Dutch Hen House

During our search for the right hen house, we were invited to the home of Dr. D.S. Smith of Hillsborough, California to see the coop he had built and the chickens living in it. The moment my wife and I saw it in his yard, we knew immediately this was the coop for us. With a footprint of 36 inches × 90 inches, it was compact enough to fit nicely in our small, urban backyard yet was very functional, with a roost area that is raised to increase the size of the scratching pen and a removable nest box, and large enough for the 3 hens we were planning on. The material list and construction were simple. We especially liked the fact that the design is based on full sheets of plywood and efficiently utilizes most of the cutout areas for internal walls, floor, nest box and ramp, with very little waste.

Dr. Smith told me that this design originated in the Netherlands and that he found it on the Internet some years ago. Alas, that site can no longer be found on the web, but recently Tom of UK told me the name of the originator. So I'm happy to finally give credit to Joke Oisinga, who originally posted this design on the web. Thank you!

Dr. Smith gave me the basic instructions and schematic drawings. However, I found them rather difficult to follow, despite having a lot of experience in building things. So I decided to use my drafting skills to create more detailed scaled drawings so that even someone who has never built anything before would be able to build this hen house. I also made several small modifications to the original design.

The design assumes an earthen floor, which becomes the chickens’ scratching area and run. The hen house can be set on a series of bricks or 2 × 4s to keep it off the soil. And of course, the design can be reversed so that the nest box is on the right side, if necessitated by the location or other requirements. The exterior of the hen house can be painted or varnished, as you wish.
Materials list:

- 4 pieces of $\frac{1}{2}$-inch-thick 4'×8' plywood (actual thickness is 0.4851 inches)
- 13 pieces of 8-ft long, pine 1×2s (the actual dimensions are .75"×1.5"×8")
- Roughly 200 self-drilling sheet rock screws (size 6, 1.25-inch long, finely threaded)
- 2 dozen size-6, 2" self-drilling wood screws
- 2 L-braces (about 2” on each side)
- 4'×8' hardware cloth (1/2” mesh)
- 8 hinges + sufficient no. of size-6, ½” wood screws
- 3 window latches
- 3 window bolts
- 2 sets of magnetic cabinet door catches
- 1 safety hasp (for the nest box)
- 2 each of hooks and eyes (for the ramp)

Approximate material cost: $200.00

Tools you will need or that will be nice to have:

- Circular saw with a blade designed for plywood (A coarser blade will produce a jagged edge.)
- Saber saw (jig saw) with a fine-toothed blade
- Electric drill (A cordless type is better. If you have two, that would be even better since you can use one to drill pilot holes and the other for driving in screws.)
- 3-foot ruler
- Utility knife
- No. 2 pencil (for drawing patterns on plywood) and a good eraser
- Metal scissors (for cutting hardware cloth)
- Tape measure (12 ft will suffice)
- Triangular rules (useful for drawing parallel and perpendicular lines)
- Miter box (for cutting the frame pieces into sections)
- Handsaw (for cutting the frame pieces into sections)
- Staple gun (for securing the hardware cloth)
- Protractor (for measuring angles)
- Hand plane or belt sander (for obtaining the 6-degree angles for the roof)
- Leather gloves (Plywood can be an endless source of splinters.)
- Safety goggles
- Earmuffs or earplugs
- Sandpaper (grade 100)
- Dust mask
1. Mark three of the plywood pieces following:

Drawing 1 for the Front panel  
Drawing 3 for the Side panels  
Drawing 5 for the Back panel  

Wearing gloves, place a piece of plywood on a patio table or something that will keep it at a comfortable height to work with. Use a No. 2 pencil and sharpen it often to prevent the drawn lines from becoming too wide.

Tools for measuring and marking

2. Cut out the marked pieces.

Wear safety goggles!

1) For both outside and inside cuts, it is best to support the plywood on two low tables of equal height and position the cutting line between them. This will help you make clean cuts and prevent pieces from tearing away as the cut reaches the end.

2) Smooth all cut ends by sanding with sandpaper wrapped around a piece of scrap lumber.

For straight outside cuts:

Use a circular saw. (You could use a handsaw if you want a good, long, upper-body workout!)

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For inside cuts (cutting out inside openings):

*Important!* The largest piece cut out of the front panel will become the inside wall of the roost, and the piece cut out of the Side Panel B will become the roost floor. These pieces in particular must be cut to the exact dimensions in order to fit. So when cutting them out, be sure to place the blade just outside the marked line, rather than on it or inside it.

