

## Weed Control Western Style

**T**HE need and potential for modern county programs to control roadside weeds and brush has been highlighted this year in Pierce County, Washington, where a combination of spring floods and normal budget pressures put an extra load on the 125-man highway maintenance division.

Pierce County highway crews met the 1972 challenge, and one of the big reasons was the fact that an increasing share of roadside weeds and brush are now being controlled with chemicals that are quickly and easily applied, yet are safe in the

environment and safe for humans, animals and birds.

Heavy winter snows, plus continuing spring rains and an unusual early heat spell brought unexpectedly high run-off from Mt. Ranier this past spring. This put extra water pressure on roadside ditches and resulted in substantial spring flooding of roads and fields; also, the high run-off ultimately produced a tight highway maintenance budget, because of the need for extra road repairs. But despite this unusual situation, Pierce County has con-



Tansywort checked by weed supervisor Harrison Ford is the noxious weed that helped start Pierce County weed program more than 15 years ago.

tinued to allocate funds to its 17-year-old highway chemical weed program; for the program has proved its value and county officials have been determined to keep this key weed program in operation.

Their decision has particular significance this year, since weed supervisor Harrison Ford and his application crews are in better shape than ever to take advantage of a newly introduced roadside herbicide—Krovar I—that controls a broader range of weeds and grasses than other compounds while standing up under heavy water pressure, as well as in periods of semi-drought. Krovar I controls the 20 most common roadside weeds in the West including culprits such as: crabgrass, barnyardgrass, pigweed, purslane, lambsquarters, ragweed, nightshade, foxtail, chickweed, groundsel, shepherdspurse, puncturevine, wild mustard, horseweed and seedling Johnsongrass. And this year Krovar I has proven to be an effective residual compound for Pierce County highway crews in the first few months following its registration and availability for roadside use.

Pierce County has about 3500 miles of roads that traverse rural, suburban and urban areas in Western Washington. When it comes to roadside weed control, weed supervisor Ford reports: "We have need for a broad-spectrum compound that can be safely used in town and country. We think we have it in Krovar I because we have been

*(continued next page)*



Planning for weed control application brings together David Palodichuk of Van Waters & Rogers (l) and Harrison Ford. Palodichuk helps provide technical support on products.

using this new product in a variety of situations. It has certainly done a good job."

The Pierce County weed control program really goes back to 1955 when former weed supervisor Fred Kropf started an attack on noxious weeds such as tansy ragwort and nightshade. There was a statewide drive on these weeds getting underway. The drive involved the roads of numerous counties, since the road systems were regarded as natural corridors for the spread and propagation of weeds. In the early days, hand sprayers were used. Later some roadsides were treated with a special rig fabricated in the county maintenance shops.

Harrison Ford became weed supervisor in 1963 and in 1967 Pierce County purchased a new roadside spray rig. This enabled county crews to increase regular treatments, reaching more miles of roadside without any increase in manpower.

Today, Ford plans the Pierce County chemical weed program as an integral part of the road maintenance program. Mechanical cutting and hand clearing of bridge abutments, certain roadside shoulders and other areas are still standard practice. But chemical control is also an accepted practice. And it is clear that in many situations the chemical route is preferred—either from the viewpoint of economy or safety or simply because of the critical need to control vegetation in major roadside drainage ditches or around wooden bridge trestles, where dormant brush and



Semi-dormant weeds and grass at base of wooden viaduct shows where weeds and grass have been treated to hold back growth. Without chemical control this growth would be head-high by mid-summer.

weeds create unusual fire hazards.

"One of the principal objectives is safety," says weed supervisor Ford. "We have a lot of miles in our county road system and do not attempt to cover them all with a chemical weed program. We focus this program on areas where it can be especially effective, and we certainly have not been disappointed."

For several years Ford's three spray crews (one handles work in each of the county's three road districts) used Karmex diuron as their

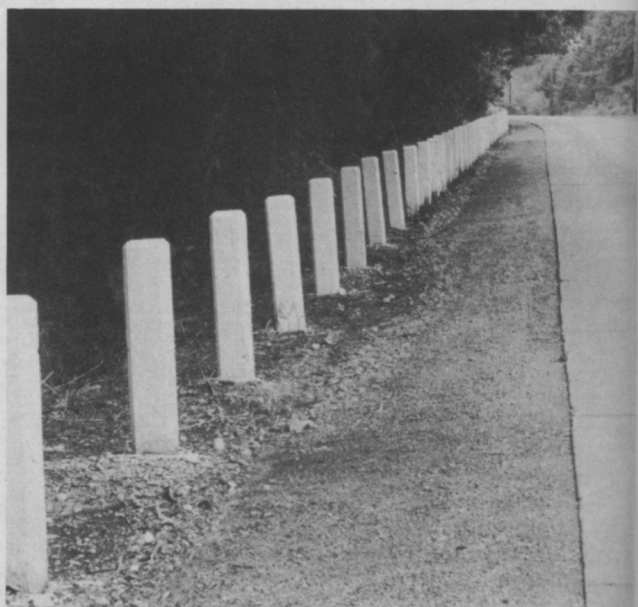
basic roadside chemical. Trials by Fred Degiorgio of Du Pont and David Palodichuk of Van Waters & Rogers indicated that Krovar I would control a broader spectrum of weed species.

