1. rev 7 changed from 8 to 9 section on 3 in track graduation
2. CHANGED FROM ADOBE TABLE TO EXCEL CHARTS

Model 2411 and 2415

LIMITED WARRANTY

The Manufacturer warrants that its door and its hardware fittings will be free from defect in workmanship and material. Should any defect in workmanship or material appear within **ONE (1)YEAR** of delivery, manufacture shall, upon notification, correct such nonconformity at its option, by repairing or replacing any defective part or parts. See Maintenance And Painting Instructions For Pre-painted Steel Doors listed elsewhere in this manual or contact Wayne-Dalton Distributor for a copy of the maintenance and painting instructions for pre-painted steel doors.

The Manufacturer warrants the steel skin of the **MODELS 2411 and 2415** Roll-Formed steel garage door for a period of **TEN (10) YEARS**, from the time of delivery against cracking, splitting or deterioration due to rust-through. Other conditions and exceptions as contained herein apply.

NO EMPLOYEE, DISTRIBUTER, OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THE FOREGOING WARRANTIES IN ANY WAY OR GRANT ANY OTHER WARRANTY ON BEHALF OF MANUFACTURER.

The Manufacturer shall not be responsible for any damage resulting to or caused by its products by reason of installation (the warranty becomes null and void if other than Manufacturer's specified holes are drilled), improper storage, unauthorized service, alteration of products, neglect or abuse, or attempt to use the products for other than the customary usage or for their intended purposes. The above warranty does not cover normal wear or any damage beyond Manufacturer's control or replacement labor.

THIS WARRANTY COVERS A COMMERCIAL PRODUCT. THE FORGOING WARRANTIES ARE LIEU OF ALL OTHER WARRANTIES AND NO REPRESENTATIONS, GUARANTEES, OR WARRANTIES, EXPRESSED OR IMPLIED, (INCLUDING, BUT NOT LIMITED TO, THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), ARE MADE BY MANUFACTURE IN CONNECTION WITH THE MANUFACTURE OR SALE OF ITS PRODUCTS.

Claims for defects in material and workmanship covered by this warranty shall be made in writing to the dealer from whom the product was purchased within the warranty period. Manufacturer may either send a service representative or have the product returned to the Manufacturer at Buyer's expense for inspection. If judged by Manufacturer to be defective in material or workmanship, the product will be replaced or repaired at the option of Manufacturer, free from all charges except authorized transportation and replacement labor.

THE REMEDIES OF BUYER SET FORTH HEREIN ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER REMEDIES. THE LIABILITY OF MANUFACTURER, WHETHER IN CONTRACT, TORT, UNDER ANY WARRANTY, OR OTHERWISE, SHALL NOT EXTEND BEYOND ITS OBLIGATION TO REPAIR OR REPLACE, AT ITS OPTION, ANY PRODUCT OR PART FOUND BY MANUFACTURER TO BE DEFECTIVE IN MATERIAL OR WORKMANSHIP. MANUFACTURER SHALL NOT BE LIABLE FOR COST OF REMOVAL OR INSTALLATION OR SHALL NOT BE RESPONSIBLE FOR ANY DIRECT, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE.

This warranty gives you specific legal rights which may vary from state to state. However, some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

Yearly maintenance as described in the Maintenance and Painting Instructions for Pre painted Steel Doors is required. Should you need an additional copy, contact your local authorized Wayne-Dalton distributor.

MAINTENANCE AND PAINTING INSTRUCTIONS

MAINTENANCE

While factory-applied finishes for steel garage doors are so durable that they will last many years longer than ordinary paints, it is desirable to clean them thoroughly on a routine basis. Apparent discoloration of the paint may occur when it has been exposed in dirt-laden atmospheres for long periods of time. Slight chalking may also cause some change in appearance in areas of strong sunlight. A good cleaning will generally restore the appearance of these coatings and render repainting unnecessary. An occasional light cleaning will also help maintain an aesthetically pleasing appearance. To maintain the original finish of the garage doors, the only regular maintenance necessary is that of annual washing. Mild solutions of detergents or household ammonia will aid in the removal of most dirt, and the following are recommended levels:

One cup of Tide™, or other common detergents, which contain less than 0.5% phosphate, dissolved into five gallons of warm water. NOTE: The use of detergents containing greater than 0.5% phosphate is not recommended for use in general cleaning of garage doors. NEVER BLEND CLEANSERS OR DETERGENTS WITH BLEACH.

SURFACE PREPARATION FOR PAINTING

Wax on the surface must be removed or paint peeling/flaking will result. To remove this wax, it will be necessary to lightly scuff the surface with a gray (not green!) 3M ScotchBrite pad saturated with soapy water. A final wipe and rinse should be done with clean water only, to remove any loose dust or soap film.

Surface scratches, which have not exposed the metal substrate, can be lightly buffed or sanded with 0000 steel wool or No. 400 sand paper to create a smoother surface. Care must be taken to not expose the substrate under the paint (see Note No. 2). Once this exposed condition exists, the likelihood for rusting is greatly increased. See the following paragraph if the metal substrate is observed.

Exposed substrate must be treated to prevent rust from forming (see Note No. 2). Sand the exposed area lightly and paint with high quality metal primer to protect from corrosion. Follow drying time on primer can label before applying topcoat.

The surface to be re coated must not be to smooth or the repaint material will not adhere to it (see Note No. 2). It is advisable to test a representative area to evaluate adhesion. If poor adhesion is observed, the surface must be abraded by sanding or buffing using grades mentioned above. Care must be taken to not expose the substrate under the paint.

PAINTING

After the surface has been properly prepared it must be allowed to dry thoroughly, then coated immediately with a premium quality latex house paint. Follow the paint label directions explicitly. Oil base paint is not recommended. Please note that if substrate is exposed, painting with latex paint may cause accelerated rusting of steel.

NOTES:

1. Repainting of finish painted steel doors cannot be warranted as this condition is totally beyond door manufacturer's control.
2. If the steel door surface has a finish painted textured surface representing wood grain, stucco, etc., this step should not be attempted as danger of exposing substrate is greatly increased.
3. Consult a professional coatings contractor if in doubt about any of the above directions.
4. Follow directions explicitly on the paint and solvent container labels for proper applications of coatings and disposal of containers. Pay particular attention to those directions involving acceptable conditions in which to paint.

ACRYLIC GLAZING CLEANING INSTRUCTIONS:

1. To clean acrylic glazing wash with plenty of nonabrasive soap or detergent and water. Use the bare hand to feel and dislodge any caked dirt or mud. A soft, grit-free cloth, sponge or chamois may be used to wipe the surface. Do not use hard or rough cloth that will scratch the acrylic glazing. Dry with a clean damp chamois.
2. Grease and oil may be removed with kerosene or a good grade of naphtha (No aromatic content.). Users of these solvents should become familiar with their properties to handle them safely.
3. **Do not use:** Window cleaning fluids, scouring compounds, gritty cloths, leaded or ethyl gasolines, or solvents such as alcohol, acetone, carbon tetrachloride, etc.

Model 2411 & 2415

COMMERCIAL GARAGE DOOR INSTALLATION INSTRUCTIONS and OWNERS MANUAL

Read these instructions carefully before attempting installation. If in question about any of the procedures, Do Not perform the work. Instead have a qualified door agency do the installation or repairs.

This manual MUST be attached to the wall in close proximity to the door.

⚠ IMPORTANT

SAFETY NOTICES

An overhead door is a large heavy object that moves with the help of springs under high tension. Moving objects and springs under tension can cause injuries. For your safety and the safety of others, follow these instructions:

1. Wear protective gloves during installation to avoid possible cuts from sharp metal edges.
2. It is always recommended to wear eye protection when using tools, otherwise serious eye injury could result.
3. Operate door **ONLY** when properly adjusted and free of obstructions.
4. Keep door in full view while operating it. Watch the door open or close completely before leaving the area.
5. Should the door become hard to operate or completely inoperative, a qualified door agency should correct the problem to prevent damage to the door or serious personal injury.
6. **DO NOT PERMIT** children to play with the garage door or the electrical controls. Fatal injury could result, should the child become entrapped between the door and the floor.
7. To prevent serious injury or death, avoid standing in the open doorway or walking through the doorway while the door is moving.
8. Use lift handles/step plate when manually operating the door. **DO NOT** place fingers into section joints when operating the door.
9. Remove pull rope if door is operated by an electric opener.
10. Door is constantly under **EXTREME SPRING TENSION**. To prevent possible serious injury or death, adjustments, repairs, removal, or installation, **ESPECIALLY of SPRING ASSEMBLIES, CABLES, or BOTTOM BRACKETS**, should be performed **ONLY** by qualified door service people.
11. Check door and its hardware monthly for loose, worn, or broken parts. Have any repairs or adjustments made by a qualified door agency.
12. Have the door professionally inspected once a year.

