

Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

221

ATLASTM BRUSHLESS CHAINSAW

40V LITHIUM



16"

56938

80V LITHIUM



18"

56937

Battery and charger sold separately

Visit our website at: <http://www.harborfreight.com>
Email our technical support at: productsupport@harborfreight.com

56938 56937

When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-888-866-5797 as soon as possible.

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⚠ WARNING

Read this material before using this product. Failure to do so can result in serious injury. **SAVE THIS MANUAL.**

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SAFETY

SETUP

OPERATION

MAINTENANCE

WARNING SYMBOLS AND DEFINITIONS

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	Addresses practices not related to personal injury.

IMPORTANT SAFETY INFORMATION

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.

Save all warnings and instructions for future reference.

The term "power tool" in the warnings refers to your battery-operated (cordless) power tool.

Work Area Safety

- 1. Keep work area clean and well lit.**
Cluttered or dark areas invite accidents.
- 2. 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.*
- 3. Keep children and bystanders away while operating a power tool.**
Distractions can cause you to lose control.

Electrical Safety

Do not expose power tools to rain or wet conditions.

Water entering a power tool will increase the risk of electric shock.



Personal Safety

- 1. 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.
- 2. 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.
- 3. Prevent unintentional starting. Ensure the Trigger is in the off-position before connecting to power source, picking up or carrying the tool.**
Carrying power tools with your finger on the Trigger or energizing power tools that have the Trigger on invites accidents.
- 4. Do not overreach. Keep proper footing and balance at all times.** *This enables better control of the power tool in unexpected situations.*
- 5. 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.*
- 6. If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** *Use of dust collection can reduce dust-related hazards.*
- 7. Only use safety equipment that has been approved by an appropriate standards agency.** *Unapproved safety equipment may not provide adequate protection. Eye protection must be ANSI-approved and breathing protection must be NIOSH-approved for the specific hazards in the work area.*

Power Tool Use and Care

- 1. 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.
- 2. Do not use the power tool if the Trigger does not turn it on and off.**
Any power tool that cannot be controlled with the Trigger is dangerous and must be repaired.
- 3. Disconnect 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.*
- 4. 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.*
- 5. 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.*
- 6. Keep cutting tools sharp and clean.** *Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.*
- 7. 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 a hazardous situation.*

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

- 1. 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 your clothing or body with the saw chain.
- 2. 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.

3. **Hold the power tool by insulated gripping surfaces only, because the saw chain may contact hidden wiring or its own cord.** *Saw chains contacting a “live” wire may make exposed metal parts of the power tool “live” and could give the operator an electric shock.*

4. **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.*

5. **Do not operate a chain saw in a tree.** *Operation of a chain saw while up in a tree may result in personal injury.*

6. **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.*

7. **When cutting a limb that is under tension be alert for spring back.** *When the tension in the wood fibres is released the spring loaded limb may strike the operator and/or throw the chain saw out of control.*

8. **Use extreme caution when cutting brush and saplings.** *The slender material may catch the saw chain and be whipped toward you or pull you off balance.*

9. **Carry the chain saw by the front 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.*

10. **Follow instructions for lubricating, chain tensioning and changing accessories.** *Improperly tensioned or lubricated chain may either break or increase the chance for kickback.*

11. **Keep handles dry, clean, and free from oil and grease.** *Greasy, oily handles are slippery causing loss of control.*

12. **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.*

13. **DANGER! People with pacemakers should not use chain saws.** *Chain saws produce strong electromagnetic fields that can cause pacemaker interference or pacemaker failure. People with pacemakers should consult their physician(s) for advice.*

14. 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 the result of tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below:

- a. **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.*

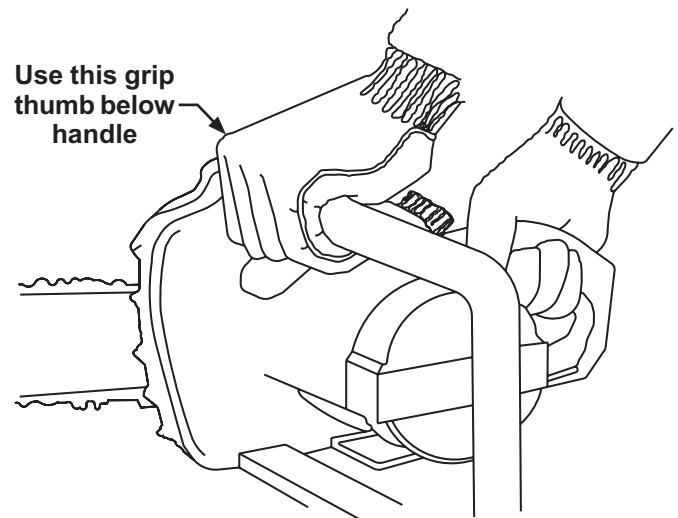



Figure A: Holding the Chain Saw

- b. **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.*
- c. **Only use replacement bars and chains specified by the manufacturer.** *Incorrect replacement bars and chains may cause chain breakage and/or kickback.*
- d. **Follow the manufacturer’s sharpening and maintenance instructions for the saw chain.** *Decreasing the depth gauge height can lead to increased kickback.*


15. Maintain labels and nameplates on the tool. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
16. Avoid unintentional starting. Prepare to begin work before turning on the tool.
17. Do not leave the tool unattended when the Battery Pack is connected. Turn off the tool, and remove the Battery Pack before leaving.

18.  The battery Charger gets hot during use. The Charger's heat can build up to unsafe levels and create a fire hazard if it does not receive adequate ventilation, due to an electrical fault, or if it is used in a hot environment. Do not place the Charger on a flammable surface. Do not obstruct any vents on the Charger. **Especially avoid placing the Charger on carpets**

and rugs; they are not only flammable, but they also obstruct vents under the Charger. Place the Charger on a stable, solid, nonflammable surface (such as a stable metal workbench or concrete floor) at least 1 foot away from all flammable objects, such as drapes or walls. Keep a fire extinguisher and a smoke detector in the area. Frequently monitor the Charger and Battery Pack while charging.

19. This product is not a toy. Keep it out of reach of children.
20. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Battery tool use and care

1. Prevent unintentional starting. Ensure the switch is in the off-position before connecting to battery pack, picking up or carrying the power tool. Carrying the power tool with your finger on the switch or energizing power tool that have the switch on invites accidents.
2. Disconnect the battery pack from the power tool before making any adjustments, changing accessories, or storing power tool. Such preventive safety measures reduce the risk of starting the power tool accidentally.
3. 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.
4. Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.
5. 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.
6. 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 irritation or burns.
7. Do not use a battery pack or power tool that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.
8. Do not expose a battery pack or power tool to fire or excessive temperature. Exposure to fire or temperature above 265°F may cause explosion.
9. Follow all charging instructions and do not charge the battery pack or power tool outside of the temperature range specified in the instructions. Charging improperly or at temperatures outside of the specified range may damage the battery and increase the risk of fire.
10. Have servicing performed by a qualified repair person using only identical replacement parts. This will ensure that the safety of the product is maintained.
11. Do not modify or attempt to repair the power tool or the battery pack except as indicated in the instructions for use and care.
12.  The battery Charger gets hot during use. The Charger's heat can build up to unsafe levels and create a fire hazard if it does not receive adequate ventilation, due to an electrical fault, or if it is used in a hot environment. Do not place the Charger on a flammable surface. Do not obstruct any vents on the Charger. **Especially avoid placing the Charger on carpets and rugs; they are not only flammable, but they also obstruct vents under the Charger.** Place the Charger on a stable, solid, nonflammable surface (such as a stable metal workbench or concrete floor) at least 1 foot away from all flammable objects, such as drapes or walls. Keep a fire extinguisher and a smoke detector in the area. Frequently monitor the Charger and Battery Pack while charging.

