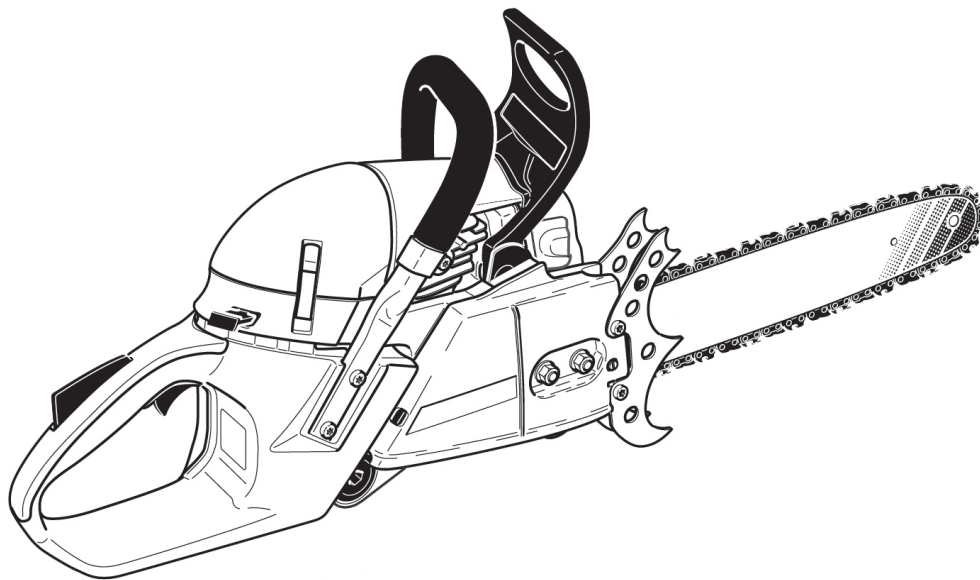


OWNER'S AND SAFETY MANUAL

**HAARMAN GASOLINE CHAINSAW MODELS
PS-6400, PS-7300 AND PS-7900**



You must read and understand this manual before using this product. Always follow all warnings and safety precautions. Failure to do so can cause serious injury!

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

SAVE THIS MANUAL

INTRODUCTION



WARNING

Careless or improper use of this product can cause serious or even fatal injury.



It is important that you read, fully understand, and carefully follow the instructions outlined in this owners manual before operating this chainsaw or any other HAARMAN product. Kickback may cause severe or fatal injury and is one of many potential dangers in operating a chainsaw. Kickback and other safety related precautions are described in detail within this owner's manual. Additional owner's manuals are available from HAARMAN, 4680 River Green Parkway, Duluth, GA 30096, USA, Telephone 1-888-OPE-PART.

This product complies with:

American National Standard Institute
B 175.1-2000 chainsaw safety standard.
Canadian Standards Association
Z62.1-95 chainsaw safety standard.
Z62.3-96 chainsaw kickback standard.
Society of Automotive Engineers
SAEJ 335-Jun 95 "Multi-position small engine
exhaust system fire ignition suppression"

The Emissions Compliance Period referred to on the Emission Compliance label indicates the number of operating hours for which the engine has been shown to meet federal emissions requirements. Category C= 50 hours, B= 125 hours, and A= 300 hours.

You have chosen a quality German product with the purchase of this chainsaw. Important instructions for the assembly and operation of this saw are given in this manual. We ask that you read the accident prevention instructions very carefully before putting your chainsaw into operation. Incorrect handling, despite all precautions, can lead to accidents. You will have good service and lasting satisfaction from this first-rated product with minimal care and attention.

The PS-6400, 7300, or 7900 will be delivered in a protective cardboard box to prevent transport damage. Cardboard is a basic raw material and is consequently reusable or suitable for recycling.

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NI = Not included in this sample manual.

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SYMBOLS

The following symbols will be used throughout this manual:



Read instructions



Warning



**Wear protective helmet,
ear and eye protection**



Wear protective gloves



Wear protective footwear



No smoking



No open fire



Stop engine



Forbidden



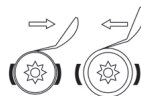
On/Off (I/O) switch



Fuel and oil mixture



Beware of kickback



Chain brake



Engine - Manual start



Working in summer / winter



Carburetor adjustment



Chain oil fill/oil pump



**Saw chain oil adjustment
screw**



First aid



Recycle

GENERAL SAFETY PRECAUTIONS



WARNING

Read the owner's manual carefully and make sure that you understand all of the directions before starting the chainsaw. Pay special attention to all safety precautions within the manual, identified as a warning. Failure to follow the instructions carefully, could result in serious injury.

Basic safety precautions

Please observe the following rules while operating the chainsaw:

- Use your chainsaw only for the purpose intended.
- Do not start cutting saplings, brush, or trees until you have made sure that you have a clear work area, secure footing, and a planned retreat path from the falling tree.
- Turn the power tool off completely when setting the chainsaw down to reduce the risk of injury from saw chain contact. Never carry or transport your power tool with the saw chain moving. Always engage the chain brake when taking any step. When transporting your chainsaw, use the chain protection cover.
- Never let your power tool run unattended to reduce the risk of injury to bystanders and damage to property. Make sure that unauthorized persons do not use it.
- Avoid any contact of the guide bar nose with any object, because this might result in dangerous kickbacks.
- Tip contact may cause the guide bar to move suddenly upward and backward. This may cause serious or fatal injury.
- Do not use the chainsaw if you are impaired by alcohol or other substances.
- You must be in good physical condition to use the chainsaw.
- Keep this chainsaw away from children.
- Always maintain a firm grip on the chainsaw with both hands. Do not overreach or use the chainsaw to cut above shoulder height.
- Do not wear clothes that are too baggy. They could become caught in branches or the chainsaw power tool.
- Do not use the chainsaw if you are fatigued. Take a break before you lose control of the chainsaw and get injured.
- Do not use the chainsaw to shear any animals!
- The chainsaw's purpose is to cut wooden objects. It is not for use on any other materials.
- Animals and children should not be allowed in the area where the chainsaw is in use. They could get severely injured.
- You must wear sound barriers to help protect your hearing.
- You must wear protective footwear in the event that you mishandle the chainsaw.
- You must wear gloves when you use the chainsaw.
- Wear long pants made of heavy material to reduce the risk of injury.
- If you have long hair, you must bind it together so that it is out of the way.
- Never use your chainsaw if it is damaged.
- Never attempt to modify or repair the saw in any way. If the saw is in need of repairs, send it in to a specialized repair professional. Never attempt to repair the saw on your own.
- Never transport the chainsaw if it is in operation to reduce the risk of injury. You must switch off the engine.
- Do not smoke close to the chainsaw. Gasoline is an extremely flammable fuel.
- Beware of kickbacks when using the chainsaw.
- Do not lend or rent your power tool without the instruction manual. Be sure that anyone using it understands the information contained within this manual.

GENERAL SAFETY PRECAUTIONS

Kickback

This chainsaw is capable of severe kickback that could result in serious injury to the operator. Familiarize yourself with the cause for potential kickbacks and take the necessary precautions specified within the manual before operating the chainsaw.



WARNING

Kickback may occur when the moving saw chain near the upper quadrant of the bar nose comes in contact with a solid object or is pinched within the cut. This contact may abruptly stop the saw chain and, in some cases, may cause a lightning fast reverse reaction, kicking the guide bar up and back towards the user, or push the guide bar back towards the operator. Kickback is a sudden surprise and may cause you to lose control of the saw.

Always follow these precautions to reduce the risk of a kickback and a resulting injury:

- You can reduce the element of surprise with a basic understanding of kickback. It is a sudden surprise that contributes to accidents.
- Keep a good firm grip on the saw with both hands, your right hand on the rear grip and your left hand on the tubular handle. A firm grip can neutralize kickback and help you maintain control of the saw.
- Use caution when handling fuel. Move the chainsaw at least 10 feet (3 meters) from the fueling point before starting the engine.
- Ensure that the work area in which you are cutting is free from any obstructions. Do not allow other persons or animals to be near the chainsaw when starting it or cutting with the saw. Keep bystanders and animals out of the work area.
- Do not let the nose of the guide bar come in contact with the log, brance, or any other obstructions which could be hit while you are operating the saw.
- Do not overreach or cut above shoulder height.
- Follow manufacturer's sharpening and maintenance instructions for the saw chain.
- Only use replacement bars and chains specified by the manufacturer for this chainsaw.

GENERAL SAFETY PRECAUTIONS

Chainsaw Operators

Physical Condition

You must be in good physical condition and mental health when operating this chainsaw. You must not be under the influence of any substance (drugs, alcohol, etc.). Turn the chainsaw off immediately and take a break if you feel fatigued while using it.



WARNING

Do not use this machine when you are tired, otherwise tiredness will result in loss of control which may cause serious or fatal injury. Working with any power tool can be strenuous. You have to ensure that you do not have any condition that might be aggravated by strenuous work.