**Starter holes:** If you are experienced with the use of a circular saw or saber saw, you could try plunge cutting, but it is difficult to precisely control the blade position. If you do not know what plunge cutting is, don't even ask. Take the safer route of creating starter holes. Use a 1/16-inch drill bit and drill several holes slightly apart to cover about ¼ inch. Carefully connect the holes using a utility knife. Then, insert a saber saw blade into the opening and begin cutting. Do not apply excessive force moving the blade forward, or it will break.

Front panel

Back panel with interior frame pieces and perch socket, which are installed later
Side Panel A with venting window and nest-box opening cut out, and with the external frame piece, which is installed later.  

Side Panel B

Roost floor cut out of Side Panel B

Inside wall cut out of Front Panel

Roof with frame pieces, which are installed later
Notes:
1) The top of the back panel must be cut at a 6-degree angle from horizontal in order to ensure a secure fit with the roof. (Set the circular saw blade 6 degrees from vertical, tilted toward the center of the plywood, and cut along the 44-inch line.)

2) I did not include photos of the roost door, the people door, or the individual pieces for making the nest box. See the drawings for these pieces.

3. Measure, cut, and screw the 1×2 frame pieces into their specified positions.

Measure and mark each frame piece. Use a miter box and a handsaw to cut the frame pieces. Then using a drill with a Phillips screw bit and drywall screws, secure them to the appropriate panels. Since these screws are self-drilling, you should not have to drill pilot holes. However, if you encounter splitting of the 1×2s, drill pilot holes first.

Lay the plywood on solid flat ground such as a concrete patio and put your foot (or two feet if you can) on top of the 1×2 in order to prevent it from rising away from the plywood during the screwing operation. If you are too lightweight to exert enough force, call one of your sumo wrestler friends over and have him stand on the 1×2.
Inside of Side Panel A with internal frame pieces installed

Outside of Side Panel A with external frame piece installed, and the venting window cover, which is installed later

Side Panel B with frame piece installed. (Hardware cloth is installed later.)

Inside of the interior wall with frame piece installed

*For installation of frame pieces on the back panel and the roof panel, see the photos in Section 2 above.

**Note:**
The top of the front and back frame pieces for the underside of the roof must be planed or sanded along their length to a 6-degree angle to ensure a tight fit with the front and back panels. The edges of the side frames for the underside of the roof must also be cut at a 6-degree angle (parallel to each other) to fit snugly between the front and back frame.
pieces. The screws are drilled in from the bottom side in order to keep the roof surface intact. For this step, drill pilot holes through the 1×2 first and use the 2-inch screws.

![Hand plane](image)

![Belt sander](image)

Side view of the rear roof frame piece with side frame piece butting against it, both attached to the roof

Side view of the front roof frame piece with side frame piece butting against it, both attached to the roof

4. **Measure, cut, and staple hardware cloth.**

Wear goggles and leather gloves when handling hardware cloth. It can snap back at you if you accidentally let it go. If you do not have a pair of metal scissors, you could use a cutting pliers (which will take a long time) or even old garden shears that you are willing to part with afterwards.

When cutting, leave as close to a 2-inch margin as possible. Using a staple gun and 8- or 10-mm staples, staple the hardware cloth into place every 3 inches or so.

Install the hardware cloth in the following areas:
- Side Panel B
- Front panel and people door
- Venting window on Side Panel A
5. Install hinges, door latches, and locks

In addition to door latches, I used window bolts on both doors for added protection against raccoons and other predators; I only used a bolt on the venting window.

Install the hinges, bolts and latches on the two doors, and the hinges and bolt on the venting window. Place the doors in the openings and attach the other side of the hinges. Then, install the catching sides of the bolts and latches. At this stage, you can install the hinges on the nest box cover, but do not install it onto Side Panel A yet.

Door latches, window bolts, and hinges
6. Measure, mark and cut nest box pieces and assemble, following Drawing 8

All the pieces needed for the nest box, including the removable partition, can be obtained from the remaining plywood pieces. Install two L-braces at the center top of the back wall to hold the partition in place.

![Nest box with removable partition](image1)

![Two L-braces](image2)

7. Make the ramp

Referring to Drawing 7, cut out the necessary pieces and secure them with screws. Install the two hooks at one end.

![Ramp with hooks](image3)
8. Make the removable perch and socket

Referring to Drawing A, cut out the necessary pieces for the perch and assemble them with screws. Also cut out and assemble the perch socket and install it onto the back panel.

Removable perch

Perch socket on the back panel

9. Final assembly of the hen house

For the following steps, drill pilot holes first before securing pieces using screws.

Secure Side Panel A to the back panel.

