



integration guide
DIAMOND STAIRS



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EMINENCE. ELEGANCE. DECADENCE.

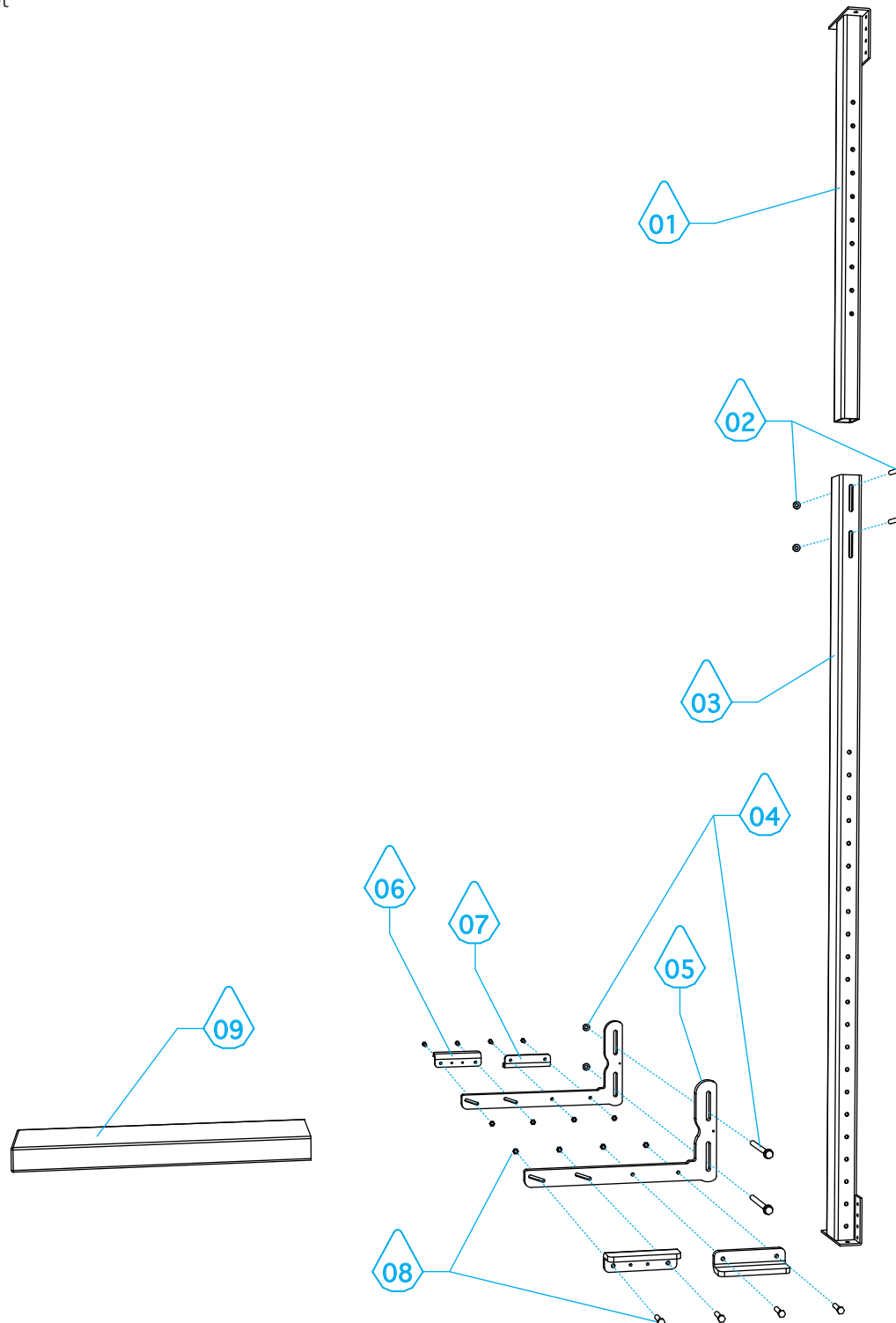
cantilevered stairs represent the maximum in minimalism.
our universal kit allows you to have this benchmark design in your space.

Diamond Stairs Inc. produces the worlds first cantilevered stair kit - engineered to meet structural and building code requirements. In order to minimize the deflection the kit has been greatly over-engineered, resulting in a stable and extremely safe product. This guide will illustrate the basic integration of a kit, however due to universal nature of the kit and the resulting multiplicity of integration scenarios it is recommended that the project structural engineer review the proposed installation configuration. The kit is also fully adjustable so it may be tailored to meet the local requirements for rise & run.

Diamond Stairs Inc. recommends that an appropriate registered engineering professional advise or design, review and seal the proposed kit integration and inspect the project before, during and after installation.



Each Diamond Stairs stair kit should include the following items (note that this component list is for one stair assembly only). To check that an order has the correct number of parts, multiply the listed quantities by the number of assemblies ordered.

