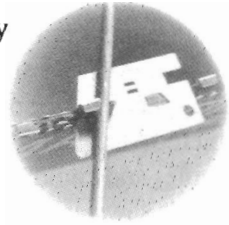


The Carlton File-O-Plate®

The Carlton File-O-Plate®

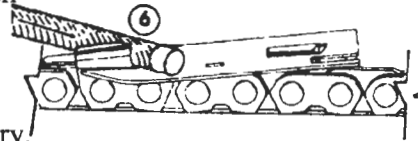
To help you get all of the life and cutting efficiency that was built into your Carlton Saw Chain, the simplest and most accurate tool you can use is the Carlton File-O-Plate®. Made from tempered steel, this patented tool takes all of the guess work out of maintaining your Carlton Saw Chain. When used faithfully and properly, the Carlton File-O-Plate® will eliminate:

- Backslope
- Hook
- High Depth Gauge
- Low Depth Gages



Sharpening Cutters

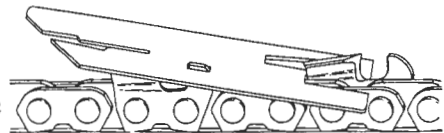
The Carlton File-O-Plate® fits onto your chain and holds the file up which forces you to sharpen the cutter properly. Using the front of the plate as a guide, the File-O-Plate® duplicates all of the cutter tooth angles originally ground into the chain at the factory!



When used faithfully and properly, the Carlton File-O-Plate® eliminates backslope and hook.

Maintaining Depth Gauges

In the depth gauge position, the Carlton File-O-Plate® rests over the leading edge of the cutter and allows you to lower the corresponding depth gauge more accurately than any other tool on the market. *When used faithfully and properly, the Carlton File-O-Plate® eliminates the possibility of high depth gauges or low depth gauges.*



Chain Tension

A properly tensioned saw chain should have a small amount of sag at the mid-point of a solid nose bar. The chain should snap back tight onto the rails of a sprocket nose bar.

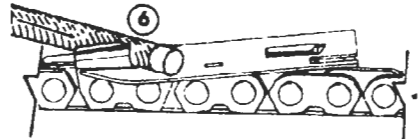
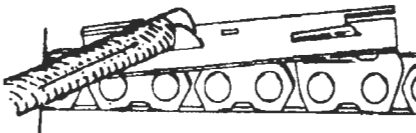
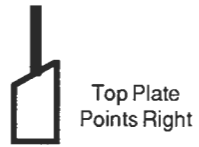
Using the Carlton File-O-Plate®

Part 1. Sharpening Cutters

Left-Hand Cutters

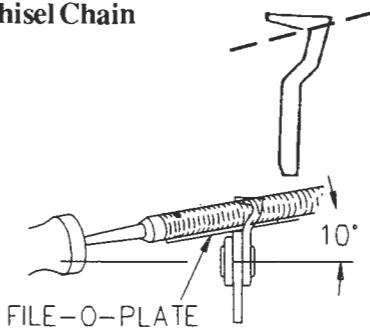


Right-Hand Cutters

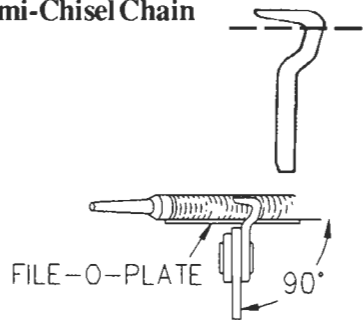


The Carlton File-O-Plate® sits into the cutter and holds the file up into the proper position to eliminate backslope and hook.

Chisel Chain



Semi-Chisel Chain



The Carlton File-O-Plate® automatically compensates for chisel or Semi-Chisel cutters. As you can see for the above drawings, Chisel chain has squared corners on both the outside and inside of the cutter. This chain must be filed 10 degrees up to line up these two points.

Semi-Chisel chain does not require this 10 degree compensation.

