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Call your local Davey representative for help in determining and organizing your tree service needs. He's in the Yellow Pages under Tree Service.

DAVEY TREE

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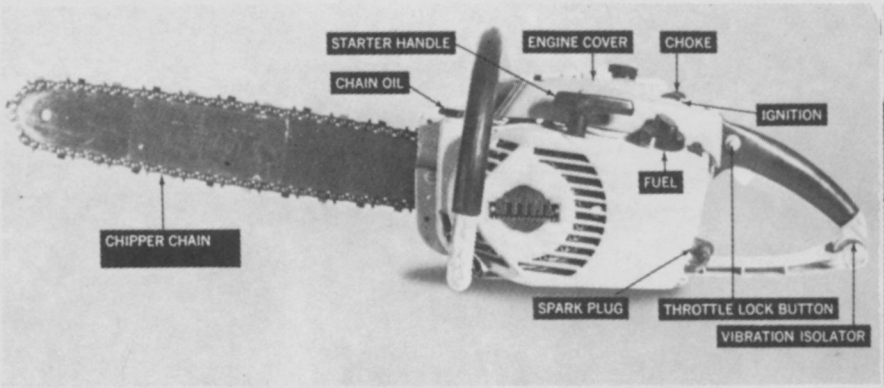
Coast to Coast and Canada



This professional grade chain saw made by Stihl combines most of the features needed by arborists and tree care firms.

Commercial use saws like this John Deere model feature controls that are well grouped for the user.

How To Select A

By **HANK HARVEY**
Arborist
Rutledge, Pennsylvania

SUCCESS and profit with a power saw begins at the beginning. That's when you walk into the dealer's store and sally out with the new saw that you have selected to meet your needs. Not only will the RIGHT choice put extra money in your pocket, but you can be super sure that the WRONG one will cost you money, money, money in repair bills labor cost due to down time and even possible customer loss.

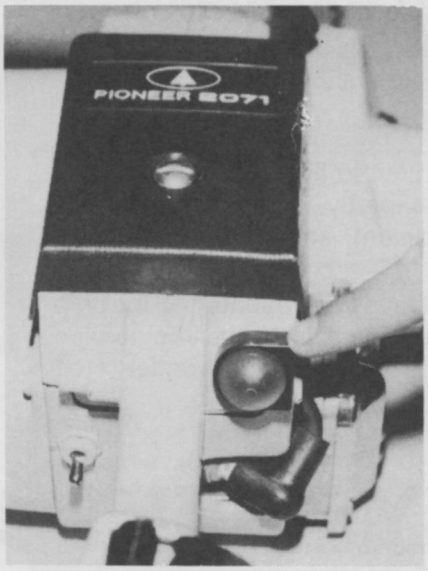
The extra time spent to be SURE you chose the right saw for YOUR specific application will be the best guarantee of satisfaction you can get. Really shop around. Too many professionals don't. The often pay dearly later.

What factors usually influence your ultimate decision in selection of any piece of equipment. Price? How well you know the dealer? A familiar name brand? They are all significant but are they all really the vital considerations that they should be?

Here are what we feel to be very fundamental considerations for guiding your selection of the right power saw: 1. **Application** (your specific use); 2. **Design and Construction;** 3. **Features** (standard and optional including safety features); 4. **Service;** 5. **Price** (per-dollar value).

Obviously if you are only using a power saw to cut light brush or on occasion heavy usage, you don't need the power or durability required if you are doing heavy tree cutting day in and day out.

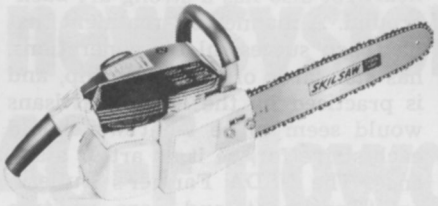
The average tree service contractor or landscaper doesn't need a gi-



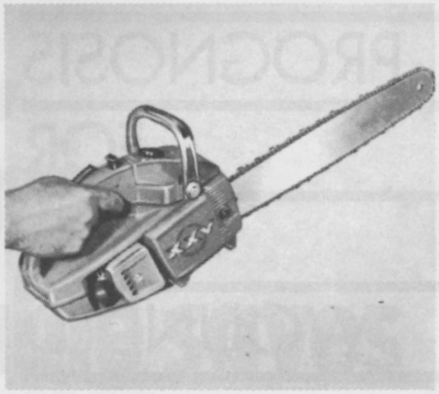
Primer shown on this Pioneer saw is the "bulb" type. Use it to give you first pull starts.

