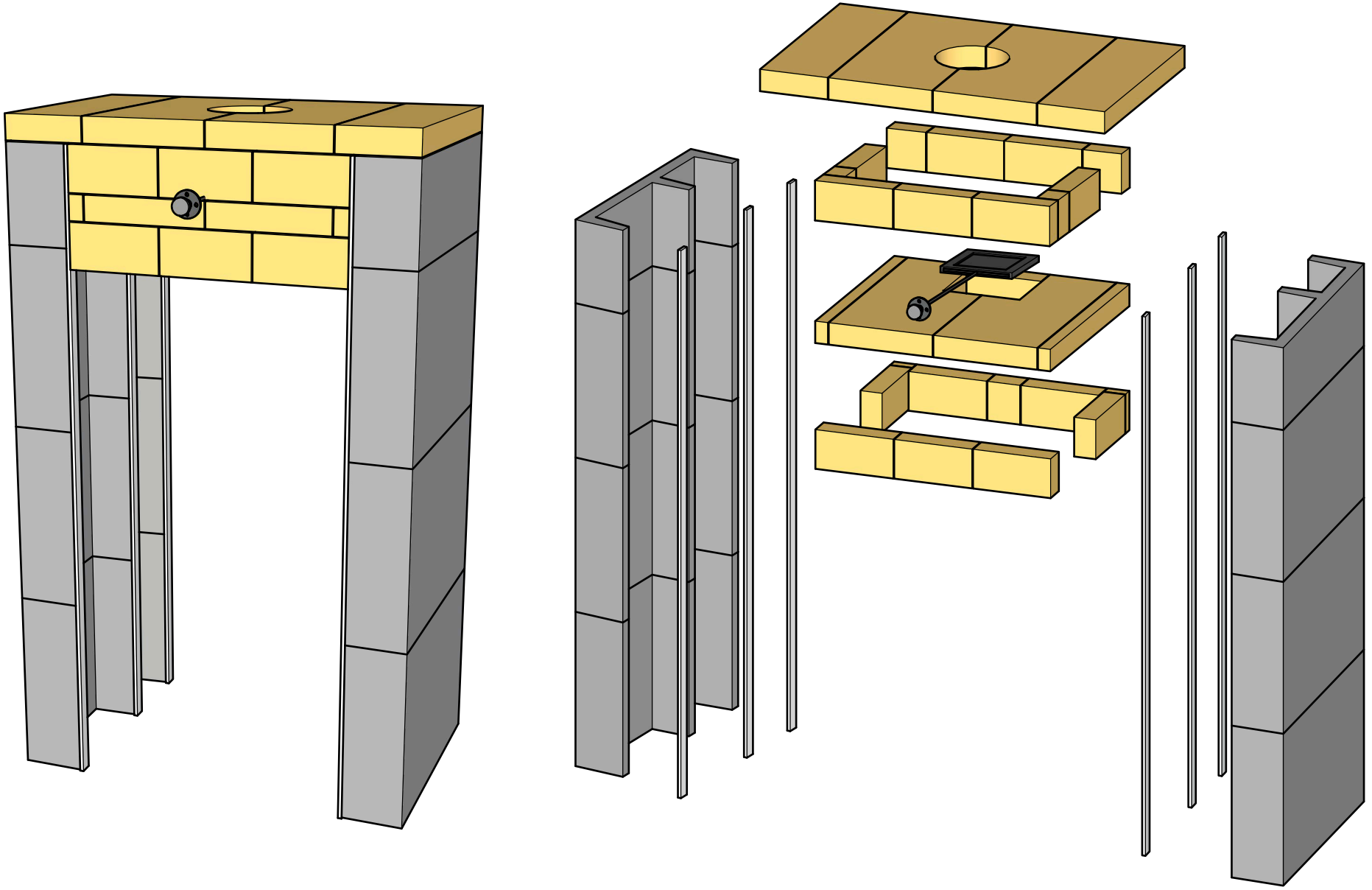
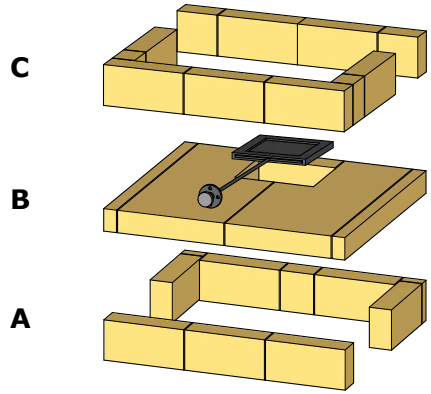