Gulleting

As a cutter gets shorter, it's important to make an occasional free hand stroke with the file to clear material out the gullet that could get in the way of a good sharpening job.



Using the Carlton File-O-Plate®

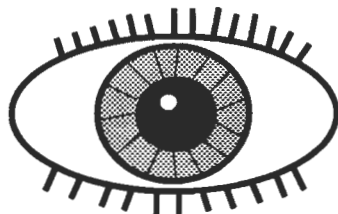
Part 2. Maintaining Depth Gauges

Basically, there are three ways to set depth gauges:

- Guess Work (The Eyeball Method)
- Constant Method
- Progressive Method

Guesswork

Guessing at depth gauge settings may have worked on the old chain saws discussed earlier. But with today's high speed saws, accurate depth gauge maintenance is critical to overall cutting performance. Like ignition timing, depth gauges require precise adjustment. The eyeball method isn't accurate enough and does not work!



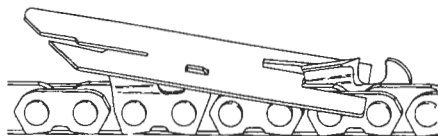
Constant Method

This method employs a tool similar to the one on the right. The number stamped onto the tool (.025", .030", etc.) is the depth gauge setting. Regardless of the overall tooth length, this tool will always give you the depth gauge setting stamped on it. Hence, we call this the constant method.



Progressive Method

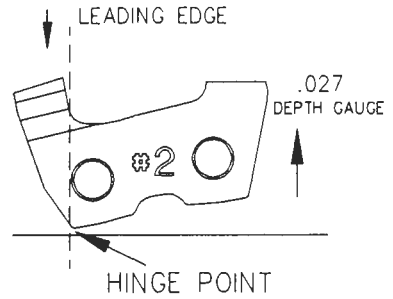
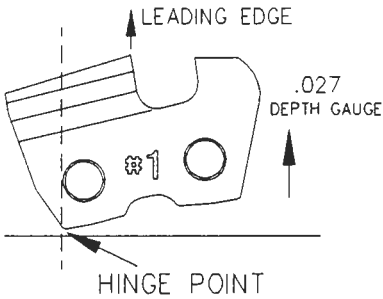
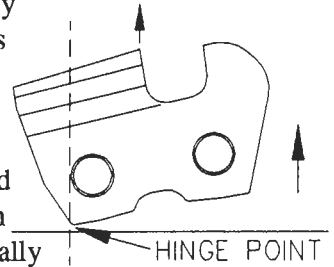
Progressive method means simply that the depth gauge setting changes with the length of the cutter. This is the method achieved by using the Carlton File-O-Plate® and will be fully explained on the following pages. The basic difference between the progressive method and the constant method is in the way the File-O-Plate® adjusts the depth gauges to make the chain cut efficiently throughout the life of the cutter. It's high-tech depth gauge maintenance for high-tech saw chain!



Progressively Lowered Depth Gauges

An understanding of how saw chain cuts wood is essential to learning the concept of progressively lowered depth gauges. Reviewing page 5 of this manual shows that in a *rocking motion*, the cutter's leading edge tips as the cutter moves into the attack position.

It's also important to note that the chain is held together by the rivets. This means that although the leading edge tips up the entire cutter is actually pivoting at the "hinge point" which is behind the rear rivet of the cutter. The illustrations below shows what happens as the cutter is filed shorter.



A good example of what happens here is a play ground see-saw. Referring to the drawing of the "See-Saw" shows the hinge point. As one end goes up the other goes down. Now apply this concept to cutters #1 and #2 above.



Each has a *constant method* .027" depth gauge setting. The leading edge in cutter #1 is to the right of the hinge point of the rear rivet and will **tip up into the wood** like the right hand arrow in the see-saw diagram. However, when the cutter is filed back to about 1/2 of it's overall length as in cutter #2 the leading edge is now to the left of the hinge point. As a result, the leading edge in cutter #2 will **tip down and away from the wood** just like the left arrow in the see-saw diagram.

