How to Buy and Outfit Your Small Farm Tractor
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Subscribers automatically receive access to free guides, the Countryside Bookstore and hundreds of articles about homesteading, gardening, livestock and poultry, as well as fun lifestyle stories from readers like you. Sign up for daily reports on the topics that you care about the most.
When you’re looking for the best small farm tractor for your farm or homestead, you may gravitate toward the tractors of yore; Ford 9Ns, Farmall Cubs, Fordsons, and the such. The attraction is understandable since these are true classics of farming, offering an allure of an iconic nature and an attractive price point. You can find good deals on these, available in various stages of neglect strewn across the pages of those tractor finder magazines, but if you’re hunting for a functional tool for the farm, you may be barking up the wrong tree.

Tractors are not on the cutting edge of science, but you may be unaware of how far they’ve come and just how outdated those antiques are. Manufacturers have developed new systems and unified many interfaces since the age of the Farmall, creating best small farm tractors that are robust, agile, dependable, and easily modified to fit the task at hand. Back in the day, a tractor was a tractor, but today there is a wide array of options available, and that can be overwhelming. Follow along as I clarify a few things about today’s modern lineup, and help you decide what sort of tractor will fit you best.
What's The Hitch?

A three-point hitch is the interface we use to attach implements to the back of a tractor. For our purpose, we need to understand the difference between Cat-0 (category zero), Cat-1, and Cat-2. There are more categories but these are the sizes that pertain to the small farmer and homesteader. All these hitches have different pin, hitch arm, and top link dimensions.

Cat-0 implements are miniature versions of Cat-1 implements and are meant to work on the smallest of tractors. Cat-0 is a relatively new size. These implements tend to be expensive, limited in ability, and scarce in the used market. I don't advise the purchase of a Cat-0 tractor for many reasons, availability of implements is one of them. Cat-0 tractors can only use Cat-0 implements because of size, weight restrictions, and the minimal power associated with Cat-0 tractors. Cat-0 implements are easily identified by their miniature appearance and use of 5/8” lower arm pins.

Cat-1 implements are what many consider to be a “standard” implement. Cat-1 is the most common size of hitch, and Cat-1 implements are offered in different widths to match your best small farm tractor. Cat-1 implements are plentiful, readily available, easy to find, and offer you the best chance to find a great deal, especially in the used market. Cat-1 hitches use a 7/8” lower arm pin and many Cat-0 implements can be adapted to fit a Cat-1 hitch. Cat-1 is the most common hitch found on the best small farm tractors.

Cat-2 is a larger, less common hitch size usually reserved for hard use or high horsepower implements. Cat-2 implements tend to be far more robust in their construction, hence they use the larger 1-1/8” lower arm pin size. My tractor is a Cat-2 tractor, so with the exception of my backhoe or scraper box, I need to use sleeves to adapt my Cat-1 implements to my Cat-2 hitch. It can be annoying when you misplace these stupid little sleeves, but having a Cat-2 hitch opens up my options when buying implements and allows me to use a larger backhoe.

Transmissions

Tractors have been using gear and clutch-style transmissions for a very long time, and many experienced operators are more comfortable with this tried and true design. Today, however, the lion’s share of tractors sold have hydrostatic transmissions, which simplify and complicate the act of motivating a tractor all at the same time, especially if you’re used to a clutch. Instead of releasing a clutch and having your tractor lurch forward, you can now select your gear or speed range, then push the forward or reverse pedal to modulate the speed and direction you want to go. This type of transmission is a proven design and tends to last longer than traditional manual transmission clutches. With a hydrostatic transmission, you can creep along without burning up a clutch, which is very useful. If you find yourself feathering a tractor’s clutch often, hydrostatic will serve you well. Try both styles out before you buy to decide which style you’re more comfortable with.
Tractor manufacturers now offer many sizes of tractors, typically grouped by “class.” These classes are designed with a target customer in mind so ability, power, options, and price points vary accordingly. Generally speaking, all tractor manufacturers offer a sub-compact, compact, mid-size, and full-size class range. Not all dealerships offer all the classes, so understanding what class you’re shopping for will help when deciding where to shop.

Sub-compact tractors are the bottom of the power curve and are (generally speaking) a lawn tractor on steroids. Tractors in this class are limited to a Cat-0 hitch because of their size. Most of the sub-compact tractors of today are compatible with front end loaders, but with load limits of 500 lbs or less at the bucket, they qualify as self-propelled wheelbarrows.

