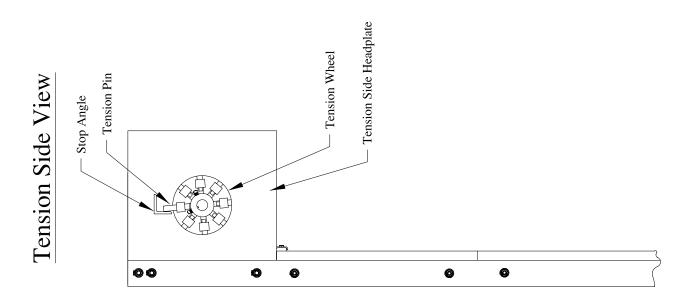
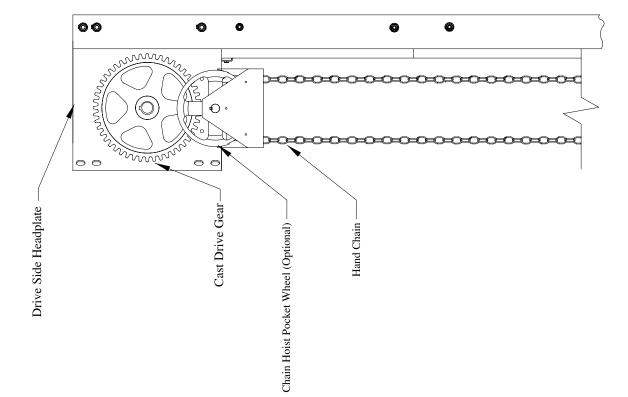


Service Door Basics



Drive Side View



Guide Basics

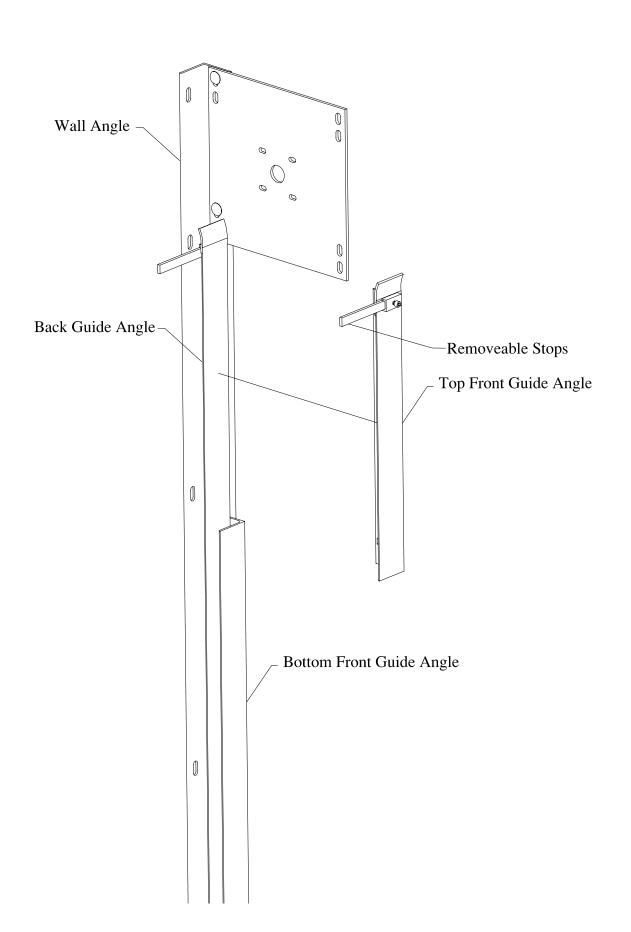


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Service Door Basics

Guide Basics

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C.H.I. SERVICE DOOR INSTALLATION INSTRUCTIONS

These instructions will show you how to install a C.H.I. Rolling Steel Door. They are for the mechanically experienced person who has proper tools to perform the job. They are not meant to infringe upon or supersede any State or County building codes or safety regulations.

Safety first. Safety warnings are clearly marked with a **WARNING!!** symbol throughout and are displayed in their entirety on page 15. Critical information is identified by a **P CRITICAL!** symbol. Tips are marked with a symbol. Observe all of the guidelines, warnings, tips and critical information given in the instructions during the installation.