Which will cut better - Cutter #1 or Cutter #2?

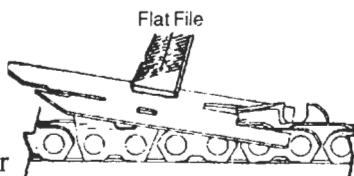
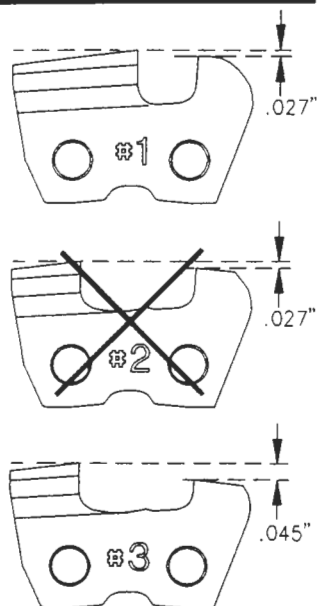
Which will cut better? If the depth gauges are set at .027" the answer is cutter #1 because the leading edge tips up into the wood and not away from the wood. To make cutter #2 cut as well as cutter #1, a constant method .027" depth gauge setting is not enough. Cutter #2 needs approximately .045". The depth gauge setting on cutter #3 is what the *progressive method* is all about.

The theory behind the *progressive method* is to increase the depth gauge setting as the cutter is filed back to compensate for the fact that as the leading edge crosses the hinge point of the rear rivet it will tip up less than when new and eventually will tip away from the wood.

Now that the concept has been explained the question is how to do it! The difference between .045" and .027" is only .018". That .018" has a positive affect on the performance of the chain. There is only one tool on the market that accurately maintains depth gauges with the *progressive method*.

The Carlton File-O-Plate®

The patented Carlton File-O-Plate® allows depth gauges to be adjusted according to the *progressive method*. The File-O-Plate® rests on the leading edge of the cutter and allows you to accurately file depth gauge according to the height of the cutter. As the tooth gets shorter and lower in height, the File-O-Plate® sets farther down onto the cutter and more of the depth gauge protrudes through the slot. The Carlton File-O-Plate® compensates for the difference needed in depth gauge settings from approximately .027" to .045" depending on the height of the cutter. Faithfully maintaining depth gauges with a Carlton File-O-Plate® makes Carlton Saw Chain cut 100% efficient throughout its life.



Carlton Technical Tip

The three major causes of saw chain failures are high depth gauges, dull cutters and/or backsloped cutters. These are all eliminated when the Carlton File-O-Plate is faithfully and properly used. Carlton recommends the File-O-Plate® as the only progressive depth gauge tool for Carlton Saw Chain. Do not attempt to use other depth gauge tools or feeler gauges.

Carlton®

MAINTENANCE INSTRUCTIONS FOR SAW CHAIN

INSTRUCCIONES DE MANEJO PARA CADENA CARLTON

INSTRUCTIONS DE MAINTIEN POUR CHAÎNE CARLTON

INSTAND-HALTUNGS VORSCHRIFTEN FÜR CARLTON SÄGEKETTE

CARLTON COMPANY
MILWAUKIE, OREGON 97267 USA · (503) 659-8911 ·
(800) 524-0585 · www.sawchain.com

P/N 82049

LOW KICK-BACK CHAIN - WARNING: READ THIS

This saw chain is low kickback chain. It meets the kickback requirements of ANSI B175.1 for gasoline powered chainsaws. This chain has been designed to reduce kickback while maintaining satisfactory cutting performance. ALL SAW CHAIN CAN KICK BACK which may result in severe personal injury to the saw operator or bystanders. Operate your saw safely. Read all warnings in your chainsaw operator's manual.

CAUTION: Improper sharpening of this chain and/or the filing down of the guard link tangs will increase the risk of severe injury due to kickback.