Thanks to the sub-compact craze, manufacturers are now offering mid-ship PTOs in most, if not all tractors. Mid-ship PTOs are “power take off” points, much like the rear PTO spline that can run your bush hog. These mid-ship, or belly PTOs allow a tractor to power a belly mower, like your typical ride-on lawn tractor, only much bigger. Having a mid-ship PTO also opens up the option of adding a front mounted, PTO-driven snow blower, which appeals to those of us in the northern climates. Many sub-compact tractors are now available with diesel engines and four-wheel drive, which is a major upgrade in usability. You can expect horsepower ratings to be in the teens or low 20’s at best, which limits what sort of equipment you can run.

If you want a big lawn tractor with a bucket loader, this just might your ticket, but I don’t advise buying a lilliputian tractor like this for farm use. If you’re serious about farming or homesteading today, you are likely to be disappointed by a sub-compact tractor’s lack of power, ability, or performance. If the biggest load you plan to lift is grass clippings and leaves, then you can expect to pay around $12,000 for this over-sized garden tractor.

Compact tractors are a bump up from sub-compact, albeit a small bump. Compact tractors are offered in Cat-0 or Cat-1 hitches. A 4×4 seems to be standard at this size, as does a three-cylinder diesel engine, which is good news. All compact tractors I’ve seen are compatible with reasonably robust bucket loaders. Robust or not, these bucket loaders are still rated for under 900 pounds at the bucket, so take that into consideration.
The compact class bridges the emissions gap, meaning many of these tractors offer horsepower ratings either side of 27 hp, which is the cutoff for non-emissions controlled engines. Why should you care? Emissions systems on tractors are a relatively new technology and have yet to be proven in reliability and longevity. Years down the line, you may be looking at expensive emission system repairs, and the inclusion of these systems drive up the purchase price. If three or four pony powers don’t really make a difference to you, and the compact class is where you’re shopping, then shoot for a non-emissions tractor for now.

Compact tractors sit in a precarious spot, bridging both the emissions gap and hitch categories, which means many compact tractors will be a little too wide for a Cat-0 implement, but underpowered for many Cat-1 implements. Despite this, I would advise leaning toward a Cat-1 equipped tractor since I’d rather have the latter problem.

Many of these compact tractors fit on a landscape trailer, which makes them easier to transport than their larger brethren. Because of their size, they also tend to be less intimidating to the first time tractor owner. They also offer a palatable price point, usually somewhere between $15,000 and $23,000 depending on options and model, making them attainable for many people. For these reasons, some people will find their best small farm tractor in this class size.

You get what you pay for, generally speaking, and the mid-size tractor category is a good example. Mid-size tractors offer more versatility, flexibility, horsepower, and conveniences than the smaller compact and sub-compact tractors, such as cab options and remote hydraulic controls. Mid-sized tractors will come with a Cat-1 hitch at a minimum, with many manufacturers offering a Cat-2 hitch with their larger mid-size tractors.

Power ratings and engines vary widely across this category, but most will feature a three-cylinder diesel engine between 35hp and 65hp. If you’re looking for a good all-around farm tractor with the capacity to run a lot of different implements, something close to the 50hp mark should serve you well. When you go north of 50hp, you will also find some manufacturers offer an “economy PTO” option, which is an overdrive for your PTO. When engaged, it allows the engine to spin slower while maintaining proper PTO shaft RPM’s, reducing fuel consumption while running equipment such as farm generators.

Bucket loader capacities vary widely in this category, anywhere between 1,200 pounds to over a ton at the bucket, which sounds excessive to some people but having a machine in this lift capacity range is far more practical for clearing land, lifting materials and moving pallets with a fork bucket. A standard size shipping pallet can handle over a ton of weight, so having a loader that can handle that safely will prove valuable to many farmers and homesteaders.
Mid-size tractors offer a lot of power and options as well as value for your dollar, and of course, that will be reflected in the purchase price. Prices for these models will be comparable to the purchase price of a well-appointed 1-ton pickup truck. I may be biased, but when someone asks me what class to look in for their best small farm tractor purchase, I always suggest this class first.

During my most recent visit to my local Kubota dealer, I priced out a 60hp mid-size tractor with all the fixings; a bucket loader with additional forward controls for bucket thumbs, mid-ship PTO for a snow blower, rear PTO with economy gear, and a fully enclosed cab with air conditioning, heat, and radio speakers. Overkill? Maybe, but for about $40,000 you too can own a luxurious farm tractor that will operate everything on your farm implements list, keep you cool while mowing fields in July, and keep you warm while you push snow in January with a cup holder included.

