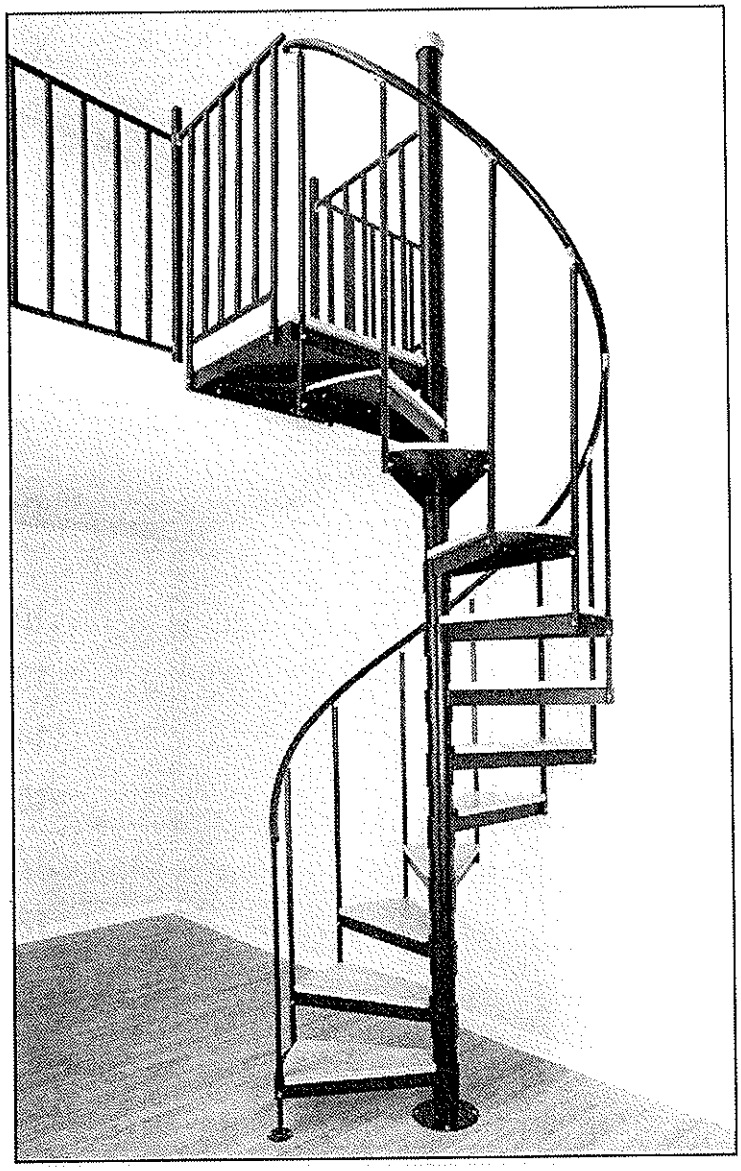
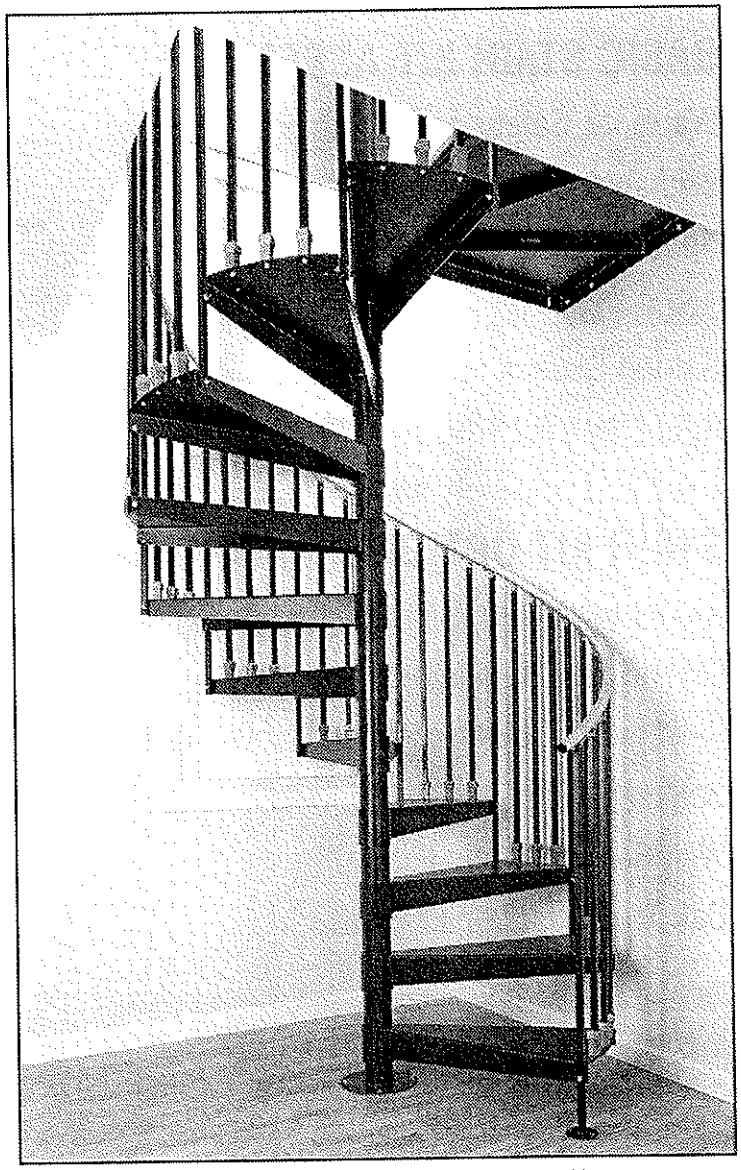
SPIRAL STAIR KIT INSTALLATION MANUAL

Effective March 1, 2009





1.800.523.7427

THE IRON SHOP®

The Leading Manufacturer of Spiral Stair Kits®

TABLE OF CONTENTS

BASIC STAIR KIT ASSEMBLY:

STAIR KIT OPTIONS: *(standard on some kits)*

WARRANTY, SAFETY, & FINISHING GUIDELINES

WARRANTY

The Iron Shop provides a one year warranty on materials and workmanship, beginning on the day you take delivery of the Stair Kit. We will replace any part returned to us during that period at no cost. This guarantee is invalid if the installation was not completed in accordance with our assembly procedures or if the Stair Kit is abused or not maintained by the customer.

- We recommend using wood tread coverings on all of our Metal Stair Kits. If you wish to purchase, and have not done so already, oak and flakeboard tread coverings are available from The Iron Shop. If you would rather supply your own wood, a paper template pattern may be purchased. Please note, that all of The Iron Shop's Stair Kits have holes to accept wood tread coverings, except when the treads are ordered in a diamond plate finish or ordered with no holes at an additional charge.

- If you have installed your stair kit without any tread coverings, you can coat the tread surface with a mixture of your paint and a little sand. This should be done after the entire stair kit has been repainted. This will provide the stair with an inexpensive non-slip tread surface.

- If your stair was supplied with a primer finish it must be painted with an oil-based enamel, not latex, upon completion of installation. If the stair will be used outdoors, an oil-based enamel with a rust inhibitive additive should be used.

- Stairs that are hot-dipped galvanized and stairs constructed of aluminum or stainless steel, are highly recommended for salt water conditions. If ordered with a primer finish only, Aluminum Kits must be painted

- It is the customer's responsibility to advise us of any and all building codes or special requirements for your Stair Kit from The Iron Shop. As manufacturers of quality stairs since 1931, we can design a stair to meet almost any requirements.

If you have any questions, please do not hesitate to call us. See the front cover for our toll-free phone numbers.

EXCHANGE, RETURN AND CANCELLATION POLICY

Exchange Policy

Standard Stair Kits ("Kit") on which assembly has not begun may be exchanged for credit* towards a different diameter Kit provided that The Iron Shop receives the customer's written exchange request no later than 90 days from the date of customer's receipt of the original Kit.

Custom orders may not be exchanged. Custom orders include, without limitation, any non-standard Stair Kit, multi-story units, Welded Stairs, Aluminum Kits, Oak Kits, Victorian One Kits, well rails of any kind, and any other custom work.

*All exchanges are subject to a 15% restocking charge, which will be deducted from the credit allowed towards a different Kit. Further reductions may be made, at The Iron Shop's sole discretion, on credit after returned Kits are inspected.

Return Policy

Standard Stair Kits ("Kit") on which assembly has not begun may be returned for refund* provided that The Iron Shop receives the customer's written return request no later than 90 days from the date of customer's receipt of the Kit. All returns must be authorized and accompanied by an authorization number.

Custom Orders may not be returned. Custom orders include, without limitation, any non-standard Stair Kit, multi-story units, Welded Stairs, Aluminum Kits, Oak Kits, Victorian One Kits, well rails of any kind, and any other custom work.

*All returns are subject to a 15% restocking charge, which will be deducted from the credit allowed towards a different Kit. Further reductions may be made, at The Iron Shop's sole discretion, on credit after returned Kits are inspected. Refunds will be calculated according to the following formula: Total Purchase Price (including tax) less shipping, handling, destination, insurance charges less 15% restocking fee.

