

TOTAL

One-Stop Tools Station

TOTAL

LITHIUM-ION CHAIN SAW

TGSLI20128, TGSLI20128E, TGSLI20128X, TGSLI20128-X, TGSLI20128S, TGSLI20128SX, UTGSLI20128X, TGSLI201286, TGSLI201286E, TGSLI201286X, TGSLI201286-X, TGSLI201286S, TGSLI201286SX, UTGSLI201286, UTGSLI201286X, UTGSLI201286-X (X stands for 1 to 9)

INDUSTRIAL



TOTAL TOOLS WORLD



20V

Symbols

Symbols on the machine

WARNING! Chain saws can be dangerous!

Careless or improper use can result in serious or fatal injury to the operator or others. Please read the operator's manual carefully and make sure you understand the instructions before using the machine.

Always wear:

- Approved hearing protection.
- Protective goggles or a visor.
- Approved head goggles or a visor.

Both of the operator's hands must be used to operate the chain saw.

Never operate a chain saw holding it with one hand only.

WARNING! Kickback may occur when the nose or tip of the guide bar touches an object, and cause a lightning fast reverse reaction, kicking the guide bar up and towards the operator may cause serious personal injury.

Always wear approved protective gloves.

Wear sturdy, non-slip boots.

Chain brake, activated (right).

Chain brake, not activated (left).

Direct current.

Do not expose to rain.

Symbols on the product or its packaging indicate that this product cannot be handled as domestic waste. It must instead be submitted to an appropriate recycling station for the recovery of electrical and electronic equipment. (Applies to Europe only)



Symbols

Symbols on the battery and/or on the battery charger:

This product must be deposited at an appropriate recycling facility.



Fail-safe transformer.



Use and store battery charger only indoors.



Double insulation.



General power tool safety warnings



WARNING! Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

IMPORTANT! Save all warnings and instructions for future reference.

The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

Work area safety

- Keep work area clean and well lit. Cluttered or dark areas invite accidents.
- Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.

- Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

Electrical safety

- Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce the risk of electric shock.
- Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.
- Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.
- If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply. Use of an GFCI reduces the risk of electric shock.

Personal safety

- Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
- Use personal protective equipment. Always wear eye protection. Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- Prevent unintentional starting. Ensure the switch is in the OFF-position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.
- Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.
- If devices are provided for the connection of dust extraction and collection facilities, ensure that these are connected and properly used. Use of dust collection can reduce dust-related hazards.

Power tool use and care

- Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.
- Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

General power tool safety warnings

- Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.
- Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.
- Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.
- Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from those intended could result in hazardous situations.

Battery tool use and care

- Recharge only with the charger specified by the manufacturer. A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.
- When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
- Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritations or burns.

Service

- Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

Chain saw safety warnings

- Keep all parts of the body away from the saw chain when the chain saw is operating. Before you start the chain saw, make sure the saw chain is not contacting anything. A moment of inattention while operating chain saws may cause entanglement of you clothing or body with the saw chain.
- Always hold the chain saw with your right hand on the rear handle and your left hand on the front handle. Holding the chain saw with a reversed hand configuration increases the risk of personal injury and should never be done.
- Hold the power tool by insulated gripping surface only, because the saw chain may contact hidden wiring or its own cord. Saw chain contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.
- Wear safety glasses and hearing protection. Further protective equipment for head, hands, legs and feet is recommended. Adequate protective clothing will reduce personal injury by flying debris or accidental contact with the saw chain.
- Do not operate a chain saw in a tree. Operation of chain saw while up a tree may result in personal injury.
- Always keep proper footing and operate the chain saw only when standing on fixed, secure and level surface. Slippery or unstable surfaces such as ladders may cause a loss of balance or control of the chain saw.
- When cutting a limb that is under tension be alert for spring back.

When the tension in the wood fibers is released the spring loaded limb may strike the operator and/or throw the chain saw out of control.

General power tool safety warnings

- Use extreme caution when cutting brush and saplings. The slender material may catch the saw chain and be whipped forward toward you or pull you off balance.
- Carry the chain saw by the handle with the chain saw switched off and away from your body. When transporting or storing the chain saw always fit the guide bar cover. Proper handling of the chain saw will reduce the likelihood of accidental contact with the moving saw chain.
- Follow instruction for lubricating, chain tensioning and changing accessories. Improperly tensioned or lubricated saw chain may either brake or increase the chance of kickback.
- Keep handles dry, clean and free from oil and grease. Greasy, oily handles are slippery causing loss of control.
- Cut wood only. Do not use chain saw for purposes not intended. For example: do not use chain saw for cutting plastic, masonry or non-wood building materials. Use of the chain saw for operations different than intended could result in a hazardous situation.
- We strongly recommend that first time users practice sawing logs on a saw horse or cradle.

Causes and operator prevention of kickback

Kickback may occur when the nose or tip of the guide bar touches an object, or when the wood closes in and pinches the saw chain in the cut. Tip contact in some cases may cause a sudden reverse reaction, kicking the guide bar up and back towards the operator. Pinching the saw chain along the top of the guide bar may push the guide bar 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. Do not rely exclusively upon the safety devices built into your saw. As a chain saw user, you should take several steps to keep your cutting jobs free from accident or injury. Kickback is a result of tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below:

- Maintain a firm grip, with thumbs and fingers encircling the chain saw handles, with both hands on the saw and position your body and arm to allow you to resist kickback forces. Kickback forces can be controlled by the operator, if proper precautions are taken. Do not let go of the chain saw.
- Do not overreach and do not cut above shoulder height. This helps prevent unintended tip contact and enables better control of the chain saw in unexpected situations.
- Only use replacement bars and chains specified by the manufacturer. Incorrect replacement bars and chains may cause chain breakage and/or kickback.
- Follow the manufacturer's sharpening and maintenance instructions for the saw chain. Decreasing the depth gauge height can lead to increased kickback.

Before using a new chain saw

- Please read this manual carefully.
- Fully charge the battery before using it the first time. See instructions under the heading Charging the battery.
- Fill with chain oil. See instructions under the heading Filling with chain oil.
- Check that the cutting equipment is correctly fitted and adjusted. See instructions under the heading Assembly.
- Do not use the chain saw until sufficient chain oil has reached the chain. See instructions under the heading Lubricating cutting equipment.
- Long-term exposure to noise can result in permanent hearing impairment. So always use approved hearing protection.



WARNING

Under no circumstances may the design of the machine be modified without the permission of the manufacturer. Always use genuine accessories. Non-authorized modifications and/or accessories can result in serious personal injury or the death of the operator or others. Your warranty may not cover damage or liability caused by the use of non-authorized accessories or replacement parts.

General power tool safety warnings



WARNING

A chain saw is a dangerous tool if used carelessly or incorrectly and can cause serious, even fatal injuries. It is very important that you read and understand the contents of this operator's manual.



WARNING

Long term inhalation of chain oil mist and dust from sawdust can represent a health risk.



WARNING

This machine produces an electromagnetic field during operation. This field may under some circumstances interfere with active or passive medical implants. To reduce the risk of serious or fatal injury, we recommend persons with medical implants consult their physician and the medical implant manufacturer before operating this machine.



WARNING

Never allow children to use or be in the vicinity of the machine. Since the machine is easy to start, children may be able to start it if they are not kept under full surveillance. This can mean a risk of serious personal injury. Therefore disconnect the battery when the machine is not under close supervision.

Important

IMPORTANT!

This chain saw for forest service is designed for forest work such as felling, limbing and cutting. You should only use the saw with the bar and chain combinations we recommend in the chapter Technical data.

Never use the machine if you are fatigued, while under the influence of alcohol or drugs, medication or anything that could affect your vision, alertness, coordination or judgment. Be more cautious before rest periods and towards the end of your shift.

Wear personal protective equipment. See instructions under the heading "Personal protective equipment".

Do not modify this product or use it if it appears to have been modified by others.

Never use a machine, battery or battery charger that is faulty. Carry out the checks, maintenance and service instructions described in this manual. Some maintenance and service measures must be carried out by trained and qualified specialists. See instructions under the heading Maintenance.

Never use any accessories other than those recommended in this manual. See instructions under the headings Cutting equipment and Technical data.

CAUTION! Always wear protective glasses or a face visor to reduce the risk of injury from thrown objects. A chain saw is capable of throwing objects, such as wood chips, small pieces of wood, etc, at great force. This can result in serious injury, especially to the eyes.



WARNING

Faulty cutting equipment or the wrong combination of bar and saw chain increases the risk of kickback! Only use the bar/saw chain combinations we recommend, and follow the filing instructions. See instructions under the heading Technical data.

Always use common sense (see figure1)

It is not possible to cover every conceivable situation you can face when using a chain saw. Always exercise care and use your common sense. Avoid all situations which you consider to be beyond your capability. If you still feel uncertain about operating procedures after reading these instructions, you should consult an expert before continuing. Do not hesitate to contact your dealer or us if you have any questions about the use of the chain saw. We will willingly be of service and provide you with advice as well as help you to use your chain saw both efficiently and safely. Attend a training course in chain saw usage if possible. Your dealer, forestry school or your library can provide information about which training materials and courses are available.



Fig.1

Work is constantly in progress to improve the design and technology - improvements that increase your safety and efficiency. Visit your dealer regularly to see whether you can benefit from new features that have been introduced.

Personal protective equipment



WARNING! Most chain saw accidents happen when the chain touches the operator. You must use approved personal protective equipment whenever you use the machine. Personal protective equipment cannot eliminate the risk of injury but it will reduce the degree of injury if an accident does happen. Ask your dealer for help in choosing the right equipment.

