

CE 2071 RS-20"



CE 2065 RS/D6

CUTTERS EDGE®

FIRE RESCUE SAWS

Operation & Maintenance

**2000 SERIES ... CE2065RS AND CE2071 RS AND
GUARD DEPTH GAUGE® SERIES**

CE2065 RS/D6... D8

CE2071 RS/D6... D8

CUTTERS EDGEÆ FIRE RESCUE SAW

BULLET® CHAIN

GUARD/DEPTH GAUGE®

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CUTTERS EDGE FIRE RESCUE SAWS

Operation & Maintenance

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CUTTERS EDGE® FIRE RESCUE SAWS

Operation & Maintenance

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CUTTERS EDGE® FIRE RESCUE SAWS

Operation & Maintenance Manual

Edge Industries, Inc.

VENTILATION: The purpose of ventilation is the establishment of a safer interior environment through planned and systematic removal of heat, smoke, and toxic gases and their replacement with fresh air. It is an offensive technique that, when accomplished early and effectively, can speed tactical operations.

As fire develops within a structure, several conditions result. First, the temperature and toxicity of the atmosphere increase rapidly. Then radiated and convected heat result in flashover and the subsequent rapid spread of fire throughout the structure. Without ventilation, the fire will develop a super-heated, oxygen-deficient, and fuel-rich environment ripe for backdraft.

Firefighters can minimize these conditions with proper ventilation techniques and proper tools. Knowledge, training and Cutters Edge Fire Rescue Saws are the proper tools.

Cutters Edge Fire Rescue Saws are designed and built exclusively for use by TRAINED FIREFIGHTERS. Although Cutters Edge Fire Rescue Saws are essentially modified chain saws, their use and applications differ substantially. This manual is provided to assist you in learning the safe and proper set-up, operation and maintenance of your new Cutters Edge Fire Rescue Saw. However, you should not attempt to use this tool without knowledge of the safe and proper application of power saws in fighting fires. Cutters Edge recommends that you view the video edition of this training manual that further illustrates these steps and techniques. This manual is in no way intended to replace the chainsaw manuals, rather it should be used as a supplemental manual dealing with the specific applications of this specialized tool. Nor are the guidelines for operational procedures described herein intended to contradict the standard operating procedures (SOP) of your individual fire department.

For more information about the principles and techniques of ventilation, we recommend the book "FIRE RESCUE METHODS AND TECHNIQUES", by Los Angeles City Fire Department Battalion Chief John Mittendorf. There are order forms for both the video and Chief Mittendorf's book at the back of this manual.

RESCUE: With the introduction of the BULLET® CHAIN, applications for your CUTTERS EDGE® FIRE RESCUE SAW have increased dramatically!

Ventilation, Forcible Entry, Storm Damage, Rescue, Crash Rescue (Aircraft & Automobile) and conventional chain saw and rotary saw applications are some of the many operations your saw can be used in.

While chain wear and damage may be accelerated when cutting materials other than wood. Your BULLET® CHAIN equipped saw is capable of cutting most building materials including nails, sheet metal and some lightweight concretes. It is capable of cutting automotive sheet metal, automotive glass, plastics, fiberglass and many composite materials. It can cut aircraft skin, cockpit and aircraft windows and even some aircraft structural materials.*

There are of course limitations, but your CUTTERS EDGE FIRE RESCUE SAW with BULLET® CHAIN will cut a wide variety of materials under the most severe fireground and rescue scene conditions.

This manual will take you through each step of assembling the saw when you receive it, how to properly operate the saw, and how to clean and maintain the saw after use.

Before attempting to assemble or use your saw, we strongly suggest that you view the optional video completely and read the manual completely. Then carefully follow the instructions in this manual as you proceed to prepare your Cutters Edge Fire Rescue Saw for use.



WARNING



Please take note of the warnings in this manual and the warning labels attached to various parts of the saw and its accessories. Read these warnings and heed their advice. Failure to do so could result in injury to you and/or damage to the saw. Any warranties provided by the manufacturer will not cover abuse, neglect or mishandling of the saw.

* When materials other than wood are cut, increased wear and damage should be anticipated. The possibility of chain breakage also increases. All materials listed have been successfully cut under controlled conditions and during actual fireground and rescue incidents. However, quantity, composition of specific materials, operator experience, existing conditions, and unknown factors can adversely affect the outcome.



WARNING

Beware of kickback!



There are two types of kickback that can be encountered with the improper use of a chainsaw or the Cutters Edge Fire Rescue Saw. Both types are the result of an equal and opposite reaction that occurs when the chain is suddenly stopped. This kickback movement is so fast that the operator cannot react quickly enough to avoid serious injury.

ROTATIONAL KICKBACK is the violent reaction which occurs when the chain at the upper section of the nose is suddenly stopped, thereby dangerously driving the bar nose in an upward arc towards the operator.

LINEAR KICKBACK is a push reaction, which can occur with the saw blade buried in the cut when the cut closes, pinching the chain along the top rails of the bar.



KICKBACK MAY OCCUR WHEN:

The upper section of the nose or tip of the guide bar touches an object.

The wood closes in and pinches the saw chain in the cut.

Tip contact in some cases may cause a lightning-fast reverse reaction, kicking the guide bar up and back towards the operator. Pinching the chain along the top of the guide bar may push the saw rapidly back towards the operator. Either of these reactions may cause you to lose control of the saw, which could result in serious personal injury.

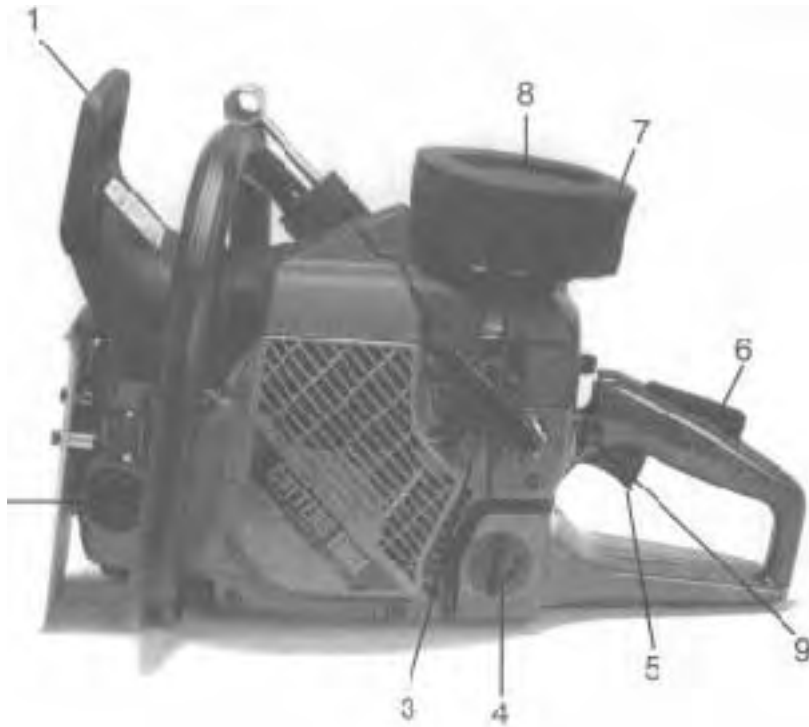
Cutters Edge builds several safety devices into their saws, but you should not rely exclusively upon these safety devices. As a Fire Rescue saw user, you should take several steps to keep your cutting jobs free from accident or injury:

- 1) With a basic understanding of kickback, you can reduce or eliminate the element of surprise. Sudden surprise contributes to accidents.
- 2) Keep a good firm grip on the saw with both hands when the engine is running. Use a firm grip with thumbs and fingers encircling the chainsaw handles. A firm grip will help you reduce kickback and maintain control of the saw. Don't let go.
- 3) Make sure that the area in which you are cutting is free from obstructions. Do not let the kickback zone of the guide bar contact any obstructions while you are operating the saw.
- 4) For ventilation and rescue cutting, always cut at full RPMs.
- 5) Do not overreach or cut above shoulder height
- 6) Follow manufacturer's sharpening and maintenance instructions for the BULLET® CHAIN.
- 7) Only use replacement bars and chains specified by the manufacturer or the equivalent.

