

INSTALLATION & MAINTENANCE

Wood Residential Garage Door Instructions

Model: _____ Serial No. _____
(Provided on label on interior door surface)

Size: _____ Register your product online at <http://warranty.clopaydoor.com>

Homeowners Should Retain This Booklet For Future Reference
This manual contains important safety information

Installed By:

Clopay[®] BUILDING PRODUCTS
A Griffon Company



CONSUMER HOTLINE • 1-800-225-6729

Hours of Operation (Eastern Time): Mon. – Fri., 8:30 AM - 7 PM; Sat. 8:30 AM - 5 PM.

Clopay® Warranty Information

Wood Door Limited Warranty Information

We will repair or replace (at our option) any garage door section or hardware that is defective in material or workmanship pursuant to the terms of this limited warranty. This warranty extends to and benefits only the original purchaser of the garage door. This warranty does not apply to commercial, industrial or any other non-residential installation.

We will provide, at no cost to you, sections/section components, hardware, or springs/spring components to repair or replace defective sections, hardware, springs/spring components. All labor costs associated with the removal and reinstallation of any repaired section/section components, hardware or spring/spring components, and the installation and finishing of replacement sections/section components, hardware, or spring/spring components will be your responsibility. We reserve the right to inspect and/or verify any claimed defect.

The applicable limited warranty periods are as follows:

Model #	Section / Hardware
10, 19, 20, 20 Series, 32A, 33 Series, 38, 44 Series, Reserve Collection™ Semi-Custom, Lodgewood® Collection	1 yr.
Reserve Collection™ Custom, Limited Edition Series	5 yrs.

Terms and limitations of the limited warranty are further detailed below:

Section Limited Warranty

For the warranty period listed in the table above, if a garage door section is determined to be defective due to warping, splitting, or rotting as verified upon inspection by persons authorized by Clopay, we will replace or other wise repair (at our option) any such defective garage door sections.

FAILURE TO PROPERLY FINISH ALL DOOR SECTION SURFACES ACCORDING TO CLOPAY INSTRUCTIONS, INCLUDING THE SIDES, BACK, BOTTOM, FACE AND JOINTS, WILL VOID THE WARRANTY ON THE DOOR. See attached finishing instructions. Under no circumstances should the wood door be allowed to get wet prior to painting or staining or this warranty shall be void.

ALL SAFETY LABELS ON THE DOOR OR HARDWARE MUST BE VISIBLE. DO NOT REMOVE OR PAINT OVER LABELS.

Differences in grain and color variations are indicative of natural wood. These are not considered product defects. Some variations in stain penetration may occur between materials from which the door is constructed (i.e. plywood panel vs. wood frame).

Hardware/Spring & Spring Component/Sections/Section Components Limited Warranty

We will repair or replace (at our option) any garage door hardware, spring and/or spring component that is defective in material or workmanship for the term defined in the chart above, pursuant to the terms of this limited warranty.

WE WILL NOT PAY FOR ANY DAMAGES, INCLUDING INCIDENTAL OR CONSEQUENTIAL DAMAGES, CAUSED BY OR RESULTING FROM DEFECTIVE GARAGE DOOR SECTIONS OR HARDWARE. Some states do not allow the exclusion of incidental or consequential damages, so the above limitation may not apply to you.

Our warranty shall not extend to or cover deterioration due to damage to the garage door caused by fire, an act of God, other accident or casualty, vandalism, radiation, harmful fumes or foreign substances in the atmosphere, or occurring as a result of any physical damage or the failure of paint or stain that is not applied per the manufacturer's specifications after the garage door left our factory, or failure to follow all installation and maintenance instructions. Nor shall our warranty extend to or cover any damages due to normal wear and tear, or claims with respect to any products that in any way or degree have been altered, processed, misused or improperly handled or installed.

If your garage door does not conform to this warranty, notify us in writing at the following address promptly after discovery of the defect. Clopay Building Products, Attn: Consumer Services Dept., 1400 West Market Street, Troy, Ohio 45373. Additional copies of our installation and maintenance instructions may be obtained by calling 1-800-225-6729.

WE MAKE NO OTHER WARRANTIES, REPRESENTATIONS, OR COVENANTS, EXPRESS OR IMPLIED, WITH RESPECT TO THIS PRODUCT, INCLUDING BUT NOT LIMITED TO WARRANTIES, REPRESENTATIONS OR COVENANTS AS TO WORKMANSHIP, DESIGN, CAPACITY, QUALITY, CONDITION, MERCHANTABILITY, OR FITNESS FOR ANY PURPOSE OF THE PRODUCT, EXCEPT FOR ANY "IMPLIED WARRANTY" AS THAT TERM IS DEFINED IN THE MAGNUSON-MOSS WARRANTY-FEDERAL TRADE COMMISSION IMPROVEMENT ACT, SUCH IMPLIED WARRANTIES TO BE LIMITED IN DURATION TO A PERIOD OF ONE YEAR FROM THE DATE OF PURCHASE.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.



© Clopay Building Products Company, Inc.
A Griffon Company, Inc. 2010

Table of Contents

Introduction and Opening Preparation

STEP 1 – Things to Know Before You Begin.....	3
STEP 2 – Read Safety Information	4
STEP 3 – Check Headroom, Backroom, Sideroom.....	5
STEP 4 – Removing the Existing Door Springs	6
STEP 5 – Removing Door Sections and Track.....	7
STEP 6 – Preparing the Opening	7

Preparing the New Door

Typical Garage Door Installation Illustration	8
Hardware Components	9

Installing the New Door

STEP 7 – Preparing Bottom Section	10
STEP 8 – Lift Handle Attachment.....	12
STEP 9 – Installing Door Sections.....	13
STEP 10 – Reinforcing the Top Section for Opener Attachment	14
STEP 11 – Assembling and Installing Track	15
STEP 12 – Lock Installation (if included).....	17
STEP 13 – Pull Rope.....	17
STEP 14 – Spring Installation.....	17
STEP 15 – Attaching an Automatic Opener.....	18

Maintenance/Adjustments/Options

Painting and Windows	19
Maintenance	20
Checking and Adjusting the Door	20
Replacement Parts.....	20

STEP 1 – Things to Know Before You Begin

- Read the instructions completely before starting the installation of the door. Becoming familiar with the components before assembling the door will reduce the installation time.
- Be sure all hardware components for your new door are included before removing existing door (see pages 8,9). If your door is missing any parts, call the toll-free Consumer Services number listed on the front of this manual.
- Allow enough time to do the work; removing an existing door will take approximately 1-3 hours.
- An assistant may be required for lifting the unsprung door. It can weigh from 100 to 500 pounds.
- A typical installation takes between 9 and 12 hours to complete.
- Keep in mind when planning the installation that the garage will be open and unsecured when disassembling the old and assembling the new door.
- If the garage door is the only opening in the structure make sure everything you need is inside. You will have no way of leaving the garage until the track is assembled and installed. This will take approximately 5 hours.
- To avoid damage to the door, you must reinforce the top section of the door in order to provide a strengthened mounting point for attachment of an automatic opener (see page 14).
- Low Headroom doors require special instructions. Options for doors with low headroom can be found on page 5. Purchase of additional hardware may be required. Check headroom requirements in the chart on page 5 before beginning.
- To avoid installation problems which could result in personal injury or property damage, never reuse old track or hardware.
- Doors installed in high windload regions (Florida and other high wind prone areas) may require additional reinforcement beyond what is detailed in these instructions. Please refer to supplemental instructions for these areas.
- Express warranties apply only to doors installed using original, factory-supplied sections, parts, and hardware installed in strict accordance with these instructions.

Tools Needed

- “C” Clamps or Locking Pliers
- Hammer
- Screwdriver
- Tape Measure
- Level
- Socket wrench kit
- Pliers
- Drill, 1/4", 3/16", & 3/8" drill bits, and 7/16" socket bit
- Step ladder
- Saw horses (with carpet or other soft material on top surface; 2 needed for doors up to and including 9'0" wide, 3 needed for doors over 9'0" wide) or other supports for placing section on while assembling
- Hacksaw
- Wood Saw
- T-Square
- Additional tools may be required; see the Spring Supplement for more information.

Additional Material Required

- Light household oil
- 1-1/4" x 1-1/4" Minimum punched angle
 - 13 ga. (3/32") minimum thickness for Operator Reinforcement (see page 14)
 - 16 ga. (1/16") minimum thickness for rear track hangers on doors weighing up to 300 lbs. that use torsion springs, or doors weighing up to 150 lbs. that use extension springs. If your door exceeds these weight limitations, or if you do not know the weight of your door, 13 ga. angle should be used. (See page 16)
- Eight 3/8" x 1" bolts and nuts for rear track hangers
- Six 5/16" x 11/2" lag screws for rear track hangers
- Ten 10d 3" nails
- Stop Molding
- Wood Block
- Rope

STEP 2 – READ THIS SAFETY INFORMATION IMPORTANT!

To Protect Yourself From Injury You Must Carefully Read The Following Safety Information and Warnings Before You Install Or Use Your New Garage Door

- You can install your new garage door yourself IF...
 - a) you have help (it may weigh up to 500 lbs.);
 - b) you have the right tools and reasonable mechanical aptitude or experience; and
 - c) you follow these instructions very carefully.
- Garage doors use springs to balance them. There are two types of springs installed — extension or torsion. Each of these is available in either a standard or EZ-Set™ assembly option. Please look at the drawings on page 8 to see which springs your old door has.
- **If your old door uses torsion springs, do not attempt to remove the door or the springs yourself.** Have a qualified door repair service remove them. Attempting to remove a torsion spring assembly without proper training or tools may result in an uncontrolled release of spring forces which can cause serious or fatal injury.
- **Only the track specified and supplied with the door should be used.**
- The brackets at the bottom corners of your garage door are under great tension. **Do not attempt to loosen any bracket fasteners except when and as directed in detail in the following instructions.** Otherwise, the bracket could spring out with dangerous force.
- **Do not permit children to play beneath or with any garage door or electric operating controls.**
- In removing a garage door that has extension springs, follow the instructions carefully, including the use of “C” clamps or locking pliers on both sides of the door in order to keep the door from moving once the springs are removed.
- Keep hands and fingers clear of section joints, track, and other door parts when the door is opening and closing to avoid injury. The lift handles are located for safe operation as well as easy use.
- Bolts must be installed at the rear end of horizontal tracks. These act to stop the rollers and keep the door from rolling off the back of the track.
- Track installations must use sway braces on the rear track hangers to prevent sideways movement. If the tracks are not firmly stabilized they might spread, allowing the door to fall and cause severe injury and damage.
- Springs, cables, and bottom fixtures are under strong spring tension. **Do not attempt to loosen any fasteners on these components.** You could suddenly release spring forces and risk severe injury.
- If the garage door and/or any of the supporting track are damaged, operating the door could be hazardous. Call an authorized representative of the manufacturer or professional door repair service promptly.
- If repairs are ever required to your door, safety and trouble-free operation can be best assured by using original replacement parts.
- Once you have completed the installation of your new garage door, please be sure that your garage complies with all applicable ventilation requirements before you enclose any vehicles in the garage. Good ventilation avoids fire and health hazards caused by fumes accumulating within a well-sealed garage.
- Clopay Building Products Company disclaims all liability for any installation that is not in compliance with applicable state or county building codes.
- Doors equipped with automatic door operators can cause serious injury or death if not properly adjusted and operated. To ensure safety of these doors:
 - a) test the sensitivity of the operator's safety reverse mechanism monthly;
 - b) if your door has a pull down rope, you must remove the pull down rope;
 - c) make sure the door remains unlocked;
 - d) do not allow children to play with the controls.



WARNING

In the interest of safety this symbol means **WARNING** or **CAUTION**. Personal injury and/or property damage may occur unless instructions are followed carefully.

STEP 3 – Check Headroom/ Backroom/ Sideroom

Headroom is the space needed above the top of the door for the door, the overhead tracks, and the springs. Measure to check that there are no obstructions in your garage within that space. The normal headroom space requirement is shown in Table 3-A. The backroom distance is measured from the back of the door into the garage, and should be at least 18" more than the height of the garage door. A minimum sideroom of 3-3/4" (5-1/2" for EZ-Set™ Extension Spring) should be available on each side of the door on the interior wall surface to allow for attachment of the vertical track assembly. The rough opening should be the same size as the door. (FIG. 3-A)

Track Radius: The radius of your track can be determined by measuring the dimension "R" in FIG. 3-B. If dimension "R" measures 11" to 12", then you have a 12" radius track. If "R" equals 14" to 15", then you have a 15" radius track. (FIG. 3-B)

Headroom requirements

The standard headroom space requirement is shown in Table 3-A at right. (See page 8 if you have a question on which type of spring you have.)

Low Headroom? If you have restricted headroom, several remedies are available. See Table 3-B for various options.

NOTE: Installation of the various Low Headroom Options differs from the installation of a standard headroom door. Supplemental instructions are included with the hardware of each Low Headroom Option.

