7400 Series

Torsion

Rear Mount Low Headroom

Outside Hook-Up

MH
Installation Instructions And Owner's Manual

Table Of Contents

PLEASE DO NOT RETURN THIS PRODUCT TO THE STORE

Please Do Not Return This Product To The Store. Please call 1-866-569-3799 (Press Option 1) and follow the prompts to contact the appropriate customer service agent. They will be happy to handle any questions that you may have.

IMPORTANT NOTICES!

Wayne Dalton highly recommends that you read and fully understand the Installation Instructions and Owner's Manual before you attempt this installation.

To avoid possible injury, read the enclosed instructions carefully before installing and operating the garage door. Pay close attention to all warnings and notes. After installation is complete, fasten this manual near garage door for easy reference.

DEFINITION OF DOOR HEIGHTS:

1. Door Heights less than or equal to 8'0" (< = 8'0") are considered Standard Lift Applications.

2. Door Heights greater than 8'0" (> 8'0") are considered Light Commercial Applications.

The complete Installation Instructions and Owner's Manual are available at no charge from:

Wayne Dalton, a Division Of Overhead Door Corporation,

P.O. Box 67, Mt. Hope, OH., 44660, Or Online At **www.Wayne-Dalton.com.**

Part Number 347619 REV2_09/12/2014

Important Safety Instructions

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.

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 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 over 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, fasteners, counterbalance lift 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.
17. This door may not meet the building code wind load requirements in your area. For your safety, you will need to check with your local building official for wind load code requirements and building permit information.

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

IMPORTANT: STAINLESS STEEL OR PT2000 COATED LAG SCREWS MUST BE USED WHEN INSTALLING CENTER BEARING BRACKETS, END BRACKETS, JAMB BRACKETS, DRAWBAR OPERATOR MOUNTING/ SUPPORT BRACKETS AND DISCONNECT BRACKETS ON TREATED LUMBER (PRESERVATIVE-TREATED). STAINLESS STEEL OR PT2000 LAG SCREWS ARE NOT NECESSARY WHEN INSTALLING PRODUCTS ON UN-TREATED LUMBER.

NOTE: It is recommended that 5/16" lag screws are pilot drilled using a 3/16" drill bit, prior to fastening.

IMPORTANT: WHEN INSTALLING 5/16" LAG SCREWS USING AN ELECTRIC DRILL/ DRIVER, THE DRILL/ DRIVERS CLUTCH MUST BE SET TO DELIVER NO MORE THAN 200 IN-LBS OF TORQUE. FASTENER FAILURE COULD OCCUR AT HIGHER SETTINGS.

⚠ 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.

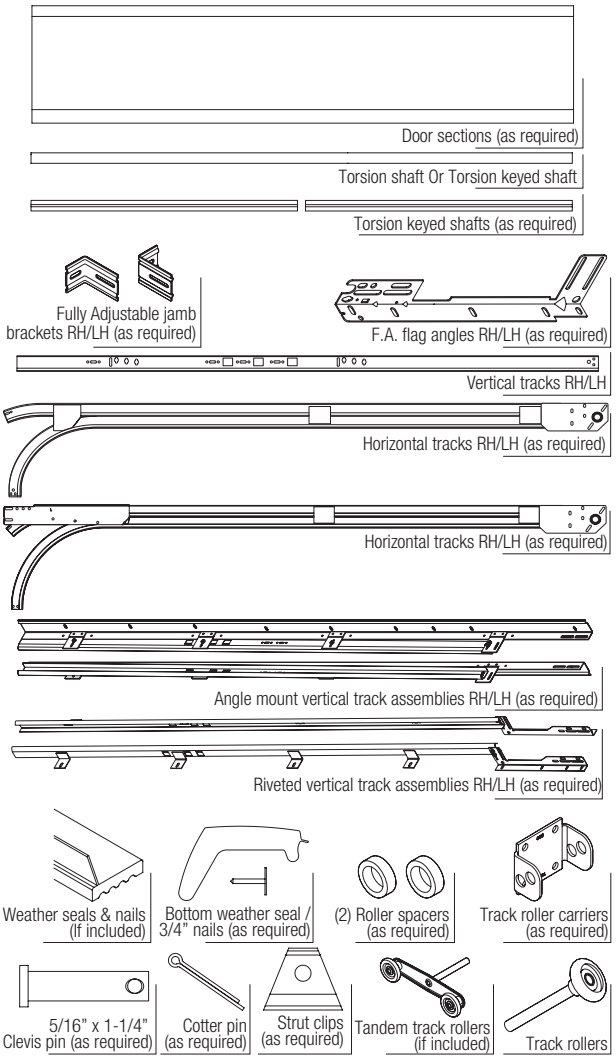
IMPORTANT: RIGHT AND LEFT HAND IS ALWAYS DETERMINED FROM INSIDE THE BUILDING LOOKING OUT.

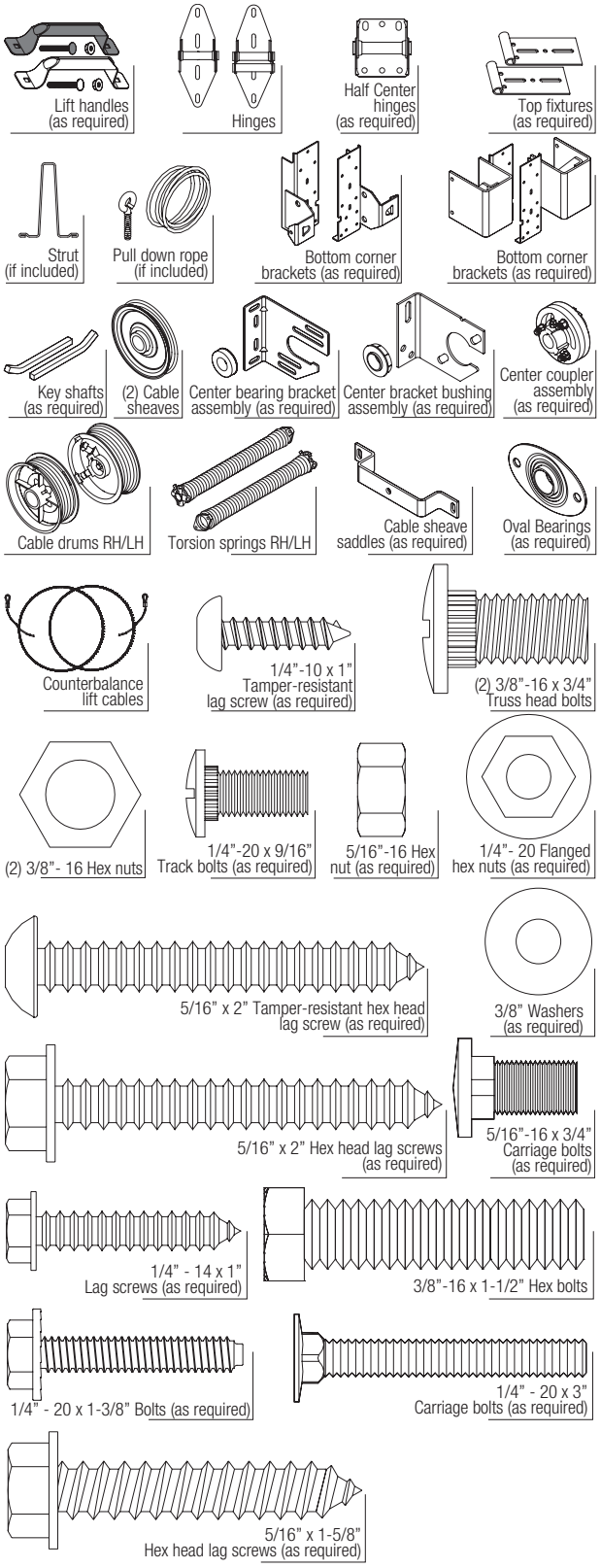
Tools Required

Power drill	(2) Vice clamps	Level
Drill bits: 1/8", 3/16", 9/32", 7/16", 1/2"	Wrenches: 3/8", 7/16", 1/2", 9/16", 5/8"	Pencil
Ratchet wrench	1/4" Torx bit	Saw horses
Socket driver: 7/16"	Approved winding rods	Leather gloves
Sockets: 7/16", 1/2", 9/16", 5/8"	Hammer	Safety glasses
Phillips head screwdriver	Tape measure	
Locking pliers	Step ladder	

Package Contents

NOTE: Depending on the door model, some parts listed will not be supplied if not required. Rear Back Hangs may not be included with your door.





Door Section Identification

When installing your door, you must use sections of the appropriate height in the right stacking location. Determine, what sections you need to use in what order depends on the design of your door.

Sections are stamped for identification, #1, #2, #3, and #4 (#4 only on four section high doors). The stamp, located on each side of the sections identifies the stacking sequence. The sequence is always determined by #1 being the bottom section to #4 or #5 being the highest top section. If the stamp on the section is illegible, refer to the section side view illustration. The section side view illustration shows the section profile of all sections, and can also be used to identify each section.

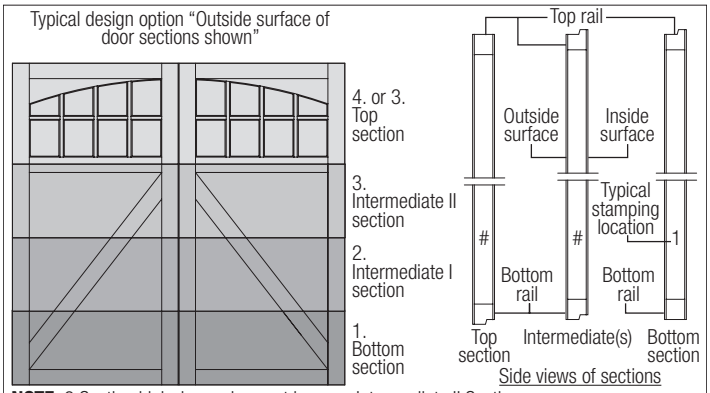
The **BOTTOM SECTION** can be identified by #1.

The **INTERMEDIATE I** SECTION can be identified by #2.

The **INTERMEDIATE II** SECTION can be identified by #3, for a 4 section high door only.

The **INTERMEDIATE III** SECTION can be identified by #4, for a 5 section high door only.

The **TOP SECTION** can be identified either by a #3, for a 3 section high door, by a #4, for a 4 section high door or by a #5, for a 5 section high door.



NOTE: 3 Section high doors, does not have an Intermediate II Section.

Graduated End Hinge And Strut Identification

Graduated End Hinge Schedule

Door Height	Track	Section Type	Graduated End Hinge Number
3 Section High Door	2"	Top	N/A
		Intermediate I	#4
		Bottom	#2
	3"	Top	N/A
		Intermediate I	#6
		Bottom	#4
4 Section High Door	2"	Top	N/A
		Intermediate II	3#
		Intermediate I	2#
		Bottom	1#
	3"	Top	N/A
		Intermediate II	5#
		Intermediate I	4#
		Bottom	3#
5 Section High Door	2"	Top	N/A
		Intermediate III	4#
		Intermediate II	3#
		Intermediate I	2#
		Bottom	1#
	3"	Top	N/A
		Intermediate III	6#
		Intermediate II	5#
		Intermediate I	4#
		Bottom	3#

NOTE: Center hinge(s) use #1 graduated end hinges at each pre-drilled or vertical stile location. The pre-drilled locations are located at the top and or bottom rails on the inside of the section surface.

NOTE: Some doors will receive half center hinge(s). These will be installed in between the center hinge(s) and graduated end hinge(s).

STRUT IDENTIFICATION: Identify your struts to determine which ones are long strut(s) or short strut(s).

Short Strut(s) are typically installed along the top rail of the top section and or along the bottom rail of the bottom section.

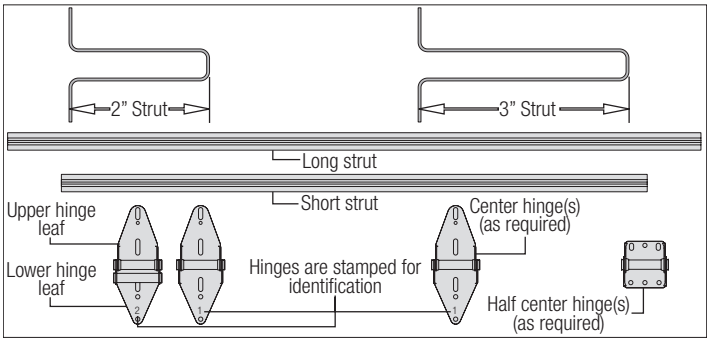
Long Strut(s) are typically installed along the top and or bottom rails of sections. Measure the height of the long strut(s) to determine if you have 2" or 3".

NOTE: Some struts also may or may not have holes in them. If they don't, then prior to installing the strut and hinge to the section surface, you may have to drill a 3/16" hole for the appropriate fastener on one or both sides of the strut legs.

3 Section High Strutting Schedule		
Section Type	Type Of Strut	Location On Section
Top	(1) Short	Top Of Section
	N/A	Bottom Of Section
Intermediate I	(1) Long	Top Of Section
	(1) Long	Bottom Of Section
Bottom	(1) Long	Top Of Section
	(1) Short	Bottom Of section

4 Section High Strutting Schedule		
Section Type	Type Of Strut	Location On Section
Top	(1) Short	Top Of Section
	N/A	Bottom Of Section
Intermediate II	(1) Long	Top Of Section
	(1) Long	Bottom Of Section
Intermediate I	(1) Long	Top Of Section
	N/A	Bottom Of Section
Bottom	(1) Long	Top Of Section
	(1) Short	Bottom Of Section

5 Section High Strutting Schedule		
Section Type	Type Of Strut	Location On Section
Top	(1) Short	Top Of Section
	N/A	Bottom Of Section
Intermediate III	(1) Long	Top Of Section
	(1) Long	Bottom Of Section
Intermediate II	(1) Long	Top Of Section
	(1) Long	Bottom Of Section
Intermediate I	(1) Long	Top Of Section
	N/A	Bottom Of Section
Bottom	(1) Long	Top Of Section
	(1) Short	Bottom Of Section



Removing an Existing Door

IMPORTANT: 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 not supplied with the door, but are available at no charge from Wayne Dalton, A Division Of Overhead Door Corporation, P.O. Box 67, Mt. Hope, OH., 44660, or at **www.Wayne-Dalton.com**.

Preparing the Opening

IMPORTANT: 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**.

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 Torsion 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 Torsion counterbalance systems, a suitable mounting surface (2" x 6") must be firmly attached to the wall, above the header at the center of the opening.

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

WEATHERSTRIPS (MAY NOT BE INCLUDED):

Depending on the size of your door, you may have to cut or trim the weatherstrips (if necessary) to properly fit into the header and jambs.

NOTE: If nailing product at 40°F or below, pre-drilling is required.

NOTE: Do not permanently attach weatherstrips to the header and jambs at this time.

For the header, align the weatherstrip 1/8" to 1/4" inside the header edge, and temporarily secure it to the header with equally spaced nails. Starting at either side of the jamb, fit the weatherstrip up tight against the temporarily attached weatherstrip in the header and 1/8" to 1/4" inside the jamb edge. Temporarily secure the weatherstrip with equally spaced nails. Repeat for other side. This will keep the bottom section from falling out of the opening during installation. Equally space nails approximately 12" to 18" apart.

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.

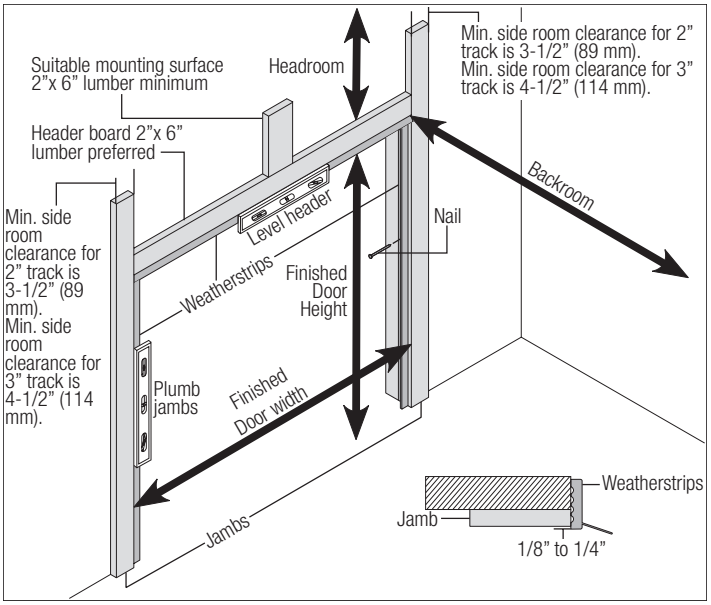
Backroom requirement: Backroom is defined as the distance needed from the opening back into the garage to allow the door to open fully.

