GA-026 Removable drip-tube payout spindle

Unwind a lightweight coil of flexible drip tubing by hand while keeping the coil on a central spindle.

Controlling dimensions: US inches and feet. Metric equivalents are references. Original editorial design; no physical build, animal trial or load certification is claimed.

Before marking and cutting

Measure the stated stock sections before cutting. Use the cut-list geometry, not scale measurements from the drawing.

US inch dimensions control; millimeter values are rounded conversions. Ordinary cut target ±1/16 in (1.6 mm); fit commercial accessories before boring attachment holes.

Use limits

Original bounded garden component, not an occupied structure.

No human standing, sitting, climbing, lifting or fall protection use. No stated safe working load.

Geometry and fastener quantities are editorially checked; no prototype build, wind test or crop trial is claimed.

Materials and finished cuts

Part	Qty	Size to cut	Material and detail
P01 Base	1	24 × 24 × 3/4 in 609.6 × 609.6 × 19.05 mm	measured 3/4 in plywood exterior-bond plywood for protected non-food-contact fixtures
P02 Upright cheeks	2	18 × 3 1/2 × 3/4 in 457.2 × 88.9 × 19.05 mm	1 × 4 in board sound untreated cedar or other durable untreated wood
P03 Foot cleats	2	12 × 1 1/2 × 1 1/2 in 304.8 × 38.1 × 38.1 mm	2 × 2 in board sound untreated wood
P04 Axle	1	24 × 1/2 × 1/2 in 609.6 × 12.7 × 12.7 mm	1/2 in dowel smooth hardwood

Hardware and consumables

8 #8 × 1-1/2 in screws for cleats

8 #8 × 2 in screws for cheek/cleat joints, 4 each

4 removable collars for 1/2 in axle: 2 outside cheeks, plus 2 to retain optional discs against a loose coil

2 smooth reel discs cut from 1/2 in plywood, 12 in diameter, with 9/16 in center holes; optional only if a loose coil has no rigid reel

Tools

Tape measure and steel rule; Pencil, square and clamps; Saw suited to the stated stock; eye and hearing protection; Drill/driver, countersink and bits matched to fasteners; Sandpaper and edge file; gloves when handling cut mesh

Primary context and design record

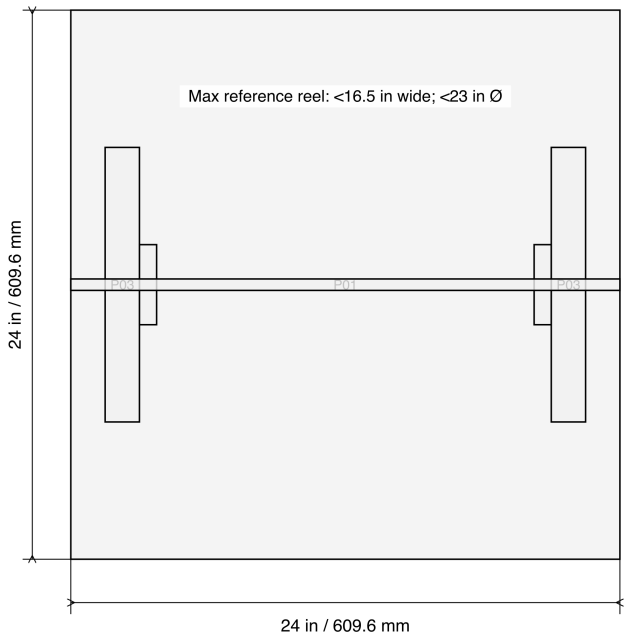
Context references; not design endorsements or certifications.

E08 · Irrigating the Vegetable Garden · Colorado State University Extension · https://extension.colostate.edu/resource/irrigating-the-vegetable-garden/

Assembly and first checks

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PLAN — looking down; rear at top; controlling dimensions in inches



Part IDs refer to the finished cut list. Shapes are not load-rated. Read assembly before cutting.

Notches, holes, fittings and operating angles: see numbered steps and geometric annotations.

Original editorial draft • B/W vector • not physically built or tested • no implied Extension endorsement

01 Plan the removable drip-tube payout spindle for this result: Unwind a lightweight coil of flexible drip tubing by hand while keeping the coil on a central spindle. Confirm the design reference before cutting: Axle rotates freely and both retainers stay outside cheeks. In the drawings x runs left to right, y runs front to rear and z runs upward.

