8 Foot Steel Garden Windmills

The only manufacturer of Made in the USA 8 foot, galvanized steel garden windmills has stopped production permanently.

What this means is that there are no more complete 8 foot steel windmills available. It also of course means that every 8 foot steel windmill you see on the internet and in stores are ALL the poorly made imports - most of which are Chinese imports.

There may be a few dealers that have some of the 8 foot Air Electrics remaining in stock. Before you purchase make certain. The best way to tell is have them email you a photo of the box prior to placing an order. It should look like this photo.

There are NO replacement parts available for the 8 foot Air Electric windmills. There will be no more replacement parts manufactured. There are NO replacement parts available for the Air Electric 4.5 foot windmill also.

There are no replacement parts available for any of the three college windmills

In the past I was able to help people who had purchased one of the cheap imports by replacing the entire top (wheel, Pivot, Tail braces, tail fin and mast head)

The manufacturer Air Electric has permanently closed. I do not have any 8 foot Air Electric Windmills available and I do not have any parts available at all for any of the 8 foot models or the 4.5 foot model.

STEP ONE - BEFORE YOU PHONE PLEASE READ THIS NEWSLETTER!!! Parts are NO longer available.

The BEST way to contact me is email - the best email to use is info@etechnstuff.com

There is a form to fill out and email for parts inquiries also emailing photos of your damaged windmill is extremely helpful.

I have been getting 10 - 20 phone calls a day 7 days a week lately asking about fixing damaged windmills. These calls average 20 minutes each - that means I am spending 3 to 7 hours every day on the phone answering questions that are in this newsletter or could have been answered in an email which takes me only a couple of minutes to do.

I do NOT have any parts for the Made in the USA - Air Electric 8 foot steel windmills

The most common emails and phone calls I get are about repairing the Chinese made junk windmills.

The Chinese made windmills look a lot like the made in the USA windmills however the sizes of the pivot, the wheel bearings and mast head are often different. This means that the parts I have will not fit.

Please read the section on Chinese Windmills.

First some things to look for. If the blades or the hub of the wheel have come loose, flow off or the welds have failed in less than a year you probably have a cheap Chinese made windmill.

I do not and will not carry parts for the cheap Chinese copies. I no longer supply Made in the USA parts to retro-fit the Chinese imported windmills.

This newsletter is for information only - there are NO parts available for any of the 8 foot Air Electric Windmills and the 4.5 foot Air Electric Windmill.

Inside this issue:

Windmill manufacturer trip

Repairing an older windmill

8 foot windmill detailed photos

Must head and bearing photos

Fixing your damaged windmill

Store information

FAQs
Repairing your Garden Windmill

Figure 1 - Garden Windmill Parts

Figure 2 - Eight Foot Windmill dimensions

Figure 3 - Pivot

Figure 4 - Wheel

Figure 5 - Wheel Hub and bearing (Back)

Figure 6 - Pivot in mast head - tail attached
8 foot windmill bearing - 1/2 “ shaft - 1 3/8” OD Flanged Figure 7

8 Foot mast head for 1/2” vertical pivot shaft Figure 8

Mast head bottom- Figure 9

Collars- Figure 10
Will the parts I have fit your windmill?

Air Electric Machine no longer manufacturers garden windmills - there are no longer any parts available - Air Electric has permanently closed their operation and business. The first thing that MUST be done is to identify if your damaged windmill is the brand I carry. - the Air Electric from Iowa which no longer is in business.

The first step is to establish what the pivot shaft size is. The pivot is a shaft that is bent 90 degrees. The horizontal part holds the wheel. The vertical part goes into the mast head. The shaft size is 1/2 inch. You must measure it with a ruler. A quick way to check the shaft size is with a 1/2 inch washer. If the washer fits over the shaft easily, then you know the shaft is 1/2" or smaller. If the washer is really loose than the shaft is smaller than 1/2" which means you probably have an imported windmill. See the section on repairing imported or Chinese windmill copies.

Next of course compare the photos labeled Figures 1-6 and make certain the parts that make up your windmill look the same. The most common failure occurs about ten years out. The wheel begins to wobble or is noisy or does not turn. This is usually caused by the bearings failing. It is important to catch wheel problems early. If the bearing seizes it will cut into and damage the pivot shaft. I no longer have any bearings available - you will need to locate replacements on your own.