BACKROOM REQUIREMENTS

Door Height	Track	Manual Lift	Motor Operated
6'0" to 7'0"	15" Radius	108-1/2" (2756 mm)	125" (3175 mm)
7'1" to 8'0"		120-1/2" (3061 mm)	137" (3480 mm)
8'1" to 9'0"		132-1/2" (3366 mm)	168" (4267 mm)
9'1" to 10'0"		144-1/2" (3670 mm)	168" (4267 mm)

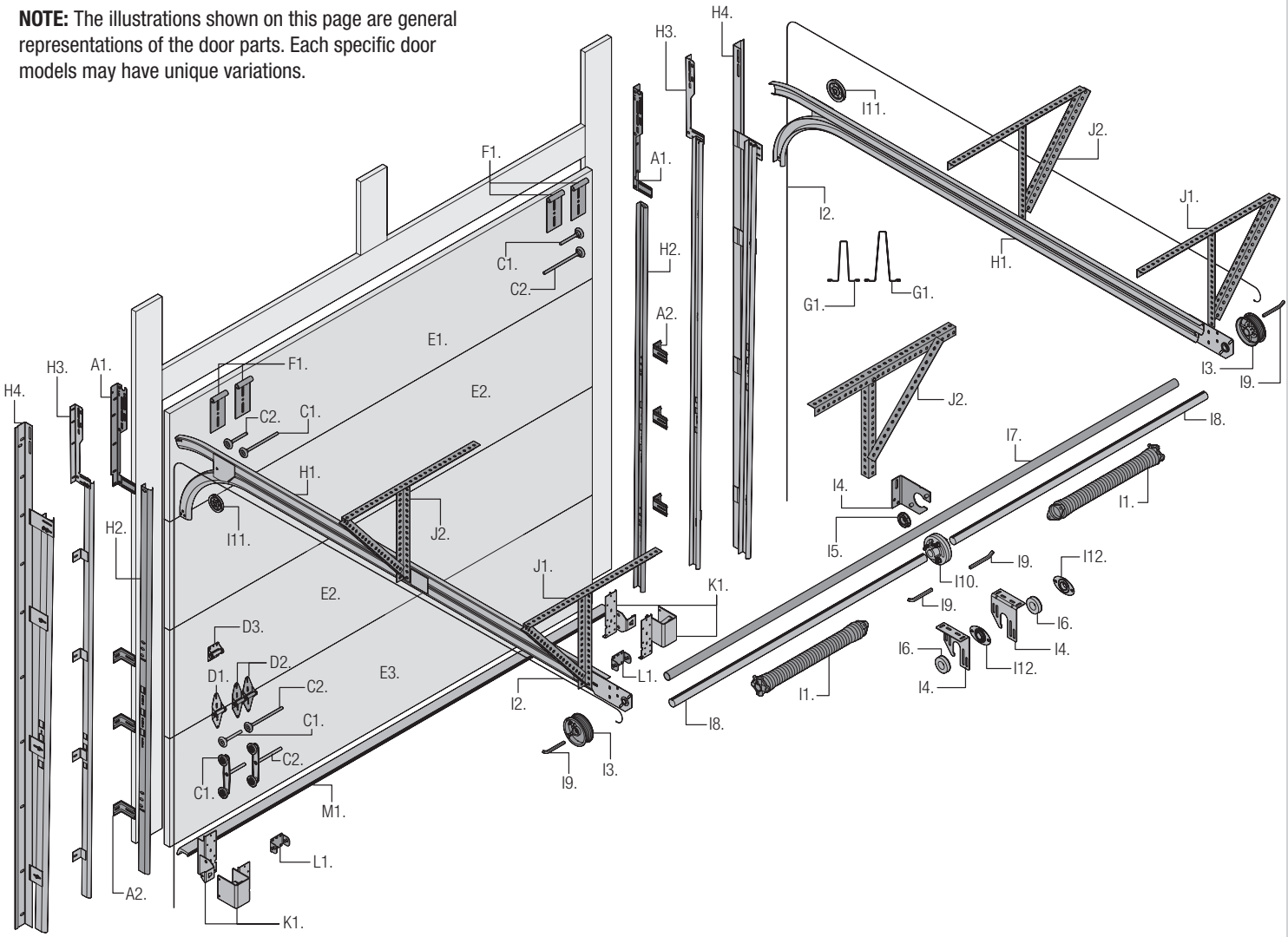
STANDARD LIFT HEADROOM REQUIREMENTS

Track Type	Space Needed
6" LHR	6" (153 mm)


Suitable mounting surface
2"x 6" lumber minimum
Headroom
Min. side room clearance for 2" track is 3-1/2" (89 mm).
Min. side room clearance for 3" track is 4-1/2" (114 mm).
Header board 2"x 6" lumber preferred
Backroom
Min. side room clearance for 2" track is 3-1/2" (89 mm).
Min. side room clearance for 3" track is 4-1/2" (114 mm).
Level header
Nail
Weatherstrips
Finished Door Height
Plumb jambs
Finished Door width
Jambs
Weatherstrips
Jamb
1/8" to 1/4"

PARTS BREAKDOWN

NOTE: The illustrations shown on this page are general representations of the door parts. Each specific door models may have unique variations.



A. FLAG ANGLES (AS REQUIRED):

A1. Fully Adjustable (F.A.) Flag Angles

B. JAMB BRACKETS (AS REQUIRED):

B1. Fully Adjustable (F.A.) Jamb Brackets

C. TRACK ROLLERS (AS REQUIRED):

C1. Short Stem Track Rollers / Short Stem Tandem Track Rollers

C2. Long Stem Track Rollers / Long Stem Tandem Track Rollers

D. GRADUATED END HINGES:

D1. Single Graduated End Hinges (S.E.H.), Industry Standard

D2. Double Graduated End Hinges (D.E.H.), Industry Standard

D3. Half Center Hinges (As required)

E. STACKED SECTIONS:

E1. Top Section

E2. Intermediate(s) Section

E3. Bottom Section

F. TOP FIXTURE (AS REQUIRED):

F1. Top Fixtures

G. STRUT(S) (AS REQUIRED):

G1. Strut (2" U-shaped), G2. Strut (3" U-shaped)

H. TRACKS (AS REQUIRED):

H1. Left Hand and Right Hand Horizontal Track Assemblies

H2. Left Hand and Right Hand Vertical Tracks

H3. Left Hand and Right Hand Riveted Vertical Track Assemblies

H4. Left Hand and Right Hand Angle Mount Vertical Track Assemblies

I. TORSION SPRING ASSEMBLY (AS REQUIRED):

I1. Left Hand and Right Hand Torsion Springs (As Required)

I2. Counterbalance Lift Cables

I3. Left Hand and Right Hand Cable Drum

I4. Center Bracket (As Required)

I5. Center Bushing (As Required)

I6. Center Bearing (As Required)

I7. Torsion Shaft / Torsion Keyed Shaft (As Required)

I8. Torsion Keyed Shafts (As Required)

I9. Keys (As Required)

I10. Center Coupler Assembly (As Required)

I11. Cable Sheaves

I12. Oval bearings (As Required)

J. REAR BACK HANGS:

J1. Left Hand and Right Hand Rear Back Hang Assemblies

J2. Left Hand and Right Hand Center Back Hang Assemblies

K. BOTTOM CORNER BRACKETS (AS REQUIRED):

K1. Left Hand and Right Hand Bottom Corner Brackets

L. TRACK ROLLER CARRIERS (AS REQUIRED):

L1. Track Roller Carriers

M. BOTTOM WEATHER SEAL (AS REQUIRED):

M1. Bottom Weather Seal (Door Width)

INSTALLATION

Before installing your door, be certain that you have read and followed all of the instructions covered in the pre-installation section of this manual. Failure to do so may result in an improperly installed door.

NOTE: Reference TDS 160 for general garage door terminology at **www.dasma.com**.

IMPORTANT: WOOD DOORS MUST BE COMPLETELY FINISHED (3 TOTAL COATS, INCLUDING PRIMER COAT) PRIOR TO INSTALLATION, TO ENSURE THAT THE INTERIOR AND EXTERIOR SURFACES, AS WELL AS ALL EDGES OF THE DOORS ARE PROPERLY PROTECTED AGAINST MOISTURE OR OTHER CONTAMINANTS. WOOD DOORS, IN A NON-FINISHED CONDITION, MUST BE TRANSPORTED AND STORED SO THE WOOD SURFACES ARE NOT EXPOSED TO MOISTURE OR OTHER CONTAMINANTS. IMPROPER TRANSPORTATION, STORAGE OR DELAYS IN FINISHING, THAT ALLOWS EXPOSURE OF THE WOOD DOOR SURFACES TO MOISTURE OR OTHER CONTAMINANTS WILL RESULT IN THE WARRANTY BEING VOIDED.

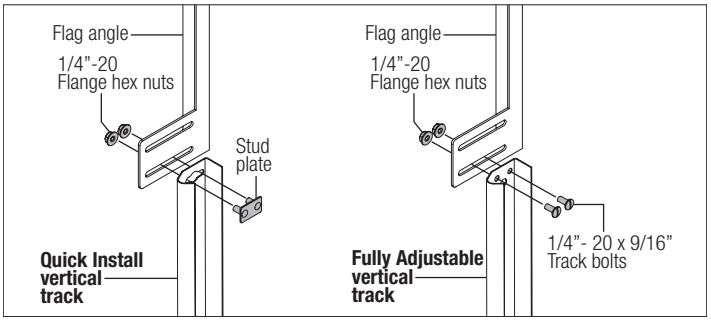
1 Fully Adjustable Flag Angles

Tools Required: Safety glasses, Leather gloves

NOTE: If you have Riveted Track or Angle Mount Track, skip this step.

NOTE: Flag angles are right and left handed.

Hand tighten the left hand flag angle to the left hand vertical track using (2) 1/4" - 20 x 9/16" track bolts and (2) 1/4" - 20 flange hex nuts. Repeat for other side. Flange nuts will be secured after flag angle spacing is completed in step, Top Section.



2 Fully Adjustable Jamb Brackets

Tools Required: Tape measure, Safety glasses, Leather gloves

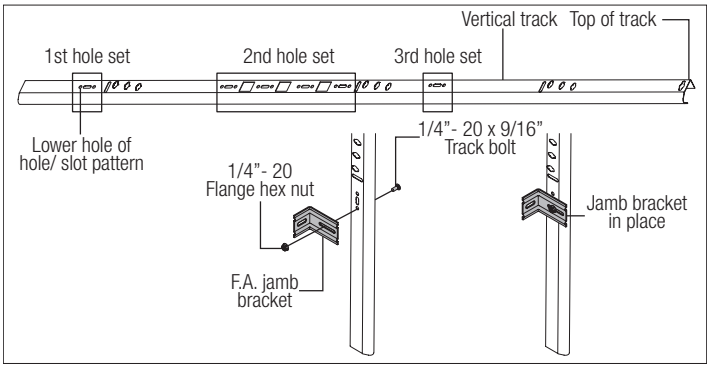
NOTE: If you have Riveted Track or Angle Mount Track, skip this step.

NOTE: The bottom jamb bracket is always the shortest bracket, while the center jamb bracket is the next tallest. If three jamb brackets per side are included with your door, you will have received a top jamb bracket, which is the tallest.

To attach the bottom jamb bracket, locate lower hole of the hole/ slot pattern of the 1st hole set on the vertical track. Align the slot in the jamb bracket with the lower hole of the hole/ slot pattern. Secure jamb bracket using (1) 1/4" - 20 x 9/16" track bolt and (1) 1/4" - 20 flange hex nut. Repeat for other side.

Place the center jamb bracket over the lower hole of the hole/ slot pattern that is centered between the bottom jamb bracket and flag angle of the 2nd hole set. Secure jamb bracket using (1) 1/4" - 20 x 9/16" track bolt and (1) 1/4" - 20 flange hex nut. Repeat for other side.

If a top jamb bracket was included, secure it to vertical track using the lower hole of the hole/ slot pattern in the 3rd hole set and (1) 1/4" - 20 x 9/16" track bolt and (1) 1/4" - 20 flange hex nut. Repeat for other side.



3 Bottom Weather Seal

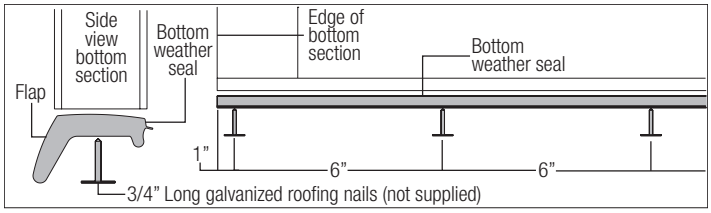
Tools Required: Hammer, Saw horses, Tape measure, Safety glasses, Leather gloves

NOTE: If a bottom weather seal was supplied, complete this step.

NOTE: Refer to door section identification, located in the pre-installation section of this manual to determine what size section you need to use as your bottom (first) section. Measure your section to make sure it is the correct height as indicated on the chart.

Place the bottom section face down on a couple of sawhorses or flat clean/ smooth surface. Align the bottom weather seal with the flap pointing towards the outside surface of the bottom section. Starting at one end of the door, measure inward 1" and attach the bottom weather seal to the bottom of the bottom section with 3/4" long galvanized roofing nails (not supplied). Now stretch the bottom weather seal slightly and nail the rest of the bottom weather seal to the bottom of the bottom section every 6". Once the bottom weather seal is fastened cut off any extra material so that the bottom weather seal is even with both ends of the bottom section.

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



4 Bottom Corner Brackets

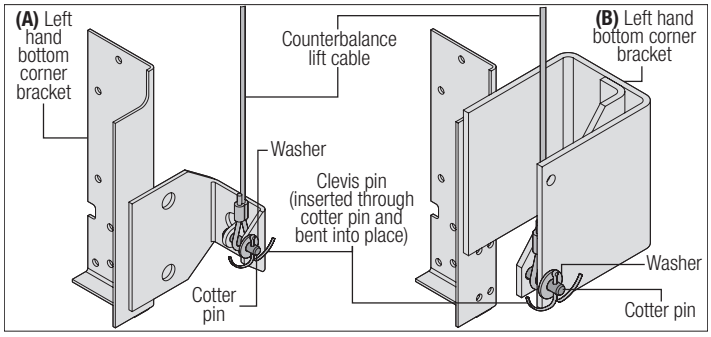
Tools Required: Power drill, 9/32" Drill bit, Socket driver 7/16", Wrench 7/16", Tape measure, Safety glasses, Leather gloves

NOTE: Refer to door section identification, located in the pre-installation section of this manual. Refer to Package Contents / Parts Breakdown, to determine which bottom corner brackets you received.

⚠ WARNING

FAILURE TO ENSURE TIGHT FIT OF CABLE LOOP OVER COTTER PIN COULD RESULT IN COUNTERBALANCE LIFT CABLE COMING OFF THE PIN, ALLOWING THE DOOR TO FALL, POSSIBLY RESULTING IN SEVERE OR FATAL INJURY.

With the bottom section facing down from the previous step, uncoil the counterbalance lift cables. Starting on the left hand side, place the cable loop into position between the two holes on the side of the left hand bottom bracket. Slide a clevis pin through the innermost hole, cable loop, and outermost hole, of the bottom bracket. Slide a washer onto the clevis pin and secure in place by inserting a cotter pin into the hole of the clevis pin. Bend the ends of the cotter pin outwards to secure it in place. Repeat for other side.



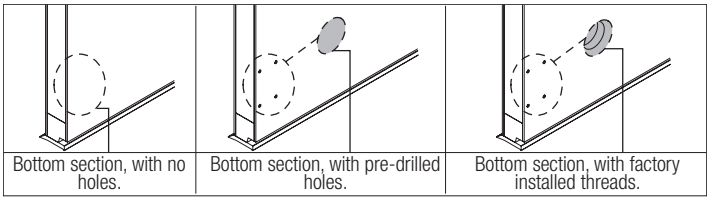
NOTE: Depending on your door application, you may have to use the bottom corner bracket as a template.

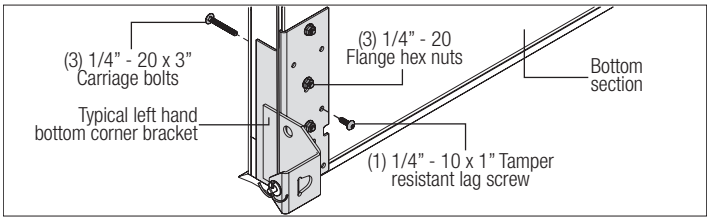
Depending on your door application, your bottom section may or may not have pre-drilled holes / factory installed threads.

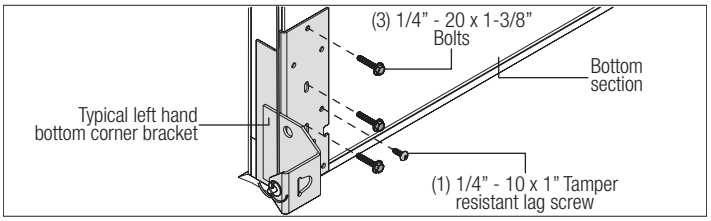
FOR BOTTOM SECTION, WITH NO HOLES: Locate the left hand bottom corner bracket. Align the bottom corner bracket horizontally with the bottom edge of the bottom section and also align the bottom corner bracket vertically with the left bottom edge of the bottom section. Mark and pre-drill (3) 9/32" diameter holes through the bottom section and attach the bottom corner bracket to the bottom section using (3) 1/4" - 20 x 3" carriage bolts and (3) 1/4" - 20 flange hex nuts, as shown.

FOR BOTTOM SECTION, WITH PRE-DRILLED HOLES: Locate the left hand bottom corner bracket. Align the bottom corner bracket horizontally with the bottom edge of the bottom section and also align the bottom corner bracket vertically with the left bottom edge of the bottom section. Attach the bottom corner bracket to the bottom section using (3) 1/4" - 20 x 3" carriage bolts and (3) 1/4" - 20 flange hex nuts, as shown.

