



Steady the saw, keep your balance and start the saw on the ground or other solid surface.

Note the direction of the exhaust gas and cooling air discharge. Is it away from the operator? Is he protected against contact with a hot muffler surface?

Does it have an automatic oiler? This lets the operator concentrate on more important things than keeping his chain and bar properly lubricated. Does it have a flow adjustment for this lubrication to conform to timber type and size, season, temperature, and larger length bar and chain? Does it pump at idle, wasting oil and making a slippery mess? Do the chain saw tanks hold enough, and are the fuel and lubricating tanks integrated to avoid bothersome and unnecessary refilling stops.

Is the spark plug located where it will not shock the operator if it has a leaky "boot"? (This can surely make a man jump at the wrong time.) Does it start easily? (Some accidents have been caused by an exasperated operator violently yanking on the starter cord of a balky saw and soon finding a running saw in his lap.)

Noise, Smoke and Vibration

Check the noise level. Observe the muffler design, location, construction and shielding for the operator against hot surface contact. Under the Walsh-Healy regulations, some brands of saws can be run twice as long as others without hearing protection. Not only has noise been proven to effect fatigue, but it pre-

vents voice warnings or the "crack" of a tree going over from being heard easily.

Can it be equipped with an approved U. S. Forest Service Spark Arrestor Screen? How about smoke and exhaust fumes, which can restrict vision and produce nausea? Can it use a low oil/fuel ratio mix? This eliminates most smoke, reduces carbon build up in exhaust ports and actually extends spark plug life.

Try the saw to feel the vibration level. Vibration like noise, induces fatigue. Does the saw have an anti-vibration system? Does moving the saw within the vibration mounts affect the throttle action? This could hold the throttle open at the wrong moment.

Fire Hazard Reduction

Note the location of the fuel tank and the filter opening size and location. Some saws have a "drain" for the carburetor chamber immediately above the muffler! Can it spill on the spark plug or high tension lead? Is the muffler shielded against contact with dust, dry moss or needles? Is sawdust discharge easy and direct? Some saws have places where oily chips can build up in the muffler area, presenting a potential fire hazard.

Selection and Maintenance

Guide bar nose contour must match the chain being used. If the "geometry" of these two parts is not correct, particularly if the guide bar

nose radius is too large, it can cause very severe kickback during nose contact with the wood.

One serious hazard in the woods today is the so-called "safety" chain. There is no such thing as a safe chain. As one safety director put it — "if it will cut wood — it will cut people." These chains are best referred to as "reduced" or "anti" kickback chains and do help to reduce kickback during certain types of limbing and brushing operations. Remember that the best and safest cutting attachments designed are also only as good as the maintenance they receive.

Many sharpening and maintenance publications are available from chain saw manufacturers and replacement chain manufacturers. Some companies also conduct "clinics" and maintenance classes. Simple tools are available to aid in better sharpening, jointing and maintenance of cutting attachments. These tools are a good investment since any chain that is properly and evenly sharpened (and jointed) is a smoother cutting, safer chain. A shop type chain grinder is also a good investment since it produces more consistent results.

Over the years, Stihl-American, like other conscientious chain saw manufacturers have diligently worked at making their saws safer more dependable.



Leon Short
bags it!

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organic nitrogen

The slow-release organic nitrogen that's good for cool season grasses . . . warm season grasses . . . all varieties of turf.

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Crabgrass and Poa annua never see the light of day.



These unsightly pests can be controlled effectively with DACTHAL[®] W-75 Turf herbicide. Give desirable grasses room to grow and flourish. Grassy weeds . . . and many broadleaves . . . never come through the ground, because DACTHAL controls weed seeds as they germinate.

Golf course superintendents use DACTHAL on fairways and tees. DACTHAL is also used extensively on parks, industrial

and commercial lawns, and by turf-care contractors — anywhere professional turf management is practiced.