WARNING

The ignition system produces an electromagnetic field of a very low intensity. This field may interfere with some pacemakers. To reduce the risk of serious or fatal injury, persons with a pacemaker should consult their physician and the pacemaker manufacturer before operating this tool.



WARNING

The saw's vibrations can cause numbness, a burning sensation or an inability to feel and regulate temperature in the hands of the operator after prolonged use. This condition is called Whitefinger disease (Raynaud's phenomenon) and may cause nerve and circulation damage and tissue necrosis. Although all Haarman chainsaws are provided with an anti-vibration system which is essential for those using chainsaws on a regular or sustained basis, anti-vibration systems do not guarantee that you will not sustain Whitefinger disease. Continual and regular users should observe their hands and fingers regularly. Seek medical advise immediately should you observe any abnormal symptoms.

GENERAL SAFETY PRECAUTIONS

Proper Clothing

WARNING

The operator should wear the proper protective apparel to reduce the risk of injury. Clothing must be sturdy and snug-fitting, but allow complete freedom of movement. Overalls or jeans with a reinforced cutting resistant insert should be worn for increased protection,. (Figure 1)

Avoid loose-fitting jackets, scarfs, neckties, jewelry, flared or cuffed pants, unconfined long hair or anything that could become caught on branches, tree limbs, or the power tool, or could interfere with the operation of the chainsaw.



Protect your hands with gloves when handling the saw and saw chain. Heavy-duty, nonslip gloves improve your grip on the power tool during operation and will protect your hands.

Good footing is very important. Wear sturdy boots with nonslip soles. Steel-toed safety boots are recommended.

Proper eye protection is a must. To reduce the risk of eye and facial injury, non-fogging, vented goggles and a face screen are recommended. Additionally, an approved safety hard hat to reduce the risk of injury to your head is advised. Chainsaw noise may damage your hearing. Wear sound barriers (ear plugs or ear muffs) to help protect your hearing.

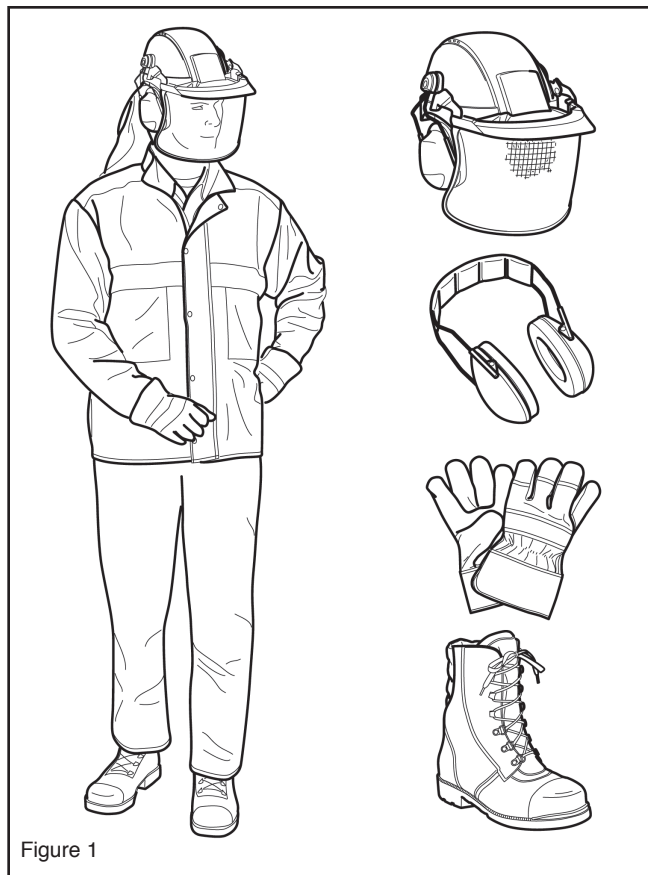


Figure 1

GENERAL SAFETY PRECAUTIONS

The saw

See the chapter on page 27 called “Parts List” for illustrations and definitions of the power tool parts.

WARNING

Never modify a chainsaw in any way. Only attachments supplied by Haarman or expressly approved by Haarman for use with the specific Haarman model are authorized. Although some unauthorized attachments may fit the Haarman chainsaw, their use is not authorized and may be extremely dangerous.

WARNING

Check the machine periodically to ensure that it maintains good condition when using this tool for an extended period of time and for a high cutting load.

Check in particular that the fuel system has no leaks and that the controls and safety devices are working properly. Do not continue operating this machine if it becomes damaged.

WARNING

Bow guide bars substantially increase the potential for kickback and severe or fatal injury due to the greater kickback zone of the bow design. Bow guide bars are not recommended for use on Haarman chainsaws nor are they approved by the ANSI B 175.1-2000 chainsaw safety standard.

The use of the saw

WARNING

Always stop the engine before putting a chainsaw down or carrying it. Carrying a chainsaw with the engine running is extremely dangerous. Accidental acceleration of the engine can cause the chain to rotate and increase risk to the operator.

Avoid touching the hot muffler.

Transporting the saw

By hand: The engine must be stopped and the saw must be in the proper position as indicated in Figure 2 when carrying your saw by hand.

The chain protection cover should be over the chain and the guide bar must point backwards. The bar should be behind you when carrying your saw (Figure 2).



Figure 2

By vehicle: Keep the chain and bar covered with the chain guard when transporting the chainsaw in a vehicle. Secure your saw properly to prevent turnover, fuel spillage, and damage to the saw. Make sure the saw is not exposed to heat or sparks.

GENERAL SAFETY PRECAUTIONS

Chainsaw Operating Instructions

Follow the procedure in the appropriate section “Mounting Guide Bar and Chain” of this manual for assembly.

HAARMAN chain, guide bar, and sprocket must match each other (see the appropriate section in this manual).

WARNING

Proper tension of the chain is extremely important. The tensioning procedure must be followed as described in this manual to avoid false setting. Always make sure the hexagonal nut(s) for the sprocket guard is (are) tightened securely. Check chain tension after tightening the nuts and each time before starting the saw. If the chain becomes loose while cutting, shut off the engine and then tighten. Never try to tighten the chain while the engine is running!



Fueling

Your HAARMAN saw uses oil-gasoline mixture for fuel uses (see section titled “Fuel”).

WARNING

Gasoline is extremely flammable. Use extreme caution when handling gasoline or fuel mix. Do not smoke or bring any sparks or flame near the fuel (Figure 3).



Figure 3



Fueling instructions

Fuel your chainsaw outdoors or in well ventilated areas. Shut off the engine and allow it to cool before refueling. Select bare ground for fueling and move the chainsaw at least 10 feet (3 m) from fueling spot before starting the engine (Figure 4).

Wipe off any spilled fuel before starting your saw. Check for fuel leakage while refueling and during operation. If fuel or oil leakage is found, do not start or run the engine until leak is fixed and spilled fuel has been wiped away. Change any clothing with fuel on it immediately (this is a danger to your life!). Avoid skin contact with fuel. Never loosen or remove the cap of the fuel tank while the engine is running.

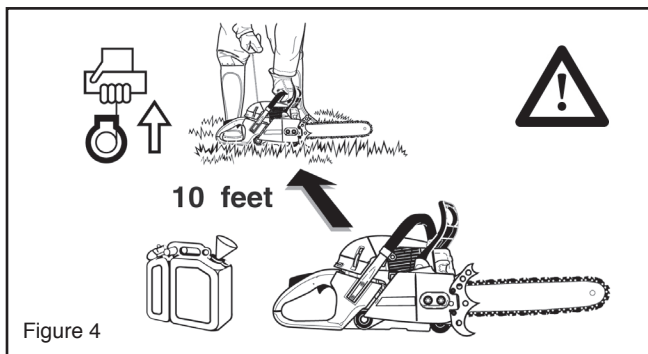


Figure 4

GENERAL SAFETY PRECAUTIONS

Starting

Do not start the chainsaw in mid air. This method is very dangerous because you may lose control of the saw and it can cause injuries (Figure 5).

Place the chainsaw on a firm surface in an open area. Maintain a good balance and secure footing before starting the chainsaw. Secure the chainsaw in place by placing your right foot through the rear handle opening and firmly grasp the front handle with your left hand (Figure 6).

Check that the guide bar and chain have no contact with any parts of your body and any other obstructions, including the ground. Be careful when starting the chainsaw; in a semi throttle position, the speed of the engine will engage the clutch and the sprocket causing the saw to kickback. Never attempt to start the chainsaw when the guide bar is in a cut position.

When pulling the starter cord, use the handle and do not wrap the cord around your hand. After the chainsaw starts, guide the handle and cord slowly back to allow the starter rope to rewind properly. Failure to perform this procedure may result in injury to either your hands or fingers and may damage the starter mechanism.