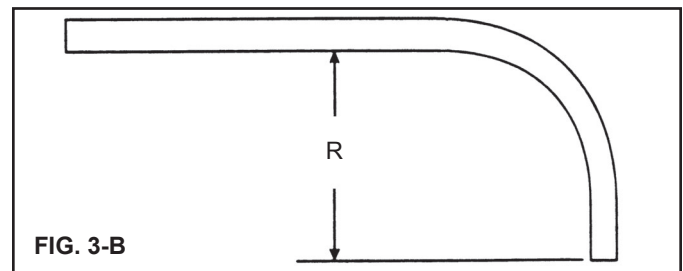
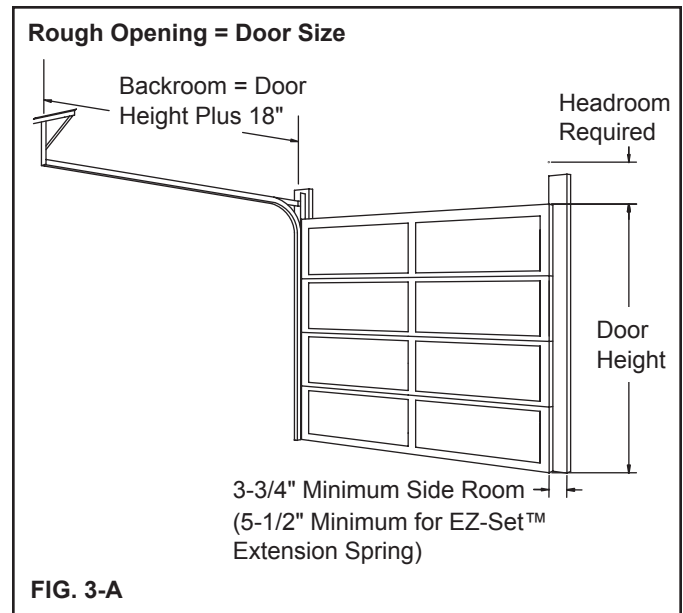


Table 3-A: Standard Headroom Requirement Chart

Spring Type	Track Radius	Headroom Required
EZ-Set™ Extension Spring or Extension Spring	12"	10"
EZ-Set™ Extension Spring or Extension Spring	15"	12"
EZ-Set™ Torsion Spring or Torsion Spring	12"	12"
EZ-Set™ Torsion Spring or Torsion Spring	15"	14"

Table 3-B: Low Headroom Options*

Spring Type	Low Headroom Option	Reduces Required Headroom to:	How can I get this option?
Extension and EZ-Set™ Extension	Low Headroom Track	4-1/2"	Order Low Headroom Track.
Extension and EZ-Set™ Extension	Low Headroom Conversion Kit (Modifies Standard Track)	4-1/2"	Available at most retail stores.
Extension and EZ-Set™ Extension	Quick Turn Bracket	8" on 12" Radius Track	Order Quick Turn Bracket Set.
EZ-Set™ Torsion	Low Headroom Track (Front Mount Spring)	9-1/2"	Order Low Headroom Track.
EZ-Set™ Torsion	Low Headroom Conversion Kit (Modifies Standard Track)	9-1/2"	Available at most retail stores.
Torsion	Low Headroom Track (Front Mount Spring)	9-1/2"	Available from and should be installed by professional installer only.
Torsion	Low Headroom Track (Rear Mount Spring)	4-1/2"	Available from and should be installed by professional installer only.

*About 3" of additional headroom height at the center plus additional backroom is needed to install an automatic garage door opener. Check door opener instructions.

STEP 4 – Removing the Existing Door Springs



WARNING

Garage doors use springs to balance the door weight. There are two types of springs used — extension and torsion. Each of these is available in either a standard or EZ-Set™ assembly option. Please look at the drawings on page 8 to see which springs your old door has installed. **If your present door uses standard torsion springs, do not attempt to remove the door or the springs yourself.** They should be removed by a qualified door service professional. Attempting to remove a torsion spring assembly without proper training and tools may result in an uncontrolled release of spring forces which can cause serious or fatal injury.

Extension springs and EZ-Set™ Springs are shown on a sectional garage door in the illustration on page 8 to see which springs your door has. The following instructions detail how to remove these springs.



WARNING

Serious injury could result if spring tension has not been released before other work begins.

Removing Extension Springs



WARNING

Use two or more helpers to assist you in lowering the door.

Step 4-1a: Raise the door to the full open position. Place “C” clamps or locking pliers tightly on both sides of the track under the door so the door is held securely in place. With the door fully open, most spring tension has been removed. (FIG. 4-A) Do not attempt to remove or adjust extension springs with door in the down position. Use “C” clamps to keep the door from moving or falling once the springs are removed.

Step 4-2: Detach the cable at both ends. Disassemble and remove the springs and cable completely from the door.

NOTE: Wood blocks should be placed underneath the door when closing to prevent fingers from being trapped.

Step 4-3: Remove the “C” clamps from the track and carefully close the door.

Some large doors might weigh as much as 500 pounds when the spring tension is removed. The weight of the door will not be apparent when you first begin to close the door. The door will feel progressively heavier as it is lowered until its full weight (as much as 500 pounds) is realized about one foot from the floor. A single car door may weigh as much as 200 pounds. (FIG. 4-B)

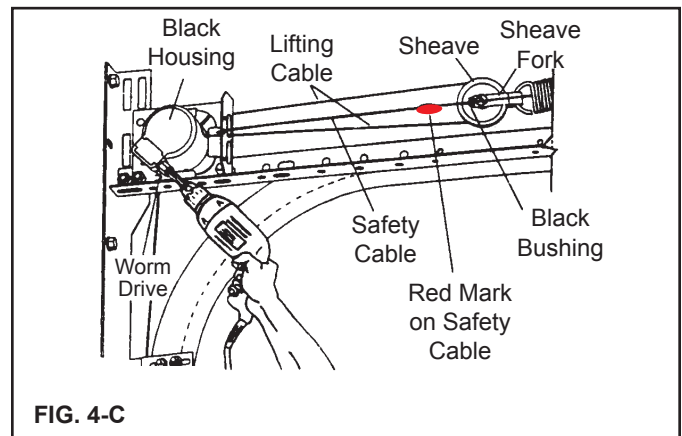
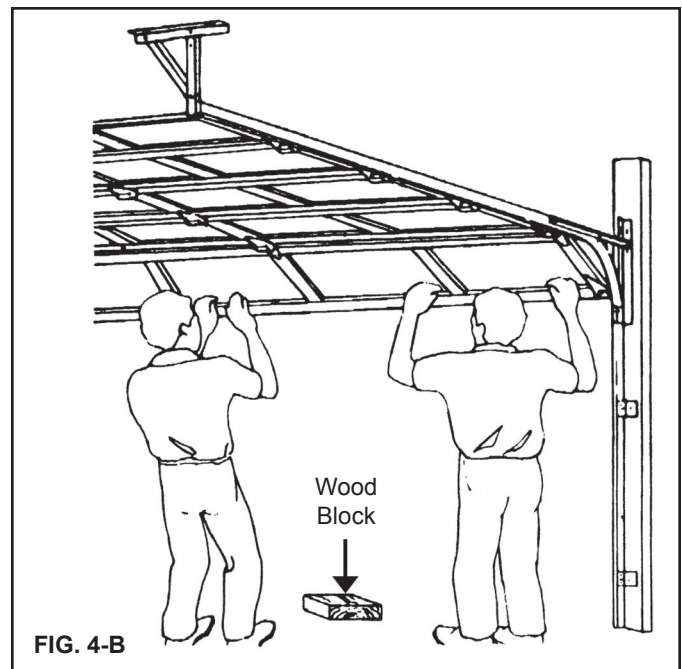
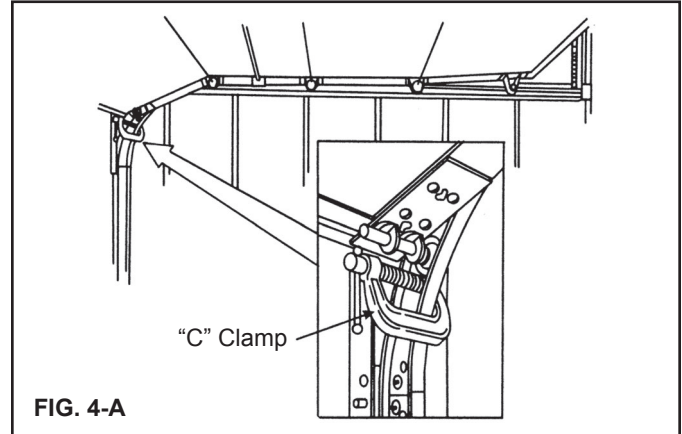


WARNING

To avoid injury, keep hands and fingers clear of section joints, track, and other door parts while the door is opening and closing.

Removing EZ-Set™ Extension or Torsion Springs

Step 4-1b: With the door in the DOWN position, position a drill with a 7/16” socket bit over the worm drive. Using the reverse (counter-clockwise) direction on the drill, remove all the tension from the spring (repeat for each side). After spring tension has been removed, detach the lift cables at both ends. Disassemble and remove the springs and cable completely from the door. (FIG. 4-C)



STEP 5 - Removing Door Sections & Track

Step 5-1: The door can now be disassembled. Starting with the top section, remove the hardware and unstack the sections one at a time. (FIG. 5-A)

Step 5-2: After all sections have been removed from the opening, detach all remaining track and hardware from the jambs. The hangers that attach the rear ends of the overhead track to the ceiling (called rear track hangers) in many cases can be reused on the new door if made of 13 gauge (3/32") or heavier steel and is not loose or unstable. (FIG. 5-B)



WARNING

To avoid installation problems which could result in personal injury or property damage, use only the track specified and supplied with the door. Do not attempt to reuse old track.

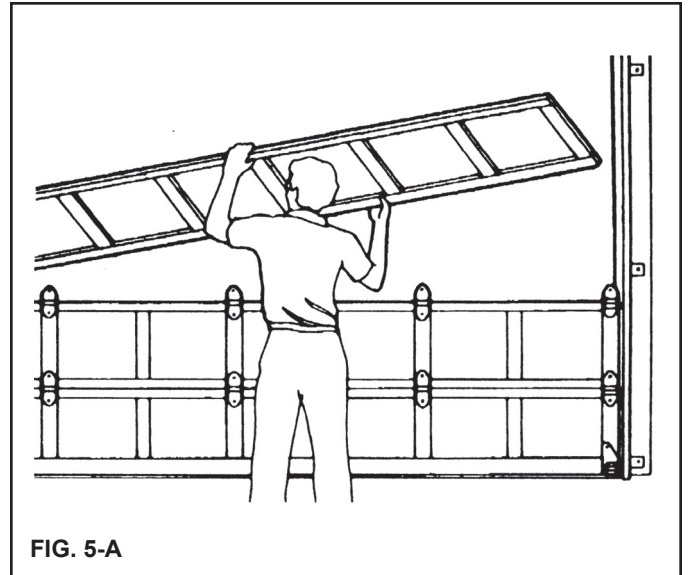


FIG. 5-A

STEP 6 - Preparing the Opening

Step 6-1: On the inside of the garage your opening should be framed with wood jambs, 2" x 6" if possible. The side jambs should extend to approximately the same height as the headroom required. If you have just removed an old door, the jambs should be inspected for the condition of the wood. If the wood is rotten, it should be replaced now. The jambs should be plumb and the header should be level. If there are any bolts fastening the jambs to the wall, the heads should be flush so they don't interfere with the installation of your new door. (FIG. 6-A)

NOTE: Rough opening (without stop molding) = Door size

Step 6-2: Door stop molding should be temporarily nailed to the edges of the jambs flush with the inside. (FIG. 6-B)

Stop molding featuring a built-in weather seal is offered as an option.

