Body Mold — Bolt-Block Version

A body mold that holds the rim for side-bending, lining, and radius-dish sanding, closed by bolts through ADDED blocks at the head and tail ends. The original 16 in mold stays intact; the blocks are 2 in tabs added to each end. No swing bars, no laser layer.

DRAFT v2 — Prototype, NOT yet redeployed, for figure review in chat first. v1 (on the untested page) had two errors, caught by the instructor: (1) its plan figure showed bolt holes as dots, which read as vertical holes, and (2) its blocks were 4 × 4 in, cutting into the original mold. v2 fixes both: blocks are 2 in × 4 in ADDED tabs only, original 16 in mold intact, and bolt holes are shown as rectangles along the width (horizontal) in the plan, not dots. Do NOT build from v1. Do not build class molds from v2 either until a prototype has been tested on the radius dish: close it around a scrap rim, tighten the wing nuts, and scrub hard on the dish, checking that the halves do not shift, the bolts do not loosen, and the washers do not dig into the block faces. If vibration loosening appears in that test, add the optional lock washers below and retest. The hardware below is 1/4-20 × 4.5 in bolts with wing nuts — check the bolt-length check in "Hardware needed" on the first build, before drilling.

What it is

The mold is a flat MDF frame whose bounding box is 20 in long × 12 in wide × 1-1/2 in thick, with the body-outline cavity cut through it — but it is NOT a 20 × 12 rectangle. It is the original 16 in × 12 in mold, intact, with a 2 in × 4 in tab added to each end (total length 16 + 2 + 2 = 20 in). The rim sits inside the cavity, and the mold holds the rim's shape while the neck and tail blocks and the linings go in, and while the rim is sanded on the radius dish. The mold splits on the longitudinal centerline into two halves, and the halves are closed by one bolt at each end — a bolt through the added tab at the head (neck) end and a bolt through the added tab at the tail end. The bolt is HORIZONTAL, along the width, through the tab across the split — not vertical, through the thickness. See Figure A (bolt = rectangle along the width, not a dot) and Figure B (bolt = horizontal line). Tightening the wing nuts squeezes the halves together around the rim; loosening them a few turns (without removing the bolts or nuts) relieves the squeeze so the rim slides out vertically. Top and bottom faces stay flat, so the mold sits flat either way up, and the wing nuts sit on the side faces of the blocks, inside the cutaway recesses, so they do not protrude beyond the mold's width and do not touch the dish.

Why bolts, not swing bars, for dish work: a swing bar in a 3 mm pocket has no shoulder above it to trap it — it is held down by gravity and the pocket only, and vibration and rotational scrubbing can slide it 1/4 in and lift it, with no detent stopping an accidental slide. A bolt through a block cannot slide open or lift off: the bolt is in tension when tightened (resisting separation) and in shear across the split (resisting sliding and twisting), and the wing nut must be deliberately loosened to open the mold. That is the whole point of this version.

