MARTIN FINGER SHIELD™ GARAGE DOOR SYSTEM

INSTRUCTION MANUAL

(STEEL/COPPER AND WOOD DOORS)

MARTIN GARAGE DOORS SINCE 1936™

A8949 UL REGISTERED FIRM ISO 9001

MARTIN DOOR MFG.

WARNING ⚠ ATTENTION

THIS IS THE WORLD'S FINEST, SAFEST DOOR. HOWEVER, UNTRAINED OR NEGLIGENT INSTALLING, ADJUSTING, AND SERVICING CAN BE DANGEROUS. THE SPRINGS AND RELATED PARTS CAN CAUSE SERIOUS INJURY OR DEATH! IF UNSURE, CALL A TRAINED MARTIN DOOR DEALER

MAINTENANCE

- **Oil** all hinges, roller shafts, and spring coils, using a high quality 10/40 motor oil. Oil yearly for a smooth operation. Do not allow parts to squeak!
- **Wax** yearly the leading edge of metal door Finger Shields or inside wood door section joints. Also wax Reverse Angle Shields or jambs (where door seals while closing).
- **As needed**, use lightly oiled cloth to wipe galvanized parts to help retain clean galvanized look. In damp, wet areas, galvanized parts may require painting to help prevent rust.
- **Touch-up paint** not recommended on steel doors. Read "Painting Theory" on back page.
- **As needed**, wash away dirt, salt residue, etc. from steel door sections. Automobile type cleaners and waxes may improve the look and prolong the life of aged paint or a neglected steel door. Frequent waxing or painting may be required in extremely damp, salty or caustic areas. For wood doors see "WOOD DOOR NOTES" page.
- **Clean** the acrylic windows with a soft wet cloth. Remove scratches in the acrylic window pane with a quality plastic window cleaner.

DOOR OPENERS (We recommend Martin Door Openers)

- **Always** keep the garage door in full view while using the electric opener.
- **Monthly** check the automatic reverse function, following the manufacturer's electric opener instructions.
- **Martin** Doors are designed to reduce risk of entrapment and injury to children and adults. Roller Shields, Finger Shields, Low Profile Hinges, Reverse Angle Shields, Inside Lift Cables, Rolled Steel Edges, etc., are all designed for added child safety .
- **Remove** all pull down ropes and disable any garage door locking mechanism.
- **The top door section** should have a full length strut for center mounted openers. Side mounted openers may not require a strut on single size doors under 12'3" (3734) wide.

NOXIOUS FUMES

DO NOT completely weather seal this door! Vent according to local building codes.
CAUTION! Low levels of carbon monoxide in the garage and home can cause headaches and flu-like symptoms. Additional venting may be required to help reduce the health risks associated with combustible fuels and noxious fumes.

INSULATION

The insulation used in Martin Doors comply with all known building codes. It has been tested and approved by Omega Point Laboratories and meets the UBC-26-8 standard for smoke and flame spread. The insulation is removable and reusable which helps the environment by reducing landfill waste!

DENT REPAIR (Steel Doors)

Martin regular and insulated door sections are rated among the most dent resistant in the world. They do not require insulation bonded to them for strength. Because of this unique construction it may not be necessary to replace a door section or a complete door to avoid the prolonged appearance of a damaged surface. For dent repair see page 18.

WARRANTY

The Martin Warranty is to the original owner. Lifetime ltd. for most residential doors (12 year ltd. on Montana). Six Year ltd. for commercial, rentals, and 5 yr. on wood doors. Replacement part shipping and labor costs are not included. Springs have life cycle limits. *Note: with proper care and maintenance all Martin Doors (except springs) are designed to last a lifetime*. Contact your Martin Dealer for details on the full written warranty and limitations.

Martin Door Manufacturing Salt Lake City, Utah 84127-0437 U.S.A www.martindoor.com Printed in the U.S.A. 20m **7/2004** AD-01IM-07

THE FOLLOWING ITEMS ARE HELPFUL TO COMPLETE A SATISFACTORY MARTIN SECTIONAL GARAGE DOOR INSTALLATION:

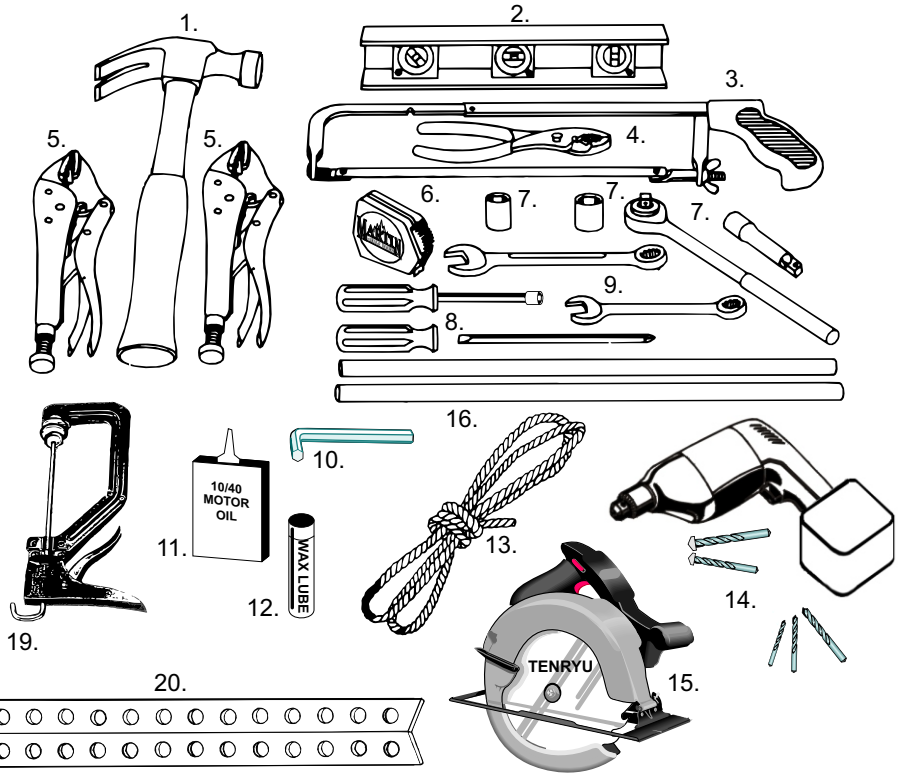
1. Hammer
2. Level (magnetic)
3. Hacksaw
4. Regular pliers
5. Two locking pliers with curved jaws
6. 18' (5.5) measuring tape
7. Socket wrench set for 7/16" (11), and 9/16" (14) with 3" (76) extension
8. Regular and phillips screwdriver plus 5/16" (8) nut driver
9. End wrench set for 7/16" (11), and 9/16" (14)
10. 3/16" X 4" (5 X 102) Hex key (Allen wrench)
11. 10/40 motor oil lubricant
12. Wax lubricant (paraffin, candle, etc.)
13. Rope 5' to 6' (1520 to 1830)
14. Cordless drill with 1/8" (3), 13/64" (5), 1/4" (6) bits plus 1/4" and 3/8" (6 and 10) masonry bits
15. 7.25" (184) hand saw with TENRYU # PRF-18548BW saw blade for cutting steel.
16. Two 1/2" X 14" (13 X 356) high carbon steel spring winding tubes (Larger sizes available)
17. Step ladder and saw horses (not shown)
18. Professional installers use a cordless impact tool with sockets and extension (not shown).
19. "C" clamps for Reverse Angle Shield to jambs, helps make installation easier.
20. Punched angle track hanger: 8' X 1-1/4" X 1-1/4" (2440 X 32 X 32)

NOTE: Bolts, lock nuts and lag screws for fastening the punched angle are furnished with the door hardware fasteners.

MARTIN MINI TOOL KIT INCLUDES NUMBERS: 1, 2, 5, 6, 7, 8, 9, 10, 16

MARTIN GARAGE DOORS TOOL KIT

Order one from your Martin Door Dealer



ALL MEASUREMENTS IN PARENTHESIS ( ) ARE MILLIMETERS IN THIS INSTRUCTION MANUAL.

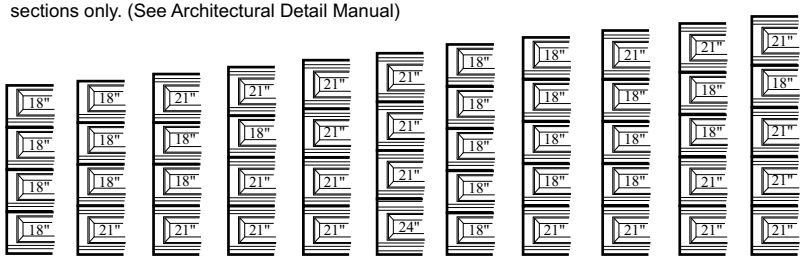
STEEL DOOR SECTION PLACEMENT CHART

DOORS UP TO 9' (2740) HIGH INCLUDE FINGER SHIELDS

NOTE:
All steel door heights to 20' (6100) are available in 3" (76) increments.

All steel door heights 9'3" (2820) to 20'0" (6100) use a combination of 21" (530) and 24" (61) high sections except 10', 12', 14', 16', 18', 20' (3050, 3660, 4270, 4870, 5480, 6100) high doors use 24" (61) high sections only. (See Architectural Detail Manual)

18" = (457)
21" = (533)
24" = (610)



WOOD DOOR SECTION PLACEMENT CHART

(ALSO SEE "WOOD DOOR NOTES" ON PAGE 22)

NOTE:
All wood door heights to 12' (3700) are available in 4" (102) increments.

Windows sections are always 24"(610).

16" = (406)
20" = (508)
24" = (610)

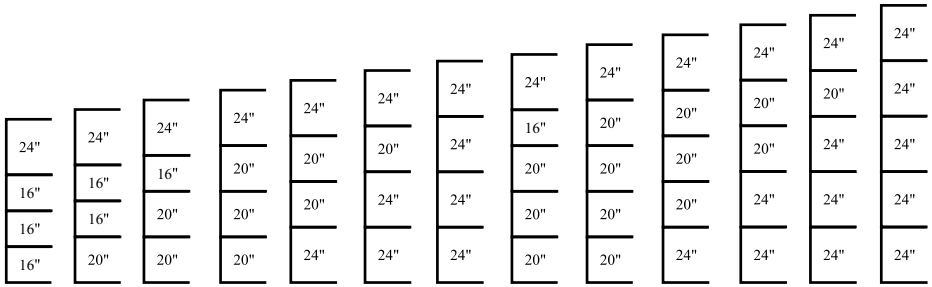


FIGURE 1

DOOR OPENING INFORMATION

Measurements shown are with 4“ (102) cable drums and 2” (51) tracks
----See supplement B page 19, for other clearances and modifications----

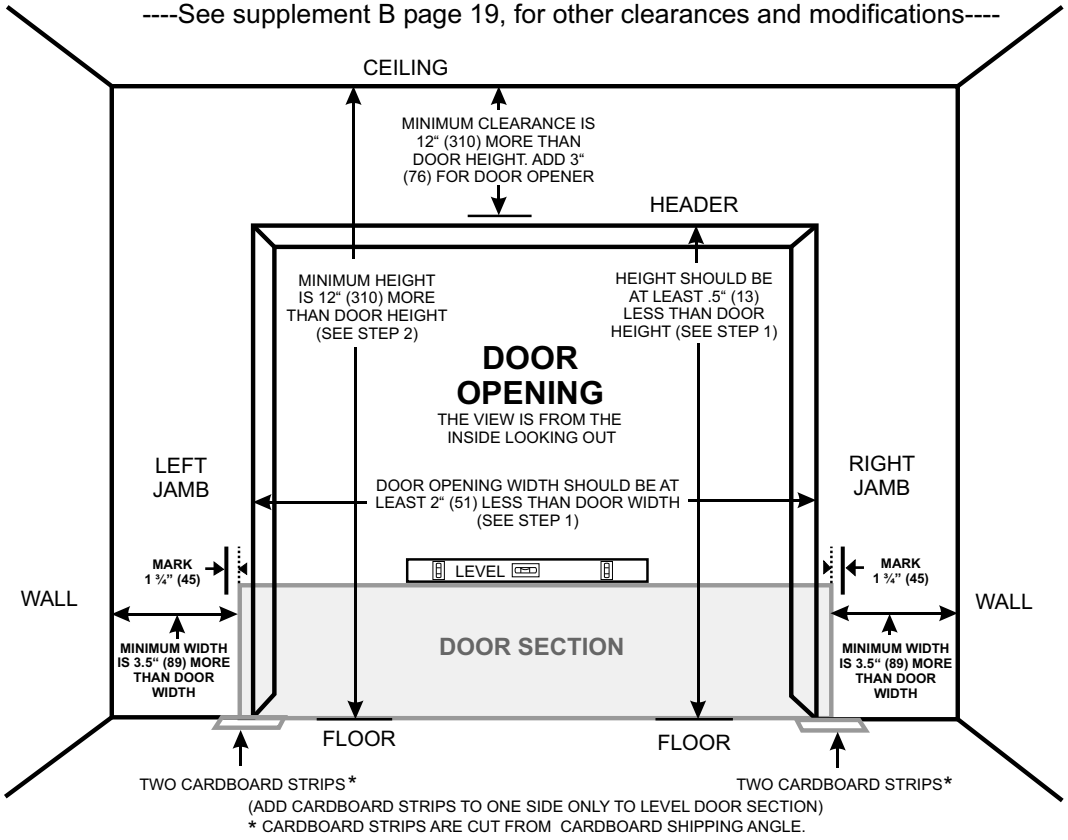
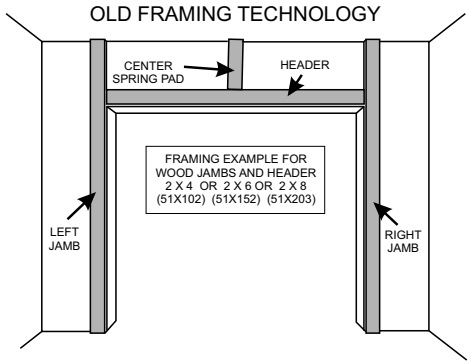


FIGURE 2



NOTE: Builders, Architects, and Design Engineers must consider forces transmitted by the door to the building structure as a result of wind load and/or door weight. This consideration includes the door opening structure and the supporting structures for the door track assembly.

Contact Martin Door Mfg. for additional or specific load requirements.

INSTALLATION INSTRUCTIONS FOR A MARTIN FINGER SHIELD™ SECTIONAL GARAGE DOOR SYSTEM.

THESE INSTRUCTIONS ARE INTENDED FOR PROFESSIONAL GARAGE DOOR INSTALLERS. READ THROUGH THE COMPLETE INSTRUCTION MANUAL AND APPLICABLE SUPPLEMENTAL INSTRUCTIONS ENCLOSED BEFORE BEGINNING.

STEP 1

Study the “Door Opening Information” measurements and supplement B, page 19. Be aware of the following common obstructions: Closet, fireplace, lighting, heat ducts, etc. The jambs and the header should form a flush inside surface. Note: Martin sectional doors are manufactured 2“(51) over common USA door opening widths and ½” (13) over common USA door opening heights. Example: A 16’ x 7’ (4880 x 2130) door is manufactured 16’2” wide by 7’ ½” (4930 x 2150) high. The extra expense for special door molding (doorstop) is not required. (See Figure 1 and 2)
Note: For safety , strength and appearance all doors are furnished with Martin Reverse Angle Shields. They fasten directly to the left and right door jambs on most surface types. (See Step 8)

The door opening should be prepared as shown in Figure 1.

For strongest and best appearance, old framing should be removed (See Figure 2) and the old door opening finished with all surfaces flush as shown in Figure 1.

Place two cardboard strips on each side of the door opening. Center one of the door sections behind the door opening, setting it on the two cardboard strips. Add cardboard strips to one side, if necessary, to make the door section level. Strips are cut from cardboard shipping angle. Mark both jambs 1 ¾” (45) wider than each side of the level door section. The two marks are important to correctly begin fastening the Reverse Angle Shields to the door jambs in STEP 8. (See Figures 1 and 9)
Note: Most headers are level (Most floors are not level).

STEP 2

INSTALLATION OF THIS SECTIONAL DOOR CAN BE DANGEROUS. CALL A TRAINED MARTIN DOOR DEALER

The required clearance above a door furnished with 4“ (102) diameter cable drums is 12” (305) when using 2” (51) track or 17” (432) when using the optional 3” (76) track. See supplement “B”, page 19 for clearance and modifications information if the required clearance needs to be changed. More clearance is required for bigger diameter cable drums. See “Wood Door Notes” 3 and 4 on page 22.

Martin Low Clearance Track Kits are only available for 2“ (51)Track and includes safer inside lift cables.

