INSTALLATION & MAINTENANCE
Steel Residential Garage Door Instructions

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

Size: _____

Homeowners Should Retain This Booklet For Future Reference

IDEAL Door®

WINDCODE®

Dear Customer,

Thank you for your purchase. Your new garage door was built to meet the highest industry standard and to provide you with years of dependable performance.

This manual contains important installation and maintenance information. Carefully follow the instructions and maintenance recommendations. Please keep this manual for future reference.

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I M P O R T A N T !

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…
  1. you have help (it may weight up to 400 lbs.);
  2. you have the right tools and reasonable mechanical aptitude or experience; and
  3. you follow these instructions very carefully.

  In particular, please note that:

- Garage doors use springs to balance them. Generally, there are two types of springs used — extension springs and torsion springs. **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.

- 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.

- In removing a garage door which 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.

- When installing a door with torsion springs, always use solid steel ½" x 18" winding bars. Winding bars are available from many professional door installers. **The use of screwdrivers or any substitutes for winding bars will risk severe injury.** See page 25 for further safety instructions regarding winding bars.

- 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 handle and pull down rope are located for safe operation as well as easy use.

- **Extension spring doors must never be operated without a properly installed spring containment cable.**

- 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.

- **Only the track specified and supplied with the door should be used.**

- Express warranties apply only to doors installed using original, factory-supplied sections, parts, and hardware installed in strict accordance with these instructions.

SAFETY INFORMATION

I M P O R T A N T !

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

- 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.

- If your new door has a torsion spring, the center torsion spring assembly uses a wooden pad that **must be of good quality and firmly attached to the wall.** Four ⅜" x 3" lag screws should be used to attach wood structure. The wood needs to be made of a Grade 2 or better Southern Yellow Pine (also known as Southern Pine or Yellow Pine.) **Do NOT** use wood labeled as Spruce-Pine-Fir (or SPF.). Four ⅜" masonry anchors can be used on concrete or block walls. If the wood splits once the torsion spring is in place, it should be replaced by a professional installer. **Do not try to remove or repair a torsion spring assembly or red fasteners once the spring is wound.**

- 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.

- **Do not permit children to play beneath or with any garage door or electric operating controls.**

- 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 which 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 insure safe of these doors:
  a) test the sensitivity of the operator's safety reverse mechanism monthly;
  b) remove the pull rope;
  c) make sure the door remains unlocked;
  d) do not allow children to play with the controls.

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.

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

- 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 175 to 400 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 29).
- Low Headroom doors require special instructions. Purchase of additional hardware may be required. Check headroom requirements in the chart on page 8 before beginning.
- You must use the track and hardware provided with the new door for proper and safe operation.
- To avoid installation problems which could result in personal injury or property damage, never reuse old track.
- Doors installed in high windload regions (Florida and other hurricane prone areas) may require additional reinforcement beyond what is detailed in these instructions. Please refer to Windcode® drawings for these specifications.

Tools Needed

- “C” Clamps or Locking Pliers
- Hammer
- Winding Bars (Torsion Only)
- Screwdriver
- Tape Measure
- Level
- Socket wrench kit
- Pliers
- Drill, and 1/4", 3/16", & 3/8" bits;
- Step ladder
- Saw horses or other supports for placing section on while assembling

Additional Material Required

- Light household oil
- Punched Angle — For rear track hangers 1 1/4" x 1 1/4" minimum angle at least 13 ga. or 3/32" thick (this is not provided due to ceiling height differences)
- Six 5/16" x 1 1/2" lag screws for rear track hangers
- Eight 3/8" x 1" bolts and nuts for rear track hangers
- Ten 10d 3" nails
- Four 3/8" x 4" lag screws — used to mount center pad on torsion installation
- Stop molding
- For automatic opener
  - Punched angle 1 1/4" x 1 1/4" minimum (angle at least 13 ga. or 3/32" thick) - See page 29 for more information.
  - See page 29 for the bolts or screws needed.

Removing the Existing Door

WARNING

Garage doors use springs to balance the door weight. Generally there are two types of springs used — extension springs and torsion springs. **If your present door uses 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.

Removing Extension Springs

WARNING

Serious injury could result if spring tension has not been released before other work begins. 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 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. 1)

Step 1b: Detach the cable at both ends. Disassemble and remove the springs and cable completely from the door. (FIG. 2)

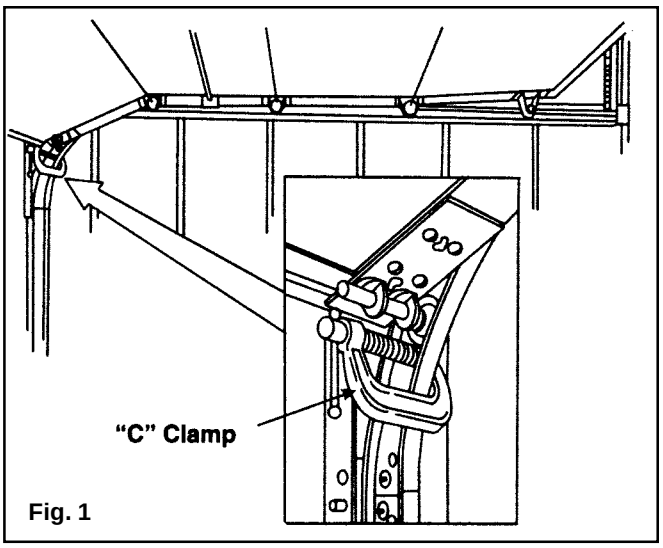


Fig. 1

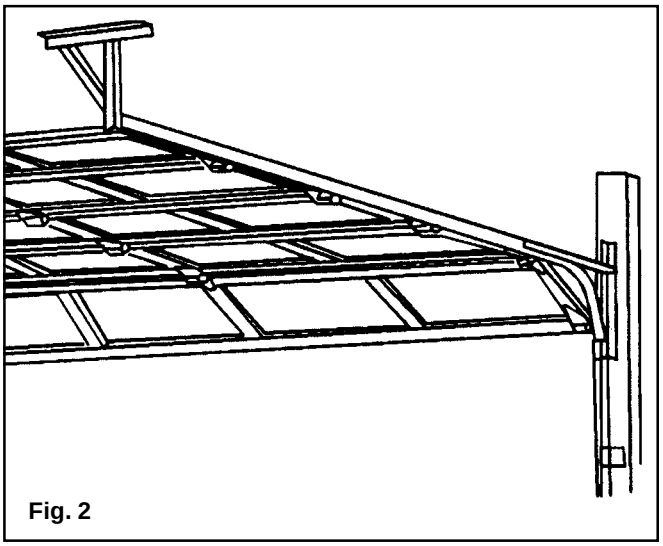


Fig. 2

Step 1c: Remove the “C” clamps from the track and carefully close the door.

WARNING

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

Some large doors might weigh as much as **400 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 400 pounds) is realized about one foot from the floor. A single car door may weigh as much as **200 pounds**. (FIG. 3)

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

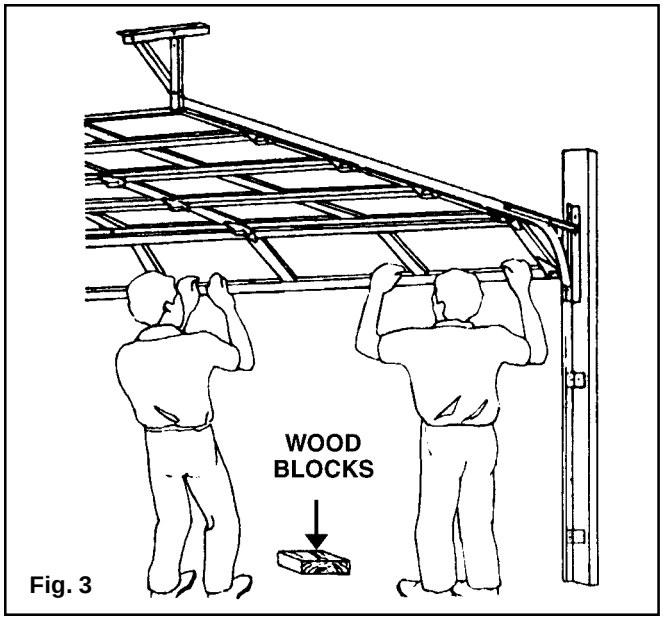


Fig. 3

WARNING

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

Step 2: The door can now be disassembled. Starting with the top section, remove the hardware and unstack the sections one at a time. (FIG. 4)

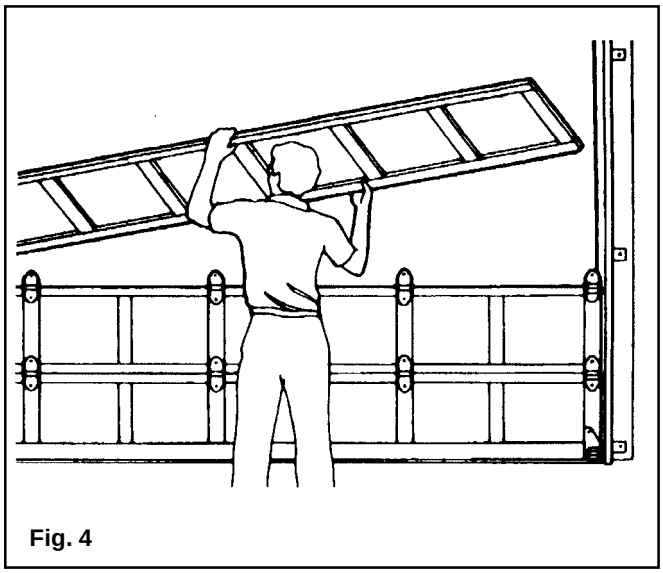


Fig. 4

Step 3: 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)

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.

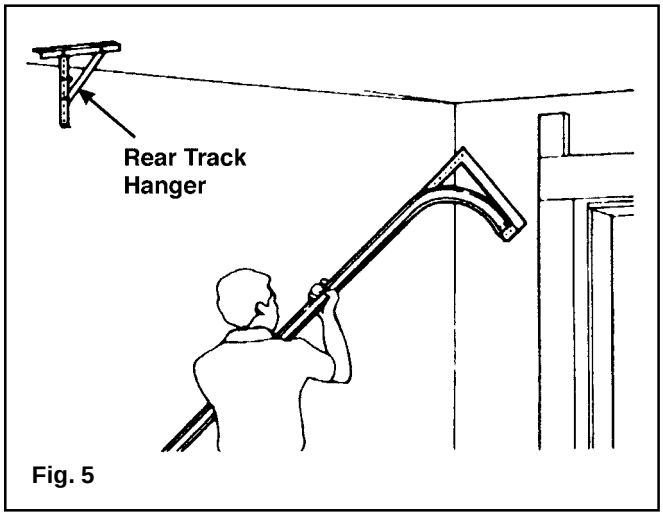


Fig. 5

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 the chart below. 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 3¾" should be available on each side of the door on the interior wall surface to allow for attachment of the vertical track assembly. (FIG. 6)

Track Radius: The radius of your track can be determined by measuring the dimension “R” in Figure 7. 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. 7)

Headroom requirements: The normal headroom space requirement is shown in the chart.

NOTE: 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.

Headroom Requirement Chart

SPRING TYPE	TRACK RADIUS	HEADROOM REQUIRED
Extension Spring	12"	10"
Extension Spring	15"	12"
Torsion Spring	12"	12"
Torsion Spring	15"	14"

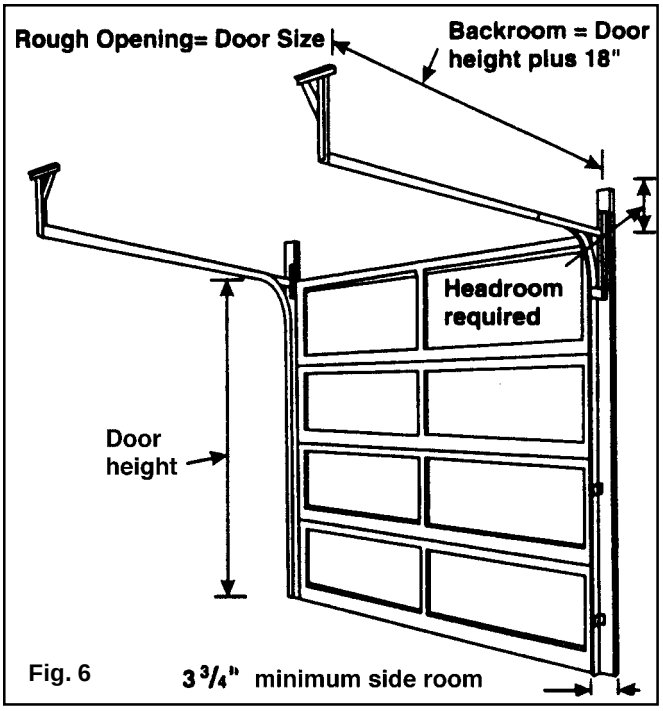


Fig. 6

Track Radius Measurement

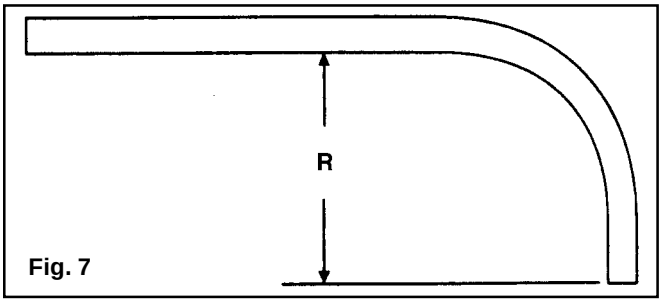


Fig. 7

Preparing the Opening

Step 1: On the inside of the garage your opening should be framed with wood jambs, 2" x 6" if possible, as shown in Figure 8. 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 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. 8)

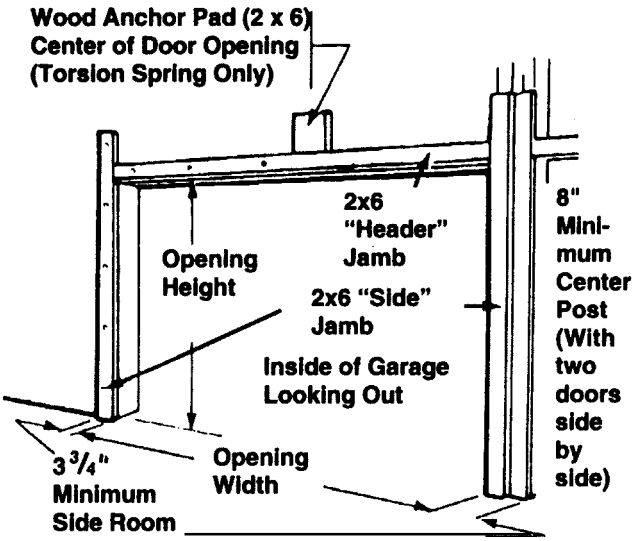


Fig. 8

For Torsion Springs Only

WARNING

If your door has a torsion assembly, **you must make sure that the wood anchor pad (see Fig. 8) is firmly attached to the garage wall.** Failure to securely attach the anchor pad could allow the springs to violently pull away from the garage wall, and could result in severe injury and/or property damage. **Under no circumstances should the anchor pad be attached with nails.**

Refer to Figure 8 for the configuration of 2" x 6" wood jambs. Wood anchor pad should run from header jamb to ceiling to a maximum length of 18".

