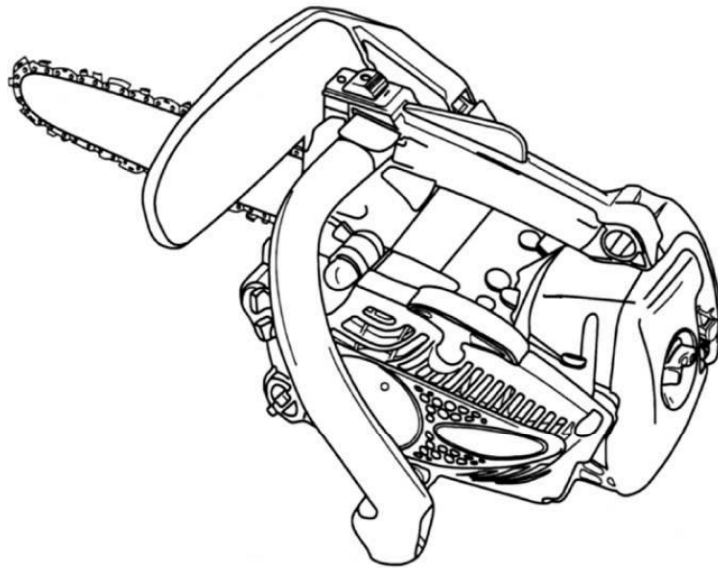




# ***CHAIN SAW 28.28***



## **Owner's/Operator's Manual**

Completely read and understand this manual before using this product.

# FOREWORD

This Owner's/Operator's Manual is designed to familiarize the operator with the various features and component parts of the equipment and to assist you with the operation and maintenance of your new Chain Saw.

** WARNING : This chain saw is for trained tree service operators only, see instruction handbook!**

**National regulation can restrict the use of the machine.**

**It is essential that any operator of this Chain Saw reads and understands the contents of this manual before using the Chain Saw.**

For additional assistance, contact any local authorized ACTIVE dealer.

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# SPECIFICATIONS

|   |   |  |                                   |
|---|---|--|-----------------------------------|
| Models                                  |   | 28.28  |                                   |
| Length x Width x Height                 |   | 259x237x212mm ※1   |                                   |
| Dry Weight (empty tanks)                |   | 3.2 kg   |                                   |
| Fuel Tank Capacity                      |   | 240 cm <sup>3</sup>  |                                   |
| Tank Capacity for chain lubrication oil |   | 180 cm <sup>3</sup>  |                                   |
| Engine                                  | Type  | Air cooled 2-cycle single cylinder   |                                   |
|   | Engine Displacement   | 30.1 cm <sup>3</sup>   |                                   |
|   | Maximum engine power (kw)                                   | 1.04   |                                   |
|   | Carburetor  | Walbro Diaphragm type  |                                   |
|   | Magneto   | Flywheel magneto, CDI system   |                                   |
|   | Spark Plug:<br>Make<br>Type<br>Electrode Gap                | NGK<br>BPMR8Y<br>0.6~0.7mm   |                                   |
|   | Starter   | Recoil starter   | Recoil starter<br>(Reverse start) |
|   | Power transmission  | Automatic centrifugal clutch   |                                   |
|   | Recommended maximum speed with cutting attachment           | 12000 min <sup>-1</sup>  |                                   |
|   | Recommended speed at idling                                 | 3000 min <sup>-1</sup>   |                                   |
|   | Fuel Mixture  | Use only non-leaded regular gasoline.<br>2-Cycle oil mix 25:1 ratio must be approved for air-cooled engines. |                                   |
|   | Guaranteed sound power level:(2000/14/EC) L <sub>WA</sub> = | 110 dB(A)  |                                   |
|   | Sound power level:<br>(ISO 22868) L <sub>WA</sub> =         | 108 dB(A) ※2   |                                   |
|   | Sound pressure level:<br>(ISO 22868) L <sub>pA</sub> =      | 97 dB(A) ※2  |                                   |
|   | Vibration:(ISO 22867) front / rear                          | 3.3 / 3.7 m/s <sup>2</sup> ※3  |                                   |
| Guide bar                               |   | Sprocket nose bar (gauge:1.27mm, 0.050 inch)<br>Oregon double guard  |                                   |
| Cutting length                          |   | 24.0 cm (10 inches guide Bar),<br>28.7 cm (12 inches guide Bar)  |                                   |
| Chain                                   | Specified pitch   | 9.53mm, 3/8 inch   |                                   |
|   | Specified gauge<br>(thickness of drive links)               | 1.27 mm, 0.050 inch  |                                   |
|   | Type of chain   | Oregon 91PX  |                                   |
|   | Lubrication   | Adjustable automatic oil pump  |                                   |
| Drive Sprocket                          | number of teeth   | 6  |                                   |
|   | Pitch   | 9.53 mm, 3/8 inches  |                                   |
| Maximum chain speed (12000 min-1)       |   | 22.9 m/s   |                                   |
| Other devices                           |   | Front hand guard, Throttle trigger lockout,<br>Chain catcher, Chain brake, Anti-vibration device             |                                   |
| Option                                  |   | Spiked bumper  |                                   |

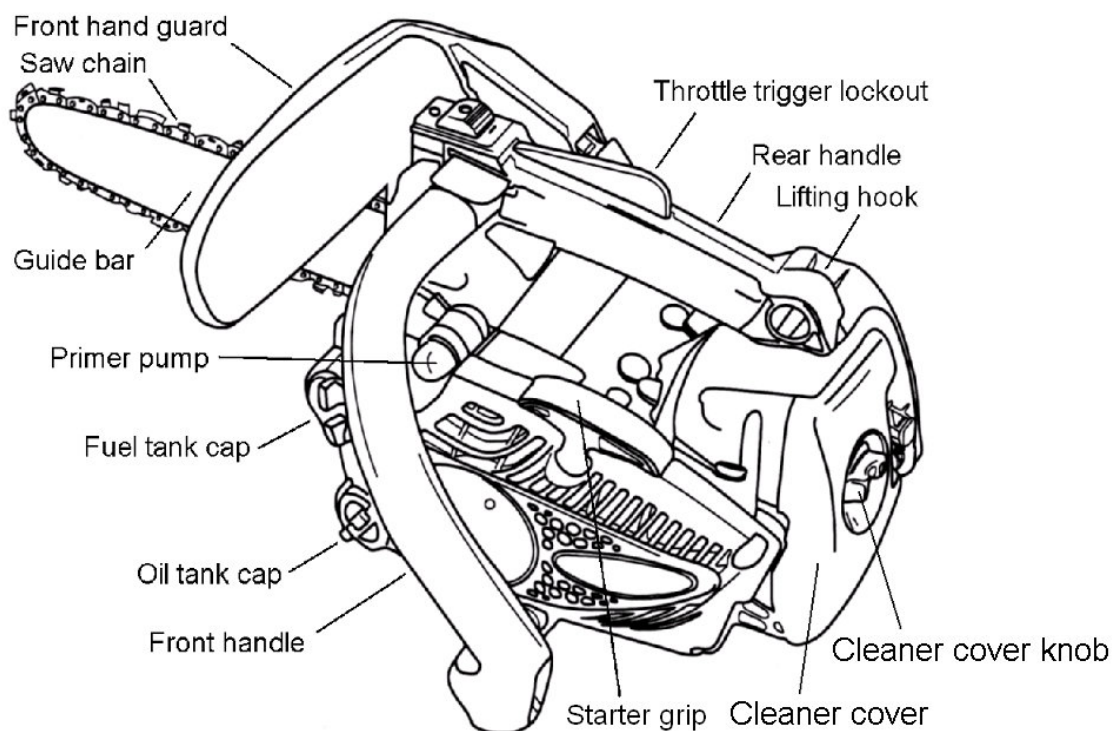
※1 Without guide bar and saw chain.

※2 K factor according to ISO 22868 = 2 dB(A).

※3 K factor according to ISO 22867 = 2 m/s<sup>2</sup>.

# PRODUCT DESCRIPTION

## MODEL:28.28



**Front hand guard** — Guard between the front handle and the saw chain for protecting the hand from injuries and aiding in control of the chain saw if the hand slips off the handle. This guard is used to activate the chain brake which is to stop the saw chain rotation.

**Rear handle (for the right hand)**— Support handle located towards the rear of the engine housing.

**Guide bar** — The part that supports and guides the saw chain.

**Saw chain** — Saw chain, serving as a cutting tool.

**Starter grip** — The grip of the starter, for starting the engine.

**Front handle (for the left hand)** — Support handle located at the front of the engine housing.

**Fuel tank cap** — For closing the fuel tank.

**Oil tank cap** — For closing the oil tank.

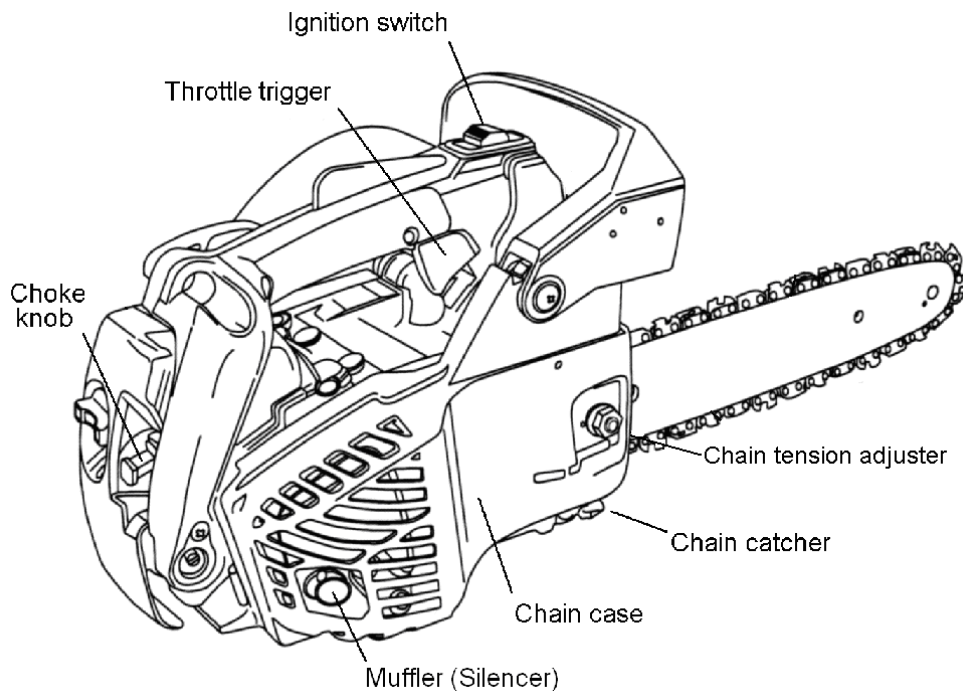
**Primer pump** —When starting engine, push primer pump 5 - 6 times.

**Throttle trigger lockout** — A safety lever which must be depressed before the throttle trigger can be activated in order to prevent the accidental operation of the throttle trigger.

**Lifting hook** —If working off the ground the operator must be trained in safe climbing Techniques and use of all recommended safety equipment.

**Cleaner cover** — Covers air filter.

**Cleaner cover knob**—Device for installing the air cleaner cover. Turn cleaner cover knob clockwise to tighten. Tighten it firmly with hand.



**Choke knob** — Device for enriching the fuel/ air mixture in the carburettor to aid cold starting.

**Chain case** — Protective cover to the guide bar, saw chain, clutch and sprocket when the chain saw is in use.

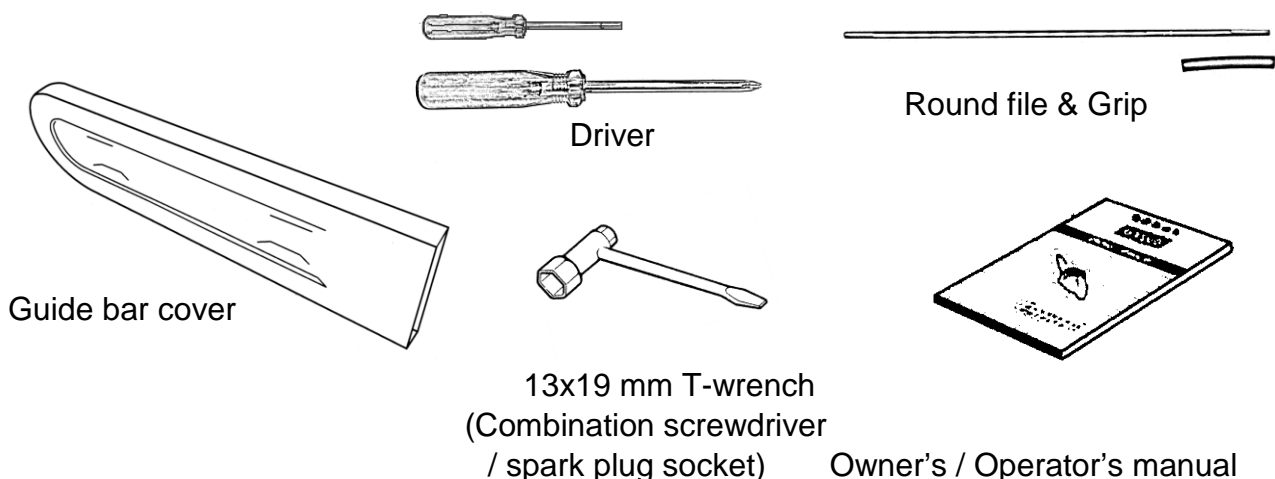
**Chain tension adjuster** — Device to adjust chain tension.

