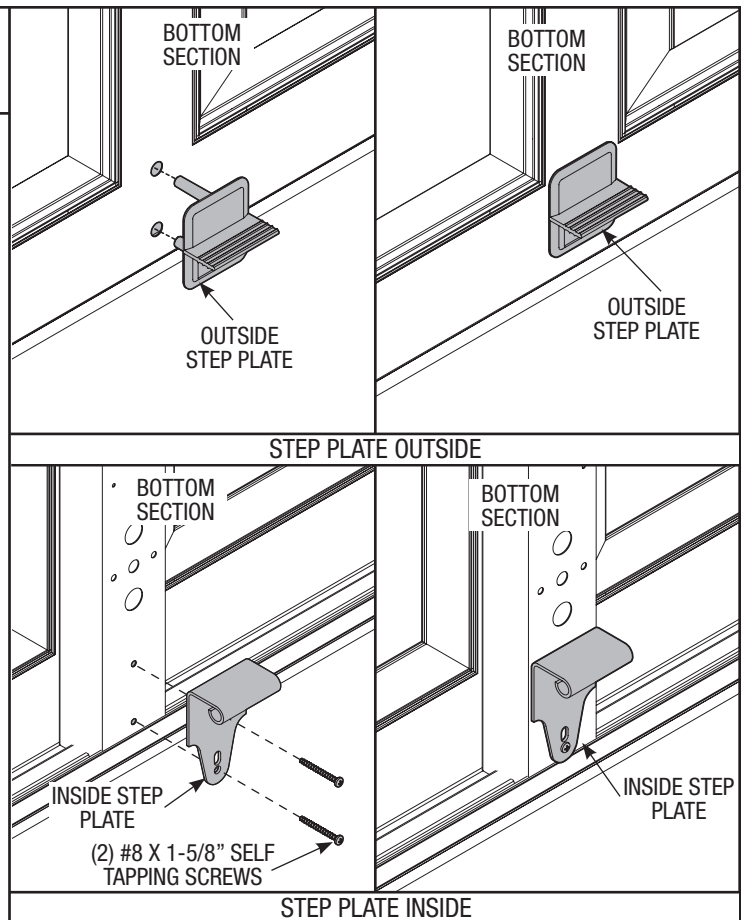
## Step Plate

Tools Needed:  
Pencil  
Power Drill  
5/16" Drill Bit  
Phillips Screwdriver

Locate the center most stile on the bottom section of the door. Using the pre-punched holes at the bottom of the stile as a template, drill (2) 7/32" dia. holes through the section. Using the previously drilled holes as a guide, enlarge the holes from outside the door to 7/16" diameter. Assemble the outside and inside step/lift plates to the section using (2) #8 x 1-5/8" screws.

**NOTE:** Do not drill through or enlarge holes on the inside of the door.

**NOTE:** After completing this step, continue with Step 8 on page 13.



# 8

## U-Bar

Tools Needed:  
Power Drill  
7/16" Socket Driver

**NOTE:** For door section identification see page 4.

### INSTALLATION ON THE TOP SECTION:

Doors 14'0" wide and over, locate U-Bar above top bracket and secure with (2) 1/4"-20 x 7/8" self drilling screws at each end and center stile location.

**NOTE:** 3" U-Bars are now supplied with all glazed doors starting at 14'0" width.

### INSTALLATION ON ALL OTHER SECTIONS:

**NOTE:** All U-Bars are placed at the top of the section, against the bottom of the hinges, for the intermediate, lock and bottom sections.

**NOTE:** For doors 16'1" to 18'0" that have a glazed intermediate section, the U-bar needs to be placed on the glazed intermediate section.

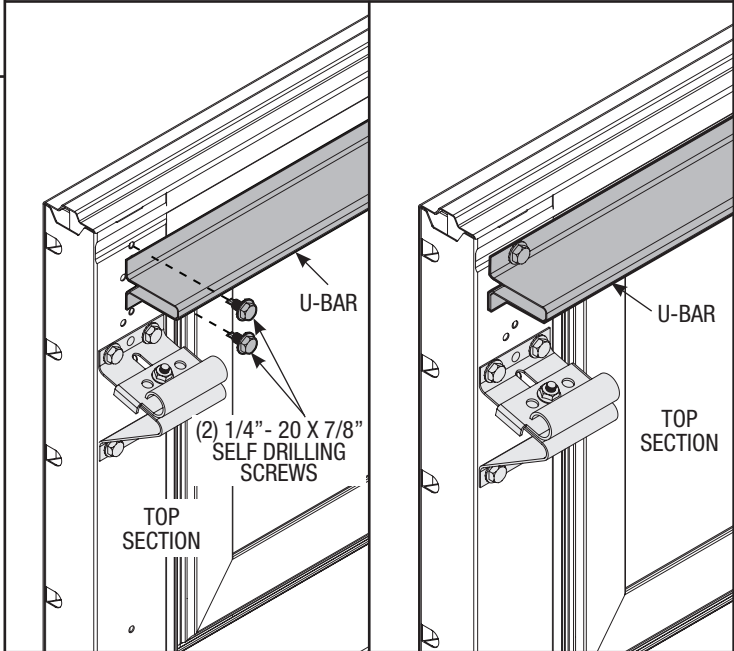
**NOTE:** All 8200 series doors 14'0" to 16'0" wide, 6'0" to 7'0" high (4 section high only) are now supplied with a 2" U-Bar for the top of the bottom section.

Place the U-Bar on the section against the bottom of the hinges. Center the U-Bar side to side on the section at the location shown, and secure to the section using (2) 1/4"-20 x 7/8" self drilling screws at each end and center stile location.

8000 Series U-Bar Schedule		
Door Width	4 Section	5 Section
8'-0" to 13'-11"	N/A	N/A
14'-0" to 16'-0"	(1) 2" U-Bar	(1) 2" U-Bar
16'-1" to 18'-0"	(3) 2" U-Bar	(3) 2" U-Bar

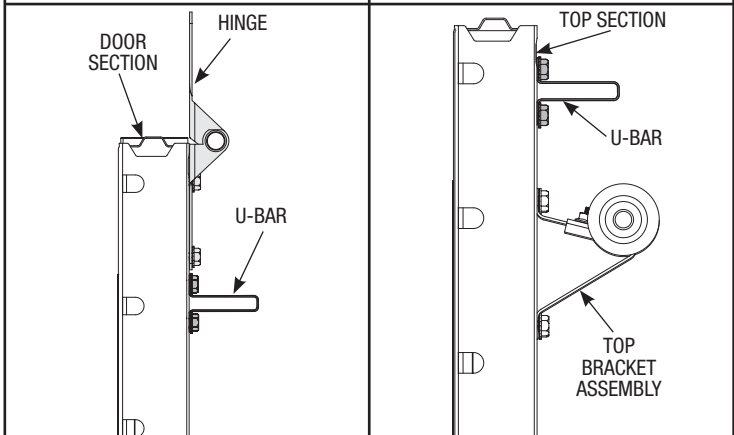
Model 46 U-Bar Schedule		
Door Width	4 Section	5 Section
8'-0" to 14'-11"	N/A	N/A
15'-0" to 16'-0"	(1) 2" U-Bar	(1) 2" U-Bar
16'-1" to 18'-0"	(3) 2" U-Bar	(3) 2" U-Bar

U-BAR PLACEMENT FOR TOP SECTION

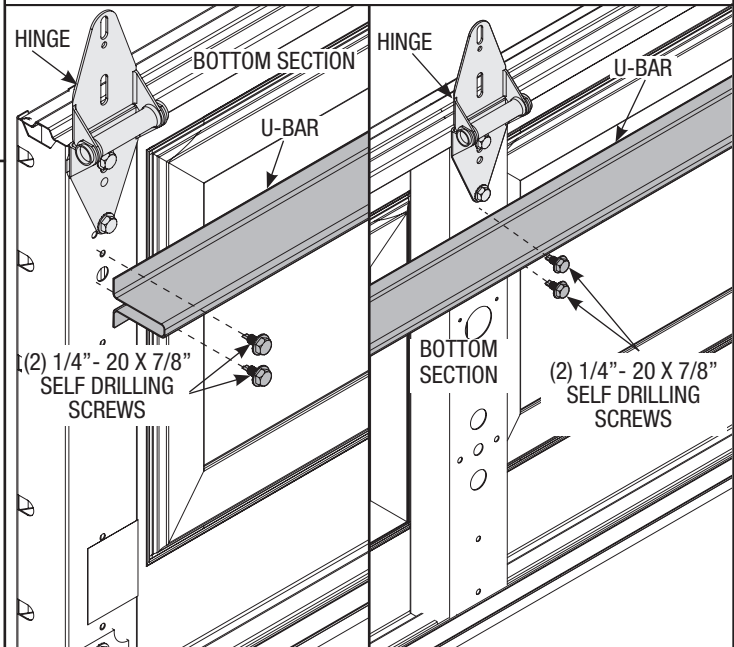


SIDE PROFILE

U-BAR PLACEMENT FOR TOP SECTION



U-BAR PLACEMENT FOR BOTTOM, LOCK AND INTERMEDIATE SECTIONS



ATTACHING END STILE

ATTACHING CENTER STILE

INSTALLATION

# 9

## Lift Handle

Tools Needed:

Tape Measure

Pencil

Power Drill

9/32" Drill Bit

1/2" Drill Bit

1/4" Wrench

**NOTE:** Doors with a Keyed lock do not require this lift handle.

**NOTE:** For door section identification see page 4.

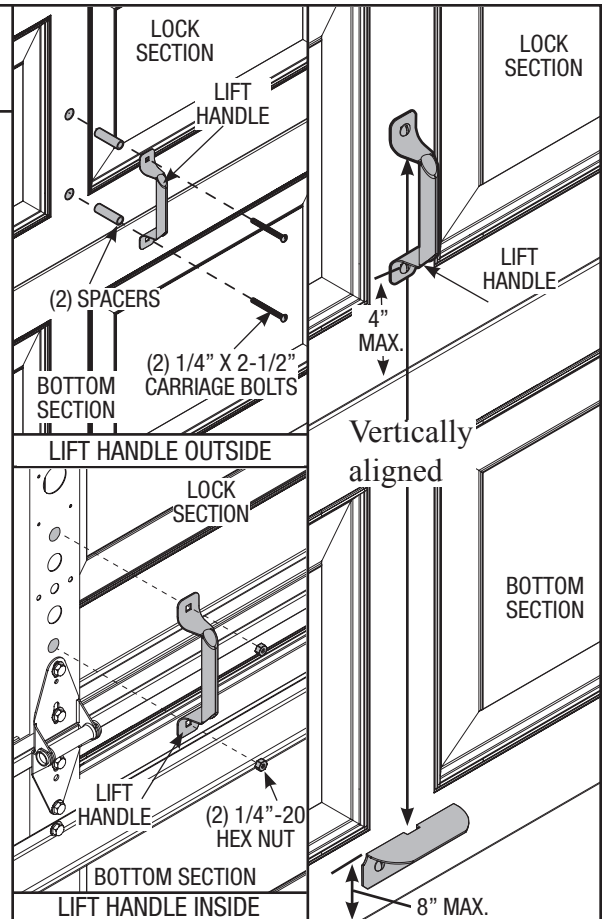
Locate the inside center stile or the desired lift handle location on the lock (2nd) section of the door. Position the lower hole in the lift handle 4" from the bottom of the second section.

**IMPORTANT:** The lift handle and the step/lift plate need to be vertically aligned.

Drill (2) 9/32" dia. holes through section. Enlarge the holes from outside the door to 1/2" dia.

Assemble the outside and inside lift handle to the section using (2) 1/4" x 2-1/2" carriage bolts, (2) 1/4" - 20 hex nuts and (2) spacers.