IMPORTANT: The wood anchor pad must be made of a Grade 2 or better Southern Yellow Pine (also known as Southern Pine or Yellow Pine). The Southern Yellow Pine must be free of splits and cracks. **Do not use wood labelled as spruce-pine-fir (or SPF).**

The wood anchor pad must be installed into the frame of the garage with at least four 3/8" x 4" long lag screws (one at each corner). The four lag screws must be installed no closer than 1 1/2" from the sides and the ends of the 2 x 6. These lag screws must fasten into the wood frame of the garage, not the drywall or sheet rock. Wood anchor pad and 3/8" x 4" lag screws are not supplied.

NOTE: The wood anchor pad can be off-center to the width of the opening by up to 10" in either direction.

Step 2: Door stop molding should be temporarily nailed to the edges of the jambs flush with the inside. (FIG. 9)

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

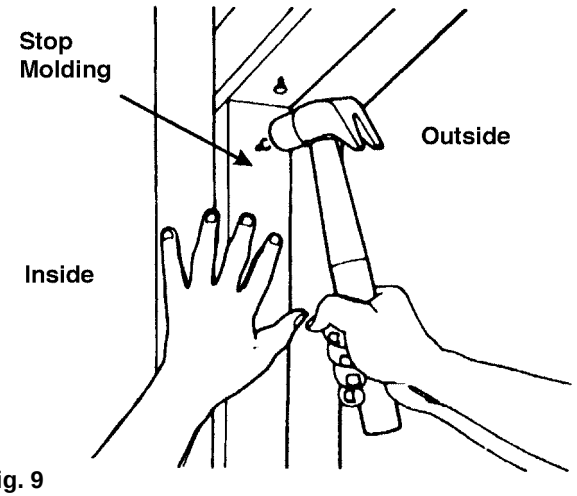


Fig. 9

Installing the New Door

Preparing and Installing Door Sections

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

Step 2: Find the section with the aluminum weatherstrip retainer fastened to one edge. The aluminum weatherstrip retainer is on the bottom edge of the bottom section. Place the section on saw horses face down. (FIG. 10)

NOTE: The weatherseal should be trimmed flush with the edge of the door.

NOTE: Cover saw horses with carpet or cloth so as not to scratch section.

Step 2a: Bend and break apart bottom brackets by hand along end tabs as shown.

NOTE: Remove connecting tab.

Step 3: Insert safety tabs on bottom bracket into slots on end stile of door. Slide bottom bracket up to fully engage tabs (FIG. 11). Attach all hardware with #14 x 5/8" sheet metal screws. Attach the bottom brackets with two screws to the bottom corners of the section. Screws go into the end stiles. Hook the looped ends of the steel lift cable over the buttons on the bottom brackets. (FIG. 12)

WARNING

Failure to properly engage safety tabs on bottom bracket into slots on edge of door can result in severe injury when spring tension is applied.

Depending on the strutting configuration of the Windcode® Door, there are two possible positions that a strut can be installed. For the correct placement, see the corresponding Windcode® drawing. Position the strut according to the correct drawing for the corresponding door model.

Attach strut to door section with 1/4" x 3/4" self-tapping screws at each stile location. (FIG. 13)

NOTE: For some models, pushnuts are required with the roller installation.

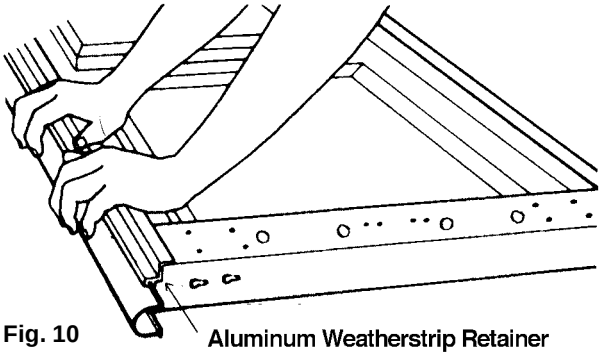


Fig. 10

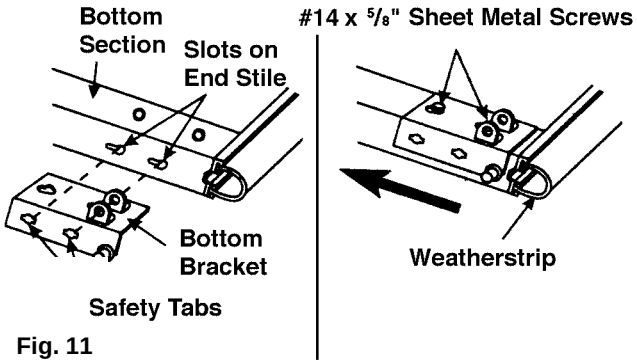


Fig. 11

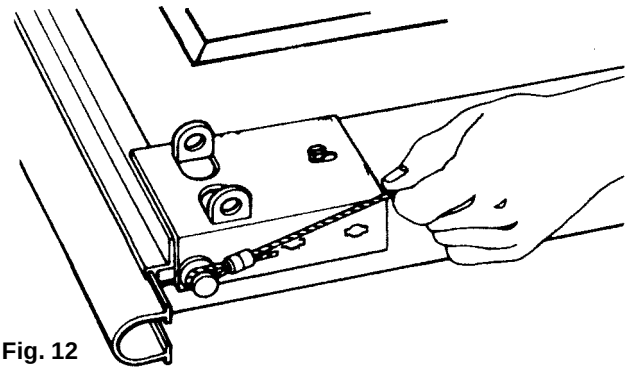


Fig. 12

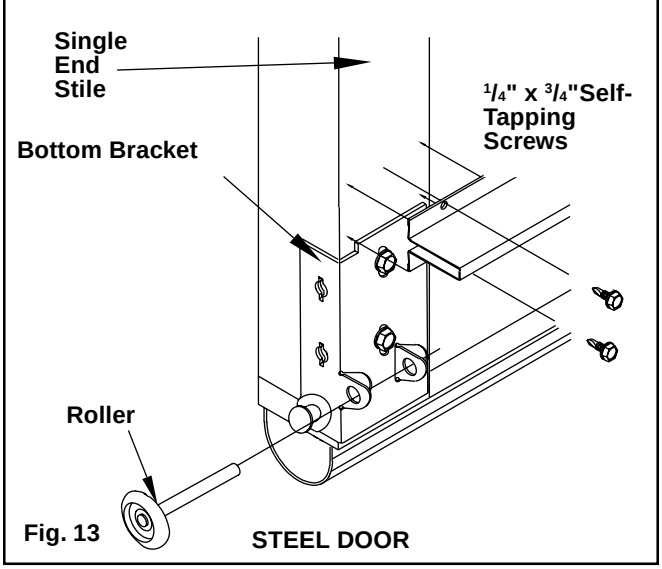


Fig. 13

Step 4: 14 Gauge hinges are used at all end stile locations for Windcode® doors. Insert the (4) sheet metal screws as indicated. Insert the (4) 1/4" x 3/4" self-tapping screws per hinge as shown. Attach #1 center hinges with (4) #14 x 5/8" sheet metal screws. (FIG. 14)

NOTE: For some models, pushnuts are required with the roller installation.

NOTE: Doors installed in high windload regions (Florida and other hurricane prone areas) require additional reinforcement. Please refer Windcode® drawings for these specifications.

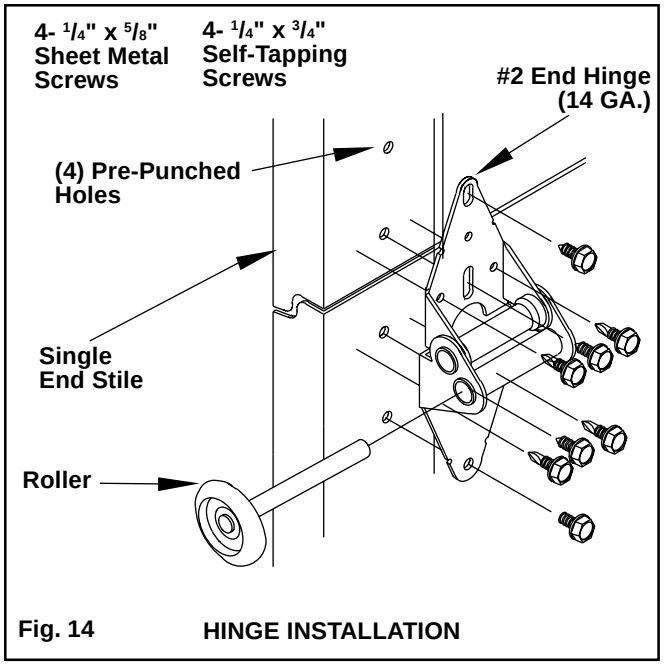


Fig. 14 HINGE INSTALLATION

Lift Handle Instructions

Drill two 1/4" holes straight through the door using the pre-punched holes located at the bottom center of the door as a template. From the outside, enlarge the two 1/4" holes on the outside skin using a 3/8" drill, being careful not to drill through inside stile (vertical support). On insulated doors, remove any excess foam from the 3/8" holes. Insert the 3/8" spacer tubes from the outside of the door. Position each plate on either side of the drilled holes and fasten together with two 1/4" x 20 x 2 3/4" flat head carriage bolts (head should be on outside of door), and two 1/4" flange nuts. (FIG. 15)

NOTE: If the door has a #2 slide bolt lock (pg. 24) the lift handle should be located on the end stile underneath the lock location above the bottom bracket.

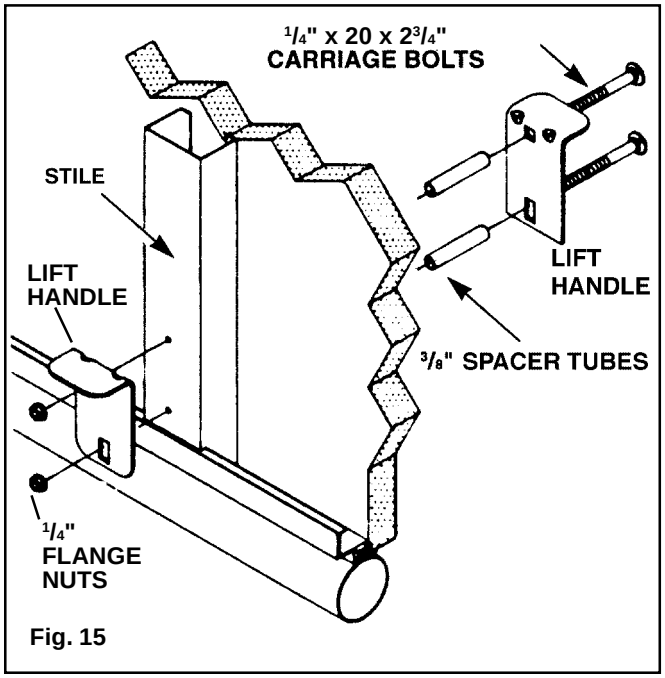


Fig. 15

Step 5: Place the 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. 16)

Step 6: Remove the level and drive a 3" nail in the jambs at each end and bend it over the edge of the section to hold the section in place. (FIG. 17)

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

With the chart (FIG. 18), determine the order in which you will attach the remaining sections.

NOTE: If a lock assembly was ordered with the door, the holes for the lock are pre-drilled. (Lock templates are available for doors without pre-drilled holes.)

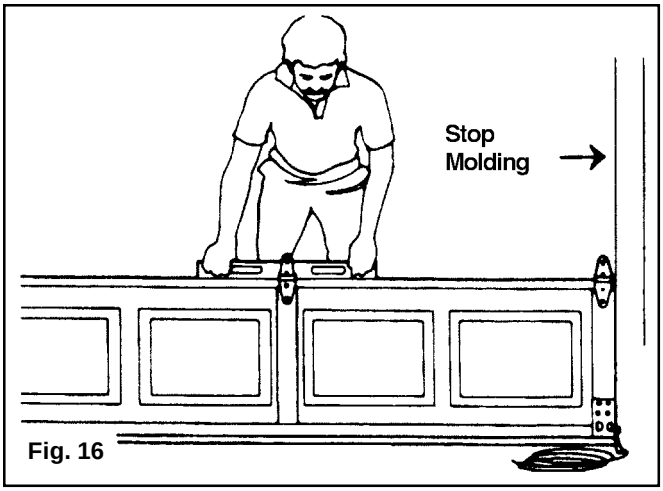


Fig. 16

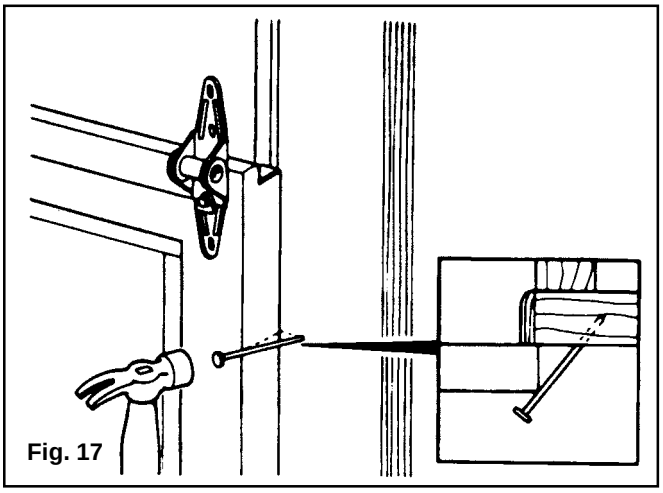


Fig. 17

Door Height	1st Bottom Section	2nd Section (lock section)	3rd*	4th	5th
6'0"	18"	18"	18"	18"	—
6'3"	18"	18"	18"	21"	—
6'6"	21"	18"	18"	21"	—
6'9"	21"	21"	18"	21"	—
7'0"	21"	21"	21"	21"	—
7'6"	18"	18"	18"	18"	18"
7'9"	18"	18"	18"	18"	21"
8'0"	21"	18"	18"	18"	21"

*Section with general safety label.