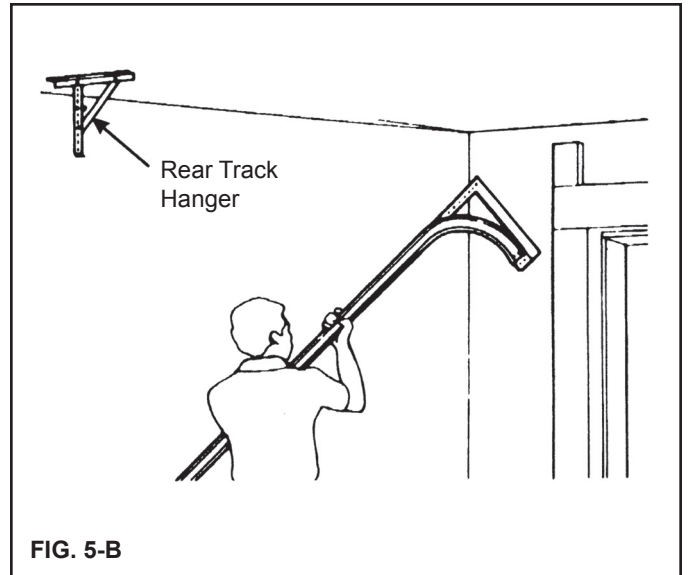


FIG. 5-B

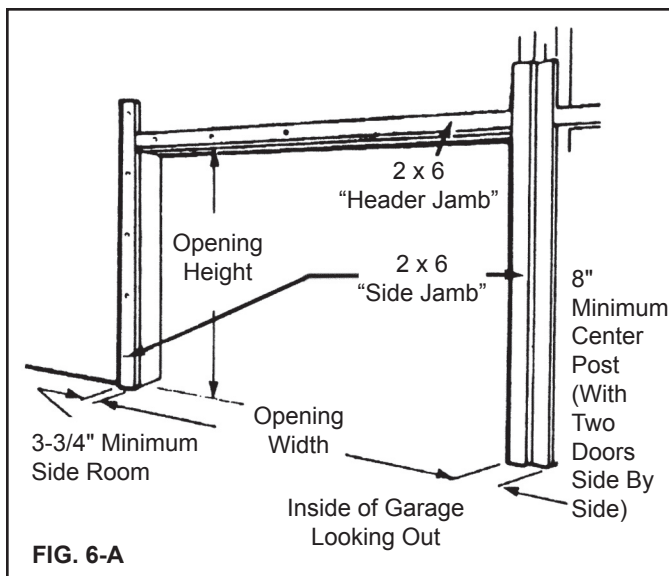


FIG. 6-A

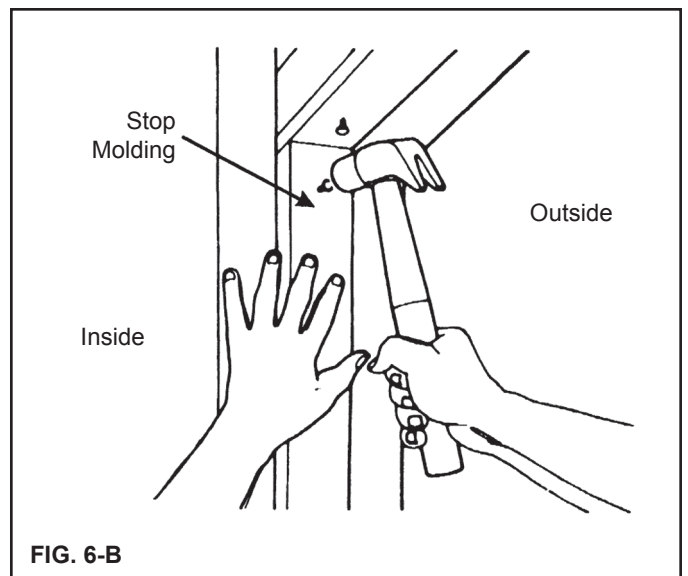
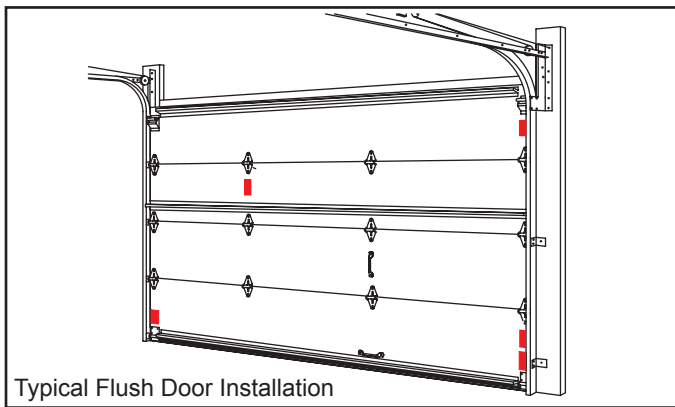
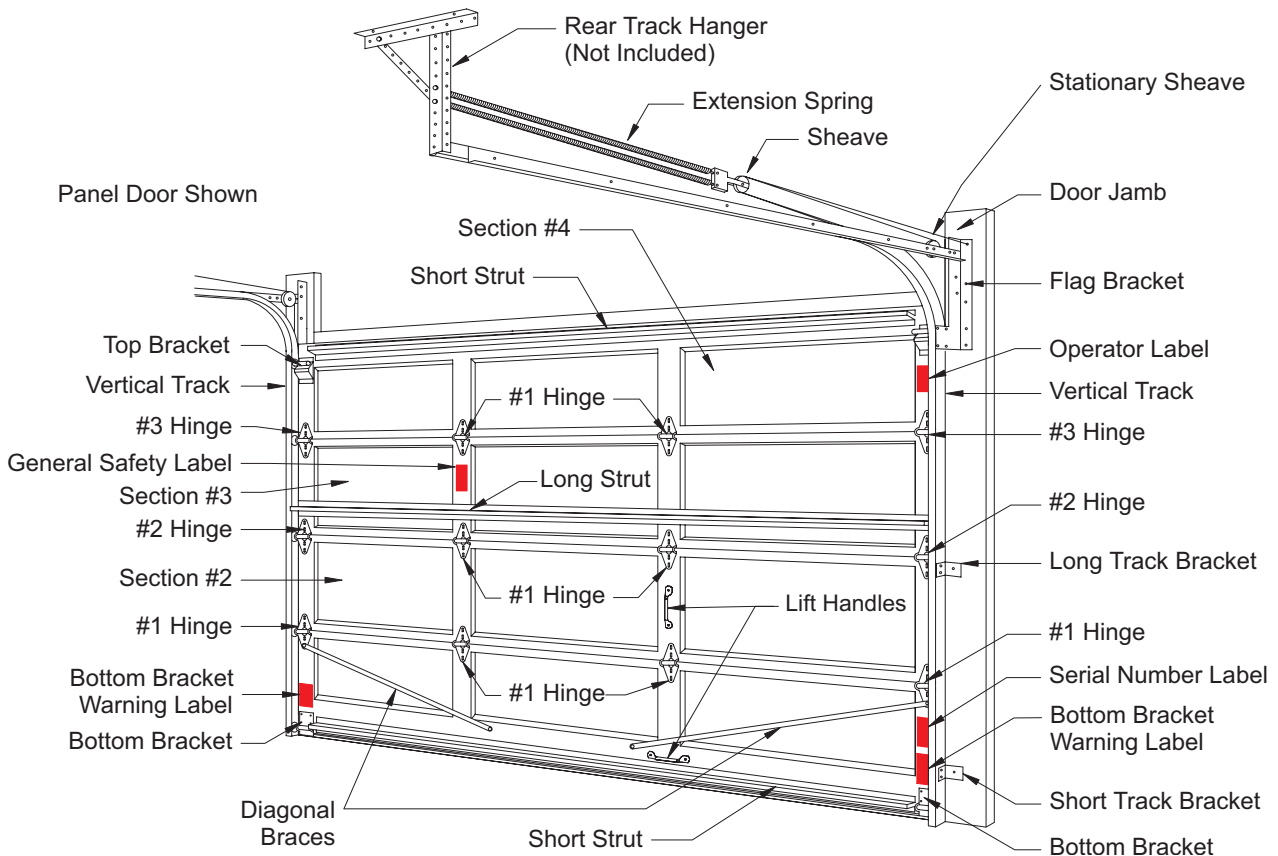


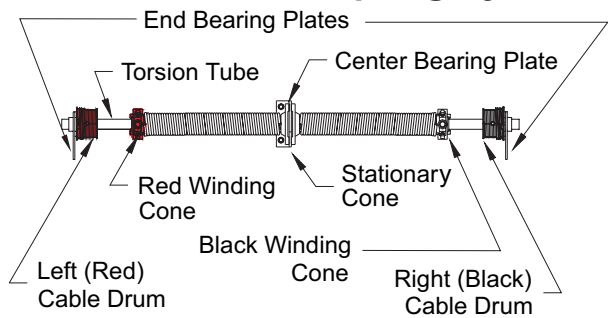
FIG. 6-B

Typical Garage Door Installation Illustration

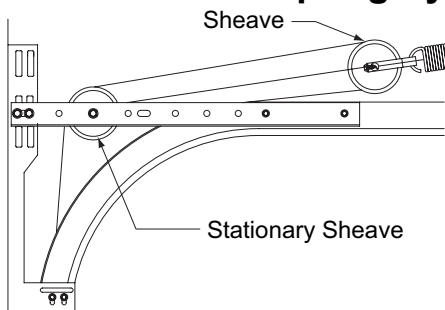
Extension Spring System Shown on Complete Door



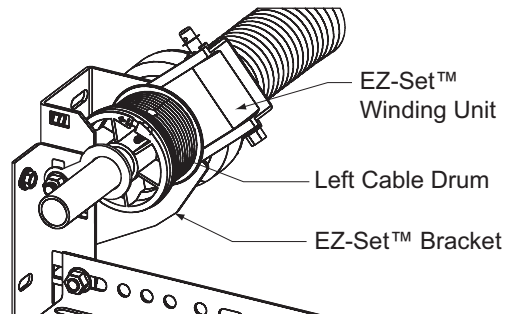
Standard Torsion Spring System



Standard Extension Spring System



EZ-Set™ Torsion Spring System

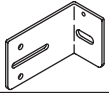
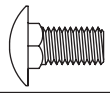



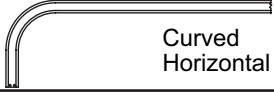

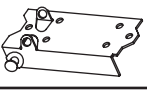
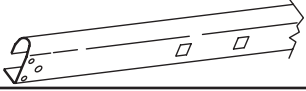

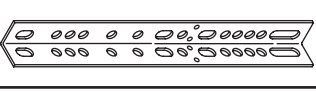


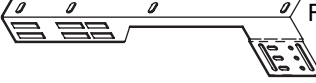



NOTE: The above illustration represents a composite of many of the features found on a variety of garage doors. While not representative of any one door, it provides a handy reference for the location of specific components


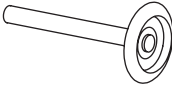

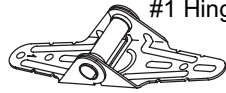

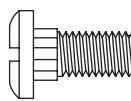
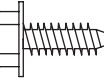
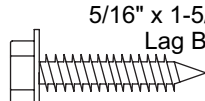
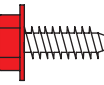
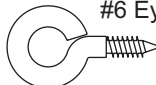
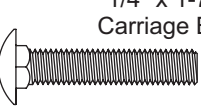

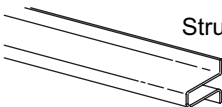
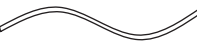
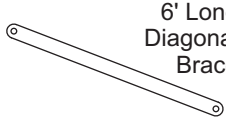
Hardware Components

NOTE: All doors will receive (1) spring kit and (1) or more springs. Separate spring installation supplemental instructions should be included with door hardware. This supplement contains a list of all spring related hardware along with instructions on proper spring installation.

All Doors Will Receive (2) Of These Items:

	Track Bracket (Longer)		3/8"-18 x 3/4" Lg. Carriage Bolt		3/8" Washer
	Track Bracket (Shorter)		Top Bracket		Curved Horizontal Track
	#2 Hinge		Bottom Bracket (1) LH + (1) RH		Vertical Track
	#3 Hinge		Horizontal Angle		Cable Assembly
	#4 Hinge (5 Section Doors Only)		Flag Bracket (1) LH + (1) RH		3/8" Hex Nut

(While not representative of any one model, the quantities below can be used as a guide. In some instances, extra screws/bolts are provided in the event of strip out or loss of parts.)

Description:	Door Size:	Qty. (Panel Doors)	Qty. (Flush Doors)	Description:	Door Size:	Qty. (Flush Doors)
	Single Car Doors 8' - 9'W x 6'6" - 7'0"H	48	0		4 Section Doors	10
	Double Car Doors 16'W x 6'6" - 7'0"H	72	0		5 Section Doors	12
	Single Car Doors 8' - 9'W x 6'6" - 7'0"H	8	0		Single Car Doors 8' - 9'W x 6'6" - 7'0"H	5
	Double Car Doors 16'W x 6'6" - 7'0"H	8	0		Double Car Doors 16'W x 6'6" - 7'0"H	11
	Single Car Doors 8' - 9'W x 6'6" - 7'0"H	16	16		Single Car Doors 8' - 9'W x 6'6" - 7'0"H	16
	Double Car Doors 16'W x 6'6" - 7'0"H	22	22		Double Car Doors 16'W x 6'6" - 7'0"H	22
	Single Car Doors 8' - 9'W x 6'6" - 7'0"H	0	48		4 Section Doors	10
	Double Car Doors 16'W x 6'6" - 7'0"H	30	102		5 Section Doors	12
	Single Car Doors 8' - 9'W x 6'6" - 7'0"H	0	8		All Doors	1
	Double Car Doors 16'W x 6'6" - 7'0"H	0	8			
	Single Car Doors 8' - 9'W x 6'6" - 7'0"H	56	0		All Doors	2 or 4
	Double Car Doors 16'W x 6'6" - 7'0"H	80	0			
	Single Car Doors 8' - 9'W x 6'6" - 7'0"H	0	3**		All Doors	1
	Double Car Doors 16'W x 6'6" - 7'0"H	3**	3**			
	Doors up to 10'0"W	0	0	Keyed Lock Kit (If included, parts are detailed in Lock instructions)	All Doors	0 or 1
	Doors 10'2" - 18'0"W	2	0			

*More struts may be required in high windload areas.

** (2) short and (1) long strut.

IMPORTANT: It is required that the door sections be finished prior to installation. Failure to properly and completely finish door section surfaces, including the sides, back, bottom, face, and joints, will void the warranty on the door. See page 19 for finishing instructions.

STEP 7 – Preparing Bottom Door Section

NOTE: FIG. 7-A illustrates common terms used in this manual.

Step 7-1: Spread the hardware on the garage floor in groups so that you can easily find the new parts.

Step 7-2: Set the bottom section in place against the doorstop molding. Be sure the upper lip of the lap joint is up toward the inside. Center the section in the opening. If necessary, shim one side so that the section is level. (FIG. 7-B)

NOTE: The inside of a panel door can be identified by the marks made by the staples. Keep the staples to the inside for appearance and to assure proper alignment of the predrilled holes for the hinges.