FIGURE 3

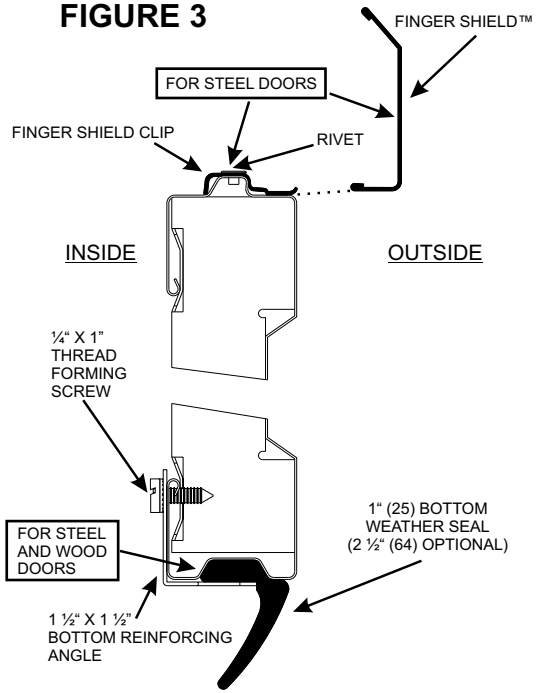


FIGURE 3A

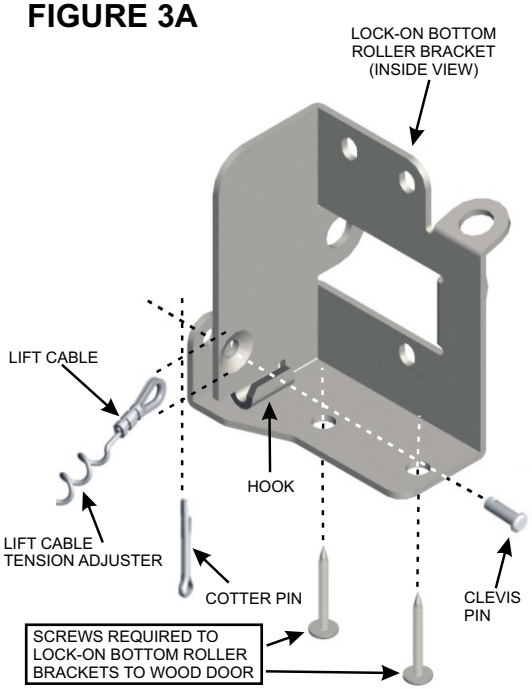
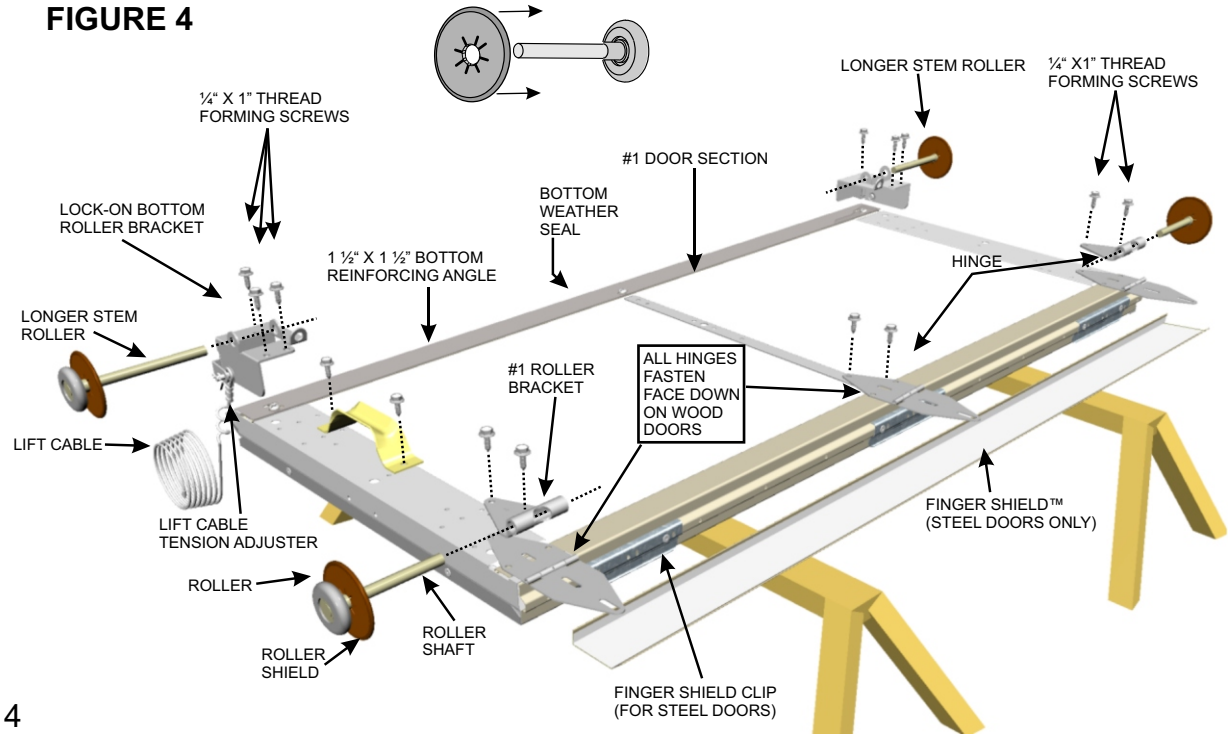


FIGURE 4



STEP 3

Door Section Placement. Refer to page 2 for correct placement of door sections. If the door has a Spring Latch Lock, the #2 door section is the best location for the outside T-lock handle.

Bottom Reinforcing Angle and Weather Seal. If not already installed, loosely fasten the 1-1/2" X 1-1/2" bottom reinforcing angle to the bottom inside edge of the #1 door section with 1/4" X 1" thread forming screws. Fasten along the bottom of the door section, on each stile location. Tuck the bottom weather seal under the reinforcing angles, fitting into the configuration of the door section. Tighten the thread forming screws to hold the bottom weather seal tight, under the reinforcing angle. (See Figure 3)

The bottom reinforcing angle also acts as a full length step plate on non-insulated metal doors.

STEP 4

If not already assembled, attach the lift cables to the right and left lock-on bottom roller brackets with clevis and cotter pins. The Lift Cable Tension Adjuster helps equalize the right and left lift cables even if the door hits an object causing side twist. (See Figure 3A)

STEP 5

Fasten the right and left lock-on bottom roller brackets tight against the bottom corners of the #1 door section. Make sure the hook on the inside of the lock-on bottom roller bracket is hooked under the end stile on steel doors. Screws are required to lock-on bottom roller brackets to wood doors. (See Figure 3A)

The thread forming screws go through the lock-on bottom roller bracket, the bottom reinforcing angle, the inside return of the steel door section, and fasten tight into the 1/8" holes in the steel or wood stile. (See Figures 4 and 4A)

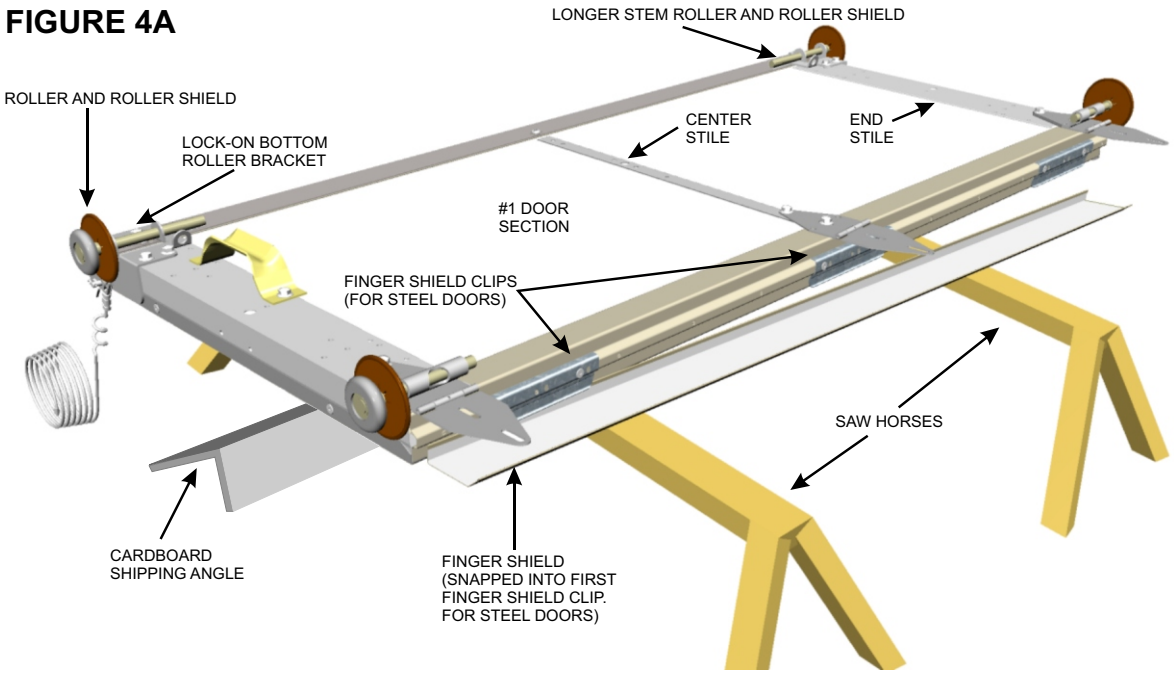
Do not remove the plastic fasteners that are pressed into the center stile hinge holes on metal doors. The ¼" x 1" thread forming screws easily penetrate and fasten through the thin plastic heads.

Fasten the bottom half of the hinges and the #1 roller brackets to the top of the #1 door section. Wood doors requires hinges to be fastened face down. Insert all 4 rollers. (See Figure 4)
Note: The "longer stem" bottom rollers add strength to the door during earthquakes and high winds.

Also see "Wood Door Notes" on page 22.

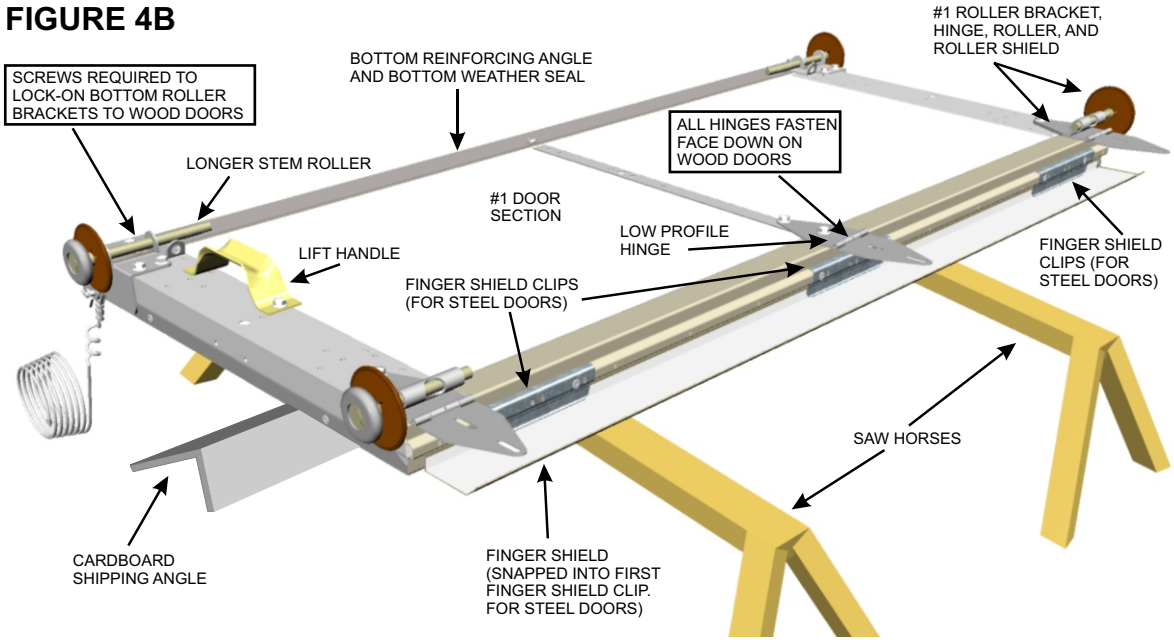
"RIGHT" AND "LEFT" ARE VIEWED FROM INSIDE LOOKING OUT THROUGH THE DOOR OPENING

FIGURE 4A



NOTE: Some steel door models do not include long-stem bottom rollers.

FIGURE 4B



FINGER SHIELD™ INSTALLATION (FOR STEEL DOORS)
(See Figures 3, 4A, 4B, 4C)

Finger Shields are furnished for all steel doors up to 9' (2750) high, except Vertical Lift and High Lift over 24" (670).

1. Remove the shipping tape holding the finger shields on each door section.
2. With both hands, carefully lay each finger shield face down and centered in front of the finger shield clips, at the top of each door section.
3. Lift up the top edge of the door section and place one length of cardboard shipping angle under the door section face.
4. Start at one end of the door section and with both hands begin snapping the finger shield under each finger shield clip.
5. Use a piece of cardboard for protection, lightly tapping each finger shield with a hammer to center the finger shield on each door section. The finger shield must be centered on the door section before it is placed in the door opening.

NOTE: If for some reason a finger shield needs to be removed from the finger shield clips, this can be done by pushing the finger shield back at the same time it is being pulled away from the finger shield clip. Pulling forward on the finger shield will cause it to grip solid on the finger shield clip. Pulling too hard may cause damage.

FIGURE 4C

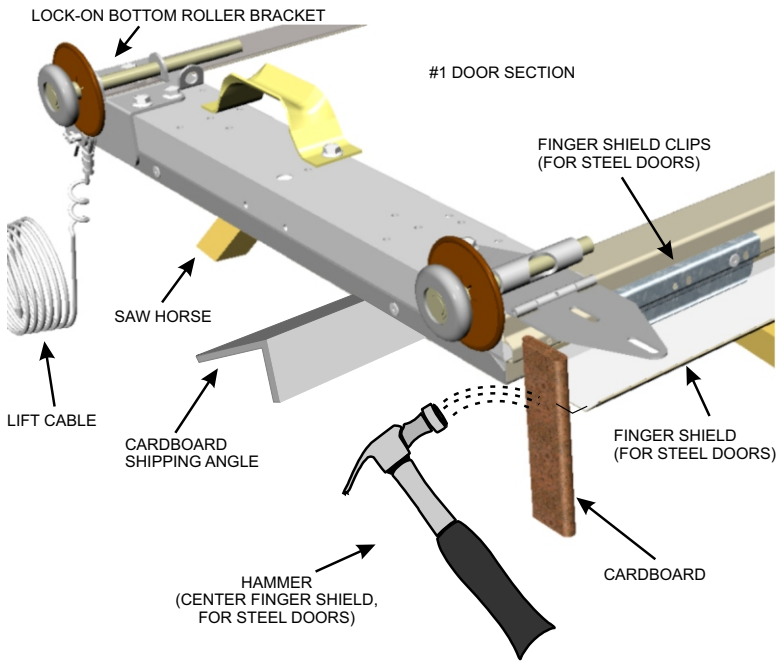


FIGURE 5

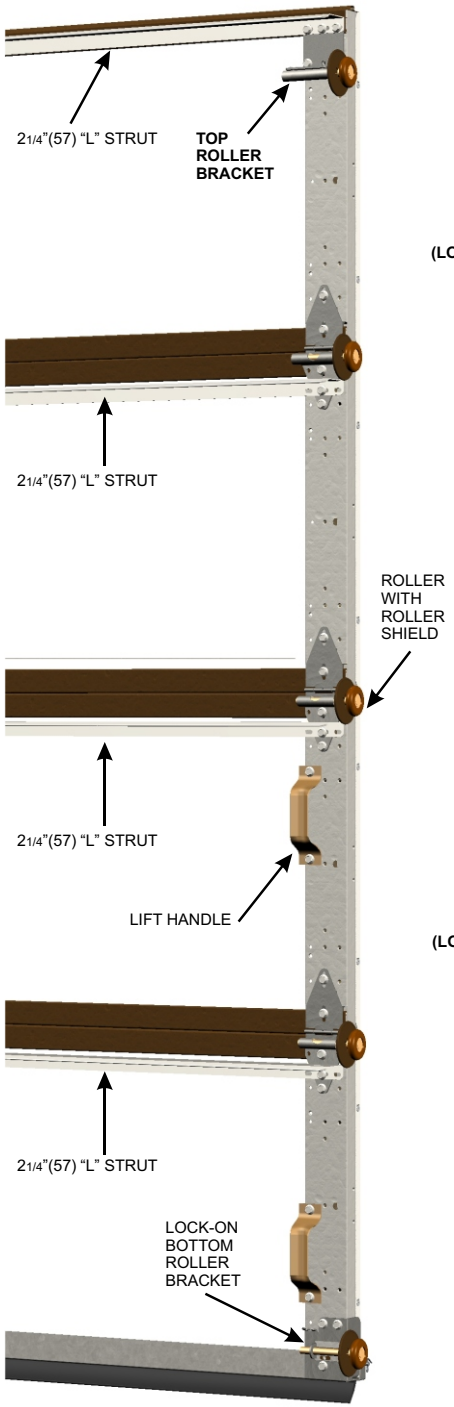


FIGURE 6

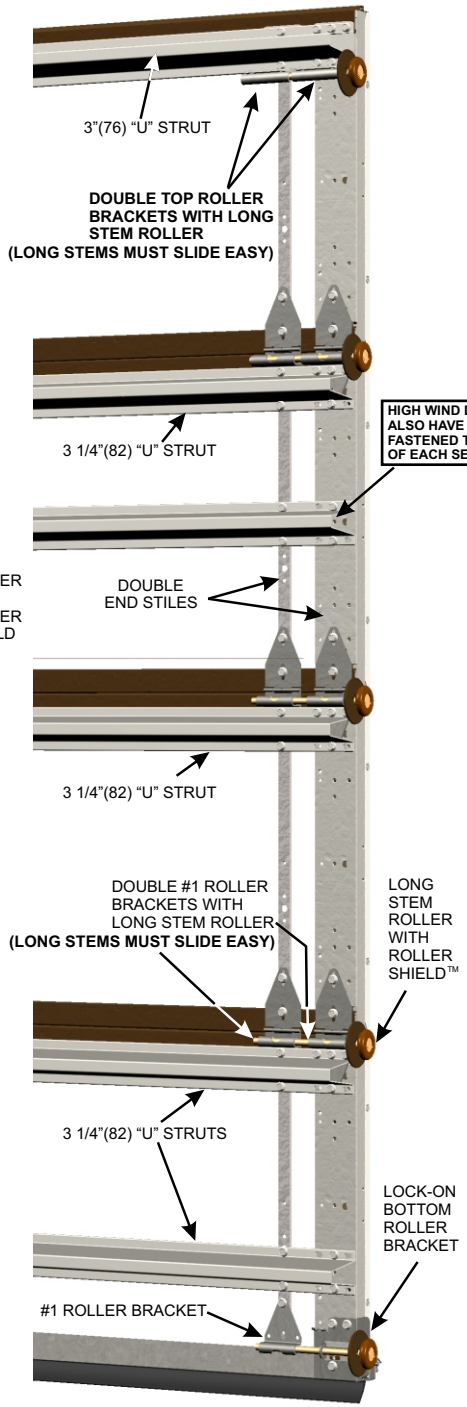


FIGURE 5A

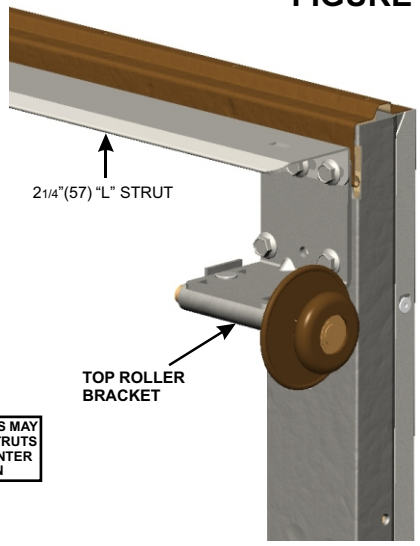
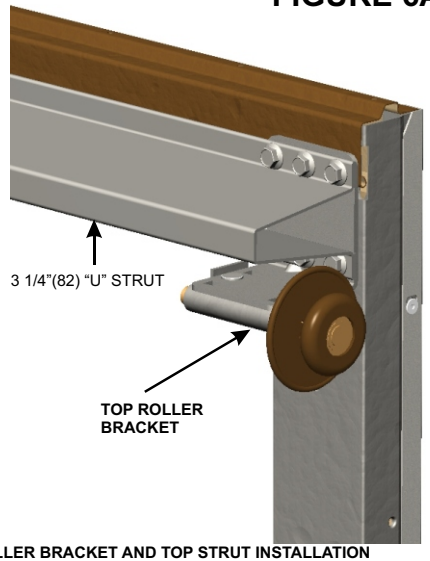


FIGURE 6A



SEE STEP 18 FOR TOP ROLLER BRACKET AND TOP STRUT INSTALLATION

STEP 6

PATENTED MARTIN STRUTS FOR STEEL DOORS

(WOOD DOORS ARE ITEM #3 ONLY. ALSO SEE "**WOOD DOOR NOTES**" ON PAGE 22)

1. One 2 ¼" (57) "L" Strut, for the top door section, is furnished for all residential steel doors 12'3" (3734) to 16'2" (4930) wide. (See Figure 5A)
2. Four or Five 2 ¼" (57) "L" Struts are furnished for steel door sections, except series II, on residential doors 16'3" (4953) to 18'2" (5540) wide. (See Figure 5) Series II is furnished with one top strut. (See Figure 5A)

   Note: Optional Strut Brackets can be used for top "L" strut adjustability. Fasten the Strut Brackets to the "L" Strut with ¼" x ½" Short Neck Carriage Bolts and ¼" Lock Nuts. Adjust as explained in step 7. (See Figure 8)
3. Four or Five 3 1/4" (82) "U" Struts are furnished for the door sections on steel residential doors 18'3" (5563) to 20'2" (6150) wide (See Figures 6, 6A). Wood doors 12'3" (3734) to 18'2" (5540) wide include double roller brackets and hinges with long stem rollers. (See "Wood Door Notes" on page 22)
4. Eight to ten 3 1/4" (82) "U" Struts are furnished for the door sections on steel residential doors 20'3" (6172) to 24'2" (7370) wide. This width door includes double end stiles, double roller brackets with hinges, and long stem rollers. (See Figures 6, 6A--Also see supplement D,E,F)
5. WL, RA, HT, CM, FL steel Martin Doors are designed for wind gust speed in excess of 90 mph (145 km). (See Chart next page) See Supplement "G" for wind speed upgrades which include additional "U" struts, stronger springs, etc.