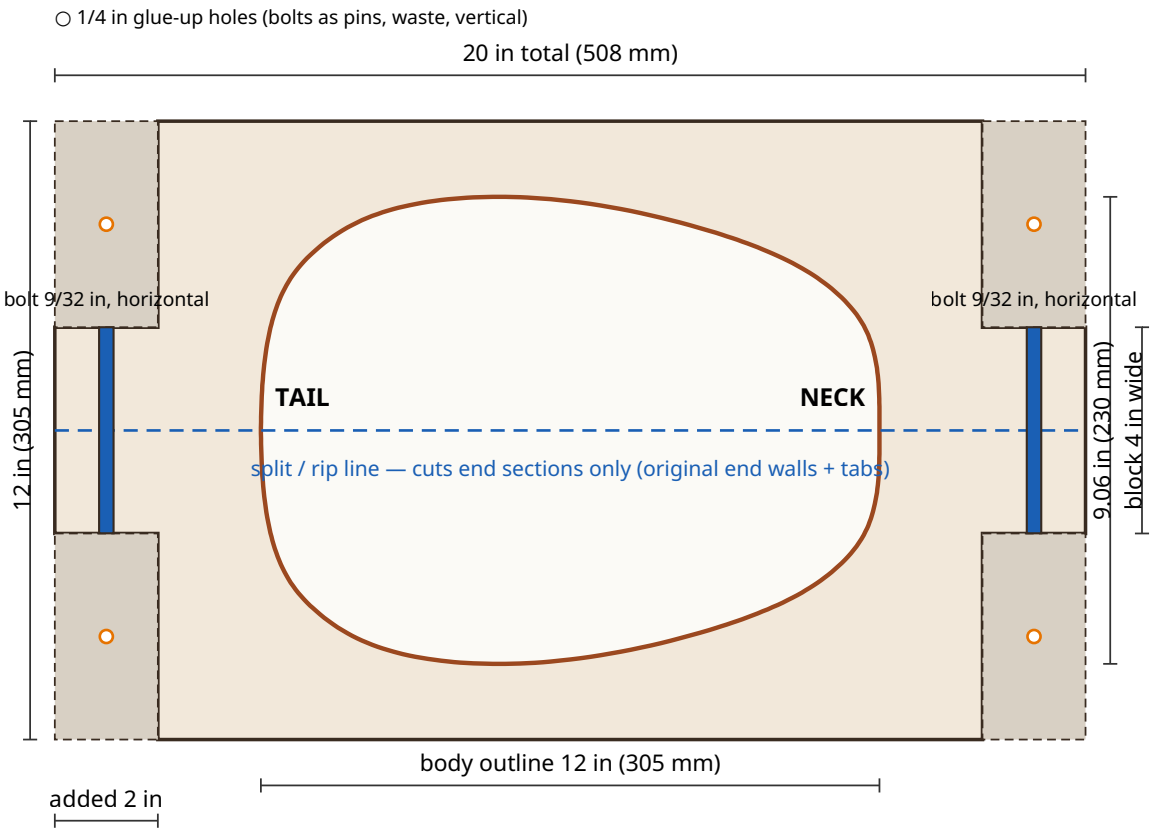
Key dimensions

Item	Dimension
Footprint	

	Stepped outline, bounding box 20 in × 12 in (508 × 305 mm): main rectangle 16 in × 12 in (original mold, intact) + added tabs 2 in long (X) × 4 in wide (Y) at each end. Total area 208 in^2. Cut from 24 in × 24 in stock with room to spare.
Stack	Two 3/4 in MDF layers, glued — 1-1/2 in total. No 3 mm laser layer, no pockets, no swing bars, no grooved studs.
Cavity	Body outline, actual size: 12 in × 9.06 in (305 × 230 mm), from the class top template (shape 514). Same outline as the rev 7 mold. Shapes 515/516 (1/16 in smaller per side) must NOT be used.
Blocks (added tabs)	One at each end (head/neck and tail). Each block is ONLY the added tab: 2 in long (X, from ±8 in to ±10 in) × 4 in wide (Y −2 in to +2 in, centered on the split) × 1-1/2 in tall (full stack height). Blocks are integral with the original end faces (X = ±8 in) — cut away ONLY the sides of the added sections (Y ±2 in to ±6 in, X ±8 in to ±10 in) and leave the central tab. The shaded corners in Figure A are those added-section cutaways only. The original end walls (X ±6 in to ±8 in, full 12 in width) REMAIN INTACT — do NOT cut into them. v1 wrongly cut away X ±6 in to ±10 in, leaving only a 4 in wide bridge and opening the frame at the ends; that is fragile and is NOT this design.
Split	Longitudinal centerline (Y = 0). Ripping cuts the end sections only: original end walls (2 in per end) + added tabs (2 in per end) = 4 in per end, 8 in total. The main-body halves are already separated by the cavity void, so the rip does not cut the main body.
Bolt holes — HORIZONTAL	9/32 in clearance holes for 1/4-20 bolts, axis along the width (Y) — HORIZONTAL in the finished mold, through the tab across the split — at X = ±9 in (tab center: 1 in from the end face and 1 in from the original end face), Z = 3/4 in (mid-height, center of the 1-1/2 in stack). Drilled AFTER the halves are separated, from inside (split face) outward, depth 2 in per half — see "Drilling the bolt holes" below. Do NOT drill bolt holes vertically from the top face: a vertical hole through the thickness does not clamp the halves together. In the plan, a horizontal bolt hole is a rectangle along the width, NOT a dot — a dot in top view would be a vertical hole.
Glue-up alignment — VERTICAL	4× 1/4 in holes at X = ±9 in, Y = ±4 in (centers of the four added cutaway rectangles, each 2 in (X) × 4 in (Y)), drilled VERTICALLY through both sheets clamped together **before** gluing, with the 1/4-20 bolts themselves as temporary pins during glue-up (heads on top, no wing nuts, tips hanging free — see "Glue-up alignment" below). No separate dowel pins needed. Holes are in waste and vanish when the cutaways are cut; they do not intersect the cavity (which ends at X = ±6 in) or the bolt holes (bolt holes are horizontal at Y = 0, alignment holes are vertical at Y = ±4 in, 4 in apart in Y). In the plan, vertical alignment holes correctly appear as circles; horizontal bolt holes appear as rectangles — do not confuse the two.
Hardware (per mold)	2× 1/4-20 × 4.5 in bolts (hex head), 2× 1/4-20 wing nuts, 4× 1 in fender washers (1/4 in hole, thin). Optional, only if vibration loosening appears in the prototype test: 2× 1/4 in split lock washers, under the wing nuts.
Rim seating (re-seated per	Lining: rim top-proud 1-1/8 in (29 mm) above the mold top, for clothespin bite. Dish work: rim bottom-proud about 5/16 in below the mold bottom, so the rim edge meets the dish and the mold clears the dish rise (about 2.5