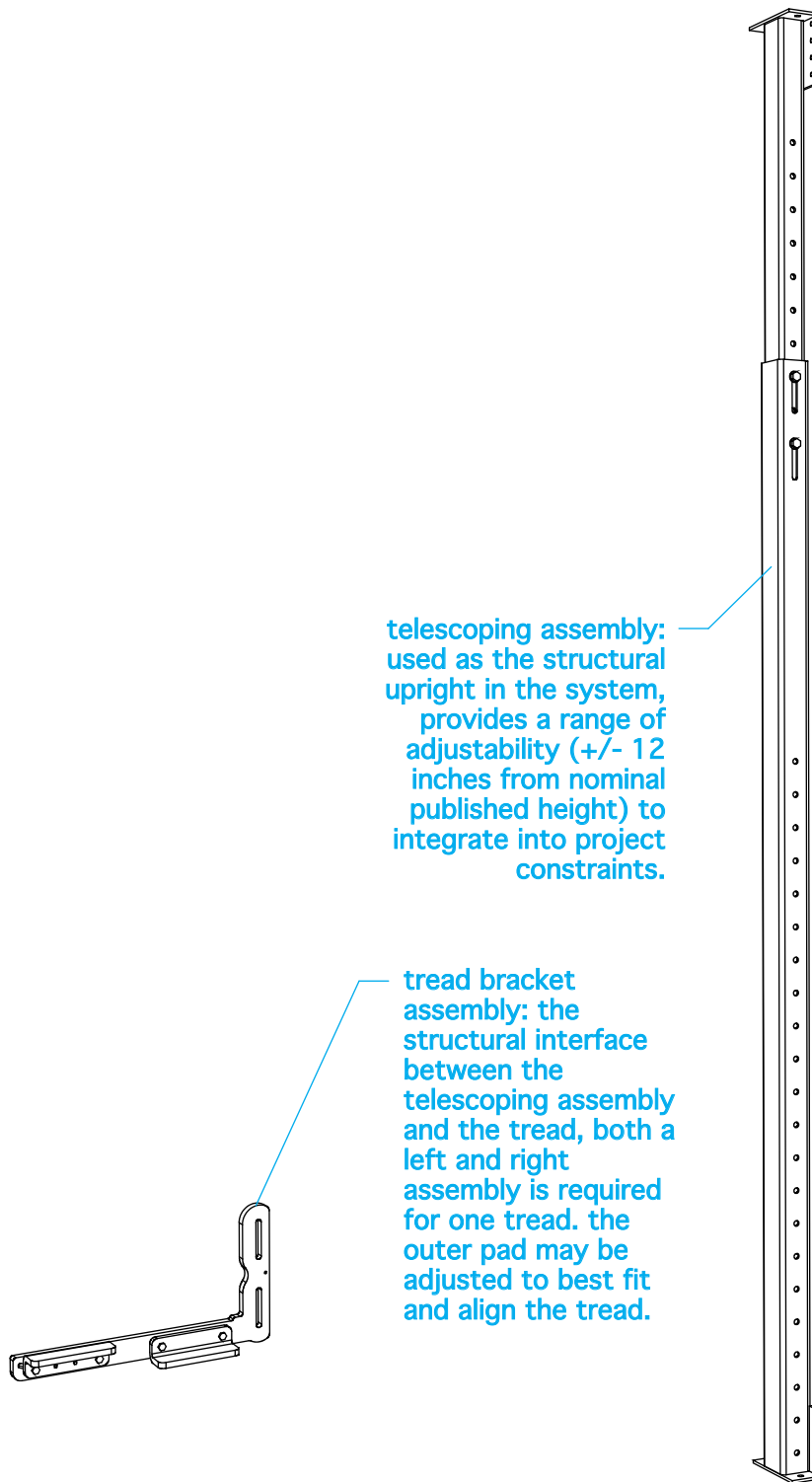


COMPONENTS

1. inner post (1 typ.): part A of the telescoping assembly
2. short 1/2" fasteners (with appropriate washers, bolts & nuts. 2 typ.): holds the telescoping assembly at set height.
3. outer post (1 typ.): part B of the telescoping assembly.
4. long 1/2" fastener (with appropriate washers, bolts & nuts. 2 typ): holds the L bracket in place on telescoping assembly.
5. L bracket (2 typ.): main component of the tread bracket assembly.
6. outer tread pad (2 typ.): part of the tread bracket assembly. The adjustable pad that mounts to the L bracket.
7. inner tread pad (2 typ.): part of the tread bracket assembly. The fixed pad that mounts to the L bracket.
8. 3/8" fastener (with appropriate washers, bolts & nuts. 8 typ): holds the each of the (left & right) tread bracket assemblies together.
9. stair tread (1 typ): 12" deep by 3" thick, fits over tread bracket assembly.



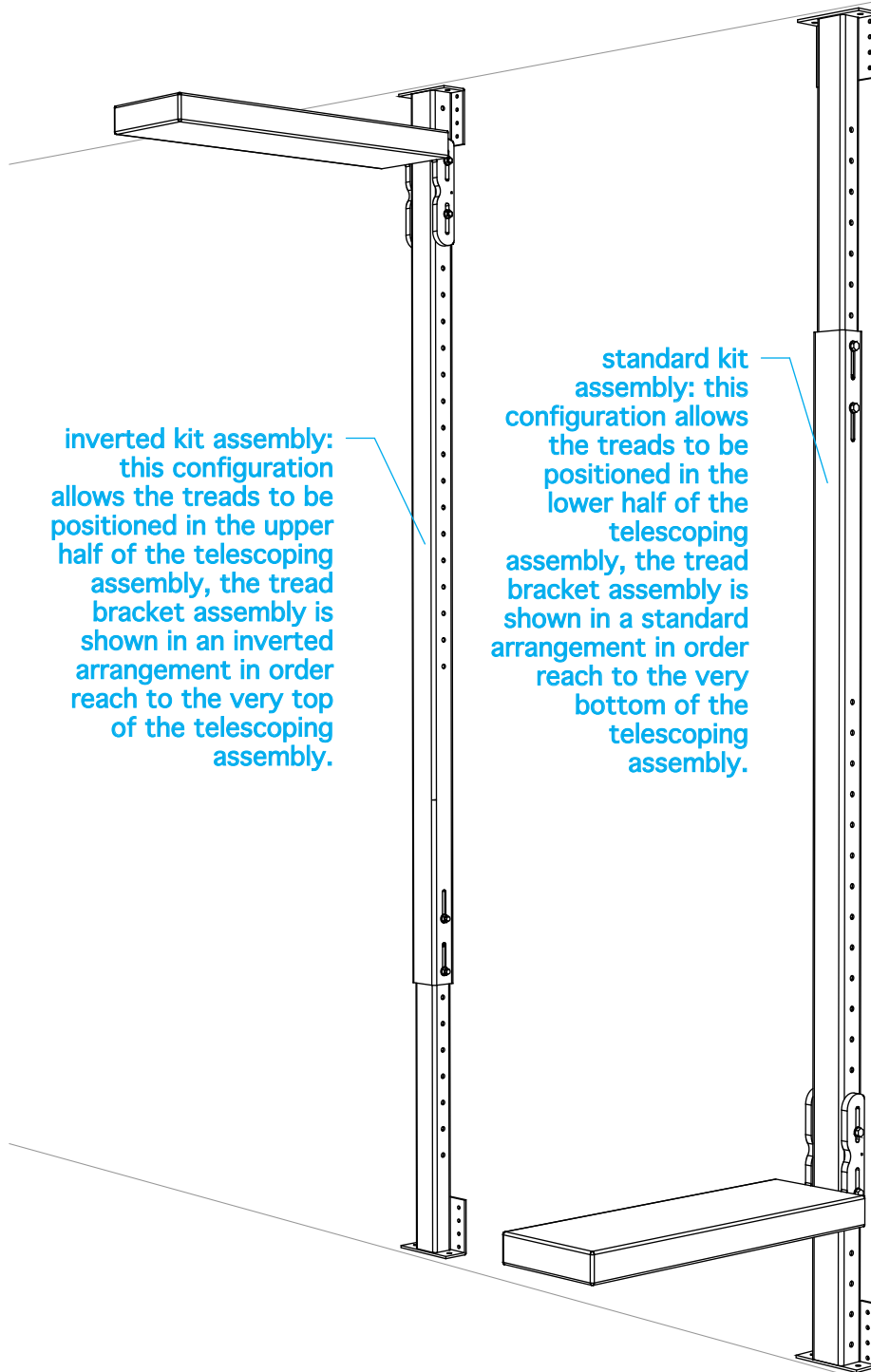
The various Diamond Stairs
components make up
sub-assemblies as illustrated.