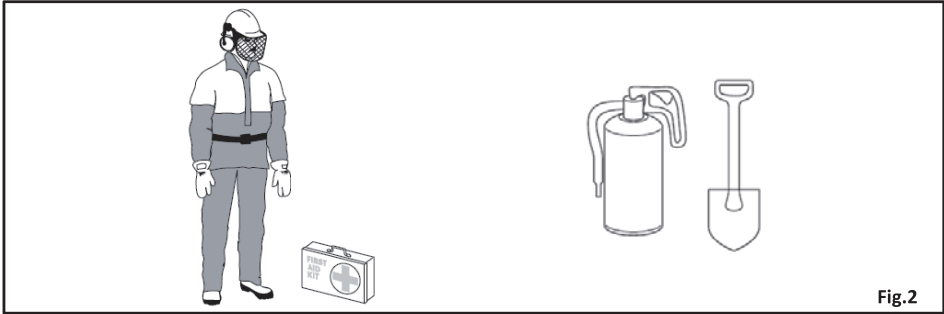


Fig.2

Always wear:(see figure2)

- Approved protective helmet.
- Hearing protection.
- Protective goggles or a visor.
- Gloves with saw protection.
- Trousers with saw protection.
- Boots with saw protection, steel toe-cap and non-slip sole.
- Always have a first aid kit nearby.
- Fire Extinguisher and Shovel.

Generally clothes should be close-fitting without restricting your freedom of movement.

IMPORTANT! Sparks can come from the bar and chain or other sources. Always have fire extinguishing tools available if you should need them. Help prevent forest fires.

Machine's safety equipment

In this section the machine's safety features and their function are explained. For inspection and maintenance see instructions under the heading Checking, maintaining and servicing chain saw safety equipment. See instructions under the heading, know your chain saw, to find where these parts are located on your machine. The life span of the machine can be reduced and the risk of accidents can increase if machine maintenance is not carried out correctly and if service and/or repairs are not carried out professionally. If you need further information please contact your nearest servicing dealer.



WARNING

Never use a machine with defective safety components. Safety equipment must be inspected and maintained. See instructions under the heading Checking, maintaining and servicing chain saw safety equipment. If your machine does not pass all the checks, take the saw to a servicing dealer for repair.

KICKBACK (see figure.3-4)

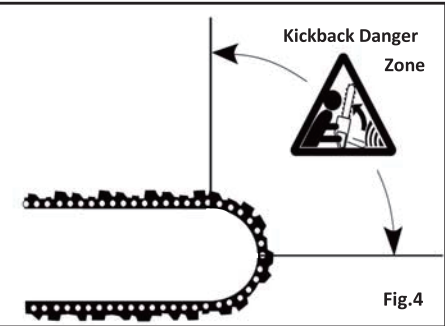
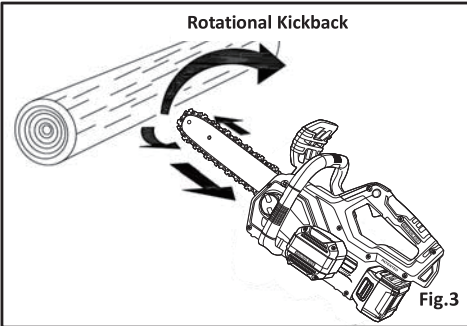


WARNING

Kickback may occur when the moving chain contacts an object at the upper portion of the tip of the guide bar or when the wood closes in and pinches the saw chain in the cut. Contact at the upper portion of the tip of the guide bar can cause the chain to dig into the object and stop the chain for an instant. The result is a lightning fast, reverse reaction which kicks the guide bar up and back toward the operator. If the saw chain is pinched along the top of the guide bar, the guide bar can be driven rapidly back toward the operator. Either of these reactions can cause loss of saw control which can result in serious injury. Do not rely exclusively upon the safety devices built into the saw. As a chain saw user, you should take several steps to keep your cutting jobs free from accident or injury.

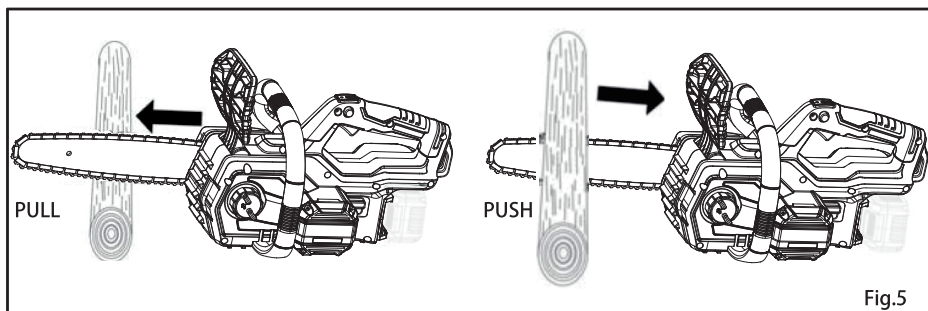
The following precautions should be followed to minimize kickback:

- Always grip the saw firmly with both hands. Hold the saw firmly with both hands when the unit is running. Place your right hand on the rear handle and your left hand on the front handle with your thumbs and fingers encircling the chain saw handles. A firm grip together with a stiff left arm will help you maintain control of the saw if kickback occurs.
- Make sure that the area in which you are cutting is free from obstructions. Do not let the nose of the guide bar contact a log, branch, fence, or any other obstruction that could be hit while you are operating the saw.
- Always cut with the unit running. Fully squeeze the switch trigger and maintain cutting speed.
- Use only the replacement guide bars and low kickback chains specified by the manufacturer for the saw.
- With a basic understanding of kickback, you can reduce or eliminate the element of surprise. Sudden surprise contributes to accidents.
- Keep proper footing and balance at all times.
- Do not cut above shoulder height or overreach when cutting.
- Follow the sharpening and maintenance instructions for the saw chain

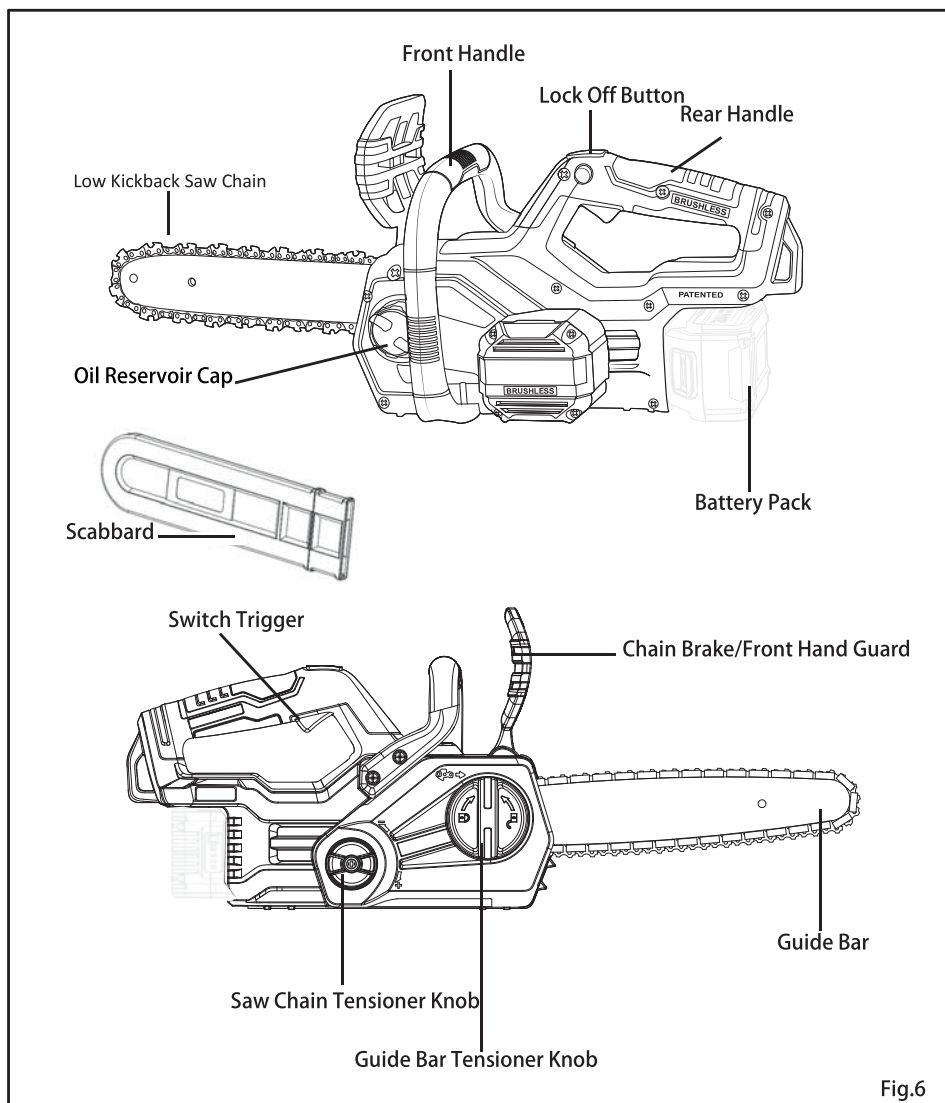


Machine's safety equipment

- Push and Pull - This reaction force is always opposite to the direction the chain is moving where wood contact is made. Thus, the operator must be ready to control the PULL when cutting on the bottom edge of the bar, and PUSH when cutting along the top edge. (see figure.5)



KNOW YOUR CHAIN SAW



Chain brake and front hand guard (see figure6)

Your chain saw is equipped with a chain brake that is designed to stop the chain if you get a kickback. The chain brake reduces the risk of accidents, but only you can prevent them.

Chain catcher

The chain catcher is designed to catch the chain if it snaps or jumps off. This should not happen if the chain is properly tensioned and if the bar and chain are properly serviced and maintained.

ASSEMBLY INSTRUCTIONS

UNPACKING

This product has been shipped completely assembled.

