

Buying a Tractor: A Decision-making Guide for Buying a New or Used Tractor



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Issues to consider when buying a tractor:



- What do you want to do with it?
- What is the scale of the operation?
- How much power (i.e., horsepower) is needed?
- How much can you spend?

Tractor Buying Issues – continued:

- Are there specific hp requirements for existing implements?
- What is the buyer's skill level operating tractors?
- What is the buyer's skill level maintaining tractors?
- Will there be multiple users?



Tractor Buying Issues – continued:



- How much money is available for the purchase?
- How much more is the buyer willing to pay?
- How much time does the buyer have to look for a tractor?



Barring unlimited funds, the choice will likely be a compromise, and not always a good one!

Goal: Get the most bang for the buck!

Versatility - Performance - Cost



Review: What do tractors do?

- **Pull:** they provide traction for pulling via the draw bar.
- **Lift:** they provide lifting capacity via hydraulic power to the three point hitch and the front end loader.
- **Power:** they provide power transfer via the Power Take Off (PTO).



Reasons for Owning a Tractor:

- For major work applications – saving time and energy in farming, landscaping, construction, and other similar trades.
- For hobby and nostalgia, e.g., the restoration enthusiasts.
- For prestige – the curse of testosterone!



Goal: Get the most return from the investment.

- Appropriate to the scope of work (e.g., making hay, vegetable production, manure application, crop production, landscaping).
- Appropriate to the scale of operation, i.e., acreage.
- Appropriate to the experience and skill level of the buyer.
- Appropriate to the available purchasing funds.
- Versatility is key!

Choosing a Tractor: Criteria



New Holland TC45 Power:

Engine (gross):	45 hp [33.6 kW]
PTO (claimed):	39.6 hp [29.5 kW]
	37.8 hp [28.2 kW] (hydrostatic)

- Appropriate horsepower for the work:
- Note difference between rated engine horsepower and PTO horsepower.
- Note less available work power with hydrostatic transmissions.

Choosing a Tractor: Criteria

2WD



Choosing a Tractor: Criteria

4WD

- Note: There can be up to 40% more pulling power with 4WD engaged.
- Also referred to as Mechanical Front Wheel Drive (MFWD), or Front Wheel Assist (FWA).



Choosing a Tractor: Criteria

- Gear shift transmission vs. hydrostatic transmission.
- ROPS or Cab a must for operator safety.
- Three Point Hitch Category I, II, or III.
- Quality/reputation of maker.



Choosing a Tractor: Options

- Tire Type: R-1 Ag; R-3 Turf; or R-4 Industrial
- Front End Loader (FEL) – best as quick attach with a quick coupler to switch bucket w/pallet fork, bale spear, or grapple hooks.
- Front end weights or tire weights.
- Hydraulic ports for implements requiring hydraulics.
- Telescoping links on lower links of three point hitch.

Tractor Features – Tire Types



Tractor Features

Quick Attach Loader



Bucket w/Detachable Digger Bar



Tractor Features

- Front-end Weights



- Wheel Weights



Tractor Features

Quick Coupler Loader



Hydraulic Top Link



Tractor Features – Hydraulic Ports



Tractor Features

Common Lower Links



Telescoping Link



Tractor Features

Common Lower Links



Telescoping Links



Choosing a Tractor: Diesel or Gasoline

Gasoline Engines

- Mostly found on older tractors, and rarely on some new smaller tractors.
- More issues with maintenance means better mechanical ability needed for maintenance.
- Some parts on older gas engines are now hard to find.
- Ethanol in gas creates problems with engine parts.

Diesel Engines

- Found on most later model tractors.
- Easier to maintain.
- Generally more power per unit of fuel.
- Require strong batteries for cold weather starting.
- Generally more durable than gas engines.

Tractor Engines

Gasoline



Diesel



Choosing a Tractor – Other Considerations

- Ease of use: Are levers, controls, pedals, access on and off, noise levels, etc. “user friendly?”
- Who will service and maintain the tractor?
- What is the estimated cost of routine maintenance and parts (fluids, filters, belts, hoses, tires, etc.)?
- What is the location of the nearest dealer for parts and service?
- Cost of implements – higher on larger tractors.
- Ease of attaching implements – bigger implements are harder to attach onto larger tractors.

New Tractor



Or Used?



New or Used: Pros and Cons

New

- Higher price.
- Dealer financing available.
- Can customize to get exactly what you want.
- No history of damage or misuse or abuse.
- May come with a dealer warranty.
- Safer and more fuel efficient.

Used

- Lower price.
- May be harder to finance.
- May not have desired features.
- Unknown/hidden history.
- May take time to find what you want.
- Fewer safety features and less fuel efficient.
- May not be suitable for needs.

Tips for Buying New

- Talk to others who own makes that interest you.
- Research online. You can build your tractor and price it on some websites.
- Visit dealers and compare features as well as service and friendliness.
- Know your needs!



Tips for Buying Used

- Tell friends and fellow farmers that you are looking to buy a used tractor, i.e., spread the word.
- Search websites: Tractorhouse.com; Craig's List; Search Tempest; online classifieds of farming newspapers.
- Best option is to buy from an original owner.



Assessing Condition of Used Tractors

- General appearance: Is it “clean?”
- Is the sheet metal solid? Rusted? Dented or damaged?
- What is the condition of the seat?
- Is the cab sound, i.e., no broken glass, doors and windows open, etc.?
- Is the canopy or ROPS damaged?
- Is the manufacture tag/ID and serial number present and legible?
- Are there signs of leaking fluids?
- Are the lower links damaged on the three point hitch?



Used Tractor Inspection

- Check all fluids!
 - What is the level and condition of the engine oil?
 - Is the coolant clear or rusty? Is it at the proper level?
 - Is the hy-tran fluid or gear oil at the proper level?
 - Is it clean around the area of the hy-tran dipstick?
 - Is the fuel tank partially full or low? There could be water in the fuel line.



Used Tractor Inspection (cont.)

- Inspect the radiator. Does the cap seal tightly? Is the grill clean of dust and debris? Is there damage to the coils?
- Inspect the air filter. Are the elements clean and present?
- On older tractors, open the bottom cap of the oil bath air filter for inspection.
- Check the tightness and condition of the fan belt.
- Check the condition of the hoses.
- Check the condition of the exhaust pipe and the battery. Check the age of the battery.
- Check the condition of the tires. Are there missing lugs? Is there rust on the rims, particularly around the valve stem? Do the tires have liquid ballast? Is dry rot evident?
- Check the condition of the fuel filter or sediment bowl.
- Check the condition and age of the oil filters.





Used Tractor Inspection – More Stuff to Review and Examine

- Is the Operator's Manual available? How about the Shop Manual and the Parts Manual?
- Are the service records and receipts available?
- Are safety shields in place and safety decals legible?
- Check the hours on the hour meter (also called the Proof Meter).
- The tractor should have a ROPS and a seat belt that works, or a cab in sound condition.
- Take a test drive! Engage the 4WD too! Test the loader and make sure everything works as it should.

Buying Used Tractors – Caution!

- Beware of the “poof” paint job where everything is painted over, including the hoses, belts, alternator, battery, etc.
- Beware of buying a tractor out of nostalgia, sentiment, or because it is iconic. Unless, of course, you want a restoration project.
- On the other hand, that could be a great way to learn about maintenance!
- The tractor should be used. Not abused!



And remember:

- The tractor will always be worth more to the owner/seller.
- Be ready to negotiate on the price.



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