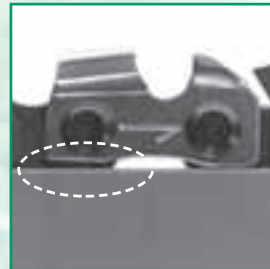


**Announcing the latest word  
in saw-chain safety**

# **Vibe-Ban™**

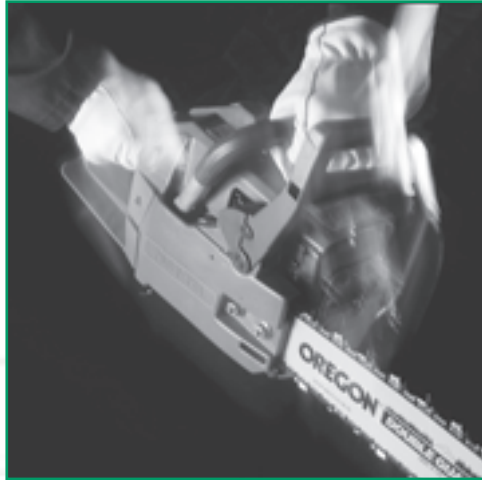


**Low-vibration cutting chains**



*The world leader in saw-chain safety*

**U**nfortunately, chainsaws and vibration just go hand in hand. If you use a chainsaw, you'll be exposed to some level of vibration. Problem is, vibration can be harmful to your health, especially the health of your hands and especially if you use a chainsaw for long periods.



*Harmful chainsaw vibrations do not make themselves known in dramatic ways. They are hard to see, or feel. But their effects on the health of your hands can be dramatic indeed.*

## A BRIEF HISTORY OF THE PROBLEM

In 1862 Dr. Maurice Raynaud, a French neurologist, wrote a thesis describing a condition in which persons saw "under the least stimulus, one or more fingers becoming white and cold." The discovery involved workers in the shoe industry who were exposed for long periods to the vibration of hammering machines. The condition came to be known as "Raynaud's Phenomenon."

In the logging industry, the heavy chainsaws manufactured up through the 1950s were mainly used to make falling cuts. Limbing and bucking cuts were more often done with axes and handsaws. But the revolutionary light-weight chainsaws introduced in the 1960s did an equally good job of falling or limbing or bucking and brought about dramatic increases in productivity – along with increased exposure to vibration. In some logging communities, the percentage of chainsaw users who experienced Raynaud's symptoms approached 90%. And while the culprit was obviously vibration, it was not known at that time whether vibrations at higher frequencies, or at lower frequencies, were the most harmful. Since then, the condition has been the subject of extensive study.



## GETTING A HANDLE ON VIBRATION AND ITS HARMFUL EFFECTS

While searching to understand vibration and its harmful effects, scientists have discovered that some vibrations are worse than others. In order to measure these effects, engineers have taken the spectrum of vibrations that are generated during chainsaw use and broken them down into groups of frequencies called "frequency bands."

It is now known that some frequency bands, mainly in the lower frequency ranges, are the most likely to injure you. An internationally recognized method for measuring chainsaw vibration has been developed which utilizes "weighting factors." The weighting factors are applied to each frequency band while doing a vibration test on a particular saw. At the end of the test, engineers not only get a mathematical measurement of the saw's vibration levels, they also get information on the saw's potential to cause injury.



*The cumulative effects of harmful vibration can cause blanching of the fingertips, painful sensitivity to heat and cold, and a loss in the hands' ability to feel.*

## "VWF" VIBRATION-INDUCED WHITE FINGER

From Raynaud's Phenomenon, to White Knuckle Disease, to the modern name "Vibration-induced White Finger" or "VWF," what is known about the condition is that it reduces the hands' ability to feel and regulate temperature. Blanching of the fingertips, or of whole fingers, and painful sensitivity to heat or cold are common. The leading research on VWF says that a "reduction in" or a "cessation of" exposure to vibration has a beneficial effect on the symptoms.

Now, if you're reading this brochure, it's probably not an option for you to just "cease" using a chainsaw. But you can make a significant "reduction in" your risk of injury by using Oregon® Vibe-Ban™ chain.



Accelerometers placed on each handle convert vibrations generated during test cuts into electrical signals. The signals are fed into specialized computer systems for analysis.

## HERE'S HOW SAW-CHAIN VIBRATION HAPPENS

As each cutter's working corner impacts the wood, three things happen almost simultaneously:

1. The cutter is momentarily stopped by becoming trapped between the wood and the bar rail, releasing a tremendous jolt of energy
2. A portion of that energy is transmitted through the heels of the cutter and its opposing tie strap into the bar, the saw, and finally – into your hands
3. Another portion of the energy is transmitted directly through the chain as a shock wave, into the drive sprocket, the powerhead, and once again – into your hands

The secret to reducing vibration produced by your chain lies in reducing the transfer of energy from that initial jolt, which Oregon® has done by eliminating the way the cutter is trapped.