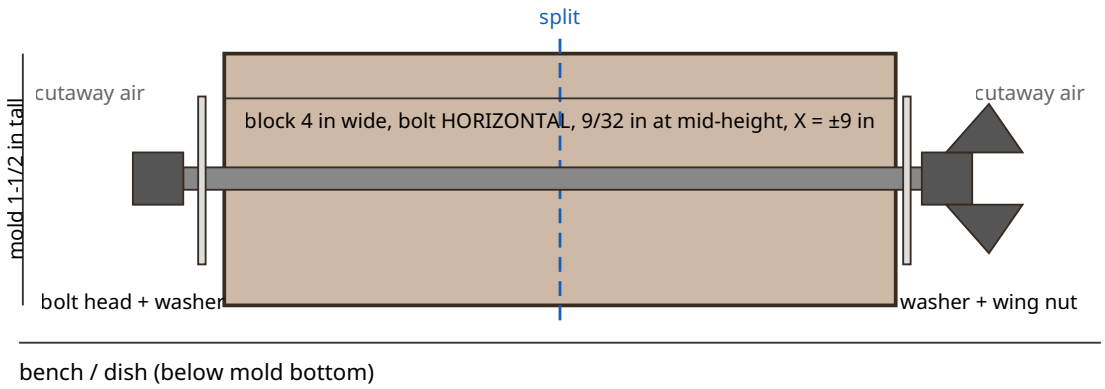
operation, not simultaneously)	mm over the body half-length for a 15 ft radius). Wax the cavity walls against glue squeeze-out, as in rev 7. A full-height (2-3/4 in) mold was rejected in rev 7 for the same reasons: it buries the side edges (no clothespin room, mold bottom hits the dish first).