Cancellation Policy

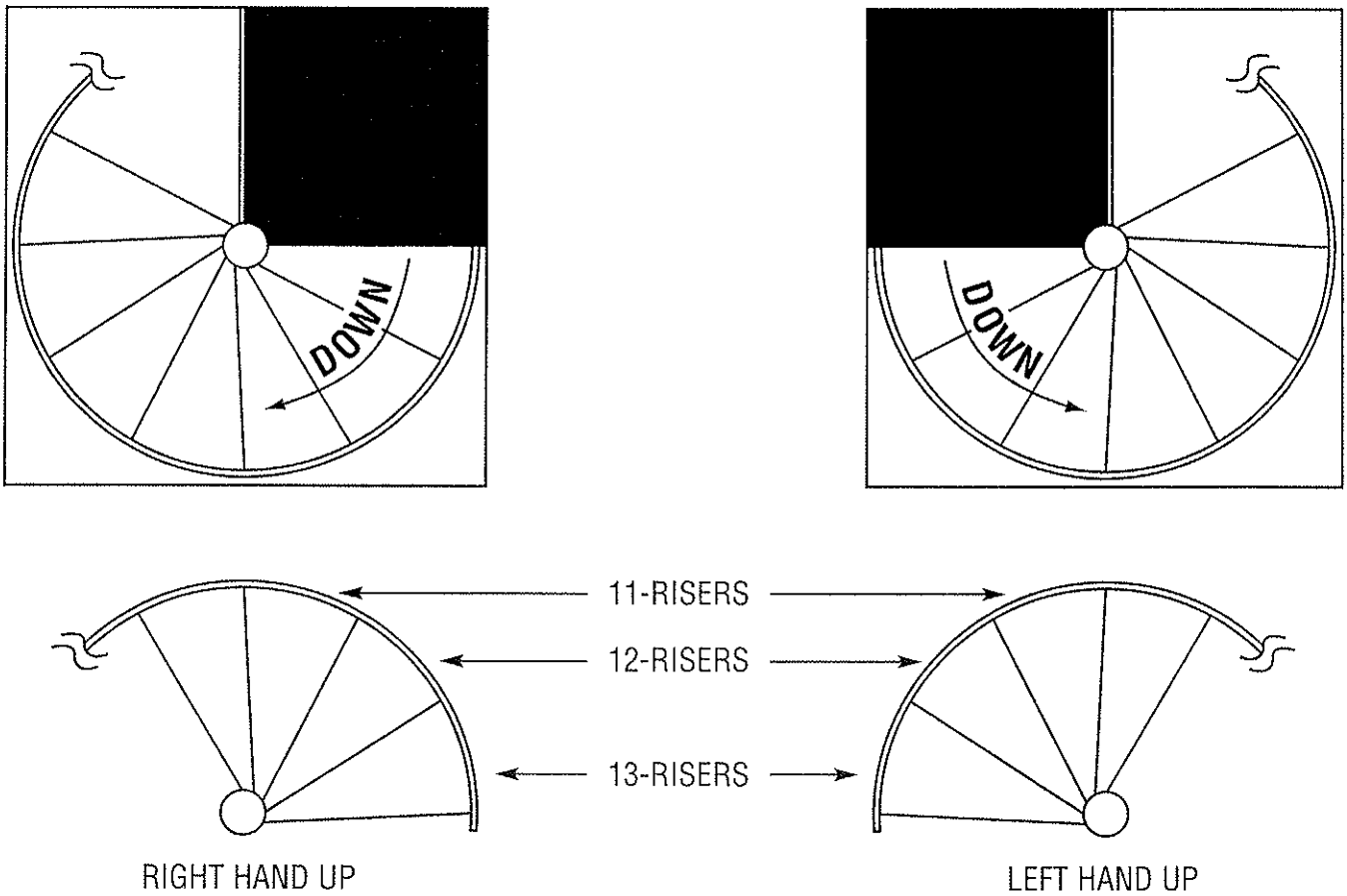
Custom Orders may not be cancelled for a refund after 10 business days from the date of order. Custom orders include, without limitation, any non-standard Stair Kit, multi-story units, Welded Stairs, Aluminum Kits, Oak Kits, Victorian One Kits, well rails of any kind, and any other custom work.

•THE IRON SHOP WILL NOT BE RESPONSIBLE FOR ANY REPAIR WITHOUT PRIOR WRITTEN APPROVAL.

•ALL FREIGHT CHARGES ON EXCHANGES AND RETURNS WILL BE PAID BY THE CUSTOMER.

SPIRAL STAIR KIT LAYOUT

LAYOUT FOR STANDARD 3'-6", 4'-0", 4'-6", 5'-0" CODE, 5'-6" CODE DIAMETER SPIRAL STAIR KITS WITH 90° LANDINGS & 30° TREADS



11-RISER KITS CONTAIN 10-TREADS AND 1-LANDING MAKING A 300° TURN
12-RISER KITS CONTAIN 11-TREADS AND 1-LANDING MAKING A 330° TURN
13-RISER KITS CONTAIN 12-TREADS AND 1-LANDING MAKING A 360° TURN

For a stair with fewer risers, subtract 30° per less riser.
For a stair with additional risers, add 30° per additional riser.

Note: *All Spiral Stair Kits are reversible and can be installed either right or left hand up.*

SPIRAL STAIR KIT (13 RISER) COMPONENTS

ITEMS INCLUDED IN STANDARD HARDWARE BOX

6 - 5/16" x 1 1/2" Lag Screws (fastening center pole & starting post)

6 - 5/16" x 2" Lag Screws (fastening landing)

2 - 1/4" x 2" Lag Screws

26- Hex Head Bolts & Self-Locking Nuts

14 - 3/4" Black Plastic Insert Caps

52 - Cup Point Socket Set Screws

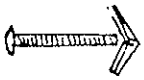
13 - Handrail Brackets & Machine Screws

3 - End Clips for Landing Rail

26 - 1/4" I.D. Black Plastic Thread Protectors

3 - Drive Pins

1 - Hex Key (for cup point socket screws)



13 - Toggle Bolts & Wings (for vinyl handrail only)

3 - Slotted Hex Head Screw

1 - Rubber Center Pole Cap

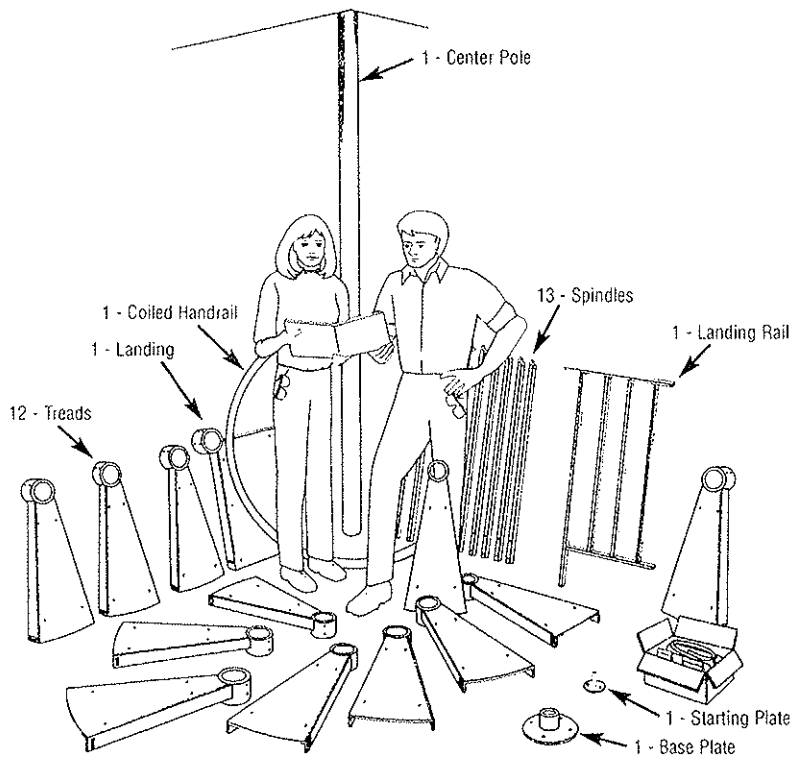
1 - Steel Starting Plate

2 - Rubber End Caps (for Vinyl Handrail)

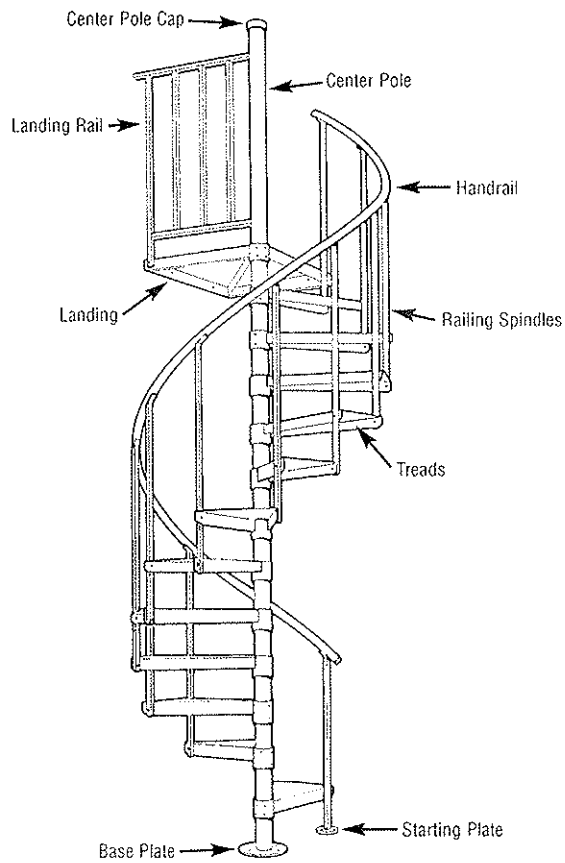
Note: Number of components may differ based on the number of risers ordered.

TOOLS NEEDED FOR INSTALLATION

Safety Goggles
Tape Measure
Level
Plumb Bob
Screwdrivers (Standard & Phillips)
Ladder
Hammer
Hack Saw
Adjustable Wrench
Square Metal File
3/8" Electric Drill
1/8" Drill Bit (Pilot Hole for Vinyl Handrail)
1/4" Drill Bit (Lag into Wood Floor)
3/8" Drill Bit (Toggle Bolt for Vinyl Handrail only)
7/32" Drill Bit (Lag through Landing)
5/32" Drill Bit (Self Tapping Screws)
3/8" Masonry Drill Bit & 3/8" x 1½" Plastic or Fiber Concrete Anchors (If being fastened to concrete floor)
3/16" Drill Bit



Note: Above picture features a 13-Riser standard kit, parts will vary with other heights or models.