This year Krovar I has been adopted for most roadside weed and grass control. The roadside spray period in western Washington starts in April and runs to mid-June. During this time, the crews keep the Pierce County spray rig busy on

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Do you see an 18 inch drainage ditch above? It runs parallel to the road, but weeds and grass have hidden it from view. Vegetation also inhibits orderly water flow and represents a driving hazard.

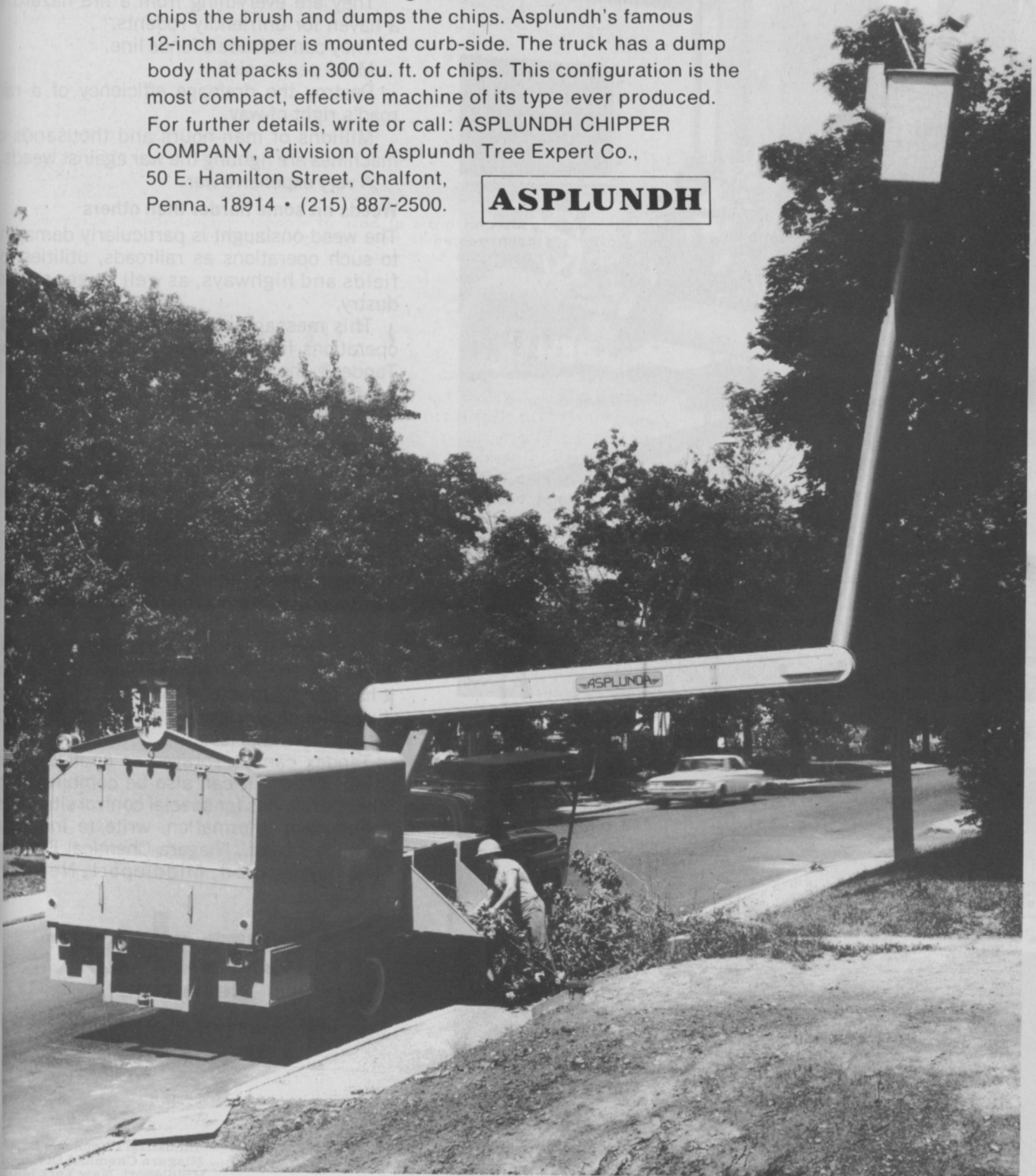


Treated shoulder on Pierce County road shows how Krovar I has kept the roadside clean. Posts are readily visible. Nearby trees are unharmed, with Krovar I being used at a 4-pound per acre rate.