Figure A — Plan (top view)



Plan, TAIL left, NECK right. Stepped footprint: main rectangle 16 × 12 in (original mold, intact) + added tabs 2 in × 4 in at each end, total bounding box 20 × 12 in; cavity 12 × 9.06 in, centered. Shaded rectangles at the far ends are the cutaways in the added sections only (2 in × 4 in each) — the original end walls (X ±6 in to ±8 in, full width) are NOT shaded and NOT cut away. Bolt holes (blue rectangles, 9/32 in, HORIZONTAL along the width) sit at X = ±9 in, spanning the tab width Y −2 in to +2 in — a rectangle, not a dot, because the bolt axis lies in the plan plane. Glue-up alignment holes (open orange circles, 1/4 in, VERTICAL) sit at X = ±9 in, Y = ±4 in, in the shaded cutaway waste — drilled before gluing, bolts used as temporary pins, holes removed when the cutaways are cut. The split/rip line (dashed) cuts the end sections only (original end walls + tabs) — the main-body halves are already separated by the cavity void. The body outline is the 514 actual-size outline; the soundhole position in the original template confirms the flat end (right, NECK) is the neck end.

Figure B — Bolt section through a block



Section at a tab center (X = ±9 in), looking along the length. The added tab (4 in wide, 1-1/2 in tall, 2 in long out of the page) spans the split; the bolt runs HORIZONTALLY along the width through the tab, with a bolt head + fender washer on one side and a fender washer + wing nut on the other. Bolt is horizontal in the finished mold. The drill-press setup in "Drilling the bolt holes" stands the half on edge so the bolt axis points down into the spindle — that is a drilling orientation only, the bolt is horizontal once the half is laid flat again. The cutaway air on either side of the block is where the head and wing nut sit — neither protrudes beyond the mold's 12 in width, and neither touches the dish below. Bolt hole 9/32 in at mid-height (3/4 in above the mold bottom). When tightened, the bolt is in tension (clamping) and in shear across the split (locating); when loosened a few turns, the halves separate by the loosening travel (about 0.15 in, see below) and the rim slides out vertically.

Hardware needed

- **2× 1/4-20 × 4.5 in bolts, hex head, steel/zinc** — one per end. The 4.5 in length is not arbitrary: it is the length that fits the 4 in block with washers and a wing nut and still leaves loosening travel. See the bolt-length check below before drilling.
- **2× 1/4-20 wing nuts** — one per bolt, on the opposite side from the head. Hand-tightened, no tools needed to open or close the mold.
- **4× 1 in fender washers, 1/4 in hole, thin** — one under each bolt head and one under each wing nut. Washers are required, not optional: a bolt head or wing nut bearing directly on MDF will dig in, crush the block face, and loosen. A 1 in washer fits within the 1-1/2 in block height with 1/4 in margin top and bottom, and spreads the clamping load.
- **Optional: 2× 1/4 in split lock washers** — under the wing nuts only, and only if the prototype dish test shows wing nuts loosening under vibration. Do not add them by default; test first, then add if needed and retest.
- **For drilling: 9/32 in twist bit** (standard length is enough — each hole is only 2 in deep, drilled from inside after separation), drill press with fence + stop (strongly preferred, see below), or a clamped guide block with a true 9/32 in hole as fallback. Square, marking gauge, calipers, straightedge, clamps, scrap backer block.
- **For glue-up alignment: 1/4 in twist or brad-point bit** for the four alignment holes, plus **4× 1/4-20 × 4.5 in bolts** as temporary pins (see "Glue-up alignment" below — no separate dowel pins, no wing nuts during glue-up; the same bolts are then reused for final assembly, 2 per mold, the other 2 as spares).

Bolt-length check (do this before drilling, on the first build). Block *width* (along the bolt axis, Y) is 4 in — block *length* (along the mold length, X) is 2 in, do not confuse the two; bolt length depends on width, not length. Block width 4 in + washers (2× about 0.05 in = 0.10 in) + wing nut (about 0.25 in) = 4.35 in. A 4.5 in bolt (shaft length, head to tip) therefore leaves about 0.15 in of thread beyond the wing nut when tightened — about 3 turns of loosening travel (1/4-20 pitch is 0.05 in per turn). That travel is enough: loosening by 0.15 in widens the cavity by 0.15 in, which relieves the squeeze on the rim so it slides out vertically without removing the bolt or nut. After tightening on the first build, check that the bolt tip protrudes about 1/8 in to 1/4 in beyond the wing nut. If the tip is flush with the nut, the washers are too thick or the block is too wide — check block width = 4 in exactly and use thin fender washers, do not just use a longer bolt and accept a long sharp tip sticking out sideways (cover any protruding tip with an acorn nut if you must use a longer bolt).

