

# THERM-O-DOR

# WARNING

These installation instructions are designed for use by professional garage door installers **ONLY**. Certain operations necessary to correctly install this door are **EXTREMELY DANGEROUS** and must be performed **ONLY** by qualified garage door professionals. Failure to properly follow all installation instructions could result in severe injury to the installer or users of the door.

# IMPORTANT

It is very important to read and understand these instructions before beginning the installation. It is very important to stop and heed all "WARNINGS" and "CAUTIONS" contained in these instructions at each step before proceeding.



# INSTALLATION INSTRUCTIONS AND MAINTENANCE MANUAL

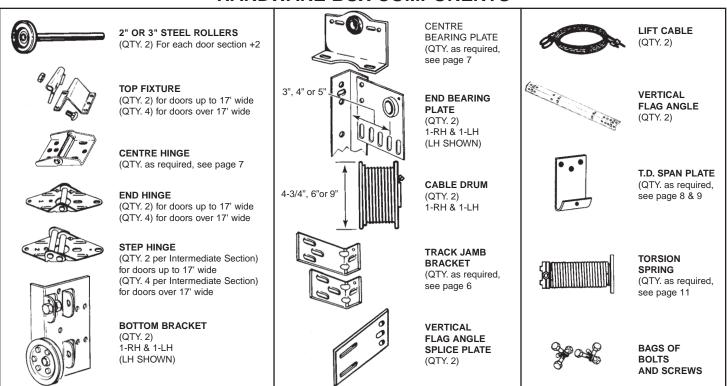
# **CONGRATULATIONS**

You have purchased the best door and hardware that money can buy. Steel-Craft Door Products Ltd. has earned an enviable reputation nation-wide as a "state of the art" garage door manufacturer. The Steel-Craft door that you have purchased will provide year after year of smooth, reliable, trouble-free service provided that it is installed and maintained according to the following instructions.

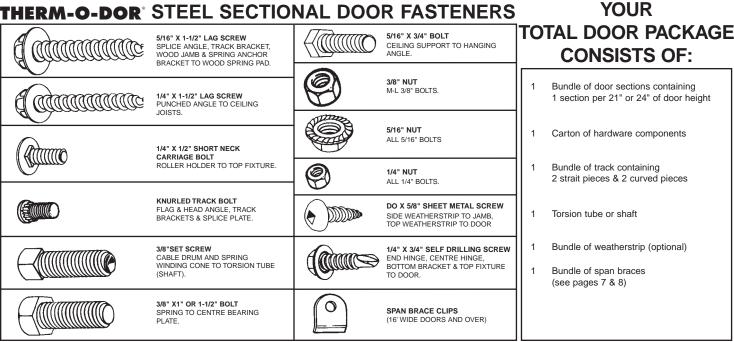
# **GETTING STARTED**

Open the hardware box and familiarize yourself with the components you will be assembling. Cable drums, end bearing plates, torsion springs, bottom brackets and curved tracks are handed (RH or LH) from the inside looking out. All other components are universal.

# HARDWARE BOX COMPONENTS



# THERM-O-DOR STEEL SECTIONAL DOOR FASTENERS



Page 2. GETTING STARTED

#### START BY READING THESE IMPORTANT SAFETY RULES



This safety alert symbol means Caution, Personal Safety or Property Damage Instruction. Read these instructions carefully. This garage door is designed and tested to offer safe, reliable service provided that it is installed in strict accordance with these safety instructions. Failure to comply with the safety instructions may result in serious personal injury or property damage.



When using a power tool, follow the tool manufacturer's safety guidelines. Ensure all power tool cords are in good repair and fitted with three-pin (grounded) plugs.



Ensure your work area is clean and uncluttered. Do not allow dirt or sand to enter the rollers or headshaft bearings.



Ladders and scaffolding must be in good repair and secured when in use.



Torsion springs can be extremely dangerous. Use the proper winding rods when working on the springs, (see accessories page 19) do not use makeshift devices such as screwdrivers, ratchet handles, etc. (Refer to page 10 & 11 for detailed instructions).



Do not wear rings, watches or loose clothing when installing or servicing an overhead door.



Read this owner manual from cover to cover to familiarize yourself with all aspects of the framing and installation requirements.



Left hand and right hand is determined by viewing the doorway into which the door is to be fitted from the interior of the garage or room.

#### 2. GENERAL

Check to ensure that the following minimum building requirements are available.

Headroom Requirements: 12" For doors with 2" hardware, 12" radius curves & 3" end bearing plates.

14-1/2" For doors with 2" hardware, 12" radius curves & 4" end bearing plates. 15-3/4"For doors with 2" hardware, 15" radius curves & 4" end bearing plates. 17" For doors with 3" hardware, 15" radius curves & 4" end bearing plates. \* 20" For doors with 3" hardware, 15" radius curves & 5" end bearing plates.

\* (Doors weighing 1000 lbs. or more or over 18' in height)

Sideroom: 8" for all commercial doors.

Backroom: Depth into building from door frame must be equal to door height plus 2 ft.

Opening: Check dimensions, door size and opening size must be the same, except for special

applications.

Site Conditions: Clean, dry and uncluttered.

Tools Required: 3/8" electric drill c/w 1/4" and 3/16" high speed drill bits.

Speed handle 1/2" drive c/w 1/2" and 7/16" sockets. Combination wrenches 3/8", 7/16", 1/2" and 9/16".

Medium sized robertson screwdriver.

Industrial quality extension ladder or scaffolding.

Winding rods (see Options, Page 19)

Level, hammer & vice grips.

Page 3. SAFETY RULES & GENERAL REQUIREMENTS



An overhead door imparts complex stresses to a building structure and requires correct framing techniques to avoid premature hardware failure.

Do not attempt to install an overhead door directly onto a building's structural framework (studs). Do not install overhead door hardware onto drywall even if there is sufficient backing. (The drywall will crumble under pressure, causing the hardware to loosen away from the wall.)