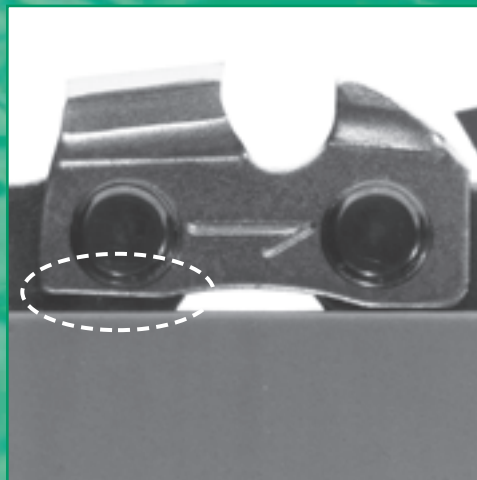
These two graphs give a pictorial comparison of two saws' test results. The ultimate measurement "W.A.S." stands for "Weighted Acceleration Sum." The lower the W.A.S., the better.

## HOW CAN YOU TELL THE BEST SAW FROM THE WORST?

By yourself, you can't.

In the last two decades, chainsaw manufacturers have made remarkable improvements that do help isolate users' hands from vibration caused by the saw's engine. But these improvements are generally not as good at reducing the frequency bands generated by the cutting action of the saw's chain. It is possible to feel the tingling sensation in your hands which often follows periods of chainsaw use. But one big problem with vibration is that even when using saws having modern anti-vibration features, it is not usually possible to "feel" the difference between the best saw and the worst. To do that you have to use sophisticated test equipment.

Over twenty years ago, Oregon® began using state-of-the-art equipment to measure vibration. In that time, chain designs and test-equipment technology have advanced, but now, the results are in. Oregon® Vibe-Ban™ chain reduces the level of vibration by 25% – or more.



Here's where the vibration stops. As each cutter impacts the wood, "clipped heels" reduce the transfer of energy by preventing the cutter from being momentarily trapped.

## HERE'S HOW OREGON® GOES ABOUT REDUCING VIBRATION

We've removed a small amount of material from the bottoms of the heels on cutters and tie straps. This allows the back half of these chain parts to "float" above the guide bar's rail. This small space between the chain and the bar lets the chain act like a shock absorber. When the cutter's working corner impacts the wood, the cutter has room to rock back slightly rather than being momentarily trapped between the wood and the bar rail. Much of the energy is dissipated by the chain so it never even reaches the bar, nor the saw, nor most importantly – you.



Oregon® Vibe-Ban™ low-vibration chains are easy to identify; they're stamped with a forward-pointing spear on the outsides of cutters.

## OUR COMMITMENT TO YOUR SAFETY

At Oregon® we are dedicated to helping customers use our products in the safest, most effective way possible. When it comes to vibration-related injury, it is not simply a matter of putting on another piece of safety equipment.

But there is a choice chainsaw users can make which can reduce the potential for harm. Give yourself a helping hand against the risk of vibration-related injury – put an Oregon® Vibe-Ban™ chain on your saw.

## OREGON®, THE WORLD'S NO. 1 SOURCE FOR:

- Chainsaw cutting attachment products
- Information on the selection, safe use, and maintenance of chainsaw accessories

**CHOOSE OREGON® VIBE-BAN™ CHAIN –  
BECAUSE EVERY CUT COUNTS**

## OREGON® VIBE-BAN™ CHAINS:

As of the publication date of this brochure, the following Vibe-Ban™ low-vibration chains were available from Oregon®. This is a dynamic list. It is our plan to add more Oregon® chains with low-vibration features in the near future. All chains on this list are standard-sequence chains.

For the very latest information on the continuing development of low-vibration features, and the Oregon® products that have them, contact your authorized Oregon® distributor, or contact Oregon® directly as shown below.

Part Number	Pitch	Gauge	Cutter Type
20VB 21VB 22VB	.325"	.050"	Micro Chisel®
		.058"	
		.063"	
33LG 34LG 35LG		.050"	Chisel
		.058"	
		.063"	
33SL 34SL 35SL		.050"	
		.058"	
		.063"	
95VP (Micro-Lite™)		.050"	Micro Chisel®
72V 73V 75V	3/8"	.050"	Chisel
		.058"	
		.063"	
90SG (Micro-Lite™)	3/8" (extended)	.043"	Chamfer Chisel
91LX		.050"	Power Sharp®
91VG		.050"	Chamfer Chisel
91VS			



For more information on these and other Oregon® products contact your authorized Oregon® distributor, or:

### OREGON CUTTING SYSTEMS DIVISION BLOUNT, INC.

P.O. Box 22127, Portland, OR, USA 97269-2127  
Phone: (503) 653-8881 • Fax: (503) 653-4201  
Net: <http://www.oregonchain.com>  
E-mail: [sales@oregonchain.com](mailto:sales@oregonchain.com)

### IN CANADA CONTACT: OREGON DISTRIBUTION LTD.

505 Edinburgh Rd., N., Guelph, Ontario, Canada N1H 6L4  
Phone: (519) 822-6870 • Fax: (519) 822-4999