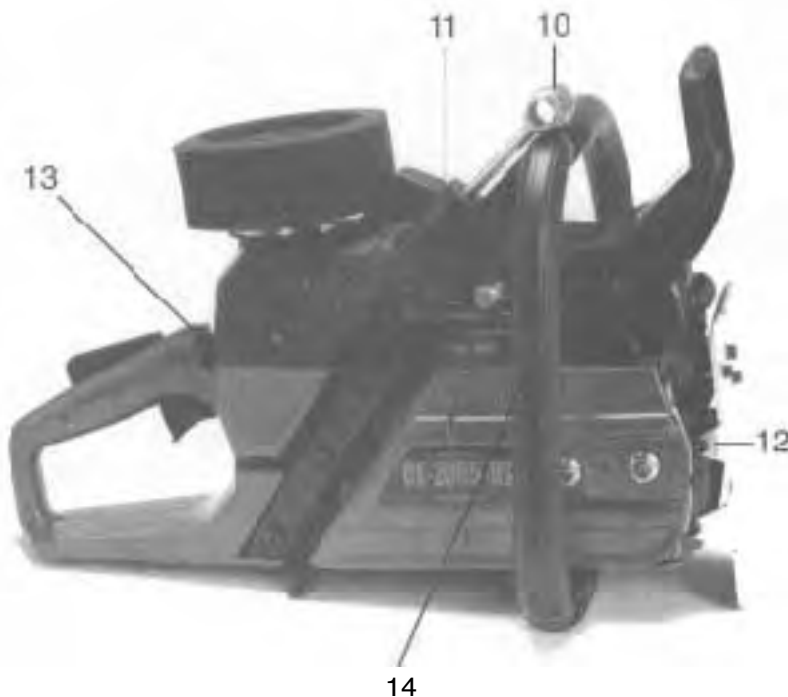
CUTTERS EDGE FIRE RESCUE SAW

Cutters Edge Fire Rescue Saws are shipped fully assembled. The 12", 16" and 20" RS Models come with a protective scabbard covering the BULLET® CHAIN. The GUARD/DEPTH GAUGE® on the D6 and D8 Models covers the BULLET® CHAIN so a scabbard is not included.

Familiarize yourself with the saw and its components.



1. Chain Brake Handle
2. Oil Tank Cap
3. Starter Handle
4. Fuel Tank Cap
5. Throttle Trigger
6. Throttle Safety Lock
7. Pre-Filter
8. Filter Element
9. On/Off... Momentary Contact Switch



10. Srench Tool
11. Srench Tool Holder
12. Guard Deflector
13. Choke Control
14. Full Wrap Handle

Part One

Set-Up

This section will cover assembly of the saw and preparation for operation. All necessary tools and equipment have been included with your saw.

THE CHAIN BRAKE

The chain brake is designed to stop the rotation of the chain in less than one-twentieth of a second. If kickback should occur, the violent reverse action will drive the chain brake handle back into the operator's top hand, engaging the chain brake and stopping movement of the chain. We utilize a sealed inertia chain brake which works on the same principle as an auto seat belt.

The chain brake has three positions-



Fig. 1. Center - Neutral position, chain brake disengaged.

During operation, the brake is in the neutral, or center position (Fig. 1). This allows the chain to turn freely.



Fig. 2. Forward position, chain brake engaged.

When engaged, the chain brake handle is in the fully forward position (Fig. 2). At this point, the chain will not turn.

CAUTION

If the saw is run with the chain brake engaged - the clutch, oil pump, and chain brake will be damaged.

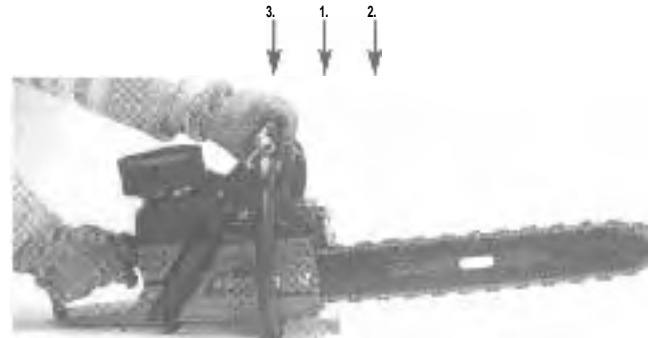


Fig. 3. Back position, to disengage chain brake.

To disengage the chain brake, pull the chain brake handle back completely to the saw's top handle (Fig. 3). **It is important that the chain brake handle comes to full contact with the saw's handle. Any obstructions, such as your hand, will prevent disengagement of the chain brake.** Once you have pulled the chain brake handle back completely, let go and it will snap back to the center or operating position.

THE CLUTCH COVER

Place the power head on your work surface, use the srench tool to loosen the two clutch cover nuts (Fig. 4).



Fig. 4. Clutch cover nuts.

Remove the clutch cover. Now you can visually inspect the chain brake to see how it operates. When engaged, the chain brake band grabs the spinning clutch drum and immediately stops it.

THE BAR PLATES

Remove the outer bar plate. Note that the two bar plates are similar (Fig. 5) but that the inner bar plate is smaller and has an additional slot that allows oil to reach the chain.



Fig. 5. Inner tear plate, with oil slot



WARNING



It is imperative that the inner plate with the oil slot is installed properly or the flow of bar oil will be blocked and damage to the saw and chain will occur.

INSTALLING THE BAR AND CHAIN

Next, install the bar by first adjusting the chain tensioning screw fully back (using the srench tool, turn the tensioning screw counter clockwise to move the tensioner back toward the clutch drum) (Fig. 6). Slide the guide bar onto the 2 bar studs, aligning the tensioner with the adjusting hole in the bar.



Fig. 6. Chain tensioning screw

THE CHAIN COMPONENTS

Before installing the chain, take a moment to become familiar with the components of the BULLET CHAIN (Fig. 7).

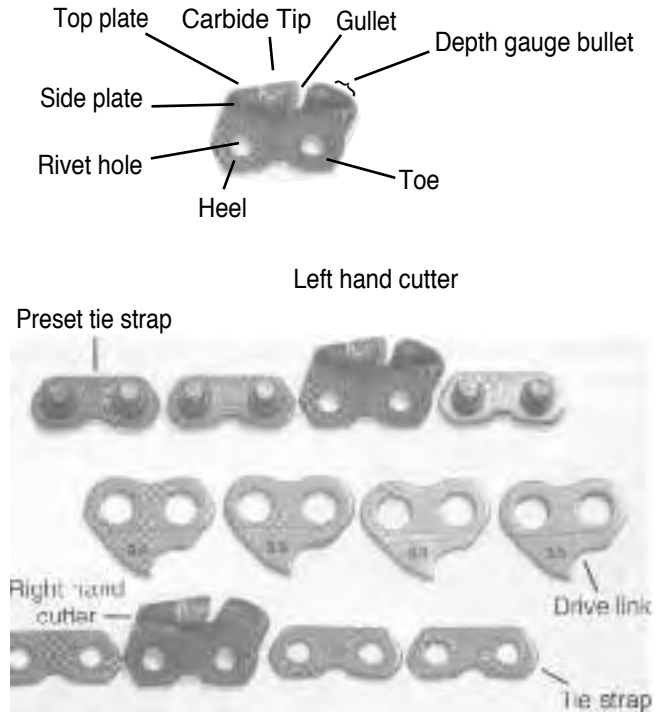


Fig. 7. Components of the chain

INSTALLATION OF THE CHAIN

To install the chain, first align the chain so that the cutters are pointing toward the tip of the bar as they lay on the top of the bar. Slip the chain onto the clutch sprocket rim (Fig. 8). Then slip the chain into the groove of the guide bar, again verifying that the top cutters point toward the tip of the bar.



Fig. 8. Insert the chain into the drive sprocket.

