Poultry/Chicken Tractor How-To Guide

How to build a portable chicken coop including tips and advice.
Designed for homestead, hobby farm, or business.

"It keeps the tractor light for easier movement by a single person. It's roomy to work in and allows for plenty of options, protection, and versatility. And most of all, its high hoop design helps keep the poultry cool in the hot summer heat. In my humble opinion, this design is the best"

You may obtain a copy of this publication at http://MaplesMisc.com/ChickenTractor. A download of this material from that site may be printed for personal use. To share this material with others, refer them to the website to obtain their own copy of the material.

Introduction

I'm fond of this design for chicken tractors. It keeps the tractor light for easier movement by a single person. It's roomy to work in and allows for plenty of features, protection, and versatility. And most of all, its high hoop design helps keep the poultry cool in the hot summer heat. In my humble opinion, this design is the best to handle raising poultry for your homestead, hobby farm, or commercial production.

I have created a couple blogs about this design with a general blueprint and basic parts list, but in the spring of 2016 three events came together that inspired me to write this guide. First I had to revisit my generalized parts list to create a comprehensive list for costing. I also found notes where I outlined my build steps in more detail for future blog post. And lastly, the boys and I had two chicken tractors to build. These three things led to a couple of documents. An updating of my blog with enough information for a medium level carpenter to build a chicken tractor and this detailed how to book.

I have to admit, writing this took a lot longer than I expected. I underestimated the time commitment needed to write a simple how-to guide? It has required a considerable amount of dedication. I'm glad I was able to stay the course and produce something that others can benefit from. I sincerely hope it allows you to have a better experience with your poultry endeavors.

Contents

Terminology

‘ – Single quote after a number denotes **Feet**

“ – double quotes after a number denotes **Inches**

° - degree mark. Denotes compass degrees for angles.

#x#x# - denotes **depth** by **width** by **length**. Assume depth and width are in inches and length is in feet, unless otherwise noted.

- Example 2x4x8 is 2 inches deep by 4 inches wide by 8 feet long, your standard 2x4
- Note measurements follow “rough” cut dimensions that have been the industry standard designation since around 1920. These are typically different than the actual dimensions.

Materials list

- 3 - 16'x50" cattle/feedlot panels
  - Forms the "hoop" structure Slightly overlapped
- 5 – 2x4x12 treated
  - 2 - 12' base sides
  - 2 - Cut 10' base ends - 2' extras become door diagonal supports
  - 1 - Cut 43" for door frame top & cut 2 - 50" sections for back diagonals
- 1 - 2x4x10
  - 1 - Cut 2 - 59" door frame sides
- 4 – 2x4x8 treated (3 if using 2x2 back upright)
  - 1 - cut into 2' lengths for corner braces for bottom frame
  - 2 - Rip in half to use for door
    - *Or use 4 2x2x8 furring strips, but should stain them if not treated. I prefer the treated lumber.*
    - Gives 4 ripped 2x2x8
      - 1 - cut into 55" and 31.5" for side and top of door
      - 1 - cut into 55" and 31.5" for side and bottom of door
      - 1 - cut into 31.5 for middle brace on door
      - 1 - (optional) cut 61" for back upright instead of using a 2x4. I prefer the 2x4 for extra support.
  - 1 - Cut 61" for back upright
- 75' – 4' Chicken wire
  - 50' for 3 passes over the cattle panels
  - 20' for the ends
- 50' – 2' hardware cloth, ¼" mesh
  - Perimeter of entire house.
- 20' – 3' 2x4 wire fence
  - Put over ends of coop for K-9 protection
- 2 ½ - 3' x 5-7' scrap for back end weather board to give extra shelter
  - Should be fairly light
    - Thin pallet planks, what I used.
    - Sheet of tin roof
    - ¼ - ½ " plywood or OSB. Will want to stain or paint to extend their life.

Hardware & Misc.

- 2 - 3" hinges
- 2 – bolt latches
- 1 - handle
- 1 - large bag of zip ties. Used to fasten all the chicken wire, hardware cloth, fence, and cattle panels together. So you want plenty.
- 24 - 3-3.5" Lag screws. To assemble base, including corner supports.
- ~26 - 3" deck screws. To assemble door & frame and back upright and diagonals.
- ½ - ¾ " Staples for staple gun. To attach chicken wire.
- ~32 - 1 ¾ " Galvanized Fence staples. To attach the cattle panels to the base and anchor the door and back upright.
- Fasteners to attach the back weather break that won't penetrate the 2x4 it's going into. Some options are:
  - 1 ¼ - 1 ½ " 16GA staples (pneumatic stapler)

    - 1 ½ - 1 ¾ " screw (Better than hand nails)
    - 3d-4d nail (d=penny)
- 12’x16' medium or heavy duty tarp. 7mil or thicker recommended.

Optional Apron

- Ends
    - 25’ – 2' ¼” hardware cloth
        - Will actually use approximately 12', 1' overlap on the ends
    - 2 - 1 ¼ " x 10' PVC pipe
    - For front and rear aprons
- Sides
    - *25’ – 2' ¼” hardware cloth (Can use leftover from front and back apron if only 12' was used for ends)*
        - Will use approximately 13-14'. 13' will give a 6" overlap of the front and back apron while only using 1 - 25' roll of hardware cloth.
    - 3 - 1 ¼" x 10' PVC pipe
    - 2 - 1 ¼ PVC coupling

Start with the base

Make the Cut

Cut the frame

1) Pull 4 2x4x12 boards.
2) Choose 2 with the least amount of knots in a 10' section from one end or the other. The 10' sections will go on the front and back where you will be using a hand truck to raise and pull the chicken tractor so you don't want large knots weakening the board, especially in the middle of the 10' section.
   a) Mark 2 boards 10' in length from the end. Use a square to draw a perpendicular line and cut.

   b) Label the leftover 2' sections as the door diagonals
   c) TIP: It's best to avoid cutting through a knot. Measure from another end if possible or flop an angle to miss it, as in the example below. If you flop an angle, be sure to flop any corresponding angles.

3) The other 2 boards do not need to be cut and will be the sides of the chicken tractor.

Cut the corner braces

1) Choose a 2x4x8 for the diagonal braces. If you have a board with some bow in it, this is probably where you want to use it since the bow won't affect the 2' sections much.
2) Mark 2'sections using a square to place a straight line across the board. You have two options to make the diagonal cuts:
   a) **Simple and straight forward** - Cut 4 2' boards, then Cut 45° off the ends of each of the 4 sections.
      i) Using a 45 degree combination square or drafting triangle to mark 45° degree angles on each end of each section.
         (1) Note the angle will reverse on each section end so that each section makes a V. Figure 1(left).

ii) TIP: If you don't have a 45° marking tool, measure the width of the board, should be 3.5", mark one edge 3.5" from the end of the board, and use a straight edge to connect the mark and the opposite corner.

b) **Low waste and less cuts** - Mark the 45° angle through the 2' mark. I like to do this because it's less cuts and the diagonals end up just a little longer.

(1) Note: You will have two different size pairs of diagonals, because of the way each end is cut vs the middle of the board, Figure 1(Right). It's just about 1" difference so no one will notice. I pair the front and back to be the same size and put the smaller braces in the back.

ii) On each of your 2' marks, make a mark in the center of the board. This should be 1 ¾"

iii) Use your 45° marking tool to draw a line through the center mark you just made.

iv) Mark 45° on the end corners

(1) Note each angle mark reverses so that each cut board will produce a V shape, Figure 1(left). The angle marks on a completely marked board will look like this from end to end. \ / \ / \

Figure 1

The Build

Layout the boards on a flat surface as they will go together.

1) The front and rear boards cover the sides as shown in Figure 2.
2) It helps to put bricks under each corner, especially if the work area isn't completely flat. This also helps with fastening by raising the level of the work.

Figure 2

Fasten the end boards

Raise the front and back boards 1” higher than the sides. This is important to allow the tractor to move over ground and pasture without significant snagging. If you do not raise the ends clumps of grass or raised dirt patches will catch the front/back boards. Some will occur even with the raised boards, but not nearly as much.

1) Chamfer the side boards. Cut the bottom side board corners to allow them to “sled” across the ground. If you are planning on attaching a cable and pulling the tractor, this will come in handy. Event though I move my tractors by raising one end with a hand truck and pulling it, I still chamfer the side boards. Occasionally a tractor will end up on the far side of the pasture and it’s easier to hook it up to a garden tractor and pull it home instead of moving it that distance with a hand truck. The chamfer helps with this.
    i) Here’s a fancy example of my first tractor. There’s an easier way, so I’ll let you figure this out on your own if you’re inclined to do it this way.

    ii) Here’s the easier way that I use now.
        (1) Make a 1” mark on the end of the side board measuring up from the bottom.
        (2) Make a 2” mark on the bottom side of the side board measuring in from the end.
        (3) Draw a line from the corner where the bottom board meets the side board to your mark, see Figure 3(left)
            (a) NOTE: you can do this after the board is attached; however, it’s easier to do before it’s attached.
        (4) Cut along the line with a saw.