# FIGURE 1. DOOR MOUNTING, FRAME (WOOD)

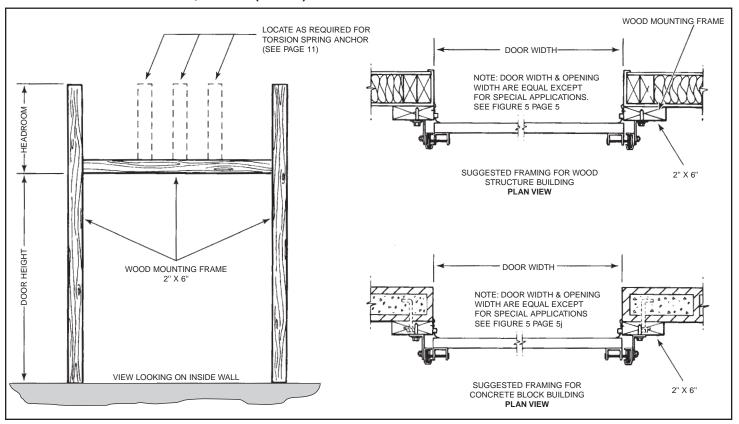
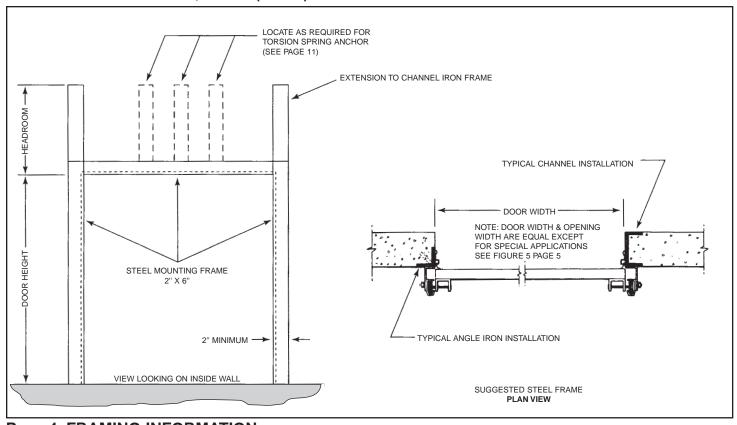


FIGURE 1. DOOR MOUNTING, FRAME (STEEL)



Page 4. FRAMING INFORMATION

#### FIGURE 3. TRACK PREASSEMBLY

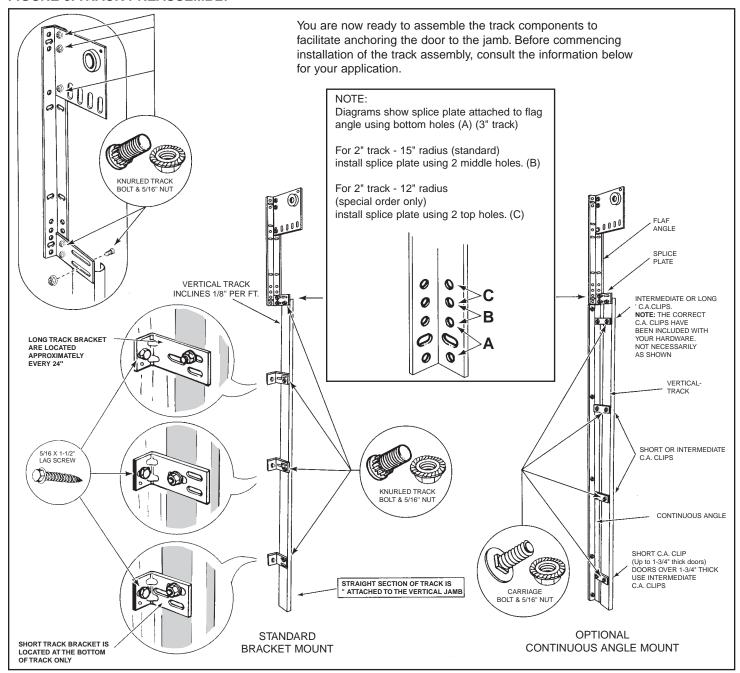
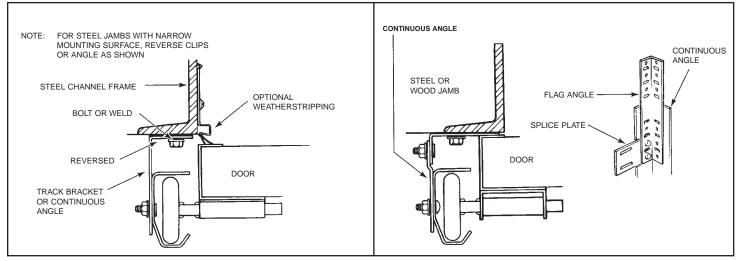


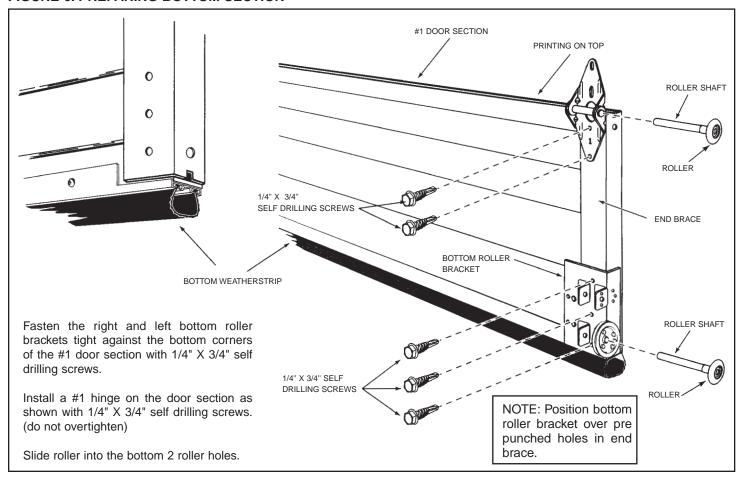
FIGURE 4. INSTALLATION OF TRACK BRACKETS TO STEEL JAMBS.

