AUTOMATIC CHICKEN DOOR

e-book photographed and written by: Ruth + Mark Loiacano

THE GROW NETWORK
HOMEGROWN FOOD ON EVERY TABLE

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# Automatc Chicken Door

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Thank you for downloading this e-book. We appreciate your interest in The Grow Network! This e-book will outline the simple process used to create an automatic chicken door! Trust us, it’s a lifesaver!

Please note; light carpentry and electrical experience are required. We will not be able to instruct you on how to frame out the opening for your specific door. Every coop is different and we cannot possibly advise everyone individually how to do so. Thank you for your kind understanding.
ABOUT THE AUTHORS

Ruth and Mark Loiacano are native Chicagoans, but are currently residing in North Texas. They are always busy working on their two-and-a-half acre homestead. These two are the ultimate “Jack and Jill” of all trades and extreme DIY’ers!

Ruth, the master gardener and master chef, and Mark, the carpenter and electrician, make a great pair when it comes to getting things done around the homestead. Together, with no prior ‘homesteading’ experience, they have built a 3,000 square foot garden, a chicken ‘mansion,’ and way more DIY improvement to their homestead than they care to admit!

They have experienced some amazing successes and some disappointing failures on the homestead. But, no matter the outcome, they always pick themselves back up and move forward!

They have a newly found purpose of building a simple and sustainable lifestyle for their family.

About THE GROW NETWORK

The Grow Network is the online home of a global network of people producing their own food and medicine. We’re constantly sharing, discovering, and working together to test new paths for sustainable living—while reconnecting with “the old ways” that seem to be slipping away too quickly in our modern world.

Our catalyzing statement (the thing that gets us up every morning) is “Home Grown Food On Every Table!” We value soil, water, sunlight, simplicity, sustainability, usefulness, and freedom.
What you need?

TO GET STARTED BUILDING YOUR DIY AUTOMATIC CHICKEN DOOR

PLEASE VISIT WWW.THEGROWNETWORK.COM/DIY-CHICKEN-DOOR FOR A FULL LIST OF TOOLS AND SUPPLIES.

RUTH AND MARK’S DIY AUTOMATIC CHICKEN DOOR HAS BEEN COMPLETELY CONSTRUCTED OF RECLAIMED BARN WOOD AND DECKING!

In fact, their entire chicken coop and run have been constructed using recycled materials. If possible, you are encouraged to do the same! Check your local area for a surplus and salvage yard — as you will find some great deals at these establishments!

LUMBER SUPPLY LIST

• One 1/8” thick piece of plywood (2” taller and wider than chicken door opening)
• Two furring strips - approx. 48” high
• Two 1x4s approx. 48” high
• 3”x3” wooden block
• Cross bar to hang antenna
• Trim pieces to fit chicken door opening

TOOLS AND SUPPLIES LIST

• Drill, drill bits, and one box of 3” and 1.5” screws
• Sawzall or jigsaw and skill saw
• Two Falvolcano timers
• One Metra antenna
• Lightweight metal bracket to hang antenna
• Wire connectors/butt splices and terminal connectors
• Wire strippers, measuring tape, pencil, & straight edge

A LITTLE BIT OF PLANNING GOES A LONG WAY!

MAKE SURE TO THOUGHTFULLY PLAN OUT YOUR BUILD DAY SO EVERYTHING GOES SMOOTHLY!
Disclaimers, legal notices, and a few words of wisdom...

**DIY AUTOMATIC DOOR**

**Preparation is key!**
Planning, preparation, and measuring are key to a successful build! Make sure to plan ahead and have all of your supplies ready in advance!

**MEASURE AND PLAN AHEAD**
You know that old saying, “Measure twice cut once.” Yeah, make that your motto!

**TEMPORARY CONSTRUCTION**
Don’t rush to permanently assemble the door. Run a full test and make any necessary adjustments first!

**WEIGHTS AND MEASURES**
Remember that part about measuring above...don’t forget that! Also, keep the chicken door as light as possible.