Pull the chain around the bar to be sure the drive links are properly seated in the drive sprocket.

Now replace the outer bar plate.

Replace the clutch cover, tightening the clutch cover nuts only finger tight.

SECURING THE BAR & CHAIN

Wearing gloves or with a shop rag protecting your hand, pull up on the tip of the bar. While holding up the bar tip, tighten the chain tension adjustment screw by turning it clockwise. While still holding up the bar tip, tighten the clutch cover nuts (Fig. 9). Holding up the tip of the bar takes out any slack between the bar mounting slot and the two mounting studs. This will eliminate any upward movement of the bar when cutting pressure is applied at the bottom of the bar. Any such upward movement of the bar would cause the chain to loosen.



Fig. 9. Tightening the clutch cover nuts.

CHAIN TENSION

Proper chain tension is a key factor in reducing carbide breakage and increasing guide bar life. Proper chain tension has the chain as tight as possible without restricting chain movement.

At proper tension, the chain should move along the bar freely. You should feel only the resistance of the sprocket and clutch drum turning. If the chain does not move smoothly i.e., catches or requires excessive force to move, it is too tight. At proper tension, the chain is in full contact with the bar along the bottom rails, there is no "sag".

At the midpoint along the bottom rails, when pulling down on the chain, you should be able to pull the chain away from the rails - to the distance where point of the drive link is "just

IMPORTANT

Proper chain tension setting requires a fully lubricated "broken-in" chain. See "Running-in the chain (Page 12).

clearing the rail". (Fig. 10) when you let go, the chain should "snap back into place."



Fig. 10. Sprocket-tip tension.

Slide the chain completely around the bar once or twice to check that it moves smoothly.

FILLING THE TANKS



WARNING



DO NOT USE GASOHOL OR ALCOHOL BLENDED FUELS.

IMPORTANT

Please note that each time you fill up or top off the fuel tank, always top off the bar and chain oil tank. The fuel tank and the bar and chain oil tank are sized so that the saw will always run out of fuel before it runs out of bar and chain oil, eliminating the possibility of running the chain dry.

Lay the saw on its side and remove the fuel tank cap. Fill with a fresh mixture of high octane leaded or unleaded gasoline and Cutters Edge Synthetic 2-Cycle Oil or a high quality two-cycle oil. Replace the cap.

NOTE:

Mix Cutters Edge Synthetic 2-Cycle Oil at 100:1 and petroleum-based 2-cycle oils at 50:1 Cutters Edge 2-Cycle Oil has been developed for use in all 2-cycle engines used in the fire service.

Next remove the bar and chain oil tank cap and fill the tank with bar and chain oil. Replace the cap.

You do not need special detergent oils; as the chain produces high enough temperatures to prevent the buildup of tars on the chain.

**WARNING**

Do not mix the bar and chain oil with diesel or kerosene as this actually reduces its lubricating ability and does not reduce tar buildup.

We recommend the use of Cutters Edge Bar & Chain Oil for its excellent lubricating and anti-sling properties. This oil has been developed to provide high flash and fire points for optimum performance during harsh fire-ground applications, with high flow properties for use even in extreme cold temperatures. This anti-rust, anti-wear formula is recommended for use on all Fire Rescue saws and other conventional chainsaw.

THE FILTERS

The filter element is coated at the factory and needs no oil prior to this first use.

THE MOMENTARY CONTACT SWITCH

The saw is now ready to start. Before starting the saw, you should know how to stop it. The Cutters Edge Fire Rescue Saw is equipped with a momentary contact switch that is always in the "on" position (Fig. 11). To stop the saw, push the momentary contact switch to the right. This kills the saw. When released, the switch will snap back to the "on" position automatically.



Fig. 11. Momentary contact switch.

IMPORTANT

Before starting the saw, it is important to note that you should not run the saw at full throttle until after breaking in the engine, which will be the procedure following running-in the chain.

STARTING THE SAW

To start the saw, place it on the ground. If you intend to run in the chain at this point, you should perform these steps outdoors or in a well-ventilated area.

NOTE:

Do not start the saw with the chain brake engaged. Be sure the chain brake is disengaged by pulling back the chain brake handle until it contacts the front of the full wrap handle. (See page 8.)

Grip the top handle firmly and step on the outer edge of the back handle (Fig. 12).



Fig. 12. Proper starting position.

COLD START

Pull out the choke knob." This automatically locks the throttle trigger and the carburetor into their optimum positions for starting. If you do not touch the throttle during starting, there is no possibility of flooding.

2. Grasp the starter handle and pull sharply upward a few times until the engine catches.
3. Push the choke in.
4. Pull the handle again. The engine will start.
5. Quickly squeeze and release the trigger to set the idle.

WARM START (engine still warm from previous use)

1. Pull starter rope until saw starts.

*We recommend storing the saw with the choke knob pulled out.

NOTE

Note that you must depress the safety lock on top of the handle to be able to pull the trigger (Fig. 14). The trigger cannot be pulled without depressing this safety lock.



Fig. 13. Throttle lock.

You may stop the saw with the momentary contact switch or you may continue on to the chain run-in procedure.

RUNNING-IN THE CHAIN

The next step is running-in the chain. This important procedure stretches and fully lubricates the chain.

Start the saw and run it at one-half to three-quarter speed for approximately 10 minutes or until the bar and chain begin to smoke.

Now turn off the saw. The chain has reached its operating temperature. You will notice that the chain has sagged (Fig. 14). Before readjusting, allow the chain to cool down for three to five minutes, or until it is cool enough to touch without discomfort.



Fig. 14. The chain will sag when hot.

Once it is cool enough to handle, readjust the chain to the proper tension.

NOTE

Repeat this entire chain adjusting procedure once more.

Running-in the chain will remove approximately 75% of chain stretch. However, under normal use the chain will continue to stretch throughout its life. Re-check the chain tension during prolonged use and after each use.

BREAKING IN THE ENGINE



WARNING



Proper breaking-in of the engine is a crucial step in the set-up of your saw. This procedure allows the cylinder to coat with oil and seat the piston ring properly. If you skip this procedure and run the saw at full throttle, severe damage to the engine can occur.

NOTE:

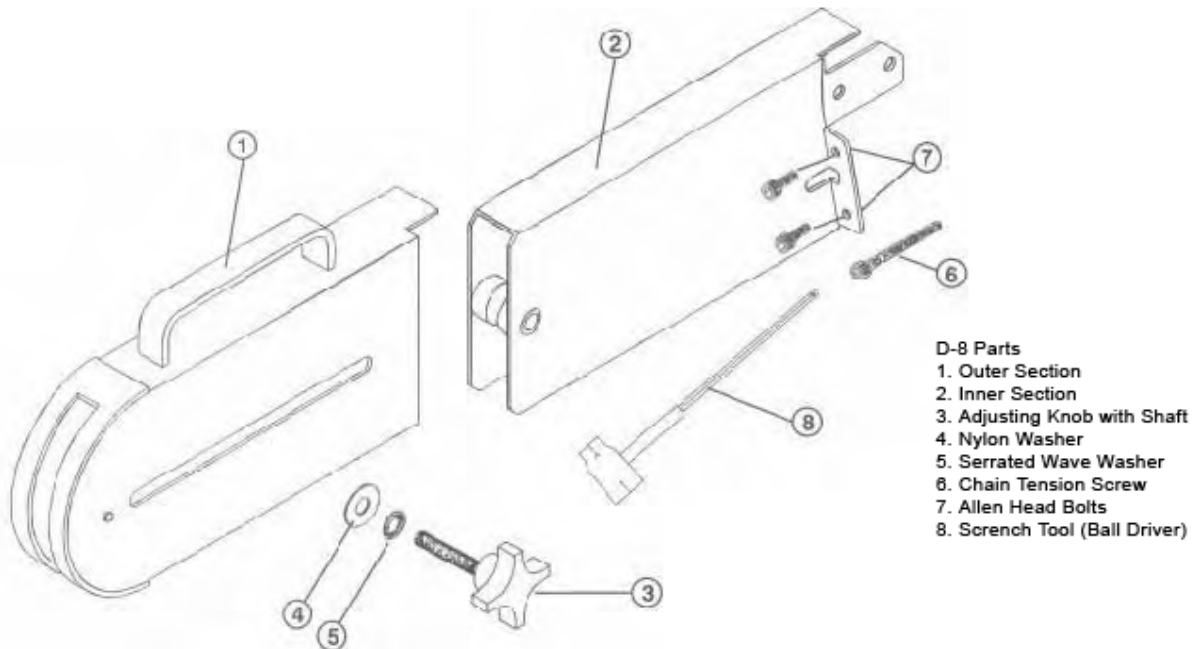
Even though the chain will not turn at idle and no bar and chain oil will be pumped, this break-in procedure must be performed with the bar and chain installed and with the bar and chain oil tank filled. Also be sure the chain brake remains disengaged throughout the procedure.