The next most common failure is the wheel is no longer up against the outside washer and cotter pin and has slide past the stop on the shaft. This one is critical to fix quickly - if the wheel slides in the blades will hit the tower and damage the wheel. The cause is the stamped in stops have worn down. The fix is easy - get a 1/2" collar (Figure 10) at a hardware or home improvement store - these cost around a dollar. Put the collar on the shaft, add the back washer, put the wheel on and the front washer and cotter pin. Adjust the collar so the wheel is lightly against the front washer. Same thing happens to the stop that keeps the vertical shaft up away from the mast head sleeve - same problem same fix. Put a collar on the shaft then add the top washer and adjust it so there is room for the bottom washer and cotter pin on the bottom.

The MOST damaging thing that happens is the ground stakes have worked loose and the windmill tips over in high and or gusty winds. This almost always will bends the wheel. A bent wheel cannot be fixed, even the very best welding shops cannot get them back in balance. The wheel will vibrate and this will cause the blade welds to fail. The Made in the USA windmill comes with a hand balanced wheel and if it vibrates then something is wrong.

Check the windmill tower to make certain it is solid and well anchored. If the tower is loose pull out the ground stakes and move the tower a few inches and drive the ground stakes back in.

If the wheel is noisy while turning it needs grease. Recommended is white lithium. A lithium based grease is fine also. You can find lithium based grease and a mini grease gun set at most home improvement stores. You should put 3 to 4 shots of grease into the grease zerk on the wheel hub twice a year. Do not put in too much grease - it will get forced out through the bearings and get all over the windmill.

The next most common failure again at around 8-10 years is the weld on the mast head will fail. Do not attempt to fix a failed mast head just replace it with a new one if you can find one. Mast head failure is usually caused by the wheel vibrating and or the vertical shaft or sleeve getting rusty. Remove the top from the mast head and wipe the shaft with grease each time you grease the wheel.

**Pivot** - there are no more pivots or tail fins available.

**Rust and Painting**

The blades will rust and the red trim will begin to come off after about five years. The wheel, pivot and mast head are painted steel, painted with an aluminum colored paint. The red trim is also paint. It is not possible to make the wheels using galvanized steel. Welding galvanized steel is a serious health hazard. When you start to see the wheel showing rust remove the top. Sand or sandblast the wheel, pivot and mast head and repaint them. I do not know much about painting only that it is something I do not do myself. When my 8 foot steel windmills get rusty I take it to friend that has an auto body shop. He sandblasts them. Repaints it with silver paint, repaints the red trim and then puts several coats of something called clear coat on. I do not know what this would cost. While I do not know much about painting I do know a lot about computers so we do an exchange of skills. I have customers that paint and repaint these windmills but do not know what type of paint they use.

The nuts and bolts on the tower and that hold the tail will rust. I have found that wiping them with silicon grease helps.

The windmill tower is galvanized steel - it will "weather" but not really rust and normally needs no maintenance.

If you have old rusty windmill and don't want to deal with repainting it - consider one of the aluminum windmills to replace it. Hint: the weathervanes with a short shaft (deck, roof or post mount) will fit into a 1/2 inch mast head.

**Ordering Replacement Parts**

Air Electric stopped making garden windmills in 2012 and permanently closed their business in 2013. There are no longer any parts available. I do NOT have any spare parts - that means I no longer have any wheels, mast heads, tails or pivots. I also do not have any replacement bearings available either.
Keys to identifying Garden Windmills - Is it an import and can it be fixed?

The Chinese copies of the Made in the USA garden windmill range from poor to very bad when it comes to quality. As long as they are never placed outside in the wind and weather they will last for a long time. In fact there have been several times when I have actually recommended that potential customers purchase the cheap Chinese copy windmill. These were to be used as stage props for the play Oklahoma and as static displays in outfitter stores.

If you got your windmill at a big box store, a national home supply or farm supply store, at a flea market, at a national hardware store or from the internet the chances are very high that what you have is one of the imports. If your windmill cost less than $80 (shipping included) it is probably an import. The further below $70 that these cost the worse the quality.

The words “American Style” on the box, in their advertising and on their literature has nothing at all to do with where it was made. An American Style Windmill just means this is a windmill that has a wheel that faces into the wind and a tail that keeps the wheel facing the wind. The wheels on the Chinese windmills are simply tack welded, they are not balanced so they vibrate. The steel used is a lot lighter and poorer quality than the Made in the USA windmill. The bearings will fail within a couple of years if the wheel makes it that long. The made in the USA windmill had a shipping weight of 37 lbs. The Chinese made windmills range from 20 lbs. to 30 lbs. They each have the same number and sizes of parts, the weight difference is because the Chinese windmills are much lighter gauge steel. They look a lot like the made in the USA windmill.