Lithium Battery Safety Warnings



LITHIUM BATTERIES STORE A LARGE AMOUNT OF ENERGY AND WILL VENT FIRE OR EXPLODE IF MISTREATED:



1. Keep Battery Pack dry.
2. **DO NOT DO ANY OF THE FOLLOWING TO THE BATTERY PACK:**
 - a. **Open,**
 - b. **Drop,**
 - c. **Short-circuit,**
 - d. **Puncture,**
 - e. **Incinerate, or**
 - f. **Expose to temperatures greater than 265°F.**
3. Charge Battery Pack only according to its Charger's instructions.
4. Inspect Battery Pack before every use; do not use or charge if damaged.

Vibration Safety

This tool vibrates during use. Repeated or long-term exposure to vibration may cause temporary or permanent physical injury, particularly to the hands, arms and shoulders. To reduce the risk of vibration-related injury:

1. Anyone using vibrating tools regularly or for an extended period should first be examined by a doctor and then have regular medical check-ups to ensure medical problems are not being caused or worsened from use. Pregnant women or people who have impaired blood circulation to the hand, past hand injuries, nervous system disorders, diabetes, or Raynaud's Disease should not use this tool. If you feel any symptoms related to vibration (such as tingling, numbness, and white or blue fingers), seek medical advice as soon as possible.
2. Do not smoke during use. Nicotine reduces the blood supply to the hands and fingers, increasing the risk of vibration-related injury.
3. Wear suitable gloves to reduce the vibration effects on the user.
4. Use tools with the lowest vibration when there is a choice.
5. Include vibration-free periods each day of work.
6. Grip tool as lightly as possible (while still keeping safe control of it). Let the tool do the work.
7. To reduce vibration, maintain the tool as explained in this manual. If any abnormal vibration occurs, stop use immediately.



SAVE THESE INSTRUCTIONS.

Grounding

⚠️ WARNING







TO PREVENT ELECTRIC SHOCK AND DEATH FROM INCORRECT GROUNDING: Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the power cord plug provided with the charger. Do not use the charger if the power cord or plug is damaged. If damaged, have it repaired by a service facility before use. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

Extension Cords

Note: Extension cords must not be used with this item's Charger.

Symbology

V	Volts
DC	Direct Current
A	Amperes
n ₀ xxxx/min.	No Load Revolutions per Minute (RPM)
	WARNING marking concerning Risk of Eye Injury. Wear ANSI-approved safety goggles with side shields.
	Read the manual before set-up and/or use.
	WARNING marking concerning Risk of Fire. Do not cover Charger ventilation ducts. Charge on fireproof surface only.
	WARNING marking concerning Risk of Electric Shock. Properly connect Charger's power cord to appropriate outlet.

	WARNING marking concerning Risk of Explosion. Do not puncture, short, or open battery packs and do not charge damaged battery packs.
	WARNING marking concerning Risk of Kickback. Contact of the guide bar tip with any object should be avoided.
	WARNING marking concerning Risk of Kickback. Tip contact can cause the guide bar to move suddenly upward and backward, which can cause serious injury.
	WARNING marking concerning Risk of Loss of Control. Do not operate the chainsaw with only one hand.
	WARNING marking concerning Risk of Loss of Control. Always use two hands when operating the chainsaw.
	WARNING marking concerning Saw Chain Orientation. Cutters must face in direction of rotation.

SAFETY

SETUP

Specifications

MODEL	56938	56937
Battery Type	Atlas Li-Ion 40V (57008) or 40V/80V (57014) (sold separately)	Atlas Li-Ion 40V/80V (57014) (sold separately)
Charger Type	56993 or 56997 Atlas Li-ion (sold separately)	
Guide Bar	16" Sprocket Nose Model: M1431656-1041TL	18" Sprocket Nose Model: M1501862-1041TL-2
Saw Chain	16" Bar Length, 3/8" Pitch, 0.043" Gauge Model: Trilink CL14356	18" Bar Length, 3/8" Pitch, 0.05" Gauge Model: Trilink CL15062
Lubrication	Bar and chain oil. If not available, SAE 30W motor oil may be used.	

OPERATION

Ambient Temperature Ranges		
Operation		6.8 - 104°F
Battery charging		39 - 104°F
Tool storage		-4 - 158°F
Battery storage	1 year	32 - 73°F
	3 month	32 -113°F
	1 month	32 -140°F

MAINTENANCE



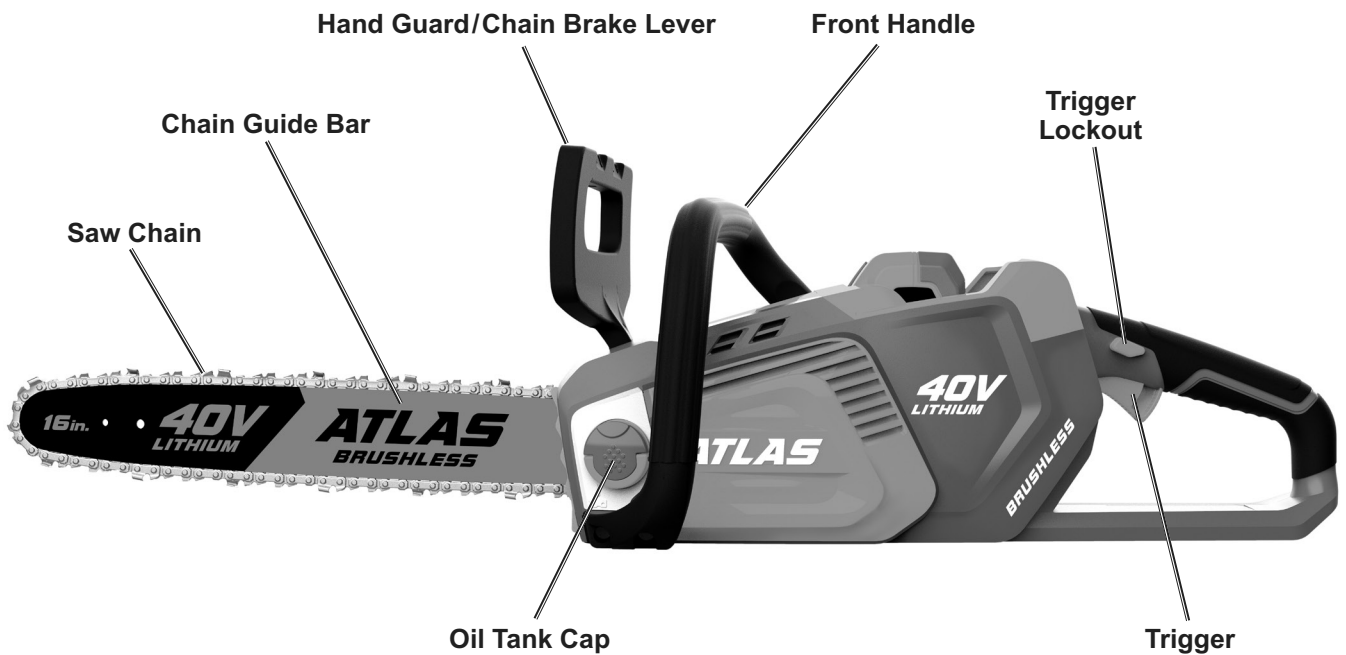
Setup - Before Use:



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Note: For additional information regarding the parts listed in the following pages, refer to *Parts Lists and Diagrams* on page 20.

Functions



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Safety Device Explanation

1. Hand Guard – A guard that protects your hand on the Front Handle from the Saw Chain.
2. Chain Brake – A mechanical braking device designed to quickly stop the Chainsaw and Chain in the event of kickback. If kickback occurs, this safety feature is activated when the operator's hand strikes the Hand Guard/Chain Brake Lever and pushes it forward, stopping the Chain.
3. Trigger Lockout – A movable stop that prevents the unintentional operation of the Trigger until manually activated.
4. Low-Kickback Chain – A Chain that complies with the kickback performance requirements of ANSI B175.1-1991 when tested on a representative sample of chainsaws.

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Guide Bar and Saw Chain Installation and Adjustment

SAFETY

SETUP

OPERATION

MAINTENANCE

⚠ WARNING

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:

Make sure that the Trigger is in the off-position and remove the Battery Pack before performing any procedure in this section.