- ☑ WARNING!! Wear protective gloves and eye wear when working on the door.
- **1.0 GENERAL:** Read and familiarize yourself with this entire manual before proceeding with installation. Contact C.H.I. for technical information at P.O. Box 260, Arthur IL. 61911. Phone 800-677-2650
- **2.0 SHIPMENT INSPECTION:** When the shipment arrives check for freight damage and missing items. Use packing list to determine completeness of shipment. If there is damage or a shortage is detected, contact C.H.I. immediately.
- **3.0 CHECK DOOR REQUIREMENTS:** Use shop drawing to verify the following:
 - ☑ Width of opening
 - Height of opening

 - ☑ Side room

4.0 EXISTING CONDITIONS

- ☑ Is floor level?
- ✓ Is header level?
- ✓ Are jambs plumb?
- 4.1 Inspect jambs and adjacent wall construction to verify that they are suitable for anchoring door guide angle assemblies. C.H.I. is not responsible for the structural soundness of existing jambs and adjacent wall construction.
 - ☑ WARNING!! If in doubt of the fitness or structural integrity of jambs, a qualified engineer must inspect the existing conditions before proceeding further.
 - ✓ WARNING!! Guides are not intended or designed to act as structural reinforcement for existing jambs. Jamb surface must extend full height of wall angle.
 - ☑ WARNING!! Installation of anchoring devices into unsound building material will result in product damage, personal injury, premature wear and product failure.

5.0 PREPARATION

- 5.1 Clean and sweep work area of any debris or objects that may interfere with installation or damage the curtain. Place guides and curtain on protective cardboard if possible.
- 5.2 Position all components on the floor in the approximate location they will be later assembled. Double check for completeness of shipment at this point.

6.0 GUIDE INSTALLATION: Fasteners for mounting guides are supplied by C.H.I. for wood and steel jambs only. C.H.I. does not supply concrete anchors, through bolts or crush plates for masonry installation, but are available as an option per request.

STEEL JAMBS

DETAIL VIEW	FASTENER SUPPLIED	DRILL SIZE	TAP SIZE
	3/8-16 Hex Head Thread Cutting Screws	5/16" Drill	N/A
☐ Galvanized Washer ☐ Hex Bolt	1/2-13 Hex Head Thread Cutting Screws	29/64" Drill	N/A
M Hex Bolt	3/4-10 Bolt	21/32" Drill	3/4-10 UNC
	🚏 For Steel Jamb Weldir	ng Procedures turn	n to page18. 🦞

CONCRETE/ FILLED BLOCK

DETAIL VIEW	FASTENER SUPPLIED	DRILL SIZE	₩ NOTES
✓ Sleeve Type Expansion Anchor Galvanized Washer	3/8" Sleeve Anchor 1/2" Sleeve Anchor 5/8" Sleeve Anchor 3/4" Sleeve Anchor	3/8" Drill 1/2" Drill 5/8" Drill 3/4" Drill	Do not drill holes closer than 4" to the edge of any masonry.

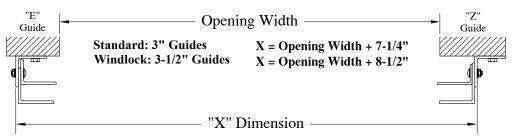
HOLLOW BLOCK/SOFT BRICK JAMBS

DETAIL VIEW	FASTENER SUPPLIED	DRILL SIZE	₩ NOTES
✓ 4 x4 Crush Plate ✓ Hex Nuts ✓ Thru Bolt ✓ Galvanized Washers	3/8" Thru Bolts 1/2" Thru Bolts 5/8" Thru Bolts 3/4" Thru Bolts	3/8" Drill 1/2" Drill 5/8" Drill 3/4" Drill	-Do not drill holes closer than 4" to the edge of any masonryRequired: 4" x 4" Crush Plates under nut on opposite side of wall.

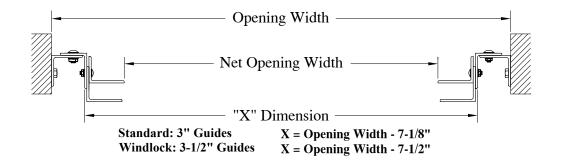
SHEETROCK JAMBS

DETAIL VIEW	STEEL STUD	WOOD STUD
	1-3/8"x 3-5/8" x14 gauge minimum	2" x 4", 2" x 6", or 2" x 8"
	☑ Drill 11/32" Pilot Hole	☑ Drill 1/4" Pilot Hole
	✓ 3/8-16 x 2" Type T Hex Head Tapping Screw	✓ 3/8-7 x 3" Hex Head, Lag Screw

- 6.1 Guides are shipped assembled and consist of a wall angle (the longest angle), back guide angle and front guide angle (See Guide Basics).
- 6.2 The existing jamb will determine the door guide configuration you will use:
 - "E" type guides: mount to steel and sheetrock jambs.
 - "Z" type guides: mount on masonry applications.
 - "J" type guides: between-jamb mounting.
- Accurate Guide Installation: Mark a level reference point on each jamb to insure guides are installed level with each other. Measure from the reference marks on each jamb to the floor to achieve identical elevations. Wall angles are to be set on a level floor. Temporarily shim one side if neccesary.
 - 6.3 Disassemble front and back guide angles from wall angles.
 - 6.4 Measure guide angle legs to determine proper "X" dimension. Guide leg measurement will be 3" or 3-1/2" (non-windlock 3", windlock 3-1/2").
 - 6.5 E & Z guides: Mark center of opening width on floor. Measure 1/2 "X" dimension (shown on shop drawing). This establishes the outside face of wall angle.
 - * CRITICAL! The "X" Dimension is essential for proper door operation, and must be held constant from top to bottom.



