

8000

TORSION

CUT DOWN

MH
INSTALLATION INSTRUCTIONS AND OWNER'S MANUAL

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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" ($\leq 8'0"$) 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.

Pre-Installation

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.

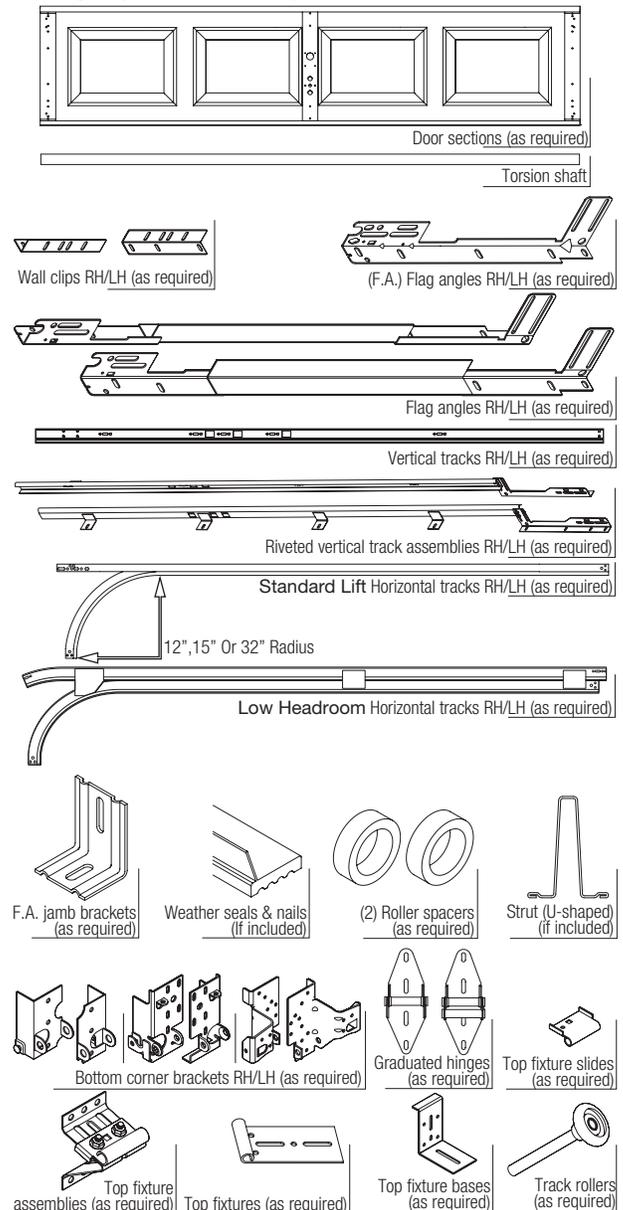
IMPORTANT: RIGHT AND LEFT HAND IS ALWAYS DETERMINED FROM INSIDE THE BUILDING LOOKING OUT.

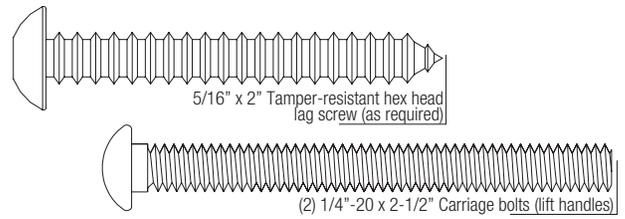
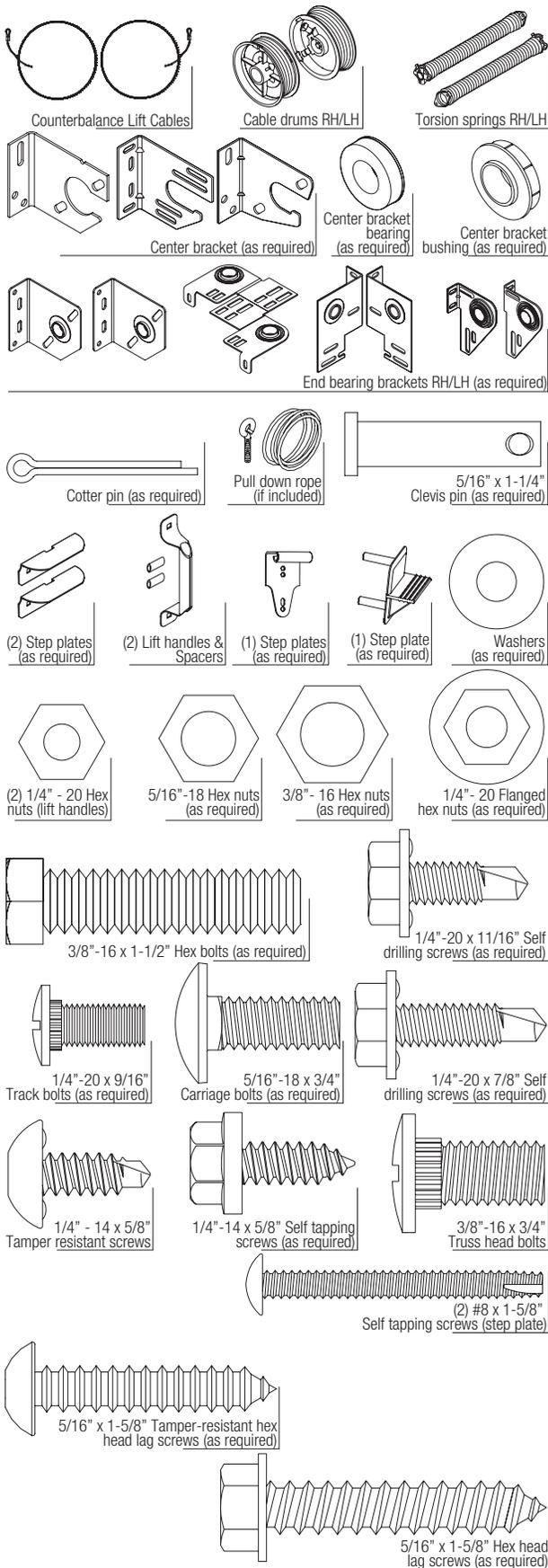
Tools Required

Power Drill	Locking Pliers	Tape Measure
Drill Bits: 1/8", 3/16", 9/32", 7/16", 1/2"	(2) Vice Clamps	Step Ladder
Ratchet Wrench	Wrenches: 3/8", 7/16", 1/2", 9/16", 5/8"	Level
Socket Driver: 7/16"	1/4" Torx Bit	Pencil
Sockets: 7/16", 1/2", 9/16", 5/8"	Approved Winding Bars	Leather Gloves
Phillips Head Screwdriver	Hammer	Safety Glasses

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

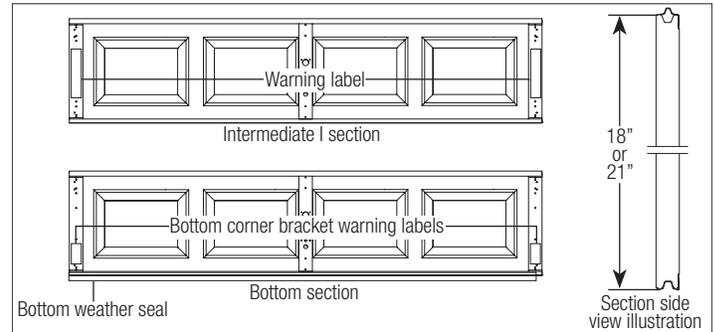
Door Section identification							
Door Height	Bottom	Lock	Inter-mediate I	Inter-mediate II	Inter-mediate III	Inter-mediate IV	Top
6'0"	18"	18"	18"		-		18"
6'3"	21"	18"	18"		-		18"
6'6"	21"	18"	18"		-		21"
6'9"	21"	21"	21"		-		18"
7'0"	21"	21"	21"		-		21"
7'6"	18"	18"	18"	18"		-	18"
7'9"	21"	18"	18"	18"		-	18"
8'0"	21"	18"	18"	18"		-	21"
8'3"	21"	21"	18"	18"		-	21"
8'6"	21"	21"	21"	21"		-	18"
8'9"	21"	21"	21"	21"		-	21"
9'0"	18"	18"	18"	18"	18"	-	18"

When installing your door you must use sections of the appropriate height in the right stacking order. What section heights you need to use in what order depends on the height of your door.

Unless your door is five sections in height, you will not receive an Intermediate II section.

The **BOTTOM SECTION** can be identified by the factory attached bottom astragal, the factory attached bottom corner brackets, and by the bottom corner bracket warning labels on each end stile.

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



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,

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.

NOTE: For doors with 32" Radius Horizontal Track, the headroom requirements needed would be door height + 30".

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 FOR STANDARD LIFT APPLICATIONS:

DOOR HEIGHT	TRACK	MANUAL LIFT	MOTOR OPERATED
6'0" to 7'0"	12", 15" Radius	98" (2489 mm)	125" (3175 mm)
7'3" to 8'0"		110" (2794 mm)	137" (3480 mm)
8'3" to 9'0"		126" (3200 mm)	168" (4267 mm)
9'3" to 10'0"		138" (3505 mm)	168" (4267 mm)

BACKROOM REQUIREMENTS FOR LOW HEADROOM APPLICATIONS:

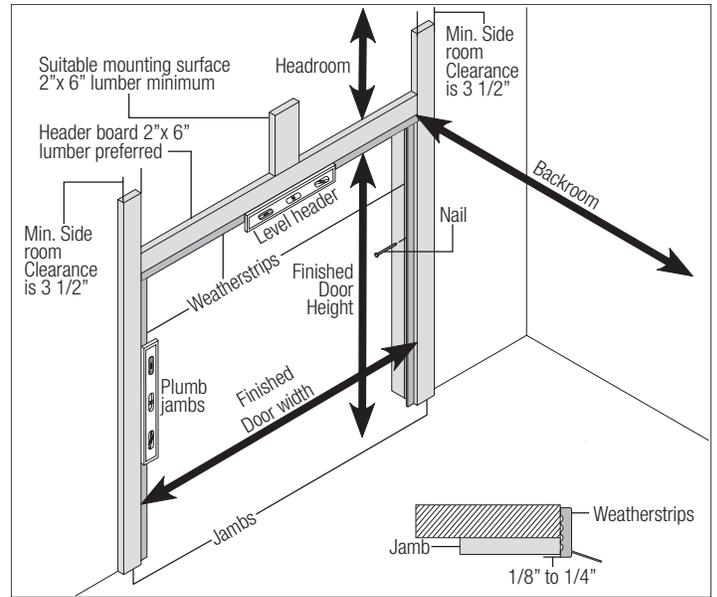
DOOR HEIGHT	TRACK	MANUAL LIFT	MOTOR OPERATED
6'0" to 7'0"	6" Front Mount Low headroom	102" (2591 mm)	125" (3175 mm)
7'1" to 8'0"		114" (2794 mm)	137" (3480 mm)
8'1" to 9'0"		126" (3200 mm)	168" (4267 mm)
9'1" to 10'0"		138" (3505 mm)	168" (4267 mm)

HEADROOM REQUIREMENTS FOR STANDARD LIFT APPLICATIONS:

TRACK TYPE	SPACE NEEDED
15" Radius track	14-1/2" (368 mm)
12" Radius track	12-1/2" (318 mm)
32" Radius Track	32-1/2" (826 mm)