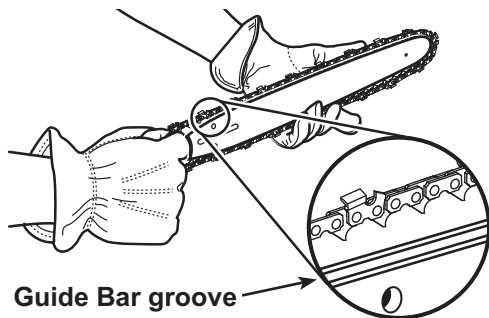
Note: New Saw Chains often need to be tensioned several times during first use. Check a new Saw Chain's tension often when first using.

Follow the directions in the following sections for installing the Guide Bar and Saw Chain, for checking and adjusting Saw Chain tension, and for replacing the Saw Chain when necessary.

Guide Bar/Saw Chain Installation/Replacement

CAUTION! Wear heavy-duty work gloves when handling Saw Chain.

1. **BEFORE FIRST USE:** Soak the Saw Chain overnight in bar and chain oil (sold separately).
2. **WARNING! To prevent serious injury from accidental operation: Remove the Battery Pack from the Chainsaw.**
3. Loosen and remove the Drive Cover Nuts, then remove the Drive Cover from the Saw.
4. Place the Saw Chain over the Guide Bar. The cutters of the Saw Chain must face away from the Chainsaw along the top edge of the Guide Bar. Fit the Drive Links into the groove around the Guide Bar.
6. Place the Saw Chain over the Drive Sprocket. Check again that the Saw Chain cutters are aligned properly and the Saw Chain Drive Links are seated completely in the slot of the Guide Bar. The cutters of the Saw Chain must face away from the Chainsaw along the top edge of the Guide Bar.



5. Place the slotted end of the Chain Guide Bar over the Guide Bar Bolts and insert the Chain Tension Pin into the lower hole in the Guide Bar. Refer to Figure B.

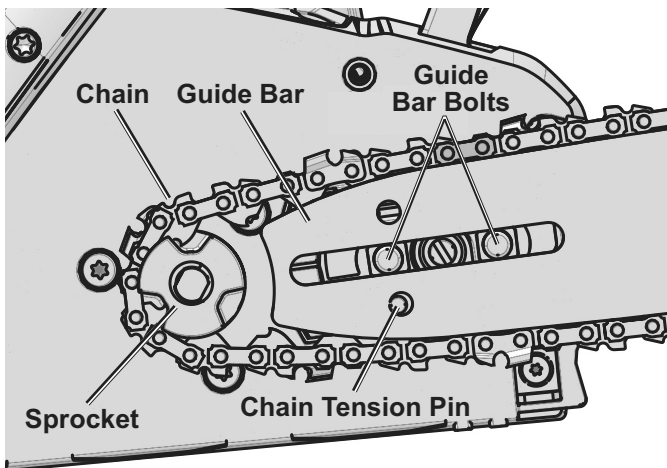


Figure B: Installing Guide Bar and Chain

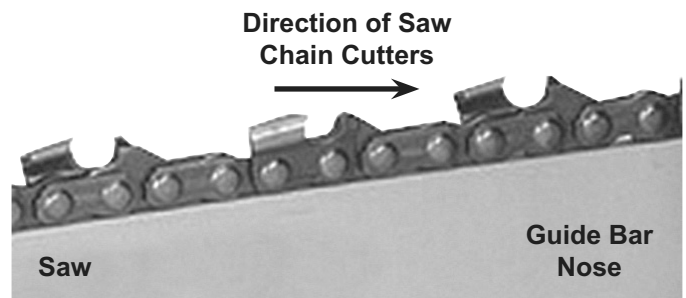
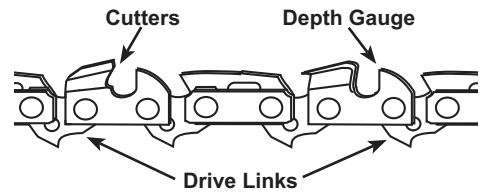
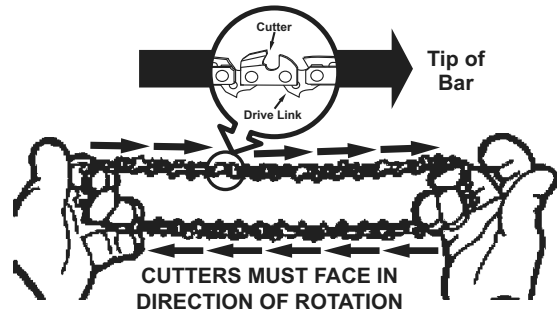


Figure C: Saw Chain Orientation

7. Replace the Drive Cover and Drive Cover Nuts. Tighten the Nuts so that the Cover is snug, but not tight. Tension the Saw Chain following the steps in *Adjusting Saw Chain Tension* on page 11.



Checking Saw Chain Tension

1. Before using, check the Saw Chain tension.
2. While wearing heavy-duty gloves, use your index finger and thumb to carefully grab the Saw Chain in the middle section under the Chain Guide Bar.
3. Pull the Saw Chain away from the Guide Bar and let go.
4. The Saw Chain should snap back against the Guide Bar. The Drive Links should fit snugly in the groove of the Chain Guide Bar, yet you should still be able to slide the Saw Chain along the Guide Bar easily by hand.
5. There should be no sagging between the Guide Bar and Saw Chain on the *underside* of the Guide Bar, and Drive Links should not be visible.

Note: Saw Chain tension should be checked before and periodically during operation.

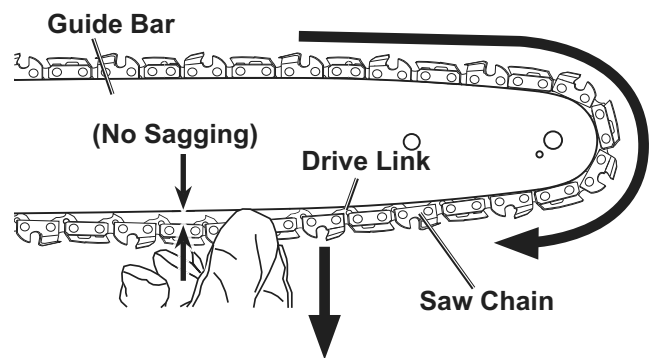


Figure D: Checking Saw Chain Tension

Adjusting Saw Chain Tension

1. Loosen the Drive Cover Nuts on the Drive Cover. It is not necessary to remove the Drive Cover to adjust chain tension. Snug the Drive Cover Nuts just enough to prevent side to side play in the Guide Bar.
6. Check the Saw Chain tension again following steps 2 through 5 under *Checking Saw Chain Tension* above. If needed, repeat the adjusting steps to achieve the correct tension.

2. Turn the Chain Tension Screw a couple of turns *counterclockwise* to decrease tension; pull the Saw Chain down until it sags slightly and does not snap back against the Guide Bar.

Note: Saw Chain tensioning should always be done from low tension to proper tension.

3. While wearing heavy-duty gloves, carefully grasp the Guide Bar and pull it upwards.
4. While holding the Guide Bar in its upward position, Turn the Chain Tension Screw *clockwise* until the Saw Chain is drawn upwards against the Guide Bar and no Drive Links are visible.
5. Continue holding the Guide Bar in its upward position and tighten the Drive Cover Nuts on the Drive Cover.

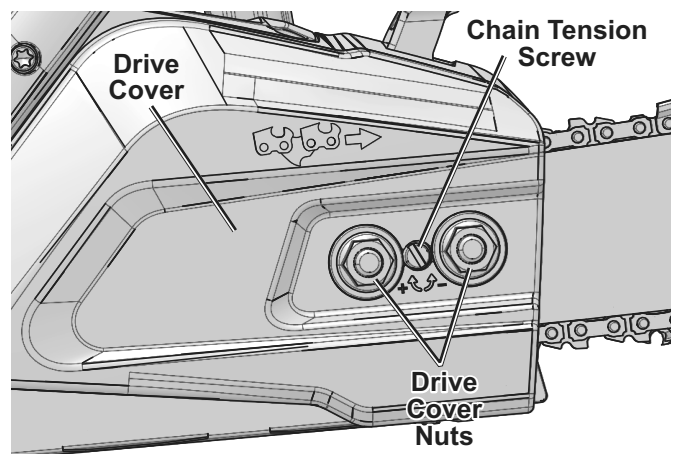


Figure E: Adjusting Saw Chain Tension

Operating Instructions



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Charging Battery Pack

Charge Battery Pack before using this tool.
Follow instructions included with Battery Charger
(both sold separately).