**Chain catcher** — A projection designed to reduce the risk of the operator's right hand from being hit by a chain which has broken or derailed from the guide bar during cutting.

**Ignition switch** — Device for connecting and disconnecting the ignition system and thus allowing the engine to be started or stopped.

**Throttle trigger** — Device activated by the operator's finger, for controlling the engine speed.

**Muffler(Silencer)** — Exhaust gas silencer of engine.

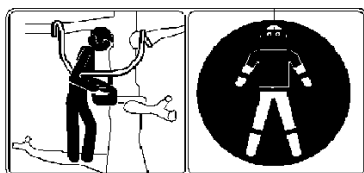


**Guide bar cover** — Remove device for covering the guide bar and saw chain during transport and other times when the chain saw is not in use.

**Operator's manual** — Included with unit. Read before operation and keep for future reference to learn proper, safe operating techniques.

**Tools** — 13 x 19 mm T-wrench (combination screwdriver / spark plug socket), screwdriver and Round File & Grip.

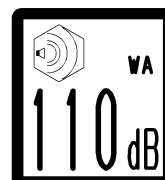
# MARKING



Part No. 287653

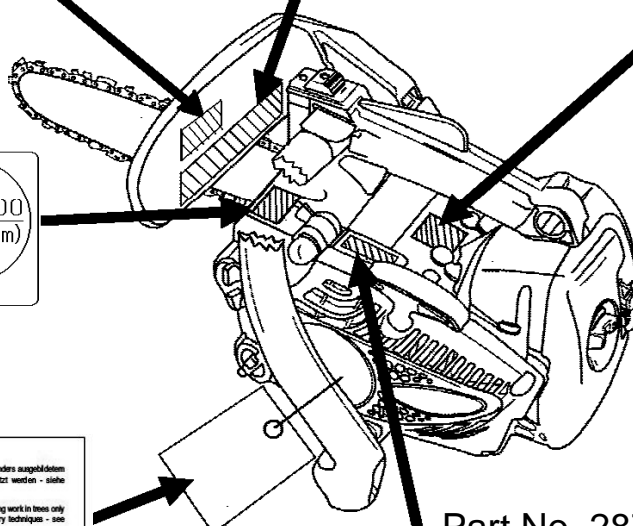
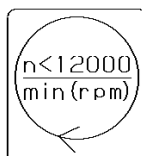


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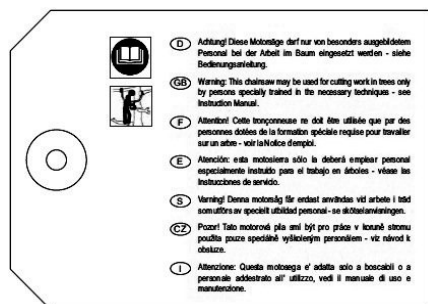
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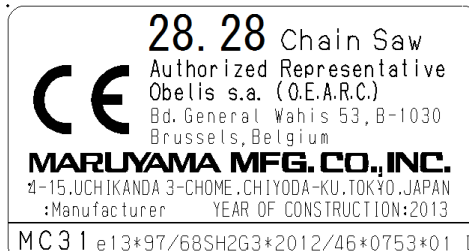


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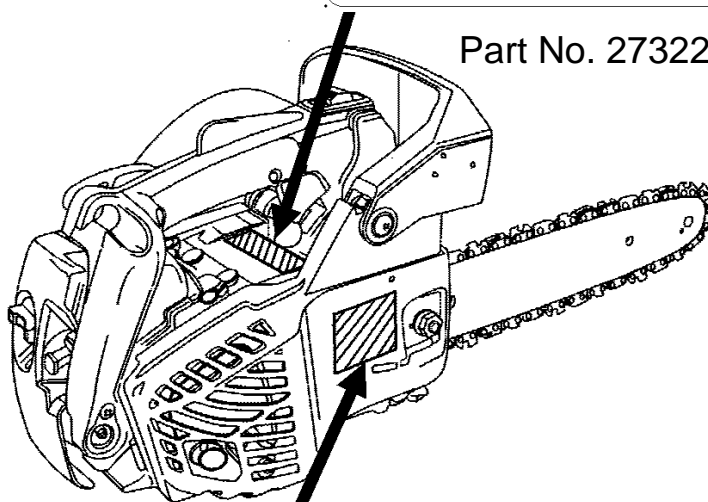
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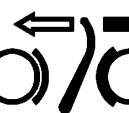





Part No. 273227



Part No. 273228

# SYMBOL EXPLANATION

|   |   |   |   |
|---|---|---|---|
|    | Read and understand this Owner's/Operator's Manual before using this product.   |    | Always use: A protective helmet. Ear protection. Protective glasses or visor.   |
|    | Fire Danger: Gasoline is highly flammable. Never add fuel to the Chain Saw with a running or hot engine. Do not smoke or place any sources of heat in the vicinity of the fuel. |    | Hot Surface Warning: Contact may cause burns. During use and for some time after stopping the engine, the engine is very hot. Do not touch engine components such a cylinder, muffler and engine covers until the engine has cooled to ambient temperature. |
|    | Warning.<br>Kickback may occur!   |    | One handed operation of the chain saw can be dangerous.   |
|    | Oil and petrol mixture  |    | Chain oil fill  |
|    | ○ : off / Engine stop<br>  : on / Engine start  |    | CHOKE -Pull choke knob to "COLD START"  |
|   | Recommended maximum speed   |   | Turning the screw in + direction (large arrow) will increase the amount of chain oil, or in the - direction (small arrow) will decrease it.   |
| H   | Carburetor adjustment<br>High speed mixture   | L   | Carburetor adjustment<br>Low speed mixture  |
| T   | Carburetor adjustment<br>Idle speed   |  | Guaranteed sound level  |
|  | Chain brake operation   |   |   |
|  | Protective clothing is necessary e.g. for feet, legs, hands and fore-arms   |  | <b>Warning:</b> This chain saw is for trained tree service operators only, see instruction handbook!  |
|  | Primer pump   |   |   |



This symbol means whatever is show is prohibited.

# SAFETY INSTRUCTIONS

The warning system in This manual identifies potential hazards and has special safety messages that help you and others avoid personal injury, even death.

**⚠ DANGER**, **⚠ WARNING** and **⚠ CAUTION** are signal words to identify the level of hazard.

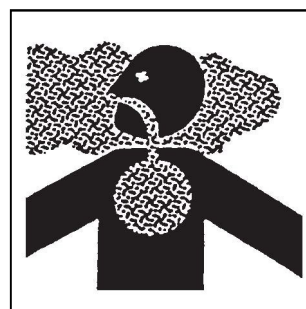
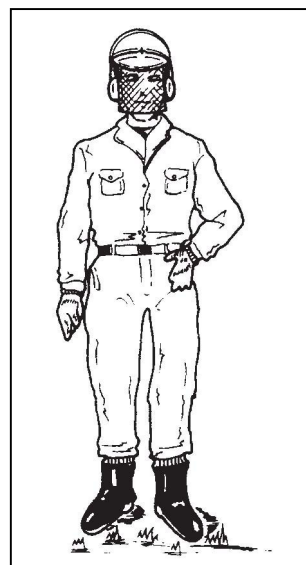
**⚠ DANGER** : signals an extreme hazard that will cause serious injury or death if the recommended precautions are not followed.

**⚠ WARNING** : signals a hazard that may cause serious injury or death if the recommended precautions are not followed.

**⚠ CAUTION** : signals a hazard that may cause minor or moderate injury if the recommended precautions are not followed. Two other words are also used to highlight information. “Important” calls attention to special mechanical information and “Note” emphasizes general information worthy of special attention.

## OPERATOR SAFETY

- 1 Read and understand this Owner's/Operator's Manual before using this product. Be thoroughly familiar with the proper use of this product.
- 2 Never allow children to operate the Chain Saw. It is not a toy. Never allow adults to operate the unit without first reading the Operator's Manual.
- 3 Always wear eye protection, hearing protection and a face filter mask. Making a selection of hearing protector, please select a high-frequency prevention type of hearing protector. Please consult about the selection of hearing protector at service shop in the detail.
- 4 Always wear sturdy boots with nonslip soles.
- 5 Always wear a cap or hat. A safety hard hat is highly recommended when felling or working under trees.
- 6 Always wear heavy long pants, a long sleeved shirt, boots and gloves. Do not wear loose clothing, jewelry, short pants, sandals, or go barefoot. Secure hair so it is above shoulder length. Making a selection of protectors (protective clothing, gloves, foot protection, and etc.), please select durable light weight, and warm one to prevent fatigue. You may have seriously injured without proper protection.
- 7 Never operate this Chain Saw when you are tired, ill, under the influence of alcohol, drugs or medication.
- 8 Never start or run the engine inside a closed room or building. Breathing exhaust fumes can cause death.
- 9 Operate the chain saw only in well-ventilated areas. Exhaust gas, oil mist or saw dusts are harmful to health.
- 10 Keep handles clean of oil, fuel and dirt.

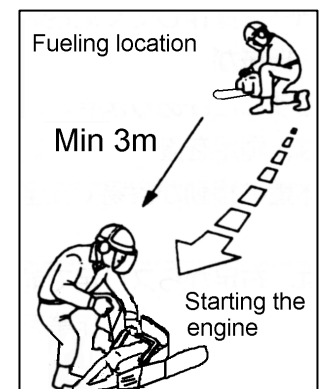
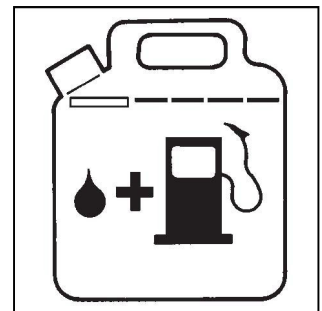


## **CHAIN SAW SAFETY**

1. Make sure the Chain Saw is correctly assembled as instructed in the Assembly section of this manual.
2. Before each use, inspect the Chain Saw, replace damaged parts, and check for fuel leaks. Make sure all fasteners are in place and tightened securely.
3. Maintain the Chain Saw in accordance with the recommended maintenance intervals and procedures detailed in the "Saw chain Maintenance" and "Regular Maintenance".
4. Use the correct accessories. Never use replacement parts that are not approved by ACTIVE.
5. Shut off the engine before performing maintenance or working on the machine.
6. If running problems or excessive vibration occur, stop immediately and inspect the unit for the cause. If servicing dealer for repair.
7. Never modify a chain saw in any way.
8. The use of the chain-saw need for daily inspection before use and after dropping or other impacts to identify significant damage or defects.

## **FUEL SAFETY**

1. Gasoline is highly flammable and must be handled and stored carefully. Use a container approved for storing gasoline and/or fuel/oil mixture.
2. Mix and pour fuel outdoors and where there are no sparks or flames.
3. Do not smoke near fuel storage containers or the Chain Saw. Do not smoke while operating the Chain Saw.
4. Do not overfill the fuel tank. Stop filling 10 ~ 20 mm from the top of the tank.
5. Wipe up any spilled fuel before starting the engine.
6. Move the Chain Saw at least 3 m away from the fueling location before starting the engine.
7. Do not remove the fuel tank cap while the engine is running or immediately after stopping the engine.
8. Allow the engine to cool before refueling.
9. Empty the fuel tank before storing the Chain Saw. Fuel should be emptied after each use as fuel remaining in the tank may leak during storage.
10. Store both fuel and the Chain Saw away from open flame, sparks and excessive heat. Make sure fuel vapors cannot reach sparks or open flames from heaters, furnaces, electric motors, etc.



## **OPERATING SAFETY**

1. THIS CHAIN SAW CAN CAUSE SERIOUS INJURIES. Read the instructions carefully.  
Be familiar with all controls and the proper use of the Chain saw.
2. Avoid using the Chain saw near rocks, gravel, stones and similar materials which can become dangerous projectiles.
3. Keep children, bystanders and animals outside a 5m radius surrounding the area of operation.
4. If you are approached while operating the Chain saw, stop the engine.
5. Never allow children to operate the Chain saw.
6. Use the Chain saw only in daylight or adequate artificial lighting.
7. Never operate the Chain saw without proper guards or other protective safety devices in place.
8. Do not put hands or feet near any moving parts. Keep clear of hot surfaces such as the muffler.
9. Maintain a firm footing while operating the Chain saw.
10. Use the right tool for the job. Do not use the Chain saw for any job that is not recommended.
11. Know how to stop the machine quickly in an emergency. For information on how to stop the engine refer to the "STARTING AND STOPPING PROCEDURES".