DACTHAL breaks down quickly . . . is not overly persistent in the soil. Tough on crabgrass, but nice to grass.

Don't let the sun rise on weed-infested turf. Use DACTHAL W-75.

Diamond Shamrock
AGRICULTURAL CHEMICALS DIVISION



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10 Steps to Improved Cutting

By FRANK McDONALD, Product Mgr., Pioneer Chain Saws

A PROPERLY FILED and jointed chain on a chain saw adds life to your machine by allowing it to cut faster and smoother at minimum engine stress.

But you won't get more life out of your saw just by taking a few quick whacks at the chain with a file. To assure maximum life and performance from your saw, adopt the following step-by-step guide to joint and sharpen the chain properly:

1. Clamp the chain in a vise to prevent the chain from moving sideways as you file it. Chain movement restricts ability to control the plane and achieve an even cut. Furthermore, placing the chain in a vise assures optimum control because you can use both hands on the file to prevent biting and skipping. If your chain needs limited touching up, but you are in the field where a vise isn't available, increase the chain tension to minimize movement.

2. Select the correct size chain

saw file. You can determine proper size by consulting your owner's manual or a dealer, who will need the chain pitch and brand to help you. Incidentally, use the next smaller size file when cutters on the chain are worn back halfway. It will be easier to obtain the correct undercut and side plate angle.

3. Place the file in a cutter opposite your side. The sharpening angle may vary depending upon the type of chain, but manufacturers generally suggest you hold the file parallel to cutting edge at 35 degree bevel angle with the side plate edge 80 to 90 degrees from the cutter's base line. If you follow these instructions carefully the top plate undercut or cutting angle will be correct. This angle, which makes the chain pull itself into the wood, results from the side plate angle and the file position relative to being horizontal. These angles will give satisfactory performance under average cutting conditions.

4. Always let one-fifth of the file diameter protrude above the cut-

ting edge to assure the correct undercut. If the file is held too high, the cutter will have a blunt and slow-cutting edge. Stress and extra pressure required to make it cut will produce wear and eventually break the chain. Similarly, a thin and quick-dulling edge (with hook) will result if the file is held too low. A hooked cutter will tend to grab while cutting and cause wear on the guide bar rails.

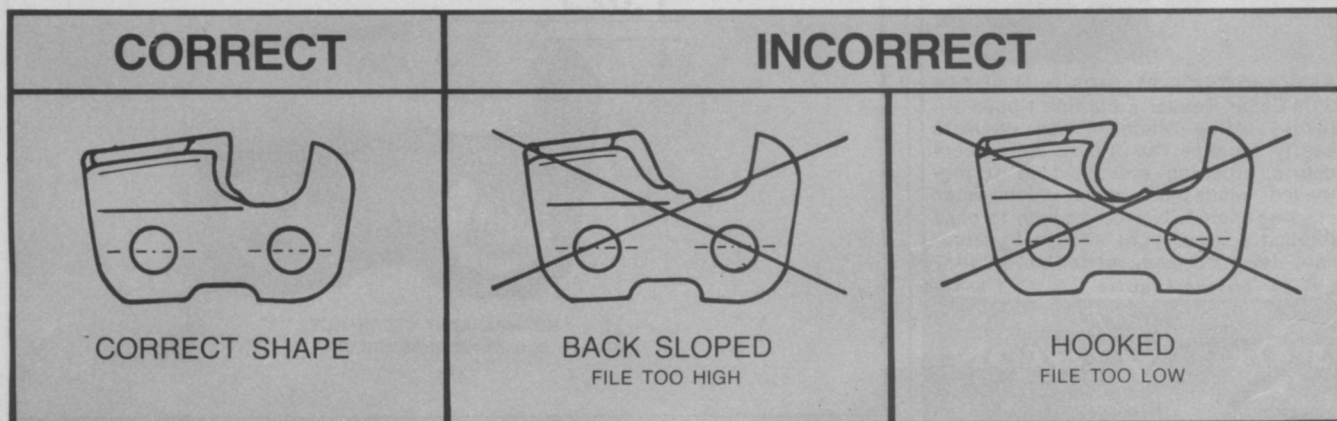
5. Keep the file snug to the top edge of the tooth and apply two or three firm strokes against the edge. The outside surface of the cutting edge is very hard (chrome plated), so you'll preserve the file by pushing it outward in a straight line. Filing in a straight line can be assured by stiffening your wrist and pretending your underarm is a solid extension of the file.