SPECIFIED HIGH WIND(HURRICANE) DOORS MAY RECEIVE MORE STRUTS WITH FASTENING INSTRUCTION SHEET

WIND GUST SPEED REFERENCE CHART

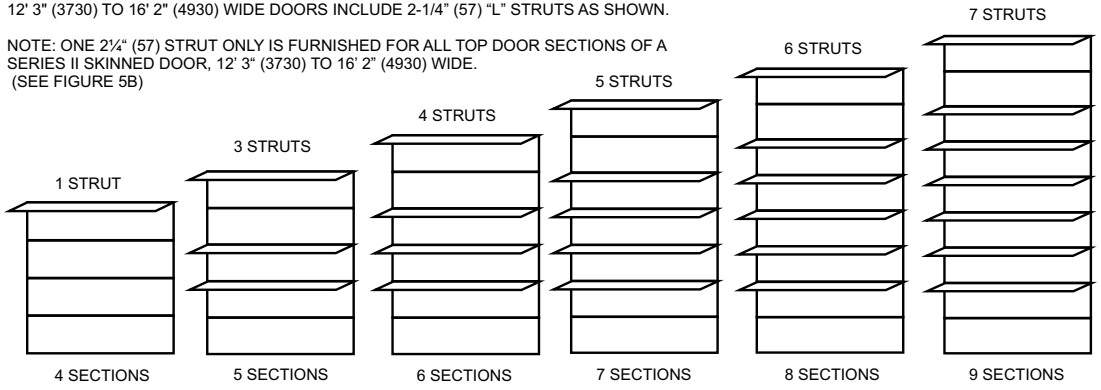
PSF	12.5	15.5	18.5	22	26	30	34.5	39
MPH	90	100	110	120	130	140	150	160
KM	145	161	177	193	209	225	241	257

FIGURE 7 COMMERCIAL DOOR STRUT PLACEMENT (STEEL DOORS)

(SEE "WOOD DOOR NOTES" ON PAGE 22)

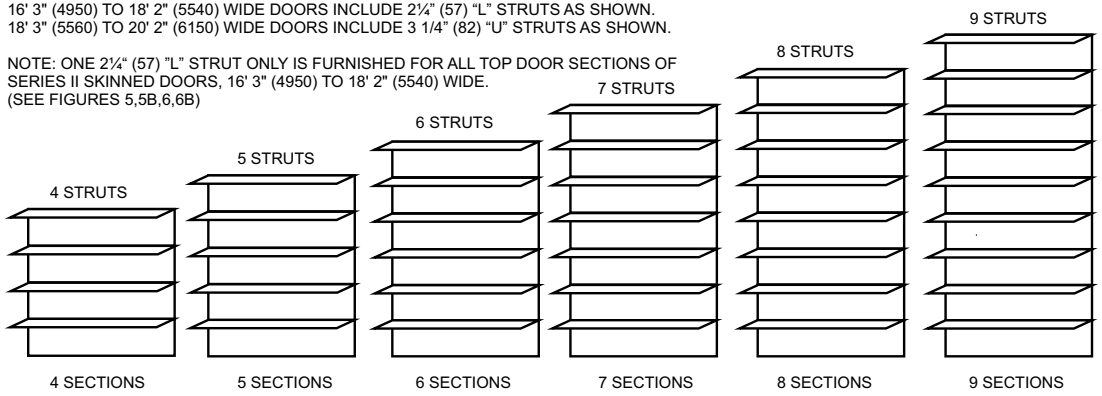
12' 3" (3730) TO 16' 2" (4930) WIDE DOORS INCLUDE 2-1/4" (57) "L" STRUTS AS SHOWN.

NOTE: ONE 2¼" (57) STRUT ONLY IS FURNISHED FOR ALL TOP DOOR SECTIONS OF A SERIES II SKINNED DOOR, 12' 3" (3730) TO 16' 2" (4930) WIDE. (SEE FIGURE 5B)

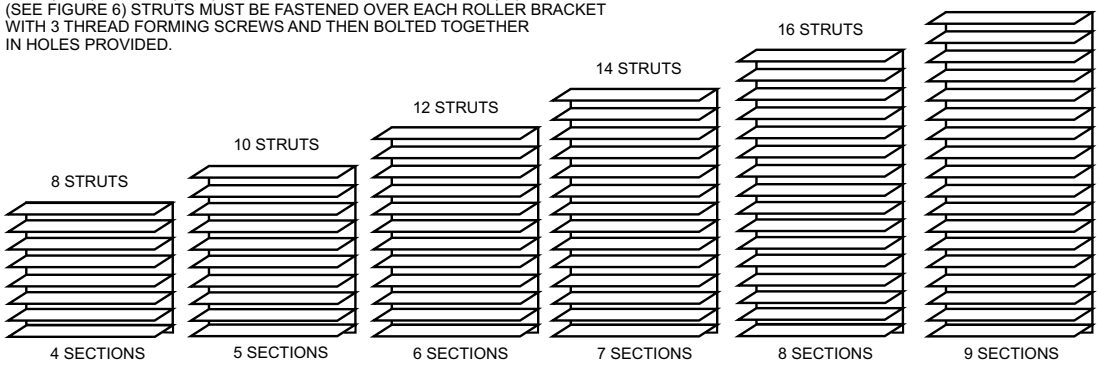


16' 3" (4950) TO 18' 2" (5540) WIDE DOORS INCLUDE 2¼" (57) "L" STRUTS AS SHOWN.
18' 3" (5560) TO 20' 2" (6150) WIDE DOORS INCLUDE 3 1/4" (82) "U" STRUTS AS SHOWN.

NOTE: ONE 2¼" (57) "L" STRUT ONLY IS FURNISHED FOR ALL TOP DOOR SECTIONS OF SERIES II SKINNED DOORS, 16' 3" (4950) TO 18' 2" (5540) WIDE. (SEE FIGURES 5,5B,6,6B)



20' 3" (6170) TO 24' 2" (7370) WIDE DOORS INCLUDE TWO 3 1/4" (82) STRUTS FOR EACH DOOR SECTION AS SHOWN BELOW. 18 STRUTS (SEE FIGURE 6) STRUTS MUST BE FASTENED OVER EACH ROLLER BRACKET WITH 3 THREAD FORMING SCREWS AND THEN BOLTED TOGETHER IN HOLES PROVIDED.



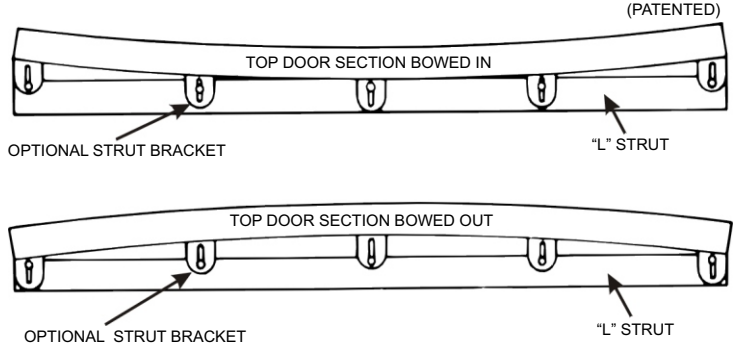
HURRICANE WIND LOAD TYPE DOORS MAY REQUIRE ONE EXTRA STRUT AT BOTTOM OF DOOR DIRECTLY ABOVE THE BOTTOM BRACKET. PILOT HOLES TO BE DRILLED AT JOB SITE. IF DOOR HAS UNACCEPTABLE SAG PLACE SHIMS UNDER "U" STRUTS.

STEP 7

Martin optional adjustable "L" strut brackets help to keep selected steel top door sections straight or to bow it to fit against a header that is bowed in or out. Simply loosen the nuts and bolts and adjust the "L" strut on the strut brackets. (See Figure 8)

FIGURE 8

EXAGGERATED ILLUSTRATION OF MARTIN ADJUSTABLE TOP STRUT



STEP 8

REVERSE ANGLE SHIELDS (RA Shields)

or REVERSE BRACKET SHIELDS (RB Shields)

For safety, strength and appearance all doors are furnished with RA or RB Shields. They fasten solid to most flush surfaces including wood, concrete, brick, block, plaster, (not RB Shields), drywall, tile, stone, steel, etc. Each fastener adds strength to all fasteners in the assembly.

BENEFITS:

- **Fastens** to most surfaces---see above.
- **Shields** children's arms, hands, and fingers from moving door, track brackets and lift cables.
- **Shields** wind, rain, snow from entering the garage.
- **Provides** steel surface for door to close against. (no swelling or shrinking) (Except RB Shields)
- **Allows** door to be made 2" (51) wider than normal.
- **Vertical tracks** are fastened an extra 1" (25) beyond the edge of the door opening than normal.
- **Door molding** (stops) not required. This provides 2" (51) more door opening width than normal.
- **Wood jambs** and header are not required. This provides 2" (51) more garage depth.
- **Reverse Angle Shields (RA Shields)** provide double Strength to the safety track assembly.

FIGURE 9

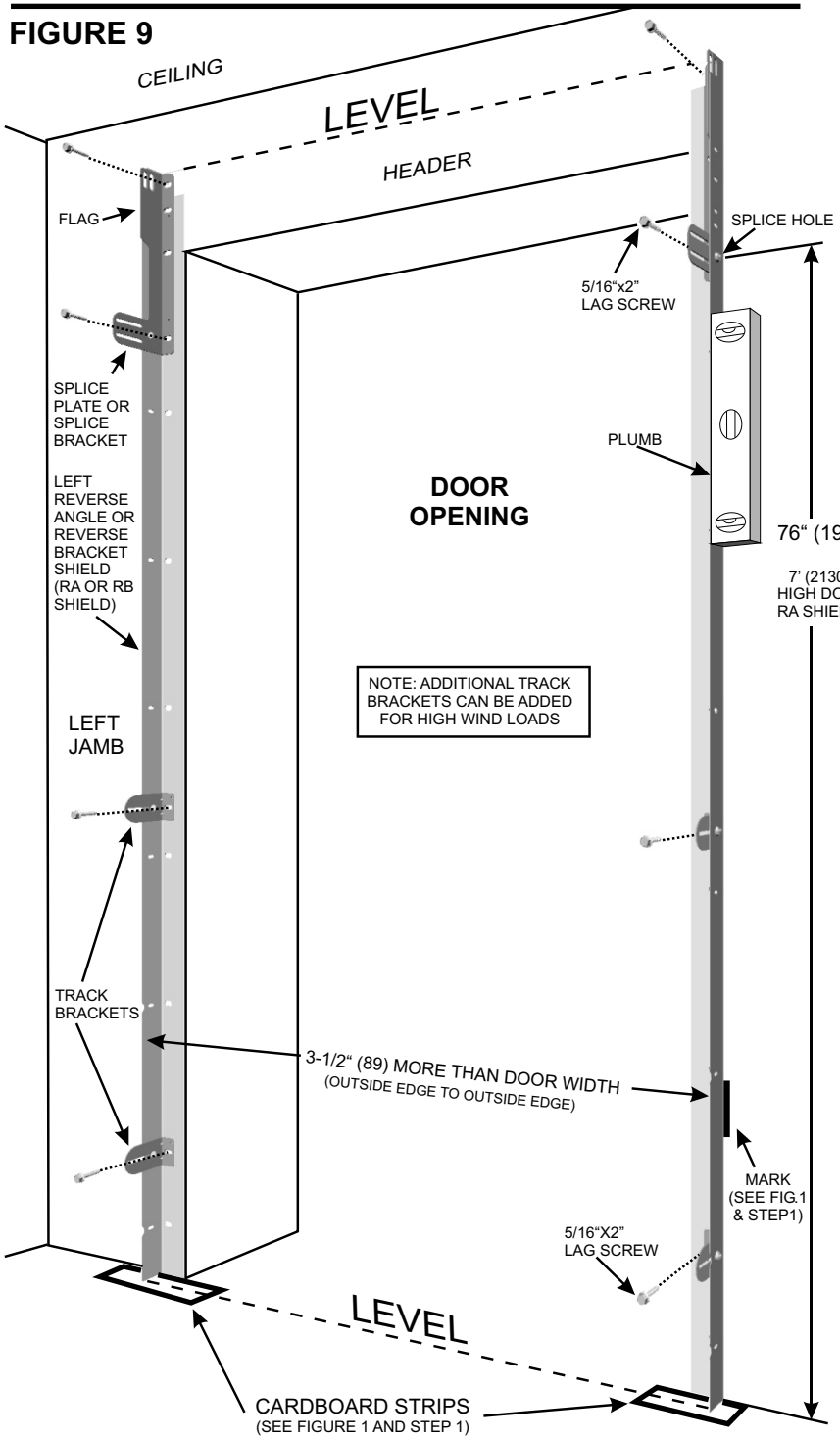
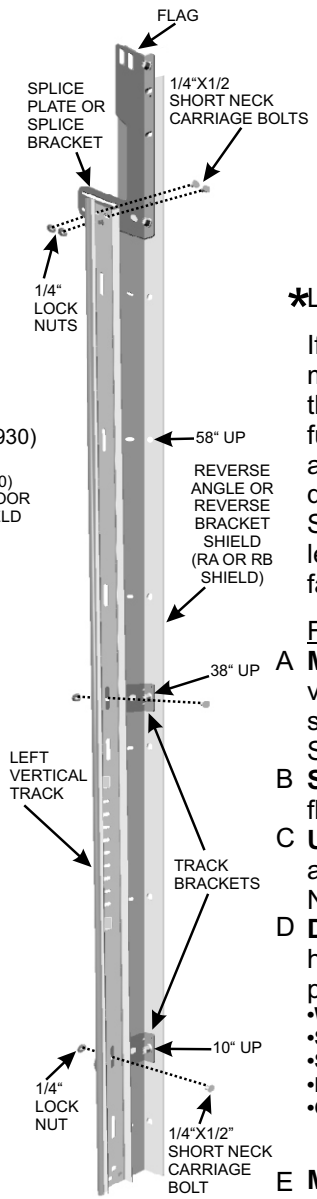


FIGURE 10



NOTE: Some models provide Reverse Bracket Shields (RB SHIELD) and Splice Bracket (no Flag) See Page 17 for installation modifications.

STEP 8** CONTINUED

The following measurements are important to verify:

* STANDARD VERTICAL TRACK LENGTHS	=	STANDARD DOOR HEIGHTS
76" (1930)	=	7' (2130)
88" (2240)	=	8' (2440)
100" (2540)	=	9' (2740)
112" (2850)	=	10' (3050)
136" (3450)	=	12' (3660)
160" (4060)	=	14' (4270)
184" (4670)	=	16' (4880)
208" (5280)	=	18' (5490)

*Lengths are the same on RA or RB Shields, up to the flag splice hole.

If the door is less than standard height, be sure to check all measurements. If measurements are not correct, cut off the bottom of the vertical tracks and the RA or RB Shields the amount the door furnished is less than the standard door height. Door height reductions are in 3" (76) increments for metal doors and 4" (102) increments in wood doors.

Standard Bottom Weather Seal on door should fit floors 1" (25) out of level. Optional 2 ½" (64) Bottom Weather Seal is available from the factory for floors up to 2 ½" (64) out of level.

<u>FASTEN RA or RB SHIELDS TO THE JAMBS</u>

A **Make** sure the marks made on the left and right jambs during step 1 are visible. The marks were made about 1¾" (45) more than each door section side width. These new marks are the outside of the RA or RB Shields which total 3½" (89) more than door width. (See Figure 9)

B **Set** the RA or RB Shields on the same cardboard strips, placed on the floor, behind the jambs, to level the door section in STEP 1.

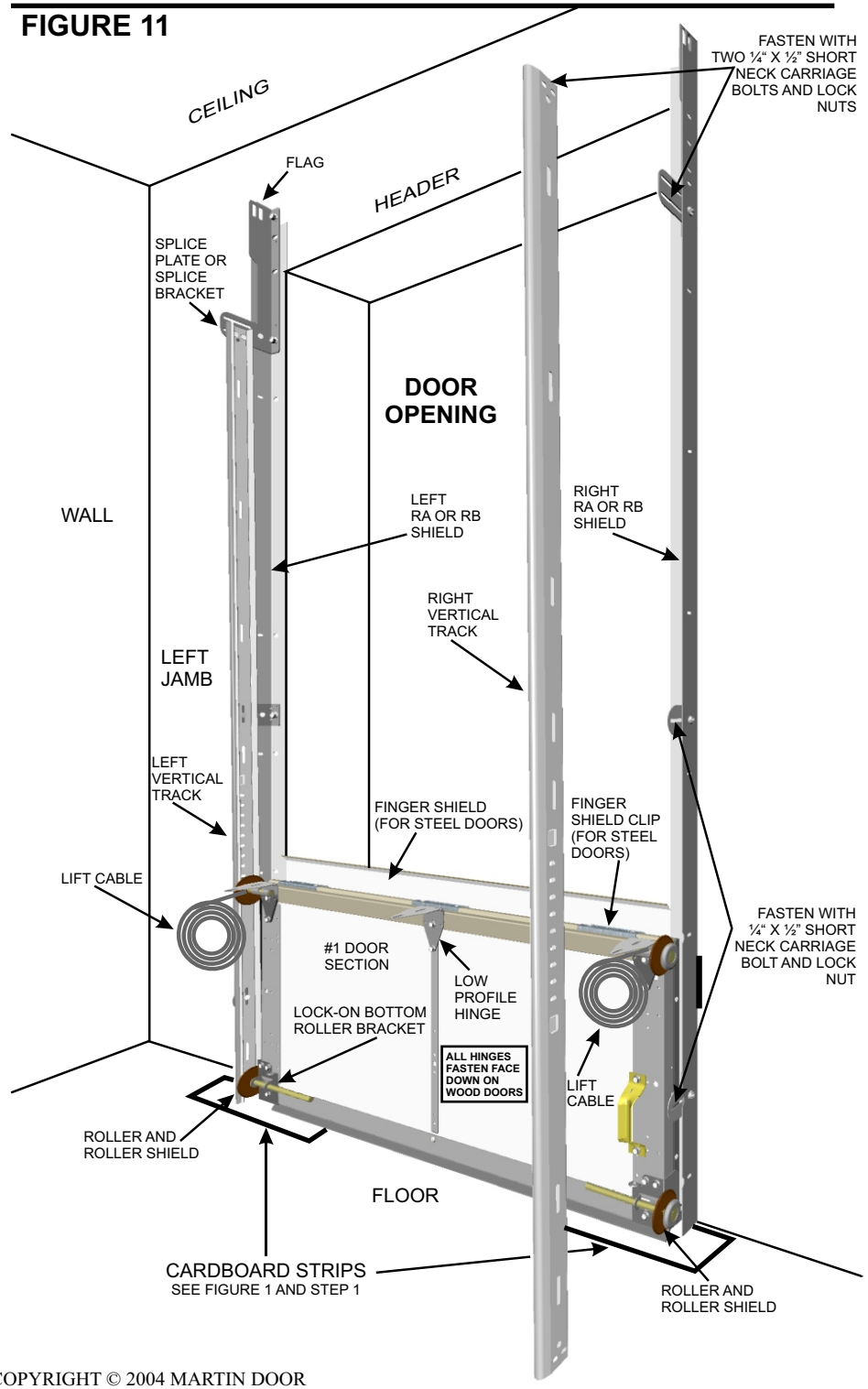
C **Use** "C" clamps or nails to hold the RA or RB Shields in place until they are fastened in a plumb position, in line with the marks. (See Figure 9)
Note: "C" clamps are easy to use on any type jamb.