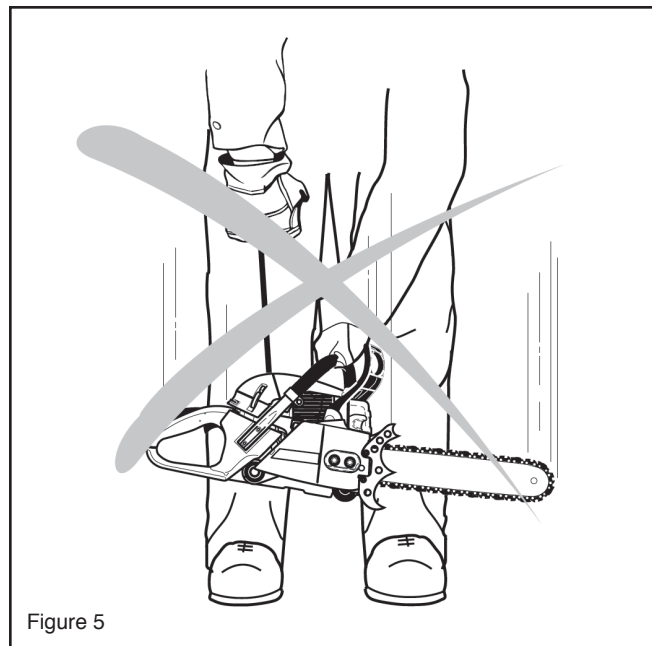


Figure 5

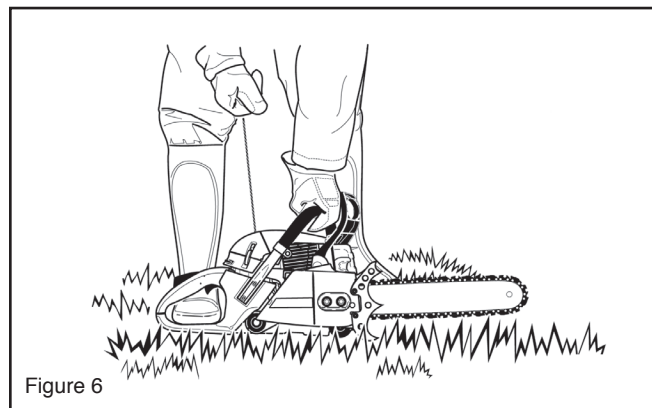


Figure 6

GENERAL SAFETY PRECAUTIONS

Important Adjustments



WARNING

The chain should not turn at an incorrect idle speed. See the appropriate section of this instruction manual for directions on how to adjust idle speed. Chainsaws that have incorrect idle speed adjustments should not be used. However, you can adjust the idle speed yourself. For instructions on how to do this, refer to the appropriate section of this manual. Your HAARMAN chainsaw dealer can check your saw and make proper adjustments or repairs. Saw chain tension should be checked often, especially immediately after a new chain is installed. New chains may stretch more during their initial use. A properly adjusted saw chain can be pulled freely around the guide bar by hand without sagging. Always stop the engine and wear gloves when checking or adjusting the chain tension.

Working conditions

Only operate your chainsaw outdoors. Only operate the saw under good visibility and daylight conditions.



WARNING

Take extreme care in wet and freezing weather (rain, snow, ice). Put off the work when the weather is windy, stormy or rainfall is heavy. Clear the area where you are working.



WARNING

Avoid stumbling on obstacles such as stumps, roots or rocks and watch out for holes or ditches. Be extremely cautious when working on slopes or uneven ground. There is increased danger of slipping on freshly debarked logs.

GENERAL SAFETY PRECAUTIONS

Cutting instructions

Always hold the saw firmly with both hands when the engine is running. Place your left hand on the tubular handle and your right hand on grip and throttle lever. Left-handers should follow these instructions too.

Wrap your fingers tightly around the handles, keeping the handles cradled between your thumb and forefinger (Figure 7). With your hands in this position, you can best oppose and absorb the push; pull and kickback forces of your saw without having it slip out of your grip (see section of reactive forces). Make sure your chainsaw handle and grip are in good condition and free of moisture, pitch, oil or grease. Always start a cut with the chain running at full speed and the spike bar in contact with the wood.



WARNING

Never use the saw with one hand. You cannot control reactive forces (see pages 16 to 19) and may lose control of the saw.



WARNING

Do not cut any material other than wood or wooden objects. Use your chainsaw for cutting only. It is not designed for prying or shoveling away limbs, roots or other objects. When sawing, make sure that the saw chain does not touch any foreign materials such as rocks, nails and the like (Figure 8). Such objects may be flung off, damaging the saw chain or causing the saw to kickback.

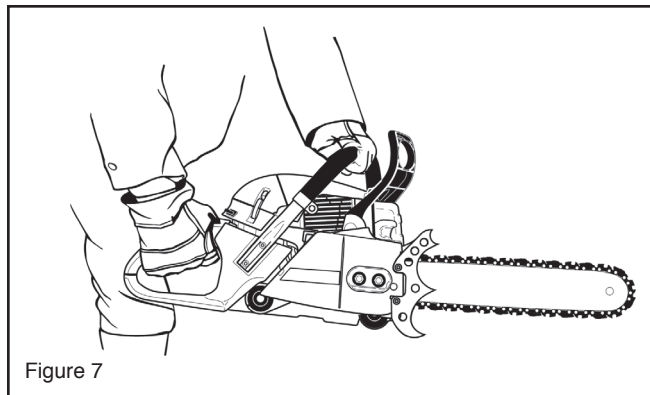


Figure 7

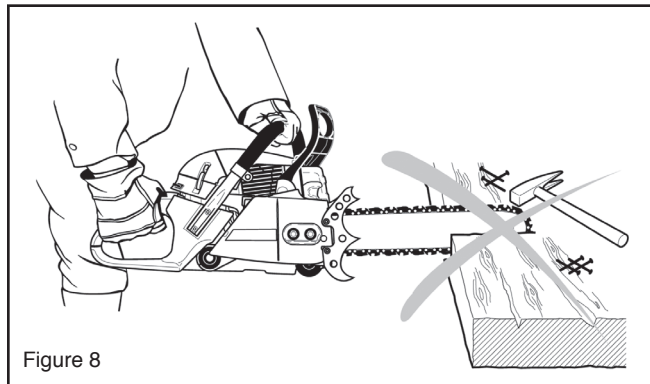


Figure 8



WARNING

Do not operate your chainsaw in semi-throttle position. Cutting in this position does not permit the operator proper control of the saw or chain speed.



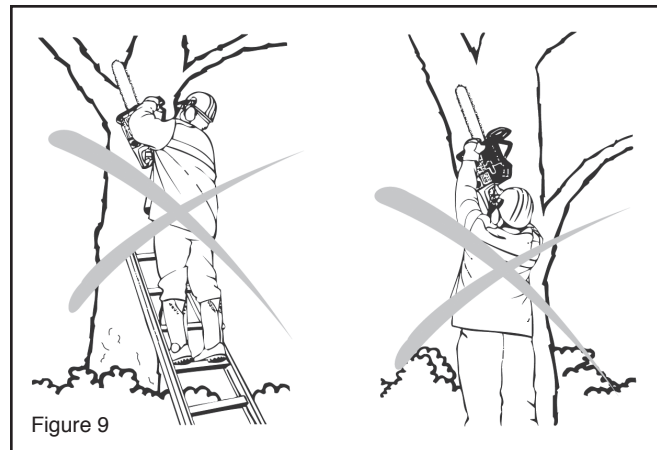
WARNING

Never come too close to a rotating chain with your hands or body.

GENERAL SAFETY PRECAUTIONS

Always maintain a firm foothold of your saw to keep control. Never work on a ladder, in a tree or on any other insecure support. Never use the saw above shoulder height (Figure 9).

Position the chainsaw in such a way that your body is clear of the cutting attachment whenever the engine is running (Figure 10). Don't put pressure on the saw when reaching the end of a cut. The pressure may cause the bar and rotating chain to pop out of the cut or kerf, go out of control and strike the operator or some other object. If the rotating chain strikes some other object a reactive force may cause the chain to strike the operator.



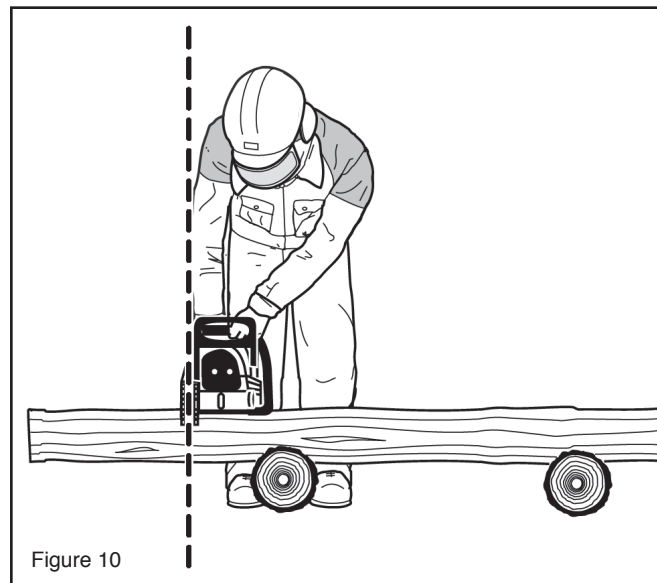
Reactive forces during the cut, including kickback

WARNING

Reactive forces that may occur during any cut are kickback, pushback and pull-in. Reactive forces can be dangerous! In any chainsaw, the powerful force used to cut wood can be reversed (and work against the operator). If the rotating chain is suddenly stopped by contact with any solid object like a log or branch or is pinched, the reactive forces instantly occur. These reactive forces may result in loss of control which may, in turn, cause serious or fatal injury. An understanding of the causes of these reactive forces may help you avoid loss of control.