Installing and Removing Battery Pack

1. To install: Slide Battery Pack into battery compartment on top of Chainsaw until it clicks into place.
2. To remove: Press the Battery Pack Release Button and pull Battery Pack out of battery compartment.

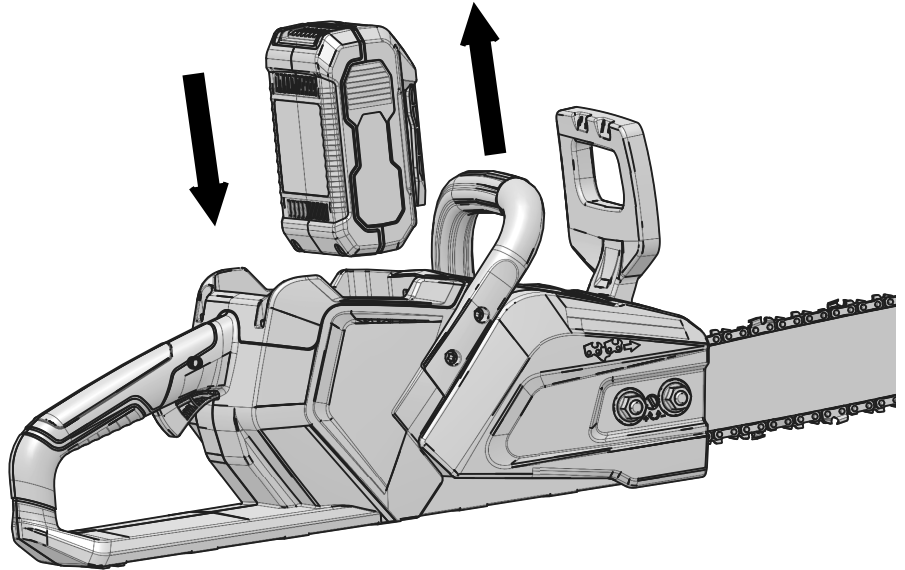


Figure F: Installing/Removing Battery Pack

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Workpiece and Work Area Set Up

1. Designate a work area that is clean and well lit. The work area must not allow access by children or pets to prevent distraction and injury.
2. There must not be objects, such as utility lines, nearby that will present a hazard while working.
3. A first-time user should, as a minimum practice, cut logs on a saw-horse or cradle before cutting down trees.

General Operating Instructions

1. Before first use and before each use thereafter, remove the Oil Tank Cap. Inspect the Cap Gasket for damage. Fill the oil reservoir to just below fill plug with oil (not included). Refer to *Specifications Chart* on page 7 for oil type. Then replace the Oil Tank Cap. Oil is automatically applied to the Saw Chain during operation.
2. Make sure that the Trigger is in the off-position, then slide the Battery Pack into battery compartment on top of Chainsaw until it clicks into place.
3. Place the Hand Guard/Chain Brake Lever in normal operating (disengaged) position by pulling the Hand Guard back toward the Handle. Refer to Figure G.

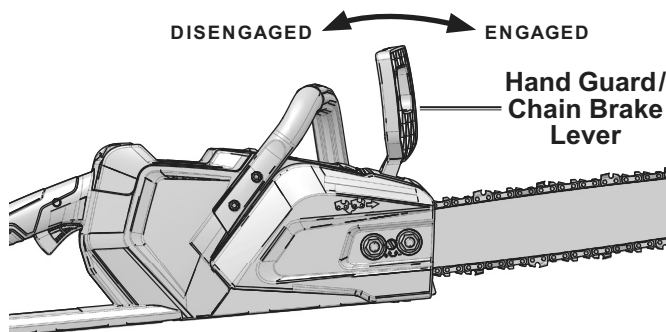


Figure G: Chain Brake

NOTE: The Chainsaw will not operate unless the Hand Guard/Chain Brake Lever is in the disengaged position.

4. Grasp the Handles with both hands. Always grip the handle with the thumb and fingers encircling the handle as shown in Figure H.

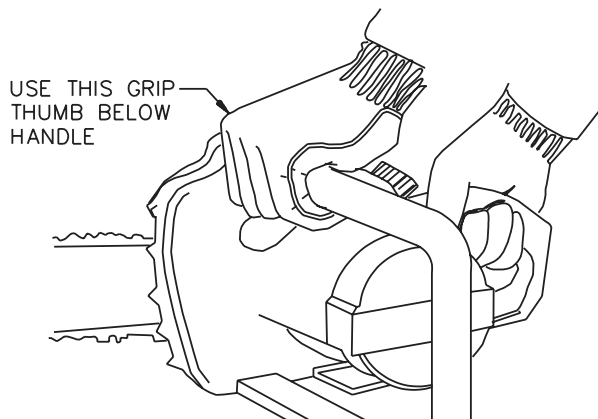


Figure H: Holding the Chainsaw

Note: Front Hand Guard not shown.

5. Stand in front of the wood to be cut with your feet firmly in place.
6. Push the Trigger Lockout Switch in, then squeeze and hold the Trigger. With the Chainsaw running, you may release pressure on the Lockout Switch. Releasing the Trigger will stop the motor.

NOTE: The Trigger cannot be activated unless the Trigger Lockout Switch is depressed.

DANGER! To prevent serious injury and death from kickback: Do not touch the Guide Bar Nose to the wood.

7. When the Chainsaw reaches full speed, begin cutting with a light, downward pressure against the bottom mid-section of the Saw Chain. Allow the Saw Chain to cut at its own rate. Applying too much pressure can damage the tool.

DANGER! When cutting loose, round wood stock, place the wood stock on a sawhorse, in a cradle, or use a timberjack (all sold separately) to avoid grabbing and throw back.

8. To prevent accidents, turn off the tool, remove its Battery Pack, and place the Hand Guard/Chain Brake Lever forward in its engaged position after use.
9. When the Saw has cooled completely, clean thoroughly and cover the Chain Guide Bar with the Chain Guide Bar Sheath. Store the tool indoors out of children's reach.

Instructions concerning the proper techniques for basic felling, limbing, and cross-cutting

SAFETY

Felling a Tree

When bucking and felling operations are being performed by two or more persons at the same time, the felling operations 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 company should be notified immediately.

The chainsaw operator should keep on the uphill side of the terrain as the tree is likely to roll or slide downhill 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 I.

Before felling is started, consider the natural lean of the tree, the location of larger branches and the wind direction to judge which way the tree will fall.

Remove dirt, stones, loose bark, nails, staples and wire from the tree.

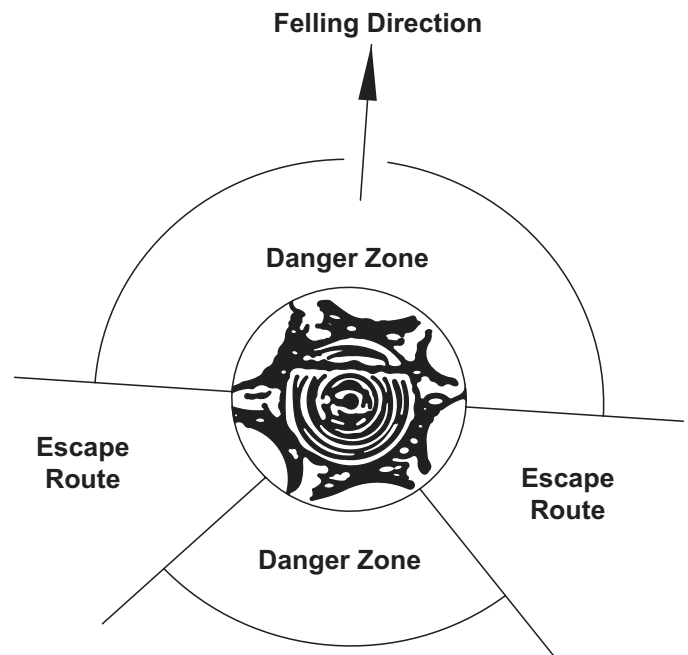


Figure I: Escape Routes

SETUP

Notching Undercut

Make the notch 1/3 the diameter of the tree, perpendicular to the direction of falls as illustrated in Figure J. 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 2 inches higher than the horizontal notching cut as illustrated in Figure J. 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 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 chainsaw from the cut, stop the motor, put the chainsaw down, then use the retreat path planned. Be alert for overhead limbs falling and watch your footing.