The various Diamond Stairs sub-components make up the stair kit assemblies as illustrated.

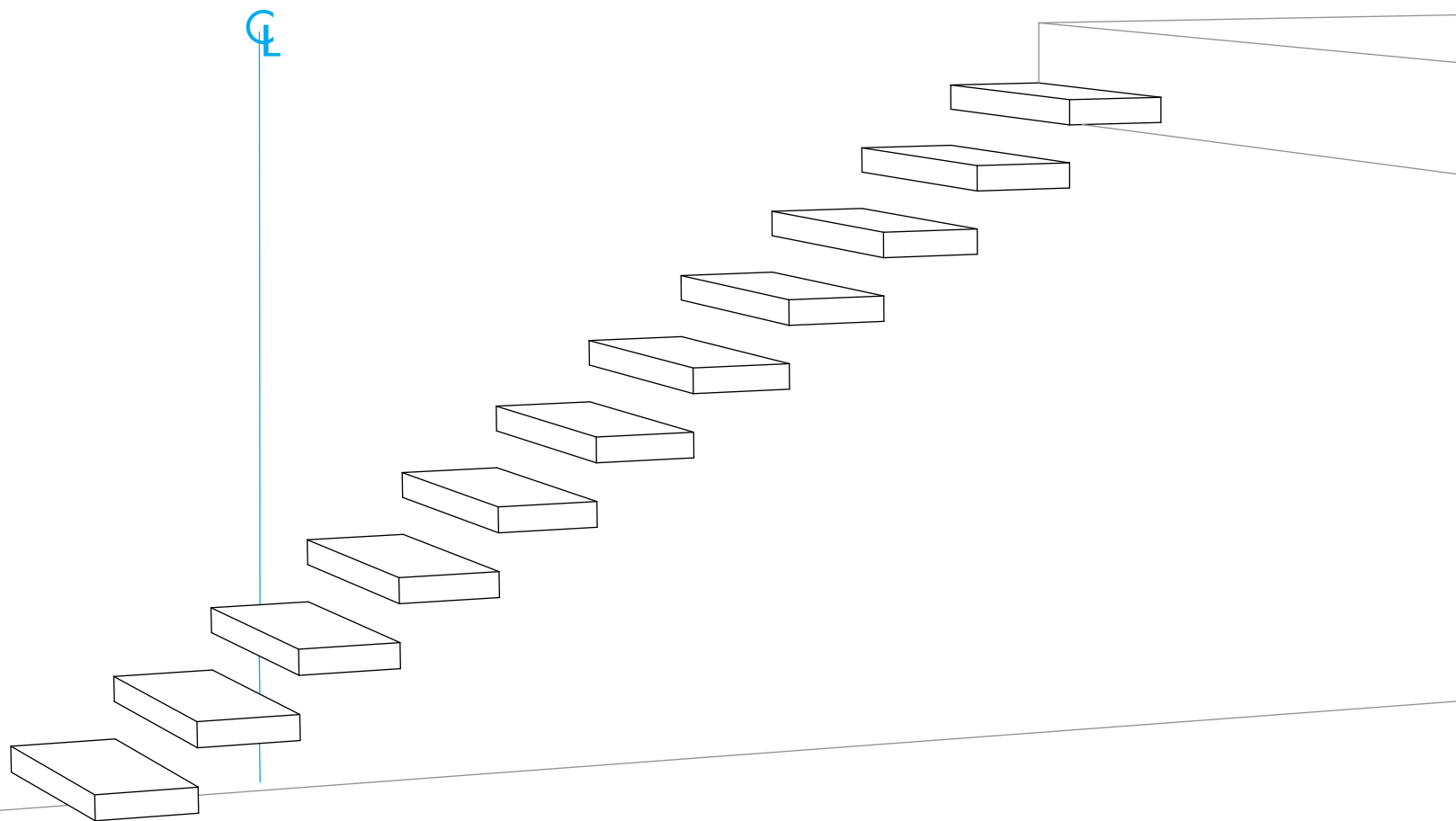
** note: the regions defined here as 'upper half' and 'lower half' will vary dimensionally based on the size on the telescoping assembly. In all sizes, there will still be overlap between the two regions at full extension.*





STEP 1: Refer to architects plan/drawings to confirm layout, and number of treads required.

STEP 2: Measure and layout where treads are to be installed. Mark a center line for each tread - in chalk line or similar - vertically on the wall (at least 8' high).





STEP 3: Unpack stair kit crate and take inventory to ensure correct quantity of stair kit assemblies.

component 1 quantity:

component 2 quantity:

component 3 quantity:

component 4 quantity:

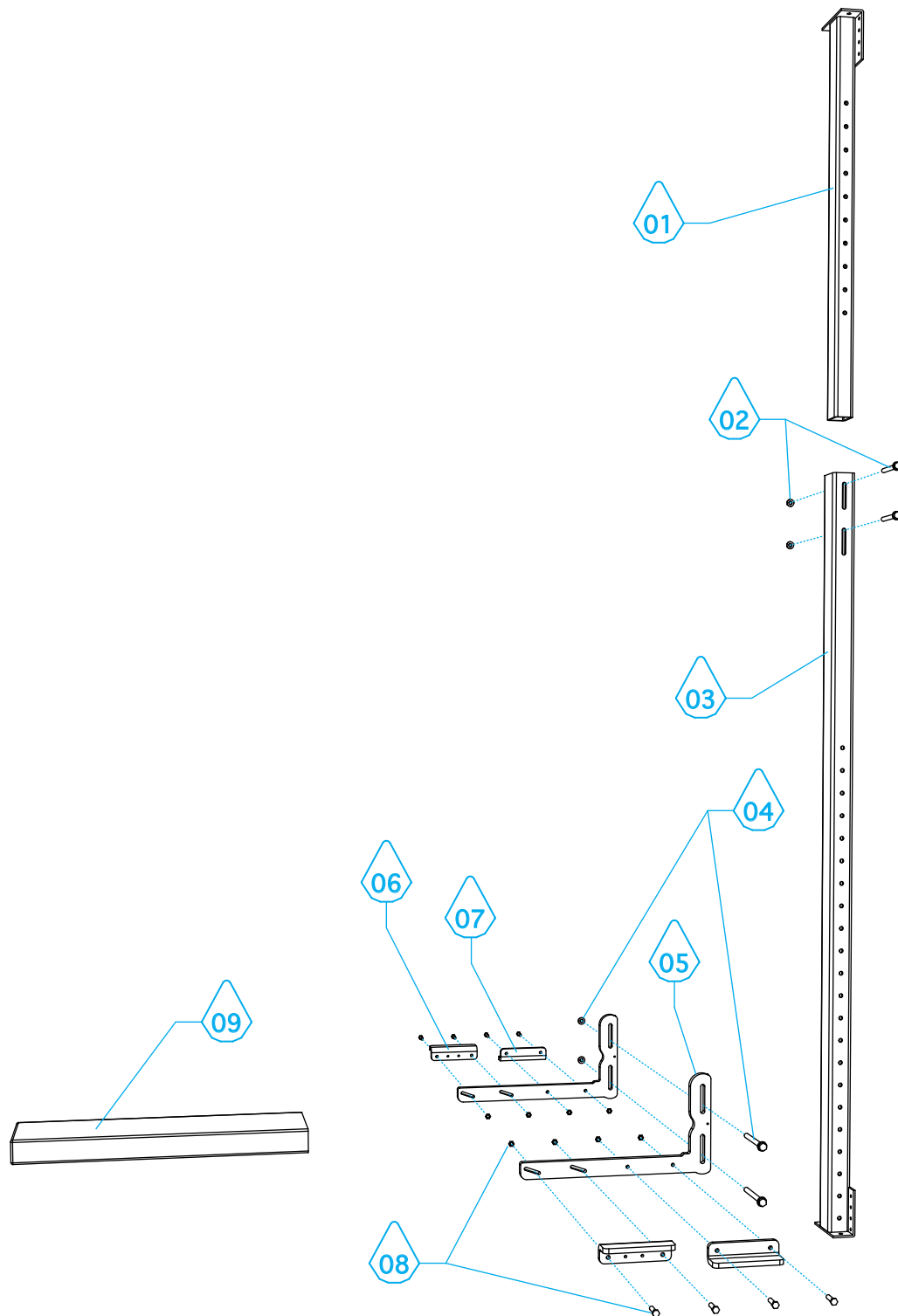
component 5 quantity:

component 6 quantity:

component 7 quantity:

component 8 quantity:

component 9 quantity:



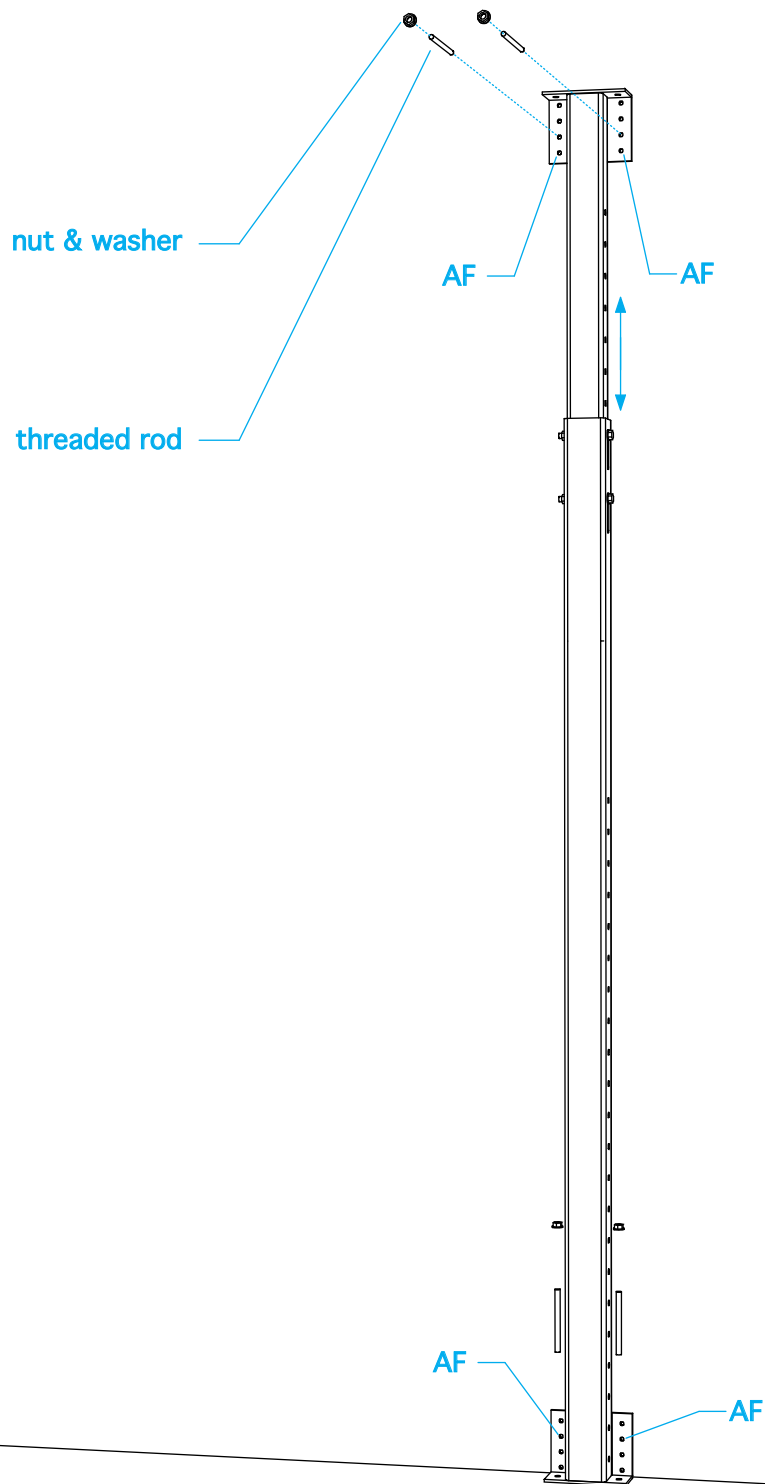


STEP 4: Position telescoping assembly centered on the marked center line. Slide out telescoping stud to appropriate length to mark holes. Drill holes with masonry bits and clean out any dust and debris.

