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GUARANTEE & SAFETY

GUARANTEE
The Iron Shop guarantees the Metal Floating Straight Stair Kit against defective material and workmanship for a period of one year from the date of purchase. 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 was abused or not maintained by the customer.

- 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.

- **WARNING: NEVER RUN CARPET UNDER WOODEN TREADS. WOOD TREADS MUST BE ATTACHED DIRECTLY TO METAL SUB-TREADS.**

- Read the instructions through thoroughly before starting the installation. Wear safety goggles and gloves during assembly.

- Prohibit use and access of the stair from the top and the bottom until the entire installation is complete. Protect all open sides of the well opening, or edge of the balcony or loft, with railings or partition walls to prevent anyone from falling into the stairwell. Do not stand or walk on the stair until the entire installation of the stair has been completed.

- Some hardware may vary slightly from description due to manufacturing variations. This will not affect assembly.

- If you have installed the Alternate Tread Design Metal Floating Stair Kit without any tread coverings, you can coat the tread surface with a mixture of 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.

- Stairs with a hot dipped galvanized finish are highly recommended for salt water environments.

- If your stair was supplied with a primer finish, it should 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.

Following these guidelines will provide you with many years of use and enjoyment of your Metal Floating Straight Stair Kit. Failure to do so will void your guarantee. If you have any questions please do not hesitate to call us. See the front cover for our toll-free phone numbers.
STANDARD FLOATING STAIR COMPONENTS

- Plastic end cap
- Header plate
- 1¼" square steel handrail
- Well bracket
- Top locking sleeve
- Steel tread support
- Center support
- Plastic end cap
- Standard locking sleeve
- Wood treads
- Bottom locking sleeve
- Base plate

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The Leading Manufacturer of Spiral Stair Kits®
STANDARD FLOATING STAIR COMPONENTS

- **Base Plate**
- **Center Support**
- **Header Plate**

Tools Needed for Assembly:
- **Tape Measure**
- **Level**
- **Screwdriver**
- **Ladder**
- **Hammer**
- **Hacksaw**
- **Adjustable Wrench**
- **Electric Drill (3/8")**
- **5/32" Drill Bit**
- **7/32" Drill Bit**

Hardware:
- **6 - 5/16" x 3" Lag Bolts** (Fastens Header Plate)
- **4 - 5/16" x 1
 1/2" Lag Bolts** (Fastens Base Plate)
- **4 - Lead Core "Rawl" Plugs & 3/4" Masonry Drill Bit** (Needed for Concrete Floors)
- **3/4" x 5/8" Hex Head Bolts, Lock Washers, Nuts and Snubbers** (Fastens Locking Sleeve to Tread Support)
- **#10 x 3/4" Pan Head Screws** (Fastens Wood Treads)
- **#10 x 1" Flat Head Screws** (Fastens Spindles)
- **#12 x 3/4" Hex Head Slotted Self Tapping Screws** (Fastens Posts and Spindles to Metal Handrail)
- **1 - Well Bracket Including Hardware** (Fastens Handrail to Well Framing)
- **2 - 1/2" Wrenches**
STANDARD FLOATING STAIR ASSEMBLY PROCEDURE

**Note:** The following instructions are for Standard Floating Stair Kits only. Special order and non-standard stairs may require alterations. Call the location where the stair was purchased with any questions regarding your installation.

**STEP #1 - Center Support Tube:**

(A.) Insert base plate and top header plate into the ends of the center support tube, making sure they are facing the correct direction as per the illustration on page 3. Mark the centerline of your well opening at the top. Then measure 9" to each side of the centerline and draw a plumb line. Raise the rear of the structural center support and bolt the top header plate to the well opening, keeping the top of the plate 1" down from the finished floor, drill \( \frac{7}{32}'' \) pilot holes and secure with the six \( \frac{5}{16}'' \times 3'' \) lag bolts supplied. **SEE DIAGRAM 1**

(B.) Align the center support so it is parallel to the well opening or adjacent wall. Bolt the base plate to the floor by drilling \( \frac{7}{16}'' \) pilot holes and securing with four \( \frac{7}{8}'' \times 1 \frac{1}{2}'' \) lag bolts supplied.