# FIGURE5. (OPTIONAL) CONTINUOUS ANGLE (1" OVERLAP). SPECIAL APPLICATION

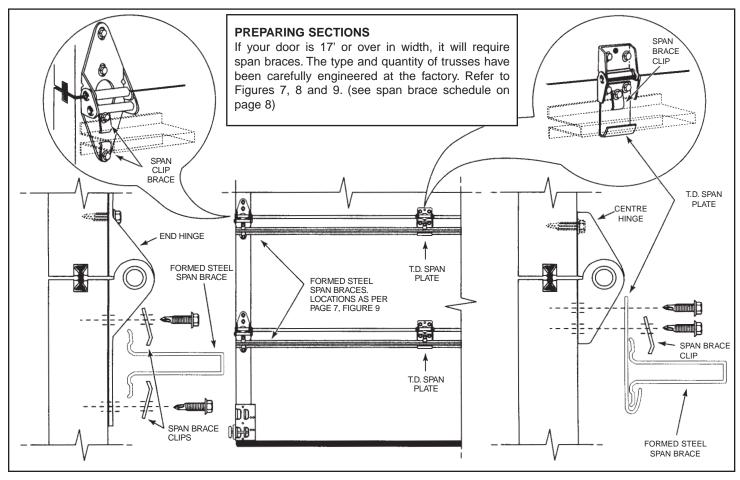


Page 5. PREPARING & INSTALLING TRACK

#### FIGURE 6. PREPARING BOTTOM SECTION



#### FIGURE 7. PREPARING SECTIONS



Page 6. PREPARING BOTTOM SECTION

# FIGURE 8. SPAN BRACE INSTALLATION (TOP SECTION)

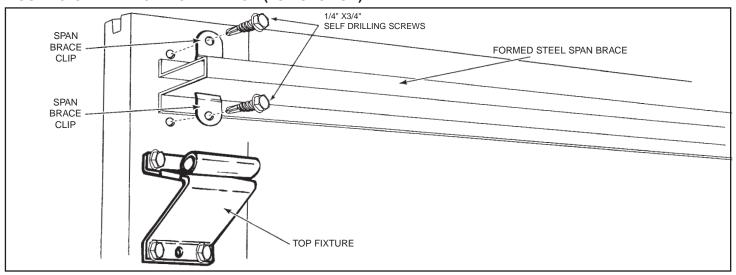


FIGURE 9. INSTALLING FORMED STEEL 6" Z SPAN BRACE (DOORS OVER 24'2" WIDE)

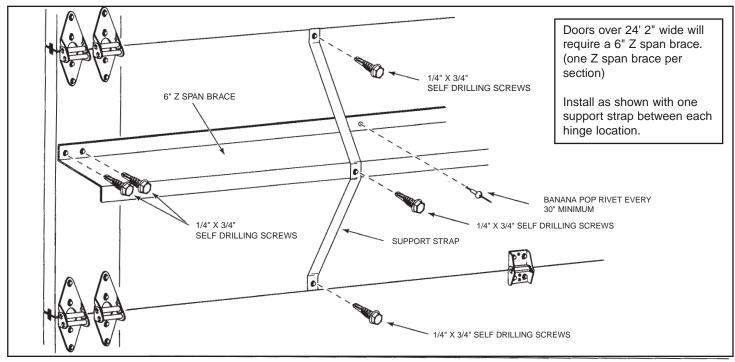
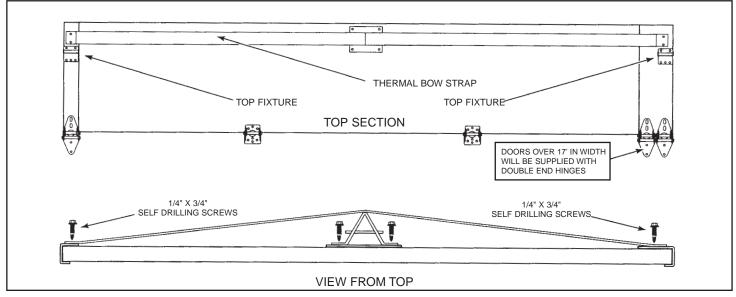


FIGURE 10. INSTALLING OPTIONAL THERMAL BOW STRAP (EXTREME COLD CLIMATES)



Page 7. SPAN BRACE & THERMAL BOW STRAP INSTALLATION

FIGURE 11. STANDARD SPAN BRACE SCHEDULE

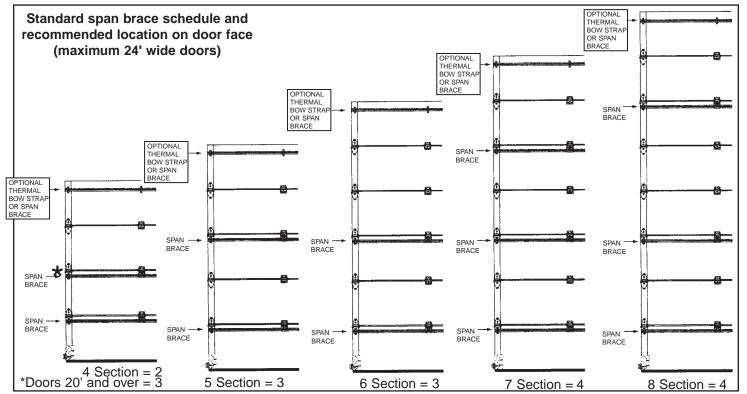
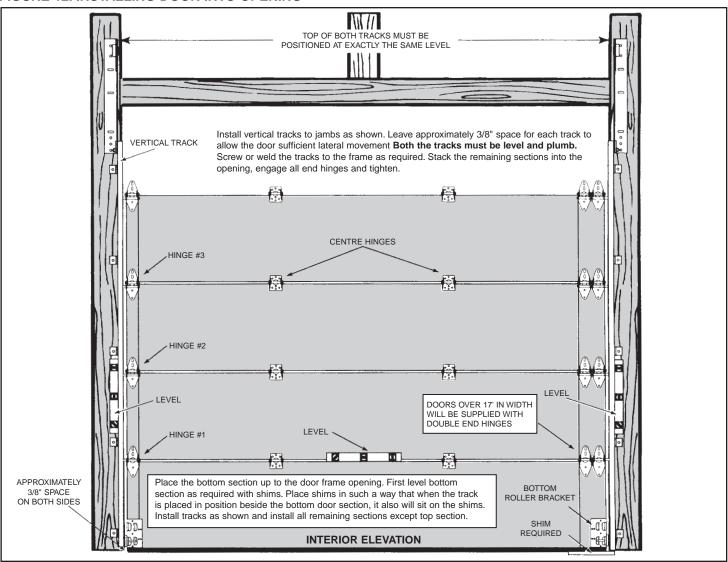
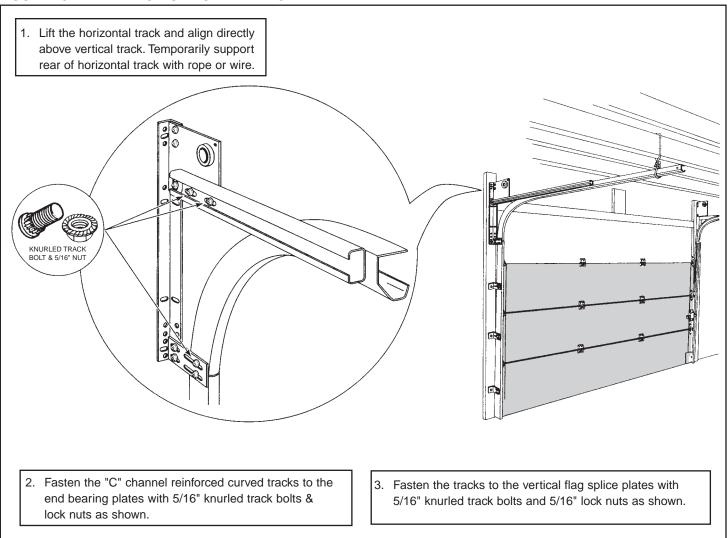