Glue-up alignment — the bolts as temporary pins

Two 20 in × 12 in × 3/4 in MDF sheets, slippery with glue, will shift sideways while you clamp them if nothing registers them — and a stepped stack means a footprint that is not square and a cavity that is not where the plan puts it. The swing-bar design solved this with its 3/8 in pivot/key holes, drilled through the stack and pinned during glue-up. This version has no pivot/key holes, so it needs a replacement that does the same job and then disappears — and the replacement is already in your hand: the bolts themselves.

Make the alignment holes 1/4 in diameter, not 3/8 in. A 1/4 in hole drilled with a 1/4 in bit is slightly oversize, and a 1/4-20 bolt shaft is slightly undersize, so a bolt slides through a 1/4 in hole with light hand pressure and almost no slop (a few thousandths) — tight enough that the sheets cannot shift by anything you would notice, loose enough to slide out after the glue cures

if glue is kept out of the holes. Steel bolts are also stiffer and more consistent than wood dowels, so the alignment is as good as the drilling, not as good as the dowel stock.

Method: before gluing, clamp the two plain sheets together (edges flush, checked with a straightedge) and drill four 1/4 in holes vertically through both sheets at once, at the centers of the four added cutaway rectangles: X = ±9 in, Y = ±4 in. Drilling through both sheets clamped together guarantees the holes are in the same positions in both sheets — that is what makes the bolts register the sheets exactly as drilled, not approximately. Then, during glue-up, drop a 1/4-20 × 4.5 in bolt into each hole, head on top, no wing nut, glue the faces, and clamp flat. The bolts prevent any sideways shift or rotation while the glue cures; regular clamps do the clamping, the bolts only register.

Handle the bolt length honestly: a 4.5 in bolt through a 1-1/2 in stack leaves about 3 in of thread hanging below the stack. Do not cure the stack flat on the bench with the bolt tips hitting the bench — that would lift the corners and cure the stack out of flat. Instead, support the stack on two parallel blocks or sawhorses placed under the middle section (X −6 in to +6 in), so the end sections (X ±6 in to ±10 in, where the alignment holes are) overhang the supports and the bolt tips hang free below the overhang. The stack stays flat on the supports, the glue cures flat, and the bolt tips touch nothing. After curing, slide the bolts out upward (heads on top, no nuts to remove), before cutting the cavity or the cutaways. If a bolt sticks, tap it out gently from below before cutting — do not cut the cutaways with bolts still in the waste, and do not force a stuck bolt (check for glue in the hole first; a little glue in a 1/4 in hole is enough to seize a steel bolt, so wipe squeeze-out away from the holes during glue-up and keep glue off the bolts themselves).

Then the holes vanish: when the cutaways are cut (Build order, step 3), the four 1/4 in holes — now empty, bolts already removed — are cut away with the waste rectangles. There is no pin-removal step at cutaway time, and no alignment hole remains in the finished mold — the bolt holes are the only holes in the finished mold, plus the cavity. Check the margins before drilling: each alignment hole center is 1 in from the end face, 1 in from the original end face, 2 in from the side face, and 2 in from the tab side face, and 3 in from the cavity edge (the cavity ends at X = ±6 in, the holes are at X = ±9 in), so a 1/4 in hole leaves about 7/8 in of material to the end faces and about 1-7/8 in to the side faces — no thin webs, no risk of breaking out. And the alignment holes cannot intersect the bolt holes: they are vertical (through the thickness, Z) at Y = ±4 in, while the bolt holes are horizontal (along the width, Y) at Y = 0 — 4 in apart in Y, even though they share the same X (±9 in).