FOR BOTTOM SECTION, WITH FACTORY INSTALLED THREADS: Locate the left hand bottom corner bracket. Align the bottom corner bracket horizontally with the bottom edge of the bottom section and also align the bottom corner bracket vertically with the left bottom edge of the bottom section. Attach the bottom corner bracket to the bottom section using (3) 1/4" - 20 x 1-3/8" bolts, as shown.







Next, secure the bottom corner bracket to the bottom section using (1) 1/4" - 14 x 1" tamper proof screw to the left hand bottom corner bracket, as shown. Repeat the same process for the right hand side.

NOTE: All doors are provided with the tamper resistant fastener for the bottom corner 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 3" carriage bolt and a 1/4" - 20 flange hex nut in its place.

5 Track Roller Carriers

Tools Required: Power drill, 1/8" Drill bit, Socket driver 7/16", Wrench 7/16", Tape measure, Safety glasses, Leather gloves

Starting on left hand side of the bottom section, attach the track roller carrier with the stamp "STD" facing UP to the bottom corner bracket by aligning the four holes of the track roller carrier with the four holes in the bottom corner bracket. Secure the track roller carrier to the bottom corner bracket with (4) 1/4" - 14 x 1" lag screws.

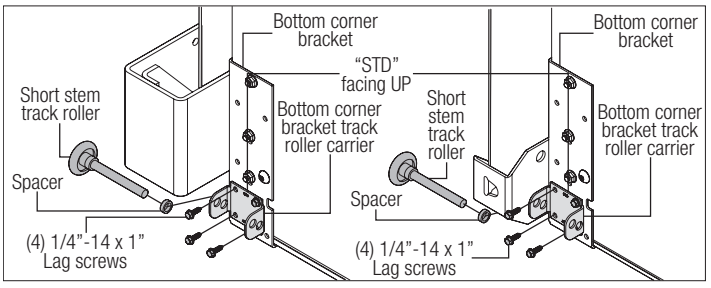
NOTE: Prior to fastening the track roller carrier to the bottom section, pilot drill using a 1/8" drill bit.

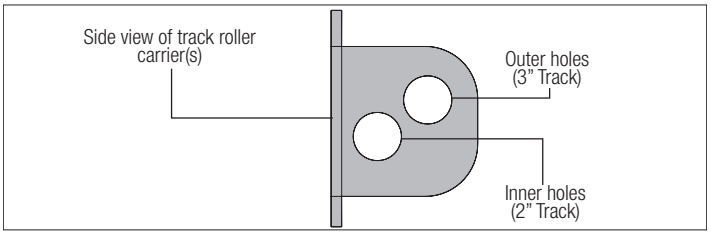
IMPORTANT: BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1" DEEP.

NOTE: The track roller carrier's inner holes are used on doors with 2" track applications; the outer holes are used on doors with 3" track applications.

Insert a short stem track roller and spacer into the inner holes. Repeat the same process for the right hand side.

NOTE: Depending on your door, some bottom corner brackets will utilize two track roller carries with a long stem track roller.





6 Strutting

Tools Required: Power drill, 1/8" Drill bit, Socket driver 7/16", Wrench 7/16", Tape measure, Safety glasses, Leather gloves

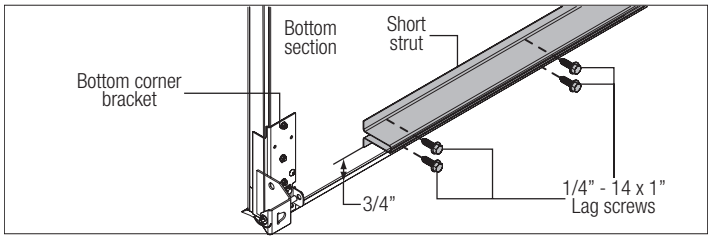
NOTE: Refer to the Door Section Identification, Graduated End Hinge and Strut Identification, to determine the appropriate hinges / struts for your section.

Lay the short strut onto the bottom rail of the bottom section. Position the bottom of the strut 3/4" up from the bottom edge of the bottom section. Center the short strut from side to side on the section surface.

Drill pilot holes, 1" deep into the bottom section using a 1/8" drill bit.

IMPORTANT: BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1" DEEP.

Attach the strut using (1) 1/4" - 14 x 1" lag screw at each pre-drilled hole.



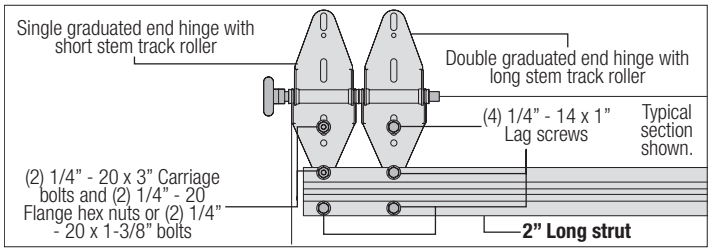
Using the appropriate graduated end hinges for the ends and depending on the width of your door, enough center hinge(s) for each pre-drilled hole location(s). Starting at the upper left hand corner of the bottom section. Position the lower hinge leaf of the appropriate graduated end hinge onto the upper corner of the bottom section. Align the slots of the lower hinge leaf with the pre-drilled holes or the factory installed threads in the bottom section. Next, lay a long strut over the lower hinge leaf and over the top rail of the bottom section. Center the long strut from side to side, as shown.

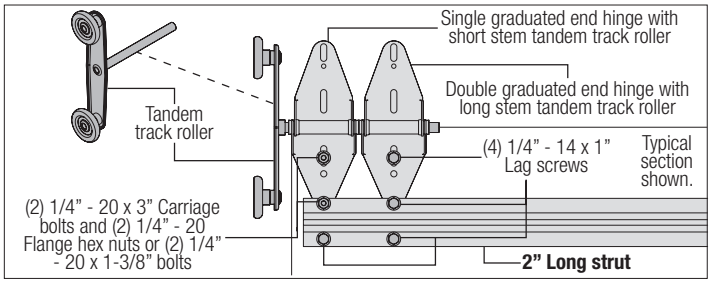
FOR 2" LONG STRUT APPLICATIONS: Attach the upper slot of the graduated end hinge to the bottom section using (1) 1/4" - 20 x 3" carriage bolt, (1) 1/4" - 20 flange hex nut or (1) 1/4" - 20 x 1-3/8" bolt. Attach the lower slot of the graduated end hinge and the upper leg of strut to the bottom section using (1) 1/4" - 20 x 3" carriage bolt, (1) 1/4" - 20 flange hex nut or (1) 1/4" - 20 x 1-3/8" bolt. Next secure the bottom leg of strut to the bottom section using (1) 1/4" - 20 x 1-3/8" bolt. Repeat for other side.

For doors with double graduated end hinges, position the second graduated end hinge next to the first (single) graduated end hinge. Using the second graduated end hinge as a template, drill pilot holes, 1" deep into the bottom section with a 1/8" drill bit.

IMPORTANT: BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1" DEEP.

Attach the upper slot of the graduated end hinge to the bottom section using (1) 1/4" - 14 x 1" lag screw. Attach the upper leg of strut to the lower slot of the graduated end hinge to the bottom section using (1) 1/4" - 14 x 1" lag screw. Next secure the bottom leg of strut to the bottom section using (1) 1/4" - 14 x 1" lag screw. Repeat for other side.

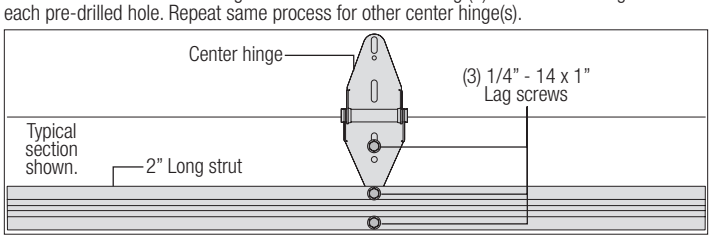




For Center Hinges, align the slots of the lower hinge leaf with the pre-drilled holes or at each center stile at the top rail of bottom section. Using the center hinge as a template, drill pilot holes, 1" deep into the bottom section with a 1/8" drill bit (if needed).

IMPORTANT: BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1" DEEP.

Attach the strut and center hinge to the bottom section using (2) 1/4" - 14 x 1" lag screws at each pre-drilled hole. Repeat same process for other center hinge(s).



FOR 3" LONG STRUT APPLICATIONS: Attach the upper slot of the graduated end hinge, (1) strut clip and the upper leg of strut to the bottom section using (1) 1/4" - 20 x 3" carriage bolt, (1) 1/4" - 20 flange hex nut or (1) 1/4" - 20 x 1-3/8" bolt. Next secure the bottom leg of strut, the slot of the graduated end hinge to the bottom section (1) 1/4" - 20 x 3" carriage bolt, (1) 1/4" - 20 flange hex nut or (1) 1/4" - 20 x 1-3/8" bolt. Repeat for other side.

For doors with double graduated end hinges, position the second graduated end hinge next to the first (single) graduated end hinge. Using the second graduated end hinge as a template, drill pilot holes, 1" deep into the bottom section with a 1/8" drill bit.

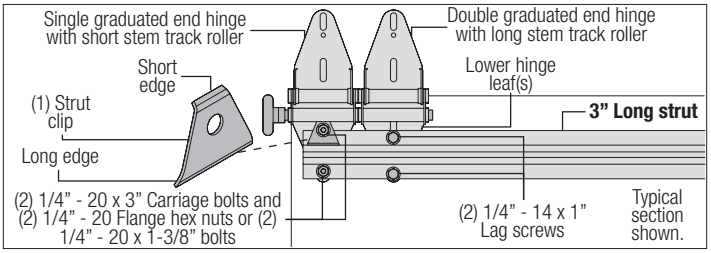
IMPORTANT: BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1" DEEP.

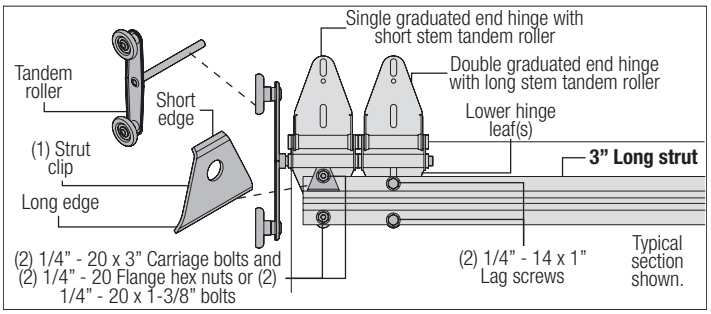
Attach the upper leg of strut to the upper slot of the graduated end hinge to the bottom section using (1) 1/4" - 14 x 1" lag screw. Next secure the bottom leg of strut to the lower slot of the graduated end hinge to the bottom section using (1) 1/4" - 14 x 1" lag screw. Repeat for other side.

NOTE: If you have single graduated end hinges, insert a short stem track roller / short stem tandem track roller (if included) into the hinge tube on each side.

NOTE: If you have double graduated end hinges, insert a long stem track roller / short stem tandem track roller (if included) into the hinge tubes on each side.

IMPORTANT: WHEN PLACING TRACK ROLLERS / TANDEM TRACK ROLLER (IF INCLUDED) INTO GRADUATED END HINGES NUMBER 2 AND HIGHER, THE TRACK ROLLER / TANDEM TRACK ROLLER (IF INCLUDED) GOES INTO TUBE FURTHEST AWAY FROM SECTION.



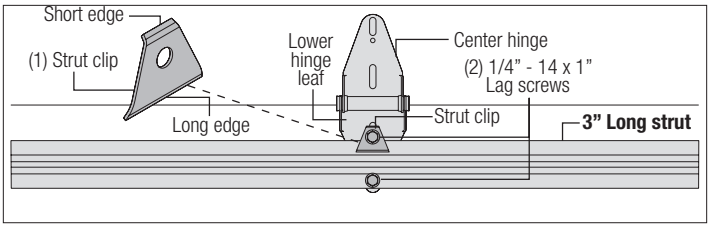


For Center Hinges, align the slots of the lower hinge leaf with the pre-drilled holes or at each center stile at the top rail of bottom section. Using the center hinge as a template, drill pilot holes, 1" deep into the bottom section with a 1/8" drill bit (if needed).

IMPORTANT: BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1" DEEP.

Attach (1) strut clip strut, top leg of strut to the lower slot of the center hinge to the bottom section using (1) 1/4" - 14 x 1" lag screws. Next secure the bottom leg of strut to the lower slot of the center hinge to the bottom section using (1) 1/4" - 14 x 1" lag screw. Repeat for other center hinge(s).

NOTE: Ensure the short edge of the strut clip is pointing towards the hinge and the long edge of the strut clip is pointing towards the strut.



7 Half Center Hinges

Tools Required: Power drill, 1/8" Drill bit, Socket driver 7/16", Wrench 7/16", Tape measure, Safety glasses, Leather gloves

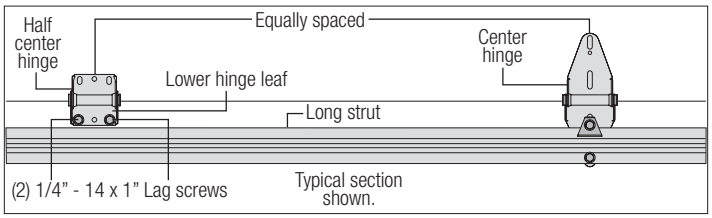
NOTE: If you don't have half center hinges, then skip this step. Refer to Package Contents / Parts Breakdown, to determine if you have half center hinges.

Using a tape measure, position the half center hinges equally spaced in between the center hinges and equally spaced in between the center hinges and the graduated end hinges. Position the holes of the lower hinge leaf, as shown. Using the half center hinge as a template, drill pilot holes, 1" deep into the bottom section with a 1/8" drill bit (if needed).

IMPORTANT: BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1" DEEP.

Attach the lower hinge leaf of the center hinge to the bottom section using (2) 1/4" - 14 x 1" lag screws. Repeat for other half center hinge(s).

Set the bottom section aside and place the Intermediate I section face down on a couple of sawhorses or flat clean/ smooth surface. Reference step Strutting and this step to attach the long struts and hinges to the top rail of the section in the same manner. Repeat the same process for the other Intermediate II section and the Intermediate III section (if applicable).



8 Top Fixtures

Tools Required: Power drill, 1/8" / 9/32" Drill bit, Socket driver 7/16", Wrench 7/16", Tape measure, Safety glasses, Leather gloves

NOTE: If your door came with two top fixtures **(A)**, then one top fixture and a short stem track roller are required for each side.

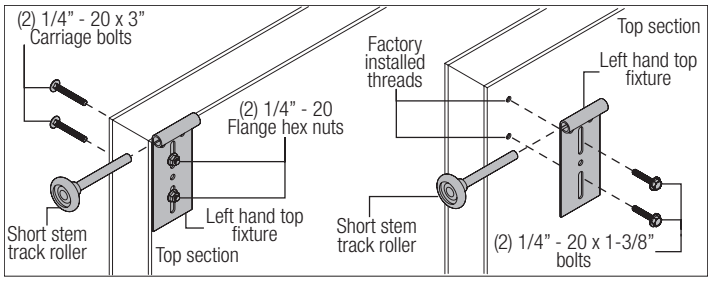
NOTE: If your door came with four top fixtures **(B)**, then two top fixtures and a long stem track roller are required for each side.

Place the top section face down on a couple of sawhorses or flat clean / smooth surface.

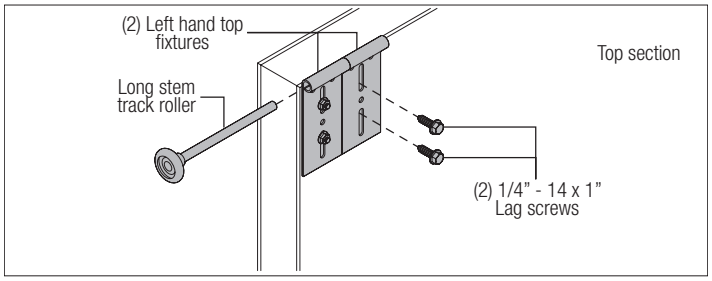
NOTE: Depending on your door, refer to illustrations **(A)** or **(B)** to determine how to install the top fixtures.

Follow the corresponding steps below:

(A): Starting on the left hand side, align the edge of the top fixture parallel to the top section edge. Using the top fixture as a template, mark and pre-drill (3) 9/32" diameter holes through the top section. Loosely attach the top fixture to the top section using (2) 1/4" - 20 x 3" carriage bolts and (2) 1/4 - 20 flange hex nuts or (2) 1/4" - 20 x 1-3/8" bolts. Insert a short stem track roller into the top fixture slide. Repeat the same process for the right hand side.



(B): Position the second top fixture next to the first installed top fixture and loosely attach it with (2) 1/4" - 14 x 1" lag screws. Insert a long stem track roller into the top fixture slides. Repeat the same process for the right hand side.