E and Z Guide Clearances



Net Opening Width = Opening Width - Tension Side Clearance - Drive Side Clearance

Tension Side Clearances
Standard Doors = 6"

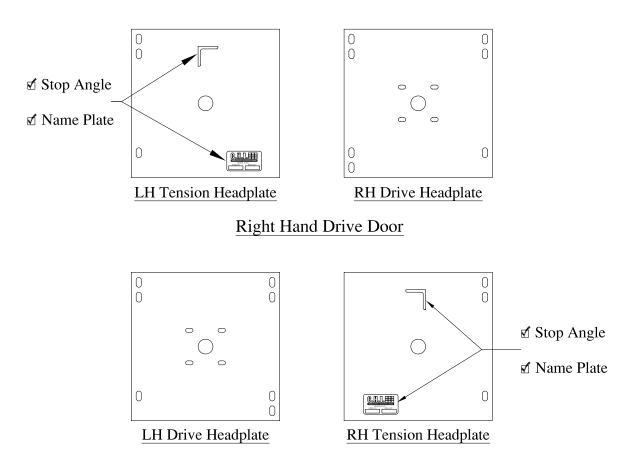
Windlock Doors = 6-1/2"

Drive Side Clearances = 8-1/2" = 9-1/2"

Standard J Guide Clearances

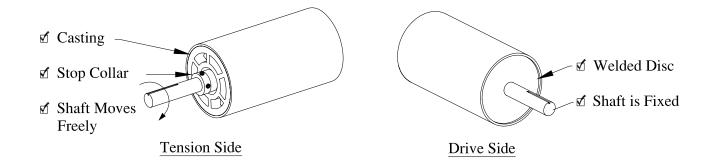
7.0 PART IDENTIFICATION

7.1 Identify drive side and tension side head plate. Drive side head plate must match drive side shown in shop drawing.



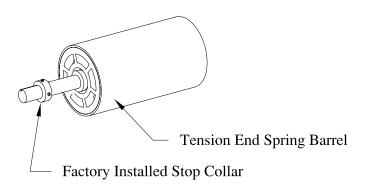
Left Hand Drive Door

7.2 Barrel Ends are identified by drive side and tension side.

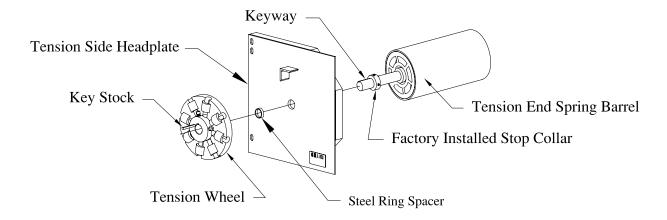


7.3 Tension Side Assembly.

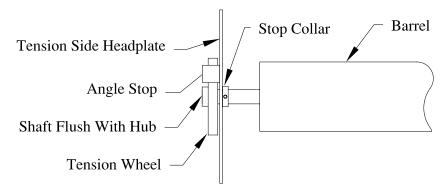
This process is easier if you elevate the barrel to waist height.



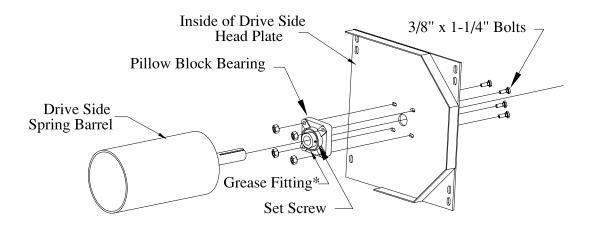
- ✓ Slide tension side headplate onto shaft.
- ✓ Slide steel ring spacer onto shaft and insert inside headplate center hole.
- ✓ Slide tension wheel onto shaft until flush with end of shaft.
- ✓ Slide headplate out so that it rests against tension wheel.