To perform the initial engine break-in, start the saw and let it idle through a complete tank of fuel. It is advisable to briefly operate the saw at full throttle periodically during this procedure to avoid "loading up". (Do not run the engine at full throttle, with "no load," for more than 2 seconds or engine damage may occur!)

This is an initial engine break-in only. The engine will not be completely broken-in until it has been operated through several tanks of fuel.

CUTTERS EDGE® D-8 & D-6 GUARD/DEPTH GAUGE®

Installation, Operation & Maintenance



CUTTERS EDGE® D-8 & D-6 GUARD/DEPTH GAUGE®

D-8 fits 20"bar, has8"maximum cutting depth.

D-6 fits 16"bar, has6"maximum cutting depth.

The Cutters Edge D-8 GUARD/DEPTH GAUGE® has been designed, engineered and carefully tested to provide you with increased safety and efficiency in firefighting applications.

While in its fully extended position, the D-8 completely covers the guide bar and cutting chain, protecting you from accidental contact with the spinning chain. Even while retracted and set for specific depths of cut, the D-8 covers all but that chain at the tip exposed for cutting.

The D-8 allows you to set a specific depth of cut, preventing you from cutting any deeper than is absolutely necessary. This prevents you from weakening the roof structure and prevents exposure to hidden hazards like electrical wiring.

These features of the D-8 are designed to provide you with increased confidence as you make your ventilation cuts.

You will be able to cut faster and you will have less to worry about. You can concentrate more on your cuts, your cutting position, and your environment.

Of course, as with any tool, it is only as safe as its operator. You must be careful to take all necessary safety precautions and to follow all safe operating procedures.

These instructions are intended to help you to install and to safely utilize the Cutters Edge D-8, whether you are installing it on a new Cutters Edge Saw or upgrading your older Cutters Edge Saw. Take the time to read these instructions carefully. Familiarize yourself with the parts and components of the D-8. If you are not experienced in the use of Fire Rescue saws, refer to the Cutters Edge Fire Rescue Saw Operation and Maintenance Manual and Training Video.

NOTE

If you are upgrading your saw with a D-8 Kit:

Before proceeding you will first need to remove the chain tension adjusting screw and replace it with the alien head chain tension adjusting screw supplied with your D-8.

You will also need to remove and replace the old guard/deflector with the new guard/deflector supplied with your D-8.

Prepare Your Saw

To begin installation of your D-8, remove the chain brake cover, guide bar and chain according to the instructions in your Cutters Edge Fire Rescue Saw Operations and Maintenance Manual.

The Slotted Guide Bar

Adjust the chain tensioning screw fully back, then slide the new, slotted guide bar into position, aligning the chain tensioner with the adjusting hole in the bar.

The Chain

First make sure that the chain cutters are pointing toward the tip of the guide bar as they lay on the top of the bar. Slip the chain into the groove of the guide bar, again verifying that the top cutters point toward the tip of the bar.

Pull the chain around the bar to be sure the drive links are properly seated in the drive sprocket.

NOTE

At this point you need not worry about tensioning the chain, as it is easy to do so after the D-8 is installed.

Now replace the outer bar plate.

Replace the clutch cover.

The D-8 Inner Section

Place the inner section of the D-8 over the chain and guide bar, sliding the holes in the D-8 onto the bar mount bolts.

Snugly tighten the bar nuts.

Now align the holes in the flange of the D-8 with the holes in the saw's guard/deflector. Carefully insert and tighten the alien-head bolts with the special ball-driver included with your D-8.

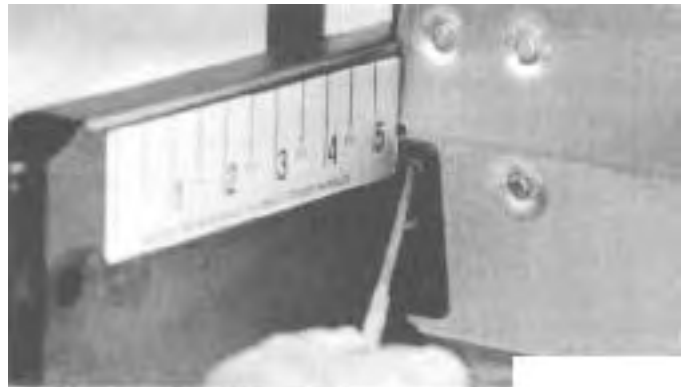


Fig. 15. Use the ball-driver to tighten the alien-head bolts.

The D-8 Outer Section

Place the D-8 outer section onto the bar.

WARNING

To avoid damaging the chain or the D-8, be careful to slip the spacers that are inside the nose of the D-8 outer section between two chain cutters.



Fig. 16. Slip the spacers between two cutters.

Position the outer section properly, with the spacers between the cutters on the chain. Tap it into place.

The Adjusting Knob

Place the nylon washer and serrated washer onto the knob shaft. Insert the knob shaft through the slot in the outer section then the bar slot and screw into the threaded hole.

Chain Tensioning

Slide the D-8 back all the way to the guard/deflector and check the chain tension. If the chain needs tensioning, loosen the bar nuts and the adjusting knob. Adjust the chain tension as needed, using the ball driver.



Fig. 17 Use the ball-driver to tension the chain.

Retighten the bar nuts, then slide the D-8 out to its full extension.

Your Cutters Edge Fire Rescue Saw with the D-8 Guard/Depth Gauge installed is now ready for use.

NOTE

For detailed instructions on the uses and applications of ventilation saws, please refer to your Cutters Edge Fire Rescue Saw Operations and Maintenance Manual.

Operation of the D-8

You can now adjust the D-8 to various depths of cut. If the saw is running, first set the saw's chain brake. Then loosen the adjusting knob. Slide back the outer section of the D-8 to the desired setting on the depth scale. Retighten the adjusting knob and release the chain brake. You are ready to cut.



Fig. 18. Set the D-8 to the necessary depth.

NOTE

Since the D-8 completely covers the cutting chain when it is fully extended, you can now start your saw on the ground and then carry it up to the roof while it is running. This eliminates the need to re-start the saw after you are in position on the roof.

Inspection Cut

On the roof, first make an inspection cut to determine the thickness of your roofing materials. Slide back the D-8 to its fully retracted position, then make the inspection cut as you normally would, keeping the saw at ninety degrees to the rafter, feeling for and rolling the rafter.

Set your chain brake. Visually determine the thickness of the roofing materials and then adjust the D-8 to the necessary setting. Release the chain brake and make your ventilation cuts.

Cutting deeper than the D-8 setting

Even with the D-8 set to a pre-determined depth you can increase the depth of your cut-without changing the setting-by increasing the angle of the saw to the roof surface. While cutting at the normal forty-five degree angle, the saw will cut to the depth you have set. But by raising the angle of the saw up to ninety degrees, you can cut up to one-half inch deeper for every one inch you have set on the D-8 scale.