## **OTHER SAFETY PRECAUTIONS VIBRATION**

Working hours must be limited within 3.6 hours per day, and 10minutes per continuous operation with proper maintained chainsaw.

Prolonged use of chain saw exposing the operator to vibrations may produce white finger disease (Raynaud's phenomenon). This conditions reduce the hand's ability to feel and regulate temperature, produce numbness and burning sensations and may cause never and circulation damage and tissue necrosis.

All factors which contribute to white finger disease are not known, but cold weather, rainy weather, smoking and diseases or physical conditions that affect blood vessels and blood circulation, as well as high vibration levels and long periods of exposure to vibration are mentioned as factors in the development of white finger disease. In order to reduce the risk of white finger disease, please following clause.

- Select the appropriate work equipment the least possible vibration.
- Use the appropriate for guide bar to operation.
- Making a selection of protectors (protective clothing, gloves, foot protection, and etc.), please select durable light weight, and warm one.
- Massage the palms and arms of one's hands, on one's break and after operation.
- Take frequent breaks.

**IMPORTANT :** Please be seen an academic doctor if you have dubitable symptom.  
Keep the working hours in the point of vibration disorder damage prevention.

**NOTE : Refer to European Directive 2002/44/EC.**

**If the daily exposure action value of  $2.5\text{m/s}^2$  is exceeded the employer shall implement a program of technical and organisational measures.**

#### CONCRETE MEASURE

- The vibration risk is analyzed adequately.
- The select of appropriate work equipment producing the least possible vibration.
- Suitable accessories and protective clothing provided such as handles with antivibration devices, heating handle system or protective gloves.
- Appropriate maintenance programs for the work equipment.
- Limitation of the duration and intensity of the exposures.
- Adequate information and training to instruct workers to use work equipment correctly and safely in order to reduce their exposure to mechanical vibration to a minimum.
- Appropriate work schedules with adequate rest periods.
- A medical surveillance program is installed

In order to facilitate comparisons between daily exposures of different durations, the daily vibration exposure shall be expressed in terms of the 8-h energy-equivalent frequency-weighted vibration total value,  $a_{hv(eq,8h)}$  as shown in equation (2). For convenience,  $a_{hv(eq,8h)}$  is denoted A(8):

where  $T$  is the total daily duration of exposure to the vibration  $a_{hv}$   
 $T_0$  is the reference duration of 8h (28 800s)

$$A(8) = a_{hv} \sqrt{\frac{T}{T_0}} \quad A(8) = 3.7 \sqrt{\frac{3.6}{8}} = 2.5 \text{ m/s}^2$$

#### **OTHER SFETY PRECAUTIONS NOISE**

Working hours must be limited within 3.6 hours per day, and 10minutes per continuous operation with proper maintained chainsaw.

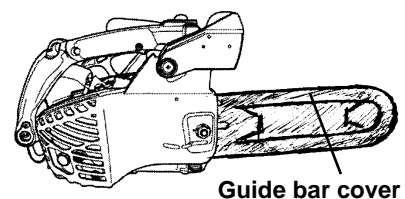
- Chain saw noise may damage your hearing. Always wear hearing protection.
- Continual and regular users should have their hearing checked regularly.
- You may feel further fatigue under noisy condition compare to normal circumstances.
- Keep the working hours in the point of auditory damage prevention.

**IMPORTANT :** Keep the working hours in the point of auditory damage prevention.

#### **TRANSPORTATION**

When transporting your chain saw, use the appropriate guide bar cover.

Carry the chain saw with the engine stopped.



# ASSEMBLY

## WARNING

### POTENTIAL HAZARD

- Saw chain is sharp.

### WHAT CAN HAPPEN

- Contact with the saw Chain can cause personal injury.

### HOW TO AVOID THE HAZARD

- Wear gloves when you handle the saw chain.
- Always stop the engine before performing any of the following operations.

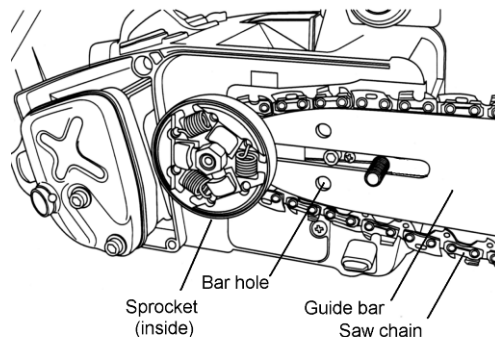
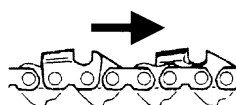
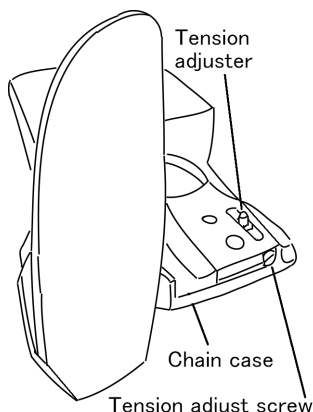
## MOUNTING THE GUIDE BAR AND CHAIN

1. Make sure the chain brake is released.  
Refer to "CHAIN BRAKE".

2. Unscrew the guide bar retaining nut and remove the chain case.

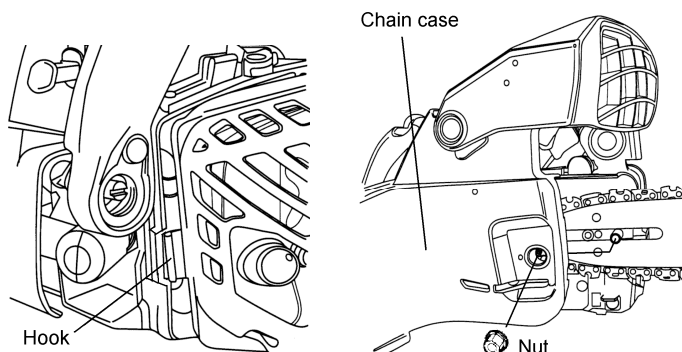
3. Attach the chain to the sprocket in the right direction first, then fit it in the bar groove of the guide bar.

4. Make sure the chain brake is released.



5. Engage the rear part of the chain case with the hook on engine case, and fit the tension adjuster into the bar hole. Reinstall the chain case on the engine case and screw on the guide bar retaining nut only finger tight.

6. Turn the tension adjusting screw clockwise to increase tension.

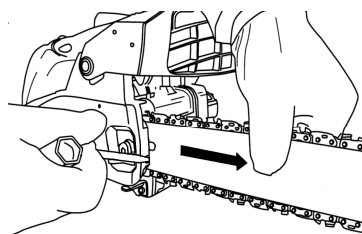


7. While still holding the bar nose up, tighten down the nut firmly with using the supplied box spanner.

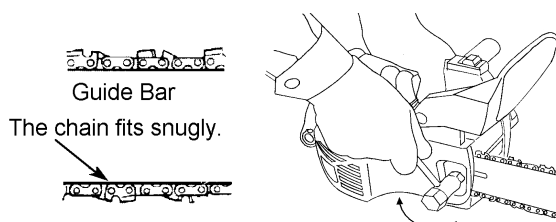
[Tightening torque]

1500~2000 N cm (153~204kgf-cm)

**When tightening with the supplied box spanner, hold the handle of the supplied box spanner and securely tighten the nut.**



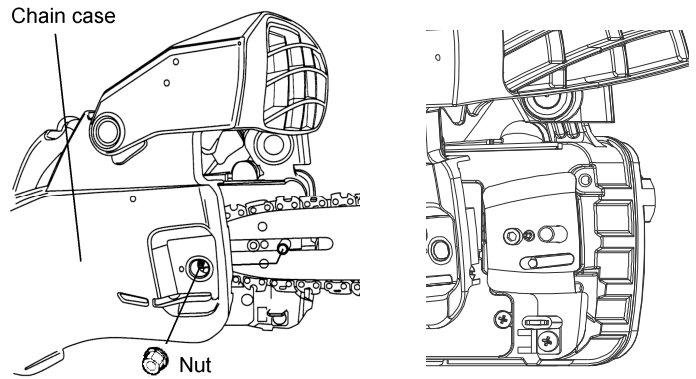
8. Tension is correct when the chain fits snugly against the bar and can still be pulled along the bar by hand. If necessary, loosen the guide bar retaining nuts and readjust it.



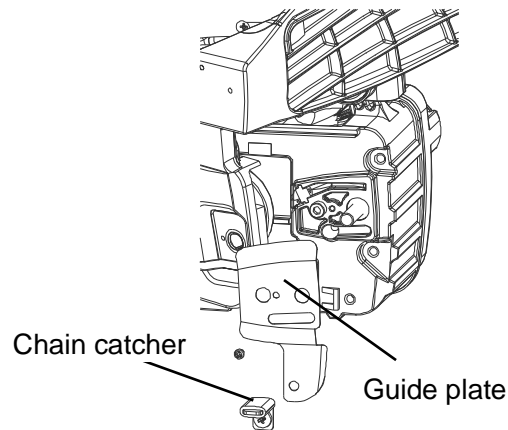
## **INSTALLING THE SPIKED BUMPER (OPTION)**

1. Make sure the chain brake is released.  
Refer to "CHAIN BRAKE".

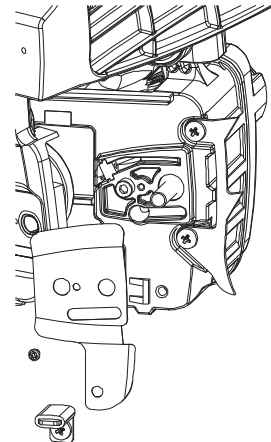
2. Unscrew the nut and remove the chain case.  
Remove the saw chain and guide bar.



3. Remove the screw that attaches the guide plate.  
Remove the chain catcher and the guide plate.



4. Screw the spiked bumper onto the engine case with 2 screws and tighten to 300~400Ncm (31~41kgf-cm).

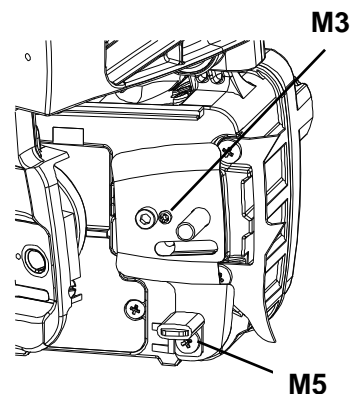


5. Attach the guide plate with the guide plate retaining screw (M3) and the chain catcher retaining screw (M5).

[Tightening torque]

M3 : 80~120 N cm (8.2~12.2kgf-cm)

M5 : 300~400N cm (31~41kgf-cm)



6. For mounting the guide bar and chain, refer to "MOUNTING THE GUIDE BAR AND CHAIN".

# BEFORE OPERATION

## FUELING

**⚠ WARNING** The following precautions will lessen the risk of fire.

1. Do not smoke near fuel.
2. Mix and pour fuel outdoors and where there are no sparks or flames.
3. Always shut off the engine before refueling. Never remove the fuel tank cap while the engine is running or immediately after stopping the engine.

## **⚠ WARNING**

### **POTENTIAL HAZARD**

- Gasoline contains gasses that can build up pressure inside a fuel tank.

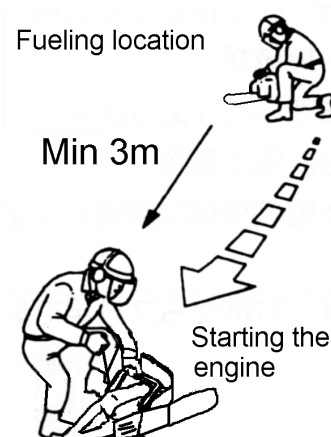
### **WHAT CAN HAPPEN**

- fuel can be sprayed on you when removing fuel tank cap.

### **HOW TO AVOID THE HAZARD**

- Remove fuel tank cap slowly to avoid injury from fuel spray.

4. Always open the fuel tank cap slowly to release any possible pressure inside the tank.
5. Do not overfill the fuel tank. Stop filling 10 ~ 20 mm from the top of the tank.
6. Tighten the tank fuel cap carefully but firmly after refilling.
7. Wipe up any spilled fuel before starting the engine.
8. Move the Chain saw at least 3 m away from the fueling location and fuel storage container before starting the engine.



## **⚠ DANGER**

### **POTENTIAL HAZARD**

- In certain conditions gasoline is extremely flammable and highly explosive.

### **WHAT CAN HAPPEN**

- A fire or explosion from gasoline can burn you, others and cause property damage.