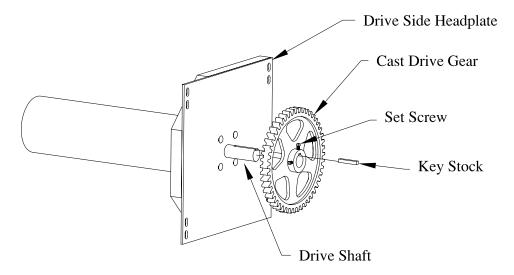
✓ Slide stop collar to inside headplate and tighten set screws in spacer collar.



- Note: Flanged pillow block bearings are factory installed to drive side headplate. If yours is not, follow instructions in next section.
- 7.4 Drive Side Assembly: Mount the flanged pillow block bearing to center of slot pattern on the inside face of drive side head plate with four 3/8" x 1-1/4" bolts, lock washers and nuts. Be sure to mount bearing with grease fitting facing down (*). Slide head plate assembly onto drive shaft (remove burrs as necessary with a file and/or emery cloth). It is important that this assembly slide on easily. Do not tighten the bearing set screws at this time.



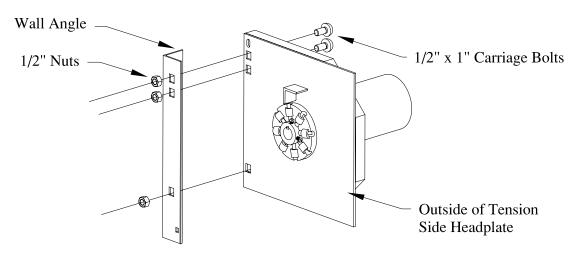
7.5 Drive Sprocket Assembly: Slide cast drive gear onto shaft until flush with end of shaft. Insert key stock and lightly tighten set screws. Final adjustments are to be made after barrel and headplates are installed to wall angles.



REMINDER!! Before installing curtain, note the number of preload turns written on the barrel and record that number in the space provided on page 12 section 13.0. After curtain installation, spring barrel will be covered by curtain and preload turn number will no longer be visible.

8.0 BARREL INSTALLATION PROCEDURE

- ☑ WARNING!! Secure all loads to hoist equipment to prevent movement while hoisting. Do not allow personnel to ride hoist equipment. Stay off ladders and lifts until barrel and/or curtain have been hoisted to the final position of attachment. Serious personal injury will result from carelessness or lack of planning. Plan all moves carefully!
- **☑** WARNING!! It is essential that you use hoisting equipment of adequate stability and rated capacity to safely lift the barrel and head plate assemblies.
- 8.1 Carefully raise the barrel assembly into position to bolt headplates to wall angles. Head plates mount to the inside face of wall angles with three 1/2" x 1" carriage bolts. Bolts are inserted from inside of headplate facing out. Fasten nuts to bolts on outside of wall angle.

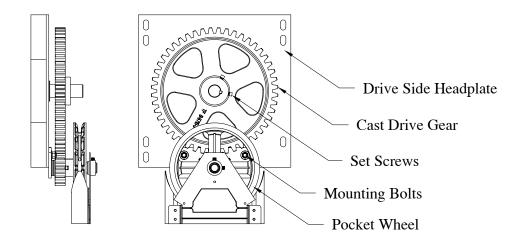


Tension Side Assembly

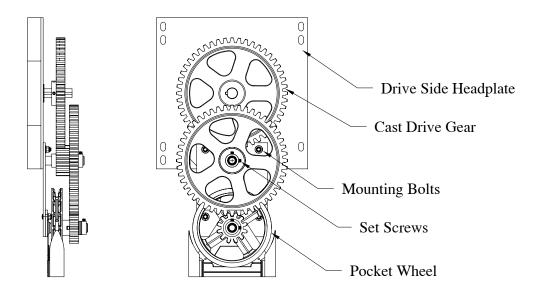
- * CRITICAL! Do not proceed unless barrel is level.
- 8.2 Once barrel is level, tighten all fasteners securely.
- 8.3 Check barrel rotation. Barrel should turn freely without binding.
- At this time double check hood length.
- Measure distance between drive side and tension side headplates at the wall and at the front of the headplates. Square the headplates by obtaining the same dimension at wall and at front of headplate. When headplates are square tighten bearing set screws.