The most common reactive forces are

- kickback
- pushback
- pull-in



GENERAL SAFETY PRECAUTIONS

Kickback:

Kickback occurs when the upper quadrant of the bar nose contacts a solid object in the wood or is pinched (Figure 11). The reaction of the cutting force of the chain causes a rotational force of the chainsaw in the direction opposite to the chain movement, mainly in the plane of the bar. This may fling the bar in an uncontrolled arc towards the operator.

This reaction can occur in a fraction of a second and under some circumstances, cause the guide bar and chain to strike the operator with enough force to cause severe or fatal injury. It may also occur during limbing. It also occurs when the nose of the guide bar is pinched unexpectedly, unintentionally contacts solid material in the wood (Figure 12) or is incorrectly used to begin a plunge or boring cut. The greater the force of the kickback reaction, the more difficult it becomes for the operator to control the saw.

Many factors influence the occurrence and force of the kickback reaction.

- The type of bar and saw chain used.
- **The speed of contact at which the cutter contacts the object.** Kickback force increase with the rate of impact.
- **The contact angle between the nose of the bar and the foreign object (Figure 11).** Kickback is most pronounced in the upper quadrant of the bar nose.
- Improper lowering of the depth gauges.



WARNING

A dull, improperly sharpened chain may increase the risk of kickback. Always cut with a properly sharpened chain.

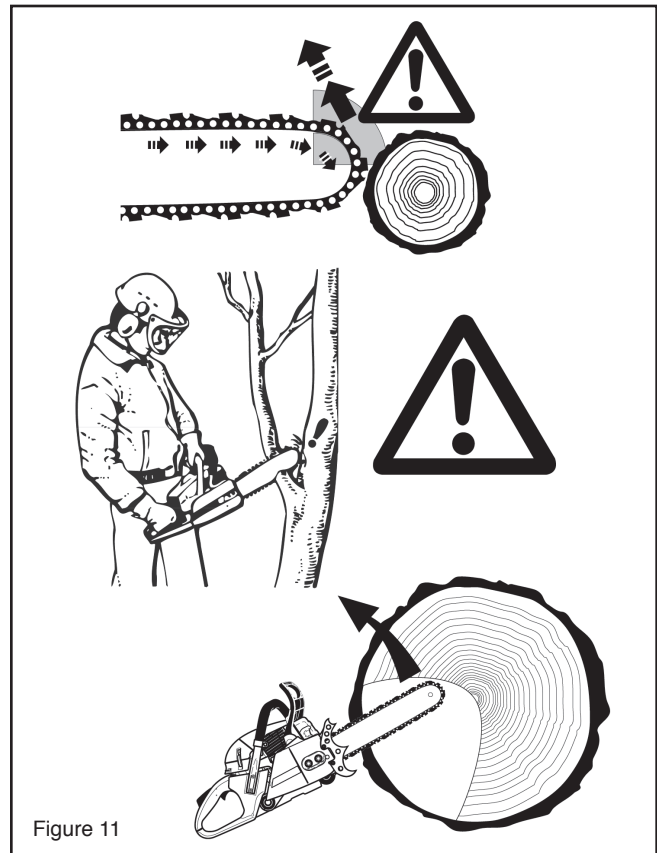


Figure 11

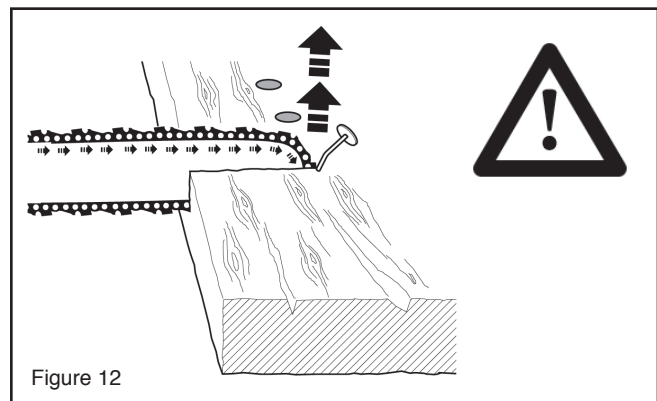


Figure 12

GENERAL SAFETY PRECAUTIONS

HAARMAN chain types are designed to reduce kickback forces.

Devices for reducing the risk of kickback injury

HAARMAN has developed a special chain brake to reduce the risk of kickbacks. This chain brake increases the safety factor on the job, e.g. when the saw suddenly bucks upwards the chain stops rotating within a fraction of a second. A deflection guard on the disengaging lever of the chain brake and a scoop rear handle ensure that the operator's hands are fully protected at all times. Kickback tendency increases as the radius or size of the guide bar nose increases. HAARMAN have developed guide bars with small nose radius, to reduce the kickback tendency.

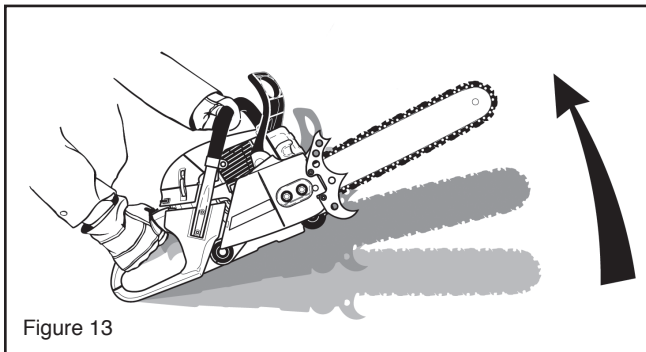


Figure 13



WARNING

No chain brake prevents kickback. These brakes are designed only to stop the chain, if activated. To ensure a proper operation of the chain brake, it must be properly maintained. Furthermore, there must be a sufficient distance between the operator and the bar to ensure that the chain brake has sufficient time to activate and stop the chain before potential contact with the operator.

To avoid kickback

The best protection from personal-injury that may result from kickback is to avoid kickback situations:

- Hold the chainsaw firmly with both hands and maintain a secure grip.
- Be aware of the location of the guide bar nose at all times.
- Stand to the side of the cutting path of the chainsaw.
- Never bring the nose of the guide bar in contact with any object. Do not cut limbs with the nose of the guide bar. Be especially careful with small, tough limbs, small size brush and saplings which may easily catch the chain.
- Do not overreach or cut above shoulder height.
- Begin cutting and continue at full throttle.
- Cut only one log at a time.
- Use extreme caution when re-entering a previous cut.
- Do not attempt plunge cuts (Figure 13) if you are not experienced with these cutting techniques.
- Be alert for shifting of the log or other forces that may cause the cut to close and pinch the chain.
- Maintain saw chain properly. Cut with a correctly sharpened, properly tensioned chain at all times.
- Follow manufacturer's sharpening and maintenance instructions for the saw chain.
- Only use replacement bars and chains specified by the manufacturer for this chainsaw.

GENERAL SAFETY PRECAUTIONS

Pushback:

Pushback occurs when the chain on the top of the bar is suddenly stopped when it is pinched, caught or encounters a foreign object in the wood. The reaction of the chain drives the saw straight back toward the operator causing loss of saw control. Pushback frequently occurs when the top of the bar is used for cutting (Figure 14).

To avoid pushback

- Be alert to forces or situations that may cause material to pinch the top of the chain.
- Do not cut more than one log at a time.
- Do not twist the saw when withdrawing the bar from a plunge cut or under buck cut (Figures 25 to 27 and 33, pages 24 and 26), because the chain can pinch.