### **HOW TO AVOID THE HAZARD**

- Use a funnel and fill the fuel tank outdoors, in an open area, when the engine is cold. Wipe up any gasoline that spills.
- Do not fill the fuel tank completely. Add gasoline to the fuel tank until the level is 10mm below the bottom of the filler neck. This empty space in the tank allows gasoline to expand.
- Never smoke when handling gasoline, and stay away from an open flame with gasoline in an approved container and keep it out of the reach of children.
- Do not mix fuel for more than two month use.

## **FUEL; MIXING GASOLINE AND OIL**

**Recommended Oil Type :** Only use a two-cycle engine oil formulated for use in high-performance, air-cooled two-cycle engines.

**IMPORTANT :**

- **Do not use two-cycle oil intended for water cooled outboard motors. This type of two-cycle engine oil does not have the additives for air-cooled two-cycle engines and can cause engine damage.**
- **Do not use automotive motor oil. This type of oil does not have the proper additives for air-cooled two-cycle engines and can cause engine damage.**

**Recommended Fuel Type :** Use clean, unleaded gasoline with an octane rating of 85 or higher. Use of unleaded gasoline results in fewer combustion chamber deposits and longer spark plug life. Use of premium grade fuel is not necessary or recommended.

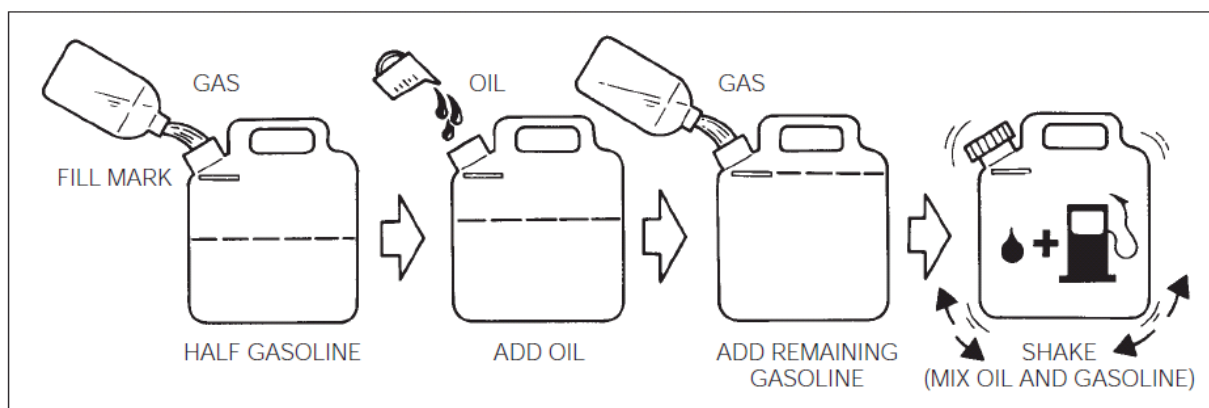
**IMPORTANT :** Never use gasohol or alcohol blended fuels in this engine.

**FUEL MIXTURE:** Always use a good quality 2-cycle, air-cooled engine oil mixed at a ratio of 25:1.

### **FUEL MIXTURE CHART:**

| <b>2-Cycle Oil (25:1)</b> |                      |           |
|---------------------------|----------------------|-----------|
| With                      | 1 liter gasoline mix | 40 mL oil |
|                           | 2 liter              | 80 mL     |
|                           | 5 liter              | 200 mL    |

**MIXING INSTRUCTIONS:** Always mix fuel and oil in a clean container approved for gasoline. Mark the container to identify it as fuel mix for the chain saw. Use regular unleaded gasoline and fill the container with half the required amount of gasoline. Pour the correct amount of oil into the container then add the remaining amount of gasoline. Close the container tightly and shake it momentarily to evenly mix the oil and the gasoline before filling the fuel tank on the chain saw.



When refilling the chain saw fuel tank, clean around the fuel tank cap to prevent dirt and debris for entering the tank during cap removal. Always shake the premix fuel container momentarily before filling the fuel tank.

Always use a spout or funnel when fueling to reduce fuel spillage. Only fill the tank to within 10 ~ 20 mm from the top of the tank. Avoid filling to the top of the tank filler neck.

- NOTE :**
1. Never mix gasoline and oil directly in the chain saw fuel tank.
  2. Do not use National Marine Manufacturer's Association (NMMA) or BIA certified oils. This type of 2-cycle engine oil does not have the proper additives for air-cooled, 2-cycle engines and can cause engine damages.
  3. Do not use automotive motor oil. This type of oil does not have the proper additives for air-cooled, 2-cycle engines and can cause engine damage.

## STARTING AND STOPPING PROCEDURE

### **WARNING**

- Do not start engine before chain brake is activated.

### **CAUTION**

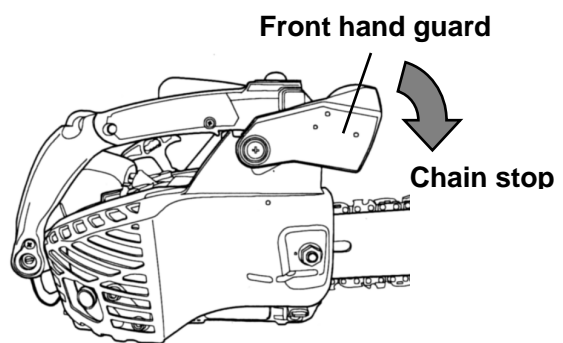
- Do not increase engine speed with the chain brake engaged.  
This may cause excessive heat to covers or damage to the clutch.

### **BEFORE STARTING THE ENGINE**

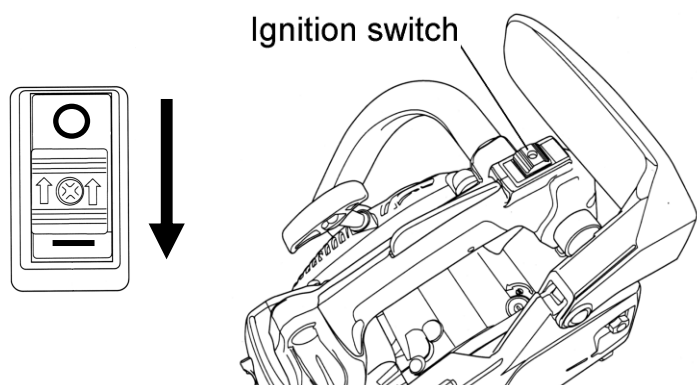
1. Fill the fuel tank as instructed in the Before Operation section of this manual.
2. Rest the chain saw on the ground.
3. Make sure the area is clear of any broken glass, nails, wire, rocks or other debris.
4. Keep all bystanders, children and animals away from the working area.

### **COLD STARTING PROCEDURE**

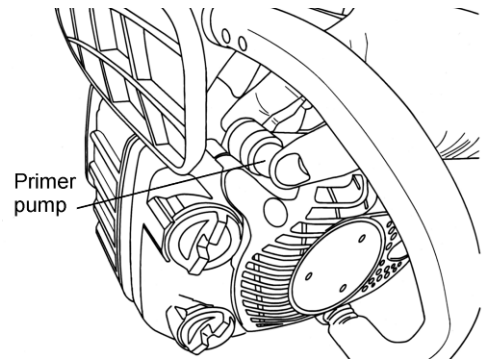
1. Lock the chain by pushing the hand guard forward.  
Always engage the chain brake before starting the chain saw



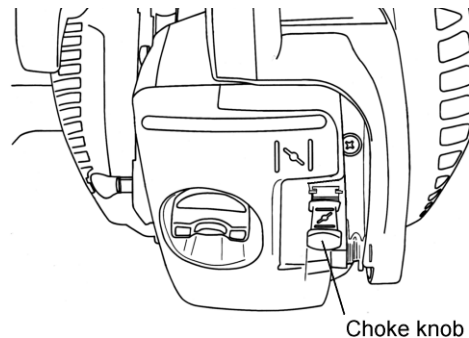
2. Slide the ignition switch, which is located on the front part of the rear handle, to the start position (" — ").



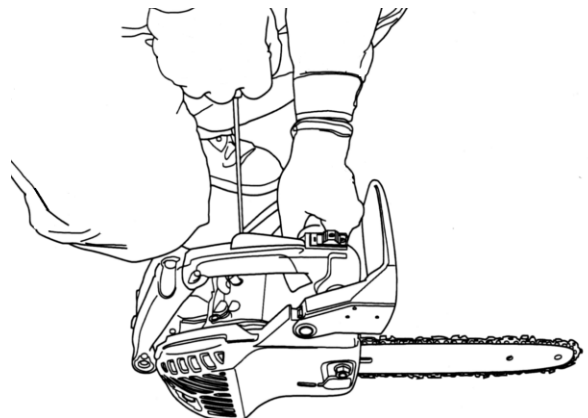
3. Push the primer pump until fuel enters into the primer pump (5 - 6 times) .



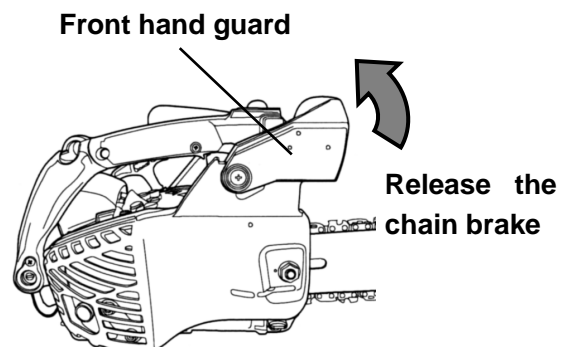
4. Pull the choke knob to the extended position.  
This makes the choke valve closed and sets the throttle trigger to the start position .



5. Place the chainsaw on the ground and hold the front handle firmly with your left hand. Kneel with your right knee on the flame and pull the starter grip with your right hand.
6. If the engine stalls after the first firing, push the chock knob back in and pull the starter grip again.
7. After the engine is started, immediately squeeze and release the throttle trigger to allow it to return to the idle position.



8. After the engine starts, pull the hand guard toward the handle to disengage the chain brake.  
Do not increase engine speed with the chain brake engaged.  
This may cause excessive heat to covers or damage to the clutch.



9. If the engine stalls at low speed, refer to "CARBURETTOR ADJUSTMENT" in Regular maintenance.

## **HOT RESTART**

To start the engine that is already warmed up (hot restart), or if the ambient temperature exceeds 20°C:

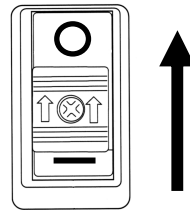
1. Slide the ignition switch, which is located on the front part of the rear handle, to the Start position.
2. Push the primer pump until fuel enters into the primer pump (5 - 6 times).  
Pushing the primer pump is not needed to restart warm engine with enough fuel in tank.
3. Pull the starter grip.
4. If the engine fails to start after three to four pulls, follow the instructions in the Cold Starting Procedure section above.

If the engine fails to start after you follow the above procedures, contact an authorized ACTIVE dealer.

**NOTE:** 1. Don't pull the starter cord out completely.  
2. Don't release the starter cord from the fully extended position.

## **TO STOP THE ENGINE**

1. Release the throttle trigger.
2. Slide the stop switch to the stop position ("○").

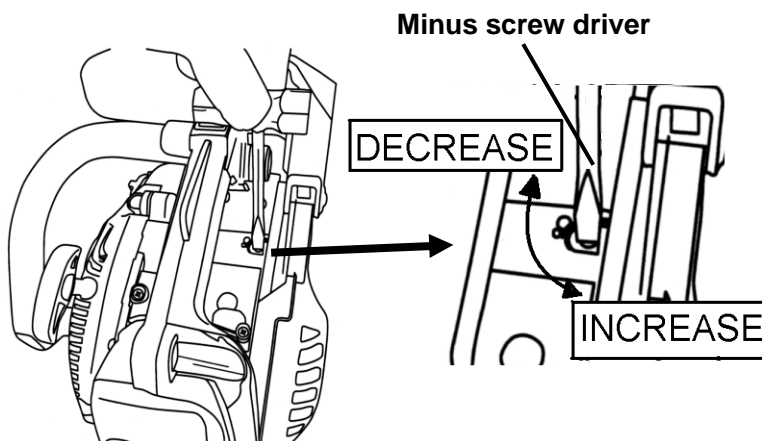
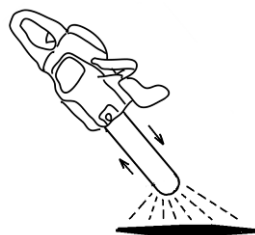


**Note:** In the case that engine does not stop at "○" position, pull the "CHOKE KNOB" to stop engine.  
Pay attention to the chain that starts to turn by pulling "CHOKE KNOB" during engine runs. Please check your chainsaw at authorized service dealer immediately.