CHAÎNE DE ANTI-REBOND - AVERTISSANT : LISEZ CETTE

cette chaîne de tronçonneuse est une chaîne de anti-rebond. Elle répond à la norme ANSI B175.1 pour les tronçonneuses thermiques. Cette chaîne a été conçue pour réduire le anti-rebond tout en maintenant l'exécution de coupe satisfaisante. TOUTES LES CHAINES DE SCIE PEUVENT DONNER UN ANTI-REBOND qui peut avoir comme conséquence des blessures graves à l'opérateur ou aux spectateurs de scie. Actionnez votre scie sans risque. Lisez tous les avertissements en manuel de votre opérateur de tronçonneuse.

ATTENTION : L'affilage inexact de cette chaîne et/ou du classement vers le bas des sauteurs de lien de garde augmentera le risque de dommages graves dû au anti-rebond.

CADENA DE BAJO REBOTE – PRECAUCION: LEA ESTO

Esta cadena para motosierra es de bajo rebote. Cumple con los requerimientos de rebote según normas ANSI B175.1 para motosieras impulsadas con gasolina. Esta cadena ha sido diseñada para reducir el rebote y mantener al mismo tiempo un rendimiento de corte satisfactorio. TODAS LAS CADENAS PARA MOTOSIERRAS PUEDEN PROVOCAR REBOTE que puede causar lesiones severas al operador como así también a la gente a su alrededor. Opere su motosierra con cuidado. Lea todas las precauciones en su manual de operador de motosierra.

CUIDADO: El Afilado inapropiado de esta cadena o la reducción del talón del guardlink incrementará el riesgo severo de daño debido al rebote.

RÜCKSCHLAGSARME SÄGEKETTE – ACHTUNG – BITTE BEACHTEN:

Bei dieser Kette handelt es sich um eine rückschlagsarme Sägekette. Diese Kette entspricht den Anforderungen der ANSI B175.1 für Benzin betriebene Motorsägen. Diese Kette wurde rückschlagsarm entwickelt und führt trotzdem zu zufrieden stellenden Schneidergebnissen. ALLE SÄGEKETTEN KÖNNEN JEDOCH ZU RÜCKSCHLAGEN FÜHREN und den Anwender und umstehende Personen verletzen. Bitte gehen Sie äußerst sorgfältig bei der Verwendung vor. Beachten Sie die Bedienungsanleitung des Ketten sägenherstellers!

ACHTUNG: Unsichermäßes Schärfen dieser Kette oder Herunterfeilen der Sicherheitstreibleeder erhöht die Verletzungsgefahr durch Rückschläge!

STANDARD CHAIN - WARNING: READ THIS

The chain in this package may be capable of "kickback" that could result in serious injury to the saw operator or bystanders. Do not use this chain unless you have experience and specialized training for dealing with "kickback".

NOTE: Saw chain with reduced kickback potential is available.

CHAÎNE STANDARD - AVERTISSANT : LISEZ CETTE

La chaîne en ce paquet peut être capable du "anti-rebond" qui pourrait avoir comme conséquence des dommages sérieux à l'opérateur ou aux spectateurs de scie. N'employez pas cette chaîne à moins que vous ayez l'expérience et la formation spécialisée pour traiter le "anti-rebond".

NOTE : La chaîne de scie avec le potentiel réduit de anti-rebond est disponible.

CADENA STANDARD – PRECAUCION: LEA ESTO

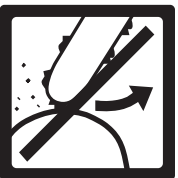
La cadena en este paquete puede provocar rebote que puede causar lesiones severas al operador de la motosierra como así también a la gente a su alrededor. No utilice esta cadena al menos que tenga experiencia y entrenamiento especializado para tratar el rebote.


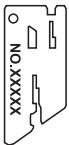
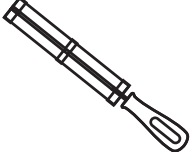
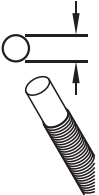


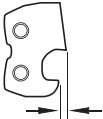
NOTA: Están disponibles cadenas con reducido potencial de rebote.