**NOTE:** Do not drill through or enlarge holes on the inside of the door.



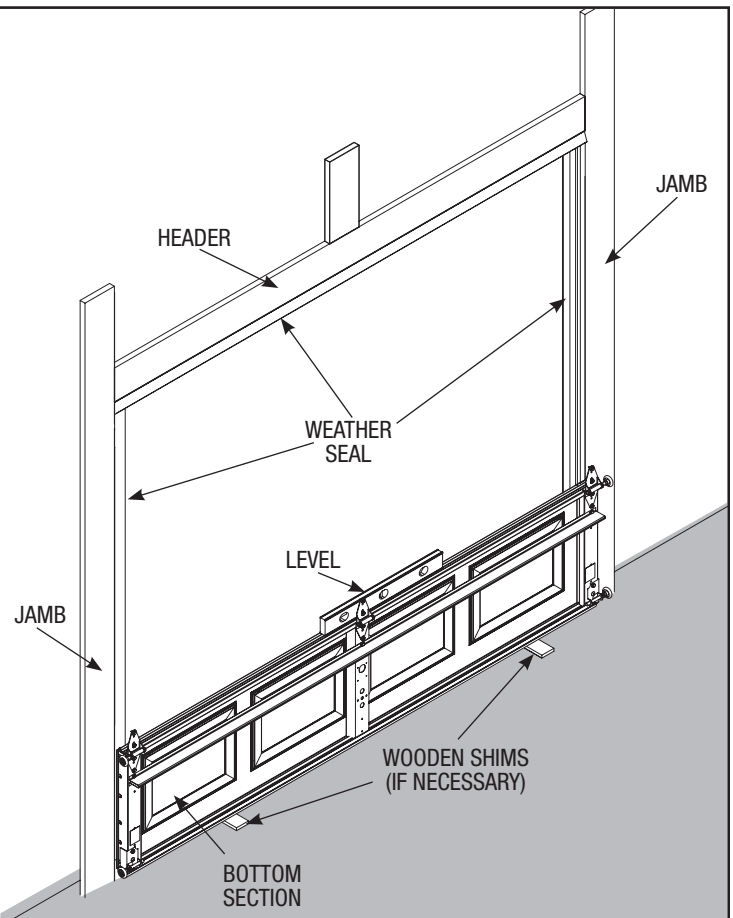
# 10

## Bottom Section

Tools Needed:

Level

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



# 11

## Vertical Track

**Tools Needed:**

3/16" Drill Bit

Power Drill

7/16" Socket Driver

Tape Measure

Level

Step Ladder

**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.

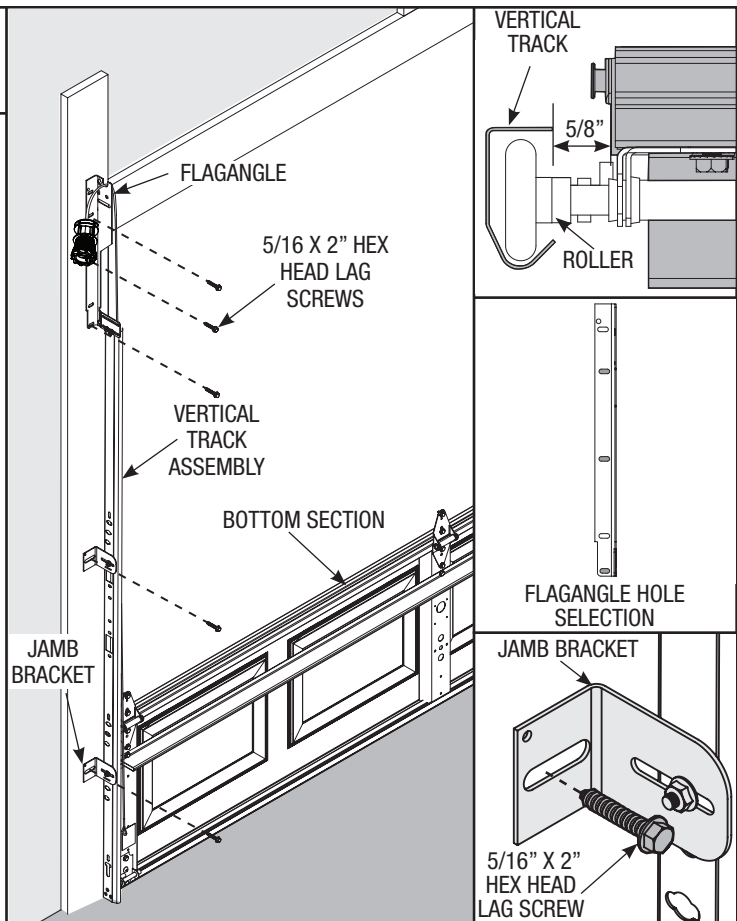
Position the left hand vertical track assembly over the rollers of the bottom section. Make sure the counterbalance cable is located between the rollers and the door jamb. Keep track 5/8" from edge of door as shown in illustration.

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. Make sure the 5/8" track spacing is maintained.

Hang the cable drum over the flagangle.

Repeat for the right hand side.



# 12

## Stacking Sections

**Tools Needed:**

Power Drill

7/16" Socket Driver

**NOTE:** For door section identification see page 4.

**NOTE:** Make sure hinges are flipped down, when stacking another section on top.

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

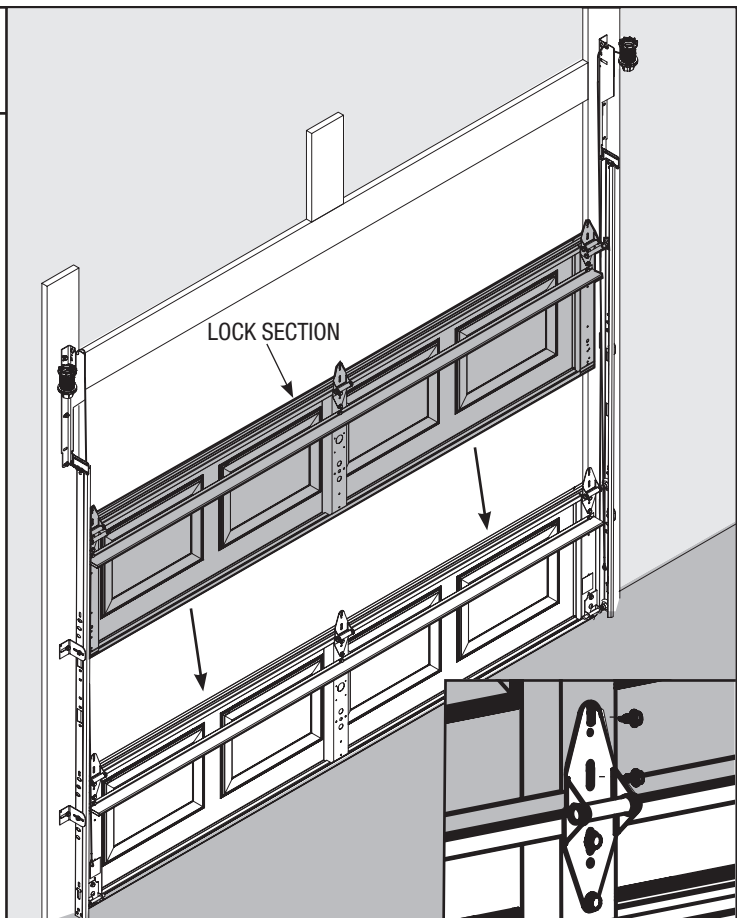
With assistance, lift the second section and guide rollers into the vertical tracks.

Repeat for other section(s) except top section.

Attach center hinge leaves to sections using 1/4"-14 x 5/8" self tapping screws. Repeat for the upper hinge leaves.

**IMPORTANT:** PUSH & HOLD THE HINGE LEAVES AGAINST SECTION WHILE SECURING HINGES.

**NOTE:** Install lock at this time (sold separately). See instructions in **OPTIONAL SIDE LOCK INSTALLATION** on page 32.



# 13

## Top Section

Tools Needed:  
Hammer

Nail

Power Drill

7/16" Socket  
Driver

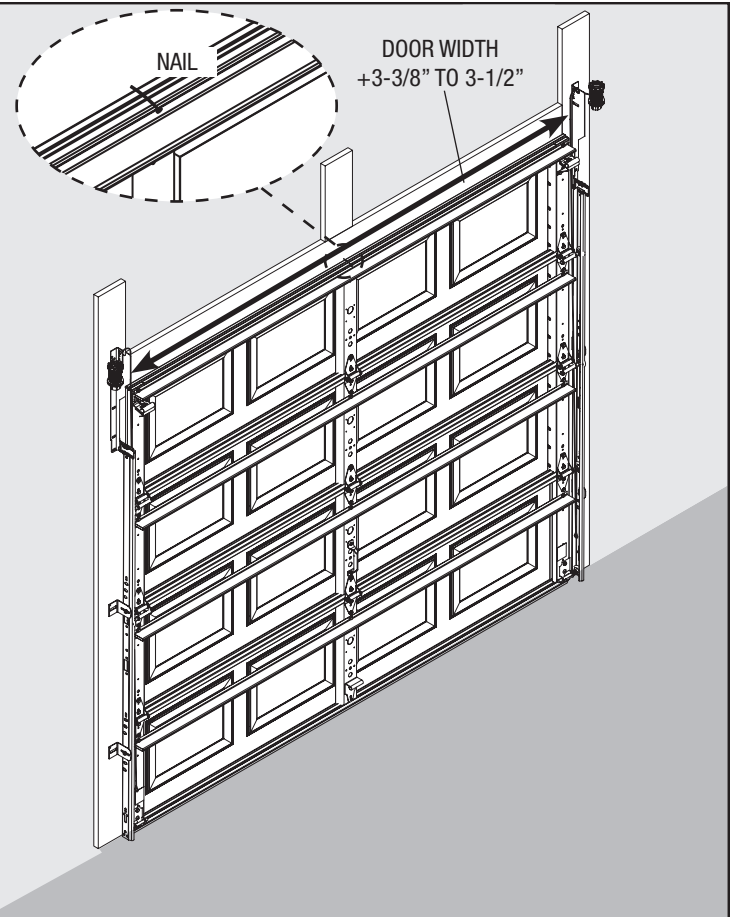
7/16" Wrench

Tape Measure

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 the hinge leaf against section, fastening center hinge(s) first and end hinges last.



# 14

## Vertical Track Alignment

Tools Needed:  
Power Drill

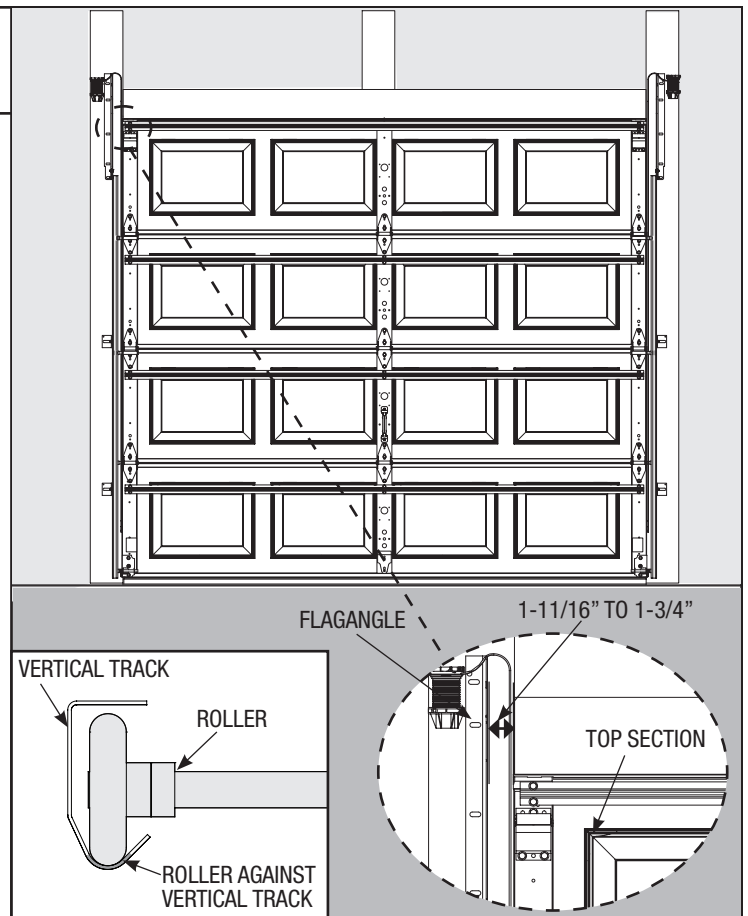
7/16" Socket  
Driver

Tape Measure

When installing a door with a TorqueMaster® Plus 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" (86 MM) 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.





# 15

## Horizontal Track

### Tools Needed:

9/16" Socket

7/16" Socket

Ratchet Wrench

9/16" Wrench

Level

Hammer

Step Ladder

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.

Tighten the remaining carriage bolts and nuts to complete the horizontal track installation.

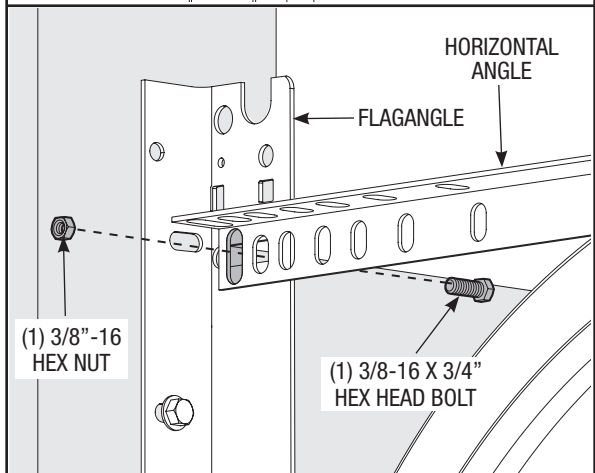
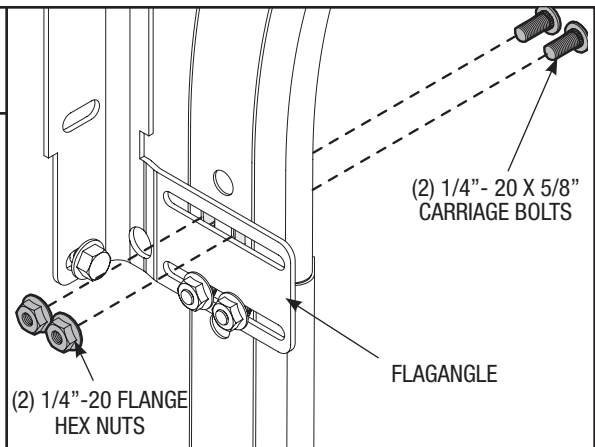
### WARNING

**DO NOT RAISE DOOR UNTIL HORIZONTAL TRACKS ARE SECURED AT REAR, AS OUTLINED IN STEP 27, OR DOOR COULD FALL FROM OVERHEAD POSITION CAUSING SEVERE OR FATAL INJURY.**

Remove the nail that was temporarily holding the top section in place, installed in Step 13.