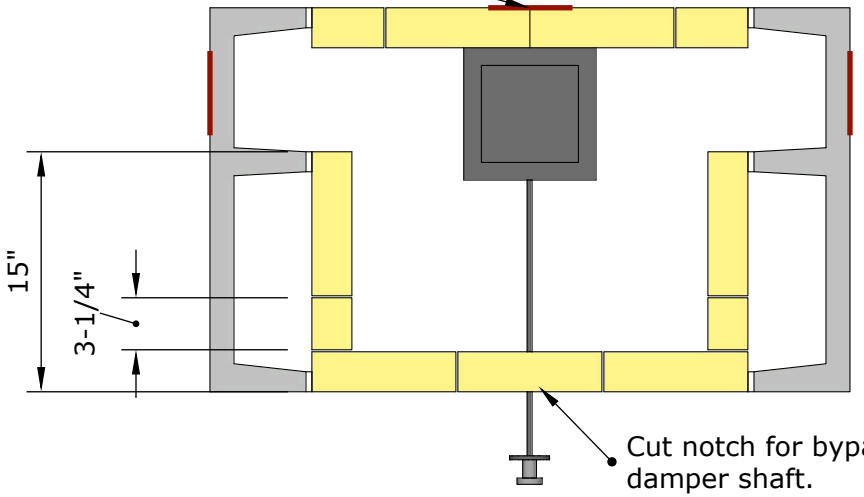
The 5-Run Heat Exchanger is a compact top-venting heat exchange strategy. It is called the 5-Run because the gases first go upwards from the firebox. We recommend a bypass damper be installed. When open, the flue gases have an easy path to prime the chimney and establish draft. When closed, the gases split into two symmetric downdrafts. In the base, they turn turn around and become two symmetric updrafts before collecting in the chimney. These five flues give the name 5-Run to this configuration.



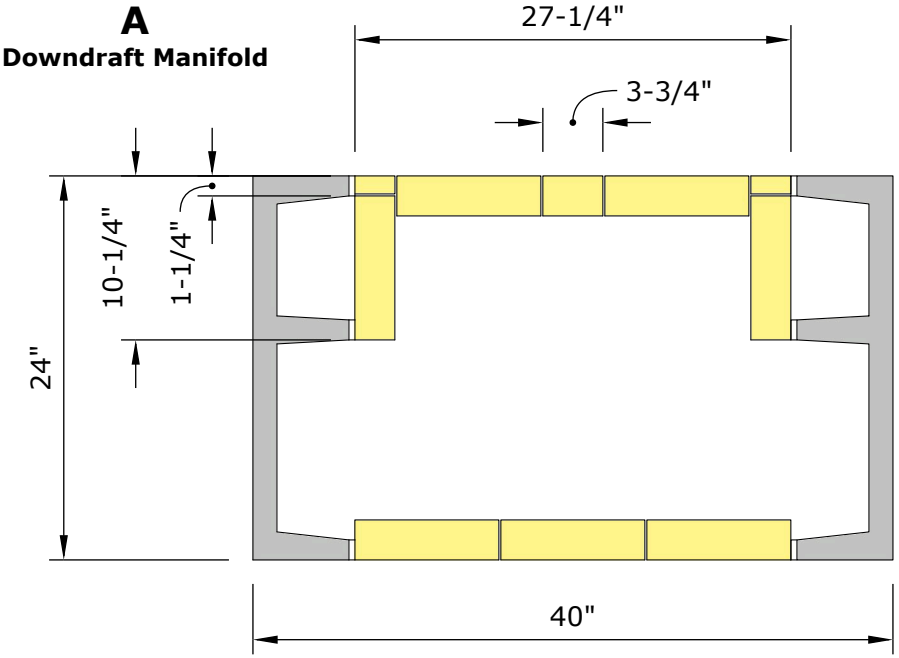
Assemble these layers with refractory mortar to complete the main firebox tower

C
Updraft Manifold

IMPORTANT! A cleanout opening (5 3/4" wide) should be included in this layer to service the bottom of the chimney on a top-venting unit. Red indicates suggested possible locations.