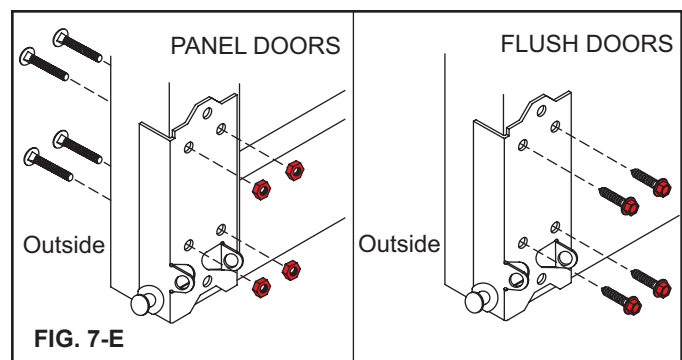
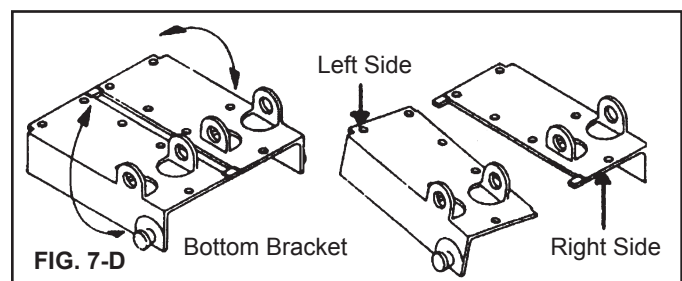
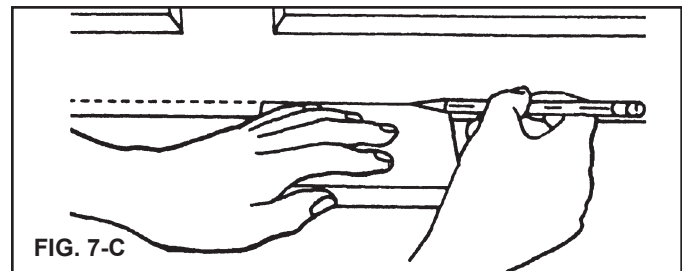
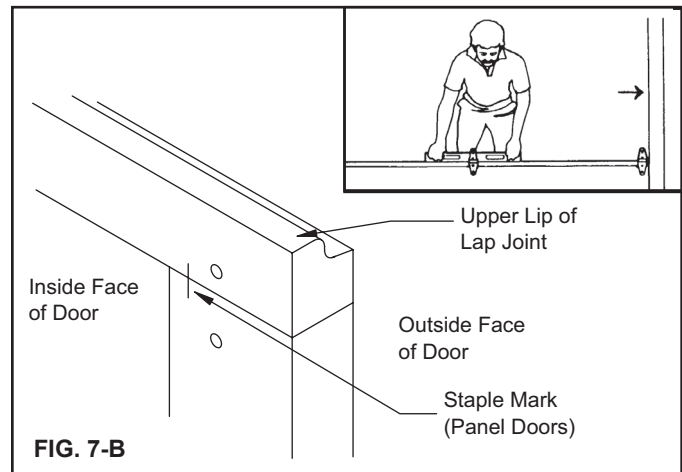
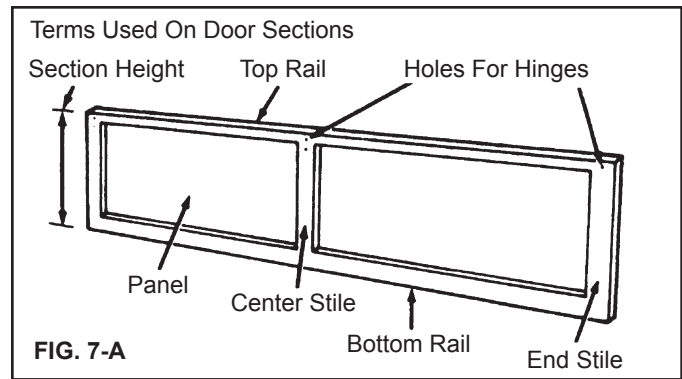
Step 7-3: A level bottom section is critical to a well-fitting door. The bottom section of the closed door must come to rest level; otherwise door will not work properly. If the surface is uneven you can obtain a better fit by trimming the bottom rail. Cut a small block of wood about 2 inches wide by 3 inches long, the same thickness as the largest space under the leveled bottom section. Holding the pencil on the block, slide the block along the floor to mark the door. The block thickness cannot be more than 1 inch. Cut along the mark with a saw. (FIG. 7-C)

NOTE: No more than 1 inch of material may be removed from the bottom of the section. If this is insufficient to achieve a level door, the floor must be leveled prior to installation.

Step 7-4: Bend and break apart the bottom brackets by hand at the connection tabs as shown. (FIG. 7-D)

Step 7-5: Attach bottom roller brackets to both sides of the bottom section using (4) 1/4" x 1-7/8" carriage bolts and (4) 1/4" red-coated hex nuts (panel doors) or (4) 1/4" red-headed lag screws (flush doors). If installing with carriage bolts, predrill through the section with a 1/4" drill bit using the bracket as a template for the hole locations. If installing with screws, predrill 3/16" pilot holes, taking care not to drill completely through the section. (FIG. 7-E)

NOTE: In order for the door to function correctly, both bottom brackets must be installed at the same vertical position on the bottom section. If you trimmed the bottom of your door so that it would sit level, install the first the bracket on the side of the door from which the most material was removed. Then install the other bracket so that both brackets are the same distance from the top of the section.

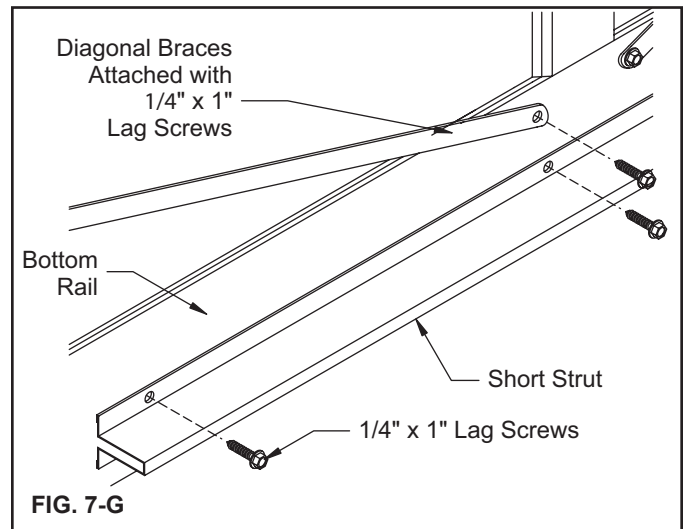
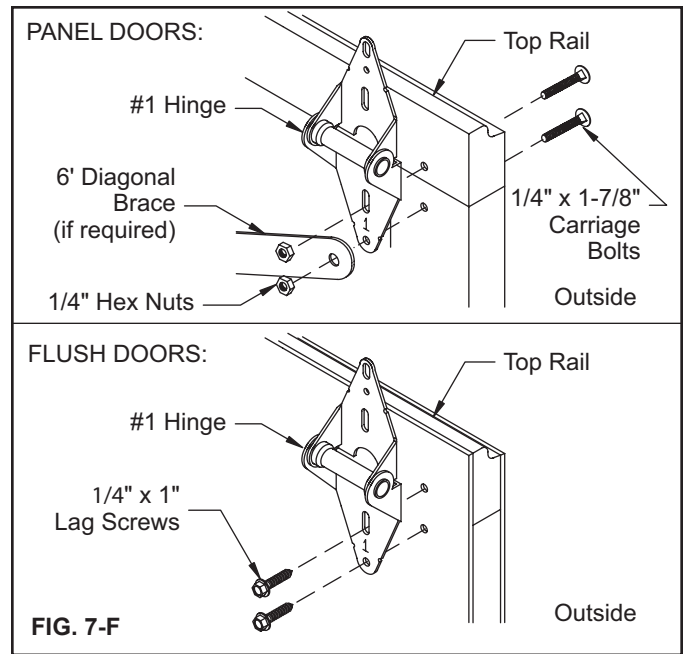


Step 7-6: Hinges are identified by a number 1, 2, 3, or sometimes 4 (5 section doors only) stamped on the bottom leaf. Using 1/4" x 1-7/8" carriage bolts and 1/4" hex nuts (panel doors) or 1/4" x 1" lag screws (flush doors), attach a number 1 hinge to each stile using the pre-drilled holes along the top edge of the section (FIG. 7-F).

Step 7-7: If your door was supplied with struts, there are three total, one long and two short. A short strut should be installed at this time. Center the strut about 1-1/2" from the bottom of the section. Drill 3/16" pilot holes no more than 1" deep at each hole in the strut. Install 1/4" x 1" lag screws at these locations. (FIG. 7-G)

If your door was supplied with diagonal braces, one end of each brace must be secured overlapping the bottom-most hole in the lower leaf of each end hinge. Position the brace over the hinge and bolt and secure with a 1/4" hex nut (FIG. 7-F top). Using the holes in the ends of the brace as a template, drill 3/16" pilot holes and fasten the other end of each brace to the bottom of the section with the 1/4" x 1" lag screws provided (FIG. 7-G).

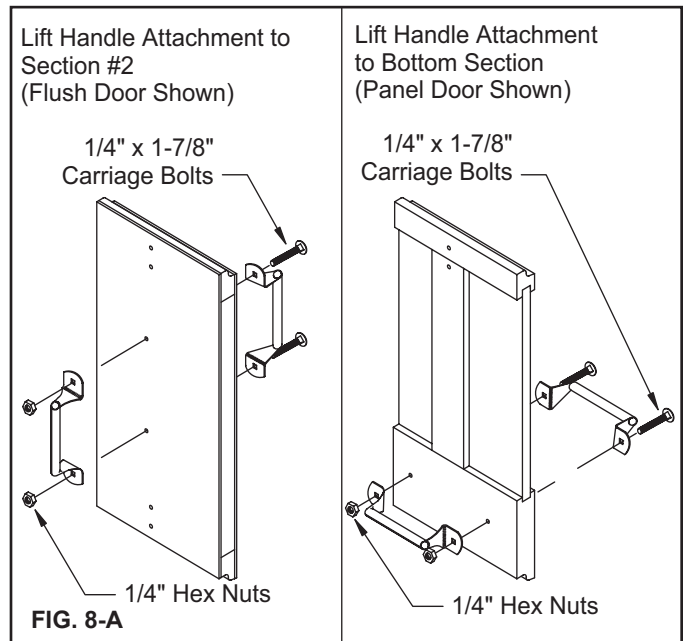
Step 7-8: Install the bottom weatherstrip (optional weatherstrip not included) according to the instructions supplied with the weatherstrip.



Step 8 – Lift Handle Attachment

Install the inside and outside lift handles in the center of the door on the bottom rail of the bottom section. Drill two 1/4" holes through the wood and fasten with two 1/4" x 1-7/8" carriage bolts (FIG. 8-A).

Additional lift handles are to be installed on section #2 after the completion of step 9-3. These handles are not required on doors with an outside keyed lock. (FIG. 8-A)



Step 9 – Installing Door Sections

Step 9-1: Place the bottom section in the opening so that it is against the stop molding and centered from side to side. Place a level on the section and use a piece of wood under one end or the other (if necessary) to make the section level. (FIG. 9-A)

Step 9-2: Remove the level and drive a 3" nail into the jambs at each end and bend it over the edge of the section to hold the section in place. (FIG. 9-B)

NOTE: These nails are all that will hold the door in place until all the tracks are secured to the back jambs. Be sure the nails hold the sections firmly in position.