STEP 5: Embed threaded rod in place with Hilti HIT-RE 500 epoxy. Once epoxy has cured; apply Loctite Epoxy Heavy Duty thread locker to threaded rods before installing nuts, finger tighten only.

** Ensure telescoping tube is mounted plumb and square.*

*** additional epoxy-in anchors may be required as indicated (by: AF) depending on depth and structural integrity of wall/floor.*



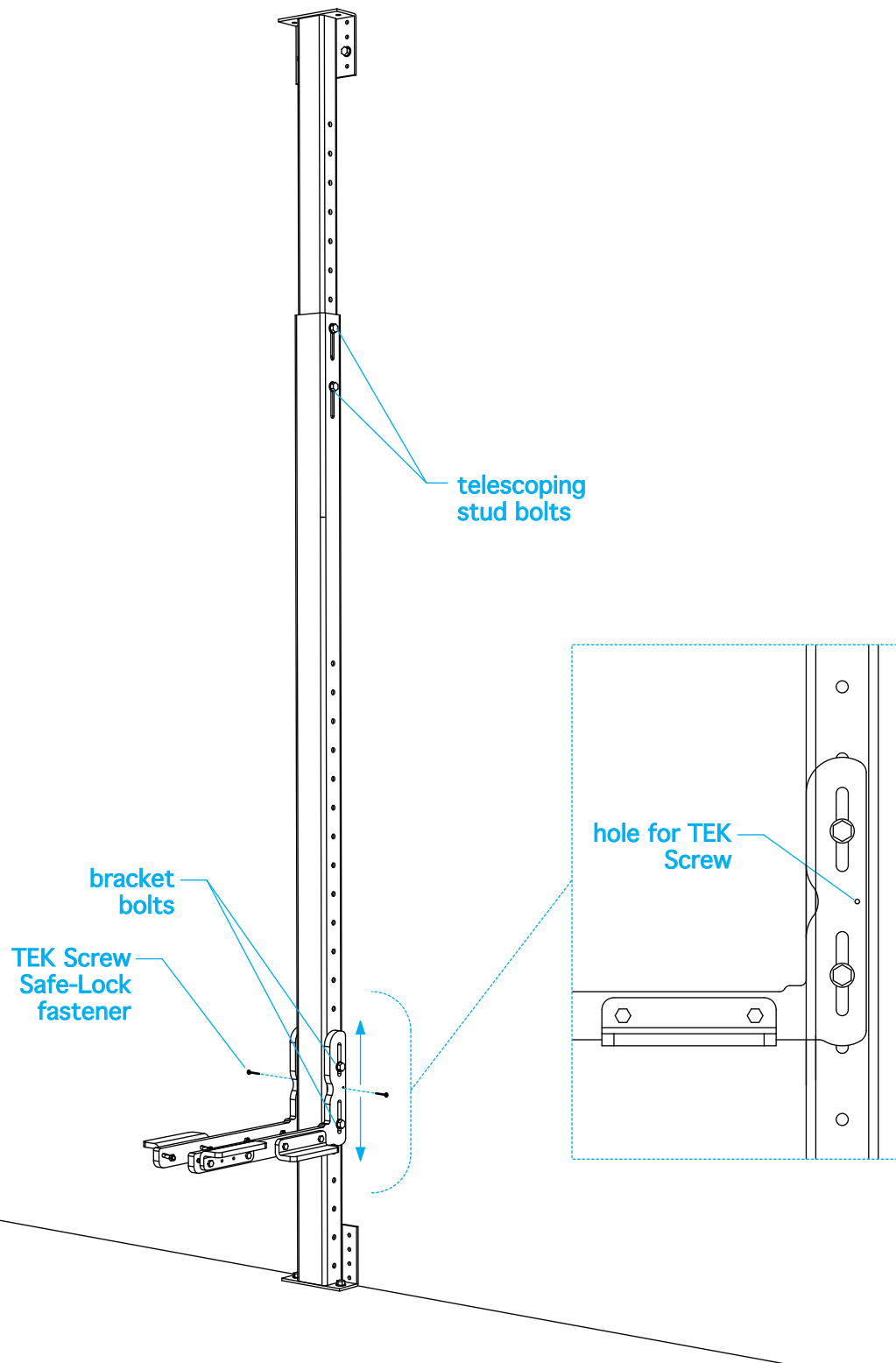


STEP 6: Install and torque telescoping stud bolts to appropriate values - use Loctite Epoxy Heavy Duty thread locker - then torque nuts on the threaded rods.

STEP 7: Mount tread brackets on the telescoping assembly with the bracket bolts, adjust to correct height accordingly - use Loctite Epoxy Heavy Duty thread locker.

STEP 8: Once Brackets are in correct position pre-drill and fasten Safe-Lock connectors with #10 TEK Screws - to lock brackets in position.