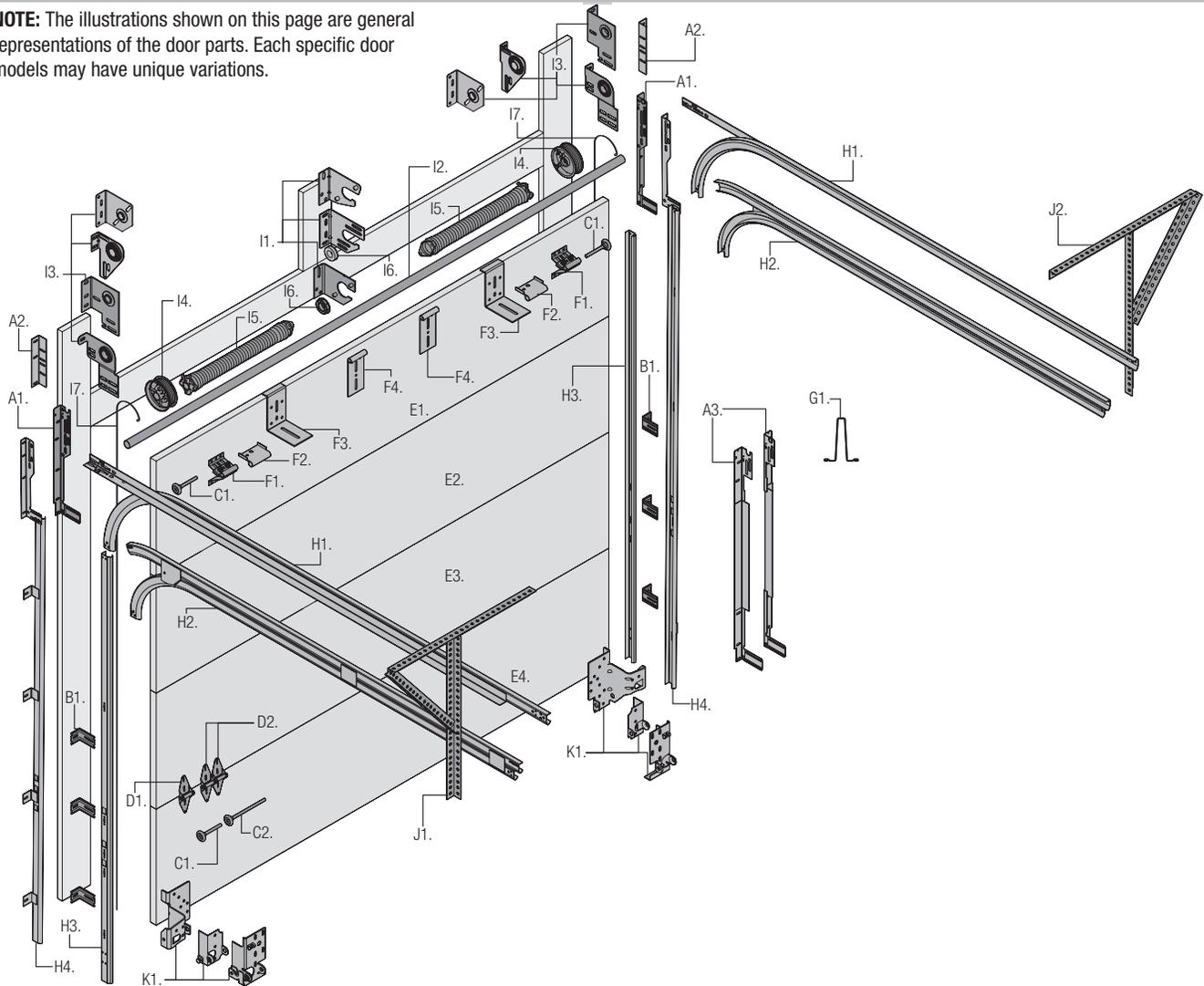
HEADROOM REQUIREMENTS FOR LOW HEADROOM APPLICATIONS:

TRACK TYPE	SPACE NEEDED
6" Front Mount Low Headroom	8-1/2" (216)



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
- A2. Wall Clips (As Required)
- A3. Flag Angles (As Required)

B. JAMB BRACKETS (AS REQUIRED):

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

C. TRACK ROLLERS (AS REQUIRED):

- C1. Short Stem Track Rollers
- C2. Long Stem 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

E. STACKED SECTIONS:

- E1. Top Section
- E2. Intermediate(s) Section
- E3. Lock Section
- E4. Bottom Section

F. TOP FIXTURES (AS REQUIRED):

- F1. Top Fixture Assemblies (As Required)
- F2. Top Fixture Slides - (A-Shaped)
- F3. Top Fixture Bases - (A-Shaped)
- F4. Top Fixtures

G. STRUT(S) (AS REQUIRED):

- G1. Struts (U-shaped)

H. TRACKS (AS REQUIRED):

- H1. Left Hand and Right Hand Horizontal Track Assemblies (For Standard Lift Applications)
- H2. Left Hand and Right Hand Horizontal Track Assemblies (For Low Headroom Applications)
- H3. Left Hand and Right Hand Vertical Tracks (As Required)
- H4. Left Hand and Right Hand Riveted Vertical Track Assemblies (As Required)

I. TORSION SPRING ASSEMBLY (AS REQUIRED):

- I1. Center Bracket (As Required)
- I2. Torsion Shaft
- I3. Left Hand and Right Hand End Bearing Brackets (As Required)
- I4. Left Hand and Right Hand Cable Drums
- I5. Right Hand and Left Hand Torsion Springs (As Required)
- I6. Center Bracket Bearing (As Required)
- I7. Counterbalance Lift Cables

J. REAR BACK HANGS:

- J1. Left Hand Rear Back Hangs Assemblies
- J2. Right Hand Rear Back Hangs Assemblies

K. BOTTOM CORNER BRACKETS (AS REQUIRED):

- K1. Left Hand And Right Hand Bottom Corner Brackets

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.

Section Sizing

Tools Required: Power drill, Phillips head screwdriver, Saw horses, Pencil, Saw, Tape measure, Safety glasses, Leather gloves

1

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

NOTE: Not all doors will need to be cut down. If your door sections are the appropriate width for your opening, skip this step.

NOTE: End caps are marked right and left hand.

WARNING

IT IS RECOMMENDED THAT A BREATHING APPARATUS BE WORN WHILE CUTTING DOWN THE FOAMED SECTIONS. FAILURE TO WEAR A BREATHING APPARATUS COULD RESULT IN A SEVERE INJURY.

WARNING

IT IS RECOMMENDED THAT GLOVES BE WORN WHILE HANDLING THE SECTIONS AND WORKING AROUND EXPOSED SHARP METAL EDGES. FAILURE TO WEAR GLOVES COULD RESULT IN A SEVERE INJURY.

NOTE: A metal cutting finishing circular saw blade should be used when cutting the section width down to the appropriate width.

NOTE: When re-installing the endcaps back onto the section, you should use a metal, acrylic or epoxy adhesive, so the endcaps will adhere to the section surface.

Lay the section face down onto saw horses.

IMPORTANT: IT IS HIGHLY RECOMMENDED TO PROTECT THE OUTSIDE FINISH WHEN LAYING THE SECTION ONTO THE SAW HORSES WITH CARPET OR EQUIVALENT MATERIAL TO PREVENT THE SECTION FROM BEING SCRATCHED OR DAMAGED.

Using a phillips head screwdriver, remove but retain all screws from both the left hand and the right hand end caps. Gently slide the end caps off of the section and set them aside. Now, locate the center of the section.

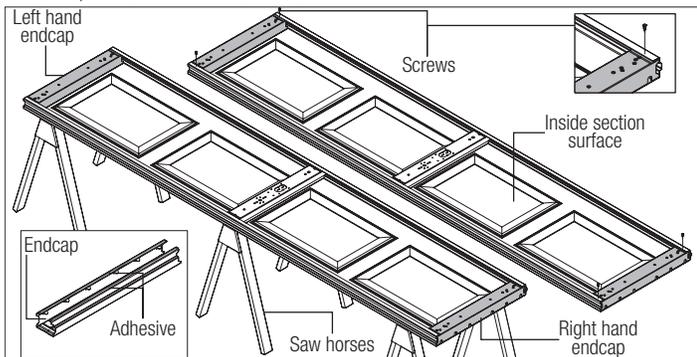
NOTE: Typical section cut down is (Opening width minus 1/8", divided by 2).

Measure from the center of the section outward and mark a vertical line onto the section surface. On the opposite side, measure from the center of the section outward and mark another vertical line onto the section surface.

WARNING

BEFORE CUTTING THE SECTION DOWN TO THE DESIRED WIDTH, ENSURE YOU ARE CUTTING BOTH SIDES EQUALLY. FAILURE TO DO SO COULD RESULT IN SECTION PANELING NOT LINING UP VERTICALLY.

Using a circular saw carefully cut section to the desired width. Starting on left hand side, apply some adhesive to the inside section surface and position the left hand end cap onto the left hand side of the section, as shown. While holding the end cap in position, re-use the screws to secure the end cap to the section. Repeat for the right hand side and then repeat the same process for the other sections.



2

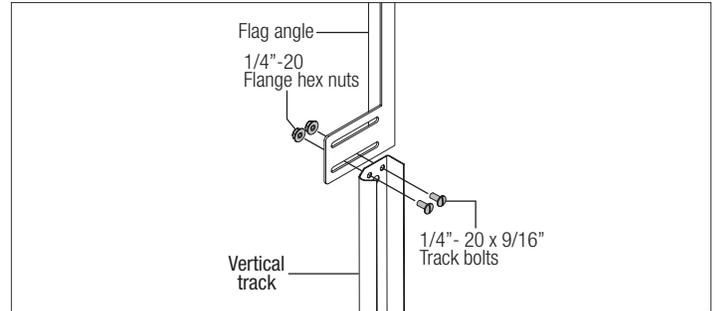
Flag Angles

Tools Required: Safety glasses, Leather gloves

NOTE: If you have riveted tracks, 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.



3

Jamb Brackets

Tools Required: Safety glasses, Leather gloves

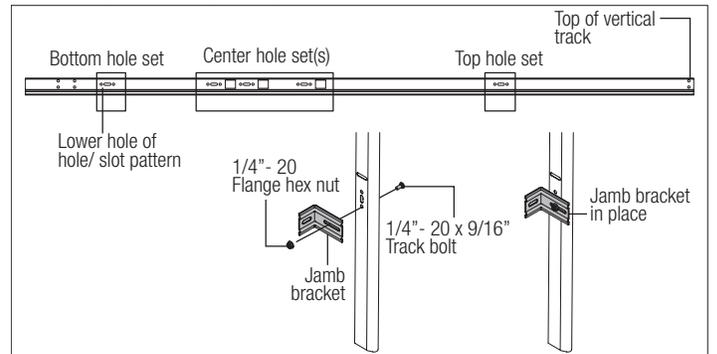
NOTE: If you have riveted tracks, skip this step.

NOTE: The bottom jamb bracket is always the shortest bracket, while the center jamb bracket(s) is the next tallest. The top jamb bracket is always the tallest bracket.

To attach the bottom jamb bracket, locate lower hole of the hole/ slot pattern of the bottom 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.

