PO-007 Stand-off interior draft deflector

Redirect a direct air jet from an existing high vent without closing the vent or reducing it to a tiny slot.

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

No person may stand or sit on this component. No tested load rating is claimed.

A site-specific safe location and supervision are required; remove it if birds become trapped, peck damaged material, or cannot use their normal feed, water, shelter and escape routes.

Materials and finished cuts

Part	Qty	Size to cut	Material and detail
A Deflector plate	1	28 × 12 × 1/2 in 711.2 × 304.8 × 12.7 mm	Exterior-bond plywood, measured actual thickness. Square ends; remove splinters.
B Stand-off block	4	3 × 1 1/2 × 1 1/2 in 76.2 × 38.1 × 38.1 mm	Untreated sound straight softwood. Square ends; remove splinters.

Hardware and consumables

4 × 1/4 × 5 in corrosion-resistant through-bolt. For the stated 4 1/4 in wood stack only; verify nut engagement

8 × 1/4 in washers. One under each bolt head and nut

4 × 1/4 in locking nut and end cap. Keep all threads inaccessible

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.

S1 · Caring for chickens in cold weather · University of Minnesota 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 Select an existing high wall vent no larger than 24 × 6 in (609.6 × 152.4 mm) for this example. The 28 × 12 in plate must be above the birds and out of their landing route.

02 Confirm that a 3 in (76.2 mm) open perimeter gap can remain around the plate; do not install inside an enclosure where side airflow paths would be blocked by shelves or insulation.

03 Cut A to 28 × 12 in from actual 1/2 in plywood; sand every edge and fully cure any compatible edge finish before installation.

04 Cut four B blocks to 3 in long from actual 1 1/2 in square stock. Mark the center of both end faces.

05 Place each B at a plate corner: left blocks x = 0–1 1/2 in, right blocks x = 26 1/2–28 in; bottom/top blocks occupy the corresponding 1 1/2 in strips.

06 Clamp blocks to A and drill a 9/32 in (7.1 mm) clearance hole through each block and its plate position on the same axis, using a backing board to reduce breakout.

07 With the actual wall exposed and inspected, transfer the four hole centers. This example assumes accessible sound 3/4 in wood backing; stop if the wall is hollow, structural alterations are needed, or the reverse face is inaccessible.

08 Fit four 1/4 × 5 in through-bolts from the room side through washer, A, B and the 3/4 in backing. Add rear washers and locking nuts; trim/cap any remaining point on the reverse side.

09 Tighten gradually until the spacers seat without crushing the plate. Do not pull an irregular wall flat by bending A.

10 Measure the stand-off at all four corners: 3 in clear from wall face to back of A. Ensure no bedding, curtain or loose foam can migrate into that gap.

11 Observe moisture and drafts under actual conditions; a redirected jet is not evidence of adequate air exchange. Remove or redesign the deflector if condensation, odor or poor air quality develops.

12 Remove the four nuts for periodic cleaning, with birds excluded. Return the same spacers to retain the full opening and dry all components before reinstalling.

Acceptance and intermediate checks

Stand-offs have equal 3 in length; all four bolt axes align without forcing the plate.

The assumed wall stack is 1/2 + 3 + 3/4 = 4 1/4 in (108 mm), leaving nut/washer allowance on the 5 in bolt; verify actual hardware before drilling.

Air paths around the plate remain unobstructed and bolts cannot contact birds or handlers.