** Ensure brackets are installed at correct height and at level.*



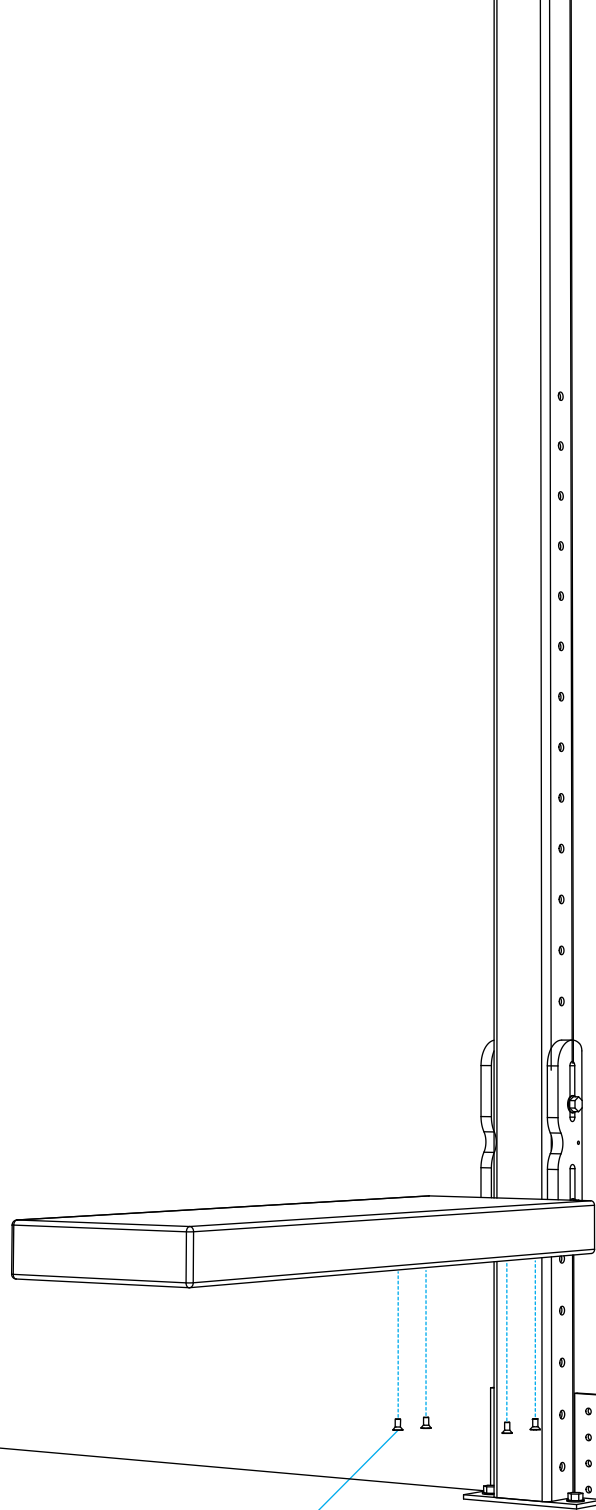


STEP 9: Slide tread over brackets and align as desired (added adjustability can be achieved by sliding the outer pad long its slot) - ensure to take into account the finished dimension of the wall that will cover the treads.

STEP 10: Mark holes for tread bolts on brackets, drill and tap for 5/16 UNC and bolt treads in place.

** ensure to leave a small gap between finished wall surface and edge of tread so that any flex will not fracture drywall.*

*** steps 1 through 10 may be repeated for all subsequent assemblies. Telescoping assemblies are to be inverted for the higher treads when the standard orientation will no longer suffice.*

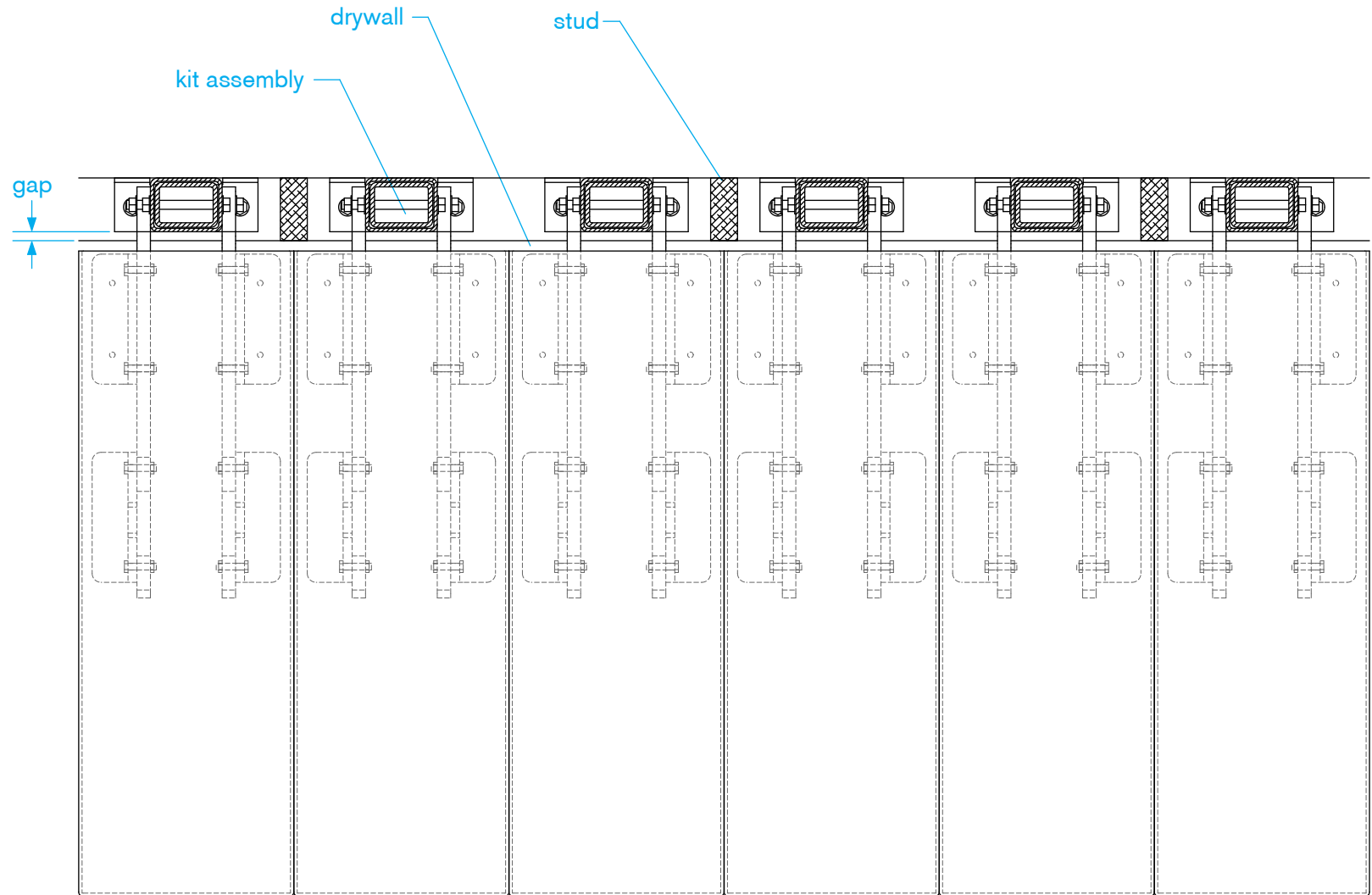


tread bolts



STEP 11: To finish wall around treads, install studs between telescoping assemblies as required. Ensure to leave a gap between the face of the telescoping assembly and the back face of the drywall.