This big Homelite "lightweight" and ones by other manufacturers will meet the heaviest demands of most tree surgeons and landscapers. Author sees little if any need for gigantic "logger" saws.

McCulloch Power Mac 6 is a good example of compact wrap-around styling and well-grouped controls.

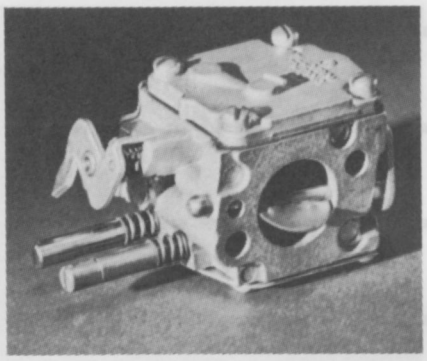


Skil saw above comes with a 4.2 cu. inch engine that's big enough to handle a 16 inch bar. Saw is well balanced.



Poulan makes a truly superlight power saw. It should be light enough to use with one hand, if needed.

Pro — Grade Chain Saw



Many saws have a diaphragm type carb — a must for professionals who must cut in all positions. Be sure yours has it.

gantic Great Northwest Loggers (2 man, 6′ bar saw for his daily work any more than a carpenter needs a sledge hammer to drive small nails. "The bigger-the better" isn't necessarily true in your business, especially if the saw has to sit around, unused for weeks on end.

Non-use can kill a piece of equipment just as dead as overuse. Bars, chains and sprockets rust when idle. Cylinder walls and pistons corrode. Seals and gaskets dry out and crack. Gas in the carburetor goes stale and forms shellac that gums it up.

So buying a big brute you will hardly ever use probably won't save you a nickle in the long run. In fact, you will be very lucky if Big Bertha even starts on those rare occasions when you *do* need it.

What *are* you supposed to do when you have a big tree or some heavy-duty cutting lined up? First, you could RENT a big one when you really need it. Or, you could subcontract that particular job. Or, as an ace-in-the-hole, you can do most any job with a smaller saw that you can with a bigger one . . . with a little more effort, time and chain oil. (Remember you can slice a 5″ grapefruit with a paring knife).

Only *you* can accurately evaluate your realistic need in a saw or saws. But take the time to do just that before you buy. If you really need several different saws by all means get what you need. Most professional tree service contractors need at least one big saw (24 or 30″ bar), but it doesn't have to be a heavy weight monster.

On the other hand, *underestimating* your needs can cost you money, too.

A familiar cry among a lot of tree service contractors is "those super

(continued on page 36)

What About An Electric Power Saw?

Generally speaking they are used very little, if at all, by most tree surgeons, landscapers and outside maintenance people. But there are some occasions when they are necessary.

For instance, in QUIET ZONES such as around hospitals, etc. Or where no flammable or noxious gasses are permitted. Or when working in dangerous NO-SPARK AREAS. In some rare cases it is actually more convenient and economical to use an electric power saw than gasoline powered. (Such as in a wood yard near electric power outlet.)

If you do have occasion to use an electric power saw, here are some things you should look for before buying:

INSULATION — is it double-insulated? (You could get a hell of a shock working on damp ground or wet brush.)

HOUSING — Is the casing impact-proof? Some of the new impact resistant plastics are really great, but if it has a plastic housing make sure it is really good, not just **any** plastic.

CORD — See if it is heavy duty quality and well reinforced where it enters the motor housing. This is important because of the severe amount of twisting and turning it will have to endure in commercial use.

PROGNOSIS FOR THE WOUNDED TREE

By DAN NEELY

Plant Pathologist

Illinois Natural History Survey

ARBORICULTURE is both an art and a science. The art precedes the science by many centuries. Cavity treatment is almost 100 percent art. Treatment of wounds to prevent heart rot also has a strong art background. A manner of treatment that has been successful for generations, has standards of craftsmanship, and is practiced by the leading artisans would seem to be what we should each strive for, be it an art or a science. The USDA Farmer's Bulletin on "Treatment and care of tree wounds," published in 1934, contains 38 pages of recommendations for care of tree wounds almost exclusively based on the state of the art at the time.