- Carefully remove the product and any accessories from the box. Make sure that all items listed in the packing list are included.
- Inspect the product carefully to make sure no breakage or damage occurred during shipping.
- Do not discard the packing material until you have carefully inspected and satisfactorily operated the product.



WARNING

If any parts are damaged or missing, do not operate this product until the parts are replaced. Failure to heed this warning could result in serious personal injury.



WARNING

Do not attempt to modify this product or create accessories not recommended for use with this product. Any such alteration or modification is misuse and could result in a hazardous conduction leading to possible serious personal injury.



WARNING

Do not insert the battery until assembly is complete. Failure to comply could result in accidental starting and possible serious personal injury.

OPERATING YOUR CHAIN SAW

ADDING BAR AND CHAIN LUBRICANT (See figure 7)

Use Bar and Chain Lubricant. It is designed for chains and chain oilers, and is formulated to perform over a wide temperature range with no dilution required.

NOTE: Chain saw comes from the factory with no bar and chain oil added. Level should also be checked after every 10 minutes of use and refilled as needed.

- Remove oil cap.
- Carefully pour the bar and chain oil into the tank.
- Wipe off excess oil.
- Check and fill the oil tank when quick view oil indicator is below the MIN .Line
- Repeat as needed.

NOTE: Do not use dirty, used or otherwise contaminated oils. Damage may occur to the bar or chain.

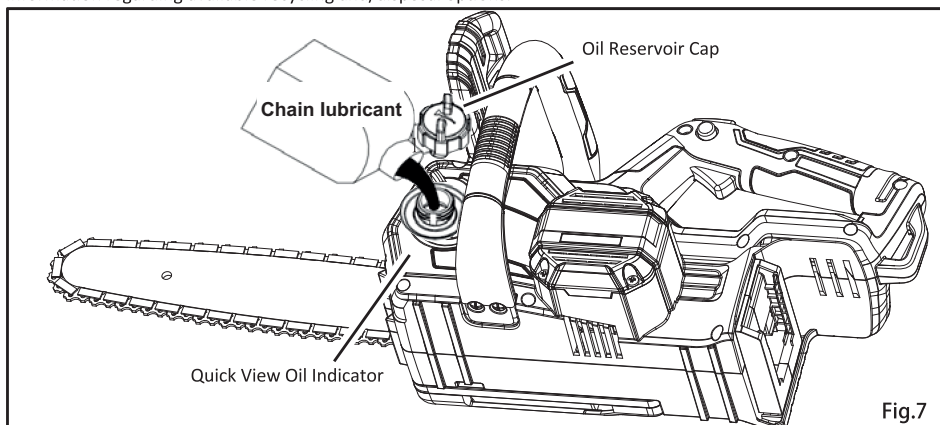
NOTE: There is foam inserted inside the oil reservoir to filter dirt and debris from the oil pump. **DO NOT** remove the foam.

NOTE: It is normal for oil to seep from the saw when not in use. To prevent seepage, empty the oil tank after each use then run for one minute. When storing the unit for a long period of time (three months or longer) be sure the chain is lightly lubricated; this will prevent rust on the chain and bar sprocket.



IMPORTANT

To preserve natural resources, please recycle or dispose of oil properly. Consult your local waste authority for information regarding available recycling and/disposal options.



BATTERY PACK (See figure 8)



IMPORTANT

The battery pack is not charged when it is purchased. Before using the chain saw for the first time, place the battery pack in the battery charger and charge it fully. Be sure to read all safety precautions, and follow the instructions in the section entitled Charging Procedure. With regular use, the battery will require shorter charging times. When storing the chain saw for a prolonged period of time, remove the battery. When the chain saw is going to be used again, charge the battery pack for at least a full charging period. This product has no memory effect.

REMOVING THE BATTERY PACK

- Press the release button (1) on the battery pack down and hold.
- Grasp the handle (2) firmly, and pull the battery pack out of the handle.

Note: The battery pack fits into the handle snugly in order to prevent accidental dislodging. It may require a strong pull to remove it.

OPERATING YOUR CHAIN SAW

INSTALLING THE BATTERY PACK

- Align the tongue of the battery pack with the cavity.
- Grasp the handle (2) firmly.
- Push the battery pack into the handle until the latch locks into place.
- Do not use force when inserting the battery pack. It should slide into position and “click”.



WARNING

Follow these instructions in order to avoid injury and to reduce the risk of electric or fire:

- Replace the battery pack or the charger immediately if the battery case or charger cord is damaged.
- Verify that the switch is in the OFF position before inserting or removing the battery pack.
- Verify that the battery pack is removed and the switch is in the OFF position before inspecting, adjusting, or performing maintenance on any part of the chain saw.
- Read, understand, and follow the instructions contained in the section entitled Charging Procedure.



IMPORTANT

This Lithium-ion battery pack is equipped with an internal circuit breaker which will automatically shut off the power to the tool and then reset itself once cooled.

Follow these steps if an overload occurs while under heavy use:

- Release the power switch and restart tool by depressing switch.
- The battery may need to be removed for approximately 1 minute, allowed to cool and then reinstalled for use.

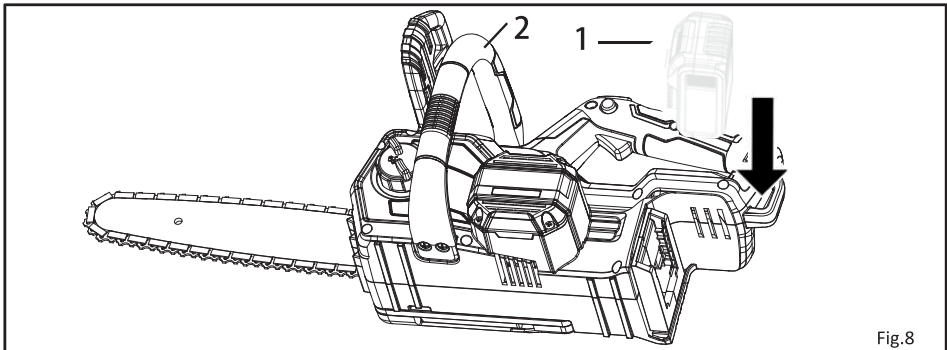


Fig.8

STARTING AND STOPPING THE CHAIN SAW (See figure 9)



WARNING

Keep body to the left of the chain line. Never straddle the saw or chain, or lean over past the chain line.

STARTING THE CHAIN SAW:

- Make sure chain tension is at desired setting. Refer to Adjusting the Chain Tension in the Maintenance of this manual.
- Make sure the chain cover lock bolt is tight to the chain cover.
- Make sure no objects or obstructions are in immediate vicinity which could come in contact with the bar and chain.
- Fit the battery pack into the chain saw .(see figure 8)

Note: If the Chain Saw makes a rapid beeping sound when attempting to start the saw, the chain brake is engaged. To start follow instructions above from the beginning.

- Depress the lock-off button and pull the switch trigger.
- Press and hold the switch trigger, release the switch lock and continue to squeeze the switch trigger for continued operation.

OPERATING YOUR CHAIN SAW

STOPPING THE CHAIN SAW:

NOTE: It is normal for the chain to coast to a stop once the trigger switch is released.

- Release the switch trigger to stop the chain saw.
- Upon release of the switch trigger, the switch lock will be automatically reset to the lock position.

OPERATING THE CHAIN BRAKE (See figure 10)

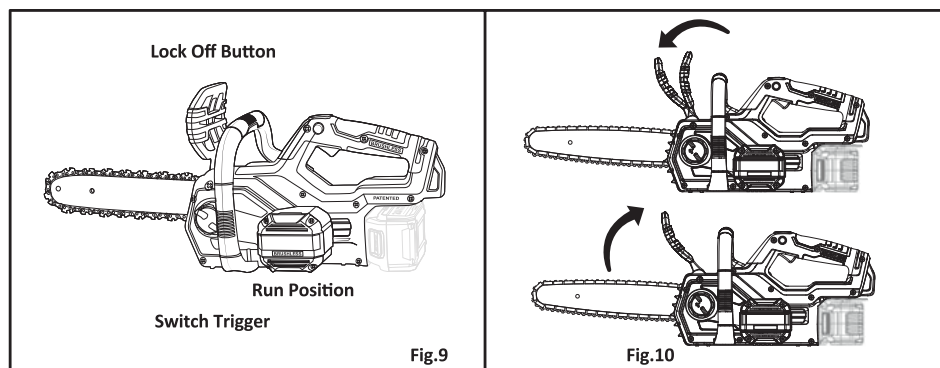
Check the operating condition of the chain brake prior to each use.

- Engage the chain brake by rotating your left hand around the front handle, allowing the back of your hand to push the chain brake lever/hand guard toward the bar while the chain is rotating rapidly. Be sure to maintain both hands on the saw handles at all times.
- Reset the chain brake back into the RUN position by grasping the top of the chain brake lever/hand guard and pulling toward the front handle.



WARNING

If the chain brake do not stop the chain immediately, or if the chain brake will not stay in the run position without assistance, take the saw to an authorized service center for repair prior to use.



PREPARING FOR CUTTING

PROPER GRIP ON HANDLES (See figure 11)

See General Safety Rules for appropriate safety equipment.