To attach the top jamb bracket, locate lower hole of the hole/ slot pattern of the top 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.

Next, attach the center jamb bracket(s) in the same manner as the others remembering to ensure the shortest jamb bracket is always below the next tallest jamb bracket. Repeat for other center jamb brackets, then repeat for other side.



4

Bottom Corner Bracket and Track Rollers

Tools Required: Power drill, 7/16" Socket driver, Tape measure, Saw horses, 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 THE PINS COULD RESULT IN COUNTERBALANCE LIFT CABLE COMING OFF THE PIN, ALLOWING THE DOOR TO FALL, POSSIBLY RESULTING IN SEVERE OR FATAL INJURY.

Using the illustrations below, determine which bottom corner bracket came with your door.

FOR DOORS WITH BOTTOM CORNER BRACKETS SHOWN IN TOP ILLUSTRATION:

Starting on the left hand side, attach left hand bottom corner bracket to the left corner of the bottom section, making sure it is seated to the edges of the end cap, using (2) 1/4" - 20 x 7/8" self drilling screws (1) 1/4" - 20 x 5/8" tamper resistant screw. Repeat for other side. Uncoil the counterbalance lift cables. Starting on the left hand side, place the left hand cable loop on the left hand milford pin of the bottom corner bracket. Insert a short stem track roller

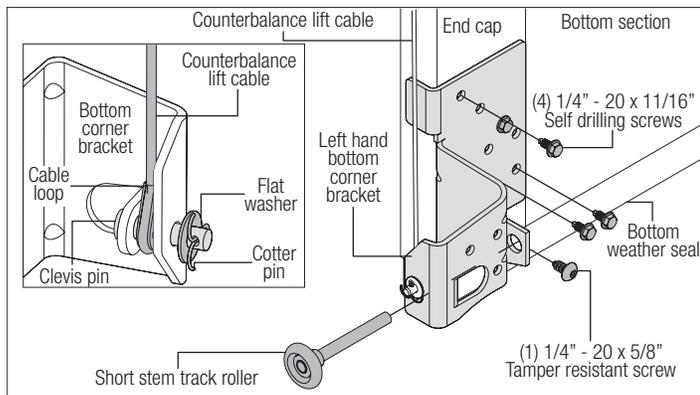
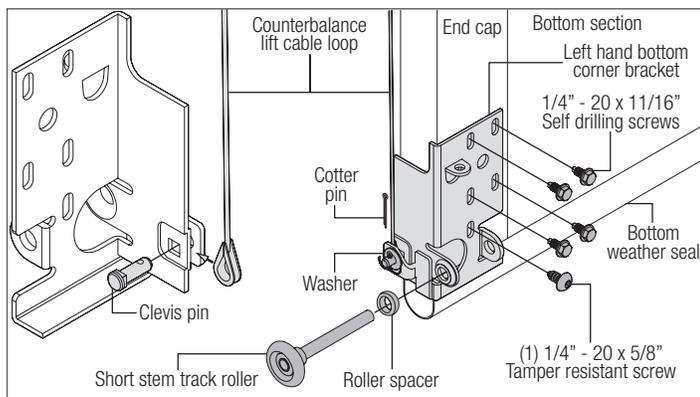
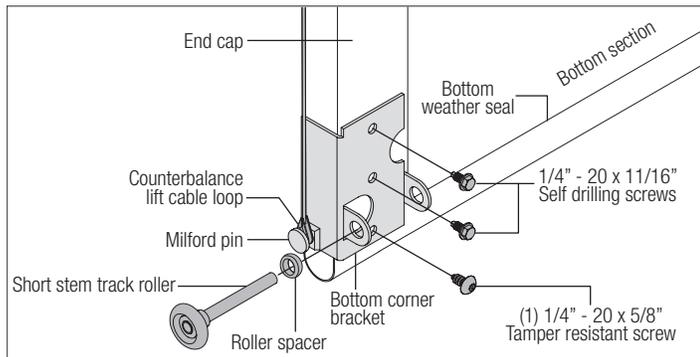
with a roller spacer into the bottom corner bracket. Repeat for other side.

FOR DOORS WITH BOTTOM CORNER BRACKETS SHOWN IN BOTTOM ILLUSTRATIONS: Uncoil the counterbalance lift cables. Place the cable loop into position between the two holes on the side of the left hand bottom corner bracket. Slide a clevis pin through the innermost hole, cable loop, and outermost hole, of the bottom corner 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. Attach left hand bottom corner bracket to the left corner of the bottom section, making sure it is seated to the edges of the end cap using the appropriate number of 1/4" - 20 x 11/16" self drilling screws (1) 1/4" - 20 x 5/8" tamper resistant screw, as shown. Insert a short stem track roller into the bottom corner bracket. Repeat for other side.

NOTE: Only doors provided to professional installers, who have the required tools will be supplied with a tamper-resistant fastener. Use a 1/4" - 20 x 11/16" self drilling screw in bottom bracket, if not provided with a tamper-resistant screw.

NOTE: Check to ensure cable loops fits tightly over the pins.

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.



5

Graduated Hinge Attachment

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

NOTE: Refer to door section identification, located in the pre-installation section of this manual.

NOTE: The graduated hinges can be identified by the number stamped on the lower hinge leaf.

NOTE: The #1 graduated end hinges serves as end hinges on the bottom section. The #1 graduated end hinges also serves as center hinges on all sections, except for the top section.

NOTE: The #2 graduated end hinges serves as end hinges on the Lock section.

NOTE: The #3 graduated end hinges serves as end hinges on the Intermediate I section.

NOTE: The #4 graduated end hinges serves as end hinges on the Intermediate II section.

NOTE: The #5 graduated end hinges serves as end hinges on the Intermediate III section.

Starting on the left hand side of the bottom section, align the lower hinge leaf of the #1 graduated end hinge over the holes, located at the top of the end caps. Attach lower leaf to the end caps with (2) 1/4" - 14 x 5/8" self tapping screws. Repeat for other side. Next, align the lower hinge leaf of the #1 center hinges with the pre-punched holes at each center stile location(s), located at the top of the bottom section. Attach lower hinge leaf to the center stile with (2) 1/4" - 14 x 5/8" self tapping screws.

IMPORTANT: ONCE THE 1/4" - 14 X 5/8" SELF TAPPING SCREWS ARE SNUG AGAINST THE LOWER HINGE LEAFS, TIGHTEN AN ADDITIONAL 1/4 TO 1/2 TURN TO RECEIVE MAXIMUM DESIGN HOLDING POWER.

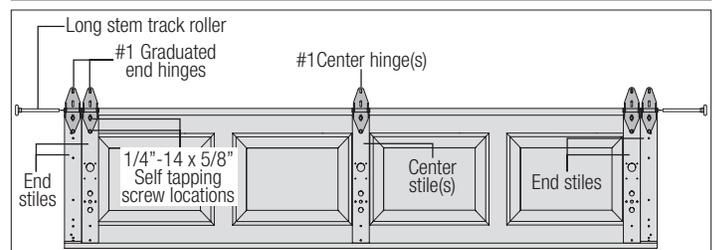
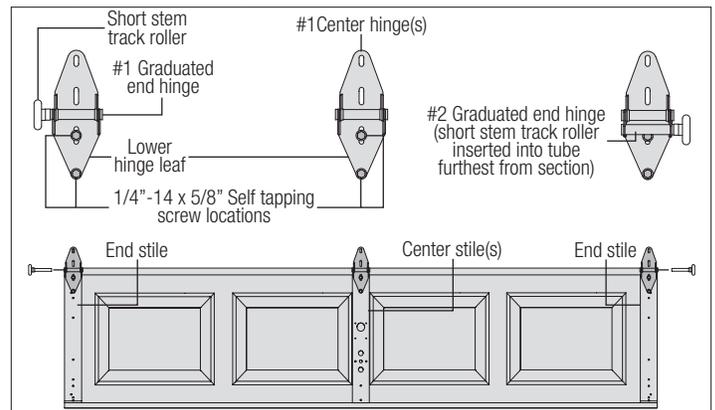
Repeat graduated hinge attachment using the appropriate graduated end hinges for all remaining sections except the top section.

NOTE: Depending on your door, single end hinges and short shaft rollers are required on each end of the bottom, lock and intermediate(s) sections.

NOTE: Depending on your door, double end hinges and long shaft rollers are required on each end of the bottom, lock and intermediate(s) sections.

Place the appropriate short or long shaft roller into each graduated end hinges.

IMPORTANT: WHEN PLACING SHORT STEM TRACK ROLLERS INTO THE #2 GRADUATED END HINGES AND HIGHER, THE SHORT STEM TRACK ROLLER GOES INTO HINGE TUBE FURTHEST AWAY FROM SECTION.



6

Top Fixtures

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

NOTE: Refer to Illustrations shown below or Package Contents to determine which Top Fixture was supplied with your door.

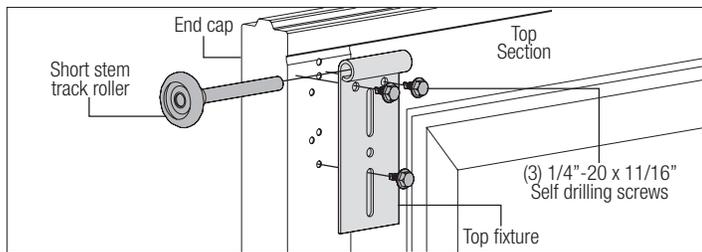
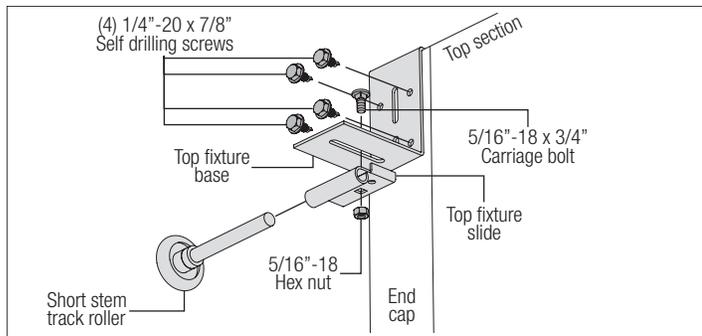
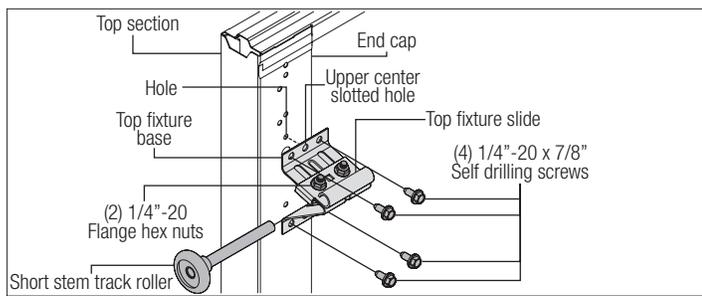
FOR DOORS WITH TOP FIXTURES SHOWN IN TOP ILLUSTRATION: Align the upper-center hole of top fixture base with the hole in the end stile of the top section, as shown. Ensure the top fixture base is level and aligned with edge of the top section. Secure with (4) 1/4" - 20 x 7/8" self drilling screws, one in each corner of the top fixture base. Insert short stem track roller into top fixture slide. Repeat for other side.