CONTENTS

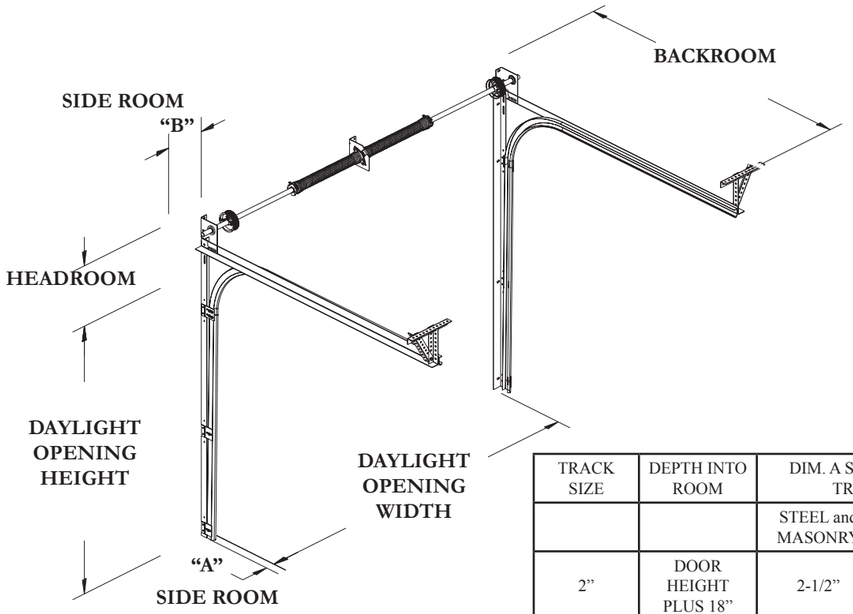
WARNING: It is recommended that installation, repairs, or adjustments of this product be made by a qualified door agency.

Part #280724 REV9 04/02/2009

OPERATING ZONE

You Can Save Time And Effort If You First Establish **All** The Facts About The "Operating Zone"

The **" Operating Zone"** is the area surrounding the door opening, extending upward and backward as far as the door will travel. We call it the Operating Zone because it is the area that the door will have to operate within and the dimensions are critical and must be known in advance of a door and operator installation.



TRACK SIZE	DEPTH INTO ROOM	DIM. A SIDEROOM TRACK		DIM. B SIDEROOM TORSION SHAFT	
		STEEL and MASONRY	WOOD	SOLID	TUBE
2"	DOOR HEIGHT PLUS 18"	2-1/2"	3-1/2"	10"	5"
3"	DOOR HEIGHT PLUS 24"	3"	5"	10"	5"

1. Daylight Opening; Exact size of finished opening
2. Sideroom; required distance from the door opening to a wall or any obstruction. **Refer To Sideroom Chart**
3. Headroom; required distance from top of door opening to the ceiling or underside of joists. **Refer To Headroom Chart**
4. Backroom; required distance from door opening header to the furthest back point to which the door track or operator unit, and their brackets, will extend.

HEADROOM CHART For Standard Lift Track (Minimum Distance Required)

HEADROOM CHART For Standard Lift Track (Minimum Distance Required)				
DRUMS	DIM S	3" TRACK 15" RADIUS	2" TRACK 15" RADIUS	2" TRACK 12" RADIUS
400-8 400-12	HEADROOM DIM Y	15 1/2" 13"	15" 12 1/2"	12" 9 1/2"
5250-18	HEADROOM DIM Y	17 1/2" 14 1/2"	17 " 14"	14" 11"
800-32	HEADROOM DIM Y	21" 16 1/2"	20 1/2" 16"	NA NA

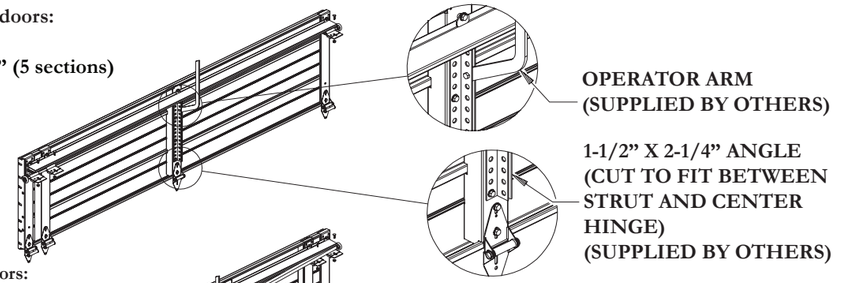
Dim. Y INDICATES THE DISTANCE FROM THE HEADER TO THE CENTER LINE OF TORSION SHAFT.
NOTE: 2 1/2" OF ADDITIONAL HEADROOM IS REQUIRED FOR SINGLE TROLLEY OPERATOR INSTALLATIONS.

STEP 1. Verify The OPERATING ZONE Dimensions

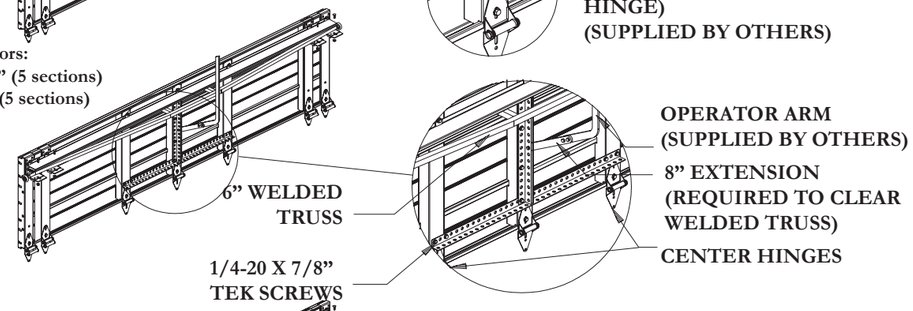
A - Exact size of finished daylight opening. Do you have the correct door size?
B - Sideroom requirements for track and spring shaft. (Refer to sideroom chart)
C - Headroom requirements. (Refer to headroom chart)
D - Backroom (depth into room) Manual lift = Door height plus 18" Operators = Door height plus 48"
E - Jambs must be plumb and solidly attached to the building. Floor must be level or exact gradeline established before you start.

STEP 2. Shipping tags show important information, door size, track size and type, spring size and hardware type. Verify that all material is present before attempting installation.

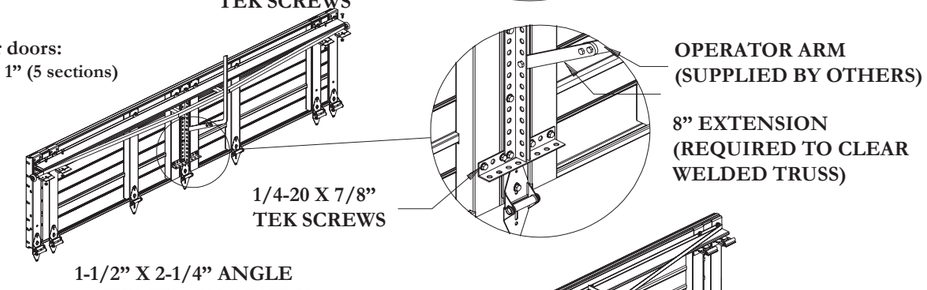
Trolley installation for doors:
≤ 9' 2" All Heights
9' 3" thru 16' 2" X 10' 1" (5 sections)



Trolley installation for doors:
9' 3" thru 16' 2" over 10' 1" (5 sections)
16' 3" thru 19' 2" X 10' 1" (5 sections)

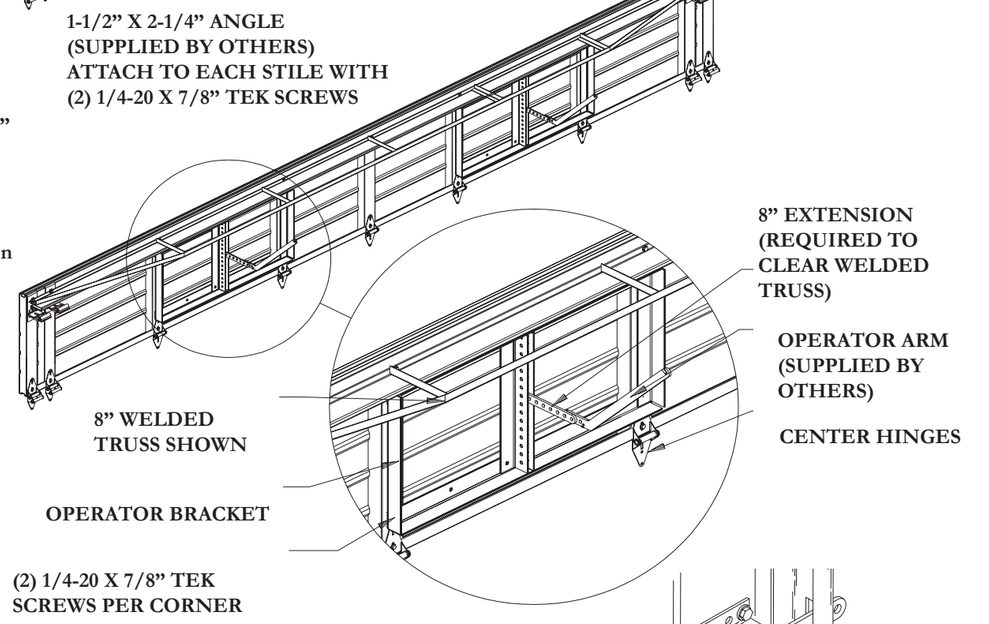


Trolley installation for doors:
16' 3" thru 19' 2" over 10' 1" (5 sections)
19' 3" thru 24' 2"



38 in. operator bracket and dual trolley brackets are optional for doors 19' 3" thru 24' 2" wide.