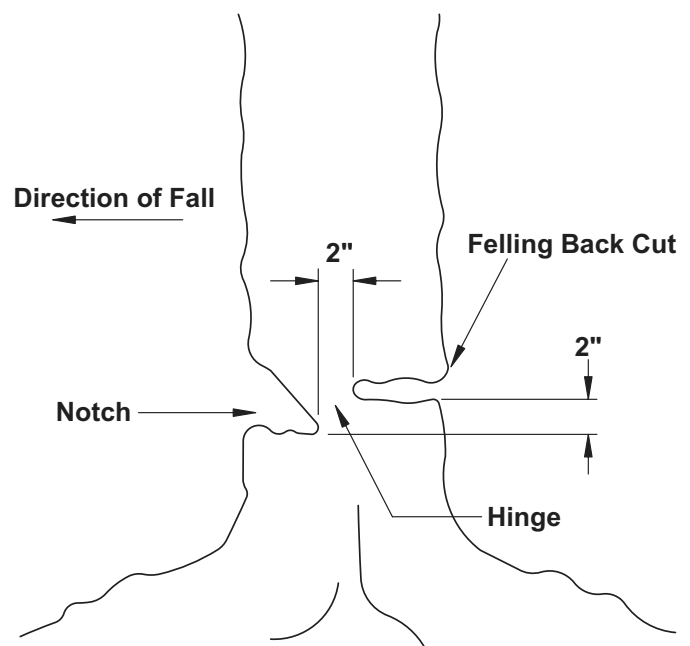


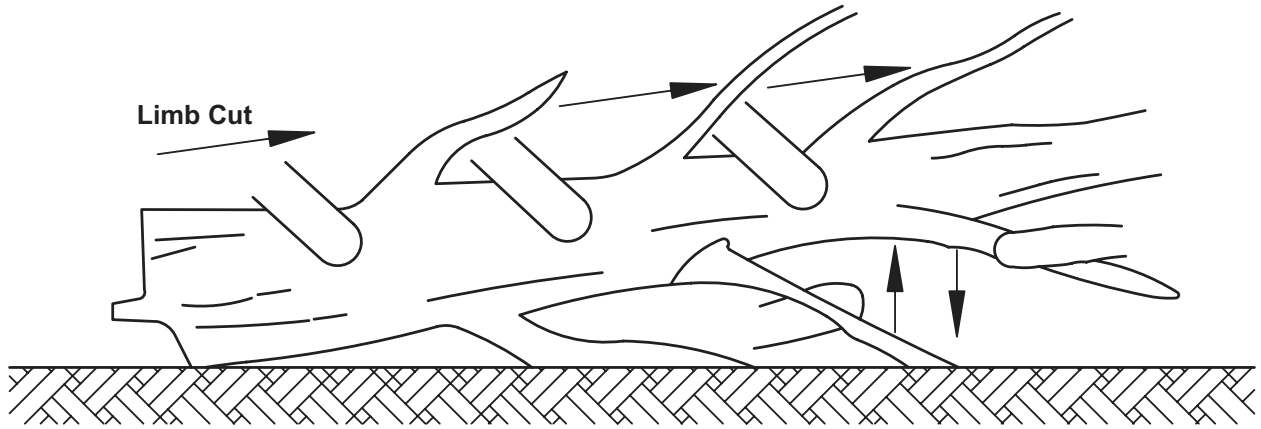
Figure J: Undercutting

OPERATION

MAINTENANCE

Limbing a Tree

Limbing is removing the branches from a fallen tree. When limbing leave larger lower limbs to support the log off the ground. Remove the small limbs in one cut as illustrated in Figure K. Branches under tension should be cut from the bottom up to avoid binding the chainsaw.



Keep work off ground leave support limbs until log is cut

Figure K: Tree Limbing

Bucking a Log

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.

When the log is supported along its entire length as illustrated in Figure L, it is cut from the top (overbuck).

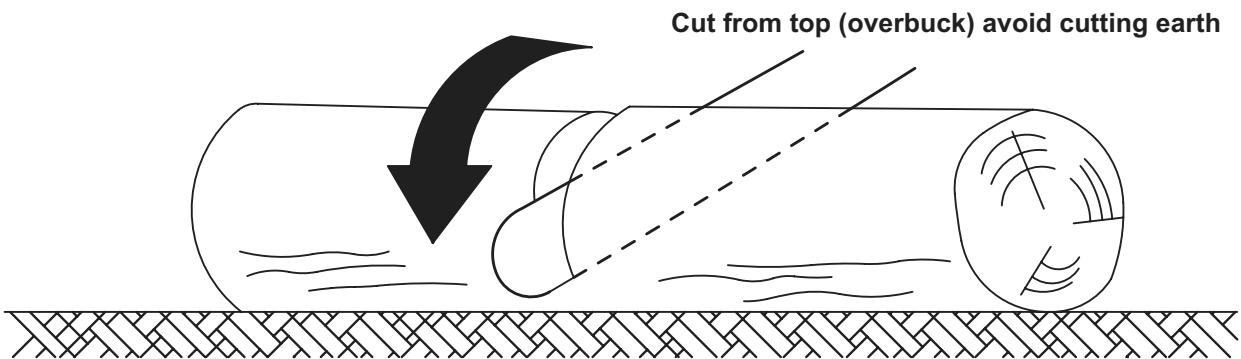


Figure L: Log Supported Along the Entire Length

When the log is supported on one end, as illustrated in Figure M, cut 1/3 the diameter from the underside (underbuck). Then make the finished cut by overbucking to meet the first cut.

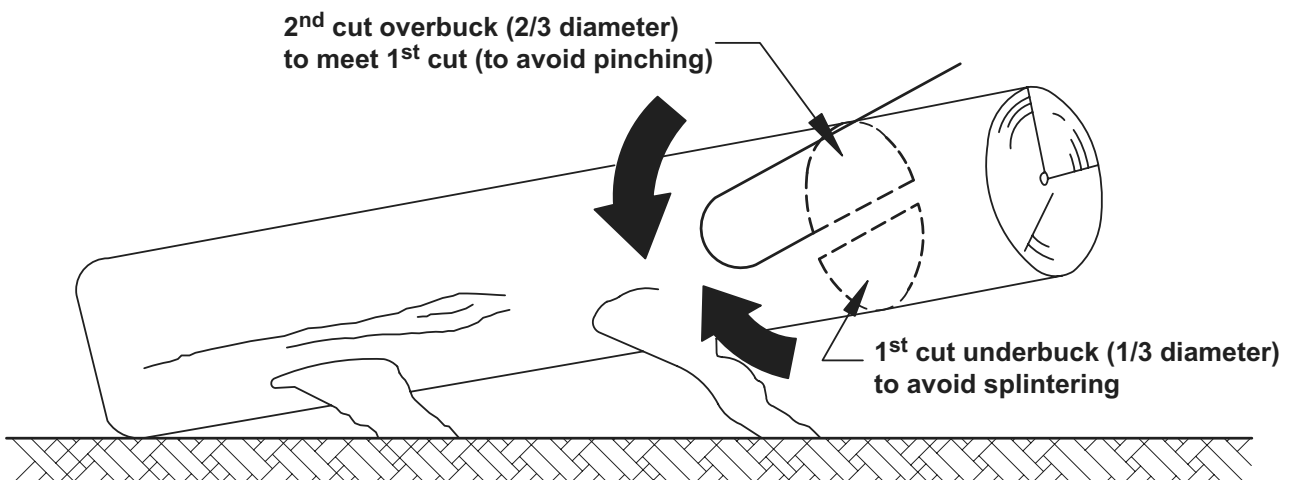


Figure M: Log Supported One End



Bucking a Log (continued)

When the log is supported on both ends, as illustrated in Figure N, cut 1/3 the diameter from the top (overbuck). Then make the finished cut by underbucking the lower 2/3 to meet the first cut.