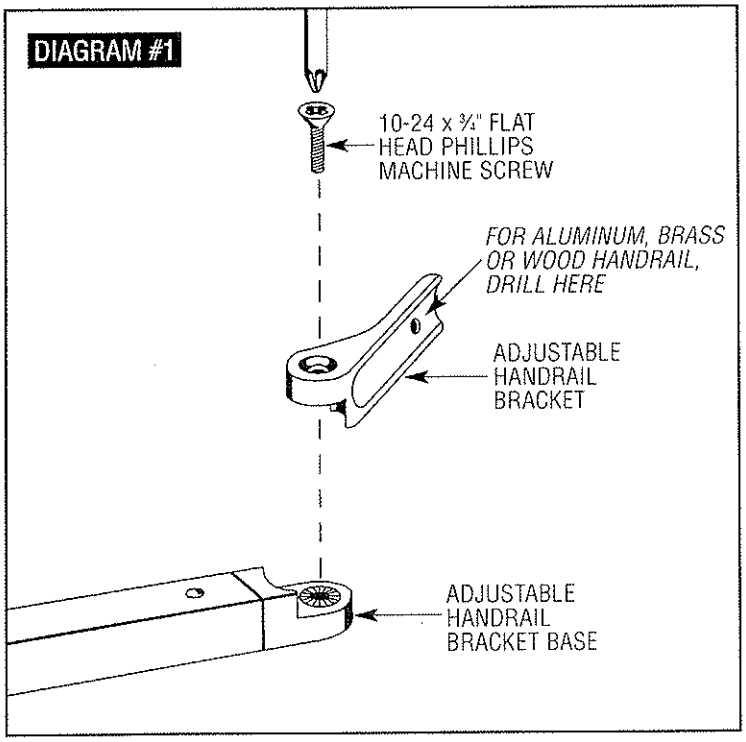
***Note:** If you have purchased accessories, please refer to the applicable instructions to ensure use of proper hardware.*

GETTING STARTED

Note: Assemble the spindles before starting the installation of your Stair Kit.

STEP #1:
Secure the adjustable portion of the handrail brackets to the spindles with the 10-24 x ¾" flat head phillips machine screws. ***SEE DIAGRAM #1***

DIAGRAM #1



STEP #2:
With a hammer gently tap the ¾" square plastic caps into the bottoms of all the spindles with the two 5/16" holes, except for one, this will be your starting post.
SEE DIAGRAM #2 *If you are using the vinyl handrail skip STEP #3.*

STEP #3:
If you will be using the optional aluminum handrail, the hole in the adjustable handrail bracket will need to be enlarged. **Temporarily tighten the adjustable handrail bracket so that it remains stationary during drilling, then drill out the hole with a 5/16" drill bit.**

Note: *When you position the railing spindles during installation make sure the adjustable angle top is facing up the staircase.* ***SEE DIAGRAM #3***

DIAGRAM #2

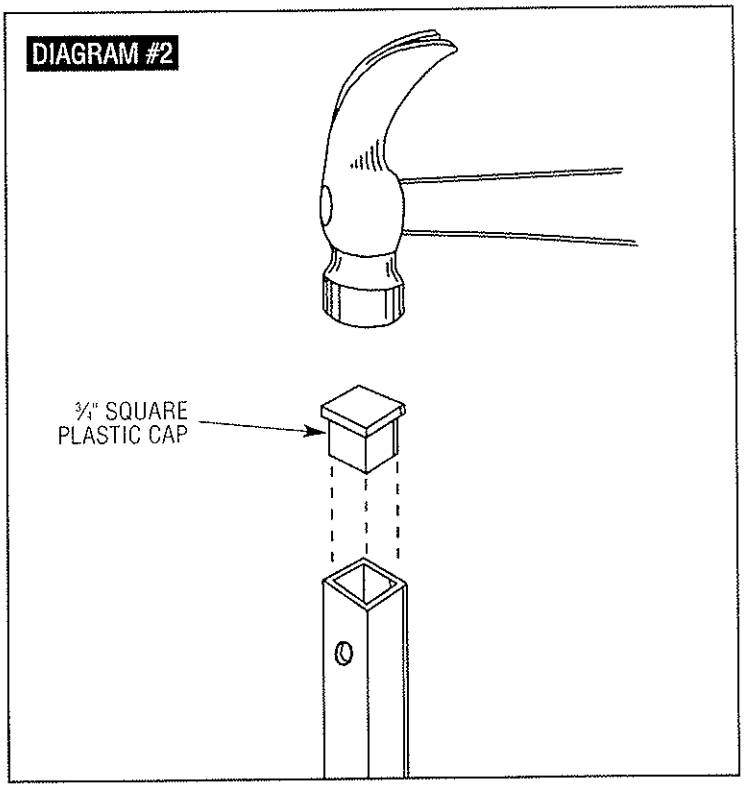
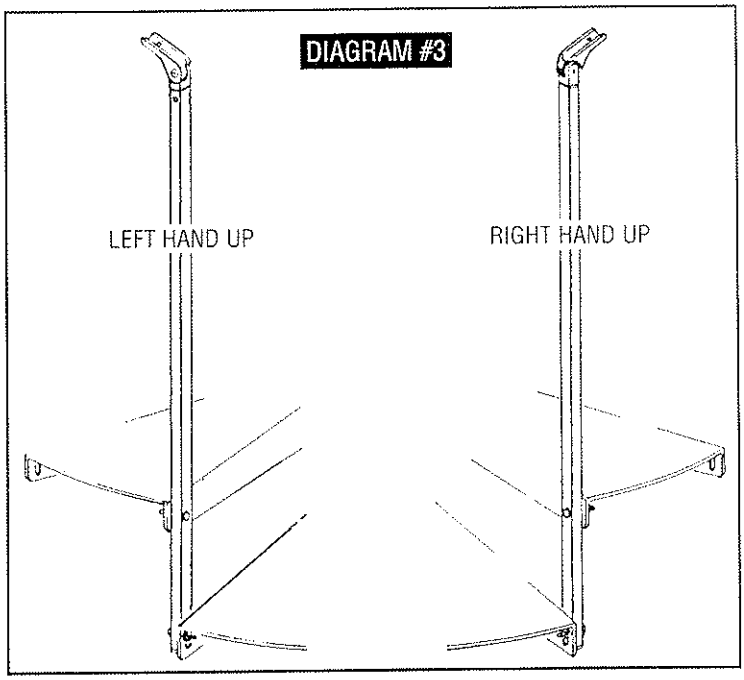


DIAGRAM #3



SPIRAL STAIR KIT ASSEMBLY PROCEDURE

Safety Notice: *All open areas where someone could fall into the well opening or off the loft must be protected. Well railings or some form of barrier should be used. Because of varied conditions and wall locations, it may be necessary to custom fabricate well railings to meet specific requirements. You can order these from us or supply your own railings. Check your local codes for rail heights and spindle spacing. Prohibit use and access of Stair Kit until all steps of installation have been completed. Wear safety goggles during assembly.*

Before starting the installation of your Spiral Stair Kit, please read the instructions to become familiar with all of the components and procedures.

Note: *Spiral Stairs are permitted to use riser heights up to 9½" (under most national building codes) to allow sufficient headroom as you pass under the supplied landing.*

STEP #1:

(A.) Measure the exact floor-to-floor height.

(B.) Divide this height by the number of risers (treads + landing) to obtain the actual riser height. **If you supplied the floor-to-floor height at the time of ordering, the confirmation of your order will note the number of risers that will best fit your floor-to-floor height and at what distance apart the treads should be set.** *A riser is a vertical measurement; it is the distance from the top of one tread to another.*

(C.) Refer to the layout supplied by Spiral Stair Warehouse™ or to the charts on ***PAGE 3*** for your diameter and degree of rotation. Check where the landing and the bottom tread will be located, before beginning assembly.

STEP #2:

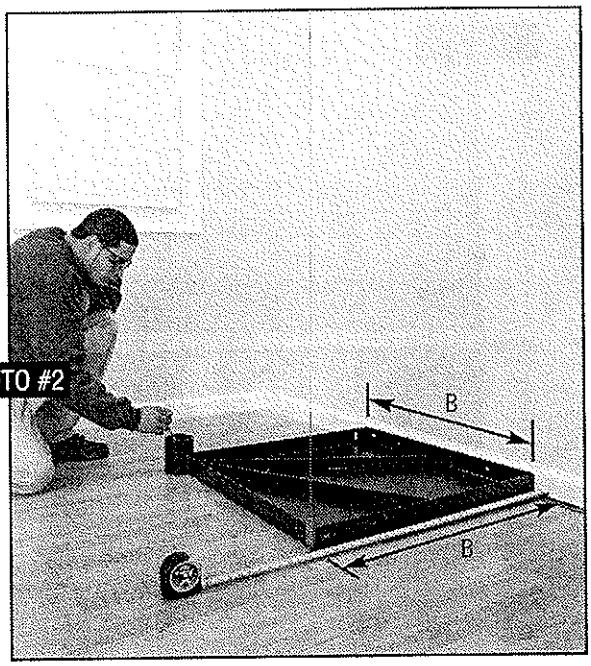
(A.) Use ***CHART #1*** to determine your minimum well opening, size "A". Decide which corner the top landing will fasten to. Measure out from the corner size "B" on each side and mark along the edge of the well. Plumb down from these two marks and mark the floor. Then plumb down from the corner of the opening where the landing will be located and mark the floor. ***SEE PHOTO #2***

(B.) Turn the landing upside down and place it on the floor. Align the outside edges with the three marks on the floor, keeping the collar of the landing in the center of the opening. Trace the inside of the collar on the floor making a circle on the floor. (With some special landings this may not be possible, if you have any questions on placement please call.)