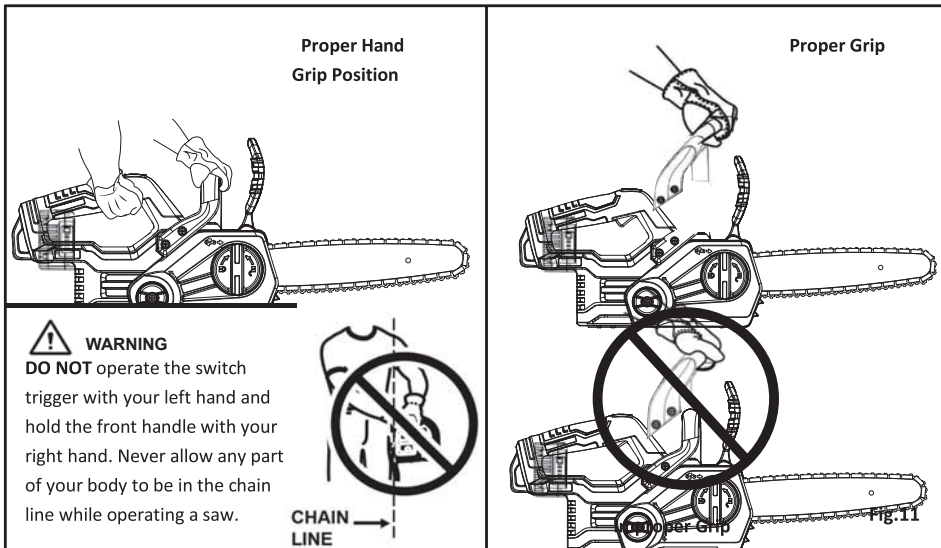
- Wear non-slip gloves for maximum grip and protection.
- Hold the saw firmly with both hands. Always keep your left hand on the front handle and your right hand on the rear handles so that your body is to the left of the chain line.
- Maintain a proper grip on the saw whenever the motor is running. The finger should encircle the handle and the thumb is wrapped under the handlebar. This grip is least likely to be broken by a kickback or other sudden reaction of the saw. Any grip in which the thumb and fingers are on the same side of the handle is dangerous because a slight kick of the saw can cause loss of control.



WARNING

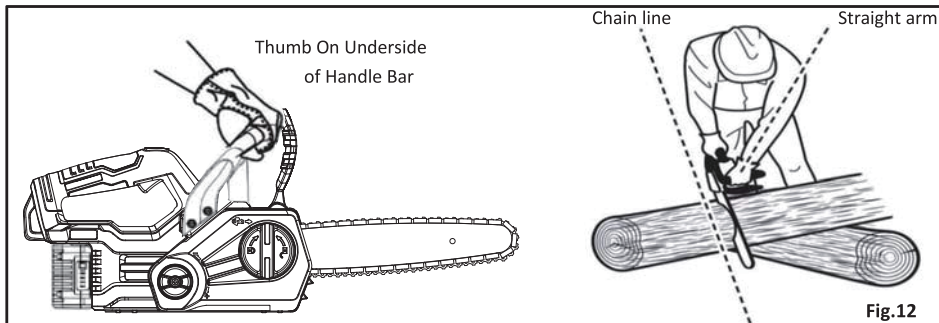
Never use a left-handed (cross-handed) grip or any stance that would place your body or arm across the chain line.

OPERATING YOUR CHAIN SAW



PROPER CUTTING STANCE (See figure 12)

- Balance your weight with both feet on solid ground.
- Keep left arm with elbow locked in a “straight arm” position to withstand any kickback force.
- Keep your body to the left of the chain line.
- Keep your thumb on underside of handlebar.



BASIC OPERATING/CUTTING PROCEDURES

Practice cutting a few small logs using the following technique to get the “feel” of using the saw before you begin a major sawing operation.

- Take the proper stance in front of the wood with the saw idling.
- Press the switch lock and squeeze the switch trigger then release switch lock and let the chain accelerate to full speed before entering the cut.
- Begin cutting with the saw against the log.
- Keep the unit running the entire time you are cutting, maintain a steady speed.
- Allow the chain to cut for you, exert only tight downward pressure. Forcing the cut could result in damage to the bar, chain, or motor.

OPERATING YOUR CHAIN SAW

- Release the switch trigger as soon as the cut is completed, allowing the chain to stop. If you run the saw without a cutting load, unnecessary wear can occur to the chain, bar, and unit.
- Do not put pressure on the saw at the end of the cut.

WORK AREA PRECAUTIONS (See figure 13)

- Cut only wood or materials made from wood; no sheet metal, no plastics, no masonry, no non-wood building materials.
- Never allow children to operate the saw. Allow no person to use this chain saw who has not read this operator's manual or received adequate instructions for the safe and proper use of this chain saw.
- Keep everyone – helpers, bystanders, children, and animals – a SAFE DISTANCE from the cutting area. During felling operations, the safe distance should be a least twice the height of the largest trees in the felling area. During bucking operations, keep a minimum distance of 15' (4.6 m) between workers.
- Always cut with both feet on solid ground to prevent being pulled off balance.
- Do not cut above chest height as a saw held higher is difficult to control against kickback forces.
- Do not fell trees near electrical wires or buildings. Leave this operation for professionals.
- Cut only when visibility and light are adequate for you to see clearly.



Fig.13

PROPER PROCEDURE FOR TREE FELLING (See figure 14-17)

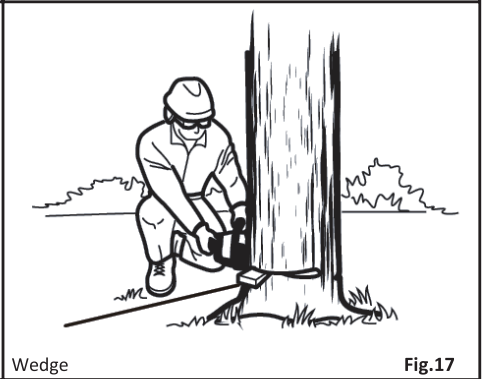
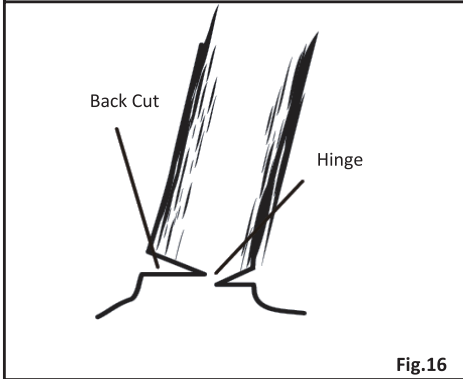
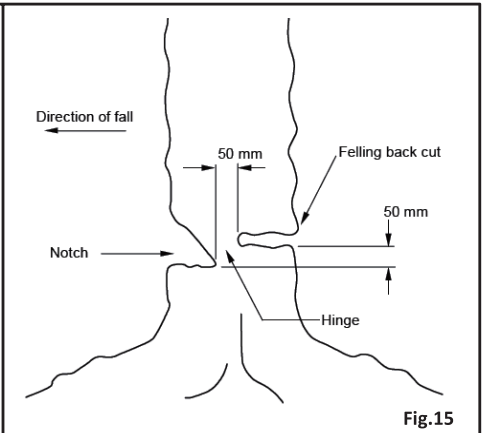
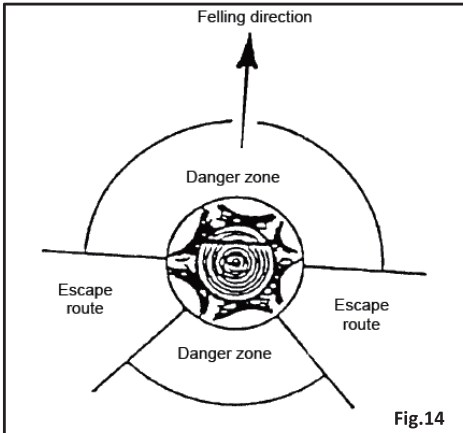
- Felling a tree — When bucking and felling operations are being performed by two or more persons, at the same time, the felling operation should be separated from the bucking operation by a distance of at least twice the height of the tree being felled. Trees should not be felled in a manner that would endanger any person, strike any utility line or cause any property damage. If the tree does make contact with any utility line, the utility company should be notified immediately.
- Operator should keep on the uphill side of terrain as the tree is likely to roll or slide after it is felled.
- An escape path should be planned and cleared as necessary before cuts are started. The escape path should extend back and diagonally to the rear of the expected line of fall as illustrated in figure 14.
- Before felling is started, consider the force and direction of the wind, the lean and balance of the tree, and the location of large limbs. These things influence the direction in which the tree will fall. Do not try to fell a tree along a line different from its natural line of fall.
- Remove dirt, stones, loose bark, nails, staples, and wire from the tree where felling cuts are to be made.
- Notched Undercut. Make the notch 1/3 the diameter of the tree, perpendicular to the direction of falls as illustrated in figure 15. Make the lower horizontal notching cut first. This will help to avoid pinching either the saw chain or the guide bar when the second notch is being made.
- Felling Back Cut. Make the felling back cut at least 50 mm higher than the horizontal notching cut as illustrated in figure 15. Keep the felling back cut parallel to the horizontal notching cut. Make the felling back cut so enough wood is left to act as a hinge. The hinge wood keeps the tree from twisting and falling in the wrong direction. Do not

OPERATING YOUR CHAIN SAW

cut through the hinge. As the felling gets close to the hinge, the tree should begin to fall. If there is any chance that the tree may not fall in desired direction or it may rock back and bind the saw chain, stop cutting before the felling back cut is complete and use wedges of wood, plastic or aluminium to open the cut and drop the tree along the desired line of fall. When the tree begins to fall remove the chain saw from the cut, stop the motor, put the chain saw down, then use the retreat path planned. Be alert for overhead limbs falling and watch your footing.

NOTE: Never cut through to the notch. Always leave a band of wood between the notch and back cut (approximately 2" (5 cm) or 1/10 the diameter of the tree). This is called "hinge" or "hinge wood." It controls the fall of the tree and prevents slipping or twisting or shoot back of the tree off the stump.