Figure 3

2) Align the front board so that the bottom of the board is at the 1” mark you made on each end of the side boards. Do one corner at a time.
   a) TIP: I find it easiest to use a couple pieces of scrap deck board placed under the front board. Deck board is 1” thick. Other 1” thick material will work.

3) Fasten the corner
   a) Square the corner with a framing square moving the boards as needed. If you’re way off on your initial placement, you’ll need to adjust the placement of the bricks too.
   b) Make sure the sideboard is flush with the end of the front board.

c) Pre-drill the top hole through the front board.
   i) Start the drill level with the top of the side board and angle it down so that the hole will hit the side board about ¾ inch from the top. That way the lag will screw toward the middle of the board. Figure 4
   ii) Drill completely through the front board. Don't go too far into the side board to give the lag better hold.

Figure 4

d) Screw in the first lag using a drill and bit or ratchet
   i) Use a ratchet to pull the pieces together if there is a gap.

ii) Note: Sometimes there are irregularities in the wood and you cannot remove a gap from both sides. Be careful not to over tighten the lag as it could strip out of the board or break the head off.

e) Drill the bottom hole.
   i) Start approximately 1" from the bottom of the front board.
   ii) Drill this one level so it goes in parallel with the side board, not at an angle.
f) Screw in the second lag using a drill and bit or ratchet.
   i) Use a ratchet to pull the pieces together if there is a gap.

g) Repeat this process for the opposite front corner starting with squaring.
h) Then repeat the steps on the back corners.
   i) TIP: You may have trouble with getting the back side square. You're dealing with long lengths of 2x4 lumber that is probably bowing on you. Do your best and realize it's a chicken tractor and doesn't have to be perfect.
   ii) NOTE: The boards may have a twist making the edges not line up. Use a pipe wrench or clamp fastened to the board to gain leverage to straighten the board out. Figure 5


Figure 5

Brace the corners

1) Start with any corner and Square the corner with a framing square moving the boards as needed. Even though you did this when you fastened the corners, until the corner braces are in place they can still move out of square.
   a) Place the previously cut corner brace in the corner and adjust it as to minimize the gaps between the brace and the side/end boards. Depending on how accurate your cuts are, they may fit flat or have some gaps. Do the best you can.
   b) Start with the side board. Make the corner brace flush with the top of the side board.
      It helps to have a second pair of hands to hold the brace against the front board. If you don't have help, use a scrap piece of 2x4 under the corner brace to hold it up.
      i) Where the inside of the brace meets the side board, pre-drill a hole for the lag bolt.
         (1) Since this is on the inside angle of the corner brace, drill the hole close to edge of the brace. Refer to the location of completed lag in Figure 6
         (2) You can drill this hole parallel to the side board or slightly slanted to match the angle of the corner brace
      ii) Screw in the first lag using a drill and bit or ratchet
      iii) Pre drill the second hole about 2" from the first. Angle the drill as needed to prevent the lag protruding out the other side of the corner brace. See Figure 6
      iv) Screw in the second lag using a drill and bit or ratchet

Figure 6

c) Next do the front/back side.
   i) Measure down 1” and make a mark or use the spacer board you used to raise the front and make the mark using it. Figure 7
   ii) Position the corner brace flush with the mark.
   iii) Where the inside of the brace meets the front/back board, pre-drill a hole for the lag bolt. Same as in Figure 6 only this board will be sitting 1” down from the top of end board.
      (1) Screw in the first lag using a drill and bit or ratchet
      (2) Pre drill the second hole about 2” from the first. Angle the drill as needed to prevent the lag protruding out the other side of the corner brace.
      (3) Screw in the second lag using a drill and bit or ratchet

Figure 7

2) Repeat step 1 for the remaining corners

Add the Hoops

1) Start with cutting off an end section of each of the three cattle panels. Figure 8
   This will help to allow for the tarp to be long enough to be stapled into the wood base. Actual tarp length varies by manufacturer, but they advertised by rough cut length, so 16' will be less than that. If you skip this step, at best you'll be able to staple the tarp into the very top of the base, but more likely you'll need to add a piece of wood along the inside bottom to staple the tarp to because the tarp will not be long enough. I've had to do this on a couple manufacturer even after cutting the cattle panel. Figure 9
   a) I have a large pair of wire cutters I use, but you could also use a hack saw.

Figure 8

Figure 9

2) Attach two of the cattle panels to the tractor frame, one on each end. Do one panel at a time, start with the first.
   a) Hoop one panel section by holding one end in place, pushing the other end toward it, and lifting as you go. I use a ratchet strap to hold the far end in place. I hook one end, step on the strap while I raise the panel and pull the other end closer until I can hook it with the ratchet strap.
      i) Note: you want the "ribs" inside. In other words, look at how the width vs length wires of the panel are welded. The length wires should be on the outside of the weld and hoop. The width wires(ribs) should be inside or underneath.
         - **The middle panel will be just the opposite and this will allow the panels wires to counter set where they overlap so that they fit on top the 2x4 better.**
   b) Position the panel on top of the side board. Figure 10
      i) Make sure the panel is against the end board. Figure 11 (Right)
      ii) Tip: The ratchet strap or a second person are almost needed here.

Figure 10

c) Center the panel on the top of the end board and use the fencing staples to attach the panel. I find it somewhat easier to turn the staple so that both ends are touching the panel wire. This helps keep the staple from going wide and protruding out the side of the board.

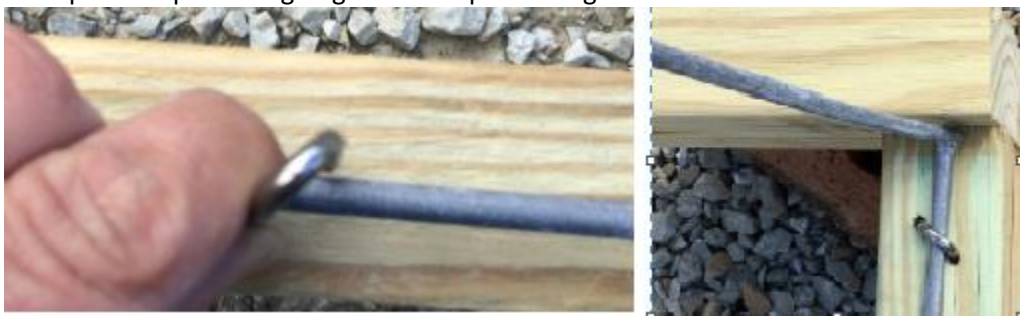


Figure 11

i) Start at the end of the tractor and put a staple on the end section of the panel and then every other section of the panel.

(1) STOP before stapling the last section of the panel. This end of the panel will need to move so it can be adjusted when the middle panel overlaps it. We'll attach the middle panel later as the last step. Figure 12

Figure 12

(2) Note: If a staple penetrates the side of the board, hammer it flat against the board or remove it and hammer a second one in. Figure 13 (Left)

(3) Note: Avoid knots. They will tend to give way or split. This will cause the staple to lose strength and possibly protrudes out the side. Figure 13 (Right)

Figure 13

d) Hoop the other end next using the same procedure as the first. Figure 14

Figure 14

e) Add the middle section last.
   i) Hoop the middle section so that the ribs are out. That will allow the sections to counter set when you place it on top of the two end sections. This is necessary in order to get the middle section close enough to the board to staple it. Figure 15
   ii) Move the unstapled part of the end sections closer to the inside edge to allow the middle section more room. It will sit a little off the board, but still close enough to staple it tight.
   iii) Staple the middle section
      (1) Start with the first section that's not overlapped on each side and do the overlap last.