CHART #1

Stair Size	"A" Minimum Finished Well	"B" Center Pole Position
3'-6"	3'-8" x 3'-8"	22"
4'-0"	4'-2" x 4'-2"	25"
4'-6"	4'-8" x 4'-8"	28"
5'-0"	5'-2" x 5'-2"	31"
5'-6"	5'-8" x 5'-8"	34"

PHOTO #2



STEP #3:

Locate the center of the circle that you traced on the floor and connect this point with the two outside plumb marks. Center the base flange over these lines. After marking the hole locations, drill 3/16" pilot holes for wood floors. If the floor is concrete, drill out the holes with a 3/8" masonry bit and insert your concrete anchors into the holes. Secure the base flange with 5/16" x 1½" lag bolts using a ½" wrench. Stand the center pole up and slide the bottom over the internal sleeve of the base flange. **Someone should hold the center pole until steps 3, 4, and 5 are completed.**

SPIRAL STAIR KIT ASSEMBLY PROCEDURE

STEP #4:
Carefully lower all the treads down from the top of the pole and let them rest on the base, stacking one on top of another. Turn the treads so that half are on one side of the pole and half to the other side, to balance the center pole. ***SEE PHOTO #4 & #5***

PHOTO #4

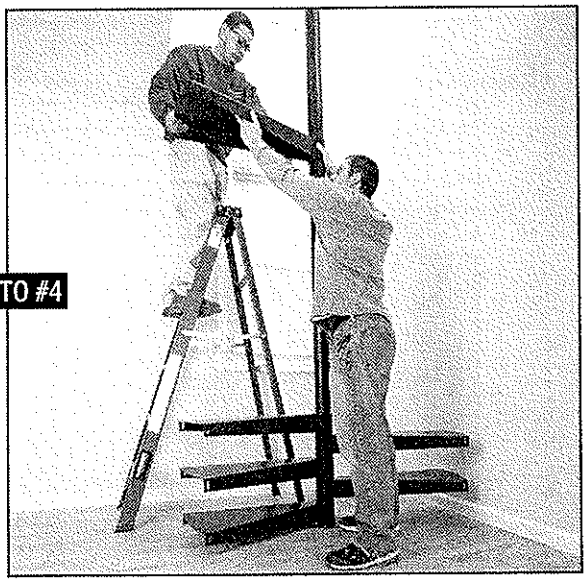
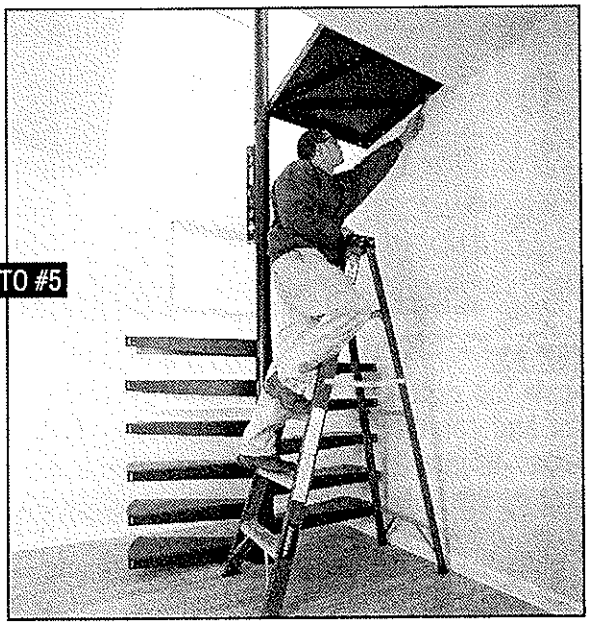


PHOTO #5



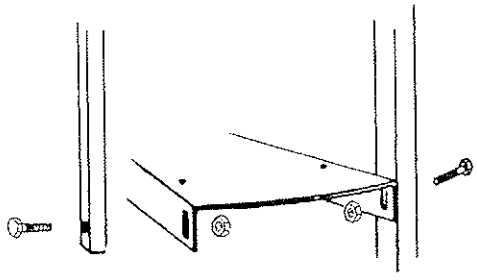
STEP #5:
(A.) Lower the top landing down and set it into your designated corner of the well opening. If wood tread coverings are to be used, set the landing down the thickness of the wood from the finished floor.
(B.) After the landing is leveled in both directions, secure the outer edges of the landing by bolting it with two 2" x ¼" lags through the slots closest to the edge. Then secure the landing with four 2" x 5/16" bolts provided. Check level and tighten the set screws in the landing, starting with the top two set screws. If the stair mounts against a balcony, use the four lag screws on that side. ***SEE PHOTO #5***

STEP #6:
Refer to *PAGE 5* for the spindle assembly procedure if you have not done so already.

Attach the spindles to the treads with the supplied serrated hex flange bolt and lock nut, making sure to locate the lock nut under the tread as shown in ***DIAGRAM #6***. Starting from the landing, bolt the upper hole of the spindle to the slot in the nosing of the landing on the side you will walk down. Make sure the adjustable angle top on the spindle is facing up the staircase.

Tighten the hex head bolt and self-locking nut as shown in ***DIAGRAM #6***, checking to make sure that the spindle is plumb in both directions. Next raise the last tread you lowered down the center pole to correspond with the riser height you determined in ***STEP #1***. Position the tread so that the back nosing touches the front of the spindle. Recheck the riser height from the top of landing to the top of the tread, making sure the tread is level. Tighten set screws, starting with top two. Bolt the lower hole of the spindle to the tread rechecking the spindle for plumb in both directions. Make sure all of the bolts are installed so that the threaded ends are under the tread as shown.

DIAGRAM #6



SPIRAL STAIR KIT ASSEMBLY PROCEDURE

STEP #7:

(A.) Measure down from the top of the spindle to the nose of the tread to determine the height of the spindle above the nosing. **Make sure you maintain this height for all the spindles throughout the assembly procedure.** Repeat the spindle and tread assembly procedure as in ***STEP #6***, this will rotate the treads into their correct position. ***SEE PHOTO #7-A***

(B.) *To determine the height of the bottom spindle take the measurement you were using for the height of the spindle above the treads and add to it the height from the nosing of the bottom tread to the floor. Then take this measurement and subtract 3/8" and mark that distance on the spindle from the top down. Cut off the lower excess with your hacksaw and clean out the inside of the tubing with a square file. Insert the floor flange by tapping it in with a hammer. Bolt this spindle to the bottom tread and secure it to the floor with the two 1½" x 5/16" lag bolts provided.* ***SEE PHOTO #7-B***

IF YOU HAVE AN ALUMINUM HANDRAIL, REFER TO THE APPROPRIATE ASSEMBLY PROCEDURE. IF YOU HAVE A VINYL HANDRAIL CONTINUE WITH *STEP #8.*

PHOTO #7-A

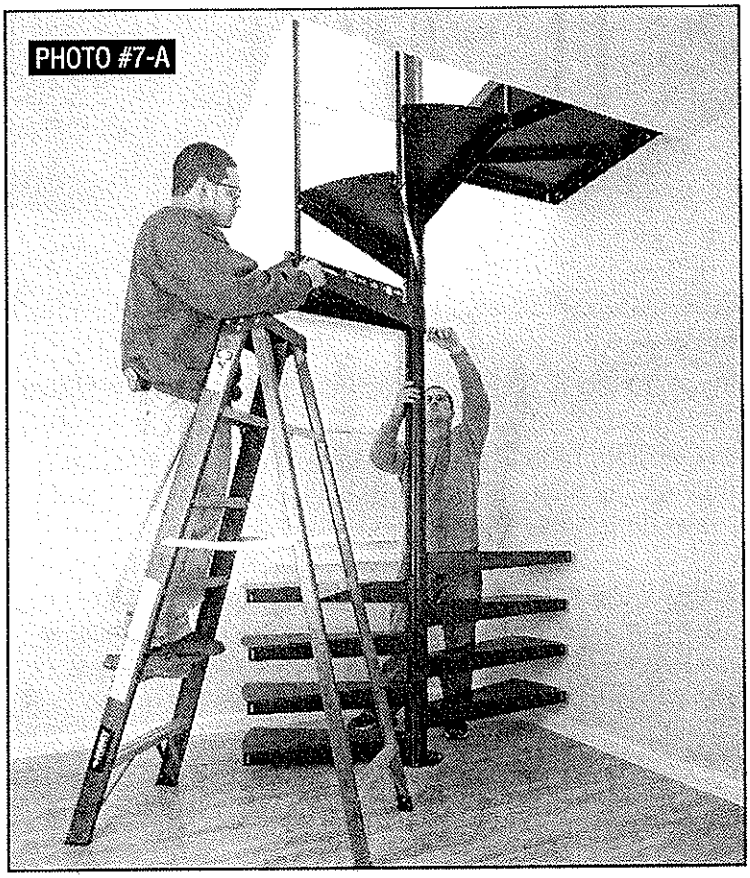


PHOTO #7-B

STEP #8:

(A.) Place the vinyl handrail over the bottom three spindles, adjust and tighten the spindle tops to the correct angle.

(B.) Check the first two spindles for plumb, then allowing a 2" overhang, place the vinyl handrail on the starting post and the first spindles. Drill a 1/8" pilot hole through the spindle clip into the bottom of the handrail, be careful not to drill through the top. Raise the vinyl handrail and enlarge the pilot hole with a 3/8" drill bit.

(C.) Insert the machine screw, from the toggle wing, through the hole in the top of the spindle from below. Screw the toggle wing onto the machine screw just one turn.

(D.) Compress the wings and insert the toggle through the 3/8" hole in the vinyl handrail, so that the wings are in line with the handrail (not crossing).

(E.) The toggle wing will snap open when inserted properly into the vinyl handrail. Tighten the machine screw.

(F.) Follow the same procedure above for the remaining spindles until finished, making sure that all of the spindles remain plumb.

(G.) Allowing another 2" overhang at the top for the vinyl handrail, saw off the excess with a hacksaw and put on the rubber end caps. ***Hint:*** *Soak the rubber end caps in hot water prior to installing on the vinyl handrail, to make installation easier.* ***SEE DIAGRAM #8***

SPIRAL STAIR KIT ASSEMBLY PROCEDURE


DIAGRAM #8

STEP #9:

(A.) To assemble the landing rail insert the end clips so that the top clip is facing down and the bottom clip is facing up. (It may be helpful to file the inside of the ¾" square tube prior to inserting the clips, see ***PAGE 17*** for additional information.) Hammer in the drive pins to secure the clips. Insert the ¾" black plastic cap into the bottom of the landing rail post.