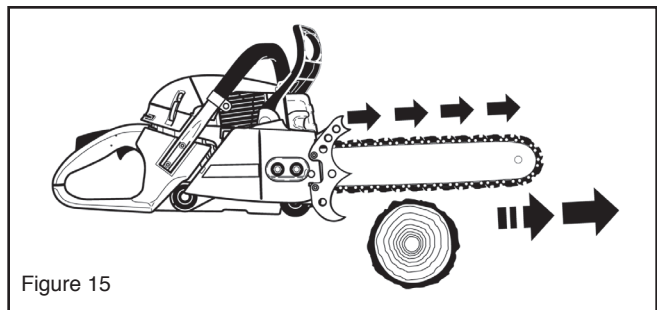
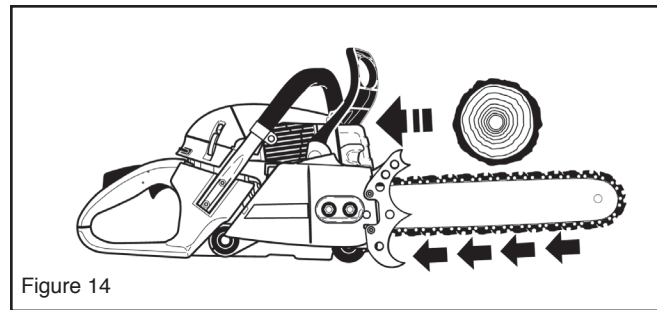
Pull-in:

Pull-in occurs when the chain on the bottom of the bar is suddenly stopped. The chain on the bottom of the bar stops when it is pinched, caught or encounters a foreign object in the wood (see Figure 15). The reaction of the chain pulls the saw forward, causing the operator to lose control.

Pull-in frequently occurs when the spike bar of the saw is not held securely against the tree or limb and when the chain is not rotating at full speed before it contacts the wood.

To avoid pull-in

- Always start a cut with the chain rotating at full speed and the spike bar in contact with the wood.
- Pull-in may also be prevented by using plastic wedges to open the kerf or cut.



WARNING

Use extreme caution when cutting small size brush and saplings which may easily catch the chain and pull you off balance.

GENERAL SAFETY PRECAUTIONS

Cutting Techniques

Felling

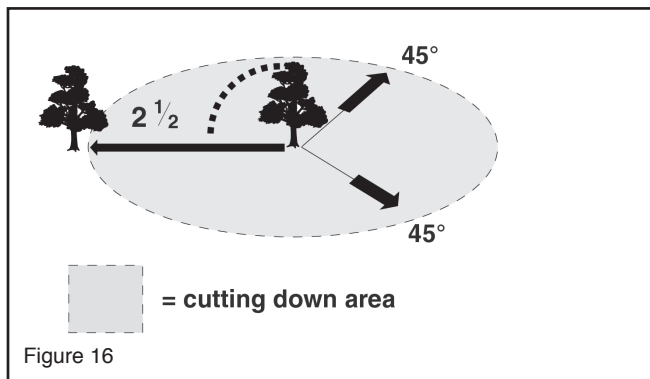
“Felling” is cutting down a tree.

Carefully consider all conditions that may affect the direction of the fall before felling a tree, including:

- The intended direction of the fall.
- The direction that the tree leans naturally.
- Any unusually heavy limbs.
- Surrounding trees and obstacles.
- The wind direction and speed.

When felling a tree, maintain a distance of at least $2\frac{1}{2}$ tree lengths from the nearest person (see Figure 16).

Note: Any warning call may be drowned out by the noise of your engine. Remember to stay $2\frac{1}{2}$ tree lengths away from the nearest person since they may not hear your attempts to warn them of an impending tree fall.

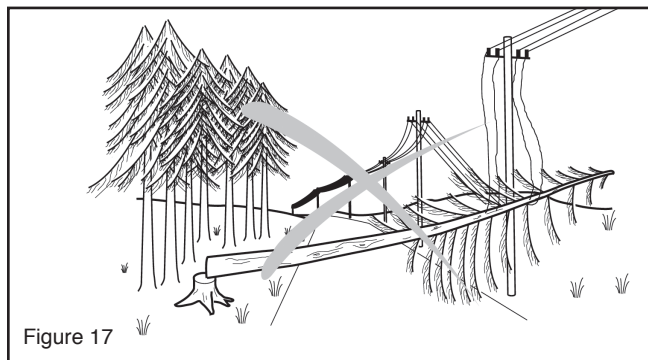


WARNING

The general condition of the tree should always be taken into account. Look for signs of rot and decay in the trunk. If such signs exist, the tree could snap unexpectedly and fall in the direction of the operator.

Also look for broken or dead branches which could become loose and fall on the operator. When felling on a slope, the operator should stand on the uphill side.

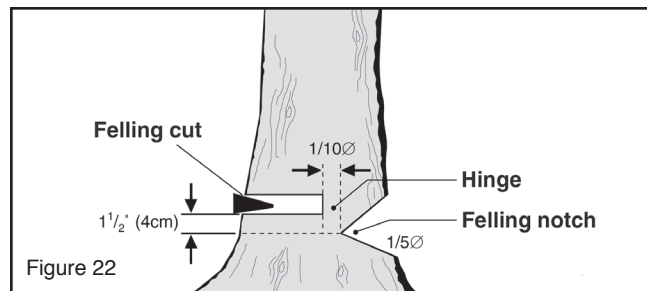
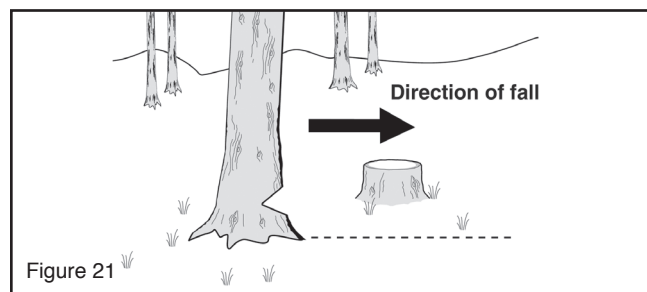
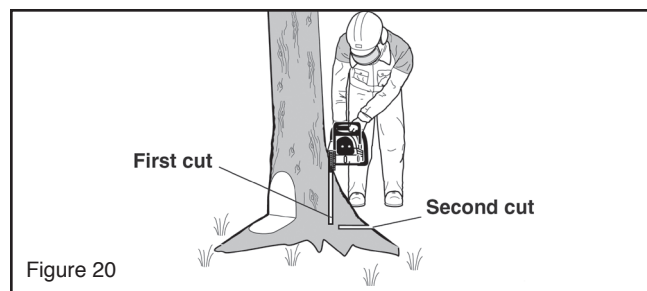
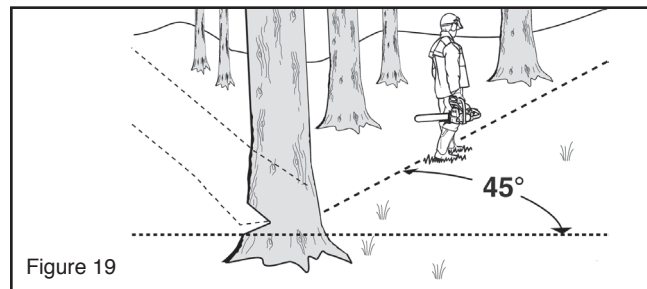
When felling in the vicinity of roads, railways, power lines, and the like, take extra precautions (see Figure 17). The police, utility company, railway authority, or other applicable authority should be informed of the operation before beginning to cut.



GENERAL SAFETY PRECAUTIONS

Felling Instructions

1. Clear the tree base and work area from interfering limbs and brush. Clear out this lower portion with an axe (see Figure 18).
2. Establish a path of escape and remove all obstacles. This path should be opposite to the planned direction of the fall of the tree and at a 45° angle (Figure 19). An alternate path must also be selected. Place all tools and equipment a safe distance away from the tree, taking care not to let them block the escape path.
3. If the tree has large buttress roots, sever them from the main tree in the following fashion (Figure 20):
 - a. Cut vertically next to the tree itself.
 - b. Cut horizontally to meet the vertical cut.
4. Remove the buttress roots, taking care that the tree is not unstable enough to fall on you while doing so.
5. Determine the placement of the felling notch (Figure 21). The felling notch, when properly placed, determines the direction in which the tree will fall. It is made perpendicular to the line of fall, meaning, made on the side of the trunk which faces the direction you wish the tree to fall towards, and therefore should be as close to the ground as possible. Cut the felling notch to a depth of about one-fifth to one-fourth of the trunk diameter (Figure 22). It should not be any taller than it is deep.



GENERAL SAFETY PRECAUTIONS

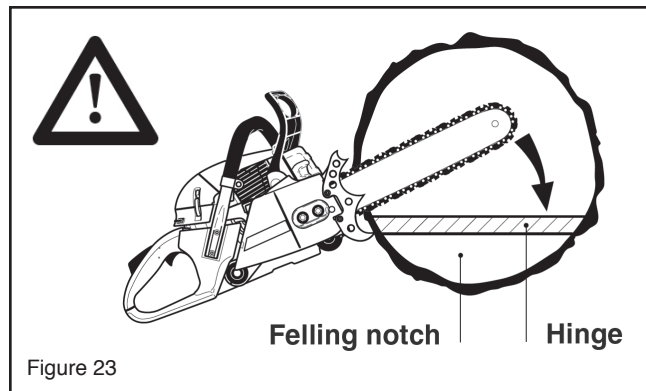
WARNING

Make the felling notch very carefully. The felling notch greatly decreases the stability of the tree, and there is a chance that the tree will fall sooner than planned. Always be ready to shut off the chainsaw engine and leave the tree quickly via your escape path that you have already laid out.