# Asplundh calls it a forestry truck. You'll call it indispensable.

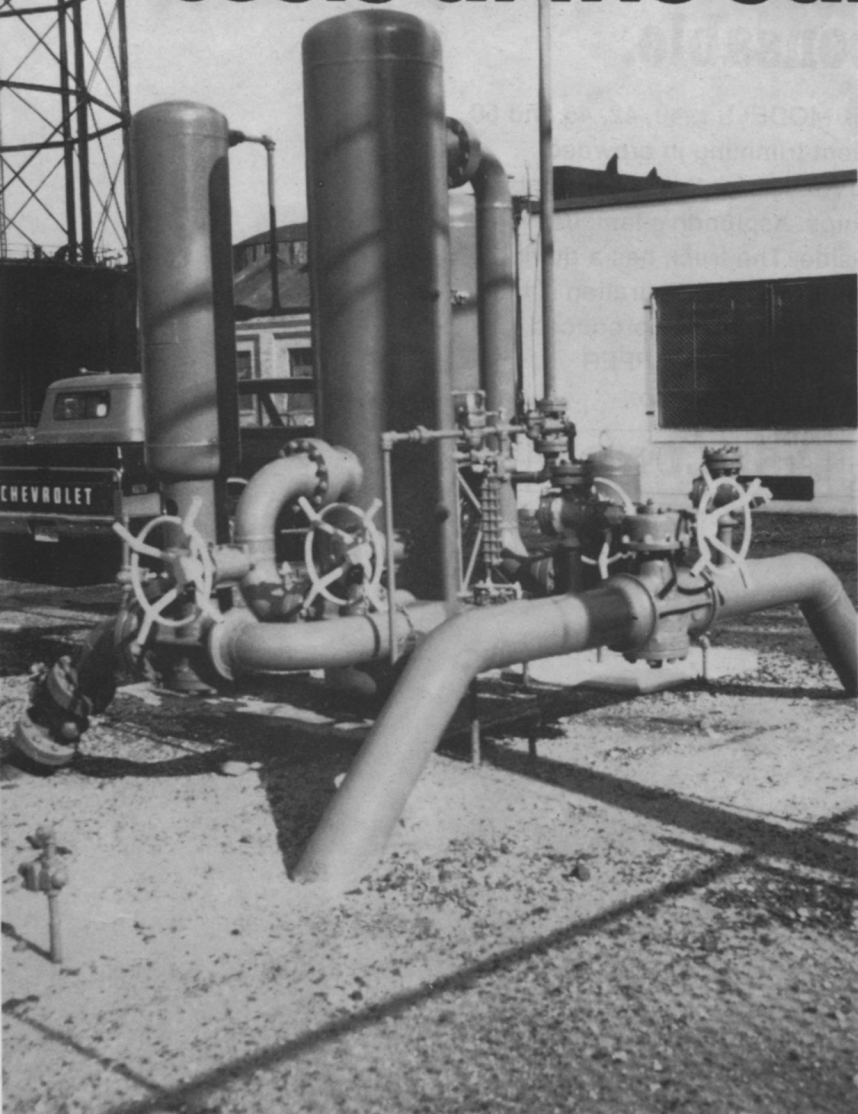
ASPLUNDH'S FORESTRY TRUCK MODELS L-40, 42, 45 and 50. This unit is the key to quick, efficient trimming in crowded, urban areas as well as along rural roadsides. It lifts the climber, chips the brush and dumps the chips. Asplundh's famous 12-inch chipper is mounted curb-side. The truck has a dump body that packs in 300 cu. ft. of chips. This configuration is the most compact, effective machine of its type ever produced. For further details, write or call: ASPLUNDH CHIPPER COMPANY, a division of Asplundh Tree Expert Co., 50 E. Hamilton Street, Chalfont, Penna. 18914 • (215) 887-2500.

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# How to control weeds and costs at the same time.



In industrial applications, as shown here, Tandex controls weeds along fence lines, parking areas, ditches, pipelines, sidings, storage areas, tank farms, and sign posts.



Weeds are expensive.

They are everything from a fire hazard to a haven for unfriendly rodents.

They can corrode a fence line.

Make people sick.