(B.) Fasten the landing rail by bolting its leg to the side of the landing so that there is a 4" space from the underside of the bottom horizontal rail (slotted hole provided). Check for plumb and drill two holes into the center pole with a 5/16" drill bit, secure at the center pole with two self tapping screws so that top of the rail is 36" above the finished floor. ***SEE DIAGRAM #9***

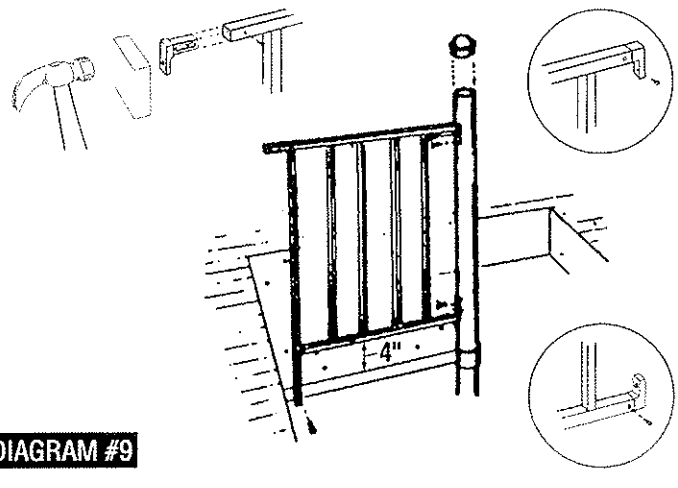


DIAGRAM #9

Note: *When fastening these screws you must use a 5/16" wrench, not a screw driver. Be careful not to over-tighten the screws.*

(C.) Secure the top rail to a wall or post with the end clip provided, or cut off the excess and insert a ¾" black plastic end cap.

STEP #10:

Retighten all set screws and bolts as required. Finish off the center pole by placing the rubber center pole cap on top. ***Hint:*** *Soak the rubber top cap in hot water before installing it to ease installation.*

STEP #11:

Place the protective edging for the bottom edge of the landing directly under the landing rail when provided. Measure the length and cut as required. Tap this lightly into position. ***SEE DIAGRAM #11***

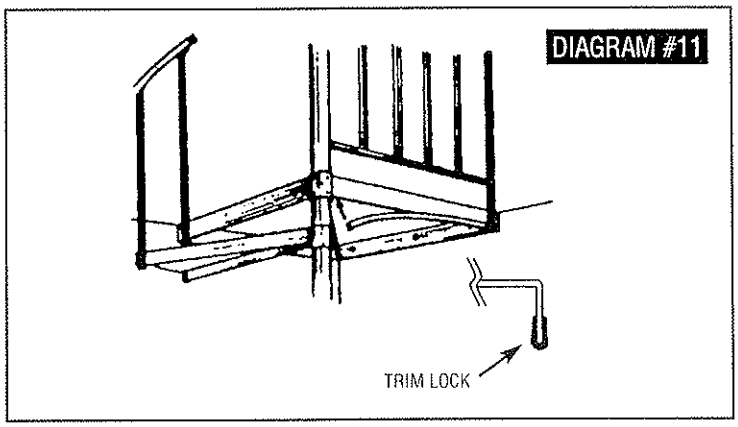


DIAGRAM #11

STEP #12:

Place the black ¼" I.D. plastic thread protectors over the exposed ends of all ¼" bolts. Sand smooth all scratched surfaces and touch up with a black primer as required. Repaint the stairway using an acceptable metal covering paint, do not use latex.

Note: *If the spiral was ordered galvanized, the cast aluminum parts must be painted with a primer suitable for painting over these materials. Consult your local paint dealer for more information.*

ALUMINUM HANDRAIL

ALUMINUM HANDRAIL INSTALLATION PROCEDURE

Note: *The handrail coil has been annealed to remove temper, making it softer and easier to form to the stair. It is necessary to work with the coil on a soft surface such as carpet or cardboard.* ***DO NOT USE ANY TOOLS, CLAMPS OR HAMMERS, AS THEY WILL KINK THE HANDRAIL.***

IF YOUR STAIR HAS IN-BETWEEN SPINDLES, DO NOT INSTALL THEM UNTIL THE HANDRAIL IS INSTALLED.

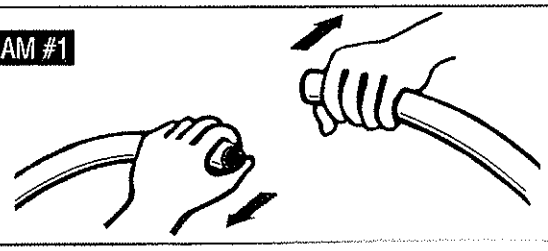
STEP #1:
If you have not done so already, drill out the small hole in the top of all the handrail brackets. ***SEE PAGE 5 FOR INSTRUCTIONS***

STEP #2:
Remove the protective plastic sleeve from the coil. Enlarge the diameter of the coil to 6" larger than the stair diameter, by standing it up on edge and **gently** and **uniformly** pulling it away from the center as someone holds the other side. Continue all around the coil.

STEP #3:
Determine if your stair installation is left or right hand up. (**Left hand up**-when your left hand would hold on to the handrail as you walk up the stairway. **Right hand up**-when your right hand would hold the handrail as you walk up the stairway.)

STEP #4:
If your stairway is left hand up. With the coil standing up on edge (coil ends up) grasp, with your left hand, the end of the coil that allows the thumb of your left hand to be next to the end of the rail. Your helper should face you on the other side of the coil. Your helper should grasp the other end of the rail with their left hand, so that the coil end is next to their left thumb. ***SEE DIAGRAM #1 & PHOTO #3***

DIAGRAM #1



If your stairway is right hand up. With the coil standing up on edge (coil ends up) grasp, with your right hand, the end of the coil that allows the thumb of your right hand to be next to the end of the rail. Your helper should face you on the other side of the coil. Your helper should grasp the other end of the rail with their right hand, so that the coil end is next to their right thumb. ***SEE DIAGRAM #2 & PHOTO #3***

DIAGRAM #2

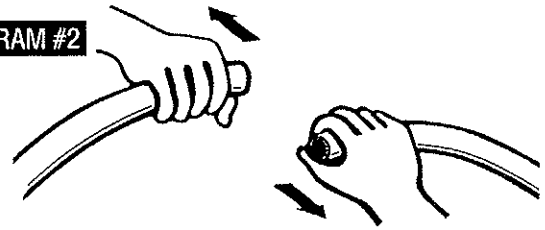
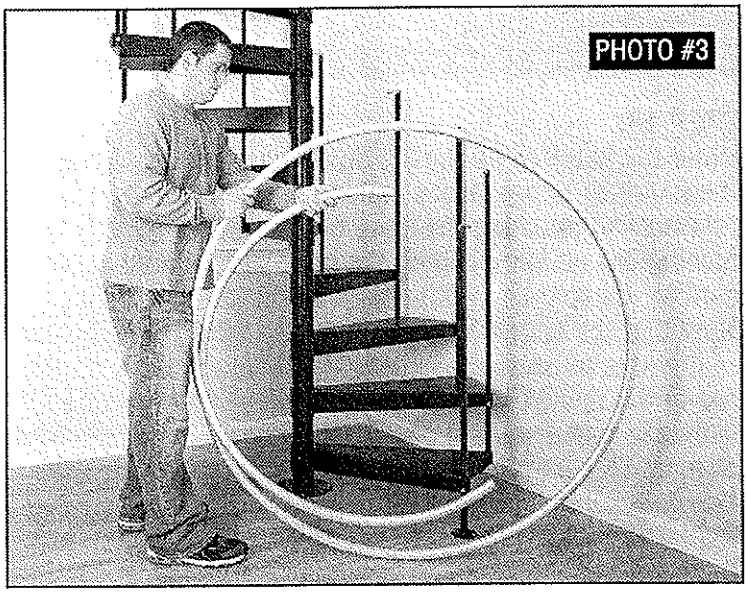


PHOTO #3



STEP #5:
(A.) Walk slowly away from each other, stretching the coil uniformly into a large spring like shape. This is accomplished by pulling outward and upward with the end of the coil. It is important that you do not pull the coil apart at one point only, as this will cause the coil to kink. As you are pulling the coil apart you must also rotate the coil with yourself and your partner walking towards each other meeting at the center of the coil. ***SEE PHOTO #4***

ALUMINUM HANDRAIL


PHOTO #4

STEP #6:
Wind the handrail up the inside of the stairway. Bend the handrail as necessary making sure the handrail is relaxed and touching the nose of each tread. Gently placing the uncoiled rail on the nose of the tread adjacent to the spindle, lift the handrail on to the spindles. Now that the handrail is at the correct pitch, the diameter of it needs to be increased slightly to lie correctly on the top of the spindles. This can be achieved by working from the center up and center down of the handrail. ***Suggestion:*** *use electrical wire ties (not supplied) and secure each spindle bracket to the handrail as you work.* Mark the center of the handrail and lay it on the top of the center spindle making sure that there is an equal amount of overlap at the top and the bottom of the stair. ***SEE PHOTO #5 & #6***

Suggestion: *Fitting will be easier, if you are at the middle, a helper is at the top and another helper is at the bottom.*

Check the handrail for fit on the staircase and repeat the above procedure until the handrail fits reasonably well. Remember that as you attach the railing to the staircase in the following steps, you can move the coil the additional amount necessary for a proper fit.