9.0 CHAIN HOIST INSTALLATION

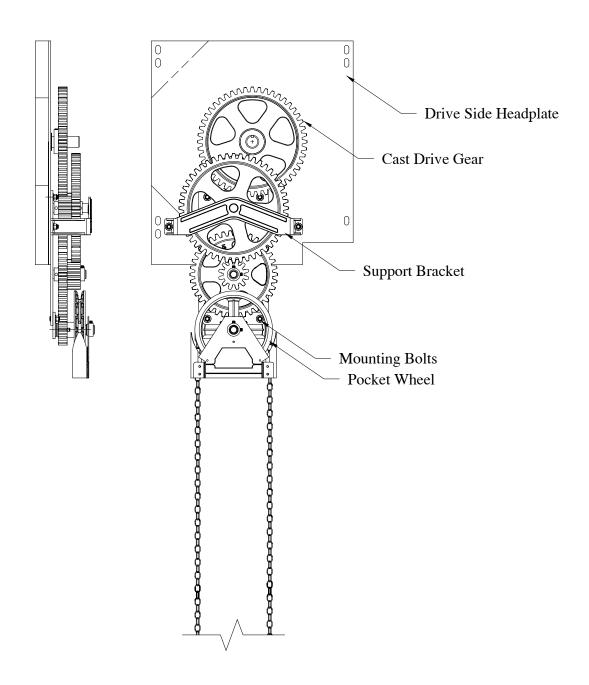
- Skip to section 10 if door is manually operated.
- If door being installed is motor operated, refer to operator manufacturer's mounting instructions.
- 9.1 Slide cast drive gear onto drive shaft with hub toward headplate. Align keyway and insert key stock. Tighten set screws on hub when complete.
- 9.2 **4:1 CHAIN HOIST:** Bolt kit to headplate using nuts and bolts provided in chain hoist box. Align and engage gears. Tighten hub set screws on gears. Install hand chain around pocket wheel and through chain guide.



9.3 **16:1 and 25:1 CHAIN HOIST:** Bolt kit to headplate using nuts and bolts provided in chain hoist box. Align and engage gears. Tighten hub set screws on gears. Install hand chain around pocket wheel and through chain guide.

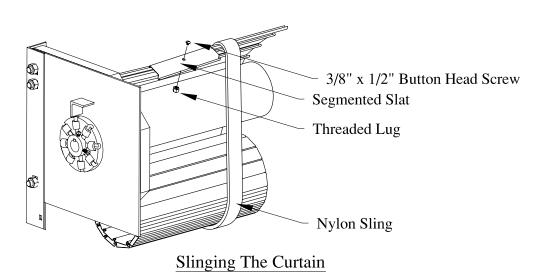


9.4 **50:1 CHAIN HOIST:** Bolt kit to headplate using nuts and bolts provided in chain hoist box. Align and engage gears. Tighten hub set screws on gears. Install hand chain around pocket wheel and through chain guide.



10.0 CURTAIN INSTALLATION

- REMINDER: Before installing curtain, note the number of preload turns written on the barrel and record that number in the space provided on page 12 section 13.0. After curtain installation, spring barrel will be covered by curtain and preload turn number written on barrel will no longer be visible.
- 10.1 Secure curtain to hoist and lift into place directly under barrel assembly.
- 10.2 Use a minimum of two Straight Eye Nylon Slings, with a minimum working rating of 5,000 pounds per sling, to encircle barrel and curtain. Fasten ends of slings together with Screw Pin Chain Shackles with a minimum working rating of 10,000 pounds per shackle.
- 10.3 Lower curtain to rest in slings.
- Zeritical! If barrel has rings, slings must pass over top of rings.

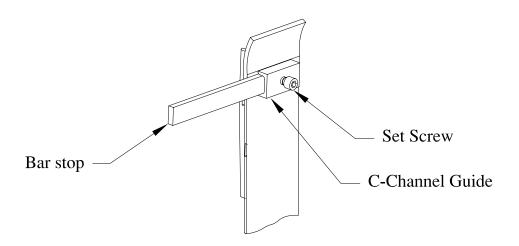


NOTE: Hoisting equipment may be used at this point to lift curtain slightly, allowing barrel to be rotated with chain hoist to help alignment of fastening points.

- 10.4 Clamp two curtain attachment segments directly to slings with vise grips. Turn chain hoist to pull curtain up and over the top of barrel.
- 10.5 Attach curtain segments to lugs (6" and larger barrels) or to welded nuts on rings (4" barrels) with 3/8"x 1/2" button head screws. Do not over tighten.
- 10.6 Transfer curtain from sling to barrel by turning chain hoist. Center curtain as it is being wound onto barrel. Use winding bars at each curtain edge to adjust slats to center. Wind curtain until bottom bar angle is even with bottom of head plate. Secure chain hoist to hold curtain from uncoiling.
- **☑** WARNING!! Leave slings in place for now as a safety precaution.