**Concrete Floors:** When fastening the base plate to concrete, drill holes into the concrete with a \( \frac{7}{8}'' \) masonry drill bit. Set lead core “rawl” plug into the holes then bolt the base plate down to the floor with the four \( \frac{7}{8}'' \times 1 \frac{1}{2}'' \) lag bolts supplied.

<table>
<thead>
<tr>
<th>FLOOR-TO-FLOOR HEIGHT</th>
<th>RISER CHART</th>
<th>STAIR PROJECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series 42</td>
<td>Series 45</td>
<td></td>
</tr>
</tbody>
</table>

**STEP #2 - Riser Height & Bottom Tread:**

(A.) Using your floor-to-floor height refer to the RISER CHART to obtain your riser height. If your riser height is not shown on the chart, simply take your floor-to-floor height and divide it by your number of risers (treads + 1).

(B.) Set the bottom locking sleeve (the one with the notched bottom) and tread support at your pre-determined riser height minus 1", allowing for the thickness of the wood tread covering. **SEE DIAGRAM 2**

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**Diagram 1**

- **Diagram 1**
- **Diagram 2**

**Note:** It is important to hold the base plate down to the floor while positioning the header plate to prevent it from falling. We recommend that one person holds the base plate, while two people lift the center support into position.
**STEP #3 - Tread Supports:**
Using the following procedure, attach the remaining steel tread supports with the standard locking sleeves, at your pre-determined riser height. **SEE DIAGRAM 3**

(A.) Slide the locking sleeve up from the underside of the center support.
(B.) Place the steel tread support on top and align the holes.
(C.) From below insert four $\frac{3}{16}$" x $\frac{3}{8}$" hex head steel bolts.
(D.) Place a lock washer and hex nut over the bolt, then finger tighten.
(E.) Set your exact riser height.
(F.) Using the two supplied wrenches, tighten the two top bolts first, then tighten the two lower bolts.
(G.) Work with a level to keep the tread supports aligned and level.

**STEP #4 - Top Tread Support:**
Attach the top steel tread support at your riser height, less the thickness of the wood, using the top locking sleeve. **SEE DIAGRAM 4**

**STEP #5 - Wood Treads:**
(A.) Position the required wood treads so that the bottom back edge touches the center support. Center the width so there is an equal overhang on each side of the steel tread support. **SEE DIAGRAM 5**

(B.) Fasten the wood in place with six $\frac{3}{4}$" pan head screws from below by marking and drilling six $\frac{7}{8}$" pilot holes approximately $\frac{3}{4}$" deep into the wood.

**Hint:** If you will be staining or sealing the treads this should be done before their installation.

**WARNING:** Never place carpet between the wood and metal surfaces. To prevent warping and cracking of our oak tread coverings they must be finished within 30 days of receipt with at least two complete coats of polyurethane. The oak treads should be finished prior to installation.

**STEP #6 - Optional Railing:**
(A.) Set the top and bottom 1" square steel spindle a minimum of 2½" in from the side of the step and center on the tread depth. Drill $\frac{7}{8}$" pilot holes $\frac{1}{4}$" deep into the
wood treads and secure with #10 x 1” flat head wood screws. Make sure the top handrail clips face up the stair and are parallel to the center support. Shim if necessary to make the spindles plumb. **SEE DIAGRAM 6**

**DIAGRAM 6**

(B.) Place the handrail on top of the top and bottom spindles so that the top end is at least 4” past the top spindle. Allowing approximately 4” of overhang beyond the bottom spindle, mark the handrail and make a perpendicular cut with a hacksaw. Plug the ends of the handrail with the two 1¼” square black plastic end caps provided.