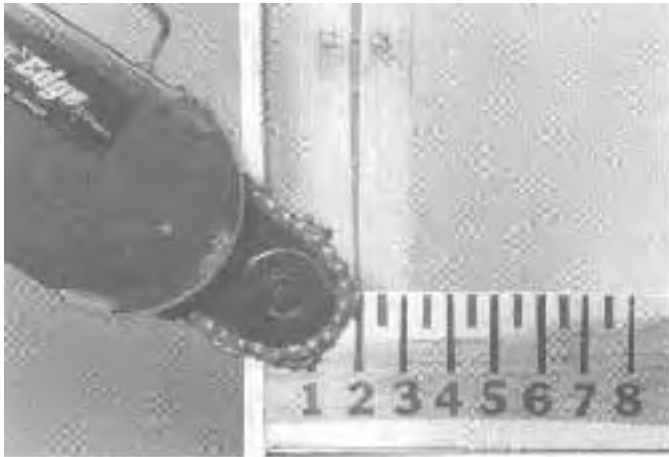


Fig. 19. Depth of cut at forty-five degrees.

In Figure 19, above, the saw is set for a cut of approximately 2" inches. At the proper cutting angle of 45 degrees, the saw penetrates to that depth.

But as you can see in Figure 20, below, the saw penetrates another half-inch for each inch set on the D-8-in this case another inch, down to approximately 3" inches-when the cutting angle is raised to ninety degrees.

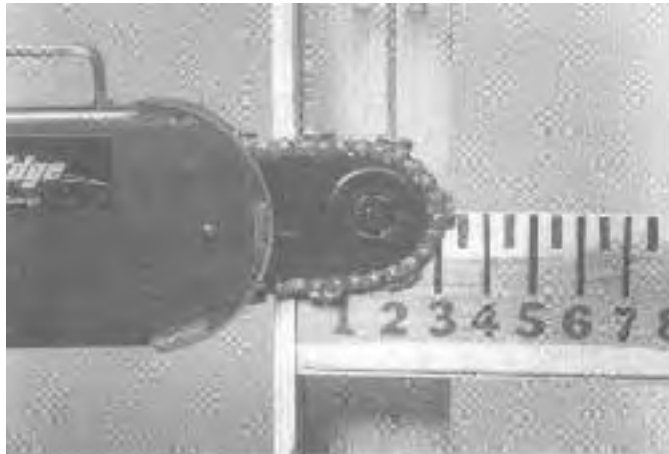


Fig. 20. Depth of cut at ninety degrees.

Removing the D-8.

The process to remove the D-8 for cleaning and/or to use your Cutters Edge saw for conventional cutting purposes is simple and basically a reversal of installation:

1. Set the chain brake on to lock the chain and bar in position.
2. Remove the adjusting knob.
3. Pull off the outer section of the D-8.
4. Remove the bar nuts.
5. Remove the allen-head screws from the guard/deflector side of the D-8.
6. Pull off the inner section of the D-8.

7. Rethread and retighten the bar nuts.
8. Release the chain brake.

Your saw is now ready for use as a conventional chain saw.

NOTE

If you are removing the D-8 to use your saw for conventional cutting; first set the chain brake. This will prevent the need to retension the chain after you have removed the D-8.

Cleaning the D-8

It's important that the D-8 be cleaned after each use, along with your Cutters Edge-Fire Rescue Saw.

To clean the D-8, simply remove it as you would to configure your saw for conventional cutting. Wipe off all inner and outer surfaces of the D-8.

NOTE

Cleaning may also be done in a parts washer.



If you should have questions about the installation, operation or maintenance of your D-8 or any Cutters Edge product, call our service department at 1-800-433-3716.

Notice of Liability:

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Part Two

Operation Without Guard/Depth Gauge Installed

After proper set-up and running-in, your Cutters Edge Fire Rescue Saw will be available for service. In the field, you should follow certain procedures for the use of your saw to insure safe and efficient operation.

The basic rules for safe operation of your Cutters Edge Fire Rescue Saw include:

- 1) Wear full turn-outs with gloves, face shield or goggles.
- 2) Keep a firm grip on the saw.
- 3) Avoid cutting across your body.
- 4) Cut with full RPMs.
- 5) Avoid the bar's kickback zone.
- 6) Do not attempt to operate saw without completion of your department's training for the use of a power tool.

WARM UP

As another safety feature, your Cutters Edge Fire Rescue Saw is equipped with One-Step Starting. To take advantage of One-Step Starting, the saw must be warmed up prior to going on the roof.

To warm up the saw after you have reached the scene of your operation, use the following starting procedure:

- 1) Pull out the choke. (We recommend storing the saw with the choke engaged - pulled out.)

NOTE

Remember not to touch the throttle while starting the saw.

- 2) Step on the back handle and grip the top handle firmly.
- 3) Pull the starter handle upward sharply a few times until the engine catches.
- 4) Push the choke in and pull the starter handle again to start the engine.
- 5) Squeeze the trigger quickly once to set the idle. Allow the saw to warm up, then touch the momentary contact switch to shut it off. It is now ready for use.



Fig. 21. The TS-10 Sling.

THE TS-10 SLING

Carry the saw up ladders by attaching the tool sling (Fig. 21). Loop the hook on the end of the sling around the top handle and clip it to the D-ring on the sling. Attach the other end of the sling to the back handle in the same manner.

Once on the roof, remove the sling and place it in your pocket or out of your way.



WARNING



Never operate the Cutters Edge Fire Rescue Saw with the sling attached.

IMPORTANT

Always operate the saw with a minimum of two people on the roof for safety. One should operate the saw and the other act as backup and as eyes and ears for the operator.

Always wear full protective gear, along with a face shield or goggles.

Sound the roof for the safest operator position.

Select and prepare an alternate escape route.

Position yourself properly and prepare to cut.

ONE-STEP STARTING PROCEDURE

Since you have properly warmed up the saw, you can start it now using the One-Step Starting Procedure. After positioning yourself properly, securely holding the saw in place, simply pull the starter handle upward (Fig. 22). The saw will start and you will be ready to cut.



Fig. 22. One-Step Starting

CUTTING



WARNING



Never cut with the saw directly in line with your body or across your body.

When ready to begin cutting, choose a position that is safe and comfortable. Cut with the saw held to one side of your body, locking your top elbow, if possible. Avoid cutting with the saw directly in line with or across your body.

PENETRATION CUT

To begin your penetration cut, hold the saw at an angle of approximately forty-five degrees to the roof (Fig. 23). This positions the highest number of cutters in contact with the roof surface for optimum penetration speed.



Fig. 23. Penetrate at approximately 45 degrees.



WARNING



Attempting to penetrate with too high an angle may cause kickback, while penetrating with too low an angle will actually increase penetration time and cause unnecessary wear to the cutters.

Plunge the bar in aggressively for penetration, but don't penetrate any deeper than necessary. This will prevent the inadvertent cutting of hidden dangers, such as rafters, wiring or braces.

After you have penetrated the roof surface, increase the angle of your saw up to ninety degrees. This places a greater number of cutters in contact with the broad surfaces of the rafters, increasing your sensitivity of feel.

With practice you will get a feel for boring through the roof surface. If it feels like it is taking too long to penetrate, you may be directly on a rafter. Simply move your cut over a few inches and begin to cut again.

"ROLLING THE RAFTERS"

When you feel a rafter, pull the saw up and allow it to cut only the roof decking as you roll over the rafter (Fig. 24). Then return to your previous depth of cut until you encounter another rafter to roll (Fig. 25). This preserves roof integrity and provides you with another measure of protec-

tion. With practice, you will be able to do this quickly and efficiently.



Fig. 24. Pull up and over the rafter ...



Fig. 25.... plunging back in on the other side.

Criss-cross your cuts at their intersections. The overlapping of your cuts will allow for easy removal or louvering of the roof material (Fig. 26).



Fig. 26. Criss-cross, or overlap, your cuts.

VENTILATION CUTS

There are many types of Fire Rescue cuts. We will demonstrate some of them for your reference. For more information about the principles and techniques of Fire Rescue, please refer to the Cutters Edge Training Video and its supplemental manual. We also recommend the book "VENTILATION METHODS AND TECHNIQUES" by Battalion Chief John Mittendorf. Order forms are in the back of this manual.