NOTE: If needed, ensure the top fixture slides are able to slide back and forth along the top fixture bases. If needed, loosen the (2) 1/4" - 20 flange hex nuts.

FOR DOORS WITH TOP FIXTURES SHOWN IN THE MIDDLE ILLUSTRATION: Align the top fixture base at the top the corner of the top section and even with the edge of the section. Fasten to section through end cap using (4) 1/4" - 20 x 7/8" self drilling screws. Secure the top fixture slide to the fixture base loosely using (1) 5/16" - 18 x 3/4" carriage bolt and (1) 5/16" - 18 hex nut.

The top fixture slide will be tightened and adjusted later, in step, Adjusting Top Fixtures.

FOR DOORS WITH TOP FIXTURES SHOWN IN THE BOTTOM ILLUSTRATION: Align the top fixture base at the top the corner of the top section and even with the edge of the section. Fasten to section through end cap using (3) 1/4" - 20 x 11/16" self drilling screws.



7

Strut (U-shaped)

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

NOTE: Refer to door section identification, located in the pre-installation section of this manual or refer to Parts Breakdown.

NOTE: If you completed Step 1, then the struts will have to be cut down the same amount as the sections or Door Section Width - 1" for the strut length.

Using the strut schedule, determine the placement of the struts for your door width and door height.

INSTALLATION ON THE TOP SECTION:

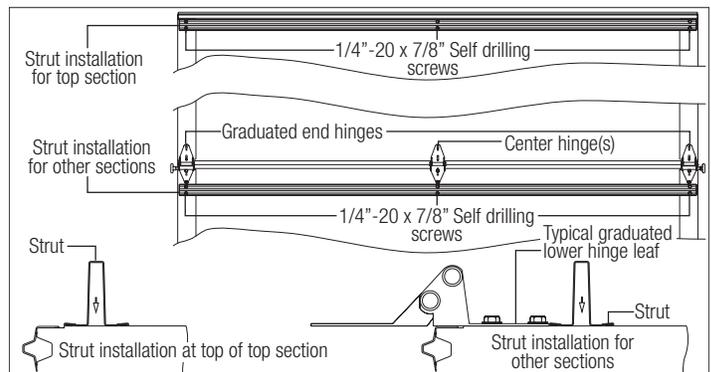
Locate and center the strut at the top of the top section surface. Secure strut to top section using (2) 1/4" - 20 x 7/8" self drilling screws at each end and at each center stile locations.

INSTALLATION ON ALL OTHER SECTIONS:

NOTE: All struts are placed at the top of the sections and up against the bottom of the graduated hinges, for the intermediate, lock and bottom sections.

Locate and center the strut onto the section surface and up against the bottom of the hinges. Center the strut side to side. Secure the strut to the section using (2) 1/4" - 20 x 7/8" self drilling screws at each end and center stile locations.

Strutting Schedule				
Door Height	Configuration	Door Width		
		14'0" - 16'11"	17'0" - 19'11"	20'0"
6'0" - 7'0"	Solid	(1) 2" Strut, Top Section	(3) 2" Struts, Top, Intermediate I and Bottom Sections	(1) 3" Strut, Per Section
	Windows	(1) 3" Strut, Top Section	(1) 3" Strut, Top Section (2) 2" Struts, Intermediate I and Bottom Sections	
7'6" - 8'0"	Solid	(2) 2" Struts, Top and Bottom Sections	(3) 2" Strut, Top Intermediate I and Bottom Sections	
	Windows	(1) 3" Strut, Top Section (1) 2" Strut, Bottom Section	(1) 3" Strut, Top Section (2) 2" Struts, Intermediate I and Bottom Sections	
8'3" - 8'9"	Solid	(2) 2" Struts, Top and Bottom Sections	(3) 2" Struts, Top, Intermediate I and Bottom Sections	N/A
	Windows	(1) 3" Strut, Top Section (1) 2" Strut, Bottom Section	(1) 3" Strut, Top Section (2) 2" Struts, Intermediate I and Bottom Sections	
9'0"	Solid	(5) 2" Strut, Top Intermediate III, II, I and Bottom Sections	(1) 2" Strut, Per Section	
	Windows	(1) 3" Strut, Top Section (4) 2" Strut, Intermediate III, II, I and Bottom Sections	(1) 3" Strut, Top Section (1) 2" Strut for other sections	



8

Step Plate

Tools Required: Power drill, Drill bits, 7/16" Socket driver, Phillips head screwdriver, Tape measure, Level, Step ladder, Safety glasses, Leather gloves

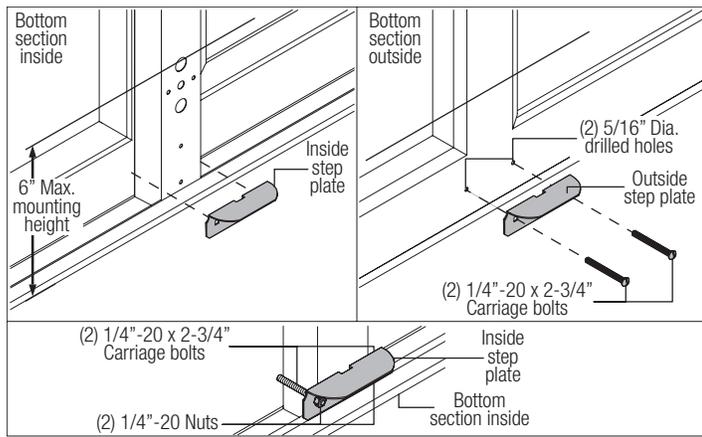
NOTE: Depending on your door, you may have two different kinds of Step Plates or two of the same kind of Step Plates. Refer to Package Contents, to determine which Step Plates you have.

IF YOU HAVE TWO OF THE SAME KINDS OF STEP PLATES: Locate the center most center stile of the bottom section of the door. On the inside of the door, center the step plate on the center most stile no higher than 6" from the bottom of the door. Using the step plate holes as a template, drill a 5/16" dia. hole along each side of the center stile, through the face of the door. Drill through insulation and door's face on an insulated door.

IMPORTANT: BE EXTREMELY CAREFUL TO KEEP DRILL STRAIGHT.

Mount the inside step plate and the outside step plate back to back, straddling the center stile. Secure with (2) 1/4" - 20 x 2-3/4" carriage bolts and 1/4" - 20 hex nuts.

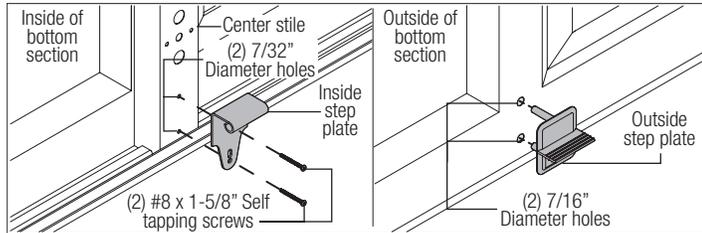
IMPORTANT: DO NOT MOUNT THE STEP PLATE HIGHER THAN 6" FROM THE BOTTOM OF THE SECTION.



IF YOU HAVE TWO DIFFERENT KINDS OF STEP PLATES: Locate the center most center stile on the bottom section of the door. On the inside of the door and using the pre-punched holes at the bottom of the center stile as a template, drill (2) 7/32" dia. holes through the section. Using the previously drilled holes as a guide, enlarge the holes from outside the door to 7/16" dia. and assemble the outside and inside step plates to the section using (2) #8 x 1-5/8" screws.

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

NOTE: After completing this step, continue with Step Lift Handles.



9 Lift Handle

Tools Required: Power drill, 9/32", 1/2" Drill bits, 7/16" Socket driver, 1/4" Wrench, Pencil, Tape measure, Level, Step ladder, Safety glasses, Leather gloves

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

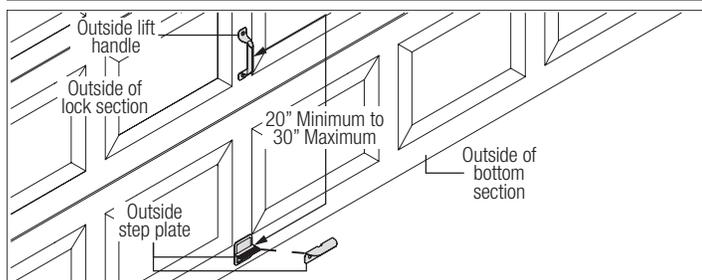
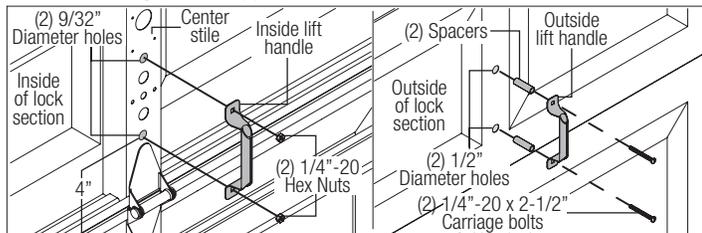
Locate the inside center stile or the desired lift handle location on the lock (2nd) section of the door. Position the lower hole in the lift handle 4" from the bottom of the lock (2nd) section.

IMPORTANT: THE DISTANCE BETWEEN THE STEP PLATE AND THE MIDDLE OF THE LIFT HANDLE MUST BE 20" MINIMUM TO 30" MAXIMUM. IF NECESSARY REPOSITION THE UPPER LIFT HANDLE TO STAY WITHIN THE REQUIRED DIMENSION.

Using the lift handle holes as a template, drill (2) 9/32" dia. holes through the lock section. Enlarge the holes from the outside the door to 1/2" dia.

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

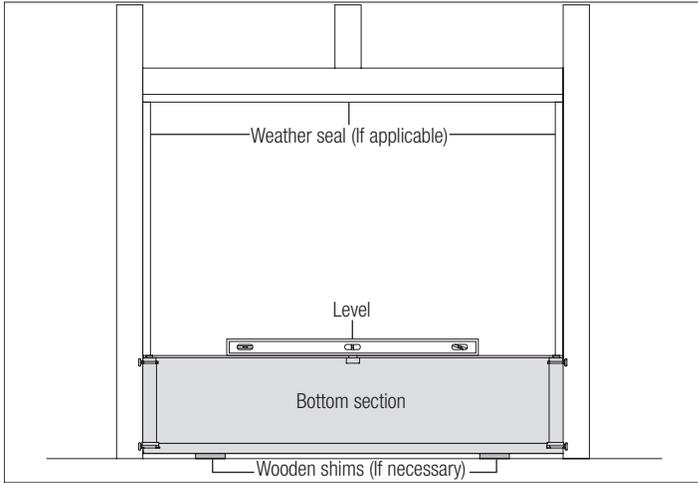
Assemble the outside and inside lift handles to the lock section using (2) spacers, (2) 1/4" - 20 x 2-1/2" carriage bolts and (2) 1/4" - 20 hex nuts.