11.0 REMOVABLE STOP INSTALLATION

11.1 Insert bar stop into c-channel guide and tighten set screw to hold in place.

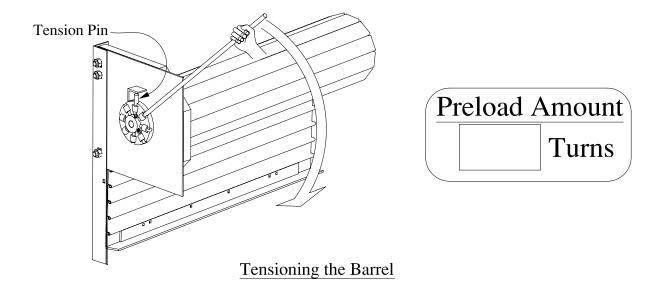


12.0 GUIDE INSTALLATION

- 12.1 Raise one guide assembly (front & back angles) into position for final attachment and align for bolting. Assemble using supplied fasteners. Bolts may be inserted from either side, depending upon preference.
- 12.2 As you tighten guide bolts, spread guides apart using winding bars or hammer claws for maximum throat width. Start at the top and work your way down.
- 12.3 Release hand chain and lower curtain into guide throat until bottom bar angle is 3"- 5" below top edge of guides. Lock chain hoist and place a vise grip below bottom bar angle on each guide as a stop.

13.0 TENSIONING THE BARREL

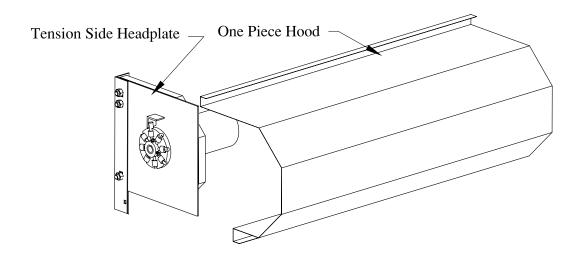
- 13.1 Mark starting location of tensioning wheel on head plate with chalk or marker for use as a reference while winding. At this time, refer to the specified preload number previously recorded. Insert one winding bar into an uppermost lug in tensioning wheel and pull down evenly. Lock tension wheel by inserting second winding bar or tension pin into uppermost available lug.
- You will be very close to correct preload when the curtain attempts to take up slack in itself.



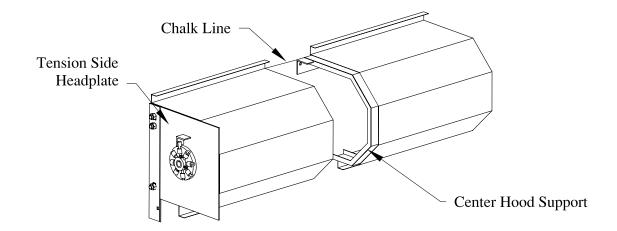
- **MARNING!!** Never exceed number of turns shown by more than one-half turn.
- ☑ WARNING!! Use solid steel winding bars. Be certain that winding bar diameter matches lug hole size on the tension wheel and is a minimum of 18" long. Be sure that the bar is inserted fully into the winding lug. Use of improper or undersized bars will result in component failure and cause serious personal injury or death.
- ☑ WARNING!! Keep your head and body out of line with the winding bars. Always maintain a secure footing and balance. Firmly grasp the winding bars and be braced to resist strong forces whenever winding springs.
- **☑** WARNING!! From this point onward, the spring is under tension and extremely dangerous.
- 13.2 When proper preload is established, lock tensioning wheel by placing the tension pin into appropriate casting lug, then easing wheel back with winding bar to let the tension pin rest on the angle iron stop.
- 13.3 Double check that bellmouths have been securely installed. It is now safe to remove slings.
- 13.4 Raise curtain to full open with bottom bar angle touching bellmouths. Install vise grips on guides 3" 5" below bellmouths.

14.0 HOOD INSTALLATION

- 14.1 Close door to floor with chain hoist.
- 14.2 ONE PIECE HOOD: Center hood between headplates and fasten using 1/4" x 3/4" long hex head self drilling screws. Mount all fasteners near outside edge of hood.



- 14.3 CENTER HOOD SUPPORT: Doors with two piece hoods are designed to be butt joined at the center of the door on a center hood support. Snap a chalk line from the top of each headplate. Find and mark the center on the chalked line between the headplates. Center hood support is to be centered in the opening with its top flush with chalk line. Attach center hood support to wall with fasteners suitable for wall construction (C.H.I. does not provide these fasteners).
- 14.4 ATTACHING MULTIPLE HOOD: Center hoods between heaplates and butt-join on center hood support. Fasten with 1/4" x 3/4" hex head self drilling screws. Mount all fasteners near outside edge of hood.