When you are finished with the felling notch, you may begin the felling cut. Begin the felling cut slightly higher than the felling notch and on the opposite side of the tree (Figure 22). Then, cut horizontally through the trunk of the tree towards the felling notch. Hold the chainsaw with the bar horizontally to the ground and begin to cut, directing the bottom of the saw toward the notch (Figure 23).

Note: Leave approximately one-tenth of the tree diameter uncut. This will be the hinge (Figure 23). Do not cut through the hinge because you could lose control of the direction of the fall. Drive wedges into the felling cut where necessary to control the direction of the fall. Wedges should be of wood, light alloy or plastic, and never of steel, which can cause kickback and damage to the chain.

Always keep to the side of the falling tree. When the tree starts to fall, shut off the engine, withdraw the bar, and walk away on the pre-planned escape path. Watch out for falling limbs.



WARNING

Be extremely careful with partially fallen trees which are poorly supported.

When the tree hangs or, for some reason, does not fall completely, turn off the saw, set it aside, and pull the tree down with a cable winch, block and tackle, or tractor. If you try to cut it down with your saw, you may become injured in the process.

GENERAL SAFETY PRECAUTIONS

Sectioning Method



WARNING

Felling a tree that has a diameter greater than the length of the guide bar requires use of either the sectioning or plunge-cut method. These methods are extremely dangerous because they involve the use of the nose of the guide bar and can result in kickback. Only properly trained professionals should attempt these techniques.

1. Make your felling notch as you would for the previous felling method.
2. For the sectioning method (Figure 24), make the first cut with the guide bar fanning in toward the hinge.
3. Begin to use the bumper spike as a pivot, repositioning the saw for the next cut. Avoid repositioning the saw more than necessary. When repositioning for the next cut, keep the guide bar fully engaged in the kerf (the cut) to keep the felling cut straight. Insert a wedge to open the cut if the saw begins to pinch in the tree. On the last cut, do not cut the hinge.

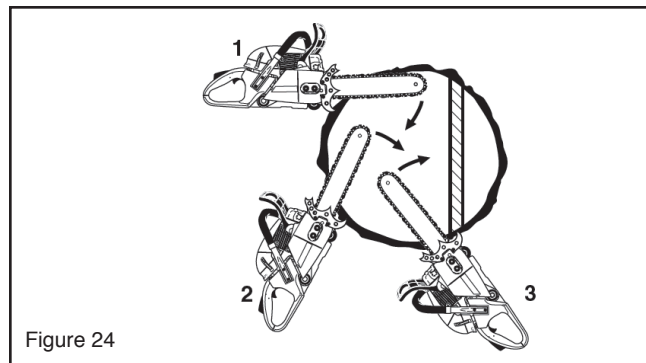


Figure 24

GENERAL SAFETY PRECAUTIONS

Plunge-Cut Method



WARNING

The plunge-cut method is extremely dangerous! Do not attempt without extensive training. Seek the help of a professional.

Timber having a diameter more than twice the length of the guide bar requires the use of the plunge-cut method before making the felling cut.

1. Cut a large, wide felling notch.
2. Make a plunge cut in the center of the notch. The plunge cut is made with the guide bar nose. Begin the plunge cut by applying the lower portion of the guide bar nose to the tree at an angle (Figure 25). Cut until depth of the kerf (the cut) is about the same as the width of the guide bar (Figure 26).
3. Align the saw in the direction in which the recess is to be cut. With the saw at full throttle, insert the guide bar in the trunk of the tree (Figure 27).
4. Enlarge the plunge cut as shown in the illustration (Figure 28).



WARNING

There is an extreme danger of kickback at this point. Take extra caution to maintain control of the saw.

To make the felling cut, follow the sectioning method previously described (Figure 29).

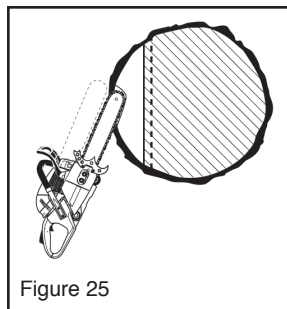


Figure 25

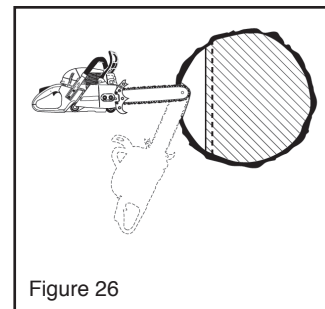


Figure 26

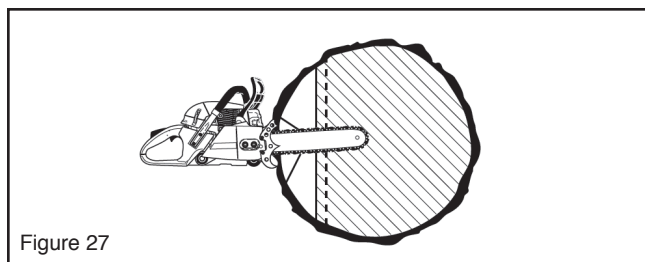


Figure 27

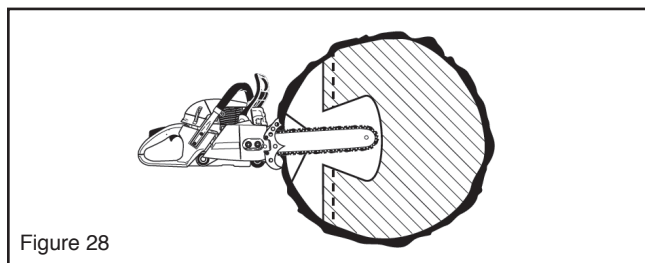


Figure 28

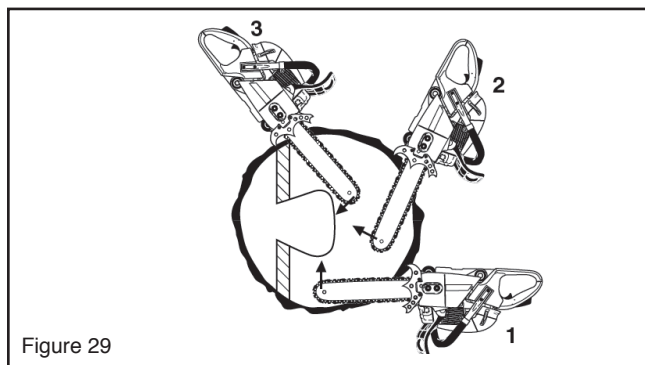


Figure 29

GENERAL SAFETY PRECAUTIONS

Limbing

“Limbing” is removing the branches from a fallen tree.

WARNING

There is an extreme danger of kickback during the limbing operation. Do not work with the nose of the bar. Be extremely cautious and avoid contacting the log or other limbs with the nose of the guide bar.

Do not stand on a log while limbing it - you may slip or the log may roll.

WARNING

Start limbing by leaving the lower limbs to support the log off the ground (Figure 30). Always cut from the top of the limb. Do not underbuck (cut from the bottom) freely hanging limbs. A pinch may result or the limb may fall, causing the operator to lose control of the operation. Stop the engine and remove the saw by lifting the limb if a pinch occurs.

WARNING

Be extremely cautious when cutting limbs under tension. The limbs could spring back toward the operator and cause loss of control of the saw and/or injury to the operator.