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

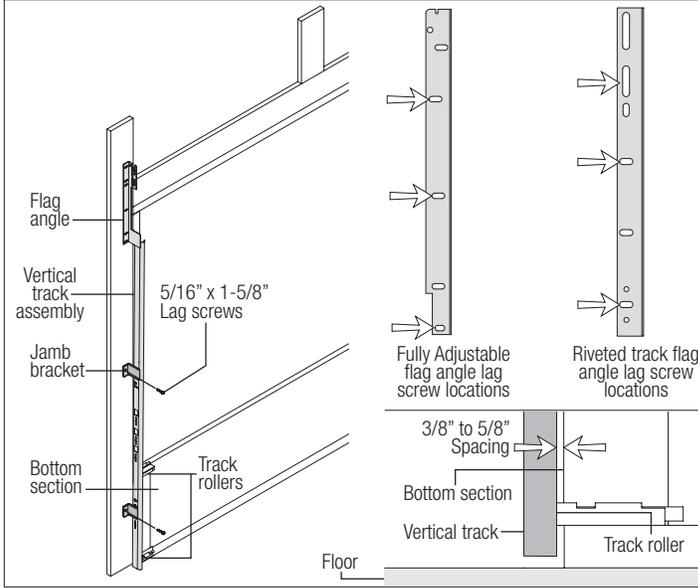
IMPORTANT: IF YOUR DOOR IS TO BE INSTALLED PRIOR TO A FINISHING CONSTRUCTION OF THE BUILDING'S FLOOR, THE VERTICAL TRACKS AND THE DOOR BOTTOM SECTION ASSEMBLY SHOULD BE INSTALLED SUCH THAT WHEN THE FLOOR IS CONSTRUCTED, NO DOOR OR TRACK PARTS ARE TRAPPED IN THE FLOOR CONSTRUCTION.

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

Position the left hand vertical 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.

NOTE: Pilot drill all 5/16" x 1-5/8" lag screws using a 3/16" drill bit, prior to fastening.

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 cables over the top of the vertical track assemblies. Repeat same process for other side.



12 Stacking Sections

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

NOTE: Refer to door section identification, located in the pre-installation section of this

manual.

NOTE: The sections can be identified by the graduation of the factory installed graduated end hinges. The smallest graduated end hinge on section should be stacked on top of the bottom section, with each graduated end hinge increasing as the sections are stacked, see Parts Breakdown.

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

Place track rollers into graduated end hinges of remaining sections.

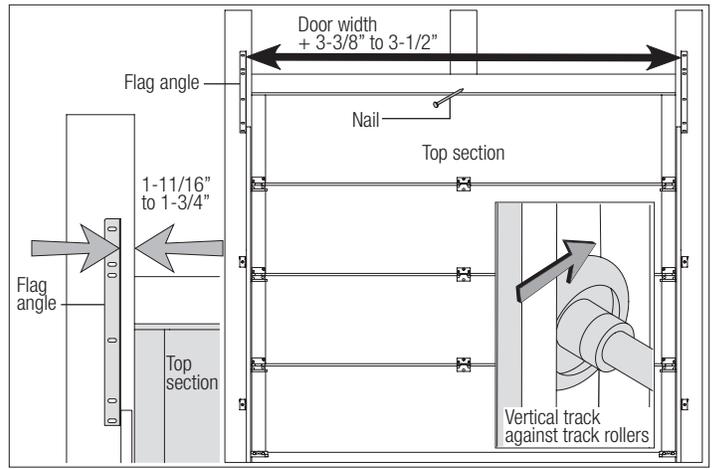
NOTE: Larger doors will use long stem track rollers with double graduated end hinges.

With assistance, lift second section and guide the track rollers into the vertical tracks. Lower section until it is seated against bottom section. Flip hinges up. Fasten center hinge(s) first; then end hinges last using 1/4" - 20 x 7/8" self-drilling screws.

Repeat same process for other sections, except top section.

IMPORTANT: PUSH & HOLD THE HINGE LEAFS SECURELY AGAINST THE SECTIONS WHILE SECURING WITH 1/4" - 20 X 7/8" SELF-DRILLING SCREWS. THERE SHOULD BE NO GAP BETWEEN THE HINGE LEAFS AND THE SECTIONS.

NOTE: Install lock at this time (sold separately). See optional installation step, Side Lock.



14 Attaching 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: Refer to Illustrations shown below or Package Content to determine which horizontal track was supplied with your door.

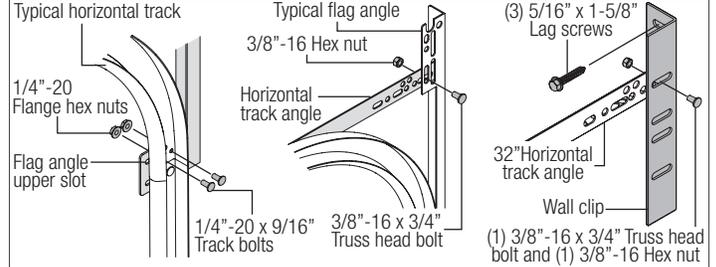
⚠ WARNING

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.

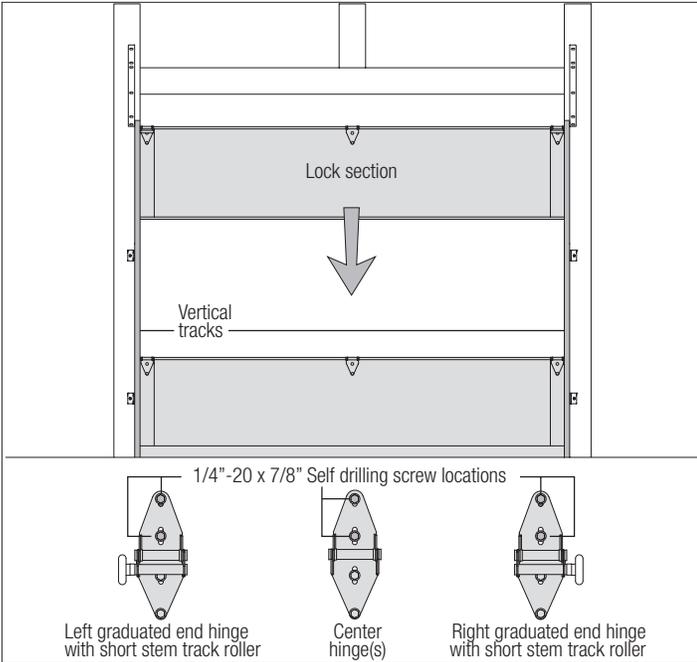
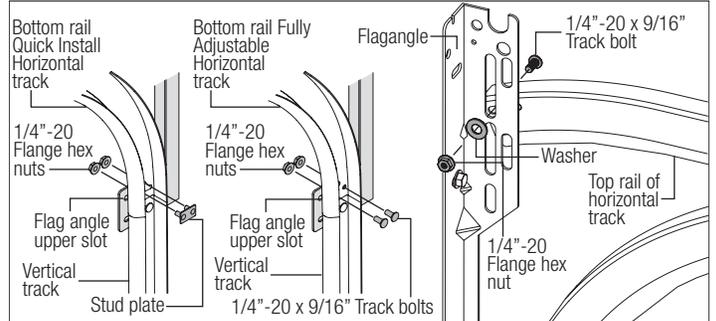
IF YOU HAVE A 12" OR 15" HORIZONTAL TRACK: Place the curved end over the top track roller of the top section. Align the bottom of the horizontal track with the top of the vertical track. Tighten the horizontal track to the flag angle with (2) 1/4" - 20 x 9/16" track bolts and (2) 1/4" - 20 flange hex nuts. Level the horizontal track assembly and bolt the horizontal track angle to the first encountered slot in the flag angle using (1) 3/8" - 16 x 3/4" truss head bolt and (1) 3/8" - 16 hex nut. Repeat for other side.

IF YOU HAVE A 32" HORIZONTAL TRACK: Loosely attach the horizontal reinforcing angle to the second hole of the wall clip using (1) 3/8" - 16 x 3/4" truss head bolt and nut. Attach the horizontal curve to the upper slots in the flagangle using (2) 1/4" - 20 x 9/16" track bolts and (2) 1/4" - 20 flange hex nuts. Rotate the horizontal track assembly upward until the track assembly is approximately level with the floor. Attach the wall clip to the jamb using (2) 5/16 x 1-5/8" lag screws.

NOTE: Pilot drill all 5/16" x 1-5/8" lag screws using a 3/16" drill bit, prior to fastening. Level the horizontal track assembly and tighten the 3/8" - 16 x 3/4" truss head bolt and the 3/8" - 16 hex nut. Repeat for other side.



TO INSTALL LOW HEADROOM 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. 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.



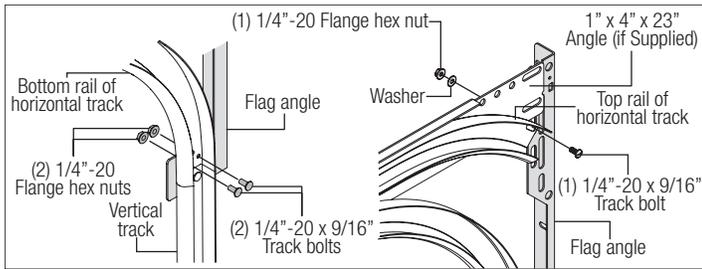
13 Top Section

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 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. Position flag angle between 1-11/16" (43 mm) to 1-3/4" (44 mm) from the edge of the door; tighten the bottom lag screw. Flag angles must be parallel to the door sections. Repeat same process for other side.

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

Complete the vertical track installation by securing the jamb bracket(s) 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.



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.

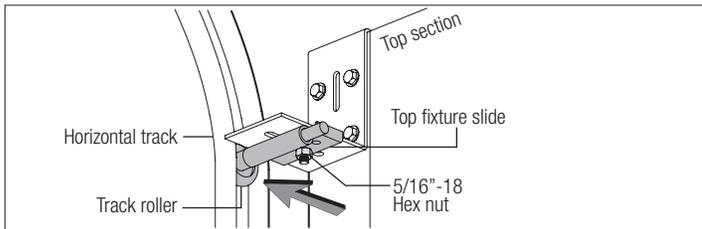
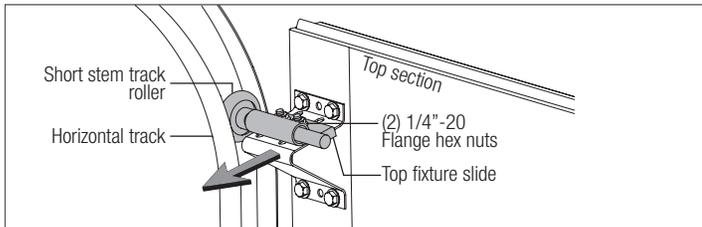
15

Adjusting Top Fixtures

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

NOTE: Refer to Illustrations shown below or Package Contents to determine which Top Fixture was supplied with your door.

With horizontal tracks installed, you can now adjust the top fixtures. Vertically align the top section of the door with the lower sections. Once aligned, position the top fixture slide, out against the horizontal track. Maintaining the slide's position, tighten the (2) 1/4" - 20 flange hex nuts or the 5/16" - 18 hex nut to secure the top fixture slide to the top fixture base. Repeat for other side.



16a

End Bearing Brackets

Tools Required: Power drill, 3/16" Drill bit, Ratchet wrench, 7/16" Socket driver, 9/16" Socket, 9/16" Wrench, Tape measure, Step ladder, Safety glasses, Leather gloves

NOTE: Refer to Illustrations shown below or Package Contents to determine which end bearing brackets were supplied with your door. If your door came with one of these end bearing brackets, complete this step. If your door didn't come with one of these end bearing brackets, then complete the next step 16b.