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

**NOTE:** If an *idrive*® opener will be installed, position horizontal tracks slightly above level.



INSTALLATION

# 16

## Adjusting Top Brackets

### Tools Needed:

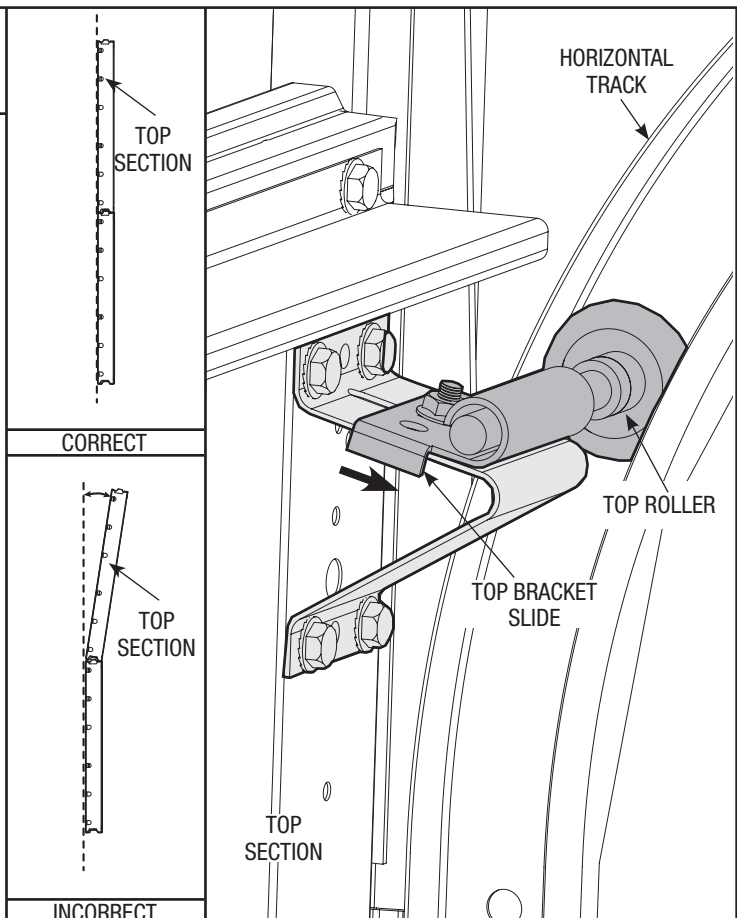
7/16" Wrench

Step Ladder

With horizontal tracks installed you can adjust the top brackets.

Vertically align the top section with the lower sections. Once aligned, position the top roller in the top bracket slide out against the horizontal track. Maintaining the slide's position, tighten 1/4"- 20 flange hex nut to secure the top bracket slide to the top bracket base.

Repeat for other side.



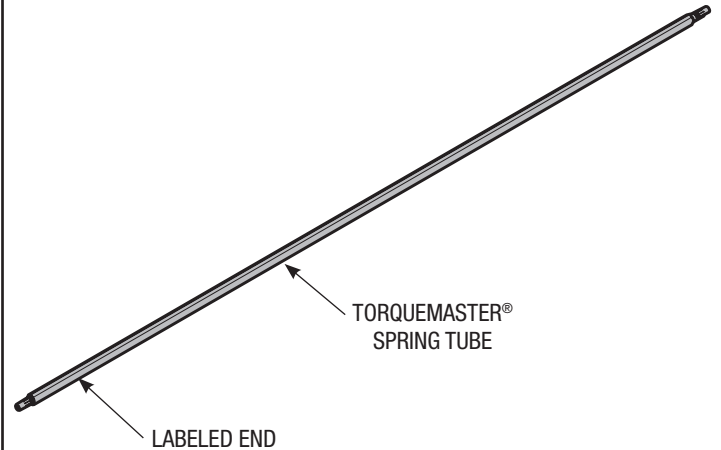
# 17

## TorqueMaster® Spring Tube

Tools Needed:  
None

TorqueMaster® springs come lubricated and pre-assembled inside the TorqueMaster® spring tube. To install, lay the TorqueMaster® spring tube on the floor (inside garage) in front of the door with the labeled end to the left.

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



# 18

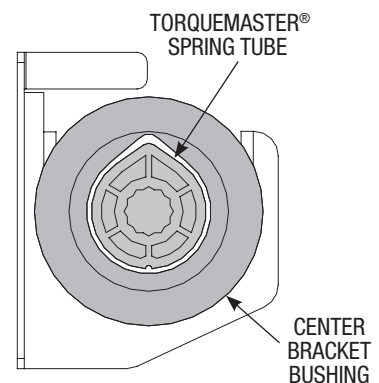
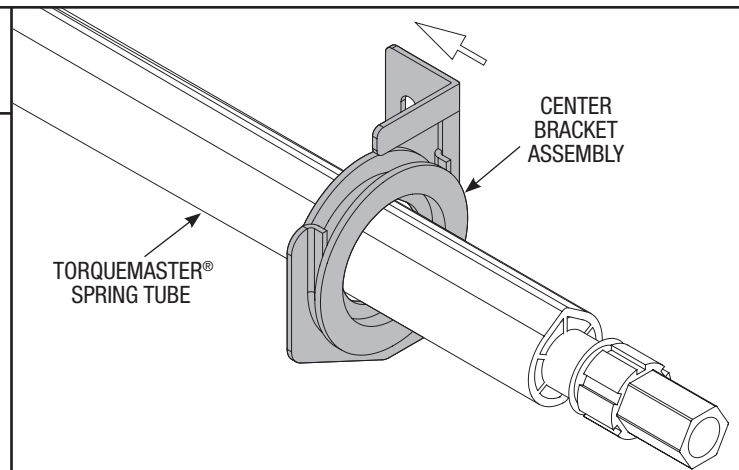
## Center Bracket Bushing

Tools Needed:  
None

**NOTE:** If you are installing the *i*drive® opener with your garage door, skip this step and go to your *i*drive® Installation Instructions and Owner's Manual. After completing steps 1-13 of your *i*drive® Installation Instructions and Owner's Manual, rear supports will need to be fabricated/installed to support both horizontal tracks, see step 27.

**NOTE:** If you are not installing the *i*drive® opener on your garage door, you must install the center bracket bushing assembly. Follow these instructions for non-*i*drive® operated garage doors.

Being cam shaped, the center bracket bushing only fits one way. Slide the center bracket assembly towards the center of the TorqueMaster® spring tube, from the right side as shown.



# 19

## Drum Wraps

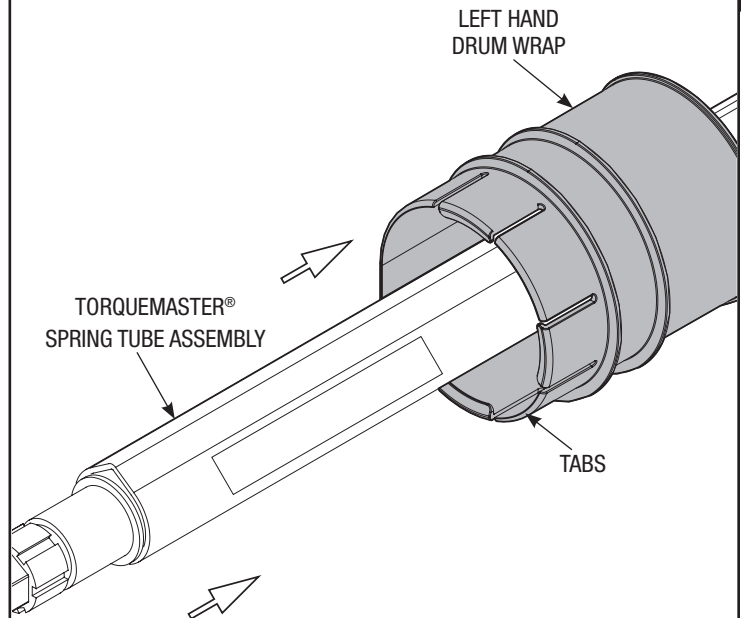
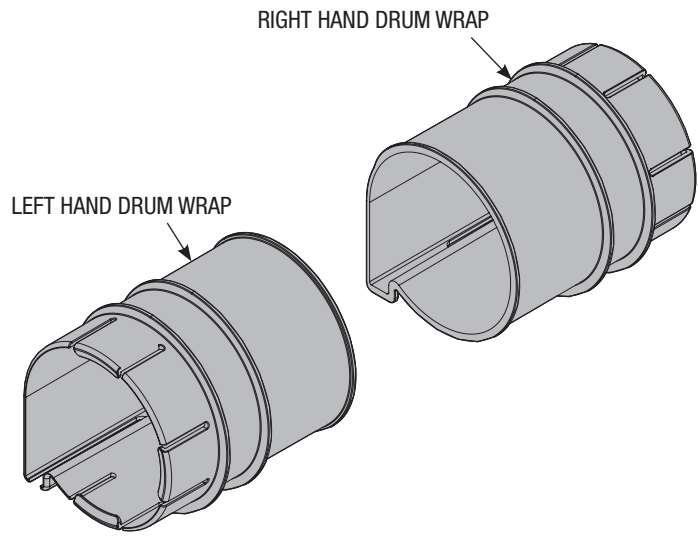
Tools Needed:  
None

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

Drum wraps are identified as right and left.

Slide the left hand drum wrap over the left side of the TorqueMaster® spring tube assembly with the tabs facing left. Continue sliding the left hand drum wrap towards the center of the TorqueMaster® spring tube assembly.

Slide the right hand drum wrap over the right side of the TorqueMaster® spring tube assembly with the tabs facing right. Continue sliding the right hand drum wrap towards the center of the TorqueMaster® spring tube assembly.



## Cable Drums

Tools Needed:  
Tape Measure

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

Shake the TorqueMaster® spring tube assembly gently to extend the winding shafts out about 5" on each side. For single spring applications, there will be no left hand spring in the TorqueMaster® spring tube assembly.

Lift the TorqueMaster® spring tube assembly and rest it on the top of the flagangles.

**NOTE:** Cable drums are marked right and left hand. Cable drums and TorqueMaster® spring tube assembly are cam shaped to fit together only one way.

Pre-wrap the TorqueMaster® plus cable drum with the counter balance cable with 1/2 or 1-1/2 wraps (see illustration)

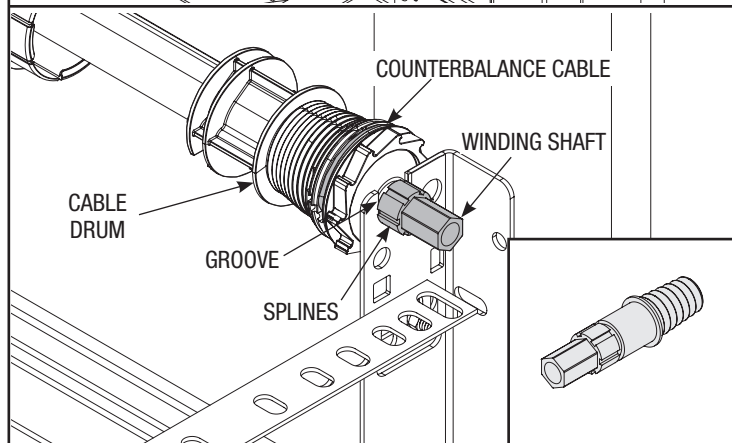
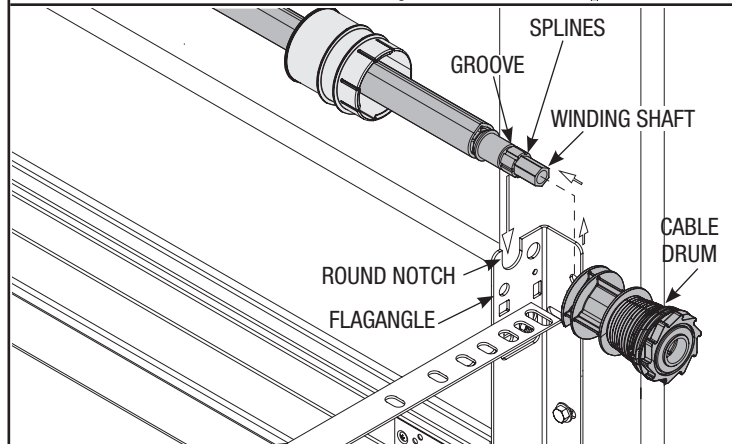
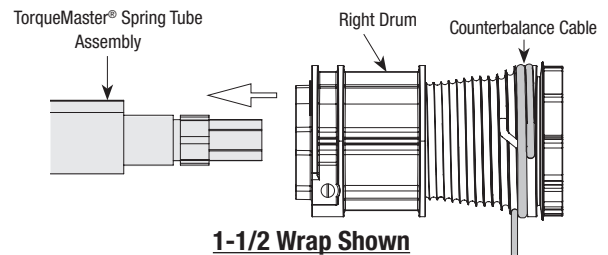
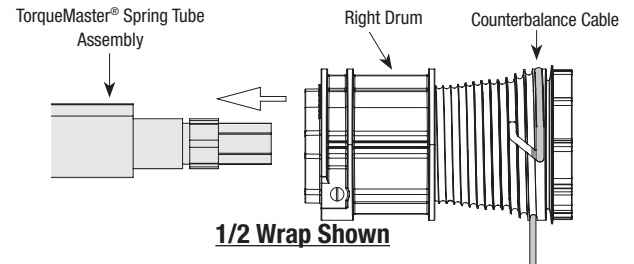
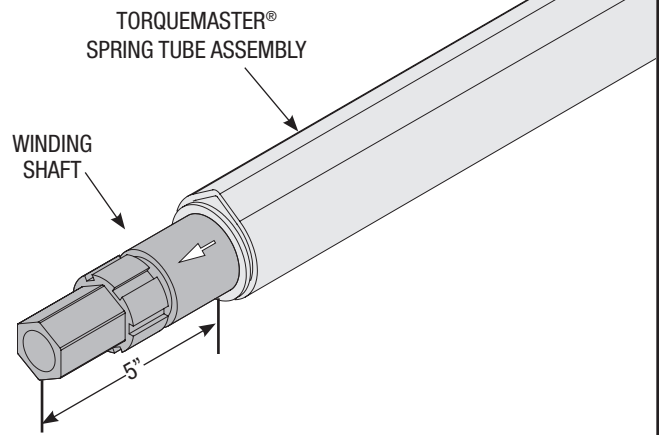
To install the cable drum, slide the correct cable drum over the winding shaft until the cable drum seats against the TorqueMaster® spring tube assembly.