During and since the 1930's many individuals have sought to explain why certain arboricultural practices are successful and other practices are unsuccessful. The methods they used to obtain the explanations have been scientific. They were based either on large numbers of observations or on experimentation. This excursion into the field of science has now created questions concerning whether or not certain heretofore accepted arboricultural practices are beneficial to trees. Lately this questioning has been especially aimed at tree wounds.

Some of the questions that scientists in the field of arboriculture has been striving to answer are: 1) how much damage do wounds cause?, 2) how does wound size and location influence tree damage?, 3) how do wounds heal?, 4) what cultural practices affect rate of healing?, 5) what wound dressings are best?, and 6) what do wound dressings accomplish?

The answers to some of these questions as determined by the scientists can be found in scientific and professional publications. Many of the answers have been accepted by arborists and fellow scientists while others are disputed.

The answers concerning wound healing are well documented and well received. Wounds heal by covering the exposed wood (or cavity filler) with callus tissue. The callus tissue originates in the living cambium at the margin of the wound. The cambium cells that normally would have produced ray cells in the wood and bark are the first to produce callus tissue. Callus production is more rapid at the sides of the wound than from the top or bottom. Callus tissue matures into wood and bark typical of the species.

Still being debated are the answers concerning the best wound dressing. An ideal wound dressing is one that will persist on the surface of the wood for an indefinite period of time, prevent entrance of wood-rotting and disease-causing organisms, and stimulate rapid callus formation and wound closure. Asphalt-based compounds are most frequently applied, although lanolin- and rubber-based materials and shellac have been tried frequently. Many chemicals have been added to wound dressings in an attempt to increase their effectiveness. These usually are fungicides or plant-growth-stimulating compounds called auxins.

Results from many tests comparing wound dressings indicate that shellac is nontoxic to callus tissues. In certain tests, wounds treated with shellac closed faster than untreated wounds. Shellac applied immediately after wounding prevents dieback around the margin of the wound. The wound is therefore somewhat smaller and heals earlier than untreated wounds. Shellac is not persistent. It will not protect the exposed wood for many months.

Asphalt-based materials are slightly toxic to the tree, but they are easily applied, and are persistent for one or more years. Many auxins have been added to wound dressings and none have been proven to be consistently beneficial.

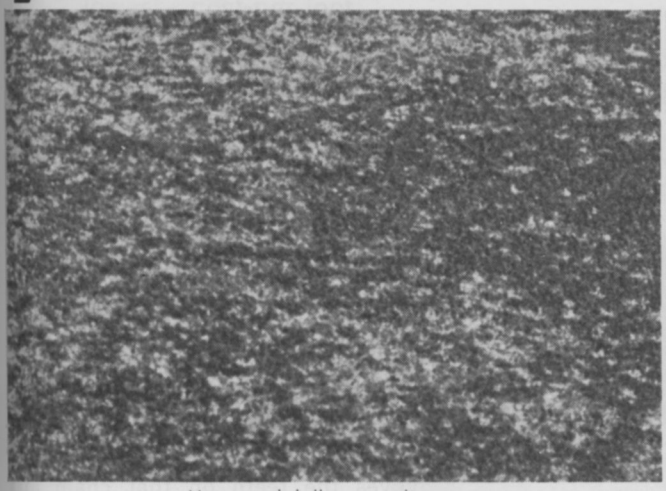
The materials currently recommended as wound dressings are being challenged to show that they accomplish either rapid wound closure or fungus exclusion. In many tests using wound dressings with auxins, the untreated wounds have healed as rapidly and, in most cases, more rapidly than have treated wounds. The materials currently used are not shortening the time for wound closure.

Alex Shigo and Charles Wilson, with the USDA, are now questioning whether wound dressings prevent entrance of wood-decay fungi. They are sectioning trees at varying intervals of time following application of wound dressings and isolating and identifying rot-causing organisms found in the wood beneath the wound dressing. These tests should determine the effectiveness of wound dressings in preventing entrance of wood-rotting organisms.