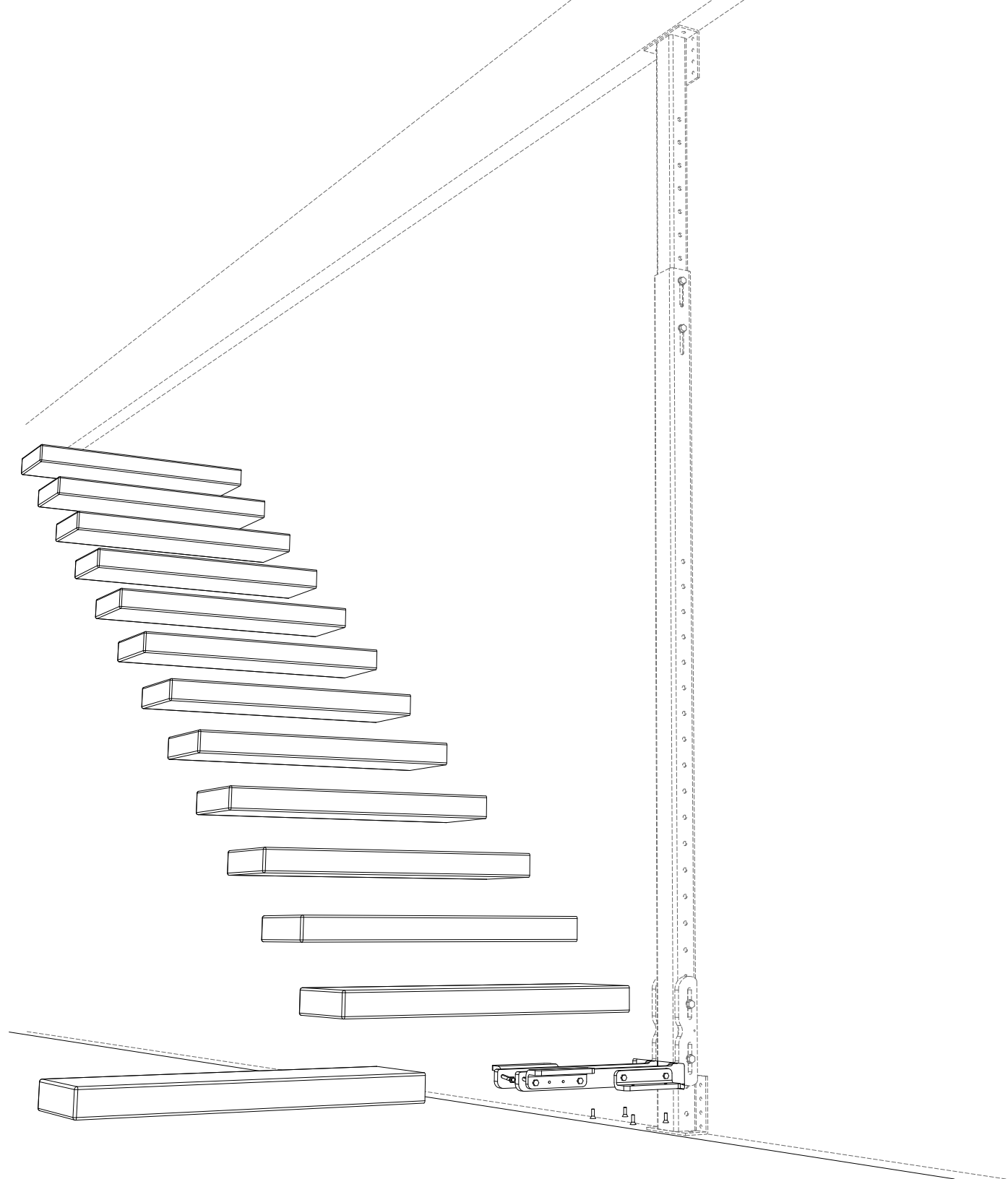
* The overall depth of the assembly is 3 inches and allows for ample room to fit inside a standard wall.





STEP 12: Treads will need to be removed for drywall finishing. Cut out holes large enough to fit over brackets and allow for a small gap around brackets so that any small amount of flex will not fracture the drywall.

STEP 13: Once drywall is complete re-install treads with tread bolts using Loctite Epoxy Heavy Duty thread locker and torque appropriately