The winding shaft must extend past the cable drum far enough to expose the splines and the groove. Align the winding shaft groove with the round notch in the flagangle.

**For double spring applications:**  
Repeat for opposite side.

**For single spring applications:** Insert the loose winding shaft into the left hand cable drum prior to sliding the cable drum over the TorqueMaster® spring tube assembly.

**NOTE:** On single spring applications, take care in handling the loose winding shaft (left side) so that it does not slide back into the TorqueMaster® spring tube assembly.



# 21

## End Brackets

### Tools Needed:

Power Drill

7/16" Socket Driver

1/2" Wrench

Step Ladder

**IMPORTANT:** WARNING TAGS MUST BE SECURELY ATTACHED TO BOTH END BRACKETS.

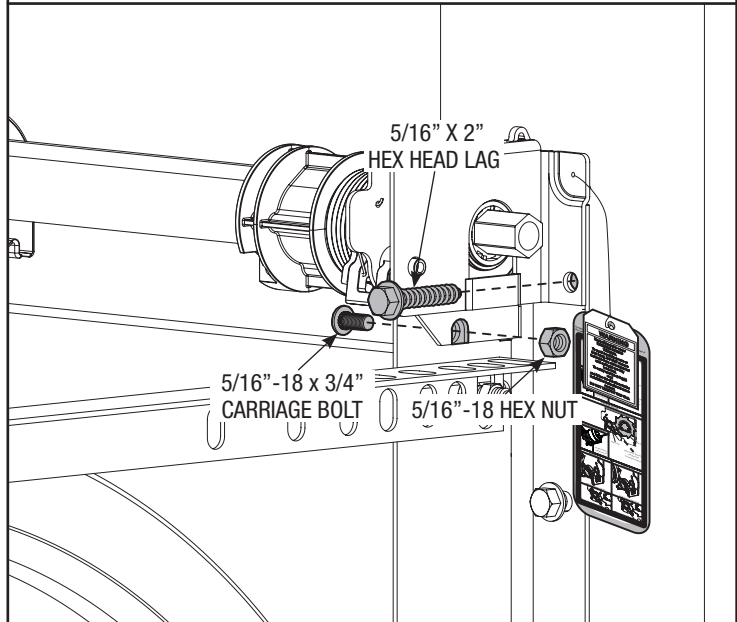
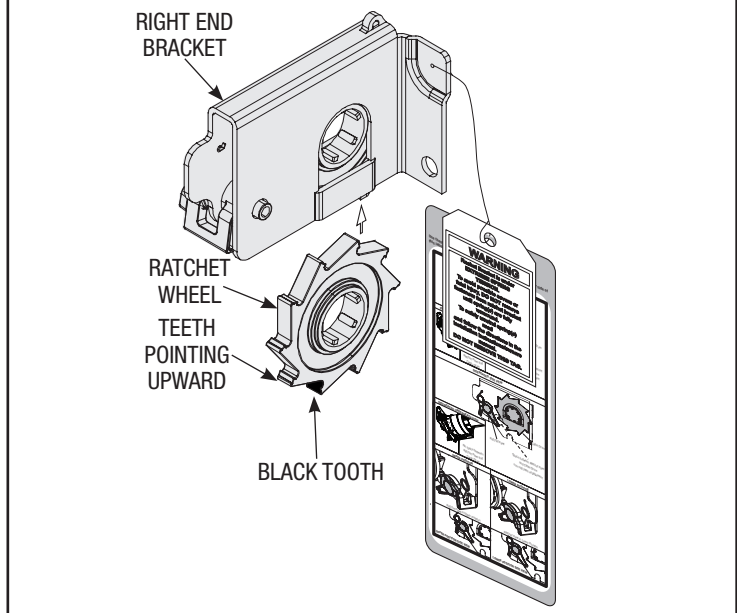
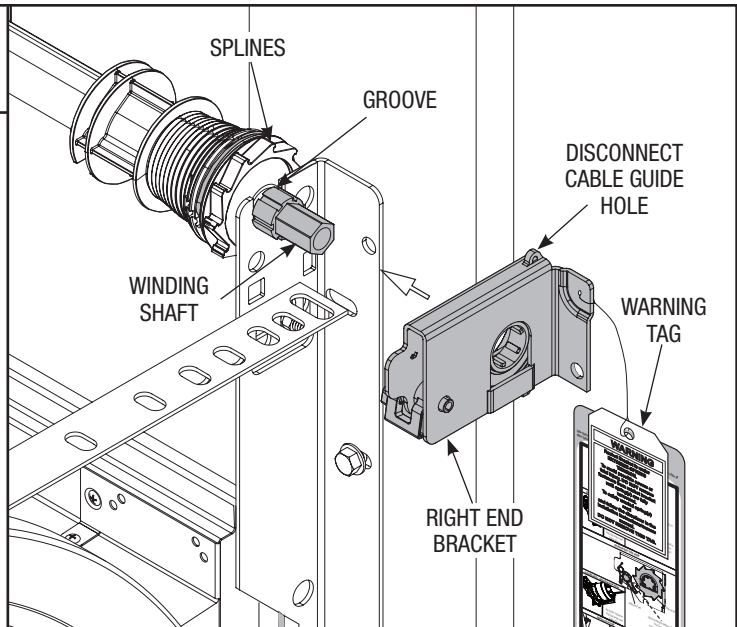
End brackets are right and left hand. You can identify the right hand end bracket by the disconnect cable guide hole in the top of the bracket.

Beginning with either side, slide the end bracket onto the winding shaft so that the grooves in the ratchet wheel fit onto the winding shaft splines.

Secure end bracket to the jamb using (1) 5/16" x 2" hex head lag screw and (1) 5/16"-18 x 3/4" carriage bolt and 5/16" hex nut.

**NOTE:** Install carriage bolt and hex nut first then apply lag into header.

Repeat for other end bracket.



# 22

## Securing Center Bracket Bushing

**Tools Needed:**

Power Drill

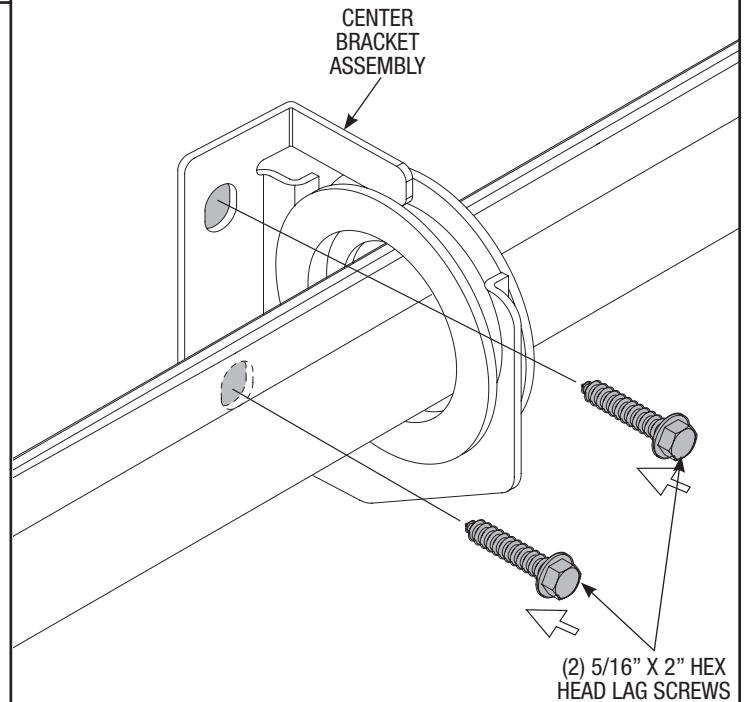
3/16" Drill Bit

7/16" Socket Driver

Step Ladder

**NOTE:** If you are not installing the *i*drive® opener on your garage door, you must install the center bracket bushing assembly, follow these instructions.

To locate the center bracket, mark the header halfway between the flagangles and level the TorqueMaster® spring tube. Drill 3/16" pilot holes into header for the lag screws. Fasten the metal bracket to the header using (2) 5/16" X 2" lag screws.



# 23

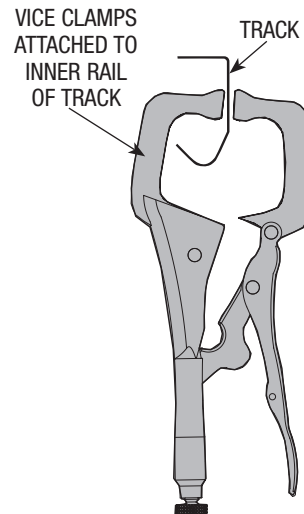
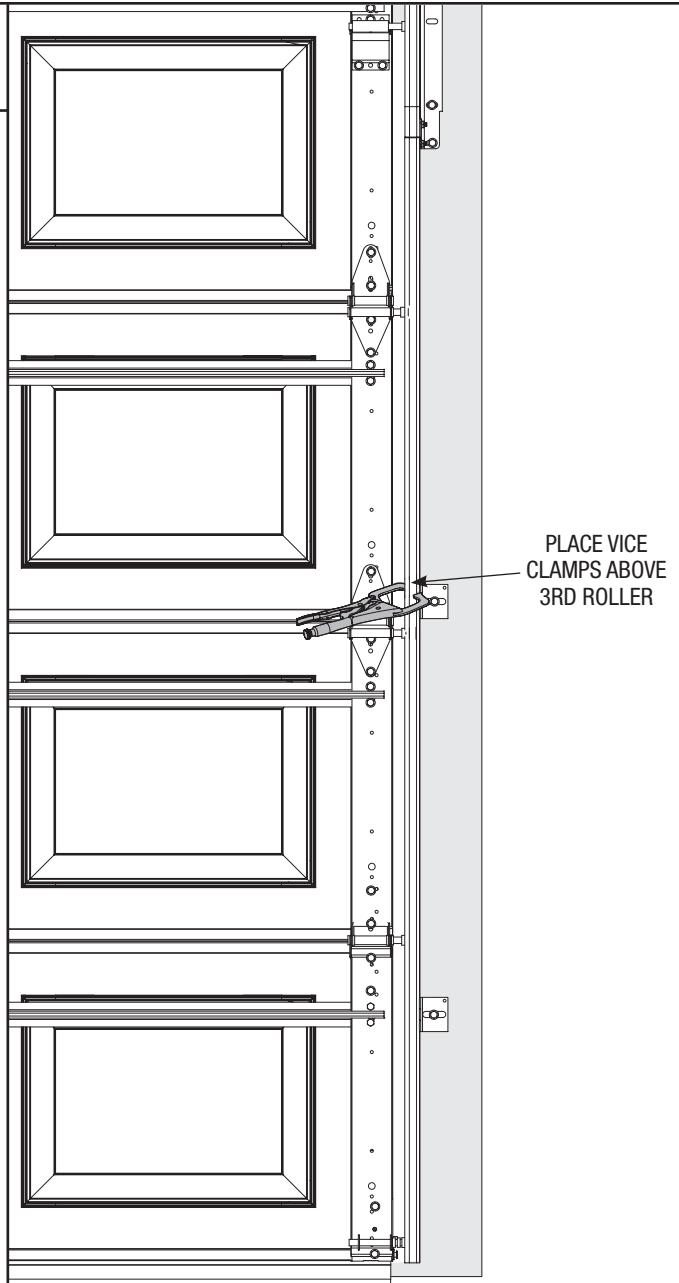
## Securing Door for Spring Winding

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 counterbalance spring(s).