Figure 15

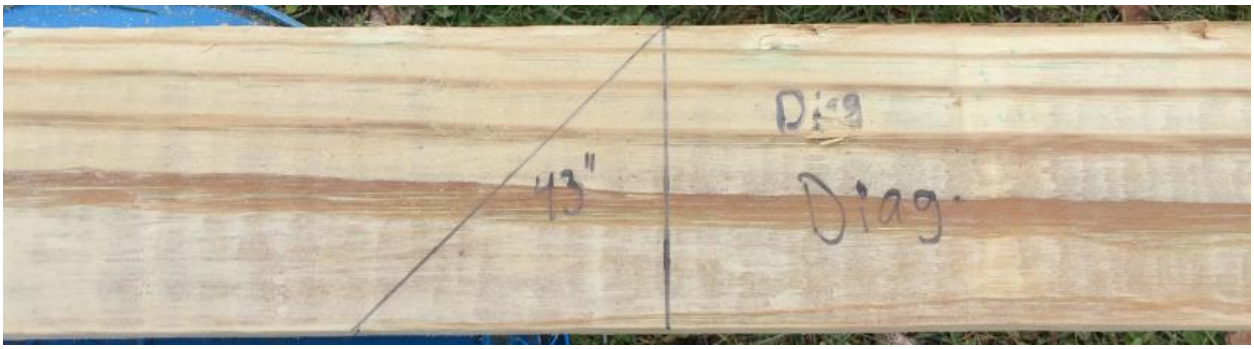
f) Zip tie the sections together along the overlap of the hoops every 2-3 sections for additional strength.

Frame the ends

Make the cut:

1) Door & Frame
   a) On the 2x4x10, mark 59” from each end and draw a 45° line with the peak at the 59” mark. Cut the 45° angles. Leave the other ends, they don’t get cut.

   b) On a 2x4x12, mark 43” and draw a 45° line with the peak at the 43” mark. Cut the 45° angle.



i) Measure the remaining section from the peak of the 45° to the other end, will be approximately 105" long. Figure 16 Mark half of that distance, should be about 52 ½", use a square to mark and cut it. Label these two pieces for the rear diagonals.

Figure 16

c) Use the 2' pieces left over from the front and rear boards to make the door diagonals. You labeled them earlier when you cut them.
   i) Mark a 45° angle on each end of the two boards.
      (1) Make sure to flip the angle on each board end so they look like this \ /.
   ii) Cut the ends off both boards.
d) Rip 2 2x4x8 pieces, or use your pre-cut 2x2x8 pieces.
   i) To rip the 2x4s you need a circular saw, table saw, or radio arm saw.
      (1) If you own a table saw or radio arm saw, follow the saw's instructions to cut rip the 2x4 in half, 1 ¾.
      (2) If you are using a circular saw, set your rip stop at 1 ¾ and rip the board. Figure 17
         (a) It's OK if the boards are not exactly the same. It'll work out in the end.

Figure 17

ii) Mark 55” and 31 ½” from each end of one ripped board and cut the pieces
iii) Repeat the 55” and 31 ½” measurements on a second ripped board and cut.

iv) Mark and cut 31 ½” off the third ripped board for the middle support on the door.

e) Mark 61” on one 2x4x8 and cut it for the back upright.
i) Optional: Mark and cut the last ripped board at 61” for the back upright.

TheBuild

Door Frame

1) Build the frame
    a. Lay the door frame side boards and top board on a flat surface to make the frame.

b. Use a square to square up a corner.

c. Secure the top and side together with 3 ½" deck screws. Figure 18
    i. Screw from the side board into the top board. This keep the top board from having holes that will hold water in the rain.
        1. If the side board splits or you want more support, add additional screw(s) from the top board into the side board. The effect of the hole collecting water should be minimal, but for good measure you can seal it with something like a caulk or a liberal blotch of stain.
    ii. Start at least 2" from the corner to help prevent the board from splitting.
    iii. Angle the screw to penetrate the 2nd board at least 1", but not go completely through. Lay the screw on top the board before you screw it to judge the angel needed. Figure 18
    iv. Add a second screw from the side board.

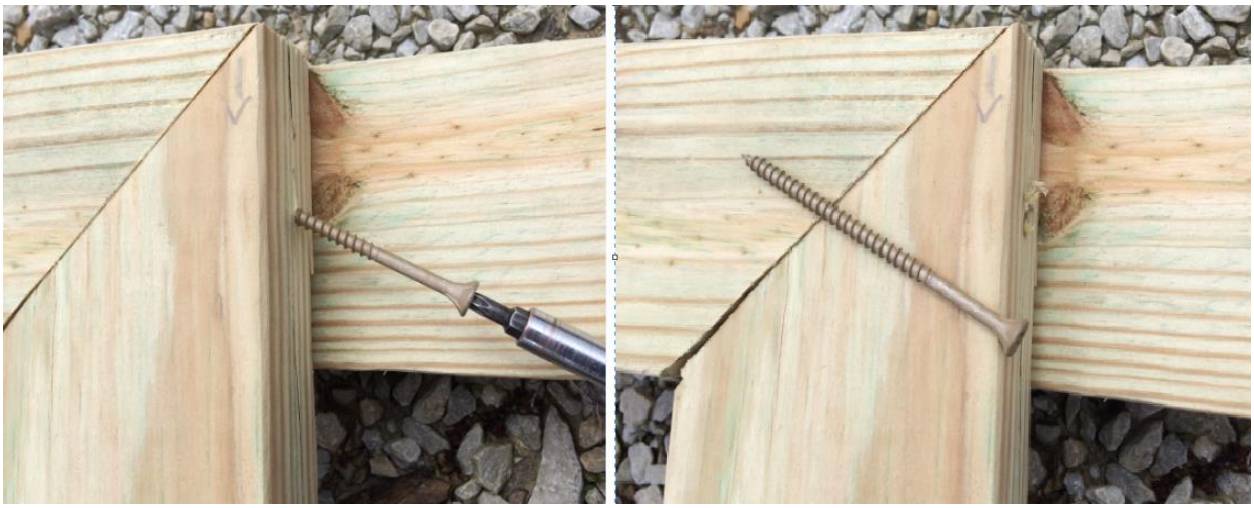


Figure 18

d. Repeat the steps B & C above starting with squaring up the corner for the opposite side.

2) Attach door frame to the tractor
    a. Start by marking the center of the front board at 5'.
    b. Mark the 43" opening for the door.
        i. Easiest way to not mess up is to lock you tape measure past 43" and lay your tape measure on top of the board matching 21 ½" with the center mark you made at 5'. Figure 19

Figure 19

ii. Mark 0 and 43”. These are the inside marks for the door frame
    1. TIP: Place an X on the outside of each mark, between the door mark and the outside edge of the front board, to remind you that the door frame should cover the X


iii. Measure the inside distance at the top of the door frame to ensure 43” is your correct measurement.
    1. It shouldn’t be off by more ¼”. If it is, your 45° angles must not be matched or your cuts are off. You’ll want to identify the issue and redo the door frame.
        a. Alternately you can adjust the door measurements to match, but if your measurement is bigger than 43” you’ll probably have issues with latch and hinge spacing since you’ve already cut the door pieces.
    2. If you’re off remember how much as we’ll need to add/subtract that to the second side when we attach it to the tractor.

c. Place the door frame on the front board.
    i. Temporarily support the frame against the hoop with a clamp or have someone hold it. Figure 20

Figure 20

d. Start with the side that will be the hinge side. I usually make that the left side.
e. Use the square to square up that side.
f. Attach the door frame side board to the front board with one 3 ½" deck screw 'toenailed', screwed in at an angle, on either side.
    i. Start up at least 2" to help prevent splitting of the board.
    ii. Screw from the narrow side of the 2x4.
    iii. Be sure you'll have at least 1" penetration into the front board.
    iv. TIP: start the screw perpendicular to the side board, then once it takes hold, angle it.

Figure 21

g. Align the opposite side with your inside mark. Figure 21
   i. Adjust the mark if your top is not exactly 43”
   ii. Square and toenail this side.

3) Add the diagonal supports
   a. Square the hinge side of the door frame again, left side for me.
      i. Adjusting the clamp holding the top of the frame to the hoop may help keep the frame in square if necessary.
   b. Place one of the diagonal supports on the outside edge and align so that the 45° angles are flush with the door frame and front tractor board. Figure 22
      i. Note: if you’re not using a professional angle cutting device, you’ll probably have some gap. Do your best to position it focusing on keeping the door frame square.
   c. Secure the diagonal to the frame and front board with a 3 ½” deck screw on each side
      i. Start 2” from the end to help prevent splitting
      ii. Choose an angle that allows at least 1” penetration into the second board.
      iii. TIP: Estimate the screw angle and start the screws on the diagonal board first, then put the board in place against the door frame and screw it in. This helps if you don’t have a second pair of hands to hold the diagonal in place while you’re starting the screw.

Figure 22

d. Repeat the process on the opposite side starting with squaring it. Figure 23
    i. Note: if the second side is a little off square, it's more important for the hinge side to be square. Don't make the hinge side out of square trying to square the opposite side.

Figure 23

4) Attach each top corner of the door frame to the hoop using fence staples. Figure 24
   a. Place at least one staple in each board.