# OILER ADJUSTMENT

## CHAIN LUBRICATION TEST

1. Hold the chain just above a dry surface
2. Open the throttle to half
3. Oil should be seen on the surface.

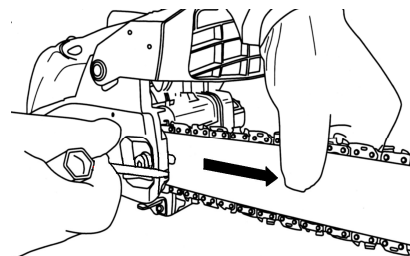
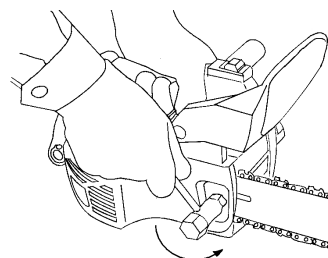


To increase the delivery volume, turn adjusting screw anticlockwise.

# CHAIN ADJUSTMENT

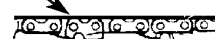
If your Chain Saw has the e-just chain tensioning mechanism, refer to **CHAIN ADJUSTMENT FOR e-JUST**.

1. Make sure the chain brake is released.
2. Loosen the nut counterclockwise using the supplied box spanner, then tighten the nut only finger tight.
3. Turn the tension adjusting screw clockwise to increase tension.
4. While still holding the bar nose up, tighten down the nut firmly with using the supplied box spanner.  
[Tightening torque]  
1500~2000 N cm (153~204kgf-cm)  
**When tightening with the supplied box spanner, hold the handle of the supplied box spanner and securely tighten the nut.**
5. Tension is correct when the chain fits snugly against the bar and can still be pulled along the bar by hand. If necessary, loosen the guide bar retaining nuts and readjust it.



Guide Bar

The chain fits snugly.



# CHAIN BRAKE

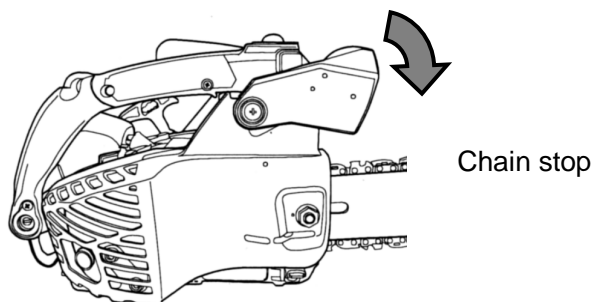


## CAUTION

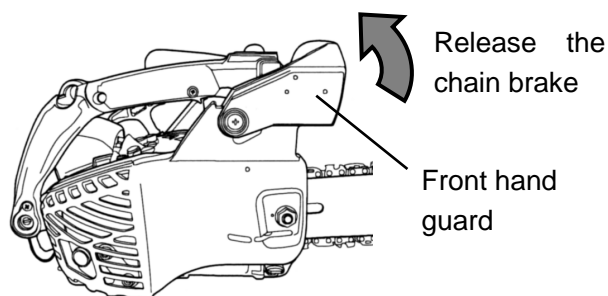
- Check operation of chain brake before starting chainsaw. If the chain brake does not function properly, take the saw to your local Service Center.
- If the brake is tripped by kick back reaction, the chain will stop. Immediately release the throttle to avoid possible damage to the engine or clutch. Do not attempt to operate the engine with the brake engaged.

- Chain brake is the device to stop the rotation of the chain if activated in a kickback situation.

- When the front guard is pushed forward, chain brake instantly works to stop the chain.



- When the front guard is fully pulled toward the handle, brake is released.

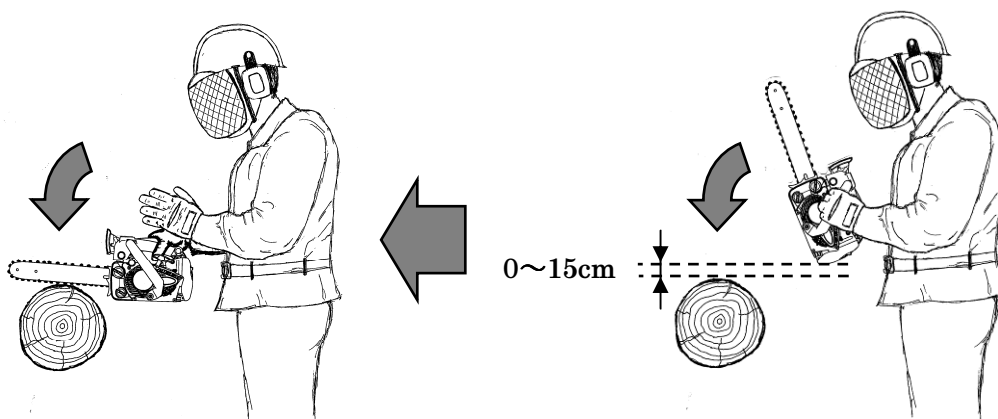


## CHECKING THE BRAKE FUNCTION OF THE BRAKE

1. Place the chain saw on the ground.
2. Hold the handle with both hands and accelerate the engine to high speed by using the throttle trigger.
3. Operate the chain brake by turning your left wrist against the front hand guard whilst gripping the front handle.
4. The chain stop immediately.
5. Release the throttle trigger.
6. If the chain brake does not function properly, take the saw to your local Service Center.

## **CHECKING THE NON-MANUAL CHAIN BRAKE**

1. Stop the engine of the chain saw.
2. Operate the front and rear handles with hands, so that the chain saw may be placed at the height of about 0~15cm as shown in Fig.
3. Softly detach the left hand from the front handle, and touch the end of the guide bar against the log or the like placed below so that the machine receives an impact.  
Do not let your hand off from the rear handle.
4. The brake should activate when the guide bar hits the log.
5. If the chain brake does not function properly, take the saw to your local Service Center.



# CUTTING INSTRUCTION



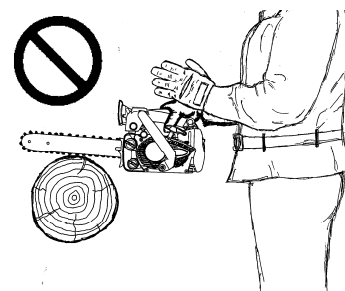
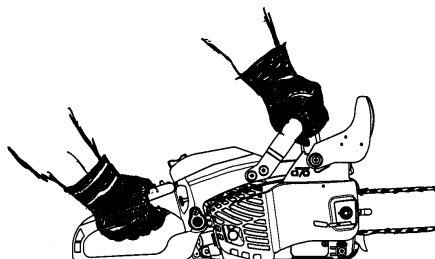
## CAUTION

- Read the Safety instructions beginning on page 7 concerning proper use of the Chain saw.
- Always wear gloves and protective clothing when operating the Chain saw.
- Felling a tree requires knowledge and experience, especially in a case of felling a large diameter tree or cutting on steep slopes or unstable ground. Please seek the advice of a real expert before attempting to fell a tree.
- Before attempting to fell a tree, cut some small logs or limbs to practice of the Chain saw operations.
- Apply only light pressure while running the engine at full throttle constantly.
- If the chain is properly sharpened, the cutting should be relatively effortless. Replace the chain or sharpen it.
- If the saw pinches during cutting operation, stop the engine and insert a wedge to remove it.
- Do not let any person use your saw unless he has read this operator's manual and fully understands its instruction.
- Use chain saw only to cut wood or wood products.

## HOLDING THE SAW

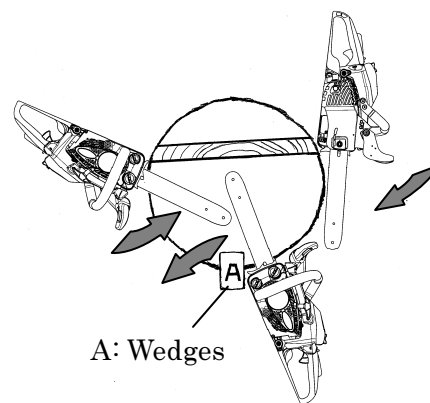
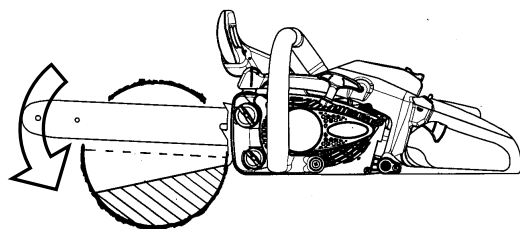
With both hands, keep a good, firm grip on the saw.

The right hand should be on the rear handle, and the left hand on the front handle.



## APPROPRIATE USE OF SPIKED BUMPER

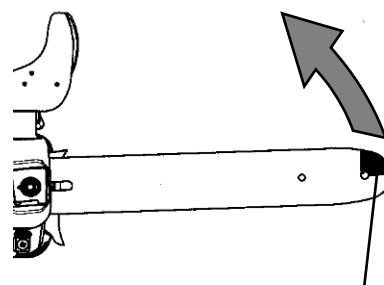
Engage the spiked bumper firmly in the wood and pivot the saw around this contact point.



## KICKBACK SAFETY PRECAUTION

### KICKBACK PHENOMENON :

If the upper quadrant of the tip of the bar touches any object, the reaction of the chain may drive the saw rapidly straight back toward the operator. Do not cut limbs with the nose of the guide bar.



Kickback zone



## DANGER

### POTENTIAL HAZARD

- Kickback may occur when the nose or tip of the guide bar touches an object.

### WHAT CAN HAPPEN

- If the upper quadrant of the tip of the bar touches any object, the reaction of the chain may drive the saw rapidly straight back toward the operator.

### HOW TO AVOID THE HAZARD

- Hold the chainsaw firmly with both hands.
- Begin cutting and continue at full throttle.
- Do not cut limbs with the nose of the guide bar.
- Do not overreach.
- Cut only one log at a time.
- Do not cut above chest height.  
It is difficult to maintain control of saw above chest height.
- Use extreme caution when reentering a previous cut.
- Cut with a correctly sharpened, properly tensioned chain at all times.
- Depth gauges are critical to safe chain operation.
- Use appropriate low kickback type of saw chain.



### WARNING

It is important to file the saw chain to the correct depth and angle. Improper lowering or sharpening of the depth gauges may increase the risk of kickback injury.

**PULL-IN :** Pull-in occurs when the chain on the bottom of the bar is suddenly stopped when it is pinched or caught in the wood.

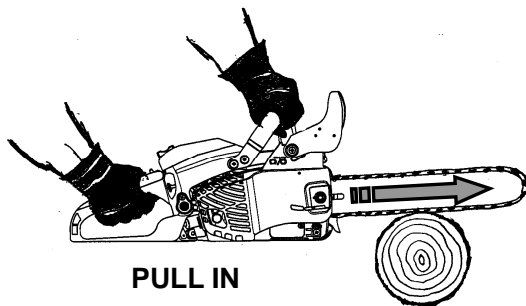
The reaction of the chain pulls the saw forward.

Always cut with the spiked bumper in contact with the wood.

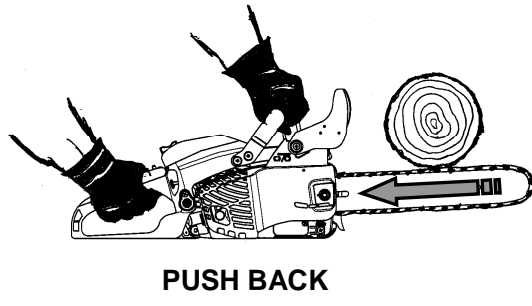
**PUSH BACK :** Pushback occurs when the chain on the top of the bar is suddenly stopped when it is pinched or caught in the wood.

The reaction of the chain drives the saw straight back toward the operator.

Watch the cut and the log for any movement that may pinch the chain.



PULL IN



PUSH BACK

**Bouncing :** Bouncing occurs when the saw chain contact with wood.

The reaction of the saw is bouncing on the wood.

Hold the chain saw firmly with both hands, Apply only light pressure while running the engine at full throttle constantly.

## **FELLING A TREE**

### **! DANGER**

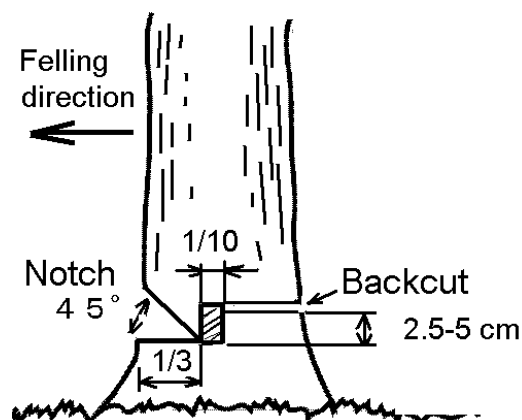
- There are a number of factors that may affect the intended direction of fall and be alert for a change in direction while the tree is falling.

### **! CAUTION**

- If the saw begins to pinch during the backcut operation, insert a wedge to open the cut and remove it.