Have a large farm with large implements? If you do, I doubt you’re reading my article, but if you are, you need a tractor from the git-er-done class of full-size tractors. These behemoths start around the 80hp mark and get about as big as you can imagine, plus some. If you need something in this category, be prepared to pay mucho dinero for the real deal. I’m sure you can buy some of these tractors without a cab, but that would be a special order since cabs, air-ride seats, air conditioning, heat, and the such come standard with this sort of tractor. Homesteaders and small farmers who won the lotto would love to own one, but unless you have lots of room to play, they are simply too big to do a lot of what we do. These are big pieces of machinery, and they won’t always fit where we want them to go.

A full-size tractor is above and beyond the needs of many of us, and the price points start around $60,000. The sky seems to be the limit on the larger models, many costing more than the average house. I want one.
More Things To Consider

When you set out to buy your small farm tractor, there are a few things you should consider before you spend your hard-earned cash. Here are a few abbreviated notes to think about:

• When choosing a brand or dealership, consider the parts, service, and maintenance availability for that brand. Getting a tractor from a brand that doesn’t have many dealerships in the area, or even in your country, can cause you lots of problems when it breaks. Some unknown or unestablished brands sourced from other countries may be offered at bargain prices, but even simple things like oil filters can be hard to come by. I suggest buying from a well-established brand and a dealership that’s been in business for a long time.

• Four-wheel drive is a given these days, but if you happen across a brand that offers tractors with or without 4x4, do yourself the favor and buy 4x4. Traction is king when operating in the dirt, and I can speak from experience when I say you need 4x4. All the best small farm tractors have 4x4, and yours should too.

• Identify how you will be using your tractor, and pick the tire style that best suits your needs. For general farm use, I suggest opting for agricultural cleat style tires, or industrial style if you need a compromise that is road-friendly. Turf tires seldom serve a small farm tractor well, unless you’re mowing your lawn with it. Also, consider services like ballast tractor tires if you need additional traction.

• Cabs are a luxury, but if you plan to operate in blowing snow, it could mean the difference between misery and relative comfort. Unless you like dressing up as the Michelin Man and being hit full force with winter weather, seriously think about adding a cab to your mid-sized tractor.

• Speaking of the white stuff, if you intend to add a front-mounted, PTO-driven snow blower to your tractor, I suggest buying a tractor with a mid-ship PTO already installed, or at least be sure you can add one later. Likewise, if you’re looking at a compact or sub-compact tractor and intend to buy a belly mower for it.

• Tractor brands such as New Holland, Kubota, John Deere, and the recently revived Massy Ferguson are well-established brands in the United States and will likely be your best small farm tractor brand, but you will find others such as Kyote, Mahindra, Yanmar, and others. Practice due diligence and research the brand you intend to buy since this will be a long-term investment and you don’t want to buy from a brand that has the potential to disappear (like Daewoo cars, remember them?).

• Pay attention to bucket attachment systems. Some brands are more compatible than others, some have proprietary attachment designs and some don’t even detach, which should be avoided. It’s just one of those things worth considering. Likewise with the loader arms themselves. Most brands allow you to quickly and easily remove the entire loader, which makes maintenance easier.
Buying the best tractor for small farm work requires searching for the right tractor for the job. Tractors can be used for many reasons. Identifying the jobs and eliminating the tractors that won’t work is the first step. Tractors are iconic symbols of farming and a common farm equipment purchase. Picking the best tractor for small farm and homestead operations can also be fun. Learning about the different tractor and machinery brands and talking to people with years of experience helps us hone in on the job our tractor will be doing. Don’t over buy. Just as having a tractor large enough for the job is important, so is not having a tractor that is not too big for your property.

Start your search for the best tractor for small farm operations by locating the dealerships near your property that sell farm tools and equipment, including small tractors. No matter how well you maintain the tractor, you will need service and parts. Being able to pick up parts or schedule a repair is much easier and timely when you are in the same area as the dealership.
Identify the jobs you will perform with the tractor. This will help the salesperson narrow down the search for the perfect tractor. Plowing, moving hay bales, moving pallets of feed, mowing grass, and cutting hay are just a few of the tasks that can be accomplished with a tractor. Make a farm implements list. Which ones do you use all the time? Would having one of those jobs handled by the tractor improve your farm life? Using a grid to form a compact tractor comparison chart will help you visualize the choices. Grab a sheet of plain paper or graphed paper. On the left side, list the jobs you would use the tractor to accomplish.

**Should I Buy a Used Tractor?**

It would be great if you could find a bargain on a used tractor for small farm needs. It would be even better if the tractor was in great condition. In our experience, this is a hard item to find. If a tractor is a good machine, the owner is likely to use it until it is almost worn out. Ask about the hours the machine has been run and be sure to check the tire quality. Let the buyer beware of course. If you find a used tractor, take care looking it over and consider having a machinery mechanic take a look before you purchase.