Note: *In-Between Spindles are installed after the handrail is fastened to the main spindles.*

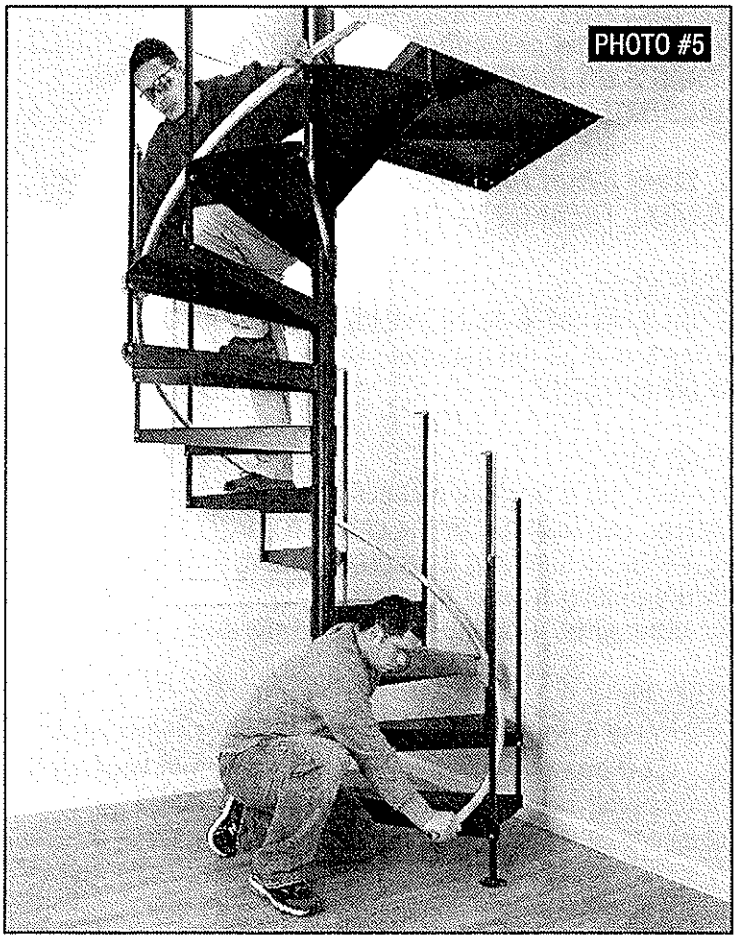


PHOTO #5

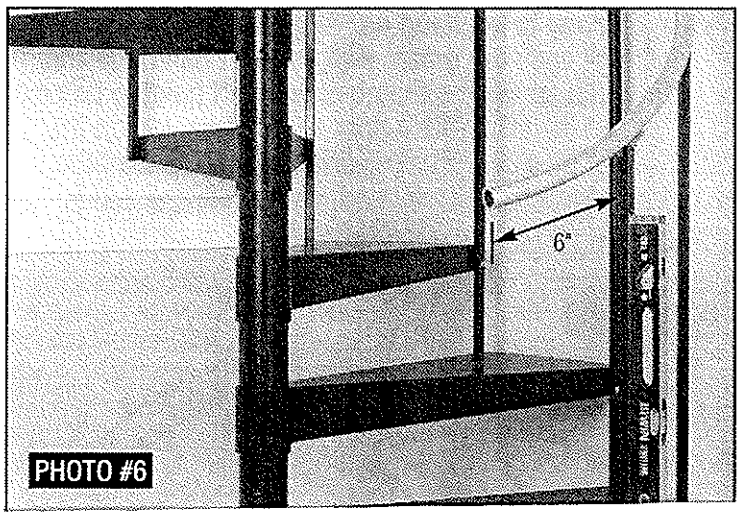


PHOTO #6

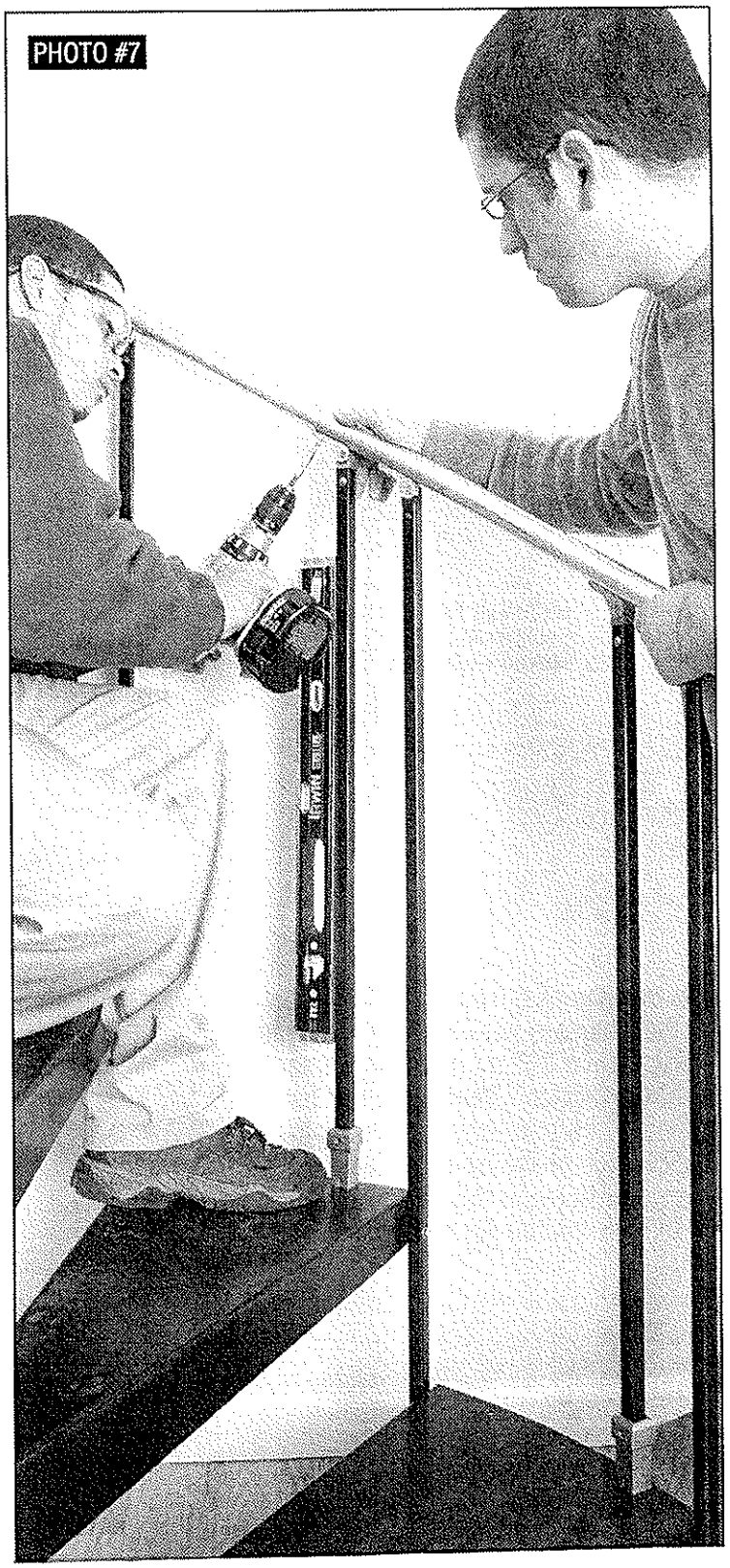
ALUMINUM HANDRAIL

STEP #7:
Set your 9/64" drill bit into the chuck, so that it protrudes by only one inch. (This will prevent the drill bit from denting or cutting through the top of the handrail during the drilling.) Drill a 9/64" pilot hole through the underside of the handrail only, using the bracket hole in the top spindle as your drill bit guide, making sure to drill at a 90° angle to the handrail. Check that the spindle is plumb and secure it to the handrail with a #10 x 3/4" pan head sheet metal screw. ***SEE PHOTO #7***

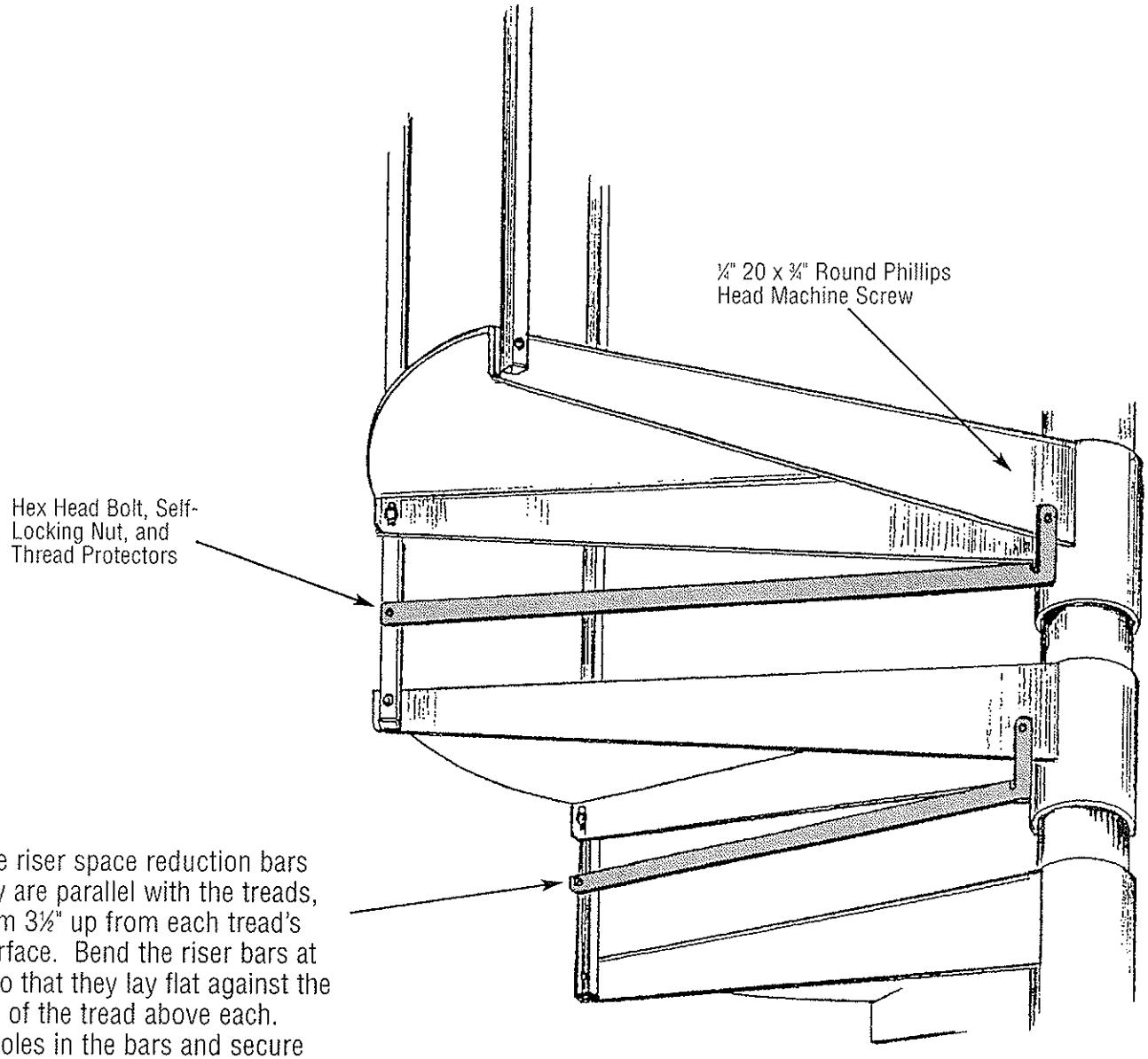
STEP #8:
Position the rail over the second and third spindles and secure using the same procedure as in ***STEP #7***, making sure that the spindles remain plumb. It may be necessary to move the handrail to seat the railing into each spindle bracket. This can best be done by moving several steps down and using leverage while your assistant holds the completed area in place. **Keep checking that the spindles remain plumb during the forming process.** Repeat this procedure for the remaining spindles.