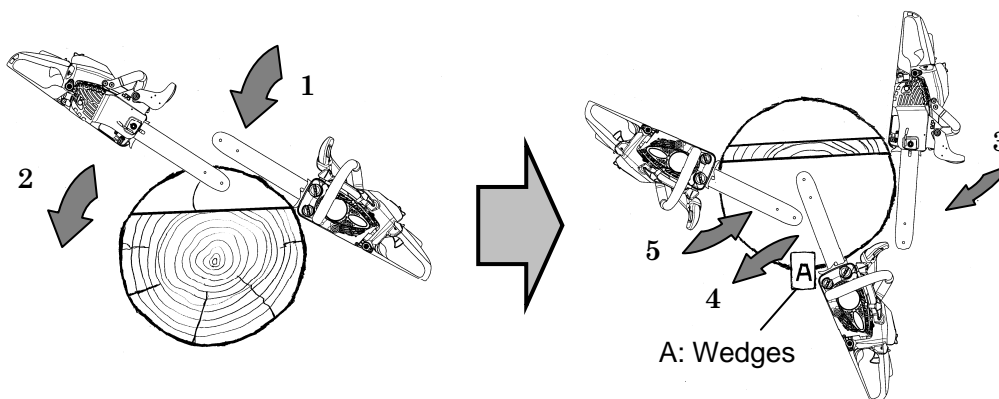
- Before felling a tree, consider carefully all conditions, including lean of tree, sloping ground, wind, wood structure which may affect the direction of fall.
- Before cutting, clear the area around the tree. You will need good footing while working and select a path of retreat.

1. Cut a notch on the side to which the tree is to fall.
  - Cut to a depth of 1/3 of the trunk diameter.
  - Remove resulting 45-degree piece.
2. Cut horizontally on the side opposite the notch and at level about 5cm above the bottom of the notch. (Backcut)
  - The remaining wood between the notch and backcut will act as a hinge when the tree falls, guiding it in the desired direction.
3. When the tree starts to fall, kill the engine, place the saw on the ground and make your retreat quickly.



## **FELL BIG TREE**

- To fell big trees with a diameter exceeding twice the bar length, start the notching cuts from one side and draw the saw through to the other side of the notch.
- Start the back cut on one side of the tree with the spiked bumper engaged, pivoting the saw through to from the desired hinge on that side.
- Then remove the saw for the second cut.
- Insert the saw in the first cut very carefully so as not to cause kickback.
- The final cut is made by drawing the saw forward in the cut to reach the hinge.



## **LIMBING AND BUCKING**



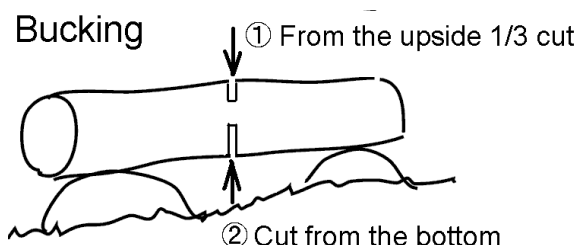
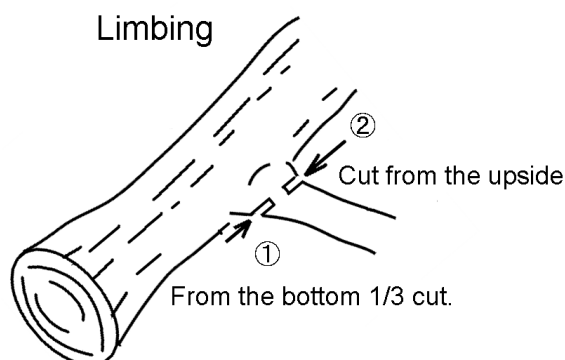
### **CAUTION**

- Don't saw above chest height.
- Always use both hands.
- Stay on the uphill side of logs.
- Don't let anyone hold wood for you to cut.
- Saw wrongly held too close to operator's body.
- Cutting while on a ladder is extremely dangerous because the ladder can slip and your control of the chain saw is limited.
- Never operate chain saw without rope-harness on climbing a tree.

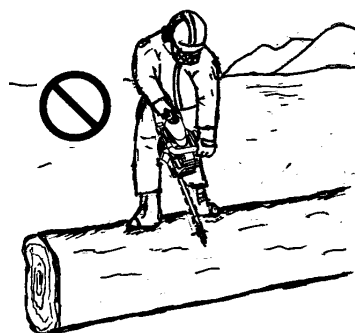
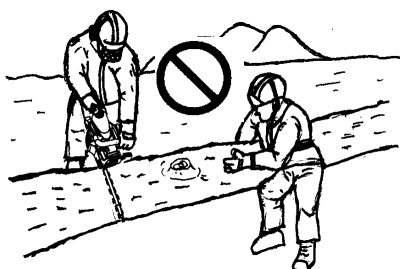
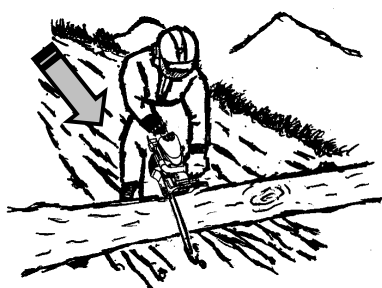


### **WARNING**

Do not put pressure on the saw when reaching the end of a cut. The pressure may cause the bar and rotating chain to pop out of the cut or kerf, go out of control and strike the operator or some other object. If the rotating chain strikes some other object, a reactive force may cause the moving chain to strike the operator.



- To make sure ground safety, doing work.
- When limbing, cut using a porting of the root of the guide bar. If the tip of the guide bar touches wood, the guide bar kicks back in an instant.
- Bucking is the sawing of a log or fallen tree into smaller pieces.
- When you cut, wood cutting order considering to open cut.



## **WORKING WITH TREE SERVICE CHAIN SAW FROM ROPE AND HARNESS**



### **CAUTION**

- Operators of tree service chain saws working at height from a rope and harness should never work alone.
- A ground worker trained in appropriate emergency procedures should assist them.
- Operators of tree service chain saws for this work should be trained in general safe climbing and work positioning techniques and be properly equipped with harnesses, ropes, strops, carabiners and other equipment for maintaining secure and safe working position for both themselves and the saw.

### **PREPARING TO USE THE SAW IN THE TREE**

- The chain-saw should be checked, fuelled, started and warmed up by the ground worker and then switched off before it is sent up to the operator in the tree.

- The chain-saw should be fitted with a suitable strop for attachment to the operator's harness (see Figure A).



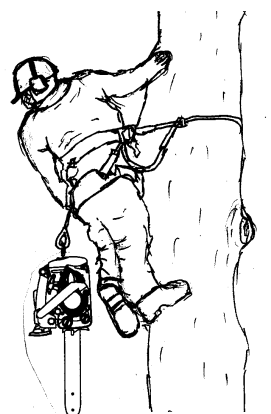
**Figure A**

1. Secure the strop around the attachment point on the rear of the saw.
2. Provide suitable carabiners to allow indirect (i.e. via the strop) and direct attachment (i.e. at the attachment point on the saw) of the saw to the operator's harness.
3. Ensure the saw is securely attached when it is being sent up to the operator.
4. Ensure the saw is secured to the harness before it is disconnected from the means of ascent.

The ability to directly attach the saw to the harness reduces the risk of damage to equipment when moving around tree. Always switch the saw off when it is directly attached to the harness.

The saw should only be attached to the recommended attachment points on the harness. These may be at mid-point (front or rear) or at the sides. Where possible, attach the saw to the centre rear mid-point to keep it clear of climbing lines and to support its weight centrally down the operator's spine. (see Figure B).

When moving the saw from any one attachment point to another, operators should ensure it is secured in the new position before releasing it from the previous attachment point.



**Figure B**

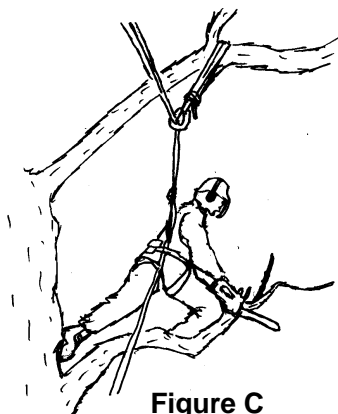
## **USING THE CHAIN SAW IN THE TREE**

### **! CAUTION**

- In the vast majority of accidents, operators fail to adopt a secure work position that allows them to hold both handles of the saw.

## **SECURING THE WORK POSITION FOR TWO-HANDED USE**

- In order to allow the saw to be held with both hands, as a general rule operators should aim for a secure work position in which they operate the saw at hip level, when cutting horizontal sections, and solar plexus level, when cutting vertical sections.
- Where the operator is working close into vertical stems with low lateral forces on the work position, then a good footing could be all that is needed to maintain a secure work position. However, as operators move away from the stem, they will need to take steps to remove or counteract the increasing lateral forces by, for example, a redirect of the main line via a supplementary anchor point or use an adjustable strop direct from the harness to a supplementary anchor point (see Figure C)
- Gaining a good footing at the working position can be assisted by the use of a temporary foot stirrup created from an endless sling (see Figure D)



**Figure C**



**Figure D**

## **STARTING THE SAW IN THE TREE**

When starting the saw in the tree, the operator should following particulars.

- a) Apply the chain brake before starting.
- b) Hold the saw on either the left or right of the body when starting,
  1. On the left side, hold the saw with the left hand on the front handle and thrust the saw away from the body while holding the pull starter cord in the right hand, or
  2. On the right side, hold the saw with the right hand on either handle and thrust the saw away from the body while holding the pull starter cord in the left hand.
- c) The chain brake should always be engaged before lowering a running saw onto its strop.
- d) Operators should always check that the saw has sufficient fuel before undertaking critical cuts.

## **ONE-HANDED USE OF THE CHAIN SAW**

### **CAUTION**

- Operators should never cut with the kickback zone at the tip of the chain saw guide bar, hold and cut sections, or attempt to catch falling sections.

Operators should not use tree service chain-saws one-handed when work position is unstable or in preference to a handsaw when cutting small diameter wood at the branch tips.

Tree service chain-saws should only be used one-handed apply in any of the following cases.

1. Operators cannot gain a work position enabling two-handed use.
2. Operators need to support their working position with one hand.
3. The saw is being used at full stretch, at right angles to and out of line with the operator's body (see Figure E).



**Figure E**

## **FREEING A TRAPPED SAW**

If the saw becomes trapped during cutting, operators should switch off the saw and attach it securely to the tree inboard (i.e. towards the trunk side) of the cut or to a separate tool line, pull the saw from the kerf whilst lifting the branch as necessary, if necessary, use a handsaw or second chainsaw to release the trapped saw by cutting a minimum of 30 cm away from the trapped saw.

Whether a handsaw or a chain saw is used to free a trapped saw, the release cuts should always be outboard (toward the tips of the branch), in order to prevent the saw being taken with the section and further complicating the situation.


# SAW CHAIN MAINTENANCE



## WARNING

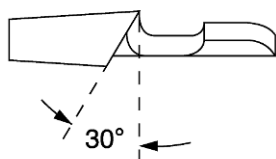
- This saw chain met the kickback performance requirements of ISO 11681 when tested with this chain saw and guide bar “Oregon double guard” combinations. It may not meet the ISO 11681 performance requirements when used on other chain saws or guide bars..

When replacing the saw chain, identify the type of chain with the drive links mark.

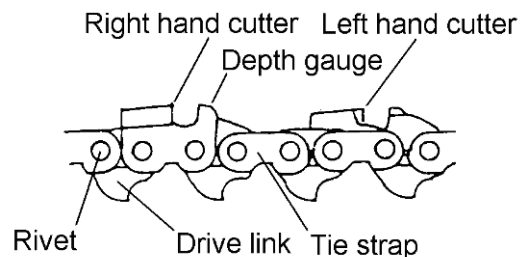
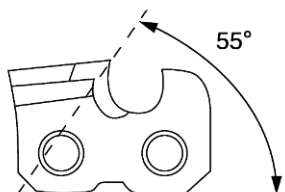
| Type of chain | Pitch                | Gauge                  | Drive link mark  | Drive link number                  |
|---------------|----------------------|------------------------|--|------------------------------------|
| Oregon 91PX   | 3/8 inch<br>(9.53mm) | 0.050 inch<br>(1.27mm) |  | 40 (24.0cm bar)<br>45 (28.7cm bar) |

|            |                         |
|------------|-------------------------|
| Round file | $\phi$ 4.0mm (5/32inch) |
|------------|-------------------------|

Top plate angle



Top plate cutting angle



## SHARPENING



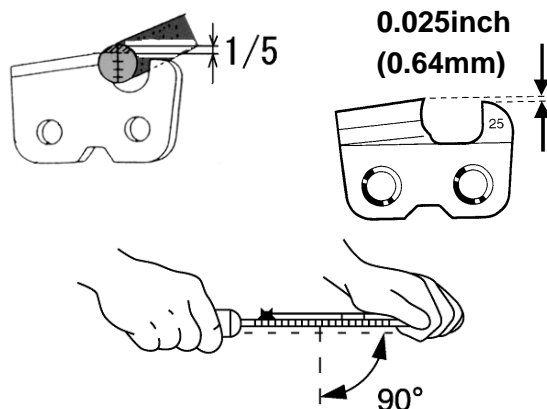
## WARNING

- Switch off the engine before sharpening the saw chain.
- Always wear gloves when working on saw chain.
- It is important to file the saw chain to the correct depth and angle. Improper lowering or sharpening of the depth gauges may increase the risk of kickback injury.