INSPECTION CUT

The 45 Degree Inspection Cut-or View Hole-is a triangular cut through the roof decking and rolled over one rafter at 45 degrees to any exterior wall (Figs. 27A & 27B). This cut allows you to identify the type of smoke and the roof composition, and to determine rafter direction.



Fig. 27A. Inspection Cut.

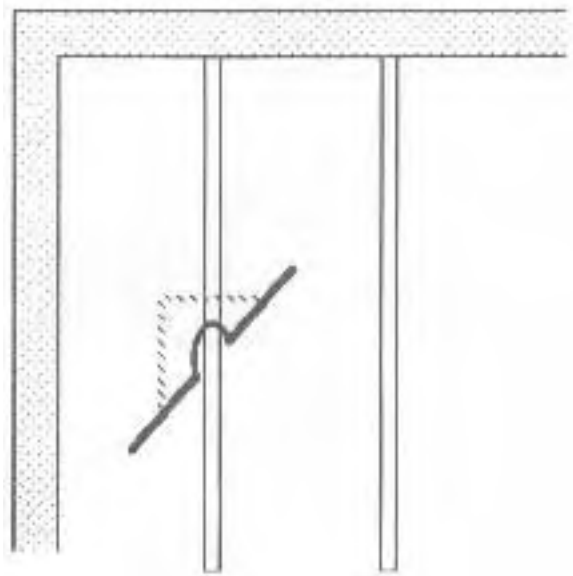


Fig. 27B. Inspection Cut.

LOUVER

To louver, start with a head cut perpendicular to the rafter direction, rolling any rafters. The rafters will become the pivots or hinges to louver the cut sections.

Make parallel longitudinal cuts approximately halfway between and parallel to the rafters. Be sure to criss-cross your vertical and horizontal cuts at their intersections. Complete the louver cut by cutting another perpendicular cut across the bottom, rolling the rafters again. Then louver or hinge the sections, using the rafter as the pivot point (Fig. 28).



Fig. 28. Use the rafters as the pivot points.

PULLBACK

The Pullback Method follows the same procedure as a louver cut, but you would then remove the roofing material completely (Fig. 29).



Fig. 29. Remove roof materials for the pullback

STRIP

A Strip-or Trench Cut-would normally be used across the width or length of the roof. You either cut between the rafters and let the roofing material drop into the structure, or cut across the rafters, being sure to roll the rafters, then louver or pull back the roofing material.



Fig. 30. Trench cut.

CUTTING OTHER MATERIALS

Your Cutters Edge Fire Rescue Saw may be used to cut many other materials such as downed trees, storm damage, cutting shoring and cribbing, removal of rubble from building collapse, auto accidents, aircraft crash rescue, and forcible entry, to name a few.

To cut through other materials, remember the basic operational rules of your Cutters Edge Fire Rescue Saw. With practice, you will develop a feel for the saw, enabling you to "read" the material you are cutting. Remember to always maintain full RPMs as you cut, and don't force the cut.

Remember the basic rules for safe operation of your Cutters Edge Fire Rescue Saw:

- 1) Wear full turn-outs with gloves, face shield or goggles.
- 2) Keep a firm grip on the saw.
- 3) Avoid cutting across your body.
- 4) Cut with full RPMs.
- 5) Avoid the bar's kickback zone.
- 6) Do not attempt to operate saw without completion of your fire department's training for the use of a power tool.

Part Three

Maintenance

After use, your Cutters Edge Fire Rescue Saw should be cleaned and inspected. We recommend that you develop a departmental standard operating procedure (SOP) for periodic inspection, testing and maintenance of your Fire Rescue saw.



WARNING



Failure to clean the saw after each use can lead to a loss of performance and premature wear or failure.

CLEANING

To clean the saw, reverse the steps described in the setup portion.

Start by removing the clutch cover. Inspect it and clean all foreign matter and debris from it (Fig. 31).



Fig. 31. Thoroughly clean the clutch cover.

Remove the outer guide bar plate and wipe it clean.

THE CHAIN

Remove the chain. Inspect it closely.

IMPORTANT

If the chain has six or more broken cutters, it should be repaired. If the chain is in satisfactory condition, clean and lubricate it.

CHAIN REPAIR AND SHARPENING

To have Cutters Edge repair or sharpen your chain, enclose a note or purchase order and a street address for return shipment by UPS and ship your chain to:

Cutters Edge
1435 Manzanita Drive
Julian, CA 92036 U.S.A

We recommend that you ship your chain to us via UPS for fastest service. We repair your chain the day we receive it and return it the next day via UPS.

We recommend that you keep a minimum of two chains: one on the saw and one in for repair.

THE BAR

Remove the guide bar and inner and outer bar plates. Wipe all debris from them.

Clean out the groove using a bar cleaning tool, the edge of a bar plate, or a putty knife. Also be sure to thoroughly clean the oil holes on both sides of the bar. If there is excess buildup on the bar, clean it off with solvent.

Feel along the edges of the bar body. If there are burrs, use a flat file to lightly file them down.



Fig. 32. Cleaning "Groove".

NOTE

Your Titanium Rollemose guide bar has a sealed bearing in the nose and no lubrication is necessary.

THE POWER HEAD

Now inspect and clean the power head.

Wipe all debris and foreign matter from the power head, making sure to clean carefully around the clutch.

Make sure the oil slot on the power head is clear and open. Use a bar cleaning tool or small screwdriver to remove any debris from this slot (Fig. 33).



Fig. 33. Carefully clean out the oil slot.

THE FILTERS

Next, remove the foam pre-filter from the saw (Fig. 34). Spray it liberally with the filter cleaner/degreaser provided with your saw. Work it in.

Rinse the pre-filter with clean water and allow it to air dry.

You should clean the main filter element only if the red color is gone, or if you notice diminished power while running the saw.



Fig. 34. Remove the pre-filter.

Remove the main filter element by loosening the filter clamp screw. Pull out the choke to close the butterfly. This will prevent foreign objects from entering the carburetor after you have removed the filter.

If it needs cleaning, spray filter cleaner/degreaser around the interior of the filter, creating a puddle. Rotate the filter to distribute this evenly. Repeat with the exterior of the filter.

Next, rinse the filter thoroughly with water and allow to air dry.

<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">⚠</div> <div style="text-align: center;">WARNING</div> <div style="text-align: center;">⚠</div> </div> <p style="text-align: center; margin-top: 5px;">Do not use solvents to clean, or compressed air to dry the filter as this may damage the filter element.</p>

Once thoroughly dry, spray filter oil only around the exterior of the filter. Do not spray filter oil inside the filter.

<p>NOTE</p> <p>It is a good idea to have a spare filter. Drying time can be over an hour and the extra filter can get your saw back in service faster.</p>

Detailed instructions for cleaning the filters are included in the filter recharger kit.

CYLINDER HEAD

Now remove the carburetor compartment cover by first loosening the two screws, A & B (Fig. 35). Then loosen the one cylinder head cover screw, C. Remove the cylinder head cover (Fig. 35). Check the cooling fins on the cylinder and the fins on the flywheel for excess buildup of debris. If necessary, clean with compressed air or solvent.



Fig. 35. The top cover.

NOTE

If you use solvent to clean around the clutch and drive sprocket area, inject two or three pumps of grease into the hole at the end of the crankshaft to lubricate the bearings.

REASSEMBLY

Once you have completed this process, you have a clean saw and are ready to reassemble it for continued use. The reassembly is the same procedure as set-up, with the following exception:

Flip the guide bar each time you reassemble the saw (Fig. 36). This provides for even wear. Reference the logo position each time bar is flipped.



Fig. 36. Flip the guide bar each time you reassemble.

For specific engine adjustments and settings, consult the accompanying chainsaw operations manual.

THINK!

IS WHAT I'M ABOUT TO DO SAFE?

Read and follow all instructions for the proper set-up, operation and maintenance of your Cutters Edge Fire Rescue Saw. Be alert while using your saw, and always strictly observe all safety procedures.