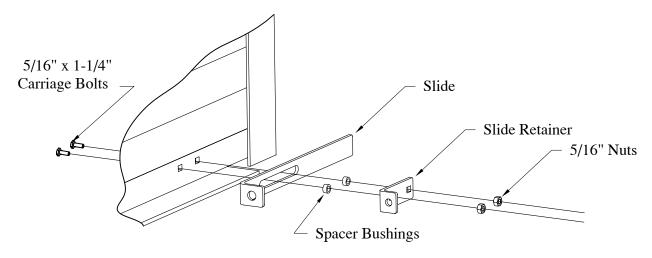


15.0 LABEL INSTALLATION

15.1 Place all "Warning" and "Caution" labels as instructed on labels. Be sure they are visible at all times.

16.0 OPTIONAL EQUIPMENT INSTALLATION

Optional Slide Lock



Slide Lock Installation

Insert two 5/16" x 1-1/4" bolts from the outside through pre-punched holes in bottom bar.

Place the longer "L" shaped slide over carriage bolts flat against bottom bar with formed end towards the center of the door.

Place two spacer bushings in the slot and over carriage bolts.

With formed end facing towards center of shutter, place slide retainer over carriage bolts and thread. Tighten snugly, but do not over-tighten. Check slide action to make sure slide moves freely and engages slide lock keeper in bottom of front guide angle.

Optional Header Brush Seal

Brush seal is supplied in one to three lengths sufficient to span the distance between headplates.

If more than one piece, assemble brush seal and retainer in unequal lengths so that the brush portion helps connect the aluminum retainer.

Place curtain in fully closed position before installation of brush seal. Install brush seal so that it maintains approximately 1/4" contact with the curtain on all surfaces. Due to the large variety of jamb types, C.H.I. does not supply fasteners for brush seal.

17.0 MAINTENANCE

- 17.1 Inspect door for cleanliness, fit and operation every two weeks.
- 17.2 Inspect guides, curtain and hood for wear or visible damage. Report any unusual wear or damage for immediate repair.
- 17.3 Inspect all fasteners for tightness and for damage. Report any damage or loose fasteners immediately for repair.
- 17.4 Inspect chain hoist mechanism and guide channels for unusual accumulations of dirt, grease or foreign matter that would hinder normal door operation.
- ☑ WARNING!! Individuals operating any rolling steel door must do so in a prudent and safe manner. Unsafe operation or allowing personnel or property to pass through an opening when door is not at rest in its fully open position may result in personal injury, door damage or property damage. Always practice safe operating procedures and never stand in the path of a moving door.
- **☑** WARNING!! Wear protective gloves and eye wear when working on the door.
- **✓** WARNING!! If in doubt of the fitness or structural integrity of jambs, a qualified engineer must inspect the existing conditions before proceeding further.
- **☑** WARNING!! Guides are not intended or designed to act as structural reinforcement for existing jambs. Jamb surface must extend full height of wall angle.
- **✓** WARNING!! Installation of anchoring devices into unsound building material will result in product damage, personal injury, premature wear and product failure.
- ☑ WARNING!! Secure all loads to hoist equipment to prevent movement while hoisting. Do not allow personnel to ride hoist equipment. Stay off ladders and lifts until barrel and/or curtain have been hoisted to the final position of attachment. Serious personal injury will result from carelessness or lack of planning. Plan all moves carefully!
- **☑** WARNING!! It is essential that you use hoisting equipment of adequate stability and rated capacity to safely lift the barrel and headplate assemblies.
- **☑** WARNING!! Never stand directly in path of door in its downward travel or walk through doorway while door is moving.
- **✓** WARNING!! After correct tension is reached, the spring is under tension and extremely dangerous.
- **☑** WARNING!! Never place fingers near any moving parts while door is in operation.
- **☑** WARNING!! Adjustments or repairs to door should be performed only by mechanically experienced individuals who have the proper tools, instructions and a thorough understanding of the entire door assembly and its operation.

18.0 PAINTING

- 18.1 Curtain slats and hood feature finish coat polyester paint over baked on enamel primer and galvanized steel. Protective paint coats are not necessary unless desired. Guides and end brackets are factory coated with high quality primer which is compatible with most quality exterior grade paints.
- 18.2 REPAINTING DOOR: Wash surface thoroughly with a solution of trisodium phosphate (commonly called TSP). Buff surface lightly with an extra-fine-grade steel wool. Repair any rust or bare metal areas and coat with a zinc-based primer. Paint with premium-quality oil-based or latex exterior paint. Avoid use of solvents (mineral spirits can be used). Apply paint to small area of door to test for adhesion. If new paint does not chip, crack or bubble, apply to remainder of door. If in doubt about the correct paint system to use, contact a painting professional.