Destroy the drainage efficiency of a railroad's right-of-way.

Millions of man-hours and thousands of machines are fighting the war against weeds.

A very expensive war.

## Weeds hit some harder than others

The weed onslaught is particularly damaging to such operations as railroads, utilities, oil fields and highways, as well as general industry.

This message is especially addressed to operations like these—it is a message about Tandex®, the soil sterilant that can drastically cut the cost of weed control programs.

## Tandex—what it is and what it does:

Tandex is a urea-carbamate compound that's demonstrated exceptional control over weeds, grasses, vines, brush and the hard-to-kill woody species.

Tandex does its weed-killing job by being absorbed through plant roots.

Once applied, Tandex can last a whole season, or longer. Yet it's relatively non-hazardous to man, animals or fish.

A distinct advantage of Tandex is its stability in the soil. Put another way, this means it has minimum lateral movement—which reduces the danger to nearby trees and shrubs you *don't* want to lose.

Tandex can be sprayed or applied in dry granular form. It can also be combined with other herbicides for special control situations.

For more information, write to Industrial Chemicals Dept., Niagara Chemical Division, FMC Corporation, Middleport, New York 14105.

# Tandex®

Herbicide

It gets to the root of weed problems

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of FMC Corporation.



Here's the sixty acre plant of Organic Compost Corporation in Oxford, Pa. The plant takes raw manure that might cause pollution problems, puts it through processing, mixing and composting, and then packages it for sale in a variety of prod-

ucts such as fertilizers, top soil and potting soil. Organic Compost also has plants in Germantown, Wisc. and Fort Worth, Texas.

## Soil Fumigant Aids Organic Compost

# Fertilizer From Animal Wastes

Cattle, hogs, poultry and sheep in the United States produce two billion tons of waste annually — enough to equal the waste from two billion people. That animal waste is concentrated in the growing number of feedlots where animals are brought together for marketing.

Unlike other pollution-causing wastes that eventually may be controlled, manure producing animals can hardly be shut off. These animals provide the meat needs of a growing and healthy nation of over 200 million people.

Recognizing that the cause of animal waste pollution can't be stopped, the Organic Compost Corporation, with plants in Oxford, Pa., Germantown, Wis., and Fort Worth, Tex., has made a specialty of re-

cycling the waste through a patented process of composting manure.

One product that results from this composting process, and has found widespread application, is a top soil for golf courses. The top soil is a mixture manufactured by blending composted manure, loam and a soil fumigant to provide a rich, loose humus product that controls growth of unwanted weeds.

Initially the top soil was formulated without the fumigant, called Vapam. However, on some golf courses weeds began to grow from the soil part of the top soil mixture.

"We started out to meet specifications of the golf course superintendents by experimenting with a variety

*(continued on page 38)*

# Why Power Saws Fail — And How To Avoid

By **HANK F. HARVEY, Jr.**  
Arborist  
Rutledge, Pennsylvania

**W**HEN it comes to equipment maintenance, Art B. knows what he's talking about. He was repairing power saws before I was old enough to know what they were. He still is. When I asked him what was the major cause of power saw failure in his very experienced opinion, he said, "Simple. It's the dummies that run them."

Ouch!

Blunt? Yes, but oh, too true! Art tells of saws damaged by water in the gas tanks, excess dirt in the air filters, being run without chain oil or without oil in the gas mixture, and now with the lightweight saws, an alarming number of "fallout" casualties.

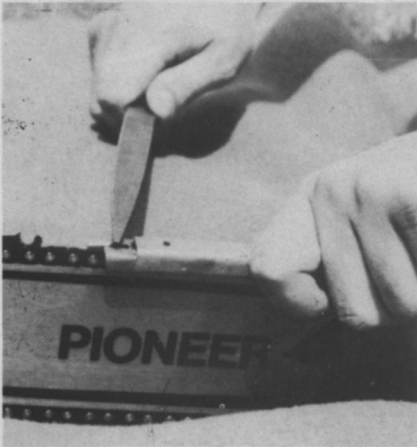
Over a period of years these results of carelessness have accounted for thousands of dollars of needless loss to Art's employer. A few dollars here, a few there. It soon adds up to big money.

Is it adding up on you?