FIGURE 12. INSTALLING DOOR INTO OPENING

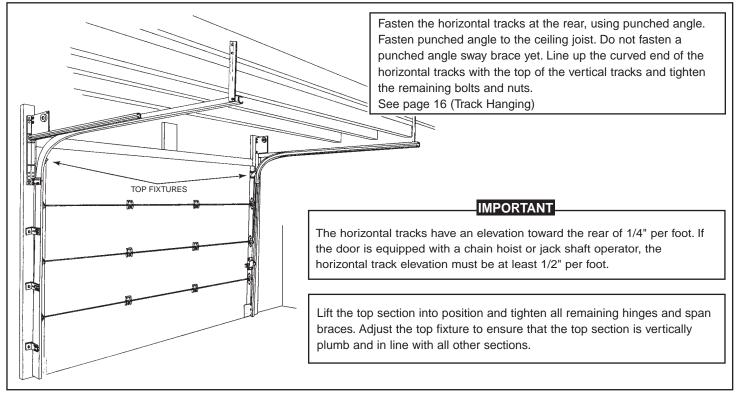


Page 8. INSTALLING DOOR INTO OPENING & SPAN BRACE SCHEDULE

## FIGURE 13. PREPARING HORIZONTAL TRACK

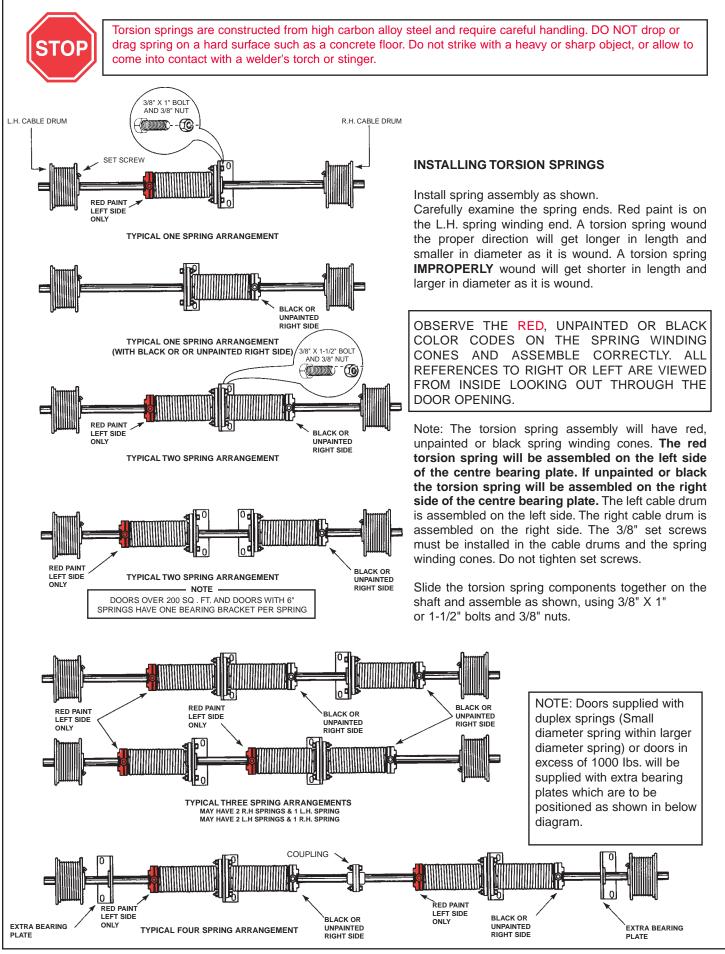


#### FIGURE 14. INSTALLING HORIZONTAL TRACK



Page 9. HORIZONTAL TRACK

#### **FIGURE 15. TORSION SPRING**



Page 10. TORSION SPRINGS

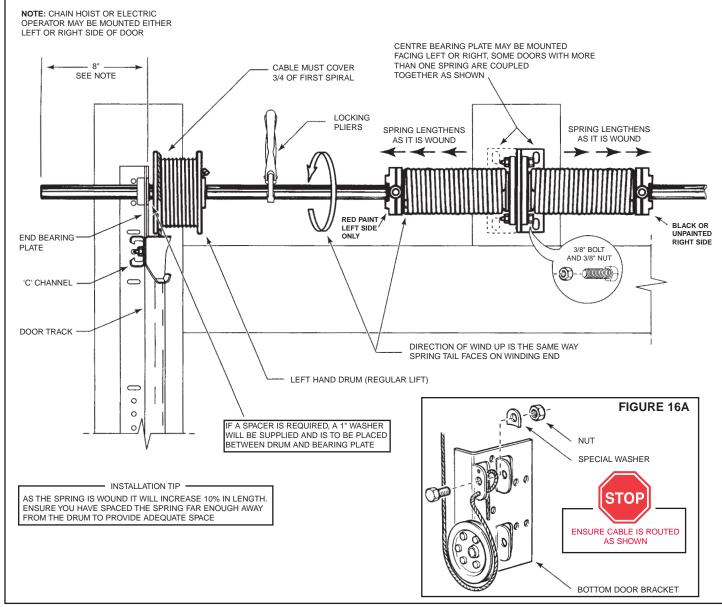
#### FIGURE 16. TORSION SPRING SHAFT ASSEMBLY AND CABLE LOCKING ASSEMBLY



Use proper fitting winding rods with a minimum length of 18". Do not use makeshift devices such as screwdrivers, ratchet handles and extensions. Ensure you are using proper ladders or scaffolding. Warning: Torsion springs fully wound have the potential energy to cause serious injury. **Be Careful.** 

#### INSTALLATION INSTRUCTIONS FOR TORSION SPRING AND SHAFT

Torsion springs must be installed as shown below. For wood jambs, secure bearing plates with 5/16" X 1 -1/2" lag screws. For steel jambs, secure bearing plates by welding or bolting. If the door is supplied with a chain hoist or electric operator, the torsion shaft should be moved over to one side, (approximately 8" away from the end bearing plate), where the chain hoist or electric operator will be mounted. Tighten drums evenly onto the shaft with set screws, keep drums approximately 1/16" from the bearing race. Attach cables to drums and leave loose end dangling behind the roller shaft to the floor. Rotate shaft until cable covers 3/4 of first spiral on both drums. Lock shaft with vice grips and pull cable through bottom brackets until snug. Lock cables to bottom brackets (see Figure 16A). Secure door in closed position in some manner before spring tension is applied. The number of winds required is marked on the tag attached to the spring. Do not exceed the number of winds indicated. **Do Not Over-tighten Set Screws.** 



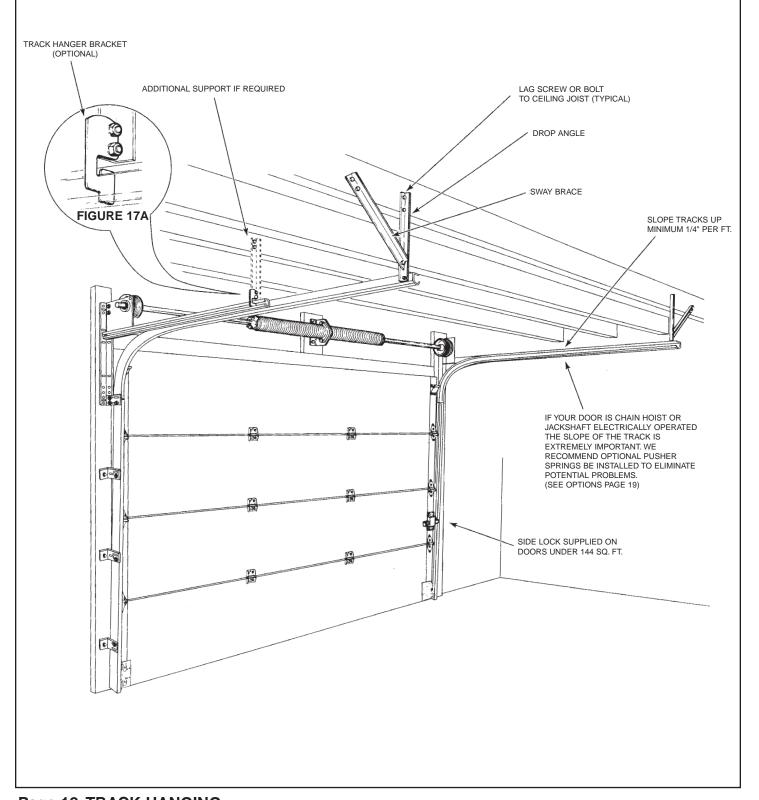
Page 11. INSTALLING TORSION SPRINGS

# FIGURE 17. TYPICAL TRACK HANGING ARRANGEMENT

Once the drop angle has been bolted securely in place, raise the door slowly to the fully open position. Space overhead tracks to allow the door at least 3/8" end play on each side. Bolt or lag screw sway brace as shown (see page 16). Ensure both tracks are exactly at the same elevation.

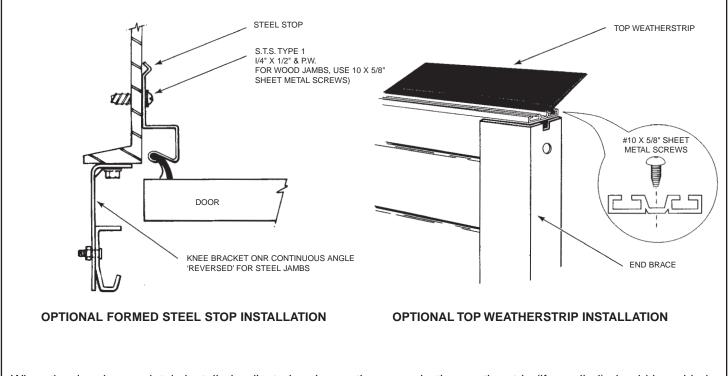
#### NOTF:

Doors over 250ft<sup>2</sup> in area require additional support. Place this midway along the horizontal track (see Figure 17A insert).