**ACCESSORIES FOR SMALL FARM JOBS**

The small farm tractors can attach a variety of tools to perform more jobs on the farm. Some accessories attach to the standard bucket on the tractor. This is a convenient feature, however, the tools do a better job when attached directly to the tractor.

**AUGER**

An auger attachment can dig post holes, footer holes for foundations, and holes for planting trees.

**PLOW**

Plows can be used to move dirt, manure, and more.

**HARROW**

The disc harrow is used to till up the field before planting. The spring tooth harrow smooths out the ground.

**BUSH HOG**

The bush hog can be used to cut tall grass, weeds, and brush.

**MOWER**

Cuts grass or hay.

**HAY RAKE (AND BALER)**

Follows and scrapes the hay into windrows and the baler makes the hay into bales.

**HAY SPIKE**

The bucket can be used to move a round bale but in some operations, it is easier to move the large round bale with the hay spike.

**FORKS**

The forks are used for many tasks. If you feed large square bales, you need the forks for moving a stack of hay bales. The forks can also be used to move pallets of feed or large farming accessories such as water troughs.
Does it Matter What Brand I Buy?
Again, I think it's better to have a local dealership to do business with. The dealership will have better luck ordering parts and scheduling a repair on your farm. John Deere, Alis Chalmers, and International Harvester are just a few of the dealership and brand choices. All of the major brands are built to tackle the jobs on a small farm.

What Size Tractor will I Need and What About the Horsepower?
This is where things get sticky when trying to get advice. Many people think that bigger is better when buying the best tractor for small farm work. Let's break down the answer by looking at three main choices for tractors for small farms. Garden-style tractors are good for cutting grass. They have limited horsepower and may not have enough traction for much more than that.

The smaller farm tractors are between 30 and 60 horsepower. These are popular choices for small farming work. This size range can be easily maneuvered around buildings, paddocks, and through pasture gates. Larger farm tractors, over 75 HP are great for plowing large fields, planting, harvesting, and cutting hay.

Transmission Options
Hydrostatic transmissions are a newer option in tractor transmissions. This transmission is a lot like automatic. This option is great if you are doing a lot of field work, planting, clearing fields, and cutting hay. Contrast this type of transmission with the classic manual transmission. The benefit of the older style transmission is the extra lower gear. This is useful for pulling because of the extra torque. The hydrostatic transmission is convenient but the expense is high if a repair is necessary.

It is always a good idea to measure gates and narrow areas on your farm before purchasing any tractor for small farm use. Gates may appear large but the tractor may not fit through the gate causing more work. Have a good idea of what the best tractor for small farm jobs will include before heading out to make the purchase. The tractor should work hard for you and the farm for many years.
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The Best Small Tractor HACKS

Low Buck Tractor and Machinery Tips to Make Your Life Easier

BY JEREMY CHARTIER

Life is different when you own a tractor, so much so I don’t really know how I would function without one. Even with the best small tractor, there are situations that call for ingenuity and specialty add-ons to turn your tractor into a rolling Swiss Army knife. Just like mechanic work, every job is easier when you have the right tools, so let’s look at a few add-ons I’ve used over the years to make my tractor into “the right tool for the job.”

If you do modify your equipment, do so at your own risk. If you are uncertain in any way, ask a local professional for input. I’m not an engineer, certified welder, or professional mechanic, nor do I know what tractor you have or what condition it’s in, so use caution when modifying equipment.
Heavy Lifting

I lift things up and put them down … with my tractor, that is. Many times I run into a situation that requires lifting something; be it a machine, a truck, equipment, logs, an engine, or what have you. Even though many best small tractors have a bucket loader, few come from the manufacturer with attachment points on the bucket for chain or rope, which is unfortunate. Of course, farmers have been modifying tools to suit their needs since the dawn of farming itself, and the lack of a hook or eyelet never stopped a farmer.

A lot of things I move around the farm are not necessarily heavy, but they may be bulky or don’t fit in my bucket without being precariously perched. For these instances, I like to use a pair of clamp-on forks, much like a forklift.

Online, at your local best small tractor dealership or even your local big box farming store, you can purchase hooks of all kinds. For a simple modification, you can buy a slip hook or a grab hook that matches the chain you have, that features a standard pin-on link. By simply drilling into the side of your bucket, you can pin these hooks onto your bucket, making this a quick and easy affair. This quick and easy method has a few pitfalls, however. Torsional force can wreak havoc on your bucket’s plate steel construction, and the link portion of the hook can deform over time. In addition, I find myself catching the hooks on things often when installing this way, which results in them being removed often and then consequently lost.