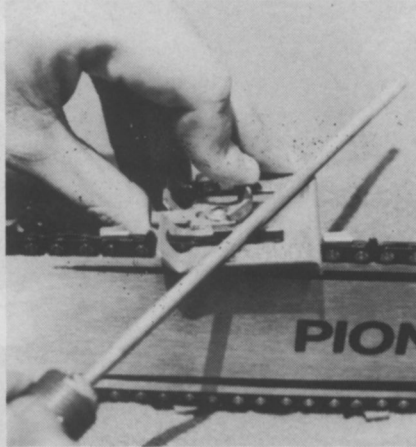
The best investment you can ever make in a power saw is the few minutes of extra time you will need to spend to prepare your saw for use each day. There will be times when you'll be rushed and it will seem like a pain to spend the time, but your reward will come by *not* having your saw fail you when you least expect it. And when you do *not* have to repair or replace it prematurely when you can least afford it. Here's what you should do *daily*:

**Sharpen chain and adjust tension on it.** A power saw with a dull chain works much too hard for the amount of work it gets done. Engine overheats and sprocket wears unnecessarily. The chain gets hot and stretches. If the chain tension is too loose than can also cause stretching and sprocket wear. Or if it's too tight that will cause unnecessary friction resulting in wear on sprocket and strain on the engine.

**Clean and inspect air and fuel filters.** Inspect and brush off or tap off dirt and sawdust deposits. Also, take your finger on a rag and wipe out dirt or chips from near carburetor where it could be sucked in. Fuel filters should be checked for gummy shellac deposits. Even a little speck



For best cuttings, chain guides should be checked regularly and filed to recommended clearance. (All photos are courtesy of Jeff Dobbs.)



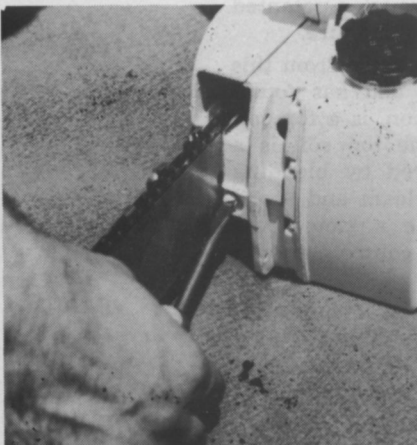
Daily "touching-up" of cutting teeth will get extra "mileage" for chain, sprocket, engine and saw operator.



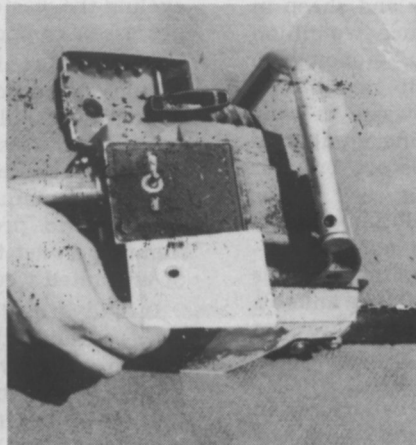
These are the tools that should be in every chain saw user's "kit." The right tools can save much needless downtime.



A pull at the bottom of the bar will tell if chain is too loose or tight. (Proper tension shown.)



Adjust chain tension daily for maximum chain, sprocket and bar life.



A spare, clean air filter is a handy item to save time. Just change filters and clean other one later. Then use it for the spare.

# Trouble

of dirt can cause BIG carburetor trouble.

One system I found to work out well was to always keep an extra filter available. That way I always had a fresh, clean one to put in immediately if one was dirty or oily. I would soak the dirty one in a solvent for the day and take it out to dry that night. It saved me a lot of time by not having to clean the filter when I was already rushed.

**Fill chain oil reservoir and check chain oiling pump.** It only takes a few seconds but many don't take the time. Actually oil should be filled every time you gas up, but it's *essential* at the beginning of the day because it's most likely empty from the previous day's use. A few pumps on the thumb-pump and a hand pull on the chain will tell if it's working o.k. The small squirt holes from the oil reservoir are easily and frequently clogged. When you're cutting with the saw it isn't always easy to tell since you still have pump pressure which you don't have when you're out of oil.

Checking these items out daily will save you hours of downtime and possible trouble on the job for an investment of a couple of minutes.

## IN THE FIELD

No matter how well you maintain your saws, there is always the possibility of an in-the-field failure.