6. Leave the file in the cutter between individual filing strokes. However, apply pressure only on the outward stroke and move the file away from the cutting edge on the return stroke to avoid dulling the edge. Never remove more metal than necessary, and finish all cutters on one side before doing the other side. Your best measure of sharpening accuracy is a visual check to make certain the cutters are not back sloped or hooked, which are two common sharpening mistakes.

7. Next check the joint clearance, because correct joint height is vital to a fast cutting and smooth operating chain. The joint may vary depending upon the manufacturer, but the normal joint on chains is 0.025-inch.

8. Use caution if more joint is required, because an improper joint

(continued)

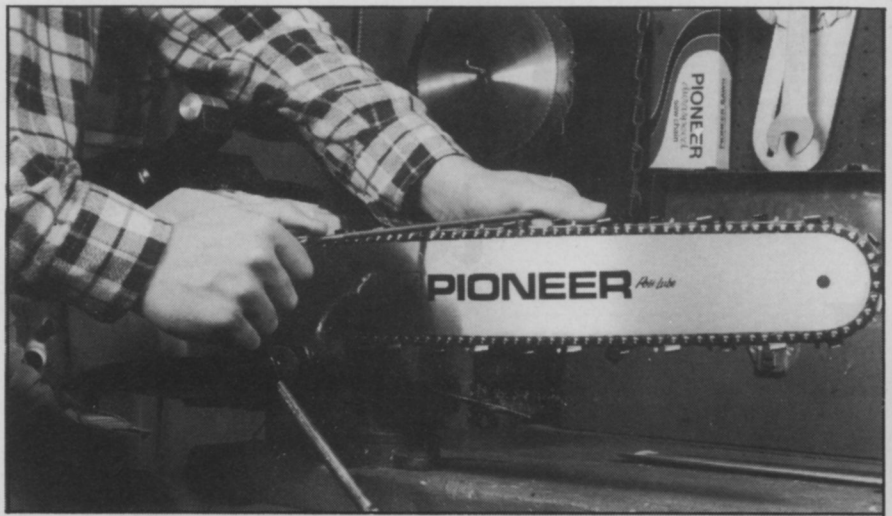


A visual check reveals whether cutters have been sharpened properly. Back sloped or hooked cutters are two common sharpening mistakes.

will cause excessive wear and shorten the life of the bar and chain. Excessive joint will cause cutters to bite too deep, forcing chain to grab and overload the engine. Conversely a shallow setting will prevent cutters from biting into wood.

9. Correct improper joint either with a flat file or a jointing gauge but, whenever possible, use a gauge for optimum results. When jointing with a flat file, a steady firm stroke will remove 0.002 to 0.003 inch of metal. File all depth gauges with an identical number of strokes and pressure. To protect against excessive jointing, never make more than two passes of a file before retesting the joint. Two passes with a file will remove about 0.005 inch of metal.

10. When using a gauge, set the filing block to the desired joint. Place gauge on chain so the depth gauge protrudes through the hole in the filing block. Hold the gauge firmly with your left hand and file down depth gauge to top of the filing block. Always file depth gauges from the same side of the guide bar. □



Hold file parallel to cutting edge at 35 degree bevel angle with side plate edge 80 to 90 degrees from cutter's base.