If you have the time, equipment, or the right friends, you can step up your game by buying weld-on hooks which have been designed to, you guessed it, be welded on. I for one prefer to weld these on top of the bucket, close to the edges to avoid buckling the bucket. If you want a hook at the center of your

These clamp on forks are a life saver.
bucket, consider reinforcing the top of your bucket with C channel iron before doing so, since lifting from the center may cause a flimsy bucket to fold or collapse. If you do reinforce the bucket, I personally find having a slip hook dead center of my bucket and one grab hook on either side to be of great use to me, but that’s simply my preference.

**Easy Lifting**

A lot of things I move around the farm are not necessarily heavy, but they may be bulky or don’t fit in my bucket without being precariously perched. For these instances, I like to use a pair of clamp-on forks, much like a forklift. Being able to move things on pallets, take delivery of pallets from the back of an 18-wheeler, or even lift palleted items into a box truck for shipping is super handy. Logs, poles, stacks of lumber, and other lengthy items are also easily moved when you have a pair of forks available.

Now that I have forks, I leave a lot of items on pallets such as bales of shavings, chicken transport cages, extra equipment, spare parts, and all sorts of things, because it allows me to shuffle items around the farm at will. One disadvantage of using a clamp-on style fork you should be cognizant of, is leverage. Since you effectively double the distance between the arms of your tractor and the load, you have now exponentially reduced your safe working load limit. Use caution when lifting loads, since weights your tractor could safely move before may now cause your tractor to tip forward, deform your bucket where the forks are attached, or damage even the best small tractor’s loader.

Prices for clamp-on forks vary widely, but I’m very pleased with the pair I picked up on eBay for less than $200; which is a steal compared to buying a proper $1200 fork bucket. The specific pair I bought are made in the USA, but for the life of me, I can’t remember who made them. The only problem I’ve ever had with them is that I twisted the big bolt on one, had to cut it off, and then bought a new bolt through my local hardware store. Having tractor bucket attachments, like a set of forks, can make your life on the farm or homestead so much easier, which is why I highly recommend them.

In the future, I plan on building an actual fork bucket for my John Deere out of a “quick-tach” plate and used parts from a forklift. This will replace my bucket when attached, giving me a higher lift weight capacity since my load will be closer to the arms of the tractor.
Working Late

Sometimes I just have to get something done quickly. Sometimes I’m trying to beat the weather forecast, or I’m just trying to wrap up a job I really don’t want to finish tomorrow, and that usually leaves me working long after the sun has gone down. I may have headlights, but they are borderline useless when the bucket loader obstructs them, or when I need to see the implement I’m running behind me, not what’s ahead of me. You can avoid this inconvenience with about $20 and less than an hour of tinkering.

Many small tractors have Roll Over Protective Structures (ROPS) which are meant to stop the tractor from crushing the operator in the event of a rollover, but many of these structures have pre-drilled holes from the manufacturer to accommodate different optional equipment. You can use these to mount off-road lights to your ROPS without impacting the structural integrity of these safety structures, or there’s plenty of magnetic bases and zip ties in the world if you prefer. In either case, adding a pair of cheap off-road lights from your local parts store or bargain supply shop will make your life easier when the sun goes down. You may be able to tie these into your existing switches, or you may need to add a new switch to your tractor’s dash, neither of which should be difficult. Be cognizant of how much power your lights draw since they may overpower your switch of choice. If that’s the case, consider using a relay in your new circuit to avoid an electrical fire. I plan on adding LED lights this summer to my John Deere since they draw less power and look brighter than many of the other options out there, albeit a bit more expensive.

Adding Gravity

When you’re lifting, digging, or operating on dicey terrain, adding a little down force to your tractor can make the difference between getting the job done and getting too tipsy, even for the best small tractor. Tractor tire fluid does a great job of adding ballast to your tractor, providing more weight to keep your tires touching dirt, and lowering your tractor’s center of gravity. Professionally installed options can get expensive, but with some inexpensive tools, anyone can add ballast to their tires using automotive antifreeze. It’s worth your time to research the possibilities.

If you’re lifting with your loader and you feel your rear tires lifting off the ground, grab your heaviest implement to add counterweight or consider building an actual counterweight that attaches to your 3-point hitch. We’ve made several counter weights using a 55-gallon drum, some scrap steel and a few bags of cement over the years. Even if you use off the shelf items like a 3-point tow bar, you can easily build a functional tractor counterweight for under $100. Adding a counter weight to your farm implements list will serve you well over the years, even if you use it infrequently.

Tow bars are a great off the shelf part to start building a counterweight with.