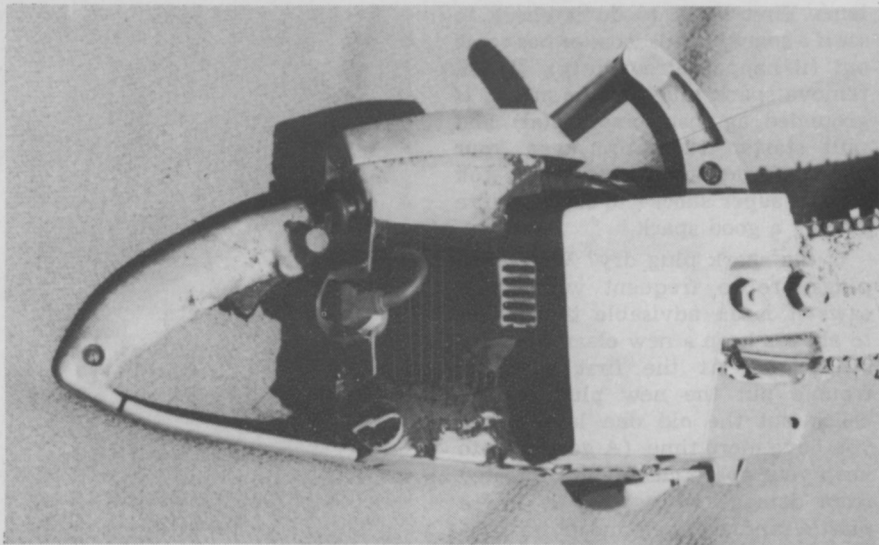
What are the most common on-the-job failures? What can you do about them?

The most common problem, according to the experts I have queried (and years of my own experience) is hard starting. This can be caused by a number of possibilities from dirt in the carburetor, to a faulty ignition to overheating to clogged fuel lines, etc.

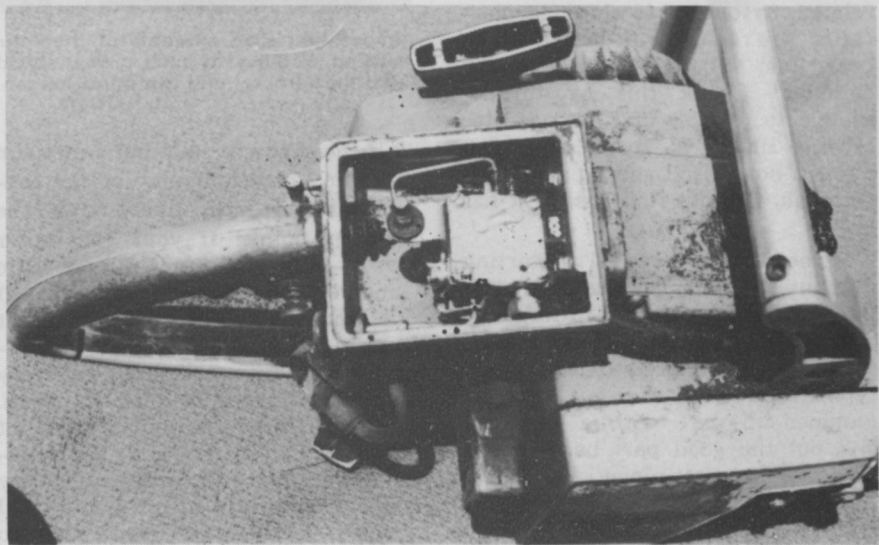
One frequent but seldom recognized cause of hard starting is too much oil in the gasoline mixture, caused by not shaking up the gas can before refueling. The oil in the gas floats to the top after it has set for a while and is poured out first. The only way to remedy this is to pour the mixture out of the saw and start again with a well mixed batch.

Spark plug failures account for the single most on-the-job starting problem.

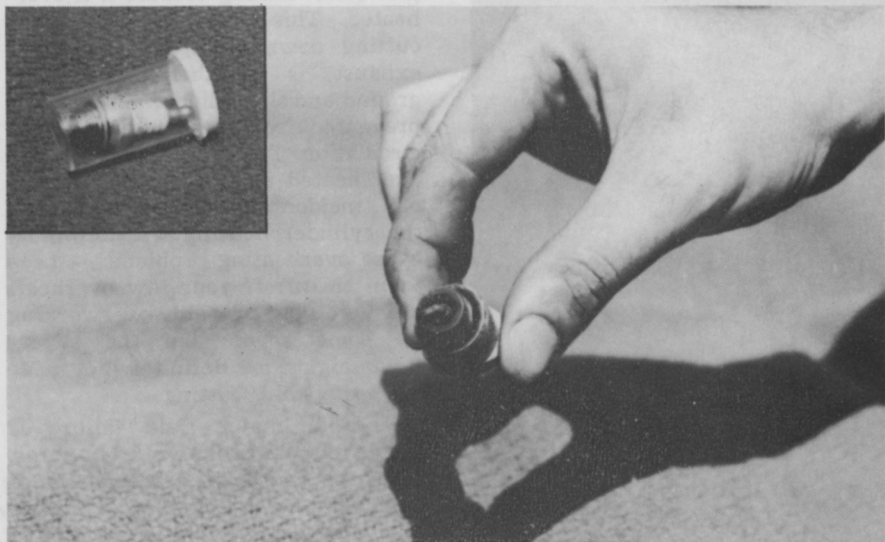
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Dirt and grease around spark plug can cause spark to "jump" or short out.