Fallback, if you do not want to drill alignment holes: glue with the edges flush, clamp, check with a straightedge after clamping (and again after curing), and trim the stack square after curing with a flush-trim router bit or on the bandsaw. That works, but it is extra work and less accurate than bolts, especially for students — bolts are already on hand, they hold the sheets while you are busy clamping, which is exactly when a stack shifts, and they are then reused for the final mold, so the alignment costs nothing extra.

Drilling the bolt holes — after separation, from inside

Drill the bolt holes **after** ripping the mold into two halves, **from inside** — that is, from the split face outward through each tab half, **HORIZONTALLY** along the width (Y) in the finished mold. Each hole is then only 2 in deep (split face to tab side face), drilled in a single half, with no split joint to cross and no cutaway recess to reach into. Do NOT drill bolt holes vertically from the top face: a vertical hole through the 1-1/2 in thickness, at X = ±9 in, Y = 0, would lie along the split

plane itself and would not clamp the halves together at all — it would be a slot in the split, not a bolt across it. Drilling with the halves together would mean drilling into a tab face recessed 4 in in from the mold's side, through a 1-1/2 in tall recess, and crossing the split joint in the middle of the hole — all avoided by drilling after separation.

1. **Set up the drill press once, and do not move it between halves.** Stand the half on edge with the split face up (horizontal, facing the spindle), clamped to a fence so it cannot tip front-to-back. **Orientation note:** standing the half on edge rotates the mold so its width axis (Y, the bolt axis) points straight down into the drill press — that is a drilling setup only. In the finished mold, laid flat again, the bolt axis is horizontal, along the width. Do not mistake the drill-press vertical for the finished bolt direction. Set a stop so the hole lands at the tab center: 1 in in from the end face (tab X range is ±8 in to ±10 in, center ±9 in), centered in the 1-1/2 in thickness (3/4 in from either face). The fence + stop positions the hole in X and Z; the depth stop sets 2 in of travel (split face to block side face). Lock fence, stop, and depth stop, then drill all four block-half holes (neck + tail, left + right halves) with that exact setup. If the fence or stop moves between halves, the two 2 in holes will not line up by more than the bolt clearance (about 1/32 in total), and the bolt will not slide through cleanly on reassembly. Check the setup on scrap MDF first: drill a 9/32 in hole in scrap at the same setup, check diameter, position, and squareness, then proceed.
2. **Drill each block half.** Drill a 9/32 in hole from the split face outward, 2 in deep, at the tab center (X = ±9 in, Z = 3/4 in), horizontally in the finished mold (vertically down only while the half is stood on edge for the press). Feed steadily with a sharp bit; do not force it or lean on it sideways (side pressure in MDF ovals the hole, and an oval hole means a bolt that binds). Clear dust from the hole before test-fitting. Repeat for the other three block halves with the setup untouched.
3. **Test-fit before assembly.** Assemble the halves (split faces together, blocks aligned) and slide a bolt through each block (with washers, no wing nut yet). The bolt should slide through both halves with light hand pressure, no forcing, no binding, and the halves should close flush with no step at the split (check with a straightedge across the split at the blocks and at the cavity). If a bolt binds, do not force the halves together — check the holes for debris, misalignment, or an oval, and correct the setup (fence/stop moved, bit dull, side pressure) and redrill on scrap first. If a hole is misaligned by more than the clearance, do not ream it oversize to force a fit (an oversize hole lets the halves shift in dish work) — plug and redrill that block half at the correct position, or remake that half, rather than accepting a sloppy hole.
4. **Fallback (no drill press).** Clamp a guide block with a true 9/32 in hole to the split face, with the guide's hole at the tab center (1 in from the end face, centered in the thickness), and drill through the guide with a hand drill, depth stop at 2 in, checked square in two planes before drilling (square against the split face in both planes). The half lies flat for this fallback (split face vertical, drill horizontal) — again, the bolt is horizontal in the finished mold. A guide block is not as repeatable as a locked fence + stop, so check the test-fit in step 3 even more carefully, and do not rely on hand layout alone (marking with a ruler and drilling freehand will not hold the alignment the bolt needs).