Fig. 18

Step 7: Place the next section face down on the saw horses. Refer to Windcode® drawings for strut placements. Attach strut to door section with 1/4" x 3/4" self-tapping screws. (FIG. 19)

Note that the strut on the top of the section overlaps the bottom leaf of the hinge. If required, a strut mounted at the bottom of the section can be mounted above the hinge leaf. (FIG. 19A)

NOTE: For some models, pushnuts are required with the roller installation.

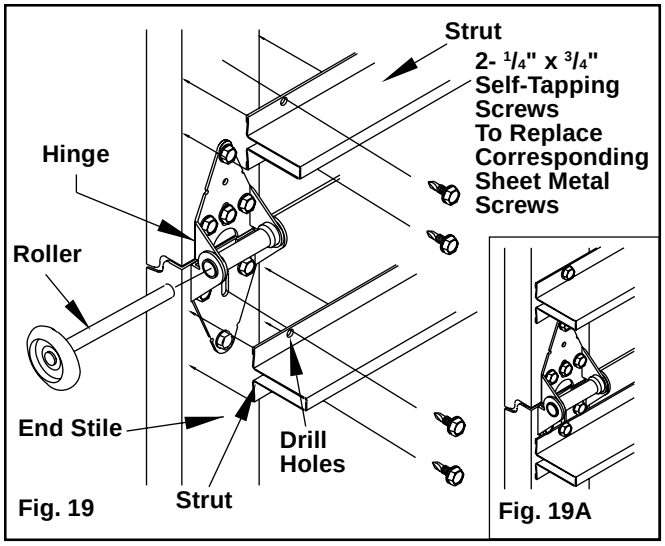


Fig. 19

Fig. 19A

Lock Installation

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

#1 Snap Latch
AUTO-LATCH LOCK ASSEMBLY INSTRUCTIONS

1. Slide the outside handle (1) through the holes in the lock section. Remove the paper from the Foam Gasket (2) and place the gasket between the outside handle and the door skin (be sure the adhesive faces the door). (FIG. 20)

2. Slide the two lock spacers (3) through the top and bottom holes of the lock stile and over the spindles of the outside handle.

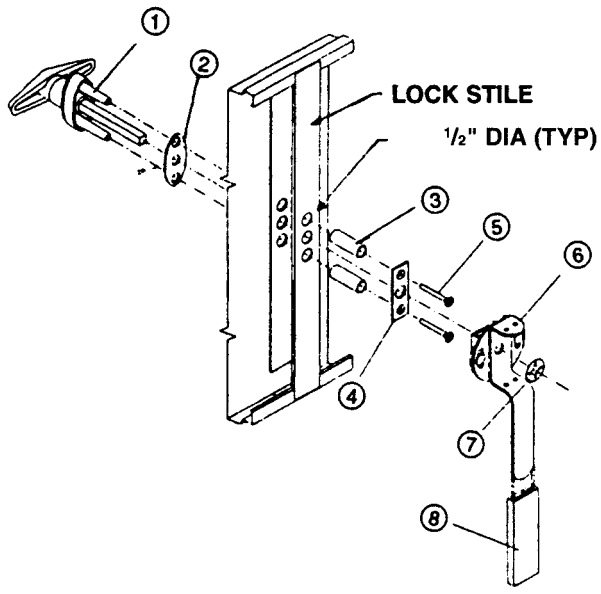
3. Attach the backing plate (4) to the outside handle (1) using two #10 x 24 machine screws (5).

4. Slide the inside release handle (6) over the shaft of the outside handle and secure in place using the Tinnerman nut (7). Be sure the Tinnerman nut is pressed firmly against the inside release handle.

5. Slide the vinyl sleeve (8) over the arm of the inside release handle.

NOTE: The Spring Latches, Striker Plates and Lock Cables are to be assembled after the door and all other hardware is in place.

#1 Snap Latch



No.	QTY.	DESCRIPTION
1	1	Outside "T" Handle
2	1	Foam Gasket
3	2	Lock Spacers
4	1	Backing Plate
5	2	#10 - 24 Machine Screws
6	1	Inside Release Handle
7	1	Tinnerman Nut
8	1	Vinyl Sleeve

Fig. 20

#3 Lock Bar
LOCK ASSEMBLY INSTRUCTIONS

1. Position the two green Tinnerman nuts (1) as shown in the front skin of the door. Attach the outside escutcheon plate (2) to the door by inserting two #10x1" countersunk slotted screws (15) through the plate into the two Tinnerman nuts. (FIG. 21)

2. Insert the spacer tube (9) from the outside face of the door into the predrilled hole by slightly squeezing the ring. Position the cylinder back plate (12) for attachment of the cylinder lock (11) and collar (10) with the screws (16) as shown. (Indent of back plate to face of door.) (FIG. 21)

3. Attach the inside escutcheon plate (3) to the inside of the door using two #10x1" screws (15) inserted directly into the lock stile. (FIG. 21)

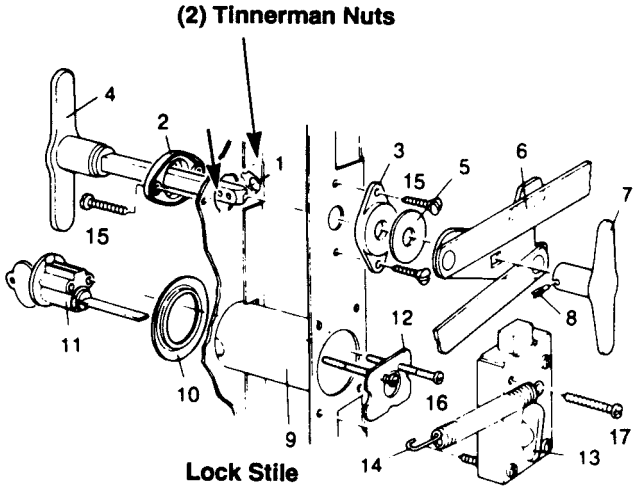
4. Insert the outside T-handle (4) through the door, placing the lock bar assembly (6) through the square spindle of the T-handle from the inside. Next, trap the lock bar assembly by slipping the inside T-handle (7) over the spindle and inserting the roll pin (8) through a hole in the spindle. (FIG. 21)

Steps 5 and 6 can be completed after the vertical track is installed (refer to page 21).

5. Slide an equal number of lock bar guides on each lock bar and line up each bar with the slot in the vertical track after the vertical track is installed. Attach one lock bar guide to each end stile using #14 x 5/8" sheet metal screws. (FIG. 22)

6. If your door is over 10 feet wide, space on the other two lock bar guides equally over the other center stiles and attach each lock bar guide with two #14 x 5/8" sheet metal screws. (FIG. 22)

7. Attach the night latch (13) to the lock stile using the #10x1 1/2" sheet metal screws (17). The lock bar spring (14) should be hooked to the left lock bar. (This is done with door in the unlocked position.) (FIG. 21)



Key blanks are available through Clopay.

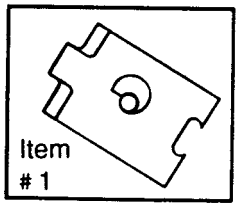


Fig. 21

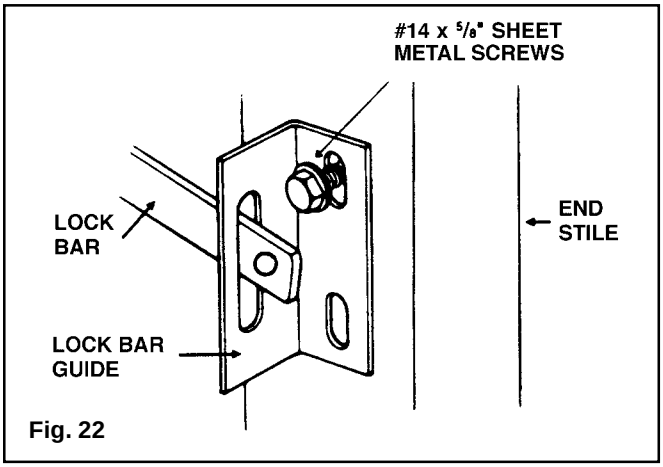


Fig. 22

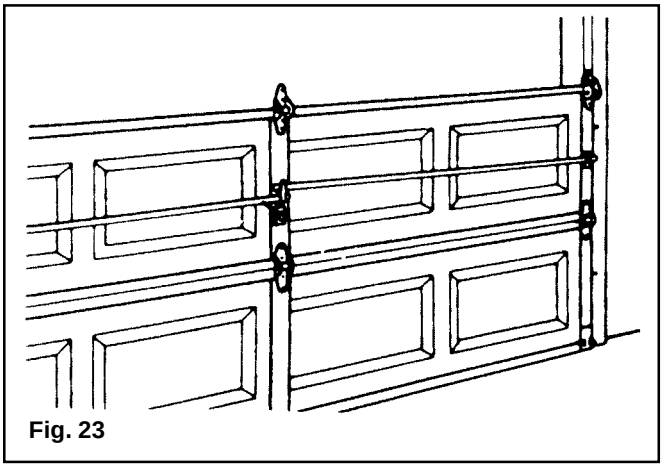


Fig. 23

Installing Door Sections
(Continued)

Step 8: Place the second section on top of the first section. Drive a 3" nail in 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. 23)

Step 9: Place the third section on saw horses. Attach #3 hinges to the ends at the top edge and #1 hinges to all other stiles along the top edge. (FIG. 24)

Step 10: 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 this section. (FIG. 25)

If you have two sections left, repeat Steps 9 and 10 using #4 hinges on the end of the top edge and #1 hinges to all other stiles along the top edge.

Step 11: Place the last section on the saw horses. In most instances, WindCode® doors use a heavier gauge top bracket. Due to this, the holes in the bracket will not line up with the holes in the stiles. Install the top of the top brackets approximately 3" to 3 1/2" below the top of the section with (4) 1/4" x 3/4" self-tapping screws. Once installed, the slide adjustments must be aligned so that the roller lines up with the track so the door will close flush to the door jamb. (FIG. 26)

NOTE: For some models, pushnuts are required with the roller installation.

To attach a strut at the top of the top section it must be placed above the top roller bracket. Attach strut to door section with 1/4" x 3/4" self-tapping screws. (FIG. 27)

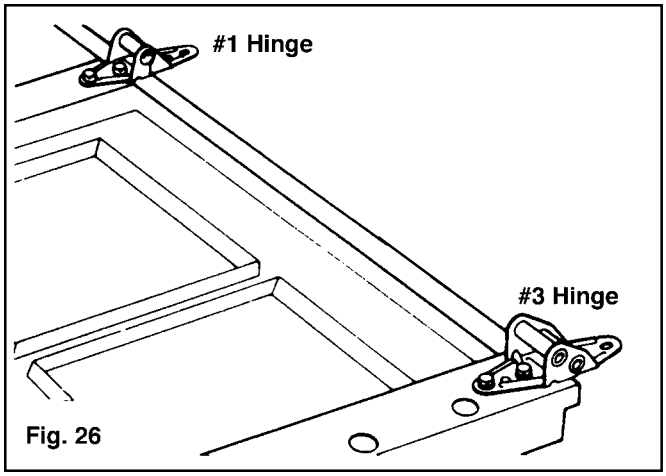


Fig. 26

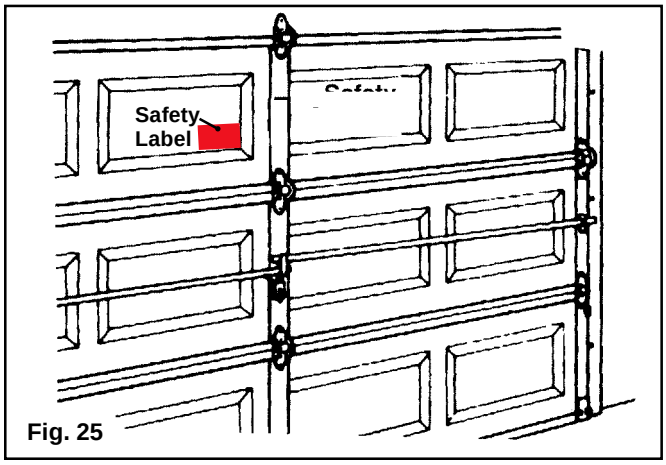


Fig. 25

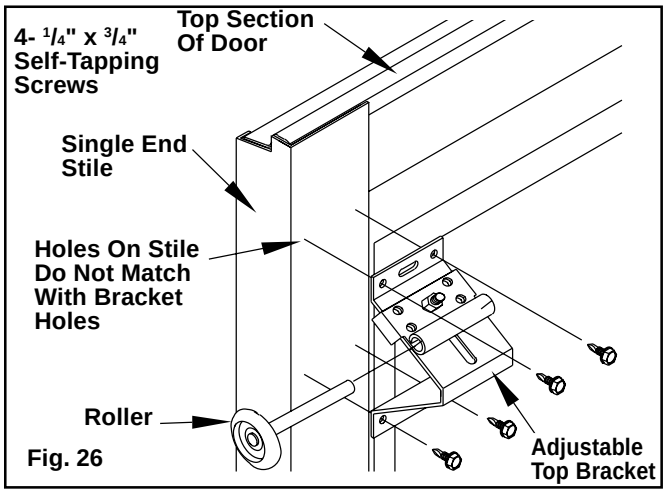


Fig. 26

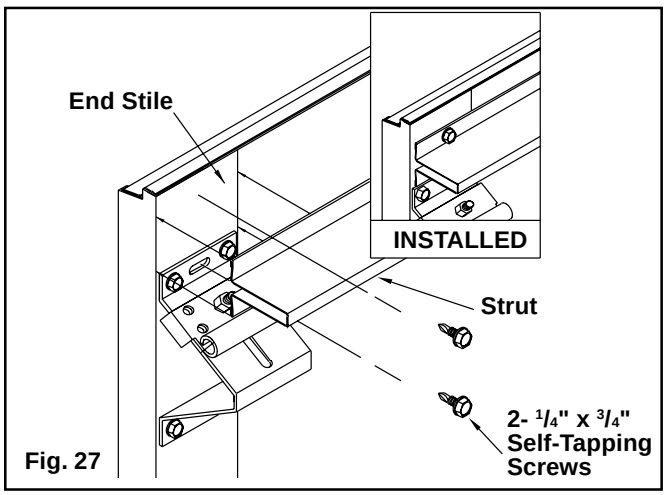


Fig. 27

Step 12: Place the last section on top of the others and nail in place as before. Attach the hinges from the top of the previous section to the bottom of this section.

Roller and Pushnut

To install the pushnut roller, slide the roller into the hinge then slide the pushnut onto the shaft of the roller until it is within an 1/8" to 1/4" from the hinge. (FIG. 28)

NOTE: Do NOT install pushnut before installing roller into hinge. Use 1/2" Deep Draw socket and hammer to tap on pushnuts.

