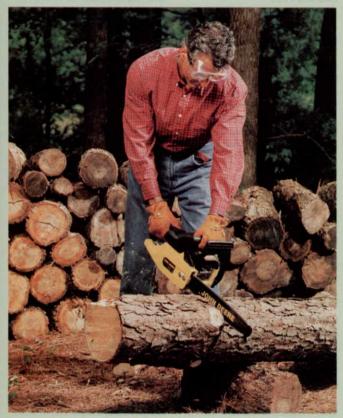
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Echo saw is powered by a 33.4 cc, two-stroke engine. Some saws have chain guards. Operator should stand on the side of the trunk opposite the limb being cut.



Deere CS series saws weigh in at about 10 pounds.



By CURT HARLER/ Contributing Editor

Dress for success when using a chain saw.

Safety goggles are a must to protect those baby blue eyes. A full face shield is better, as it protects the face from flying chips and reduces the likelihood of a sudden flinch which could misdirect a running saw toward other parts of the body.

Leather is the fashionable fabric for saw operators this season and any season. Anyone running a saw should have a pair of high-quality leather gloves with double palms. Some logging-supply catalogs offer heavy-duty gloves with Kelvar, the same fabric used in bulletproof vests. Although these gloves can cost over \$100, they make the statement that you're serious about protecting workers' fingers and hands.

Every landscape worker should own a good pair of heavyduty work boots. Those who use saws should have leather boots with steel caps to protect from chain-saw cuts and from falling branches.

Top off the wardrobe with a good hard hat. It will protect the operator's head from falling limbs or branches. A properly fitted hat is cool, comfortable and has a good internal suspension to cushion the head from falling debris. Round out the look with a pair of OSHA-approved ear muffs. Since saws can

easily exceed noise levels of 90-100 decibels, be sure anyone in the area is wearing earplugs.

Loose-fitting or flapping clothes are definitely "out". The operator should wear nothing which could potentially be caught up in the chain.



Accessories for the well-dressed saw operator include a good sharpening guide. A

Shindaiwa 448

decent one will run about \$25. Make saw sharpening a regular part of the sawing routine. Do it at least once a day.

More than any other tool used in the landscaping business, the chain saw requires skill and training for proper operation. Safe sawing starts with the purchase of the saw. Look for saws with inertia-activated chain brakes. These are engineered to stop the saw instantly and reduce the chances of serious "kickback" injury.

Buy a saw with an anti-kick nose guard, quick-stop brake and a full wraparound hand guard. Kickback, caused when a

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saw hits an obstruction, accounts for over 30 percent of chain saw accidents.

Pick up a saw and test its weight and balance. Make sure that all controls are simple to operate and easily accessible. There should be no sharp corners or protruding parts on the motor housing, which have a way of grabbing on clothes. The muffler and other key parts should be enclosed.

The muffler exhaust should be directed away from the operator's face. Several other features are worth having. Spark arresters are required in some areas of the country. They keep sparks from being thrown by the exhaust. A safety tip covers the chain as it passes around the nose of the guide bar. It reduces the chance of kickback by keeping the chain from contacting anything at the guide bar tip. Throttle lockout guards against unexpected saw chain motion. Buy a saw with a good vibration reduction system, to reduce operator fatigue.

Do not allow an operator to make cuts with the saw between his legs. It is also bad form to straddle the limb being cut. Be aware of the direction the chain will go if it breaks, and keep people clear of this area.

Some saws have chain guards. The operators always should stand on the side of the trunk opposite the limb being cut.

The following are some of the leading chain saw suppliers and the products they sell.

CHAIN SAWS

COMMERCIAL LANDSCAPE SUPPLY 800-635-8686 Circle No. 250

The CS-6700 saw from Commercial Landscape Supply, Irvine, CA has an Echo 66.7 cc 2-stroke engine with Pro-Fire Electronic Slope



Be aware of the direction the chain will go if it breaks.

advanced ignition system. It automatically senses engine speed, then advances ignition timing for optimum cutting power. The chainsaw has a fuel capacity of 21 ounces and oil capacity of 10.5 ounces. Unit comes with a standard 24-inch bar and chain. Optional 16, 20 and 27inch bars are available.