EAGER BEAVER

STUMP REMOVER

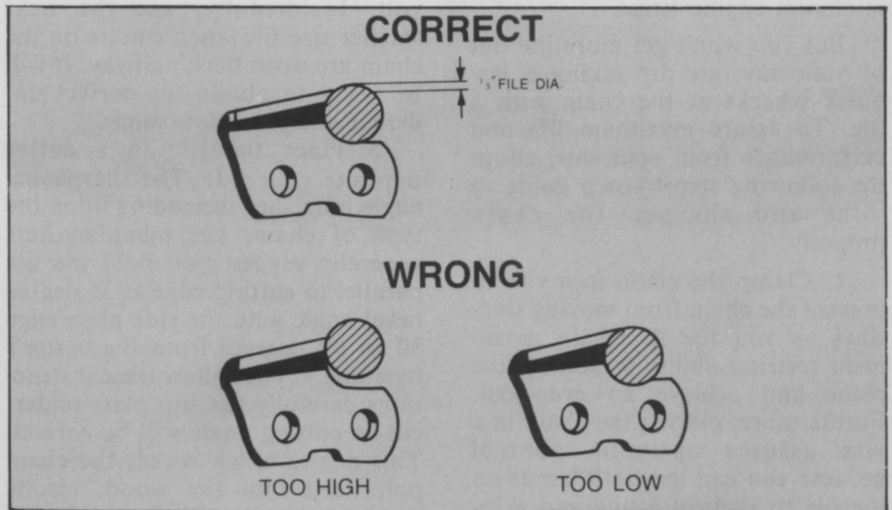
REMOVE TREE STUMPS IN MINUTES with Eager Beaver's carbide tipped tri-level cutting blade. Clean up more easily because flexible shield gathers debris. Locking kickstand is spring-loaded; keeps blade above ground when starting engine. Narrow enough to pass through a gate; light enough to eliminate lawn damage. Write for details.

Distributors Inquire WTT-4

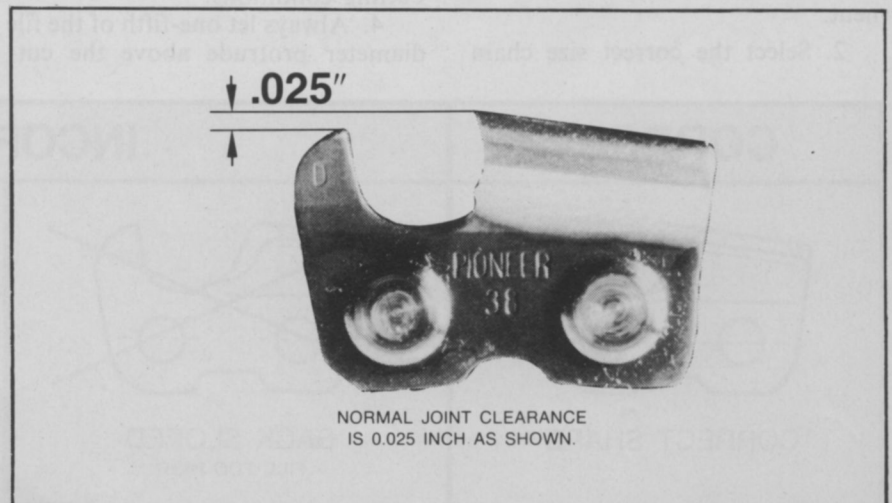
FULL VISION

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One-fifth of the file diameter should protrude above the cutting edge to assure correct undercut.



Joint clearance is vital to fast cutting and smooth operating chain. The normal joint on chains is 0.025-inch.

Reversible cutting bar
fells trees 32" in
diameter.

All position carburetor
maintains same performance
regardless of the position
of the saw.

Conveniently grouped
controls provide
easier operation.

Automatic oiler
with manual
override.

Sprocket-nose
bar improves bar life
and cutting
efficiency.

Centrifugal clutch,
same as used in larger
professional models,
permits engine to idle
without rotating chain.

