

ROUND HANDRAIL WITH POSTS KIT

BUILDING STYLE & SAFETY FOR YOUR LIFE

Care and Maintenance

Interior and exterior - Finish maintenance is minimal. Wash with a mild soap and fresh water quarterly to ensure surface is clean and free of dirt and contaminants. If using exterior in a cold climate, protect the post base and fasteners from corrosive de-icing salt if salting is used to remove ice build-up on or around sidewalks.

For install or product support,
call 573.365.7040, or
visit us at www.maddenmetals.com

THANK YOU FOR YOUR BUSINESS!

For questions or comments, contact
Madden Metals: 573.365.7040



Congratulations!

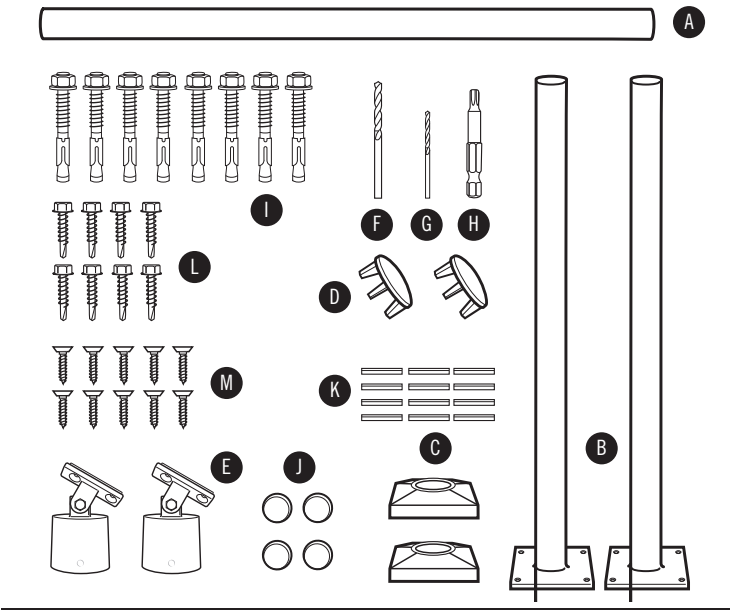
You are on your way to a low maintenance handrail that is easily assembled and installed. With your system, you can feel safe, knowing you're protected by the tremendous strength of its aluminum-alloy components, and be confident of your investment, knowing the hardened, durable, powder-coated finish will last, year after year.

Please read instructions
before assembly.

Kit Contents

Check box contents against insert to verify each part has been received and to familiarize yourself with parts.

- Inspect all component parts for familiarity
- Recommended tools listed below



Parts:	Qty	KIT CONTENTS
A.	1	1.9" Round Handrail: 3', 4', 6', or 8'
B.	2	34" Round posts with 5"x5" welded base plate
C.	2	Base covers
D.	2	End caps
E.	2	Adjustable cradle bracket post caps
F.	1	3/16" Drill bit to pilot holes into round handrail
G.	1	1/8" Drill bit to pilot spring pin holes into posts
H.	1	T25 Torx bit to countersink fasteners to handrail
I.	8	1/4" x 3" Wedge anchors
J.	4	1/4" Color-matched bolt caps for brackets
K.	12	1/8" Spring-pins to attach adjustable caps to posts
L.	8	1" Self-tapping hex head fasteners (optional use)
M.	10	3/4" Torx countersink screws

* 8' Kit includes (3) posts, (3) post cap brackets, (3) base covers, rail & fasteners.

Required Tools for Handrail Installation

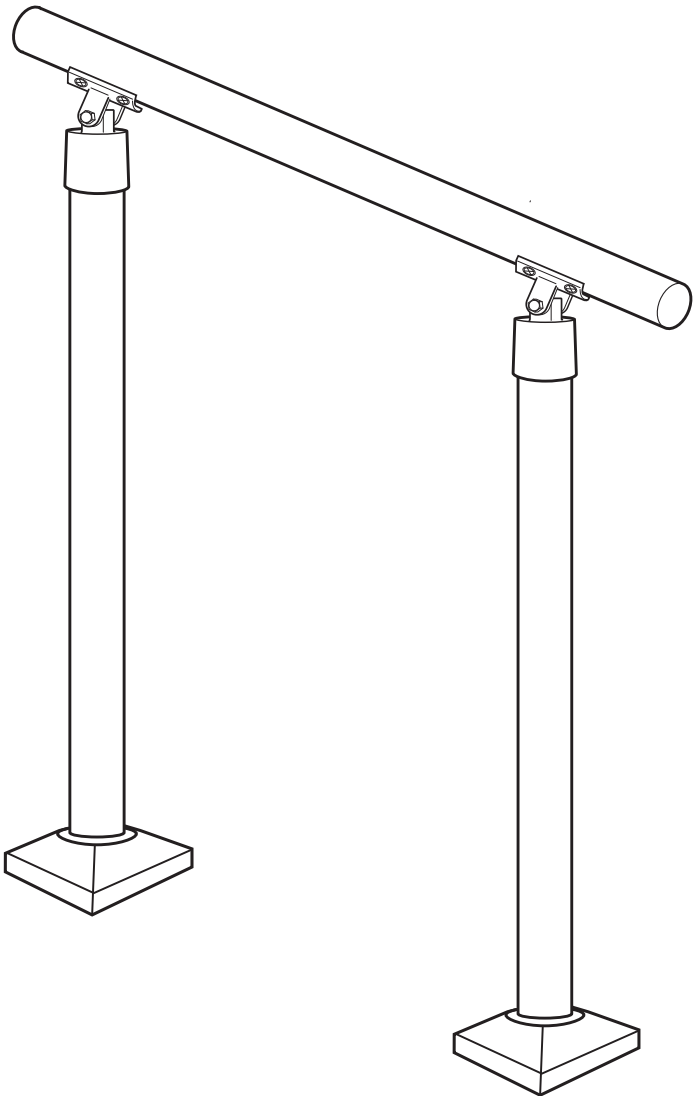
(not included)