Dual Trolley installation for doors over 24' 2" wide X any height.



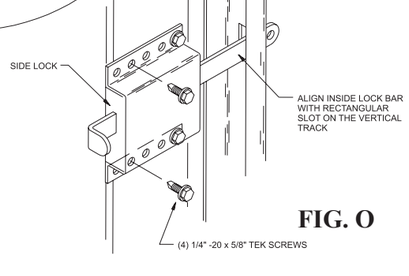


FIG. O

STEP 14: INSTALLING THE INSIDE SIDE LOCK:
Attach the inside side lock using (4) 1/4" - 20 x 5/8" Tek screws as shown in Fig. O

Steel Spring Pad Applications

Contact Manufacturer For Applications Other Than What Is Listed Below

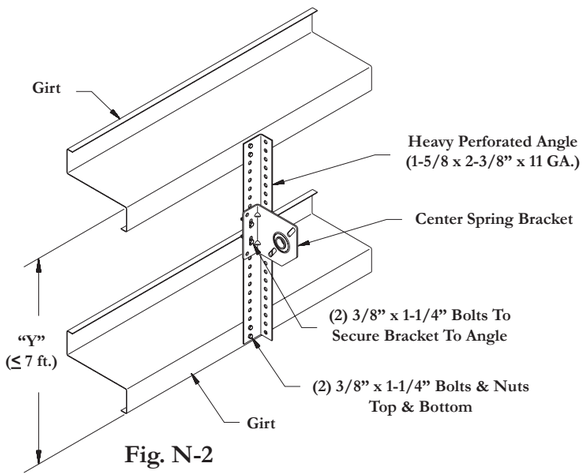


Fig. N-2

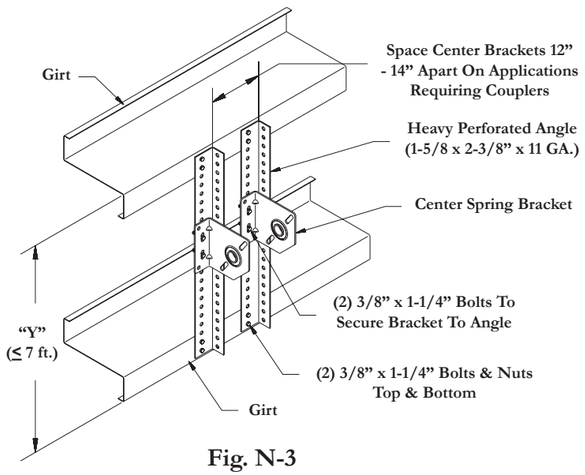


Fig. N-3

Fig. N-4

NOTE: Do Not Bolt (2) 3-3/4" Torsion Springs to One Center Bracket

NOTE: These Spring Mounting Techniques Are Not Supported For 800-32, 6375-164, 1100-18, 1350-28, & 800-120 Drums. These Instructions Are Also Not Applicable For 5750-120 Drums With 72" Or More High-Lift

NOTE: Maximum Spacing For Dimension "Y" is 84 in. (7 ft.) These Instructions Are Not Applicable For A Span Greater Than 84 in.

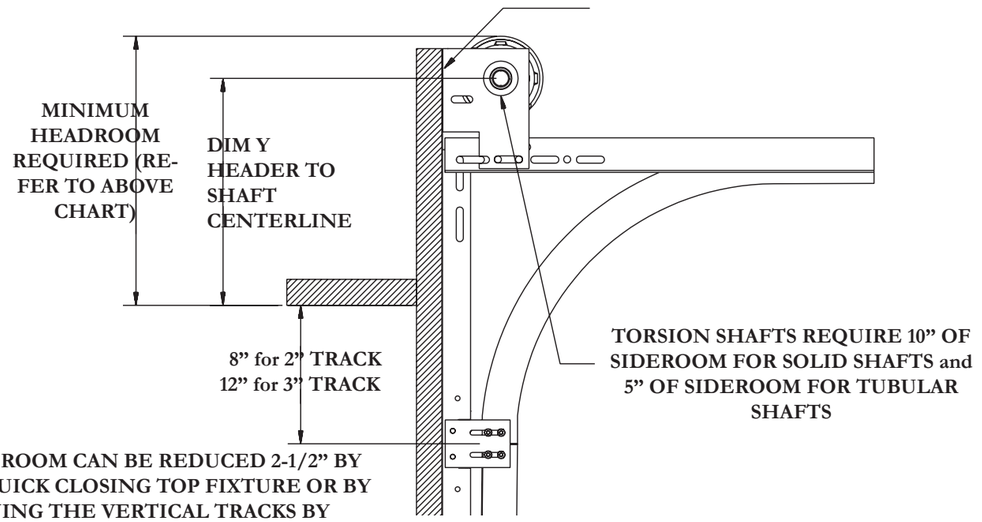
Maximum Door Size 9' x 9' (Maximum Door Weight 210 lb.): Cut perforated angle (1-5/8 x 2-3/8" x 11 GA.) to Dim "Y". Thru-bolt top and bottom of angle to each girt using (4) 3/8" x 1-1/4" bolts and nuts. Thru-bolt center bracket to perforated angle using (2) 3/8 x 1-1/4" bolts and nuts (See Fig. N-2).

Maximum Door Size 14' x 12' (Maximum Door Weight 400 lb.): Cut (2) perforated angle (1-5/8 x 2-3/8" x 11 GA.) to Dim "Y". Thru-bolt top and bottom of each angle to each girt using (4) 3/8" x 1-1/4" bolts and nuts. Thru-bolt each center bracket to perforated angle using (2) 3/8 x 1-1/4" bolts and nuts (See Fig. N-3).

Maximum Door Size 14'-2" x 12'-1" (Maximum Door Weight 800 lb.): Cut (2) pieces of perforated angle (1-5/8 x 2-3/8" x 11 GA.) to Dim "Y" and (2) more pieces at Dim "Y" minus 3. Bolt the angles together into a "Z" shape using (4) 3/8" x 1-1/4" bolts and nuts. Thru-bolt top and bottom of each "Z" shaped angle to each girt using (4) 3/8" x 1-1/4" bolts and nuts. Thru-bolt each center bracket to perforated angle assembly using (2) 3/8 x 1-1/4" bolts and nuts (See Fig. N-4).

NOTE: Do NOT Bolt (2) 3-3/4" Torsion Springs To ONE Center Bracket

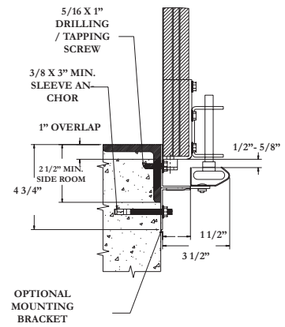
EXTEND JAMBS TO OPENING HEIGHT plus
DIM Y plus 1 1/2" (MINIMUM LENGTH)



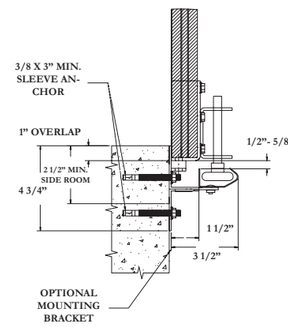
NOTE: HEADROOM CAN BE REDUCED 2-1/2" BY USING THE QUICK CLOSING TOP FIXTURE OR BY SHORTENING THE VERTICAL TRACKS BY 3" MAX.