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DIY AUTOMATIC CHICKEN DOOR

Favolcano Timers

12 volt Source Power

Metra Antenna

Wooden Block

Door

Slides / Rails

Door Frame

Furring Strips

Door Opening
DIY AUTOMATIC CHICKEN DOOR

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Framing the door
As previously mentioned, you’ll need a little carpentry know-how to establish the opening for your automatic chicken door.

Let’s take a closer look...

The Frame
We started by building an addition to our existing chicken run. Therefore we were able to build the door frame from scratch rather than having to cut an frame in an existing coop.*

Measurements
The dimensions of the automatic chicken door will first be determined by the size coop and availability of wall space for the door opening. We recommend that the opening be at least 17” high X 14” wide.

Frame Install
In the photograph above, the door frame is installed.* While we prefer that the automatic chicken door is installed inside of a human-sized door, this may not be the case for your build.

Insert 2x4s
Insert the 2x4s on either side of the door frame that match the width and height of opening. This is going to serve as a guide for cutting the opening in the door. Screw in place.

Prepare
Drill a starter hole for the knockout using a 1” spade bit.

Cut Opening
Using a sawzall or jigsaw cut the opening for the chickens. Make sure to clean up and sand any sharp edges as necessary.

* Please note that your chicken door does not have to be built into a human sized door. You may be framing an opening in an existing wall. We are unable to advise exactly how you will do this, as everyone’s situation and chicken coop are unique.
The Finished Frame

Make sure that your chicken door is square and plumb. This will ensure the long-term success of your DIY automatic chicken door!

FIND THE PERFECT SOLUTION TO THE PROBLEM

AUTOMATE IT!

It can be a real nuisance to have to open and close the chicken coop twice a day. Especially when your coop isn’t close to the house like ours. We have found the DIY automatic door to work perfectly and with little maintenance! As with anything chicken related, the door just needs to be periodically cleaned.

Preparing the slides

Place your furring strips so that they are 2” wider than the existing opening. That is 2” wider on each side to create a rail or track for the door to open and close. Again, the width is going to depend on your situation. Ideally, the height should be around 48” tall to allow for the antenna to fully extend and retract.

The purpose of the slides is to create a rail or track to keep the 1/8” plywood door gliding up and down with ease!
Finishing the door build

Measuring the opening

Double check the measurement of your chicken door and furring strips to confirm they are approximately 2" wider than the opening. Once you are certain everything looks good, you’re ready to move on to testing the fit of the door!

Remember how we previously advised not permanently securing anything until all the test runs have been completed. Now is the time to employ that advice!

Fitting the plywood door

Perform a test fitting for the 1/8” plywood door. Make sure that it fits nicely in between the door opening and the furring strips. The plywood will need about 1/2” clearance on each side (against the furring strips) to allow for it to open and close smoothly. If there is not adequate space, the plywood door can get off kilter and even jam!

This space is especially important for the longevity of the door. Once the track gets dirty, the likelihood of a jam is inevitable if there is not adequate space.

Testing the rail /slide covers

Lightly tack the furring strips in place to test that the rail / slide covers will work as intended. Once you confirm that the plywood door will easily slide up and down and that it has adequate clearance on all sides (depth and width) you can permanently screw the furring strips into place before moving on to the next step.
Installing the Antenna

The antenna will come with two screws on the top. Use whatever kind of metal bracket you can find that fits your coop configuration. Preferably, find a bracket that has a little give and is easily bendable. Being able to manipulate the angle may come in handy if you are mounting the antenna to an interior wall.

Spacing the Antenna

The antenna needs to be spaced in such a way that, when it is fully extended, the tip of the antenna can be attached to the upper 25% of the plywood door. See next page for more details on attaching the antenna to the door.

Fitting the Bracket

As mentioned above, you may be mounting the antenna to an interior wall. If so, you may need to add a 2x4 or similar to the interior wall. This will allow for an easy way to hang the antenna from a bracket.

Again, make sure the bracket you choose is a bit pliable to allow for easy manipulation. Lightly tack everything into place to perform a test run later on.

