PO-004 Manual sliding pop-door track assembly

Close an existing 14 × 14 in bird opening with a removable upward-sliding panel, using a positive latch rather than a hanging cord.

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

Read every step and identify the installed orientation. Make the component off-site with birds excluded.

Measure the actual receiving space, chosen commercial accessories and access route. Stop if the example does not fit; changing only one member can invalidate the assembly.

Reject split, warped, moldy or chemically contaminated stock. Keep exposed mesh cut ends and all sharp fasteners inaccessible to birds.

The drawing dimensions control; illustrations are not full-size templates. Allow a saw kerf between parts when laying out stock.

Use limits

Example fits only the defined existing opening and mounting zone; do not leave birds unattended until operation and actual fit are observed.

No automatic actuator, electrical wiring, hanging rope or counterweight is included.

This component has no predator-resistance test or structural wall approval.

Materials and finished cuts

Part	Qty	Size to cut	Material and detail
A Wall backing rail	2	38 × 2 1/2 × 3/4 in 965.2 × 63.5 × 19.05 mm	Untreated sound straight softwood. Square ends; remove splinters.
B Outer track spacer	2	38 × 3/4 × 3/4 in 965.2 × 19.05 × 19.05 mm	Untreated sound straight softwood. Square ends; remove splinters.
C Front keeper rail	2	38 × 2 1/2 × 3/4 in 965.2 × 63.5 × 19.05 mm	Untreated sound straight softwood. Square ends; remove splinters.
D Sliding leaf	1	20 1/4 × 18 × 1/2 in 514.35 × 457.2 × 12.7 mm	Exterior-bond plywood, measured actual thickness. Square ends; remove splinters.
E Between-track bottom stop	1	20 1/2 × 3/4 × 3/4 in 520.7 × 19.05 × 19.05 mm	Untreated sound straight softwood. Square ends; remove splinters.

Hardware and consumables

8 × #8 corrosion-resistant exterior wood screw 1 1/4 in (31.75 mm). Spacer to backing [N1]

10 × #8 corrosion-resistant exterior wood screw 2 in (50.8 mm). Keeper through spacer into backing [N1]

2 × #8 corrosion-resistant exterior wood screw 1 1/2 in (38.1 mm). Bottom stop [N1]

2 × Positive captive pin latches. Separate closed and fully raised positions

1 × Door pull and smooth-ended through-bolts. Maker-specific, short enough to avoid bird contact

1 × Substrate-specific backing anchors. Quantity and type determined from actual existing wall; not included in the screw count

N1 applies to every entry marked [N1]: Use compatible coatings/metals and the maker's pilot-hole guidance; do not substitute drywall screws.

Tools

Tape measure, square and pencil; Saw appropriate to material and work supports; Drill/driver, countersink and pilot bits selected for the screws; Clamps, sanding block and eye/hearing protection; dust control appropriate to the material

Primary context and design record

Context references; not design endorsements or certifications.

S3 · Small-Scale Poultry Housing · Penn State Extension

S2 · Build a Clean Routine · USDA APHIS Defend the Flock

Assembly and first checks

The large drawing plates follow the instructions in this same PDF. Read the cut list and match part IDs before cutting. Print with automatic page orientation; use written dimensions rather than measuring the printed drawing.

01 Confirm an already framed, finished 14 × 14 in (355.6 × 355.6 mm) opening. This plan does not authorize cutting studs or altering a structural wall.

02 Establish a 22 in (558.8 mm) wide by 38 in (965.2 mm) high mounting zone; the opening runs from x = 4 to 18 in and z = 2 to 16 in relative to its lower-left corner.

03 Cut A, B and C to 38 in. Sand their edges; keep the two spacer B strips an accurate 3/4 in (19.1 mm) wide and thick.

04 Attach A to the inspected supporting wall, with the left rail x = 0–2 1/2 in and the right x = 19 1/2–22 in. Use site-selected fasteners appropriate to the actual substrate; thin siding alone is not an anchor.

05 Place B on the far outside edge of each A. Fix each B with four 1 1/4 in screws, 2 in (50.8 mm) from its ends and at two evenly spaced intermediate positions.