SIDEROOM REQUIREMENTS

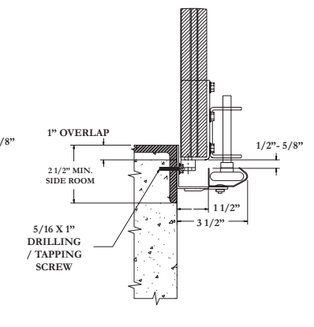
2 inch TRACK



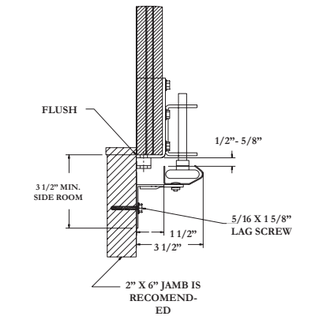
PRECAST WALL WITH CORNER ANGLE 2" TRACK



PRECAST WALL WITHOUT CORNER ANGLE 2" TRACK

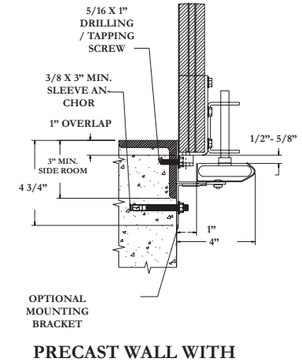


STEEL JAMBS 2" TRACK

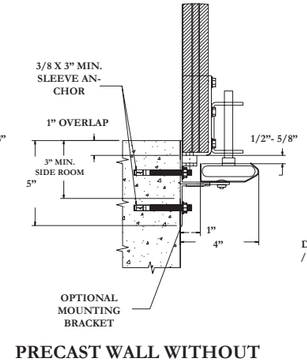


WOOD JAMBS 2" TRACK

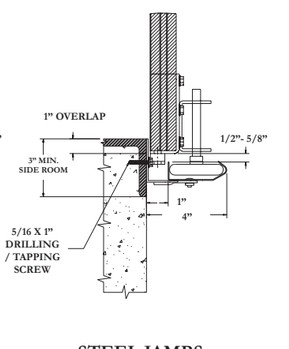
3 inch TRACK



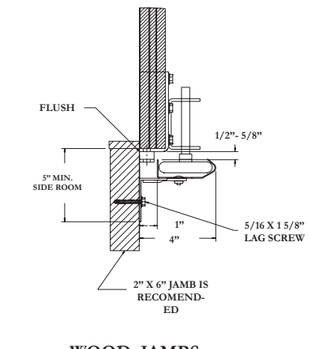
PRECAST WALL WITH CORNER ANGLE 3" TRACK



PRECAST WALL WITHOUT CORNER ANGLE 3" TRACK



STEEL JAMBS 3" TRACK



WOOD JAMBS 3" TRACK

2” TRACK 1/4” GRADUATION
8 SECTIONS HIGH OR LESS

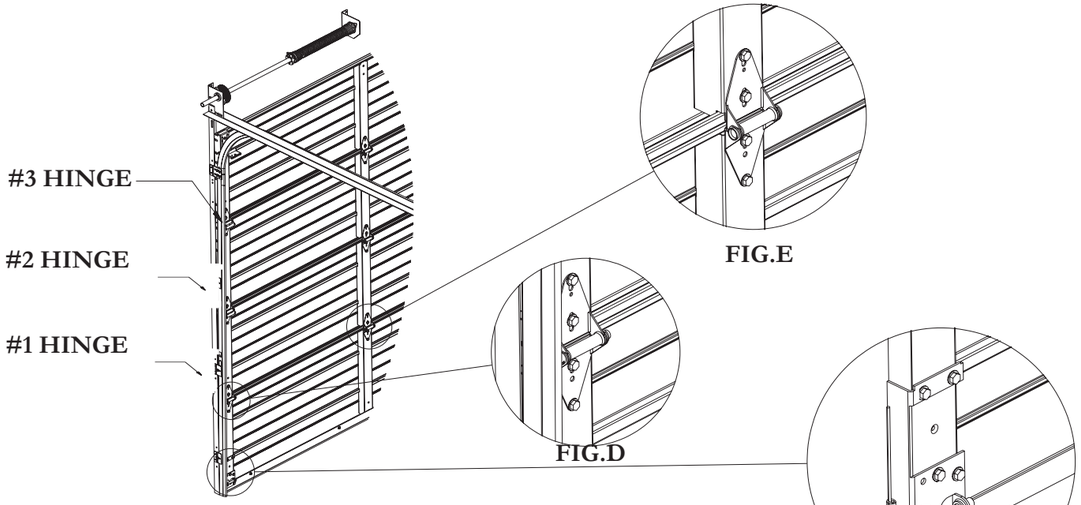


FIG.E

FIG.D

FIG.C

Roller spacer (1/2” long) required on BB-6 type bottom brackets. Secure bracket with (5) screws

FIG.B

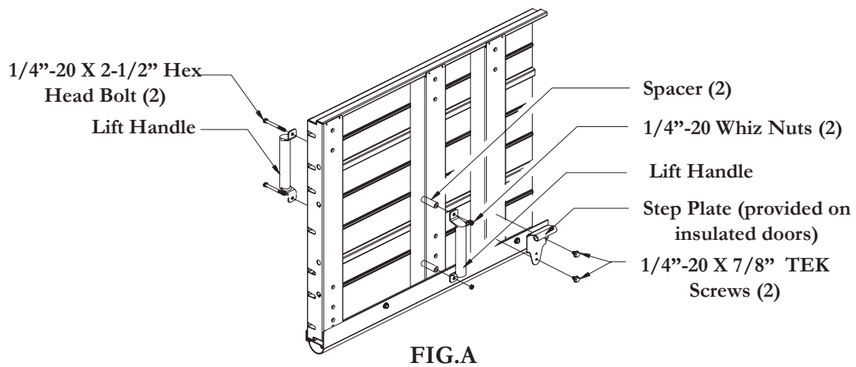


FIG.A

NOTE: 2” TRACK HINGE SCHEDULE FOR DOORS LESS THAN OR EQUAL TO 16’-1” HIGH.

STEP 3. Locate the left and right hand bottom brackets, secure the counterbalance cable using clevis pin, washer and cotter key shown in fig. B

Secure bottom bracket to section using 1/4” self-drilling and tapping screws shown in fig. C (for doors over 14’2” wide use double wide bottom brackets as shown in figure G) (For doors using Broken Cable Safety Device Refer to Fig. J and the auxiliary instructions.)

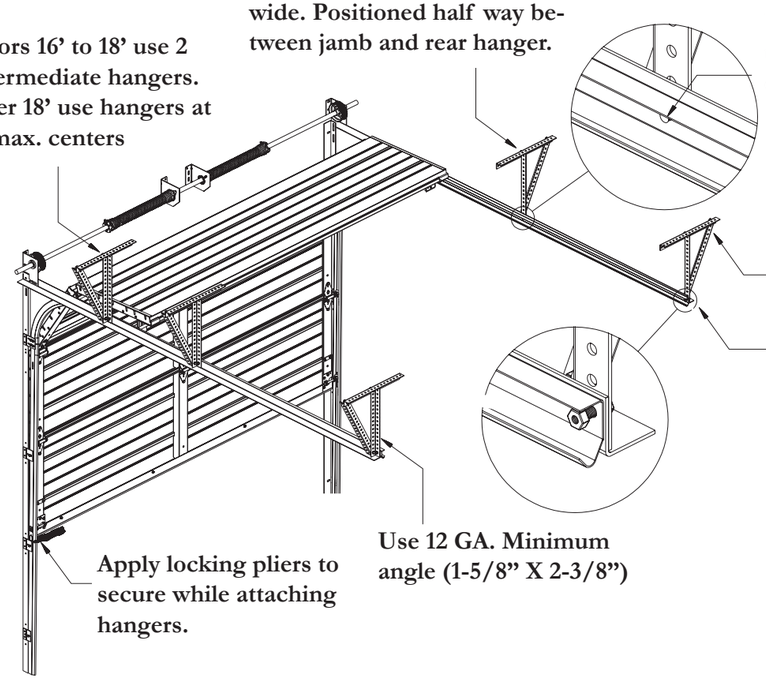
Doors 16’ to 18’ use 2 intermediate hangers. Over 18’ use hangers at 6’ max. centers

Intermediate hangers for all doors over 11’ high and over 14’ wide. Positioned half way between jamb and rear hanger.

Use a 3/8” X 3/4” truss bolt for roller clearance.

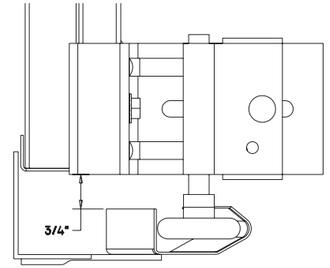
Lateral brace all hanger angles.

3/8” dia. Bolt should protrude into track to serve as a roller stop.



Apply locking pliers to secure while attaching hangers.

Use 12 GA. Minimum angle (1-5/8” X 2-3/8”)



STEP 10: Attaching the Back Hanger Angles: Apply another locking pliers above the No. 2 or No. 3 roller and then remove the locking pliers from the top roller. With assistance push downward on the door and remove all locking pliers. Carefully raise door until one and a half panels are in the horizontal track, lock door into position using locking pliers.