Piston-ported engine
improves starting,
idling and acceleration
and gives constant
cutting power.

Front and rear handles
placed for best balance,
comfort and control.

This lightweight can really cut it.

Here's a genuine lightweight chain saw that supplies the muscle professionals need. Get a grip on the Skil lightweight, and clear that underbrush, fell 32" trees, and cut logs into a winter's worth of firewood. Skil can handle it.

Take a look at the features. It's the powerful lightweight you've been looking for. It's from Skil.

SKIL[®]
1612 Chain Saw. The powerful lightweight.

Dependability? We're Glad You Asked!



Expose the guts of a Vermeer M-440 or M-418 and you'll see why so many depend on "The Diggin' Dutchman" for service line work. You find it first in the extra heavy-duty, welded construction . . . in balanced design and machine weight that actually embarrasses the competition. You feel it in articulation, power steering, 4-wheel drive, smooth hydraulic power . . . plus a host of heavy-duty, labor-saving attachments . . . and with a drive system that's engineered to beat the day-in, day-out punishment of service line work. You get it in a Vermeer, because "The Diggin' Dutchman" doesn't take short cuts.



Write, or better yet, call him
(515/628-3141) for a free
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VERMEER THE DIGGIN' DUTCHMAN

VERMEER TRENCHER—PLOW DIVISION

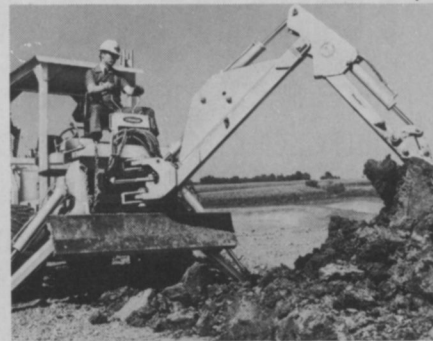
7204 NEW SHARON ROAD • PELLA, IOWA 50219



Both of "The Diggin' Dutchman's" M-440 (with liquid-cooled engine) and M-437 (air-cooled) machines feature P-12A vibratory plows with quick-tach reel carrier.



At the same time, you double your job capacity with a backfill blade that swings 45° left or right and tilts hydraulically for sloping surfaces



. . . and triple your capabilities with two heavy-duty backhoes, which swing a full 180° . . . Loaders and boring attachments also available.

For More Details Circle (103) on Reply Card

Chain Saw Product Preview



No. 701

New from Frontier Division, Quadra Manufacturing, Inc., the Mark I "VIP" (Vibration Isolated Power-head) is designed to fill the growing need for a lightweight, reasonably priced saw with features previously found only on expensive professional type units. Mark I VIP has all the features of the Mark I automatic, plus: vibration isolating insulators at all points where handles come in contact with engine housing; tip-up hand guard just forward of front handle; throttle lock feature to prevent accidental revving of the

saw. Priced at \$149.95 complete with 12-inch sprocket nose bar and chain, this is said to be the lowest priced anti-vibration saw on the market today. **For more details, circle No. 701 on the reply card.**



Chain Saws
6205
6206

No. 702

Designed for rugged, high speed sawing under difficult conditions, Milwaukee Electric Chain Saws are available in two models — 16-inch and 20-inch. Powered by 13-amp 115-volt Milwaukee-built motors, both saws deliver a full 2 hp at the chain, cut at a speed of 2,000 feet per minute, and feature quiet, smooth

electric power and instant starts even in freezing temperatures, without fuel or fire hazards. Model 6205 (16-inch) weighs 17½ lbs. and 20-inch Model 6206 weighs 18½ lbs. Other features include all ball bearing transmissions with hardened steel gears, plunger type chain oiler and large capacity oil reservoir, tempered steel guide bar with simple chain adjustment and specially designed handles for fatigue reduction. Operates on standard 115-volt or with portable generating equipment. **For more details, circle No. 702 on the reply card.**

West Germany's Solo Kleinmotoren GmbH has released a fourth version to its modular chain saw design series 620/650/660AV — the 655AV Model. With a displacement of 70 cc. (4.27 cu. in.), the new Solo
(continued)



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organic nitrogen



The nitrogen that can be applied with the least danger of burning. No leaching either. Try it!