Assembling and Installing the Track

Before assembling brackets to vertical track be sure to read Step 1 and Step 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.

WARNING

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

IMPORTANT

The design of the supporting structural elements (i.e. door jamb) shall be the responsibility of the professional of record for the building or structure and in accordance with current building codes for the loads listed on the technical drawing (attached) for the specific model.

It is also important that the vertical 2 x 6 wood jambs are attached to the supporting structure in a method that is sufficient to transfer the loads exerted by the wind pressures. Some suggested vertical jamb attachment methods are included in the drawings.

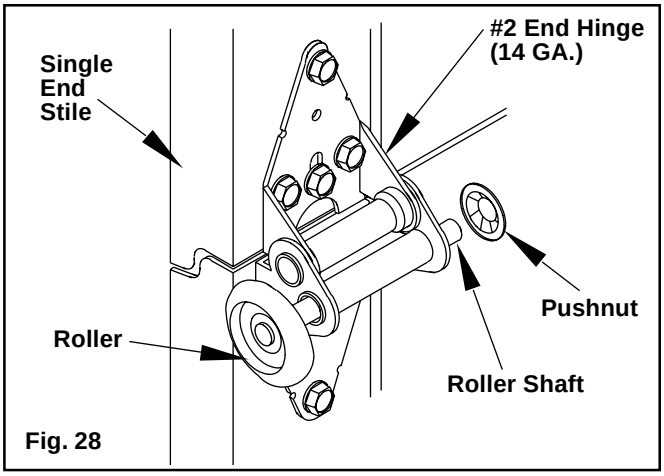


Fig. 28

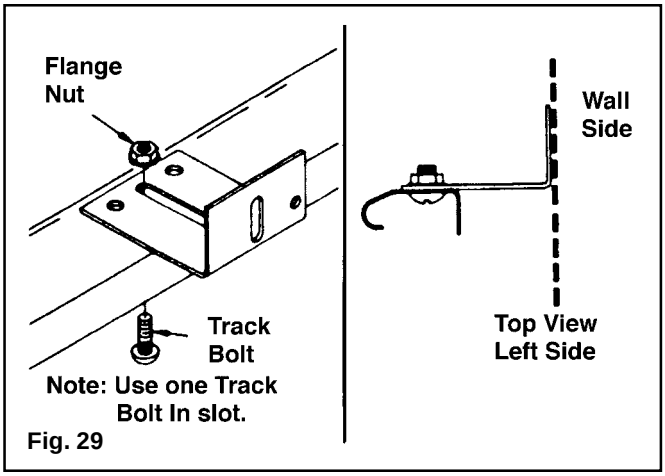


Fig. 29

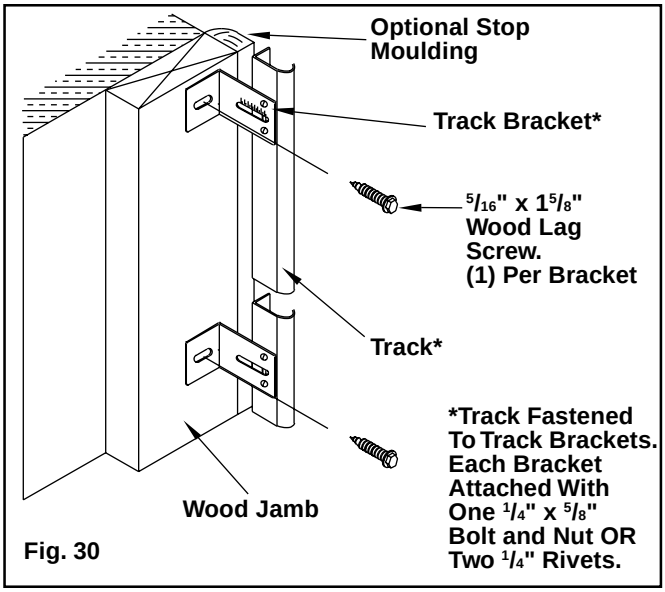


Fig. 30

Track Bracket Placement

Track bracket placement are configured differently according to height. Typically, WindCode® doors require more track brackets than non-WindCode® doors. Refer to Windcode® drawings for track specifications. However, each track bracket is attached to the track and jamb using the same fasteners and method of attachment as non-Windcode® doors. (FIG. 30)

Step 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. There should be 3/8" 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. 31)

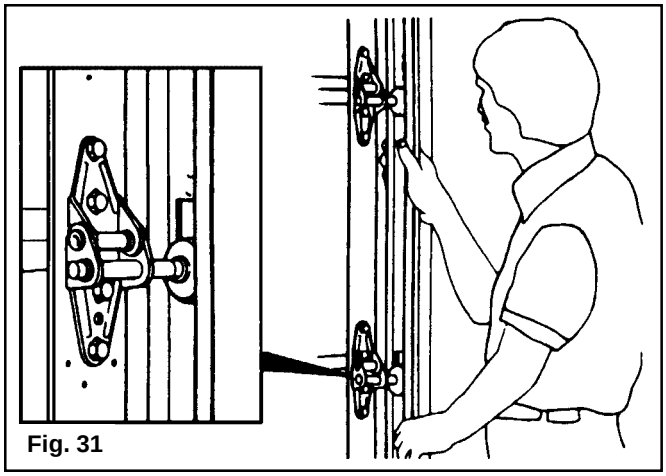


Fig. 31

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 track beyond the bottom rollers on the bottom section of door.

Step 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 pre-assembled, skip Step 4 and proceed with Step 5. (FIG. 32)

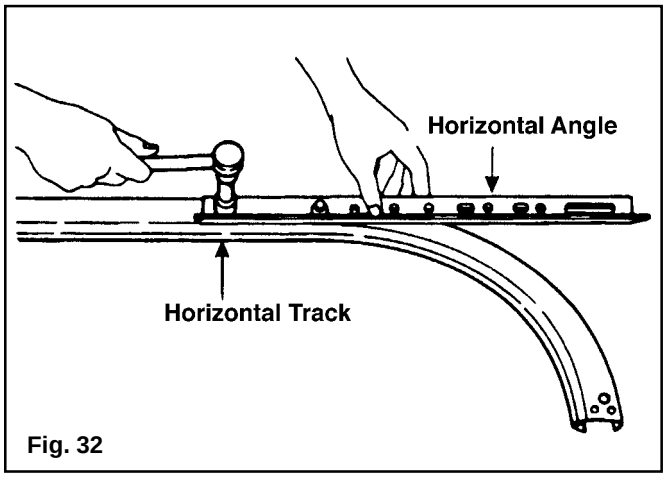


Fig. 32

Step 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. 33)

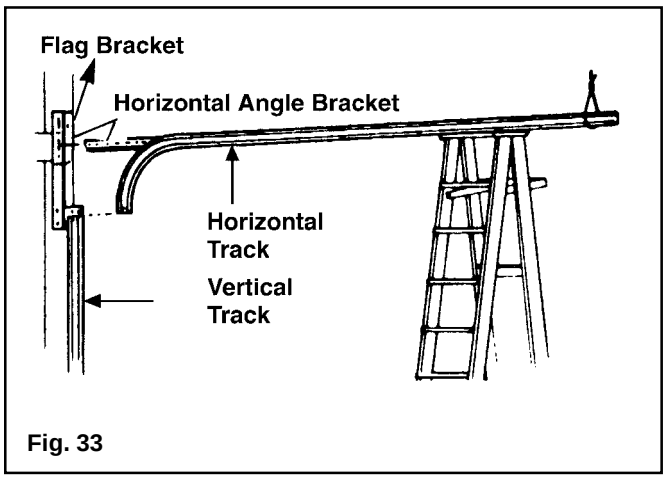


Fig. 33

Step 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. 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. The horizontal and vertical track must join together to form a continuous channel for the rollers. (FIG. 34)

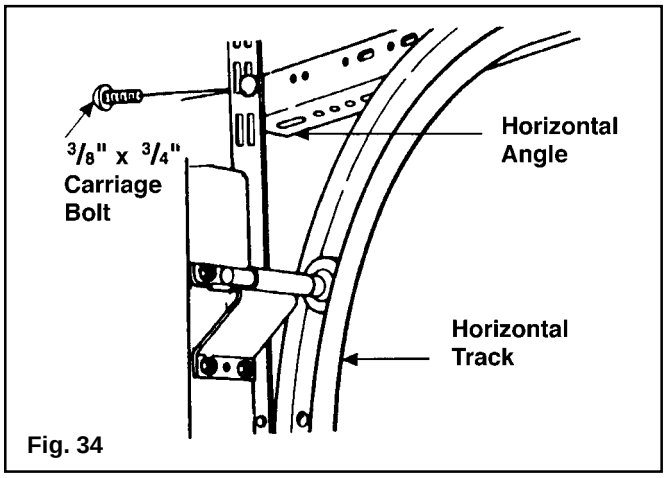


Fig. 34

Step 7: Rear track hangers need to be made at this time. Use 13 gauge or 3/32" material. 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. 35)

WARNING

Sway braces must be used to prevent tracks from spreading and allowing door to fall. Bolts placed in the end of each track (FIG. 37) must be at least 1" long to prevent the top section from exiting the track.

Step 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.

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. 36)

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. (FIG. 36)

WARNING

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

Step 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. 37 and 38)

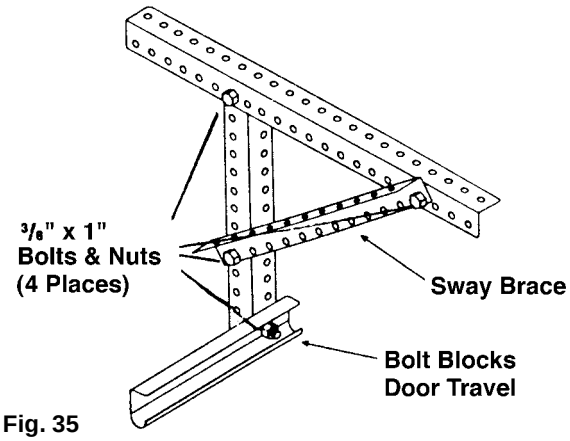


Fig. 35

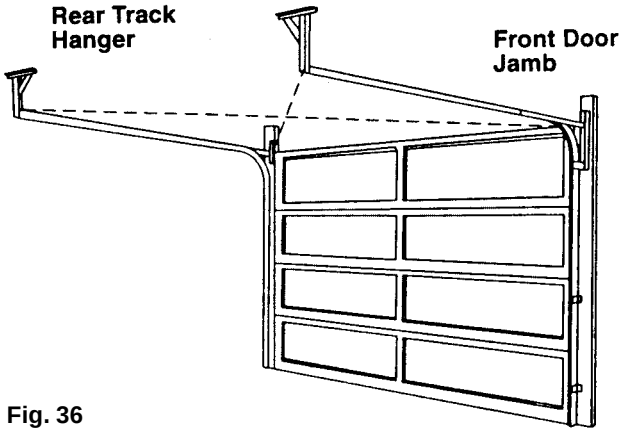


Fig. 36

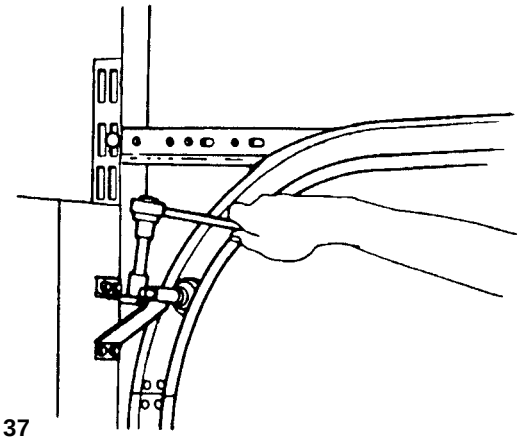


Fig. 37

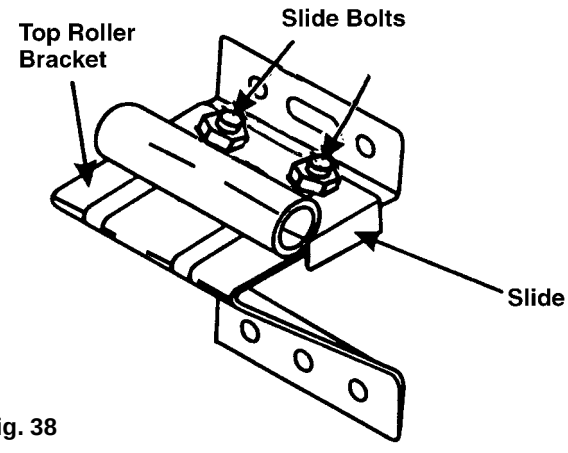


Fig. 38

Step 10: Completing the Lock Assembly
(doors with locks only)

NOTE: 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.

#3 Lock Bar ASSEMBLY INSTRUCTIONS FOR LOCK BAR GUIDES

Adjust the lock bar guides so that the lock bars enter the lock holes in the track at both sides of the door. Fasten each lock bar guide with two #14 x 5/8" sheet metal screws. (FIG. 39)

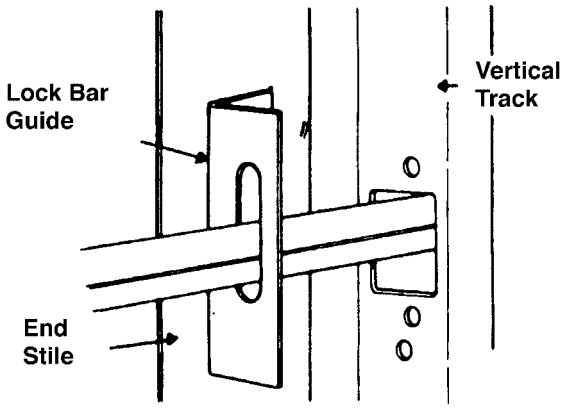


Fig. 39

1 Snap Latch Assembly Instructions For Spring Latches and Striker Plates

NOTE: If attaching an automatic garage door opener, the spring latches and striker plates should not be installed.

Step 1: Once the door is completely assembled attach the striker plate (1) to the track using two 1/4" x 5/8" track bolts (2) and two 1/4" flange nuts (3). Insert bolts through the two 9/32" holes located top and bottom of the large knock-out. NOTE: Be sure the striker plate wraps around the back of the track as shown. Do not tighten. (FIG. 40)

Step 2: Place the spring latch (4) on the end stile of the door section and align the spring latch with the striker and the holes in the stile. Secure using two #14 x 5/8" sheet metal screws (5). Make sure that the striker fits around the spring latch and secure in place.