D **Drill** holes for fasteners at each bracket location. Make sure the fastener holes are the same measurement up from the level cardboard strips placed to level the door section in STEP 1. (See Figure 9)
- **Wood Jambs:** Drill 1/8" (3) holes then fasten with 5/16" x 2" lag screws.
- **Steel Jambs:** Drill 1/4" (6) hole. Fasten with 5/16" x 3/4" self tapping screws - or weld.
- **Steel or Alum. Jambs:** Drill 5/16" (8) hole. Fasten with 3/8" x 1" self tapping screws.
- **Block type Jambs** (Hollow, etc.): Buy the correct fasteners from a local supplier.
- **Concrete, Brick or Stone type Jambs:** Drill 3/8" (10) holes for 2" (51) plastic anchors. Push anchors in holes and fasten with 5/16"x2" lag screws.

E **Measure** the width from RA or RB Shield to RA or RB Shield at the top and at the bottom. Verify that each measurement is about 3½" (89) wider than the door width. Check to make sure all fasteners in RA or RB Shields are tight and strong. (See Figure 9)

F **Fasten** the left vertical track to the left splice plate or splice bracket with ¼" x ½" short neck carriage bolts and lock nuts. Finger tighten only until STEP 15. (See Figure 10)

FIGURE 11



STEP 8 CONTINUED

Set the assembled #1 door section on the strips of cardboard, placed on the floor in STEP 1. The two rollers on the left side of the #1 door section fit into the left vertical track first, before setting the #1 door section on the cardboard strips. Center between the RA Shields. (See Figure 11)

Fit the right vertical track over the two rollers on the right side and fasten with ¼" x ½" short neck carriage bolts and lock nuts. Finger tighten only until STEP 15. (See Figure 11)

STEP 9

Fasten the T-Lock handle of the optional safety spring latch lock system if provided to the #2 door section, following the instructions in the lock package.

STEP 10

Fasten the bottom half of the center hinges only to the top of the #2 door section. Install the Finger Shield to the top of the #2 metal door section following the instructions on page 5. Do not fasten the #2 roller brackets--fasten in STEP 12.

STEP 11

Set the #2 door section on top of the #1 door section, at an angle first. (See Figure 12A) Hold the #2 door section in place with locking pliers clamped to the rolled edge of each vertical track. (See Figures 12B)

Fasten the top half of the #1 door section hinges to the bottom of the #2 door section. Hold sections close together while fastening to keep the section gap to a minimum. (See Figure 12B)

STEP 12

Fasten the #2 roller brackets with hinges to each top corner of the #2 door section. Fit the rollers in the vertical tracks before fastening. Roller brackets #1, #2, #3, etc., cause the vertical track to incline. This allows the door to lift away from the jambs as it opens. (See Figure 12B,12D) Hinges are fastened face down on wood doors.

STEP 13

Set the #3 door section on top of the #2 door section following STEPS 10, 11, 12, and page 6. The #3 door section has the home owners packet fastened to the lower left corner. (See Figure 12C) Screws are provided to fasten packet to wood doors.

STEP 14

Decide optional window placement. A designer window is normally a top section.

STEP 15

Set the remaining door sections in place following STEPS 10, 11, and 12. Refer to pages 2 and 5 for doors to 9' (2750) high with finger shield. Hold each door section in place with locking pliers as explained in STEP 11. (See Figure 12C)

Extra heavy doors and wood doors all #5, #6, #7, #8 roller brackets should be fastened with 4 thread forming screws. The extra two holes are provided in the stiles, under the steel door skin. (See Figure 12E) Also see "Wood Door Notes" on page 22. Note: Thread forming screws can penetrate steel skin without drilling.

Push the vertical tracks forward until the door sections lightly touch the RA Shields then tighten all bolts and nuts. The top of the vertical tracks should be no more than 9" (229) down from the top of the door. Each side should measure the same.

STEP 16

If extra clearance is available above the door, it may be desirable to fasten an optional vertical track extension kit to the top of the vertical tracks. The door will lift higher when open. Extensions available are 3"(76) and 6"(152). The springs, lift cables and drums are made to provide up to 6" (152) of extra vertical track without additional modifications. (See Figure 13C) (Not designed for MO, SP, SL doors.)

FIGURE 12A

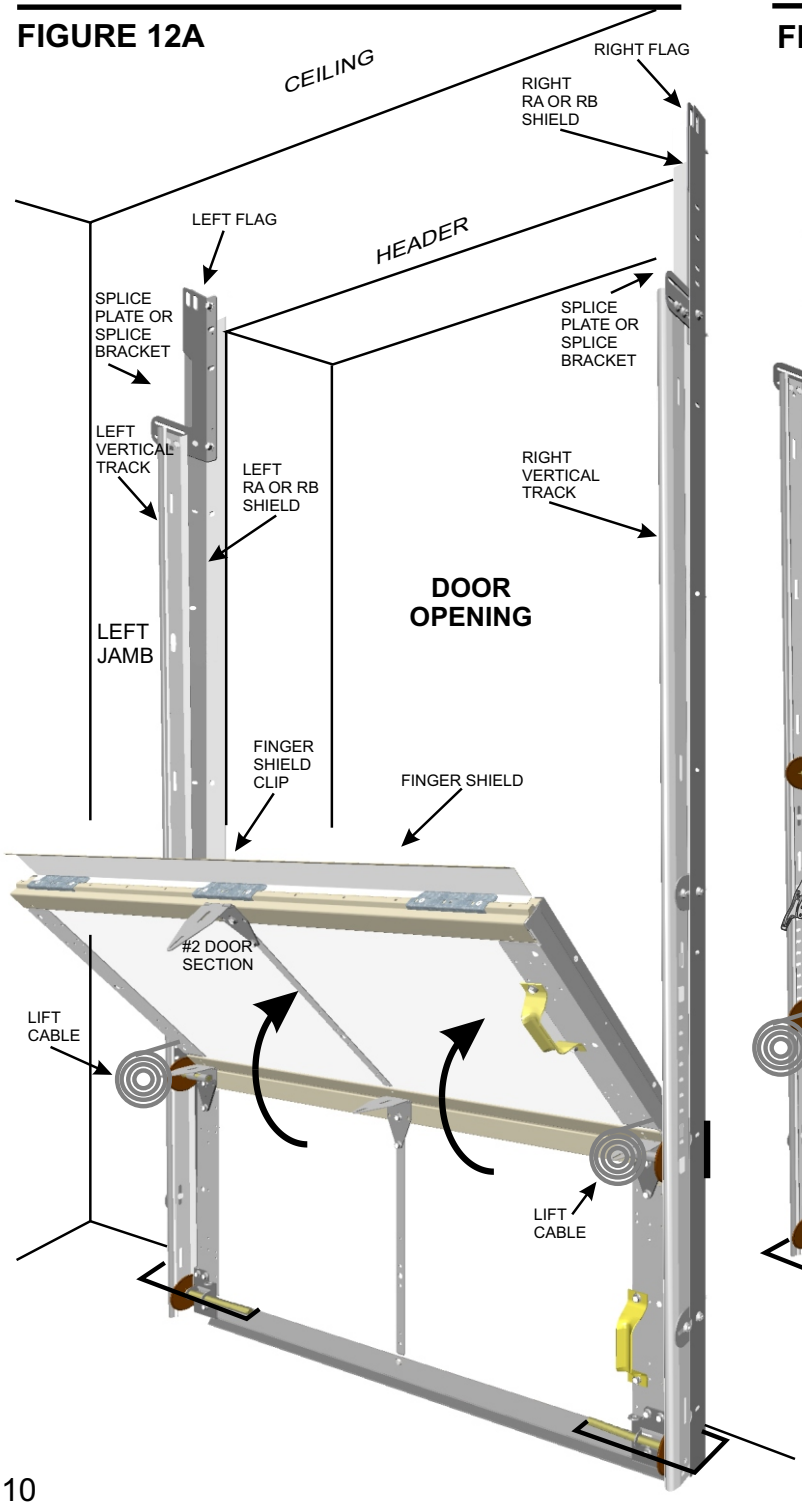


FIGURE 12B

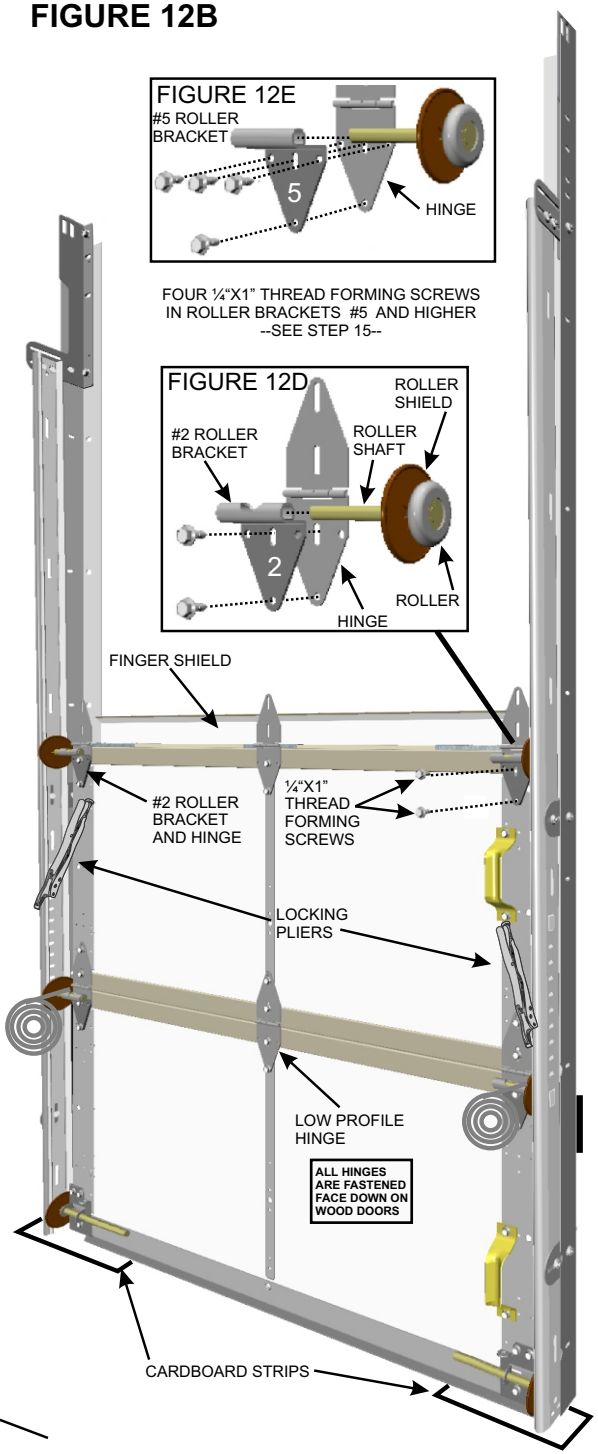


FIGURE 12C

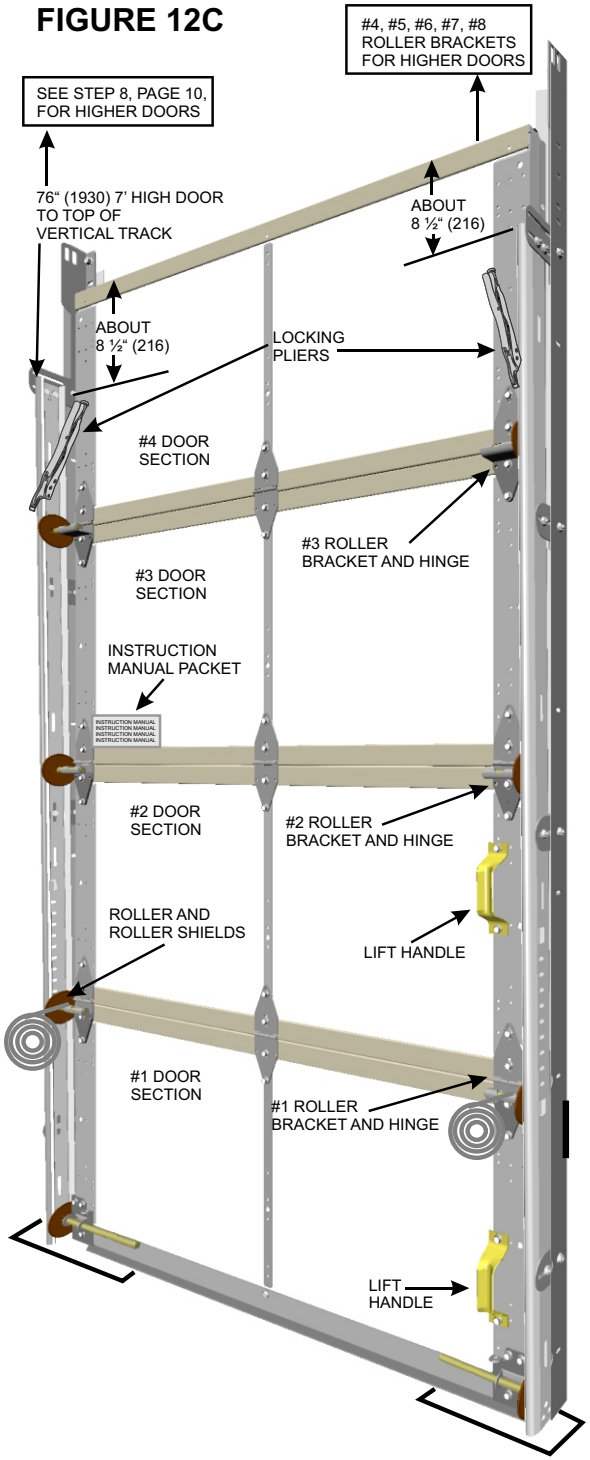


FIGURE 13

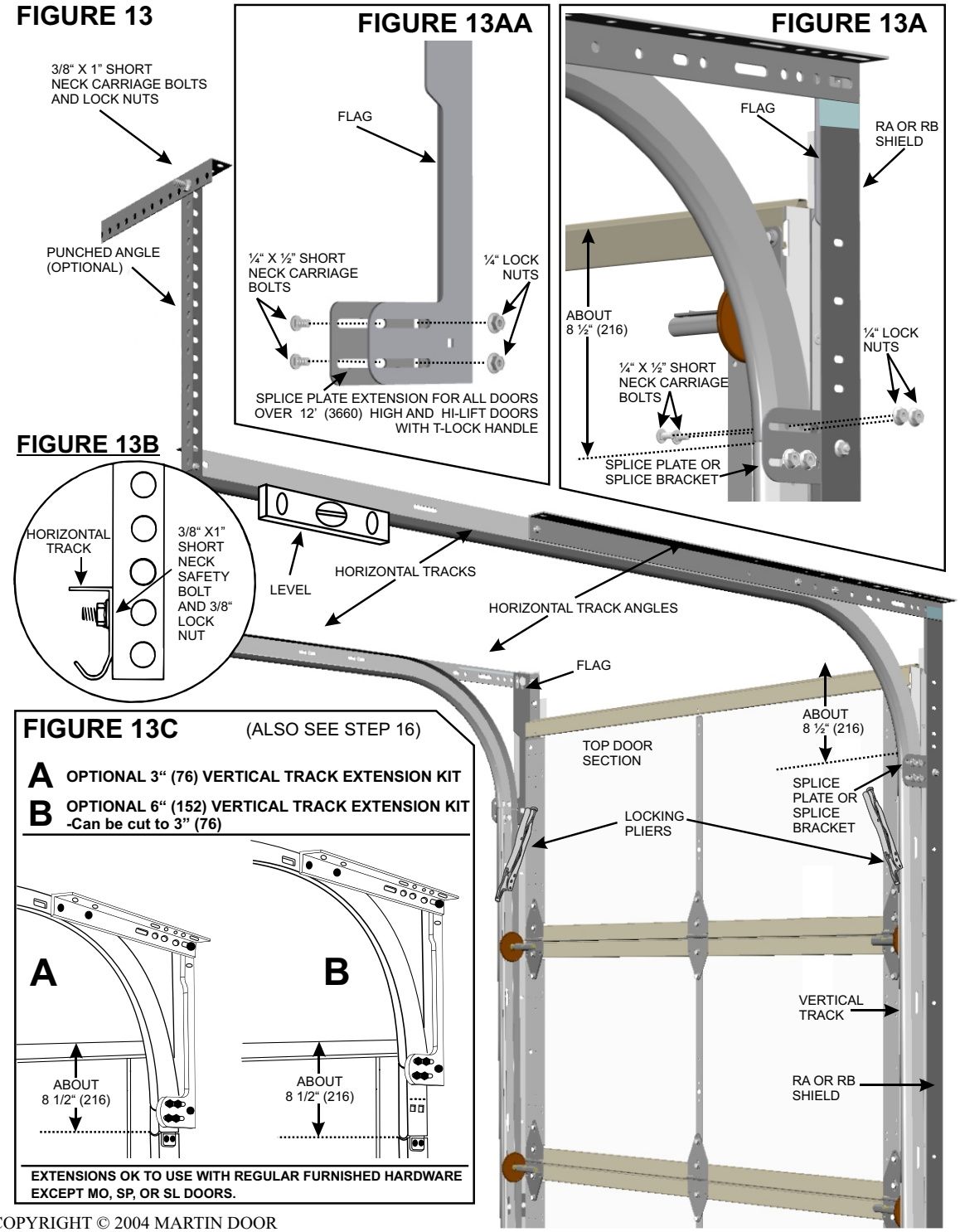


FIGURE 13C (ALSO SEE STEP 16)

A **OPTIONAL 3“ (76) VERTICAL TRACK EXTENSION KIT**

B **OPTIONAL 6“ (152) VERTICAL TRACK EXTENSION KIT -Can be cut to 3” (76)**

EXTENSIONS OK TO USE WITH REGULAR FURNISHED HARDWARE EXCEPT MO, SP, OR SL DOORS.

STEP 17

The top of the vertical tracks should be about 8-1/2“ (216) down from the top of the closed door. (See Figures 13,13A)

If working alone, use a ladder or use a rope tied to a rafter to hold up the back of the horizontal track.

Fasten the curved front end of the left and right horizontal tracks to the splice plates or splice brackets with 1/4" X 1/2" short neck carriage bolts and 1/4" lock nuts. (See Figures 13, and 13A) See Figure 13AA for splice plate extension for doors over 12’ (3660) high.