Build order

1. **Drill the alignment holes, then glue the stack.** Clamp the two plain 20 in × 12 in × 3/4 in MDF sheets together, edges flush, and drill four 1/4 in holes vertically through both sheets at

X = ±9 in, Y = ±4 in (centers of the added cutaway rectangles). Then glue the faces, drop a 1/4-20 × 4.5 in bolt into each hole (head on top, no wing nut), and clamp flat — see "Glue-up alignment" above for the support trick (blocks/sawhorses under the middle, bolt tips hanging free over the overhang) and for removing the bolts after curing, before cutting. Stock: a 24 in × 24 in panel cuts this footprint with room to spare.

2. **Cut the cavity.** Cut the body-outline cavity (514, actual size, 12 × 9.06 in) through the full 1-1/2 in stack — bandsaw or jigsaw from the class top template, sanded to the line (a laser will not cut 1-1/2 in MDF). The cavity must be snug: the rim registers in it, and any play here moves the rim shape. Check the cavity against the top template before proceeding (flat end = neck, rounded end = tail, as in Figure A).
3. **Cut the cutaways — added sections ONLY.** Cut away the sides of the added sections only: for X = ±8 in to ±10 in, remove Y = ±2 in to ±6 in (both sides, both ends, four rectangles total, each 2 in (X) × 4 in (Y)), leaving an added tab 2 in long × 4 in wide at each end. Do NOT cut into the original end walls (X ±6 in to ±8 in, full 12 in width) — they stay intact, and the frame stays closed. Bandsaw or jigsaw, sanded square. Check: main rectangle is still 16 in × 12 in, tabs are 2 in × 4 in, total length 20 in, tab width = 4 in exactly (see the bolt-length check above, which depends on width, not length), tab side faces flat (for washer bearing), tab end faces square to the split. The four 1/4 in alignment holes are already empty (bolts removed after curing) and vanish with these cutaways — no pins to remove here.
4. **Rip along the centerline.** Rip the stack along the longitudinal centerline (Y = 0). This cuts the end sections only — original end walls (2 in per end) + added tabs (2 in per end) = 4 in per end — the main-body halves are already separated by the cavity void, so the rip releases the halves by cutting each end section along the centerline, each tab into two 2 in halves (in Y: Y −2 in to 0 and 0 in to +2 in). Use a fence; check that the rip line is the centerline (6 in from either side face in the middle section, 2 in from either block side face at the ends). Label the halves (e.g. left/right, or with an arrow to the neck end) so they cannot be swapped end-for-end — the halves are mirror images, and swapping them end-for-end would put the neck block at the tail end (the blocks are the same size at both ends, so a swap would still close, but the cavity outline is not symmetric front-to-back, so a swapped half would not match the other half's cavity — check the cavity outline, not just the blocks, when reassembling).
5. **Saw kerf — shim the split before drilling the bolt holes.** The drawing does not include saw kerf, and ripping a solid stack removes a slot as wide as the saw blade. Measure your kerf — bandsaw about 1/16 in to 1/8 in, table saw about 1/8 in, do not guess it, measure the slot in scrap or the width lost on this stack. Without correction, the reassembled mold is narrower by the kerf: total width 12 in minus kerf, cavity width 9.06 in minus kerf, tab width 4 in minus kerf, so the rim will be squeezed and the bolt-length check will be off by the kerf. Shim the split faces with stock totaling the kerf, split equally between the two faces (kerf/2 on each) so each tab half returns to its intended 2 in width and each main half to 6 in. Veneer is a good shim material, but do not assume one layer of veneer equals the kerf — veneer is typically about 0.5 mm to 0.8 mm thick, a saw kerf is typically 1.6 mm to 3.2 mm, so stack layers and measure the stack with calipers until it equals the kerf. Glue the shim flat to the split faces, full length of the split face (end walls and tabs, not the cavity void), trimmed flush to the cavity outline so no shim protrudes into the cavity. Then check, with the shim in place: total width 12 in, cavity width 9.06 in against the top template, tab width 4 in, halves close flush with no step. Drill the bolt holes after shimming, from the shimmed split faces outward, depth 2 in per half, so the bolt-length check (4 in tab + washers + wing nut = 4.35 in, 4.5 in