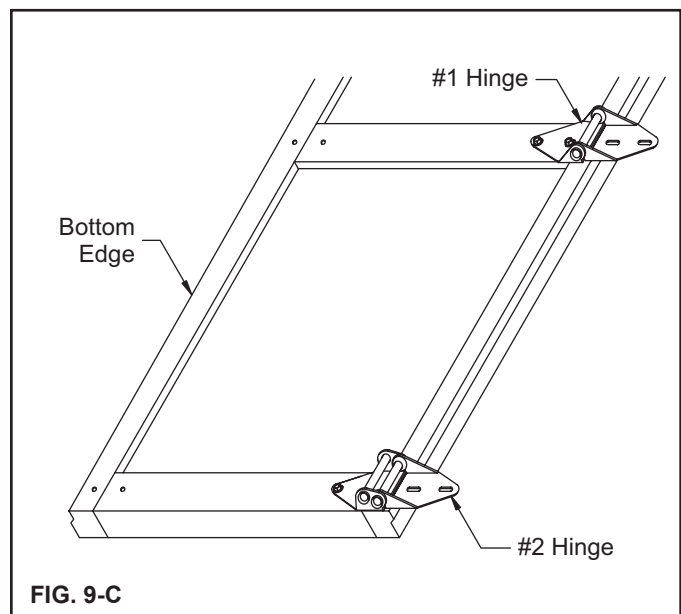
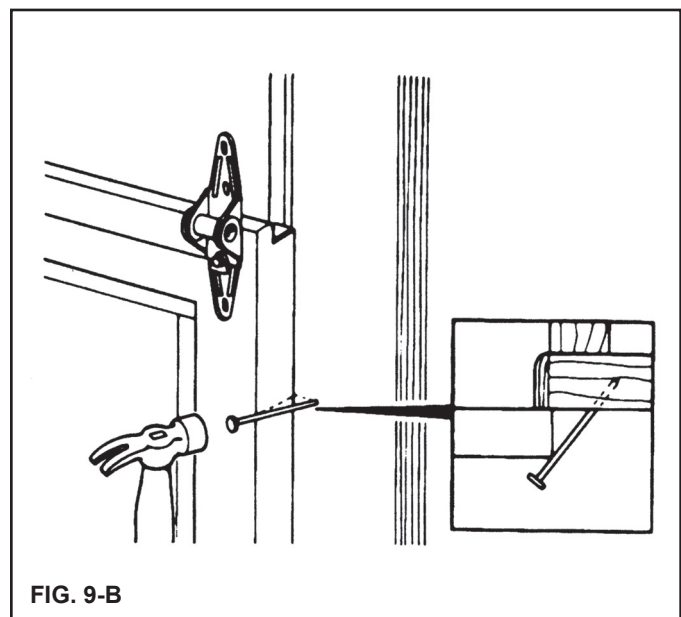
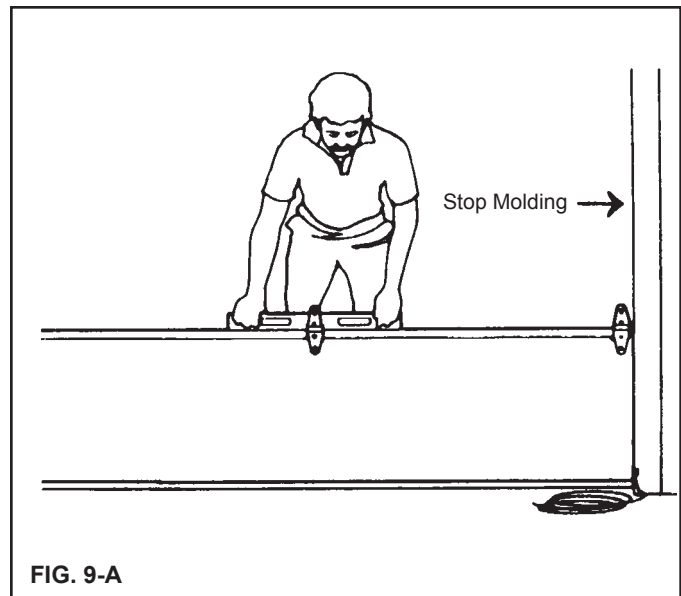
Step 9-3: Place the next section face down on the sawhorses. If your door is predrilled for a lock, this section will be the one with holes in the center of the panel face. Identify the bottom edge as shown in the illustration. (FIG. 9-C)

Attach a #2 hinge to each end at the top edge using 1/4" x 1-7/8" carriage bolts (panel doors) or 1/4" x 1" lag screws (flush doors). Remember that the number is stamped on the side of the hinge that is attached to the section. Attach a #1 hinge to all other predrilled holes along the top of the section.

Step 9-4: If you wish to install a keyed lock, begin the lock installation now according to the supplemental instructions included with the lock hardware.

If your door did not come with a keyed lock, install lift handles as shown on previous page.

Step 9-5: Place the second section on top of the first section. Drive a 3" nail into the jambs at each end and bend it over the edges of the section to hold the section in place. Attach the hinges from the top of the first section to the bottom of the second. (FIG. 9-D on next page)



Step 9 – Installing Door Sections (Continued)

Step 9-6: Place the third section on the sawhorses. Attach #3 hinges to the ends at the top edge and #1 hinges to all other sites along the top edge using 1/4" x 1-7/8" carriage bolts (panel doors) or 1/4" x 1" lag screws (flush doors). (FIG. 9-E)

Step 9-7: If your door was supplied with struts, attach the long strut as shown in the illustration. The bottom edge of the strut should be 4" from the bottom of the section. Drill pilot holes no more than 1" deep at each hole in the strut. Install 1/4" x 1" lag screws at these locations. (FIG. 9-E)

Step 9-8: Place the third section on top of the other sections and nail in place as before. Attach the hinges from the top of the previous section to the bottom of the section. (FIG. 9-D)

If you have two sections left, repeat steps 9-6 and 9-8 using #4 hinges on the end of the top edge and #1 hinges at all other sites along the top edge.

Step 9-9: Place the last section on the sawhorses. Attach the top roller brackets as shown. The top of the bracket should be located 2-1/2" down from the top of the section, and the side edge of the bracket should be 1/4" from the edge of the section. (FIG. 9-F)

Step 9-10: If your door was supplied with struts, attach the last remaining strut (short strut) as shown. Center the strut with the top edge 1" to 1-1/2" from the top of the section. Drill pilot holes no more than 1" deep at each hole in the strut. Install 1/4" x 1" lag screws at these locations. (FIG. 9-F)

Step 9-11: Place the top section on top of the other sections and nail in place as before. Attach the hinges from the top of the previous section to the bottom of this section. (FIG. 9-D)

NOTE: If your door is to be used with an electric operator, you must reinforce the top section before placing it in the opening. Proceed to step 10 prior to completing this step.

Step 9-12: Place a roller in the top and bottom brackets and the tubes in the hinges at the ends of each section. Some hinges have two tubes, in which case the roller should be placed in the tube that is farthest from the face of the door. (FIG. 9-G)

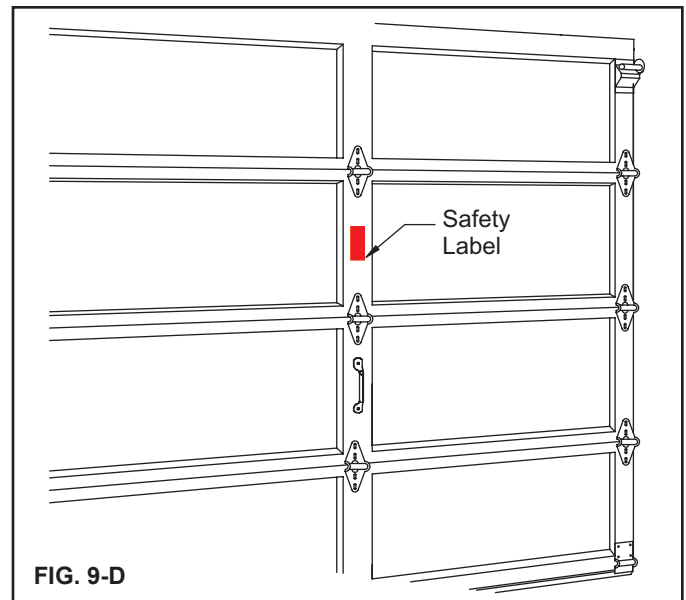


FIG. 9-D

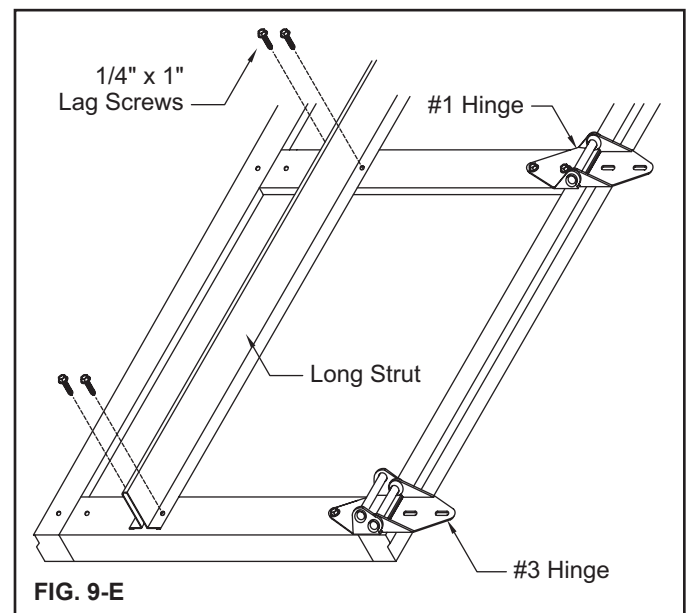


FIG. 9-E

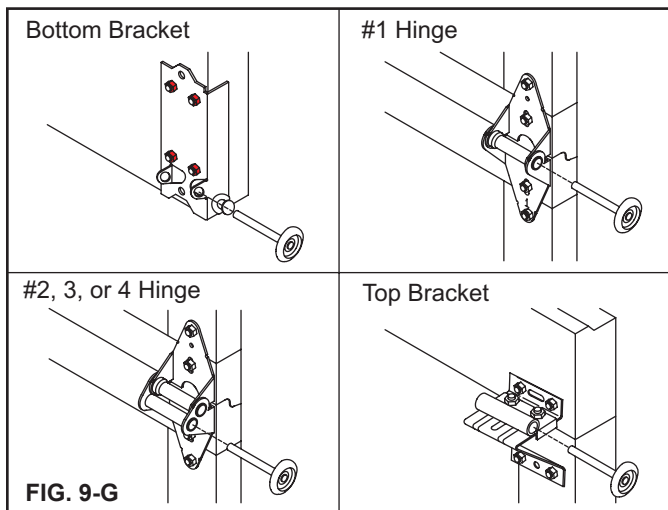


FIG. 9-G

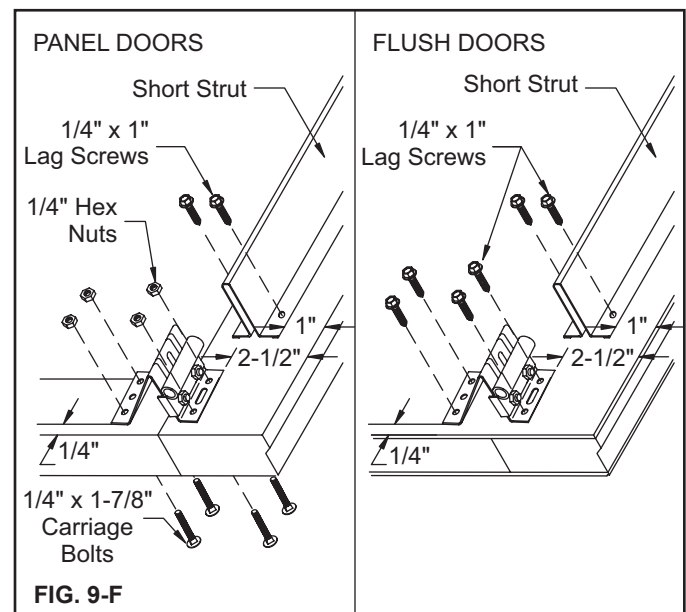


FIG. 9-F

Step 10 – Reinforcing the Top Section For Opener Attachment



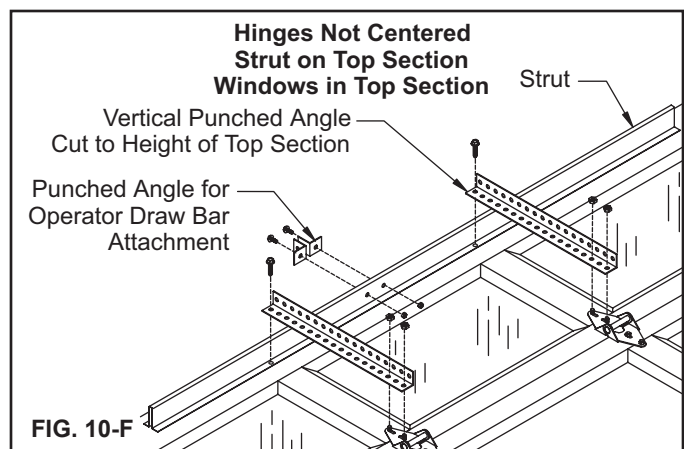
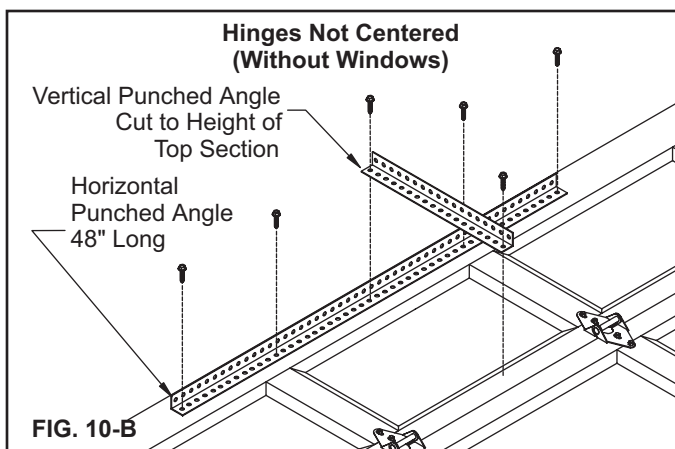
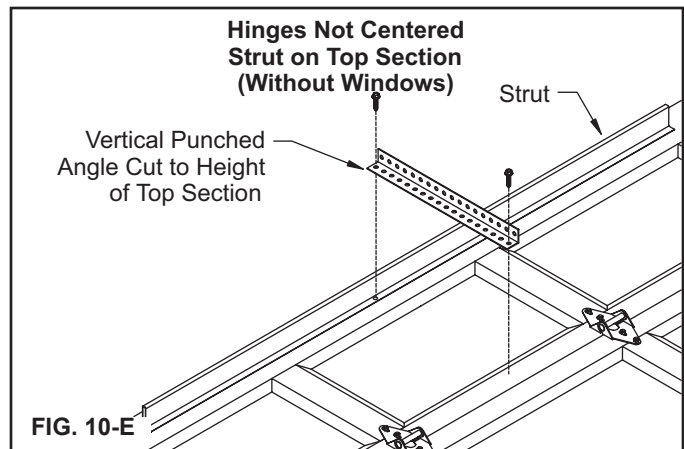
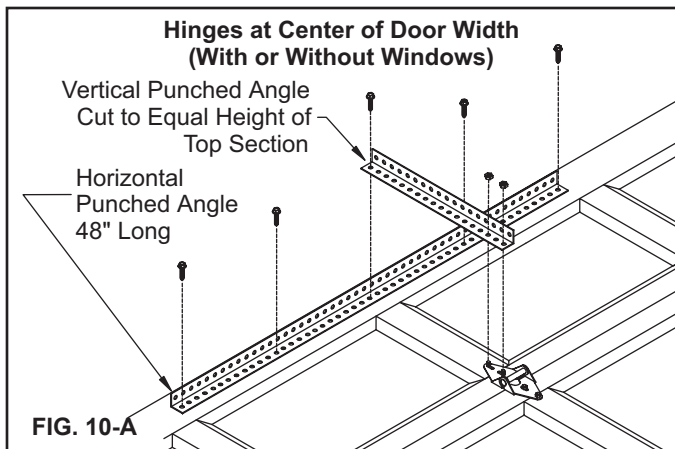
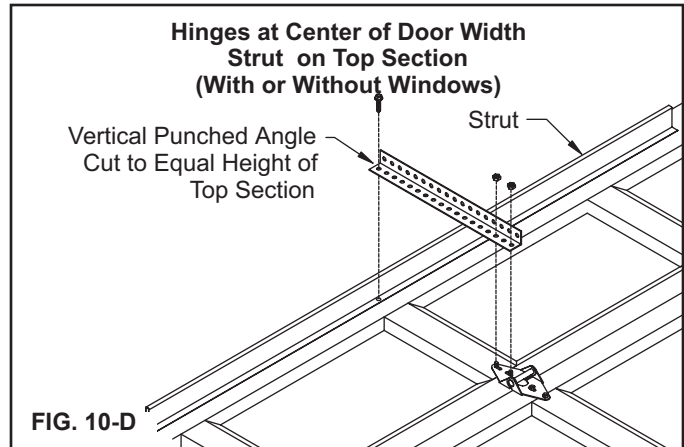
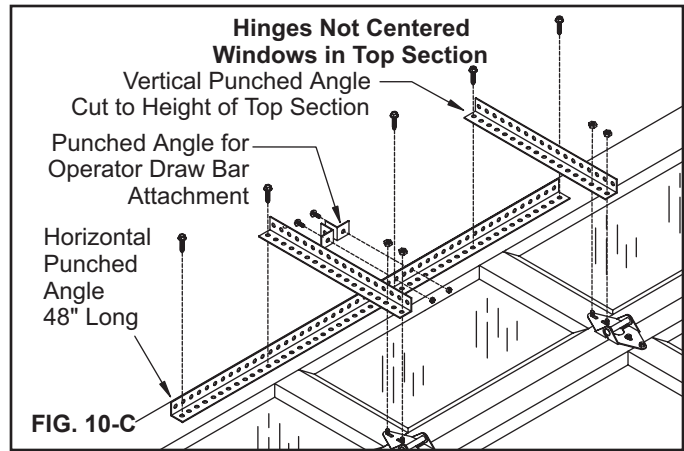
WARNING