Figure 24

Back upright and diagonals

1) Upright
   a) Mark the center of the back board at 5’.
   b) Measure back 1 ¾” (58 ¼”) and place a mark. This is where the edge of the back upright will sit.
      i) Note: if you’re using the ripped board or 2x2, Measure back ¾” instead.
      ii) Place an X between the marks to indicate that the board sits on that side of the mark, meaning it will cover the X.

c) Align the edge of your 61” back upright with the mark, covering the X, and square it. Figure 25

Figure 25

d) Fasten (toenail) the upright to the rear board with 3 ½” deck screws.
e) Place the end wire of the hoop on top of the upright. Figure 26
   i) Fasten the top of the upright to the hoop using a fence staple.
   ii) Double check your square before nailing.

Figure 26

2) Diagonals
   a) Make a mark on each inside edge of the back upright at 2'. Figure 27 (left)
   b) Use the back diagonal board WITH the 45° cut and hold it against the back side of the upright and the back board.
   c) Align the board so that top of the corner meets the 2' mark on the upright and the other end top corner meets the top of the back board. Figure 27
      i) Mark a line on each end of the diagonal board for the angles you'll need to cut.
      ii) TIP: use clamps or a second pair of hands to support the angle board while you mark it.

Figure 27

   d) Cut the board along the angles you have marked.
   e) Verify the fit and use this board as a template to cut the second diagonal. Figure 28
      i) Make sure the 45° cut of the second board is under the long angle so you don't end up with a piece "missing" off the other angle.

Figure 28

   f) Align one side at a time and use a 3 ½" deck screw to attach the diagonal to the upright and back board. Figure 29

i) Start at least 2” from the end of the diagonal to help prevent splitting.
ii) Make sure at least 1” of the screw penetrates the second board.

Figure 29

Add the back weather break

1) Center your weather break material across the back end and position it against the bottom board leaving at least 1 ½” off the bottom. This uncovered space will be used to fasten the apron later.
   a) Also, aligning the weather break with the bottom of the back board may cause chipping of the weather break material when the tractor is moved.
   b) TIP: I salvage the slats from a couple pallets for this. You can usually find free pallets and if you cut the ends off, along the nail board, the center nails are usually pretty ease to wiggle and pry off. Additionally pallet wood is usually pretty thin and light. However this does use more fasteners, but since I’m using a nail gun or staple gun, it’s not an issue for me.
2) Fasten your weather break to the upright, diagonals, and bottom back board. Figure 30
   a) Ensure that it doesn’t stick up above the hoop or it will tear the tarp.
   b) Use fasteners, usually nails or staples that will not protrude through the 2x4s you’re attaching to.

Figure 30

Door

1) Layout the sides, top, and bottom of the door.
   a) Align the top and bottom boards inside side boards. Figure 31
   b) If the boards are not 1 ¾" x 1 ¾" square, use the 1 ¾" side as the door thickness and use the other side as the front/back face of the door.
   c) Place the straightest edges on the outside. So if you ripped 2x4s for the door, the cut side will be always facing in.
   d) Leave the center board out for now.
2) Pick a top corner and square it with a square.

Figure 31

3) Attach the top to the side with a 3 ½" deck screw. 3" would probably be better, but that's more hardware to purchase. Figure 32

Figure 32

a) Predrill a hole through the side board to avoid splitting.
b) If the board splits, you can attach a piece of wood to the inside of the door for additional support. Figure 33

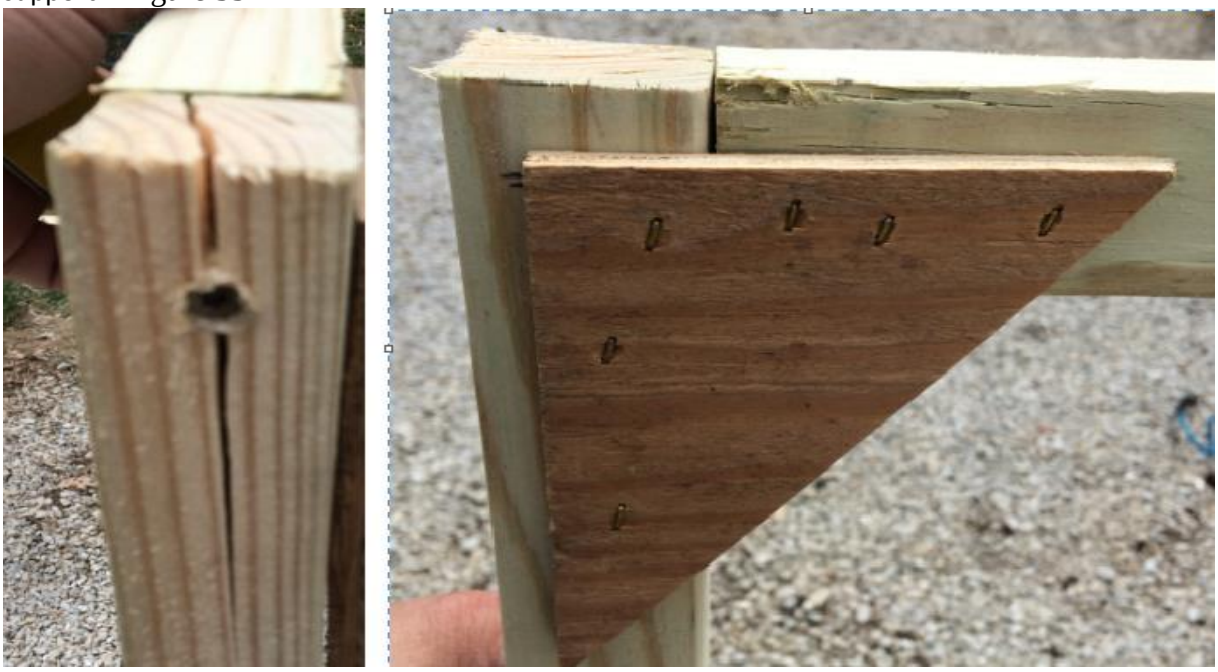


Figure 33

4) Square and attach the remaining corners.

5) Mark 2’ from the bottom of the door on each side. Align the top of the middle board with the 2’ mark and attach it using a 3 ½” deck screw on each side.

a) Predrilling these holes usually not necessary.
b) 2’ will give you a surface to attach the hardware cloth later, but is not necessary if you want to do C as an option.
c) NOTE: If you have an extra 2x2, which you will if you ripped your boards and used a 2x4 for the back diagonal, you can make a diagonal “center” brace with it. The bottom side of the diagonal should be attached to the hinge side of the door and the top side the opposite. This method will help prevent the door from sagging.
    i) I have not found the horizontal center brace to be an issue with sagging. I usually leave as much room as I can between the bottom of the door and the front board to account for any sagging.
    ii) If I do have a door that sags, I fix it with a wire stay. Figure 34
        (1) Staple hanging wire to the bottom corner away from the hinge
        (2) start a long eyebolt on near the top corner on the hinge side
        (3) Attach the hanging wire to the eyebold as tight as you can
        (4) Draw the sagging side up by screwing the eyebolt in.

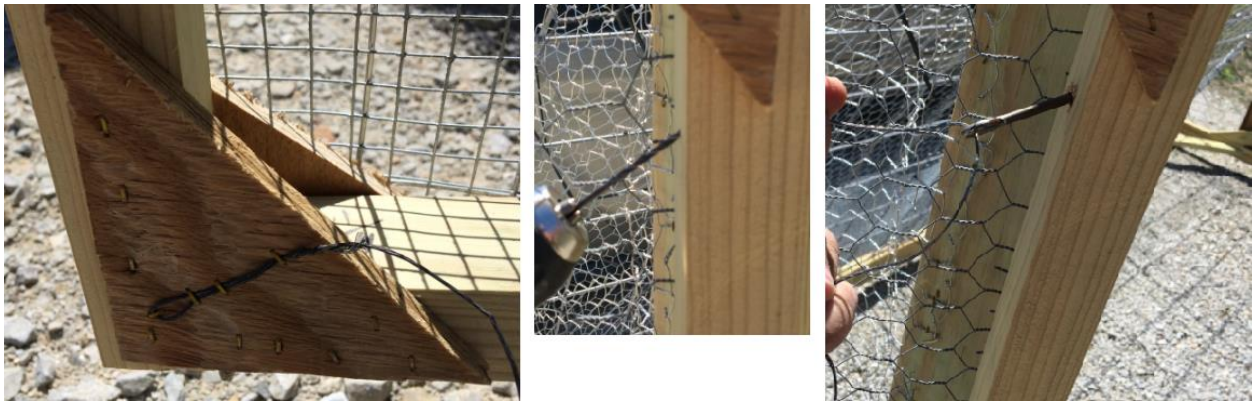


Figure 34

6) Set the door aside for now. We'll finish and attach it later.

Wrap the tractor

Chicken wire

Use three sections of 4' chicken wire to cover the hoop. This prevents birds and small/medium animals from getting in or out.