Space the horizontal tracks 3/4” from section edge and level (or running upward). Using 1-5/8” x 2-3/8” x 12 GA. Min. Angle, secure each horizontal track to the building as shown in Fig. Using 3/8” bolts and nuts . Lateral brace all drop angles once proper spacing is determined.

Doors over 11 ft. high and over 14 ft. wide must have (1) intermediate drop hanger as shown above right side.

Doors between 16’ and 18’ high must have (2) center hanger assemblies as shown above left side.

Doors over 18’ high must have center hangers placed at 6’ center max.

STEP 11: Checking the Counterbalance: Release the locking pliers from vertical track and check the door’s counterbalance. Adjust springs if necessary.

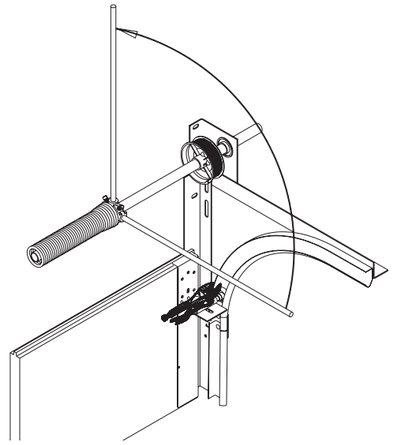
STEP 12: Vertical Track and Top Bracket Adjustments: Vertical tracks can now receive final adjustments. Open and close the door a few times, checking and adjusting side clearance (if necessary). Tighten jamb fasteners (lags, teks, and anchors) to permanently secure verticals. Adjust door in or out from jamb by loosening the track to obtain proper seal. Permanently tighten all track bolts. Adjust top bracket roller carrier so that the top section is sealed against header.

STEP 13: Lubrication: Lubricate springs, rollers, and bearings with oil.

DO NOT GREASE THE INSIDE OF THE TRACK.

WARNING: **DO NOT USE UNDERSIZED WINDING RODS (SCREWDRIVERS, ETC.)**

Wind springs toward ceiling.
(Standard lift applications)



WARNING: **Apply locking pliers to the track ABOVE the roller and lock door if applicable, before winding the spring**

Wind springs 1/4 turn at a time to the number of complete revolutions recommended on the spring tag. Wind up as shown Fig. When the proper number of turns is reached, rest the winding rod against the top section or header, stretch the spring then, tighten the set screws on the winding cone. Release the vice grips from the spring shaft(s). Adjust the coupler on split solid shafts until drums are in time (check door level) and tighten coupler.

SPRING TURN CHART

DOOR HEIGHT	400-8	400-12	5250-18	800-32
6'6"	7 1/2	7 1/2		
7’0”	7 7/8	7 7/8		
7’6”	8 1/2	8 1/2		
8’0”	8 7/8	8 7/8	6 3/4	
8’6”		9 1/4	7 1/8	
9’0”		9 1/2	7 3/8	
9’6”		10 1/8	7 3/4	
10’0”		10 1/2	8 1/8	5 3/8
10’6”		11	8 3/8	5 5/8
11’0”		11 1/2	8 7/8	5 7/8
11’6”		12	9 1/8	6
12’0”		12 1/2	9 1/2	6 1/4
12’6”			9 7/8	6 1/2
13’0”			10 1/4	6 3/4
13’6”			10 1/2	7
14’0”			10 7/8	7 3/8

DOOR HEIGHT	400-8	400-12	5250-18	800-32
14'6"			11 1/4	7 1/2
15’0”			11 1/2	7 5/8
15’6”			11 7/8	8
16’0”			12 1/4	8 1/8
16’6”			12 1/2	8 1/4
17’0”			12 7/8	8 5/8
17’6”			13 1/4	8 7/8
18’0”			13 1/2	9
18’6”				9 1/4
19’0”				9 1/2
19’6”				9 3/4
20’0”				9 7/8
20’6”				10 1/4
21’0”				10 3/8
21’6”				10 1/2
22’0”				11

3” TRACK 1/4” GRADUATION
9 SECTIONS HIGH OR LESS

NOTE: **3” TRACK HINGE SCHEDULE ON DOORS LESS THAN OR EQUAL TO 18’-1” HIGH. DOORS OVER 18’-1” HIGH (OVER 9 SECTIONS) WILL REQUIRE 1/8” GRADUATION. BY STARTING WITH (2) #3 HINGES, (2) #4 HINGES, (2) #5 HINGES ETC...**

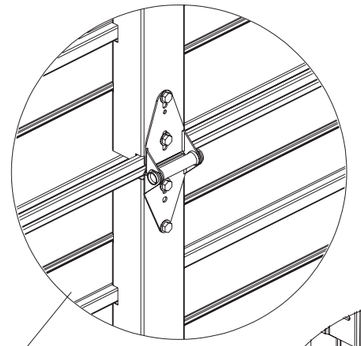
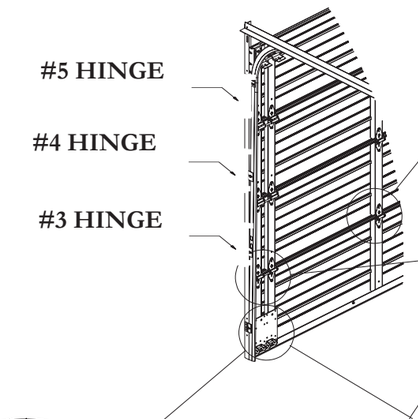


FIG.I



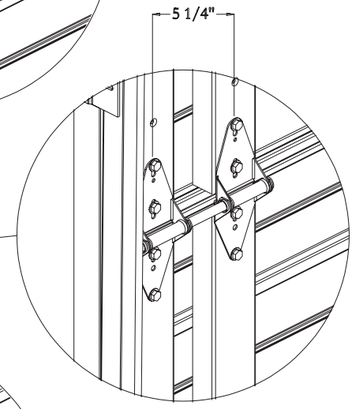


FIG.H

NOTE: **DOUBLE END-STILES BEGIN AT 16’3” WIDE ON ALL 2411-2415 DOORS**

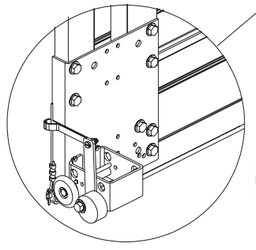


FIG.J
Refer to the auxiliary instructions.

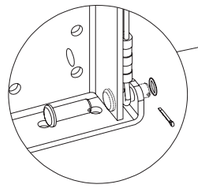


FIG.F

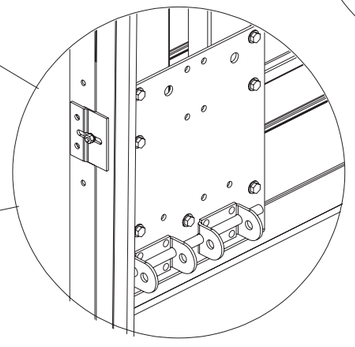


FIG.G
Secure Bracket using (10) screws.

Align the appropriate end hinge to the pre-punched holes in the stiles and secure using (2) 1/4” x 5/8” self tapping screws per hinge. Products 16’2” wide and less require (1) end hinge (fig. D) and doors over 16’2” wide require double end hinges. (Fig. H)
The end hinge sequence is dependent on track size (2” or 3”).
2” track applications begin with a number 1 hinge attached to the top corners of the bottom section.
3” track applications begin with a number 3 hinge.
(Refer to the illustrations dependant on your track size)

NOTE: SUPPORT BRACKETS ARE SUPPLIED ON ALL DOORS REQUIRING DOUBLE END STILES

An Extra Support Bracket Will Need To Be Added To Top Brackets On Double Endstile Applications

Top bracket installation illustration. Secure each bracket using (2) 1/4" X 7/8" self-tapping screws. Doors over 16'2" wide or doors over 8 sections high require double top brackets.