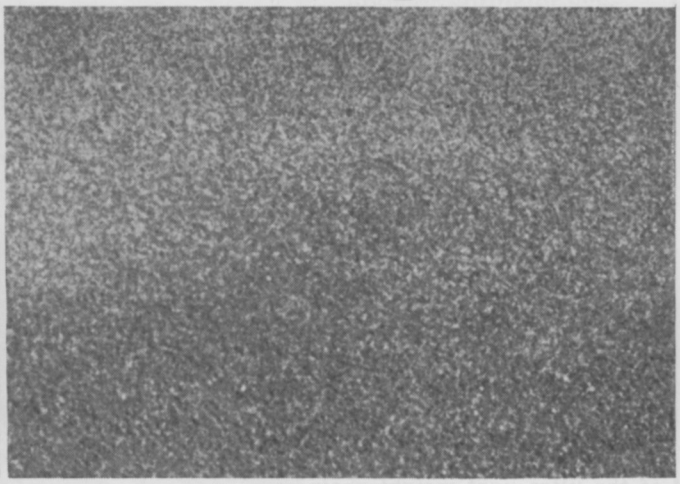
At the Illinois Natural History Survey, our research is centered on the rate of wound healing. The data obtained in our studies do not refute the conclusions of previous researchers. Rather, they substantiate many conclusions previously not subjected or infrequently subjected to experimental evaluation.

(continued on page 26)

When dollar spot hits, here's how new systemic MERTECT® 140-F flowable saves your turf, time, and money.



Untreated dollar spot disease



Treated with MERTECT 140-F

These pictures show the kind of dollar spot control you get with new flowable MERTECT 140-F. Even against cadmium-resistant strains. It also works well against brown patch and *Fusarium* patch.

And with its special advantages, MERTECT 140-F makes the performance picture look even better.

Being flowable, it saves you time in measuring and mixing. Handling is safer. Dispersion is more complete, so you get the right mixture for more effective results.

Since MERTECT 140-F is systemic, you also get away with fewer applications per season, thanks to its residual disease control. And it has a lower dosage rate than other fungicides, so you save there, too.

Just follow the label instructions. MERTECT 140-F is not phytotoxic to grasses when used as directed. Your Merck distributor has new flowable MERTECT 140-F now. If you don't have his name, write us. Agricultural Products, Merck Chemical Division, Merck & Co., Inc., Rahway, N.J. 07065.

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MERCK

Power Saws In Trees

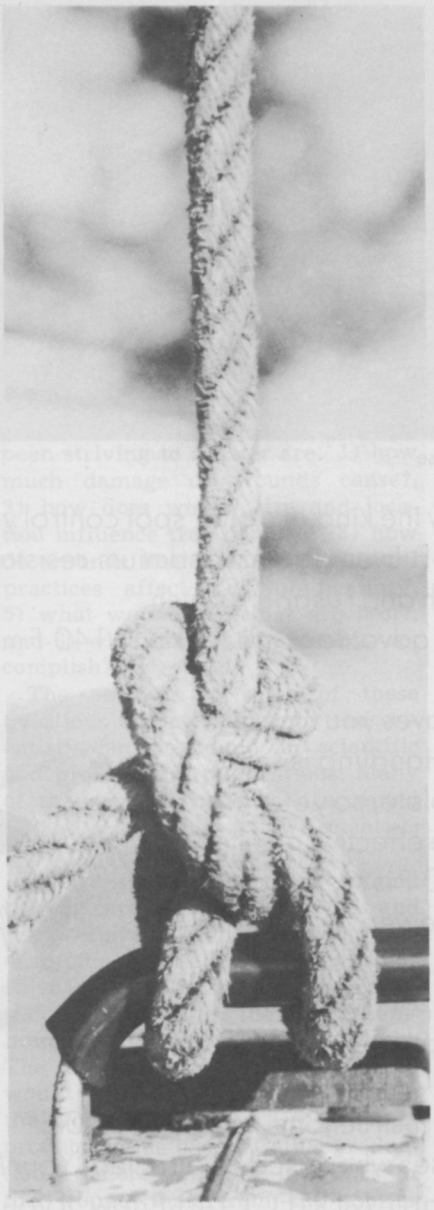
By **BLAIR E. CAPLINGER**
President
Nelson Tree Service, Inc.
Dayton, Ohio

OVER the years, there have been many major innovations in tree trimming tools. Power saws, chippers, aerial lifts and chemical growth retardants, just to name a few, have improved the climber's lot.