☑ WARNING!! Do not Paint:

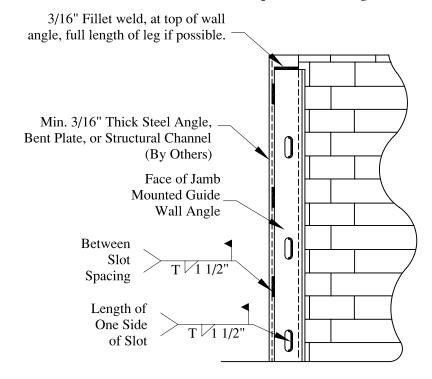
- ✓ Axles, bearings or moving parts
- ✓ Wear sufaces on guides
- ✓ Stainless steel slide locks
- g Brush seal, jamb seal or bottom astragal
- ✓ Chain hoist or chain hoist contact surfaces
- ✓ Safety warning labels
- ✓ Operational labels or placards
- 18.3 C.H.I. recommends that you closely follow paint manufacturer's recommendations for cleaning, preparing and applying paint to obtain best results.

TROUBLE SHOOTING

PROBLEM	PROBABLE CAUSE	REMEDY
☑ Door will not close all the way to the floor.		Open door fully and back tension off one hole at a time
☑ Door will not stay shut.	Too much spring preload.	until satisfactory balance is achieved (Page 12).
☑ Door closes hard.		
☑ Door closes too fast.	Too little spring preload.	Refer to Tensioning The Barrel (Page 12).
☑ Curtain runs to one side.	Barrel not level.	Refer to Barrel Installation Procedure (Page 7).
and the same of the same.	Curtain not centered.	Refer to installation of curtain (Page 10).
	Guides too close together.	Verify that you have held the "X" dimension full height of guides (Page 3).
☑ Door is hard to move in either direction.	Guides damaged.	Check for bent or damaged inner guides. Slats not centered in guides and headplates (Page 10).
	Key stock dragging	Verify that guides were spread when tightening guide bolts (Page 11).
		Check for bent or damaged inner guides.
☑ Door curtain "jumps" on way down or up.	Curtain binding on headplate or guides.	Check that "X" dimension has been held at headplates (Page 3).
		Slats not centered in guides and headplates (Page 10).
☑ Door difficult to raise, will not stay open at head.	Broken spring.	Contact qualified C.H.I. Door technician to evaluate.

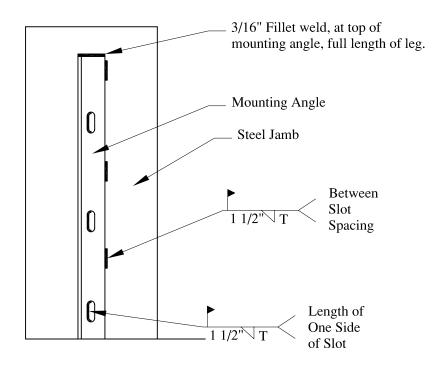
Weldment Procedure for Face of Wall Mounted Guides

PROOF CRITICAL! Use E6010/E6011 electrodes or electrodes of equivalent strength.



Weldment Procedure for Between Jamb Mounted Guides

PRITICAL! Use E6010/E6011 electrodes or electrodes of equivalent strength.



Notes

Door Model:	Door Size: x
Serial Number :	
Installed By:	Installation Date:

To insure proper identification of this door please complete the information below.

LIMITED WARRANTY

Commercial Rolling Steel Doors

C.H.I. Overhead Doors, Inc. ("C.H.I.") warrants rolling steel doors, shutters and components to be free from defects in materials and workmanship for a period of five (5) years. Model 6241 service doors are warranted for one (1) year. Spring wire is warranted for one year. All warranty periods begin with the date of manufacture. C.H.I.'s obligations are strictly limited to repair or replacement of defective parts and components during the warranty period.

This limited warranty excludes: (1) rust caused by damages or scratching; (2) damage resulting from exposure to corrosive chemicals, corrosive fumes, condensation, water or fire; (3) damages caused by accident, improper use, negligent operation, improper installation, improper maintenance or normal wear; (4) shipping, installation or labor charges; (5) defects in paints or coatings used to finish door sections; (6) any product or component which is modified, altered, or not part of the original door, and (7) damages resulting from any circumstances beyond the direct control of C.H.I.

In the event of a defective component, contact the dealer the door was purchased from within fifteen (15) days from discovery of the defect. C.H.I. reserves the right to inspect all products alleged to be defective and to verify eligibility of this limited warranty.

THIS LIMITED WARRANTY EXCLUDES ANY LOSS OR DAMAGE NOT SPECIFICALLY UNDERTAKEN HEREIN, INCLUDING, WITHOUT LIMITATION, ANY consequential or incidental damages, such as death, injury, damages to property, or damages arising from loss of use of ANY PRODUCT OR FACILITY. All other warranties, expressed or implied, including any warranties of fitness for a PARTICULAR PURPOSE and of merchantability, are hereby expressly excluded.

This warranty is non-transferable.