### **⚠ WARNING**

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



# 24

## Cable Adjustment

### Tools Needed:

Pliers

Flat Tip  
Screwdriver

Step Ladder

Starting on the right hand side, rotate the cable drum until the set screw faces directly away from the header. Torque tube cam peak should be pointing straight up. Loosen the set screw no more than 1/2 turn. Using locking pliers, pull on the end of the cable to remove all cable slack.

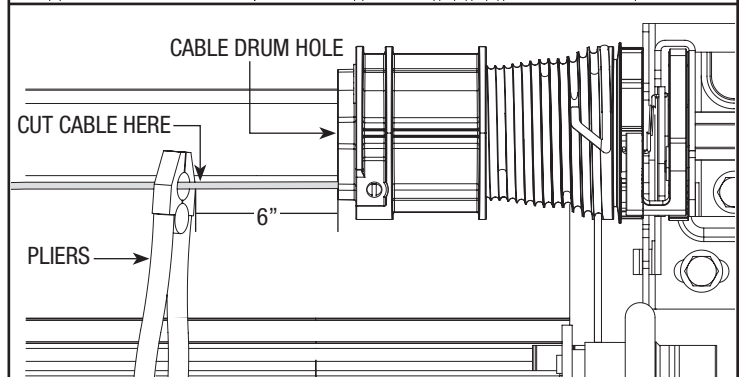
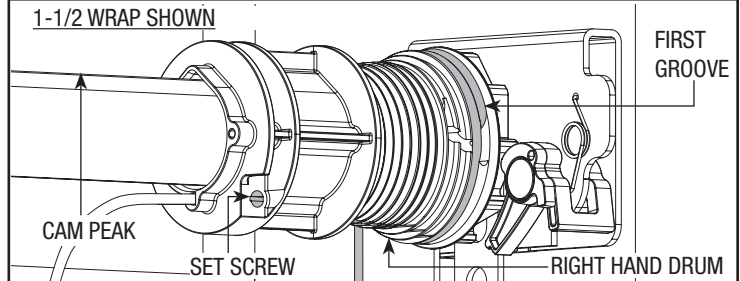
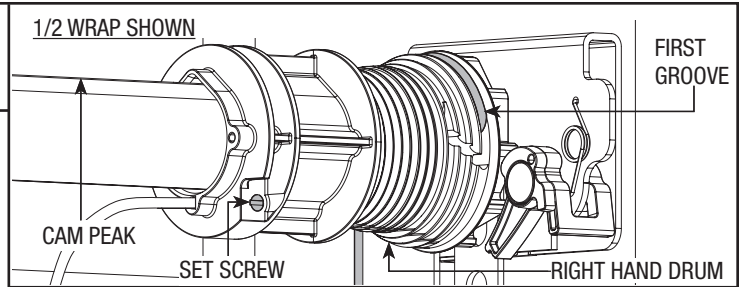
**IMPORTANT:** A MINIMUM OF A 1/2 WRAP IS REQUIRED FOR PROPER DOOR OPERATION. CABLE MUST BE TAUT AND IN THE FIRST GROOVE OF THE CABLE DRUM.

Check to ensure the cable is aligned and seated in the first groove of the cable drum. Snug the set screw, and then tighten an additional 1-1/2 turns. Left side will be adjusted in Step 23.

**IMPORTANT:** ENSURE THE CABLE IS ALIGNED AND SEATED IN THE FIRST GROOVE OF THE CABLE DRUM PRIOR TO WINDING SPRINGS.

Leave approximately 6" of cable and cut off the rest. Insert excess cable into hole of cable drum.

**NOTE:** Illustrations show the right hand TorqueMaster® Plus drum, left hand TorqueMaster® Plus drum is symmetrically opposite.





## Winding Springs

- Tools Needed:
- Ratchet Wrench
  - 5/8" Socket
  - 3" Extension
  - Gloves

### **⚠ WARNING**

IT IS RECOMMENDED THAT LEATHER GLOVES BE WORN WHILE WINDING THE TORQUEMASTER® PLUS SPRINGS. FAILURE TO WEAR GLOVES MAY CAUSE INJURY TO HANDS.

Double check to ensure the counterbalance cable is aligned in the first groove of the cable drum as shown in Step 24.

### **⚠ 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.

Starting with the right hand side, place a mark on winding shaft (or socket) and end bracket. Turn the pawl knob on the end bracket to the upper position.

**IMPORTANT:** Using a ratchet with a 5/8" (16 mm) socket (NOTE: A 3" (76 mm) extension is recommended for added clearance from the horizontal angle), wind the spring by rotating the winding shaft counter clockwise, while watching the mark on the winding shaft.

**IMPORTANT:** PAWL KNOB MUST BE IN UPPER POSITION TO ADD/REMOVE REQUIRED NUMBER OF SPRING TURNS. After 2-3 turns, remove the ratchet and adjust the cable tension on the left side. Ensure the cable is in the first groove of the cable drums, as shown in Step 24.

**NOTE:** Single spring applications require no spring winding of the left hand side but need cable tension adjustments.

**IMPORTANT:** COUNTERBALANCE CABLE TENSION MUST BE EQUAL ON BOTH SIDES PRIOR TO FULLY WINDING SPRINGS.

### **SEE THE SPRING TURN CHART FOR THE REQUIRED NUMBER OF TURNS:**

#### **For single spring applications:**

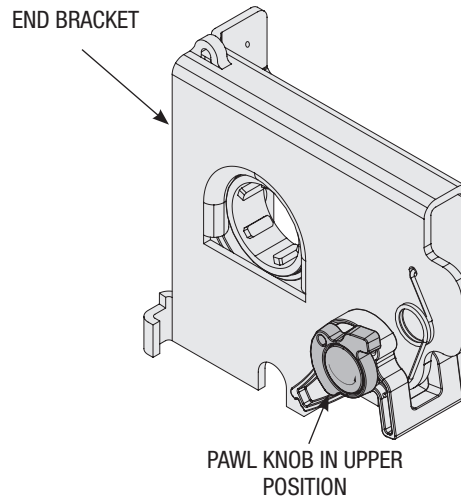
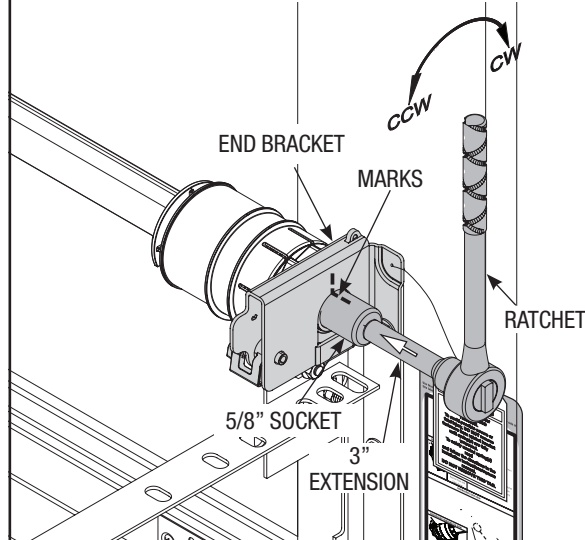
Return to the right hand and continue winding the spring to the required number of turns for your door. Place pawl knob in lower position.

#### **For double spring applications:**

Place a mark on the winding shaft and end bracket. Place the ratchet with 5/8" socket

### RECOMMENDED SPRING TURNS

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



## Winding Springs Continued...

### Tools Needed:

onto the left hand winding shaft end. To wind the spring, rotate the winding shaft clockwise, while watching the mark on the winding shaft. Rotate the winding shaft to the required number of turns for your door. Then return to the right hand side and wind the right hand spring to the required number of turns. Place pawl knob in lower position on both sides.

**IMPORTANT:** MARK NUMBER OF SPRING TURNS ON TORQUEMASTER® PLUS END BRACKET WARNING TAG.

**NOTE:** Since total turns to balance door can deviate from SPRING TURN CHART values by  $\pm 1/2$  turn, adjustments to the recommended number of turns may be required AFTER the rear hanger assembly is completed.

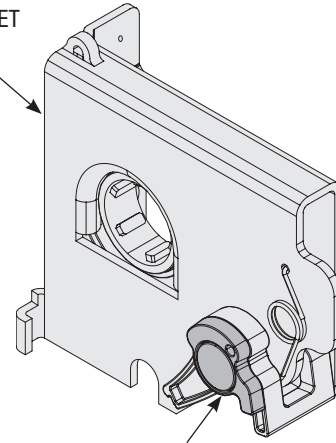
**IMPORTANT:** HOLD THE DOOR DOWN TO PREVENT IT FROM RAISING UNEXPECTEDLY, IN THE EVENT THE SPRING WAS OVERWOUND AND CAUTIOUSLY REMOVE VICE CLAMPS FROM VERTICAL TRACKS.

Do not raise the door until horizontal tracks are secured at the rear, as outlined in step 27.

### WARNING

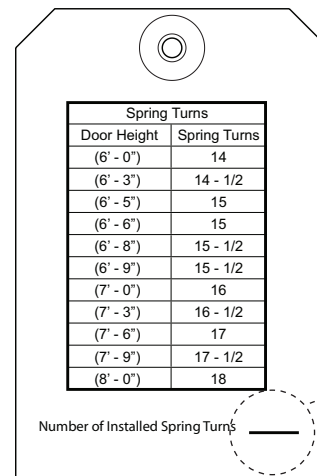
RAISING DOOR FURTHER CAN RESULT IN DOOR FALLING AND CAUSE SEVERE OR FATAL INJURY.

END BRACKET



PAWL KNOB IN LOWER POSITION

### BACK OF TORQUEMASTER® PLUS END BRACKET WARNING TAG



LOCATION FOR MARKING NUMBER OF INSTALLED SPRING TURNS

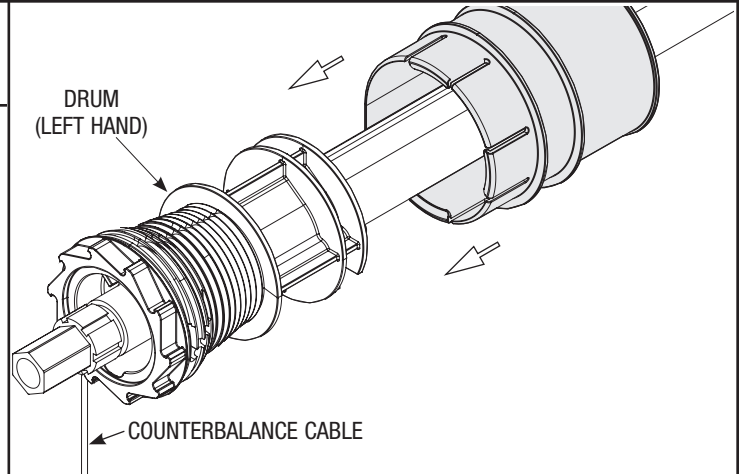
# 26

## Drum Wrap Installation

None

Starting with the left hand side, align the counterbalance cable with one of the slots in the drum wrap. Slide the drum wrap over the drum until the tabs snap between the cable drum and the ratchet gear. Repeat for right hand side.

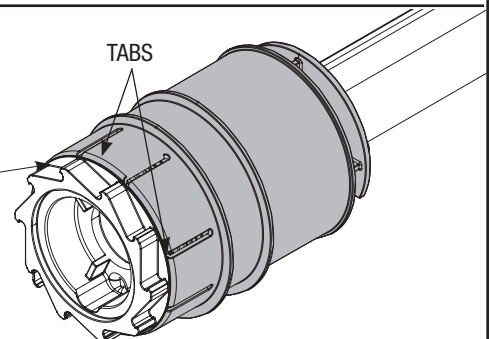
DRUM (LEFT HAND)



COUNTERBALANCE CABLE

GROOVE IN DRUM

TABS



## Rear Support

**Tools Needed:**

- Ratchet Wrench
- 1/2" Socket
- 1/2" Wrench
- (2) Vice Clamps
- Tape Measure
- Level
- Hammer
- Step Ladder

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 OR FATAL INJURY.**

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 within 3/4" maximum of door edge.