- | | |
|---|---|
| 1 - Safety Glasses | 8 - Level |
| 2 - Ear Protection | 9 - Rubber Mallet |
| 3 - Gloves | 10 - Compressed Air |
| 4 - Tape Measure | 11 - Screw Gun |
| 5 - Pencil | 12 - Hammer Drill |
| 6 - Marker | 13 - Center Punch |
| 7 - 1/4" Masonry Bit,
5/16" wood drill bit,
5/16" and 7/16" Hex
Head Driver or
Socket with Wrench | 14 - Power Chop Saw
(If your project requires
shorter handrail) |

Congratulations!

You are finished with your Round Hand Rail Post Kit installation. We hope you enjoy many years of service from this top quality product.

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Concrete Surface Installation (cont.)

4. Align the post base with the pencil marks and the drilled hole. Tap in a wedge anchor.

5. Advance to diagonal hole location and drill 4" hole. Clean out concrete dust, and tap in another wedge anchor.

6. Repeat until all holes have been drilled and cleaned and wedge anchors have been inserted, with washers and nuts loosely attached.

Hint: Plumb posts using stainless steel washers as shims between post plate and patio surface. (Stainless steel washers not included.)

Finish by tightening each fastener.

Set remaining post(s) using previous instructions.

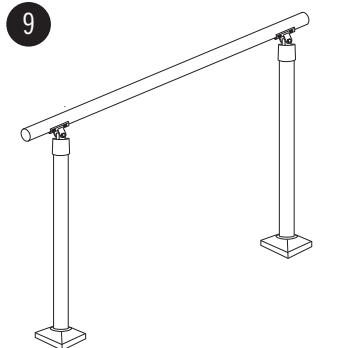
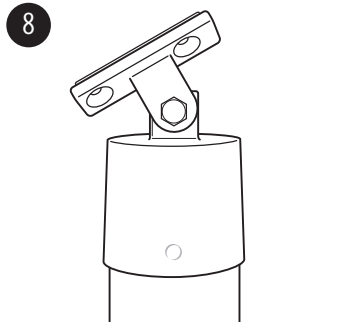
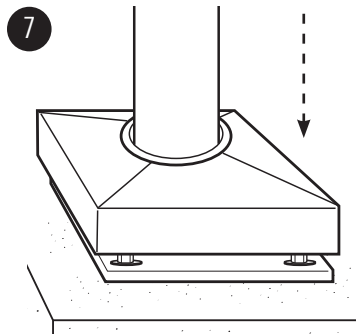
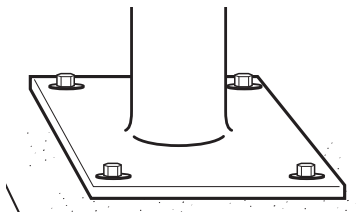
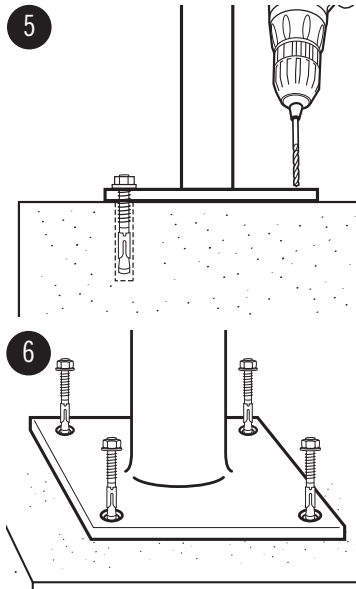
B) INSTALL BASE COVERS

7. Slide base covers down over secured posts and lower into position. Base covers do not require fastening.

C) INSTALL HANDRAIL

8. Place cradle brackets on top of the secured posts, aligning the cradles, but DO NOT FASTEN at this time.

9. Determine handrail length by centering handrail on the cradle brackets. Minimum length will be 1" past each post bracket. If handrail requires shortening, cut now, using a chop saw with a 60-80 tooth wood blade.