To avoid risk of strangulation or personal injury to children, you must remove the pull down rope when you install an automatic garage door opener.

IMPORTANT: When installing an automatic garage door opener, make sure to follow the manufacturer's installation and safety instructions carefully. **Do not install the pull down rope when attaching an automatic opener. The lock should be removed or disengaged to prevent damage to the door.** If attaching an operator bracket to the wood anchor pad, make sure the wood anchor pad is free of cracks and splits and is firmly attached to the wall. Always drill pilot holes before attaching lag screws.

To avoid damage to your door, you must reinforce the top section of the door in order to provide a mounting point for the opener to be attached. You will need several lengths of 1-1/4" x 1-1/4" punched angle (at least 13 gauge) available at your local hardware store. Also, six to eight 1/4" x 1" lag screws are needed. Refer to the adjacent figures to identify the attachment method for your specific door.

NOTE: If preferred, a full-length strut may be used in place of the horizontal angle iron.



STEP 11 – Assembling and Installing the Track

Before assembling brackets to vertical track be sure to read Step 11-1 and Step 11-2. Refer to illustration for placement of brackets on track.

NOTE: Brackets may already be riveted in place. If additional adjustment is required, the rivets can be drilled out and the brackets can be reattached with track bolts and flange nuts (available through the toll-free Consumer Services number, see outside cover).



WARNING

To avoid installation problems that could result in injury or property damage, use only track provided with new door.

Step 11-1: Loosely fasten the track brackets to the vertical track using one 1/4" x 5/8" track bolt and 1/4" flange nut as shown with the head of the bolt inside the track. There are two sizes of brackets for 7' high doors, and three sizes for 8' high doors. The shortest track brackets should be installed ten inches from the bottom of the track with the flange facing the flat side of the track, one on the left and one on the right. The next larger sized pair of brackets should be installed centered on the track. If you have an 8' high door, the remaining pair of brackets should be installed ten inches from the top of the vertical track. The flat side of the track goes toward the wall. (FIG. 11-A)

Step 11-2: Loosely attach the flag bracket to the top of the track with two 1/4" x 5/8" track bolts and 1/4" flange nuts with the head of the bolts in the track. Make sure bolts and nuts are attached through the proper holes in flag bracket for your door thickness. (FIG. 11-C)

(Refer to FIG. 11-B to determine proper bolt placement.)

NOTE: If additional adjustment is required, horizontal slots in flag brackets can be used for attachment to vertical track.

Step 11-3: Place the track over the rollers on the door. Move the track close to the door so that the rollers are all the way into the hinges. Do not force the track too tightly or the door will bind. This should leave about 1/2" between the edge of the door and the track. Pilot holes of 3/16" are required at each lag screw location before installing the lag screw. Lift track about 1/2" from the floor and fasten the flag bracket and track brackets to the jamb with 5/16" x 1-5/8" lag screws. The flag bracket requires three screws, one each in the top, middle, and bottom holes. Do this for both sides of the door. When the track brackets and flag brackets are securely fastened to the jamb, tighten the track bolts and flange nuts connecting the flag brackets to the tracks. (FIG. 11-D)

NOTE: The tops of the vertical tracks must be level with each other. Check this by measuring from the top of the door sections to the top of the track on both sides. If they are not equal, cut some material off the bottom of one track to lower it or raise the other track.

Do not raise the vertical track beyond the bottom rollers on the bottom section of door.

NOTE: Do not attach any brackets directly to drywall. All track brackets, flag brackets, and spring brackets should only be attached directly to wood bucks.

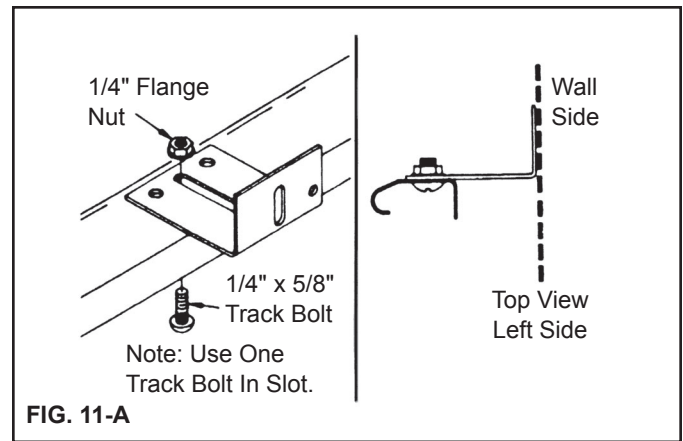


FIG. 11-A

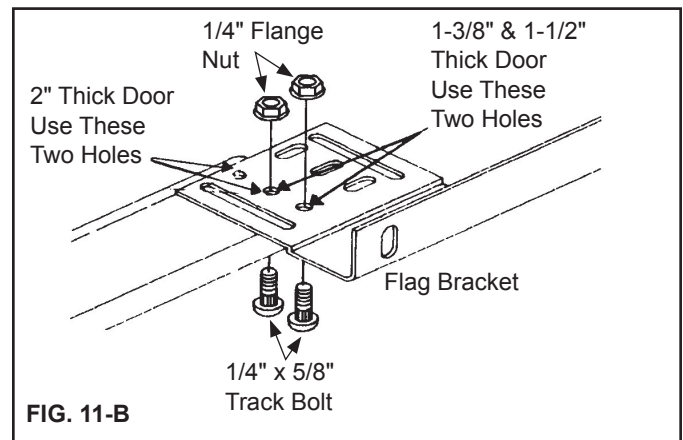


FIG. 11-B

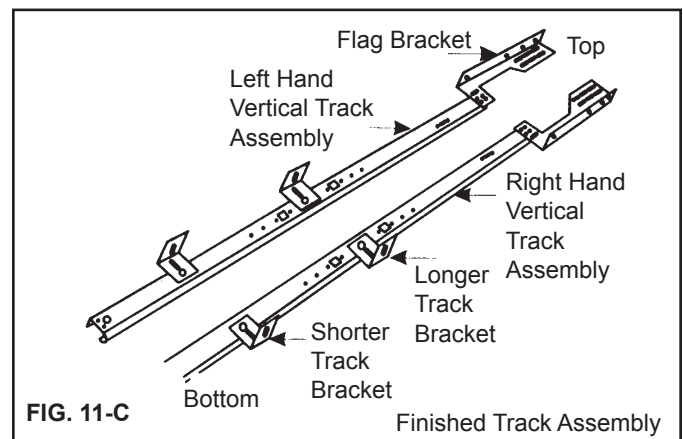


FIG. 11-C

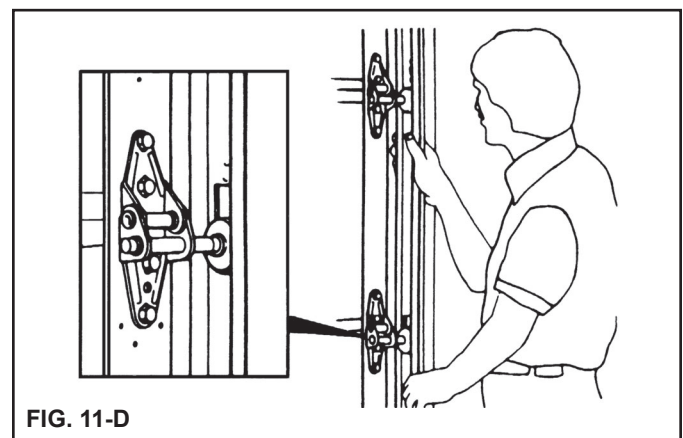


FIG. 11-D

STEP 11 - Assembling and Installing the Track (Continued)

NOTE: Pressure-treated lumber purchased after January 2004 is treated with chemicals that have highly corrosive effects on metal fasteners. The fasteners provided with your door are intended for use with standard lumber (not pressure-treated) only. If you are installing your door into an opening framed with pressure-treated lumber purchased after January 2004, two items must be changed: 1) 5/16" x 1-5/8" lag screws with a minimum galvanization equivalent to G185 must be purchased for this application, and 2) to prevent potential corrosion between lumber and track/spring components, paint either the surface of the pressure-treated lumber or those surfaces of the track and spring components that come in contact with the pressure-treated lumber.

Step 11-4: Fasten the horizontal angle to the horizontal (curved) track with two 1/4" x 5/8" track bolts and 1/4" flange nuts so that the heads of the track bolts are on the inside of the track. On some doors this angle may be 82" long and will require three additional fasteners per side. If the angle has been preassembled, skip Step 11-4 and proceed with Step 11-5. (FIG. 11-E)

Step 11-5: Temporarily support the rear end of the track with a rope from the trusses overhead in the garage or on a tall ladder. (FIG. 11-F)

Step 11-6: Place the track over the roller in the top bracket. Attach the curved end of the horizontal track to the flag bracket with two 1/4" x 5/8" track bolts and 1/4" flange nuts so that the heads of the screws are on the inside of the track. The horizontal and vertical track must join together to form a continuous channel for the rollers. Attach the end of the horizontal angle to the top of the flag bracket with a 3/8" x 3/4" carriage bolt and 3/8" hex nut. Use the top set of slots for 15" radius track, the middle set of slots for 12" radius track, and the bottom set of slots for Low Headroom track. (FIG. 11-G)

Step 11-7: Rear track hangers need to be made at this time. Use 1-1/4" x 1-1/4" punched angle, 13 gauge or 3/32" steel. These are not provided with the standard hardware. They are used to attach the rear of the horizontal track to the ceiling joist.

Enough angle iron or punched angle should be purchased to make two rear track hangers. These hangers must be strong enough to hold the full weight of the door. Attach a bolt at least 1" long through the end of each track to stop the door at the end of its travel. (FIG. 11-H)



WARNING

Sway braces must be used to prevent tracks from spreading and allowing door to fall, which could cause serious injury. Bolts placed in the end of each track (FIG. 11-H) must be at least 1" long to prevent the top section from exiting the track.

NOTE: Rear track hangers should not be mounted any farther than 6" from the end of horizontal track.