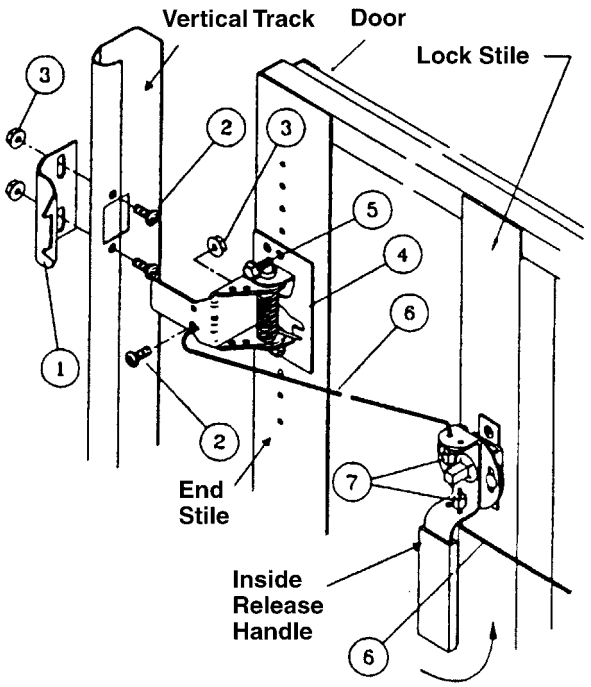
For Lock Cables

NOTE: If the lock is located in the center of the door width, cut lock cable (6) in half and go to step three.

Step 1: Rotate the inside release handle counter clockwise until it stops. Measure from the top left hole in the handle to the end of the left spring latch.

Step 2: Take the lock cable (6) and, using the measurement just obtained, measure from the inside of the cable stop (7) and cut cable.

#1 Snap Latch



NO.	QTY.	DESCRIPTION
1	2	Striker Plate
2	6	1/4" - 20 x 5/8" Track Bolt
3	6	1/4" - 20 x Hex Washer-Hd Nut
4	2	Spring Latch
5	4	#14 x 5/8" Sheet Metal Screw
6	1	Lock Cable (To Be Cut)
7	2	Cable Stop (Pre-Attached)

Fig. 40

Step 3: Thread the cable through the left hole in the top of the inside release handle from the underside until the stop button comes into contact with the handle. Extend the cable to the left spring latch and feed the end of the cable into the hole as shown, and secure in place with one 1/4" x 5/8" track bolt (2) and 1/4" nut (3).

NOTE: Be sure to pull cable taut before securing in place.

Step 4: Repeat for other side using the remaining cable and the right hole on the lower part of the handle. Some torsion spring doors only have one cable.

#2 Slide Bolt

The inside bolt is installed on the end stile of the second section using (4) #14 x 5/8" hex head sheet metal 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. (FIG. 41)

NOTE: 3/16" holes may have to be pre-drilled before installing screws.

Pull Rope (Manually Operated Doors)

Step 11: To complete the door section installation, tie the pull rope provided to the bottom roller shaft. (FIG. 38)

WARNING

In order to avoid the risk of strangulation, the pull rope must be removed when installing an electric opener.

Step 11: For manually operated doors only, drive the #6 eye screw into the jamb approximately 40 inches from the floor. Tie one end of the rope to the bottom roller shaft and the other to the eye screw. (FIG. 42)

Step 12: At this time, remove the 3" nails which were used to hold sections in place prior to installation of the track assembly. (Refer back to FIG. 17).

NOTE: Proceed to springing instructions that match your door.

#2 Slide Bolt

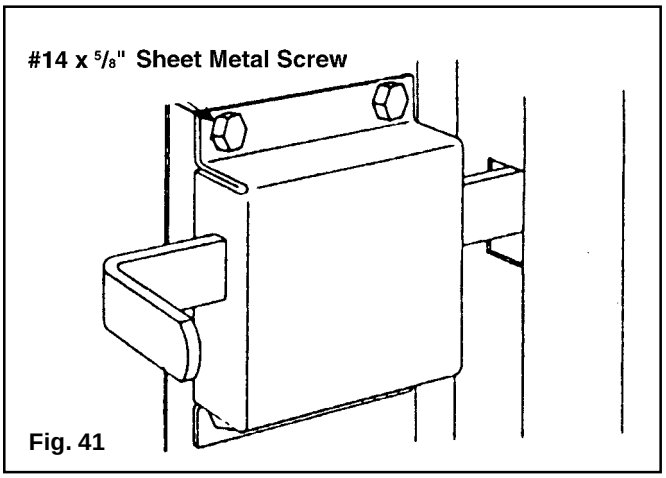


Fig. 41

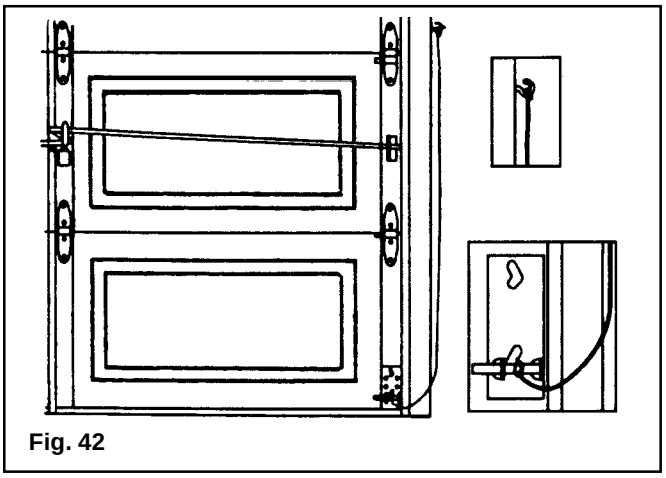


Fig. 42

Assembling and Installing Extension Springs

If you have torsion springs, go directly to page 28. If you have EZ-Set Torsion or Extension Springs™, refer to the supplemental instructions provided with the spring kit.

Step 1: Some doors will be supplied with two springs and some will have four. Assemble springs with sheaves on the floor. A $^{3}/_{8}$" x $1^{1}/_{4}$" bolt and nut are used to attach the sheave. (FIG. EXT-1)

NOTE: If your door was supplied with four large extension springs, take notice of the color coding on the ends of the springs. If the color codes on two of the springs are different from the other two, be sure to use one of each on each side so that the spring tension is equal on both sides.

Step 2: Attach a sheave in the 3rd hole on the angle approximately 4 inches from the wall on both sides. Use a $^{3}/_{8}$" x $1^{1}/_{4}$" bolt, $^{3}/_{8}$" washer and nut. The head of the bolt must be on the door side. (FIG. EXT-2)

Step 3: Attach the eye bolts with one $^{5}/_{16}$" nut on each side of the rear hanger. The eyebolts should be about 12 inches above the track to keep the spring assembly from dragging on the track. The eyebolts can be as low as 4 inches above the track if you have space problems. Tighten the eyebolt nuts. (FIG. EXT-3)

Step 4: Carefully raise the door and prop it about halfway open. (FIG. EXT-4)

WARNING

This is the first time the new door is being opened. If the tracks are not correctly aligned or the back hangers are not strong enough the door may fall. Also, the door will be very heavy without the help of the springs. Have two or more people help you. Proceed slowly and carefully.

Check to be sure the horizontal tracks are parallel with each side of the door. With the door about halfway open, make sure the rollers do not come out of the top brackets more than about $^{1}/_{2}$". If adjustment of the rear hangers is necessary, lower the door first because the weight of the door is supported by the rear hangers.

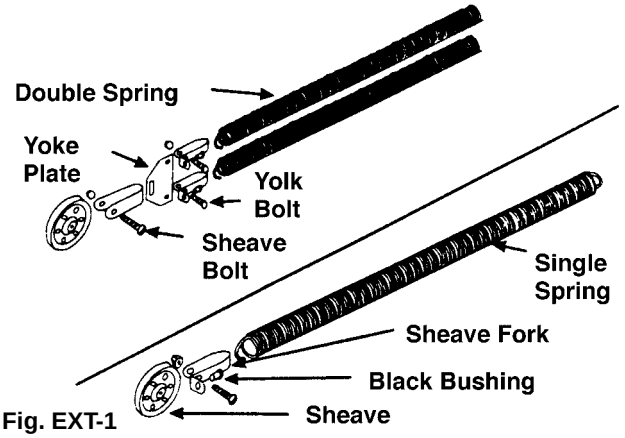


Fig. EXT-1

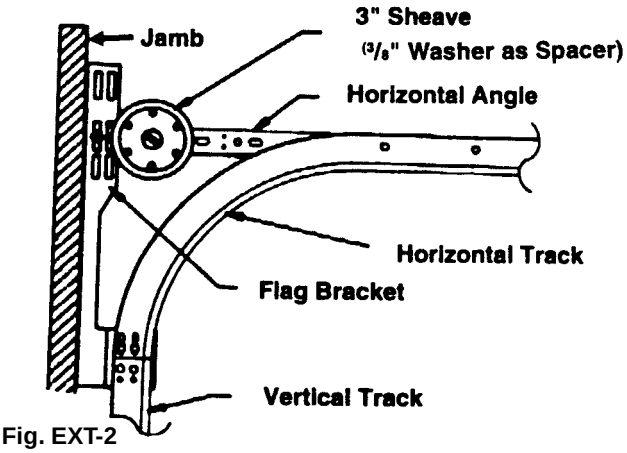


Fig. EXT-2

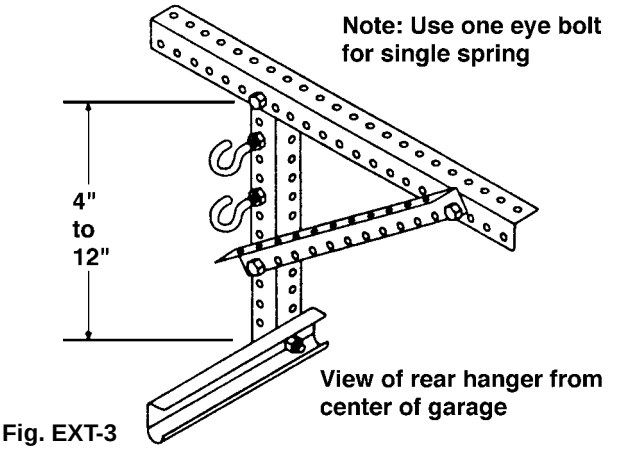


Fig. EXT-3

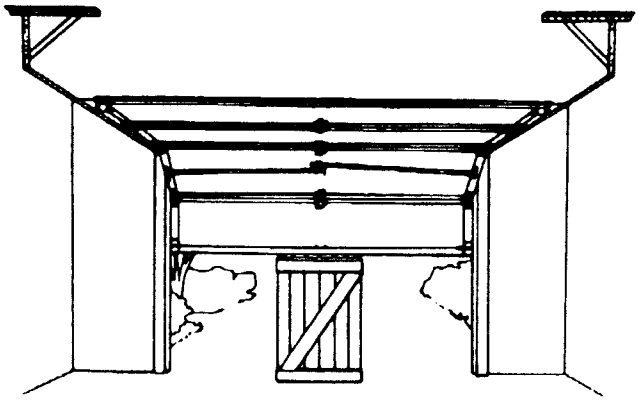


Fig. EXT-4

Step 5: Carefully raise the door to fully open position. Place “C” clamps on both sides of the track below the bottom rollers to keep the door from falling closed. (FIG. EXT-5)

Check again to be sure the horizontal tracks are parallel with the edges of the door. The rollers must not come out of the hinges or brackets.

Step 6: Hook the ends of the springs over the eyebolts at the rear track hangers.

Attach the loop of a cable over the button on the bottom bracket, if not done so already. Thread the cable up over the stationary sheave. (FIG. EXT-6)

Continue the cable over and around the sheave on the springs. (FIG. EXT-7)

Step 7: Tie the cable to the three hole adjusting clip exactly as shown in FIG. EXT-8A. Hook the cable to the horizontal angle with an “S” hook. Adjust the knot at the three hole adjusting clip. Adjust so that all spring tension is relieved and the cable holds the springs above the horizontal track. The springs should be stretched the same on both sides of the door. (FIG. EXT-8)

Important: Attach the warning tag found in the white envelope with orange print to the spring assembly (This tag may already be attached). (FIG. EXT-9)