STANDARD SÄGEKETTE – ACHTUNG – BITTE BEACHTEN:

Die Kette in dieser Verpackung ist instande Rückschläge zu verursachen, die zu ernsthaften Verletzungen beim Anwender oder umstehenden Personen führen können. Bitte benutzen Sie diese Kette nicht, ohne entsprechende Erfahrung im Umgang mit diesen Sägeketten gesammelt zu haben und durch spezielles Training geschult worden sind.

BEACHTEN SIE: Sägeketten mit reduzierter Rückschlagswirkung sind auch lieferbar.



STANDARD / LOW KICK	REGULAR BUMPER LINK BL GUARD LINK GL							
LOW KICK BACK CHAIN								
N - SERIES C BL, NK-BL(N4)	3/8 LP	36504	9532CA	5/32" 4.0mm	90°	30°-35°	85°-90°	.022"
K - SERIES L BL	.325	32509	9164CA	11/64" 4.4mm	80°	30°-35°	80°-90°	.028"
K - SERIES C BL, NK-BL	.325	32502	9316CA	3/16" 4.8mm	90°	30°-35°	85°-90°	.022"
A - SERIES EP GL	.375	375-GL	9732CA	7/32" 5.5mm	90°	30°-35°	85°-90°	.028"
A - SERIES LM GL	.375	375-LMGL	9732CA	7/32" 5.5mm	80°	30°-35°	80°-90°	.028"
STANDARD CHAIN								
E - SERIES MC	.250	N/A	9532CA	5/32" 4.0mm	90°	30°-35°	85°-90°	.022"
N - SERIES C STD, NK (N4)	3/8 LP	36504	9532CA	5/32" 4.0mm	90°	30°-35°	85°-90°	.022"
K - SERIES C, NK	.325	32502	9316CA	3/16" 4.8mm	90°	30°-35°	85°-90°	.022"
K - SERIES L	.325	32509	9164CA	11/64" 4.4mm	80°	30°-35°	80°-90°	.028"
A - SERIES LM	.375	37509	9732CA	7/32" 5.5mm	80°	30°-35°	80°-90°	.028"
A - SERIES LM BL	.375	37509	9732CA	7/32" 5.5mm	80°	30°-35°	80°-90°	.028"
A - SERIES S	.375	37504	9732CA	7/32" 5.5mm	90°	30°-35°	85°-90°	.022"
A - SERIES S BL	.375	37504	9732CA	7/32" 5.5mm	90°	30°-35°	85°-90°	.022"
A - SERIES EP	.375	37504	9732CA	7/32" 5.5mm	90°	30°-35°	85°-90°	.022"
A - SERIES EP BL	.375	37504	9732CA	7/32" 5.5mm	90°	30°-35°	85°-90°	.028"
A - SERIES EP BL	.375	37504	9732CA	7/32" 5.5mm	90°	30°-35°	85°-90°	.028"
B - SERIES S	.404	40401	9732CA	7/32" 5.5mm	90°	30°-35°	85°-90°	.035"
B - SERIES EP	.404	40403	9732CA	7/32" 5.5mm	90°	30°-35°	85°-90°	.032"
B - SERIES H	.404	40402	9732CA	7/32" 5.5mm	90°	30°-35°	85°-90°	.040"
B - SERIES H RIPPER	.404	40409	9732CA	7/32" 5.5mm	90°	5°-10°	85°-90°	.036"
B - SERIES MC RIPPER	.404	40408	9732CA	7/32" 5.5mm	80°	5°-10°	85°-90°	.036"
B - SERIES MC STD	.404	40408	9732CA	7/32" 5.5mm	90°	30°-35°	85°-90°	.036"
B - SERIES LM	.404	40408	9732CA	7/32" 5.5mm	80°	30°-35°	80°-90°	.038"