(C.) Bolt the handrail to the top and bottom spindles using the #12 x ¾” hex head slotted self-tapping screws. Drill holes into the steel handrail with a ⅜” drill bit. A socket wrench will ease the installation of the screws.

(D.) Position all of the spindles so that their base plates are centered 2½” in from the ends and their top plates touch the underside of the handrail. Secure the tops and bottoms making sure the spindles are plumb.

(E.) To make the railing even more stable install the well bracket to the underside of the handrail and against the side of the adjacent well opening. Bend to the desired length and fasten with one #12 x ¾” hex head slotted self tapping screw into the steel handrail and one ⅝” x 1½” lag bolt into the wood of the well framing. **SEE DIAGRAM 7**

**STEP #7 - Finishing:**

(A.) Touch up the stair with an oil based primer, then repaint the stair in your desired color using an oil based enamel paint. **DO NOT USE A LATEX WATER BASED PAINT.**

(B.) The stair’s nuts and bolts should be inspected annually for tightness. Tighten if necessary.
ALTERNATE TREAD DESIGN STAIR COMPONENTS

BASE PLATE
CENTER SUPPORT
HEADER PLATE

BOTTOM TREAD
STANDARD TREADS
TOP TREAD

6 - ⅜" x 2" LAG BOLTS
(FASTENS HEADER PLATE)

6 - ⅜" x 1½" LAG BOLTS
(FASTENS BASE PLATE)

6 - LEAD CORE “RAWL” PLUGS &
⅜" MASONRY DRILL BIT
(NEEDED FOR CONCRETE FLOORS)

⅜" x 1½" HEX HEAD BOLTS, LOCK
WASHERS, NUTS, AND SNUBBERS
(ATTACHES SPINDLES TO TREADS)

#10 x ¾" PAN HEAD SCREWS
(FASTENS WOOD TREADS)

CUP POINT SOCKET SET SCREWS
(FASTENS TREADS AND
SPINDLES TO BASE COLLARS)

#12 x ⅜" HEX HEAD SLOTTED SELF
TAPPING SCREWS
(FASTENS SPINDLES TO HANDRAIL)

10/24 x ⅜" FLAT HEAD PHILLIPS
MACHINE SCREWS
(FASTENS SPINDLE HEADS)

1 - WELL BRACKET INCLUDING
HARDWARE
(FASTENS HANDRAIL TO WELL
FRAMING)

1 - HEX KEY
(FOR CUP POINT SOCKET SET
SCREWS)

⅛" 20 x ⅜" ROUND HEAD PHILLIPS
MACHINE SCREW
(FOR SPINDLE BASE COLLARS)

TOOLS NEEDED FOR ASSEMBLY:
• RULER
• LEVEL
• SCREW DRIVER
• LADDER
• HAMMER
• HACKSAW
• ADJUSTABLE WRENCH
• ELECTRIC DRILL (⅜"
• ⅛" DRILL BIT
• ⅜" DRILL BIT
• ⅜" DRILL BIT
• ⅜" DRILL BIT

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Note: The following instructions are for the Alternate Tread Design Floating Stairs only. Special order and non-standard stairs may require alterations. Call the location where the stair was purchased with any questions regarding your installation.

STEP #1 - Center Support Tube:
(A.) Insert the base plate into the end of the center support tube. Locate and slide the bottom tread onto the center tube, then slide all of the standard treads onto the center support tube. Next, slide the top tread onto the center support and insert the top header plate into the end of the center support tube. Mark the centerline of your well opening at the top. Then measure 9” to each side of the centerline and draw a plumb line. Measure down from the upper finished floor 1” and draw a level line. Carefully slide all of the treads to the bottom of the center support tube. Raise the stair up to the well opening and bolt the top header plate to it making sure to keep the top plate 1” down from the finished floor, drill ⅞” pilot holes and secure with the six ⅜” x 3” long lag bolts supplied. SEE DIAGRAM 1

(B.) Align the center support so it is parallel to the well opening or adjacent wall. Bolt the base plate to the floor by drilling ⅞” pilot holes and securing with four ⅜” x 1½” lag bolts supplied.