9 Strutting For Top Section

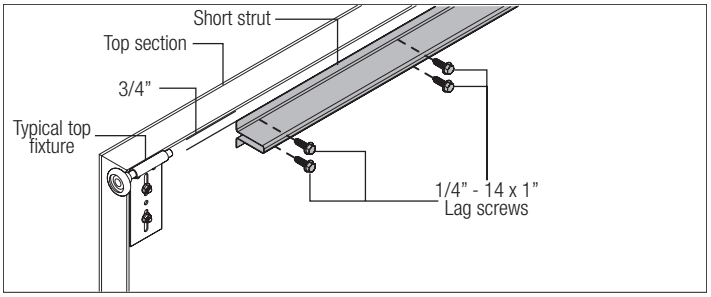
Tools Required: Power drill, 1/8" Drill bit, Socket driver 7/16", Wrench 7/16", Tape measure, Safety glasses, Leather gloves

Lay a short strut onto the top rail of the top section. Position the top of the strut 3/4" down from the top edge of the top section. Center the short strut from side to side on the section surface.

Drill pilot holes, 1" deep into the top section using a 1/8" drill bit.

IMPORTANT: BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1" DEEP.

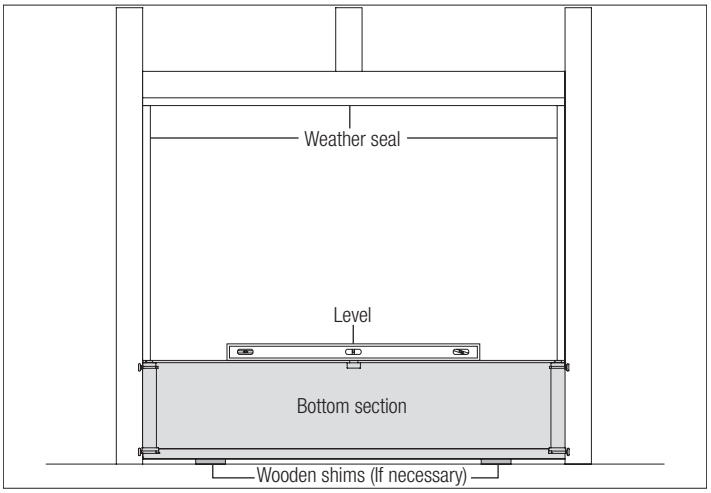
Attach the strut using (1) 1/4" - 14 x 1" lag screw at each predrilled hole.



10 Bottom Section

Tools Required: Tape measure, Level, Wooden shims (if necessary), Safety glasses, Leather gloves

Center the bottom section in the door opening. Level the section using wooden shims (if necessary) under the bottom section. When the bottom section is leveled, temporarily hold it in place by driving a nail into the jamb and bending it over the edge of the bottom section on both sides.



11 Vertical Tracks

Tools Required: Power Drill, 3/16" Drill bit, 7/16" Socket driver, Tape measure, Level, Step ladder, Safety glasses, Leather gloves

NOTE: Depending on your door, you may have Fully Adjustable Flag Angles, Riveted Vertical Track Assemblies or you may have Angle Mount Vertical Track Assemblies. Refer to Package Contents / Parts Breakdown, to determine which Flag Angles / Vertical Track Assemblies you have.

IMPORTANT: IF YOUR DOOR IS TO BE INSTALLED PRIOR TO A FINISHING CONSTRUCTION OF THE BUILDING'S FLOOR, THE VERTICAL TRACKS AND THE DOOR BOTTOM SECTION ASSEMBLY SHOULD BE INSTALLED SUCH THAT WHEN THE FLOOR IS CONSTRUCTED, NO DOOR OR TRACK PARTS ARE TRAPPED IN THE FLOOR CONSTRUCTION.

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 / wall angle track assembly over the track rollers of the bottom section. Make sure the counterbalance lift cable is located between the track rollers and the door jamb. Drill 3/16" pilot holes into the door jamb for the lag screws.

FOR FULLY ADJUSTABLE FLAG ANGLES: Loosely fasten jamb brackets and flag angle to the jamb using 5/16" x 1-5/8" lag screws. Tighten lag screws, securing the bottom jamb bracket to jamb, maintain 3/8" to 5/8" spacing, between the bottom section and vertical track. Hang counterbalance lift cable over flag angle. Repeat same process for other side.

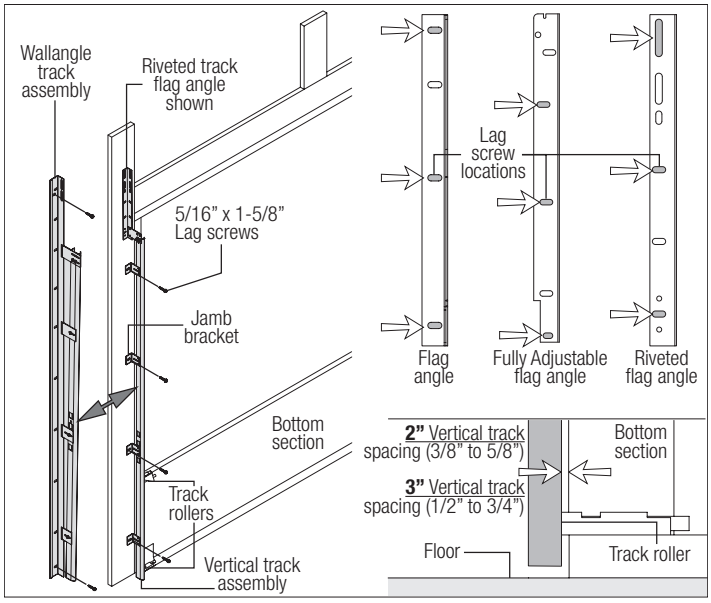
FOR RIVETED VERTICAL TRACK ASSEMBLY: Loosely fasten jamb brackets and flag angle to the jamb using 5/16" x 1-5/8" lag screws. Tighten lag screws, securing the bottom jamb bracket to jamb, maintain 3/8" to 5/8" spacing as shown between the bottom section and vertical track. Hang counterbalance lift cable over flag angle. Repeat same process for other side.

FOR ANGLE MOUNT VERTICAL TRACK ASSEMBLY: Loosely fasten the slots in the wall angle to the jamb using 5/16" x 1-5/8" lag screws. Tighten lag screws, securing the bottom slot in the wall angle, maintain 3/8" to 5/8" spacing as shown between the bottom section and vertical track. Hang counterbalance lift cable over angle mount. Repeat same process for other side.

IF YOU HAVE 2" VERTICAL TRACKS: Tighten lag screws, securing the bottom jamb bracket / bottom slot to jamb, maintain 3/8" to 5/8" spacing, between the bottom section and vertical track.

IF YOU HAVE 3" VERTICAL TRACKS: Tighten lag screws, securing the bottom jamb bracket / bottom slot to jamb, maintain 1/2" to 3/4" spacing, between the bottom section and vertical track.

Hang counterbalance lift cable over flag angle / wall angle. Repeat same process for other side.



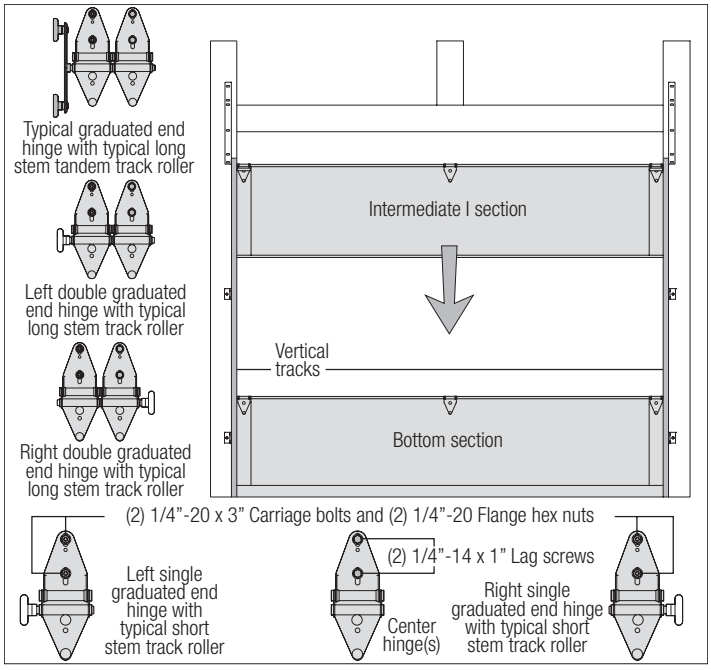
12 Stacking Sections

Tools Required: Power Drill, 1/8" / 9/32" Drill bit, 7/16" Socket driver, Tape measure, Level, Step ladder, Safety glasses, Leather gloves

NOTE: Make sure graduated end and center hinges are flipped down, when stacking another section on top.

NOTE: Larger doors will use long stem track rollers / long stem tandem rollers with double graduated end hinges.

Place track rollers and or tandem rollers into graduated end hinges of remaining sections. With assistance, lift intermediate I (second) section and guide the track rollers / tandem rollers into the vertical tracks. Lower section until it is seated against bottom section. Keep sections vertically aligned. Repeat same process for other sections, except top section.



NOTE: Refer to Graduated End Hinge And Strut Identification, to determine if your doors requires strutting, prior to attaching sections.

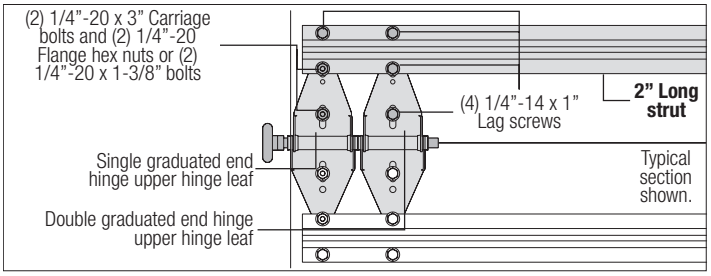
NOTE: Follow the typical practice, as shown in Steps Strutting and Step Half Center Hinges prior to installing the long struts and hinges to the lower rail of section(s).

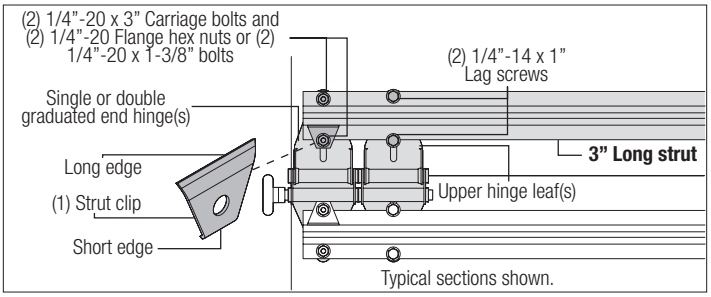
NOTE: If no strutting is require on the lower rail of section, then follow instructions below.

FOR GRADUATED END HINGES: Starting with the outer graduated end hinges, flip the upper hinge leaf up and use it as a template. Mark and pre-drill (2) 9/32" diameter holes through the section. Attach the upper hinge leaf, strut (if required) to the section using (2) 1/4" - 20 x 3" carriage bolts and (2) 1/4" - 20 flange hex nuts or (2) 1/4" - 20 x 1-3/8" bolts.

NOTE: If you have double graduated end hinges, flip the inner upper hinge leaf up and use it as a template. Mark and pre-drill (2) 1/8" pilot holes, 1" deep into the section with a 1/8" drill

bit. Attach the upper hinge leaf, strut (if required) to the section using (2) 1/4" - 14 x 1" lag screws. Repeat same process for other inner upper hinge leafs.

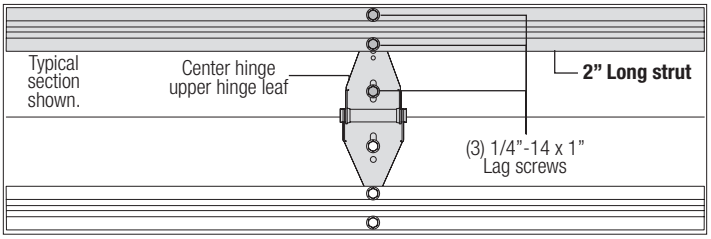


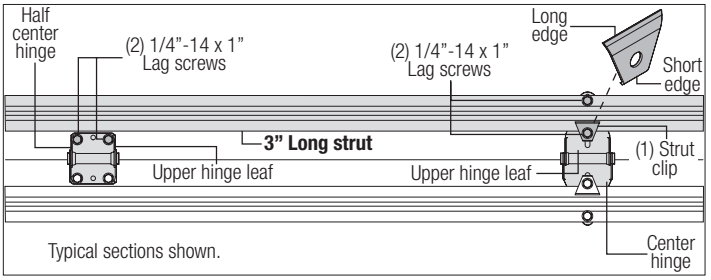


FOR CENTER HINGE(S) AND OR HALF CENTER HINGE(S): Starting with the center hinge, flip the upper hinge leaf up and use it as a template. Mark and pre-drill (2) 1/8" pilot holes, 1" deep into the section with a 1/8" drill bit, per center hinge. Attach the upper hinge leaf, strut (if required) to the section using (2) 1/4" - 14 x 1" lag screws. Repeat same process for other center hinge(s).

IMPORTANT: BE EXTREMELY CAREFUL NOT TO DRILL THRU THE SECTION. ONLY DRILL 1" DEEP.

IMPORTANT: PUSH & HOLD THE HINGE LEAFS SECURELY AGAINST THE SECTIONS WHILE SECURING WITH APPROPRIATE FASTENERS. THERE SHOULD BE NO GAP BETWEEN THE HINGE LEAFS AND THE SECTIONS.





13 Top Section

Tools Required: Power drill, 7/16" Socket driver, 7/16" Wrench, Step ladder, Tape measure, Safety glasses, Leather gloves

Place the top section in the opening. Temporarily secure the top section by driving a nail into the header near the center of the door and bending it over the top section. Now, flip up the graduated end hinge and center hinge leaves, hold tight against section, and fasten center hinges first and end hinges last (refer to step, Stacking Sections). Vertical track alignment is critical. For 2" track, position flag angle / wall angle between 1-11/16" (43 mm) to 1-3/4" (44 mm) from the edge of the door; tighten the bottom lag screw. For 3" track, position flag angle / wall angle between 2-3/16" (56 mm) to 2-1/4" (57 mm) from the edge of the door; tighten the bottom lag screw.

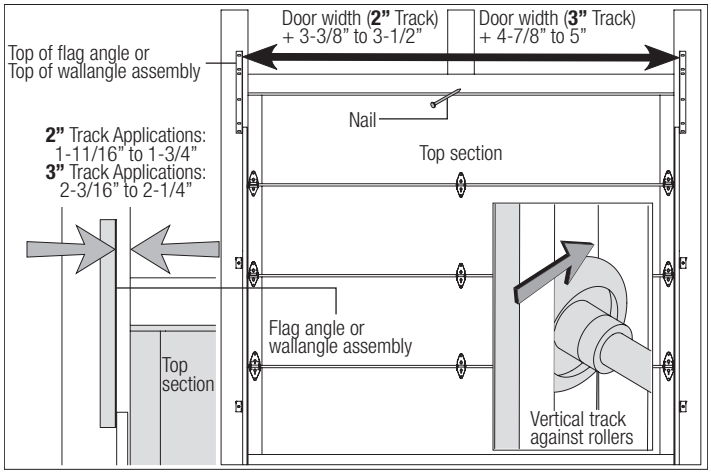
Flag angles / wall angles must be parallel to the door sections. Repeat same process for other side.

IMPORTANT: THE DIMENSION BETWEEN THE FLAG ANGLES MUST BE:

FOR 2" TRACK APPLICATIONS: door width plus 3-3/8" (86mm) to 3-1/2" (89 mm) for smooth, safe door operation.

FOR 3" TRACK APPLICATIONS: door width plus 4-7/8" (124mm) to 5" (127 mm) for smooth, safe door operation.

Complete the vertical track installation by securing the jamb bracket(s) or slots in the wall angle and tightening the other lag screws. Push the vertical track against the track rollers so that the track rollers are touching the deepest part of the curved side of the track; tighten all the track bolts and nuts. Repeat for other side.



14 Horizontal Tracks

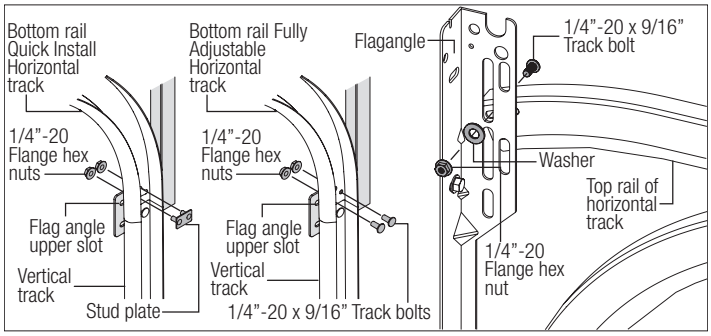
Tools Required: Ratchet wrench, 9/16" 7/16" Socket, 9/16" 7/16" Wrench, Step ladder, Tape measure, Safety glasses, Leather gloves

NOTE: Depending on your door, you may have Fully Adjustable Flag Angles, Riveted Vertical Track Assemblies or you may have Angle Mount Vertical Track Assemblies. Refer to Package Contents / Parts Breakdown, to determine which Flag Angles / Vertical Track Assemblies you have.