- On large diameter trees, stop the back cut before it is deep enough for the tree to either fall or settle back on the stump. Then insert soft wooden or plastic wedges into the cut so they do not touch the chain. Drive wedges in, little by little, to help jack the tree over.
- As tree starts to fall, stop the chain saw and put it down immediately. Retreat along the cleared path, but watch the action in case something falls your way.



BUCKING (See figure 18-21)

Bucking is cutting a log into lengths. It is important to make sure your footing is firm and your weight is evenly distributed on both feet. When possible, the log should be raised and supported by the use of limbs, logs or chocks. Follow the simple directions for easy cutting.

OPERATING YOUR CHAIN SAW

When the log is supported along its entire length ,it is cut from the top (over buck).

When the log is supported on one end, cut 1/3 the diameter from the underside (under buck). Then make the finished cut by over bucking to meet the first cut.

When the log is supported on both ends , cut 1/3 the diameter from the top (over buck). Then make the finished cut by under bucking the lower 2/3 to meet the first cut.

When bucking on a slope always stand on the uphill side of the log. When “cutting through”, to maintain complete control release the cutting pressure near the end of the cut without relaxing your grip on the chain saw handles. Don't let the chain contact the ground. After completing the cut, wait for the saw chain to stop before you move the chain saw. Always stop the motor before moving from tree to tree.

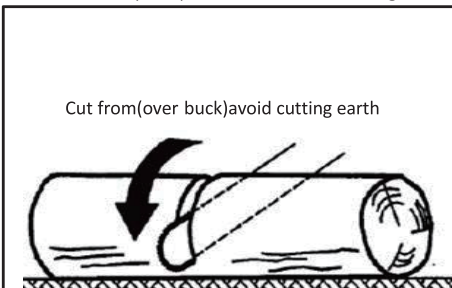


Fig.18

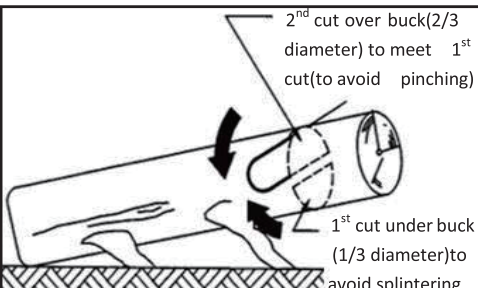
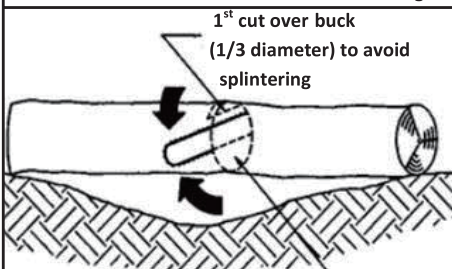
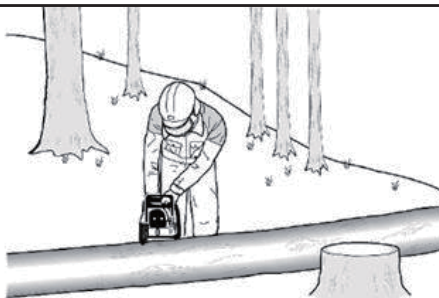


Fig.19



2nd cut under buck
(2/3 diameter) to meet 1st cut
(to avoid pinching)

Fig.20



Stand on uphill side when cutting because log may roll

Fig.21

Cutting trees and branches that are in tension(see figure22-26)

Preparations: Work out which side is in tension and where the point of maximum tension is (i.e. where it would break if it was bent even more). Decide which is the safest way to release the tension and whether you are able to do it safely. In complicated situations the only safe method is to put aside your chain saw and use a winch.

General advice

- Position yourself so that you will be clear of the tree or branch when the tension is released. (see figure 22)
- Make one or more cuts at or near the point of maximum tension. Make as many cuts of sufficient depth as necessary to reduce the tension and make the tree or branch break at the point of maximum tension.(see figure 23)

OPERATING YOUR CHAIN SAW

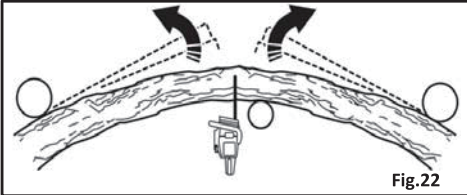


Fig.22

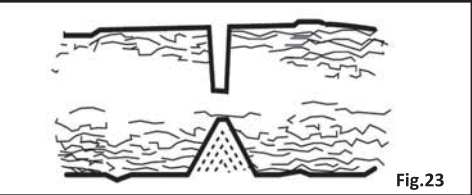


Fig.23

Never cut straight through a tree or branch that is in tension!

- If you must cut across tree/limb, make two to three cuts, one inch apart, one to two inches deep.(see figure 24)
- Continue to cut deeper until tree/limb bends and tension is released.
- Cut tree/limb from outside the bend, after tension has been released.(see figure25)

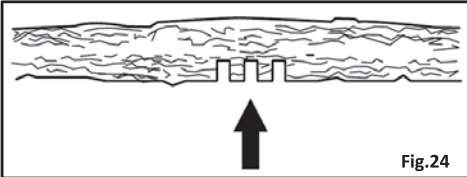


Fig.24



Fig.25

Limbing(see figure26)



WARNING

A majority of kickback accidents occur during limbing. Do not use the kickback zone of the guide bar. Be extremely cautious and avoid contacting the log, other limbs or objects with the nose of the guide bar. Be extremely cautious of limbs under tension. They can spring back toward you and cause loss of control resulting in injury.

When limbing, leave larger, lower limbs to support the tree off the ground. Limbs should be cut one at a time. Branches under tension should be cut from the bottom up to avoid binding the chain saw. Make sure that you can stand and move about safely. Work on the left side of the trunk. Work as close as possible to the chain saw for maximum control. If possible, let the weight of the chain saw rest on the trunk. Keep the trunk between you and the chain saw as you move along the trunk.

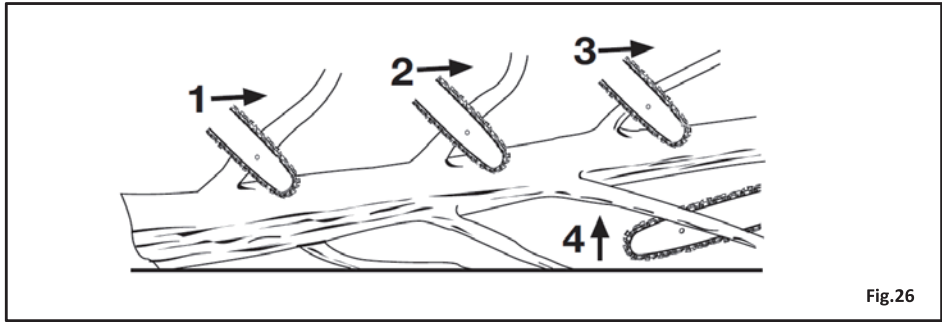


Fig.26

MAINTENANCE



WARNING

When servicing, use only identical replacement parts. Use of any other parts may create a hazard or cause product damage



WARNING

Always wear safety goggles or safety glasses with side shields during power tool operation or when blowing dust. If operation is dusty, also wear a dust mask.

GENERAL MAINTENANCE

Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use. Use clean cloths to remove dirt, dust, lubricant, grease, etc. firmly to maintain control.

REPLACING THE GUIDE BAR AND CHAIN(see figure27-34)



CAUTION

Always wear gloves when handling the bar and chain; these components are sharp and may contain burrs.



WARNING

Never touch or adjust the chain while the motor is running. The saw chain is very sharp; always wear protective gloves when performing maintenance to the chain to avoid possible serious lacerations.

NOTE: When replace the guide bar and chain ,always use the specified bar and chain listed in the BAR and Chain Combinations section later in this manual.

- Remove the battery from the chain saw.
- Rotate the chain cover lock knob anti clockwise and remove knob and sleeve .
- Remove the chain cover. Remove the bar and chain from the mounting surface. Remove the old chain from the bar. (see figure 28)
- Lay out the new saw chain in a loop and straighten any kinks. The cutters should face in the direction of chain rotation. If they face backwards, turn the loop over.
- Place the chain drive links into the bar groove. Position the chain so there is a loop at the back of the bar.

NOTE: Make certain of direction of chain.