10. After establishing handrail length, install end caps. On a protected surface, stand pipe on end. With a rubber mallet, tap end cap gently into pipe opening. Repeat on other end.

HINT: Caps will fit tightly and be difficult to remove after installation. However, if fit is too tight to install, paint can be shaved from the cap legs with a metal file.

11. Place handrail back on the cradles. Holding railing in place, mark location of bracket holes on handrail.

12. To attach brackets to handrail, remove handrail and brackets to a flat, protected surface. Use a centerpunch at each mark to help keep drill bit from sliding. Pre-drill 3/16" pilot holes at DIAGONAL marks. Then, attach each bracket to handrail pipe with provided Torx head bit and (2) 3/4" Torx head fasteners for each bracket.

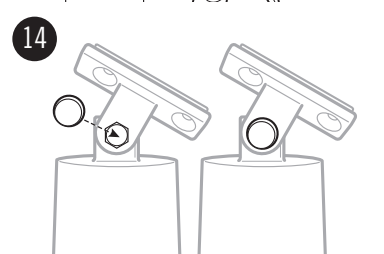
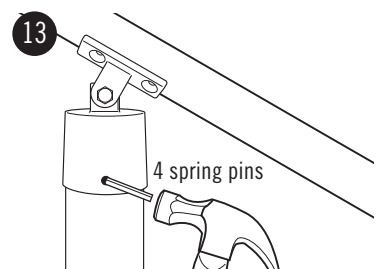
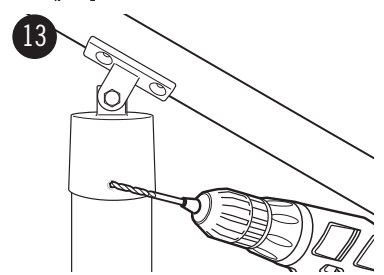
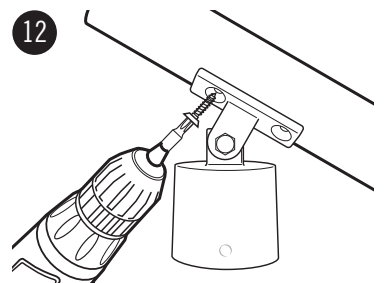
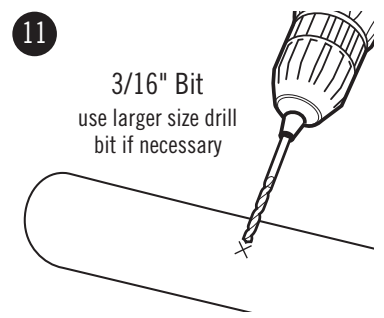
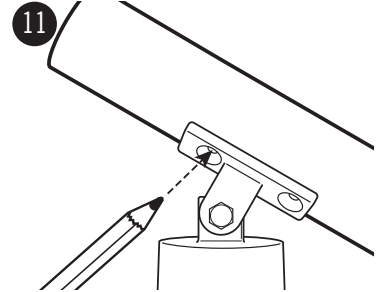
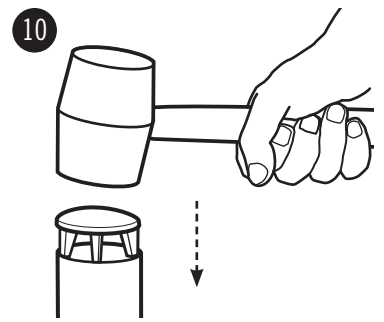
Pre-drill through remaining bracket holes. Finish attaching brackets to handrail with Torx head fasteners.

13. As a final step, secure handrail to post, by pre-drilling at divot locations on bracket. Using a 1/8" metal bit, drill through bracket and through post wall. Insert 1/8" spring pins, and tap gently into place with hammer.

Optional: 1" self-tapping hex screws may be used in place of spring pins.

14. Press bolt cap covers onto bracket hinge bolts.

Enjoy!



Install Posts and Railing, Optional Wood Installation:

Hardware not included.
Requires (4) 1/4" x 4" through bolts,
(8) flat washers, (4) locking washers
& (4) locking nuts for each post.

IMPORTANT: Installation on wood/composite deck requires a backer board under the deck surface at each post installation. A piece of 2x8 or 2x10 works well.

A) INSTALL POSTS

1. After determining post location, square the edges of the base plate 1 3/4" from deck edges. Mark plate hole locations with pencil.
2. Moving post aside, drill 5/16" hole through deck and backer board at each mark.