Fasten the front of the horizontal track angle to the top of the flag or reverse bracket shields with a 3/8" X 1" short neck carriage bolt and a 3/8" lock nut. (See Figures 14A,14B)

Level the horizontal tracks and set them parallel and square back from the door. Fasten the horizontal tracks at the back, using optional punched angle track hangers with 3/8" X 1" short neck carriage bolts and 3/8" lock nuts. One of the bolts must go through the back of each horizontal track as a safety bolt to prevent the top roller from rolling out the back of the horizontal track. (See Figures 13,13B)

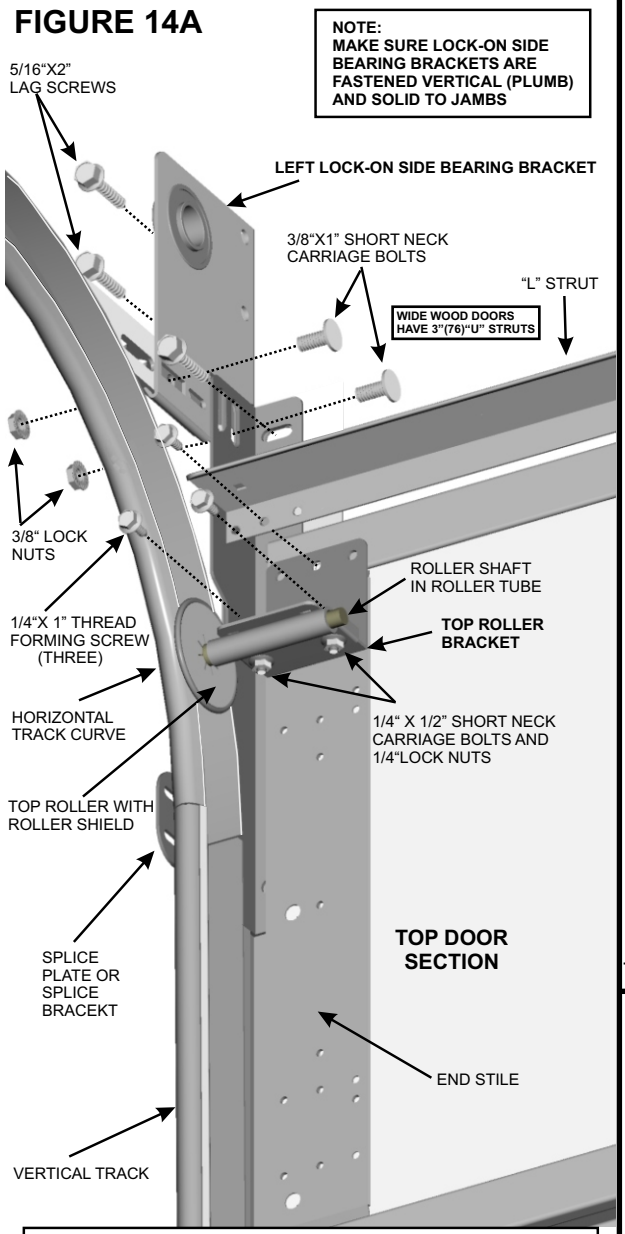
Fasten optional punched angle to the ceiling with 5/16" X 2” lag screws. Do not fasten a punched angle brace until STEP 27.

Make sure the curved front ends of the horizontal tracks and the vertical tracks line up. Tighten the remaining bolts and nuts.

Doors over 14' (5270) high or any horizontal track that deflects more than 1/2" (13) in 10' (3050) should also be center hung with punched angle.

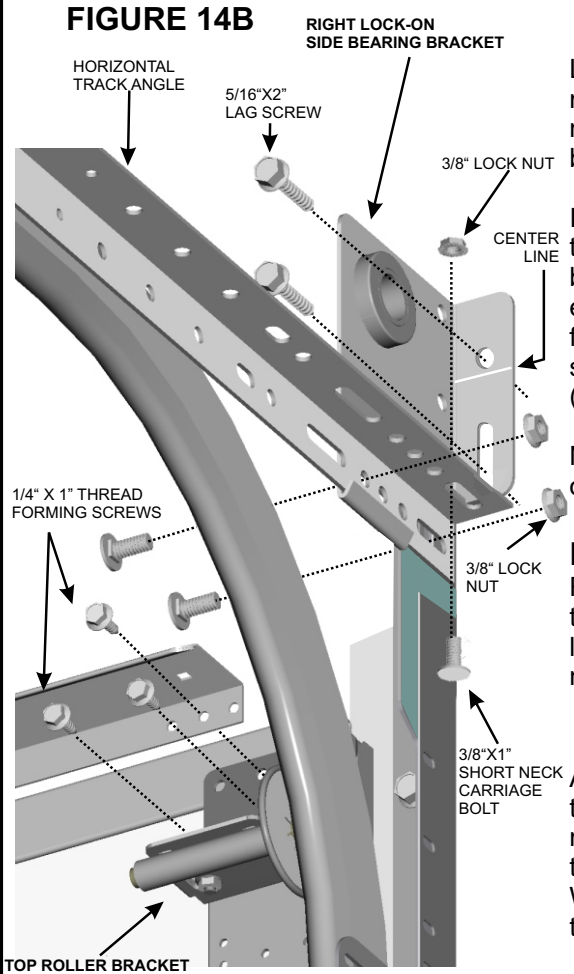
Note: Martin 2" (51) horizontal tracks, for 7' (2130) to 14' (4270) high doors, are made with slotted holes. The horizontal track angles are fastened to the horizontal tracks slotted holes with 1/4" X 1/2" short neck carriage bolts and 1/4" lock nuts. If needed, to remove stress, loosen the bolts and nuts and move the horizontal tracks or horizontal track angles, then re-tighten the bolts and nuts. This procedure can also be used to slightly raise or lower the back of the horizontal tracks to miss an obstruction or provide a more perfect balance to the door in the open position. Raising the back of the horizontal tracks will help to reduce the open door spring tension. Lowering the back of the horizontal tracks will help to increase the open door spring tension. The above procedure of raising or lowering the back of the horizontal tracks, to improve the open door balance, is sometimes used by professional installers, only after completing STEP 26.

FIGURE 14A



NOTE: For commercial narrow steel jamb installation, fasten a 4" (102) length of punched angle to the front of each Lock-On Side Bearing Bracket. Fasten the punched angles to the side of each steel jamb.

FIGURE 14B



STEP 18
MARTIN TOP ROLLER BRACKETS

Loosen the bolts and nuts on the top roller brackets. Slide the roller shaft into the roller tube of each roller bracket. Insert the roller into the curve of the horizontal track. The roller tube is on the bottom side of the top roller bracket. (See Figures 14A,14B)

If the top door section has a strut, place the strut on or under the top roller bracket. (See Figures 14A,14B) Fasten each top roller bracket to the stile. For added strength on heavy doors, fasten each top roller bracket to the stile with extra 1/4" X 1" thread forming screws. Adjust the top roller bracket so that the top door section lightly touches the header. Tighten the bolts and nuts. (See Figures 14A,14B)

Note: If steel door includes a Martin Side Mount Opener, install opener door bracket now. See Opener Instruction Manual.

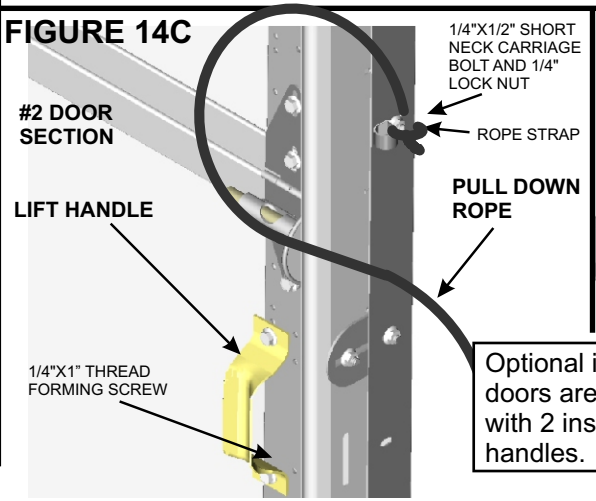
LOCK-ON SIDE BEARING BRACKETS

Rotate and fasten the left and right lock-on side bearing brackets to the horizontal track angle. (See Figure 14A,14B) The center line measurement in Figure 14B should match the center line measurement in Figure 17B. (Fasten vertical and solid to jambs.)

STEP 19
PULL DOWN ROPE & OPTIONAL LIFT HANDLES

About 12" (305) above the center of the door, fasten the rope strap to the side of the reverse angle. Fasten the end of the pull down rope to the rope strap. (See Figure 14C) Fasten the other end of the pull down rope to the bottom roller bracket. (See Figure 14D) WARNING! To help protect children, do not fasten pull down rope to an electrically operated door.

FIGURE 14C



Optional insulated doors are furnished with 2 inside lift handles.

FIGURE 14D

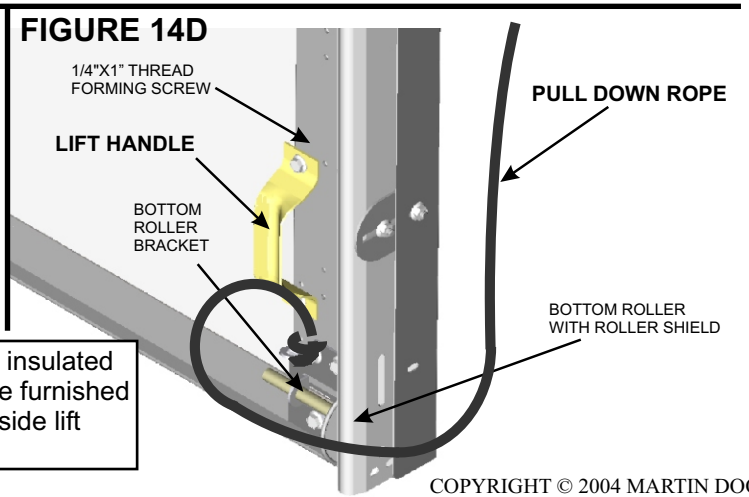


FIGURE 15 ONE TORSION-SPRING ASSEMBLY

ONE PIECE TORSION TUBE FOR DOORS UP TO 10'2" (3100) WIDE

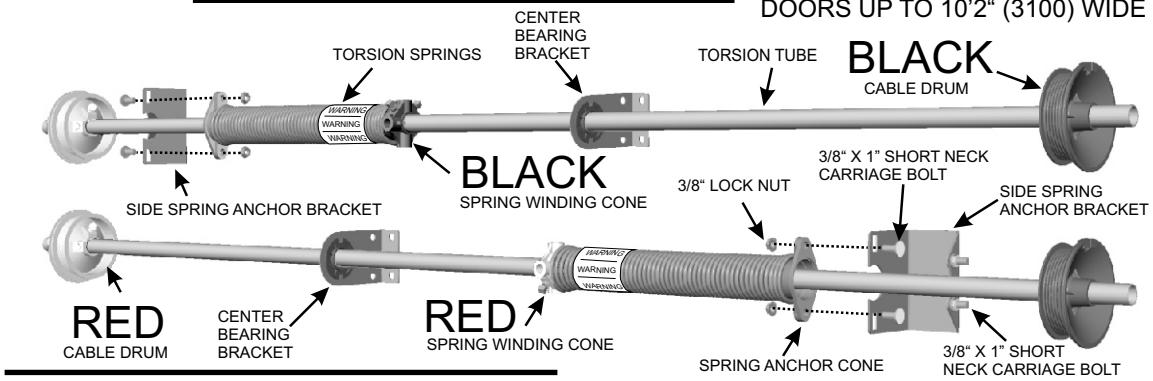


FIGURE 15A

ATTENTION! Springs can be damaged by dropping on or throwing against sharp objects. This may result in reduced spring life.

TURNS ON TORSION SPRINGS TO BALANCE DOOR WITH *STANDARD CLEARANCE OR LESS			
DOOR HEIGHT	4" (102) CABLE DRUM	5 1/4" (133) CABLE DRUM	8" (203) CABLE DRUM
7' (2130)	8-9		
8' (2440)	9-10	6-8	
9' (2740)	10-11	7-9	
10' (3050)	11-12	8-10	
11' (3350)	12-13	8-10	
12' (3660)	13-14	9-11	
13' (3960)		10-12	
14' (4270)		11-13	
15' (4570)		11-13	
16' (4880)		12-14	
17' (5180)		13-15	
18' (5490)		13-15	
19' (5790)			9-11
20' (6100)			10-12

*SEE SUPPLEMENTS D AND E FOR HIGH-LIFT OR VERTICAL-LIFT

STEP 20
TORSION SPRING ASSEMBLY

Observe the **red** and **black** color codes on the spring winding cones and cable drums and assemble correctly. All references to right or left are viewed from inside looking out through the door opening. **ATTENTION: If the torsion spring(s) are reversed and fastened on the wrong side, they will back-wind. The door will only open part way and stop.**

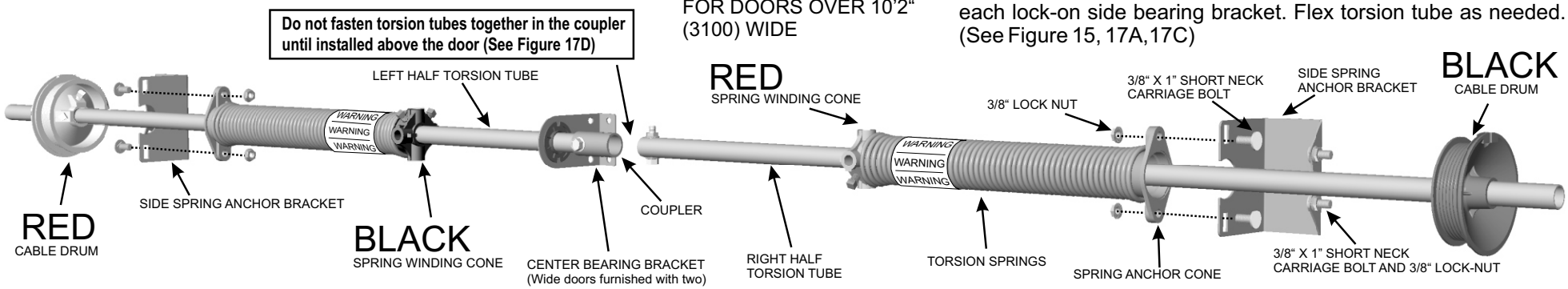
Put the torsion spring assembly together on the floor for one or two torsion springs as provided. Do not fasten torsion tubes together in coupler until installed above the door. (See Figure 17D) Fasten the spring anchor cones to the side spring anchor brackets. (See Figures 15,16) Extra heavy doors may have four springs provided.(See Supplement F)

For easy side spring anchor bracket assembly to the lock-on side bearing brackets at the end of STEP 23, two 3/8" x 1" short neck carriage bolts are fastened to each side spring anchor bracket with 3/8" lock nuts. The 3/8" lock nuts also act as necessary spacers for the wider 4" cable drums used on doors higher than 8' (2440). (See Figures 18A,18B)

NOTE: Single and double wide doors may have one or two springs as provided. A single torsion spring, on a one torsion spring assembly, may have a **red** or **black** spring winding cone. If **red**, the torsion spring is right wound and will be assembled on the right side. If **black** the torsion spring is left wound and will be assembled on the left side.
The **red** cable drum is assembled on the left side. The **blac**k cable drum is assembled on the right side. The torsion tube furnished is at least 4" (102) longer than the length between the side bearing brackets. (See Figures 15,15A,16)

FIGURE 16 ONE/TWO TORSION-SPRING ASSEMBLY

TWO PIECE TORSION TUBE, WITH COUPLER, FOR DOORS OVER 10'2" (3100) WIDE



DOORS WITH ONE PIECE TORSION TUBE

Lift the torsion spring assembly up and slide the torsion tube into each lock-on side bearing bracket. Flex torsion tube as needed. (See Figure 15, 17A,17C)

FIGURE 17A

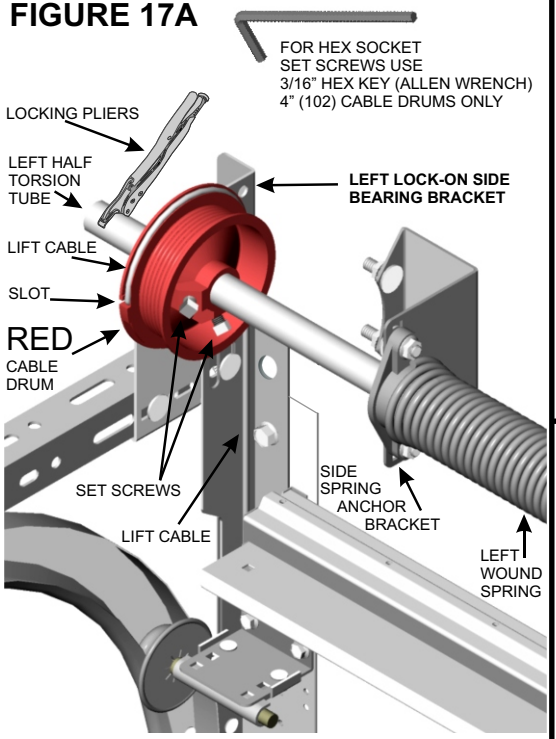
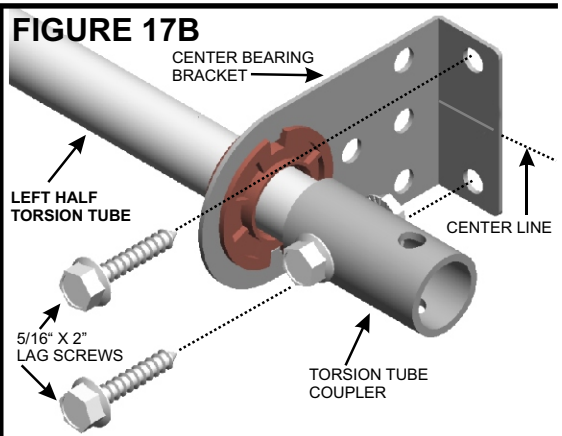


FIGURE 17B



ALTERNATE 17B

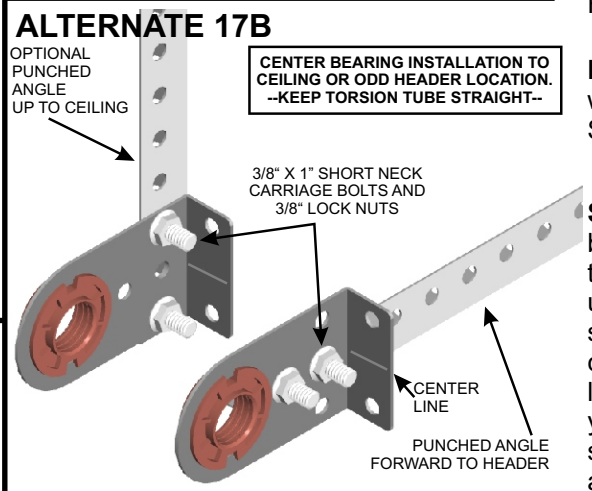


FIGURE 17C

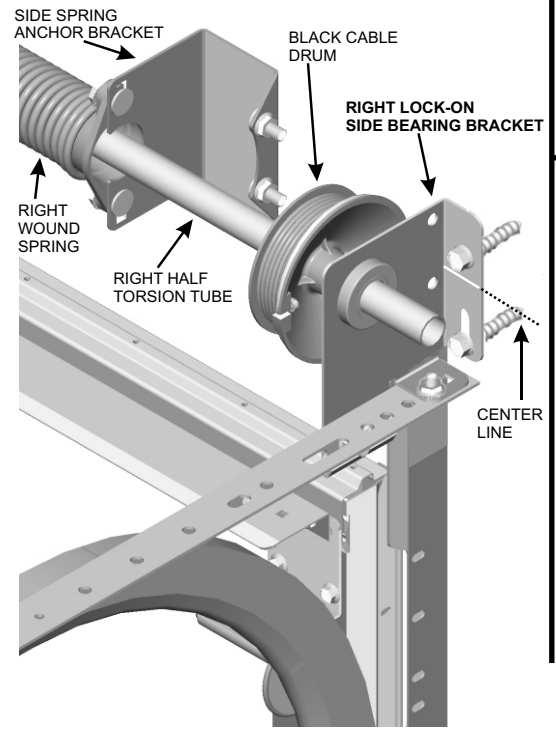
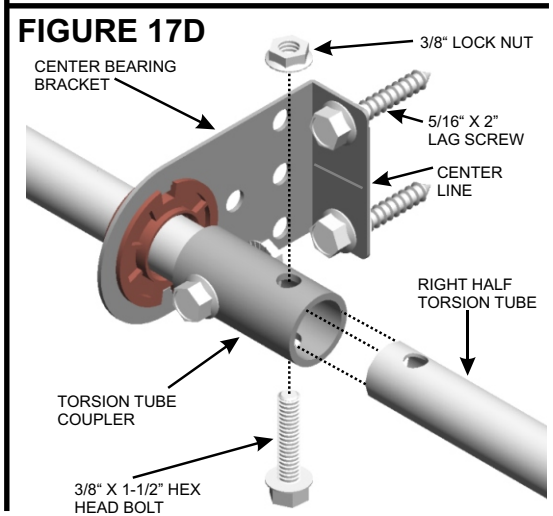


FIGURE 17D



CENTER BEARING BRACKET

Observe lock-on side bearing brackets center line. Mark same location and drill holes for center bearing bracket. If its on the same surface as the lock-on side bearing brackets, it will fasten directly to the header. (See Figure 17B). For odd surfaces add punched angle. Keep the torsion tube straight! (See Alternate 17B) Wide doors are furnished with two center bearing brackets.