STEP #9:
Using your hacksaw, cut off the excess aluminum handrail at the top and bottom so that it protrudes 2" past the spindle. *(When using scroll handrail ends, cut at 5" past the spindle top & bottom.)* Insert the end caps into both ends of the rail. We recommend the use of an epoxy to hold the end caps in place.

STEP #10:
Satin finish the handrail by vigorously rubbing in the direction of the handrail with fine emery paper, steel wool, or nylon scrubbing pads. Your brass or aluminum polish can be used for a finished luster.



RISER SPACE REDUCTION BAR

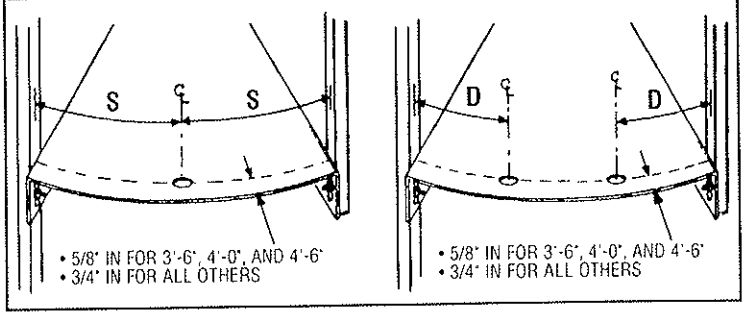


Position the riser space reduction bars so that they are parallel with the treads, leaving them 3½" up from each tread's finished surface. Bend the riser bars at the notch so that they lay flat against the back flange of the tread above each. Then drill holes in the bars and secure them with the hardware supplied.

IN-BETWEEN SPINDLES

IN-BETWEEN SPINDLE INSTALLATION PROCEDURE

CHART #1	3'-6"	4'-0"	4'-6"
SINGLE (S)	5 1/16"	5 1/8"	6 5/8"
DOUBLE (D)	3 1/4"	3 13/16"	4 5/16"



Note: *The following procedure is done only after the stair kit and handrail have been installed.*

STEP #1:
Triple in-between spindles are included with the Code design stair kits. The holes for the triple in-between spindles, for these spiral stair kits, have been provided in the metal treads. **If you have one of the above stair kits proceed to *STEP #5*, otherwise continue with *STEP #2*.**

STEP #2:
Single, double, or triple holes are required depending on how many optional in-between spindles were ordered. Drill ¼" diameter holes through each tread. ***SEE CHART #1***

STEP #3:
If your kit has double in-between spindles proceed to *STEP #4*. For kits with single in-between spindles, a middle length, ***SEE DIAGRAM #1***, spindle is supplied for this installation. **PROCEED TO *STEP #6***

STEP #4:
For kits with double in-between spindles, two different length spindles are supplied. The shortest is the front and the longest is the back spindle ***SEE DIAGRAM #1.*** Depending on your riser height, it may be necessary to trim the bottom of the back spindle to adjust the height. If so cut off approximately ¾" of the bottom of the back spindle only, with a hacksaw. **PROCEED TO *STEP #6***

STEP #5:
For triple in-between spindle installation the spindles have been pre-cut to three different lengths. The shortest spindle is the front spindle, the next longer is the middle, and the longest is the back.
SEE DIAGRAM #1

STEP #6:
Attach the top railing brackets to the spindle body. If your stair kit has an aluminum, brass, or solid oak handrail, enlarge the hole in the adjustable bracket, as was done in the handrail installation procedure, using a 7/32" drill bit. Make sure to tighten the brackets temporar-

IN-BETWEEN SPINDLES

ily before attempting to drill them out, to prevent injury.

STEP #7:

Starting with the front spindle (or middle spindle for single in-between installations), slide the base collar up the bottom of the spindle with the top securing hole facing in towards the center pole. Position the spindle over the front hole, and secure from the underside of the tread with a ¼" 20 x ¾" round head phillips machine screw. Adjust the angle of the railing bracket and raise or lower the spindle while holding your level along with the spindle until it is plumb and the handrail bracket conforms to the bottom of the handrail. Drill a hole in the bottom of the handrail and secure the same as your standard spindles. Using a 5/16" set screw in the base collar's top securing hole, tighten to fasten the spindle. ***SEE DIAGRAM #2*** Continue the same procedure for the remaining in-between spindles. ***SEE DIAGRAM #1***

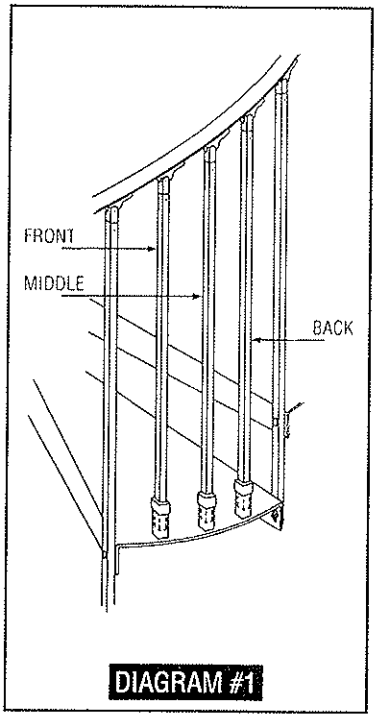


DIAGRAM #1

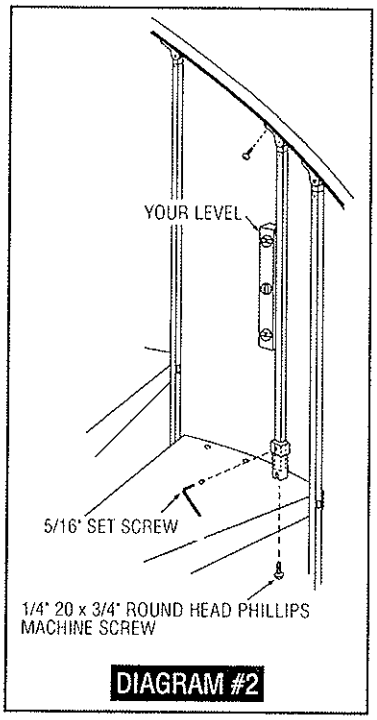


DIAGRAM #2

STEP #8:

FOR EXTERIOR AND GALVANIZED INSTALLATIONS ONLY:

For areas subject to frost, a weep hole is provided in the base collar to prevent water from accumulating and freezing in the collar. **It is also suggested that you caulk around the top of the collar with a silicon caulk available at your local hardware store.** When installing the stair outside, the weep hole should face away from the stair.

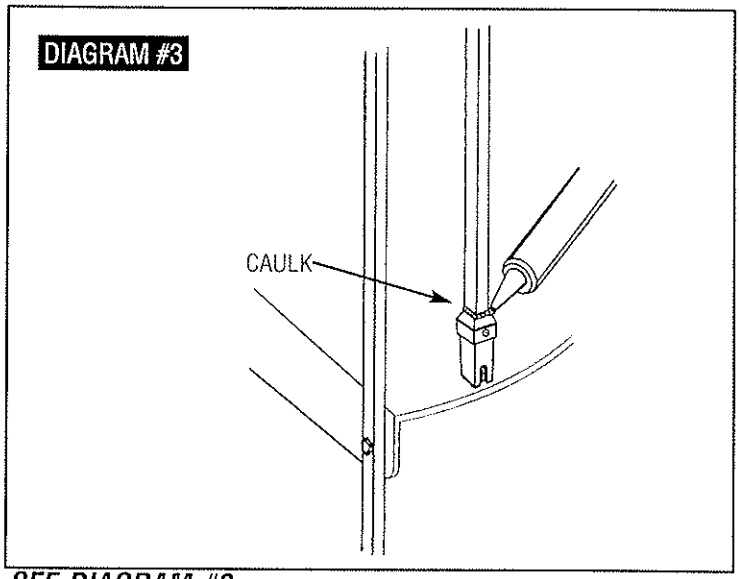


DIAGRAM #3

SEE DIAGRAM #3

NOTE: *Some galvanized spindles may require filing or sanding at the bottom few inches to fit deep enough into the base collars.*

BALCONY CONDITION RAILING INSTALLATION PROCEDURE

BALCONY CONDITION RAILING INSTALLATION PROCEDURE

STEP #1:
Align the rear leg of the balcony rail with the rear leg of the landing rail.