Line up base plate with holes.

3. Slide flat washers onto bolts and then insert bolts through plate and deck surface and backer board.

Slide flat washer, then locking washer from underside, and secure in place with locking nut.

Hint: Plumb posts using stainless steel washers as shims between post plate and deck surface. (Stainless steel washers not included.)

Tighten each nut.

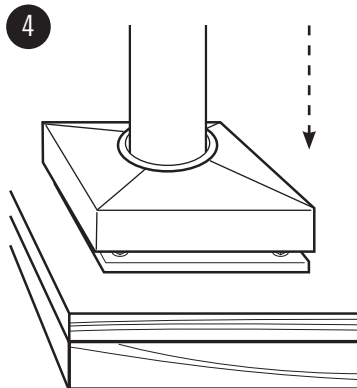
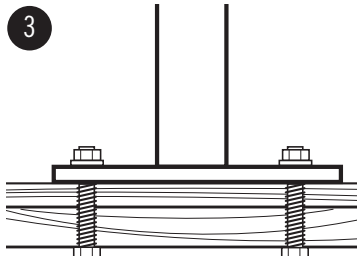
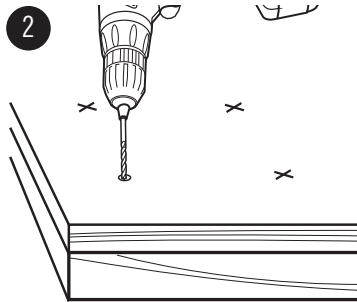
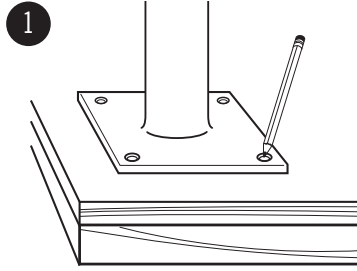
Set remaining post(s) using previous instructions.

B) INSTALL BASE COVERS

4. Slide base covers down over secured posts and lower into position. Base covers do not require fastening.

C) INSTALL HANDRAIL

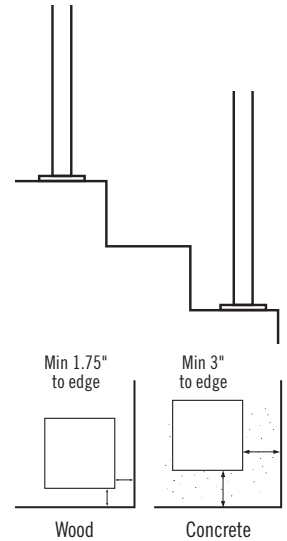
5. Continue to Step C on previous page



Installation

#1 Test-Fit

- A) Arrange posts on steps or level surface at desired location, but **DO NOT FASTEN.**
- B) Next, place adjustable cradle brackets on top of the posts, but **DO NOT FASTEN.**
- C) Lastly, check alignment of posts and confirm handrail span by placing 1.9" diameter round handrail on top of cradle brackets, but **DO NOT FASTEN.**

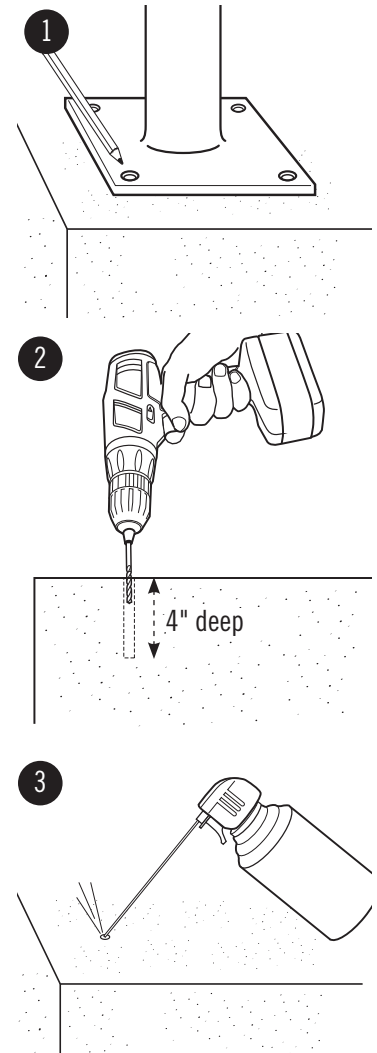


Note: Because all components are unsecured, have someone help steady posts during test-fit.

#2 Install Posts and Railing - Concrete Surface Installation

A) INSTALL POSTS

1. After determining post location, square the edges of the base plate 3" from edges of the concrete. Mark hole locations with pencil and set post aside.
2. With hammer drill and 1/4" masonry bit, drill 4" hole in concrete at one marked location.
3. Clean concrete dust from hole with compressed or canned air. **VERY IMPORTANT.**



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