Lift the left half of the torsion spring assembly up and slide the torsion tube into the left lock-on side bearing bracket. (See Figure 17A) Fasten the center bearing bracket. (See Figure 17B)

Lift the right half of the torsion spring assembly up and slide the torsion tube into the right lock-on side bearing bracket. (See Figure 17C) Slide the right torsion tube into the torsion tube coupler and fasten. (See Figure 17D)

STEP 21

Heavy Commercial size doors are furnished with 2 extra springs, which must be fastened to two extra center spring brackets. (See Supplement F)

STEP 22

Starting at the left side, draw the lift cable up behind the roller shafts between the vertical track and the left side of the door. Slip the lift cable through the slot in the left side of the cable drum. Pull on the lift cable until the lift cable button stops and is tight against the **red** cable drum slot. Wind the remaining lift cable onto the **red** cable drum by hand, carefully following the groove. Push the **red** cable drum against the left lock-on side bearing bracket and tighten the two 3/8" set screws until you feel pressure on your wrench then tighten ½ to 1 turn. The set screws dimple slightly into the torsion tube. Rotate the **red** cable drum and torsion tube until the lift cable is taut. Clamp locking pliers to the torsion tube and brace them against the header to keep the lift cable taut and from unwinding. (See Figure 17A) Hex socket set screws and grey stealth plugs are furnished with 4" (102) cable drums only.

STEP 23

Repeat the procedure in STEP 22 for attaching the lift cable, on the right side, to the **black** cable drum. Do not remove the locking pliers! The lift cable must be set equally taut. If **black** cable drum is fastened first, the lift cables may not be equally taut. (See Figure 17C)

After fastening cable drums, fasten the side spring anchor brackets to the lock-on side bearing brackets. (See Figure 18A,18B)

STEP 24

Fasten the optional commercial door side latch, if provided, to the inside of the #3 door section, as shown on page 16.

FIGURE 18A

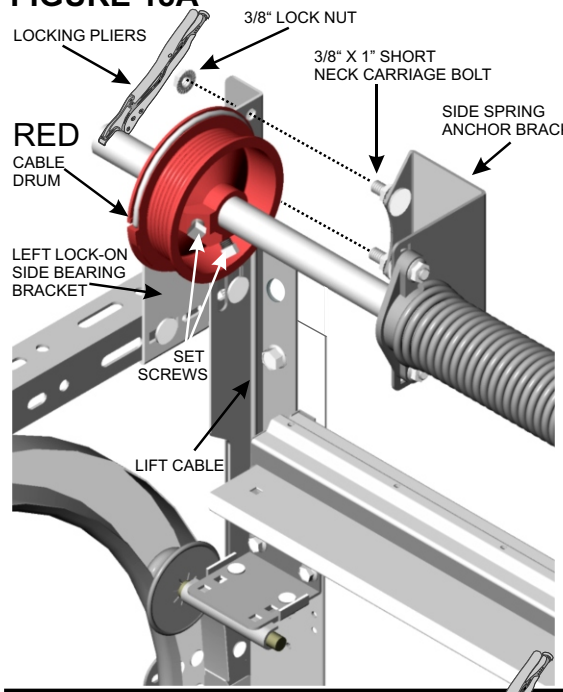


FIGURE 18B

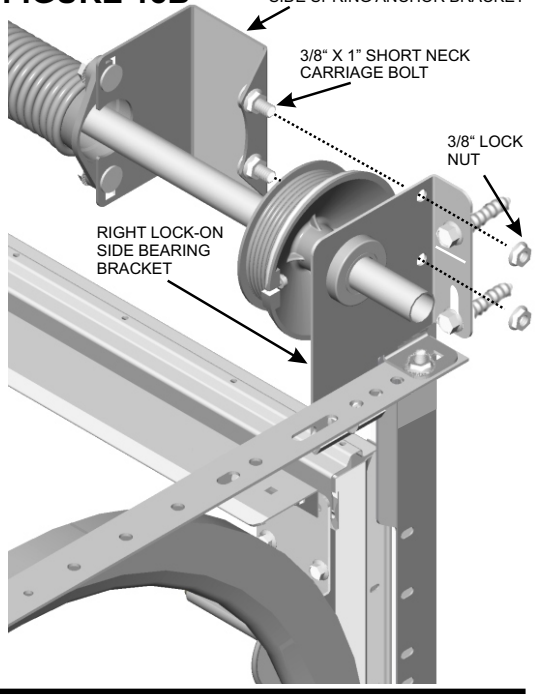


FIGURE 19B

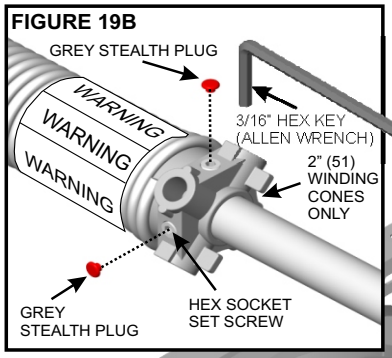


FIGURE 19C

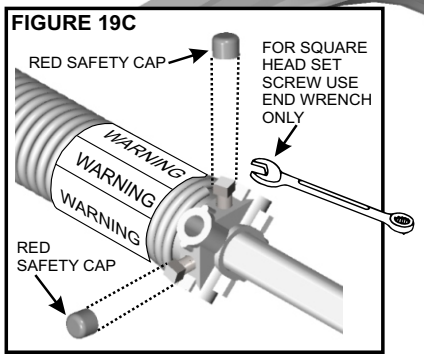
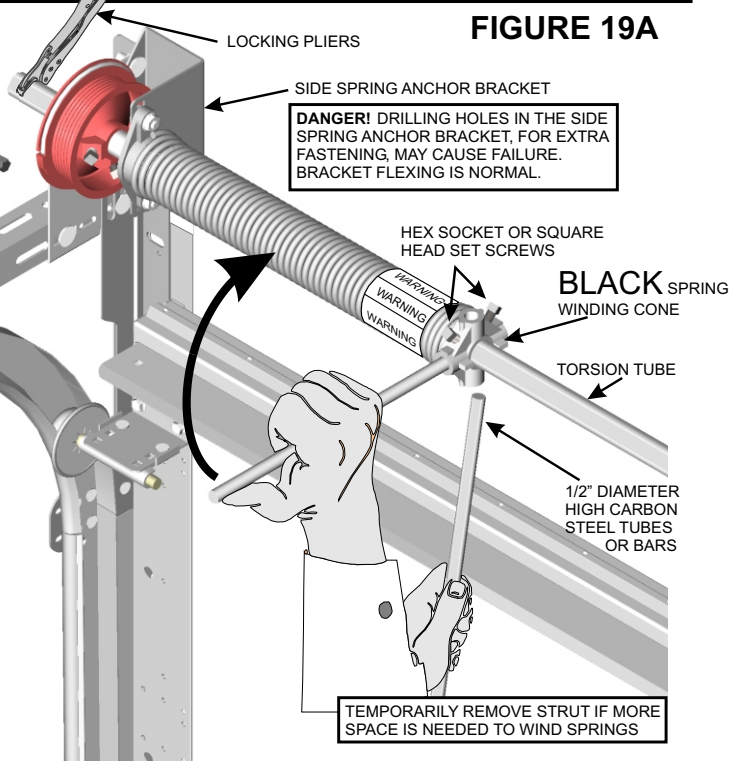


FIGURE 19A



STEP 25

WARNING! TORSION SPRINGS CAN CAUSE SERIOUS INJURY OR DEATH! KEEP HANDS CLEAR OF WINDING CONES. IF NOT SURE, STOP NOW! CALL A TRAINED MARTIN DOOR DEALER.

Check to make sure the lock is engaged, or that the door is clamped down so it will not open. If using 4" (102) cable drums, wind the torsion springs about 8 ¼ turns for 7' (2130) high doors or 9 ¼ turns for 8' (2440) high doors. The horizontal paint stripe on each torsion spring will rotate and match each turn. Use only 1/2" (12.7) dia. high carbon steel bars or tubes that closely fit the spring winding cone holes. Insert the bars or tubes completely to the bottom of the holes. (DO NOT use screw driver, etc.) Wind each torsion spring in an upward direction 1/4 of a turn at a time. When fully wound, tighten down the two 3/8" set screws 1/2” to 1 turn into the torsion tube. Caution: The set screws should dimple slightly but not puncture the torsion tube. (See Figure 19A, 19B, 19C).

To reduce the friction on the rotating spring coils, oil the spring coils during “Final Check List”.

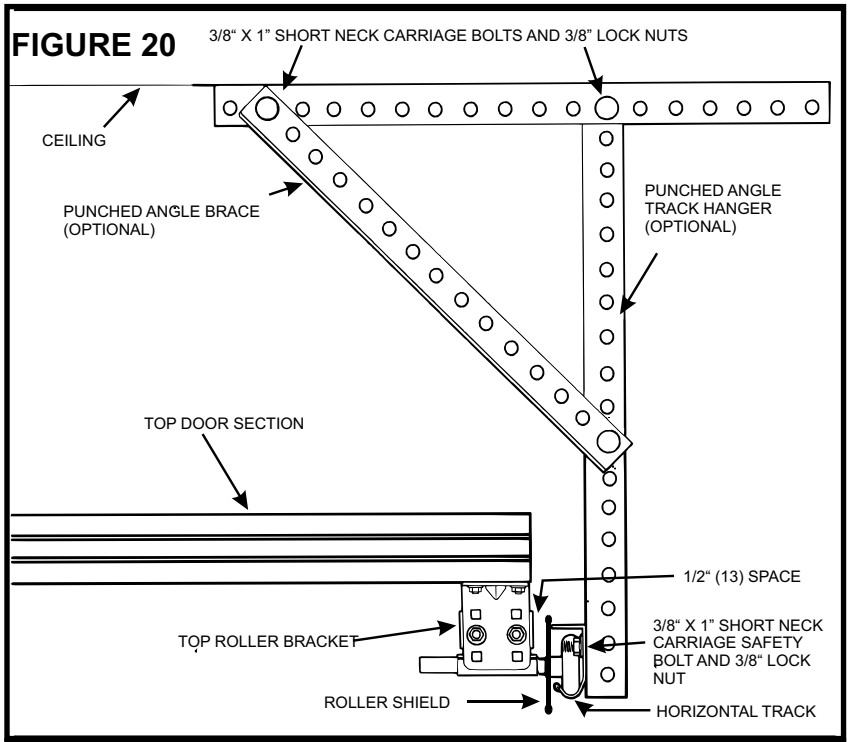
STEP 26

Remove the locking pliers on the torsion tube. Release the lock or remove the clamp holding the door in place. Slowly raise the door part way to check for balance. Be sure the door is rolling free and not binding or rubbing. If the door is heavy to lift, increase the torsion spring tension. If the door goes up too fast, decrease the torsion spring tension. It is better for the door to open a little fast than be too heavy. If additional torsion spring adjustment is made, follow the procedures and cautions outlined in STEP 25. Add or delete 1/4 turn at a time, alternating torsion springs. Recheck the balance. Repeat this procedure until the door rolls smoothly with a satisfactory balance. Be sure to clamp locking pliers on the torsion tube and clamp or lock the door in the closed position before each adjustment. Also read "NOTE" in STEP 17.

After the final spring adjustment, push the GREY STEALTH PLUGS in the HEX SOCKET SET SCREWS or the RED SAFETY CAPS over the SQUARE HEAD SET SCREWS.

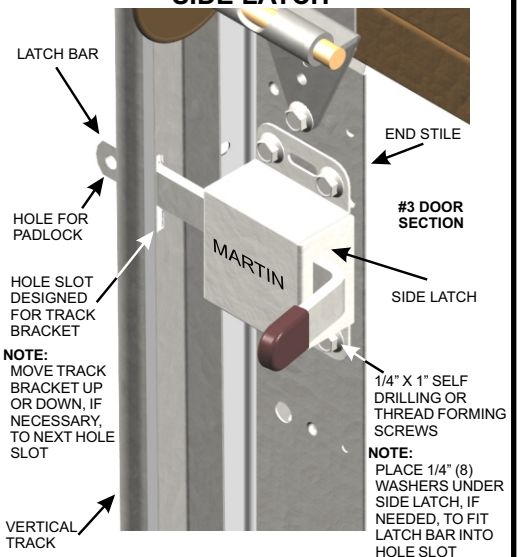
Note: Grey stealth plugs are only in 2”(51) winding cones and 4” (102) cable drums.(See Figures 19B and 19C)

FIGURE 20

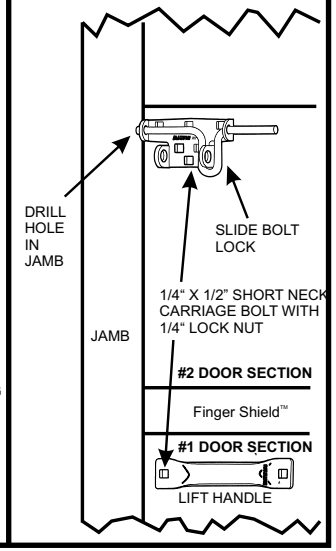


ITEMS BELOW WILL FASTEN TO RIGHT OR LEFT SIDE OF DOOR

OPTIONAL COMMERCIAL DOOR SIDE LATCH



OPTIONAL SLIDE BOLT LOCK & LIFT HANDLE



STEP 26 CONTINUED

The Lift Cable Tension Adjuster shown in Figure 3A allows for the door, the door opening and the tracks to be a small amount out of plumb, level and square. However, if they are out too much, one of the lift cables may fall off the cable drum as the bottom of the door opens to the curve. If this happens, first check to make sure the horizontal tracks are parallel and square with the door. The cable drums must be securely fastened to the torsion tube. WARNING! If the problem is caused by loose cable drum set screws, which allowed cable drum slippage, the torsion springs must have their tension released before a satisfactory cable drum adjustment can be made. Start over again at STEP 22. Also check the door, the door opening and the tracks for plumb, level, and square.

WARNING! EXTREME CAUTION MUST BE EXERCISED WHILE ADJUSTING THE TORSION SPRINGS!

STEP 27

With the door fully open and working free, make final adjustments to the horizontal tracks. Leave about 1/2" (13) space between the side of the door and the horizontal track, then fasten the punched angle brace with 3/8 X 1” short neck carriage bolts and 3/8" lock nuts. The punched angle track hanger should be vertical.
(See Figure 20)

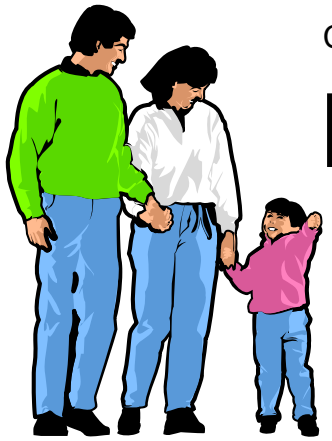
WARNING! Be sure the door is in the down position if the punched angle Track hanger needs to be unfastened and moved to another position.

STEP 28

Note: Doors over 14’ (5270) high and any extra heavy door that causes the horizontal tracks to deflect more than 1/2“ (13) in 10’ (3050) should also be center hung and braced with punched angle to support the weight.

FINAL CHECK LIST

1. The door should only lightly touch the jambs or reverse angle shields.
2. All fasteners must be tight.
3. The grey stealth plugs or red safety caps should be installed on sping cones & drums.
4. Oil or wax all moving part areas as explained on the front page under "MAINTENANCE”.
5. A finished installation should include a clean garage door and garage floor.



CONGRATULATIONS!

Relax . .

enjoy your new Martin Door.