JOHN DEERE 800-537-8233 Circle No. 251

The 200CS, 230CS and 300CS from John Deere, Research Triangle Park, NC, weigh in at about 10 pounds, but are tough enough for everyday use. With engines rated at 2.0 and 2.3 cubic inches, the 200 and 230 can be equipped with 12, 14 or 16 inch guidebars. Both have electronic ignition and the Safe-T Tip anti-kickback device. The 300 has a 3 cubic inch engine and an 18-inch Power Tip guide bar that cuts at 9000 to 9500 rpm.

ECHO, INC. 847-540-8400 Circle No. 252

Buy the CS-3450 chain saw from Echo, Lake Zurich, IL and get the protective carrying case, quart of bar and chain oil and an extra loop of chain in the package. Saw is powered by a 33.4 cc two-stroke engine with ProFire electronic ignition. It features a fuel capacity of 8.5 ounces, oil capacity of 5 ounces, yet weighs just 7.8 pounds. It comes with a 16-inch bar standard. It is backed by a one-year commercialuse warranty.

HOMELITE 704-588-3200 Circle No. 253

Homelite's 3300 series offers four models with either 33cc or 38cc PowerStroke engines to meet a variety of needs. All models feature a precision-honed vertical cylinder for increased cutting power, engine durability and fuel efficiency; a large, sealed muffler for noise reduction; a dual stage air filter for peak performance. The 3300 series has Homelite's patented Safe-T-Tip anti-kickback device that actually eliminates kickback completely, according to the company. Kickback bars are available in 12- or 18inches, depending on model.

HUSQVARNA 800-GET-SAWS or 800-438-7297 Circle No. 254

The Husqvarna 371XP weighs 13 pounds, yet offers a 70.7 cc engine that develops 5.4 hp. This saw handles big jobs. It can be used with bars up to 32 inches, and features all of the vibration and noise reduction features a pro would expect. Also available from the Charlotte, NC firm is the handy 257, a 3.7 hp 57 cc model that weighs 5.6 pounds.

McCULLOUCH 520-574-1311 Circle No. 255

The ProMac line of saws from McCulloch, Tucson, AZ are designed for extensive use. The 3805AV-18 has an 18 cc engine with 18-inch bar, anti-vibration system. The unit weighs 12 pounds and has a fuel capacity 10.5 ounces. The 5000AV has a 50 cc engine and works with bars from 16 to 20 inches. Weighs 11.9 pounds.

RED MAX 770-381-5147 Circle No. 256

A full line of Pro Series chain saws is available in the RedMax line from Komatsu Zenoah America, Norcross, GA. The 14-inch bar G310TS weighs 7.3 pounds dry. Its larger brothers include the G455AVS with 16 inch bar at 10.7 pounds; the G561AVS available with 16, 18 and 20 inch bars at 14.3 pounds; and the top-of-theline G621AVS, which comes with 16, 18, 20 or 24 inch bar and a base weight under 15 pounds.

SHINDAIWA 800-521-7733 Circle No. 257

Commercial users can choose more than just the type of saw they need when they look at the 488 line of chain saws from Shindaiwa, Tualatin, OR. They can choose the protection and power needed for dusty conditions by buying the advanced PowerPro air filter. Other features include 2.9 cubic inch displacement, adjustable automatic oil pumps that regulate oil consumption.

SOLO, INC. 757-245-5531 Circle No. 258

A powerful 36.27 cc engine drives the 636 chain saw from Solo, Newport News, VA. The unit delivers 2 hp and features a top speed (with bar and chain) of 11,500 rpm. Inertia-matic chain brake, inboard clutch, and carburetor with all-position diaphragm and primer make this an easy-to-run machine.

STIHL 754-486-9100 Circle No. 259

Commercial-grade chain saws and accessories are available from Stihl, Virginia Beach, VA. Top of the line is the O19T with an exclusive curved side handle that allows the operator to trim trees in various positions. Unit's center of gravity is at the throttle trigger, making it well balanced for easy operation. Unit weighs 8.9 pounds.

TANAKA INTERNATIONAL 253-395-3900 Circle No. 260

The ECS-3301 from Tanaka, Kent, WA weighs just 7.3 pounds and features a new air filtration system that removes more particles from the air intake system for increased performance and engine life. The 32.3 cc inch engine develops 1.6 hp. Either a 12 or 14 inch Oregon bar and chain combination is recommended. **LM**