Step 11-8: Placement of rear track hangers is critical for the door to operate properly. The rear track hangers should hold the horizontal track level and square to the door. Squareness should be measured by comparing two diagonal distances: 1) the distance from the top left-hand corner of the door to the rear of the right-hand horizontal track and 2) the distance from the top right-hand corner of the door to the rear of the left-hand horizontal track. (FIG. 11-I, opposite page)

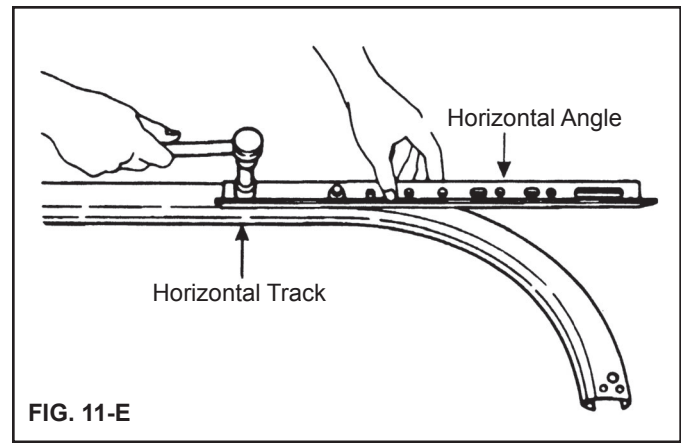


FIG. 11-E

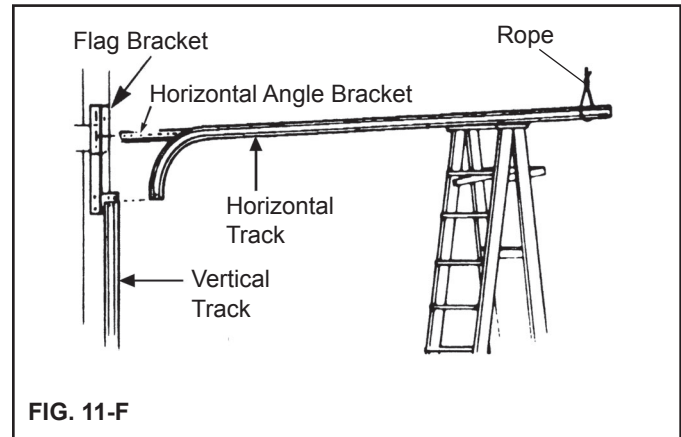


FIG. 11-F

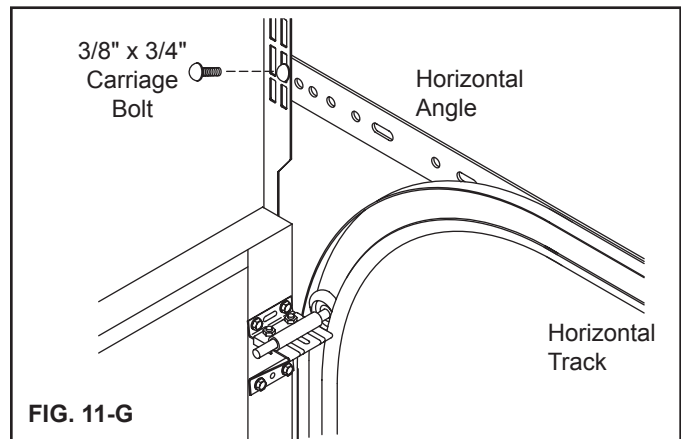


FIG. 11-G

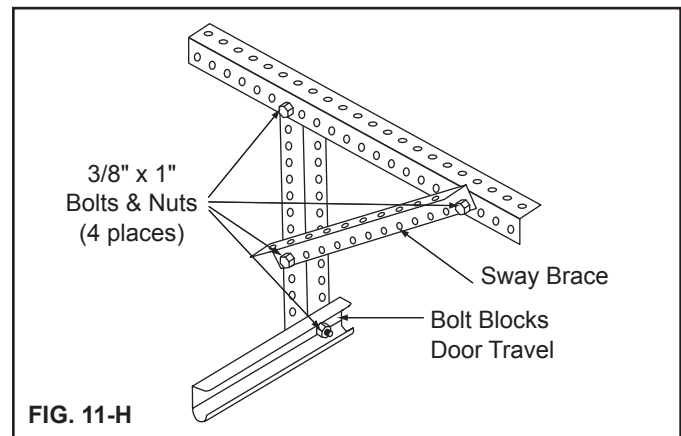


FIG. 11-H

Step 11-8, Continued: Adjust the position of the tracks if the squareness distances are not within 1/2" of each other. Horizontal track can be out of level up to 1" from front jamb to rear track hanger. (FIG. 11-I)

When the track is square and level with the opening, the track hangers can be fastened permanently to the ceiling trusses. Three 5/16" x 1-1/2" lag screws are recommended. Be sure 3/16" pilot holes are drilled before installing 5/16" lag screws. The attachment must be strong enough to hold the weight of the door.



WARNING

Use adequate length screws to fasten rear track hangers into trusses. Door may fall and cause serious injury if not properly secured.

Step 11-9: With the track installed, the top door section can now be properly adjusted. With the slide on the top bracket loose, force the top of the door against the stop molding or door jamb. Pull the roller towards you so it is tight against the groove in the track and tighten the slide bolts. (FIG. 11-J)

At this time, remove the 3" nails that were used to hold sections in place prior to installation of the track assembly. (Refer back to FIG. 9-B.)

STEP 12 – Lock Installation (If Included)

Keyed Lock:

If your door has an exterior keyed lock, please complete the installation of the lock at this time following the instructions provided with your lock hardware. If your door has a slide bolt lock, install according to the instructions below.

Slide Bolt:

The inside slide bolt is installed on the end stile of the second section using (4) #14 x 5/8" hex head sheet metal screws (steel doors) or (4) 1/4" x 1" lag screws (wood doors). (FIG. 12-A)

NOTE: 3/16" holes may have to be predrilled before installing screws.

The slide bolt rests against the top of one of the rectangular engaging slots in the vertical track. Proper alignment is easier to achieve by using track as a guide.

NOTE: It may be necessary to knock out the slug in the vertical track to open the slot for lock engagement. Remove slug by striking with a hammer from the outside of the track.

IMPORTANT: If your door is going to be equipped with an automatic garage door opener, make sure that the door is always unlocked when the opener is being used. This will avoid damage to the door.

STEP 13 – Pull Rope (Manually Operated Doors Only)

To complete the door section installation, tie the pull rope provided to the bottom roller shaft. (FIG. 13-A)

STEP 14 – Spring Installation

It is now time to install the spring. Proceed to springing instructions that came with your spring hardware.

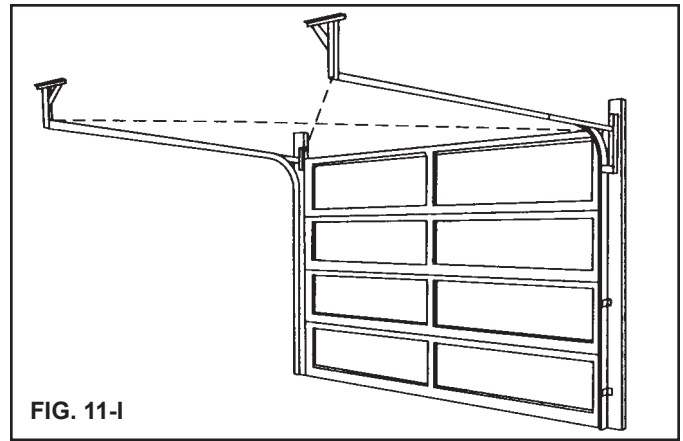


FIG. 11-I

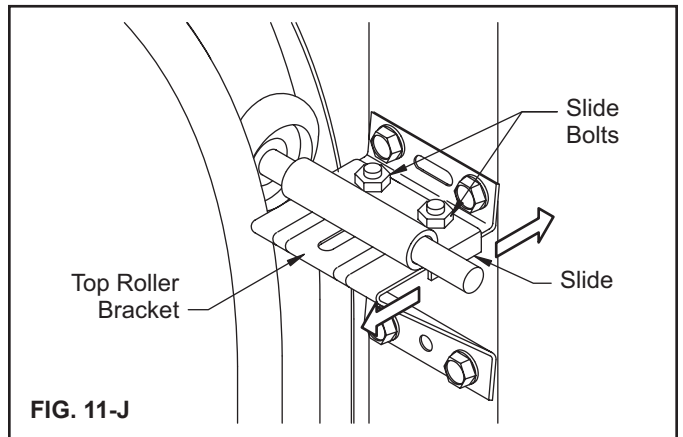


FIG. 11-J

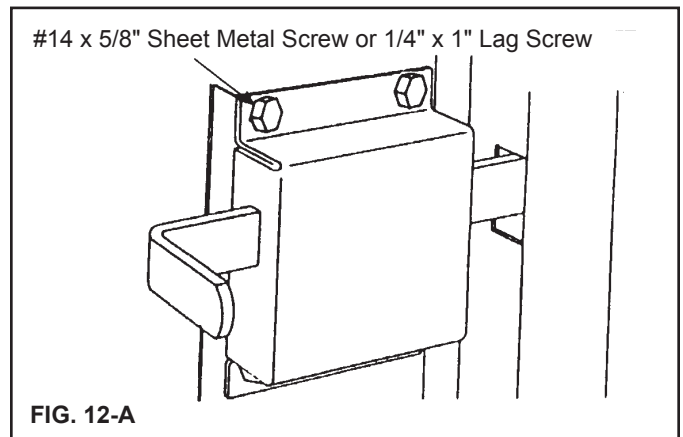


FIG. 12-A

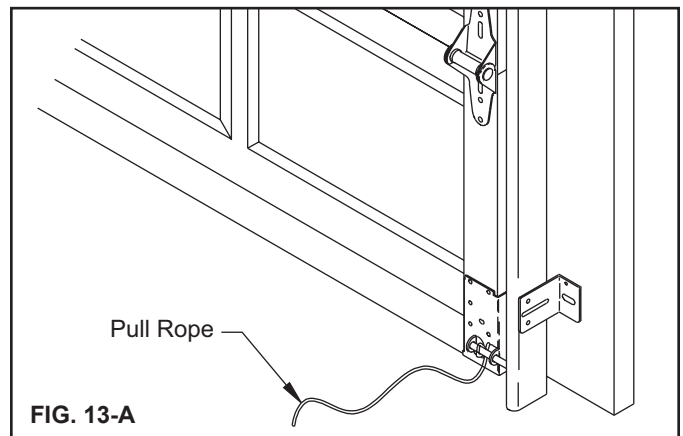


FIG. 13-A

STEP 15 – Attaching an Automatic Opener

IMPORTANT: To avoid damage to your door, you must reinforce the top section of the door in order to provide a mounting point for the opener to be attached. Refer to the section of this manual titled Reinforcing the Top Section on page 14 for specific instructions. Failure to reinforce the door as illustrated will void the warranty on your door.



WARNING

To avoid risk of strangulation or personal injury to children, if your door has a pull rope, you must remove the pull down rope when you install an automatic garage door opener.

IMPORTANT: When installing an automatic garage door operator, make sure to follow manufacturer's installation and safety instructions carefully. **Remove the pull down rope and unlock or remove the lock.** If attaching an operator bracket to the wooden anchor pad, make sure the wood anchor pad is free of cracks and splits and is firmly attached to the wall. Always drill pilot holes before attaching lag screws.

The operator arm will usually be attached to the vertical reinforcement member at roughly the same height as the top roller of the door. Attach the opener arm to the reinforcement as shown in Figures 15-B to 15-D. To prevent the top of the door from bending, the opener rail should be mounted no less than 2" and no greater than 5" from the face of the door with the door in the open position (FIG. 15-A). Additionally, when the door is closed, the portion of the operator arm attached to the door should be at angle of approximately 60 degrees from the vertical (FIG. 15-B).

