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Selecting the Right Equipment for Your Forestland Needs

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A good friend of mine just moved from the city and bought some land with timber on it. He wanted to become a "hobby" logger/farmer. He told me he wanted to purchase a piece of equipment that could serve several purposes, including some light log skidding and snow plowing, among other things. He didn't think he could afford a new piece of equipment, and was in the market for a good used 4WD tractor or cat. After giving it some thought, I did a little research for him and here is what I came up with.

To properly select equipment, you must predetermine a number of factors, including size and/or number of machinery/ equipment needed, features needed, and where to buy equipment. You should also be aware of some of the pitfalls you may encounter when purchasing equipment.

The advantages of buying new machinery include income tax considerations and new technology (resulting in increased efficiency, productivity, etc.). Financing also may be easier to obtain on new purchases.

Small operations might find advantages in buying used equipment if the owner wishes to maintain control over certain functions but finds that a new purchase is not economically viable. Used equipment would also be appropriate when buying a back-up unit. Used tractors are useful for small scale logging jobs or to tow equipment during harvest when the tractor will run a few hours seasonally. Used equipment can also be used for less-critical and/or low annual usage tasks.

When you purchase used equipment, you are buying the remaining, unused service life of the apparatus. All equipment is designed with a certain number of hours in it. Depending upon how it is used, maintained, and repaired, the equipment will use up these hours at a faster or slower rate. Some typical machinery wear-out life is as follows:

- tractors - 12,000 hours
- crawlers - 16,000 hours
- combines - 2,000 hours
- drills - 1,000 hours
- planters - 1,000 hours
- swathers - 2,000 hours
- tillage equipment - 2,000 hours

Wear out life is the point at which it is not typically economically feasible to continue repair of the equipment.

What's going on before the wear-out life of a tractor? Engine overhauls. A minor overhaul would generally consist of new rings, grinding the valves, etc. A major engine overhaul would consist of new pistons, new sleeves (liners), new bearings, new injectors, etc. New tires are necessary approximately every 2,000 to 3,000 hours, depending upon use and soil/ ground/road conditions. Batteries should be replaced approximately every three to four years.

Be cautious of smaller utility tractors that have been used with front-end bucket loaders. These types of tractors generally perform a lot of stop-and-go usage that is hard on the transmission and clutch mechanisms. Front-end loaders also are hard on front axles and front tires.

Beware of farm tractors that have been previously used for logging or in the construction industry. Farm tractors usually are not built to withstand the rigors of heavy skidding or for construction. Stay away from fire, water, flood, or accident damaged machinery unless it is being bought solely to sell for parts. It is difficult to determine the extent of damage of such equipment, as the damage may be hidden. For example, seals (as in sealed bearings) that keep

oil in won't necessarily keep water out. Internal components (bearings, gears, etc.) can be overheated and distorted from a fire and will be difficult, if not impossible, to see. Machinery that has experienced serious accidents (such as rollovers) also can have serious damage or distortion to internal components that cannot be seen.

Beware of buying any equipment from manufacturers that have gone out of business. The price may be right, but parts may be a problem. Also, later trade-in value will be much less. Generally speaking, buy equipment powered by diesel engines. Diesel engines are more fuel efficient and more economical than equally sized gasoline engines. This, coupled with durability make them more appealing to some buyers.

Some equipment makes, models, and sizes hold their market value better than others. This means that you might expect to pay more when compared to a similar item from another manufacturer. In return, you would also expect more on the trade-in when that time comes. Much of this is due to durability and brand name marketing.

Many "new" models of equipment are really not that different from last year's model. Look closely at technical specifications between model years. It is not uncommon to find that the old model will give you similar performance specifications at a fraction of the cost of the "new" model.

Different models from the same manufacturer (particularly tractors) may not be substantially different. For example, the same engine may be used in several different tractor models, but the horsepower is increased by using turbochargers, intercoolers, etc. The same extends to other components such as transmissions, frames, final drives, etc. This means models at the low end of the family may be over designed and should give longer service life with less trouble from major components.

The machine's age and its hour meter should be reasonably in balance. Guidelines for typical average annual usage in hours are as follows:

- tractors - 1,000 hours (400 to 1,600 hours annually)
- crawlers - 1,200 hours (600 to 2,000)
- combines - 300 hours (200 to 350)

Bear in mind these are typical values.

Machinery averaging annual usage far in excess of the typical values given above should be priced lower than the going rate for the same equipment. Machinery with average annual usage far lower than the typical values given above should be priced higher than the going rate for the equipment with more use. There are several "Blue Book" resources on the internet for equipment (equivalent the automobile blue book). Try typing "farm equipment blue book values" in your search engine, and you will find a variety of web sites to choose from.

In general, the used equipment market tends to weight the age of equipment more than accumulated hours of usage of the equipment, so the lower hour machine is usually the better buy.

When you have narrowed your choice down to a particular unit, the first thing to find out is the asking price. It is no use going to the trouble of mechanically evaluating the equipment if the asking price is too high. However, be cautious of deals that are drastically below market value. Dealerships know the real value of machinery. If equipment is below market value, there is probably a good reason.

Keep financing separate from the purchase decision. Great financing terms will not make your equipment run any better. Before buying used equipment, contact the previous owner if possible. Determine characteristics of machine operation that would be advantageous or disadvantageous to your position. And, whenever possible, bring the equipment home for a trial run.

Getting back to my friend. After much thought, discussion and weighing all the pros and cons, he decided to purchase a new 4WD tractor with a front end loader, as he liked the great financing terms the dealer gave him and the fact it came with a warranty and a new ball cap. My friend did appreciate my efforts however, and I was rewarded with a ride on his new tractor.

Photo courtesy of the USDA Forest Service, Bugwood,org.