Position Side Panel A tightly against the vertical frame piece on the back panel, and use 5 screws to secure it in place, going in from the exterior of Side Panel A into the frame piece on the back panel.
Next, position the front panel tightly against Side Panel A and secure with screws, again going in from the exterior of Side Panel A into the frame piece on the front panel. Then slide in the roost floor so that it rests on the horizontal frame pieces on the front, back and side panels. (You will need to move the front and back panels apart slightly in order to slide the floor in.) You do not need to screw down the floor since it will be held in place by its own weight and the vertical frame pieces on both sides of the roost door.

Insert the inside wall, positioning it so that the frame piece supports the floor, and secure the wall to the frame pieces on the front and back panels.

Secure Side Panel B to the front and back panels.
© Place the roof on top and secure it, going in from the exterior of the front, back and side panels into the frame pieces attached to the underside of the roof, leaving the top roof surface itself intact.

Install two hook eyes under the roost opening and install the ramp.

Insert the nest box and attach the hinges of the nest box cover to Side Panel A. Install the magnetic catch on Side Panel A and the top of the nest box cover. Also install a safety hasp on the underside of the nest box cover and on the front of the nest box.

The removable nest box is easily inserted and removed. A magnetic catch holds the cover open.
Install the removable perch.

Perch lifts out for easy cleaning of the roost.

Predator deterrence

Since we have seen raccoons and opossums in our neighborhood, we decided to stake down strips of 1-foot wide hardware cloth under the bricks on which the hen house sits. We then covered the cloth with dirt and mulch. If you decide to do the same, you will need about a 4' × 7' piece of hardware cloth.
More views of the completed hen house
Ramp (To be obtained from the Front Panel)

Top View

30.0

10 to 12 evenly spaced, \( \frac{3}{4} \times \frac{3}{4} \times 7.0 \) pieces

Side View

Unit: inch

Hook at each corner (1/2-inch thick plywood)
Removable Perch
(Not drawn to scale)

1. A, B, and C are 1x2's.
2. E and F are 1/2-inch plywood.

(Unit: inches)

29.25 from the bottom edge of the back panel.
Dutch Hen House Plans - Supplemental information

Dimensions for 1 × 2 frame pieces for walls and panels

<table>
<thead>
<tr>
<th>For the front panel:</th>
<th>For side panel A:</th>
</tr>
</thead>
<tbody>
<tr>
<td>89.0 inches × 1 piece</td>
<td>24.0 inches × 1 piece</td>
</tr>
<tr>
<td>45.0 inches × 4 pieces</td>
<td>34.5 inches × 2 pieces</td>
</tr>
<tr>
<td>22.0 inches × 1 piece</td>
<td>For side panel B:</td>
</tr>
<tr>
<td>25.0 inches × 1 piece</td>
<td>34.5 inches × 1 piece</td>
</tr>
<tr>
<td>27.5 inches × 2 pieces</td>
<td></td>
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<table>
<thead>
<tr>
<th>For the back panel:</th>
<th>For the inside wall:</th>
</tr>
</thead>
<tbody>
<tr>
<td>89.0 inches × 1 piece</td>
<td>34.5 inches × 1 piece</td>
</tr>
<tr>
<td>41.0 inches × 3 pieces</td>
<td></td>
</tr>
<tr>
<td>25.0 inches × 1 piece</td>
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<tr>
<th>For side panel B:</th>
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<tbody>
<tr>
<td>34.5 inches × 1 piece</td>
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<tbody>
<tr>
<td>89.0 inches × 2 pieces</td>
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<tr>
<td>34.5 inches × 2 pieces</td>
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- **Securing the nest box:**
  We have now been using the hen house for 18 months, and have never had to remove the nest box for cleaning. We keep wood shaving in the nest box, and hens (at least our three hens) do not poop in there. So I suggest you fasten the nest box to Side panel A by attaching 2 shelf brackets or L-braces to the bottom of the nest box and then screwing them onto the side panel. This will also make the hen house more secure against predators.

- **Some suggestions for cold climates**
  - Add frame pieces where the nest box meets Side panel A to prevent drafts.
  - Use a heat lamp protected with wire mesh in the roost during cold months.
  - Skip the venting window on Side panel A.
  - Cover the triangular openings on two sides of the nest box with scrap pieces of plywood.
  - Save the cutout from the roost entrance and make it into a door that can be closed for the night. (You may then want to switch the hinges on the screen door to the right side so that you can access the roost door without opening the screen door all the way.) The door also provides the additional benefit of keeping the roost dark in the morning until you are ready to let them out. When the birds are in the dark roost, they remain quiet.

- **Insulation ideas:**
  - Staple an insulating material, such as thick cardboard, to the inside of the roost and the nest box.
  - Add frames and another layer of plywood pieces to the outside of the roost area, and stuff straw or other insulating material into the space in-between.

  * Make sure the roost is not too airtight. Chickens need ventilation.*