1) Start in the back and roll the chicken wire over the hoop. Figure 35
   a) Temporarily secure the end, or have someone hold it, before you start to roll it over the hoop so it doesn't come flying over the top and hit you in the face.

Figure 35

2) Align the first side of the chicken wire, the opposite side from the role. Figure 36
   a) Align the chicken wire as it goes over the hoop with the back edge of the hoop panel.
   b) At the side board, overlap the board by about an 1". This will leave at least 1 ½" from the bottom to attach the apron later.
   c) The chicken wire should be cut in the middle of the twists. I bend each twist inward so it'll "bite" into the wood instead of someone walking by. Figure 38
3) Staple the chicken wire to the sideboard.
   a) Maintain about and 1" of overlap. This will allow plenty of room to staple the tarp and attach an apron later.
   b) Staple every few hexagons.
   c) Ensure that the chicken wire is stretched enough to make it past the join of the livestock panels. It's best if each section of the chicken wire slightly overlaps, but it at least needs to meet.

Figure 36

4) On the opposite side, where the roll is, pull the slack out of the chicken wire and cut it to allow about 1" of overlap on the side board.
   a) It's not necessary to stretch the chicken wire really tight, but remove the slack the best you can.
   b) Cut the chicken wire in the middle of each twist. Figure 37

Figure 37

   c) Fold the cut twist inward to avoid it catching things and people. Figure 38

Figure 38

5) Use zip ties to fasten the chicken wire to the back edge wire of the hoop about every other section.
   a) Do not fasten the other end as we'll fasten it with the next section.

6) Repeat the process rolling the next section of chicken wire over the hoop, fastening and cutting it the same way.
   a) Overlap the sections by half a chicken wire hexagon

b) Zip tie where the chicken wire sections overlap, ensuring you're including the hoop wire, about every other section of the livestock panel. Leave the other side untied until the last section is in place.

7) Repeat the process rolling the last section of chicken wire over the hoop.
   a) Align the edge with the front end hoop wire. Allow the section to overlap the middle section however much it needs.
   b) Fasten and cut the ends as before.
   c) Zip tie the chicken wire to the front edge hoop wire about every other section.
   d) Zip tie where the sections overlap, ensuring you're including the hoop wire, about every other section of the livestock panel.
8) We'll add chicken wire to the ends later.

Hardware Cloth

Add the hardware cloth. This 2' layer of protection will prevent predators from reaching through the chicken wire and grabbing hunks of meat off poultry lying near the edges. Yes this really happens.

- NOTE: Read through these steps then measure and plan you hardware cloth according to the lengths you purchased.

1) Wrap from the Front door frame around the side of chicken tractor to the back.
   a) Don't wrap the door opening, we'll do the door later.
   b) If you have smaller lengths wrap from door frame and around the side, then wrap from the back and around the side overlapping the pieces on the side. The end pieces need to be hole and it's easier to join the hardware cloth on the sides since there's cattle panel wire to zip tie to.

Figure 39

2) Start by stapling a corner of the hardware cloth to the bottom corner of the door frame.
   a) Only overlap the outside edge of door frame by ½-1". We want to leave as much room on the door frame as possible for the hinges and latches.
   b) Do not cover the bottom 1 ½" of the front and back boards so we can attach the apron later.
      i) **Remember the side board is 1" lower, so don't align it too high**.
3) Align the hardware cloth on the door frame so it keeps a consistent distance from the edge and staple it.
   a) You could measure if you like, but I just eyeball it. You can "drift" the bottom of the hardware when stapling it to the front and side boards. There will be bows in the hardware cloth; we'll take as much as we can out at the corners later.

Figure 39

Figure 39

4) Align the hardware cloth along the front board keeping a consistent distance from the edge and stable it to the corner.
   a) Overlap the side board by about 1”. This will allow plenty of room for stapling the tarp later.

Figure 40

5) Bend the hardware cloth around the corner making a 90° angle. Continue aligning and stapling along the side board keeping a consistent distance from the bottom edge. Figure 41
   a) We will tuck and fold the excess wire at the corner later.
   b) Stable the hardware cloth along the side board keeping a consistent distance from the edge and stable it to the corner.
      i) Overlap the side board by about 1”. This will allow plenty of room for stapling the tarp later.

Figure 41

6) Bend the hardware cloth around the back corner making a 90° angle. Continue aligning and stapling along the back board keeping a consistent distance from the edge. Figure 42

Figure 42

7) Cut and staple the end to your weather break.
   a) Decide where you want to stop. Depending on what material you used for the back wind break, you may want to save hardware cloth and not cover that material.
   b) You want the hardware cloth to end or meet in the back, so don't try to continue around the next corner unless you have enough to make it back to the door frame.
      i) The exception is when using smaller pieces you want the overlap to be on the side if there needs to be one, but in general it looks better if each piece reaches from the door frame to the back.
8) Starting in the middle of the side, zip tie the top of the hardware cloth to the hoop wires where they meet, working your way to the ends fastening about every second or third section. Figure 43
   a) Press the hardware cloth against the hoop to remove a much "bubbling" as possible.

b) TIP: It's much easier to have someone inside the hoop to help you wrap the zip tie around the wires.

Figure 43

9) At the corner, zip tie the end piece of hardware cloth to the end hoop wire where they meet.
10) Keeping the front side straight, keep pressing the side piece of hardware cloth against the hoop continuing toward the end until you pinch the corner of the hardware cloth. Figure 44 (left)
11) Fold this "pinch" from the end toward the side and zip tie the corner of the fold to the hoop wire where they meet. Figure 44 (middle & right)
12) Add additional zip ties as desired for strength and looks.

Figure 44

13) Repeat this process for both sides and all corners.
    a) Wrap as much of the weather board as possible with the second strand for additional predator protection, depending on what material you used.

Finish the Ends

Chicken Wire

Now that the bottom of the ends is covered with hardware cloth, weather protection, or both the 4' section of chicken wire is enough to cover the rest of the uncovered area.

1) Front Figure 45
    a) Start at the door frame and attach the chicken wire corner so that it overlaps the hardware cloth by a hexagon or so.
        i) Here you definitely want to fold the cut twists of chicken wire in so they don't bite.

ii) Only overlap 1” of the outside edge of the frame in order to keep as much bare wood available for the hinges and latches.

b) Staple the chicken wire up the frame keeping a consistent distance from the edge. Staple every other wire.

Figure 45

c) Roll the chicken wire to the edge of the hoop overlapping the end by a hexagon. Figure 46
   i) Ensure that the chicken wire continues to overlap the hardware cloth all the way.
   ii) Cut the roll off, cutting a straight line of twists.
d) Bend the bottom corner around the end hoop wire and zip tie it in place.
e) Cut the chicken wire following the hoop leaving about an inch extra chicken wire to wrap around the end hoop wire.

i) Cut and staple the chicken wire where it meets the top of the door frame. There will be a small opening between the hoop and the top of the frame. Usually leave this open, but you can use a piece of scrap chicken wire to cover it if you prefer.

f) Bend the chicken wire around the end hoop wire.

g) Zip tie the chicken wire to the end hoop wire about every other panel section.

h) Zip tie the chicken wire to the hardware cloth about every 6".

Figure 46

i) Repeat the process for the other front side.

2) Back Figure 47

a) Align the chicken wire on the back side so that it overlaps the hardware cloth by a hexagon or so.

b) Zip tie the bottom corner of the chicken wire to the end hoop wire leaving about an 1" of chicken wire to wrap around the hoop wire.

c) Roll the chicken wire to the other side continuing to overlap the hardware cloth consistently.

d) Cut chicken wire roll straight about 1" past the hoop wire.

e) Wrap the corner around the hoop end wire and zip tie it.

f) Cut the chicken wire following the hoop leaving about an inch extra chicken wire to wrap around the end hoop wire.

g) Bend the chicken wire around the end hoop wire.

h) Zip tie the chicken wire to the end hoop wire about every other panel section.

i) Zip tie the chicken wire to the hardware cloth about every 6".