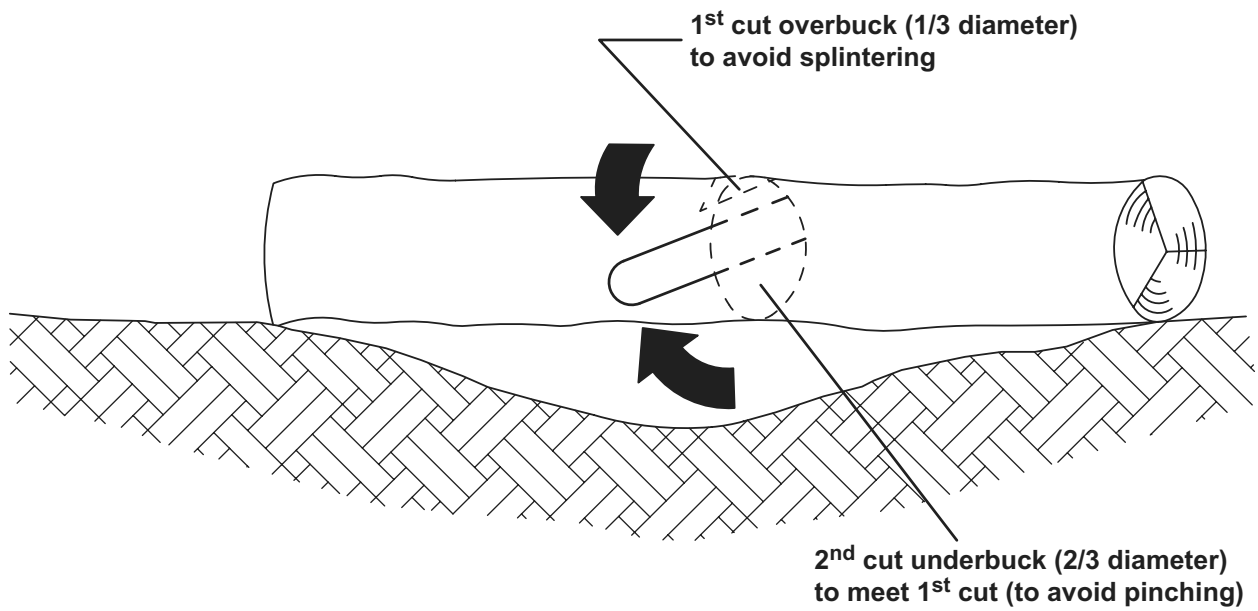
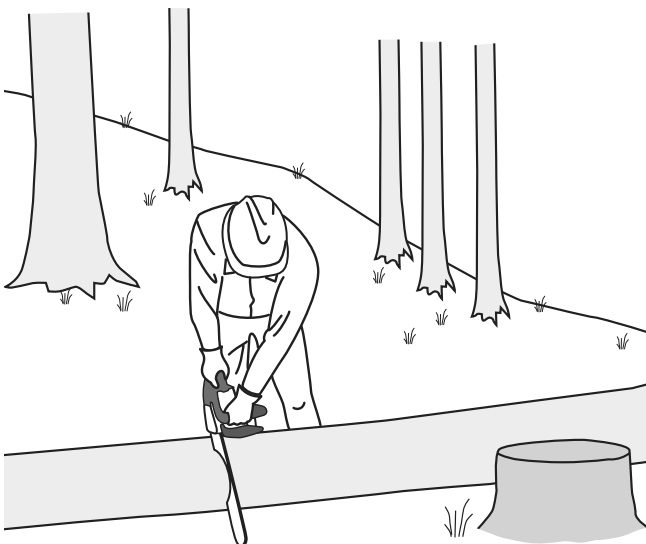


Figure N: Log Supported Both Ends

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

**Stand on uphill side when cutting
because log may roll**

Figure O: Bucking a Log



ATLAS™

Maintenance and Servicing



Procedures not specifically explained in this manual must be performed only by a qualified technician.

WARNING

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION: Make sure that the Trigger is in the off-position and remove the Battery Pack before performing any procedure in this section.

TO PREVENT SERIOUS INJURY FROM TOOL FAILURE: Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.

Cleaning, Maintenance, and Lubrication

- BEFORE EACH USE**, inspect the general condition of the tool. Check for:
 - leaking, swollen, or cracked battery pack
 - loose hardware
 - misalignment or binding of moving parts
 - cracked or broken parts
 - dull or damaged saw chain
 - any other condition that may affect its safe operation.
 - BEFORE FIRST USE AND BEFORE EACH USE THEREAFTER**, make sure the Oil Tank is filled with oil (not included). Refer to *Specifications Chart* on page 7 for oil type.
 - IF THE SAW CHAIN BECOMES LOOSE**, adjust the Saw Chain tension as described under *Adjusting Saw Chain Tension* on page 11.
 - PERIODICALLY OR WHEN REPLACING SAW CHAIN**, turn the Chain Guide Bar over to distribute the wear on it. Replace the Guide Bar when bent, cracked, or when the Saw Chain moves excessively from side to side on the Guide Bar due to wear. Refer to *Chain Guide Bar Care* on page 18.
- WARNING! Replace the Saw Chain and Guide Bar only with an identical Saw Chain and Guide Bar.**
- AFTER USE**, wipe the outside surface of the Chainsaw with a clean, dry cloth. If necessary use a mild detergent. Do not use solvents. Do not immerse this tool in liquid.
 - Li-Ion BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY. Do not short, incinerate or open battery.
 - Disconnect Battery Pack and store Battery Pack, Charger, and tool in dry, indoor area out of reach of children and away from metal objects (i.e., paperclips, coins) to prevent shorting.
 - For long term storage or if storing Chainsaw in a vertical position, remove all residual oil from the oil reservoir.

Sharpening/Replacing the Saw Chain

WARNING! Wear heavy-duty work gloves when handling the Saw Chain.

- For smooth and safe operation, always keep the Saw Chain cutters sharp.
 - Have the cutters sharpened by a qualified technician when you notice any of the following symptoms:
 - The sawdust becomes powder-like.
 - You can't make the cut without extra force.
 - The Chainsaw does not cut straight.
 - Vibration increases.
 - A Saw Chain that is damaged or too worn to be restored to a usable condition by sharpening will need to be replaced. Refer to *Guide Bar/Saw Chain Installation/Replacement* on page 10.
- WARNING! Replace the Saw Chain only with an identical Saw Chain.**

Chain Guide Bar Care

1. Remove the Chain Guide Bar periodically to clean and lubricate.
2. Deburr rails of Guide Bar as needed. Use a flat file to make side edges square.

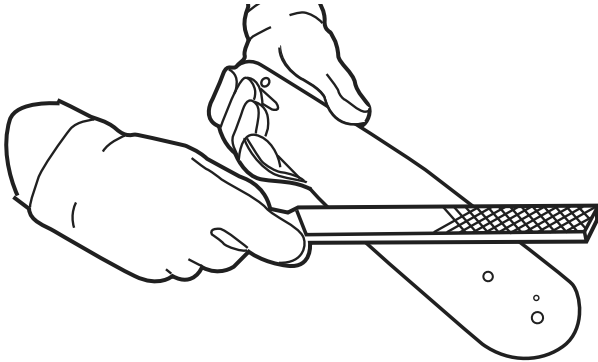


Figure P: Deburring Guide Bar

3. Remove sawdust and sap from the Bar Groove using a Guide Bar cleaning tool (sold separately), then lubricate the nose sprocket at the ports with grease.