STEP #2 - Riser Height & Treads:
(A.) Using your floor-to-floor height refer to the RISER CHART to obtain your riser height. If your riser height is not shown on the chart simply take your floor-to-floor height and divide it by your number of risers (treads + 1).

(B.) Measure down from your finished floor-to-floor height (add the thickness of any finished wood tread covering you are using to the top metal tread only.) Tighten the top tread in place using four of the provided set screws. Make sure the tread is level both front to back, as well as side to side. SEE DIAGRAM 2

<table>
<thead>
<tr>
<th>FLOOR-TO-FLOOR HEIGHT</th>
<th>RISERS</th>
<th>RISER HEIGHT SERIES 42</th>
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<td>7'18&quot;</td>
<td>12</td>
<td>8 ⅛&quot;</td>
<td>90°</td>
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</tbody>
</table>

See Diagram 1
STEP #3 - Remaining Treads:
Attach the remaining treads following the same procedure, checking riser height between each tread. Once again, make sure the tread is level in both directions. *SEE DIAGRAM 3*

STEP #4 - Optional Spindles and Handrail:
(A.) Secure the adjustable portion of the handrail brackets to the spindles with the 10-24 x 3/4" flat head phillips machine screws. *SEE DIAGRAM 4*

*Note: The Alternate Tread Design Kit requires a spindle kit and handrail on at least on side of the stair.*

(B.) Drill out the hole at the top of the adjustable handrail bracket with a 7/32" drill bit to accommodate the #10 x 3/4" pan head screws that will attach it to the handrail. Make sure to tighten the spindle head, making it secure for drilling. *SEE DIAGRAM 4*

(C.) Begin the spindle installation at the bottom of the stair. Slide a spindle base collar onto the bottom of a spindle with the securing hole facing toward the center of the stair. Make sure the adjustable angle top is facing up the staircase. Position the spindle over the bottom tread and against the front nosing of the second tread. Bolt the spindle to the second tread using a 1/4" 20 hex head bolt, lock washer, and nut provided, making sure that the spindle remains plumb. Then secure the spindle to the bottom tread from the underside with a 3/4" 20 x 3/4" round head phillips machine screw and washer. Then through the hole in the side of the base collar secure the spindle with a set screw. Make sure the spindle is plumb, if it is not it may be adjusted by loosening the 3/4" 20 x 3/4" round head phillips machine screw holding the spindle base to the tread and adjusting the spindle within the slotted hole, then retighten the screw. *SEE DIAGRAM 5*
(D.) Next install the top spindle. Slide a spindle base collar onto the bottom of a spindle with the securing hole facing toward the center of the stair. Make sure the adjustable angle top is facing up the staircase. Position the spindle over the top tread’s slotted hole as close to the face of the well opening that the slotted hole will allow and fasten with a ¼" 20 x ¾" round head phillips machine screw and washer from below. Drill out the hole in the spindle, that will be attaching to the face of the opening, with a ⅜" drill bit. Mark the location that the spindle will be attaching to the face of the opening and make a pilot hole with a 7/32" drill bit. Bolt the spindle to the face of the opening by using the 5/16" x 4" lag screw and ¾" square tube spacer provided. Then through the hole in the side of the base collar secure the spindle with a set screw. Make sure the spindle is plumb, if it is not it may be adjusted by loosening the ¼" 20 x ¾" round head phillips machine screw holding the spindle base to the tread and adjusting the spindle within the slotted hole, then retighten the screw. 

SEE DIAGRAM 6

(E.) Plug one end of the handrail with one of the 1¼" black plastic end caps provided. Place that end of the handrail on top of the top spindle so that it is approximately 4" past the top spindle. Place the other end of the handrail on top of the spindle on the bottom tread. Bolt the handrail to these spindles by drilling a pilot hole with a ⅜" bit and securing with a #12 x ¾ hex head slotted self-tapping screw. Note: A socket wrench will ease the installation.