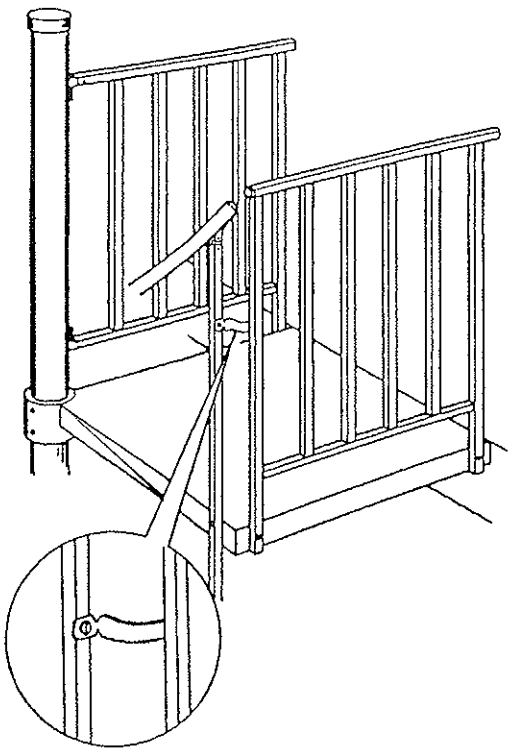
STEP #2:
Mount the balcony rail to the side of the landing with the ¼"-20 x 1¼" bolts, nuts, and lock washers provided. You may have to drill additional 5/16" holes in the landing.

STEP #3:
You must bend the balcony rail bracket to fit your balcony rail. The bracket mounts on the outside of the uppermost stair spindle and on the inside of the front leg of the balcony rail, approximately 10" below the top of the handrail of the stair. You can easily bend the bracket with pliers or vise grips.

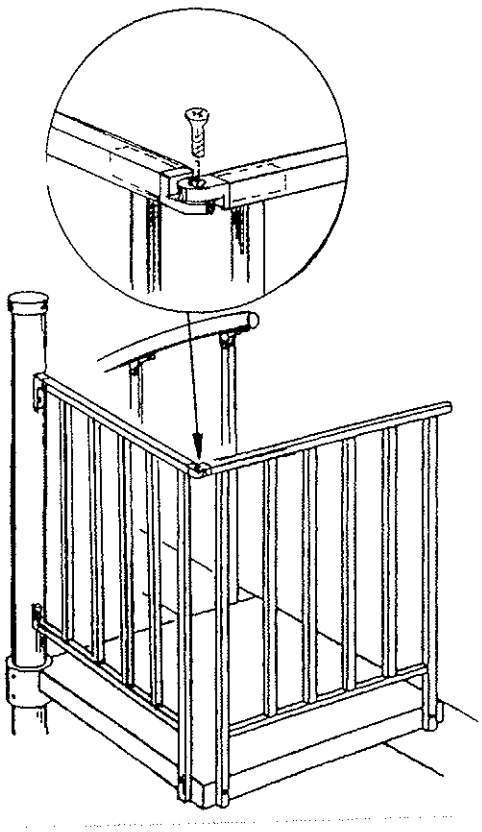
STEP #4:
It may be necessary to trim the bracket so that it does not extend beyond the front leg of the balcony rail. This can be done with a hacksaw.

STEP #5:
Drill a 5/32" hole in the uppermost stair spindle and on the balcony rail leg as required. Attach the bracket to the uppermost stair spindle and balcony rail leg with the self tapping screws provided.

OPTION 1



OPTION 2



WELL RAIL

WELL RAIL ASSEMBLY PROCEDURE

STEP #1:
Insert the rail brackets into the ends of the top and bottom rails. (It may be helpful to file the inside of the ¾" square tube prior to inserting the clips.) Lay the end of the railing flat on a block of wood with the side hole facing up, and tap the drive pins in. Use a wood block to drive the fitting into the rail ends. ***SEE DIAGRAM 1***

STEP #2:
Layout the post locations along with the lengths of railings so that the center of the post is 2½" away from the edge of the well opening, or balcony. On corners, be sure the post is centered 2½" from both edges. Bolt the post to the floor with the 1½" x 5/16" lag screws supplied. ***SEE DIAGRAM 2***

STEP #3:
Position the railing between the posts or between the post and the wall (depending on your conditions), holding the bottom rail slightly less than 4" above the floor. Mark and drill 5/32" round holes into the post. Secure the rail with the #12 hex head self tapping screws provided.

STEP #4:
Attach the landing rail and the balcony landing rail to the posts, if ordered, or wall (depending on conditions), with a rail bracket. It may be necessary to trim the end of the top rail when installing it against a wall or post that is flush with the landing. Measure how much of the rail has to be cut off allowing an additional ½" for each rail bracket. Mark and cut the rail using a hacksaw with a metal cutting blade. Drill a new 5/32" round hole in the side of the top rail ⅞" back from the cut, for the drive pin. Tap the pin in with a hammer while holding a block of wood against the other side, as done in ***STEP #1.***

DIAGRAM 1

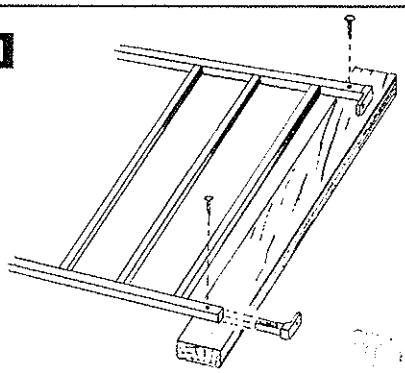
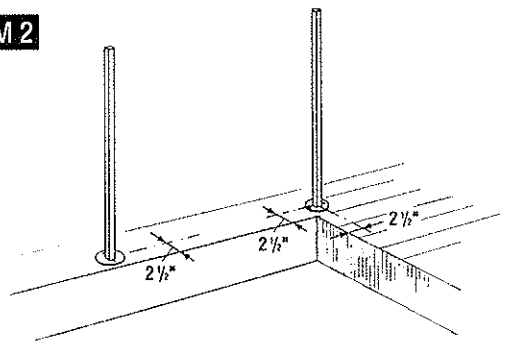
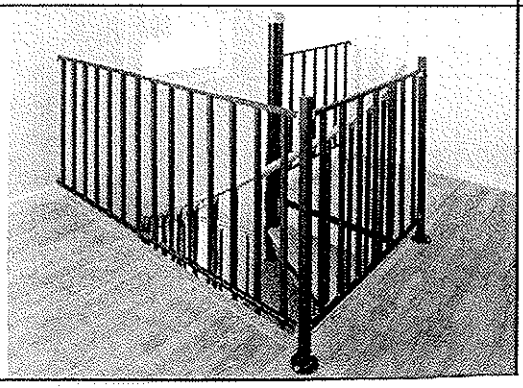
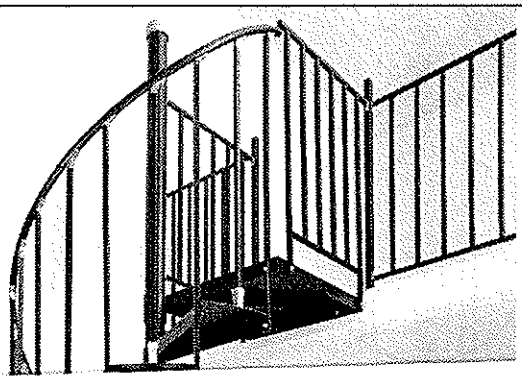


DIAGRAM 2



OPTIONAL WELL RAIL INSTALLATION





OPTIONAL BALCONY LANDING RAIL INSTALLATION

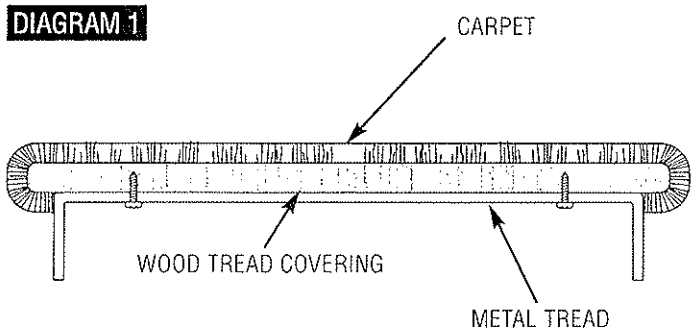
OAK TREADS

OAK TREAD AND LANDING COVERINGS

Warning: *Do not walk on the wood treads until permanently secured to the metal treads.*

Warning: *If you will be carpeting the tread or landing coverings (oak or cutting your own) you must secure the covering to the metal surface before carpeting is installed. Never place carpet between the wood and metal surfaces.* ***SEE DIAGRAM 1***

DIAGRAM 1



Note: *To prevent warpage and cracking of the oak coverings, the treads and landing must be finished within THIRTY DAYS of receipt with at least two complete coats of a quality polyurethane. The treads and landing need to be finished prior to installation onto the stair kit.*

STEP #1:
Position the wood treads so that there is an equal amount of overhang front and back. The circular notch of the tread should be ¼" from the center pole and the outside edge should be inside the railing spindles, this will leave approximately 1" of the metal tread exposed for the installation of the optional in-between spindles.

STEP #2:
Mark from the underside of the metal tread the location of the holes on the tread covering. Remove the tread and drill ⅛" pilot holes ⅝" deep.

STEP #3:
Reposition the wood treads, then using the #10 x ¾" screws, secure into place.

STEP #4:
Position the wood landing so that it is tight against the sides of the well opening, allowing an equal amount of overhang on the two sides adjacent to the center pole. If you have a balcony condition hold the landing tight to the balcony and balcony rail.

STEP #5:
Mark the landing at the top spindle and landing rail location and notch as required.

STEP #6:
Mark from the underside of the metal landing the location of the holes on the landing covering. Remove the landing and drill 5/32" pilot holes ⅝" deep.

STEP #7:
Reposition the wood landing in place, then using the #10 x ¾" screws secure into place.

STEP #8:
Resecure the top spindle and the landing rail as required.