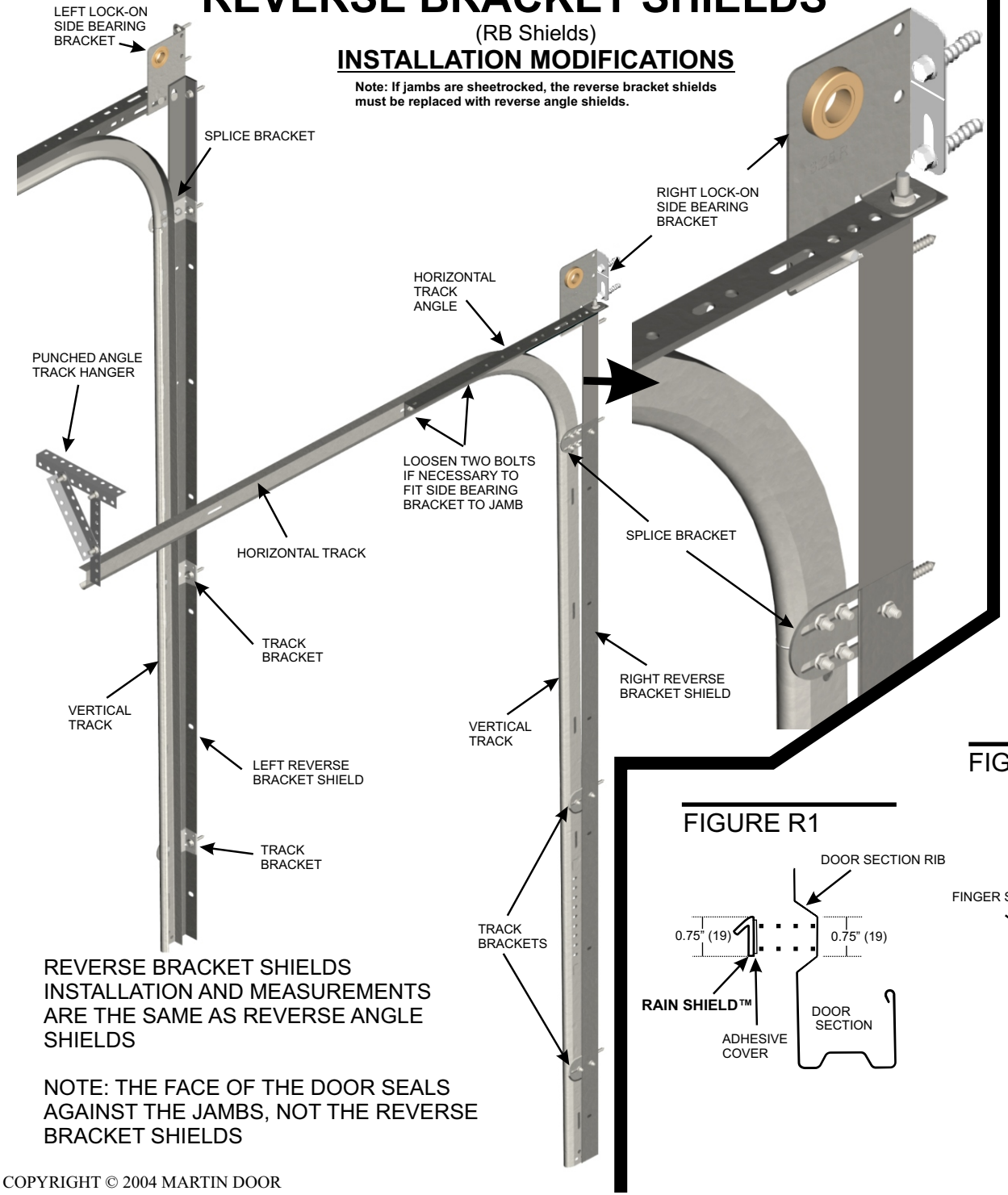
Tell your friends

REVERSE BRACKET SHIELDS™

(RB Shields)

INSTALLATION MODIFICATIONS

Note: If jambs are sheetrocked, the reverse bracket shields must be replaced with reverse angle shields.



REVERSE BRACKET SHIELDS INSTALLATION AND MEASUREMENTS ARE THE SAME AS REVERSE ANGLE SHIELDS

NOTE: THE FACE OF THE DOOR SEALS AGAINST THE JAMBS, NOT THE REVERSE BRACKET SHIELDS

RAIN SHIELD™ (STEEL DOORS)

ORDER FROM YOUR MARTIN DOOR DEALER

INSTALLING RAIN SHIELD™ AFTER THE DOOR IS INSTALLED

1. The temperature should be above 60°F (15° C). The weather should be dry.
2. Raise the door into the curve of the track where the Finger Shield™ opens away from the door section rib.
3. Clean all moisture, dirt, oil, wax, etc. From the bottom of the door section rib. (See Figure R1)
4. Remove the adhesive cover from the back of the Rain Shield™. (See Figure R1)
5. Apply the Rain Shield™ firmly to the bottom of the door section rib between the right and left end stile rivets. Do not cover rivets. (See Figures R1, R2, R3)
6. Firmly press all air bubbles out from between the adhesive and the steel, so that the Rain Shield will bond solid to the bottom of the door section rib.
7. Slowly open and close the door as you observe and make sure the Finger Shields™ are properly fitting under each Rain Shield lip. After the first closing, the Finger Shields™ should always properly fit under each Rain Shield lip. (See Figures R2 and R3)

INSTALLING RAIN SHIELD™ BEFORE THE DOOR IS INSTALLED

a. Complete numbers 1, 3, 4, 5, and 6 above.
b. If re-packaging the door, make sure each Finger Shield™ properly fits under the Rain Shield™ lip before re-taping the Finger Shield™ to the door section. (See Figure R3)

INSTALLING A DOOR WITH PREVIOUSLY INSTALLED RAIN SHIELD™

a. As the door sections are being installed in the door opening, make sure the Finger Shields™ fits properly under each Rain Shield™ lip. (See Figure R3)
b. After the door is installed follow the advise in number 7 above.

FIGURE R1

FIGURE R2

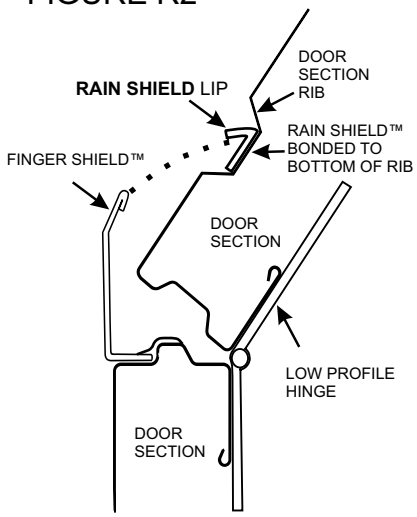
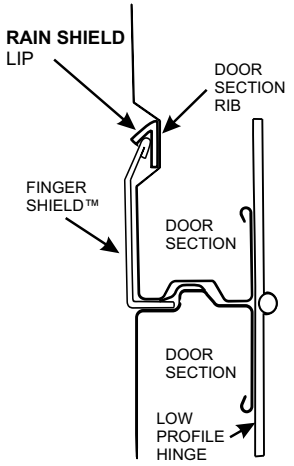


FIGURE R3



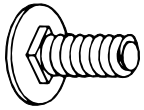
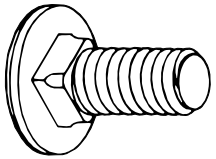
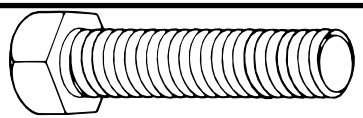
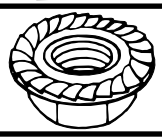
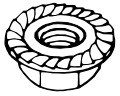
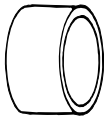
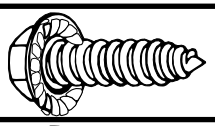
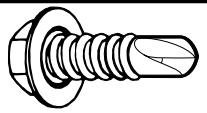
DENTS: All roll formed and stamped steel can be dented, however, Martin regular and insulated high tensile steel door sections are rated among the strongest and most dent resistant in the world.

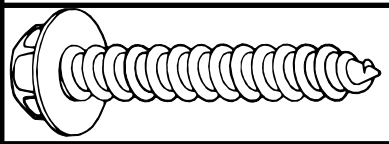
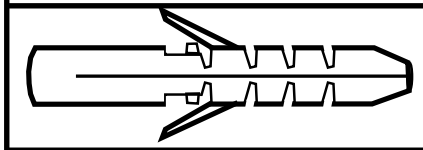
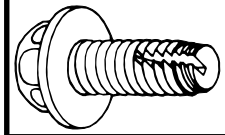
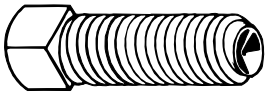
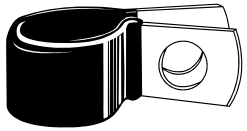
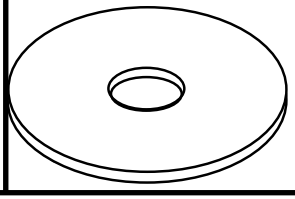
Martin door sections do not require insulation bonded to them for strength. Because of this unique construction, many type dents can be easily repaired by a trained Martin dealer. It may not be necessary to replace a door section or a complete door to avoid the prolonged appearance of a damaged surface.

DENT REPAIR: Regular and insulated doors are usually repaired in the closed position. The insulation is skillfully cut and removed, the dent is tapped on each side until the embossed surface is restored to near original. The insulation is replaced and detailed. New vinyl backing is available for damaged insulation.

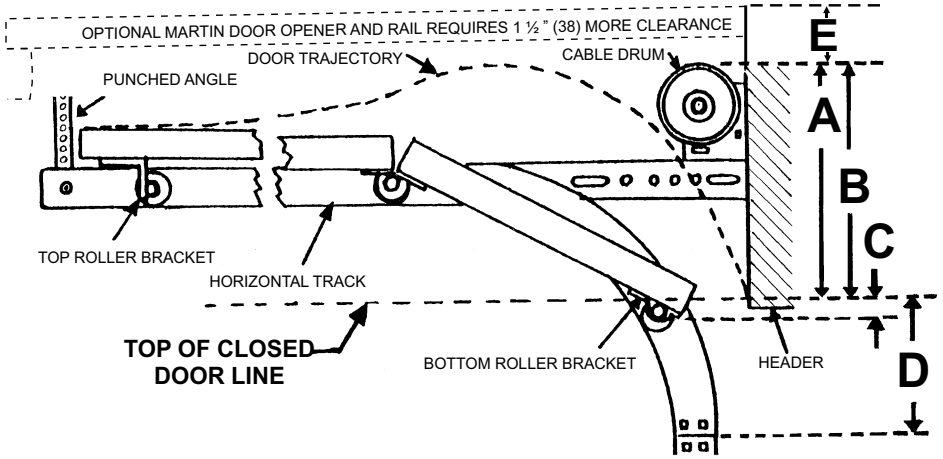
Series II insulated doors are repaired the same except they require more time to remove the steel back. After the repair, the steel back is replaced and riveted.

CAUSES: During a lifetime, various accidents can cause a dent, including bicycles, roller blades, wheelbarrows, tools, baseballs, rocks, etc.

PICTORIAL	DESCRIPTION
	1/4“ X 1/2” SHORT NECK CARRIAGE BOLT
	3/8“ X 1” SHORT NECK CARRIAGE BOLT
	3/8“ X 1-1/2” BOLT 9/16 (14) HEX HEAD
	3/8” LOCK NUT 9/16“ (14) HEX HEAD
	1/4” LOCK NUT 7/16“ (11) HEX HEAD
	#6 LOCK NUT 5/16“ (8) HEX HEAD
	1/4“ SPACER (FOR 2-1/2“, 4-1/4” LOW CLEARANCE)
	1/4“ X 1” THREAD FORMING SCREW 7/16 (11) HEX HEAD
	1/4“ X 3/4” SELF DRILLING SCREW 7/16 (11) HEX HEAD

PICTORIAL	DESCRIPTION
	5/16“ X 2” LAG SCREW 7/16 (11) HEX HEAD (WOOD JAMBS)
	3/8 X 2“ PLASTIC ANCHOR USE WITH 5/16” X 2“ LAG SCREW (CONCRETE, BRICK, STONE JAMBS)
	5/16“ X 3/4” OR 3/8” X 1” SELF TAPPING SCREW 7/16 (11) HEX HEAD (STEEL JAMBS)
	3/8“ X 1” SQUARE HEAD SET SCREW (INCLUDES RED SAFETY CAP)
	3/8“X 5/8” HEX SOCKET SET SCREW (INCLUDES GREY STEALTH PLUG)
	CLEVIS AND COTTER PIN
	ROPE STRAP
	SLIDE BOLT LOCK AND HANDLE WASHER

SUPPLEMENT B - CLEARANCE AND MODIFICATIONS



A **REQUIRED CLEARANCE ABOVE TOP OF CLOSED DOOR FOR CABLE DRUMS.**

B **REQUIRED CLEARANCE FOR DOOR TRAJECTORY.**

C **DOOR OPEN - AT REST - UNDER TOP OF CLOSED DOOR LINE.**

D **TOP OF VERTICAL TRACKS TO TOP OF CLOSED DOOR (STEP 16 INSTALLATION MEASUREMENT)**

E **ALLOW 1 ½" (38) ABOVE DOOR TRAJECTORY FOR A MARTIN DOOR OPENER.**

CLEARANCE / MEASUREMENTS

DIAMETER OF CABLE DRUMS		4" (102)	5.25" (133)	8" (203)
2" (51) TRACK	A	12" (305)	14" (356)	18" (457)
	B	11" (279)	11" (279)	11" (279)
	C	2" (51)	2" (51)	2" (51)
	D	8" (203)	8" (203)	8" (203)
3" (76) TRACK	A	17" (432)	19" (483)	23" (584)
	B	15" (381)	15" (381)	15" (381)
	C	0" (0)	0" (0)	0" (0)
	D	12" (305)	12" (305)	12" (305)

DOOR SECTION MODIFICATIONS
(STEEL DOORS)

If needed, a Martin Steel Sectional Garage Door allows maximum, on the job, modifications by experienced installers.
After modifications are made, as instructed, the operation and visual look of the door should still be close to factory production.

DECREASE DOOR WIDTH
The pop style rivets, used in each end stile to manufacture Martin Steel Door Sections, provide superior strength, yet are easy to remove and replace.

To reduce the width of the door sections to fit a narrow garage:
1. Drill the heads off the end stile rivets.
2. Remove the end stiles.
3. Cut the door sections.
4. Re-drill the door sections.
5. Replace the end stiles with new rivets.

INCREASE DOOR HEIGHT 2-1/2" (64)
1. Use rivets or screws to fasten finger shield clips to the top of the top door section.
2. Snap a Finger Shield into the finger shield clips.
3. This modification requires a 3" (76)vertical track extension kit. See STEP 16 and Figure 13C.

2"(51) TRACK MODIFICATIONS

DECREASE CLEARANCE 1" (25): Cut 1" (25) from the bottom of each vertical track. "A" will decrease 1" (25). "C" and "D" will increase 1" (25).

LOW CLEARANCE: See page 20, SUPPLEMENT C-I for optional **8" (203)** Clearance. See SUPPLEMENT C-II for optional **4 ¼", 2 ½" (108, 64)** Clearance. See "Wood Door Notes" on page 22.

INCREASE CLEARANCE 3" and 6" (76 and 152): See page 11, Figure 13C for optional VERTICAL TRACK EXTENSION KITS.

HIGH CLEARANCE / HI-LIFT : See optional SUPPLEMENT D for increasing clearance **8" TO 133" (203 TO 3378)** .

VERTICAL-LIFT : See optional SUPPLEMENT E. Requires twice the door height plus 12" (305).

FIGURE C1

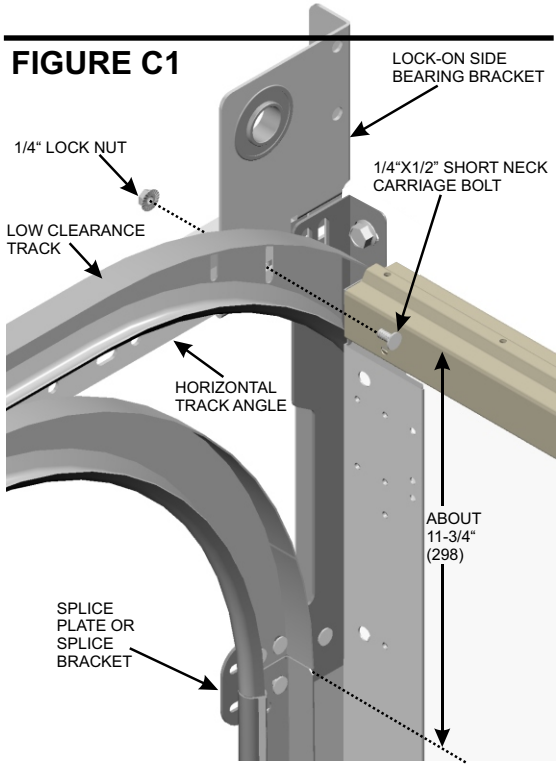


FIGURE C2

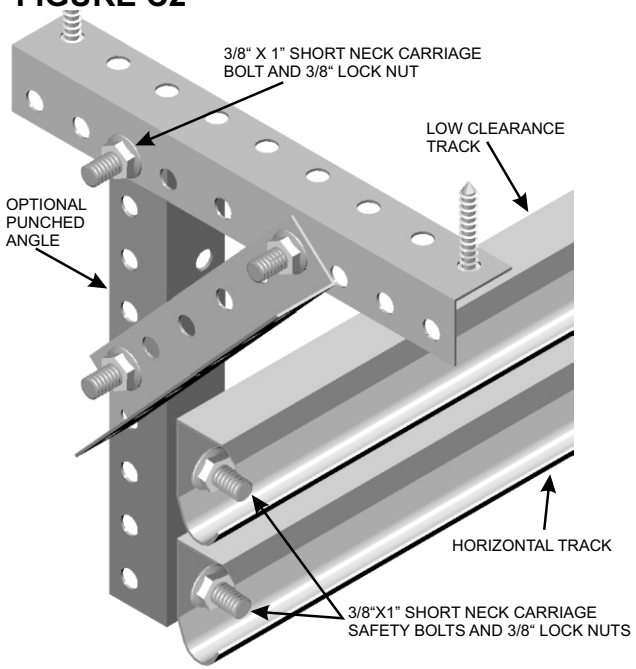


FIGURE C3

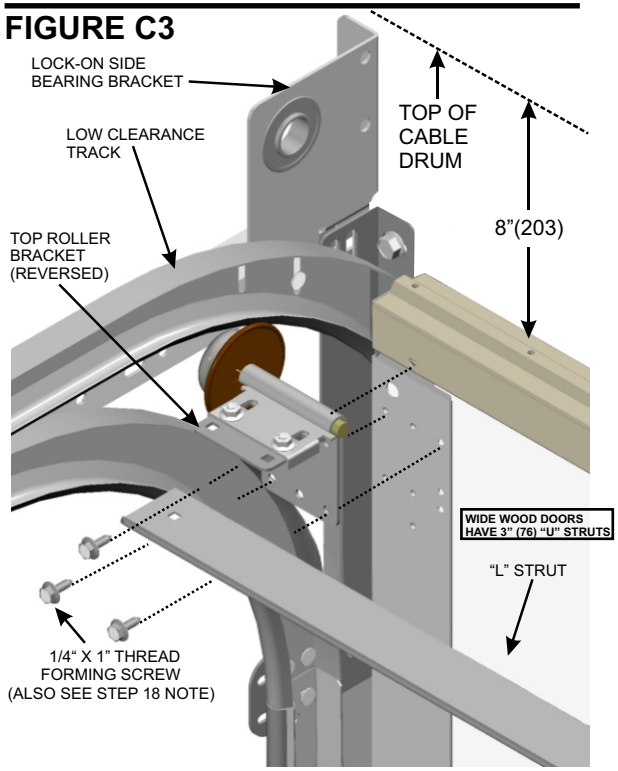
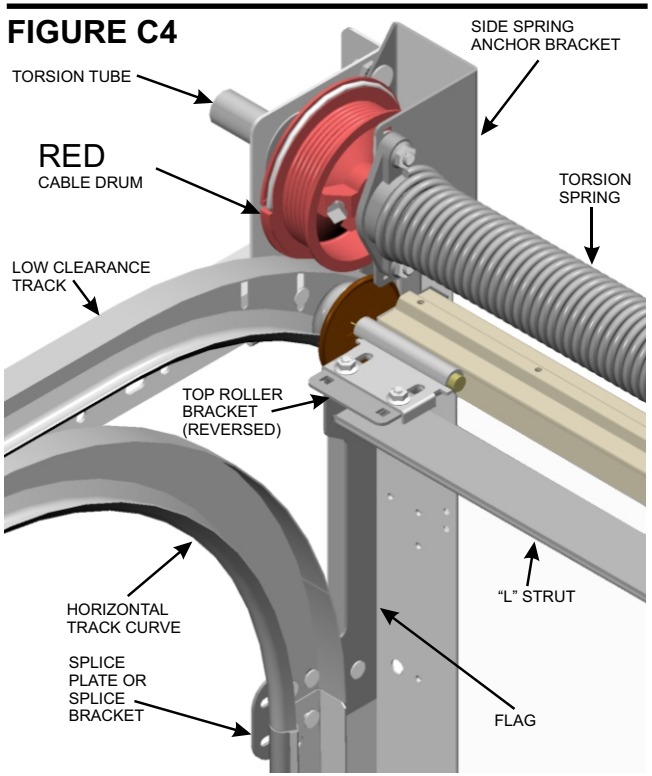


FIGURE C4



SUPPLEMENT C-I

LOW CLEARANCE TRACK WITH TORSION SPRINGS AT THE FRONT

- 8“ (203) clearance is required above top of closed door with 4” (102) cable drums.
- 10“ (254) clearance is required above top of closed door with 5-1/4” (133) cable drums.
- Cut off the bottom of the reverse angle shields and the vertical tracks 3-3/4“ (95).
- The top of the vertical track should be about 11-3/4“ (298) from the top of the closed door.