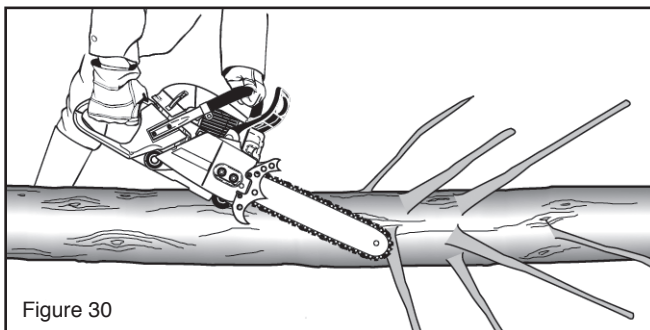


Figure 30

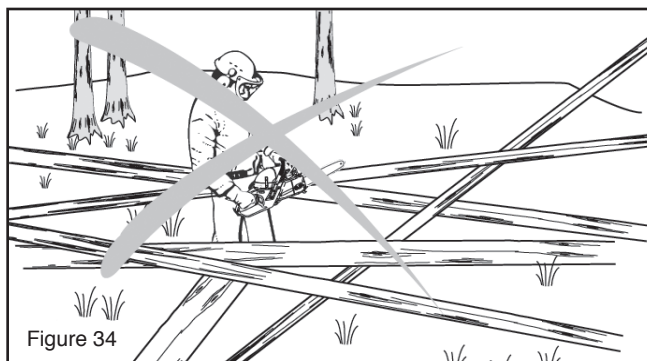
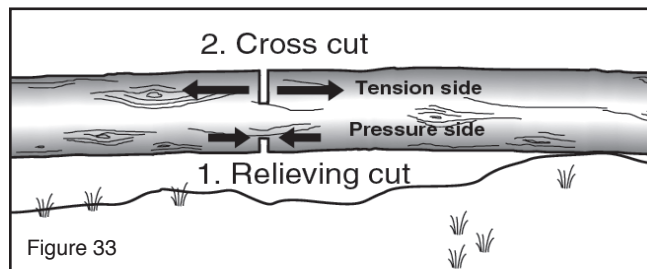
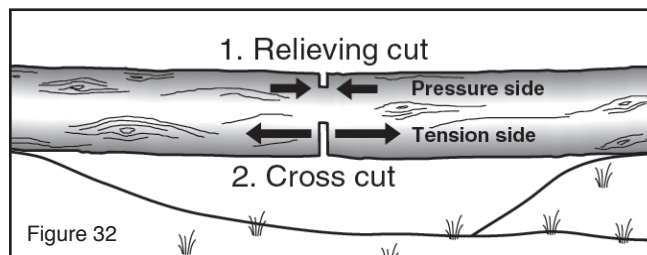
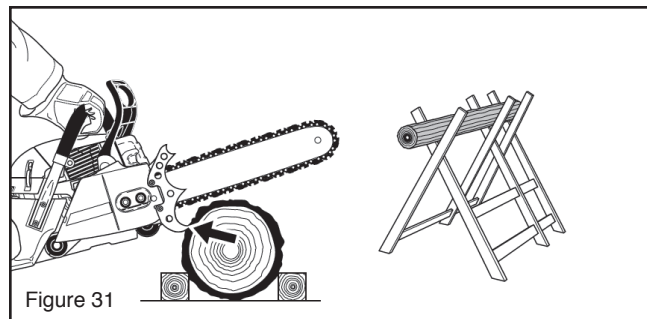
GENERAL SAFETY PRECAUTIONS

Bucking

“Bucking” is cutting a log into sections.

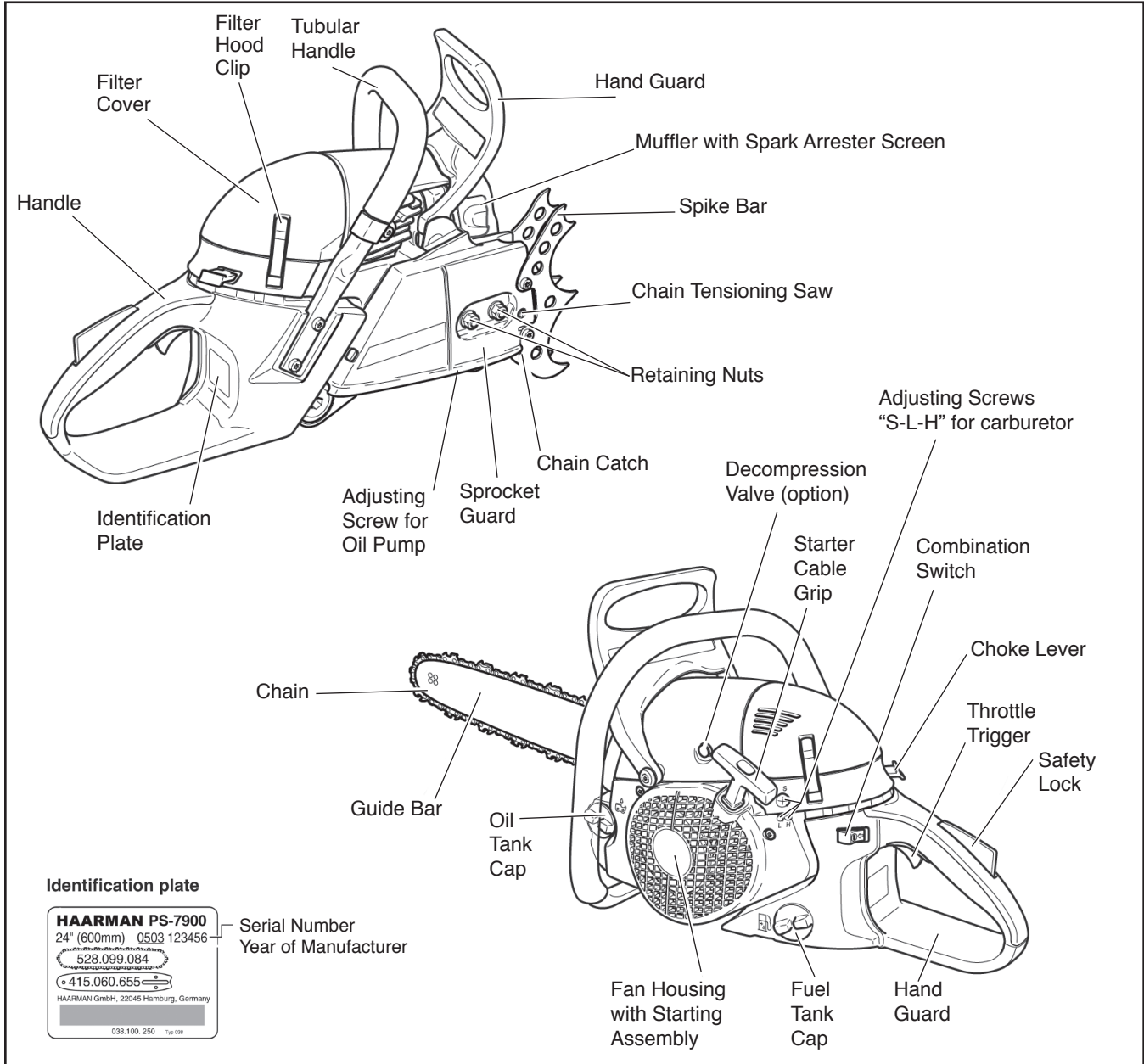
WARNING

- Do not stand on the log when bucking. Make sure the log will not roll down-hill. Stand on the up-hill side of the log when on a slope. Watch out for rolling logs.
- Only cut one log at a time.
- Shattered wood should be cut very carefully. Sharp splinters of wood may be caught and flung in the direction of the operator of the saw.
- Use a sawhorse when cutting small logs (Figure 31). Never permit another person to hold the log. Never hold the log with your leg or foot.
- Logs under strain require special attention to prevent the saw from pinching. The first cut should be made on the side that is at risk of pinching the saw in order to relieve the stress of the log (see Figures 32 and 33). The bucking cut is then made as shown in the figure. If the saw pinches, stop the engine and remove it from the log.
- Only properly trained professionals should work in an area where the logs, limbs, and roots are tangled (i.e. a blowdown area, see Figure 34). Working in blowdown areas is extremely hazardous.
- Drag the logs into a clear area before cutting. Pull out exposed and cleared logs. When you are finished with a log, remove it from your work area before beginning to work on the next log.