Cutters Edge Fire Rescue Saws are designed specifically for fire department use and are exceptional tools. However -as with all tools-they have their limitations. With proper care and, especially, common sense, your Cutters Edge Fire Rescue Saw will give you many years of outstanding performance and reliability.

If you should have questions about the operation and/or maintenance of your Cutters Edge Fire Rescue Saw, call our service department at 1-800-433-3716.

CUTTERS EDGE FIRE RESCUE SAW SPECIFICATIONS

MODEL CE-2065-RS

ENGINE

TYPE: Single-cylinder 2-cycle, with loop scavenging
 DISPLACEMENT: 4.0 cu. in. (65.1 cc)
 BORE: 1.89 in. (48mm)
 STROKE: 1.4 in. (36mm)
 COMPRESSION RATIO: 9.4:1 (±.3)
 BEARINGS: Heavy-duty deep-groove ball bearings on crankshaft, needle cage bearings on connecting rod, piston pin and clutch
 CYLINDER/PISTON: Open ported, single ring design with four transfer ports
 CYLINDER MATERIAL: Nikasil
 MAX ENGINE SPEED: No load... 12,500 RPM

IGNITION SYSTEM

TYPE: Electronic, one piece modular, CD
 BRAND: FHP
 SPARK PLUG: Champion CJ7Y or equivalent
 GAP: 0.020 in. (0.5mm)

STARTING SYSTEM

ONE STEP STARTING SYSTEM WITH COMPRESSION RELEASE
 Comprised Of...
 Momentary contact switch
 Combined choke/throttle lock with throttle safety guard

AIR FILTRATION

SYSTEM: "RAM-AIR" with metered stack
 TYPE: 2-stage, oil tack barrier, external mount
 SURFACE AREA: 154 sq.in. "First Stage"
 29 sq.in. "Second Stage"

FUEL & ENGINE LUBRICATION

GASOLINE OCTANE RATING: Use 90 octane or higher
 FUEL MIX OIURATIO:
 With Cutters Edge Synthetic Oil: ...100:1
 If petroleum base 2-cycle oil used: ...50:1
 FUEL TANK CAPACITY: 26.8 fl. oz. (0.77 liters)

CARBURETOR ISOLATION

Designed to eliminate Vapor-lock and vibration
 TYPE: Air gap isolation and Bakeolite insulation

DRIVE SYSTEM

TYPE: Inboard, 3-shoe centrifugal clutch
 STYLE: Rim & Drum System
 Radically Ported to keep rim free of tar & debris build-up... free floating to keep chain in perfect alignment with bar groove
 SIZE: .404 by 7 tooth
 CHAIN SPEED: No Load chain speed 98.5 FPS (feet per second)

GUIDE BAR

TYPE: Solid one piece construction, No Rivets/No Laminates... 20" and 16" slotted for Guard/Depth Gauge

MATERIAL

TITANIUM ALLOY, 7mm thick;
 STYLE: Roller Blade/Speed Ring with sealed bearing
 CUTTING LENGTHS: 20", 16" and 12"
 SIZE: .404 Pitch .063 Gauge

CUTTING CHAIN

CUTTERS EDGE "BULLET CHAIN"[®]
 TYPE: Carbide Tipped "BULLET CHAIN"
 SIZE: .404 pitch .063 Gauge

CUTTING CHAIN LUBRICATION SYSTEM

TYPE: Fully automatic, adjustable
 DRIVE SYSTEM: Geared to Centrifugal Clutch
 LUBRICANT: Cutters Edge "High Tack" Bar & Chain Oil or high quality bar & chain oil
 OIL TANK CAPACITY: 14.24 fl. oz. (0.42 liters)

HANDLES

TYPE: Front/Top... Full Wrap (For ease of use with gloves, from either side of saw)
 Back... Flared base for kickback guard Full isolation anti-vibration

VIBRATION LEVELS

*FRONT HANDLE M/S2 :3,6
 *REAR HANDLE M/S2 :5,7
 (*see Note 2)

SILENCING

MUFFLER: Oversize, top ported, low restriction with fire screen
 **NOISE LEVEL: 102dB(A) at maximum output
 (**see Note 1)

GUARD/DEFLECTOR

TYPE: Aluminum front mount to cover muffler and control air-flow for delivery of cleaner, cooler air to cylinder heat exchangers... (Keeps engine running cooler and reduces maintenance)

CHAIN BRAKE

TYPE: Inertia Activated
 STYLE: Free-Swinging Pendulum
 BREAKING TIME: <0.20 second

GUARD/DEPTH GAUGE[®] (Optional)

FUNCTION: Covers all the cutting chain, allows saw operator to set depth of cut to avoid cutting structural members
 MATERIAL: Anodized aluminum
 TYPE: D6 for 16" saw... D8 for 20" saw
 3-point mount, positive lock with depth of cut scale
 DEPTH OF CUT: D6 = 6" D8 = 8"

WEIGHT

POWERHEAD ONLY: 13.9 lbs. (Dry Weight)
 CE-2065RS-12": 21.0 lbs.
 CE-2065RS-16": 21.5 lbs.
 CE-2065RS-20": 22.0 lbs.
 CE-2065RS/D6: 24.0 lbs.
 CE-2065RS/D8: 24.5 lbs.

STANDARD ACCESSORIES

ACCESSORIES INCLUDED WITH ALL FIRE RESCUE SAWS
 "Scrench" holder and "Scrench" tool, complete tool kit including grease gun and packet of grease, complete manuals, filter cleaner and filter oil kit, Cutters Edge 2-cycle oil mix, Cutters Edge bar & chain oil, bar scabbard (saws without D6 and D8 only)
 INCLUDED WITH D6 & D8 SAWS ONLY...
 Training video for Guard/Depth Gauge assembly, operation and maintenance

MODEL CE-2071-RS

ENGINE

TYPE: Single-cylinder 2-cycle, with loop scavenging
 DISPLACEMENT: 4.3 cu. in. (70.7cc)
 BORE: 1.97 in. (50mm)
 STROKE: 1.4 in. (36mm)
 COMPRESSION RATIO: 10.2:1 (+.3)
 BEARINGS: Heavy-duty deep-groove ball bearings on crankshaft, needle cage bearings on connecting rod, piston pin and clutch
 CYLINDER/PISTON: Closed ported, single ring design with four transfer ports
 CYLINDER MATERIAL: Nikasil
 MAX ENGINE SPEED: No load... 13,500 RPM

IGNITION SYSTEM

TYPE: Electronic, one piece modular, CD
 BRAND: FHP
 SPARK PLUG: Champion CJ7Y or equivalent
 GAP: 0.020 in. (0.5mm)

STARTING SYSTEM

ONE STEP STARTING SYSTEM WITH COMPRESSION RELEASE
 Comprised Of...
 Momentary contact switch
 Combined choke/throttle lock with throttle safety guard

AIR FILTRATION

SYSTEM: "RAM-AIR" with metered stack
 TYPE: 2-stage, oil tack barrier, external mount
 SURFACE AREA: 154 sq.in. "First Stage"
 29 sq.in. "Second Stage"

FUEL & ENGINE LUBRICATION

GASOLINE OCTANE RATING: Use 90 octane or higher
 FUEL MIX OIL/RATIO:
 With Cutters Edge Synthetic Oil: ...100:1
 If petroleum base 2-cycle oil used: ...50:1
 FUEL TANK CAPACITY: 26.8 fl. oz. (0.77 liters)

CARBURETOR ISOLATION

Designed to eliminate Vapor-lock
 TYPE: Air gap isolation and Bakeolite insulation

DRIVE SYSTEM

TYPE: Inboard, 3-shoe centrifugal clutch
 STYLE: Rim & Drum System
 Radically Ported to keep rim free of tar & debris build-up... free floating to keep chain in perfect alignment with bar groove
 SIZE: .404 by 7 tooth
 CHAIN SPEED: No Load chain speed 106.4 FPS (feet per second)