### Sharpening

The saw chain should be sharpened once a day.

1. Lock the chain.
2. The saw chain have alternative left and right hand cutters. Always sharpen from the inside out.
3. Keep the file to the angle lines of the top plate angle.
4. Hold the file horizontally.

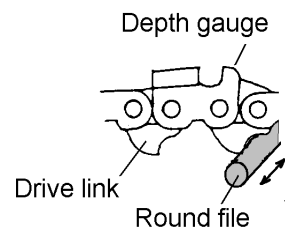
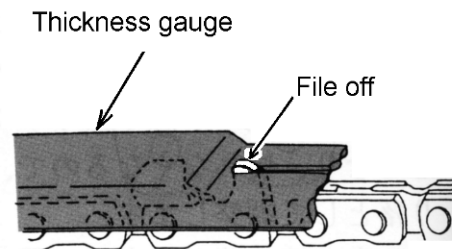


## Depth gauge adjustment

The depth control determines the thickness of wood chip produced and must be maintained correctly throughout the chain life.

As the cutter length is reduced, the depth control height is altered and must be reduced.

1. Position the depth gauge, and file off any of the depth control which protrudes.
2. Round off the front of the depth control to allow smooth cutting.
3. Keep the Lower edge of the drive link sharp. (Drive link serves to remove sawdust from the groove of the guide bar.)

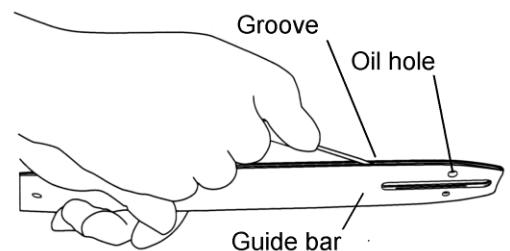
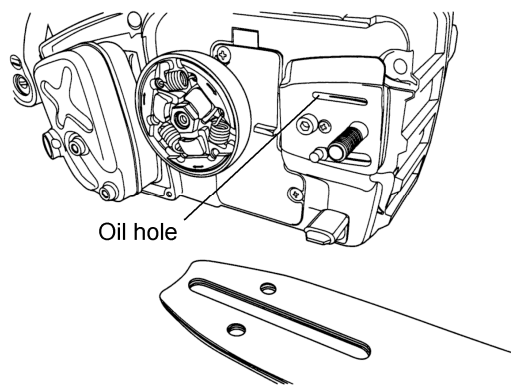


## GUIDE BAR

- Clean before using  
Clean the groove of the guide bar with a small screw driver or a wire.  
Clean oil holes with a wire.
- Reverse guide bar periodically.
- Check sprocket and the clutch.
- Clean the bar mount area before installation of the guide bar.

**NOTE: Use appropriate low kickback type of saw chain.**

**When replacing guide bar or saw chain, ask any local authorized ACTIVE dealer.**



# REGULAR MAINTENANCE

Maintenance, replacement or repair of emission control devices and systems may be performed by any repair establishment or individual; however, warranty repairs must be performed by a dealer or service center authorized by ACTIVE. The use of parts that are not equivalent in performance and durability to authorized parts may impair the effectiveness of the emission control system and may have a bearing on the outcome of a warranty claim.



## WARNING

- Switch off the engine before sharpening the saw chain.
- Always wear gloves when working on saw chain.
- When replacing guide bar or saw chain, Use appropriate low kickback type.
- Never modify a chain saw in any way. Although certain unauthorized attachments are useable with the chain saw, their use may, in fact, be extremely dangerous.

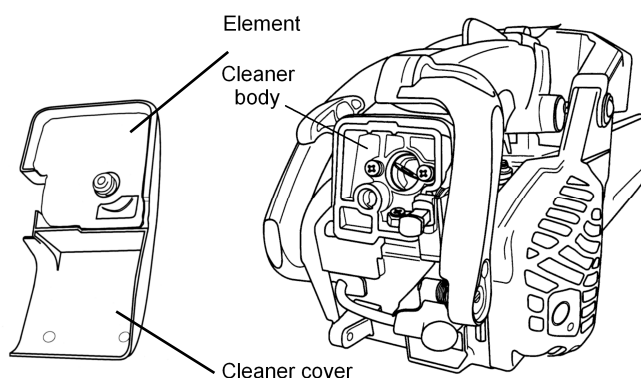
## AIR FILTER

### Maintenance Interval

- The air filter should be cleaned **daily**, or more often when working in extremely dusty conditions.
- Replace after every **100 hours** of operation.

### Air Filter Cleaning

1. Remove the Cleaner cover from the chain saw.
2. Remove the element from the Cleaner cover.
3. Brush off dust on the element or blow off dust with compressed air.
4. Reassemble the element and Cleaner cover.

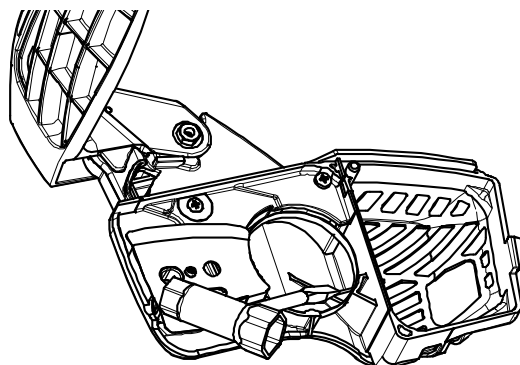


## CHAIN CASE

### Maintenance Interval

- The chain case should be cleaned daily, or more often when working in extremely dusty conditions.
- When chain brake does not function properly, should be cleaned.
- Clean the bar mount area before mounting of the chain case.

**IMPORTANT :** After clean, if the chain brake does not function properly, take the saw to your local Service Center.



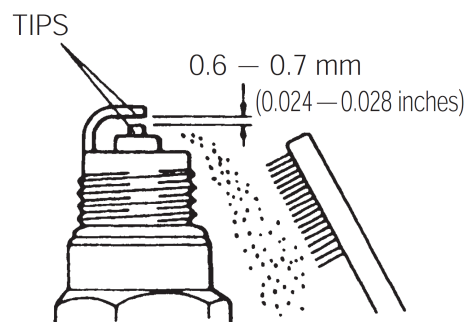
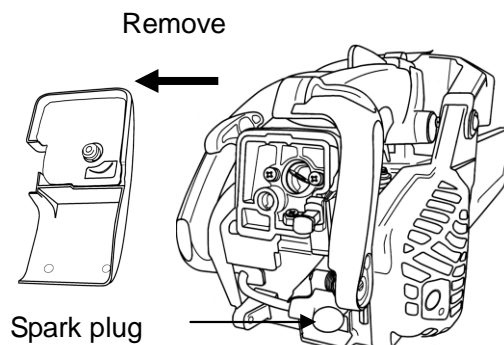
## SPARK PLUG

### Maintenance Interval

- The spark plug should be removed from the engine and checked after each **25 hours** of operation.
- Replace the spark plug after every **100 hours** of operation.

### Spark Plug Maintenance

1. With the engine at ambient (room) temperature, twists the high tension lead boot on the spark plug back and forth a couple of times to loosen the boot, and then pull the boot off of the spark plug.
2. Remove the Cleaner cover from the chain saw.
3. Remove the spark plug.
4. Clean the electrodes with a stiff brush.
5. Adjust the electrode air gap to 0.6- 0.7 mm (0.024-0.028 in).
6. Replace the spark plug if it is oil-fouled, damaged, or if the electrodes are worn down.
7. Do not over tighten the spark plug when installing. The tightening torque is 10.7-16.6 N·m (95-148 in. lbs).



## SPROCKET

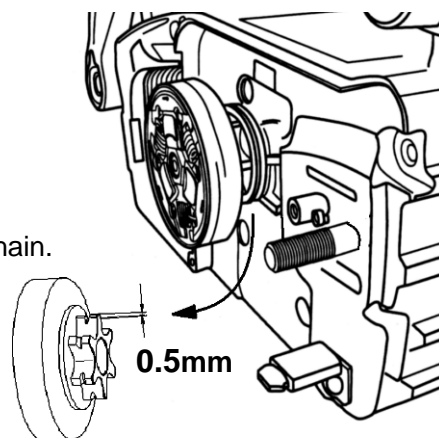
### Maintenance Interval

- The sprocket should be cleaned and inspected for damage after each **25 hours** of operation, or when you install new chain.

### SPROCKET CLEANING AND INSPECTED

- The clutch should be cleaned and inspected for damage.
- The damaged sprocket will premature damage or wear of saw chain.
- When the sprocket has worn out 0.5mm or more, replace it.

| SPROCKET | PITCH | TEETH |
|----------|-------|-------|
|          | 3/8   | 6     |



## **FUEL FILTER**

### **Maintenance Interval**

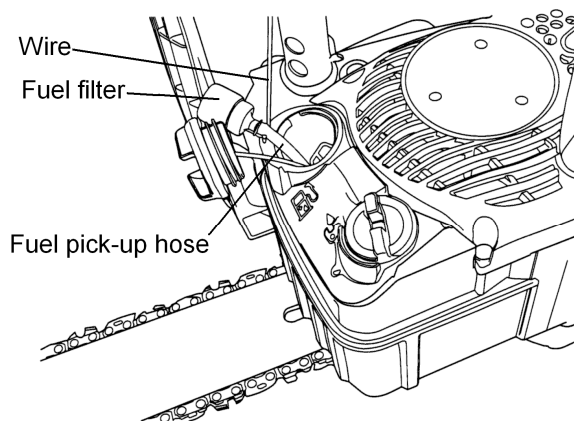
- The fuel filter should be cleaned and inspected for damage after each **25 hours** of operation.
- The fuel filter should be replaced after every **100 hours** of operation.

### **Fuel Filter Replacement**

The fuel filter is attached to the end of the fuel pick-up hose inside the fuel tank.

#### **To replace the fuel filter:**

1. Make sure the fuel tank is empty.
2. Remove the fuel cap.
3. Using a wire hook, gently pull the fuel filter out through the fuel filler opening.
4. Grasp the fuel hose next to the fuel filter fitting and remove the filter, but do not release the hose.
5. While still holding on to the fuel hose, attach the new fuel filter.
6. Drop the new fuel filter back into the guide bar side of the fuel tank.
7. Make sure that the fuel filter is not stuck in a corner of the tank, and that the fuel hose is not doubled over (kinked) before refueling.



## **OIL FILTER**

### **Maintenance Interval**

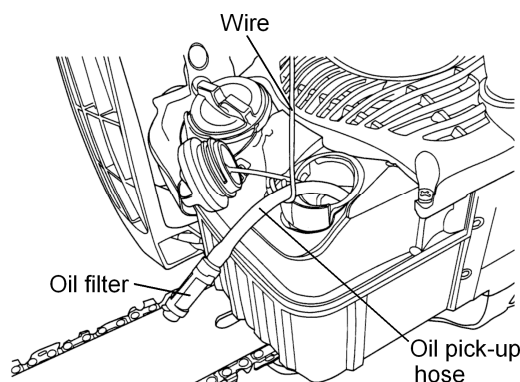
- The oil filter should be cleaned and inspected for damage after each **25 hours** of operation.

### **Oil Filter Cleaning**

The oil filter is attached to the end of the oil pick-up hose inside the oil tank.

#### **To clean the oil filter:**

1. Make sure the oil tank is empty.
2. Remove the oil cap.
3. Using a wire hook, gently pull the oil filter out through the oil filler opening.
4. Grasp the oil hose next to the oil filter fitting and clean the oil filter.
5. Drop the oil filter back into the guide bar side of the oil tank.
6. Make sure that the oil filter is not stuck in a corner of the tank, and that the oil hose is not doubled over (kinked) before refueling.



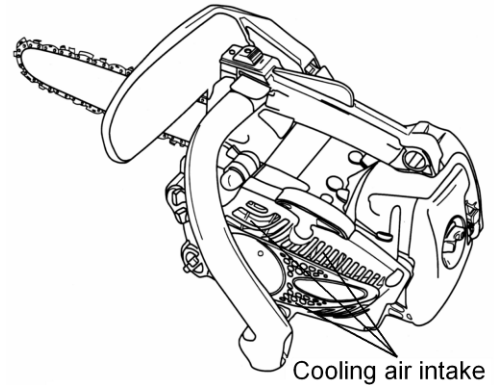
## **ENGINE COOLING**

### **Maintenance Interval**

- The engine cooling should be cleaned after every **25 hours** of operation, or once a week, whichever comes first.
- Air must flow freely around and through the cylinder cooling fins to prevent engine overheating. Leaves, grass, dirt and debris buildup on the fins will increase the operating temperature of the engine, which can reduce engine performance and shorten engine life.