06 Cut E to 20 1/2 in (520.7 mm). Fit it horizontally between B at their lower ends, on A's front plane; attach at its ends through the spacers with one 1 1/2 in screw per end.

07 Cut D to 20 1/4 × 18 in (514.4 × 457.2 mm), ease its corners, and seal/cure all edges before fitting it into the 20 1/2 in wide track cavity.

08 Fix C over each B with five 2 in screws on the B centerline. C overlaps the sliding leaf's edges; it must not pinch the leaf against A.

09 Test the leaf at full travel: closed lower edge z = 3/4 in; raised lower edge z = 16 3/4 in (425.5 mm), which clears the opening. The raised top remains below the 38 in track end.

10 Fit a bought handle with short through-bolts and smooth nuts, then install one positive pin latch for the closed position and a separate captive stop pin for the fully raised position; hardware holes must stay outside the bird passage.

11 Cycle the door 20 times by hand without birds. Confirm 1/8 in (3.2 mm) side clearance per edge, no pinch, full closure onto E and independent retention when raised.

12 Supervise first use. Never rely on friction, a dangling lift cord or this wood panel alone as a certified predator barrier; inspect and latch it on the actual flock schedule.

Acceptance and intermediate checks

A rails are parallel; their outer faces span 22 in. The inner B faces span 20 1/2 in.

The leaf cavity is 3/4 in deep around a 1/2 in panel, leaving 1/4 in (6.4 mm) total running depth.

Raised and closed positive retainers engage without hand support and cannot fall into the passage.

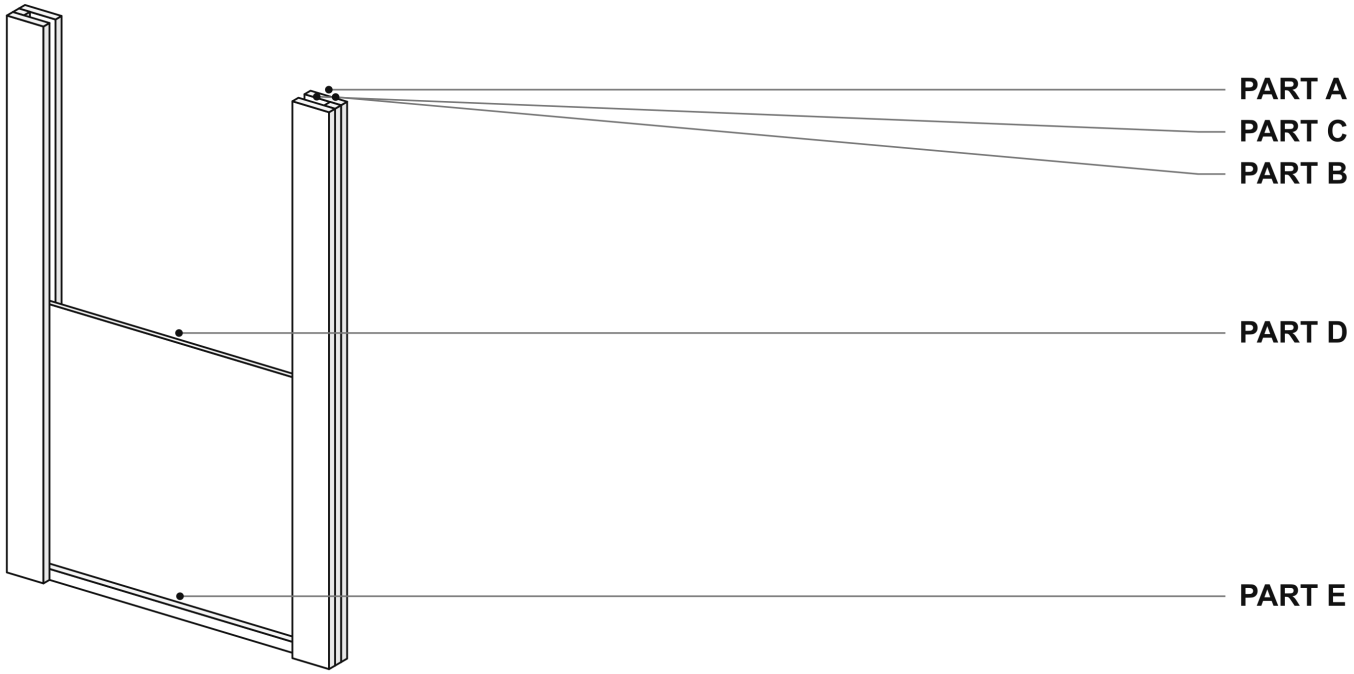
No cord loop, sharp bolt, pinch point accessible from the bird side or unguarded opening remains.