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

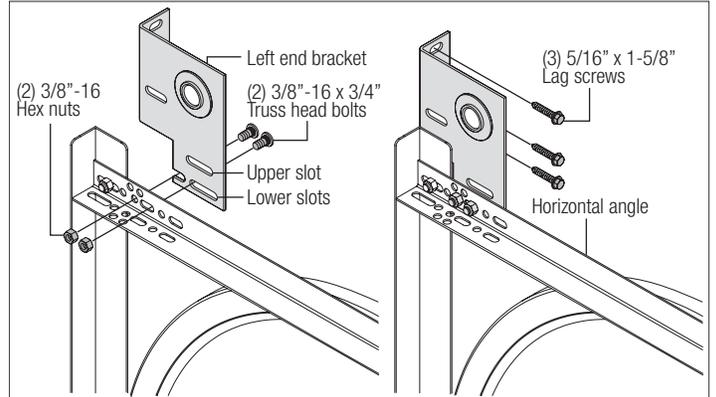
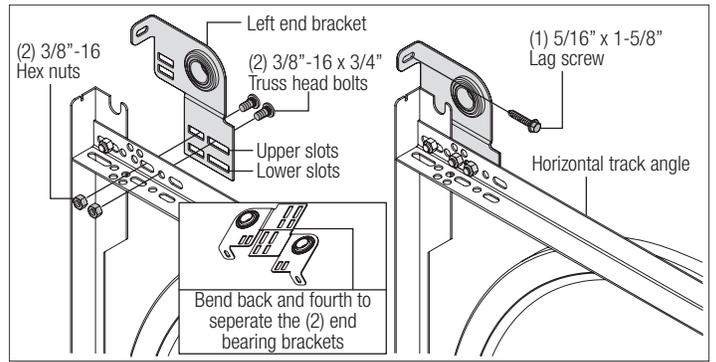
NOTE: End brackets are right and left hand.

Break the end bearing brackets apart (if needed). Attach the left hand end bearing bracket through either the end bearing bracket's upper or lower slots to the left hand horizontal track angle using (2) 3/8" - 16 x 3/4" truss head bolts and (2) 3/8" - 16 nuts.

IMPORTANT: THE END BEARING BRACKET'S LOWER SLOTS ARE USED ON DOORS WITH 12" RADIUS TRACK; THE UPPER SLOTS ARE USED ON DOORS WITH 15" RADIUS TRACK.

Secure the top of the end bearing bracket to the jamb with 5/16" x 1-5/8" lag screw(s). Repeat for other side.

NOTE: Pilot drill all 5/16" x 1-5/8" lag screws using a 3/16" drill bit, prior to fastening.



16b

End Bearing Brackets

Tools Required: Power drill, 3/16" Drill bit, Ratchet wrench, 7/16" Socket driver, 9/16" Socket, 9/16" Wrench, Tape measure, Step ladder, Safety glasses, Leather gloves

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

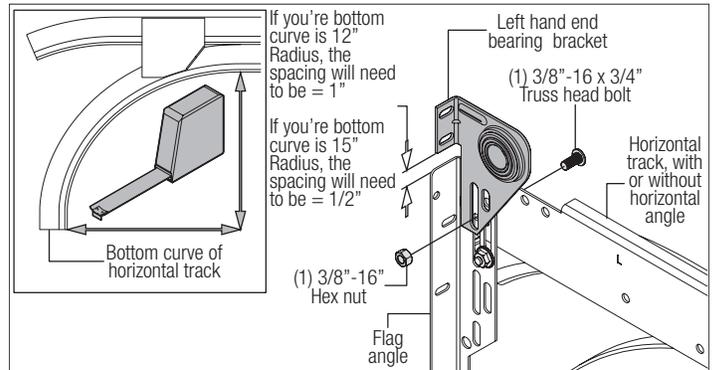
First, use a tape measure, determine if the bottom curve of the horizontal track is either 12" or 15" radius. End bearing brackets are right hand and left hand. Starting with the left hand side, position the left hand end bearing bracket above the left hand flag angle, as shown. Loosely attach the end bearing bracket to the flag angle using (1) 3/8" - 16 x 3/4" truss head bolt and (1) 3/8" - 16 hex nut.

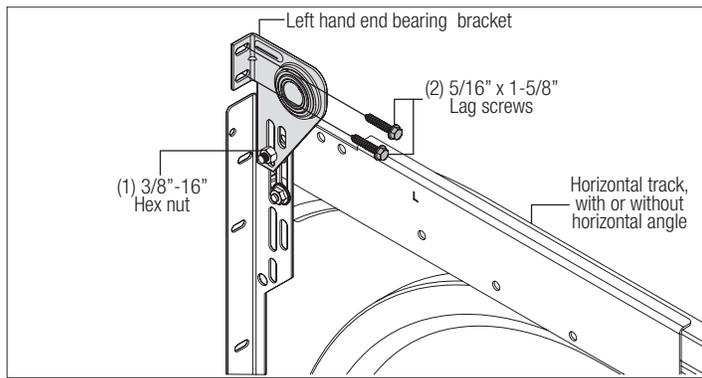
NOTE: Ensure the 3/8" - 16 x 3/4" truss head bolt is going through the inside portion of flag angle first and the 3/8" - 16 hex nut is on the outside of the flag angle, as shown.

IMPORTANT: SPACING SPECIFIED BELOW MUST BE MAINTAINED BETWEEN THE END BEARING BRACKET AND THE FLAG ANGLE, PRIOR TO SECURING THE END BEARING BRACKET TO FLAG ANGLE AND JAMB. THIS IS TO ENSURE PROPER CLEARANCE OF THE COUNTERBALANCE LIFT CABLE.

The spacing between the end bearing bracket and the flag angle is critical. Position the end bearing bracket between 1" (12" Radius) or 1/2" (15" Radius) from the top edge of flag angle. Once the end bearing bracket is properly positioned, tighten the 3/8" - 16 hex nut to secure the end bearing bracket to the flag angle. Next, secure the end bearing bracket to the jamb using (2) 5/16" x 1-5/8" lag screws, as shown. Repeat same process for the other side.

NOTE: Pilot drill all 5/16" x 1-5/8" lag screws using a 3/16" drill bit, prior to fastening.





17

Center Bracket Bushing Assembly

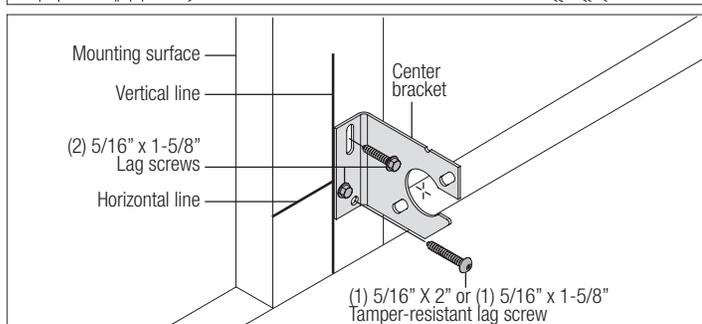
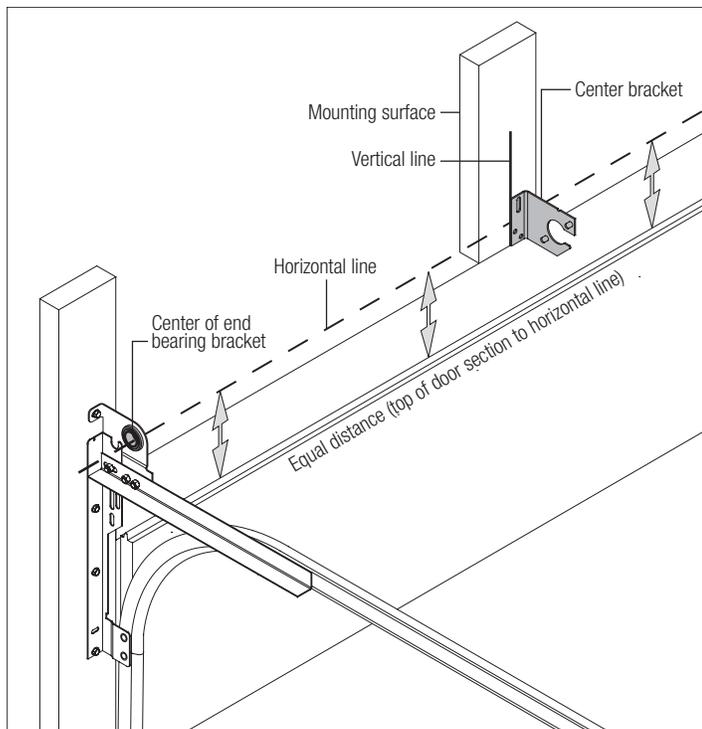
Tools Required: Step ladder, Power drill, 7/16" Socket driver, 3/16" Drill bit, 1/4" Torx bit, Level, Tape measure, Pencil, Safety glasses, Leather gloves

Locate the center of the door. Mark a vertical pencil line on the mounting surface above the door, at the center. Measure from the center of the bearing, in one of the end bearing brackets, downwards, to the top of the door. Using that measurement, measure that distance upwards from the top of the door to the mounting surface and mark a horizontal pencil line which intersects the vertical pencil line. Align the edge of the center bracket with the vertical pencil line and the center of the center bracket with the horizontal pencil line; this is to ensure the torsion shaft is level between the center and end bearing brackets.

Attach the center bracket to the mounting surface, using (2) 5/16" x 1-5/8" lag screws and (1) 5/16" x 2" tamper-resistant lag screw.

NOTE: Pilot drill all 5/16" x 1-5/8" lag screws using a 3/16" drill bit, prior to fastening.

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.



18

Torsion Spring Assembly

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

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

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

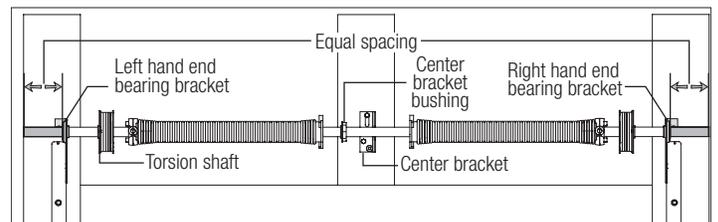
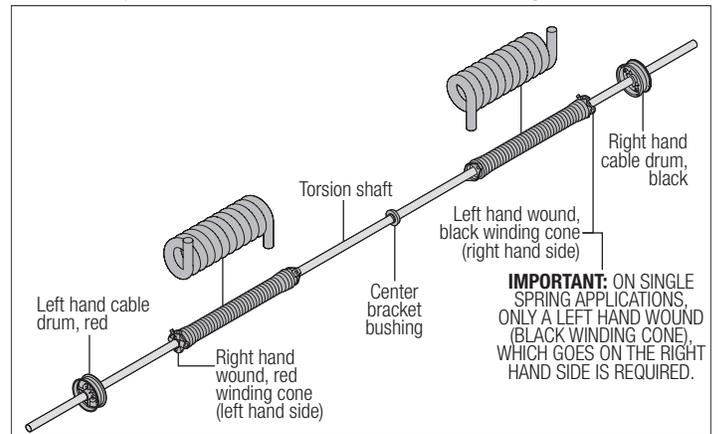
Facing the inside of the door, lay the torsion shaft on the floor. Lay the torsion spring with the black winding cone and the black cable drum at the right end of the torsion shaft. Lay the torsion spring with the red winding cone and the red cable drum at the left end of the torsion shaft.

