Four-panel removable mound-layering collar

Temporarily retain a small staged soil mound around suitable propagation shoots, then remove four bolted panels outward so rooted shoots can be inspected without lifting a permanent box over them.

Capacity and fit

Clear footprint 18 x 18 in (457.2 x 457.2 mm), panel height 8 in. One small stool plant only, with soil added in crop-appropriate stages. Bottom remains fully open for drainage and roots.

Limits

Mound layering severely changes some plants; select an appropriate rootstock or shrub and protocol before placing the collar.

This is a small temporary soil form, not a raised-bed wall, retaining wall or permanent root barrier. No structural soil-pressure rating. Do not fill with stones or saturated compacted soil.

Finished component envelope

19 1/2 x 19 1/2 x 8 in / 495.3 x 495.3 x 203.2 mm (x, y, z). Solid-part envelope; operating sweep and loose purchased accessories excluded. Axes: x left-right, y front-back, z up.

Cut list - actual dimensions

Part / quantity	Finished L x W x T / material
P01 / Long wall / 2	19 1/2 x 8 x 3/4 in / 495.3 x 203.2 x 19.0 mm. Untreated pine; nominal 1x.
P02 / End wall / 2	18 x 8 x 3/4 in / 457.2 x 203.2 x 19.0 mm. Untreated pine; nominal 1x.

Hardware and consumables

- Eight purchased exterior right-angle corner brackets, two per corner, each at least 1 1/2 in legs with two 9/32 in holes per leg

- Thirty-two 1/4-20 x 1 1/2 in round-head bolts, thirty-two washers and thirty-two removable wingnuts; actual bracket thickness no more than 1/8 in

- Four temporary square-setting clamps; no adhesive or permanent corner screws

Tools

Tape measure and combination square; Pencil, clamps and safety glasses; Saw with wood blade; drill/driver and piloting bits; 120- and 180-grit abrasive; 9/32 in drill bit.

Fastener direction and joint schedule

- Bolts cross 3/4 in wall, bracket no more than 1/8 in, washer and wingnut; 1 1/2 in length provides room for full wingnut engagement. Exact hole patterns come from the actual bracket, not a universal template.

Build sequence

01. Cut paired walls and label their outside faces. Long walls overlap the ends, giving a 19 1/2 in outside square and 18 in clear interior.

02. Dry-fit on a flat surface with the end walls between long walls. Compare inside diagonals and clamp the square.

03. Place two brackets on each outer corner, centered at z = 2 and 6 in. Keep all bracket edges below the wall tops and above the soil line where practical.

04. Transfer actual bracket holes to the walls. Check the pattern keeps every hole at least 3/8 in from a wood edge; reject incompatible narrow brackets.

05. Drill 9/32 in clearance holes through the marked walls with backing blocks. Label each bracket to its corner if patterns differ.

06. Insert bolts with smooth heads inside the form, brackets and washers outside, then wingnuts. Tighten by hand without crushing the wood.

07. Test disassembly on the bench: release one bracket set at a time and move each wall outward. No cross-member may trap a central plant.

08. Choose a well-drained site and set the empty collar around a suitable stool plant without cutting roots. Level only the surface beneath the walls.

09. Add the selected medium in small crop-appropriate stages. Keep the plant crown and new shoots managed according to the chosen propagation protocol, not to the full wall height automatically.

10. When ready to inspect, support loose medium by hand, remove outside wingnuts and brackets, and ease the panels outward separately. Do not lift the assembled collar over shoots.

Acceptance checks

- Interior remains 18 x 18 in after tightening and every bolt head is smooth inside.

- Panels can be removed individually; wingnuts are reachable from outside.

- No water collects against the plant crown and no panel bows visibly during staged filling.

Use

- Use only loose horticultural medium and a crop-specific mound height. Remove the form if the site stays saturated or walls begin moving.

Care

- Empty, brush and dry after the cycle. Count hardware before storage, replace split panels and lubricate removed wingnuts away from plants.