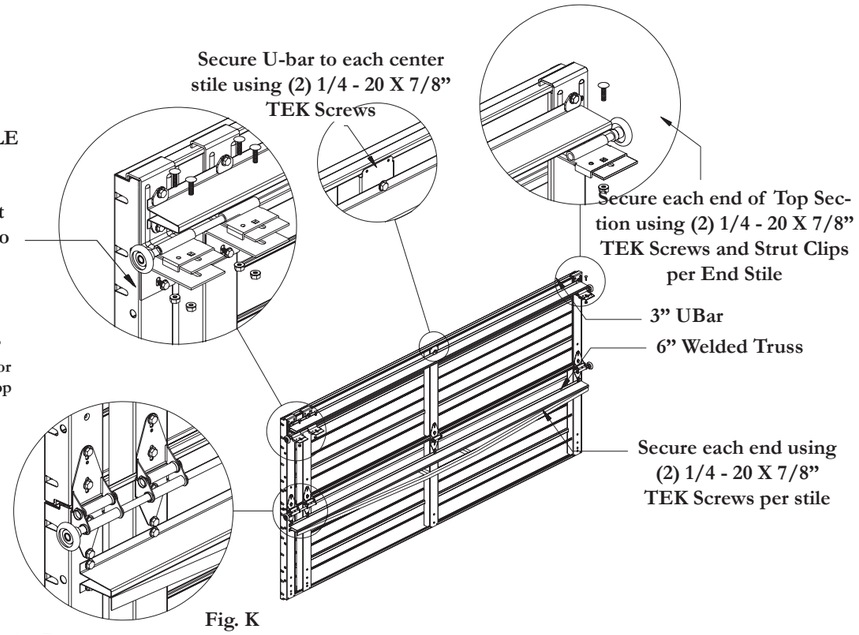


Fig. K

Refer To Strutting Schedule Insert.

STEP 4. Products over 12'2" require U-bars to be secured to each section. Position the 2" or 3" Ubars below the lower hinge leaf and attach with (2) 1/4-20 X 7/8" tek screws (1/2" from section edge) as shown in Fig. K. Doors requiring trusses, position the truss below the lower hinge leaf (1/2" from the section edge) and secure truss using (2) 1/4"-20 x 7/8" self-drilling and tapping screws per stile. Refer to Fig. K.
Doors requiring (2) welded trusses or 8" truss refer to Auxiliary Installation Instructions.

STEP 5. Leveling Door. (Bottom section) Center and level (or support to a known grade level) the bottom section in the opening, as seen in Fig. L. Temporarily attach the vertical tracks to the jambs. Allow 1/2" clearance between the section and the track as illustrated in the Sideroom illustrations.
It is important that the bottom of each track is in the same level. (shim if necessary)
Products being installed to precast or block must use a 3/8 x 3" long sleeve anchor to attach the verticals to the building. Use the slots in the wall angle as a drill template, drill a 3/8" hole (3-1/2" deep) and secure to anchor.

STEP 6. Installing the Door Sections Secure the end hinges, (one side only) center hinges, and strutting (if applicable) as previously illustrated. Locate the Lock Section (usually the second) and insert a roller into the end hinge. Stack this section into the opening by hooking the roller in the vertical track and lower onto the bottom section. Insert a roller into the appropriate end hinge and insert into vertical track on the opposite end. Secure to the section using the self-tapping screws. Align the section edges, flip up the upper hinge leafs and secure to the lock section using the self-tapping screws. Continue to hardware and stack the remaining sections in the proper sequence. Attach the top brackets to the upper corners using self drilling and tapping screws as shown in Fig. L.
NOTE : Top section maybe installed now or may wait until the last step (installer preference)

STEP 7. Installing the Vertical Track: Adjust the vertical track to 1/2" spacing from the bottom section and 3/4" at the top section (splice) Refer to page 5. Permanently secure each vertical to the jambs using the following fasteners:
Steel Jambs: 5/16" x 1" self drilling and tapping screw.
Wood Jambs: 5/16" x 1-5/8" lag screw.
Precast or Block: 3/8" x 3" sleeve anchor.
The left hand vertical track assembly indicates the standard fastener spacing.

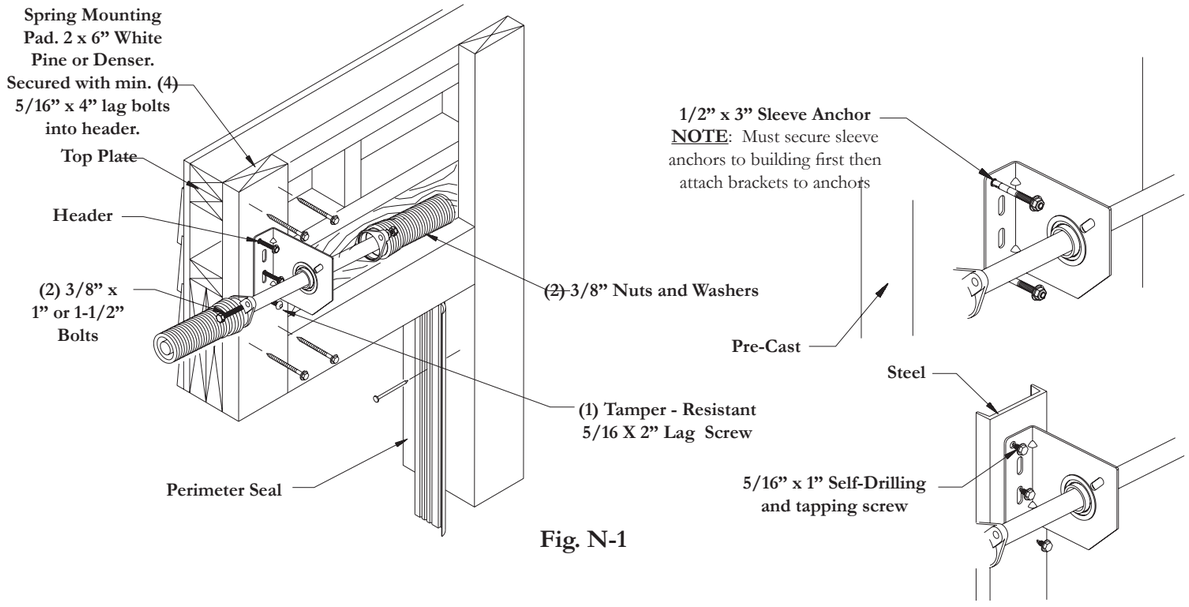


Fig. N-1

Secure each end bracket to the horizontal reinforcing angle using (2) 3/8" x 3/4" truss bolts and nuts. Anchor the wall mounting flange of the end bracket to the jamb using (2) 5/16" x 1-5/8" lags (wood), (2) 5/16" x 1" self-drilling and tapping screws (steel), or (2) 3/8" x 3" sleeve anchors (precast).
Spring pads must be securely anchored now before proceeding. The pads must be flush (± 1/8") with the jambs. Attach the spring center bearing brackets to the pad(s) using the following fasteners:

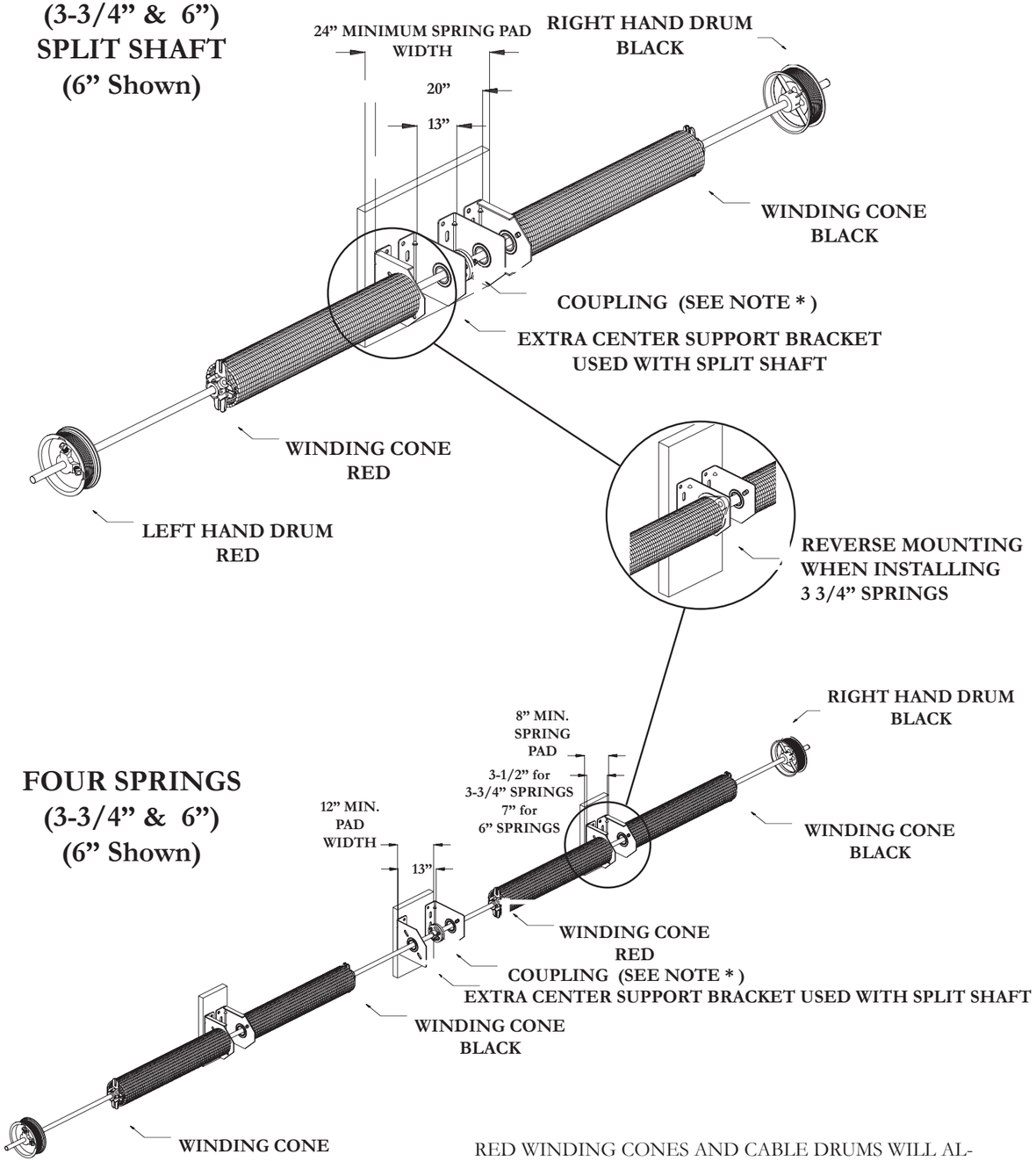
Pre-Cast: Secure each spring bearing bracket using (2) 1/2" x 3" sleeve anchors. This installation will require the 1/2" anchors to be secured to the building, then securing the brackets to the anchors.