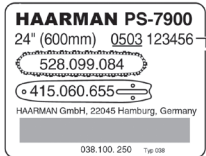


KNOW YOUR CHAINSAW

Parts List



Identification plate

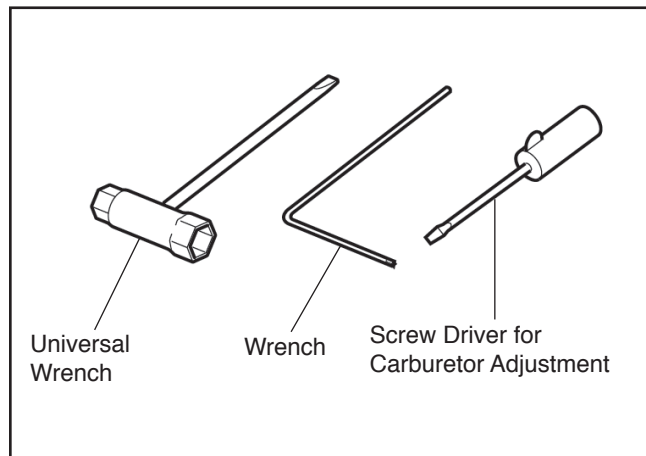
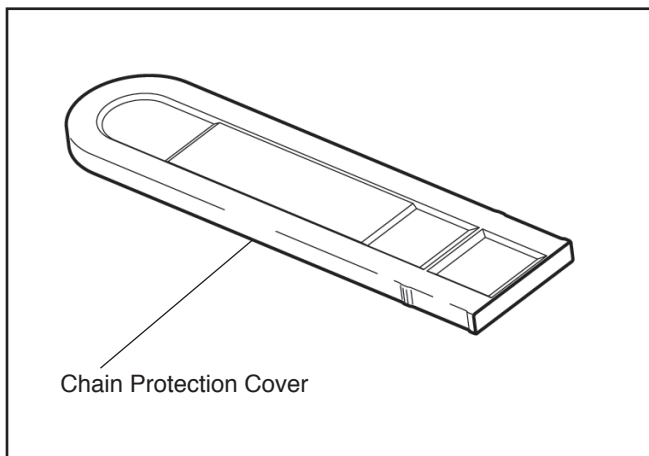
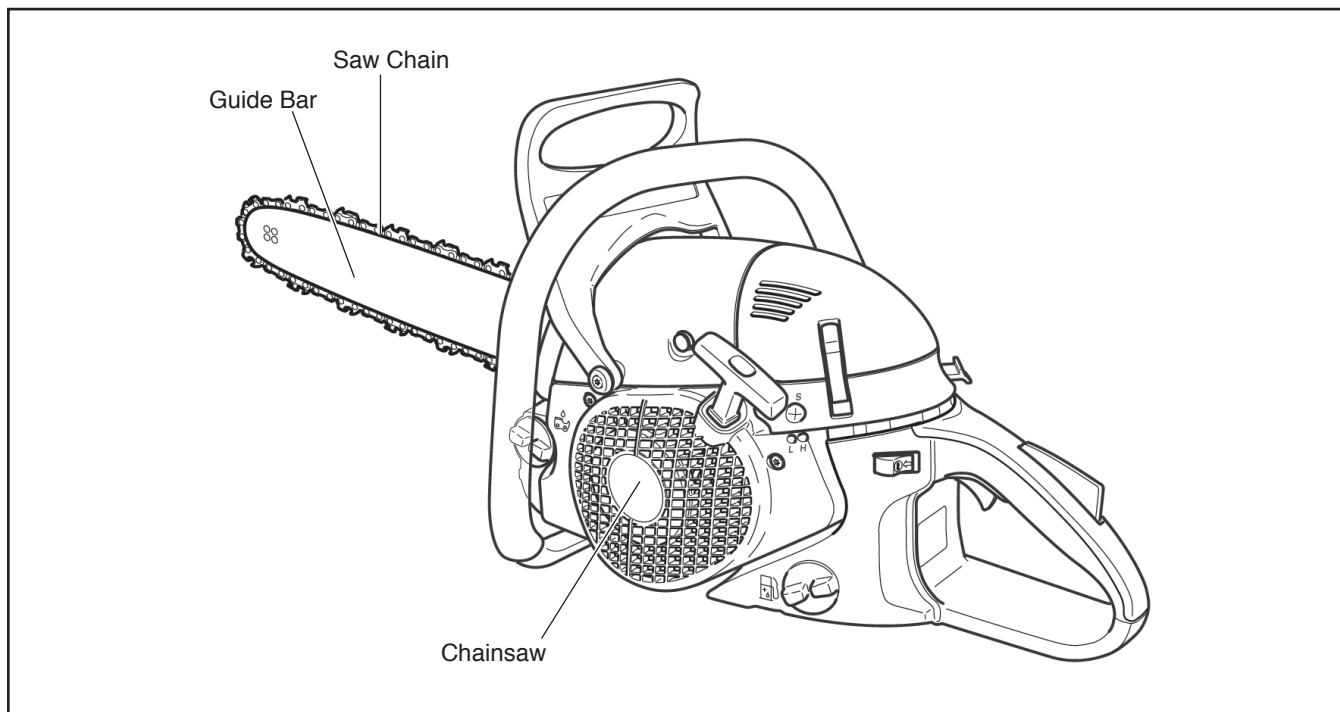


Serial Number
Year of Manufacturer

ASSEMBLY

Delivery Inventory

Please contact your sales agent should one of the parts listed should not be included in the delivery inventory.

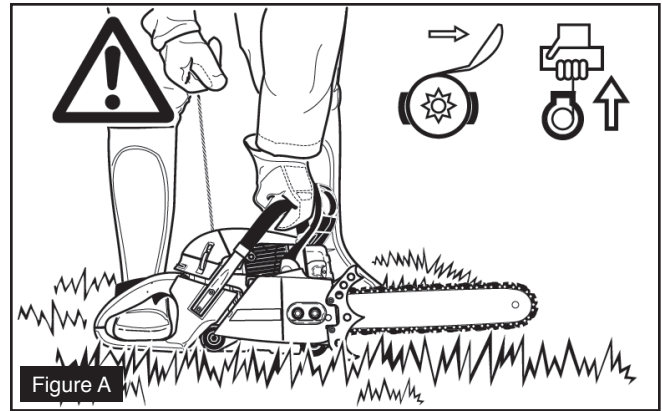


OPERATION

Starting the Engine

Preliminary Setup and Safety

1. Do not start the chainsaw until after it has been completely assembled and you have ensured that everything has been assembled correctly.
2. Move at least 10 feet (3 meters) away from the place where the chainsaw was fuelled.
3. Make sure that you are on solid ground and that you have stable footing. Place the chainsaw on the ground in such a way that the guide bar and the chain are not near anything.
4. Hold down the chain brake to block the chain.
5. Hold the front handle with one hand and press the saw against the ground.
6. Hold down the rear hand guard with your right foot, as shown in Figure A.



OPERATION

Cold Starting

1. Move the combination switch (1) up into the choke position. This also engages the half-throttle lock.
2. Pull the starter cable (2) out slowly until you feel resistance. The piston is now just before the top, dead center of the chainsaw
3. Push in the decompression valve (3).
4. Now pull the starter cable, quickly and powerfully, until you hear the first audible ignition. **CAUTION: Do not pull the starter cable more than 20 inches (50 centimeters) out. Let it back in slowly by hand.**
5. Push in the decompression valve (3) again.
6. Move the combination switch (1) to the central "ON" position. Pull the starter cable again, quickly and firmly. As soon as the engine is running, grasp the rear handle (the safety lock button (4) will be automatically engaged by the palm of your hand) and press the throttle trigger (5).
7. The half-throttle lock will disengage and the engine will now idle. **CAUTION: The engine must be put into idle immediately after starting. If this is not done, the clutch may be damaged.**
8. Disengage the chain brake.

Warm Starting

1. Move the combination switch (1) up into the choke position. This engages the half-throttle lock.
2. Immediately move the combination switch (1) back to the central "ON" position.
3. Follow the directions for cold starting beginning with step 6. If the engine does not start after two or three pulls of the starter cable, please start over again and perform the entire Cold Starting procedure.

Stopping the Engine

1. Move the combination switch (1) all the way down into the "STOP" position.

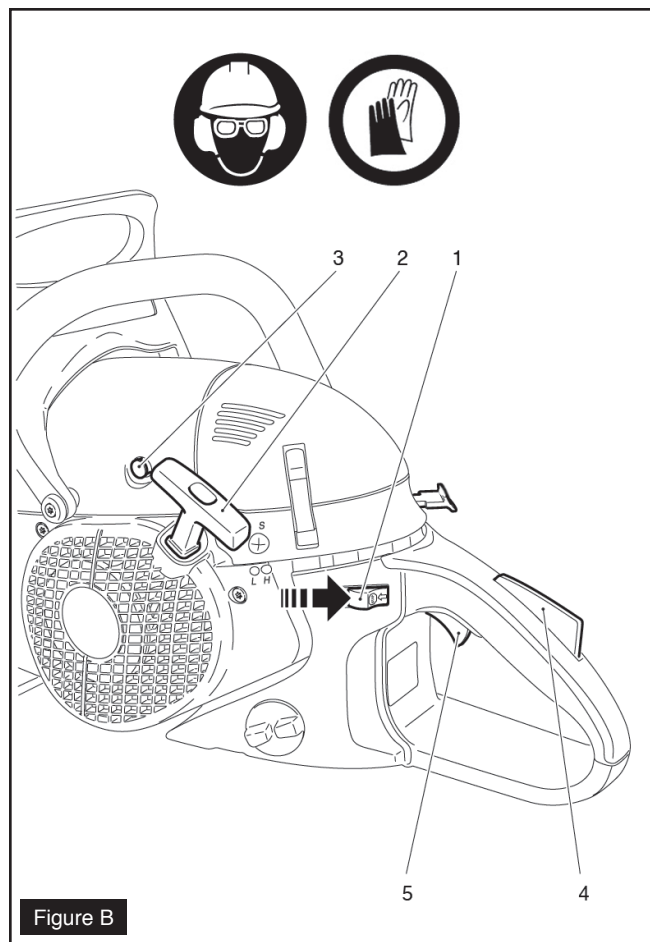


Figure B

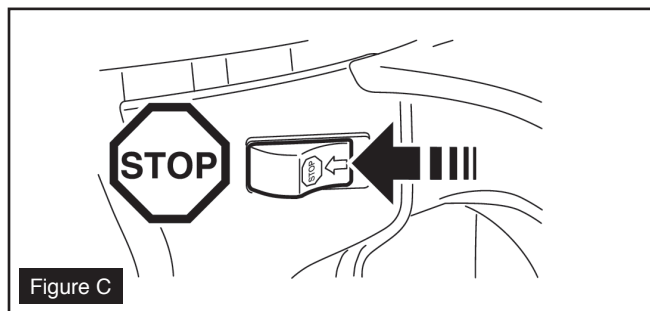


Figure C

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