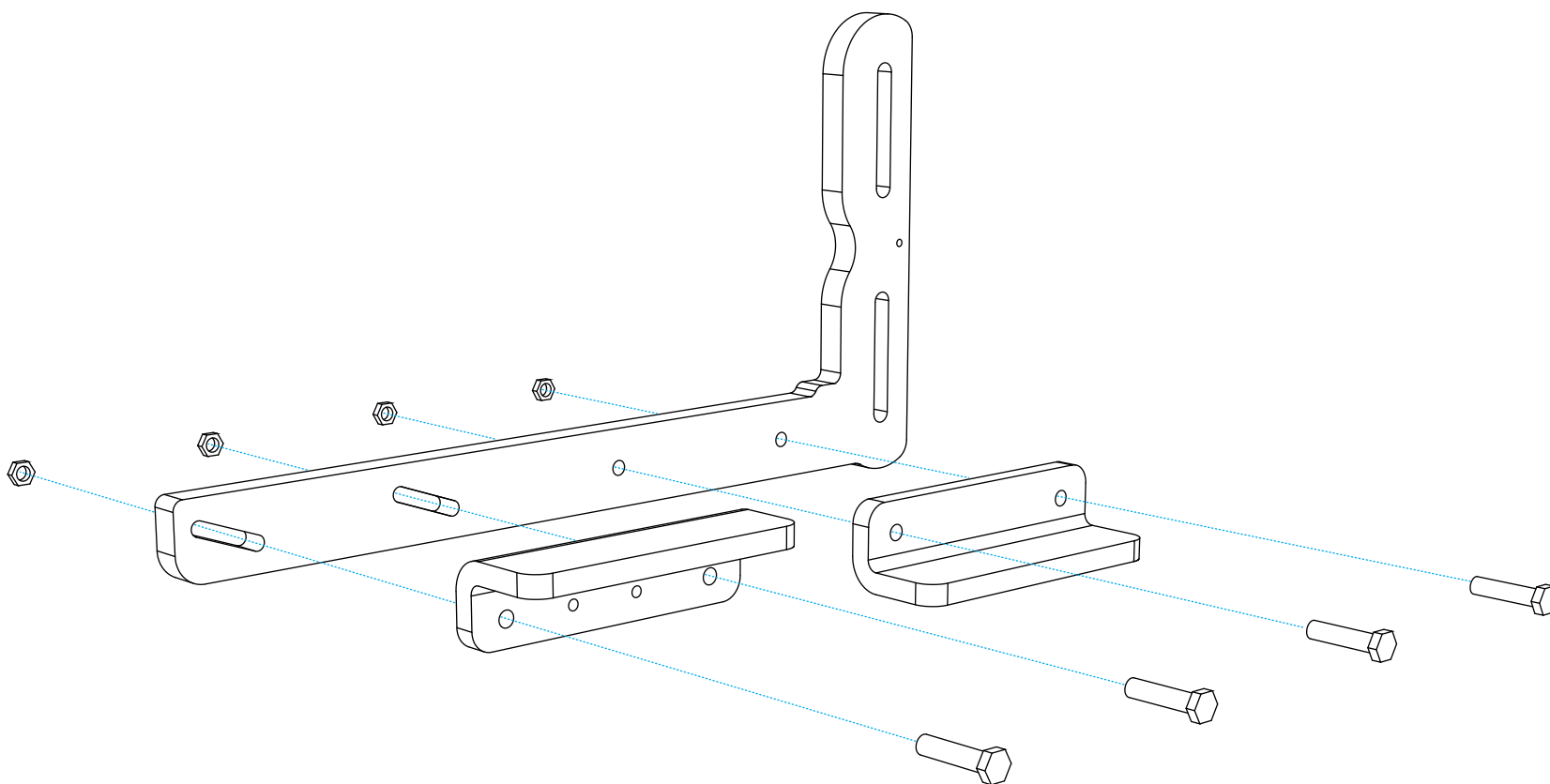




tread bracket setup
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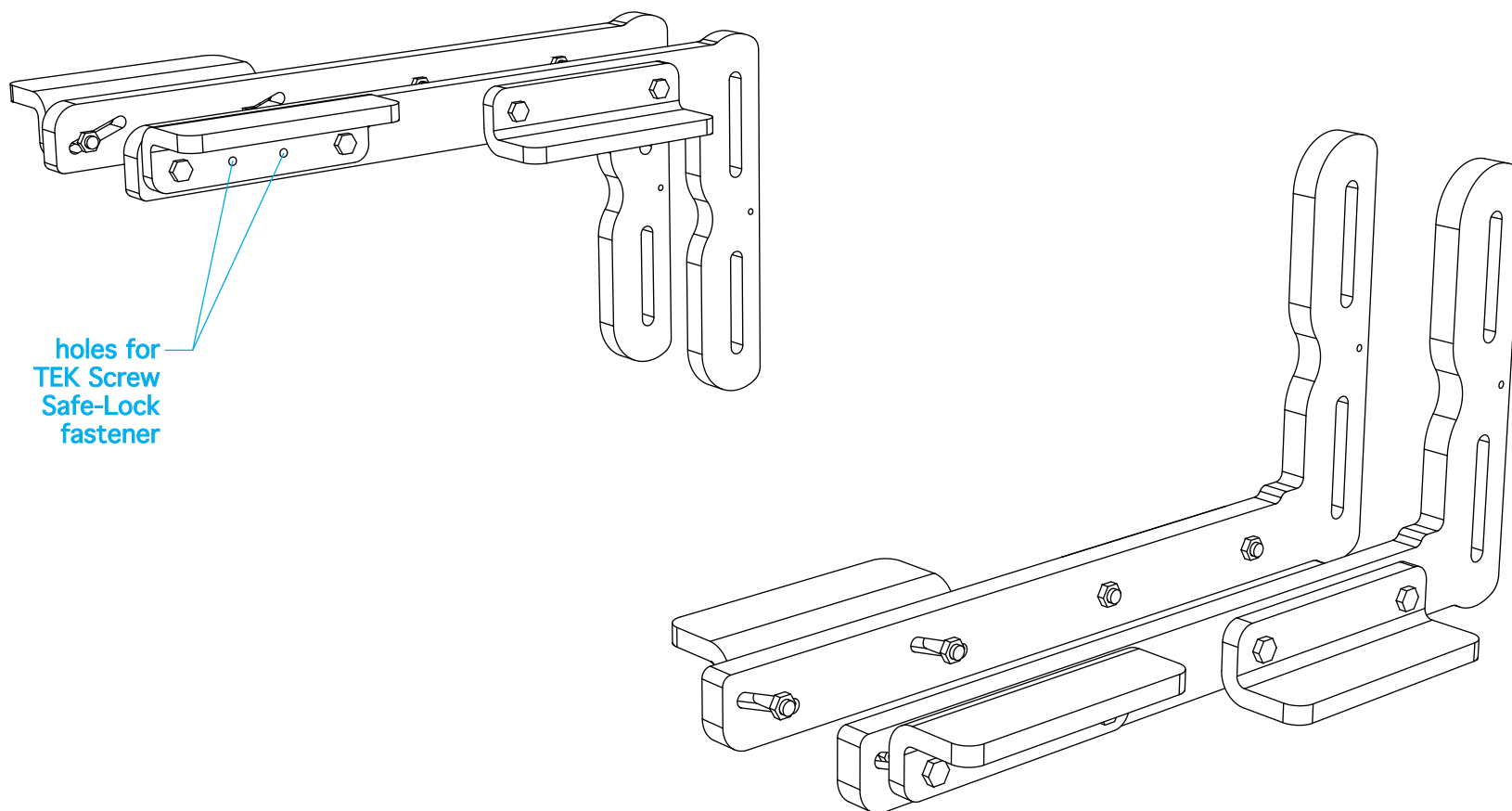
The exploded assembly here shows all of the components that come together to create the tread bracket.

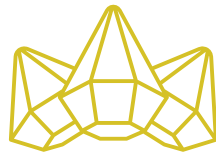




The tread brackets may be assembled in either a standard or inverted arrangement as needed. The outer tread pad is on slots to allow for adjustment of the overall height. This adjustment is to allow the bracket to seat tightly inside the tread and to zero the tread pitch.

**it is recommended that once the outer pad is in the desired position, TEK Screws are fixed in the holes as illustrated.*





if you have any
further questions
contact us.
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