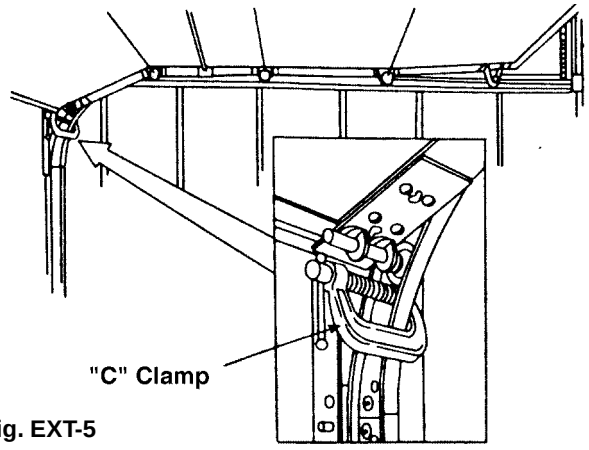


Fig. EXT-5

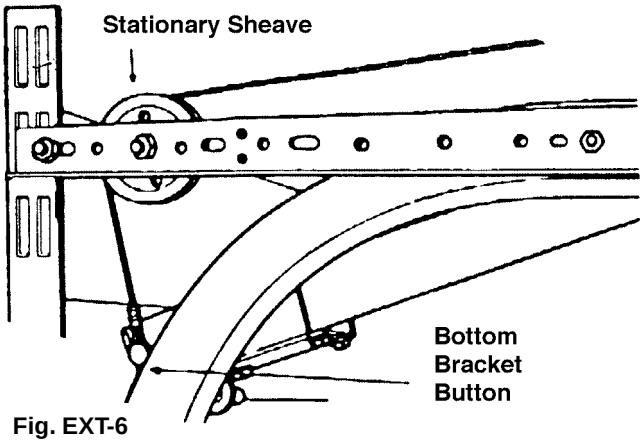


Fig. EXT-6

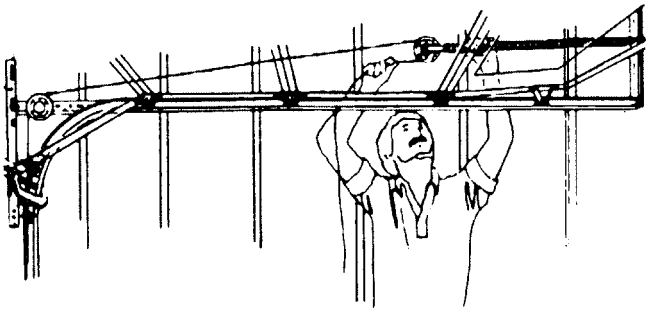


Fig. EXT-7

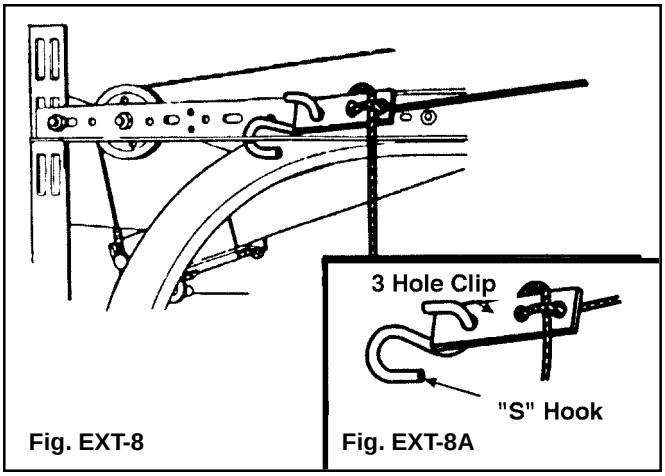


Fig. EXT-8

Fig. EXT-8A

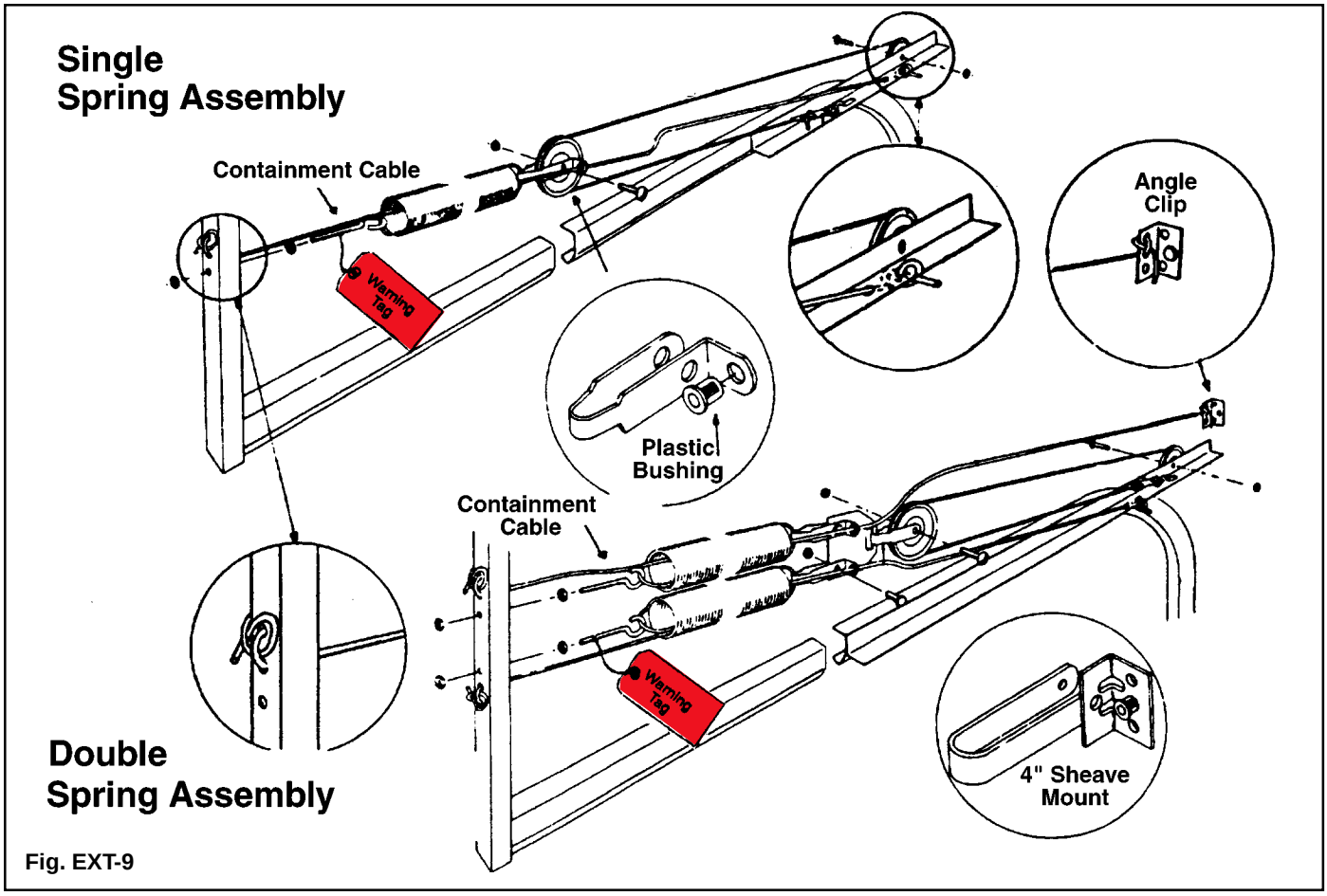


Fig. EXT-9

Installing Safety Containment Kit

WARNING

Garage door extension springs can cause serious injury and property damage if they break under tension and are not secured with safety cables. Do not neglect the following step.

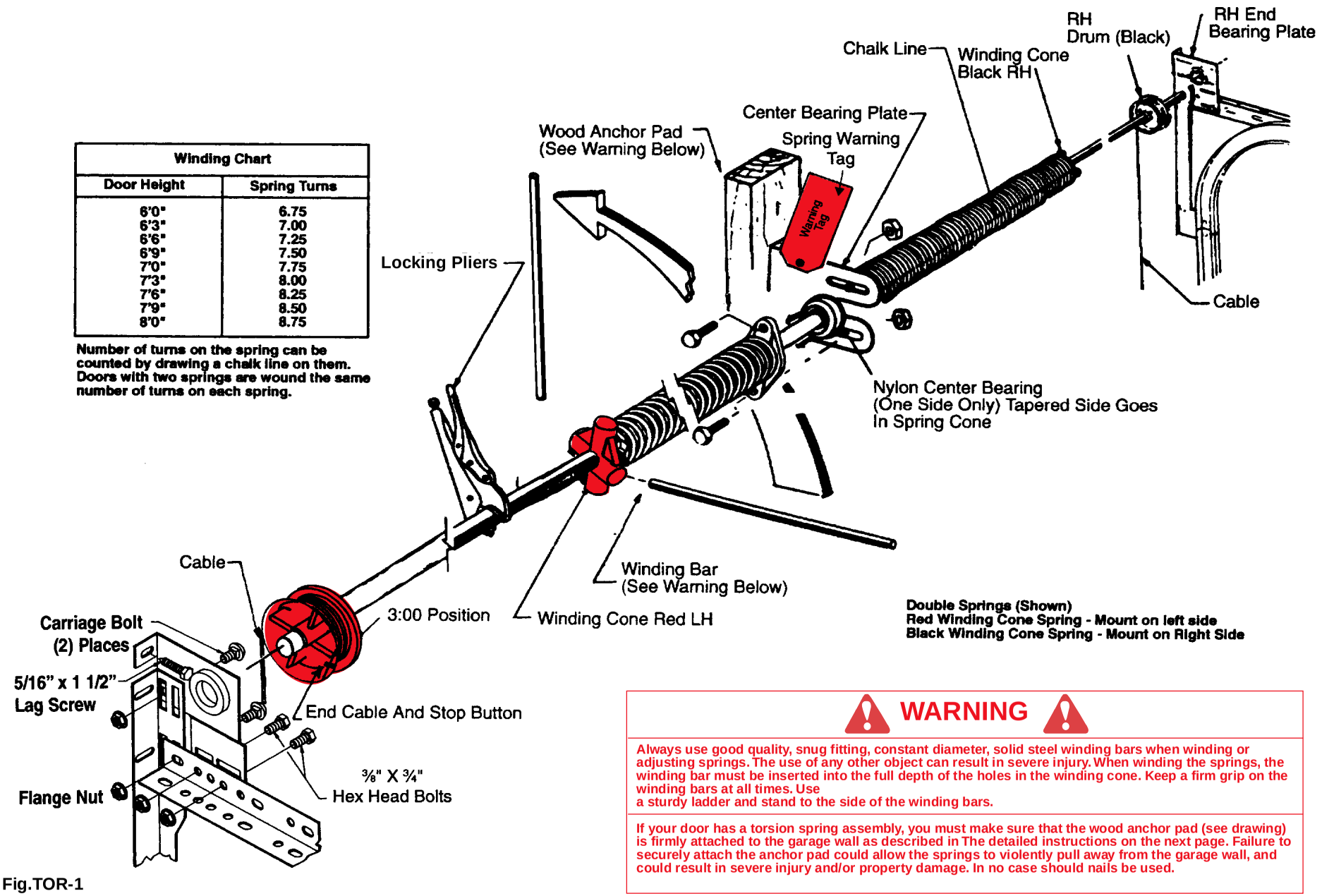
Step 8: Tie one end of the ⅛" containment cable to the rear track hangers. Tie the cable as shown in the illustration (FIG. EXT-9). Thread the cable through the center of the extension spring and through the bushing in the sheave fork. Tie the remaining end to the horizontal angle as shown. This must be done for each of the springs.

NOTE: If your door has four extension springs, tie the upper containment cable to an angle clip mounted to the jamb. (FIG. EXT-9)

Torsion Spring Installation

Winding Chart	
Door Height	**Spring Turns**
6'0"	6.75
6'3"	7.00
6'6"	7.25
6'9"	7.50
7'0"	7.75
7'3"	8.00
7'6"	8.25
7'9"	8.50
8'0"	8.75

Number of turns on the spring can be counted by drawing a chalk line on them. Doors with two springs are wound the same number of turns on each spring.



Double Springs (Shown)
Red Winding Cone Spring - Mount on left side
Black Winding Cone Spring - Mount on Right Side

Fig.TOR-1

WARNING

Always use good quality, snug fitting, constant diameter, solid steel winding bars when winding or adjusting springs. The use of any other object can result in severe injury. When winding the springs, the winding bar must be inserted into the full depth of the holes in the winding cone. Keep a firm grip on the winding bars at all times. Use
a sturdy ladder and stand to the side of the winding bars.

If your door has a torsion spring assembly, you must make sure that the wood anchor pad (see drawing) is firmly attached to the garage wall as described in The detailed instructions on the next page. Failure to securely attach the anchor pad could allow the springs to violently pull away from the garage wall, and could result in severe injury and/or property damage. In no case should nails be used.

Torsion Spring Installation

PRECAUTIONS

WARNING

Torsion springs can be very dangerous if they are improperly installed or mishandled. Do not attempt to install them yourself unless 1) you have the right tools and reasonable mechanical aptitude or experience and 2) you follow these Instructions very carefully.

Tools Required for Torsion Spring Installation:
1. Drill
2. 3/16" drill bit
3. Two 9/16" box wrenches
4. 7/16" socket wrench
5. 3/8" box wrench
6. Two 1/2" diameter, 18" long cold rolled solid steel winding bars (NOTE: Winding bars are available at most hardware stores)
7. Locking pliers

Step 1

It is important that the torsion spring assembly be firmly and securely attached to the frame of the garage.

Refer to Figure 8, page 13 for the configuration of 2"x 6" wood jambs. **Important:** The wood anchor pad must be made of a Grade 2 or better Southern Yellow Pine (also known as Southern Pine or Yellow Pine). The Southern Yellow Pine must be free of splits and cracks. **Do not use wood labelled as Spruce Pine Fir (or SPF).**

Each side jamb and the center anchor pad should extend 12" above the top of the opening for 12" radius horizontal track and 15" above the top of the opening for 15" radius horizontal track.

The wood anchor pad must be installed into the frame of the garage with at least four 3/8" x 4" long lag screws (one at each corner). The four lag screws must be installed no closer than 1 1/2" from the sides and the ends of the 2 x 6. These lag screws must fasten into the wood frame of the garage, not the drywall or sheet rock. The wood anchor pad and 3/8" x 4" lag screws are not supplied. **Do not use nails.**

NOTE: The wood anchor pad can be off-center to the width of the opening by up to 10" in either direction.

Step 2

Lock the door in the down position securely. This must be done to prevent the door from prematurely opening which could cause an injury!

NOTE: You need an assistant in Step 4. If your garage has only one entrance, be sure you, the assistant, and the tools you need are inside before you lock the door. Your door will have either one or two torsion springs. Each torsion spring consists of spring coils, stationary cone, and a winding cone (FIG. TOR-1). The spring coils are color coded depending on the spring size and the **winding cone** is color coded separately, either **red** or **black.** The color on the winding cone is to help identify on which side of the door the spring is to be used.

Black winding cone torsion springs are used on the right side of the door and red winding cone torsion springs are used on the left side of the door when viewing the door from the inside looking out. Failure to install the torsion springs on the correct side will cause your door to function improperly and could result in serious injury. (NOTE: If you have low headroom, these instructions DO NOT APPLY. Consult supplemental low headroom instructions.)

Slip the torsion springs onto the spring tube. The **red** winding cone on the **left** end, the nylon center bearing, center bearing plate, and the **black** winding cone torsion spring on the **right** end. (FIG. TOR-2) Cable drums go on next. The **red** drum on the left, **black** drum on the right. The set screws on the drums face the springs.

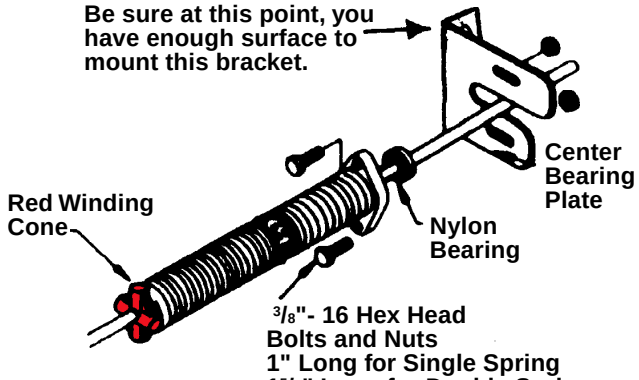


Fig. TOR-2

Step 3

Fasten the bottom of the end bearing plate to the horizontal angle with (2) 3/8" x 3/4" long hex head bolts and hex nuts. The bottom of the end bearing plate is identified by two parallel rows of two slots. Please make sure to use the bottom two slots for 12" radius horizontal track, and the upper two slots for 15" radius horizontal track. When properly mounted the torsion tube is level and straight. (FIG. TOR-3)

Before installing any lag screws, it is important to drill 3/16" pilot holes where the lag screws are to be attached. Fasten the wall flange on the end bearing plate to the wood jamb with (1) 5/16" x 1 5/8" long lag screw. Drill 3/16" pilot holes where lag screws are to be installed. On 12" radius horizontal track, each end bearing plate should also be attached with 3/8" x 3/4" carriage bolts and 3/8" nuts. (FIG. TOR-3)

Step 4

With an assistant, lift the complete torsion spring tube assembly and slide the ends of the tube into the bearing on the end bearing plates. With the tube level, mount the center bearing plate to the center anchor pad using (2) 5/16" x 1 5/8" long lag, red-coated screws.