**⚠ WARNING**

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

**IMPORTANT: DO NOT SUPPORT THE WEIGHT OF THE DOOR ON ANY PART OF THE HORIZONTAL TRACK HANGER THAT CANTILEVERS 4" OR MORE BEYOND A SOUND FRAMING MEMBER.**

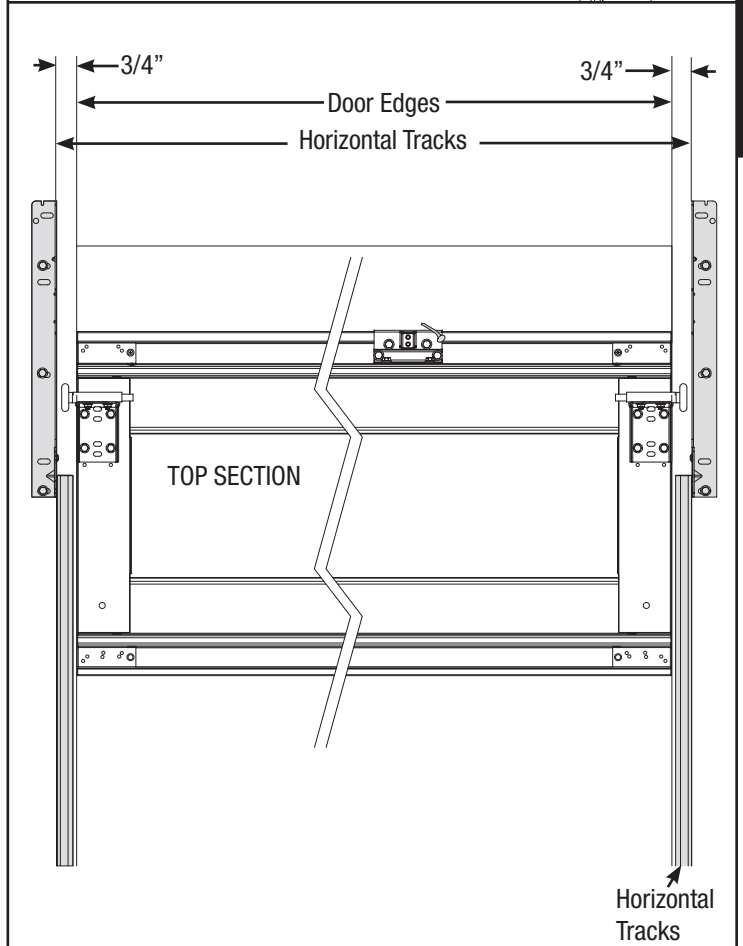
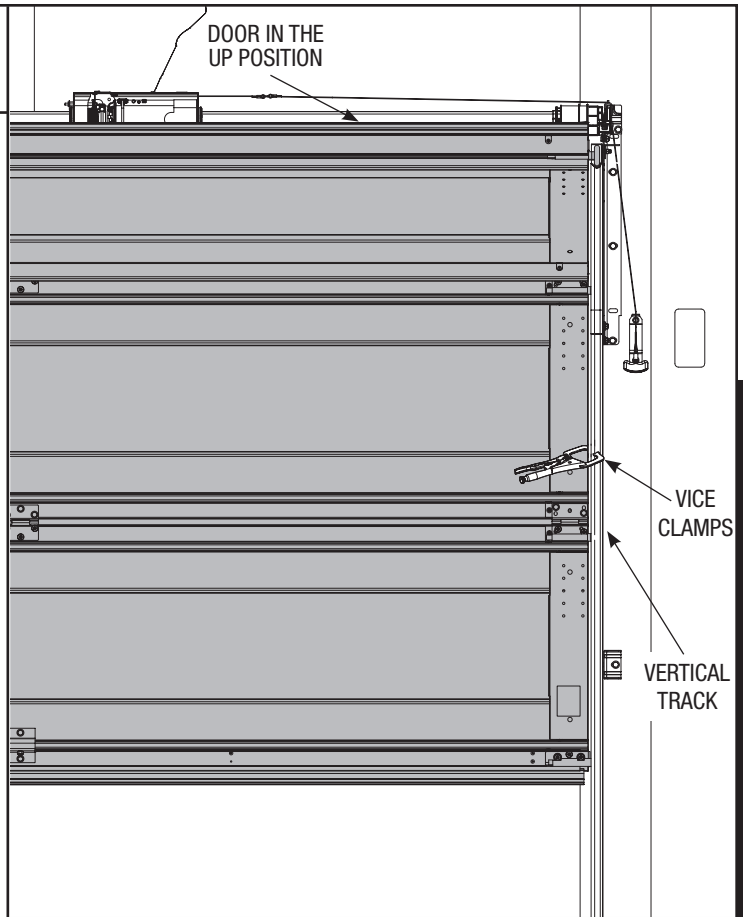
NOTE: If rear supports are to be installed over drywall, use 5/16" x 2" hex head lag screws.

NOTE: If an idrive® opener is installed, position horizontal tracks one hole above level when securing it to rear supports.

NOTE: Perforated ceiling angle must be attached to sound framing members with lag screws. Nails should not be used. Permanently attach the weather seal to both door jambs and header. (Temporarily attached in PREPARING THE OPENING on page 6.) Avoid pushing weather seal too tightly against face of door.

**⚠ 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.**



## Rear Support Continued...

### Tools Needed:

Now, lift door and check it's balance. Adjust, if door lifts by itself (hard to pull down) or if door is difficult to lift (easy to pull down). Anytime spring adjustments are made, ratchet pawl knob must be in the upper position to add/remove required number of spring turns. To adjust springs, only add or remove a maximum of 3/10 of a turn (three teeth of ratchet wheel) at a time. Both sides need to be adjusted equally on double spring doors.

**Add Spring Tension:** The ratchet wheel is made of 10 teeth. To add spring tension, ensure the ratchet and socket is set so that it will tighten counter clockwise on the right hand side, and clockwise on the left hand side. Place the ratchet with 5/8' socket onto the winding shaft, pull down to add 3/10 of a turn. Watch as three teeth of the ratchet wheel pass over the pawl, creating three "clicks".

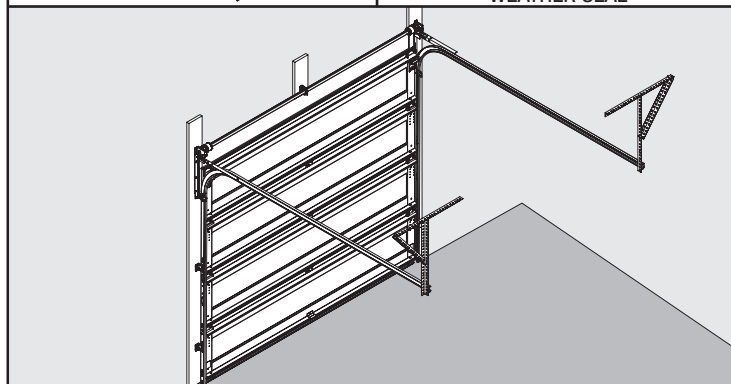
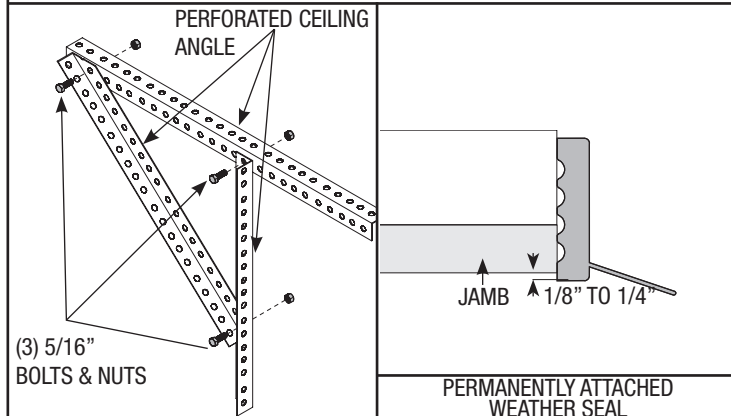
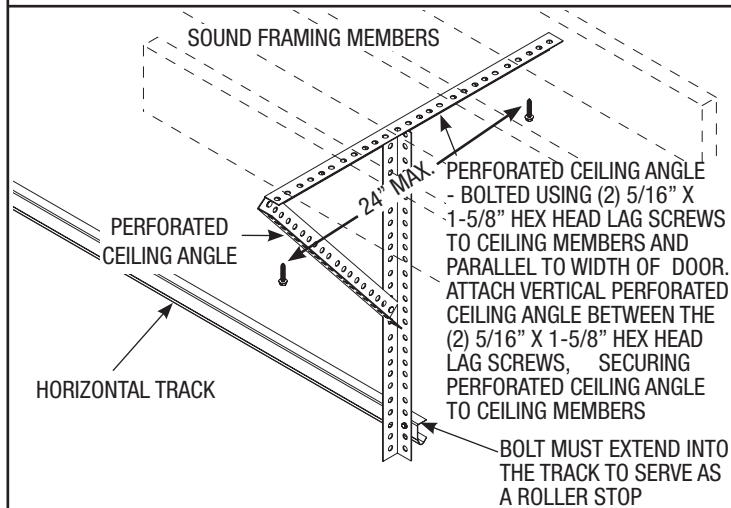
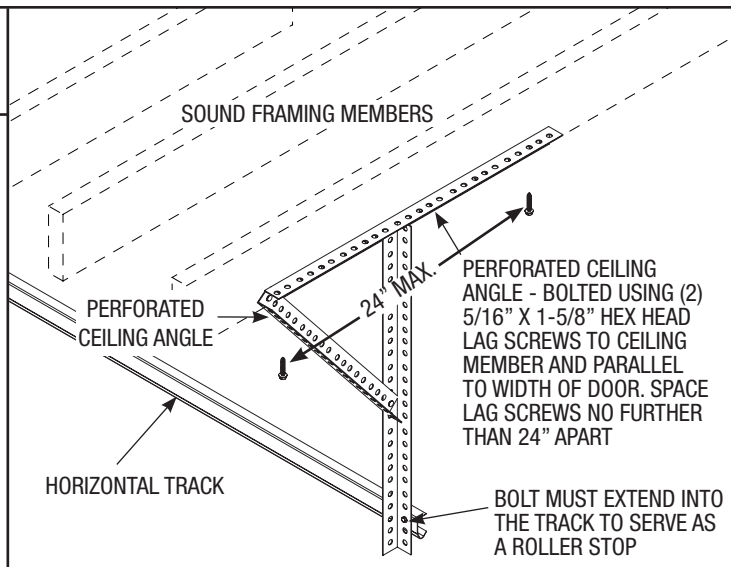
**Remove Spring Tension:** To remove spring tension, ensure the ratchet and socket is set so that it will tighten counter clockwise on the right hand side and clockwise on the left hand side. It is recommended that a regular 5/8" wrench be used. Place the wrench onto the winding shaft. Pull down on the wrench to relieve pressure between the pawl and the ratchet wheel. Push in on the pawl to allow the three ratchet wheel teeth to pass by the pawl, as you carefully allow the wrench to be rotated upward by the spring tension. Release the pawl to allow it to engage with the ratchet wheel.

**IMPORTANT:** BE PREPARED TO HOLD THE FULL TENSION OF THE SPRING.

**IMPORTANT:** DO NOT ADD OR REMOVE MORE THAN 1 SPRING TURN FROM SPECIFIED AMOUNT. IF THE DOOR STILL DOES NOT OPERATE EASILY, LOWER THE DOOR INTO THE CLOSED POSITION, UNWIND SPRING(S) TO ZERO, AND RECHECK THE FOLLOWING ITEMS:

- 1.) Check the door for level.
- 2.) Check the TorqueMaster® spring tube and flagangles for level and plumb.
- 3.) Check the distance between the flagangles - must be door width plus 3-3/8" to 3-1/2".
- 4.) Check the counterbalance cables for equal tension - adjust if necessary.
- 5.) Rewind the spring(s).
- 6.) Make sure door isn't rubbing on jambs.

**NOTE:** If an *i*drive was installed and you have completed your rear support installation, refer to the *i*drive Installation Instructions and Owner's Manual to complete your *i*drive installation.





## TorqueMaster® Plus Reset Instructions

### Tools Needed:

- 5/8" Socket
- Ratchet Wrench
- 3" Extension
- Vice Clamps (Pair)

### **⚠ WARNING**

READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO RESET THE TORQUEMASTER® PLUS SYSTEM. IF IN QUESTION ABOUT ANY OF THE PROCEDURES, DO NOT PERFORM THE WORK. INSTEAD, HAVE A TRAINED DOOR SYSTEMS TECHNICIAN RESET THE SYSTEM.

This door is equipped with a TorqueMaster® Plus system, which provides a safety feature that prevents the door from rapidly descending in case of spring failure or forceful manual operation. Typical sign of an engaged system: Door opens, but will not close; door makes a distinct “clicking” noise upon opening. If the system is engaged, carefully follow the reset instructions below or refer to the door’s Installation Instructions and Owner’s Manual to reset the TorqueMaster® Plus system.

### RESETTING THE ANTI-DROP DEVICE

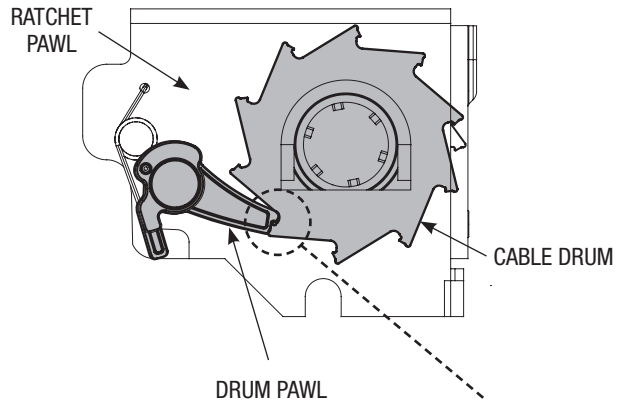
1. First, locate and visual inspect the TorqueMaster® Plus end brackets to determine if the system has engaged (see illustration).

**NOTE:** If the TorqueMaster® Plus system has not engaged, do not complete the following step.

If the system has engaged, follow these steps to reset the system:

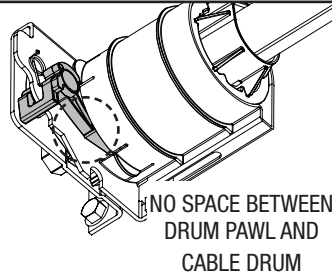
2. Disengage opener (if installed) by pulling or placing emergency disconnect in the manual operated position.
3. With the door in the open or partially open position, clamp vice grips on both vertical tracks just below the bottom section roller.
4. Now is a good time to remove vehicles or items from garage to provide clear access to end brackets.
5. Flip the ratchet pawl knob on both end brackets to the upper position (see illustration).