02 Verify the required stock before laying out these parts: 1 × 4 in board: actual 0.75 × 3.5 in (19.05 × 88.9 mm); 2 × 2 in board: actual 1.5 × 1.5 in (38.1 × 38.1 mm); 1/2 in dowel: measured diameter 0.5 in; measured 3/4 in plywood: measured thickness 0.75 in. Reject split or twisted wood and unknown salvage; thinner stock requires recalculating the joints, not simply using the listed lengths.

03 Cut and label the finished parts: 1 Base 24 × 24 × 0.75 in (609.6 × 609.6 × 19.05 mm), mark P01; 2 Upright cheeks 18 × 3.5 × 0.75 in (457.2 × 88.9 × 19.05 mm), mark P02; 2 Foot cleats 12 × 1.5 × 1.5 in (304.8 × 38.1 × 38.1 mm), mark P03; 1 Axle 24 × 0.5 × 0.5 in (609.6 × 12.7 × 12.7 mm), mark P04. Keep saw kerf outside each finished line. Rip only where the finished width is narrower than the actual stock; use a suitable guide and target ±1/16 in (1.6 mm) for ordinary cuts. Dowel triples mean length × diameter × diameter, not square dowel stock.

04 Place cleats on the base at x = 1-1/2 and 21 in, y = 6–18 in. Fasten each through the base with four 1-1/2 in screws.

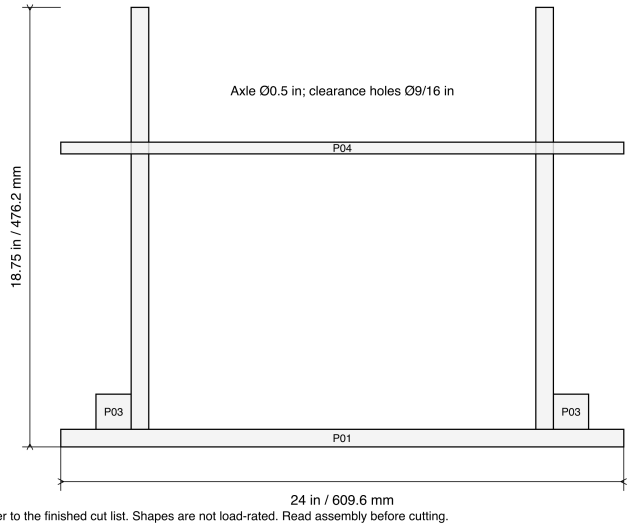
05 Stand cheek boards inside the cleats, at x = 3–3-3/4 and 20-1/4–21 in. Their lower ends rest on the base.

06 Fasten each cheek horizontally through its 1-1/2 in-wide outside cleat using four #8 × 2 in screws in a staggered pattern. The remaining 1/2 in enters the 3/4 in cheek; verify no point emerges. Predrill and keep the cheek at the stated 18 in reference height.

Complete the assembly

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FRONT — transparent assembly projection from y = 0; controlling dimensions in inches



Part IDs refer to the finished cut list. Shapes are not load-rated. Read assembly before cutting.

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07 Mark axle centers on both cheeks at y = 12 in, z = 12-3/4 in. Clamp a drilling guide so both 9/16 in holes align.

08 Drill the aligned holes and sand them smooth. Slide the 24 in, 1/2 in-diameter dowel through both cheeks without force.

09 Fit the actual lightweight tubing reel on the axle between the cheeks. Its width must be less than 16-1/2 in and its diameter less than 23 in to clear the base.

10 If using loose tubing, fit two 12 in reel discs on the axle against the coil and retain them with collars; list these discs as auxiliary circular parts, not an assumed rectangular offcut.

11 Install end collars outside both cheeks and pay out tubing by hand from a short distance. Stop if the base lifts, the dowel bends or loops snag; do not pull with a vehicle or pressurize tubing on the reel.

12 Complete the acceptance checks below before putting the assembly into service. Record any changed stock thickness, fastener or equipment fit on the project sheet. The published geometry has not been physically built or load-tested.

Acceptance and intermediate checks

Axle rotates freely and both retainers stay outside cheeks.

Reel clears base by at least 1/2 in; no hose kinking or cheek rubbing.

Operation

Manual lightweight coil organizer only; no mass rating. Optional discs are specifically dimensioned auxiliary parts.

Cleaning and maintenance

Store dry, remove the dowel when not needed and replace a bowed axle.