NOTE: Red coated fasteners must be installed for the attachment of center bearing plate to indicate this part will be under extreme tension once spring is wound. (FIG. TOR-4)

Before mounting the center bearing plate, drill (2) 3/16" pilot holes for the lag screws. These pilot holes must be no closer than 1 1/2" from the sides and ends of the wood anchor pad. The center bearing plate resists the considerable counter torque of the springs. This wood anchor pad must be installed to the frame of the garage as stated in **Step 1.**

Step 5

The cable that is attached to each bottom bracket is brought up between the wall and roller shafts to the cable drum. This cable is placed in the notch on the cable drum. Turning the cable drum and sliding it up tight against the end bearing plate removes the cable slack. **Make sure the cable follows the groves in the cable drum.** The set screws on the cable drum should be tightened with a 3/8" box wrench while holding the cable taut. Locking pliers clamped to the torsion spring tube maintain tension on the cable. (FIG. TOR-1) This procedure should be repeated on the opposite side.

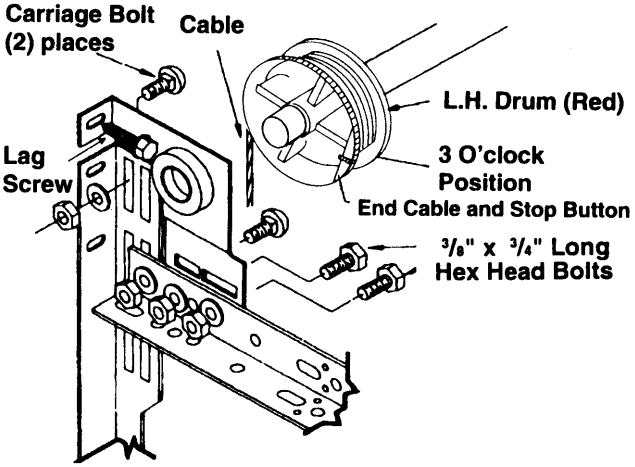


Fig. TOR-3

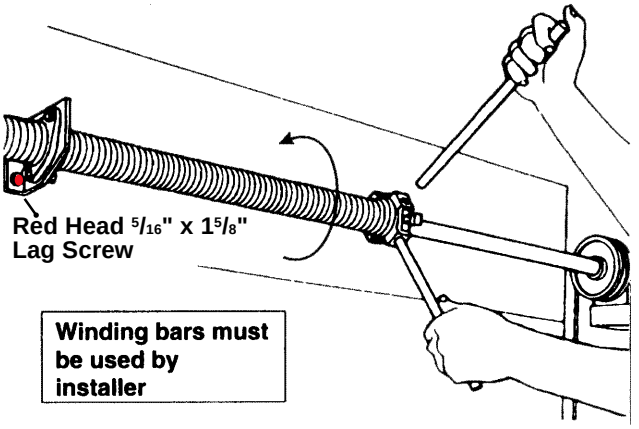


Fig. TOR-4

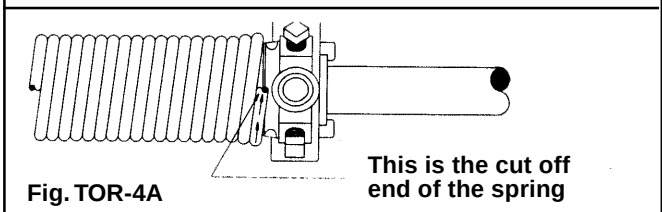


Fig. TOR-4A

Step 6

Draw a chalk line across the spring(s). This will be used to indicate the number of turns on the spring(s). After inserting the two winding bars all the way into the winding cone, wind the springs 1/4 turn at a time in an upward direction as shown in FIG. TOR-4. The number of turns is shown in the table in FIG. TOR-1. The tail of the torsion spring coil points in the direction that the spring is wound. (FIG. TOR-4A)

WARNING

NEVER use screwdrivers or other substitutes for winding bars! Stand to the side of bars. Be sure to insert the bars all the way into the hole.

Secure each spring with the set screws on the winding cone. (**Caution:** Set screws should be turned from 3/4 to one full turn after they have made contact with the tube.) On doors with two torsion springs, each torsion spring should be wound the same number of turns. Remove the locking pliers.

Step 7

Unlock the door, slowly raise the door and prop it about halfway open.

WARNING

This is the first time the new door is being opened. If the tracks are not correctly aligned or the back hangers are not strong enough, the door may fall. Proceed slowly and carefully.

Check to be sure the horizontal tracks are parallel with each side of the door. Make sure all the lag screws are securely fastened. With the door about halfway open, make sure the rollers do not come out of the top brackets more than about 1/2 inch. If adjustment of the rear track hanger is necessary, the door must be locked in the closed position because the weight of the door is supported by the rear hangers.

NOTE: If the torsion springs do not increase in tension as the 1/4 turns are added to the springs, then you probably have the torsion springs reversed. (See **Step 2.**)

Step 8

To adjust torsion spring tension, the door is locked in the down position. With locking pliers clamped on the torsion tube, winding bars are used to wind the springs tighter to increase tension. Tension is reduced by removing turns. When two springs are used, both sides should be adjusted the same. Adjustments should be made in 1/4 turn increments.

WARNING

NEVER adjust center bearing plate or red-coated fasteners after springs are wound. Be prepared to handle a strong force when reducing tension on a torsion spring. Use winding bars only, and stand to the side.

Maintenance/Adjust./ Options

Checking & Adjusting the Door

The door should open and close easily. With proper adjustment the door will hang into the opening 4" to 6". An electric opener can be adjusted so the door is pulled completely even with the opening. If the door is difficult to open but falls closed, more spring tension is required. If the door opens by itself and is difficult to close, less spring tension is required.

To adjust extension spring tension, use two "C" clamps to carefully clamp the door in the open position. Tension can be changed by moving the "S" hooks to different holes in the horizontal track angles or by adjusting the cable in the three hole clip. Both sides must be adjusted equally. Moving the hooks closer to the door opening increases tension.

Tension can also be adjusted slightly by releasing spring tension and relocating the eyebolts higher on the track hanger. When reinstalling, the higher the eyebolt, the greater the tension.

WARNING

Use extreme care when readjusting extension springs and make sure that the door is carefully secured by "C" clamps in the open position before you begin. When the door is closed, the springs and mounting hardware are under extreme tension and are potentially dangerous.

Binding of the door near closed and/or open position requires the track positioning to be checked. The track can be moved away from the door by adjusting the jamb or flag brackets. Care must be taken that the rollers remain in the hinges and do not come out of top roller brackets. Binding can also occur if the molding is attached too tightly against door. The door stop molding should be repositioned lightly against the door. Allow the thickness of a dime between the door stop molding and the door.

Do not attempt to adjust or repair torsion springs. You may not be prepared to handle the release of spring forces. Call a professional door service company for repairs of adjustments.

Maintenance

Cleaning the Door

In order to prevent damage (rusting) caused by foreign matter adhering to the door, the door should be cleaned at least twice a year. The door should be wiped down with a mild household detergent and rinsed with clear water.

Annually do the following:

Lubrication

Lubricate all moving parts of the door with light household oil, including:

- Lift cables at the bottom bracket button,
- Bearing of the sheaves,
- Lock hardware where surfaces turn or slide,
- Full length of torsion spring to reduce friction between coils,
- Lubricate steel rollers. **DO NOT** lubricate nylon rollers.

Check door hardware

1. Check for loose or bent hinges.
   - Tighten loose hinges.
   - Straighten or replace bent hinges.

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

   A) Door must be locked and in the down position.

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

   C) Under no circumstances should you loosen or remove the bottom bracket without disengaging the spring tension. (Follow instructions on page 6 for removing extension springs.)

2. Check roller for broken wheels, bent shafts, or worn out bearings.

3. Check the door and track supports for loose or missing bolts, screws, etc. and tighten. Be careful not to overtighten.

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 which includes 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), and 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).

Attaching an Automatic Opener

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. (See Page 13)

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 1 1/4" x 1 1/4" minimum punched angle at least 13 gauge or 3/32" thick from your local hardware or building supply store. See chart below for number of pieces, length of pieces, and fasteners required for your specific door. Figures AO-1 – AO-9 show how punched angle is to be affixed to door.

Do NOT install the bracket supplied with the opener. Failure to reinforce the door, as illustrated, will void your warranty.

The operator arm will usually be attached to the vertical angle at roughly the same height as the top roller of the door. Attach the opener arm directly to the punched angle. To prevent the top of the door from bending, the opener rail should be mounted no less than 2" or greater than 5" from the top of the door with the door in the open position (FIG. AO-2)

For attachment of the opener arm to vertical angle iron, use one 3/8" x 3/4" bolt and two 3/8" nuts tightening one nut against the other to prevent the nuts from loosening on the bolt. Do not tighten the nuts against the opener arm (opener arm must be allowed to rotate freely.) (FIG. AO-3)

NOTE: If the WindCode® door requires a strut across the top of the top section, this takes the place of any horizontal angle iron required. The vertical angle as shown is still required on WindCode® Doors.

Angle Iron & Fasteners Required for Automatic Opener Reinforcement

Door Width	Non-Insulated Doors		Insulated Doors1, 3		Angle Iron Required2
Up to 9'10"	**6 EA**	1/4" x 1" Bolts 1/4" Lock Washers 1/4" Nuts	**4 EA**	1/4" x 1" Bolts, 1/4" Nuts 1/4" Lock Washers 1/4" x 3/4" Sheet Metal Screws	(1) 48" piece (1) 21" piece
10'0 to 14'10"	**9 EA**	1/4" x 1" Bolts 1/4" Lock Washers 1/4" Nuts	**5 EA** **5 EA** **4 EA**	1/4" x 1" Bolts, 1/4" Nuts 1/4" Lock Washers 1/4" x 3/4" Sheet Metal Screws	(2) 48" piece (1) 21" piece
15'0" to 15'10"	**9 EA**	1/4" x 1" Bolts 1/4" Lock Washers 1/4" Nuts	**7 EA** **7 EA** **2 EA**	1/4" x 1" Bolts, 1/4" Nuts 1/4" Lock Washers 1/4" x 3/4" Sheet Metal Screws	(2) 48" piece (1) 21" piece
16'0" to 18'10"	**2 EA**	1/4" x 1/2" Bolts 1/4" Lock Washers 1/4" Nuts	**3 EA**	1/4" x 3/4" Sheet Metal Screws	(1) 21" piece
19'0" to 20'0"	**9 EA**	1/4" x 1" Bolts 1/4" Lock Washers 1/4" Nuts	**7 EA** **7 EA** **2 EA**	1/4" x 1" Bolts, 1/4" Nuts 1/4" Lock Washers 1/4" x 3/4" Sheet Metal Screws	(2) 48" piece (1) 21" piece

1 On Insulated Doors, the sheet metal screws are to be used instead of nuts and bolts where angle iron attaches to center stile.

2 Angle iron may have to be trimmed depending on door section height and distance between center stiles.

3 When insulated steel doors use 1/4" sheet metal screws, each screw location should be predrilled to 5/32".

Horizontal Angle Iron Attachment

Attach the horizontal punched angle (the longer piece) to the top and /or bottom lip of the door as shown in Figure AO-1. Some doors with struts may not need a horizontal angle, see figure for your specific door on the following page.

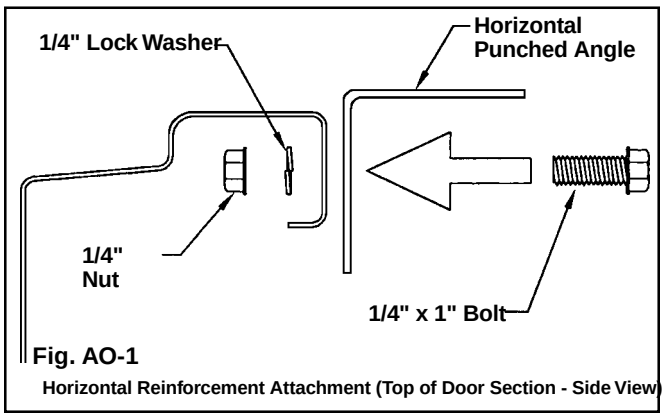


Fig. AO-1
Horizontal Reinforcement Attachment (Top of Door Section - Side View)

NOTE: Horizontal angles and struts are shown cut away for illustration purposes only. **DO NOT** notch these pieces. (FIG. AO-4 to AO-9)

NOTE: Doors with 5 or 7 windows should use Fig. AO-6 or AO-8 (depending on door width).

Insulated Doors Only
The top of the vertical angle must be notched out so the horizontal angle or strut can be placed over the vertical angle. **The top of the vertical angle MUST overlap the lip of the door panel.** See appropriate figure insert (FIG. AO-4A to AO-9A) for the vertical angle notch-out placement.

Opener Rail Mounting Distance

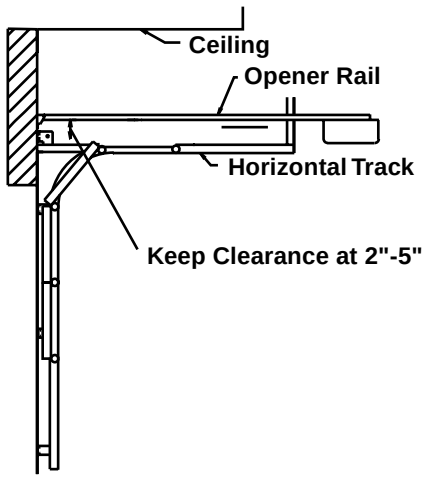


Fig. AO-2

Opener Arm Attachment to Vertical Angle

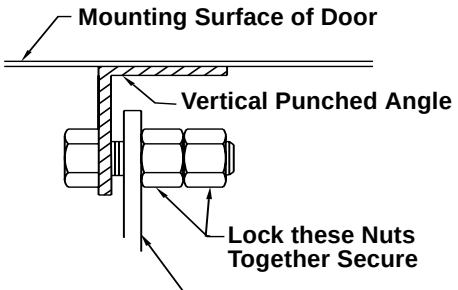


Fig. AO-3

Insulated Door

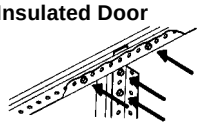


Fig. AO-4A

8'0" Up To 9'10' Wide Doors

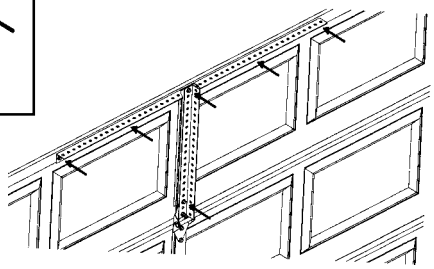


Fig. AO-4 (*Arrows show location of fasteners, drill holes in section or strut where required.)