But perhaps the most important invention has been the introduction of the ultra-light weight chain saw. This handful of power that can cut through the toughest limb in seconds has extended the capability of the man in the tree, improved his efficiency and resulted in a superior job.

For the arborist, the advent of this saw has meant increased accomplishment because it represented opportunities that heretofore had to be done by hand or with heavier chain saws. Properly trained climbers a decade or more ago used the heavier saws proclaiming them as a major breakthrough. Their recognition of the use of power tools in trees has now evolved to a point at which few climbers today would tackle a job without the aid of a small, light weight saw as part of the basic tool package.

The versatility of this type saw is not without problems, however. When the arborist of yesterday used the heavier saw he practiced a set of safety precautions that are still applicable today but only believed by about half of the trade. Ten years or more ago the climber tied an extra rope (not a life line) to the saw to provide the extra measure of safety needed. Today's climbers often believe that the light weight saw, in addition to being easier to handle and more compact, is safer than its ancestors.



The crossover on the top handle is the preferred place to tie a rope. A clove-hitch (shown above) is usually satisfactory.

This is not exactly true. While it is true that ease of handling and compactness have made the saw more versatile, the features of today's models parallel yesterday's in practically every detail, only in miniature.

Consider that current models still have a bar and a chain (sharp we hope). Each has an engine which moves the teeth on that chain at speeds of approximately 3,000 feet per minute and will cut off a finger, hand, or leg just as efficiently as its older big brother. Each must also be stopped in the same manner as the larger saws. (Even though it *can* be used with one hand, it should be held in both hands. Shutting off the saw while holding it with one hand is possible but far more difficult than when having both hands on the saw.)

Today's saws like the subcompact cars offer every feature and more of the larger versions—including the chances for an accident. And even the highly trained climber can have a mishap.

For example, not long ago, an experienced trimmer was using a saw to strip a large elm. Both saw and man were properly crotched. When the cut he was making was finished, the man swung away to clear the limb, and let the saw swing without shutting it off. When the two bodies (man and saw) swung back together, the saw swung into the climber's rope and cut it. The man fell 47 feet and landed on another man before

(continued on page 40)

the Ditch Witch building-block concept begins with these versatile handlebar units.

Three compact Ditch Witch units provide a solid foundation for the Ditch Witch building-block concept of trenching! They're small and compact, yet they're fully self-propelled to deliver big-machine performance on the job. The 7- to 9-HP **C-Series** delivers the lowest cost-per-foot of trench of anything in its class . . . it's so compact it slips through any standard yard gate with ease —and one man can easily load it into compact van or pick-up.

The **M-Series** offers 9- to 12½-HP, and is available in a track-mounted crawler model. With three digging speeds, plus reverse, it delivers as many feet of trench per hour as bigger competitive models costing twice the price.

For utility service installations, you can't beat the **VP12 Vibratory Plow,** with 25-HP capabilities and full hydraulic control. Install service lines or sprinkler systems without trenching, without costly restoration to expensive turf.

Compact, rugged and economical — Ditch Witch handlebar units provide the solid foundation for your entire trenching operation. Let us tell you more about our full line . . . or ask your Ditch Witch man to give you a free demonstration!

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DITCH WITCH

Put saddle on and uncoil climbing rope. Place it on the ground under the tree so it will not tangle. Notice safety line is attached to left side of saddle. Author is pictured here.

Tie throw knot to end of rope. Wind rope around snaffle hook until it forms a firm ball.

Coil rope in hand and throw it over the second lowest limb from tree's base. This permits you to stand on the lowest branch when you pull yourself into the tree. Roll rope over the limb until you can reach the ball. Untie ball and tie end to saddle. FROM HERE ON ALWAYS STAY TIED IN.

18 Steps To Safe Tree Climbing

By LARRY HOLKENBORG
Arborist
Sandusky, Ohio

Foreman helps pull climber into tree. If you use a ladder, place bottom two feet away from tree for every ten feet of height. Secure ladder at top and bottom.

Step into first crotch as soon as possible. Unsnap safety line from saddle, wrap it around tree trunk and snap it to saddle again.

Untie or unsnap climbing line from saddle. Make another ball in the end of the line and throw it over a higher limb. Repeat steps 2, 3, & 5 until you reach the top of the tree. Always have the safety line or climbing line fastened to you and the tree.