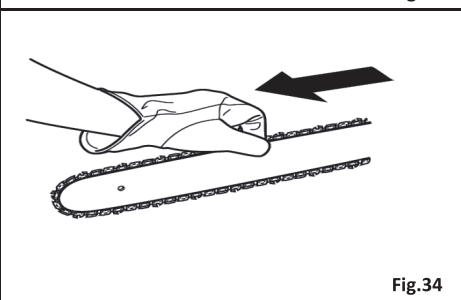
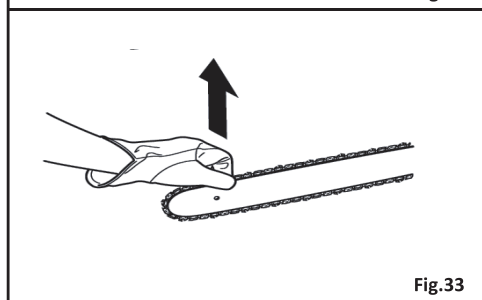
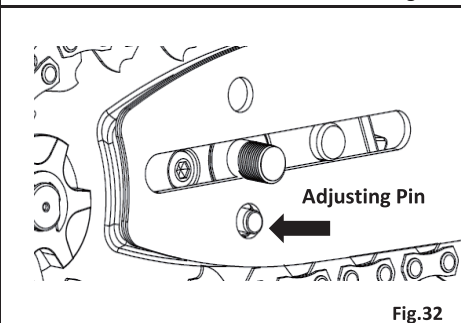
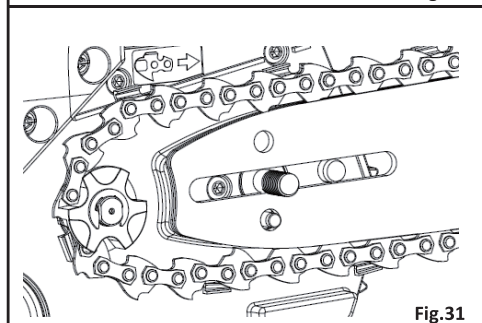
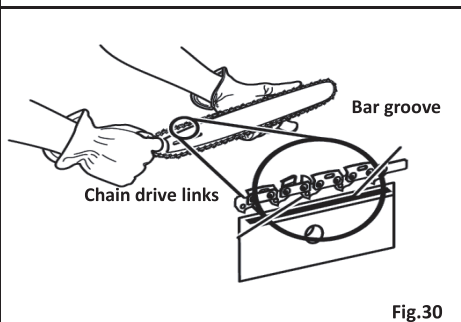
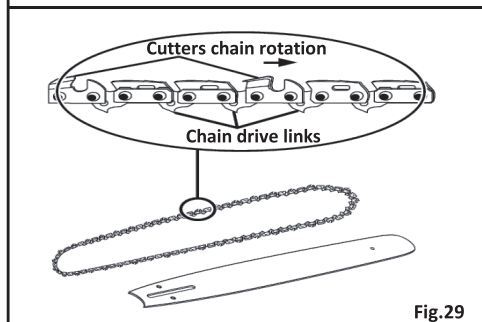
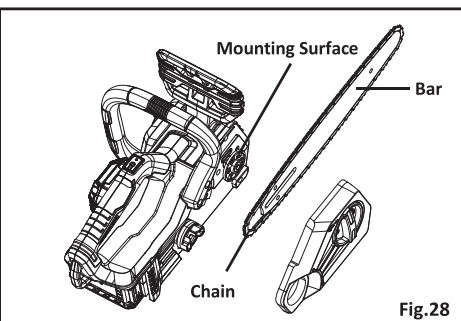
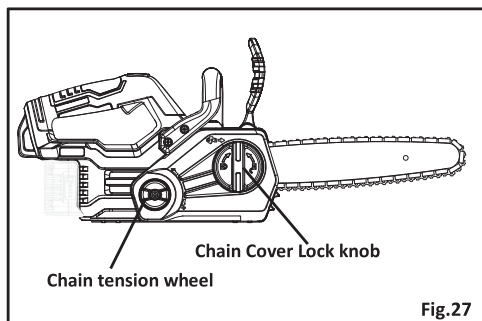
- Hold the chain in position on the bar and place the loop around the sprocket. Fit the bar flush against the mounting surface so that the bar studs are in the long slot of the bar.
- When placing the bar on the bar studs, ensure that the adjusting pin is in the chain tension pin hole.
- Lift the tip of the guide bar up to check for sag.

-Release the tip of the guide bar and turn the chain tensioning wheel 1/2 turn clockwise. Repeat this process until sag does not exist.

NOTE: If chain is too tight, it will not rotate. Loosen the chain cover lock knob slightly and turn the chain tensioning wheel 1/4 turn anti clockwise. Lift the tip of the guide bar up and retighten the chain cover lock knob. Ensure that the chain will rotate without binding

- Replace the chain cover.
- Replace the sleeve and chain cover lock bolt, turn the knob clockwise to tighten the drive sprocket cover. The bar should still be free to move for tension adjustment.
- Remove all slack from the chain by turning the chain tensioning wheel clockwise until the chain seats snugly against the bar with the drive links in the bar groove.
- Hold the tip of the guide bar up and tighten the chain cover lock bolt. The chain is correctly tensioned when there is no sag on the underside of the guide bar, the chain is snug, but it can be turned by hand without binding.

MAINTENANCE



MAINTENANCE

ADJUSTING THE CHAIN TENSIO (See figure 35)



WARNING

A slack chain may jump off the bar and cause serious or even fatal injury.

Always remove the battery before any assembly, maintenance and/ or checking is done on the machine.

- The more you use a chain the longer it becomes. It is therefore important to adjust the chain regularly to take up the slack.
- Check the chain tension every time you refill with saw chain oil. NOTE! A new chain has a running-in period during which you should check the tension more frequently. Tension the chain as tightly as possible, but not so tight that you cannot pull it round freely by hand.
- Release the chain cover lock knob until it snaps open.
- Turn the knob anti clockwise to loosen the drive sprocket cover.
- Hold the knob and adjust the tension on the chain by turning the chain tensioner wheel down (+) for tighter tension and up (-) to loosen the tension.
- Tighten the chain cover by turning the knob clockwise.
- withdraw the knob back in to lock the tensioning.

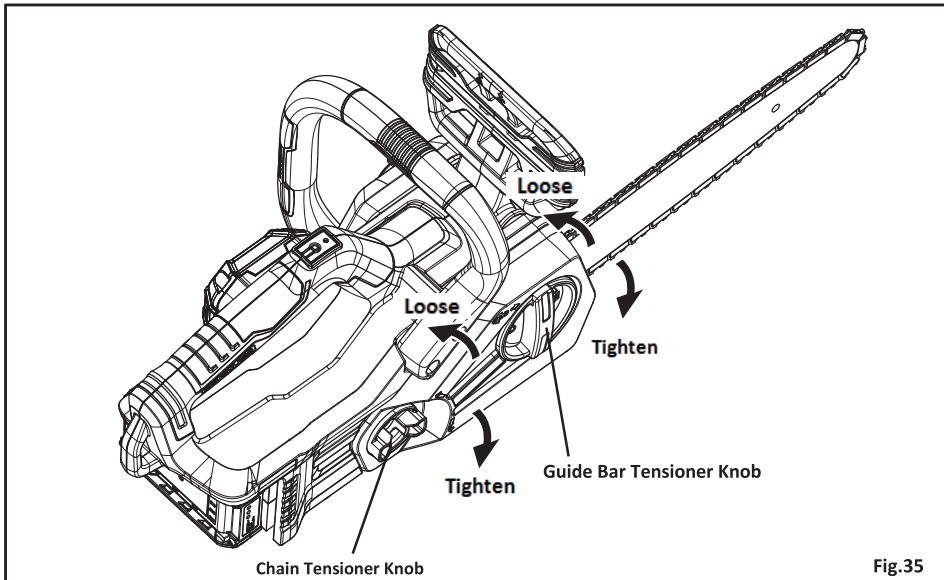


Fig.35

Lubricating cutting equipment



WARNING

Poor lubrication of cutting equipment may cause the chain to snap, which could lead to serious, even fatal injuries.

Chain oil

Chain oil must demonstrate good adhesion to the chain and also maintain its flow characteristics regardless of whether it is warm summer or cold winter weather.

Never use waste oil! Using waste oil can be dangerous to you and damage the machine and environment.

IMPORTANT! When using vegetable based saw chain oil, dismantle and clean the groove in the bar and saw chain before long-term storage. Otherwise there is a risk of the saw chain oil oxidizing, which will result in the saw chain becoming stiff and the bar tip sprocket jamming.

MAINTENANCE

Filling with chain oil(see figure36)

- All our chain saws have an automatic chain lubrication system. On some models the oil flow is also adjustable
- The saw chain oil tank is designed to last approximately three battery charges. However, this safety feature requires that you use the right sort of chain oil (if the chain oil is too thin it will last shorter time).
- Never use waste oil. This results in damage to the oil pump, the bar and the chain.
- It is important to use oil of the right grade (suitable viscosity range) to suit the air temperature.
- In temperatures below 32°F (0°C) some oils become too viscous. This can overload the oil pump and result in damage to the oil pump components.
- Contact your service agent when choosing chain oil.

Checking chain lubrication(see figure37)

- Check the chain lubrication every third battery charge. See instructions under the heading Lubricating the bar tip sprocket. See instructions under the heading Lubricating the bar tip sprocket. Aim the tip of the bar at a light coloured surface about 20 cm (8 inches) away. After 1 minute running at 3/4 throttle you should see a distinct line of oil on the light surface.

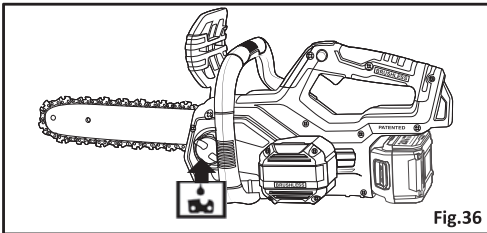


Fig.36



Fig.37

If the chain lubrication is not working:(see figure38)

- Check that the oil channel in the bar is not obstructed. Clean if necessary.
- Check that the groove in the edge of the bar is clean. Clean if necessary.
- Check that the bar tip sprocket turns freely and that the lubricating hole in the tip sprocket is not blocked. Clean and lubricate if necessary.

If the chain lubrication system is still not working after carrying out the above checks and associated measures you should contact your servicing dealer.

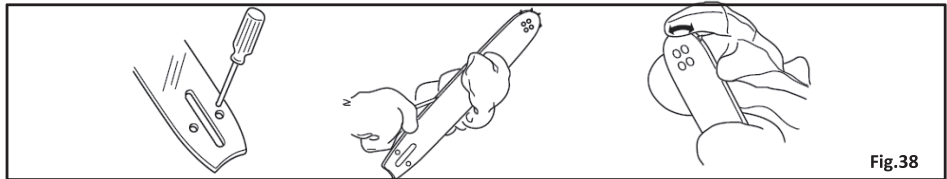


Fig.38

CHAIN MAINTENANCE (See figure 39)

Use only a low-kickback chain on this saw. This fast-cutting chain provides kickback reduction when properly maintained. For smooth and fast cutting, maintain the chain properly. The chain requires sharpening when the wood chips are small and powdery, the chain must be forced through the wood during cutting, or the chain cuts to one side. During maintenance of the chain, consider the following:

Improper filing angle of the side plate can increase the risk of severe kickback.