Page 12. TRACK HANGING

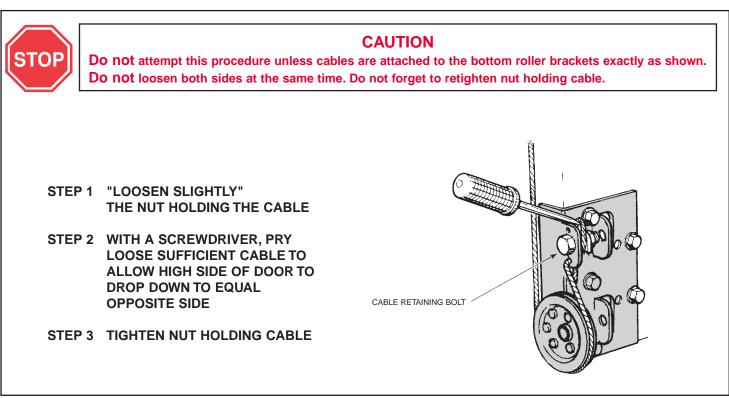
#### FIGURE 18. INSTALLATION OF DOOR STOP & TOP WEATHER STRIPPING



When the door is completely installed, adjusted and operating properly, the weatherstrip (if supplied) should be added to the jambs and top door section. The two details shown above illustrate the correct application of formed steel side and top weatherstrip

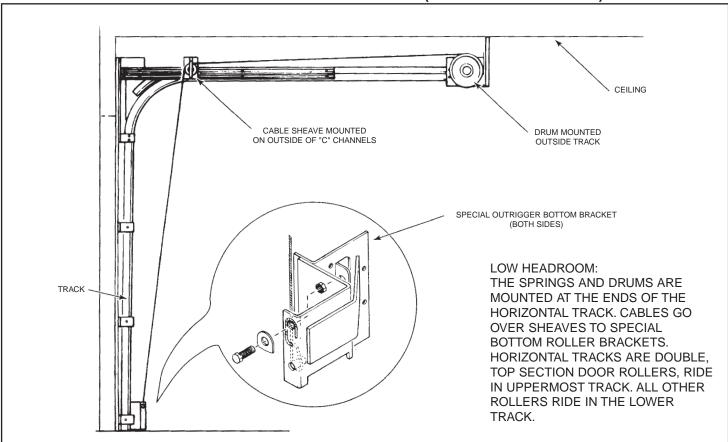
Open and close the door fully, several times. Adjust spring tension in 1/4 increments if required. Push a blade screwdriver between the spring coils, pry apart 1/2", and retighten setscrews to allow springs room to expand. If one cable is too long, slip the shorter one through the bottom roller bracket as shown in figure 19.