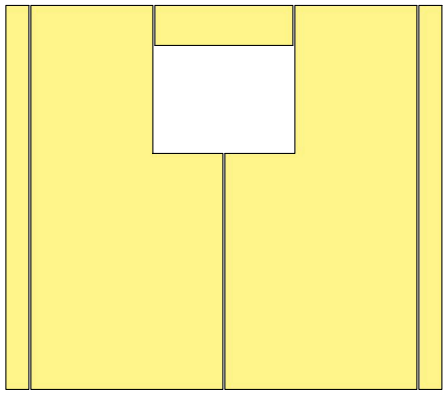


A
Downdraft Manifold

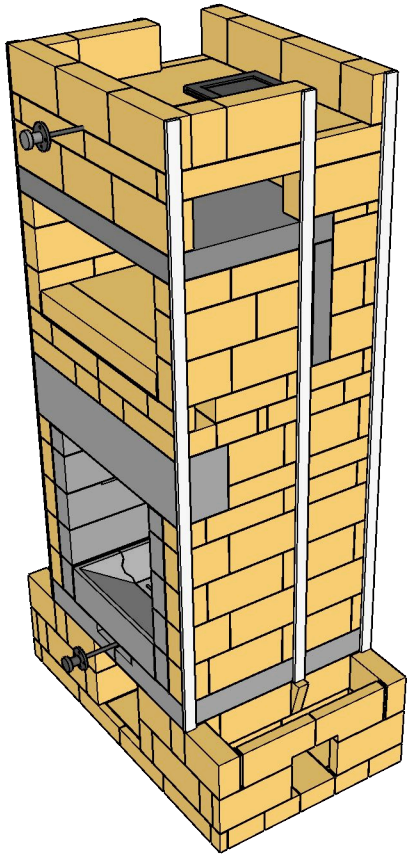


B
Bypass Capping Slabs

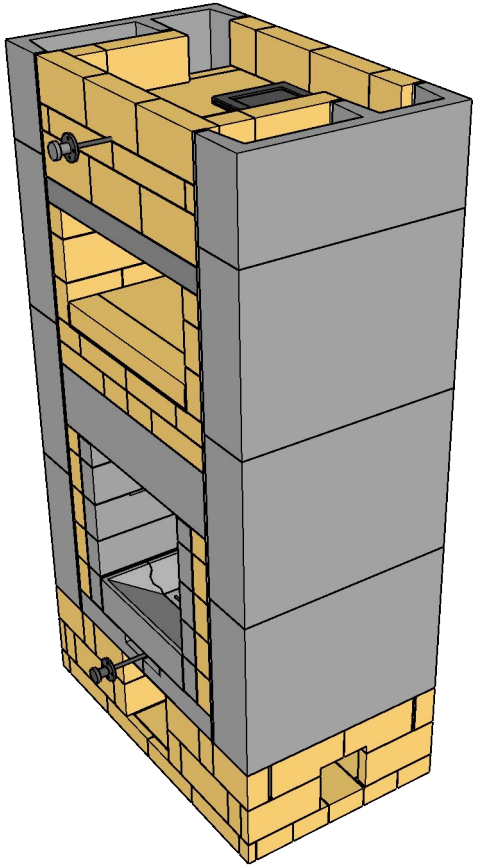
(This layer and bypass damper installation needs more detailing)



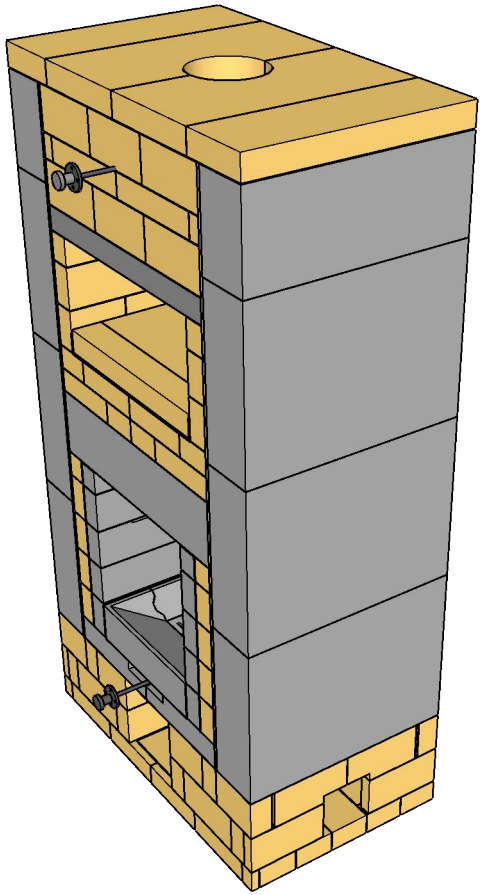
This layer can be replicated with bonded "soap" or full coarse(s) for additional height above the firebox or to make room for a hot water heat exchanger.



1) Cut strips of 1/2” wool the height of the firebox column and adhere with dabs of refractory mortar.



2) Stack 5-Run Heat Exchangers with refractory mortar. Cut to match height of column. Consider placing last full heat exchanger above cut if cutting cleanup into heat exchanger. Use ratchet straps temporarily to secure heat exchangers and then use metal banding and clips. Do not tighten all the way to full compression to allow for expansion



3) Cut chimney I.D. out of capping slabs. The chimney is ideally centered but can move front-to-back to adjust for architecture. Use either refractory mortar or high temp silicone to place capping slabs.

Completed Contraflow core with custom base.
Contraflow has sideways bypass into chimney (not pictured).
Picture for comprehension of finished core including banding.

See also articles on:
-Anchor Plate Installation
-Expansion Joints