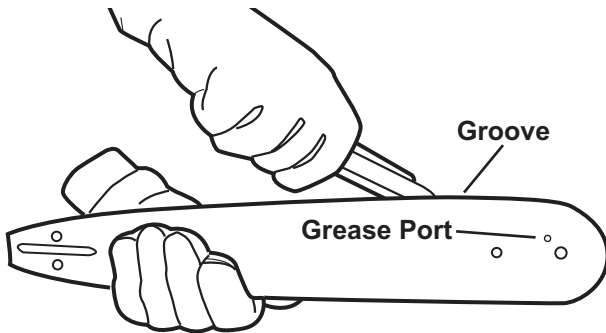


Figure Q: Cleaning and Lubricating Guide Bar

4. Reverse the Guide Bar when replacing the Saw Chain to prevent uneven wear.
5. The rails of the Guide Bar groove should always be parallel to each other. Place a ruler along the surface of the Guide Bar and Saw Chain. If there is a gap, the bar is normal.

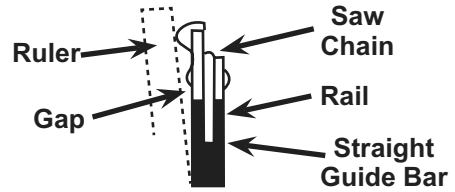


Figure R: Normal Guide Bar

If the ruler is flush with the Guide Bar and Saw Chain, or the Chain tilts to one side, then the Bar is worn and needs to be replaced.

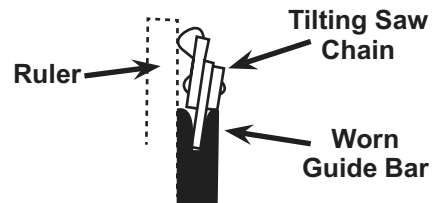


Figure S: Worn Guide Bar

Cleaning, Maintenance, and Lubrication Schedule

Note: This maintenance schedule is intended solely as a general guide. If performance decreases or if equipment operates unusually, check systems immediately. The maintenance needs of each piece of equipment will differ depending on factors such as duty cycle, temperature, air quality, and other factors. If you have doubts about your ability to safely service this tool, have a qualified technician service the equipment instead.

Periodic Maintenance or When Replacing Saw Chain:

- a. Clean and lubricate Chain Guide Bar and turn over.
- b. Deburr Guide Bar as needed.
- c. Check Chain Sprocket for wear or damage.


Monthly Maintenance:

Clean Chain Oil Tank.

If Worn or Damaged:

- a. Replace Chain Guide Bar if it becomes worn, bent or damaged.
- b. Sharpen or replace Saw Chain.

Troubleshooting

Problem	Possible Causes	Likely Solutions
Tool will not start.	<ol style="list-style-type: none"> 1. Battery Pack not properly connected. 2. Battery Pack not properly charged. 3. Battery Pack burnt-out. 4. The Chain Brake Lever is engaged. 5. Internal damage or wear. 	<ol style="list-style-type: none"> 1. Remove Battery Pack, make sure there are no obstructions, reinsert the Battery Pack and press firmly until the Battery Pack locks in place. 2. Make sure Charger is connected and operating properly. Give enough time for Battery Pack to recharge properly. 3. Dispose of old Battery Pack properly or recycle. Replace Battery Pack. 4. Disengage the Chain Brake Lever. 5. Have qualified technician service tool.
Motor runs, but Chain does not rotate.	<ol style="list-style-type: none"> 1. Chain tension too tight. 2. Guide Bar and/or Chain damaged. 3. Gear train failure. 	<ol style="list-style-type: none"> 1. Adjust Saw Chain tension. 2. Inspect Guide Bar and Chain for damage. Replace Guide Bar and Chain if necessary. 3. Have qualified technician service tool.
Motor runs, Chain rotates but does not cut or cuts poorly.	<ol style="list-style-type: none"> 1. Saw Chain not tensioned properly. 2. Saw Chain dull. 3. Saw Chain installed backwards. 	<ol style="list-style-type: none"> 1. Tension Saw Chain properly. 2. Sharpen Saw Chain or replace. 3. Reverse direction of Saw Chain.
Chain comes off Guide Bar.	<ol style="list-style-type: none"> 1. Chain tension too loose. 2. Guide Bar and Chain not installed correctly. 	<ol style="list-style-type: none"> 1. Adjust Saw Chain tension. 2. Review and correct Guide Bar and Chain installation.
Guide Bar and Chain running hot and smoking.	<ol style="list-style-type: none"> 1. Chain tension too tight. 2. Oil Tank empty. 	<ol style="list-style-type: none"> 1. Adjust Saw Chain tension. 2. Check/refill Oil Tank.
Chainsaw stops while cutting.	Forcing tool to work too fast causing overload.	Release Trigger to reset internal circuit breaker. Allow tool to work at its own rate.
 <p>Follow all safety precautions whenever diagnosing or servicing the tool. Disconnect power supply before service.</p>		

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

56937 Parts List

Part	Description	Qty
1	Snap Ring	2
2	Sleeve	2
3	Drive Cover	1
4	Nut	2
5	Oil Gasket	1
6	Dustproof Cover	1
7	Sprocket Gasket	1
8	Brake Disc	1
9	Worm Gear	1
10	Worm	1
11	Shaft Sleeve	1
12	Oil Outlet Pipe	1
13	Brake Band	1
14	Screw St4.2x12	1
15	Brake Extension Spring	1
16	Connecting Bracket	1
17	Brake Hinge	1
18	Hand Guard	1
19	Screw M6x16	3
20	Right Housing	1
21	Trigger	1
22	Variable Speed Switch	1
23	Compression Spring	1
24	Trigger Lockout	1
25	Top Housing	1
26	Rocker Switch	1
27	Cross Recessed Pan Head Screw	1
28	Motor	1

