

TST #148-A

## Concrete Chain Sawing Safety

Operators must read and understand any manufacturer's operating manual and safety requirements for each piece of equipment they operate. In addition, the following guidelines should be followed when operating a chain saw.

1. Use approved personal protective equipment whenever using the machine.
2. Never operate a diamond chain saw with the side cover or hand guard missing or broken. Also, never operate the saw with the mud flap or bottom guard or any other safety device removed.
3. Check that the chain does not show signs of damage in the form of excessive rivet play on the connecting links. Inspect for broken bumpers, drive links or segments and repair/replace as necessary.
4. Never insert a diamond chain into a pre-cut that is narrower than the chain segments, as rapid pushback might occur. Standard diamond chain segments are 0.225 inches (5.7 mm) wide.
5. Never install or run the chain backward. When using a chain with a single bumper design, the install the chain on the saw so the bumpers lead the segment into the cut. A chain with a double bumper design is not directional and can be fitted accordingly, However, it is best to reinstall a used double bumper chain design in the same cutting direction as when it came off the saw.
6. Never run a diamond chainsaw upside down. Concrete debris can fly back into the operator's face.
7. Be aware of what is on the backside of a cut. Hazards could include electrical lines, water pipes, sensitive equipment and personnel.
8. Always turn the saw off before performing any maintenance. This includes tightening a loose chain. Where applicable, turn the hydraulic or electric power supply off as well.
9. Always maintain secure footing when operating a diamond chain saw. Keep loose hoses and equipment out from under your feet. Housekeeping in the work area is important for operator safety.
10. Operators should always use both hands on the saw and keep arms close to the body and never fully extended. Maintain a well ventilated work zone when using a petro-powered saw. Carbon monoxide fumes can be deadly.

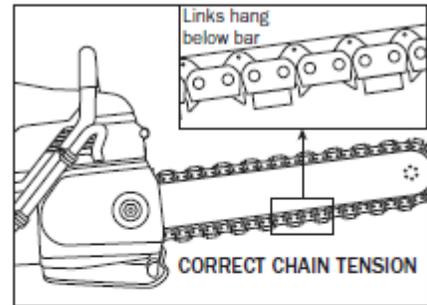


**An Example of Drive Link Damage.**

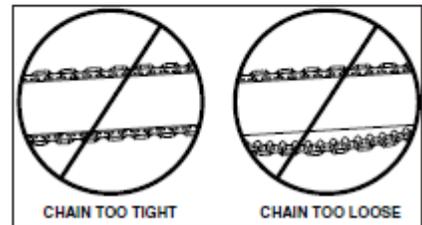
11. A properly tensioned chain will optimize cutting performance. The tensioning rule of thumb for a concrete cutting chain saw, is that if the chain cannot be pulled easily around the guidebar by hand, the chain is too tight and needs to be loosened. A chain too tight will accelerate wear on the guidebar nose sprocket, saw drive sprocket, force premature stretch of the chain and rob cutting speed and power from the saw. If the chain is too loose, it could come off the bar (especially when cutting horizontal) or allow the saw's drive sprocket to slip or spin on the chain drive links. This can permanently damage the chain's drive links.

Proper Tension should allow drive links to hang below the bar.

All chains stretch when used. Diamond chains stretch more than wood cutting chains because of the abrasive materials being cut. When a chain hangs approximately 0.5 - 0.75 inches (12 - 18 mm) below the bar, it is time to tension the chain.



**Examples of Chain Tensioning.**



12. The single most important factor an operator can control to increase chain life, is to use adequate water pressure. Insufficient water supply will result in excessive wear to the chain, which can lead to loss of strength and chain breakage. It can also cause damage to the guidebar nose sprocket. Diamond chains with SealPro® require a minimum water pressure of 20 psi (1.5 bar).