Cleaning and maintenance

Inspect before each use for splits, loose joints, protruding points and trapped debris. Remove accumulated litter or manure promptly. When cleaning is needed, move birds away, remove debris first, wash and use only a suitable label-directed product if disinfection is indicated; let the item dry before return. Recheck the fit after seasonal wood movement. Replace cracked panels, rusted fasteners or frayed liners instead of concealing damage. Sand accessible edges to a small smooth radius. Use a removable washable contact liner where specified. Any optional coating must be suitable for the intended animal-equipment use and fully cured according to its label before installation. Porous wood is not represented as a disinfectable food-contact surface.

PO-004 | ASSEMBLY GEOMETRY

Manual sliding pop-door track assembly



Displayed schematic envelope (x × y × z):

22 in × 2 1/4 in × 38 in / 558.8 × 57.1 × 965.2 mm

Part letters match the cut list. Hardware/anchors are described in the steps.

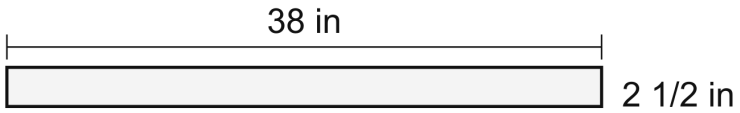
Original schematic • dimensions control • untested editorial draft

x = left/right; y = front/rear; z = height.

PO-004 | DIMENSIONED PARTS 1 OF 2

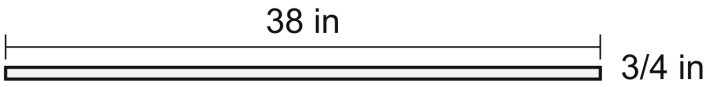
Finished sizes; allow for saw kerfs. Match part letters to the materials list.

A Wall backing rail ×2



Metric face: 965.2 × 63.5 mm
Thickness: 3/4 in / 19.05 mm
Stock and special cuts: materials list.

B Outer track spacer ×2



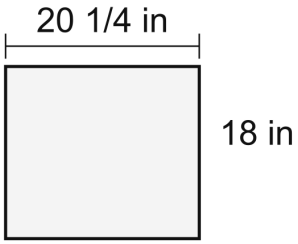
Metric face: 965.2 × 19.0 mm
Thickness: 3/4 in / 19.05 mm
Stock and special cuts: materials list.

C Front keeper rail ×2



Metric face: 965.2 × 63.5 mm
Thickness: 3/4 in / 19.05 mm
Stock and special cuts: materials list.

D Sliding leaf ×1



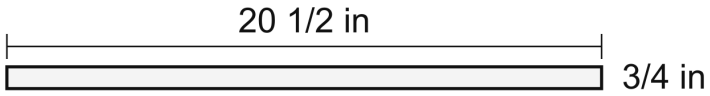
Metric face: 514.4 × 457.2 mm
Thickness: 1/2 in / 12.70 mm
Stock and special cuts: materials list.

Original B/W vector drawing • US inches control • unbuilt / untested

PO-004 | DIMENSIONED PARTS 2 OF 2

Finished sizes; allow for saw kerfs. Match part letters to the materials list.

E Between-track bottom stop ×1



Metric face: 520.7 × 19.0 mm
Thickness: 3/4 in / 19.05 mm
Stock and special cuts: materials list.

Original B/W vector drawing • US inches control • unbuilt / untested