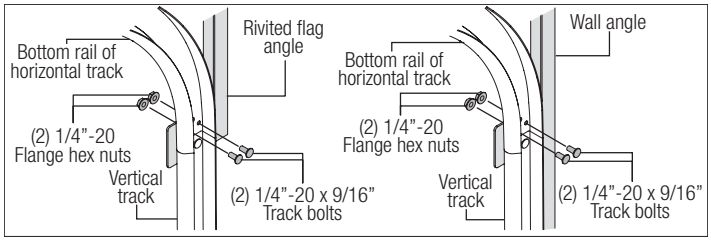
⚠ WARNING

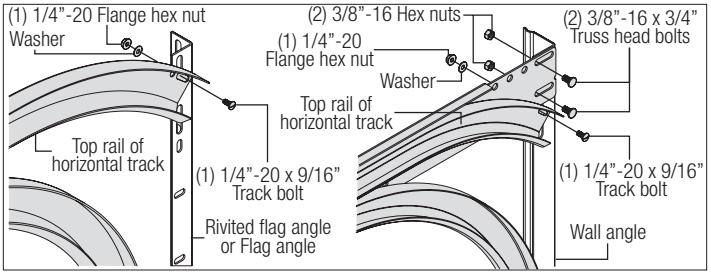
DO NOT RAISE DOOR UNTIL HORIZONTAL TRACKS ARE SECURED AT REAR, AS OUTLINED IN STEP, REAR BACK HANGS, OR DOOR COULD FALL FROM OVERHEAD POSITION CAUSING SEVERE OR FATAL INJURY.

IF YOU HAVE FULLY ADJUSTABLE FLAG ANGLES: To install horizontal track, place the top rail end over the top track roller of the top section. Align the bottom rail end of the horizontal track with the top of the vertical track. Tighten the bottom rail of the horizontal track to the flag angle with (2) 1/4" - 20 x 9/16" track bolts and (2) 1/4" - 20 flange hex nuts.



IF YOU HAVE RIVETED TRACK ASSEMBLIES OR ANGLE MOUNT VERTICAL TRACK ASSEMBLIES: To install horizontal track, place the curved end over the top roller of the top section. Align the bottom of the horizontal track with the top of the vertical track. Tighten the horizontal track to the Flag Angle / Angle Mount with (2) 1/4" - 20 x 9/16" track bolts and (2) 1/4" - 20 flange hex nuts.





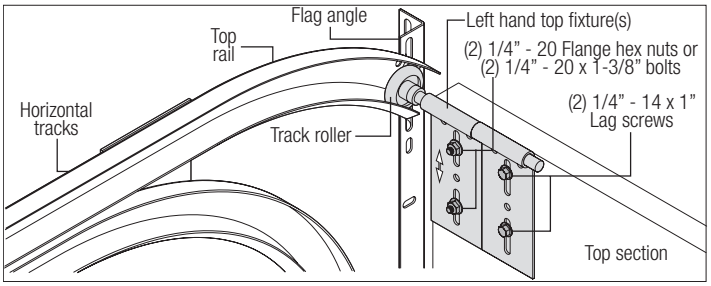
Next level the horizontal track assembly and bolt the top rail of the horizontal track to the encountered slot in the flag angle using (1) 1/4" - 20 x 9/16" track bolt, (1) 1/4" - 20 flange hex nut and (1) 5/16" washer. Repeat for other side. Repeat for other side. Next remove the nail that was temporarily holding the top section in place, installed in step, Top Section.

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

15 Adjusting Top Fixtures

Tools Required: 7/16" Wrench, Step ladder, Tape measure, Safety glasses, Leather gloves

With horizontal tracks installed, you can now adjust the top fixtures. Starting on the left hand side, vertically align the top section of the door with the lower sections. Maintaining the top fixture(s) position, tighten the 1/4" - 20 flange hex nuts or 1/4" - 20 x 1-3/8" bolts and or 1/4" - 14 x 1" lag screws to secure the top fixture(s) to the top section. Repeat for other side

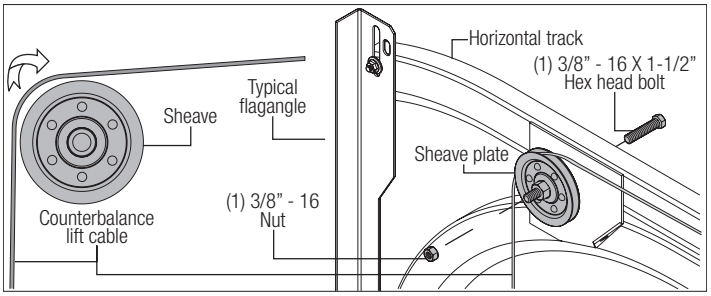


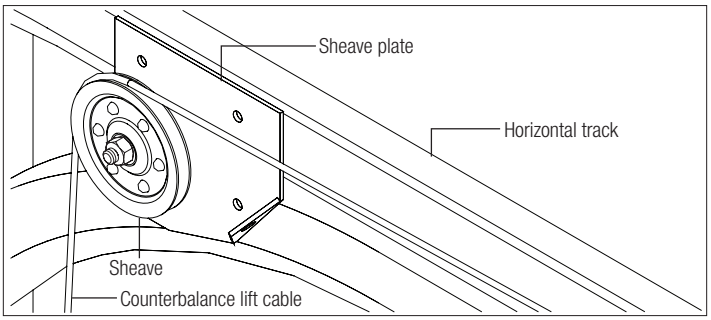
16 Cable Lift Sheaves

Tools Required: Ratchet wrench, 3/8" Socket, 3/8" Wrench, Step ladder, Tape measure, Safety glasses, Leather gloves

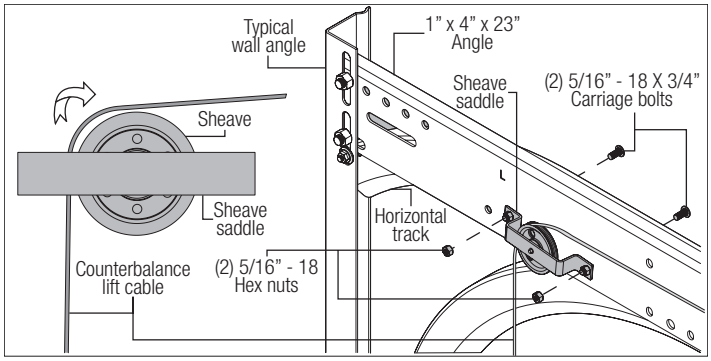
NOTE: Using the illustrations below, identify which cable lift sheave assemblies were provided with your door.

FOR CABLE SHEAVE ASSEMBLIES WITHOUT THE SHEAVE SADDLE: Place a 3/8" - 16 x 1-1/2" hex head bolt through the hole in the sheave plate. Next insert the sheave over the end of the bolt. Secure the sheave to the sheave plate with a 3/8" - 16 nut. Repeat the same process for the other side. Then loop the counterbalance cables over each sheave, as shown.





FOR CABLE SHEAVE ASSEMBLIES WITH THE SHEAVE SADDLE: Position the sheave saddle over the 1" x 4" x 23" angle and align the slots in the sheave saddle with the corresponding holes in the 1" x 4" x 23" angle. While holding the sheave saddle in place, insert (1) 5/16" - 18 x 3/4" carriage bolt through each of the aligned holes and secure the assembly with 5/16" - 18 hex nuts. Repeat the same process for the other side. Then loop the counterbalance cables over each sheave, as shown.



17 Rear Back Hangs

Tools Required: Ratchet wrench, Socket: 1/2" 5/8", Wrench: 1/2" 5/8", (2) Vice clamps, Tape measure, Level, Step ladder, Safety glasses, Leather gloves

Using the chart (Perforated Angle Gauge Weight Limitations) below, use the appropriate perforated angle (may not be supplied), (2) 5/16" x 1-5/8" hex head lag screws and (3) 5/16" bolts with nuts (may not be supplied), fabricate rear back hangs for the horizontal tracks. Attach the horizontal tracks to the rear back hangs with 5/16" - 18 x 1" hex bolts and nuts (may not be supplied).

NOTE: Doors heights over 8'0" or door widths over 11'0", require an additional set of rear center back hangs to be installed and located at the middle of the horizontal tracks, see parts breakdown.

Using the chart (Perforated Angle Gauge Weight Limitations) below, use the appropriate perforated angle (may not be supplied), (2) 5/16" x 1-5/8" hex head lag screws and (3) 5/16" bolts with nuts (may not be supplied), fabricate rear center back hangs for the middle of the horizontal tracks. Attach the rear center back hangs to the horizontal tracks with (1) 3/8" truss head bolt and (1) 3/8" nut (may not be supplied).

Horizontal tracks must be level and parallel with door within 3/4" to 7/8" maximum of door edge.

⚠ WARNING

EXCEEDING THE RECOMMENDED LISTED DOOR WEIGHT LIMITATIONS OF SPECIFIC GAUGE PERFORATED ANGLES MAY RESULT IN DOOR FALLING WHEN RAISED, CAUSING SEVERE OR FATAL INJURY.

⚠ WARNING

VERIFY PERFORATED BACK HANG ANGLE LOAD RATINGS WITH BACK HANG ANGLE SUPPLIER.

Perforated Angle Gauge Weight Limitations:	
Perforated Angle Gauge	Door Weight
2" x 2" x 12 Gauge	Door Weight Less Than 800 lbs.
1-1/4" x 1-1/4" x 13 Gauge	Door Weight Less Than 305 lbs.
1-1/4" x 1-1/4" x 15 Gauge	Door Weight Less Than 220 lbs.
1-1/4" x 1-1/4" x 16 Gauge	Door Weight Less Than 175 lbs.

NOTE: If an opener is installed, position horizontal tracks one hole above level when securing it to the rear back hangs.

⚠ WARNING

KEEP HORIZONTAL TRACKS PARALLEL AND WITHIN 3/4" TO 7/8" MAXIMUM OF DOOR EDGE, OTHERWISE DOOR COULD FALL, RESULTING IN SEVERE OR FATAL INJURY.

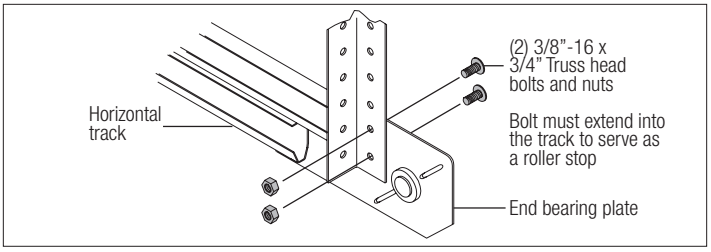
IMPORTANT: DO NOT SUPPORT THE WEIGHT OF THE DOOR ON ANY PART OF THE REAR BACK HANGS THAT CANTILEVERS 4" OR MORE BEYOND A SOUND FRAMING MEMBER.

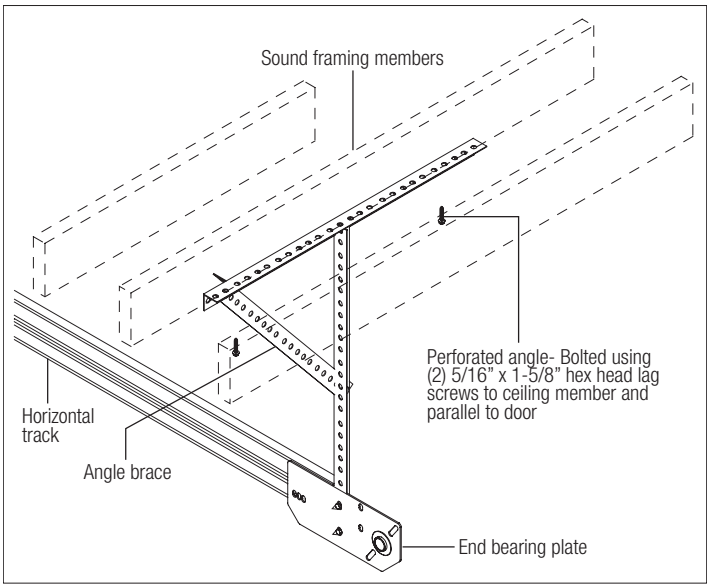
NOTE: If rear back hangs are to be installed over drywall, use (2) 5/16" x 2" hex head lag screws and make sure lag screws engage into solid structural lumber.

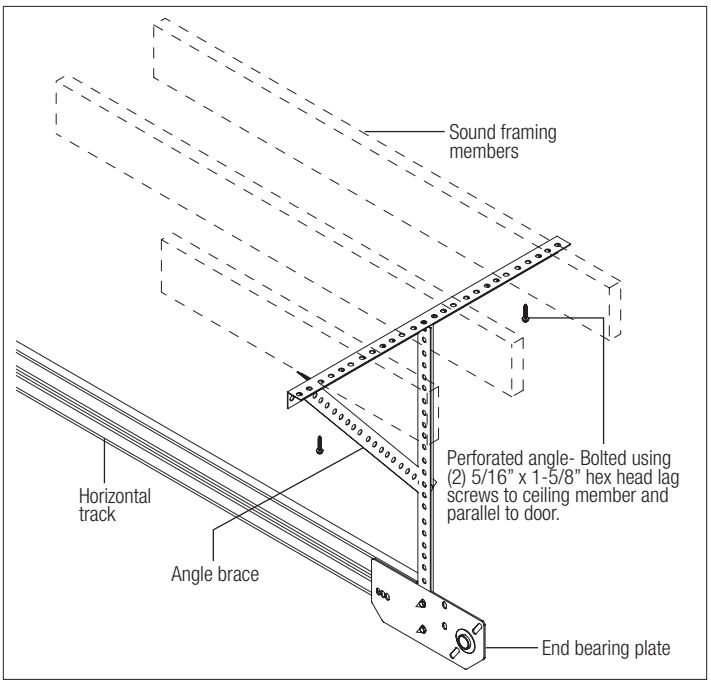
NOTE: 26" angle must be attached to sound framing members and nails should not be used.

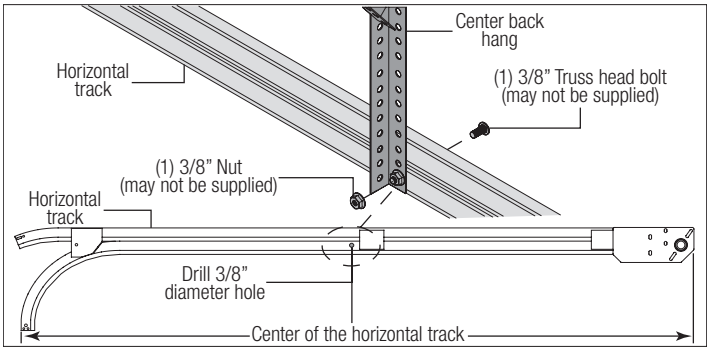
Now, permanently attach the weatherstrips on both door jambs and header. The weatherstrips were temporarily attached in Preparing the Opening, in the pre-installation section of this manual.

NOTE: When permanently attaching the weatherstrips to the jambs, avoid pushing the weatherstrips too tightly against the face of door.









18 Torsion Spring Assembly

Tools Required: 3/8" Wrench, 9/16" Wrench, Step ladder, Tape measure, Safety glasses, Leather gloves

NOTE: Refer to Package Contents / Parts Breakdown, to determine if your door came with a coupler assembly. If your door came with a coupler assembly, the mounting surface needs to be a minimum of 17" wide. The two center bearing brackets will need to be spaced 12" to 14" apart at the center of the door, as shown.

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

IMPORTANT: IDENTIFY THE TORSION SPRINGS PROVIDED AS EITHER RIGHT WOUND (RED WINDING CONE), WHICH GOES ON THE RIGHT HAND SIDE OR LEFT WOUND (BLACK WINDING CONE), WHICH GOES ON THE LEFT HAND SIDE.

IMPORTANT: ON SINGLE SPRING APPLICATIONS, ONLY A RIGHT WOUND (RED WINDING CONE), WHICH GOES ON THE RIGHT HAND SIDE IS REQUIRED.

NOTE: On some single spring doors, the single spring can be longer than half the opening width. If your spring is longer, then the center bracket must be mounted off center for the spring to fit properly. Measure spring length to determine appropriate center bracket location.

NOTE: If your door came with a center coupler assembly or if it utilizes 3-3/4" springs, the springs will not share a center bracket.

NOTE: If your door has (4) springs, split the distance between the center of the door and the end bracket on each side to locate the intermediate center brackets.

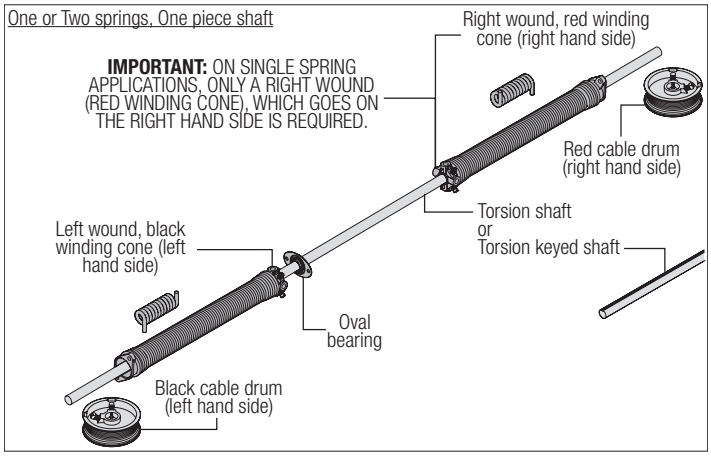
NOTE: The set screws used on all torsion winding cones and cable drums are now colored red. DO NOT identify right and left hand by the set screw color.

IMPORTANT: REFERENCE THE ILLUSTRATIONS FOR PROPER SPRING POSITIONING WHEN MORE THAN 2 SPRINGS ARE PROVIDED.