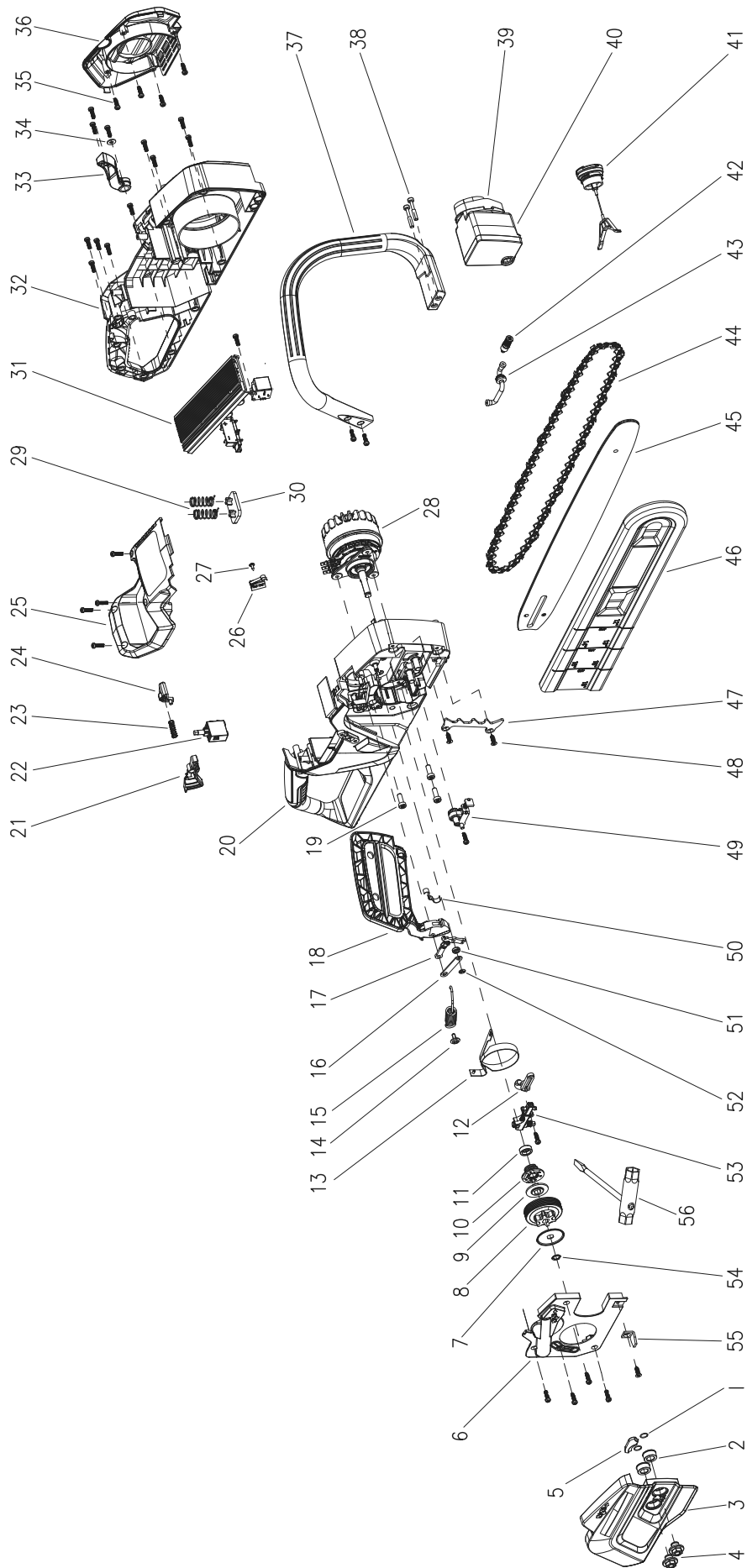
Part	Description	Qty
29	Compression Spring	2
30	Spring Base	1
31	PCBA	1
32	Left Housing	1
33	Front Handle Bracket	1
34	Flat Washer $\Phi 5.2 \times \Phi 15 \times 1$	1
35	Screw St4x14	29
36	Motor Cover	1
37	Front Handle	1
38	Screw St4.8x30	2
39	Lower Oil Tank Cover	1
40	Upper Oil Tank Cover	1
41	Oil Tank Cap	1
42	Filter Assembly	1
43	Oil Inlet Pipe	1
44	Saw Chain	1
45	Chain Guide Bar	1
46	Chain Guide Bar Sheath	1
47	Bucking Spike	1
48	Screw St4.2x14	3
49	Tension Assembly	1
50	Spring	1
51	Shaft Sleeve	1
52	Retaining Ring	1
53	Oil Pump Assembly	1
54	Circlip	1
55	Chain Retaining Bracket	1
56	Wrench	1

Record Product's Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.



56937 Assembly Diagram



SAFETY

SETUP

OPERATION

MAINTENANCE



56938 Parts List

SAFETY

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Part	Description	Qty
1	Chain Guide Bar Sheath	1
2	Signal Switch	1
3	Tension Assembly	1
4	Screw St4x10-F	1
5	Screw St4.2x16	1
6	Washer	1
7	Drive Cover	1
8	Nut	2
9	Bushing	2
10	The Metal Ring To Limit	1
11	Drive Sprocket	1
12	Spacer Bushing	1
13	Output Tube	1
14	Screw M6x16	3
15	Right Housing	1
16	Chain Retaining Bracket	1
17	Spring Base	1
18	Variable Speed Switch	1
19	Screw Assembly	2
20	Compression Spring	2
21	Trigger	1
22	Oil Pump Assembly	1
23	Compression Spring	1

Part	Description	Qty
24	Battery Pack Connection Socket	1
25	Trigger Lockout	1
26	Motor	1
27	Top Cover	1
28	Screw St4.2x16	10
29	Screw St4.2x12	4
30	Motor Cover	1
31	Screw St4.8x60	3
32	Left Housing	1
33	Filter Assembly	1
34	Screw St4.8x30	2
35	Front Handle	1
36	Oil Tank Cap Assembly	1
37	Oil Tank Assembly	1
38	Input Tube	1
39	Handguard	1
40	Handguard Shaft	1
41	PCB	1
42	Screw St3x8	3
43	Leaf Spring	1
44	Saw Chain	1
45	Chain Guide Bar	1

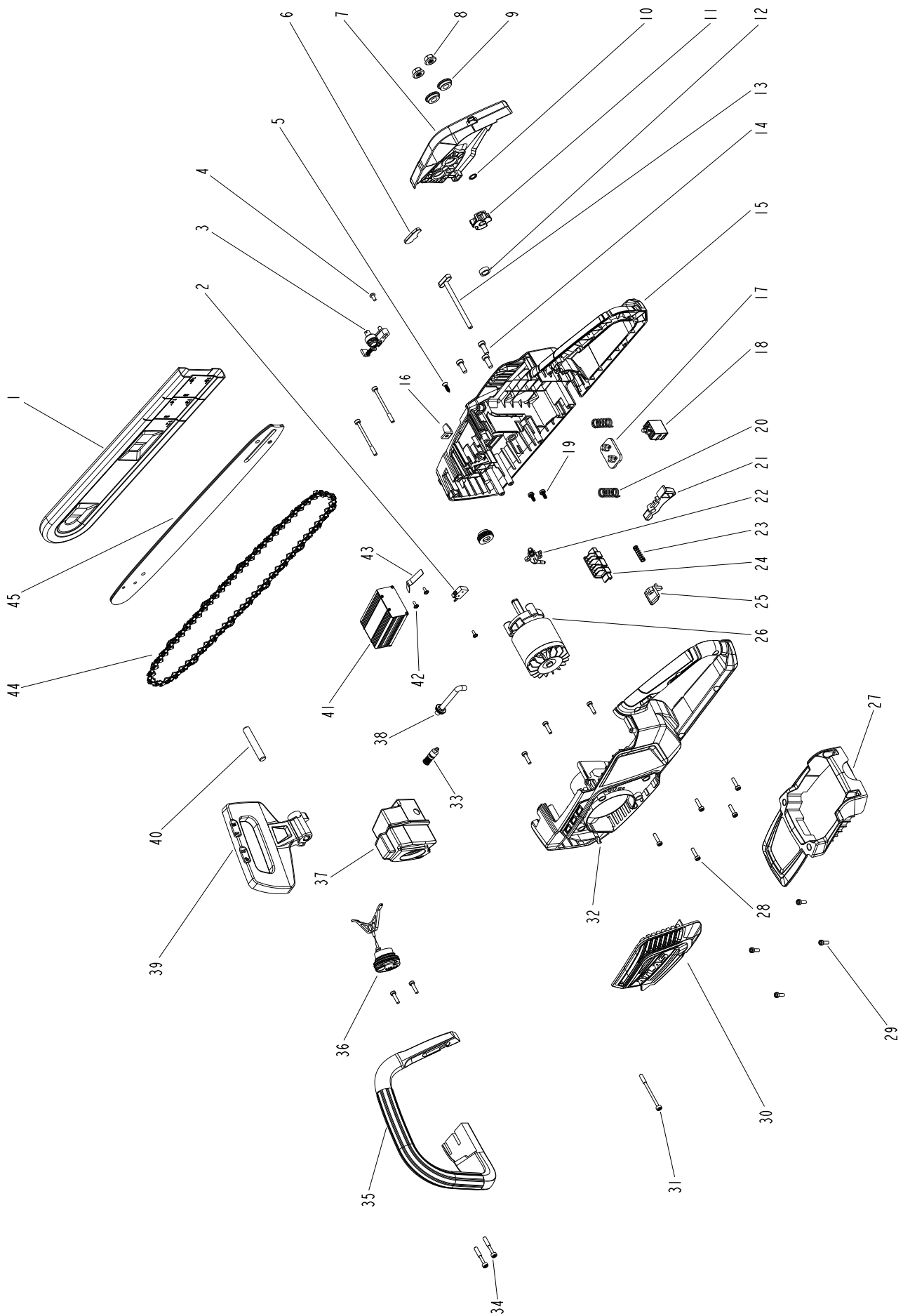
Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts. Parts may not be interchangeable. Specify UPC number when ordering:

40V: 792363569385

80V: 193175453068



56938 Assembly Diagram



SAFETY

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Limited 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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