### **Cooling Fin Cleaning**

Clean all dirt and debris from around the cooling air intake.



## **MUFFLER (SILENCER)**

### **Maintenance Interval**

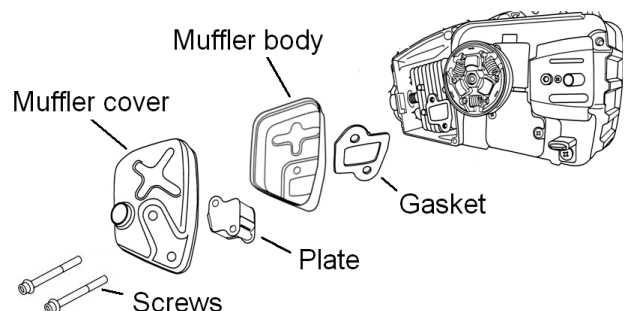
The muffler should be inspected and cleaned after each **100 hours** of use.

### **! CAUTION**

- Be careful not to allow any dirt or debris to fall into the exhaust port, as this can cause engine damage.

### **Muffler Maintenance**

1. With the engine at ambient (room) temperature, loosen the nut and remove the chain case
2. Remove the two screws, and remove the Muffler.
3. Clean the muffler with a stiff brush.
4. Reinstall the muffler, then reinstall and tighten the two screws.
5. Reinstall the Chain case.



## **GENERAL CLEANING AND TIGHTENING**

### **WARNING**

#### **POTENTIAL HAZARD**

- When engine is running, attached tool and other parts are moving.

#### **WHAT CAN HAPPEN**

- Contact with moving tool or other moving parts could cause serious personal injury or death.

#### **HOW TO AVOID THE HAZARD**

- Always turn off your Chain saw before you clean or perform any maintenance on it.

The ACTIVE Chain saw will provide maximum performance for many, many hours if it is maintained properly. Good maintenance includes regular checking of all fasteners for correct tightness, and cleaning the entire machine.

## **CARBURETOR ADJUSTMENT**

### **WARNING**

#### **POTENTIAL HAZARD**


- Engine must be running to make carburetor adjustments.
- When engine is running, saw chain are moving.

#### **WHAT CAN HAPPEN**

- Contact with moving parts could cause serious personal injury or death.

#### **HOW TO AVOID THE HAZARD**

- Keep hands, feet and clothing away from moving parts.
- Keep all bystanders and pets away from unit while making carburetor adjustments.

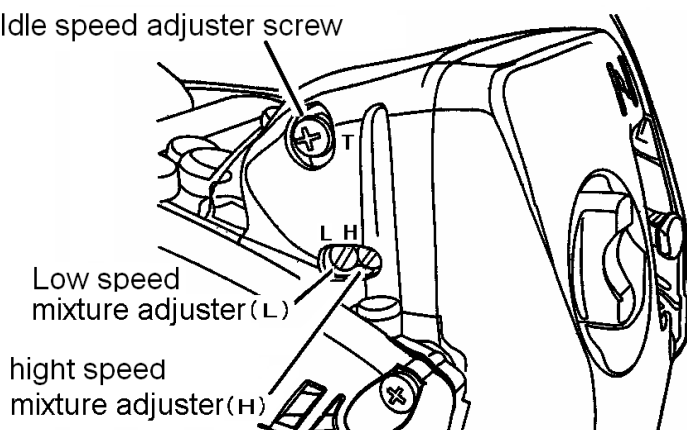
-  **WARNING**
- Idle speed adjustment should be checked each time the unit is operated.
  - Wear the recommended personal protective equipment and observe all safety instructions.

### **Engine Idle Speed:**

To adjust the engine idle speed, rotate the idle speed adjuster screw on the carburetor.

- Turn the idle speed adjuster screw in (clockwise) to increase the engine idle speed.
- Turn the idle speed adjuster screw out (counterclockwise) to decrease the engine idle speed.

Idle speed adjuster screw



## **Fuel mixtures adjust:**

Do not adjust the carburetor unless necessary.

To adjust the carburetor proceed as follows

1. Turn the low speed mixture adjuster (L) and high speed mixture adjuster (H) anticlockwise to stop.
2. Start engine and allow it to run at idle until warm.
3. Turn idle speed adjuster screw (T) anticlockwise until the saw chain stops moving.
4. Accelerate to full throttle to check for smooth transition from idle to full throttle.
5. Turn the low speed mixture adjuster (L) and high speed mixture adjuster (H) clockwise to adjust for smooth transition from idle to full throttle.



### **CAUTION**

- **When starting, idle speed adjuster (T) should be adjusted not to rotate the saw chain.**
- **If idle speed adjustment is necessary, and after adjustment the engine stalls, stop using the Chain saw immediately!**
- **Contact your local authorized ACTIVE Dealer for assistance and servicing.**

# STORAGE



## WARNING

### POTENTIAL HAZARD

- Gasoline contains gasses that can build up pressure inside a fuel tank.

### WHAT CAN HAPPEN

- fuel can be sprayed on you when removing fuel tank cap.

### HOW TO AVOID THE HAZARD

- Remove fuel tank cap slowly to avoid injury from fuel spray.



## WARNING

### POTENTIAL HAZARD

- Saw chain is sharp.

### WHAT CAN HAPPEN

- Contact with the saw Chain can cause personal injury.

### HOW TO AVOID THE HAZARD

- Wear gloves when you handle the saw chain.

For long term storage of the chain saw:

1. Empty the fuel tank into a suitable fuel storage container approved for gasoline.
2. Pump the primer bulb on the carburetor until all fuel is discharged through the clear Primer pump.
3. Run the engine to remove any fuel that may remain in the carburetor.
4. Perform all regular maintenance procedures and any needed repairs.
5. Remove the spark plug and squirt a very small amount of oil into the cylinder.



## CAUTION

### POTENTIAL HAZARD

- Oil may squirt out of the spark plug opening when you pull the starter grip.

### WHAT CAN HAPPEN

- Oil can cause eye injuries.

### HOW TO AVOID THE HAZARD

- Protect your eyes and keep your face away from the spark plug opening.

6. Pull the starter grip once.
7. Slowly pull the starter grip to bring the piston to the top of the cylinder (TDC).
8. Reinstall the spark plug.
9. Store the Chain saw in a dry place away from excessive heat, sparks or open flame.
10. Always use a guide bar cover when carrying or storage a chain saw.

# TROUBLESHOOTING

| Problem                               | Cause  | Action   |
|---------------------------------------|--|--|
| Engine Will Not Start                 | <ul style="list-style-type: none"> <li>• STOP switch to off position</li> <li>• Electrical problem</li> <li>• Empty fuel tank</li> <li>• Primer bulb wasn't pushed enough</li> <li>• Fuel filter clogged</li> <li>• Fuel line clogged</li> <li>• Carburetor</li> <li>• Engine flooded</li> </ul> | <ul style="list-style-type: none"> <li>• Move switch to on position</li> <li>• Ask your ACTIVE dealer</li> <li>• Fill fuel tank</li> <li>• Press primer bulb until fuel flows<br/>Through fuel primer bulb</li> <li>• Clean or replace</li> <li>• Clean</li> <li>• Ask your ACTIVE dealer</li> <li>• Use warm engine starting procedure</li> </ul> |
| Engine lacks Power or<br>Dropped down | <ul style="list-style-type: none"> <li>• Dirty air filter</li> <li>• Fuel filter clogged</li> <li>• Fuel mixture is too rich</li> <li>• Clogged exhaust port</li> <li>• Spark plug</li> <li>• Cooling system plugged</li> </ul>  | <ul style="list-style-type: none"> <li>• Clean or replace air filter</li> <li>• Clean or replace</li> <li>• Open choke, adjust carburetor, ask<br/>your ACTIVE dealer</li> <li>• Clean exhaust port</li> <li>• Clean and adjust or replace</li> <li>• Clean</li> </ul>   |

**If further assistance is required, contact your local authorized ACTIVE service dealer.**

# MAINTENANCE PERIOD

|   | Maintenance   | Before use                                 | Daily | Every 25 hours | Every 50 hours | Every 100 hours |
|---|---|--|-------|----------------|----------------|-----------------|
|   | Check and replenish fuel                              | ○  |       |                |                |                 |
|   | Check for fuel leakage                                | ○  |       |                |                |                 |
| ■ | Check and clean fuel filter                           |  |       | ○              |                |                 |
|   | Check and replenish oil                               | ○  |       |                |                |                 |
| ■ | Check and clean oil filter                            |  |       | ○              |                |                 |
|   | Check bolts, nuts and screws for tightness or missing | ○  |       |                |                |                 |
|   | Tighten bolts and nuts                                | ○  |       |                |                |                 |
|   | Check engine idle speed adjustment                    | ○  |       |                |                |                 |
| ■ | Clean air filter element                              |  | ○     |                |                |                 |
| ■ | Remove dust and dirt for cooling air intake           |  | ○     |                |                |                 |
|   | Clean spark plug and adjust electrode gap             |  |       | ○              |                |                 |
| ● | Remove carbon deposits in exhaust port                |  |       |                |                | ○               |
|   | Replace fuel filter                                   |  |       |                |                | ○               |
|   | Check chain brake                                     | ○  |       |                |                |                 |
|   | Check sprocket  |  |       | ○              |                |                 |
|   | Check and clean Guide bar                             | ○  |       |                |                |                 |
|   | Check antivibration device ( rubber, spring )         | ○  |       |                |                |                 |
|   | Check chain catcher                                   | ○  |       |                |                |                 |
|   | Sharpening saw chain                                  |  | ○     |                |                |                 |
|   | Replace fuel tube, fuel tank cap gasket               | It is recommended to replace every 3 years |       |                |                |                 |

●:service to be performed by an authorized ACTIVE engine dealer.

■:Service more frequently under dusty conditions.

## NOTE:

The service intervals indicated are to be used as a guide.

Service to be performed more frequently as necessary depending on operating condition.

## EC DECLARATION OF CONFORMITY

Name and address of manufacturer:

**Maruyama Mfg.Co., Inc.**

**4-15 Uchi-kanda 3-Chome, Chiyoda-ku Tokyo 101-0047 Japan**

Name and address of the person who compiled the technical files:

**Obelis European Authorized Representative Center (O.E.A.R.C.)**

**Boulevard Général Wahis, 53, B-1030 Brussels, Belgium**

**Tel: +(32) 2. 732.59.54 Fax: +(32) 2.732.60.03 E-Mail : [mail@obelis.net](mailto:mail@obelis.net)**

Name and address of the european authorized representative:

**Obelis European Authorized Representative Center (O.E.A.R.C.)**

**Boulevard Général Wahis, 53, B-1030 Brussels, Belgium**

**Tel: +(32) 2. 732.59.54 Fax: +(32) 2.732.60.03 E-Mail : [mail@obelis.net](mailto:mail@obelis.net)**

Herewith declares that:

**Portable Chain Saw. Type: 28.28**

**The Chain Saw is powered internal combustion-engine.**

**Serial number: A000001~M999999**

Complies with:

-The provisions of the "Machinery" Directive **2006/42/EC**, and use of harmonized standard **ISO 11681-2**.

The guaranty of "CE Type Approval"

**Certificate No.: M3 69240618 0007**

**Machinery Technical File No.: TCF-0029-04**

**By the hereunder listed notified body: TÜV Rheinland InterCert Kft.**

**H-1132 Budapest, Váci út 48/A-B Hungary**

-The provisions of the "Electromagnetic compatibility" **2004/108/EC**, and applicable supplements.

-The provisions of the "Noise emission in the environment by equipment for use outdoors Directive **2000/14/EC ANNEX V**.

Measured sound power level : **108 dB(A)**

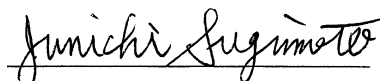
Guaranteed sound power level : **110 dB(A)**

-The provisions of the "Emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery " Directive 97/68/EC, amended **2010/26/EU**.

And furthermore declares that

-The following (parts/clauses of) technical standards and specifications have been used:

**CISPR12** Limits and methods of measurement of radio interference characteristics of vehicles, motor boats and spark-ignited engine-driven.



**Junichi Sugimoto**

Managing Director

**October 11, 2013**

Maruyama Mfg.Co.,Inc.  
4-15 Uchi-kanda 3-Chome,  
Chiyoda-ku,Tokyo,  
01-0047 Japan

**ACTIVE S.r.l.**

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