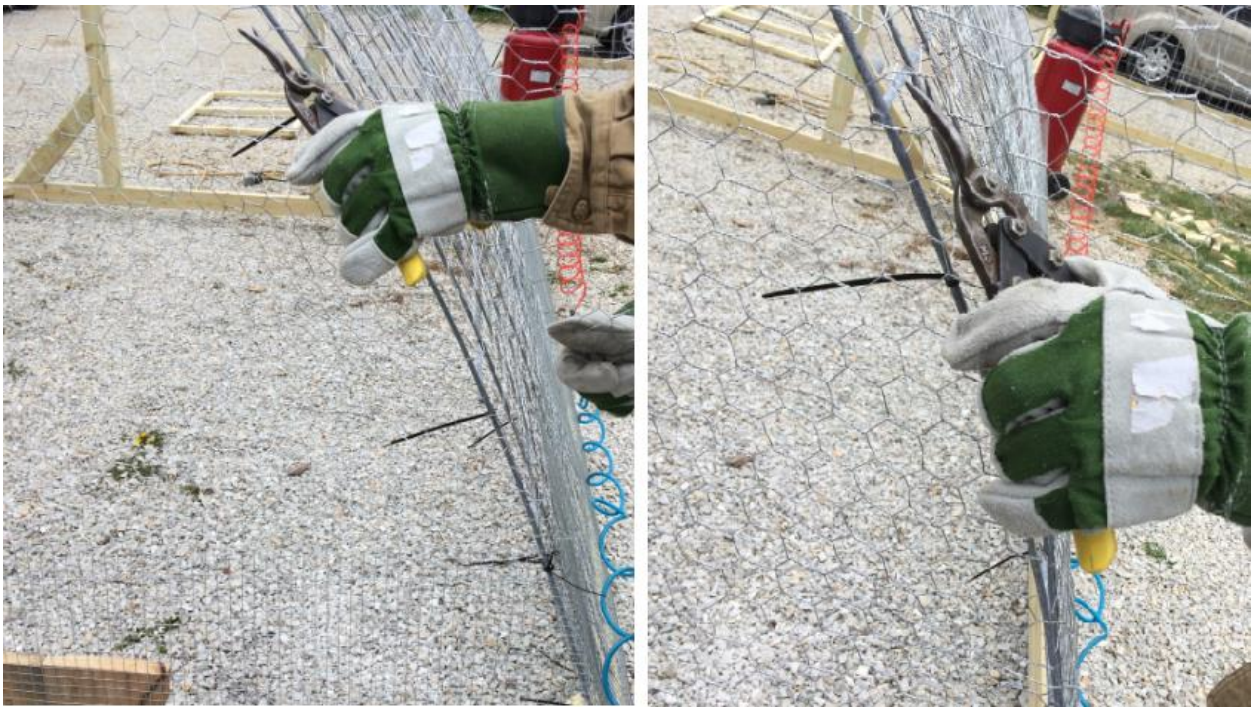


Figure 47

K-9 protection – 2x4 fencing.

This is where the 2x4 fencing comes into play. Add this to the bottom sections of the front and back to protect against dogs or similar predators breaking through the chicken wire. The fence will not go all the way to the top, but it goes high enough that it would be hard for a dog to get over it. Our chicken tractors have survived two K-9 attacks. Both times the dogs focused on the bottom corners where the chickens were hiding. The tarps took damage, but there was no penetration.

1) Front side
    a. Align the fence along a door frame vertical and the bottom board, in Figure 48 I started on the right hand door frame.
    b. Start by stapling a corner of the fence to the bottom corner of the door frame.
        i. Overlap the door frame by 1" leave plenty of open space for the latches and hinges.
        ii. On the front(bottom) board, align the fence about 1 ½" from the bottom.
        iii. The fence will sit on top of the hardware cloth and chicken wire.

Figure 48

    c. Continue stapling the fence up the door frame about every other fence section keeping a consistent distance from the edge.

d. Staple the fence along the bottom onto the front board leaving about 1 ½" from the bottom.

Figure 49

e. At the corner, cut the fence after the first vertical wire past the edge of the corner.
    i. Cut on the far side of the vertical wire. We want the vertical wire to still be attached to piece we've attached to the tractor.
    ii. Cut the horizontal wires as close as you can to the vertical wire to reduce having sharp edges sticking out.

iii. Go ahead and cut the horizontal wires off the roll end as close to the next vertical wire in preparation for the next section. Discard the short wire pieces this creates.

Figure 50

f. On the front side, zip tie the fence to the hoop wire where the hoop wire and the top of the fence meet. This is to help secure the top of the fence.
g. Fold the fence over the end hoop. Zip tie the corner of the fence to the hoop wire where they meet. In Figure 50 this is the corner I'm holding in the top right.
h. Add additional zip ties where the fence and end hoop wires intersect for additional strength, about every other panel section.
i. Repeat the process for the other front side.

2) Back side
   a. Align the fence along the back board starting at the corner.
      i. On the back board, align the fence about 1 ½" from the bottom.
      ii. Align the end of the fence so it overlaps the back board. It will get folded around the end of the back board and get stapled to the end of board in step d. This helps close the gap between the end of the hoop and the back.
   b. Continue aligning and stapling along back board leaving 1 ½" from the bottom.
   c. Cut the fence after the first upright leaving the vertical wire, same as you did for the front.
   d. Fold both ends around the corners of the bottom board and staple.

e. Move to the middle of the weather board and staple the top of the fence where it intersects the back upright. If your weather board is too tall, you'll want to fasten the fence to the upright through the weather board.
f. Periodically staple the fence to the back weather break material focusing on areas where the upright and diagonals support the weather break material.
    i. NOTE: if the staples protrude through the other side of your material, you'll want to grind them off. That's why I usually only staple where the upright and diagonal boards are behind the weather break material.

g. Zip tie the top of the K-9 fence to the hoop wire where they meet, like the front.
h. Zip tie the fence to the end hoop wire in a couple more places to secure it.
i. Fold the fence over the hoop and zip tie the corner to a hoop wire.
j. Add additional zip ties to the folded over fence where it intercepts the hoop for strength.

Cover the Door

The door will be covered similarly to the rest of the front and will have the same protection. Follow the steps below to produce a door that resembles Figure 51.

Figure 51

1) Orient the door.
    a. Choose the straightest side with best 90° corners to be the hinge side.
    b. Place the door in the door frame on the tractor to see how it fits.
    c. Hold the hinge side flush against the door frame side and gauge the bottom and top gap. If the door is not square, it's generally best to have the bigger gap on the bottom latch side instead of the top. This will allow for sagging over time.
    d. Flip the door if necessary to adjust the latch side gap.

e. Once satisfied make note or mark the top, hinge side, and outside face of the door. We'll be adding everything to the outside face of the door.

2) Start with adding the hardware cloth to the bottom.
   a. Start with the bottom corner of the hinge side and align the hardware cloth about ½ - ¾" from the inside edge of the door side board. You want to leave as much open area for the latches and hinges as possible. See Figure 56
   b. Staple the corner
   c. Align the rest of the hardware cloth to the side of the door and bottom staying about ½ - ¾" from the inside edge of the side board.
      i. Note: It's most important to align the side so that you leave an appropriate area for the hinges and latches. The bottom only needs to not extend past the wood.
   d. Staple up the side.
   e. Staple along the bottom, leaving about 6" unstapled so you can cut the hardware cloth.
   f. Cut the hardware cloth where it overlaps the other side of the door by about ½ - ¾" from the inside edge cutting after the vertical wire as to not leave the pointy wires sticking out.
   g. Staple the rest of the hardware cloth to the frame stapling about every 4-5 inches. Use Figure 52 to see he approximate positioning. Note it shows both the hardware cloth and K-9 fence, which will be added later.

Figure 52

3) Add the Chicken wire.
    a. Starting at the upper hinge side corner and align the chicken wire so that it's about ½ - ¾" from the inside edge.
        i. Note: Since the hexigons of the chicken wire are larger than the hardware cloth, it's best to lay the chicken wire across to the other side now to judge where you'll need to start. You may need to adjust where you start in order to not overlap too much on the other side.
        ii. The top overlap does not matter except it should not extend past the wood.
        iii. The bottom of the chicken wire will overlap the hardware cloth.
    b. Starting at the corner staple down the hinge side of the door frame.
    c. Staple across the top of the door frame stopping about 6" from the end to allow room to cut the chicken wire.
    d. Cut the Chicken wire so that it overlaps the other side of the door by about ½ - ¾" from the inside edge.
    e. Finish stapling the chicken wire along the top and other side.

Figure 53

4) Add K-9 fence protection
    a. Start with the bottom corner of the hinge side and align the fence about ½ - ¾" from the inside edge of the door side board. You want to leave as much open area for the latches and hinges as possible.
        i. **Note: Since the fence wires are 2"apart, it's very important to lay the fence across to the other side now to judge where you'll need to start. You may need to adjust where you start in order to not overlap too much on the other side.**
        ii. The fence will sit on top of the hardware cloth and chicken wire.
    b. Staple the corner and up the side door board
    c. Staple along the bottom leaving stopping with about 6" left so you can cut the fence.
    d. Cut the fence, cutting close to the last vertical wire on the roll side so you don't have pointy wires on the tractor.
        i. If you cut the pointy wires off the roll side before putting it away, leave the wires on each end and one in the middle of the roll to use to fasten the fence to itself so it stays rolled up for later use.
    e. Finish stapling the fence along the bottom and the opposite side.
    f. Zip tie the chicken wire, hardware cloth and fence in a couple spots where the wires all three overlap for some extra support.