# FIGURE 19. DOOR SIDE TO SIDE HEIGHT ADJUSTMENT

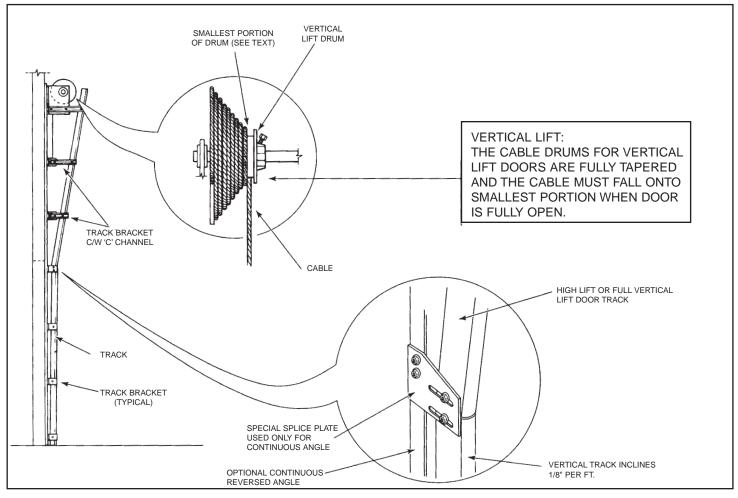


Page 13. FINAL ADJUSTMENTS

# FIGURE 20. OPTIONAL LOW HEADROOM DOOR INSTALLATION (TORSION SPRINGS REAR)

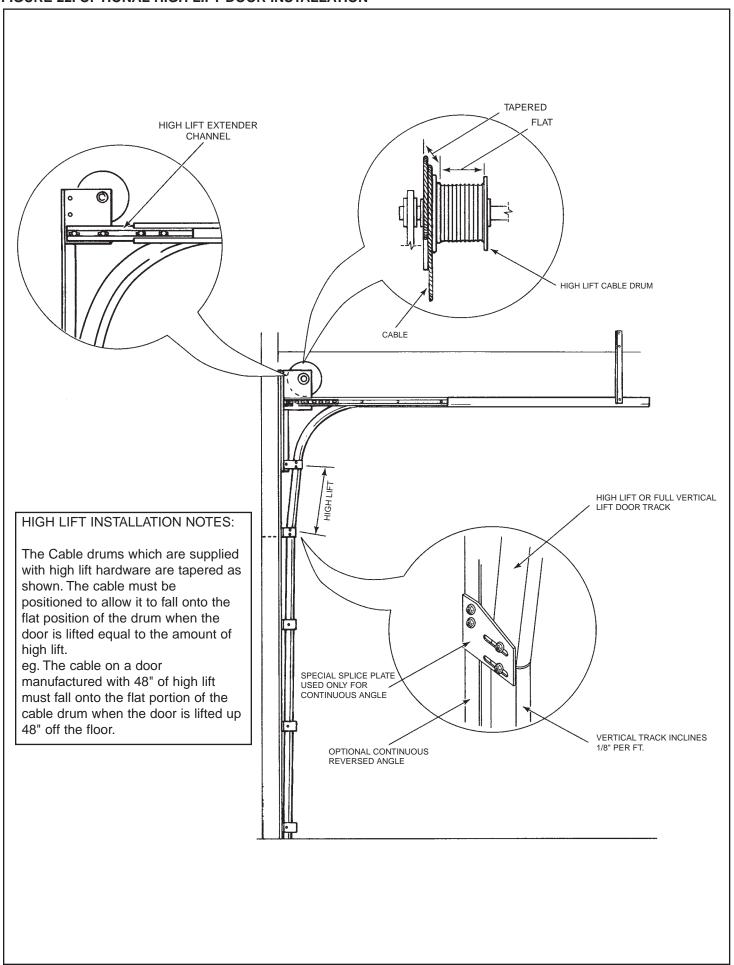


# FIGURE 21. OPTIONAL VERTICAL LIFT DOOR INSTALLATION



Page 14. HARDWARE LIFT VARIETIES

# FIGURE 22. OPTIONAL HIGH LIFT DOOR INSTALLATION



Page 15. HIGH LIFT DOOR INSTALLATION

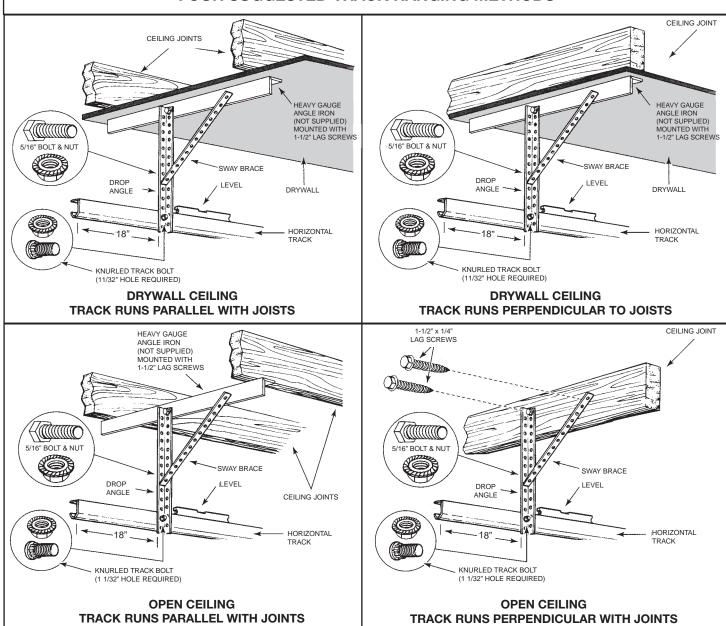
#### FIGURE 23. HORIZONTAL TRACK HANGING

Open the door all the way. Adjust the ends of the tracks. Install sway brace, allowing 1/4" minimum end play.



If horizontal tracks are set too far apart at rear, door may fall from tracks resulting in personal injury. Raise door slowly so that distance between tracks can be checked.

# FOUR SUGGESTED TRACK HANGING METHODS



## **FINAL ADJUSTMENTS**



Follow the safety guidelines and instruction from Pages 11 & 18

Fully open and close the door. Adjust the spring tension if required.

**Note:** After the door has been installed for a few days it may be necessary to add more tension, as the springs stabilize. Painting the door adds to the weight so more tension is needed after painting. Check all track spacing, track hanging, lock adjustment and tension. Adjust the top roller fixture so that the top section is vertically plumb. Lube all moving parts with 30 weight motor oil.

Page 16. TRACK HANGING

Problem	Possible Cause
Door is heavy to lift or binds when first starting to lift.	Insufficient winds on spring. Spring installed backwards or wound backwards.
	Extra weight added to door.
	Stops installed too tightly.
	Springs compressed too tightly together.
Door lifts up by itself.	Too many winds on springs.
	Some hardware items left off door.
Door lifts off floor 1 or 2 inches and stays there.	Springs compressed too tightly together.
	Cable not located correctly on drum.
One cable loose when door is fully open or door lifts off level.	Door and track are not installed level.
	Horizontal tracks installed incorrectly.
	Cable length is wrong.
Spring plugs come out of springs or wind into spring	Springs are being wound backwards.
Springs make clicking noise as door is raised.	Springs compressed too tightly together.
	Rust on or between spring coils.
Door raises normally to halfway, then speeds up rapidly as it opens fully.	Too many turns on springs which are too light for the weight of the door.
Door raises very quickly from the floor to halfway point but will not stay open.	Not enough turns on springs which are too strong for the weight of the door.
	<b>CAUTION:</b> Both cables could fall off drums and door could free fall if forced fully open.
Door makes grinding noise during opening and closing cycle.	Sand in rollers or headshaft bearings.
	Door off level and roller brackets rubbing on tracks.
	Track spacing wrong or off level.
Door opens part way only. If forced further, torsion shaft will not turn and cables come off of cable drums. (CAUTION)	Springs may be installed backwards. Recheck page 12.
Door bows inward in cold weather & outward in warm weather.	See special note below.