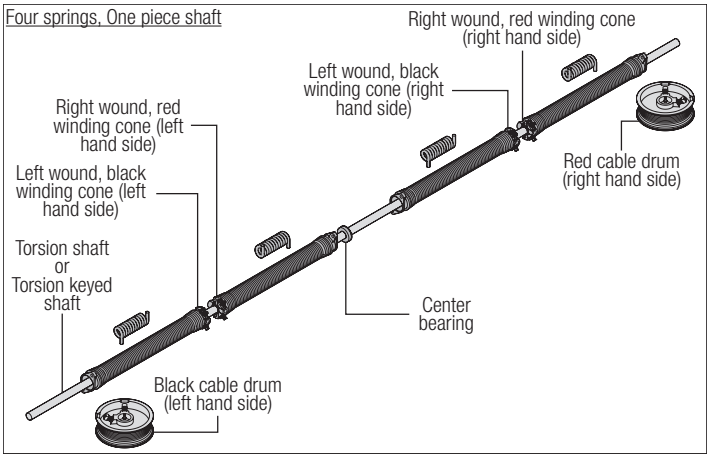
Facing the inside of the door, either lay the torsion shaft / torsion keyed shaft on the floor or lay the (2) torsion keyed shafts on the floor, one torsion keyed shaft on the left hand side and the other torsion keyed shaft on the right hand side.

IMPORTANT: DEPENDING ON YOUR DOOR APPLICATION, USE ONE OF THE THREE ILLUSTRATION'S, SHOWN BELOW TO ASSEMBLE YOUR TORSION COUNTERBALANCE SYSTEM.

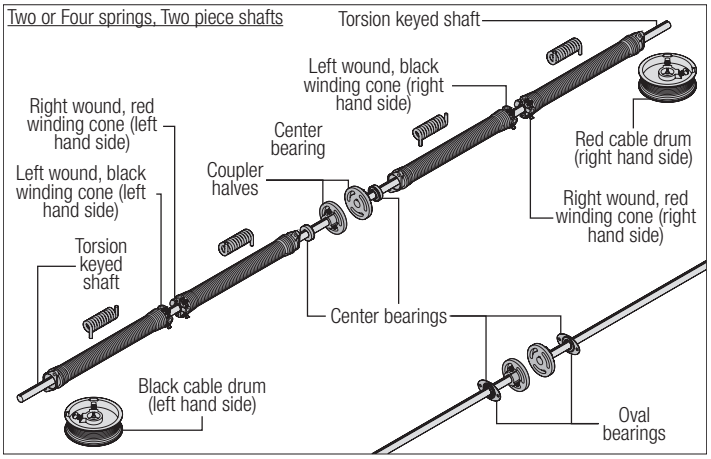
1. Lay the torsion spring with the black winding cone and the black cable drum at the left end of the torsion shaft or the torsion keyed shaft. Lay the torsion spring with the red winding cone and the red cable drum at the right end of the torsion shaft or the torsion keyed shaft. Next, lay the center bearing bracket, the center bearing or the oval bearing at the center of the torsion shaft / torsion keyed shaft.



2. Lay the torsion spring with the red winding cone at the left end of the torsion shaft / torsion keyed shaft. Next, lay the torsion spring with the black winding cone at the left end of the torsion shaft / torsion keyed shaft. Lay the torsion spring with the black winding cone at the right end of the torsion shaft / torsion keyed shaft. Next, lay the torsion spring with the red winding cone at the right end of the torsion shaft/torsion keyed shaft. Next, lay the center bearing bracket, the center bearing or the oval bearing at the center of the torsion shaft / torsion keyed shaft.



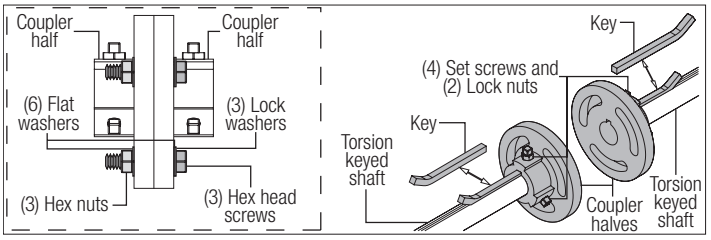
3. Starting on the left hand torsion keyed shaft, lay the torsion spring with the red winding cone at the right end of the torsion keyed shaft. Next, lay the torsion spring with the black winding cone at the left end of the torsion keyed shaft. Next, starting on the right hand torsion keyed shaft, lay the torsion spring with the black winding cone at the left end of the torsion keyed shaft. Next, lay the torsion spring with the red winding cone at the right end of the torsion keyed shaft. Next, lay either the center bearings or the oval bearings in between the two torsion keyed shafts.



Disassemble the coupler assembly by removing the hex head screws, the lock washers, the flat washers and the hex nuts from the coupler halves. Loosen the set screws. Set the components aside. Next, slide the flat edge of the couple half flush with the side edge of the torsion keyed shaft. Insert (1) keyed shaft into the slot of both the coupler half and the slot in the torsion keyed shaft, as shown. Tighten the (2) set screws and the locking nut to secure the coupler half to the torsion keyed shaft.

NOTE: Tighten the set screws to 14-15 ft. lbs. of torque (once set screws contact the shaft, tighten set screws one full turn).

Repeat the same process for the other side.



Slide either the center bearing bracket or the center bearing(s) or the oval bearing(s) onto the torsion shaft / torsion keyed shaft(s) followed by the torsion spring(s).

IMPORTANT: THE CENTER BEARING BRACKET, THE CENTER BEARING(S), THE OVAL BEARING(S), THE COUPLER HALF'S AND THE TORSION SPRINGS, MUST BE POSITIONED, AS SHOWN.

⚠ WARNING

CENTER BEARING BRACKETS WITH SPRINGS MUST BE SECURELY FASTENED INTO SOLID STRUCTURAL MEMBERS ONLY AND MUST BE ADEQUATELY REINFORCED TO HOLD THE LOAD OF TORSION SPRING ASSEMBLIES. FAILURE TO DO SO CAN CA USE SEVERE OR FATAL INJURY.

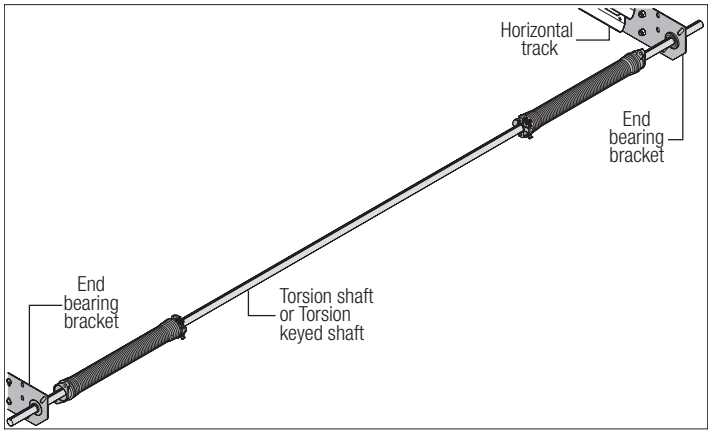
NOTE: It is recommended that 5/16" lag screws are pilot drilled using a 3/16" drill bit, prior to fastening.

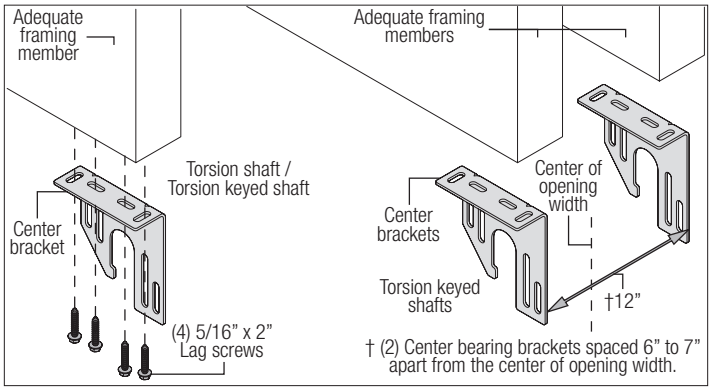
NOTE: On some single spring doors, the single spring can be longer than half the opening width. If your spring is longer, then the center bracket must be mounted off center for the spring to fit properly. Measure spring length to determine appropriate center bracket location.

NOTE: If your door came with a coupler assembly, the (2) center bearing brackets will need to be spaced 12" to 14" apart, at the center of the opening width.

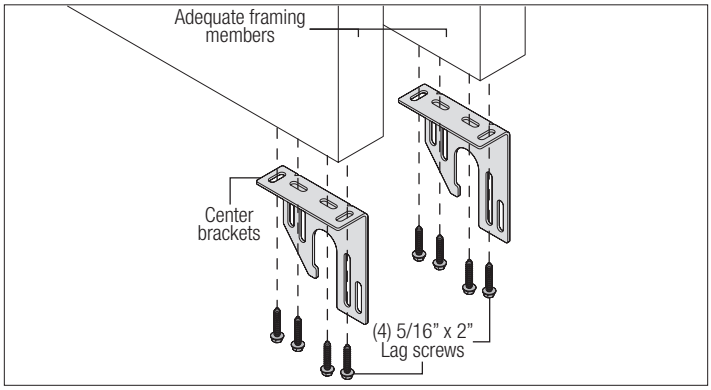
Referring to Step, Rear Back Hangs either secure the center bearing bracket(s) to the ceiling using perforated angle at the center of the opening width using 3/8" - 16 x 3/4" hex head bolts and nuts (not supplied) or to wood blocking (adequate framing member(s)) at the center of the opening width using (4) 5/16" x 2" lag screws.

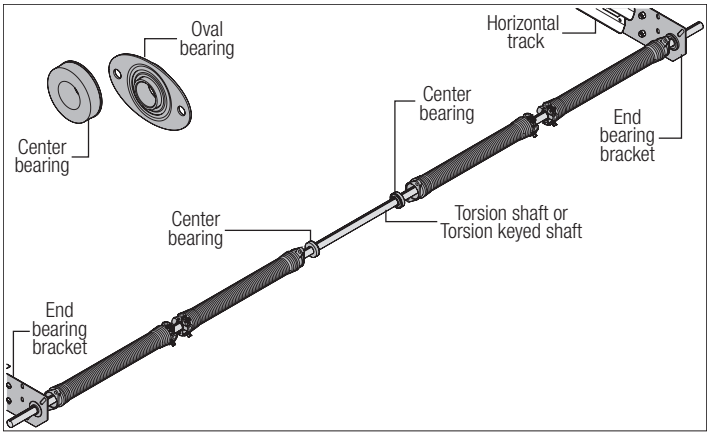
IMPORTANT: USE A 5/16" X 1-5/8" TAMPER -RESISTANT LAG SCREW INSTEAD OF THE 5/16" X 2" TAMPER -RESISTANT LAG SCREW IF MOUNTING SURFACE IS MOUNTED OVER MASONRY. TAMPER-RESISTANT LAG SCREW MUST BE ATTACHED THROUGH THE BOTTOM HOLE OF THE CENTER BEARING BRACKET.





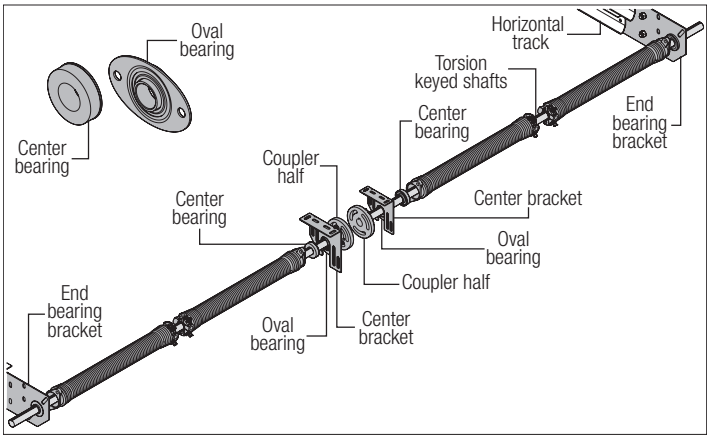
If you have a Torsion Shaft or a Torsion Keyed Shaft: With assistance, pick up the torsion spring assembly and slide one end of the shaft through the end bearing bracket. Extend the shaft through the bearing until the opposite end of the shaft can be inserted into the other end bearing bracket. Lay the middle of the shaft into the center bracket (if applicable). If your door came with oval bearing(s), loosely attach the oval bearing to the center bracket with (2) 3/8" - 16 x 1-1/2" hex head bolts and (2) 3/8" - 16 hex nuts, as shown. Repeat for others, if needed.

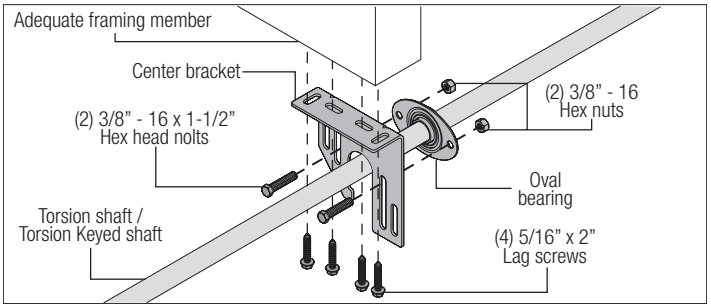


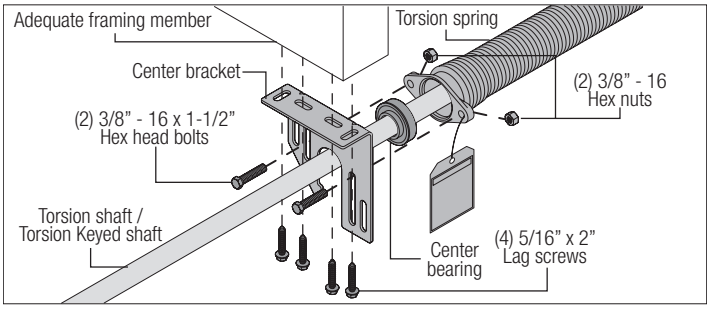


If you have two Torsion Keyed Shafts: With assistance, pick up the left hand torsion spring assembly and slide one end of the torsion keyed shaft through the end bearing bracket and loosely attach the oval bearing to the center bracket with (2) 3/8" - 16 x 1-1/2" hex head bolts and (2) 3/8" - 16 hex nuts, as shown. Repeat for others, if needed.

Repeat the same process for the right hand torsion spring assembly.







19 Torsion Spring Attachment

Tools Required: Step ladder, Ratchet Wrench, 9/16" Socket, 9/16" Wrench, Tape measure, Safety glasses, Leather gloves

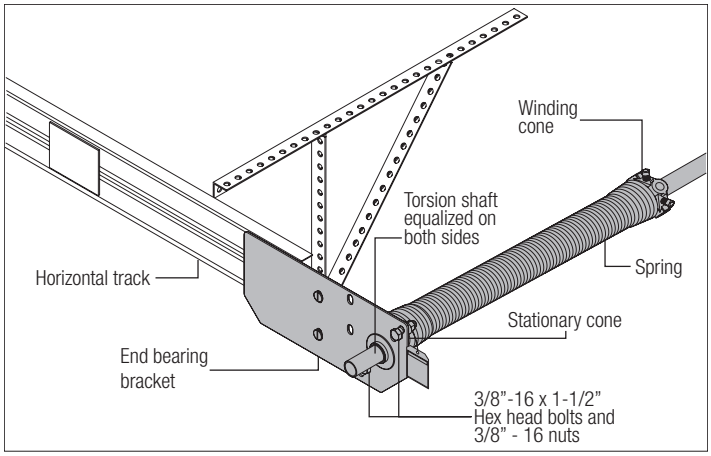
IMPORTANT: THE SPRING WARNING TAG(S) SUPPLIED MUST BE SECURELY ATTACHED TO THE STATIONARY SPRING CONE(S) IN PLAIN VIEW. SHOULD A REPLACEMENT SPRING WARNING TAG BE REQUIRED, CONTACT WAYNE DALTON FOR REPLACEMENT.

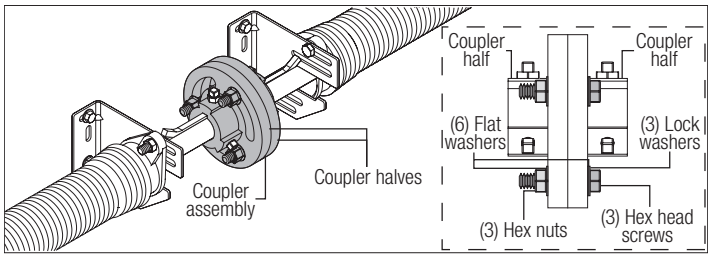
FOR DOORS WITHOUT COUPLER ASSEMBLY: Equalize the amount that the torsion shaft / torsion keyed shaft protrudes on each side. Align the stationary cone(s) of the torsion springs with the slots in the end bearing brackets and secure using (2) 3/8" - 16 x 1-1/2" hex head bolts and nuts.

FOR DOORS WITH A COUPLER ASSEMBLY: At the middle of the two center bearing brackets, re-assemble the coupler assembly by loosely fastening the coupler halves together re-using the hex head screws, the lock washers, the flat washers and the hex nuts, as shown.

NOTE: Ensure both torsion keyed shafts have equal amounts of the shafts extending from each end bearing brackets.