GUIDE BAR

TYPE: Solid one piece construction, No Rivets/No Laminates... 20" and 16" slotted for Guard/Depth Gauge

MATERIAL

TITANIUM ALLOY, 7mm thick;
 STYLE: Roller Blade/Speed Ring with sealed bearing
 CUTTING LENGTHS: 20" 16" and 12"
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TYPE: Fully automatic, adjustable
 DRIVE SYSTEM: Geared To Centrifugal Clutch
 LUBRICANT: Cutters Edge "High Tack" Bar & Chain Oil or high quality bar & chain oil
 OIL TANK CAPACITY: 14.24 fl. oz. (0.42 liters)

HANDLES

TYPE: Front/Top... Full Wrap (For ease of use with gloves, from either side of saw)
 Back... Flared base for kickback guard Full isolation anti-vibration

VIBRATION LEVELS

*FRONT HANDLE M/S2 :4,6
 *REAR HANDLE M/S2 :5,2
 (*see Note 2)

SILENCING

MUFFLER: Oversize, top ported, low restriction with fire screen
 **NOISE LEVEL: 104dB(A) at maximum output
 (**see Note 1)

GUARD/DEFLECTOR

TYPE: Aluminum front mount to cover muffler and control air-flow for delivery of cleaner, cooler air to cylinder heat exchangers... (Keeps engine running cooler and reduces maintenance)

CHAIN BRAKE

TYPE: Inertia Activated
 STYLE: Free-Swinging Pendulum
 BREAKING TIME: <0.20 second

GUARD/DEPTH GAUGE[®] (Optional)

FUNCTION: Covers all the cutting chain, allows saw operator to set depth of cut to avoid cutting structural members
 MATERIAL: Anodized aluminum
 TYPE: D6 for 16" saw... D8 for 20" saw
 3-point mount, positive lock with depth of cut scale
 DEPTH OF CUT: D6 = 6" D8 = 8"

WEIGHT

POWERHEAD ONLY: 13.9 lbs. (Dry Weight)
 CE-2071 RS-12": 21.0 lbs.
 CE-2071 RS-16": 21.5 lbs.
 CE-2071 RS-20": 22.0 lbs.
 CE-2071 RS/D6: 24.0 lbs.
 CE-2071 RS/D8: 24.5 lbs.

STANDARD ACCESSORIES

ACCESSORIES INCLUDED WITH ALL FIRE RESCUE SAWS
 "Scrench" holder and "Scrench" tool, complete tool kit including grease gun and packet of grease, complete manuals, filter cleaner and filter oil kit, Cutters Edge 2-cycle oil mix, Cutters Edge bar & chain oil, bar scabbard (saws without D6 or DS only)
 INCLUDED WITH D6 & D8 SAWS ONLY...
 Training video for Guard/Depth Gauge assembly, operation and maintenance

Specifications are subject to change without notice

**Note 1: Equivalent noise level is, according to ISO 7182 and ISO 9207 calculated as the time-weighted energy total for noise levels under various working conditions with the following time distribution: 1/3 Idle, 1/3 full load, 1/3 full speed.

**Note 2: Equivalent vibration level is, according to ISO 7505, calculated as the time-weighted energy total for vibration levels under various working conditions with the following time distribution: 1/3 Idle, 1/3 full load, 1/3 full speed.

Cutter's Edge, D8 Guard/Depth Gauge[®] and BULLET CHAINS are registered trademarks of Edge Industries Inc, Pat. 5,056,395 5,156,156 P.O. Box 1179, Julian, CA 92036 USA

CUTTERS EDGE LIMITED WARRANTY

Effective 7-1-92

As Limited Below,

Edge Industries, Inc., warrant to the original retail purchaser that this Cutters Edge Saw is free from defects in materials and workmanship and agree to repair and/or replace any defective saw part or component free of charge as follows:

1. *Parts other than electronic ignition parts.*

At not cost to the original retail purchaser, Edge Industries, Inc., will replace defective parts supplied or manufactured by Edge Industries, Inc:

A. For one year from date of original purchase when used for fire department applications.

B. For thirty days from date of original purchase when saw is used for commercial purposes, except as listed below in section 2.

C. A saw is used for commercial purposes when it is used to derive income.

2. *Extended warranty.*

Selected saw models used commercially may have warranty extended.

Electronic ignition parts.

A. For six months from the date of original purchase, Edge Industries, Inc., will replace any defective electronic ignition parts supplied or manufactured by Edge Industries, inc. at no cost to the original purchaser.

B. For a period starting six months and ending one year after the original retail purchase, Edge Industries, Inc., will replace any defective electronic ignition parts supplied or manufactured by Edge Industries, inc. at a charge to the original purchaser of 50% of Edge Industries's suggested retail price.

Engine parts.

A. For six months from date of original purchase, Edge Industries, Inc., will replace any defective engine part supplied or manufactured by Edge Industries, inc. at no cost to the original purchaser subject to the limitations of paragraph 5 below.

B. Engine parts are limited to cylinder assembly, crankshaft, crankcase and flywheel.

3. *Labor.*

For thirty days from the date of original purchase, an authorized Edge Industries, Inc., dealer will provide labor at no charge to the original retail purchaser for the replacement of any defective part supplied or manufactured by Edge Industries, Inc.

4. *Grantor of Warranty:*

Edge Industries, Inc.
1435 Manzanita Drive
Julian, CA 92036 U.S.A.
760-765-0597

5. *Limitations on Warranty:*

This warranty is not transferable, does not cover damage caused by unreasonable use or damage resulting from other than defects in material or workmanship, does not cover damages contributed to by a failure to provide reasonable and necessary maintenance, does not cover engine failure due to lack of or improper lubrication. Tuneups or replacement of non-defective parts-such as mounts, starter springs, ropes, spark plugs, and filters-that may be expected to wear out with reasonable use during the warranty period are not covered. This warranty applies only to saws sold through dealers appointed by Edge Industries, Inc.

THE WARRANTOR WILL BE LIABLE FOR NO INCIDENTAL OR CONSEQUENTIAL DAMAGES. THERE ARE NO EXPRESS WARRANTIES OTHER THAN THOSE SET FORTH ABOVE. ANY WARRANTY IMPLIED BY STATE LAW-WHETHER MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE SHALL BE EFFECTIVE ONLY FOR THE DURATION OF THE APPLICABLE WARRANTY PERIOD LISTED ABOVE. Some states do not allow exclusions of incidental or consequential damages and/or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

6. *Responsibilities of me purchaser under this Warranty:*

A. To deliver or ship the saw covered under this Warranty to the dealer from whom it was originally purchased or to an Edge Industries, Inc. authorized servicer center. Time limits on warranties are measured to the date of delivery or shipment.

B. Freight costs, if any, will be borne by the purchaser.

C. To provide reasonable care and maintenance of the Edge Industries, Inc., product.

7. *Timely repair of warranted product:*

Any product which qualifies under this Warranty shall be repaired in a timely manner, consistent with the normal work flow at the servicing location and depending on the availability of replacement parts.

8. *Purchaser rights and remedies:*

This Warranty gives you specific legal rights. You may also have other rights which vary from state to state. If you do not receive satisfactory results from authorized servicing stations, you may contact Edge Industries, Inc., Customer Relations Department, PO. Box 1179, Julian, CA 92036.

CUTTERS EDGE FIRE RESCUE SAWS

NOTES

ORDER FORM
VENTILATION METHODS AND TECHNIQUES
by John Mittendorf

Please send me () copy (copies) of Ventilation Methods and Techniques.

Name:

Street:

City, State & Zip:

Phone:

Amount Enclosed:

VISA/MasterCard #:

Exp. Date:

Each manual is \$20.00 plus \$2.20 shipping.

Mail this completed order form to:

Fire Technology Services
6776 Laurel Crest Drive
Medford, OR 97504

For Credit Card Orders, call:

1-514-779-5789



Division of Edge Industries, Inc.

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326 Pleasant View Rd.
New Cumberland, PA 17070
Tel: 717-412-7746
Email: office@efesinc.com

www.cuttersedge.com