#### **SPECIAL NOTE:**

The new Hi-Tech TD134 line of doors are urethane injected, thermally broken, very strong, and extremely energy efficient. Cold air on the exterior face of the door will not significantly transfer through to the interior face, which means there could be as much as a 60°C temperature differential between inside and outside in very cold weather, and even more so if a unit heater is blowing heated air directly on the doors interior. If the temperature differential is significant (more than 30°C) the door will bow inward, which is caused by the shrinking of the exterior door surface, (steel shrinks in cold weather). This is proof of their efficiency and will not cause any problems with the operation of the door.

#### PAINTING INSTRUCTIONS FOR ALL FACTORY PRE-PAINT DOORS (THERM-O-DOR)

Your Steel-Craft garage door has a high quality baked on coating applied to it. No additional painting is needed. If you choose to paint the door, read these instructions thoroughly before proceeding.

- 1. Repair any bare metal areas to prevent rust. The paint surface must be roughened to accept a new coat of paint. Lightly sand the area with fine sand paper and wipe clean with a dry rag. Then paint the area with a high quality rust inhibiting primer.
  - NOTE: On doors with unpainted, galvanized stills, if you chose to paint them, they will need to be cleaned with solvent such as Acetone, Xylon (Xylene) or M.E.K. (methyl ethyl keytone). Be sure to follow the label directions and safety guidelines when using solvents.
  - Then use a primer meant for zinc coated or galvanized metals to coat the stiles. Follow the label directions and then paint with a desired top coat.
- 2. The garage door must be cleaned before painting, even if it doesn't appear dirty. Mix 1/4 cups of trisodium phosphate to one gallon of water. Wash and rinse the door thoroughly and let dry.
- 3. Check the paint for adequate adhesion. Regardless of paint brand, revisions in formulations or variations in the paint from batch to batch can affect performance. Follow the paint manufacturers directions, paint a small area and allow it to dry. Apply a strip of strapping tape or duct tape to the area and rub with a pencil eraser or thumb, leaving one end loose. Peel the tape off the test area. If no paint was removed, then continue with Step #5. If paint was removed, try another paint or prepare door as in Step #4.
- 4. Wipe down the door with a liquid deglosser such as E-Z paint deglosser, Savogram deglosser, or liquid Sandpaper. Be sure to follow the label instructions and safety guidelines precisely. Repeat Step #3.
- 5. Apply the coating according to the paint manufacturers directions paying particular attention to temperature limitations. Some manufacturers suggest to apply the paint with a sponge type brush.
- Steel-Craft Products Ltd. is not liable for marring or scratches which are beyond our control.
- Steel-Craft will not assume any responsibility for the performance of the additional paint when applied to their garage doors.