STEPS 1 to 16

Follow the regular instruction manual except place five cardboard strips on each side of the door opening, under the reverse angle shields and under the door. Add or subtract if floor is out of level. See STEP 1 and 8.

NOTE: Setting door, track, and RA or RB shields on a level floor with no cardboard strips may save 1/2” (13) of the required clearance. However, the adjustments of the low clearance tracks and top roller brackets will be limited.

STEP 17

Follow regular instruction manual except the top of vertical tracks should be about 11-3/4“ (298) down from the top of the closed door. (See Figure C1)

- Fasten the lock-on side bearing brackets to the horizontal track angles as explained in STEP 18, also Figures 14A and 14B.
- Fasten the front of the low clearance tracks above the horizontal tracks to the third hole of the horizontal track angle. (See Figure C1)
- Fasten the back of the low clearance tracks above the horizontal tracks to the punched angle. (See Figure C2)
- For doors over 8’ (2440) high, cut a 1’ (25) punched angle bracket from a punched angle and fasten the punched angle bracket in the holes provided, near the center of the low clearance tracks and the horizontal track angle. (See Figure C6)

FIGURE C5

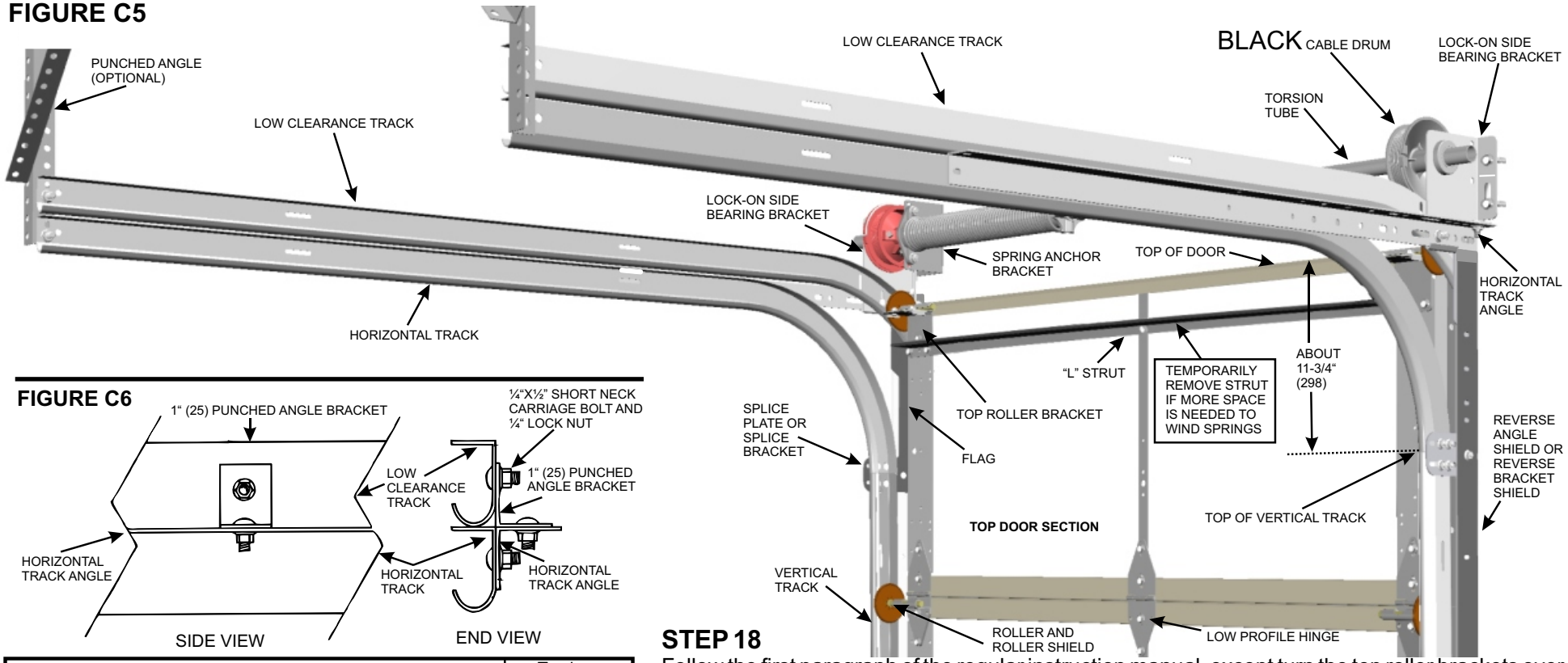


FIGURE C6

LOW CLEARANCE TRACK CHART	Torsion at Front
Clearance above top of closed door for 4" (102) cable drums.	8" (205)
Clearance above top of closed door for 5 ¼" (133) cable drums.	10" (254)
Top of LC Tracks above top of closed door.	3 3/4" (95)
Clearance above top of closed door for door trajectory.	5" (127)
Door open, at rest, under top of closed door line.	-5" (-127)
Door open, at maximum, under top of closed door line.	0" (0)
Top of Vertical Tracks to top of closed door. This is the INSTALLATION MEASUREMENT.	11 3/4" (298)

STEP 18

Follow the first paragraph of the regular instruction manual, except turn the top roller brackets over and reverse the roller tubes. Adjust the roller tubes close to the door section. Fasten each top roller bracket in the holes provided in the stiles. (See Figures C3,C4) NOTE: For doors over 8'(2440) high top roller brackets have a brace. Fasten top roller brackets to the top outside holes. The matching top two outside holes are in the stiles, under the metal skin. The 1/4 X 1" Thread Forming Screws will penetrate the metal skin while turning. The strut if provided, may install 2" (51) lower. On four section high doors, remove the roller shields from the top rollers..

ADJUSTMENTS: The roller tubes can be adjusted back slightly to keep the top section against the header. The vertical slot at the front of the Low Clearance track is provided so the track can move up and down slightly to also adjust the top section against the header.

STRUT: If the top section has an "L" strut, the strut must be turned over and fastened over the top roller brackets or fastened to the stiles as close to the top of the door as possible. (See Figure C3,C4)

STEPS 19 TO 29 Follow the regular instruction manual. (Step 26 note: Temporarily remove strut if more space is needed to wind the spring(s).)

HOW TO INSTALL LOW CLEARANCE TRACKS IN 3/4" (19) LESS CLEARANCE. This is not recommended but may be necessary.

1. Cut off bottom of RA or RB shields and vertical tracks 4-1/4" (108) --not 3-3/4" (95). See page 20.
2. Do not add the three additional cardboard strips under the reverse angle shields and the door. See page 20.
3. The top of the vertical tracks should be about 12-1/2" (318) from the top of the closed door-- not 11-3/4" (298). See page 20.
4. Fasten the front of the low clearance tracks to the second hole of the horizontal track angles -- not the third hole. See page 20. Caution! Leave space for the lift cables.
5. The top section may need to be adjusted back from the header up to 1/2" (13) to clear the spring anchor brackets, as the door opens and closes.

WOOD DOOR NOTES:

1. **Screws are required** to lock-on bottom roller brackets.(See FIGURES 3A and 4B)

2. **All low profile hinges** fasten “face down” into grooves provided. All #1, #2, #3 etc. end roller brackets should be fastened with 4 thread forming screws. (See drawings this page)

3. **Doors to 10’2”(3100)** wide, with 4”(102) cable drums, OK for 12”(305) clearance or 8”(205), 4 1/4”(108), 2 1/4”(64), low clearance tracks.

4. **Doors over 10’2”(3100)** wide, with 4”(102) cable drums, OK for 12”(305) clearance or 8”(205) low clearance tracks.

5. **A. Doors to 10’2”(3100)** wide are furnished with 5 hinges per section joint (single end hinges and roller brackets).
   B. Doors over 10’2”(3100) to 15’2”(4620) wide are furnished with 9 hinges per section joint (double end hinges and roller brackets).
   C. Doors over 15’2”(4620) to 18’2”(5540) wide are furnished with 11 hinges per section joint (double end hinges and roller brackets).

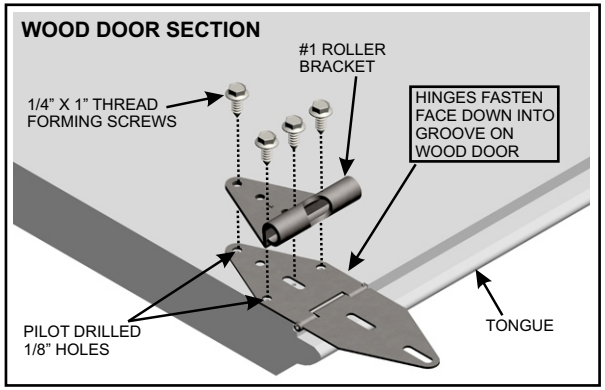
6. **A. Doors to 10’2”(3100)** wide do not have struts.
   B. Doors over 10’2”(3100) to 14’2”(4320) wide are furnished with three 3”(76) ”U” struts for 4 section high doors. One strut top of top section, one strut for bottom of bottom section and one strut installed on lower half of hinges across center of door. Four struts are furnished for 5 section high doors etc. (See FIGURE 6)
   C. Doors over 14’2”(4320) wide are furnished with five 3”(76) ”U” struts for 4 section high doors, fastened same as “B” above, plus extra struts are installed on lower half of hinges at all section joints. Six struts are furnished for 5 section high doors etc. (See FIGURE 6)

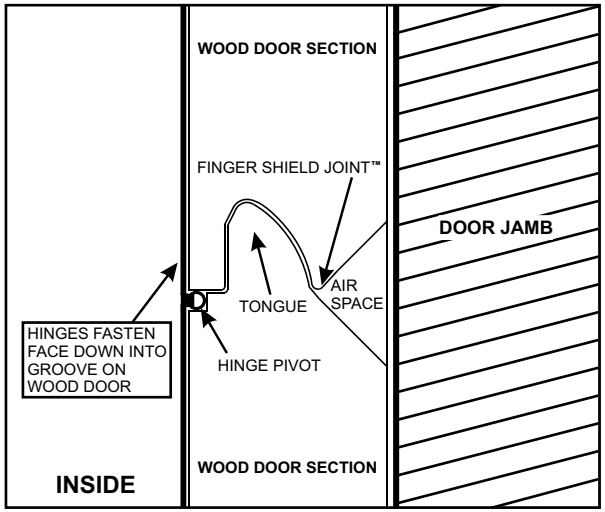
7. **Doors** have received water resistant treatment. We recommend painting or staining complete door before installation. If door is installed first, paint or stain door in closed position only (**DO NOT** paint inside finger shield joints unless painting was done before installation). A professional painter can stain the various unmatched colors of the wood door to match, as well as, stain the door to simulate most any other type wood. It is normal for wood to check, crack, split, warp, swell and shrink. Wax inside joints etc, only after door has been painted or stained. Expect light or dark colored fillers and glue residue, which should be finished by the painter.

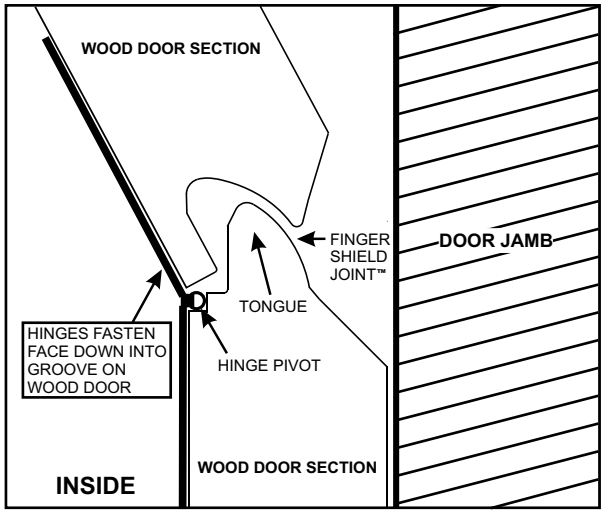
8. **Fasten** owners instruction packet to #3 door section with screws provided.

9. **Bond** the Martin logo firmly to the outside bottom corner of the door.

10. **Warning:** The small air spaces visible on each side of the door are required for the Finger Shield Joint™ design and must not be sealed. (See drawings this page.)



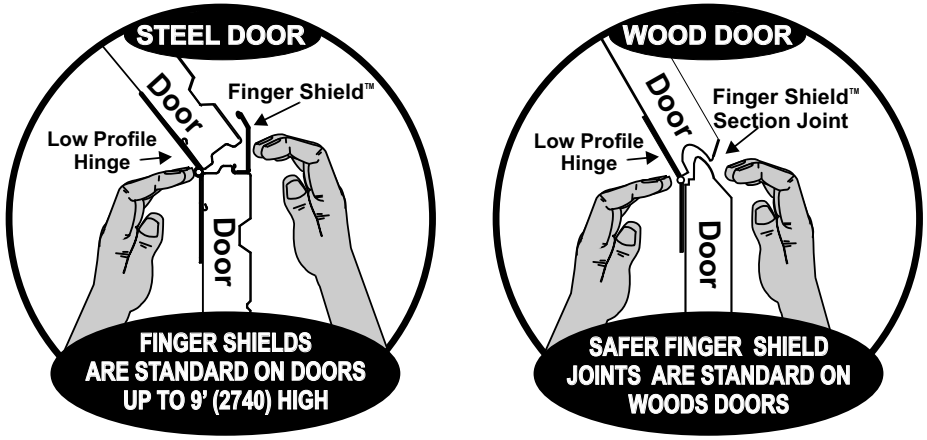




MARTIN FINGER SHIELD™ GARAGE DOOR SYSTEM*

•SAFETY SECTION ASSEMBLY •SAFETY TRACK ASSEMBLY •SAFETY SPRING ASSEMBLY

***HELPS PREVENT GARAGE DOOR INJURIES TO CHILDREN AND ADULTS**



60-MINUTE PAINTING INSTRUCTIONS

FOR RE-PAINTING, SEALING OR CUSTOMIZING YOUR DOOR COLOR

When a steel door is installed and in the closed position, paint the outside surface of the door only. It is not necessary to paint the door sections on the edges, joints and inside like a new wood door requires. Paint cannot dry in between joints. One coat of paint should cover if the steel surface is prepared properly. This is done by cleaning and lightly sanding as shown in steps 1, 2, and 3. Because the new paint is being applied to a stable painted surface, the new paint should last for many years. Wood door stain/paint or Copper door clear sealer may need to be repeated more often.

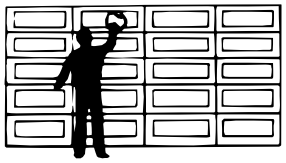
Your local paint store will advise you on the type and quality of paint to purchase. Follow any additional instructions on the paint can, especially proper temperature conditions and ventilation.

NOTE: It may be possible to re-new the look of an older door without re-painting. See "MAINTENANCE" on front page for cleaning and waxing.

STEP 1 - 10 MINUTES

Close the door, then wash it with a mild detergent to remove any dirt, oil or grime.

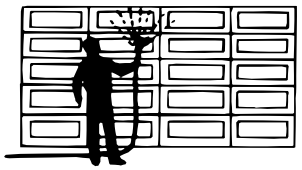
NOTE: *Martin Door Dealers are trained on the correct way to remove and reattach the Finger Shields without damage. To be painted separately. After the door and Finger Shields are painted and dry, reattach the Finger Shields.*



STEP 2 - 5 MINUTES

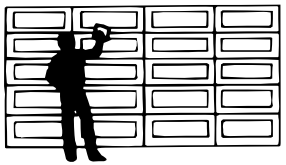
Spray off with water. The washing process is necessary for the new paint to adhere to the surface.

OR: STEP 1 AND 2 - 10 minutes
Wipe door clean with a good quality paint thinner.



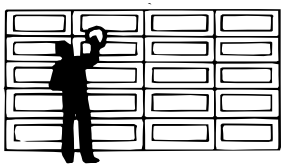
STEP 3 - 10 MINUTES

When the door is completely dry, lightly sand. The sanding process is necessary for the new paint to adhere to the surface. (Wood doors should be sanded where required where fillers and glue residue may be seen.)



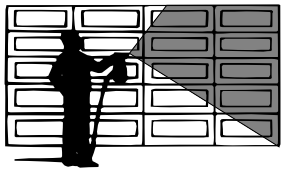
STEP 4 - 15 MINUTES

Dust off, then raise the door. Place a protective cover over the jambs, header and floor.



STEP 5 - 20 MINUTES

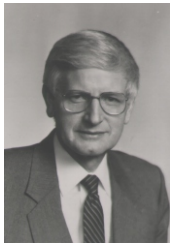
Close the door and paint using any good quality paint or clear coat sealer. Paint only the exposed outside surface. A spray gun will usually apply a more even coat. (Painting or staining a wood door should be done by a professional. Some of the light and dark colored fillers, glue residues and wood colors are normal and should properly blend after the finishing process.)



PAINTING THEORY:
(STEEL DOORS)

Martin Door sections are manufactured with hot-dipped galvanized steel, which is one of the best known methods for rust protection even when scratched, cut, punched, drilled or broken. In addition the door sections receive two coats of baked-on semi-gloss enamel. This paint process not only adds beauty to the door sections but is also necessary for the roll forming Process. Dirty finger marks are easily wiped clean following installation. See "MAINTENANCE" on the front page.

It is almost impossible to avoid small manufacturing, shipping and installation marks/scratches. These do not affect the overall long lasting beauty of the door. We do not recommend touch-up paint unless absolutely necessary. Touch-up and spray paints may be more visible than the mark/scratch.



MARTIN SINCE 1936 QUALITY

Dear Owner,

We continually try to improve our fine sectional garage doors and electric door openers. We value any comments you would like to make.

Thank You,
Dave Martin - Chairman

Mail or Fax comments to:

Martin Door Manufacturing
Salt Lake City, Utah 84127-0437 USA
FAX: (801)977-4222 www.
martindoor.com

NOTE: For comments regarding other brand automatic garage door openers, the condition of the garage door opening or the installation of the garage door or opener, please contact your local installation dealer.