The Chinese made windmill towers that are galvanized steel are actually not bad. The legs, braces and platform actually will hold up fairly well. The very poorly made Chinese copies that are gray or green or painted are not good. The paint will wash off and they rust. The brown ones with the weather vane and the 3 legged ones are very poor.

Any size other than 8 foot is for certain an import. There used to be a made in the USA 4.5 foot galvanized steel windmill made by the same manufacturer as the 8 foot that I carry. The manufacturer stopped making these a couple of years ago. They do have a very limited supply of parts for these still available. There are no plans to manufacture the 4.5 foot windmills again. Their used to be three college windmills - Nebraska, Iowa State, and University of Iowa that were also made by the same USA manufacturer. They have stopped making these and do not plan to resume production again. There are NO parts available for any of the college windmills.

Fixing your damaged windmill - Some Tips

Figure 4 shows the wheel mounted to the pivot. The thing to note is there are two washers - one on the back and one on the front of the wheel. The grease zerk goes toward the front and a cotter pin holds the wheel onto the shaft. The grease zerk goes toward the front and a cotter pin holds the wheel onto the shaft. Once again the shaft is 1/2 inch. (Many of the Chinese windmills have what looks like a 3/8 inch or 7/16 inch shaft - and the fact is it is really metric.

Figure 5 shows the wheel. There are two bearings on the wheel. The bearing are 1/2 inch inside diameter. The bearings have a flange on the outside and go inside the hub which is 1 1/4 inch. Some people have located bearings for the Chinese windmills at garden equipment shops. The type of place that sells garden tractors, lawn mowers, tillers and so on.

To remove the bearings place the wheel on a couple of wood blocks so that the blades are above the surface. Place the blocks so the bearing is able to be driven out. A 3/8 or 1/4 steel rod or bolt can be used - Put the rod or bolt through the bearing and angle it so it is in contact with the outer edge and tap on the bolt or rod with a rubber of plastic hammer. Move the rod or bolt around and tap so that you force it straight out just a little at a time. Once you have the first bearing out the second one is easy, it can be driven out with the bolt or rod by putting it through the now open hub. Once again put a couple of small pieces of wood under the wheel.

Installing new bearings is done by tapping them in with a plastic or rubber hammer. The bearing needs to be driven all the way in to where the flange is snug against the hub. The bearing should be a tight fit.

When you put the windmill together be certain to place a washer on the vertical shaft before putting it into the mast head. It is normal for this to be pretty tight and for the windmill to not turn so well into the wind. This will loosen up in a week or two. It is a good idea to put some grease on this shaft. Before you put the wheel on place a washer on the horizontal shaft, place the wheel with the grease zerk out - toward the front, add another washer and the cotter pin. You should add three or four shots of grease in the zerk. (I use a Lithium based grease in a mini gun) - Only put in 2-3 shots of grease, do not fill the hub with grease. It will just work its way out through the bearings and cause a mess this should be done once a year. You should be able to find a mini grease gun with lithium grease locally.

NEVER attempt to stop a spinning windmill wheel with your hands!!! You WILL end up in the ER getting stitches. If you need to stop the wheel wear heavy gloves - grab the tail brace and turn the top 180 degrees. The wheel will slow and stop. Grab the wheel when it stops.

If you have purchased one of the imported garden windmills so far as I am concerned you are simply out of luck. I do not carry parts for these - nor will I ever even consider carrying parts for these pieces of junk.

In the past it was possible to replace the entire top (wheel, mast head, pivot, tail braces and tail fin) on these import. The parts are NOT interchangeable - Made in the USA parts will NOT fit on the Chinese windmills unless the entire top is replaced. I am no longer able to get the complete tail kit. There are no more tail fins available. Attempting to use the Chinese made tail fin does not work - the metal they use is too light and will fail. So I no longer have parts available for any of the imports.

So far as the John Deere and International Harvester windmills on my site I do not have parts for these either.

Here is a photo of the Made in USA Windmill Box - if your windmill came in this box I have parts of if there is a manufacturers stamp on the trapezoidal piece welded to the pivot shaft.