### ENGAGEMENT SIDE VIEW

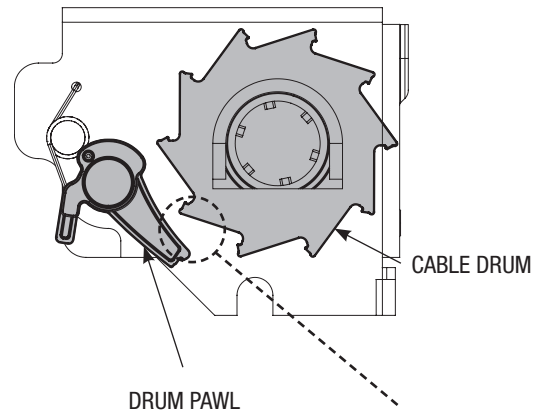


NO SPACE BETWEEN DRUM PAWL AND CABLE DRUM INDICATES ENGAGEMENT

### ENGAGEMENT UNDERNEATH VIEW

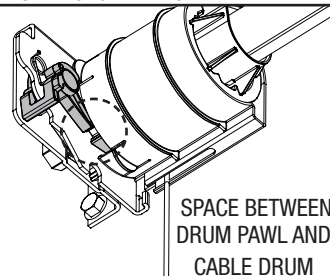


### NON-ENGAGEMENT SIDE VIEW



SPACE BETWEEN DRUM PAWL AND CABLE DRUM NON-INDICATES ENGAGEMENT

### NON-ENGAGEMENT UNDERNEATH VIEW



## TorqueMaster® Plus Reset Instructions Continued...

### Tools Needed:

6. Raise door 2"-3" and then lower door. Repeat process until anti-drop device resets (see disengaged system illustration on previous page).

**IMPORTANT:** BE PREPARED TO SUPPORT THE TOTAL WEIGHT OF THE DOOR.

7. Cautiously remove the vice clamps from the vertical tracks. With assistance, lower the door.

8. Check for spring tension. Starting on the right hand side, place a ratchet and 5/8" socket on the TorqueMaster® Plus winding shaft (see illustration). Ensure ratchet is set so that it will tighten counter clockwise on the right hand side, and clockwise on the left hand side (if applicable). If tension is present, remove the ratchet and check the left hand side (if applicable). If spring(s) have tension, proceed to Balancing Door; if no spring tension is present, contact a qualified door systems technician to replace the spring(s).

### WARNING

TO AVOID POSSIBLE INJURY, HAVE A TRAINED DOOR SYSTEM TECHNICIAN MAKE ADJUSTMENTS/REPAIRS TO CABLES, SPRING ASSEMBLIES AND OTHER HARDWARE.

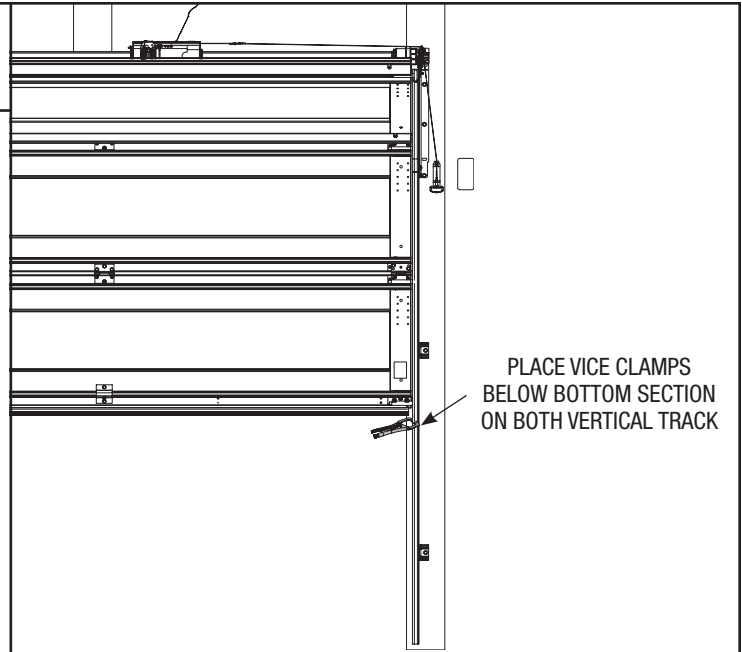
### BALANCING DOOR

Lift door and check its balance. Adjust spring(s), if door lifts by itself (hard to pull down) or if door is difficult to lift (easy to pull down). Anytime spring adjustments are made, ratchet pawl knob must be in the upper position (see illustration).

An unbalanced door such as this can cause *i*drive® or TorqueMaster® Plus operation problems. To adjust spring(s), only add or remove a maximum of 3/10 of a turn (three teeth of ratchet wheel) at a time. Both sides need to be adjusted equally on double spring doors.

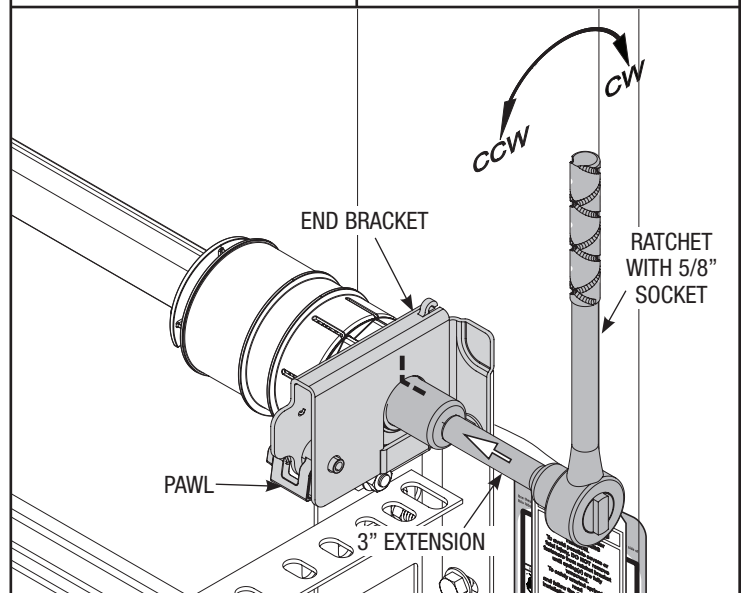
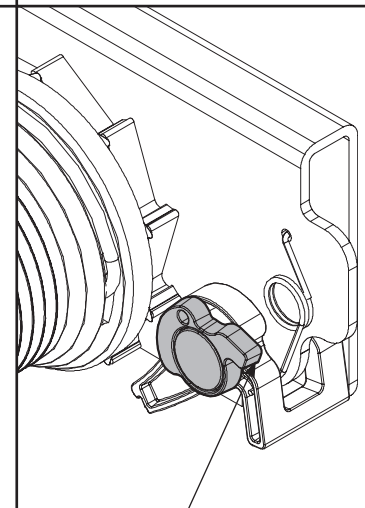
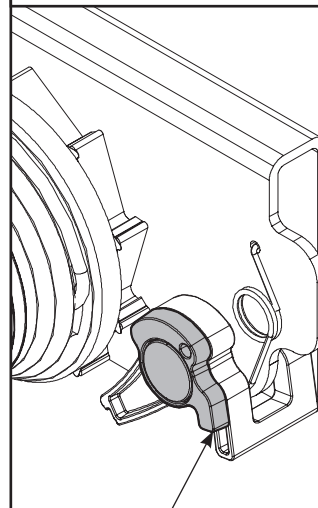
**NOTE:** Single spring applications require no spring winding on left hand side.

Clamp a pair of vice clamps on the vertical tracks just above the second roller on one side and just below the



LOWER POSITION

UPPER POSITION



## TorqueMaster® Plus Reset Instructions Continued...

### Tools Needed:

second roller on the other side. This will prevent the door from raising or lowering while adjusting the spring(s).

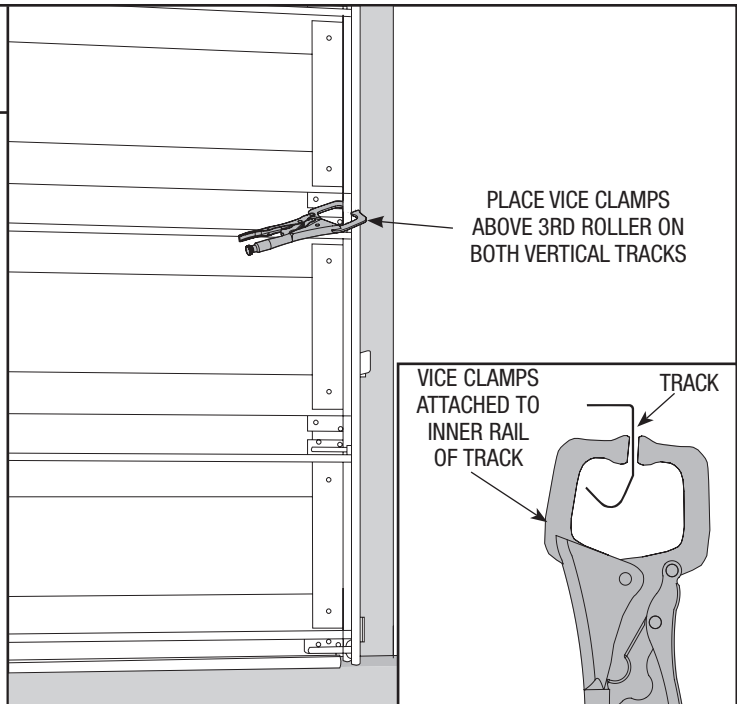
### To Add Spring Tension:

The ratchet wheel is made of 10 teeth. To add spring tension, ensure the ratchet and socket is set so that it will tighten counter clockwise on the right hand side, and clockwise on the left hand side. Place the ratchet with 5/8" socket onto the winding shaft, pull down to add 3/10 of a turn. Watch as three teeth of the ratchet wheel pass over the ratchet pawl, creating three "clicks".

### To Remove Spring Tension:

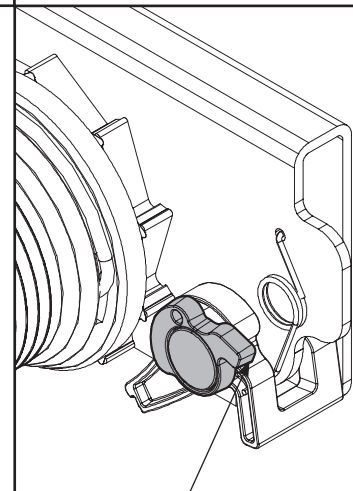
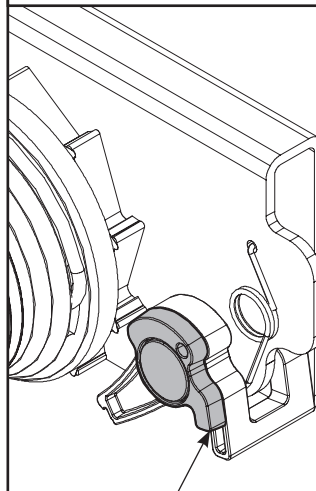
To remove spring tension, ensure the ratchet and socket is set so that it will tighten counter clockwise on the right hand side and clockwise on the left hand side. It is recommended that a regular 5/8" wrench be used. Place the wrench onto the winding shaft. Pull down on the wrench to relieve pressure between the ratchet pawl and the ratchet wheel. Push in on the pawl to allow the three ratchet wheel teeth to pass by the ratchet pawl, as you carefully allow the wrench to be rotated upward by the spring tension. Release the pawl to allow ratchet pawl to engage with the ratchet wheel.

Remove the vice clamps from the vertical tracks, re-check doors balance and adjust if necessary. When door is balanced and adjusted properly, place the ratchet pawl knobs in the active position (lower position).