Figure 54

Finish the job

Attach the door

1) Start by adding the hinges to the door.
    a. Position the door in the door frame to ensure its fit. You shouldn't have more than ¾" gap on each side. If you do, it's going to be difficult to bridge that gap with the hinges and latches. ½", or a little less, is optimal. With the dimensions I use you, should end up with ½".

Figure 55

    b. Position the hinges on the door about 10-14" from top and bottom
    c. Position the hinges under the wires pulling staples if necessary so that the hinge will fit under the wire
    d. Place the hinge on the door side so that the "barrel" is up.
        i. Slide it under any wires. Pull staples if you need to so that it fits under the wires.
    e. Allow the other side of the hinge to fold over the side of the door board and slide it until it's flat against the side. Figure 56

Figure 56

i. NOTE: if you have ¾" gap, move the hinge toward the outside edge to allow for a bigger gap, instead of making the hinge flat against the wood. When the hinge hangs down, there will be a gap between the hanging side of the hinge and the wood edge. Position the hinge so the gap is the same on the top and bottom end of the hinge. Figure 57

Figure 57

f. Place a screw in the center hole and screw it in. Center the screw in the hole to ensure it doesn't move the hinge when it tightens. If it does, you can leave that screw loose until you have the hinge held tight by another screw.
    i. NOTE: In the picture I use 1" deck screws instead of the hinge screws. This will improve the hold and prevent the hinge from getting loose over time as the treated lumber corrodes the screws. However, if all you have is the normal hinge screws, these will last years before they need replaced. Probably for the life of the tractor.
g. Add the other two screws being sure to center them in the hole before screwing.
    i. Note: If the holes are close to the edge, screw the two edge screws in at an angle to prevent splitting the wood. Figure 57
h. Attach the other hinge the same way.

2) Attach the door.
   a. Position the door in the door frame so that you have between ¼" to ½" inch gap on the latch side and have a gap at the bottom. Normally the door should have a bigger gap at the bottom than the top to allow for sagging.
      i. TIP: It helps to place something under the door to rest it on. In Figure 58 wire cutters are holding the door up.

Figure 58

   b. Position the hinges under the wires pulling staples if necessary so that the hinge will fit under the wire.
      i. Note: if necessary, the hinge "barrel" can sit on top of the wood on the door frame side and doesn't have to be in the gap between the frame and door.

   c. Attach the hinge starting with the middle screw. Remember to position the screw in the center of the hole and angle the outside screws if necessary.
   d. Repeat for the second hinge. Figure 59

Figure 59

3) Add the latches and handle

Double latches are important for predator protection. A raccoon can get past one latch. Usually with two latches, there is enough pressure on the locks to prevent a raccoon from working the latch open. The pressure is caused by the imperfection in the shape of the wood and sag.

Note: Child proof latches are also a good addition. I added one to each of my tractors for a total of 3 latches per door. Probably overkill, but considering the value of what it's protecting, it's cheap assurance.

Figure 60

a. Position the bolt latches about 12-15” from the top and bottom of the door.
    i. The latches should set flat against the wood and not on top of any wires.
    ii. The latches will be used frequently, cut any wires, especially sharp edges, away from the latches to save your hands from scratches. See Figure 63
b. Start with the barrel/bolt side of the latch. Align it so that the edge of the latch is even with the inside edge of the door frame. The “handle” should hang down so it lays in the locked position. The bolts are bi-directional meaning the bolt extends from either side so you can flip it over to make the handle point down.
c. Attach it with one screw to hold the latch in place.

Figure 61

d. Extend the bolt. Slide the receiver side of the latch over the bolt and align it so that the bolt slides smoothly. Figure 62
    i. NOTE: To allow for some door sag, make the bolt tight against the bottom side.
e. Attach with one screw.

Figure 62

f. Finish screwing in the barrel side with three screws. If any of the screws move the latch, loosen that screw and tighten another one or two to hold it in place before tightening the screw that moved it. Placing the tip of the screw in the center of the hole will prevent the latch from moving as the screw tightens.
g. Verify the bolt still moves freely. Adjust the receiver side if necessary and screw in the second screw to hold it fast.

Figure 63

h. Repeat process for the second latch.
i. Add the handle to the door with the two screws provided. Adjust the height to suit you. Figure 64
    i. NOTE: The handle will be used frequently; cut sharp edges away from the latches to save your hands from scratches. Figure 63

Figure 64

Attach the apron

Depending on your local predators and risk tolerance for such, you may determine not to install an apron to help protect from predators digging or reaching under the tractor

- Experience: Before I devised the apron, I laid heavy boards against the front and back to prevent predators from getting under. It is much easier when moving the tractor to raise the apron and slide the hand truck under than it is to move the boards each time.
- Front and back. In my opinion a must. The front and back are raised 1" and the birds especially like to huddle along the back at night. Even with the apron, we've had raccoons dig under the back end. If/when this happens, adding a weight to the apron stopped them; however, I've only had to add the weight once, and usually only do so after I've seen evidence they are pushing under the apron.
- The sides. Previously an option for me, but now a standard. Even though I have made it through a whole season without side apron protections, I had a season that forced me to add them. Predators were reaching and digging under the sides, which is where the chickens like to lay. I think some of this will depend on how level your pasture is. Mine at the time had ruts and large clumps of grass followed by thin clover which left big gaps.

Front and Side

1) Roll out the 2' hardware cloth along the front board allowing it to extend about a foot on each end past the tractor.

2) Cut the hardware cloth to the length you laid out.
3) Now cut the hardware cloth in half making two 1' sections that will make the front and back apron.
    a. NOTE: Make the cut in the middle of a square leaving pointy edges on both pieces. These go to the outside and can be bent down to help prevent predators from nosing under the apron.
4) Starting at one end of the front board, align the hardware cloth so that it extends past the tractor the desired length you allowed, usually 6-12"
5) Staple the apron across the front board along the bottom about 1" from the bottom edge. Space the stapes about every 4-6"
    a. NOTE: It's optimum if these staples are a little loose so that the apron can swivel under them. This allows you to raise and lower them when they are moved.
    b. I hold the hardware cloth up, staple along the bottom, then let it drop down.

6) Place the 10’ long 1 ¼” PVC pipe on top of the apron matching the ends with the length of the front board; the hardware cloth will extend past the PVC pipe the same way it extends past the tractor.
7) Align the PVC pipe with the outside edge of the apron. The PVC pipe should be sitting on top the hardware cloth, not in front of it or under it. That way the sharp edges are under the PVC where they will be most affective.
8) Zip tie the PVC pipe to the hardware cloth about every 12-16”.
    a. NOTE: if your zip ties are not long enough, hook two together.

9) Repeat the process with the back apron.

a. If you put your weather protection material too low, go ahead and staple to it.

Side Aprons

The side aprons are done the same way as the front and side, except you will cut two 2’ pieces of PVC off the third pipe and use the couplings to attach one 2’ piece to each of the remaining two 10’ pipe. This will make the 12’ sections of PVC needed for the sides.

Attach the Tarp

The thicker the tarp the better, and choose the color according to your climate.

- Initially I started out with green and brown medium duty tarp. The first one lasted from around May until the following spring when I replaced it. I thought I got the same tarp the next year, a 5mil brown and green. However, these lasted from March through August then proceeded to shred apart not even making it through fall. I then got a silver heavy duty tarp that lasted from March until November, then started shredding. So find a type that works for your budget and growing season.
- Darker colors will be hotter than lighter colors, so choose the color according to you climate.
- These will be replaced each year. Even the heavy duty tarps are only going to last me a single season. Birds landing on the tractor will put rips in the top.
- Tarp sizes vary according to if they are measured as raw cut or finished cut. 16' finished cut will usually go from board to board. Raw cut usually will not; however, these are cheaper.

1) Unfold your tarp and lay the 16' length parallel with the back board. The 16' will go over the hoop from side board to side board.
2) Spread the tarp over the hoop covering the back 2 sections and leaving one uncovered.
    a. NOTE: Be careful dragging the tarp across the front and back ends of the hoop as there are sharp edges of the chicken wire that will put holes in your tarp.