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APRIL 1975

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Goshen benches offer a wide selection of fast selling, long lasting, outdoor seating. Choose from a variety of models and sizes. All benches are shipped knocked-down for maximum freight savings. Simple assembly instructions are included in each carton.

Inquiries from distributors and dealers are invited. Send for complete information.

Goshen Mfg. Co.
612 East Reynolds Street
Goshen, Indiana 46526

For More Details Circle (109) on Reply Card

655AV delivers roughly 6 1/2 hp/SAE. Designed primarily for the professional market, the 655AV is available with standard 20-inch or 24-inch guide bars. Automatic chain oiling and throttle safety lock are standard; an optional wrap-around handlebar is available. Solo's abrasive saw attachment for pavement, concrete and metal cutting may also be used with the 655AV. For more details, circle No. 703 on the reply card.



No. 703

Reinco

A 4-TON-AN-HOUR "MINI-BRUTE": the new Reinco TM7-30 truck-mounted mulcher



IDEALLY SUITED FOR COMMERCIAL OR RESIDENTIAL TURF WORK.

The Reinco TM7-30 is a "lawn-a-minute" work horse that blows mulch a distance of up to 60 feet. Its unique straight-through drive eliminates power-robbing belts, chains, and gears. But most important of all, the TM7-30 cuts labor expenses as much as 5000% over hand shaking. Check out all the other advantages like low maintenance and versatility. You'll find the Reinco TM7-30 a real profit maker.

ONE MAN, ONE HYDROGRASSER perfectly suited for establishing grass on home lawns and other small areas.

One man can easily fertilize, seed, and mulch up to 6 good size lawns a day with the PP500. Only one moving part insures low maintenance. Simple to operate.

Add mulch, seed, fertilizer plus a soil binder such as Terra Tack to the circulating water to form a homogenous slurry. . . then spray . . . that's all there is to it. Spray on all the ingredients necessary for good turf—all in one easy operation. Check out the time. . . you'll be surprised. For further information write to:



Reinco

P. O. Box 584, Plainfield, N. J. 07061 (201) 755-0921

Echo Chain Saw Division, Kioritz Corp. of America, is introducing a high-performance, low cost and low maintenance scythe, Model SRM-202F. The lightweight SRM-202F (13 lbs.) is equipped with a Kioritz two-cycle engine. Scythe is outfitted with automatic rewind starter, centralized clutch and can be equipped with a 10-inch circular saw blade or 10-inch, 8-blade cutter. For more details, circle No. 704 on the reply card.



No. 704

Designed especially for today's high powered direct drive chain saw engines, the Olini 1500, from Olympic Instruments, Inc., is said to eliminate failings common to most small portable winches. This unit has a working weight of 50 to 60 lbs. and will operate at the safe working limits of the recommended wire rope. Drum capacity is 150 feet of 3/16-inch wire rope. Standard features include a unique level wind system, free spooling and a positive self-adjusting drum brake. The unit is powered by mounting medium or large direct-drive chain saws to stub

(continued)

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Patule C. Fitzsimons



Fitzsimons on ^{CERTIFIED} Manhattan



Pat Fitzsimons, in winning the Glen Campbell Los Angeles Open at Riviera CC, Calif., Feb. 20-23, set a new course record of 64 for a single round and tied Ben Hogan's record for this event. Fitz, above, tees off on the No. 1 Manhattan tee at Salem Golf Club course, Salem, Ore., where he previously tied the world record score of 58 on a 6,000 yard course.