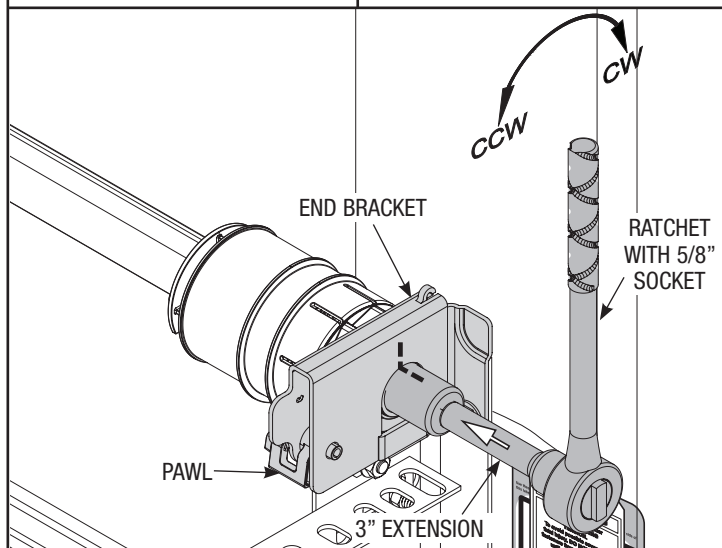
LOWER POSITION

UPPER POSITION



PAWL KNOB IN LOWER POSITION

PAWL KNOB IN UPPER POSITION





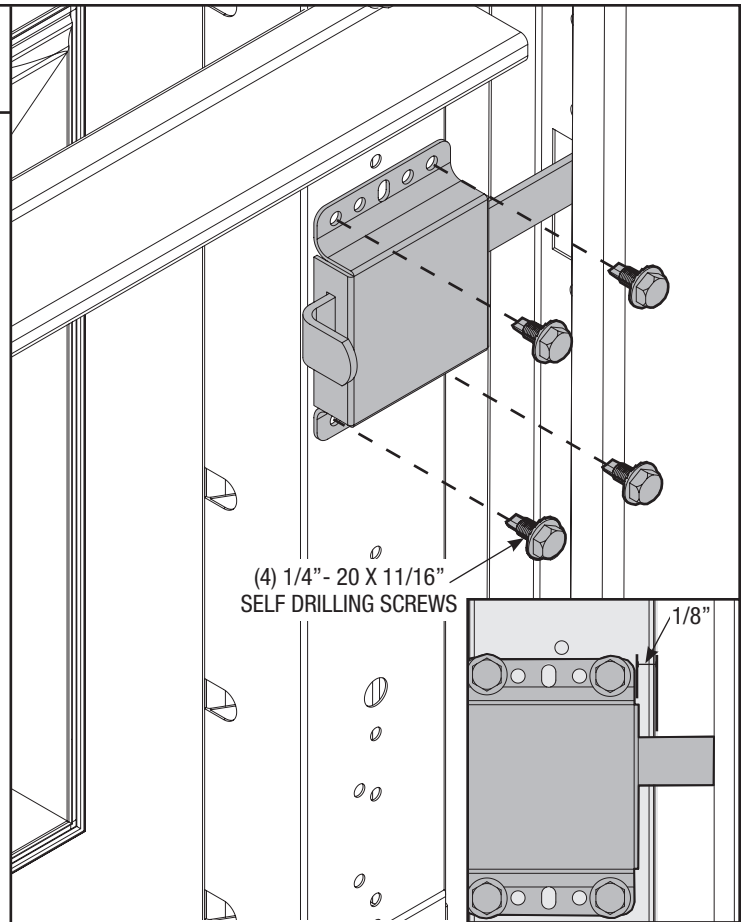
## Side Lock

Tools Needed:  
Power Drill  
7/16" Socket Driver  
Tape Measure


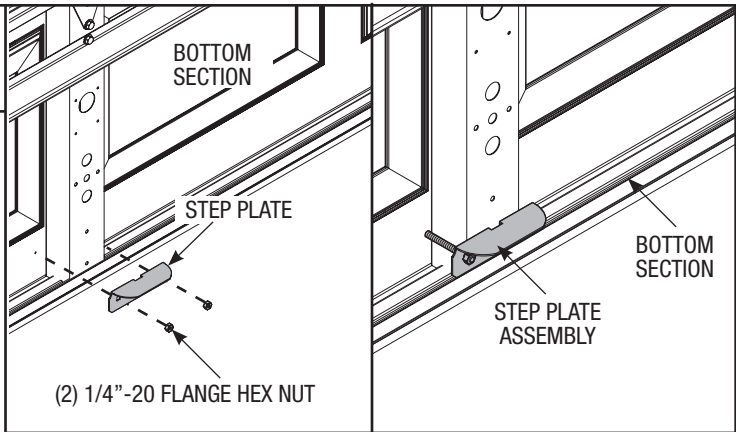
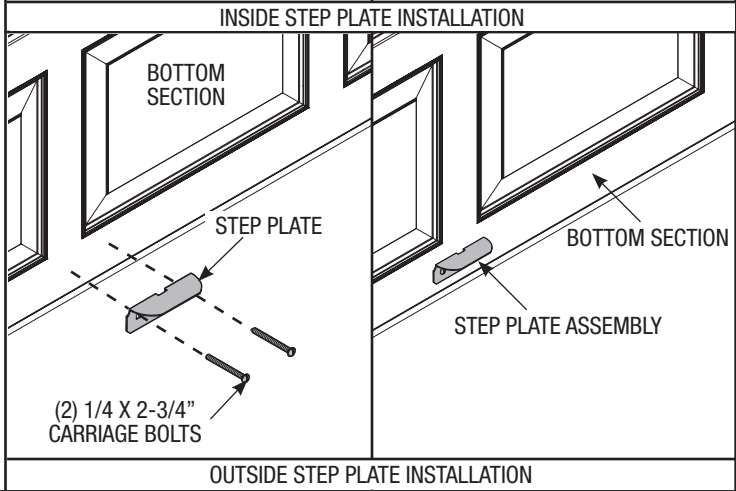
Install the side lock on the second section of the door. Secure the lock to the section with (4) 1/4" - 20 x 11/16" self drilling screws. Square the lock assembly with the door section and align with the square hole in the vertical track. The side lock should be spaced in approximately 1/8" from the section edge.


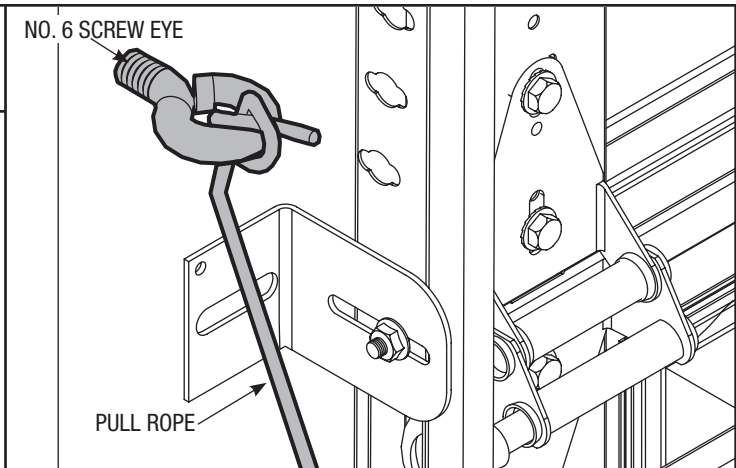
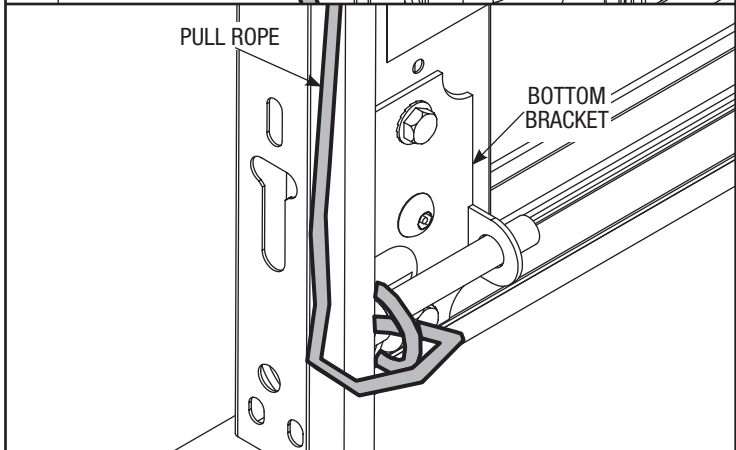
**IMPORTANT:** SIDE LOCKS MUST BE REMOVED OR MADE INOPERATIVE IN THE UNLOCKED POSITION IF AN OPERATOR IS INSTALLED ON THE DOOR.

**NOTE:** After completing this step, continue with Step 13 on page 16.





	<h3>Step Plate</h3>	
<p><b>Tools Needed:</b></p> <ul style="list-style-type: none"> <li>Pencil</li> <li>1/4" Wrench</li> <li>5/16" Drill Bit</li> <li>Power Drill</li> </ul>	<p><b>NOTE:</b> For alternative step/lift plate installation, see "Step Plate" in the optional installations on page 33.</p> <p>Locate the center stile on the bottom section of the door.</p> <p>On the outside of the door, position step plate directly above astragal retainer. Using the step plate as a template, mark hole locations for mounting on door face.</p> <p>Drill (2) 5/16" dia. holes through the door face and insulation, if necessary, at marked locations, being careful to keep drill straight.</p> <p>Mount step plates back to back, straddling stile. Secure with (2) 1/4 x 2-3/4" carriage bolts and 1/4"-20 flange hex nuts.</p>	<p style="text-align: center;"><b>INSIDE STEP PLATE INSTALLATION</b></p>  <p style="text-align: center;"><b>OUTSIDE STEP PLATE INSTALLATION</b></p>

	<h3>Pull Rope</h3>	
<p><b>Tools Needed:</b></p> <ul style="list-style-type: none"> <li>Power Drill</li> <li>1/8" Drill Bit</li> </ul>	<p><b>⚠ WARNING</b></p> <p><b>DO NOT INSTALL PULL ROPES ON DOORS WITH ELECTRIC OPERATORS. CHILDREN MAY BECOME ENTANGLED IN THE ROPE CAUSING SEVERE OR FATAL INJURY.</b></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. Tie the pull rope to the No. 6 screw eye and to the bottom bracket as shown.</p>	



## Trolley Operator

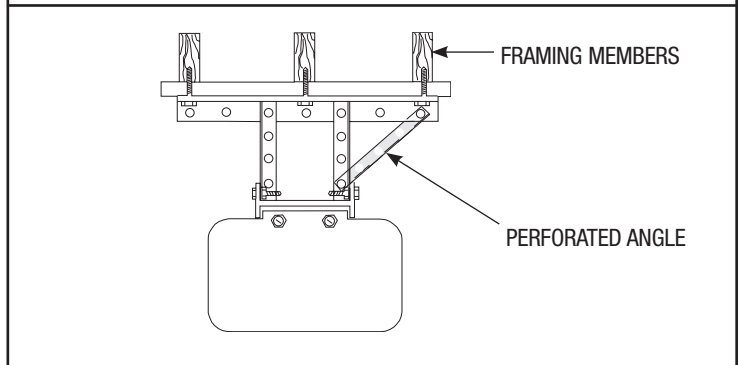
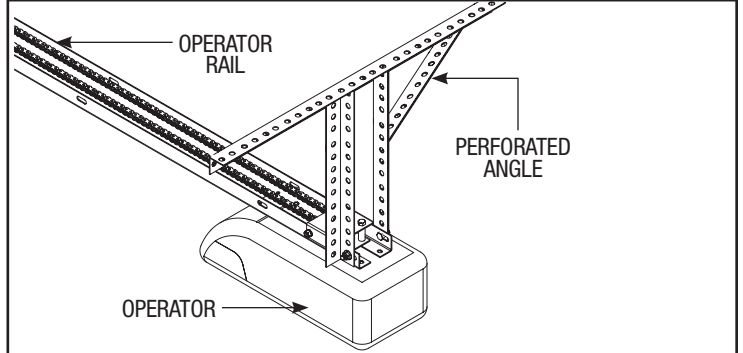
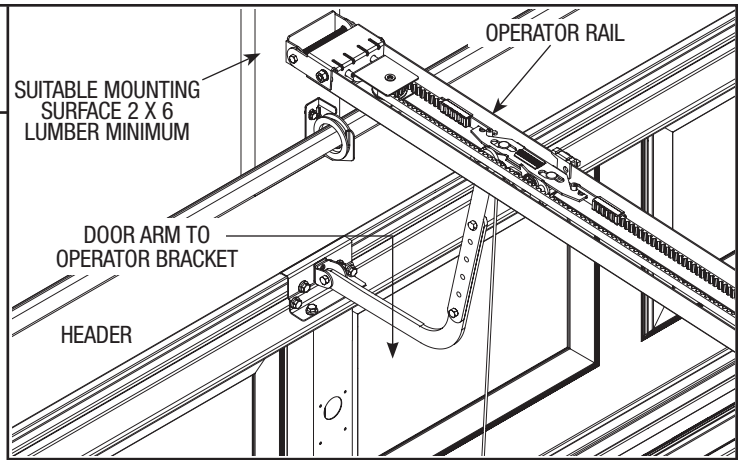
Tools Needed:

### **WARNING**

OPERATOR MUST BE TESTED AT TIME OF INSTALLATION AND MONTHLY THEREAFTER AS DESCRIBED IN YOUR INSTALLATION INSTRUCTIONS AND OWNER'S MANUAL, TO ENSURE THAT DOOR SAFETY FEATURES FUNCTION. FAILURE TO TEST OR MAKE ANY NECESSARY ADJUSTMENTS OR REPAIRS, 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 operator rail to suitable mounting surface, 2 x 6 lumber minimum.
4. 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.

#### 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.

# Limited Warranty

## Models 8000, 8100, 8200 and 46

Subject to the terms and conditions contained in this Limited Warranty, Wayne-Dalton Corp. ("Manufacturer") warrants the sections of the door, which is described at the top of this page, for a period of **TEN (10) YEARS** from the date of installation 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 a period of **TEN (10) YEARS** from the date of installation, 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 Limited Warranty against defects in material and workmanship for a period of **ONE (1) YEAR** from the date of installation.

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 the 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 **UNDERScoreD 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](http://www.wayne-dalton.com)

Thank you for your purchase