Wood: Secure each spring bearing bracket using (2) 5/16" x 1-5/8" lag screws for the upper two holes and (1) 5/16" x 2" tamper proof lag screw for the lower hole.

Steel: Secure each spring bearing bracket using (3) 5/16" x 1" self-drilling and tapping screws. See Page 15 for alternate spring bearing bracket mounting methods.

NOTE: The coupler support brackets only require (2) fasteners, where the spring bearing brackets require (2) fasteners in the lower slot and hole, then (1) fastener in the top slot.
Secure the stationary cone(s) (dead end) to the spring bearing bracket(s) using 3/8" bolts and nuts.
NOTE: 3-3/4", 6" and Duplex , each spring is secured to one center bearing bracket. DO NOT attach or attempt to attach two springs of this size to one bearing bracket.
Feed the cables (attached to the bottom bracket) up through the vertical track, behind the roller shafts and secure to the drum. Push the drum up against the race, of the end bearing bracket and secure to the shaft by tightening the set screws (solid shafts use 1/4" key(s) and set screws to secure drums). Rotate drum until cable is taut and apply vice grips to shaft, with end resting, against wall or jamb. This will hold cables onto drum. There must be at least 1/2 wrap of cable onto drum, if not contact Wayne-Dalton for proper cable lengths. Attach cable and secure drum to shaft as mentioned above. Make sure drums are in time on one piece shaft assemblies before winding spring(s). Each drum should be at the 3 O'clock position, make adjustments as necessary.
If top section is not assembled, do so now, before winding springs. Also make sure all hardware is securely attached to all sections.
Use appropriate diameter winding rods. (Snug fitting 1/2", 5/8", or 3/4")

TWO SPRINGS (3-3/4" & 6") SPLIT SHAFT (6" Shown)



FOUR SPRINGS (3-3/4" & 6") (6" Shown)

RED WINDING CONES AND CABLE DRUMS WILL ALWAYS BE ON THE LEFT
BLACK (OR PLAIN) WINDING CONES AND CABLE DRUMS WILL ALWAYS BE ON THE RIGHT
LOOKING FROM THE INSIDE OF THE DOOR TO THE OUTSIDE

*** NOTE: COUPLING USED ON SOLID SHAFT ONLY. TIGHTEN CONNECTING BOLTS AFTER WINDING SPRINGS.**

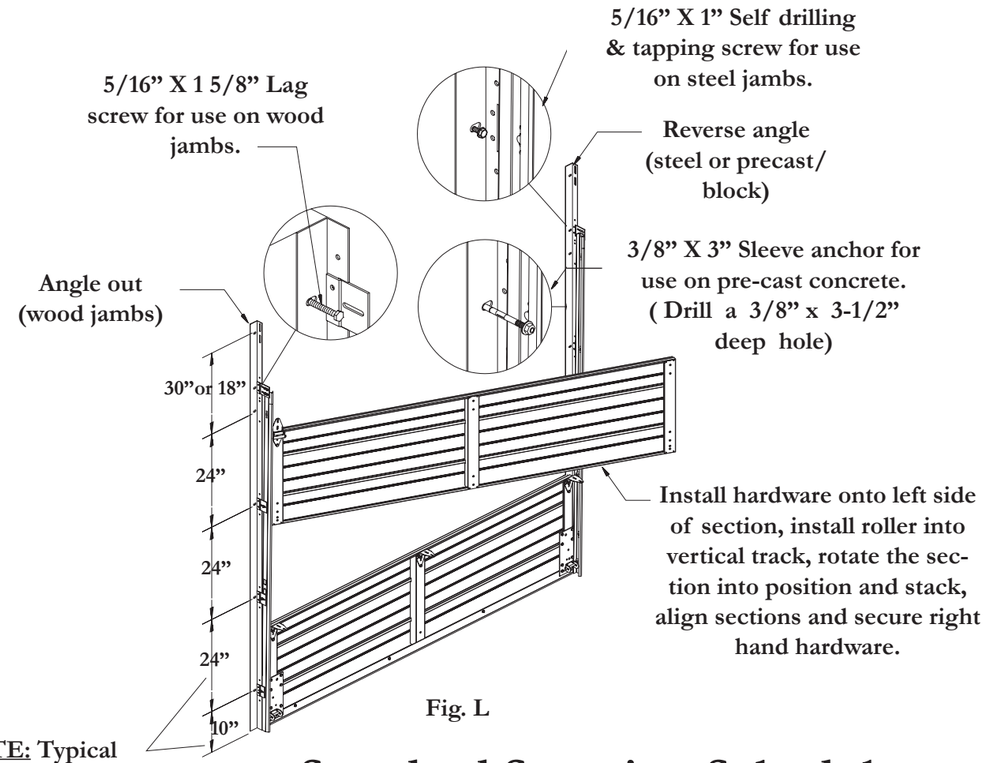


Fig. L

NOTE: Typical fastener spacing.

Standard Strutting Schedule (15.2 PSF)

2411 Strutting Schedule Standard Section Reinforcement	
Door Widths	Strutting
THRU 12' 2"	None
12' 3" - 16' 2"	(1) 2" U-Bar Per Section

NOTE: Model 2411 doors 12'3"-16'2" wide with intermediate aluminum full view (AFV) sections, do no require strutting on AFV sections.

2415 Strutting Schedule Standard Section Reinforcement	
Door Widths	Strutting
THRU 12' 2"	None
12' 3" - 16' 2"	(1) 2" U-Bar Per Section
16' 3" - 20' 2"	(1) 3" U-Bar Per Section
20' 3" - 24' 2"	(1) 6" Welded Truss Per Section
24' 3" - 26' 2"	(2) 6" Welded Truss Per Section
26' 3" - 32' 2" (2)	(2) 8" Welded Truss Per Section

NOTE: Model 2415 doors 12'3"-18'2" wide with intermediate aluminum full view (AFV) sections, do no require strutting on AFV sections.