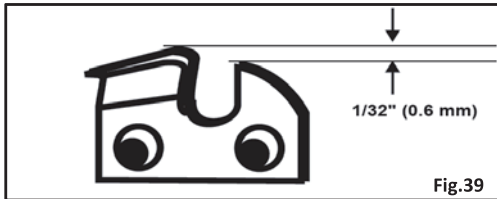
- Rake(depth gauge) clearance.
- Too low increases the potential for kickback.
- Not low enough decreases cutting ability.

MAINTENANCE

• If the cutter teeth hit hard objects such as nails and stones, or are abraded by mud or sand on the wood, have an authorized service center sharpen the chain.

NOTE: Inspect the drive sprocket for wear or damage when replacing the chain. If signs of wear or damage are present in the areas indicated, have the drive sprocket replaced by an authorized service center.

NOTE: If you do not fully understand the correct procedure for sharpening the chain after reading the instructions that follow, have the saw chain sharpened by an authorized service center or replace with a recommended low-kickback chain.



SHARPENING THE CUTTERS (See figure 40-43)

Be careful to file all cutters to the specified angles and to the same length, as fast cutting can be obtained only when all cutters are uniform.

CAUTION

Make sure the battery is removed from the chain saw before you work on the saw.



WARNING

The saw chain is very sharp. Always wear protective gloves when performing maintenance to the chain to prevent serious personal injury:

- Tension the chain prior to sharpening. Refer to Adjusting The Chain Tension.
- Use a 4mm diameter round file and holder. Do all of your filing at the midpoint of the bar.
- Keep the file level with the top plate of the tooth. Do not let the file dip or rock.
- Using light but firm pressure. Stroke towards the front corner of the tooth.
- Lift the file away from the steel on each return stroke.
- Put a few firm strokes on every tooth. File all left hand cutters in one direction. Then move to the other side and file the right hand cutters in the opposite direction.
- Remove fillings from the file with a wire brush.

CAUTION

A dull or improperly sharpened chain can cause excessive motor speed during cutting, which may result in severe motor damage.



WARNING

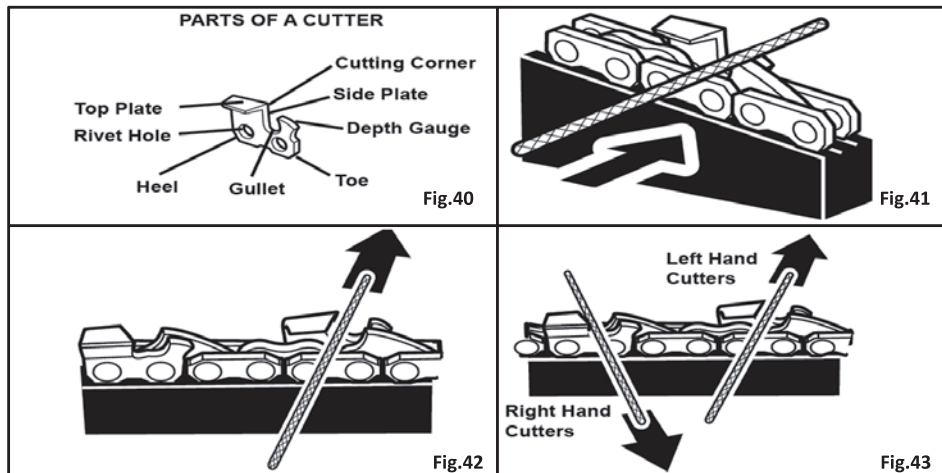
Improper chain sharpening increases the potential of kickback.



WARNING

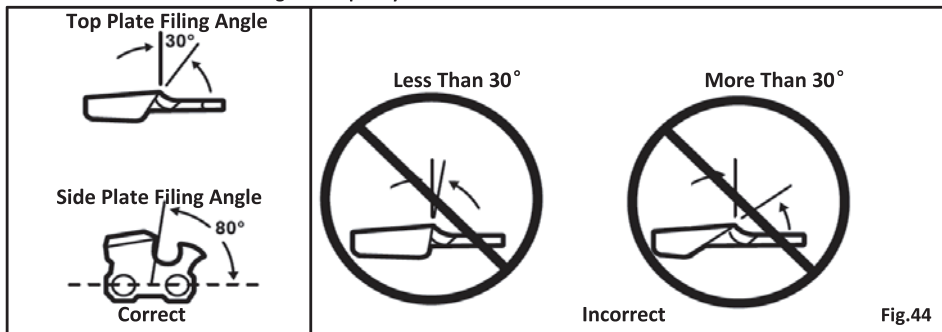
Failure to replace or repair a damaged chain can cause serious injury.

MAINTENANCE



TOP PLATE FILING ANGLE (See figure 44)

- **CORRECT 30°** – file holders are marked with guide marks to align file properly to produce correct top plate angle.
- **LESS THAN 30°** – for cross cutting.
- **MORE THAN 30°** –feathered edge dulls quickly.



SIDE PLATE ANGLE (See figure 45)

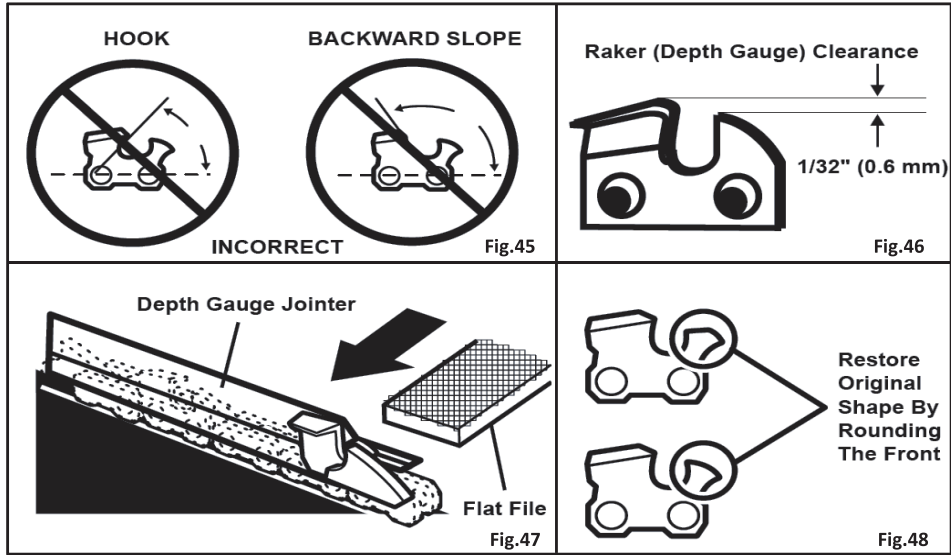
- **Correct 80°**–Produced automatically if you use the correct diameter file in the file holder.
- **HOOK** – “Grabs” and dulls quickly; increases the potential of KICKBACK. Results from using a file with a diameter too small or a file held too low.
- **BACKWARD SLOPE** – Needs too much feed pressure; causes excessive wear to the bar and chain. Results from using a file with a diameter too large or file held too high.

SIDE PLATE ANGLE (See Figure 46-48)

- **Maintain the depth gauge at a clearance of 1/32" (0.6 mm)** Use a depth gauge tool for checking the depth gauge clearances.
- **Every time the chain is filed, check the depth gauge clearance.**
- **Use a flat file and a depth gauge jointer to lower all gauges uniformly.** Use a 1/3"(0.6mm) depth gauge jointer. After lowering each depth gauge, restore original shape by rounding the front. Be careful not to damage adjoining drive links with the edge of the file.

MAINTENANCE

- Depth gauges must be adjusted with the flat in the same direction the adjoining cutter was filed with the round file.
- Use care not to contact cutter face with flat file when adjusting depth gauges.

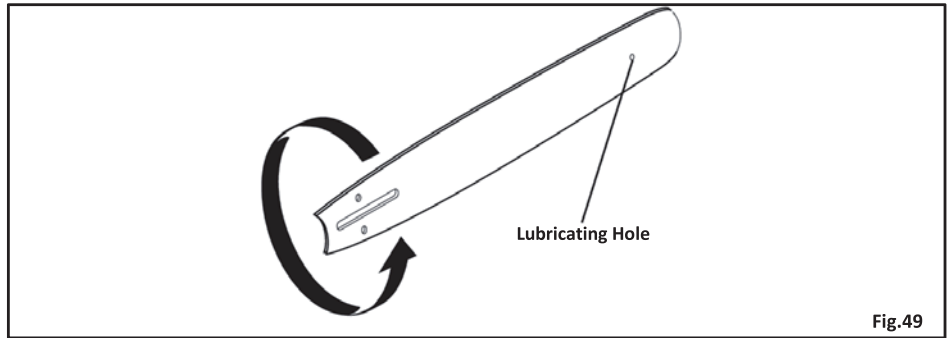


MAINTAINING THE GUIDE BAR (See figure 49)

Every week of use, reverse the guide bar on the saw to distribute the wear for maximum bar life. The bar should be cleaned every day of use and checked for wear and damage. Feathering or burring of the bar rails is a normal process of bar wear. Such faults should be smoothed with a file as soon as they occur. A bar with any of the following faults should be replaced:

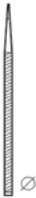
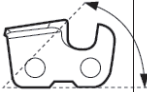
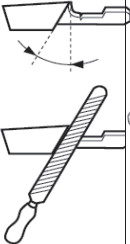
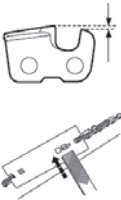
- Wear inside the bar rails that permits the chain to lay over sideways
- Bent guide bar
- Cracked or broken rails
- Spread rails

Lubricate guide bars weekly with a sprocket at their tip. Using a grease syringe, lubricate weekly in the lubricating hole. Turn the guide bar and check that the lubrication holes and chain groove are free from impurities.