Next, align the stationary cone(s) of the torsion springs with the slots in the center bearing brackets and secure using (2) 3/8" - 16 x 1-1/2" hex head bolts and nuts. Repeat for opposite side. Secure all oval bearing(s), to the center bracket with (2) 3/8" - 16 x 1-1/2" hex head bolts and (2) 3/8" - 16 hex nuts. Insert bearing(s) into stationary cone and attach center bracket(s) to the torsion spring(s) using (2) 3/8" - 16 x 1-1/2" bolts and (2) 3/8" - 16 hex nuts. Repeat for others.





20 Counterbalance Lift Cables

Tools Required: Step ladder, Locking pliers, 3/8" Wrench, Tape measure, Safety glasses, Leather gloves

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

Slide the black cable drum against the left hand end bearing bracket. Thread the counterbalance lift cable up and over the cable sheave. Position the cable drum and counterbalance lift cable, as shown. Hook the cable into the drum.

NOTE: For doors with a torsion keyed shaft, insert (1) key into the slot of both the black cable drum and the slot in the torsion keyed shaft, as shown.

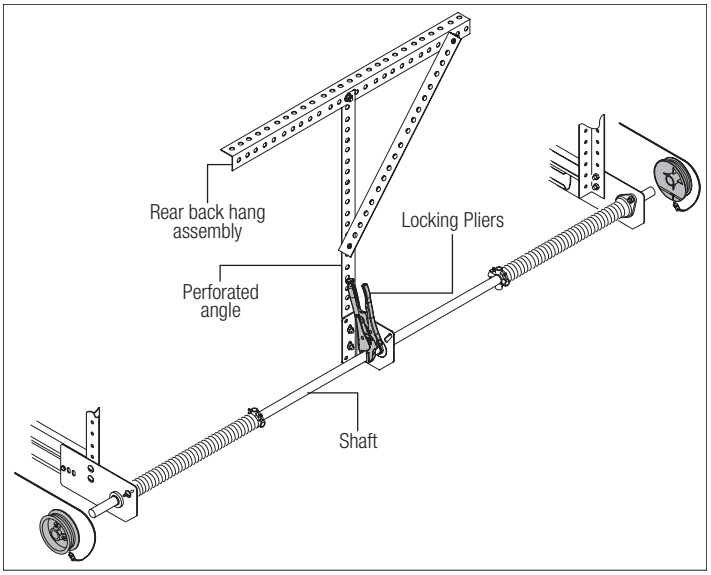
Tighten the set screws in the black cable drum to 14-15 ft. lbs. of torque (once set screws contact the shaft, tighten screws one full turn). Slide the red cable drum against the right hand end bearing bracket. Rotate the left hand drum and torsion shaft until counterbalance lift cable is taut. Now attach locking pliers to the torsion shaft and brace locking pliers against the perforated angle of the rear back hangs to keep counterbalance lift cable taut. On the right hand side, thread the counterbalance lift cable up and over the red cable drum and position the cable drum and counterbalance lift cable, as shown. Hook the cable into the drum.

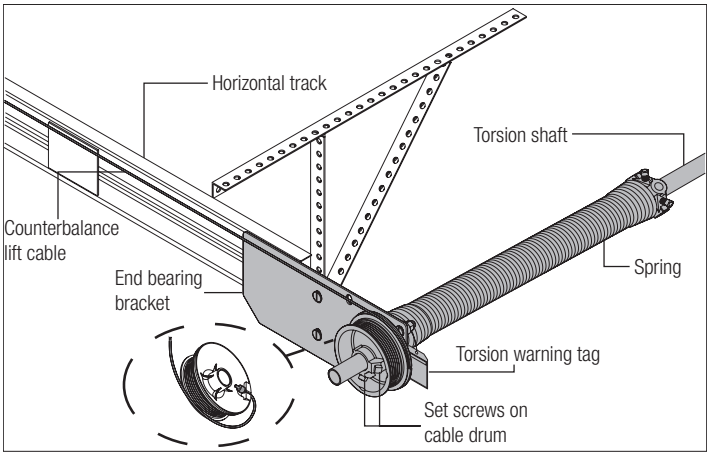
NOTE: For doors with a torsion keyed shaft, insert (1) key shaft into the slot of both the red cable drum and the slot in the torsion keyed shaft, as shown.

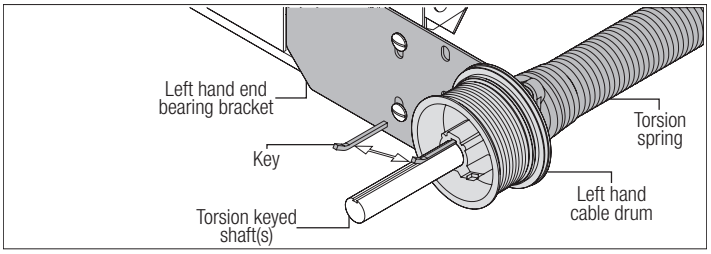
Tighten the set screws in the red cable drum to 14-15 ft. lbs. of torque (once set screws contact the tube, tighten screws one full turn).

IMPORTANT: CHECK EACH COUNTERBALANCE LIFT CABLE, MAKING SURE BOTH ARE SEATED PROPERLY ON THE SHEAVES, CABLE DRUMS, ARE SECURELY ATTACHED TO THE BOTTOM CORNER BRACKETS AND BOTH SIDES HAVE EQUAL COUNTERBALANCE LIFT TENSION.

Now, secure the coupler assembly by tightening the (3) hex head screws and the (3) hex nuts.





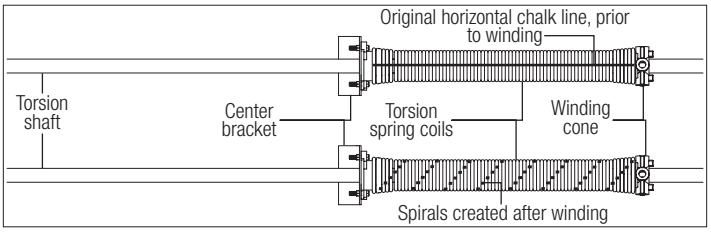


21 Chalking Torsion Spring(s)

Tools Required: Step ladder, Chalk, Safety glasses, Leather gloves

NOTE: If your spring(s) have stenciling, then skip this step.

Draw a chalk line horizontally along the center of the torsion spring coil(s). As the torsion spring is wound, the chalk line will create a spiral. This spiral can be used to count and determine the number of turns that are applied on the torsion spring.



22 Securing Door for Spring Winding

Tools Required: Vice clamps, Safety glasses, Leather gloves

With the door in the fully closed position, place vice clamps / c-clamps onto both vertical tracks just above the third track roller. This is to prevent the garage door from rising while winding springs.

NOTE: Check the following before attempting to wind torsion spring(s):

a. Counterbalance lift cables are secured at bottom corner brackets.

b. Counterbalance lift cables are seated properly on the cable sheaves

c. Counterbalance lift cables are routed unobstructed to cable drums.

d. Counterbalance lift cables are correctly installed and wound onto cable lift drums.

e. Counterbalance lift cables are taut and have equal tension on both sides.

f. Cable lift drums are against end bearing brackets and set screws are tight.

g. Torsion spring or springs are installed correctly.

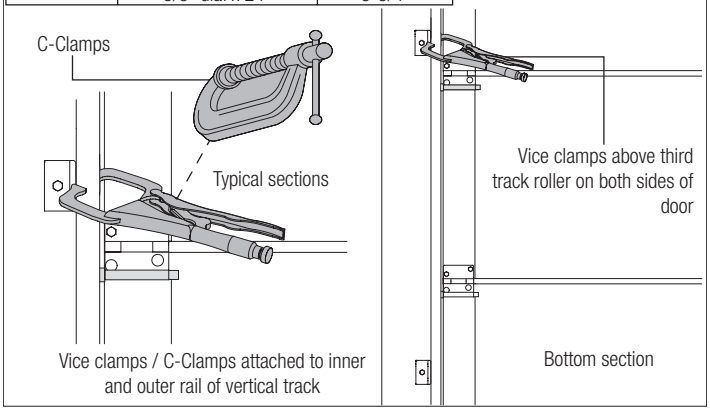
h. Review the label attached to the spring warning tag, to determine number of spring turns required.

NOTE: Door MUST be closed and locked when winding or making any adjustments to the torsion spring(s).

⚠ WARNING

FAILURE TO ENSURE DOOR IS IN A CLOSED POSITION AND TO PLACE VICE CLAMP ONTO VERTICAL TRACK CAN ALLOW DOOR TO RAISE AND CAUSE SEVERE OR FATAL INJURY.

Winding Bars (Steel Rods)	Size Of Winding Bar (Inches)	Spring Diameter Used On
	1/2" dia. x 18"	2" and 2-5/8"
	5/8" dia. x 24"	3-3/4"



23 Winding Spring(s)

Tools Required: Step ladder, Approved winding bars, 3/8" Wrench, Tape measure, Safety glasses, Leather gloves

⚠ WARNING

WINDING TORSION SPRING(S) IS AN EXTREMELY DANGEROUS PROCEDURE AND SHOULD BE PERFORMED ONLY BY A TRAINED DOOR SYSTEM TECHNICIAN USING PROPER TOOLS AND INSTRUCTIONS.

⚠ WARNING

USE ONLY SPECIFIED WINDING BARS, AS STATED IN STEP SECURING DOOR FOR SPRING WINDING. DO NOT SUBSTITUTE WITH SCREWDRIVERS, PIPE, ETC. OTHER TOOLS MAY FAIL OR RELEASE FROM THE SPRING CONE AND CAUSE SERIOUS PERSONAL INJURY.

⚠ 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.

Position a ladder slightly to the side of the spring so that the winding cone is easily accessible, and so your body is not directly in line with the winding bars.

Check the label attached to the spring warning tag for the required number of complete turns to balance your door.

Door Height	Approximate Spring Turns
6'0"	6-7/8
6'3"	7-1/8
6'6"	7-1/4

6'8"	7-3/8
6'9"	7-1/2
7'0"	7-5/8
7'3"	7-7/8
7'6"	8
7'9"	8-1/4
8'0"	8-3/4

Alternately inserting the winding rods into the holes of the spring winding cone, rotate the winding cone in the direction as shown, 1/4 turn at a time, until the required number of complete turns for your door height is achieved. As the last 1/8 to 1/4 turn is achieved, securely hold the winding rod and carefully stretch the torsion spring 1/8" - 1/4". Next while still securely holding the winding rod, tighten both set screws in the winding cone to 14-15 ft. lbs. of torque (once set screws contact the torsion shaft, tighten screws one full turn).

Carefully remove winding rod from winding cone. Repeat for the opposite spring. While holding the door down to prevent it from raising unexpectedly in the event the spring(s) were over-wound, carefully remove the locking pliers from the torsion shaft and vertical tracks.

Adjustments to the number of turns stated may be necessary. If door rises off floor under spring tension alone, reduce spring tension until door rests on the floor. If the door is hard to rise or drifts down on its own, add spring tension.

IMPORTANT: HOLD THE DOOR DOWN TO PREVENT IT FROM RISING UNEXPECTEDLY IN THE EVENT THE SPRING(S) WAS OVER-WOUND AND CAUTIOUSLY REMOVE VICE CLAMPS FROM VERTICAL TRACKS.

Now, lift door and check its balance. Adjustments to the required number of spring turns stated may be necessary. If door rises off floor under spring tension alone, reduce spring tension until door rests on the floor. If the door is hard to rise or drifts down on its own, add spring tension. A poorly balanced door can cause garage door operator operation problems.

To adjust spring tension, fully close door. Apply vice grips to track above third track roller. Insert a winding rod into the winding cone. On single spring doors, counterbalance lift cable tension must be maintained by placing vice grips on torsion shaft before loosening set screws in the winding cone. Push upward on the winding rod while carefully loosening the set screws in the winding cone. BE PREPARED TO SUPPORT THE FULL FORCE OF THE TORSION SPRING ONCE THE SET SCREWS ARE LOOSE. Carefully adjust spring tension 1/4 turn. Retighten both set screws in the winding cone and repeat for the other side. Recheck door balance. DO NOT ADJUST MORE THAN 1/2 TURN FROM THE RECOMMENDED NUMBER OF TURNS.

If the door still does not operate easily, lower the door into the closed position, UNWIND THE SPRING(S) FULLY (Reference the insert "Removing The Old Door / Preparing The Opening" section on torsion spring removal) and recheck the following the items:

1.) Check the door for level.

2.) Check the torsion shaft for level.

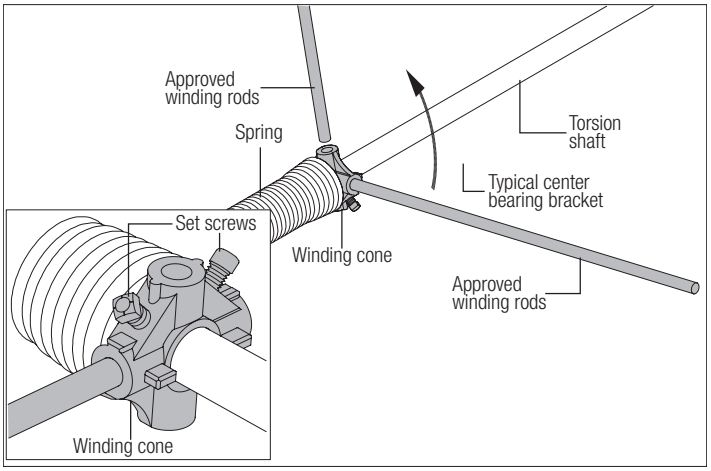
3.) Check the track spacing.

4.) Check the counterbalance cables for equal tension and proper wrap onto the cable drums.

5.) Check the track for potential obstruction of the track rollers.

6.) Clamp locking pliers onto track and rewind springs.

IMPORTANT: IF DOOR STILL DOES NOT OPERATE PROPERLY, THEN CONTACT A TRAINED DOOR SYSTEM TECHNICIAN.



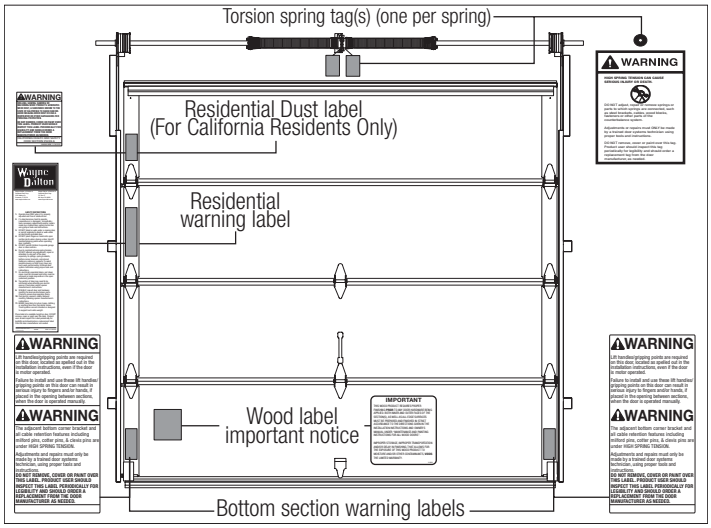
24 Label Placement

Tools Required: Step ladder, Safety glasses, Leather gloves

IMPORTANT: USING THE ILLUSTRATION, ATTACH THE APPROPRIATE LABELS TO THE APPROPRIATE LOCATION ON THE SECTION, AS SHOWN.

NOTE: The Spring Warning tag(s) are factory attached (one per spring).

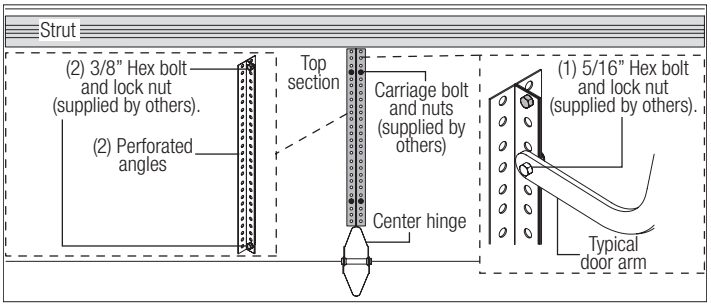
NOTE: Because of different configurations, some labels may require minor relocations.



Door Arm Hookup

At the center of the top section, measure horizontally from the top of center hinge to the bottom of strut. Using that dimension, measure and cut (2) pieces of perforated angles. Assemble the (2) pieces together using (2) 3/8" bolts and nuts (supplied by others). Now, secure to the top section using carriage bolts and nuts (supplied by others), thru bolt both the perforated angles to the top section, as shown.

Align the door arm with hole with one of the holes in the perforated angles. Secure the door arm to the perforated angle using (1) 5/16" - 18 x 1" hex head bolt and (1) 5/16" - 18 lock nut (supplied by others), as shown.



Lift Handles

NOTE: Lift handles must be lined up vertically.

BOTTOM SECTION: Locate the exterior center stile or center most stile on the bottom section.

NOTE: For flush doors, find the center most stile by locating the center most hinge.

