GA-037 Cylinder tree-guard forming jig

Roll a specified wire panel into a smooth cylinder while capturing its cut edge for subsequent fitting around a young tree.

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 × 18 × 3/4 in 609.6 × 457.2 × 19.05 mm	measured 3/4 in plywood exterior-bond plywood for protected non-food-contact fixtures
P02 Forming posts	4	18 × 1 1/2 × 1 1/2 in 457.2 × 38.1 × 38.1 mm	2 × 2 in board sound untreated wood
P03 Edge clamp strip	1	18 × 1 1/2 × 3/4 in 457.2 × 38.1 × 19.05 mm	1 × 2 in board sound untreated cedar or other durable untreated wood; no unknown salvage

Hardware and consumables

16 #8 × 1-1/2 in screws for posts, 4 each from base underside

2 bench clamps for the edge clamp strip

Wire mesh selected for the actual pest/tree objective; cut edges rolled/capped, not left exposed

Soft ties for final guard; no direct fasteners into bark

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.

E01 · Raised bed gardens · University of Minnesota Extension · https://extension.umn.edu/garden-and-home/yard-and-garden/gardening-in-minnesota/raised-bed-gardens

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 cylinder tree-guard forming jig for this result: Roll a specified wire panel into a smooth cylinder while capturing its cut edge for subsequent fitting around a young tree. Confirm the design reference before cutting: Jig clamped firmly; all four posts square and screws buried. 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 × 2 in board: actual 0.75 × 1.5 in (19.05 × 38.1 mm); 2 × 2 in board: actual 1.5 × 1.5 in (38.1 × 38.1 mm); 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 × 18 × 0.75 in (609.6 × 457.2 × 19.05 mm), mark P01; 4 Forming posts 18 × 1.5 × 1.5 in (457.2 × 38.1 × 38.1 mm), mark P02; 1 Edge clamp strip 18 × 1.5 × 0.75 in (457.2 × 38.1 × 19.05 mm), mark P03. 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 Mark post lower-left coordinates at (5,5), (17-1/2,5), (5,12-1/2) and (17-1/2,12-1/2) in. Posts rise 18 in from the base.

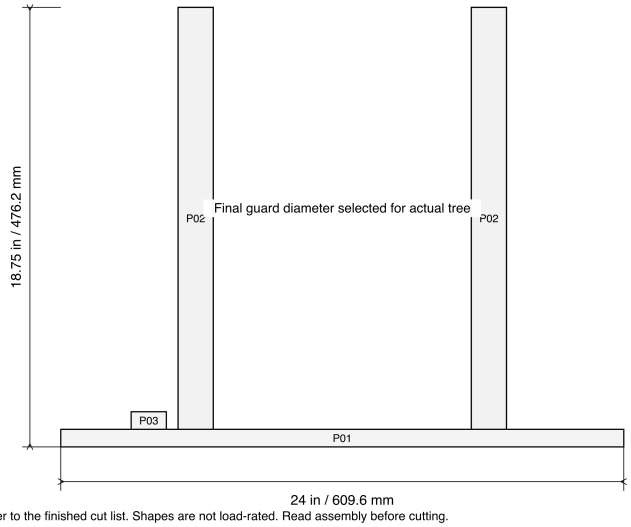
05 Fasten each post with four 1-1/2 in screws from beneath the base, pilots clear of post edges. Add glue if desired and let it cure before bending wire.

06 Clamp the entire jig to a stable bench. Fit the 18 in edge strip at x = 3 in as a removable hand clamp; do not permanently screw it to a wire panel.

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.

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

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07 Measure the target tree and select a final guard diameter with enough clearance for growth and maintenance, following a species/pest-specific Extension guide. The post rectangle is a shaping aid, not a mandatory tree diameter.

08 Cut the mesh panel to the selected circumference plus its seam overlap, using circumference = pi × diameter. For a 12 in example diameter with 2 in overlap, cut 39.70 in width; mark actual chosen dimensions.

09 Trap the first cut edge beneath the clamp strip and slowly bend the panel around the posts wearing eye protection and cut-resistant gloves. Keep hands clear of springing wire.

10 Release the strip and finish the seam with a folded/capped smooth edge and removable ties. Trial-fit away from the tree before installation.

11 Fit around the tree without touching bark and secure to independently chosen supports if needed. Inspect regularly and enlarge/remove before the guard restricts trunk growth; do not leave sharp wire against a tree.

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

Jig clamped firmly; all four posts square and screws buried.

Final cylinder dimension is recorded for the actual tree, with smooth guarded edges and bark clearance.

Operation

This project is the reusable forming jig, not a universal pest-proof or wildlife-proof guard.

Cleaning and maintenance

Remove wire scraps and inspect posts after each forming session.