Insulated Door

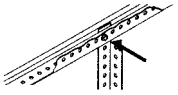


Fig. AO-5A

10'0" Up To 14'10' Wide Doors (Solid)

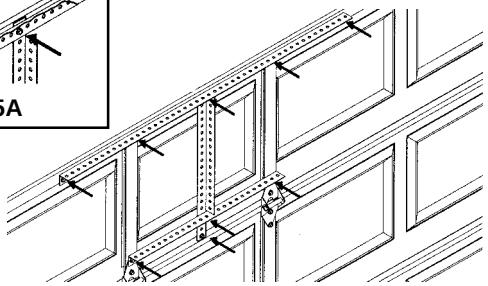


Fig. AO-5 (*Arrows show location of fasteners, drill holes in section or strut where required.

Insulated Door

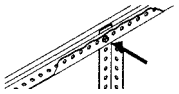


Fig. AO-6A

10'0" up to 14'10" Wide Doors - Windows in Top Section

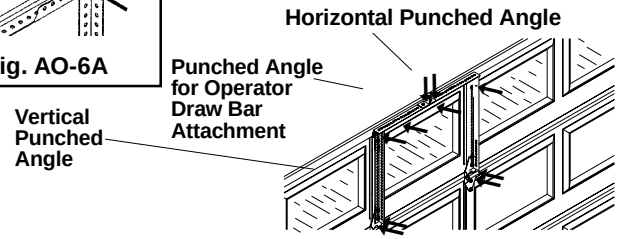


Fig. AO-6 Punched Angle - One 27" long piece (12' wide doors require one 50" long piece) and two 18" or 21" pieces (measure top section height).

Insulated Door

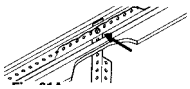


Fig. AO-7A

15'0" to 15'10" & 19'0" to 20'0" Wide Doors with Strut (Solid)

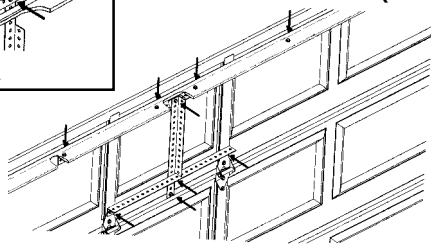


Fig. AO-7 (*Arrows show location of fasteners, drill holes in section or strut where required.

Insulated Door

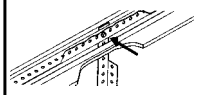


Fig. AO-8A

15'0" up to 15'10" & 19'0" to 20'0" Wide Doors - Strut Supplied Windows in Top Section

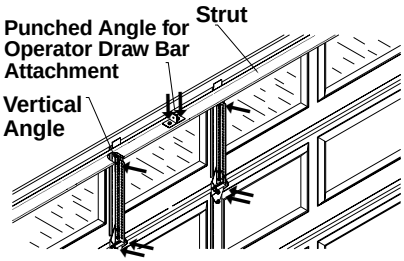


Fig. AO-8 Punched Angle - Two 18" or 21" long pieces (measure top section height). *Strut supplied.

Insulated Door

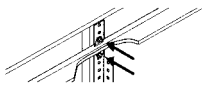


Fig. AO-9A

16'0" up to 18'10" Wide Doors with Strut

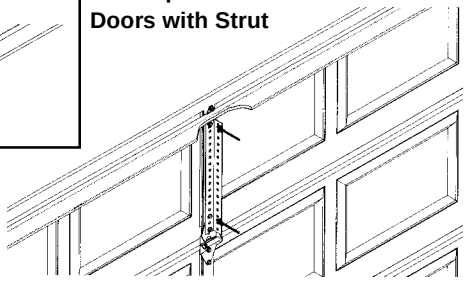


Fig. AO-9 (*Arrows show location of fasteners, drill holes in section or strut where required.)

Painting and Windows

Painting

Cleaning: Before painting your door, it must be free of dirt, oils, chalk, waxes and mildew. The prepainted surfaces can be cleaned of dirt, oils, chalk and mildew with a diluted solution of trisodium phosphate. Trisodium phosphate is available over the counter at most stores under the name SOILAX®, in many laundry detergents without fabric softener additives, and in some general purpose cleaners. Check the label for trisodium phosphate content. The recommended concentration is ⅓ cup of powder to 1½ to 2 gallons of water. After washing the door, always rinse well with clear water and allow to dry.

If the door has ever been waxed, the wax must be removed before painting. Doors are not waxed during the manufacturing process. This can be accomplished by wiping the door surface with a rag saturated with Xylene (Xylol), available at most paint or hardware stores. Wiping should be done at moderate pressure and Xylene must not be allowed to sit on the door for an extended time. Damage to your door's paint system can occur if overexposed to this or other solvents.
Caution: Safety instructions on the solvent's container must be followed. After de-waxing the door, clean with trisodium phosphate, as stated previously.

NOTE: Sanding could remove rust-inhibiting compounds, therefore, sanding should be done only to damaged areas where bare metal has been exposed. Refer to the **"Repair"** section of these instructions.

Repair: Should your door's paint finish become damaged, exposing the bare metal, it will become necessary to repair this area to prevent rust from forming. The damaged area should be lightly sanded with a medium to fine sandpaper making sure to remove all visible red and white rust. Wipe this area with a dry, clean rag. Coat the sanded area with a high quality, rust inhibiting, zinc enriched primer. This type of primer can be found at most paint or hardware stores, and should be labeled for covering bare and galvanized steel. Once the primer is applied, wait the time specified on the primer's instructions before you finish painting your door.

Paint: Your steel garage door can be painted with a high-quality latex (flat, satin, or semigloss) exterior grade paint. Since all paints are not created equal, the following test needs to be performed: paint should be applied on a small area of the door (following the instructions on the paint container), allowed to dry, and evaluated prior to painting the entire door. Paint defects to look for are blistering and peeling. An additional test is to apply a strip of masking tape over the painted area and peel back, checking to see that the paint adheres to the door and not to the tape.

After satisfactorily testing a paint, follow the directions on the container and apply to the door. Be sure to allow adequate drying time should you wish to apply a second coat.

Window frames & inserts can be painted with a high quality latex paint. The plastic should first be lightly sanded to remove any surface gloss.

NOTE: Do not apply paint when door surface temperature is different from manufacturer's suggested temperature range for application.

Snap-In Decorative Insert

Removal and Replacement:
NOTE: DO NOT REMOVE SCREWS from the window frame. Decorative inserts are designed to snap-in and out of the window frame.

Some doors with windows have a decorative insert attached behind the window. They may be moved to the outside of the glass, or can be removed for cleaning or painting purposes.
1) Remove the four tabs of the insert from under the edge of the inside window frame. There is one tab on each side and one on the top and bottom of the insert.
2) The insert can be firmly pulled out of the window.
3) Replacing the insert is the reversal of the process described for removal. The four tabs must be pressed under the lip in the window frame.
4) If preferred, the insert can be snapped into the frame on the outside of the glass.

Windows

WARNING

To avoid injury, use extreme caution in handling glass window pane. When the frame is removed, the exposed steel edge of the door may be sharp. Avoid contact with the steel edges.

Glass Replacement: If your door is equipped with windows and the glass should need replacement, follow the steps below:
1) With someone holding the outside frame, remove the ten screws from the inside window frame.
2) Pull the inside frame out of the door.
3) **Carefully** remove the broken or old glass.
4) Insert the new (replacement) glass. The glass size should be 11" by 18½".
5) With someone holding the outside frame, reinsert the screws into the inside frame, trapping the glass.

SUPPLEMENTAL INSTRUCTIONS

LIFT HANDLE ATTACHMENT

Lift Handle Preparation

If you have a 2" thick door, no modifications to the lift handle are necessary. If you have a 1-3/8" thick door, cut the stems on the lift handle along the ridge line using a hacksaw (Fig. 1A).

Bottom Section

From the front of the door section, drill (2) ½" holes through the section according to the Bottom Section Hole Pattern (Fig. 2). A T-Square may be used to mark the holes to ensure that they are vertically in line. If your door has an outside keyed lock, the hole pattern should be drilled on the bottom section directly below the lock. If your door does not have an outside keyed lock, the hole pattern should be drilled directly below the hinge closest to the horizontal center of the door.Install the lift handle & inside step plate assembly using (2) #14 x 5/8 sheet metal screws (Fig. 1).

IMPORTANT: Use a wrench or a socket to drive screws. Do not over tighten. Do not use an electric drill or driver.

2nd Section (Not Required on Doors with Outside Keyed Lock)

From the front of the door section, drill (2) ½" holes through the section according to the 2nd Section Hole Pattern (Fig. 2). A T-Square may be used to mark the holes to ensure that they are vertically in line. The hole pattern should be drilled directly above the hinge closest to the horizontal center of the door. Install the lift handle / inside step plate assembly using (2) #14 x 5/8 sheet metal screws (Fig. 1).

Painting Lift Handles

Plastic Lift Handles can be painted using a quality spray on or brushed on enamel paint.

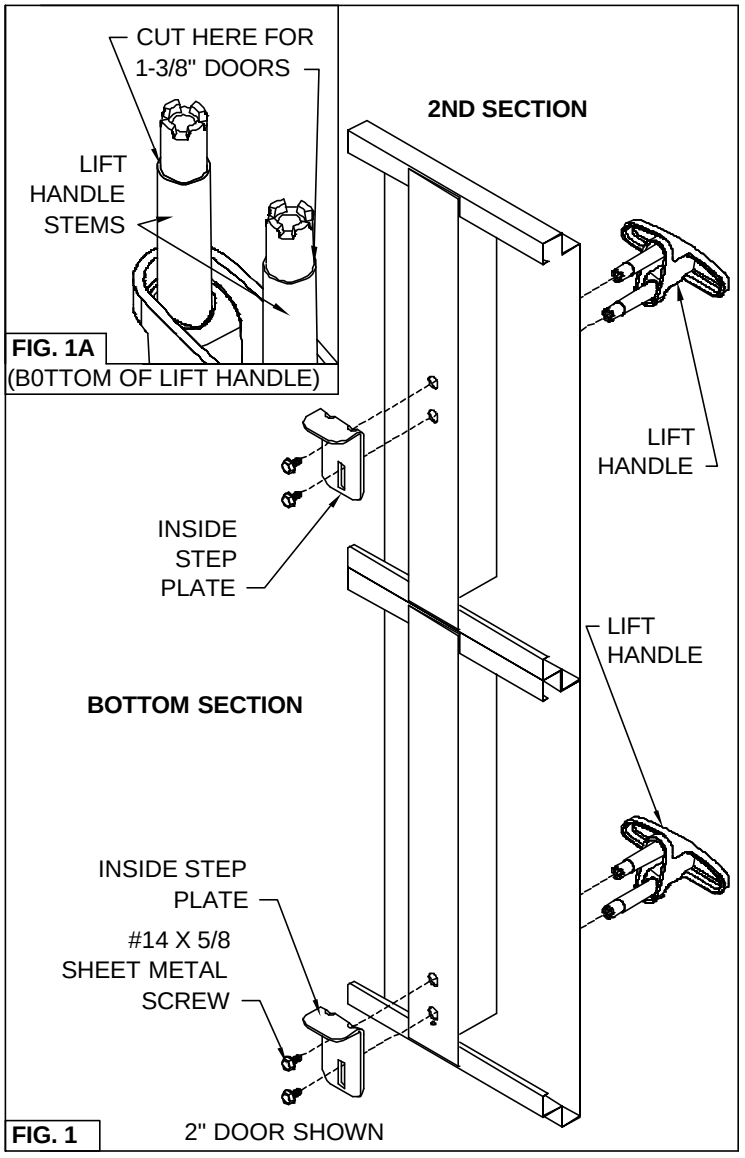


FIG. 1A (B0TTOM OF LIFT HANDLE)

FIG. 1 2" DOOR SHOWN

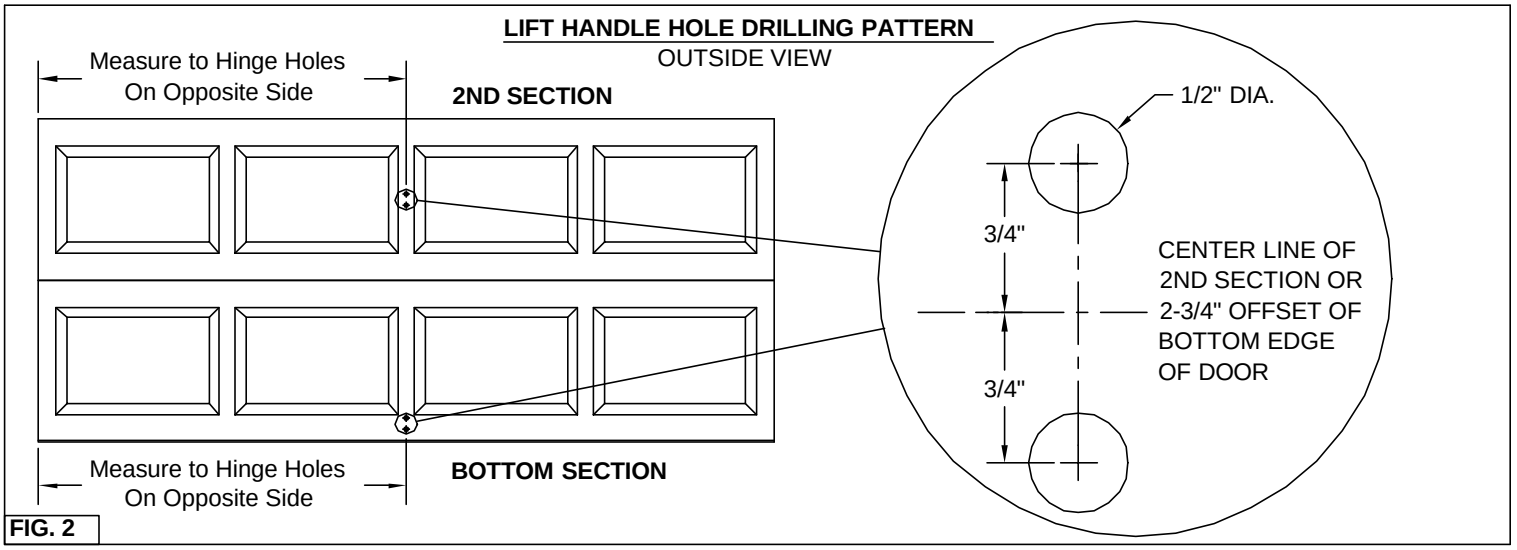


FIG. 2