MAINTENANCE

Saw chain filing and file gauges.

 inch/mm				
5/32" 4mm	80°	30°	0°	0.025"/0.65

MAINTENANCE SCHEDULE

The following is a list of the maintenance that must be performed on the machine. Most of the items are described in the maintenance section.

Daily maintenance	Weekly maintenance	Monthly maintenance
Clean the outside of the machine.	File off any burrs from the edges of the bar.	Check the connections between the battery and the machine and also check the connection between battery and the battery charger.
Check that the components of the power trigger work safely. (Power trigger lockout and power trigger.)		Empty the oil tank and clean the inside.
Clean the chain brake and check that it operates safely. Make sure that the chain catcher is undamaged, and replace it if necessary.		Blow through the product and battery cooling slots gently with compressed air.
The bar should be turned daily for more even wear. Check the lubrication hole in the bar, to be sure it is not clogged. Clean the bar groove. If the bar has a sprocket tip, this should be lubricated.		
Check that the bar and chain are getting sufficient oil.		
Check the saw chain with regard to visible cracks in the rivets and links, whether the saw chain is stiff or whether the rivets and links are abnormally worn. Replace if necessary.		
Sharpen the chain and check its tension and condition. Check the drive sprocket for excessive wear and replace if necessary.		
Clean the machines air inlet.		
Check that nuts and screws are tight.		
Check that the keypad works correctly and is not damaged.		

TECHNICAL DATA

Motor

Type BLDC (brushless)

Lubrication system

Oil tank capacity, L 0,13

Weight

Chain saw without battery, bar and chain, empty chain oil tank, kg 3.0

Chain/bar

Recommended bar lengths, cm 25-30

Usable cutting length, cm 22-27

Drive sprocket type/teeth Spur/6

Maximum chain speed / m/s 7.9

Sound Levels

Sound pressure level, measured according to EN 60745-1 and EN60745-2-13,dB(A) 79.1, K=3

Sound power level, measured according to ISO22868,dB(A) 97.9, K=3

Guaranteed Sound power level, dB(A) 99

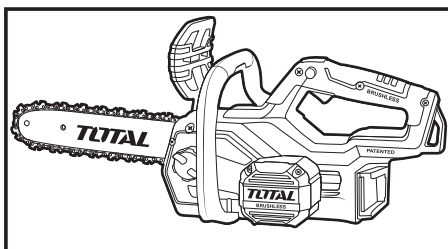
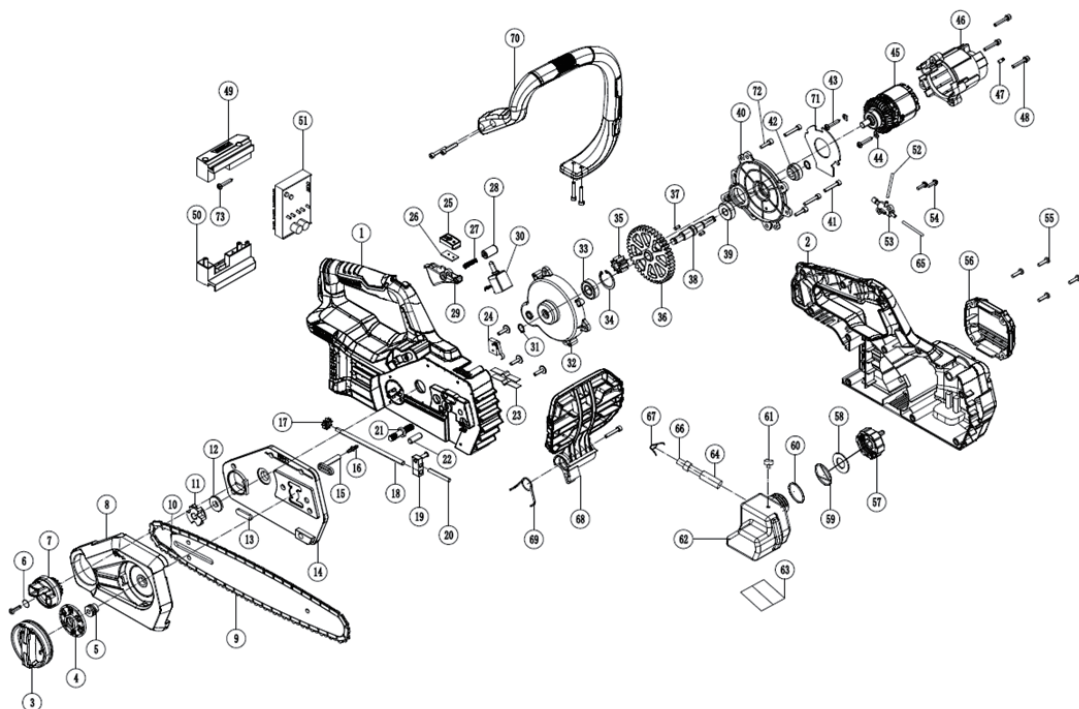
Vibration Levels

Vibration ,measured according to ISO 22867 , m/s² ; front/rear handle: 3.31/3.88, K=1.5

Approved batteries for TGSLI20128		
Battery	TFBLI2001	TFBLI2002
Type	Lithium-Ion	Lithium-Ion
Battery capacity, Ah	2.0	4.0
Voltage, V	20	20

Approved chargers for the specified batteries TFBLI2001 TFBLI2002	
Battery charger	TFCLI2001/TFCLI2003/TCLI2024
Input Voltage, V	220-240/110-120
Frequency, Hz	50/60

TGSLI20128, TGSLI20128E, TGSLI20128X, TGSLI20128-X, TGSLI20128S,
 TGSLI20128SX, UTGSLI20128X, TGSLI201286, TGSLI201286E, TGSLI201286X,
 TGSLI201286-X, TGSLI201286S, TGSLI201286SX, UTGSLI201286,
 UTGSLI201286X, UTGSLI201286-X (X stands for 1 to 9) Exploded view



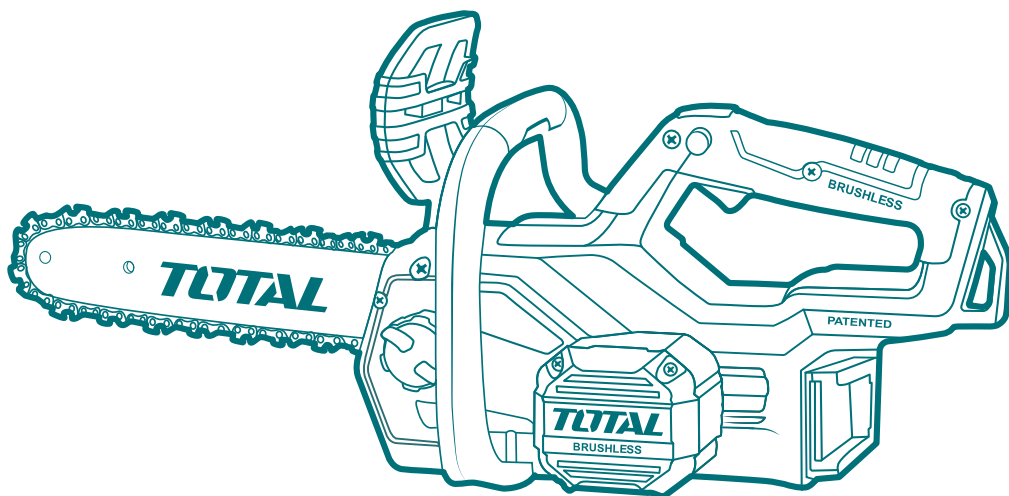
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 TGSLI201286-X,TGSLI201286S,TGSLI201286SX,UTGSLI201286,
 UTGSLI201286X,UTGSLI201286-X (X stands for 1 to 9) Spare part list

NO.	Part Description	Qty	NO.	Part Description	Qty
1	Right Housing	1	38	Shaft	1
2	Left Housing	1	39	Bearing	1
3	Knob	1	40	Seat	1
4	Knob seat	1	41	Nut	8
5	Seat insert	1	42	Worm gear	1
6	Large washer	4	43	Nut	2
7	Knob	1	44	Platen	2
8	Right cover plate	1	45	Assembly	1
9	Chain	1	46	Bracket	1
10	Guide plate	1	47	Nail	1
11	Ratchet wheel	1	48	Nut	3
12	Dust cover	1	49	Right baseboard	1
13	Rubber strip	1	50	Left baseboard	1
14	Cover plate	1	51	Control pulse	1
15	Rubber column	1	52	Oil pipe	1
16	Oil pot	1	53	Oil pump	1
17	Adjusting gear	1	54	Nut	2
18	Chain adjusting knob	1	55	Flat tail	26
19	Slide block	1	56	Left lid	1
20	Pin	1	57	Oil lid	1
21	Stud bolt	1	58	Oil gasket	1
22	Single bolt	1	59	Proof	1
23	Positioning film	2	60	Gasket	1
24	Switch	1	61	Valve	1
25	Panel	1	62	Oil pot	1
26	LED	1	63	Sponge pad	1
27	Spring	1	64	Sieve	1
28	Button	1	65	Oil pipe	1
29	Trigger	1	66	Oil gasket	1
30	Switch	1	67	Proof	1
31	Bead flange	2	68	Front baffle	1
32	Lid	1	69	Spring	1
33	Bearing	1	70	Shank	1
34	Bead flange	1	71	Baffle	1
35	Motor teeth	1	72	Nut	3
36	Gear wheel	1	73	Nut	2
37	Sell	2			

TOTAL

One-Stop Tools Station

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