(F.) Measure the distance vertically along the front edge of the bottom tread from the floor to the bottom of the handrail. Take this measurement and subtract ⅛" and mark that distance on a spindle from the top down. Cut the spindle at that mark with a hacksaw. Clean out the inside of the tubing with a square file. Insert the provided 3½" metal base plate into the cut spindle by tapping it in with a hammer. Bolt this spindle to the bottom tread with a ½" 20 hex head bolt, lock washer, and nut. Then secure the top of the spindle.
to the handrail, making sure the spindle is plumb, by drilling a pilot hole with a ⅛" bit and securing with a #12 x ⅜" hex head slotted self-tapping screw. Bolt the spindle through its base plate to the floor by drilling ⅜" pilot holes and securing with two 1¾" x ⅛" lag bolts provided. Mark the handrail at approximately 4” past the bottom spindle and make a 90° cut, file the inside of the handrail with a square file and insert the remaining 1¼" black plastic end cap.

(G.) Install all of the remaining spindles on the stair by positioning a spindle over a tread and against the front nosing of the tread above. Bolt the spindle to the tread above by using a ¼" 20 hex head bolt, lock washer, and nut, making sure that the spindle remains plumb. Then secure the spindle to the tread from the underside with a ⅛" 20 x ¼" round head phillips machine screw and washer. Then through the hole in the side of the base collar secure the spindle with a set screw. Make sure the spindle is plumb, if it is not it may be adjusted by loosening the ⅛" 20 x ¼" round head phillips machine screw holding the spindle base to the tread and adjusting the spindle within the slotted hole, then retighten the screw.

(H.) To make the railing even more stable install the well bracket to the underside of the handrail and against the side of the adjacent well opening. Bend to the desired length and fasten with one #12 x ⅜" hex head slotted self tapping screws into the steel handrail and one ⅛" x 1½" lag bolt into the wood of the well framing. SEE DIAGRAM 7

STEP #5 - Optional Wood Tread Coverings:
(A.) Position the wood treads so that the bottom front edge overhangs the front of the metal tread by 1” and the tread is centered side to side.

(B.) Fasten the wood in place with six ¾" pan head screws from below by marking and drilling six ⅜" pilot holes approximately ¾” deep into the wood. SEE DIAGRAM 8

WARNING: Never place carpet between the wood and metal surfaces. To prevent warping and cracking of our oak tread coverings they must be finished within 30 days of receipt with at least two complete coats of polyurethane. The oak treads should be finished prior to installation.

STEP #6 - Optional In-Between Spindles:
For the optional in-between spindles you will need to drill a ⅜” pilot hole into the metal treads — the hole should be inline and centered between the main spindles. After drilling, install in-between spindles to the treads and handrail following the same procedure used for the main spindles.

STEP #7 - Finishing:
(A.) Touch up the stair with an oil based primer, then repaint the stair in your desired color using an oil based enamel paint. DO NOT USE A LATEX WATER BASED PAINT.

(B.) The stair’s nuts and bolts should be inspected annually for tightness. Tighten if necessary.
Notes:
Since 1931, The Iron Shop has enjoyed a reputation for outstanding design and fabrication of custom built spiral, curved, and floating stairs. With the introduction of our Spiral Stair Kits in 1972, The Iron Shop's quality and value became available for the first time on a national basis. Today, we utilize computer-aided technology throughout our production process to guarantee that each stair meets exacting standards—successfully mixing state-of-the-art manufacturing with old-world quality.

Offering the largest selection, highest quality, and lowest prices in spiral stairs—we make sure that you get the right spiral to meet your needs. This has made The Iron Shop the leading manufacturer of spiral stair kits, with over one hundred thousand satisfied customers worldwide. And our stairs are still made with pride in the U.S.A.