Dirt accumulation near carburetor can create a danger of dirt particles getting into the carburetor or fuel line, thus causing a breakdown.



Sparkplug should be checked regularly to see that it is not fouled with oil or excess carbon deposits. (Inset) An empty pill container makes a good spare sparkplug container.

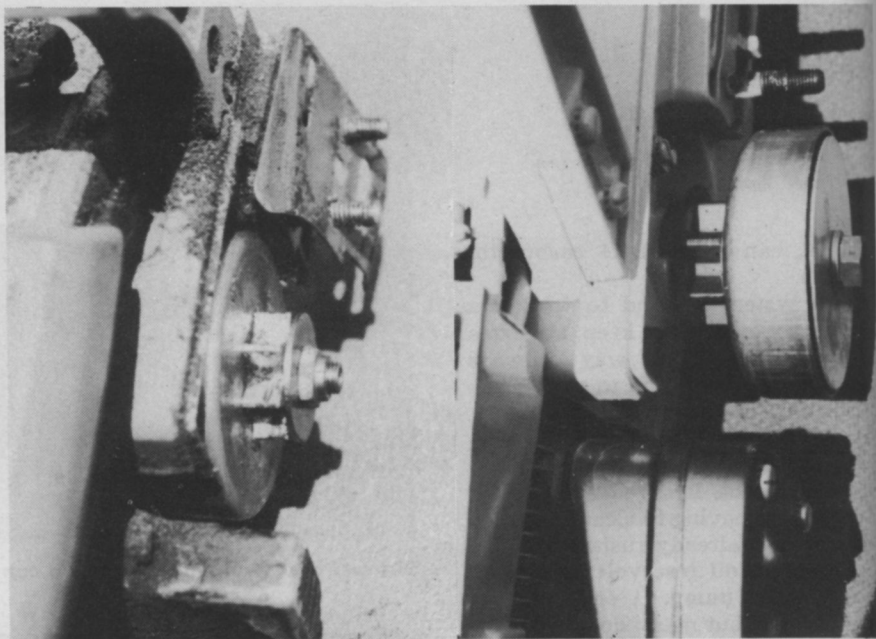
lems. First thing to do is check to see if a spark wire is loose or has come out (it happens frequently). If not, remove spark plug (make sure it is grounded against some metal) and pull starter (**warning: keep your hands off the spark plug unless you want a super shock**) to see if you're getting a good spark.

Is the spark plug dry? Wet spark plugs are so frequent with chain saws it is an advisable time saver to always keep a new clean-and-dry spare one. At the first show of trouble put the new plug in and check out the old one later when you have more time. (A good way to keep your spare clean and protected from damage is to wrap it in a plastic sandwich bag and put a rubber band around it, or to put it in a plastic pill bottle.)

If your trouble is not spark plug-related, first thing to check is gas—(after you're sure you aren't out of gas) line. Is fuel getting to the cylinder? Check this by turning switch to "OFF" and pull starter several times. Is spark plug wet now? If not, it isn't getting gas. Open gas tank, fish out fuel hose if it has one.

Is the filter clogged? Try starting without the filter to see. If that is the problem be sure not to forget to put in a clean filter as soon as possible. (If it is a pressed-felt "plug" type filter, you can cut off the gummed-up part with a penknife and put the good part back in the holder till you get a new one.)

Excess bar-tip wear caused by inadequate oiling. (Note heat line.) Abuse like this will cut bar life in half. Use lots of oil and check oiler frequently.



Above left is an example of premature sprocket wear caused by improper chain tension. Photo at right is a new sprocket. Keep your power saw in proper tension and the sprocket will last much longer.

If the saw will start but won't run with any power, it may be the carburetor but most likely it is the breaker points. If your carburetor has a high speed adjustment (the kind you can turn with your fingers) it's worth trying to adjust it till it runs right. If you can't get any improvement from that, it is probably a bad condenser or burned points. Both are shop jobs and should not be attempted in the field. The regular carburetor adjustments are very seldom responsible for in-the-field failures. *Avoid the temptation to tamper with them unless you are very certain of what you're doing.*

Sometimes a saw runs poorly or just quits running because it is overheated. This often happens when cutting down stumps, because the exhaust is smothered into the ground and the cylinder fins are also prevented from getting enough air circulation. The only remedy for an over-heated engine is to let it cool off. (incidentally, dirt in the fins on the cylinder housing will definitely cause overheating problems — **keep them clean!**) If your saw overheats often, you are probably overworking it. Some saws, like the super-lightweights, are definitely not made for heavy-duty cutting.