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.

Slide the center bracket bushing onto the torsion shaft followed by the torsion springs and cable drums.

IMPORTANT: THE CENTER BRACKET BUSHING, TORSION SPRINGS, AND CABLE DRUMS MUST BE POSITIONED, AS SHOWN.

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



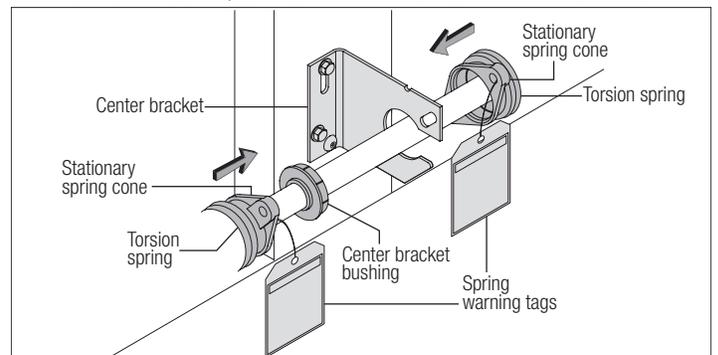
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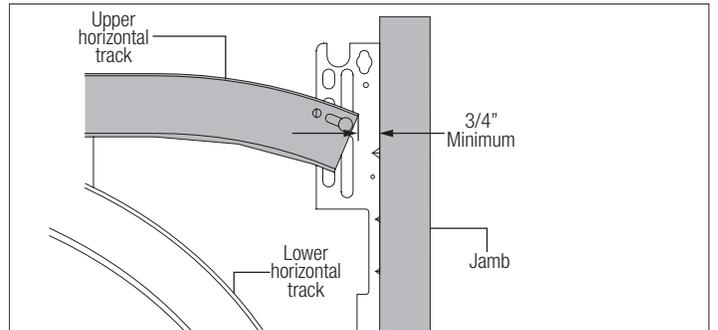
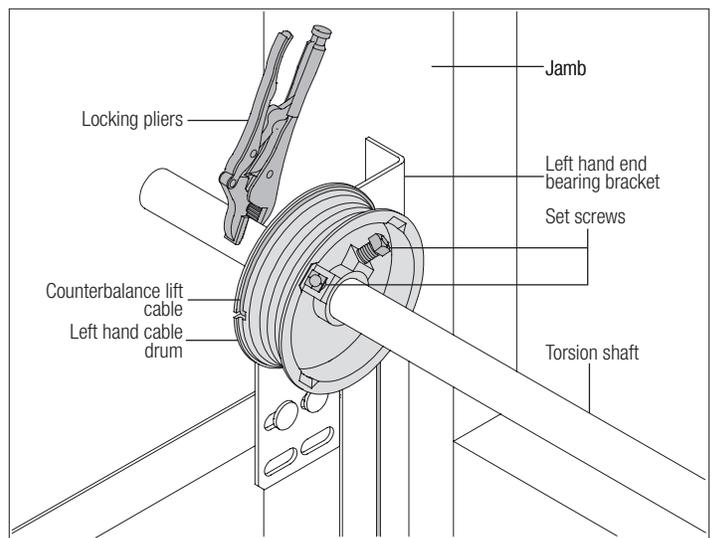
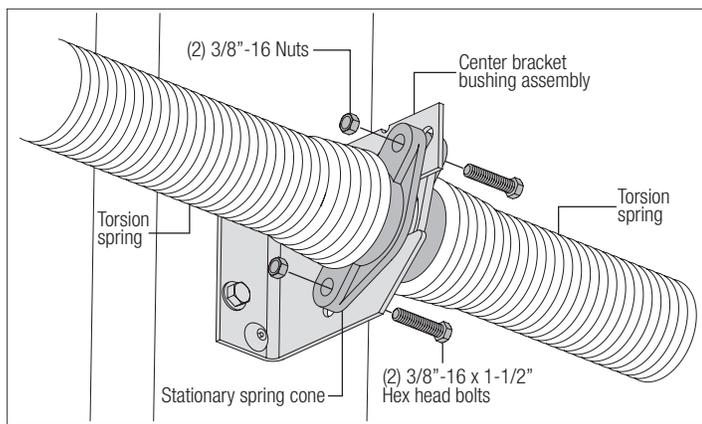
Torsion Spring Attachment

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

Slide the center bracket bushing into the center bracket. Align the stationary spring cone(s) with the holes in the center bracket bushing assembly. Secure the torsion spring(s) to the center bracket bushing assembly with (2) 3/8" - 16 x 1-1/2" hex head bolts and (2) 3/8" - 16 nuts.

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 FREE REPLACEMENTS.





20

Counterbalance Lift Cables

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

Starting on the left hand side, thread the counterbalance lift cable up and around the front side of the left hand cable drum.

IMPORTANT: VERIFY THAT THERE ARE NO COUNTERBALANCE LIFT CABLE OBSTRUCTIONS.

Hook the counterbalance lift cable into the left hand cable drum. Slide the left hand cable drum up against the left hand end bearing bracket. Counterbalance lift cable should terminate at the 3 o'clock position.

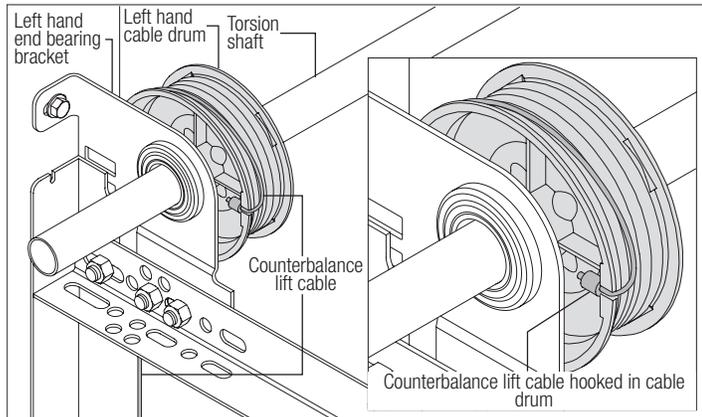
NOTE: If you have 32" radius horizontal track, then additional pre-wrapped counterbalance lift cable than shown in the illustration is required.

Tighten the (2) set screws in the drum to 14-15 ft. lbs. of torque (once set screws contact the shaft, tighten screws one full turn). 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 up against jamb to keep counterbalance lift cable taut.

Repeat for right hand side.

IMPORTANT: INSPECT EACH COUNTERBALANCE LIFT CABLES MAKING SURE THEY ARE SEATED PROPERLY ONTO THE CABLE DRUMS AND THAT BOTH COUNTERBALANCE LIFT CABLES HAVE EQUAL TENSION.

NOTE: If you have low headroom horizontal track, then you'll need to check the clearance between the upper curve and the jamb. The clearance must be a minimum of 3/4". If it is less than 3/4", trim the top curve with a hacksaw to ensure counterbalance lift cable clearance.

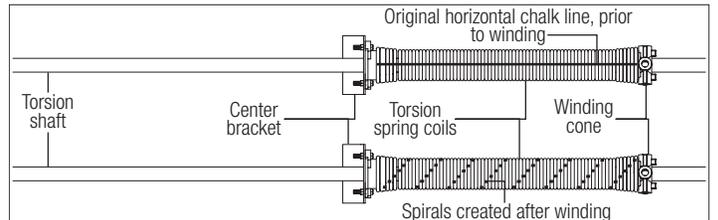


21

Chalking Torsion Spring(s)

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

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(s)

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.

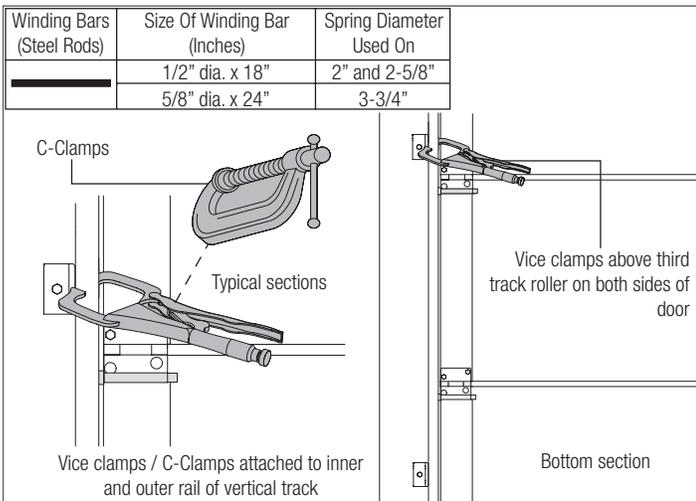
NOTE: Check the following before attempting to wind torsion spring(s):

- Counterbalance lift cables are secured at bottom corner brackets.
- Counterbalance lift cables are routed unobstructed to cable drums.
- Counterbalance lift cables are correctly installed and wound onto cable lift drums.
- Counterbalance lift cables are taut and have equal tension on both sides.
- Cable lift drums are against end bearing brackets and set screws are tight.
- Torsion spring or springs are installed correctly.
- 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 PLACE VICE CLAMPS ONTO VERTICAL TRACK CAN ALLOW DOOR TO RAISE AND CAUSE SEVERE OR FATAL INJURY.



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.

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

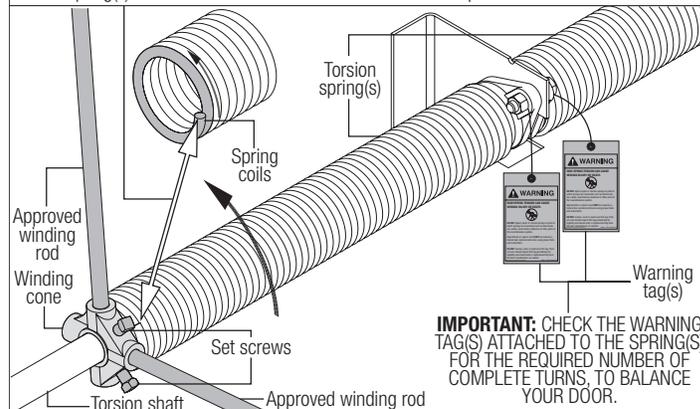
Alternately inserting the winding rods into the holes of the spring winding cone, rotate the winding cone upward toward the ceiling, 1/4 turn at a time, until the required number of complete turns for your door height is achieved. As the last 1/8 to 1/4 turn is achieved,

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.

Torsion spring(s) should be wound in the direction the end coil points.



23

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

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.

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

⚠ WARNING

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

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

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). 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.