PLEASE VISIT WWW.THEGROWNETWORK.COM/DIY-CHICKEN-DOOR FOR A FULL LIST OF RECOMMENDED TOOLS AND SUPPLIES.
**The Electrical**

The antenna recommended in this book is a 12 volt DC product. You can easily run the antenna using household electricity by purchasing an AC/DC convertor w/ a 12 volt output.

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**OFF THE GRID**

If your coop is 'off the grid' like ours, you can purchase a small solar panel, solar controller, and a 12 volt AH battery to power the door. We have been using the same battery for three years with great success!

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**WIRING DETAILS**

Butt splices are used to join the wire to wire - meaning joining the wires from the timer to the antenna wires. Some terminal connectors may be tight fitting, so make sure to be gentle with the blades on the timer. Also, it is good practice to use electrical tape at the openings to repel water and avoid an electrical short. See image.

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**MORE WIRING DETAILS**

The timer may or may not be marked with power and ground. If you purchased the Favolcano timers recommended, the positive is on the left and negative is on the right. See illustration on next page.

_TIP_ - If you wire up the timer and the red light on the upper left doesn’t turn on, then it’s wired backwards. Reverse the wires and try again.

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**CONNECTING THE WIRING**

The wiring may vary timer to timer. If you purchase a different timer than the one recommended, make sure to pay attention to the details on the product listing to ensure that it has the same capabilities as the Favolcano timer.

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Electrical Wiring

12 volt Source Power

Switch

Negative

Positive
ATTACHING THE ANTENNA

Installing the antenna

You will hang the antenna vertically straight up and down. It cannot rotate left or right. It is ideal for the plywood door to not touch the slide rails or the door frame. This ensures zero resistance against the door, allowing it to have the best chance for long-term success!

Make sure that no part of the door binds up and that there is no loaded pressure on the door.

Chicken coops get messy, folks. Like really messy! The door frame, slides, antenna, and timers are inevitably going to get covered in the infamous chicken dust. This dust can potentially cause problems with the door if you do not first ensure that everything easily operates.

Also, it is best practice to perform regular cleaning of your coop to keep all moving parts running smoothly!
**The Block**

Drill a hole in the center of a 3”x3” wooden block. This block will hold the tip of the antenna in place — flat against the plywood door. Notch out a portion for the skinny part of the antenna stem to fit snugly inside. Lightly tack in place to test all mechanisms before permanently screwing in place.

**RUN THE FINAL TESTS**

Now that all of the pieces are temporarily held together and fully wired, run several test runs to ensure that the door opens and closes smoothly. As mentioned, you may need to manipulate the position of antenna, bend the bracket, or shim a piece in place to get everything to be centered, plumb, and operating smoothly.

Once you are 100% sure everything operates as intended, you can permanently secure the final pieces into place.

Once everything is completely fastened, you can also add the trim pieces to complete the outside of the door, as pictured below.

The image shows how the tip of the antenna should fit into the block.
FINAL THOUGHTS

What we’ve learned
After building our coop, running it off the grid and successfully building several automatic doors...we’ve learned a thing or two...

OUR BEST ADVICE

Our best advice is to plan out every step of the build and visualize it well in advance! Often, you’ll forget something or need to adjust your plans. We’ve done so many DIY projects by now that we’ve learned the hard way to always plan ahead and measure twice!

- Test the door and watch closely at all points of contact before permanently securing everything into place. Bend the bracket, shim it up, or even move things around to make sure everything works smoothly! We CANNOT stress this enough! DIY Automatic Chicken Doors are not an exact science, but rather an art!
- Make sure that, when the door is closed, the antenna is fully extended. If not, over time it will warp out of shape and it will no longer retract.
- Have fun! Remember that sometimes the most rewarding things have a difficult path! If you plan ahead and have fun, this project can be one of the most rewarding DIY’s you’ve ever done!

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THANK YOU!

DIY AUTOMATIC CHICKEN DOOR

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