#### Page 17. TROUBLE SHOOTING & PAINTING INSTRUCTIONS

## MAINTENANCE SCHEDULE

Steel-Craft Door Products Ltd. recommends a minimum 12 month service schedule for average use doors. (5 to 10 cycles per day)

Steel-Craft Door Products Ltd. recommends a minimum 6 month service schedule for high use doors. (over 10 cycles per day)

Both of which shall include the following maintenance schedule.

# **MAINTENANCE**

- 1. Inspect the lifting cables. Check the cable anchoring at the bottom roller brackets to determine that the sleeve is tight and that the cable is in good condition. Check the cable through the entire length and ensure that the cable is properly secured at the drum. If the cables have become snagged, bent, or tangled, they should be replaced. The cables could appear to be in good condition, however, internal damage may have occurred and fracture of the cable could follow. Use extreme care when working with the cables; relieve spring tension first.
- 2. All of the bearings located throughout the hardware should be checked and lubricated. The rollers on the door, as well as the bearings on the headshaft, should be cleaned and lubricated with No. 30 motor oil.
- 3. All of the roller brackets, the centre hinges and the span braces should be checked for security. Tighten any loose fasteners and replace any hinges or roller brackets which are worn or fractured in any way.
- 4. Check the fastening of the guide assemblies and the hanging of the horizontal tracks. Make sure that all fasteners are secure.
- 5. Examine the torsion springs. If replacement springs are required, we recommend a qualified door Contractor be contacted.
- 6. Open and close the door manually without the chain hoist or electric operator (if equipped) to ensure the door is aligned properly and is not restricted anywhere during its open/close cycle.

Note: Doors located in severe corrosive environments. (Eg.) Fertilizer, chemical or salt storage, animal barns, composting buildings etc., require additional service to ensure reliability. (Call Factory)

#### SAFETY PRECAUTIONS

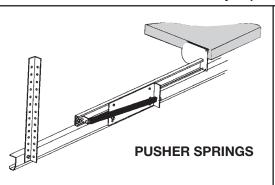
This door is constructed of high quality components to provide years of continued service. Periodic maintenance along with the following cautionary directions should be observed to ensure safe and reliable operation.

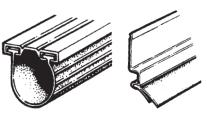
- 1. Do not operate an overhead door if there are obvious grinding or scraping noises.
- 2. Operate door only when it is properly adjusted and free of obstructions.
- 3. Door is constantly under extreme spring tension. Repairs and adjustments, especially to cables and spring assembly, can be hazardous and should be performed by qualified door service people only.
- 4. Do not permit children to play with garage door or electric controls.
- 5. If door is now, or later becomes electrically operated, pull down rope must be removed.
- 6. Avoid standing in open doorway or walking through doorway while electrically operated door is moving.
- 7. Should door become hard to operate or completely inoperative it is recommended that a qualified door contractor be contacted.
- 8. Door equipped with chain hoists or electric operators require special attention to ensure the door is working smoothly and is not binding during its open close cycle.

## Page 18. MAINTENANCE & SAFETY PRECAUTIONS

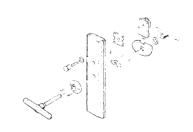
# **ACCESSORIES:**

Steel-Craft offers many optional accessories for your garage door. See below.

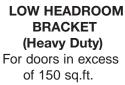




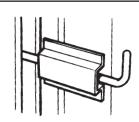
**FULL PERIMETER WEATHER STRIPPING** 



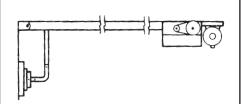
**2 POINT LOCKING SYSTEM** 



not exceeding 300 sq. ft.



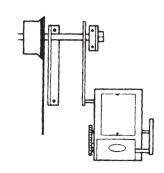
SIDE LOCK

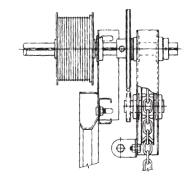


**TROLLEY OPERATOR** 

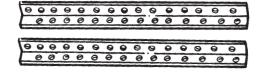


(Medium Duty) For doors up to 150 sq. ft.





**CHAIN HOIST** #31 3 to 1 geared hand chain hoist #41 4 to 1 geared hand chain hoist

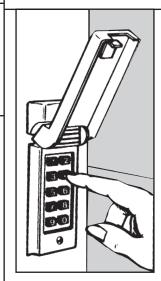


10' PREPUNCHED **HANGING ANGLE** 



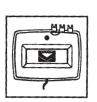


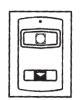
# WINDING RODS (1/2" x 18" LONG) (Available at Steel-Craft Door Products Ltd. or authorized dealer)



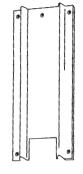
# **DIGITAL KEYLESS ENTRY SYSTEM.**

Opens, closes garage door from the outside without transmitter or keys.





**REMOTE CONTROLS** 



**OPERATOR PLATE** REQUIRED ON DOORS WHEN **INSTALLING TROLLEY** TYPE DOOR OPENER

Page 19. ACCESSORIES

# **LIMITED WARRANTY**

STEEL-CRAFT DOOR PRODUCTS LTD. (STEEL-CRAFT) warrants each garage door and component part to be free from defects in material and workmanship for a period of one year from date of delivery to the original purchaser. STEEL-CRAFT reserves the right to have authorized personnel inspect any part alleged to be defective and to refuse any returned material unless the return was previously authorized by STEEL-CRAFT. STEEL-CRAFT'S liability hereunder is limited to replacement of any part found to be defective. Labour charges are the responsibility of the customer.

STEEL-CRAFT SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES. ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY ARE HEREBY EXPRESSLY EXCLUDED.

NOTE: MINOR SCRATCHES IN PAINT ARE NOT CONSIDERED DEFECTS.





COPYRIGHT STEEL-CRAFT DOORS LTD. 2007 REV.

08/07/07 Printed in Canada