Opener Rail Mounting Distance

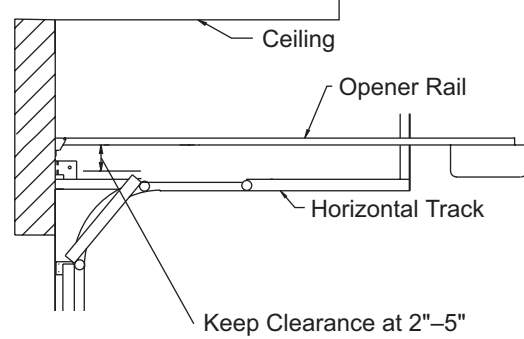


FIG. 15-A

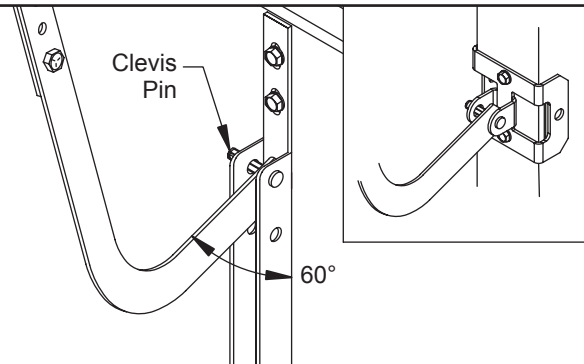
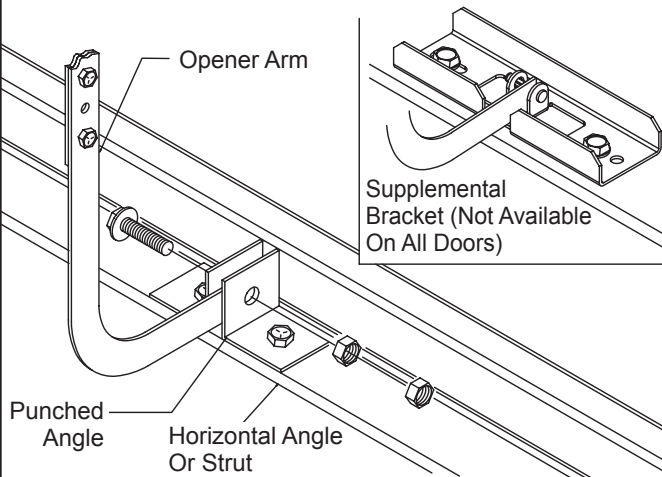


FIG. 15-B (Doors with supplied Reinforcement Bracket and Stile in Center of Door)

Opener Arm Attachment To Horizontal Angle Or Strut



Front View (Assembled)

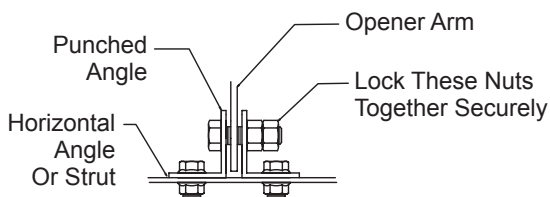
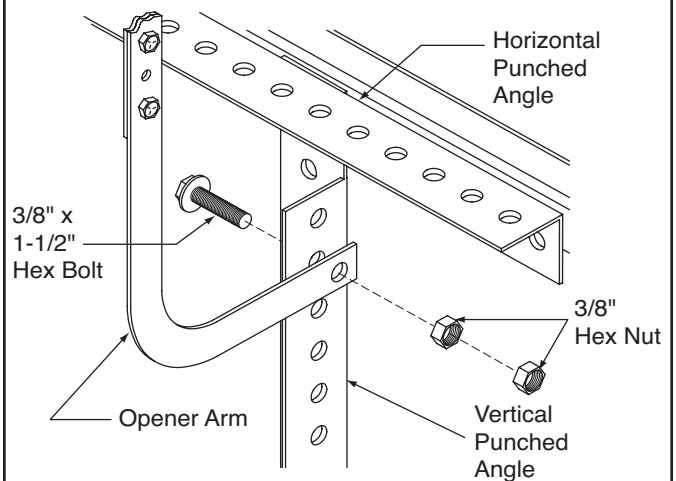


FIG. 15-C (Doors with odd number of Panels)

Opener Arm Attachment To Vertical Angle



Top View (assembled)

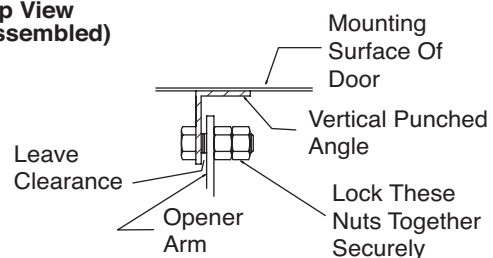


FIG. 15-D (Doors with Angle Iron Reinforcement Bracket and Stile in Center of Door)

Finishing (Painting or Staining) Instructions:

NOTE: Differences in grain and color variations are indicative of natural wood. These are not considered product defects. Some variations in stain penetration may occur between materials from which the door is constructed (i.e. plywood panel vs. wood frame).

Preparation Work

Important information: Wood products can absorb moisture during shipping and storage. Do not leave or store unfinished doors outside. It is important that all sections be free of moisture prior to finishing the sections. Wood doors should not be finished under very humid conditions (storing the door in such an environment will void the warranty on the door). In order to ensure that all door surfaces are properly finished, it is **required** that the door sections be finished **prior to installation**. **Failure to properly and completely finish all door section surfaces, including the sides, back, bottom, face, and joints, will void the warranty on the door.**

Painting Your Door

Step 1: Fill any gaps or voids within wood surfaces with a caulking compound that can be painted. (Do not use silicone as it cannot be painted.)

NOTE: For optimum long lasting performance the spaces between the rails or stiles and the door panel should be caulked with a paintable caulk prior to painting the door. For plywood and hardboard panel doors, all (4) sides of each panel should be caulked (Fig. F-1). For hemlock, cedar, or redwood panel doors with wood grain running horizontally, the bottom, left, and right sides of the panels should be caulked (Fig. F-2). For hemlock, cedar, or redwood panel doors with wood grain running vertically, the top and bottom of the panels should be caulked (Fig. F-3).

Step 2: Clean all door surfaces with a stiff bristle brush to remove surface dirt, dust, and loose fibers.

Step 3: Before finish painting, the door section must be primed on all sides. Wood doors can be ordered either primed or unprimed (primed doors can be identified by the light-green finish). If your door is pre-primed, proceed to step 4 below. Prime all section surfaces using a quality oil or latex based exterior primer, taking care to observe the primer manufacturer's application instructions, including recommendations on temperature and drying time. If you are painting a redwood or cedar door, the primer must contain a tannin blocker. **Using a primer on redwood and cedar doors that does not contain a tannin blocker could result in discoloration of the door after painting.**

Step 4: Finish paint all door section surfaces using a quality oil or latex based exterior paint. **The finish coat base should be the same as the primer coat base** (i.e. a latex based finish paint is recommended for use with a latex based primer, and an oil based finish paint is recommended for use with an oil based primer). **If your door is factory primed, a latex based finish paint must be used.** Carefully follow all manufacturers' application instructions, including recommendations on temperature and drying time. A second top coat is recommended for optimum protection.

Staining Your Door

Note: The following door models cannot be stained: 10, 19 (Hardboard Panels), any model ending in "G" or "P". If your door is one of these models, refer to the painting instructions above.

Step 1: Select a quality exterior oil-based penetrating stain (transparent, semi-transparent, or solid) that is mildew resistant, UV resistant, and water repellent. Selection of a stain or finish that does not have these properties will void the warranty on the door. Do not use **non-breathable** film-forming finishes, such as varnishes and urethanes, which do not penetrate the wood.

We recommend Sikkens Cetol® Wood Finishes, specifically Cetol® 1 and Cetol® 23 Plus. One coat of Cetol® 1 and two coats

of Cetol® 23 Plus. Allow 24 hours minimum drying time between coats. Consult the Sikkens Cetol® finishing instructions for more information.

Step 2: Clean all door surfaces with a stiff bristle brush to remove surface dirt, dust, and loose fibers.

Step 3: Apply stain to all door section surfaces per stain manufacturer's instructions, including recommendations on temperature and drying time.

Step 4: Fill any gaps or voids within wood surfaces with a clear silicone caulk.

NOTE: For optimum long lasting performance on a stained door, the spaces between the rails or stiles and the door panel should be caulked with a clear silicone caulk after staining the door. For plywood and hardboard panel doors, all (4) sides of each panel should be caulked (Fig. F-1). For hemlock, cedar, or redwood panel doors with wood grain running horizontally, the bottom, left, and right sides of the panels should be caulked (Fig. F-2). For hemlock, cedar, or redwood panel doors with wood grain running vertically, the top and bottom of the panels should be caulked (Fig. F-3).

- To avoid an uneven caulk line that could affect the appearance of the wood surrounding the panel joints, apply masking tape to both the panel and the stile or rail along the entire joint prior to caulking, leaving a gap of 1/8". Caulk along the joint, pressing the caulk into the joint and smoothing with finger. After entire bead is applied, remove tape. (Fig. F-4)

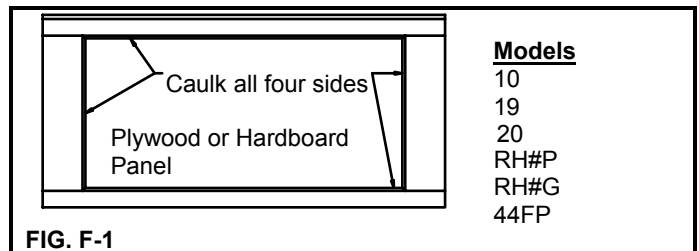


FIG. F-1

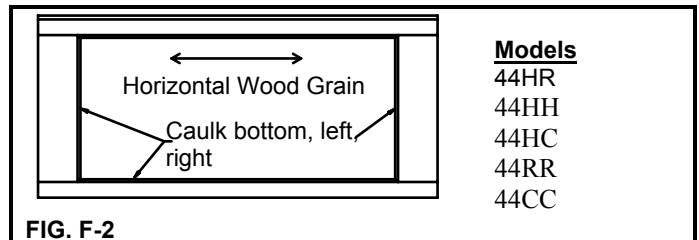


FIG. F-2

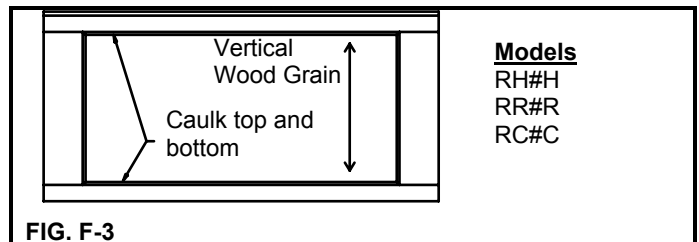


FIG. F-3

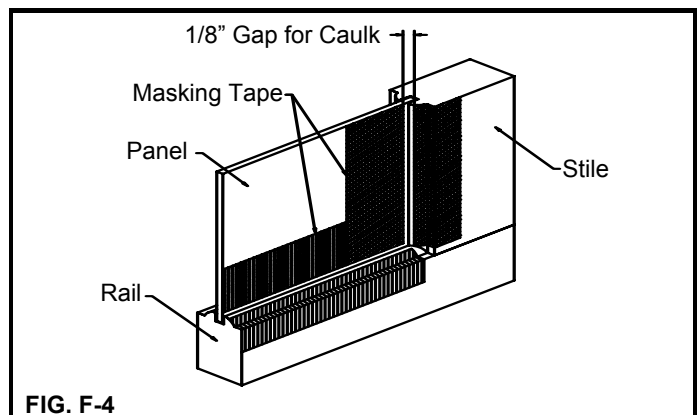


FIG. F-4

Maintaining Your Painted or Stained Door

The two major contributing factors to the breakdown of the door's finish (ultimately resulting in rotting and warpage) are sun and moisture. Annually examine your door for any signs of paint finish cracking or peeling or for any cracks in the wood door section. If the door is painted, the manufacturer recommends that it be repainted every 1-2 years to protect or seal the door against the elements. Failure to do so will result in voiding of the warranty. If the door is stained, reapply stain as needed per the stain manufacturer's recommendations. In general, the clearer the stain, the more it will need to be reapplied.

Remember, the quality, properties, and composition of exterior paints and stains vary greatly among manufacturers and among different products. Fill in the form below and keep this manual to ensure compliance with the door manufacturer's recommendations and for future maintenance of your door finish.

Minor cracks in the wood should be repaired by filling in the area with an exterior grade caulk compound and then refinished following the previous instructions. Failure to repair cracks could potentially lead to more extensive section damage in the future. Gouges in the wood surface can be repaired with a wood filler. If extensive damage occurs to the door, the door manufacturer recommends that the door section be replaced. Failure to do so could result in damage or injury to property or individuals in the garage.

Annual Maintenance

- 1) Lubricate all moving parts of the door with light household oil, including:
 - a) Lift cables at the bottom bracket button
 - b) Bearing of the sheaves
 - c) Lock hardware where surfaces turn or slide
 - d) Full length of torsion spring to reduce friction between coils
 - e) Lubricate steel rollers. DO NOT lubricate nylon rollers.
- 2) Check for loose or bent hinges.
 - a) Tighten loose hinges.
 - b) Straighten or replace bent hinges.

Caution: To replace bent hinge(s) or broken roller(s):

Door must be locked and in the down position.

No more than 1 hinge is to be removed from the door at any given time.

Under no circumstances should you loosen or remove the bottom bracket.

- 3) Check roller for broken wheels, bent shafts, or worn out bearings. Check the door and track supports for loose or missing bolts, screws, etc. Be careful not to over tighten.
- 4) Check the extension cables. Are they running properly in the sheaves? Check for wear of the cable at the bottom bracket button.
- 5) Check for bent track. If bent, call an authorized professional dealer.
- 6) Extension spring hardware, including springs, cables, sheaves, sheave forks, bottom brackets, and containment cables, should be adjusted or repaired only when the spring tension is released (the door must be open). These repairs should be made by a qualified door technician or a mechanically experienced person with proper tools and instructions.
- 7) If your door has torsion springs, the spring assembly and wood anchor pad should only be adjusted or repaired by a professional door technician.

Replacement Parts

Replacement parts are available from an authorized professional dealer or a building supply retailer. When ordering repair parts, always provide the following: part name, model number, and door width and door height (W x H). For the location of the authorized professional dealer or a building supply retailer nearest you, please write or call:

Clopay Building Products
Consumer Services Dept.
1400 West Market Street
Troy, OH 45373 USA

Call Toll Free: 1-800-225-6729
Hours of Operation (EST):
Monday – Friday, 8:30 AM - 7 PM
Saturday 8:30 AM - 5 PM.

PAINTED		STAINED	
Primer Factory Primed? <input type="checkbox"/> Consumer Primed? <input type="checkbox"/> Brand/Product Name: _____		Stain Brand/Product Name: _____ Color: _____	
Finish Paint Brand/Product Name: _____ Color: _____		Penetrating? <input type="checkbox"/> UV Resistant? <input type="checkbox"/> Mildew Resistant? <input type="checkbox"/> Water Repellant? <input type="checkbox"/> Reapply every _____ years.	
MAINTENANCE HISTORY			
Purchase Date _____		Install / Finish Date _____	
Date	Repair, Maintenance, or Refinish		