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TURF-TYPE

PERENNIAL RYEGRASS

- GREAT FOR HARD USE AREAS
- UNIFORM DARK GREEN COLOR
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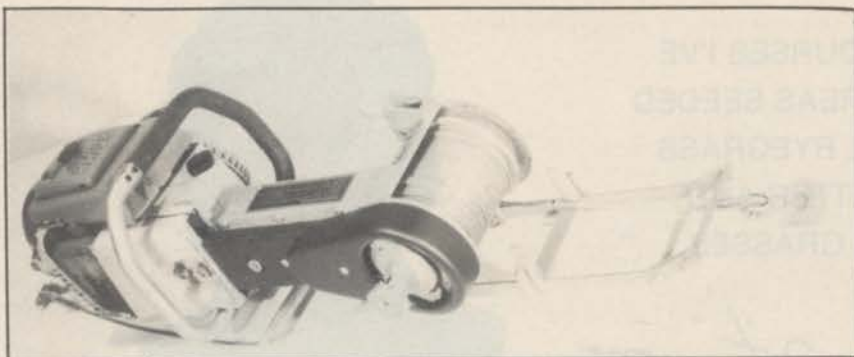
Manhattan Perennial Ryegrass was selected and developed by Dr. C. Reed Funk, Rutgers University. Manhattan develops a uniform dark green leafy, dense turf with leaf blades as fine as many Kentucky bluegrasses.



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No. 705

Why Not Spray the DEPENDABLE Way ...

SMITHCO

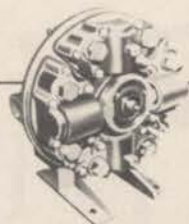
Why are Smithco Sprayers ALWAYS ON THE GO?
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All Smithco Sprayers feature long lasting corrosion resistant fiberglass tanks, (guaranteed for 3 years) centrifugally cast for added strength and appearance. High capacity strainers with stainless steel screen and, mechanical tank agitation. For big jobs select from five models of the HAWK. For smaller requirements there are the LARKS.



A Size for All Occasions

Smithco sprayers are equipped with pumps that produce 10-20-25 GPM up to 800 PSI with tank capacities from 110 to 500 gallons. Available either trailer or skid mounted; gas engine with V-belt drive or PTO; convenient drains, hose and boom outlets.



The
Golden
Eagle
Pump

Dependable, four cylinder, positive displacement, short stroke design for pulsation free operation. Plunger cups that are guaranteed for one year, and Timken Tapered Roller Main Bearings guaranteed for two years. Ceramic valves with Nylatron seats. Longer pump life than any other pump.



SMITHCO

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SMITHCO, INC., WAYNE, PENNSYLVANIA 19087

bar of winch. This bar, used with a rim sprocket and loop of cutterless saw chain, transmits engine torque to the winch without mechanical alteration to the saw. Restoration of the saw for cutting is comparable to changing a bar and chain. Standard winches have either $\frac{3}{8}$ -in. or .404-in. pitch drive and other pitches are available as special orders. Also available is Model 2000, a self-powered version of Model 1500, powered by a Tecumseh two-cycle engine. Engine and winch are mounted on a welded steel frame that provides fuel storage and handles for transport and control. For more details, circle No. 705 on the reply card.



No. 706

A new steel hand guard is being introduced by Pioneer as an accessory for its 1975 professional and farm chain saw line. The safety guard lists for \$5.45 and is bracketed to the front handle of the Pioneer P40 and P50 model chain saws. The accessory is designed to protect an operator from injury in case his hand slips off the saw handle. Pioneer chain saws and accessories are marketed by OMC-Lincoln. For more details, circle No. 706 on the reply card.

Echo Chain Saw Division, Kioritz Corp., is now marketing specially compounded motor oils for two-cycle engines including chain saws, power blowers and brushcutters. The oils will be packaged in cases of 48, 8-ounce, six-pack containers. For more details, circle No. 707 on the reply card.