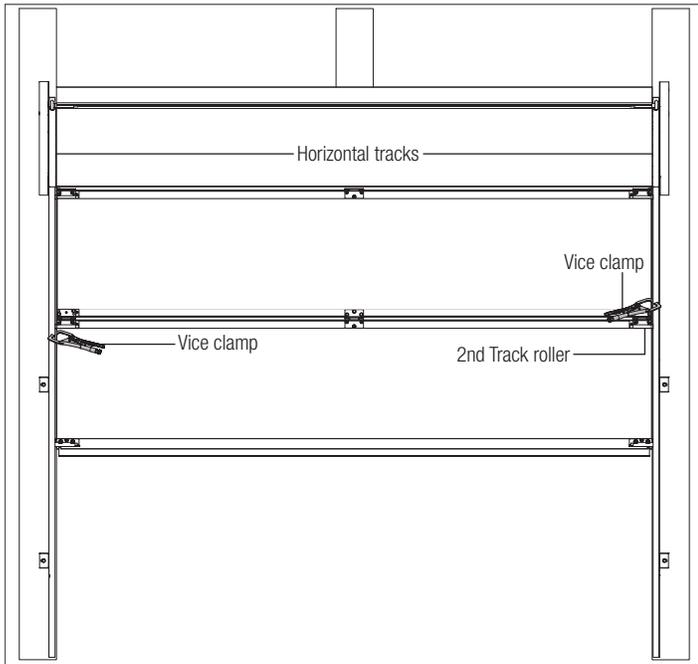
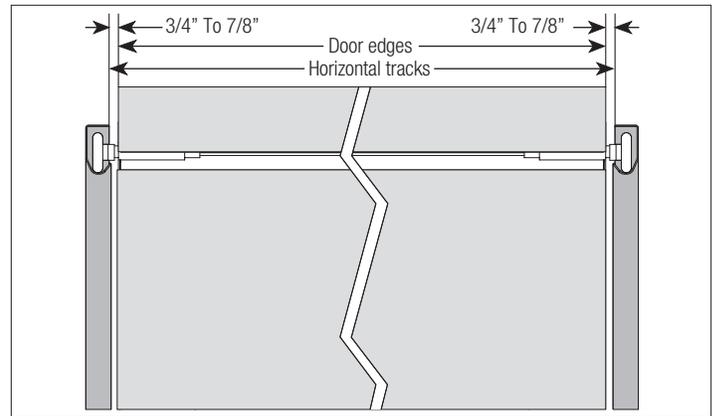
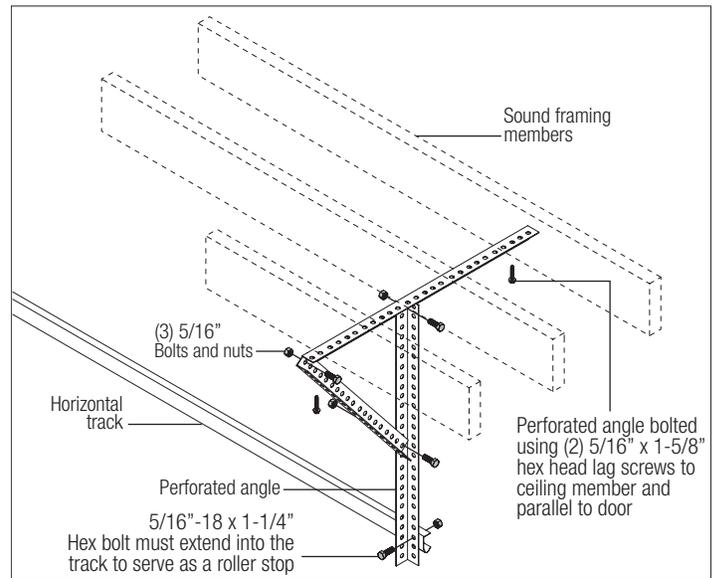
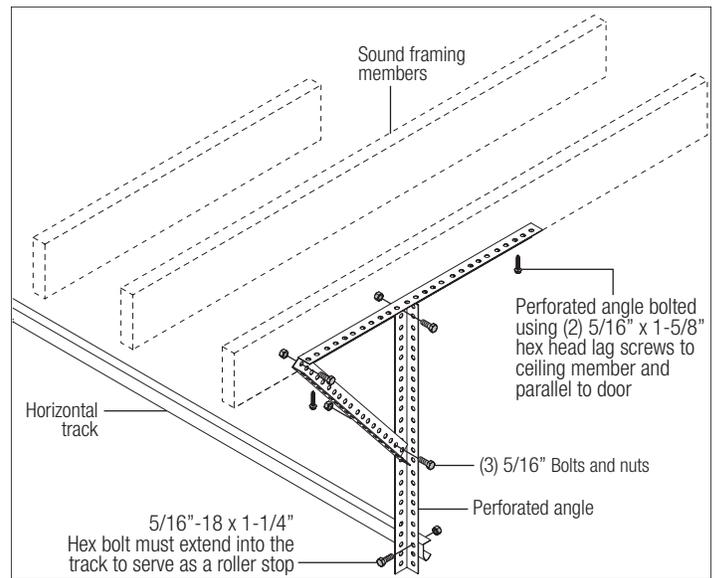
Now, lift door and check its balance. Adjustments to the required number of spring turns stated may be necessary. If door rises off floor under spring tension alone, reduce spring tension until door rests on the floor. If the door is hard to rise or drifts down on its own, add spring tension. A poorly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

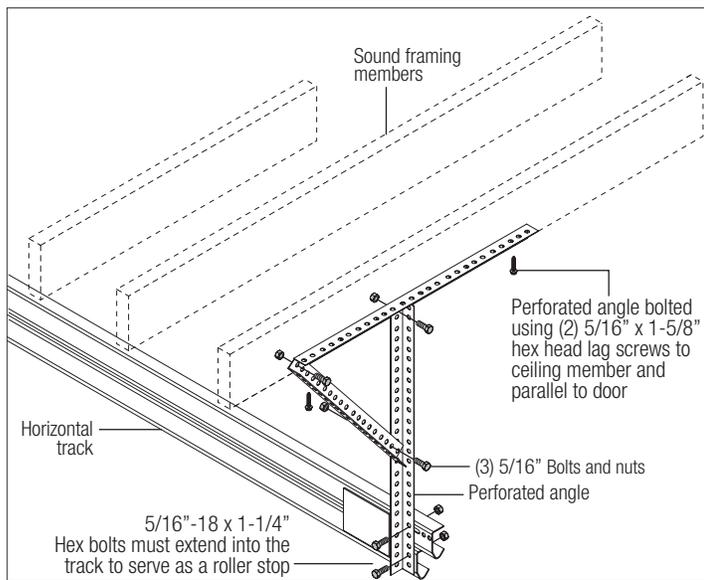
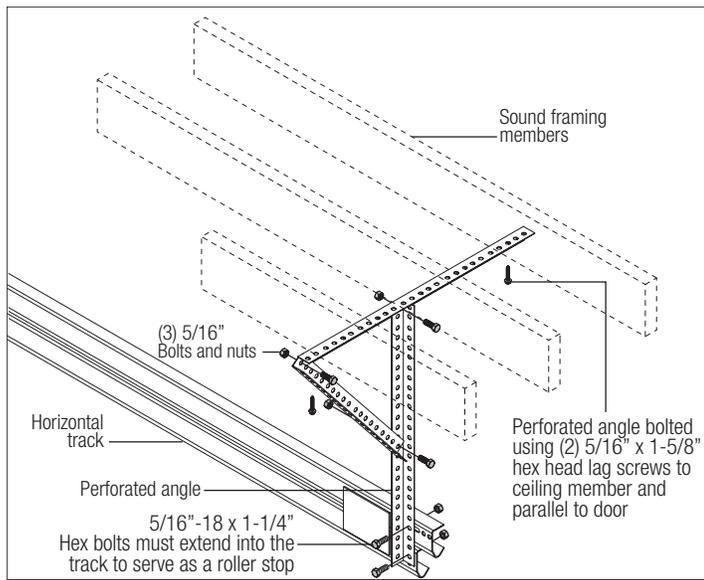
To adjust spring tension, fully close door. Apply vice grips to track above third track roller. Insert a winding rod into the winding cone. On single spring doors, counterbalance lift cable tension must be maintained by placing vice grips on torsion shaft before loosening set screws in the winding cone. 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.

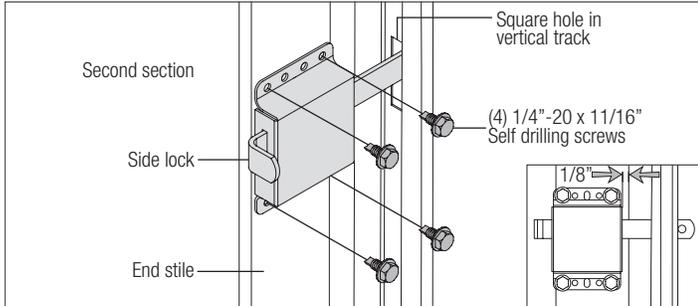




Inside Lock

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

IMPORTANT: INSIDE LOCK(S) MUST BE REMOVED OR MADE INOPERATIVE IN THE UNLOCKED POSITION IF AN OPERATOR IS INSTALLED ON THIS DOOR.

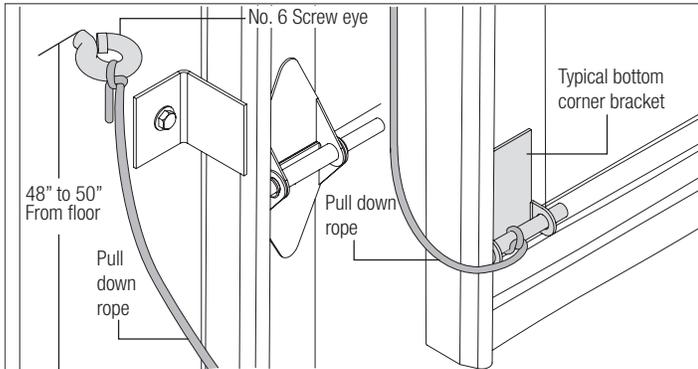


Pull Down Rope

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!

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

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

THE FOLLOWING CLEANING SOLUTION IS RECOMMENDED:

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

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

NOTE: Be sure to clean behind 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.

Painting Your Garage Door

Refer to Instruction Insert "**Field Painting and Finishing Fiberglass or Steel Door Sections**".

Maintaining The Finish On Your Garage Door

If the factory finish is beginning to fade, the door may require a field applied top clear coat. Depending on environment and usage, this may be necessary after 1 to 3 years of use. Refer to Instruction Insert "**Field Painting and Finishing Fiberglass Or Steel Door Sections**".

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, steel track rollers and bearings. 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
Models 8000, 8100 and 8200**

Wayne Dalton, a division of Overhead Door Corporation (“Seller”) warrants to the original purchaser of the Models 8000, 8100, 8200 (“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 the following period(s) of time, measured from the date of installation:

TEN (10) YEARS from the date of installation against:

- The Product becoming inoperable due to rust - through of the steel skin from the core of the Product section, due to cracking, splitting, or other deterioration of the steel skin, or due to structural failure caused by separation or degradation of the foam insulation.
- Peeling of the original paint as a result of a defect in the original paint or in the application of the original paint coating.

TEN (10) YEARS on Product hardware and tracks (except springs).

ONE (1) YEAR on all other component and parts.

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, failure to provide necessary maintenance, normal wear and tear, acts of God, or any other cause beyond the reasonable control of Seller or as a result of having been exposed to toxic or abrasive environments, including blowing sand, salt water, salt spray and toxic chemicals and fumes.

ALL EXPRESS AND IMPLIED WARRANTIES FOR THE PRODUCT, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES 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 authorized distributor or installer 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.

• 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.**