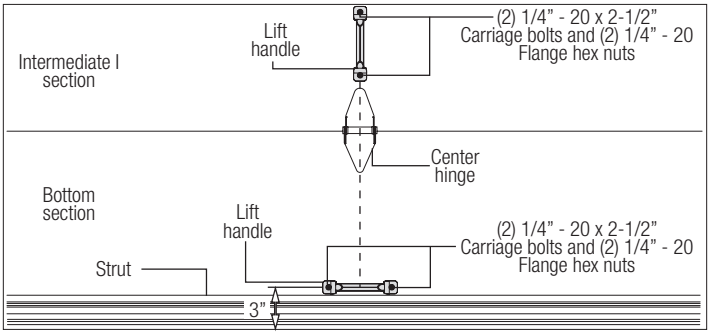
Using the bottom hole of the lift handle, measure up 3" from the bottom of bottom section. Mark the hole locations and drill (2) 9/32" dia. holes through the bottom section. On the outside of the door, insert (2) 1/4" - 20 x 2 1/2" carriage bolts (black head) into the outside lift handle and insert the assembly into the (2) pre-drilled holes in the bottom section. From the inside, slide the (2) holes in the inside lift handle over the stems of the carriage bolts. Secure the outside and inside lift handle to the bottom section with (2) 1/4" - 20 flange hex nuts.

INTERMEDIATE I SECTION: Locate the exterior center stile or center most stile on the Intermediate I section. Mark a vertical line on the section at that point.

NOTE: Some Garage Doors may require both lift handles to be installed on bottom section. If your bottom section height is 28" or 29", install both lift handles onto the bottom section. Install bottom lift handle per above instructions, then install the second lift handle a Minimum of 20" and a Maximum of 30" above the bottom lift handle.

Measure up 4" from the bottom of the Intermediate I section. Using this measurement as a guide, position the bottom hole of the lift handle bottom at the mark. Make a mark at the top hole of the lift handle. This should give you a Minimum of 20" and a Maximum of 30" between the lower lift handle and the middle of the top lift handle. If needed, reposition the lift handle to stay within the Minimum and Maximum dimensions, as stated above.

Using the lift handle as a template, mark the hole locations and drill (2) 9/32" dia. holes through the section. On the outside of the door, insert (2) 1/4" - 20 x 2-1/2" carriage bolts (black head) into the outside lift handle and insert the assembly into the (2) pre-drilled holes in the section. From the inside, slide the (2) holes in the inside lift handle over the stems of the carriage bolts. Secure the outside and inside lift handle to the section with (2) 1/4" - 20 flange hex nuts.

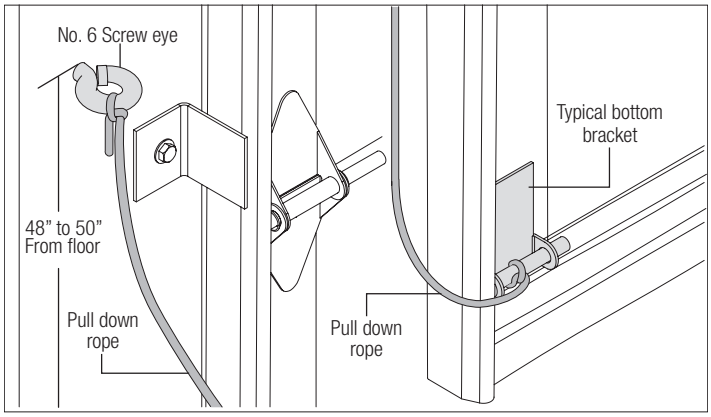


Pull Down Rope

⚠ WARNING

DO NOT INSTALL PULL DOWN ROPE ON DOORS WITH OPERATORS. CHILDREN MAY BECOME ENTANGLED IN THE ROPE CAUSING SEVERE OR FATAL INJURY.

Measure and mark the jamb approximately 48" to 50" (1220 to 1270 mm) from floor on the right or left side of jamb. Drill 1/8" pilot hole for no. 6 screw eye. Tie the pull down rope to the no. 6 screw eye and to the bottom corner bracket, as shown.



Cleaning Your Garage Door

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

An annual inspection of all the surfaces of your garage door(s) will reveal the extent of weathering and the possible need for refinishing. When the finish becomes eroded or thin, clean and prime any areas showing deterioration. Then completely refinish the door, according to the directions, listed below, or the manufacturer's label directions. Proper finishing of the wood substrates to protect your door(s) from the effects of moisture and sunlight is vital in extending the service life and beautifying your garage door(s).

The interior and exterior surfaces, as well as all edges must be properly primed, painted and maintained, to protect and beautify your door. These finishing instructions are intended to achieve both objectives for your wood doors(s).

NOTE: Be sure to clean behind weatherstrips 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.

Preparations

Clean all surfaces of dust, dirt and any other contaminants. Any scarring or stains that occur during transportation, handling or storage must be re-sanded to the original condition.

Painting Your Garage Door

A high quality exterior 100% Acrylic Latex based finish paint is recommended for painting your wood door. FOR BEST RESULTS DO NOT USE A DARK COLOR PAINT. HIGH HEAT ABSORPTION CAN CAUSE EXCESSIVE BOWING AND CRACKING OF THE WOOD. If priming is necessary, prime the interior and exterior surfaces, as well as all edges, using a primer compatible with the selected finish paint and for the specific species of wood substrate being finished.

NOTE: Some species of wood, such as cedar, require special primers and finishes to prevent tannin stains from appearing. Consult with your paint supplier.

If the door is factory primed by Wayne Dalton, the priming step is not required, except if touch-up is needed due to surface preparation and re-sanding.

NOTE: Wayne-Dalton uses a latex primer.

Finish paint the interior and exterior surfaces, as well as all edges with at least 2 coats of a high quality exterior 100% Acrylic Latex finish paint over the primer. Follow paint manufacture's label directions explicitly for all coatings.

IMPORTANT: THE FOLLOWING TOP COATS ARE NOT RECOMMENDED. SHAKE AND SHINGLE PAINTS, CLEAR COATINGS, OIL OR ALKYD PAINTS, VINYL ACETATE (PVA), VINYL ACRYLIC OR VINYL ACETATE ACRYLIC CO-POLYMER PAINTS.

Clear Or Stained Finishes

If staining, select an exterior grade stain, approved for use on the species of wood substrates being finished and compatible with Alkyd varnishes. FOR BEST RESULTS DO NOT USE A DARK STAIN. HIGH HEAT ABSORPTION CAN CAUSE EXCESSIVE BOWING AND CRACKING OF THE WOOD. Apply the stain to the interior and exterior surfaces, as well as all edges, following stain manufacturer's label directions. After proper drying time for the stain, or if wood is being left natural, apply 1 coat of waterproof exterior Alkyd varnish (marine type varnish) to the interior and exterior surfaces, as well as all edges. After recommended drying time of 1st coat, sand all surfaces with fine grit (320) sandpaper. Clean all surfaces of sanding dust and apply a 2nd coat of the Alkyd varnish to the interior and exterior surfaces, as well as all edges. After 2nd coat is dry, sand all surfaces again with fine grit (320) sandpaper. Clean all surfaces of sanding dust and apply a final 3rd coat of the Alkyd varnish to all surfaces.

Three finish coats of waterproof exterior Alkyd varnish are required to properly finish a stained or natural wood door. Follow the finish manufacturer's label directions explicitly for each coat applied.

NOTE: Do not stain MDO plywood, apply paint only.

Only a waterproof exterior Alkyd varnish top coat finish is approved for stained or natural wood doors. Other types of top coat finishes, including deck sealers, are not acceptable and if used, will void the warranty.

Operation And Maintenance

OPERATING YOUR GARAGE DOOR:

Before you begin, read all warning labels affixed to the door and the installation instructions and owner's manual. When correctly installed, your Wayne Dalton door will operate smoothly. Always operate your door with controlled movements. Do not slam your door or throw your door into the open position, this may cause damage to the door or its components. If your door has an electric opener, refer to the owner's manual to disconnect the opener before performing manual door operation below.

Manual door operation:

For additional information on manual garage door operations go to **www.dasma.com** and reference TDS 165.

IMPORTANT: DO NOT PLACE FINGERS OR HANDS INTO SECTION JOINTS WHEN OPENING AND/OR CLOSING A DOOR. ALWAYS USE LIFT HANDLES / SUITABLE GRIPPING POINTS WHEN OPERATING THE DOOR MANUALLY.

Opening a Door: Make sure the lock(s) are in the unlocked position. Lift the door by using the lift handles / suitable gripping points only. Door should open with little resistance.

Closing a Door: From inside the garage, pull door downward using lift handles / gripping point only or a high friction area only. If you are unable to reach the lift handles/ suitable gripping points only, use pull down rope affixed to the side of door. Door should close completely with little resistance.

Using an electric operator:

IMPORTANT: PULL DOWN ROPES MUST BE REMOVED AND LOCKS MUST BE REMOVED OR MADE INOPERATIVE IN THE UNLOCKED POSITION.

When connecting a drawbar (trolley type) garage door operator to this door, an drawbar operator and or drawbar operator bracket must be securely attached to the top section of the door, along with any struts provided with the door. Always use the drawbar operator and or drawbar operator bracket supplied with the door. To avoid possible damage to your door, Wayne Dalton recommends reinforcing the top section on models 8000, 8100, 8200 and 9100 doors with a strut (may or may not be supplied). The installation of the drawbar operator must be according to manufacturer's instructions and force settings must be adjusted properly. Refer to the owner's manual supplied with your drawbar operator for complete details on installation, operation, maintenance and testing of the operator.

MAINTAINING YOUR GARAGE DOOR:

Before you begin, read all warning labels affixed to the door and the installation instructions and owner's manual. Perform routine maintenance steps once a month, and have the door professionally inspected once a year. Review your Installation Instructions and Owner's Manual for the garage door. These instructions are available at no charge from Wayne Dalton, A Division Of Overhead Door Corporation, P.O. Box 67, Mt. Hope, OH., 44660, or at **www.Wayne-Dalton.com**. For additional information on garage door/operator maintenance go to **www.dasma.com** and reference TDS 151, 167 and 179.

Monthly Inspections:

1. Visual Inspection: Closely inspect jambs, header and mounting surface. Any wood found not to be structurally sound must be replaced. Inspect the springs, counterbalance lift cables, track rollers, pulleys, rear back hangs and other door hardware for signs of worn or broken parts. Tighten any loose screws and/or bolts. Check exterior surface of the door sections for any minor cracks. Verify door has not shifted right or left in the opening. If you suspect problems, have a trained door system technician make the repairs.

⚠ WARNING

GARAGE DOOR SPRINGS, COUNTERBALANCE LIFT CABLES, BRACKETS, AND OTHER HARDWARE ATTACHED TO THE SPRINGS ARE UNDER EXTREME TENSION, AND IF HANDLED IMPROPERLY, CAN CAUSE SEVERE OR FATAL INJURY. ONLY A TRAINED DOOR SYSTEMS TECHNICIAN SHOULD ADJUST THEM, BY CAREFULLY FOLLOWING THE MANUFACTURER'S INSTRUCTIONS.

⚠ WARNING

NEVER REMOVE, ADJUST, OR LOOSEN THE BOLTS, SCREWS AND/OR LAG SCREWS ON THE COUNTERBALANCE (END OR CENTER BEARING BRACKETS) SYSTEM OR BOTTOM CORNER BRACKETS OF THE DOOR. THESE BRACKETS ARE CONNECTED TO THE SPRING(S) AND ARE UNDER EXTREME TENSION. TO AVOID POSSIBLE SEVERE OR FATAL INJURY, HAVE ANY SUCH WORK PERFORMED BY A TRAINED DOOR SYSTEMS TECHNICIAN USING PROPER TOOLS AND INSTRUCTIONS.

TorqueMaster® Plus Springs: Pawl knob(s) (located on the TorqueMaster® end brackets above the door) should be engaged to prevent the door from rapidly descending in case of spring failure or forceful manual operation.

Torsion Springs: The torsion springs (located above the door) should only be adjusted by a trained door systems technician. DO NOT attempt to repair or adjust torsion springs yourself.

Extension Springs: A restraining cable or other device should be installed on the extension spring (located above the horizontal tracks) to help contain the spring if it breaks.

2. Door Balance: Periodically test the balance of your door. If you have a garage door drawbar operator, use the release mechanism so you can operate the door by hand when doing this test. Start with the door in the fully closed position. Lift the door to check its balance. Adjust TorqueMaster® or Extension spring(s), if door lifts by itself (hard to pull down) or if door is difficult to lift (easy to pull down). DO NOT attempt to repair or adjust Torsion Springs yourself. To adjust TorqueMaster® or Extension spring(s), refer to your installation instructions and owner's manual. If in question about any of the procedures, do not perform the work. Instead, have it adjusted by a trained door systems technician.

3. Lubrication: The door should open and close smoothly. Ensure the door track rollers are rotating freely when opening and closing the door. If track rollers do not rotate freely, clean the door tracks, removing dirt and any foreign substances. Clean and lubricate (use a non-silicon based lubricant) graduated end hinges, center hinge(s), steel track rollers, bearings and torsion spring(s) (torsion spring coil surfaces). DO NOT lubricate plastic idler bearings, nylon track rollers, door track. DO NOT oil a cylinder lock, if actuation is difficult use a graphite dust to lubricate.

Limited warranty

Model Series 7400

Wayne Dalton, a division of Overhead Door Corporation ("Seller") warrants to the original purchaser of the Model Series 7400 ("Product"), subject to all of the terms and conditions hereof, that the Product and all components thereof will be free from defects in materials and workmanship for a period of **One (1) year**, measured from the date of installation:

Seller's obligation under this warranty is specifically limited to repairing or replacing, at its option, any part which is determined by Seller to be defective during the applicable warranty period. Any labor charges are excluded and will be the responsibility of the purchaser.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty is made to the original purchaser of the Product only, and is not transferable or assignable. This warranty applies only to Product installed in a residential or other non-commercial application. It does not cover any Product installed in commercial or industrial building applications. This warranty does not apply to any unauthorized alteration or repair of the Product, or to any Product or component which has been damaged or deteriorated due to misuse, neglect, accident, puncture, drilling of holes (other than as directed by Seller), incorrect installation of hardware, fire, failure to provide necessary maintenance, normal wear and tear, exposure to salt or other corrosive environments, or acts of God or any other cause beyond the reasonable control of Seller. This warranty also specifically excludes all refinishing costs and any inconsistencies or occurrences related to the characteristics or attributes of natural wood, including but not limited to: (i) variations in the color or grain of Product sections, (ii) the emission or secretion of tannins from the Product sections which may stain or alter the color of a painted Product, and (iii) cracking, checking, lifting wood grain or cracking due to natural expansion and contraction of the Product sections.

SPECIAL PAINTING REQUIREMENTS: This warranty shall be void if the Product sections are not painted or sealed in accordance with DASMA TDS 162 (available at **www.dasma.com**) on all sides, including all edges with one (1) coat of exterior grade primer (or stain) and two (2) coats of high quality acrylic latex exterior grade finish paint (or sealer), applied in accordance with the paint or Sealer manufacturer's instructions and Seller's painting and maintenance instructions. Sections must be finished within five (5) days of receipt and prior to installation. Damage caused by exposure of the product to water, moisture, sun or other conditions prior to completion of painting (or Sealing) is excluded. This warranty shall also be void if the Product is painted a dark color, including but not limited to black, dark grey, dark green and dark brown*. IMPROPER TRANSPORTATION, STORAGE OR DELAYS IN FINISHING, THAT ALLOWS EXPOSURE OF THE WOOD DOOR SURFACES TO MOISTURE OR OTHER CONTAMINANTS WILL RESULT IN THE WARRANTY BEING VOIDED.

ALL EXPRESS AND IMPLIED WARRANTIES FOR THE PRODUCT, INCLUDING BUT NOT LIMITED TO ANY IMPLIEDWARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN TIME TO THE APPLICABLE WARRANTY PERIOD REFLECTED ABOVE. NO WARRANTIES, WHETHER EXPRESS OR IMPLIED, WILL APPLY AFTER THE LIMITED WARRANTY PERIOD HAS EXPIRED. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

IN NO EVENT SHALL SELLER BE RESPONSIBLE FOR, OR LIABLE TO ANYONE FOR, SPECIAL, INDIRECT, COLLATERAL, PUNITIVE, INCIDENTAL OR CONSEQUENTIAL DAMAGES, even if Seller has been advised of the possibility of such damages. Such excluded damages include, but are not limited to, loss of use, cost of any substitute product, or other similar indirect financial loss. 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.

Claims under this warranty must be made promptly after discovery, within the applicable warranty period, and in writing to the Seller whose name and address appear below. The purchaser must allow Seller a reasonable opportunity to inspect any Product claimed to be defective prior to removal or any alteration of its condition. Proof of the purchase and/or installation date, and identification as the original purchaser, may be required. There are no established informal dispute resolution procedures of the type described in the Magnuson-Moss Warranty Act.

- * Dark colors shall mean colors as dark as or darker than any of the following Sherwin-Williams Exterior Colors: 7069 Iron Ore (dark grey), 6447 Evergreens (dark green) or 7510 Chateau Brown (dark brown).

- SELLER: _____
- SELLER'S ADDRESS: _____

_____

Thank you for your purchase.

PLEASE DO NOT RETURN THIS PRODUCT TO THE STORE

Please Do Not Return This Product To The Store. Please call 1-866-569-3799 (Press Option 1) and follow the prompts to contact the appropriate customer service agent. They will be happy to handle any questions that you may have.

AFTER INSTALLATION IS COMPLETE, FASTEN THIS MANUAL NEAR GARAGE DOOR FOR EASY REFERENCE.