Figure 65

3) Check how much overhang you have on each side and position the tarp accordingly. The finished cut tarp will be long enough to staple to the side boards. If it a bit short, and you have to staple the tarp over the wire, add a few more staples for additional hold.
    a. If you have a raw cut 16' tarp, you'll probably need to cheat with a staple board on one side. Attach the first end of the tarp to the side board as follows.
    b. If it's too short to attach to both side boards, see step 5.a to add a staple board.
4) Align the front edge of the tarp so that the corner eyelet match a 'rib' wire of the hoop, a wire that forms the hoop, and staple one side of the tarp to the side board about every 6" all the way to the end.
    a. NOTE: Use several staples on the front corner to prevent it from tearing free in the wind.
    b. You are matching the eyelet to a hoop wire so we can wire tie the tarp to it at each eyelets as it goes over the hoop.

Figure 66

5) Pull the tarp tight on the opposite side, align the corner eyelet to the same hoop wire as the other side and staple the tarp to the side board.
    a. If the tarp is not long enough, you'll need to add a board to staple the tarp to.
        i. Find one or more scrap pieces of wood to span the distance needed.
        ii. Align the scraps on the Inside of the hoop where they are needed and
        iii. From the outside, staple the board to the chicken wire to hold it in place.
            1. You will need someone on the inside to hold the board in place while you staple.
            2. I leave the board there each year even if the next tarp doesn't need it.
        iv. Staple the tarp to the board




6) Zip tie the remaining front eyelets to the hoop wire.
7) In the back, wrap the tarp around the back board and staple to the backboard, or weather blocking material, about every 4-6" to the corner.
8) At the corner of the tarp in the back, staple the tarp straight up the back weather block material. This will protect the corner area that doesn't have the weather block material.
    a. NOTE: Use extra staples in the corner and at the top of the weather block to prevent the tarp from tearing.

9) Repeat for the opposite back side.
    a. Note: The tarp will "tunnel" in the wind. If it's hot and the wind is not blowing or is blowing in the opposite direction, use clips to hold the tarp up, or attach a board and sit the board on top of the tarp on top of the tractor to keep it open when the wind is light.

Bonus Material

Adding feeders & Waterers

1. Use the wire that holds the chicken wire and hardware cloth roles together to hang feeders on the inside.
    a. Double the wire and add some twisting to add strength.
    b. I use 7lb hanging feeders.
    c. Position far enough under the tarp to prevent rain from getting the food wet.

2. You can expand your watering system by hanging water nipples from the hoop and running a hose to a 5 gallon bucket. Add 2x4 with a braced hanger on the outside end to hang a 5 gallon bucket and run a hose to your nipples inside the tractor. I don't have any pictures of this system as we use 3 & 5 gallon metal waterers that sit on the ground. But in a commercial operation it would be a time saver so you didn't have to move the waterers each time you move the tractor.

Adding perches

I like to add perches to allow the birds to have more of a natural setting. Heavy meat birds will use them some when they are young, but usually not at all in their later weeks. The dual purpose birds I raise love them. They are definitely an obstacle when trying to catch the chickens.

1. Find some straight 1-2" sticks and cut to length, or use 2x2s cut to length.
2. Place them at least one hoop section high so that the chickens can walk underneath them. You can put however many you like, I usually put 3. The pictures give an idea of the general placement
3. Use the left over wire, or some other wire to attach some perches to the back.
    a. Double and add twists to the wire for strength.
    b. EXPERIENCE: The wire normally fails between where it's twisted around the wood or where it's twisted around the hoop. Even when I used thicker bailing wire, a single wire breaks in that location. In the picture you'll see that I now leave a loop after twisting the wire around the wood, and wrap around the hoop wire back through the hoop so that I have at least two sections of wire attaching the wood to the hoop.




Moving the tractor with a hand truck

Considerations

- Orientation - Orient the tractor so the end with the weather break faces the direction your wind, especially in stormy weather, primarily comes from. For me that's west.
- Plan your run - Chicken tractors can be a chore to move and do not turn well. I give you a couple ways to move them, so plan your run so that you can go in one direction as long as possible.
    a. Each time you move, you will advance at least 12', but normally it's around 15' because you'll want to leave an "alley" of clean grass behind the tractor to work in. That adds up, especially if you're moving twice a day.
    b. Think about where you want the tractor to end up when the chickens are mature. One run of chickens takes a 1.5 lengths of the pasture we use. Once side of the run is by the road and farther away from the house, so I start my run in the middle of the pasture and

move toward the far side. That way as the chickens are nearing maturity, and using the most food and water, they are the closest to the house. Also, they are the farthest from the road reducing the potential for theft.

- Hand truck – Wider wheels are better. You will be moving across ground and thin wheels make moving the tractor much harder.

Training

- It will take a few times moving the tractor for the chickens to learn what to do, and even then you may still have some stubborn ones that have to feel the tractor hit them in the butt before they will move.
- From behind, kick the back side of the tractor that is moving toward the birds. Before you start the move, give the back side, opposite of the direction you are going, a few kicks to scare the birds forward. Kicks should be loud, but not hard and damaging to the tractor. The side of you boot works well.
- Little or young birds will be enticed to go under the side boards to escape when you raise the tractor with the hand truck. Be prepared the first few times you move them. Use small raising and lowering movements as you sit the tractor down to encourage the chickens to get out of the way. That will train the chicks to get their heads out of the way so you don't snap a neck.

Move the chicken tractor.

- Moving the tractor forward or backward is simple. On the side that will be moving forward, could be the front or back depending on which direction you're headed, lift the apron and slide the and truck under the front board.

- Lower the handle end of the hand truck to raise chicken tractor. Be sure to lower the handle far enough that the front board will not slide over the foot of the hand truck; you'll end up on you butt if it does.
- Pull the tractor forward. One person can move the tractor unless you have high grass or large clumps of grass or other vegetation that the back board can get caught on. However, it's nice to have a second person pushing on the hoop from behind. This second person can also perform additional kicking to scare slow moving chickens forward.

Using power equipment

- The plans call for creating a "sled" end of the side boards, why not just pull it daily. This can be done. I prefer to use the hand truck because it's cheaper on gas and quicker for me.
    - Thing to keep in mind.
        - Noise - Noise from the garden tractor, etc., scares the birds to the back where you don't want them and they can get run over.
        - Response time - With a hand truck, if a bird gets a foot stuck you'll hear it cry out, often dropping the front of the tractor is all that needed to free it, because that raises the back. But if you're not quick enough with the clutch on your garden tractor, you can run over the bird before you can get stopped, even in granny gear.
        - Lawn Mowers – Most lawn mowers have transmissions designed for mowing across flat land. Moderate hills and pulling heavy objects puts a strain on the transmission and will shorten the transmission's life if not outright kill it. Use a Garden Tractor that you've verified the transmission was designed for the kind of strain pulling a poultry tractor.
- Experience: I used a lawn mower, garden tractor, and tractor with a front bucket to move my tractors the first year because my hand truck's wheels were only an inch wide. The above considerations come from experience that I didn't have starting out.

Adding cables to drag the tractor

While I use a hand truck for day to day moving, all my tractors have a wire/chain so I can drag them from place to place when they are empty.

1. Attach a wire to front
    a. Add lags to the front corners. I use 3/8 lags that I reclaimed from some industrial pallets, but you can us any similar sized lag that will go in an inch but won't go all the way through the wood.
        i. Be sure to pre-drill a hole slightly smaller than the threads.
        ii. Add a flat washer to the outside for additional holding.
        iii. Just start the lag for now
    b. Wrap the wire around the lag twice and twist it around itself to secure it. I use wire that I inherited from my grandpa. I'm not sure the size, it's about a 8 or 6 gauge.
    c. Run the wire over top of the hoop to the other side leaving some slack. You'll want the wire to stay on top when you're not using it so it's out of the way.
    d. Wrap and twist the wire around the lag on the other side.
    e. Tighten the lags leaving them just loose enough for the wire to have some movement.
    f. Repeat for the back side. I put them on both sides because it's somewhat difficult to turn a chicken tractor around.


2. Attach an S hooks instead of the wire.
    a. If you don't want to deal with the wire always being attached, you can attach an S hook with the lab bolt instead of directly attaching the wire. Then you can use the same piece of wire to pull all the tractors from any direction.

Adding layer boxes

1. I have not added layer boxes to my poultry tractors. During my Indiana winters the layers need more protection from cold than a tractor provides. However, if you live in a warmer climate or want to tractor layers during the warm months you can certainly add them.
    a. Attach layer boxes to the back upright and diagonal.
        i. NOTE: I would use a 2x4 for the back upright and not use the 2x2 for this.
    b. Add them about 1' off the ground so the birds can access the pasture under them.
        i. NOTE: Don't add them too high as that will put added stress to the one fence staple holding the back upright and diagonals up.
        ii. A single row of about 2-4 boxes is all I would add. If you add more, I'd use additional wire support from the front of the boxes to the hoop wires.

Winter Storage

In the winter I like to put the chicken tractor on blocks to keep the wood off the wet ground. I support it in at least 2 places about 2 ½' from the ends.