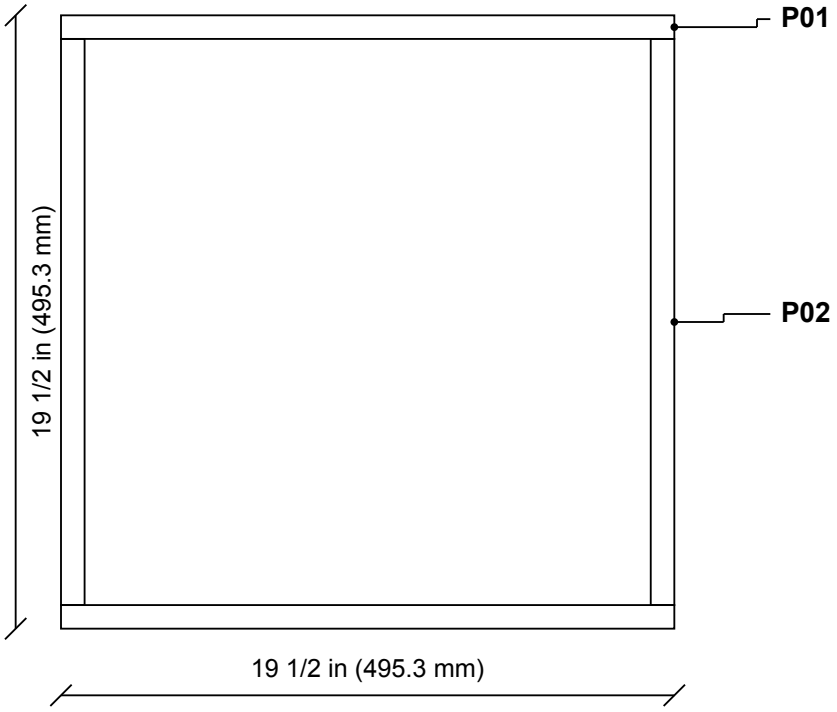
Primary context sources

Iowa State University Extension: How to Propagate Shrubs by Layering. Simple/tip and mound-layering context. No hormone, fertilizer or universal rooting schedule supplied.

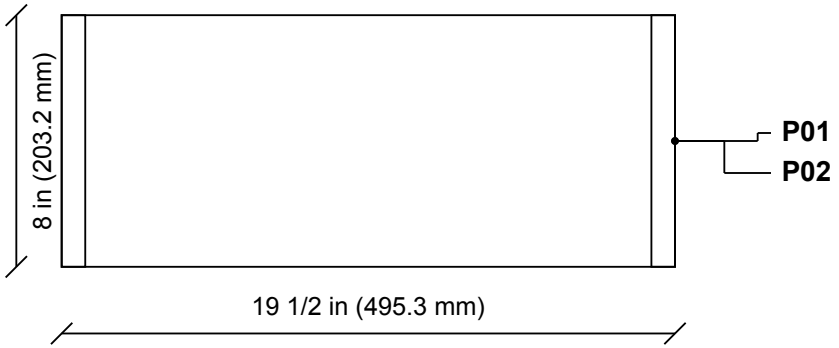
OR-005 / ASSEMBLY VIEWS

Combined tags mark coincident profiles. Repeated members share one callout. P-numbers match the cut list.

PLAN / x-y



FRONT / x-z

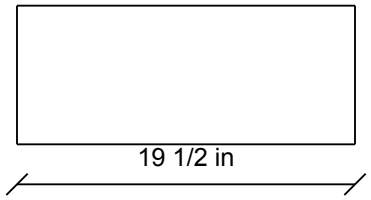


Geometry is schematic orthographic projection. Working clearances and fastener directions are specified in the text.

No scale measurement from this sheet. Use written dimensions. Unbuilt original design.

OR-005 / CUT AND MACHINING 1

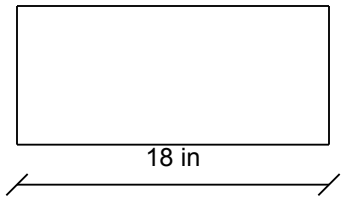
Face view: length horizontal, width vertical. T = actual thickness. Square cuts unless stated.



P01 Long wall / qty 2

19 1/2 x 8 x 3/4 in / 495.3 x 203.2 x 19.0 mm

No openings or angled cuts; break exposed edges with sandpaper.



P02 End wall / qty 2

18 x 8 x 3/4 in / 457.2 x 203.2 x 19.0 mm

No openings or angled cuts; break exposed edges with sandpaper.

Dimensions in inches control; metric equivalents are in the cut list. Hole locations are measured from the stated face corner.