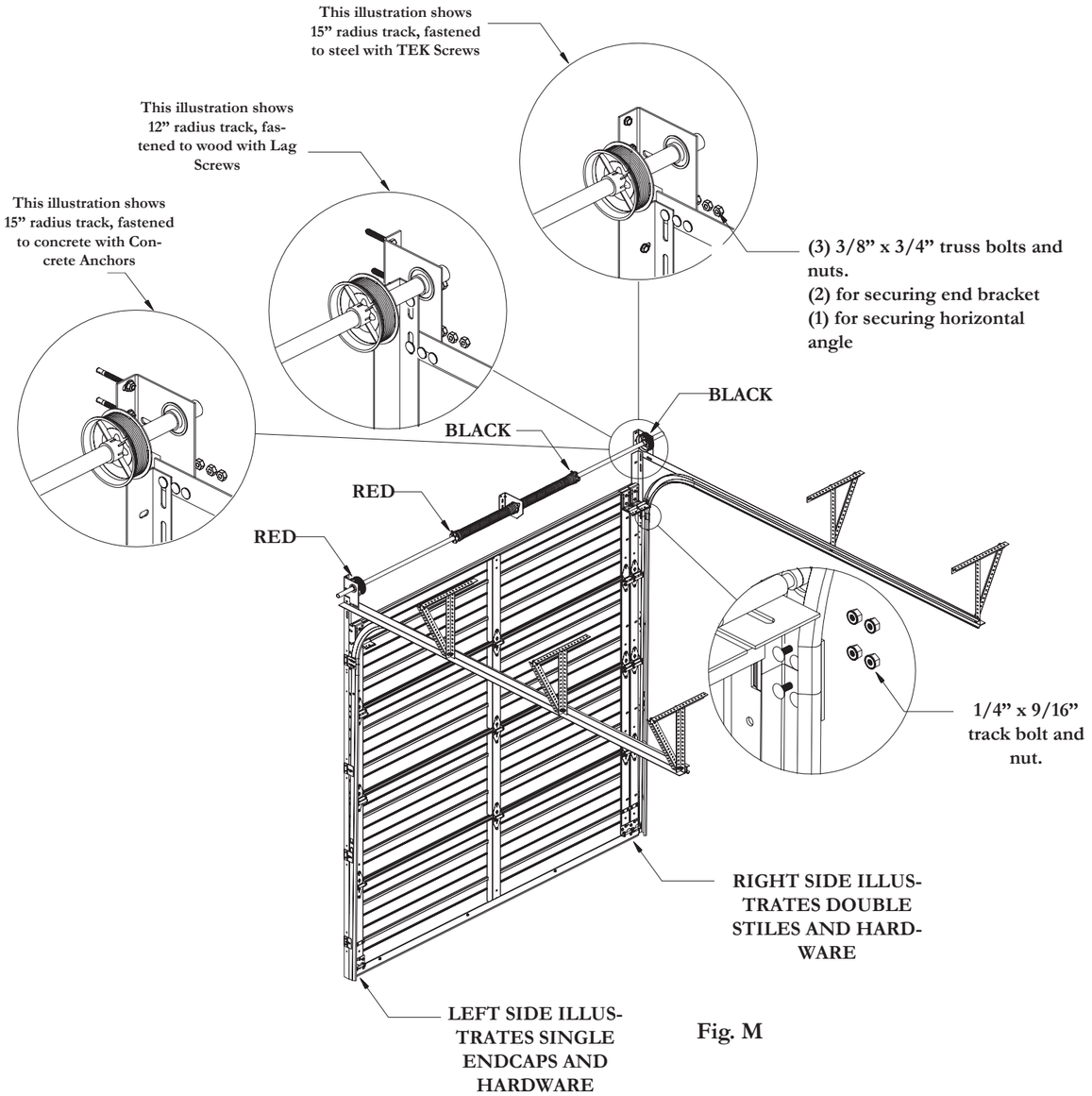
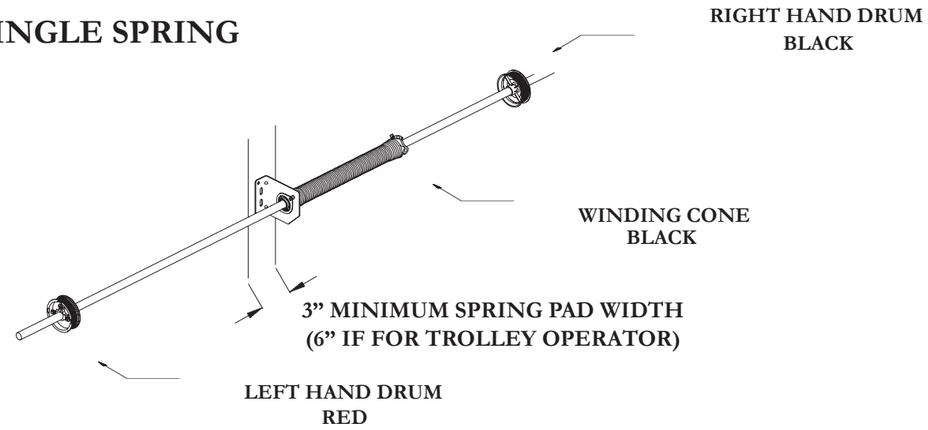


Fig. M

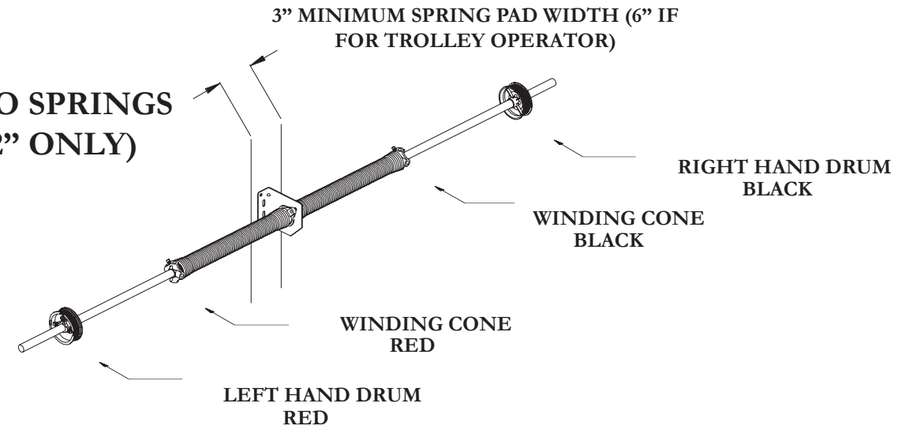
STEP 8. Installing the Horizontal Track: Use chain or cable to suspend the rear of the horizontal tracks. Secure the horizontal reinforcing angle to the wall angle using (1) 3/8" x 3/4" truss bolt and nut, then secure the horizontal track to the splice plate or flagangle using (2) track bolts and hex flange nuts.

STEP 9. Installing the Torsion Springs: Torsion spring assemblies can be of several configurations depending on door size and weight. If single spring the left or right hand spring must be identified by the color of the winding cone. (Refer to fig. M and pages 11 & 12)
Slide the cable drums and the end bearing brackets onto the 1 piece shaft (tubular or solid). Slide the cable drums, end bearing brackets and coupler onto each split solid shaft and install similar to 1 piece shaft. Position the shaft to the proper elevation and secure the bearing bracket(s) to the spring pad using the proper fasteners as shown in fig. N-1.
WARNING: DO NOT INSTALL CENTER BEARING BRACKETS DIRECTLY ONTO PANELING OR DRYWALL !
NOTE: Use a chalk line or line level to ensure all bearing brackets are in line. (± 1/8")

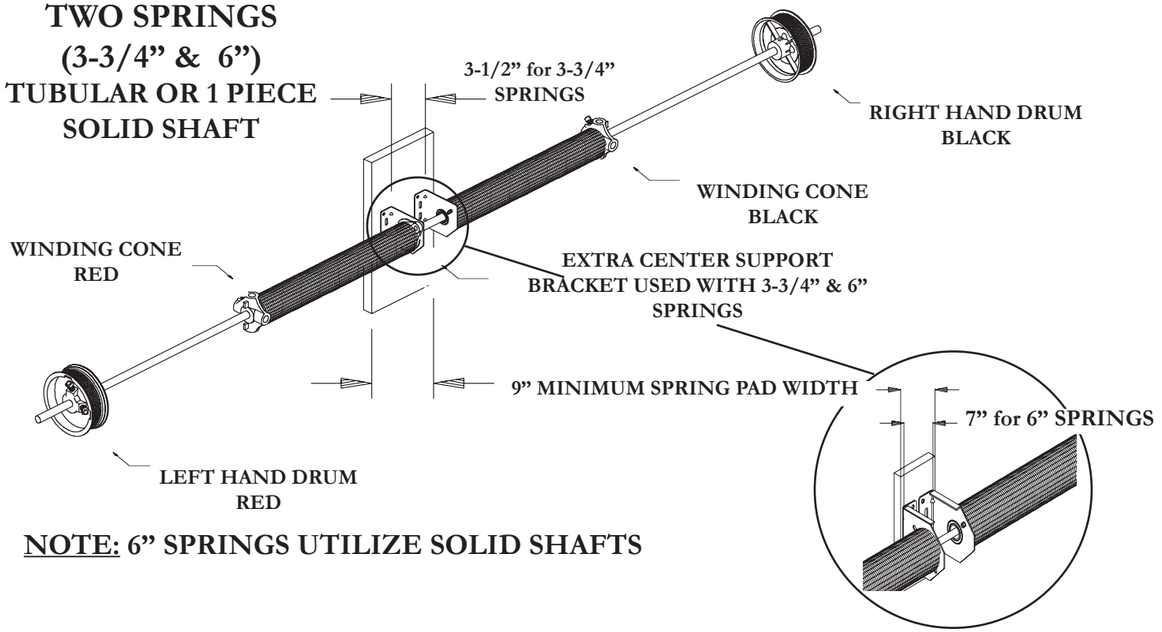
SINGLE SPRING



TWO SPRINGS (2" ONLY)



TWO SPRINGS (3-3/4" & 6") TUBULAR OR 1 PIECE SOLID SHAFT



NOTE: 6" SPRINGS UTILIZE SOLID SHAFTS