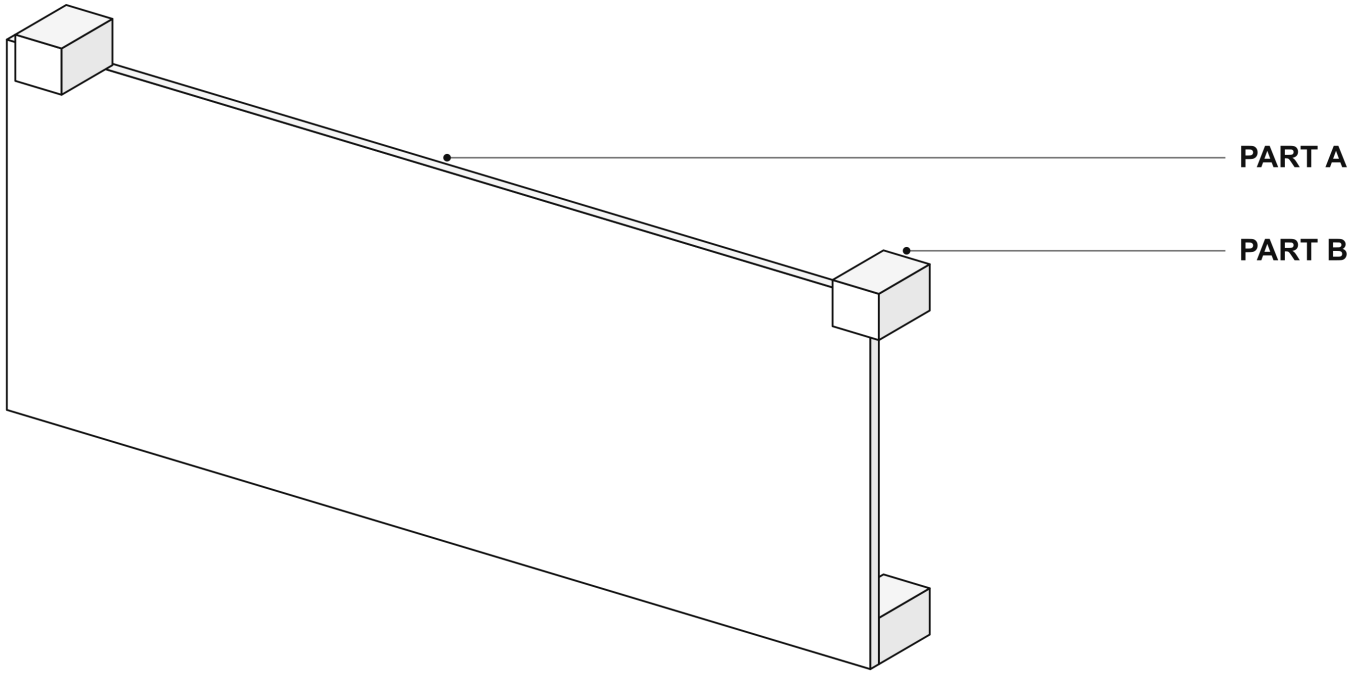
Existing ventilation adequacy is checked separately; no vent-sizing or cold-weather health claim is made.

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-007 | ASSEMBLY GEOMETRY

Stand-off interior draft deflector



Displayed schematic envelope (x × y × z):

28 in × 3 1/2 in × 12 in / 711.2 × 88.9 × 304.8 mm

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

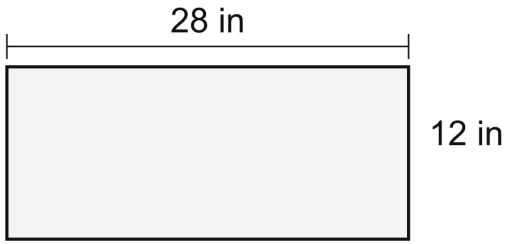
Original schematic • dimensions control • untested editorial draft

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

PO-007 | DIMENSIONED PARTS 1 OF 1

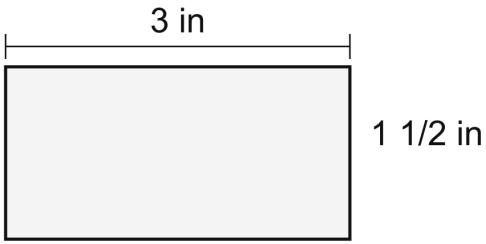
Finished sizes; allow for saw kerfs. Match part letters to the materials list.

A Deflector plate ×1



Metric face: 711.2 × 304.8 mm
Thickness: 1/2 in / 12.70 mm
Stock and special cuts: materials list.

B Stand-off block ×4



Metric face: 76.2 × 38.1 mm
Thickness: 1 1/2 in / 38.10 mm
Stock and special cuts: materials list.

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