Failed Imported Windmill? Normally what happens with the imports is the blades fly off from the wheel at moderate wind speeds.

The import windmills blades are typically just tack welded to the hub. A lot of people have attempted to weld or have the blades welded back. This rarely works. It is nearly impossible to get a re welded wheel into balance. It will vibrate and soon very quickly fail again.

I no longer can replace a failed imported windmill top with made in the USA parts.

Failed Air Electric made in the USA 8 foot windmill? There are no more parts available from Air Electric - they have permanently closed their business. I do not have any parts available at all.

Failed 4.5 Air Electric Windmill? There are still some parts available - email me.
Assembled and while not as well made they are made in China. The windmills are not well anchored they will tip. I also have over 150 weathervane designs available of which over 30 are college weathervanes.

I carry Amish made Bird Houses, Bird Feeders, Lighthouses, outdoor furniture, Pond Aerators, aluminum mailboxes, aluminum bicycle carts, 15 different mini windmills and more - all items are sold on the Internet.

I am constantly looking for items to sell online, if you are a small manufacturer with items that could be sold online or have products that might be sold online please contact me. I am learning more and more about how to sell directly online. One of the areas of interest that I am learning how to do is information products - basically “How to” eBooks, audio books and video books. I can help small businesses with their websites from design to operation.

Frequently Asked Questions

Are your windmills USA Made?

Yes the 8 foot and the aluminum garden windmills are made in USA. So are the mini windmills, weathervanes and Amish lines.

Having Said That

There is a line of windmills, lanterns, thermometers, and other items that I carry that have Farm Tractor brands - John Deere, International Harvester, Case, Allis Chalmers and others that are made in China. The windmills are not as well made as the USA ones however they are fairly good and are the only licensed items with the tractor brands and colors available. This line is fairly new to me so I do not know how well they stand up over time.

What about the mini Windmills?

The mini windmills are 17 inches tall and are made in the USA. There are now 15 different mini windmill models. The manufacturer has been making these since 1946 and are excellent quality. The mini windmills are a bit of a pain to put together. There are some tips on my blog site. The mini Windmills can be placed outdoors. Like the 8 foot and aluminum models as long as they are well anchored they will last for years.

The John Deere and International Harvester Mini Windmills

Do come from China. They are pre assembled and while not as well made as the USA mini windmills they are pretty good and so I do have them available.

Can you get parts for my Chinese Windmills

NO!! - I do not sell the cheap Chinese copies so I am not able to get parts for them - even if I could get parts I would not. While the Chinese windmills are copies, the parts are not interchangeable. Typically the 8 foot Chinese windmills have a 3/8 inch or 7/16th inch shaft - the American Windmills have 1/2 inch for example.

What are the most common failures (USA Made Windmills)?

The most common failure of the American made windmills are the bearings or the mast head - these tend to fail in 15 or 20 years. If the windmill tower is not well anchored the windmill can tip over in high winds and this will bend the wheel. It is usually not possible to get the wheel back to where it runs smoothly if it has gotten bent.

The paint on the wheel and tail can discolor and begin to get some rust on the edges at 5-6 years. These parts can be repainted. The USA made towers and platform are galvanized steel and do “weather” - it is not easy to paint galvanized steel so I recommend just let them weather.

The bolts tend to rust - I recommend coating them with a very thin coat of the same grease used for the wheel.

What are the most common failures (Chinese Made Windmills)?

The Chinese wheels tend to fail in a few months and or high winds. The blades will come off, the welds break, the wheel tends to fly apart. The bearings fail in a short time. The mast head is light gauge steel and tends to wear inside the shaft. The pivot is smaller and tends to bend. They just are not worth the $30- $90 that people pay for the 8 foot ones.

Is it better to just get a whole new windmill?

Maybe but you do need to be aware that since Air Electric is no longer in business the only galvanized steel windmills available are imports and I have not seen any imports that are any good at all - if you happen to find an import that seems OK let me know where you got it and send some photos.

Are College Windmills Available?

The manufacturer stopped making the colleges windmills several years back - they also now have stopped making the 8 foot galvanized steel windmill so these will not become available again. The 4.5 foot windmill has not been made for several years. There are no parts for the college windmills and parts for the 4.5 foot windmills are in also no longer available.

Custom Mini Windmills?

Custom made mini windmills can be done for your business, group or event. There can be in a single color or up to three colors of printing & or graphics on the tail. Minimum 25 - 8 weeks to do.