bolt, about 0.15 in protrusion) returns to the drawn numbers. CNC note: a CNC can cut the closed body outline through a solid stack, so you do not need to rip first to get the cavity — cut the cavity solid, then saw the split, then shim the kerf as above. The CNC bit offset for the cavity outline is a separate CAM setting (offset by the bit radius so the cavity size is correct before splitting); it does not replace the saw-kerf shim after splitting.

6. **Drill the bolt holes.** After separation, drill the four tab-half holes (9/32 in, HORIZONTAL, 2 in deep, from inside, tab center X = ±9 in, mid-height) with the fence + stop locked, as in "Drilling the bolt holes" above. Test-fit with bolts (no wing nuts yet) before proceeding.
7. **Wax the cavity.** Wax the cavity walls against glue squeeze-out, as in rev 7. No wax is needed on the blocks or bolt holes.
8. **Assemble and test.** Assemble the halves with bolts, fender washers (one under each head, one under each wing nut), and wing nuts. Tighten by hand. Check: mold sits flat either way up (top/bottom faces plain, no proud hardware), main rectangle is 16 in × 12 in intact with 2 in × 4 in tabs at each end (step at X = ±8 in, NOT at X = ±6 in), halves close flush with no step at the split, bolts are HORIZONTAL through the tabs and slide through cleanly, wing nuts sit inside the cutaway recesses (not beyond the 12 in width), bolt tips protrude about 1/8 in to 1/4 in beyond the wing nuts when tightened (see the bolt-length check). Then prototype-test on the dish (see "Use" below) before building class molds from this draft.

Use

1. **Close around the rim.** Place the rim in one half's cavity, place the other half against it (split faces together, blocks aligned, bolts through), add washers and wing nuts, and tighten by hand. Check the rim seats at the right height for the operation (lining: top-proud 1-1/8 in; dish: bottom-proud about 5/16 in — re-seat the rim for each operation, do not try to hold both clearances at once).
2. **Dish sanding.** With the wing nuts tight, sand the rim on the radius dish, rotating the mold in a circle. The bolts hold the halves together in tension and in shear; the wing nuts are on the block side faces, inside the cutaway recesses, above the dish, rotating with the mold, so they do not touch the dish and do not catch on its edge. If a wing nut loosens during a long sanding session, stop, retighten by hand (accessible on the side face, no need to lift the mold off the dish), and continue — and note it for the prototype test (if loosening recurs, add the optional lock washers and retest).
3. **Take the rim out.** Loosen each wing nut a few turns — do **not** remove the bolts or nuts. The halves separate by the loosening travel (about 0.15 in), the cavity widens by that amount, the squeeze on the rim is relieved, and the rim slides out vertically. Retighten for the next use. The bolts stay in the mold between uses (they act as guides while loosened, keeping the halves aligned in X and Z, so the halves cannot slide sideways while the rim is out).
4. **Adjusting later.** If the bolt holes wear or wallow out with class use (MDF holes enlarge under repeated tightening and dish vibration), do not ream them oversize — replace the block (cut a new block section and re-drill, or remake the half) rather than accepting a sloppy hole that lets the halves shift. If the block width must change (different bolt length), re-check the bolt-length check above before drilling: block width + washers + wing nut must leave about 1/8 in to 1/4 in of thread beyond the nut when tightened.

Body mold — bolt-block version — DRAFT v2, prototype, for figure review in chat first, NOT yet redeployed to the untested page (v1 remains there with the two errors above, to be replaced after review; rev 7 swing-bar mold stays on

the Jigs page). Source: bolt_build.py (parameters at the top, v2 corrections noted there). Cutting file: bolt-mold-cutting.svg (true scale in millimeters, marking-out plan only — the mold itself is MDF, cut by bandsaw, not laser-cut from that file).