Another major field failure is pulled out or broken starter cords. These can cause real headaches. Once again, it's not a bad idea to have a ready-to-go spare. Only change these in the field if it is almost an emergency. And never attempt it in the field for the first time. *Do try to*

repair one in your shop sometime and try to get good enough to do it in the field if you have to.

Most guys pull them out because they extend the cord too far when starting. If you have a good wrist snap when you pull, you shouldn't need more than about a 6" stroke to start your saw.

Practice it. It's a lot easier, too. Especially up in a tree.

Tools you should always have with your power saw at all times would include spark plug wrench, a screwdriver, chain file, pair of pliers and /or vice grips. Spare parts should include spark plug, fuel filters, starter rope.

#### PERIODIC MAINTENANCE

In addition to the daily care you give your saw, there are a few items which should get attention at regular intervals.

A real good cleaning with an air jet (most gas stations have them) will get dirt and grease out of the recoil starter, cylinder fins, sprocket housing, and from around the spark plug and the carburetor.

A good wide down with a clean rag after the air cleaning will remove the dirt-collecting oily film.

Now check the saw for excess wear; on the sprocket, bar, etc.

Tighten up all loose screws, nuts and bolts.

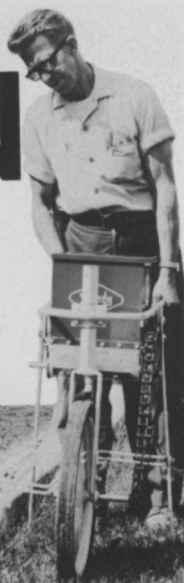
Check spark plug and replace if necessary.

Check the air and fuel filters and replace if necessary.

(continued on page 34)



# OPERATION WEEDOUT



## APPLY CASORON NOW— GET THE JUMP ON SPRING WEEDS

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Industrial weed control offers firms a number of advantage — safety, appearance and public relations are as important as any. Here Rich Tate of Chem-Trol sprays an industrial site in the Kansas City, Kansas area. Although weed problems are often similar, differing locations usually demand a wide variety of treatments.

## KNEE DEEP IN WEEDS

# Chem-Trol Weed Control A Business With A Future

**N**OT so many years ago, most industries, if they worried about weeds at all, probably went no further than a little trimming and mowing here and there.

In those days, the management of most industrial plants wasn't concerned about presenting an attractive image, but that's changed. Many of today's plants are surrounded by elaborate landscaping and there is a general concern in most businesses

for a neat, clean appearance; not only for a better "image," but because a neat, clean plant means added safety from fire and personal injury.

Plant managers are finding out that cleaning up plant sites isn't as easy as it might seem. Although weed killers and machinery are readily available, they usually aren't the answer for a complete job.

"There just isn't one chemical on

the market today that does the complete job of weed control," says Darrel Odle of Chem-Trol, Inc., Kansas City, Kansas, a vegetation control firm whose operations extend throughout a four-state region that includes Kansas, Missouri, Nebraska and Iowa.

"Quite a few plants have spent money and time trying to control weeds themselves," Odle says, "but they haven't been able to do a complete job. By the time they call us they've probably gotten the easy-to-kill weeds, but the really tough ones have them stumped.

"We've found that just about every job requires at least three different chemicals, and some may take as many as five or six to get complete control. That's why it's really not a job for somebody who doesn't know anything about it. He could spend an awful lot of money before finding the right chemicals to do the job on a particular site."

"We specialize in bare ground control," points out Bud Tolman, the other partner in the eight-year-old operation. "Our jobs range from a steel mill to pipelines and utility lines. And every one is different.

"Every job requires a different chemical application," Odle adds. "We usually base our bare ground control on Princep herbicide, or Pramitol, which is a soil sterilant. Then we'll add whatever else the job requires. Each chemical does a different job. Princep gets the germinating weeds and Pramitol is especially important in our first application to knock down the weeds that are up. Then, in the early spring, we generally add a contact herbicide like Dalapon or TCA."

"The main reason industrial areas are so rough to clean up," Tolman comments, "is the fact that they're usually located in areas that have never had anything but weeds. That means the ground is thick with seeds, and you find just about every kind of weed imaginable.

"The percentage of perennials is high, too. They just take over when nothing is done to control them, and they're always tougher to kill."

The weed control business is more than enough to keep Chem-Trol's staff on the run most of the time. In fact, Odle says, there are only a couple of months out of the year, usually January and August, when the trucks aren't constantly on the job. And that just about leaves enough time to service equipment so it's ready to go during the busy stretches in early spring and fall.

"And there is considerable more potential to explore," Odle concludes.